<table>
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<tr>
<th>SOP #</th>
<th>SOP DATE</th>
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<th>ORDNANCE ADDRESSED</th>
<th>LOCATION OF OPERATION</th>
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<tr>
<td>ASO-21D</td>
<td>April 1952</td>
<td>Demilitarization</td>
<td>Shell, Semi-fixed, HE, M1, Anti loads Loaded for 105mm Howitzer</td>
<td>500, 503, 508, 509, 510, 511, 512, 514, 515, 516, and Demolition and Burning Ground</td>
<td>3, 21</td>
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<tr>
<td>ASO-22NM</td>
<td>May 1952</td>
<td>Normal Maintenance</td>
<td>Bombie, Fragmentation, TNT 23 lbs, M72 w/Parachute Unit S1EIA</td>
<td>Stand Alone Magazines K and L</td>
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<td>Amendment No. 1 May 14, 1952</td>
<td>Normal Maintenance</td>
<td>Bombie, Fragmentation, TNT 23 lbs, M72 w/Parachute Unit S1EIA</td>
<td>Add 4-X-1 (T-422)</td>
<td>19</td>
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<tr>
<td>ASO-22NM</td>
<td>Amendment No. 2 June 26, 1952</td>
<td>Normal Maintenance</td>
<td>Bombie, Fragmentation, TNT 23 lbs, M72 w/Parachute Unit S1EIA</td>
<td>Add 19 (T-422)</td>
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<tr>
<td>ASO-22NM</td>
<td>Amendment No. 3 July 18, 1952</td>
<td>Normal Maintenance</td>
<td>Bombie, Fragmentation, TNT 23 lbs, M72 w/Parachute Unit S1EIA</td>
<td>Add 19 (T-422)</td>
<td>6</td>
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<tr>
<td>ASO-23D</td>
<td>June 1952</td>
<td>Modification</td>
<td>Shell, Plated, AP M74 w/Tracer for 37mm Gun</td>
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<td>Amendment No. 2 June 26, 1952</td>
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<td>AM-O-3</td>
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<td>Shell, Semi-fixed, HE, M48, w/Fuze PD M51A5, .05 Second Delay for 75mm Howitzer</td>
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<td>AM-O-3</td>
<td>Amendment No. 1 September 13, 1952</td>
<td>Procedure Change</td>
<td>Renovation</td>
<td>500, 503, 507, 509, 510, 511, 512, 513, 514, 515, 516, Scrap Yard, and Demolition and Burning Ground</td>
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<td>AM-O-3</td>
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<td>AM-O-3</td>
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<td>AM-O-3</td>
<td>Amendment No. 4 September 13, 1952</td>
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<td>500, 503, 507, 509, 510, 511, 512, 513, 514, 515, 516, Scrap Yard, and Demolition and Burning Ground</td>
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<td>AM-O-4</td>
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<td>Renovation</td>
<td>Shell, Semi-fixed, HE, M48, w/Fuze PD M51A5, .05 Second Delay for 75mm Howitzer</td>
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<td>Renovation</td>
<td>500, 503, 507, 509, 510, 511, 512, 513, 514, 515, 516, Scrap Yard, and Demolition and Burning Ground</td>
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<td>Amendment No. 2 October 19, 1953</td>
<td>Procedure Change</td>
<td>Renovation</td>
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<td>AM-O-4</td>
<td>Amendment No. 3 October 19, 1953</td>
<td>Procedure Change</td>
<td>Renovation</td>
<td>500, 503, 507, 509, 510, 511, 512, 513, 514, 515, 516, Scrap Yard, and Demolition and Burning Ground</td>
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<tr>
<td>AM-O-4</td>
<td>Amendment No. 4 October 19, 1953</td>
<td>Procedure Change</td>
<td>Renovation</td>
<td>500, 503, 507, 509, 510, 511, 512, 513, 514, 515, 516, Scrap Yard, and Demolition and Burning Ground</td>
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<td>Demilitarization: Bomb, Fragmentation, TNT, 23 lb, M72 w/Parachute</td>
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<td>19 (542), 514, 516, Box Yard, Salvage Yard, and Burning Ground</td>
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<td>AM-O-111</td>
<td>December 13, 1954</td>
<td>Demilitarization: Cluster Frag, Bomb, 500 lb M36</td>
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DEPARTMENT OF THE ARMY
WINGATE ORDNANCE DEPOT
GALLUP, NEW MEXICO

STANDING OPERATING PROCEDURE
FOR
Demilitarization

COMPLETE NOMENCLATURE: Shell, Semi-fixed, HE, 3.9, Amatol, Loaded for 105/16 Howitzer.
ITEM NO: D205-5GC AMO NO: HOW-0-3-52 30P NO: ASO-210  DATE: April 1952

Total Quantity Scheduled: 22,746 rds.
Estimated Production Per 8-Hr Shift: 400 rds.
Estimated Total Direct Labor Crew Per Shift: 62
Estimated Total Direct Man Hours Per Unit: 42
Estimated Total Ordnance Cost Per Unit: 0.83

*LOCATION OF OPERATING AREA:
**LOCATION OF OPERATING BUILDING, INCLUDING BUILDINGS NO: 500, 509, 510, 511, 512, 514 and 515.
*Supplemented with area map showing distance relations.
**Supplemented with flow chart showing explosive limits and distance relationships between buildings.

APPROVED

KENNETH E. KNUDSON
Lt Col, 3rd Corps
Commanding

SHEET 1 OF 17
Special reference is made to the following regulations in connection with safe handling of explosives and ammunition, which references will be followed:

1. **BUILDINGS AND UTILITIES:**
   a. Section 5, of the Ordnance Safety Manual 7-224, covering utilities, equipment, operating and auxiliary buildings.

2. **AMMUNITION HANDLING:**
   b. Sections 23 and 24 of ORD M 7-224.

3. **HAZARDOUS AMMUNITION:**
   a. Either at the ammunition storage site or after unpacking, all ammunition will be inspected for proper identification and for evidence of excessively deteriorated, damaged or missing components which render the round unsafe to handle, or process in a normal manner.
   b. Such ammunition will be disposed of in accordance with Section 27 of ORD M 7-224 and SOP WOD-ASC-1AD and Amendment No. 1.

4. **SAFETY CLOTHING AND TOOLS:**
   a. Section 10 of ORD M 7-224.
   b. Paragraph 1620 of ORD M 7-224.

5. **SAFETY LIMITS:**
   a. Post operating and explosives limits in accordance with paragraph 1601 of ORD M 7-224.
   b. Explosive and personnel limits for operating buildings will be maintained at the minimum necessary for safe and efficient operation. (See Section 17 of ORD M 7-224.)

6. **BARRICADES:**
   a. Paragraphs 2503 and 2504 of ORD M 7-224.
   b. Rooms 2, 3 and 4 of AWS Building No. 500 will be divided into two sections each by means of a 36" sand barricade running lengthwise of the rooms.
7. **Burning Ground Procedure:**
   a. All procedures for destruction of explosives or components will comply with Section 27, ORD M 7-224 and SOP ASO-7l and Amendments 1 and 2, copies of which are on file CECI, ORD.

8. **Safety Standards and Rules:**
   a. Section 9 of ORD M 7-224 of Ordnance Technical Industrial Safety.
   b. Any and/or all standards, i.e., American Safety Standards, National Electrical Code, National Bureau of Fire Underwriters, National Fire Protection Association, American Society of Mechanical Engineers, National Safety Council, Manufacturing Chemists' Association, etc., as applicable to the operation.

9. **Control of Occupational Disease:**
   a. Section 11 of ORD M 7-224.

10. **Personnel Exposure:**
    a. Operations and personnel will be so arranged consistent with continuous and efficient operation as to constitute the smallest personnel exposure to any one explosion hazard.

11. **Posting:**
    a. This SOP will be prepared in segments and applicable segment will be posted at each operation.

12. **Service Magazines:**
    a. Amount of explosives will conform with provisions as outlined in paragraph 1602 of ORD M 7-224.
    b. Explosive limits will be posted in each service magazine.

13. **Process Equipment:**
    a. Will comply with regulations contained in paragraph 1621 and Section 7 of ORD M 7-224.

14. **Training:**
    a. Each operator assigned has been or will be thoroughly trained and familiarized with his part of this operation and with its relationship to the overall operation as directed in paragraph 1625 of ORD M 7-224.

15. **Approvals:**
    a. All approvals required at this installation have been obtained.
1. Receive from Storage
2. Unpack & Inspect
3. Remove Propellant from Cartridge Case
4. Debug & Pack Powder
5. Remove Primer & Base Charge
6. Remove Fuze & Booster
7. Washout Projectile
8. Flake & Pack TNT
9. Prepare Shells for Painting
10. Paint & Palletize Shells, Dispatch to Storage
11. Destroy Loaded Components
12. Sort & Pack Cartridge Cases
13. Segregate & Pack or Salvage Fuze

Sheet 4 of 17
STANDING OPERATING PROCEDURE FOR: Ammunition Storage

NOMENCLATURE: Shell, Semi-Fixed, HE, 122mm Amato, Landed

for 105MM Howitzer

LOCATION: A's Building No. 516

EXPLOSIVE LIMITS: Pounds: 3472, NO. OF ITEMS: 800

PERSONNEL LIMITS: OPERATORS: 2, CASUALS: 3

STEP 1. OPERATION NO. 1: TITLE: Receive from Storage

1. Ammunition received from storage on pallets via van-semi-trailer or cargo truck.

2. Fork lift operator will unload pallets by means of approved type fork lift truck, placing pallets in receiving building.

Note: Trucks used in hauling of explosives will comply with Section 22 of ORD M 7-224.

INSPECTION REQUIREMENTS:

None

SAFETY REQUIREMENTS:

1. CO₂ or Du-gas fire extinguishers will be readily available.

2. Explosive limits will be maintained at the lowest amount required for efficient operation.

3. Truck will not remain at unloading platform longer than necessary to complete unloading operations.

DISPOSITION OF COMPONENTS AND MATERIAL:

Ammunition to Operation No. 2.

EQUIPMENT REQUIREMENTS:

Fork lift truck. Van, semi-trailer or cargo truck.
STANDING OPERATING PROCEDURE FOR: Demilitarization OF 30P NO.: ANO-21G

NOMENCLATURE: Shell, Semi-Fixed, HE, M1 Amatol Loaded

for 105mm Howitzer

ITEM NO.: D105-56G

LOCATION: Room 1, AWB Bldg. No. 500

AMO NO.: W10-D-3-52

EXPLOSIVE LIMITS POUNDS: 484 NO OF ITEMS: 100

PROD/SH-PRD

SHIFT: 800 hrs.

PERSONNEL LIMITS: OPERATORS: 7* CASUALS: 3

DIRECT LABOR:

SHIFT: 6

STEP OPERATION NO. 2 TITLE: Unpack and Inspect

1. Ammunition received from Bldg. No. 516 by electric fork lift truck.

2. Round will be removed from packing container and placed on work table.

3. Cartridge cases will be removed from fiber container and placed on rubber tired ammunition cart in separated tray. Trays will be inspected and cleaned before refilling.

4. Projectiles will be removed from fiber container and placed on wooden skid on roller conveyor. Projectile will be separated at least ten inches.

5. Packed boxes will be placed on pallet for transfer to storage.

6. Serviceable containers will be reassembled and placed on pallet for transfer to storage.

7. Unserviceable containers will not be reassembled. Tops and containers will remain separated and placed on pallets for transfer to Salvage (scrap) Yard.

INSPECTION REQUIREMENTS:

Inspect rounds for proper identity and dangerous deterioration.

Inspect packing material for adequacy of decontamination and serviceability in accordance with paragraph 1840 of COMI.

SAFETY REQUIREMENTS:

1. Free exit from operating site will be maintained.

2. CO₂ or Daz-gas fire extinguishers will be readily available.

3. Spark-proof safety shoes will be worn.

4. Good housekeeping will be maintained.

5. Skids will be spaced so as to meet requirements of paragraph 1723 of COMD 7-224.

DISPOSITION OF COMPONENTS AND MATERIAL:

Cartridge cases to Operation No. 3.

Projectiles to Operation No. 6.

Packing boxes to Salvage Yard.

Serviceable fiber containers to storage.

Unserviceable fiber containers to Scrap Salvage Yard.

EQUIPMENT REQUIREMENTS:


* Allows for one Surveillance Inspector.
STANDING OPERATING PROCEDURE FOR: Demilitarization Of

NOMENCLATURE: Shell, Semi-Fixed, HE, HL, Amatol Loaded

for 105mm Howitzer

LOCATION: Room 2, AUS Blk A, No. 500

EXPLOSIVE LIMITS: POUNDS: 200 NO. OF ITEMS: - -

PERSONNEL LIMITS: OPERATOR: 1 CASUAL: 2

STEP OPERATION NO. 3 TITLE: Remove Propellant from Cartridge Case

1. Cartridge cases containing increments received from Operation No. 2 via rubber tired ammunition cart.

2. Remove increments, except base charge, from cartridge and separate by cutting cord with spark proof scissors.

3. Pack charges from ammunition lots of less than 700 rounds in closed powder containers and transfer to Service Barricade No. 508. Explosive limits in Barricade No. 508 will not exceed 1200 pounds.

4. Pack charges from ammunition lots over 700 rounds in wooden box and hand carry to Service Barricade in Room 3.

INSPECTION REQUIREMENTS:
Inspect powder charges for correct identity and serviceability.

SAFETY REQUIREMENTS:

1. Free exit from operating site will be maintained.
2. CO₂ or Du-gas fire extinguishers will be readily available.
3. Only spark proof tools will be permitted in this operation.
4. Operator will work from grounded metal platform and will wear conductive safety shoes.
5. All metal powder containers will be adequately grounded.
6. Operators will wear powder or flame-proof coveralls.

DISPOSITION OF COMPONENTS AND MATERIAL:

Cartridge case to Operation No. 5.
Small lots of charges to Barricade No. 508.
Large lots of charges to Operation No. 4.

EQUIPMENT REQUIREMENTS:
Spark proof scissors, Wooden powder boxes, Closed top non-ferrous metal powder containers.
STANDING OPERATING PROCEDURE FOR DEBAGGING/DEPACKING

NOMENCLATURE: Shell, Semi-Fixed, HE, HE Amatol Loaded

DATE: April 1992

FOR JOHNNY Houdini

ITEM NO. D105-500

LOCATION: Room 3, AWS Bldg. No. 500

AMO NO.: WOD-3-52

EXPLOSIVE LIMITS: POUNDS: DEBAGGING: 100 - DEPACKING: 300

SHIFT: 300 pds.

PERSONNEL LIMITS: OPERATORS: 3

DIRECT LABOR:

SHIFTS: 3

STEP OPERATION NO. TITLE: DEBAG AND DEPACK POWDER

1. Powder to be debagged received in wooden box from Operation No. 3.
2. *Slit bags of serviceable charges of 1000 lbs or more per powder lot, and re-
   move powder from bags. Bags will be opened in flash shielded, non-ferrous
   trough directly connected to approved Vacuum collector system in AWS Bldg. 510.
   Empty bags will be placed in closed non-ferrous containers and transferred to
   Operation No. 11.
3. Powder received via vacuum collector system in Barricade No. 509 where it will
   be packed in air tested, zinc lined, wooden powder containers.
4. Filled containers will be moved by rubber tired hand truck to Service Barricade
   No. 508 where they will be properly marked and dispatched to storage.

Note: Lots of powder containing less than 1000 lbs will be packed in non-fer-
rous metal containers and transferred to Operation No. 11.

*Explosive limit at debagging operation will not exceed 100 lbs of powder.
Explosive limit at vacuum collector in Bldg. No. 509 will not exceed
150 lbs of powder. Explosive limit at packing operation in Bldg. No. 509 will
not exceed 150 lbs of powder.

INSPECTION REQUIREMENTS:

Powder containers will be inspected for serviceability.
Packed powder to be inspected for proper marking.

SAFETY REQUIREMENTS:

1. A deluge system will be installed directly over debagging operation.
2. Only spark proof tools will be permitted.
3. CO2 or Dugas fire extinguisher will be available.
4. Free exit will be maintained from operating site.
5. Good housekeeping will be observed.
6. Operators at debagging table and powder collector will be required to work
   from a grounded metal platform and will wear conductive safety shoes.
7. Vacuum system will be tested frequently for adequate grounding.
8. Operators will wear fire resistant clothing.

DISPOSITION OF COMPONENTS AND MATERIAL:

Repacked powder to storage.
Empty powder bags to Operation No. 11.
Small lots of powder to Operation No. 11.

EQUIPMENT REQUIREMENTS:

Flash shielded, non-ferrous debagging table fitted with spark proof knives. Deluge
system. Vacuum collector system. Air test unit. Platform scales. Rubber tired hand
truck. Spark proof pliers. Spark proof knives.

SHEET 3 OF 17
STANDING OPERATING PROCEDURE FOR: Demilitarization OF...
SOP NO: ABQ-27D

NOMENCLATURE: Shell, Semi-fixed, ME, ML Amm 120mm
LOCATION: Room 4, ABS Bldg. No. 500

for 120mm Howitzer

ITEM NO: D-105-500

EXPLOSIVE LIMITS: Found: 100

NO OF ITEMS: 68

PERSONNEL LIMITS: OPERATORS: 2

CASUALTIES: 3

DIRECT LABOR:

SHIFT: 300 RPD.

STEP OPERATION NO. TITLE: Remove Primer and Base Charge

1. Cartridge cases containing primer and base charge received from Operation No. 4 via rubber tired ammunition cart.

2. Position cartridge case in air operated primer removal machine and punch out primer with base charge attached. Base charge and primer will be removed from depriming machine and carried thru flash shield and deposited on disassembly table by means of an air driven conveyor.

3. After each primer is removed, operator will ascertain that concave end of punch is free of metal particles or any accumulation of wax, dirt or corrosive substance.

4. Operator separates primer and base charge by means of a spark proof knife, or scissors.

5. Base charges are packed in wooden box and hand carried to Operation No. 4.

6. Primers will be packed in wooden box, not over 200 to box, and hand carried to Service Barricade No. 511 from where they will be trucked to Operation No. 11.

Explosive limit in primer Service Barricade No. 511 will be 2000 primers.

7. After removing the primer and base charge from one cart load, 48 cases, operator will thoroughly clean the concave end of depriming punch.

DISPOSITION REQUIREMENTS:

None

SAFETY REQUIREMENTS:

1. Only spark proof tools will be permitted in this operation.

2. Suitable flash shields will be constructed around primer removal machine.

3. Free exit will be maintained from operating site.

4. CO2 or Du-gas fire extinguishers will be readily available.

5. Good housekeeping will be observed.

6. Operator separating primer from base charge will work on a grounded platform and will wear conductive safety shoes, and flame-proof coveralls.

7. Not more than one primer and base charge will be permitted to accumulate on table beneath conveyor belt.

8. Primer removal machine will have an automatic sprinkler head installed in the hood of the machine, NOT more than 12" above the conveyor belt and a manual control deluge system over the exposed belt conveyor.

DISPOSITION OF COMPONENTS AND MATERIAL:

Base charges of lots 1000 lbs or over to Operation No. 4.

Lots less than 1000 lbs to Service Magazine No. 508 for transfer to Operation 11.

Primers to Operation No. 11.

Brass cases to Operation No. 12.

EQUIPMENT REQUIREMENTS:

Increment and primer removal machine, Non-sparking knife or scissors, Ammunition cart.

Sheet 9 of 17
STANDING OPERATING PROCEDURE FOR Demilitarization OF  

SOP NO: ASQ-21D

NOENCASHE: Shell, Semi-fixed, HE, ML Amotel Loaded  

DATE: April 1942

For 105MM Howitzer  

ITEM NO: 1205-50C

LOCATION: Room 2, AWS Bldg. No. 500  

AMO NO: WOD-D-3-52

EXPLOSIVE LIMITS: 500, NO OF ITEMS: 92  

PROD/8-HR

PERSONNEL LIMITS: OPERATORS: 4  

GASIALS: 3  

DIRECT LABOR:

SHIFT: 4

STEP OPERATION NO. 6 TITLe:  

Remove Fuses and Boosters

Note: Room 2 is divided into four barricaded operating sections.

1. Fused projectiles received from Operation No. 2 via wooden skids on roller conveyors.

2. Operator places projectile in air operated holding fixture and removes fuse.

3. Projectile is returned to skid and fuse is placed in fuse tray.

4. In Section No. 2, operator removes booster set screw by means of a positive stop explosion proof electric drill.*

5. In Section No. 3, operator removes boosters and places them in wooden trays.

6. Projectiles will be placed in rubber tired ammunition cart and transferred to Operation No. 7.

7. Projectiles will be covered to prevent foreign material from entering fuse cavity.

8. Fuses and booster trays will be hand carried and placed in concrete service barricade in Room 2, AWS Bldg. No. 500, from where they will be transferred by rubber tired ammunition cart to Operation No. 12. Limits in service barricade will not exceed 300 fuses and boosters.

INSPECTION REQUIREMENTS:

None

SAFETY REQUIREMENTS:

1. Operators will wear spark proof safety shoes and flame-proof coveralls.

2. Free exit from operating area will be maintained.

3. CO2 or Du-gas fire extinguishers will be readily available.

4. Good housekeeping will be observed.

5. Drill operator will wear face shield.

6. Drill speed will not exceed 125 rpm in accordance with para 2512, ORD 7-224.

7. A rubber bucket will be positioned beneath fuse removal to receive any loose explosives.

DISPOSITION OF COMPONENTS AND MATERIAL:

Projectiles to Operation No. 7.
Fuses to Operation No. 12.

EQUIPMENT REQUIREMENTS:

Air operated projectile holding fixtures. Positive stop explosion proof electric drill. Fuse wrench, Boiler wrench, Fuse and booster trays, Ammunition carts.

*Note: Explosive limits in operating sections will be as follows: No. 1 - 6 projectiles and 40 fuses, No. 2 - 6 projectiles, No. 3 - 6 projectiles and 40 boosters.

*Air driven drills not available.
STANDING OPERATING PROCEDURE FOR: Desalination of

NOMENCLATURE: Shells, Semi-Timed, HE, MI Amatol Loaded

for 30-km Howitzer

LOCATION: Washout Room, ANB Block, No. 503

EXPLOSIVE LIMITS: Pounds: 5000 in projectiles and tanks

PERSONNEL LIMITS: Operators: 76 Casuals: 3

SHIFT: 6

STEP OPERATION NO. 7 TITLE: Washout Projectiles

1. Projectiles received from Operation No. 6 via electric tow motor and rubber-tired ammunition cart.

2. Position projectiles over nozzles on washout manifold.

3. Open valve on circulating line and wash until projectile is free of explosive filler.

4. Rinse projectile with clear hot water.

5. Remove projectile from washout manifold and return to wooden rack on ammunition cart.

6. Inspect interior of shell for complete removal of explosive filler.

7. Eject TNT to settling tank in flaker room.

INSPECTION REQUIREMENTS:

By the use of electric gooseneck flashlight inspect each shell for complete removal of explosive filler.

SAFETY REQUIREMENTS:

1. Before start and during operation water temperature and pressure gauge will be checked.

2. Only approved safety tools and equipment will be used.

3. Prescribed types of special clothing and shoes will be worn.

4. Floors and equipment will be kept free of TNT by frequent flushing with hot water.

5. CO2 or Du-gas fire extinguishers will be available.

6. Free exit from operating site will be maintained.

DISPOSITION OF COMPONENTS AND MATERIAL:

TNT to Operation No. 8.
Shells to Operation No. 9.
Explosive sludge to swap tank and Operation No. 11.

EQUIPMENT REQUIREMENTS:


Note: During clean up period, after all TNT has been ejected from washout tanks, personnel limits will be raised to 10 operators to permit efficient cleaning of plant.

*Includes electric tow motor operators.
STANDING OPERATING PROCEDURE FOR: Demilitarization OF SUP NO: ASD-210

NOMENCLATURE: Shell, Semi-Fixed HE, MI Ammunition Loaded

LOCATION: Flaking and Packing Rooms, AWS Bldg. No. 503

EXPLOSIVE LIMITS: POUNDS: 1500 in settling room

PERSONNEL LIMITS: OPERATORS: A. CASUALS: 3

STEP OPERATION NO. 8 TITLE: Flake and Pack TNT

1. Check flaker drum for proper speed (5 to 11 rpm), flaker blade for correct setting (0.025 inches from drum) circulating water system and TNT dust collector for proper functioning.

2. Remove TNT from settling tank by gravity flow.

3. Flake TNT.

4. Fill and weigh boxes of TNT from hopper.

5. Transfer box to vibrator and firmly pack contents.

6. Seal paper liner, close and strap box.

7. Stencil TNT box in accordance with Ltr ORDLY-I 400.16/12882, para 7, dtd 15 March 1948 and appropriate JCP markings.

8. Load boxes of TNT on wooden pallet on rubber tired ammunition cart and move to a point 100 feet from operation. Pallet load of TNT will then be transported and placed in closed van in barricaded storage site No. 506 by means of pneumatic tired gasoline powered fork lift. 27 each 50 pound boxes to pallet.

9. Dispatch packed TNT to storage.

INSPECTION REQUIREMENTS:

Inspect proper closing and marking of TNT box.

SAFETY REQUIREMENTS:

1. Operators will wear prescribed special clothing and safety shoes.
2. Only approved type safety tools and equipment will be used.
3. Good housekeeping will be maintained.
4. CO2 or Du-gas fire extinguishers will be readily available.
5. Free exit from operating site will be maintained.
6. Floors will be kept free of TNT by frequent flushing with hot water.

DISPOSITION OF COMPONENTS AND MATERIAL:

Packed TNT to storage.

EQUIPMENT REQUIREMENTS:

Settling tank, Flaker, Scales, Vibrator, Roller conveyors, Work table, Strapping tools, Stencil equipment, Transfer equipment.

Explosive limits in Barricade No. 506 will be 10,000 pounds.
STANDING OPERATING PROCEDURE FOR: Decontamination

NOMENCLATURE: Shell, Semi-Fixed, HE, ML, Amatol Loaded

DATE: April 1962

ITEM NO: D195-590

LOCATION: Sand Blast Room, AUS Bldg. No. 515

AWO NO: WOD-D-3-52

EXPLOSIVE LIMITS: -

PERSONNEL LIMITS: OPERATORS: 3, CASUALS: 3

SHIFT: 800 RDS.

DIRECT LABOR:

STEP OPERATING NO. 9 TITLE: Prepare Shells for Painting

1. Shells received from Operation No. 7 via ammunition cart and electric tow motor.

2. Operator will cover rotating band with masking tape.

3. Shell will be placed in sand blast machine and blasted until both exterior and interior surfaces are clean.

4. Shell will be removed from sand blast machine and placed on wooden skid on roller conveyor.

5. Abrasive dust will be removed from interior of shell by means of compressed air.

6. Shell will be transferred to Operation No. 10 via roller conveyor.

INSPECTION REQUIREMENTS:

Inspect shells for complete removal of paint and rust.

SAFETY REQUIREMENTS:

1. Sand blast operators will wear respirators and safety goggles.

2. Safety shoes will be worn.

3. Good housekeeping will be maintained.

4. CO₂ or Du-gas fire extinguishers will be readily available.

DISPOSITION OF COMPONENTS AND MATERIAL:

Shells to Operation No. 10.

EQUIPMENT REQUIREMENTS:

Sand blast equipment, wooden skids and roller conveyors, ammunition carts.

SHEET 13 OF 17
STANDING OPERATING PROCEDURE FOR: Demilitarization OF 105MM HOWITZER

NONNOMENCLATURE: Shell, Semi-Fixed, HE, 105, Amatol Loaded

DATE: April 1952

ITEM NO: D105-50G

LOCATION: Paint Room, 443 Bldg., No. 515

AMO NO: WOD-D-3-52

EXPLOSIVE LIMITS: - - -

PROD/8-HR

SHIFT: 00-08

DIRECT LABOR:

PERSONNEL LIMITS: OPERATORS: 7 CASUALTY: 3

SHIFT: 7

STEF OPERATION NO. 10 TITLE: Paint & Palletize Shell, Dispatch to Storage

1. Paint shell cavity with acid proof black paint.

2. Apply a light coat of shell grease to threads of lifting plug and insert in shell.

3. Place shell on hook on monorail of paint system.

4. Paint exterior surfaces of shell and lifting plug, except rotating band, with one coat OD lacquer enamel.

5. Remove masking tape from rotating band.

6. Remove shell from monorail, cover with corrugated fiber-board sleeve and place on shipping pallet.

7. Transfer palletized shells to storage.

INSPECTION REQUIREMENTS:

Inspect shell for complete paint coverage.
Inspect each shell for correct casting manufacture.

SAFETY REQUIREMENTS:

1. Paint spray operators will wear respirators.

2. Paint supplies will be stored at a service point 100 feet distant from operation.

3. Operators will wear safety shoes.

4. CO₂ or Du-gas fire extinguishers will be readily available.

5. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:

Palletized shells to storage.

EQUIPMENT REQUIREMENTS:

Paint spray equipment with exhaust system and dryers.
STANDING OPERATING PROCEDURE FOR DESSLITARIZATION OF SHELL, SRIFFED, HE, ML, AMTOL LOADED

NOMENCLATURE: SHELL, SRIFFED, HE, ML, AMTOL LOADED

ITEM NO: D105-56C

LOCATION: DESTRUCTION AND BURNING GROUND

EXPLOSIVE LIMITS: DOD-1-2-52

PERSONNEL LIMITS: OPERATORS: 4, CASUALS: 1

STEP OPERATION NO. 11 TITLE: DESTROY LOADED COMPONENTS

1. Explosive sludge will be moved to burning ground in barrels or tanks by means of cargo truck.

2. Sludge will be placed on a bed of combustible material, confined in a trench and burned while still damp.

3. Unsatisfactory powder charges will be burned on a bed of combustible materials.

4. Primers will be destroyed in burning chamber and metal reclaimed.

5. Unsatisfactory fuse parts will be destroyed in burning chamber and metal reclaimed.

6. Unsatisfactory boosters will be destroyed by detonation.

INSPECTION REQUIREMENTS:

Reclaimable scrap metal will be inspected for adequacy of decontamination in accordance with paragraphs 5.240 thru 5.243 of ORD I and para 2307 of ORD M 7-224.

SAFETY REQUIREMENTS:

1. Safety requirements as outlined in Section 27 of ORD M 7-224, SOP A50-7X and Amendments 1 and 2, and SOP A50-14D will be carefully followed.

2. Explosive sludge will be burned before completely dried to prevent scattering by the wind.

DISPOSITION OF COMPONENTS AND MATERIAL:

Reclaimable metal to salvage yard.

EQUIPMENT REQUIREMENTS:

Burning chamber, transfer equipment.
STANDING OPERATING PROCEDURE FOR: Demilitarization of

NO. 390-010

NONDECLATURE: Shell, Semi-fixed, HE, ML, Amatol Loaded

DATE: April 1952

for 105mm Howitzer

ITEM NO.: 405-500

LOCATION: Room 7, ABG Bldg., No. 500

AWO NO.: MOD-B-3-52

EXPLOSIVE LIMITS: POUNDS: -- --

PROD/HR: -- --

SHIFT: 800 hrs.

PERSONNEL LIMITS: OPERATORS: 3

CASUALTS: 3

DIRECT LABOR: -- --

SHIFT: 2

STEP OPERATION NO. 12 TITLE: Sort and Pack Cartridge Cases

1. Cartridge cases received from Operation No. 5 via ammunition cart.

2. Inspect cartridge cases for dimensional integrity of primer hole and serviceable condition.

3. Pack serviceable brass cartridge cases in improvised packing container.

4. Stencil each package with cartridge case nonameture, lot number and quantity contained.

INspeCTION REQUIREMENTS:

Cartridge cases will be inspected for serviceability and complete removal of propellant.

Steel and unserviceable brass cases will be inspected in accordance with provisions of paragraphs 4.210 thru 4.213 of OAGI.

SAFETY REQUIREMENTS:

1. Care will be exercised to avoid damaging serviceable cartridge cases.

2. Operators will wear safety shoes.

3. CO₂ or Du-gas fire extinguishers will be available.

4. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:

Steel and unserviceable cartridge cases to salvage.

Packed brass cases to storage.

EQUIPMENT REQUIREMENTS:

Primar hole gauge, Work table, Stencil material, Strapping tools, Ammunition cart.
STANDING OPERATING PROCEDURE FOR DECONTAMINATION OF...

STANDARDS: Shells, Semi-fixed, HE, MI, Am. - 2000 Loaded

LOCATION: Room 6, ABS Bldg, No. 500

EXPLOSIVE LIMITS: Pounds: - - 1000 SHIP: 800 lbs.

PERSONNEL LIMITS: OPERATORS: 4 CASUAL: 2

STEPS

1. Fuses and boosters received from Operation No. 6 via rubber tired ammunition cart.

2. Serviceable PD M51 Series Fuses of acceptable size lots will be properly packed and marked.

3. Serviceable PD M65 Series Fuses will have boosters attached, hand tight, and will be packed and marked for interplant shipment.

4. M54 Fuses will be disassembled and metal parts salvaged.
   a. Drill out stake closing set screw by means of positive stop explosion proof electric drill and remove set screw.
   b. Remove closing cap from fuse in a barricaded air operated fuse disassembly machine.
   c. Remove upper lock ring, lock pin and lower ring from fuse body.
   d. Stake of bottom closing screw will be drilled out and screw removed in barricaded fixture.
   e. Separate loaded components by class and pack for transfer to Operation 11.
   f. Pack inert parts for transfer to salvage yard.

INSPECTION REQUIREMENTS:

Inspect fuse booster assembly or fuse and booster for serviceability, deterioration or dangerous condition.
Inspect inert fuse components for adequacy of decontamination in accordance with paragraphs 4240 thru 4243 of OAOI and paragraph 2507 of ORN 7-224.

SAFETY REQUIREMENTS:

1. CO₂ or D₂ gas fire extinguishers will be readily available.
2. Spark proof safety shoes will be worn.
3. Tree safety mats will be maintained.
4. Good housekeeping will be observed.
5. Disassembly operations will comply with para 2508b of ORN 7-224.
6. Operators will be required to wear flame proof coveralls while disassembling M54 fuses.

DISPOSITION OF COMPONENTS AND MATERIALS

Serviceable fuses to storage.
Unserviceable fuses to Operation No. 11.
M54 Series fuse parts to Operation No. 11 and salvage.

EQUIPMENT REQUIREMENTS:


SHEET 17 OF 17
STANDING OPERATING PROCEDURE

FOR

Normal Maintenance

COMPLETE NOMENCLATURE: Bomb, Fragmentation. TNT 23 lbs. M72 W/Parachute Unit STEIA.

AWO NO: WOD-292-5
SOP NO: ASO-22NM
DATE: May 1952

Total Quantity Scheduled: 317,494 rds.
Estimated Production Per 8-Hr Shift: 2,000 rds.
Estimated Total Direct Labor Crew Per Shift: 36
Estimated Total Direct Man Hours Per Unit: 0.12
Estimated Total Ordnance Cost Per Unit: $3.23

LOCATION OF OPERATING BUILDINGS: Standard Magazines "K" and "L".

APPROVED

KENNETH E. KNUDSON
Lt Col, Ord Corps
Commanding

Sheet 1 of 6
1. Remove from Storage

2. Unpack and Inspect

3. Secure Parachute Unit to Bomb Body

4. Repack and Dispatch to Storage
STANDING OPERATING PROCEDURE FOR: Normal Maintenance OF

STANDARDS: Bomb, Fragmentation, TNT 23 lbs MT2

LOCATION: Storage Areas

NUMBER OF ITEMS: As Stored

EXPLOSIVE LIMITS: PROD/E-HR

PERSONNEL LIMITS: OPERATIONS: 5, CASUALTIES: 3

STEP OPERATION NO. 1 TITLE: Remove from Storage

1. Remove ammunition from storage and place on wooden pallet.

2. Pallets will be loaded by approved type fork lift truck onto van, semi-trailer with wooden floor and sides.

3. Loaded van will be moved to Operation No. 2 by means of 5-ton 4x2 tractor.

NOTE: Material handling equipment will comply with Section 24 of ORD M 7-224. Trucks will comply with Section 22 of ORD M 7-224.

INSPECTION REQUIREMENTS:

None

SAFETY REQUIREMENTS:

1. CO₂ or Du-gas fire extinguishers will be readily available.
2. Free exit from storage site will be maintained.
3. Spark proof safety shoes and gloves will be worn.
4. Ammunition will be handled carefully.
5. Good housekeeping will be maintained.

DISPOSITION OF COMPONENTS AND MATERIAL:

Ammunition to Operation No. 2.
Dunnage to reclamation yard.

EQUIPMENT REQUIREMENTS:

One fork lift truck, van, semi-trailer with 5-ton 4x2 tractor.

*Includes fork lift operator.
STANDARDS OPERATING PROCEDURE FOR: Normal Maintenance OF

NAME: Bomb, Fragmentation TNT 23 lbs. M72

W/Parachute Unit

LOCATION: Standard Magazines K and L

AWO NO: WOD-292-5

EXPLOSIVE LIMITS: Pounds: 1.005 No. of Items: 756

PERSONNEL LIMITS: OPERATORS: 24 CASUALS: 5

DIRECT LABOR: SHIFT: 5

PROD/8-HR: 2,000 rds.

STEP OPERATION NO. 2 TITLE: Unpack and Inspect

1. Ammunition received from storage site on pallets in van, semi-trailer.

2. Pallets will be unloaded from van and moved to operating line by electric fork lift truck.

3. Operator will remove boxes from pallet and place on roller conveyor.

4. Seals and strapping will be removed from box.

5. Box cover and packing material will be removed from box and placed on rubber tired ammunition cart for transfer to Operation No. 4.

INSPECTION REQUIREMENTS:

Bombs will be inspected for correct identity and serviceability.

SAFETY REQUIREMENTS:

1. Operator cutting straps will wear face shield or goggles.

2. Spark proof safety shoes will be worn.

3. CO₂ or Du-gas fire extinguishers will be readily available.

4. All exits will be kept free of obstructions.

5. Good housekeeping will be maintained.

DISPOSITION OF COMPONENTS AND MATERIAL:

Ammunition to Operation No. 3.
Box lids and packing material to Operation No. 4.

EQUIPMENT REQUIREMENTS:


*Since this is to be a single room operation, personnel limits will cover foreman, truck driver and fork lift operator. Explosive limits will include all explosives in operating building and vans.

SHEET 4 OF 6
STANDING OPERATING PROCEDURE FOR: Normal Maintenance OF COP NO: A50-224W
NOMENCLATURE: Bomb, Fragmentation TNT 23 lbs., M72
DATE: May 1952
W/Parachute Unit
AWO NO: WCD-232-3

LOCATION: Standard Magazines K and L

EXPLOSIVE LIMITS: POUNDS: 1905 NO OF ITEMS: 76

PERSONNEL LIMITS: OPERATORS: 21 CASUALS: 5

STEP OPERATION NO. 3 TITLE: Secure Parachute to Bomb Body

1. Bomb will be removed from packing container and placed in holding fixture on work table.

2. Parachute unit will be securely tightened in bomb body.

3. Holding set screw will be tightened to hold parachute unit in position.

4. Bomb will be returned to shipping container of same lot as bomb.

INSPECTION REQUIREMENTS:
Inspect for proper assembly of parachute unit to bomb body. 
Inspect for correct lot packing.

SAFETY REQUIREMENTS:

1. Free exit will be maintained from operating site.
2. CO2 or Du-gas fire extinguishers will be available.
3. Operators will wear spark proof safety shoes.
4. Good housekeeping will be maintained.

DISPOSITION OF COMPONENTS AND MATERIAL:
Ammunition to Operation No. 4

EQUIPMENT REQUIREMENTS:
Work tables with holding fixtures. Hand tools.
STANDING OPERATING PROCEDURE FOR: Normal Maintenance OF SCP NO: ASC-22NM

NOMENCLATURE: Bomb, Fragmentation, TNT 23 lbs., M72 DATE: May 1952

W/Parachute Unit AWO NO: WCD-292-5

LOCATION: Standard Magazines K and L

EXPLOSIVE LIMITS: POUNDS: 1905 NO OF ITEMS: 756

PERSONNEL LIMITS: OPERATORS: 24 CASUALS: 5

STEP OPERATION NO. A TITLE: Repack and Dispatch to Storage

1. Bombs will be packed in shipping container using sufficient cardboard filler to assure a tight pack.

2. Cover will be replaced on shipping container.

3. Shipping container will be properly strapped and sealed.

4. Packed ammunition will be placed on pallet and dispatched to storage.

5. Items will be segregated and stored by lot number.

INSPECTION REQUIREMENTS:

Inspect for proper sealing and strapping of shipping container.

SAFETY REQUIREMENTS:

1. Operators will wear safety shoes.

2. Free exit from operating site will be maintained.

3. CO2 or Du-gas fire extinguishers will be readily available.

4. Good housekeeping will be maintained.

DISPOSITION OF COMPONENTS AND MATERIAL:

End product to storage.

EQUIPMENT REQUIREMENTS:

Strapping tools. Sealing tools.
STANDING OPERATING PROCEDURE NO. ASO-22BAM, Amendment No. 1.

NOMENCLATURE: Bomb, Fragmentation, TNT 23 lbs, M72 W/Parachute Unit SLEIA.

PURPOSE: To provide an additional operating site for performing normal maintenance on subject ammunition.

OPERATIONS NO. 2, 3 and 4.

LOCATION: Add X-11

PERSONNEL LIMITS: Operators - change to 30

Above Standing Operating Procedure, Amendment No. 1 is approved.

KENNETH E. EMBISON
Lt Col, Ord Corps
Commanding
DEPARTMENT OF THE ARMY
MINING DIVISION DEPOT
GALLUP, NEW MEXICO

26 June 1952

STANDING OPERATING PROCEDURE NO. A80-226M, Amendment No. 2.

DESCRIPTION: Bomb, Fragmentation, 1177, 23 lbs, M72 M/Parachute Unit SLEIA.

PURPOSE: To provide and additional operating site for performing normal maintenance on subject ammunition.

OPERATIONS NO. 2, 3 and 4.

LOCATION: Add Ammunition Work Shop Building No. 503.

Above Standing Operating Procedure, Amendment No. 2 is approved.

B. L. Bowman
Major, Ordinance Corps
Commanding

SHEET 1 OF 1
DEPARTMENT OF THE ARMY
WINGATE ORDNANCE DEPOT
GALLUP, NEW MEXICO

18 July 1952

STANDING OPERATING PROCEDURE NO: ASO-228M, Amendment No. 3.

NOMENCLATURE: Bomb, Fragmentation, TNT, 23 lbs., M72 W/Parachute Unit 31561A.

PURPOSE: To provide an additional operating site for performing normal maintenance on subject ammunition.

OPERATIONS NO. 2, 3 and 4.

LOCATION: Add LDL Building No. 19, 542.

Above Standing Operation Procedure, Amendment No. 3 is approved.

KENNETH E. KNUDSON
Lt Col, Ord Corps
Commanding
COMPLETE NOMENCLATURE: Short, Fixed, AP, M74, H/Tracer for 37mm Gun.

ITEM NO: D37-2   AWO NO: W00-D-10-52  SOP NO: ASO-230   DATE: June 1952

Total Quantity Scheduled: 123,511 rds.
Estimated Production Per 8-hr Shift: 6,000 rds.
Estimated Total Direct Labor Crew Per Shift: 26
Estimated Total Direct Man Hours Per Unit: 0.022
Estimated Total Ordnance Cost Per Unit: $9.11

* LOCATION OF OPERATING AREA:
**LOCATION OF OPERATING BUILDING, INCLUDING BUILDINGS NO: 500, 508, 509, 510, 511 and 516.

* Supplemented with area map showing distance relations.
**Supplemented with flow chart showing explosive limits and distance relationships between buildings.

KENNETH E. KNUDSON
Lt Col, Ord Corps
Commanding
Special reference is made to the following regulations in connection with safe handling of explosives and ammunition, which references will be followed:

1. BUILDINGS AND UTILITIES:
   a. Section 5, of the Ordnance Safety Manual 7-224, covering utilities, equipment, operating and auxiliary buildings.

2. AMMUNITION HANDLING:
   b. Sections 23 and 24 of ORD M 7-224.

3. HAZARDOUS AMMUNITION:
   a. Either at the ammunition storage site or after unpacking, all ammunition will be inspected for proper identification and for evidence of excessively deteriorated, damaged or missing components which render the round unsafe to handle, or process in a normal manner.
   b. Such ammunition will be disposed of in accordance with Section 27 of ORD M 7-224 and SOP WCN-450-14D and Amendment No. 1.

4. SAFETY CLOTHING AND TOOLS:
   a. Section 10 of ORD M 7-224.
   b. Paragraph 1610 of ORD M 7-224.

5. SAFETY LIMITS:
   a. Post operating and explosives limits in accordance with paragraph 1601 of ORD M 7-224.
   b. Explosive and personal limits for operating buildings will be maintained at the minimum necessary for safe and efficient operation. (See Section 17 of ORD M 7-224.)

6. HANDBAGS:
   a. Paragraphs 2503 and 2504 of ORD M 7-224.
7. **Burning Ground Procedure:**
   a. All procedures for destruction of explosives or components will comply with Section 27, ORD M 7-224 and SOP ASO-7X and Amendments 1 and 2, copies of which are on file ODD, OAC.

8. **Safety Standards and Rules:**
   a. Section 9 of ORD M 7-224 of Ordnance Technical Industrial Safety.
   b. Any and/or all standards, i.e., American Safety Standards, National Electrical Code, National Bureau of Fire Underwriters, National Fire Protection Association, American Society of Mechanical Engineers, National Safety Council, Manufacturing Chemists' Association, etc., as applicable to the operation.

9. **Control of Occupational Disease:**
   a. Section 11 of ORD M 7-224.

10. **Personnel Exposure:**
    a. Operations and personnel will be so arranged consistent with continuous and efficient operation as to constitute the smallest personnel exposure to any explosion hazard.

11. **Posting:**
    a. This SOP will be prepared in segments and applicable segment will be posted at each operation.

12. **Service Magazines:**
    a. Amount of explosives will conform with provisions as outlined in paragraph 1602 of ORD M 7-224.
    b. Explosive limits will be posted in each service magazine.

13. **Process Equipment:**
    a. Will comply with regulations contained in paragraph 1621 and Section 7 of ORD M 7-224.

14. **Training:**
    a. Each operator assigned has been and will be thoroughly trained and familiarized with his part of this operation and with its relationship to the overall operation as directed in paragraph 1625 of ORD M 7-224.

15. **Approvals:**
    a. All approvals required at this installation have been obtained.
1. Receive from Storage

2. Unpack and Inspect

3. Pull Apart Complete Round

4. Deprime Cartridge Case

5. Burn Tracer, Destroy Loaded Components

6. Deband Projectiles
STANDING OPERATING PROCEDURE FOR: Demilitarization OF

SOP NO: ASO-23D

NOMENCLATURE: Shot, Fixed, AP, M7A W/Tracer for 37mm Gun

DATE: June 1952

LOCATION: AWS Building No. 516

AMO NO: WOD-D-10-52

ITEM NO: D37-2

EXPLOSIVE LIMITS: POUNDS: 2025

NO OF ITEMS: 4,000 rds.

SHIFT: 4,000 rds.

PERSONNEL LIMITS: OPERATORS: 2

CASUALS: 3

DIRECT LABOR:

SHIFT: 2

STEP: 1

OPERATION NO. 1

TITLE: Receive from Storage

1. Ammunition received from storage on pallets via van-semi-trailer or cargo truck.

2. Fork lift operator will unload pallets by means of approved type fork lift truck, placing pallets in receiving building.

Note: Trucks used in hauling explosives will comply with Section 22 of ORD N 7-224.

INSPECTION REQUIREMENTS:

None

SAFETY REQUIREMENTS:

1. CO₂ or Du-gas fire extinguishers will be readily available.

2. Explosive limits will be maintained at the lowest amount required for efficient operation.

3. Trucks will not remain at unloading platform longer than necessary to complete unloading operations.

DISPOSITION OF COMPONENTS AND MATERIAL:

Ammunition to Operation No. 2.

EQUIPMENT REQUIREMENTS:

Fork lift truck. Van, semi-trailer or cargo truck.
STANDING OPERATING PROCEDURE FOR: Demilitarization OF: SOP NO: ASO-23D

NOMENCLATURE: Shot, Fixed, AP, M74 W/Tracer for 7.62mm Gun DATE: June 1952

LOCATION: Bn 1, ANS Bldg. No. 500Army NHP10-52 ITEM NO: D37-2

EXPLOSIVE LIMITS: POUNDS: --- NO OF ITEMS: 400 PROD/8-HR

PERSONNEL LIMITS: OPERATORS: 7 CASHIERS: 3 DIRECT LABOR:

SHIFT: 4,000 rds.
SHIFT: 7

STEP OPERATION NO. 2 TITLE: Unload and Inspect

1. Ammunition received from Building No. 516 by electric fork lift truck.

2. Round will be removed from packing container and placed on canvas covered work table.

3. Round will be removed from fiber container and placed in wooden tray on roller conveyor for transfer to Operation No. 3.

4. Load packing material on carrier for transfer to salvage.

INSPECTION REQUIREMENTS:

Inspect round for proper identity and dangerous deterioration.

Inspect packing material for adequacy of decontamination as outlined in paragraphs 4.240 through 4.243 of OACI.

SAFETY REQUIREMENTS:

1. Free exit from operating site will be maintained.

2. CO2 or Du-gas fire extinguishers will be readily available.

3. Spark proof safety shoes will be worn.

4. Good housekeeping will be maintained.

5. Operator cutting strap, will wear goggles or face shield.

DISPOSITION OF COMPONENTS AND MATERIAL:

Complete round to Operation No. 3.

Packing material to salvage.

EQUIPMENT REQUIREMENTS:

STANDING OPERATING PROCEDURE FOR: Demilitarization OF

NO.: A80-23D

NOMENCLATURE: Shot, Fixed, AP, M74 W/Tracer for 37mm Gun

LOCATION: Rm 2 & 3, NW Bldg 500, AMW NO.: MOD D-10-52

ITEM NO.: D37-2

EXPLOSIVE & PERSONNEL LIMITS:

Rm 2 - No of Items: 120, Operators: 2 Casuals: 3
Rm 3 - No of Items: 120, Operators: 2 Casuals: 3
Collection Barricade: No 1 lbs: 150, Operators: 1 Casuals: 3
Service Barricade: No 1 lbs: 1,000

PROD: B-8R

SHIFT: 6:000 rds.

DIRECT LABOR:

SHIFT: 5

STEP | OPERATION NO. 3 | TITLE: Full Apart Complete Round

1. Rounds received from Operation No. 2 via wooden trays on roller conveyors.

2. Operator will remove round from tray and place in position in pull apart machine.

3. Projectile will be pulled from case and powder automatically emptied into vacuum receiver.

4. Projectile and cartridge case will be returned to tray for transfer to Operation No. 4.

5. Powder received via vacuum collector system in Barricade No. 509 where it will be packed in zinc lined wooden powder containers.

6. When powder containers are filled they will be moved by rubber tired ammunition cart to Service Barricade Bldg. No. 508 awaiting transfer to storage.

INSPECTION REQUIREMENTS:

None

SAFETY REQUIREMENTS:

1. A deluge head will be installed directly above each pull apart machine.
2. Pull apart machines will be grounded.
3. Operators will wear spark proof safety shoes with conductive soles.
4. Operators will wear flame proofed coveralls.
5. Operators will work from a grounded platform.
6. CO₂ or Du-gas fire extinguishers will be readily available.
7. Free exit from operating site will be maintained.
8. Good housekeeping will be maintained.

DISPOSITION OF COMPONENTS AND MATERIAL:

Packed powder to storage.
Cartridge cases to Operation No. 4.
Projectiles to Operation No. 4.

EQUIPMENT REQUIREMENTS:

Two pull apart Machines, Vacuum collector system, Platform scales, Rubber tired ammunition carts.
Standing Operating Procedure for Demilitarization of 30 mm Gun

Specifications:

- **Date**: June 1952
- **Location**: Room 4, AES Ridge, No. 500
- **Item No.**: 227-2
- **Explosive Limits**: Pounds: 100,000
- **Personnel Limits**: Operators: 5, Casuals: 3
- **Shift**: 4,000 rounds per hour
- **Direct Labor**: 5 hours

**STEP 1: OPERATION NO. 4**

**Title**: Deprime Cartridge Case

1. Cartridge case and projectile received from Operation No. 3 via wooden trays on roller conveyors.
2. Inspect cartridge cases for complete removal of powder.
3. Deprime cartridge cases by means of depriming machine.
4. Pack primers for transfer to Operation No. 5.
5. Remove projectiles from trays and pack for transfer to Operation No. 5.
6. Inspect and stamp deprimed cartridge cases and pack for transfer to salvage yard.

**Note**: Limit in Service Barricade No. 511 will be 5,000 primers.

**Inspection Requirements**:

Inspect cartridge case to insure removal of all propellant before depriming.

Inspect and stamp deprimed cartridge cases in accordance with provisions of paragraphs 4.240 through 4.243 of OACI and paragraph 2507 of ORD M 7-224.

**Safety Requirements**:

1. Free exit from operating site will be maintained.
2. Operators will wear spark proof safety shoes.
3. CO₂ or Du-gas fire extinguishers will be readily available.
4. Good housekeeping will be maintained.

**Disposal of Components and Materials**:

- Cartridge cases to salvage.
- Primers to Operation No. 5.
- Projectiles to Operation No. 5.

**Equipment Requirements**:

Two depriming machines.
STANDING OPERATING PROCEDURE FOR: Demilitarization OF: SOP No. ASO-23D

NOMENCLATURE: Shot, Fixed, AP, M74 W/Tracer for 37mm Gun

DATE: June 1952

LOCATION: Burning Ground

AMO No.: ASO-9-10-52

ITEM NO.: D37-2

PERSONNEL LIMITS: OPERATORS: 4  CASUALS: 3

DUTY: 4

STEP  OPERATION NO. 5  TITLE: Burn Tracer, Destroy Loaded Components

1. Components received from Operation No. 4 via cargo truck with wooden sides and floor.

2. Primers will be destroyed in burning chamber and metal reclaimed.

3. Tracers will be burned from projectiles in a combustion chamber.

4. Propellant will be burned.

INSPECTION REQUIREMENTS:

Reclaimable scrap metal will be inspected for adequacy of decontamination in accordance with paragraphs 4.240 thru 4.243 of OACI and para 2507, ORD M 7-224.

SAFETY REQUIREMENTS:

1. Safety requirements as outlined in Section 27 of Ord M 7-224, and SOP No. ASO-7X, Amendments 1 and 2, will be carefully followed.

DISPOSITION OF COMPONENTS AND MATERIAL:

Reclaimable metal to salvage yard.

Projectiles to Operation No. 6.

EQUIPMENT REQUIREMENTS:

Burning chamber. Transfer equipment.
STANDING OPERATING PROCEDURE FOR: Demilitarization OF SOF No: A60-27D

COMMUNICATION: Shot, Fixed, AP, M74 W/Tracer for 37mm Gun

DATE: June 1952

LOCATION: Bn 8, 45th Bn, No. 500

AMO NO: 806-10-2

ITEM NO: B27-2

EXPLOSIVE LIMITS: -

PROD/ICR:

SHIFT: 4,000 hrs.

PERSONNEL LIMITS: OPERATORS: 3

CASUALS: 3

DIRECT LABOR:

SHIFT: 3

STEP OPERATION NO. 6 TITLE: Debanded Projectiles

1. Projectiles received from Operation No. 5 by means of cargo truck.

2. Operator will place projectiles in automatic debanding machine for removal of rotating bands.

3. Segregate metal according to class and place in carrier for transfer to scrap yard.

INSPECTION REQUIREMENTS:

Inspect scrap metal in accordance with paragraphs 4,240 thru 4,243 of OACI and paragraph 2507 of ORD M 7-224.

SAFETY REQUIREMENTS:

1. Operators will wear safety shoes.

2. CO₂ or Du-gas fire extinguishers will be available.

3. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:

Rotating bands to Scrap Yard.

Shell body to Scrap Yard.

EQUIPMENT REQUIREMENTS:

Debanning machine. Approved hand tools. Transfer equipment.
STANDING OPERATING PROCEDURE NO.: ASC-230, Amendment No. 1.

NOMENCLATURE: Shot, Fixed, AP, 0.74 V/Tracer for 37mm Gun.

ITEM NO.: D37-2

ANO NO.: WOD-D-10-52

PURPOSE: To eliminate crowed condition in Room 4, AWS Building No. 500 and provide additional space for conducting entire operation.

OPERATION NO. 4 - TITLE: Daytime Cartridge Case

LOCATION: Change to read: Rooms 4 and 5, AWS Bldg. No. 500

STEP 3 - Amended to read:

"After each primer is removed, operator will ascertain that concave end of punch is free of metal particles or any accumulation of wax, dirt or corrosive substances."

STEPS 5 and 6 - TO BE PERFORMED IN ROOM 5.

SAFETY REQUIREMENTS:

NO. 5 - ADDED

"After removing the primer from each 50 cases, operator will thoroughly clean the concave end of the depriming punch."

Above Standing Operating Procedure, Amendment No. 1, is approved.

B. L. Bowman
Major, Ordnance Corps
Commanding

26 June 1952
DEPARTMENT OF THE ARMY
WINCATE ORDNANCE DEPOT
GALLUP, NEW MEXICO

STANDING OPERATING PROCEDURE
FOR
Normal Maintenance

COMPLETE NOMENCLATURE: Shell, HE, M101, for 155mm Gun.

AMO NO: Code - 292       SOP NO: A80-228M       DATE: June 1952

Total Quantity Scheduled: 1,674 rds.
Estimated Production Per 8-hr Shift: 300 rds.
Estimated Total Direct Labor Crew Per Shift: 17
Estimated Total Direct Man Hours Per Unit: 1.65
Estimated Total Ordnance Cost Per Unit: $4.95

LOCATION OF OPERATING BUILDING: ICL Building No. 19.

APPROVED:

B. L. Bowman
Major, Ord Corps
Commanding

SHEET 1 OF 3
STANDING OPERATING PROCEDURE FOR: Normal Maintenance OF SOP NO: A80-252M

NOMENCLATURE: Shell, HE, M101 for 155mm Gun

LOCATION: Room 4, LC1 Bldg. No. 19

EXPLOSIVE LIMITS: FOUNDS: - - - - HD OF ITEMS: 300

PERSONNEL LIMITS: OPERATORS: 2 CASUALS: 1

SHIFT: 300 rd.

TITLE: Receive from Storage

STEP OPERATION NO. 1

1. Ammunition received from storage on pallets via van-semitrailer.

2. Fork lift operator will unload pallets by means of electric fork lift truck, placing pallets in receiving Room No. 4.

Note: Trucks used hauling ammunition will comply with Section 22 of CED M 7-224.

INSPECTION REQUIREMENTS:

None

SAFETY REQUIREMENTS:

1. CO₂ or Du-gas fire extinguishers will be readily available.

2. Explosive limits will be maintained at the lowest amount required for efficient operation.

3. Trucks used in hauling ammunition will not remain at unloading platform longer than required to complete unloading and loading operations.

DISPOSITION OF COMPONENTS AND MATERIAL:

Ammunition to Operation No. 2.

EQUIPMENT REQUIREMENTS:

Electric fork lift truck. Van, semitrailer with 4x2 tractor.

SHEET 2 OF 3
STANDING OPERATING PROCEDURE FOR: Normal Maintenance Of Fuzes No. A50-25BM

NOMENCLATURE: Shell, HE, MI01 for 155mm Gun

DATE: June 1942

LOCATION: Room 5, LCL Bldg., No. 39

AMO No.: Code 202

EXPLOSIVE LIMITS: POUNDS: 100 NO. OF ITEMS: 100

SHIFT: 300 Pcs.

PERSONNEL LIMITS: OPERATORS: 15 CASUALS: 3 SUIET: 15

STEP  OPERATION NO. 2 TITLE: Install Fuzes and Cups

1. Ammunition received from receiving room on pallets via electric fork lift truck.

2. Round will be removed from pallet and placed on work table where lifting ring will be removed.

3. Any loose TNT will be removed from threads and cavity and placed in a rubber bucket.

4. New fuzes will be placed in fuzes cavity by means of spark proof hand tools.

5. Cavity depth will be gauged.

6. Lifting ring will be installed in projectiles.

7. Metal filter grommet will be secured over rotating band.

8. Projectiles will be placed on shipping pallet and returned to Room No. 4 from where they will be dispatched to storage.

INSPECTION REQUIREMENTS:

Inspect proper seating of fuse well cups.

SAFETY REQUIREMENTS:

1. Free exit from operating site will be maintained.

2. CO2 or Du-gas fire extinguishers will be readily available.

3. Operators will wear spark proof safety shoes.

4. Where danger of falling shell is involved, operators will wear metal toe guards.

5. Good housekeeping will be maintained.

DISPOSITION OF COMPONENTS AND MATERIAL:

Ammunition to storage.

EQUIPMENT REQUIREMENTS:


SHEET 3 OF 3
DEPARTMENT OF THE ARMY
WINGATE ORDNANCE DEPOT
GALLUP, NEW MEXICO

STANDING OPERATING PROCEDURE

FOR

Modification

COMPLETE NOMENCLATURE:  Migs. AT. HE. Heavy. M6 and M6A1 to
                        Migs. AT. HE. Heavy. M6A2 RTFA

AWO NO:  232-1  SOP NO:  430-26H  DATE:  June 1952

Total Quantity Scheduled:  199,854 Migs
Estimated Production Per 8-hr Shift:  600 Migs
Estimated Total Direct Labor Crew Per Shift:  40
Estimated Total Direct Man Hours Per Unit:  4
Estimated Total Ordnance Cost Per Unit:  $1.13

LOCATION OF OPERATING BUILDING, INCLUDING BUILDING NO:  X-11 and Temporary Service Barricades.

APPROVED

KENNETH E. KNUDSON
Lt Col, Ord Corps
Commanding

SHEET 1 OF 11
Special reference is made to the following regulations in connection with safe handling of explosives and ammunition which references will be followed:

1. **AMMUNITION HANDLING:**
   
   
   b. Sections 24 and 25, ORD M 7-224.

2. **HAZARDOUS AMMUNITION:**
   
   a. At the unpacking operation all ammunition will be inspected for proper identification and for evidence of excessive deterioration.
   
   b. Ammunition showing excessive deterioration will be removed from operating line, transferred to demolition area and disposed of in accordance with Section 27 of ORD M 7-224 and SOP WDD-A30-L4D and Amendment No. 1.

3. **SAFETY LIMITS:**
   
   a. Operating and explosive limits will be posted in accordance with paragraphs 1601 of ORD M 7-224.
   
   b. Explosive and personnel limits for operating building will be maintained at the minimum necessary for safe and efficient operation.

4. **BARRIERS AND SAFETY SHIELDS:**
   
   a. Will comply with paragraphs 2503 and 2504 of ORD M 7-224.

5. **DESTRUCTION GROUND PROCEDURE:**
   
   a. All procedures for destruction of explosives or compounds will comply with Section 27, ORD M 7-224 and SOP WDD-A30-L4D, Amendment No. 1.

6. **SAFETY STANDARDS AND RULES:**
   
   a. Applicable paragraphs of Section 9 of ORD M 7-224 will be followed.

7. **PERSONNEL EXPOSURE:**
   
   a. Operations and personnel will be so arranged consistent with continuous and efficient operation as to constitute the smallest personnel exposure to any one explosion hazard.

8. **POSTING:**
   
   a. This Standing Operating Procedure will be prepared in segments and applicable segment will be posted at each operation.

9. **PROCESS EQUIPMENT:**
   
   a. Will comply with regulations contained in paragraph 1621 and Section 7 of ORD M 7-224.
10. **TRAINING:**
   
a. Each operator assigned will be thoroughly trained and familiarized with his part of the operation and with its relationship to the overall operation as directed in paragraph 1625 of ORD M 7-224.

11. **PERSONNEL AND EXPLOSIVE LIMITS:**
   
a. Operating Site: X-11

   4. Total Operating Personnel: 40
      
      Number of Items: 600
      
      Casuals: 5

   b. Service barricade for new fuses and boosters.
      
      Ten boxes of fuses.
      
      Three boxes of boosters.

   c. Service barricade and barricaded truck for old fuses.
      
      Number of fuses: 600
      
      Operators: 2
      
      Casuals: 1

12. **APPROVALS:**
   
a. All approvals required at this installation have been obtained.
1. Remove & Transfer from Storage
2. Unpack, Remove Fuse & Activator
3. Disassemble, Gauge and Clean Cavity
4. Expand Fuse Cavity
5. Modify, Recondition & Restencil Mine Crate
6. Assemble and Repack
7. Destroy Loaded Components

SHEET 4 OF 11
STANDING OPERATING PROCEDURE FOR: Modification OF

SOP NO: ASD-26M

NONPERMANENT: Mine, AT, HE, Heavy, M6

DATE: June 1952

LOCATION: Various Storage Sites

EXPLOSIVE LIMITS: POUNDS: - - -

NO OF ITEMS: As Stored

SHIFT: 800 Mines

PERSONNEL LIMITS: OPERATORS: 6"

CASUALS: 3

SHIFT: 6

STEP

OPERATION NO. 1

TITLE: Remove and Transfer from Storage

1. Mines will be removed from storage by hand and carefully placed on wooden pallets. Pallet load will consist of 56 mines.

2. Pallets will be loaded by approved type fork lift truck onto van, semi-trailer with wooden floor and sides.

3. Loaded van will be moved to Operation Site X-11 by means of 5-ton 4x2 tractor.

4. Loaded van will proceed at a moderate rate of speed and in such a manner as to prevent any unnecessary rough handling of load.

INSPECTION REQUIREMENTS:

None

SAFETY REQUIREMENTS:

1. CO2 or Du-gas fire extinguishers will be readily available.

2. Free exit from storage site will be maintained.

3. Safety shoes and gloves will be worn.

4. Good housekeeping will be observed.

5. Trucks used in hauling explosives will comply with Sect 22, ORD M 7-224.

6. Extreme care will be used in placing mines on pallet.

DISPOSITION OF COMPONENTS AND MATERIAL:

Mines to Operation No. 2.

Damage to reclamation yard.

EQUIPMENT REQUIREMENTS:

One approved fork lift truck. One van, semi-trailer with 5-ton 4x2 tractor.

*Includes truck driver and fork lift operator.
STANDING OPERATING PROCEDURE FOR Modification OF

NOMENCLATURE: MINE, AT, HE, HEAVY M6

DATE: June 1982

LOCATION: X-11

EXPLOSIVE LIMITS: No of Items Inside Shield: 20 activators

PERSONNEL LIMITS: OPERATORS: 7 CASUALS: 5

DIRECT LABOR:

SHIFT: 7

STEP OPERATION NO. 2 TITLE: Unpack & Remove Fuse and Activator

1. Mines received from storage site will be unloaded from van by means of gasoline powered fork lift truck.
2. One pallet only will be positioned in front of unpacking shield.
3. Operators will remove mines from pallet, place on work table, remove seal, and release cover of mine crate.
4. Mine will be positioned on turn-table outside of unpacking shield.
5. Operator removing fuses and activators from mine crate will position mine inside shield by rotating turn-table.
6. Operator working behind plexiglass shield will remove fuse and activator from mine crate, placing each in its proper tray.
7. Mine will be removed from turn-table and passed through opening in shield and placed on wooden skid on roller conveyor.
8. Trays of fuses will be hand carried to Service Barricade where fuses will be removed from trays and packed in wooden boxes each fuse separated by one inch wood separator.
9. As each box is packed it will be placed in barricaded truck for removal to demolition ground.
10. Trays containing activators will be hand carried to Operation No. 6.

INSPECTION REQUIREMENTS:
Inspect mines for proper identification.

SAFETY REQUIREMENTS:
1. Only one operator and one casual will be permitted inside unpacking shield.
2. Extreme care will be exercised in the removal of mine fuse from crate.
3. Trays containing fuses will be hand carried from unpacking shield to packing position.
4. Good housekeeping will be maintained.
5. Operators will wear safety shoes.

DISPOSITION OF COMPONENTS AND MATERIAL:
Fuses to Operation No. 7, Activators to Operation No. 6, Mines to Operation No. 3, Crates to Operation No. 5.

EQUIPMENT REQUIREMENTS:
Fork lift truck, Unpacking shield, Work tables, Roller conveyors, Hand tools.

*Fuse tray will be so constructed in such a manner that each fuse will rest on a felt cushioning material and be separated by one inch wood separators. Tray will be equipped with a hinged lid of one inch material. Lid will be in closed position during movement to fuse packing operation.

**One layer of fiber board will be placed in bottom of fuse packing box and each fuse separated by one inch wood separators. Second and third layers of fuses will be separated from the preceding layer by one sheet of fiber board filler and one inch wood separator. Sufficient filler will be placed on last layer of fuses to assure tight pack and to prevent any movement in box. Cover of box will be firmly strapped before loading in truck.
STANDING OPERATING PROCEDURE FOR:  Modification of

NOMENCLATURE:  Mine, AT, HE, Heavy, M6

LOCATION:  X-11

EXPLOSIVE LIMIT:  ---

PERSONNEL LIMIT:  OPERATORS: 7  CASUALS: 5  DIRECT LABOR: 7

DATE:  June 1952

AWO NO.:  292-3

SHIFT:  800 MINS

STEP  OPERATION NO. 3  TITLE:  Disassemble, Gauge and Clean Cavity

1. Mine will be removed from metal crate and positioned on wooden skid on
roller conveyor.

2. Undesirable markings on mine body will be obliterated by means of a light
application of OD enamel.

3. Pressure plate plug and gasket will be removed from mine and placed in sep-
erate containers for transfer to salvage.

4. Fuse retainer spring will be removed from mine and packed for salvage.

5. Any rust or foreign material will be removed from fuse cavity.

6. Fuse cavity will be gauged with cavity alignment gauge and any mine found
with fuse cavity over 15° out of alignment will be removed from operating
line and transferred to Demolition Ground.

7. Diameter of fuse cavity will be gauged and all mines with undersized or
slightly eccentric cavities will be transferred to Operation No. 4.

8. Mines with acceptable fuse cavities will move via roller conveyor to
Operation No. 5.

INSPECTION REQUIREMENTS:

Inspect and gauge fuse cavities for size and alignment.

SAFETY REQUIREMENTS:

1. Free exit from operating site will be maintained.
2. Operators will wear safety shoes.
3. Paint spray operator will wear respirator.
4. Good housekeeping will be maintained.
5. CO₂ or Du-gas fire extinguishers will be readily available.
6. Paint and cleaning supplies will be stored at a point 100 ft from operation.

DISPOSITION OF COMPONENTS AND MATERIAL:

Pressure plate plugs, gaskets and fuse retainer springs to salvage.
Mines to Operations 4 and 6, according to condition of fuse cavity.

EQUIPMENT REQUIREMENTS:


SHEET 7 OF 11
STANDING OPERATING PROCEDURE FOR: Modification of

NOMENCLATURE: MINE AT HE, Heavy M5

LOCATION: X-11

EXPLOSIVE LIMITS: - - -

PERSONNEL LIMITS: OPERATORS: 6, CASUALS: 5

STEP   OPERATION NO. A   TITLE: Expand Fuse Cavity

1. Operator will remove mine from skid, hand carry to inside of barricade and position mine in holding fixture on bed of drill press.

2. Operator will lower expansion fuse roller to throat of cavity to assure proper alignment.

3. A light film of oil will be applied to expansion tool before each mine is reworked.

4. Operator will retire to position outside of barricade, start drill press motor and operate expanding tool by means of control rope.

5. Upon completion of Step 4, operator will stop drill press motor, return to inside of barricade, remove mine from holding fixture, hand carry mine to conveyor and place in position on skid.

6. After 30 mines have been reworked, or as often as required, the expansion tool roller will be removed from drill, checked and cleaned with solvent.

7. Gauge cavity with fuse cavity gauge.

8. Remove any excess oil from fuse cavity.

INSPECTION REQUIREMENTS:

Inspect reworked mine cavities for proper size.

SAFETY REQUIREMENTS:

1. No one will be permitted inside barricade while expansion tool is in operation.

2. Only one mine will be permitted inside barricade while machine is in operation.

3. Drill press will be equipped with a positive stop which will be checked and secured whenever tool is changed.

4. Operator will wear safety shoes.

5. CO₂ or Du-gas fire extinguishers will be available.

DISPOSITION OF COMPONENTS AND MATERIAL:

Reworked mines to Operation No. 6.

EQUIPMENT REQUIREMENTS:

STANDING OPERATING PROCEDURE FOR: Modification of

STAND-10E 4-56

NOMENCLATURE: Mine, AT, HE, Heavy, No

LOCATION: L-11

EXPLODE LIMITS: - - -

PERSONNEL LIMITS: OPERATORS: 6  CASUALS: 5

DIRECT LABOR:

SHIFT: 800 Mines

SHIFT: 6

STEP OPERATION NO. 5 TITLE: Modify, Recognition & Restencil Mine Crate

1. Mine crate will be modified by reshaping fuse and activator brackets by means of air operated shaping tool.

2. Operator will remove mine crate from skid and position on hook on monorail.

3. Undesired markings on crate will be removed and any bare spots on metal covered by spraying with one coat of rust inhibiting OD enamel.

4. When paint is sufficiently dried, the correct nomenclature for modified mine will be applied to mine crate.

5. Mine crate will be returned to skid on roller conveyor for transfer to Operation No. 6.

INSPECTION REQUIREMENTS:

Inspect for correct nomenclature.

SAFETY REQUIREMENTS:

1. Paint spray operator will wear respirator.

2. CO₂ or Du-gas fire extinguishers will be present at each paint and stencil operation.

3. Paint and stencil supplies will be stored 100 feet from operation.

4. Operators will wear safety shoes.

5. Good housekeeping will be maintained.

DISPOSAL OF COMPONENTS AND MATERIAL:

Mine crates to Operation No. 6.

EQUIPMENT REQUIREMENTS:

STANDING OPERATING PROCEDURE FOR: Modification of SOP NO: ASG-26K

NOMENCLATURE: Mina, AT, HE, Heavy, M6

DATE: June 1952

LOCATION: X-11

AHD NO: 292-3

EXPLOSIVE LIMITS: 0.8 - 3.0

SHIFT: 800 Minas

DIRECT LABOR /

PERSONNEL LIMITS: OPERATORS: 8 CASUALS: 5

SHIFT: 8

STEP OPERATION NO. 6 TITLE: Assemble and Mark

1. Place booster in bottom of fuse well and press booster retainer into position by means of a positive stop press.

2. Position fuse retainer spring in pressure plate plug and turn setting knob from "Safe" to "Armed" position and return to "safe" to assure that shutter action is not impaired by the fuse retainer spring. During this operation compress spring approximately 1/2" to simulate the position of the spring when fuse is assembled in mine.

3. Assemble arming plug to mine with shutter in the "safe" position.

4. Position new fuse and activator in mine crate.

5. Position mine in crate.

6. Stencil bottom of mine with proper nomenclature.

7. Close cover of mine crate.

8. Secure cover with lead ammunition seal.

9. Place mine on pallet and transfer to storage.

INSPECTION REQUIREMENTS:

Inspect assembly, marking and sealing of finished product.

SAFETY REQUIREMENTS:

1. Operators will wear safety shoes.

2. Free exit from operating site will be maintained.

3. CO₂ or Du-gas fire extinguishers will be readily available.

4. Good housekeeping will be maintained.

DISPOSITION OF COMPONENTS AND MATERIAL:

Finished product to storage.

EQUIPMENT REQUIREMENTS:

Cargo truck used in transporting fuses from X-11 to Demolition Ground will have both sides and front lined with steel plate at least 1/4" thick and sand bags on all sides excepting rear.

1. Boxes containing fuses will be unloaded by hand and placed in a trench.

2. Lids of boxes and top packing material will be removed; boxes will be filled with flake TNT and detonating agent placed on top of TNT.

3. Fuses will be destroyed by detonation in accordance with SOP ASO-14D and Amendment No. 1.

4. Fuses will be destroyed daily to prevent a large accumulation at Demolition Ground.

Note: 600 fuses will be the maximum load permitted.

5. A careful search will be made for duds after each detonation, before leaving Demolition Area.

6. Unserviceable mines will be destroyed by detonation.

INSPECTION REQUIREMENTS:

none

SAFETY REQUIREMENTS:

1. Safety requirements as outlined in Section 27, ORD M 7-224, and SOP ASO-14D and Amendment No. 1 will be carefully followed.

2. One man will accompany driver while moving fuses from operating site to Demolition Ground.

3. The operation as outlined in Steps 1 and 2 will be out of bounds to unauthorized personnel.

4. Greater than normal care will be exercised in the movement and handling of mine fuses.

5. Cargo truck transporting fuses will proceed to Demolition Ground at a moderate rate of speed by the shortest route possible and in such a manner as to avoid rough handling of load.

EQUIPMENT REQUIREMENTS:

Barricaded cargo truck. Electric blasting machine.

*Operators will perform other duties while not engaged in demolition work.
DEPARTMENT OF THE ARMY
WINGATE ORDNANCE DEPOT
GALLUP, NEW MEXICO

11 July 1952

STANDING OPERATING PROCEDURE No.: ASC-264, Amendment No. 1.

NOMENCLATURE: M1, AT, HE, Heavy, M6 and M6AL to M1, AT, HE, Heavy,
M6AL RATBA.

AMO No.: 292-3

PURPOSE: To designate route to be driven by truck transporting fuses
from operating site to Demolition Ground.

OPERATION No. 7 - TITLE: Destroy Loaded Components

SAFETY REQUIREMENTS:

No. 5 - Change to read:

Cargo truck transporting fuses will proceed to Demolition Ground
from K-11 by using unimproved road to igloo H-1424, then travel-
ing hard service road past igloos situated between H-1424 and
H-1431, crossing road intersection at Safety Shelter No. 212 and
proceeding past igloos H-1451 through H-1454, turning right at
road end and proceeding past igloos H-1472 through H-1477 to
petrol road southeast of Highway Bridge No. 9, turning right on
petrol road and proceeding through Gate No. 9 to Demolition Ground.
In the event loading docks P-12, 13, 14 and 15 are not being
utilized for the loading of ammunition and/or unimproved roads
are hazardous because of weather conditions alternate route on
arterial road leading past aforementioned docks may be utilized.

No. 6 - Added

At no time will cargo truck exceed twenty (20) miles per hour.
The truck will be driven in such a manner to avoid rough handling
of load.

No. 7 - Added

Cargo truck will fly red flags on front and rear of vehicles.
Other vehicles meeting cargo truck hauling fuses along pre-
scribed route will pull off to side of road, stop vehicle, and
yield cargo truck the right-of-way.

Above Standing Operating Procedure, Amendment No. 1, is approved.

[Signature]
KENNETH E. KNUDSON
Lt Col, Ord Corps
Commanding

SHEET 1 OF 1
STANDING OPERATING PROCEDURE No. ASO-26M, Amendment No. 3.

NOMENCLATURE: Mine, AT, HE, Heavy, M6 and M6A1 to Mine, AT, HE, Heavy, M6A2, R7PRA.

PURPOSE: To augment Safety Requirements, and to include superseded operations listed below.

OPERATION NO. 1 - TITLE: Remove and Transfer from Storage.

SAFETY REQUIREMENTS:

Add No. 7: "Operators will wear hard hats, shatter proof safety goggles and flak suits."

OPERATION NO. 2 - TITLE: Unpack and Remove Fuses and Activator.

Step 5 Footnote is rescinded and superseded by the following:

"Fuse trays will be constructed of 2" undressed or 1-5/8" dressed lumber with 1" lumber bottom and will be equipped with a hinged lid of 2" undressed or 1-5/8" dressed material which will include a locking hasp. Trays will be so constructed that each fuse will rest on a felt cushion material and will be separated by 2" undressed or 1-5/8" dressed wooden separators."

Step 8 is rescinded and superseded by the following:

"Trays of fuses will be hand carried by two operators to Service Barricade where fuses will be removed from trays and packed in wooden boxes, which are constructed in accordance with specifications outlined on Page 2, Operation No. 1, SOP No. ASO-32D. Fuse tray lid will be locked closed during movement operation."

SAFETY REQUIREMENTS:

Add No. 6: "Operators performing Steps 3, 4, 5, 6 and 8 will be required to wear hard hats, shatter proof safety goggles and flak suits."

Above Standing Operating Procedure, Amendment No. 3, is approved.

KENNETH E. KNUDSON
Lt Col, Ord Corps
Commanding
DEPARTMENT OF THE ARMY
WINGATE ORDNANCE DEPOT
GALLUP, NEW MEXICO

STANDING OPERATING PROCEDURE
(Para 1480, FDI)

FOR

KODIFICATION

COMPLETE NOMENCLATURE: Shell, Fixed, HE, M41A1 for 75mm, Guns Rlpta to RLME.

RLPEA to RLTPA. RLPEA to RLTPA.

| ITEM NO. | AWO NO. | SOP NO. | 22 M DATE |
|----------|---------|---------|-----------|-----------|
|          |         |         | January 1961 |
|          |         |         |            |           |
| Total Quantity Scheduled: | | | 61,962 rds |
| Estimated Production Per 8-hr Shift: | | | 1,000 rds |
| Estimated Total Direct Labor Crew Per Shift: | | | 33 |
| Estimated Total Direct Man Hours Per Unit: | | | .26 |
| Estimated Total Ordnance Cost Per Unit: | | | .43 |

* LOCATION OF OPERATING AREA:
  a. Ammunition Work Shop: Bldgs. 500, 516, 514, 507, 508
     (Ordinance Depot)

**LOCATION OF OPERATING BUILDING, INCLUDING BUILDING NO: 500, 516, 514, 507, 508
(See para 31a, OSM)

AVERAGES AND/OR EXEMPTIONS AFFECTING THIS SOP (INCLUDE FILE NUMBER, DATE AND
EXPIRATION DATE): Permanent exemption of use of LCL Bldg. No. 19 per 4th Ind. to
00 2206/1828 effective 5 Dec 69 and ODLY-S 333/18635 Wingate PIR 729.3/75

* Supplemented with area map showing distance relations.
  ** Supplemented with flow chart showing explosive limits and distance relationships
     between buildings. (Para 1484, FDI)

APPROVED:

FRANK E. CLAY
Lt Col, Ord Corps
Commanding

SHEET 1 OF 17
SOP 28 M (cont'd)

Inspection requirements for ammunition are included in drawings and specifications, Ordnance Inspection Handbooks, ORD-W-60U, ORD-W-60U-8 and ORD-M-305-M1, PDI-D Part 1E, and in classifications of defects issued for each item. In order to insure that the ammunition produced, renovated or demilitarized in accordance with this Standing Operating Procedure will meet the requirements described in the documents listed above, certain process inspections specified as a part of the Standing Operating Procedure. Specific instruction concerning the acceptance inspection of the end product will be issued in a typical procedure by OCG, OAC at a later date, supplementing instruction received from ORD-W-8. All residual metal components after demilitarization and all packing material not considered reusable will be inspected and certified for adequacy of decontamination in accordance with paragraph 1540 of FDI.

Safety requirements for the modification, demilitarization and disposal of ammunition and explosives are included in the Ordnance Safety Manual, O-0, Form 7224, dated 3 May 1945. Ordnance Department Safety Bulletins and other applicable directives, such as PDI, ER's, AR's and SOP's, this depot, as amended and approved by OCG, OAC. Such requirements will be complied with in accordance with paragraph 4 of the Ordnance Safety Manual. Special reference is made to the following regulations in connection with safe handling of explosives and ammunition, which references will be followed:

1. BUILDINGS AND UTILITIES:
   a. Paragraphs 14, 15 and Section V of the Ordnance Safety Manual covering utilities, equipment, operating and auxiliary buildings.
   b. Paragraph 1484, FDI, covering line layout.

2. AMMUNITION HANDLING:
   a. Paragraph 92 (less 92e) and 94, OSM, 3 May 1945, and OCG, 158.
   b. OCSB # 100, Change 2, dated 19 December 1945, paragraphs 103 and 104, OSM, OCSB # 128, and paragraph 1666 of FDI.
   c. Carriers used as service magazines will comply with current existing directives.

3. HAZARDOUS AMMUNITION:
   a. Each and ammunition storage site or after unloading, all ammunition will be inspected for proper identification and for evidence of excessively deteriorated, damaged or missing components which render the round unsafe to handle or process in a normal manner.
   b. Such ammunition will be disposed of in accordance with paragraph 107 and Section XVII, OSM, 3 May 1945, or appropriate amendment thereto.

4. SAFETY CLOTHING AND TOOLS:
   a. Sections VIII and XVII, OSM, 3 May 1945, and Section VI, OCG, # 103.

SHEET 2 OF 17
4. SAFETY CLOTHING AND TOOLS: (cont'd)
   c. Paragraph 12, OSM, 3 May 1945
   d. Paragraphs 1470 thru 1475.1 of FDI, inclusive
   e. For instructions on furnishing and procurement, see OCO 34-49 and SR 385-10-61.

5. SAFETY LIMITS:
   a. Post operating and explosives limits (see par 10b, OSM, and 1-84-4, FDI).
   b. Explosive and personnel limits for operating buildings will be maintained at the minimum necessary for safe and efficient operation. (See par 77, OSM).

6. BARRIERS:
   a. OCSB # 161 and Change 1 thereto.
   b. The operation of disassembling the projectile from the cartridge case in fixed ammunition will be performed in a bay or room separate from other operations.

7. DESTRUCTION GROUND PROCEDURE:
   a. All procedures for destruction of explosives or components will comply with Section XVII, OSM, 3 May 1945, OCSB # 171, paragraph 1456 of FDI and SOP 14D, Wingate Ordnance Depot, as amended, copy of which is on file OCG, OAC.

8. SAFETY STANDARDS AND RULES:
   a. Paragraph 40a, Section IV, Part I, OCSB # 103.
   b. Any and/or all standards, i.e., American Safety Standards, National Electrical Code, National Bureau of Fire Underwriters, National Fire Protection Association, American Society of Mechanical Engineers, National Safety Council, Manufacturing Chemists' Association, etc., as applicable to the operation.

9. CONTROL OF OCCUPATIONAL DISEASE:
   a. Paragraph 7g, OCSB # 104, paragraph 1437 of FDI.

10. PERSONNEL EXPOSURE:
   a. Operations and personnel will be so arranged consistent with continuous and efficient operation as to constitute the smallest personnel exposure to any one explosion hazard (see paragraph 77, OSM).
11. POSTING:
   a. This SOP will be prepared in segments and applicable segment will be posted at each operation.

12. APPROVALS:
   a. All approvals required at this installation have been obtained.

13. TRAINING:
   a. Each operator assigned has been or will be thoroughly trained and familiarized with his part of this operation and with its relationship to the over-all operation.
STANDING OPERATING PROCEDURE FOR: MODIFICATION OF 30P NO. 28 M

NOMENCLATURE: Shell, Fixed, HE, M42A1 for 76mm Guns

LOCATION: Various Storage Sites

EXPLOSIVE LIMITS: As Stored

PERSONNEL LIMITS: OPERATORS: 6 CASUALS: 3

<table>
<thead>
<tr>
<th>STEP</th>
<th>OPERATION NO. 1</th>
<th>TITLE: Remove from Storage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Remove containers from storage by hand and place on wooden pallet, 48 rounds to pallet.</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Pallets will be loaded by approved type fork lift truck onto van, semi-trailer, with wooden sides and floor. Load will consist of 7 pallets.</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Loaded van will be hauled to Bldg. No. 516 by 6-ton 4 x 2 tractor conforming to Section XIV, CO 7224.</td>
<td></td>
</tr>
</tbody>
</table>

INSPECTION REQUIREMENTS:

None

SAFETY REQUIREMENTS:

1. Safety shoes and gloves will be worn.
2. Approved type fire extinguishers will be readily available.
3. Free exit will be maintained from storage site.
4. Good housekeeping will be maintained.

DISPOSITION OF COMPONENTS AND MATERIAL:

Ammunition to Operation 2.
Damage to damage recreation yard.

EQUIPMENT REQUIREMENTS:

One approved type fork lift truck.
Two semi-trailers with tractors.

* Includes one fork lift operator and one truck driver.
STANDING OPERATING PROCEDURE FOR:  MODIFICATION OF  

SOP NO. 28 M

NOMENCLATURE: Shell, Fixed, HE, 16.281 for 76mm Gun

DATE:  Jan. 61

LOCATION: ANS Bldg. No. 616

ITEM NO.

EXPLOSIVE LIMITS: POUNDS: 857  NO OF ITEMS: 1000 rds

PROD/SHR

SHIFT  1,000 rds

PERSONNEL LIMITS: OPERATORS: 2  CASUALS: 2  DIRECT LABOR:

SHIFT  1

<table>
<thead>
<tr>
<th>STEP</th>
<th>OPERATION NO. 2</th>
<th>TITLE: Handling of Ammunition at Receiving Bldg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Ammunition will be received in closed van.</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Fork lift operator will unload van by use of approved type gas fork lift truck placing loaded pallets in receiving building.</td>
<td></td>
</tr>
</tbody>
</table>

INSPECTION REQUIREMENTS:

None

SAFETY REQUIREMENTS:

1. Explosive and personnel limits will be posted and will be maintained at the lowest amount required for efficient operation.
2. Approved type fire extinguishers will be available at all times.
3. Good housekeeping will be maintained.
4. Tractor and van will not remain longer than necessary to complete unloading operation.

DISPOSITION OF COMPONENTS AND MATERIAL:

Ammunition to Operation 5.

EQUIPMENT REQUIREMENTS:

One approved type gasoline powered fork lift truck.

SHEET 7 OF 17
### Standing Operating Procedure for: Modification of

**STANDARDS OF PRACTICE:** Safe, Fixed, NEC, NFPA for 700mm Guns

**DATE:** Jan. 51

**LOCATION:** Rooms 2 and 7, AHD Bldg. 600

**EXPLOSIVE LIMITS:** POUNDS: 86, NO OF ITEMS: 100 rds

**PERSONNEL LIMITS:** OPERATORS: 7 • CASUALS: 5

**DIRECT LABOR:**

### Operation No. 3: Transfer & Unpack, Remove Undesirable Marking

1. Ammunition received on pallet by approved type fork lift truck from Bldg. 516 and closed van. **
2. Cut straps and remove lead seals from box.
3. Place box on table, open lid and remove fiber containers from box.
4. Remove rounds from containers and place on rubber-tired ammunition cart.
5. Move unserviceable material to salvage yard.
6. Obliterate marking on fiber containers and move to Operation 11.
7. Remove undesirable marking from ammunition box and move to Operation 11.

**Inspection Requirements:** None

**Safety Requirements:**

1. Approved type fire extinguishers will be readily available.
2. Free exit from operating area will be maintained.
3. Safety shoes will be worn.
4. Operator cutting strap will wear gloves and safety glasses or face shield.
5. Ammunition will be handled carefully.
6. Good housekeeping will be maintained.

**Disposal of Components and Material:**

- Ammunition to Operation No. 4.
- Strapping and unserviceable packing material to salvage.
- Fiber containers and boxes to Operation 11.

**Equipment Requirements:**

- One fork lift truck.
- Strap cutter.
- Roller conveyor.
- Three ammunition carts.
- Safety goggles or face shield.

* Includes operator from Operation No. 2.

** Note: Step 1, Room 7 Ref. Ltr IDAP 16 Sept. 1930,
Subject: Parking of Trucks and Rail Cars at Explosive Operations. Explosive limits for complete operation shall not exceed 1200 rds or 1025 lbs explosive.
<table>
<thead>
<tr>
<th>STEP</th>
<th>OPERATION NO. 4</th>
<th>TITLE: Inspect</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Rounds will be inspected in accordance with current Surveillance procedure.</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Unserviceable rounds will be handled in accordance with inspection recommendation.</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Any round found in an unsafe condition will be hand carried and placed in one side of Primary Collector Barricades ANH Bldg. 509.</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Surveillance Division will remove round to demolition ground for disposal according to SOP WOD 140.</td>
<td></td>
</tr>
</tbody>
</table>

**INSPECTION REQUIREMENTS:**
Inspect ammunition.

**SAFETY REQUIREMENTS:**
1. Defective round will be handled with extreme caution.
2. Surveillance Division will be contacted immediately for removal of defective round.

**DISPOSITION OF COMPONENTS AND MATERIAL:**
None

**EQUIPMENT REQUIREMENTS:**
None
STANDING OPERATING PROCEDURE FOR: MODIFICATION OF  

SOP NO. 28 H

MATERIALS: Shell, Fixed, HC, 142Al for 76mm Guns

DATE: Jan. 51

LOCATION: Rooms 4 and 5 AVS Bldg. 509

AVO NO.

EXPLOSIVE LIMITS: POUNDS: 52 % OF ITEMS: 60 rds

PROD/8-HR SHIRT 1,000 rds

PERSONNEL LIMITS: OPERATORS: 3 CASUALS: 3 DIRECT LABOR/ SHIRT 1

<table>
<thead>
<tr>
<th>STEP</th>
<th>OPERATION NO. 6</th>
<th>TITLE:</th>
<th>Defuse</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Rounds received from Operation 4 via rubber tired ammunition cart.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Round will be hand carried from cart and placed in vise on table inside barricades.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Operator releases booster holding set screw by means of spark proof screw driver.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Operator removes fuse from round and places fuse in tray.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Operator returns defused round to ammunition cart.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>If round is encountered which requires undue force in removal of booster holding set screw or fuse, round will be removed to barricades AVS Bldg. 509.*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>When fuse tray of 20 fuses is filled, operator will hand carry tray to packing table in front of barricades.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

INSPECTION REQUIREMENTS:

None

SAFETY REQUIREMENTS:

1. Operator will wear safety shoes.
2. Approved type fire extinguishers will be readily available.
3. Free exit from operating site will be maintained.
4. Ammunition will be handled carefully.
5. Good housekeeping will be maintained.

DISPOSITION OF COMPONENTS AND MATERIAL:

Rounds to Operation 6.
Fuses to packing operation.

EQUIPMENT REQUIREMENTS:

Ammunition carts.
Hand tools.

* Explosive limit at Bldg. 509 will not exceed 50 rds, 45 lbs explosive.
STANDING OPERATING PROCEDURE FOR: MODIFICATION OF

NOMENCLATURE: Shell, Fixed, HE, 142mm for 76mm Guns

DATE: Jan. 61

ITEM NO.

LOCATION: Rooms 3 and 6 APO Bldg., 500

AFO NO.

EXPLOSIVE LIMITS: Rounds: 62 NO OF TITEMS: 60 rds

PHOB/BNR

DIRECT LABOR/

PERSONNEL LIMITS: OPERATORS: 5 CASUAL: 3

SHIFT 1,000

SHIFT 3

<table>
<thead>
<tr>
<th>STEP</th>
<th>OPERATION NO. 6</th>
<th>TITLE: Refuse</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Rounds received from Operation 5 via rubber tired ammunition cart.</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Unfused round will be hand carried from cart and placed in vise on table inside barricade.</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Operator removes fuse from tray and screws it into projectile.</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Operator tightens fuse in projectile using suitable wrench.</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Operator stakes fuse in projectile.</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Operator removes completed round from vise and places it on ammunition cart outside barricade.</td>
<td></td>
</tr>
</tbody>
</table>

INSPECTION REQUIREMENTS:

None

SAFETY REQUIREMENTS:

1. Operator will wear safety shoes.
2. Approved type fire extinguishers will be readily available.
3. Free exit from operating site will be maintained.
4. Ammunition will be handled carefully.
5. Good housekeeping will be maintained.

DISPOSITION OF COMPONENTS AND MATERIAL:

Completed rounds to Operation 7.

EQUIPMENT REQUIREMENTS:

Ammunition carts.
Hand tools.
STANDING OPERATING PROCEDURES FORM MODIFICATION OF

NUMERATION: Shell, Fixed, WR 12221, for 70mm Guns

DATE: Jan. 31

LOCATION: Rooms 1 and 2 ANS Bldg. 500

EXPLOSIVE LIMITS: EXPLOSION: 1725.3 OF TOTAL: 200 rds

PERSONNEL LIMITS: OPERATORS: 4 CASUALS: 5

SHIFT: 1,000

DIRECT LABOR/SHIFT: 5

STEP | OPERATION NO. 7 | TITLE: Inspect and Repack

1. Rounds received from Operation 6 via ammunition cart.

2. Round is placed in fiber container on canvas covered table and container properly taped.

3. Rounds are placed in box and necessary straw board filler added to insure tight pack.

INSPECTION REQUIREMENTS:

1. Proper assembly of fuses in round.

2. Proper packing.

SAFETY REQUIREMENTS:

1. Operators will wear safety shoes.

2. Approved type fire extinguishers will be readily available.

3. Free exit from operating site will be maintained.

4. Ammunition will be handled carefully.

5. Good housekeeping will be maintained.

DISPOSITION OF COMPONENTS AND MATERIAL:

Ammunition to Operation 3.

EQUIPMENT REQUIREMENTS:

Ammunition carts.

Roller conveyor.

* Includes inspectors.
<table>
<thead>
<tr>
<th>STEP</th>
<th>OPERATION NO. 8</th>
<th>TITLE: Strap, Seal, and Dispatch to Storage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td>Boxed ammunition is received from Operation No. 7 and placed on roller conveyor.</td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td>Box lid is secured in position by attached fasteners.</td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td>Operator straps and seals box.</td>
</tr>
<tr>
<td>4.</td>
<td></td>
<td>Operator seals box with Ordnance lead seal.</td>
</tr>
<tr>
<td>5.</td>
<td></td>
<td>Box is placed on wooden pallet.</td>
</tr>
<tr>
<td>6.</td>
<td></td>
<td>Pallet is removed from building using approved type fork lift truck and placed in van, with wooden floor and sides, for transportation to storage site.</td>
</tr>
</tbody>
</table>

**INSPECTION REQUIREMENTS:**

Inspect for proper sealing and marking.

**SAFETY REQUIREMENTS:**

1. Operators will wear safety shoes.
2. Approved type fire extinguishers will be readily available.
3. Fire exit from operating site will be maintained.
4. Ammunition will be handled carefully.
5. Good housekeeping will be observed.

**DISPOSITION OF COMPONENTS AND MATERIAL:**

Ammunition to storage.

**EQUIPMENT REQUIREMENTS:**

- Fork lift truck.
- Strapping tools.
- Sealing tools.
STANDING OPERATING PROCEDURE FOR: MODIFICATION OF

NOMENCLATURE: Shell, Fixed, HE, Metal for 75mm Guns

LOCATION: Rooms 4 and 5 ANS Bldg. 500

EXPLOSIVE LIMITS: POUNDS: NO OF ITEMS: 200

PERSONNEL LIMITS: OPERATORS: 2 CASUALS: 3

STEP | OPERATION NO. 9 | TITLE: Pack Fuses & Dispatch to Storage

1. Fuses received from Operation No. 5 in wooden separator trays containing 23 fuses.
2. Fuses are placed on canvas covered table.
3. Fuses are packed and taped in fiber containers.
4. Containers are packed in 25 round wooden box.
5. Box is properly strapped and marked.
6. Box is placed on ammunition cart and dispatched to fuse holding site ANS Bldg. 507.

Note: Explosive limits at Service Magazine ANS 507 shall not exceed:

- 100 Boxes
- 2500 Fuses
- 121 lbs explosive

INSPECTION REQUIREMENTS:
Inspect for proper marking and packing.

SAFETY REQUIREMENTS:
1. Operators will wear safety shoes.
2. Approved type fire extinguishers will be readily available.
3. Free exit from operating site will be maintained.
4. Fuses will be handled carefully.
5. Good housekeeping will be maintained.

DISPOSITION OF COMPONENTS AND MATERIAL:
Packed fuses to storage site.

EQUIPMENT REQUIREMENTS:
- Stencil equipment.
- Strapping tools.
- Sealing tools.
STANDING OPERATING PROCEDURE FOR: MODIFICATION OF SHELL, FIXED, HE, M22A1 for 76mm Guns

STANDARD OPERATING PROCEDURE: MODIFICATION OF SHELL, FIXED, HE, M22A1 for 76mm Guns

DATE: Jan. 61

ITEM NO.

LOCATION: Rooms 3 and 6 ANS Bldg. 500

EXPLOSIVE LIMITS: POUNDS: NO OF ITEMS: 250 Fuses

PERSONNEL LIMITS: OPERATORS: 1 CASUALS: 3

1. Fuses received from service site ANS Bldg. 598 via rubber tired ammunition cart.

2. Operator cuts strapping and removes fiber containers from packing box.

3. Operator removes fuse from fiber container and places in wooden separator trays 20 fuses to tray.

4. Trays of fuses are hand carried to Operation No. 6, as required.

Note: Explosive limits at Service Magazine ANS 508 shall not exceed:

- 100 Boxes
- 2500 Fuses
- 121 lbs Explosive

INSPECTION REQUIREMENTS:

Fuses to be inspected for condition and lot number.

SAFETY REQUIREMENTS:

1. Operator will wear safety shoes.
2. Face shield will be worn during strap cutting operation.
3. Fire extinguishers will be readily available.
4. Free exit from operating site will be maintained.
5. Fuses will be handled carefully.
6. Good housekeeping will be maintained.

DISPOSITION OF COMPONENTS AND MATERIAL:

Fuses to Operation No. 6.
Packing material to Operation No. 9.

EQUIPMENT REQUIREMENTS:

- Strap cutter
- Face shield

SHEET 15 OF 17
STANDING OPERATING PROCEDURE FOR: MODIFICATION OF SHELL, FIXED, HE, M32/Al for 76mm Guns

NOMENCLATURE: SHELL, FIXED, HE, M32/Al for 76mm Guns

DATE: Jan. 51

ITEM NO.

LOCATION: Rooms 1 and 2

ANO NO.

EXPLOSIVE LIMITS:

PREV/BL-HR

SHIFT 1,000 rds

PERSONNEL LIMITS; OPERATORS: 3

CASUALS: 3

DIRECT LABOR/SHIFT 3

<table>
<thead>
<tr>
<th>STEP</th>
<th>OPERATION NO.</th>
<th>TITLE: Restencil Packing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td>Fiber containers received from Operation No. 3 via ammunition cart.</td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td>Operator stencils proper nomenclature on fiber containers.</td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td>Packing boxes received from Operation No. 3 via ammunition cart.</td>
</tr>
<tr>
<td>4.</td>
<td></td>
<td>Operator places box on roller conveyor and applies proper nomenclature.</td>
</tr>
</tbody>
</table>

INSPECTION REQUIREMENTS:

Legibility of markings.

SAFETY REQUIREMENTS:

1. Operators will wear safety shoes.
2. Approved type fire extinguishers will be readily available.
3. Free exit from operating site will be maintained.
4. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:

Fiber containers to packing table.
Bones to packing conveyor.

EQUIPMENT REQUIREMENTS:

Stencil equipment.
STANDING OPERATING PROCEDURE FOR: MODIFICATION OF

SOP NO. 23 H

MATERIAL: Shell, Fixed, HE, HMGAL for 75mm Guns

DATE: Jan. 61

LOCATION: Debooster/ Demarkage AWS No. 514

ITEM NO.

EXPLOSIVE LIMITS: POUNDS: .86 NO OF ITEMS: 1

ANU NO.

SHIFT 1,000 rds

PERSONNEL LIMITS: OPERATORS: 2 CASUALS: 2

DIRECT LABOR/ SHIFT 2

<table>
<thead>
<tr>
<th>STEP</th>
<th>OPERATION NO. 12</th>
<th>TITLE: Defusing and/or Debooster/ Demarkage of Other than Normal Rounds</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Rounds received from AWS Bldg. 509 via rubber tired ammunition cart. Maximum load limit of cart will not exceed 10 rds. Cart will be parked outside barricade.</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Operator hand carries round behind barricade and secures in shell holding device.</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Operator attaches fuse or booster holding tool and returns to front of barricade.</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Removes fuse or booster by operation of power driven debooster/ demarkage machine, observing operation by the use of mounted mirrors.</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Round is returned to Operation No. 6 where new fuse is installed.</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Removed fuse or booster is dispatched to Operation No. 9 and packed for storage.</td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Rounds which cannot be defused and/or debooster/ demarkaged will be dispatched to Demolition Ground for disposal in accordance with SOP WOD 14 D.</td>
<td></td>
</tr>
</tbody>
</table>

INSPECTION REQUIREMENTS:

1. Rounds will be inspected carefully before placing in holding fixture.
2. Defused or debooster/ demarkaged round will be carefully inspected for serviceability.

SAFETY REQUIREMENTS:

1. Operators will not be permitted behind barricade while debooster/ demarkage machine is in operation.
2. Operation will be observed only by use of mirrors.
3. Good housekeeping will be maintained.
4. Road block signs will be placed and red flag displayed while operation is in progress.

DISPOSITION OF COMPONENTS AND MATERIAL:

Servicable round to Operation No. 6.
Unservicable round to Demolition Ground.
Fuse and booster to Operation No. 9.

EQUIPMENT REQUIREMENTS:

Power driven debooster/ demarkage machine.
Special tools for engaging fuses or boosters.

SHEET 17 OF 17
DEPARTMENT OF THE ARMY
WHITE OVERTON DEPOT
EDEN, DONALD
STANDING OPERATING PROCEDURE
(Para 1400, PDI)
FOR
MODIFICATION

COMPLETE IDENTIFICATION: Shell, Fixed MK, 2426Y for 76mm Guns RPTA to RIDE.
RPTA to RIDE. RPTA to RIDE.

APPROVED:

Frank Ecker
Lt Col, Ord Corps
Commanding

APR 1951

Sheet 1 of 4
STANDING OPERATING R.G.D. FOR: Notification of

NO. 18, 19, AEP-50 No 1

NOMENCLATURE: Shell, Fixed, 155, 192mm for 76mm Guns

DATE: 5 May 51

PURPOSE: To eliminate excessive handling; increase production and decrease cost.

LOCATION: Rooms 5, 6, 7 and 8 A-3 Bldg, 500

EXPLOSION LIMITS: POSITION 62 BC OF ITALIAN 60 rds

PERSONNEL LIMITS: OPERATOR 4 GUESTS 3

SHIFT: OPERATOR No. 5 TITLE: Defuse & Refuse

1. Round received from Operation 4 via rubber tired ammunition cart.
2. Round will be hand carried from cart and placed in vise on table inside barricade.
3. Operator removes booster holding set screws by means of screw driver.
4. Operator removes fuse from round and places it in fuse tray.
5. Operator removes any loose particles of TNT from round, placing same in a suitable container. This container will be emptied at end of each shift and TNT disposed of in accordance with SOP No. T62-14-R.
6. Operator removes new fuse from tray and hand screws it into projectile.
7. Operator tightens fuse in projectile using suitable wrench.
8. Operator will stake fuse in projectile.
9. Completed round is removed from vise and returned to ammunition cart outside barricade.
10. If round is encountered which requires undue force in removal of booster holding set screw or fuse, round will be removed to barricade, A-3 Bldg. 500.
11. When fuse tray of 20 fuses is filled, operator will hand carry tray to packing table, Operation No. 6.

SAFETY REQUIREMENTS:

1. Operator will wear safety shoes.
2. Approved type fire extinguisher will be readily available.
3. Free exit from operating site will be maintained.
4. Ammunition will be handled carefully.
5. Good housekeeping will be maintained.
6. Not more than one complete round will be allowed in any cubicle during defuse-refuse operation.

IDENTIFICATION OF ECLOGICAL AND EUTHERIA:

Completed rounds to Operation 7.

Fuse: to repacking, Operation 9.

MATERIAL REQUIREMENTS:

Ammunition carts.

Hand tools.

Explosive limit at Bldg. 509 will not exceed 50 rds, 45 lbs explosives.

Sheet 2 OF 4
<table>
<thead>
<tr>
<th>NO.</th>
<th>MODIFICATION</th>
<th>LOCATION</th>
<th>DATE</th>
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<tr>
<td>1</td>
<td>Shell, Fixed, 45, 192A1 for 78mm Guns</td>
<td>AED Bldg, 500</td>
<td>5 Mar 51</td>
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**STEPS**

- Resolved.
STANDING OPERATING PROCEDURE FOR MODIFICATION OF SHELL, Fixed, HE, M2A1 for 76mm Guns

DATE: 5 Mar 61

LOCATION: One room of barricades A3 Bldg. 509

EXPLOSIVE LIMITS: POUNDS .06 NO OF ITEMS 1 rd. SHIFT 1000 rds.

PERSONNEL LIMITS: OPERATORS 1 CASUALS 2

DIRECT LABOR/SHIFT 1

STEP OPERATION NO. 15 TITLE: Step 10, Operation 5

Removal of Booster Set Screws from

1. Round hand carried from storage side and placed on work table in operating side of barricades.
2. Booster holding set screw is drilled from projectile by means of a spark proof, positive stop electric drill.
3. Booster is removed by use of approved hand tool.
4. New set screw is inserted in projectile.
5. If after removal of set screw undue force is required in removal of booster, round will be removed to Operation 12.

SAFETY REQUIREMENTS:

1. Operator will wear safety shoes.
2. Free exit from operating site will be maintained.

DISPOSITION OF DEBRIS AND MATERIAL:

1. Round to Operation 6.
2. Booster to Operation 5.

EQUIPMENT REQUIREMENTS:

Electric drill with positive stop and explosion proof motor. Approved hand tools.
DEPARTMENT OF THE ARMY
WINGATE ORDNANCE DEPOT
GALLUP, NEW MEXICO

STANDING OPERATING PROCEDURE
(Para 1480, FDI)

FOR

MODIFICATION

COMPLETE NOMENCLATURE: Shell, Fixed, HE, M42A1 for 76mm Guns RLPTA to RLIMA.

RLPTA to RLIPA. RLIPA to RLIMA.

<table>
<thead>
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<th>AMENDMENT NO.</th>
<th>SOP No.:</th>
<th>DATE:</th>
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<td>28 M</td>
<td>30 April 1951</td>
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<td>Estimated Total Direct Man Hours Per Unit:</td>
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<tr>
<td>Estimated Total Ordnance Cost Per Unit:</td>
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LOCATION OF OPERATING AREA:

A. Ammunition Work Shop: Bldgs. 500, 616, 514, 507, 608 (Ordnance Depots)

LOCATION OF OPERATING BUILDING, INCLUDING BUILDING No: 500, 616, 514, 507, 608 (see para 51a, CGS)

APPROVED:

[Signature]
FRANK EDDIE
Lt Col, Ord Corps
Commanding

SHEET 1 OF 2
STANDING OPERATING PROCEDURE FOR: Modification of SHELL, FIXED, HE, M12AI FOR 75MM GUN

DATE: 30 April 1961

NOMENCLATURE: SHELL, FIXED, HE, M12AI FOR 75MM GUN

PURPOSE: To provide additional working space for removal of booster set screws

LOCATION: Barricaded cubicle Room 6, ANS Bldg. 500

NO. OF HAMMERS 1

NO. OF FUZES 20

DIRECT LABOR:

SHIFT 1

EXPLOSIVE LIMITS:

POUNDS 86

PERSONNEL LIMITS:

OPERATORS 1

CASUALS 2

TITLE: Removal of Booster Set Screws

STEP

1. Round received from Operation No. 5 by means of rubber tired ammunition cart.

2. Cart is placed outside barricade and round is hand carried to work table inside barricade.

3. Booster holding set screw is drilled from projectile by means of a spark proof, positive step electric drill.

4. Booster is removed from round by use of approved hand tool and placed in separated fuse tray.

5. New set screw is inserted in projectile.

6. Defused and deboostered round is returned to Operation No. 5 via ammunition cart.

7. If, upon removal of set screw, undue force is required in removal of booster, round will be removed to Operation No. 12.

SAFETY REQUIREMENTS:

1. Operator will wear safety shoes.

2. Free exit from operating site will be maintained.

3. Care will be exercised that explosive filler is not exposed during drilling or retapping operation.

DISPOSITION OF COMPONENTS:

1. Round to Operation No. 5.

2. Booster to Operation 6.

EQUIPMENT REQUIREMENTS:

Electric drill with positive step and explosion proof motor.

Approved hand tools.
STANDING OPERATING PROCEDURE
(Para 1480, FDI)
FOR
MODIFICATION

COMPLETE NOMENCLATURE: Shell, Semi-Fixed, H.E., 75mm, w/fuse FD M43 Series for 75mm Howitzer, HIMLA

MODIFY TO: RIMSH and RIMSA using Fuse, FD M51A4

AMENDMENT NO. 3          SOP NO. 29 H          DATE: May 1961

(Amendment to conform with Paragraph 4, Explosives and Ammunition Safety Letter No. 9, Standing Operating Procedures and Line Layouts, CRMLY-5)

Total Quantity Scheduled:

Estimated Production per 8-hr Shift:

Total Direct Labor Crew Per Shift:

Estimated Total Direct Man Hours Per Unit:

Estimated Total Ordnance Cost Per Unit:

LOCATION OF OPERATING AREA:

A. Ammunition Work Shops: Bldgs. 600, 616, 614, 508, 507.

APPROVED:

[Signature]
FRANK EICHEL
Lt Col, Ordn Corps
Commanding

SHEET 1 OF 4
STANDING OPERATING PROCEDURE FOR: Modification of

NOMENCLATURE: Shell, S-nixed, H.E., M19 for 75mm How.

DATE: May 1951

LOCATION: Rooms 2 and 7, Building 600

EXPLOSIVE LIMITS: Rounds [100] NO OF ITEMS [500 lbs]

PERSONNEL LIMITS: OPERATORS 5 CASUALS 3

STEP OPERATION NO. 3 TITLE: Unpack

1. Ammunition received of pallet by approved type forklift truck from Building 515 and closed van.
2. Remove fiber containers containing round from clover leaf and place on work table.
3. Remove ammunition from fiber container and separate cartridge case from projectile.
4. Place cartridge case in separation trays on rubber tired ammunition cart.
5. Place projectile on rubber tired ammunition cart.
6. Obliterate marking on fiber containers and move to Operation 11.
7. Only electric tow motor or electric forklift truck will be permitted in this operation.

INSPECTION REQUIREMENTS:
Inspect powder charge.
Inspect for proper lot number.

SAFETY REQUIREMENTS:
1. Soda acid type fire extinguishers will be readily available.
2. Free exit from operating site will be maintained.
3. Safety shoes will be worn.
4. Ammunition will be handled carefully.
5. Good housekeeping will be observed.
6. Loaded carts containing cartridge case will be covered with canvas.

DISPOSITION OF COMPONENTS AND MATERIAL:

- Projectile to Operation 5.
- Cartridge cases to Operation 7.
- Clover leaf packing to salvage.

EQUIPMENT REQUIREMENTS:
Rubber tired ammunition carts.
Canvas covers for cartridge cases.
Approved hand tools.

*Note Step 1, Room 7. Ref. ltr. FDAP 14 Sep 1950, Subject: Parking of Trucks and Rail Cars at Explosive Operations. Explosive limits for complete operation shall not exceed 1520 rds or 2265 lbs explosive.
STANDING OPERATING PROCEDURE FOR: Modification of  

STANDARDS: Shell, Semi-fixed, H.E. M68 for 76mm How.

DATE: May 1961

LOCATION: Rooms 1 and 8

EXPLOSIVE LIMITS: POUNDS 298 NO OF ITEMS 200

PERSONNEL LIMITS: OPERATORS 4+ CASUALS 3

SHIFT 5

STEP OPERATION NO. 7 TITLE: Inspect and Repack

1. Projectile received from Operation 6 via ammunition cart.
2. Cartridge cases received from Operation 3 via canvas covered ammunition cart.
3. Round is properly assembled and placed in fiber container on canvas covered work table.
4. Fiber container will be properly taped.
5. Rounds are placed in designated packing containers.

INSPECTION REQUIREMENTS:

1. Proper assembly of fuse.
2. Proper assembly of complete round.
3. Proper packing and marking.

SAFETY REQUIREMENTS:

1. Operators will wear safety shoes.
2. Soda acid type fire extinguishers will be readily available.
3. Free exit from operating site will be maintained.
4. Ammunition will be handled carefully.
5. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:

Ammunition to Operation 8.

EQUIPMENT REQUIREMENTS:

Ammunition carts.
Canvas covered work table.

*Includes line inspector.

SHEET OF 4
<table>
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<tr>
<th>Changes in Explosive Limitations:</th>
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<td>Operation 3</td>
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<td>500, Rms 2 &amp; 7</td>
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<tr>
<td>Operation 5</td>
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<td>500, Rms 3, 4, 5 &amp; 6</td>
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<tr>
<td>Operation 7 &amp; 8</td>
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<td>Fuze Barricades and Drilling Operation</td>
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<tr>
<td>East Platform Bldg. 500</td>
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**SHEET 4 OF 4**
DEPARTMENT OF THE ARMY
WINGATE ORDNANCE DEPOT
GALLUP, NEW MEXICO

STANDING OPERATING PROCEDURE
FOR
Modification

COMPLETE NOMENCLATURE: Shells, Fixed, HE, M18 Normal or Supercharge, V/Fuze TD 95144, 02 Second Delay for 75mm Gun.

AWO NO: MCD-292-6
SOP NO: ASO-224
DATE: July 1952

Total Quantity Scheduled: 39,978 rds.
Estimated Production Per 8-Hr Shift: 1,000 rds.
Estimated Total Direct Labor Crew Per Shift: 35
Estimated Total Direct Man Hours Per Unit: 28
Estimated Total Ordnance Cost Per Unit: $8.586

LOCATION OF OPERATING AREA: Ammunition Work Shop Area.
LOCATION OF OPERATING BUILDING, INCLUDING BUILDING NO: 503 and 514.

APPROVED:

KENNETH E. HUDSON
Lt Col, Ord Corps
Commanding

SHEET 1 OF 9
1. Remove and Transfer from Storage
2. Unpack and Inspect
3. Defuse & Refuse
4. Mark & Repack
5. Paint & Restencil Shipping Containers
6. Repack or Disassemble Fuses
7. Destroy Loaded Components
STANDING OPERATING PROCEDURE FOR: Modification OF: SOP No. A50-20M

NOMENCLATURE: Shells, Fixed, MG 40 mm, Inst. PD 251A5. DATE: July 1952
.55 Second Delay for 75mm Gun

AMO No. WCD-222-6

LOCATION: Various Storage Sites

EXPLOSIVE LIMITS: ROUNDS; As Stored NO. OF ITEMS: As Stored SHIFT: 1,000 rds

PERSONNEL LIMITS: OPERATORS: 2 CASUALS: 3

DIRECT LABOR/ SHIFT: 2

STEP OPERATION NO. 1 TITLE: Remove and Transfer from Storage

1. Remove pallets of ammunition from storage by means of an electric fork lift truck.

   Note: A small amount of this ammunition is stored in igloo magazines. This ammunition will be palletized before transfer to Op 2.

2. Pallets will be loaded by approved type fork lift truck onto van-semi-trailer with wooden floor and sides.

3. Loaded van will be moved to loading platform of Bldg. No. 503 by means of a 5-ton 4x2 tractor.

4. At loading platform pallets will be unloaded by means of fork lift truck.

   Note: Explosive limit at platform will be 1200 rounds. 600 rounds incoming. 600 rounds outgoing. Explosive limits at Bldg. No. 503 will be maintained at the minimum necessary for efficient operation and at no time will exceed 1600 rounds.

INSPECTION REQUIREMENTS:

None.

SAFETY REQUIREMENTS:

1. Free exit from storage site will be maintained.
2. CO2 or Du-gas fire extinguishers will be readily available.
3. Good housekeeping will be maintained.
4. Equipment used will comply with provisions outlined in Section 24 and paragraph 2207 of ORD M 7-224.
5. Number of rounds on pallet will not exceed 86.
6. Ammunition will be secured on pallet during transit.

DISPOSITION OF COMPONENTS AND MATERIAL:

Ammunition to Operation No. 2.
Dunnage to reclamation yard.

EQUIPMENT REQUIREMENTS:

Van-Semi-trailer with tractor. Two fork lift trucks.
STANDING OPERATING PROCEDURE FOR: Modification OF  
SOP NO: A30-29M

NOMENCLATURE: Shell, Fixed, HE, M28 V/Fuze PD M31A5,  
DATE: July 1952
05 Second Delay for 75mm Gun  
AWO NO: WCD-202-6

LOCATION: Room No. 1, AWS Bldg, No. 503

EXPLOSIVE LIMITS:  
POUNDS: 624  
NO OF ITEMS: 2

PERSONNEL LIMITS:  
OPERATORS: 4  
CASUALS: 2

STEP  OPERATION NO. 2  TITLE: Unpack and Inspect

1. Ammunition received from receiving platform via electric fork lift truck.
2. Shipping containers will be removed from pallet and placed on canvas covered work table.
3. Round will be removed from container and placed on wooden skid on roller conveyor.
4. Packing material will be placed on rubber tired ammunition cart for transfer to Operation No. 4.
5. Any deteriorated or dangerous rounds will be removed from operation and placed in temporary storage in AWS Barricade No. 51A pending removal to Operation No. 7.
6. Dangerous rounds will be turned over to Surveillance for disposition.

INSPECTION REQUIREMENTS:
Inspect round for proper identity and serviceable condition.

SAFETY REQUIREMENTS:
1. CO2 or Du-gas fire extinguishers will be readily available.
2. Spark proof safety shoes will be worn.
3. Free exit from operating site will be maintained.
4. Good housekeeping will be observed.
5. Spacing of projectiles on conveyors will conform with par 1723, ORDN-224.

DISPOSITION OF COMPONENTS AND MATERIAL:
Rounds to Operation No. 3.
Packing material to Operation No. 4.

EQUIPMENT REQUIREMENTS:
Work table, Ammunition cart, Hand tools.
STANDING OPERATING PROCEDURE FOR: Modification OF SCP NO: ASO-29M

NOMENCLATURE: Shell, Fixed, HE, M26, w/Fuse PD M145. DATE: July 1952

.55 SECOND DUALVY for 75mm Gun

AHD NO: WCD-222-6

LOCATION: Barricades in Room 1, Bldg. No. 503

SHIFT: 1,000 yard.

EXPLOSIVE LIMITS: Inside each barricade: 30 fuses or boosters

PERSONNEL LIMITS: Operators: 1 Casual

DIRECT LABOR: 7 CASUALS: 3 SHIFT: 7

STEP OPERATION NO. 3 TITLE: Defuse and Refuse

Note: Fuse supply point will be in Room 3 of Bldg. No. 503, where fuses will be unpacked and placed in fuse trays. 20 fuses to tray. Trays will be hand carried to operation as required. Limits in Room 3 will be 2 Operators and 1200 Fuses.

1. Operator in No. 1 Barricade will remove round from skid, place in air vise on work table and remove fuse by means of fuse wrench.

2. Fuse will be placed in fuse tray, 20 fuses to tray, and hand carried to Operation No. 6 in Room 2 of Bldg. No. 503.

3. Round will be returned to skid.

4. Operator in No. 2 Barricade will remove booster set screw by means of explosion proof positive stop electric drill.

5. Operator in No. 3 Barricade will remove boosters and place in tray for transfer to Operation No. 6.

6. Operators in No. 4 and 5 Barricades will position new fuse in projectile and secure with fuse wrench.

7. Fuses will be securely staked in place.

INSPECTION REQUIREMENTS:

Inspect new fuses for proper identity and serviceability.

SAFETY REQUIREMENTS:

1. CO2 or Du-gas fire extinguishers will be readily available.
2. Free exit from operating site will be maintained.
3. Operators will wear spark proof safety shoes.
4. Any loose TNT in fuse cavity will be emptied into rubber TNT buckets and transferred to Burning Ground.
5. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:

Ammunition to Operation No. 4.
Old fuses to Operation No. 6.
Loose TNT to Operation No. 7.

EQUIPMENT REQUIREMENTS:

Air operated vises. Fuse and booster removal tools. Fuse wrenches.
Staking tools. Positive stop explosion proof electric drill.

Note: All equipment to be grounded before using.  SHEET 5 OF 9
STANDING OPERATING PROCEDURE FOR: Modification of M60 PD 51A5  

NOMENCLATURE: Shell, Fixed. HE, M43 W/Fuze PD M51A5  

LOCATION: Room No. 2, AWS Bldg. No. 502  

EXPLOSIVE LIMITS: POUNDS: 62%  NO OF ITEMS: 600 rds.  

PERSONNEL LIMITS: OPERATORS: 6  CASUALS: 3  

STEP  OPERATION NO.  TITLE: Work and Remark  

1. Rounds received from Operation No. 3 via wooden skid on roller conveyor.  
2. Correct lot suffix will be stamped on projectile using OD yellow paste.  
3. Correct lot suffix will be stamped on base of cartridge case using OD black stencilled paste.  
4. Complete round will be assembled in shipping container.  
5. Shipping container will be closed and sealed.  
6. Packed rounds will be placed on pallets for transfer to Operation 5.  

INSPECTION REQUIREMENTS:  
Rounds will be 100% gauged. Inspect round for proper marking, normal charge drawing 75-1-79 and super charge drawing 75-1-78. Inspect packing and sealing.  

SAFETY REQUIREMENTS:  
1. Free exit from operating site will be maintained.  
2. Spark proof safety shoes will be worn.  
3. CO2 or Du-gas fire extinguishers will be readily available.  
4. Good housekeeping will be observed.  

DISPOSITION OF COMPONENTS AND MATERIAL:  
Packed ammunition to Operation No. 5.  

EQUIPMENT REQUIREMENTS:  
STANDING OPERATING PROCEDURE FOR: Modification of SOP No. ASO-29M

NOMENCLATURE: Shell, Fixed, HE, M48 W/Fuze PD M51A5. DATE: July 1952

A55 Second Delay for 75mm Gun. ARO No. WGD-923-6

LOCATION: AMS Rcles. No. 375

EXPLOSIVE LIMITS: POUNDS: 936. NO OF ITEMS: 600 rds. SHIFT: 1,000 rds.

PERSONNEL LIMITS: OPERATORS: 8. CASUALS: 3

DIRECT LABOR:

STEP OPERAION NO. 4 TITLE: Paint & Stencill Shipping Containers

1. Ammunition received from Operation No. 4 via rubber tired ammunition cart and electric tow motor.

2. Containers will be removed by hand from ammunition cart and placed on hooks on paint monorail.

   Note: If some rusted metal containers are encountered, rust will be removed before painting, by means of beryllium wire brushes and sand paper.

3. Containers will be sprayed with one coat of rust inhibiting OD enamel.

4. When enamel is sufficiently dried containers will be stenciled with the proper nomenclature by means of spray guns.

5. Ammunition will be removed from monorail and placed on storage pallets and dispatched to storage.

INSPECTION REQUIREMENTS:

Inspect finished product for correct and legible marking.

SAFETY REQUIREMENTS:

1. Paint supplies will be stored at a service point 100 feet from operating building.

2. Paint soaked rags will be placed in a closed metal container.

3. Operators will wear safety shoes.

4. Paint spray operators will wear respirators.

5. CO2 or Du-gas fire extinguishers will be available.

6. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:

Finished product to storage.

EQUIPMENT REQUIREMENTS:


SHEET 7 OF 9
STANDING OPERATING PROCEDURE FOR: Modification of

Shell, Fixed, HE, M62 w/Fuze PD M3085

DATE: July 1952

.05 Second Delay for 75mm Gun

AEO NO: WOD-222-4

LOCATION: Room 2, AUS Bldg., No. 503

FROM/BY/HR: PROD

EXPLOSIVE LIMITS: FOUND: - - - NO OF ITEMS: 2000 Fuses

SHIFT: 1,000 min.

PERSONNEL LIMITS: OPERATORS: 5 CASUALS: 3

DIRECT LABOR:

SHIFT: 5

STEP OPERATION NO. 6 TITLE: Repack or Disassemble Fuses

1. Fuses and boosters will be hand carried in wooden fuse trays from Operation No. 3.

2. Serviceable fuses and boosters of acceptable size lots will be assembled, packed and properly marked for intra-plant shipment.

3. Unsatisfactory M54 fuses will be disassembled and metal parts salvaged.
   a. Drill out stake closing set screw by means of positive stop explosion proof drill and remove set screw.
   b. Remove closing cap from fuse in a barricaded air operated fuse disassembly machine.
   c. Remove upper lock ring, lock pin and lower ring from fuse body.
   d. Stake of bottom closing screw will be drilled out and screw removed in barricaded fixture.
   e. Separate loaded components by class and pack for transfer to Operation No. 7.
   f. Pack inert parts for transfer to salvage yard.

INSPECTION REQUIREMENTS:

Inspect fuse and booster assembly for serviceability, deterioration or dangerous condition. Inspect inert fuse components for adequacy of decontamination in accordance with paragraphs 4.224 thru 4.243 of OAU and paragraph 2507 of ORD M 7-224.

SAFETY REQUIREMENTS:

1. CO₂ or Du-gas fire extinguishers will be readily available.
2. Spark proof safety shoes will be worn.
3. Free exit from operating site will be maintained.
4. Good housekeeping will be observed.
5. Fuse disassembly operations will comply with paragraph 2506b of ORD M 7-224.
6. Operators will be required to wear flame proof coveralls while disassembling M54 fuses.

DISPOSITION OF COMPONENTS AND MATERIAL:

Deteriorated fuses to Operation No. 7.
Serviceable fuses to storage.
Loaded fuse components to Operation No. 7.
Inert fuse parts to salvage.

EQUIPMENT REQUIREMENTS:

Work table, Packing material. Barricaded fuse disassembling machine.
STANDING OPERATING PROCEDURE FOR: Modification OP 145
SOP NO: ASO-224

NOMENCLATURE: Shell, Fixed HE, M58 w/Fuze RD 551A5. DATE: July 1952

O&D Second Delay for T-90a Gun AND NO: WOD-222-6

LOCATION: Demolition and Burning Ground. PROD/8-11-25

PERSONNEL LIMITS: OPERATOR: 1 CASUALS: 1 DIRECT LABOR:

SHIFT: 1600

STEP OPERATION NO. 7 TITLE: Destroy Loaded Components

1. Loaded components will be moved to burning ground via cargo track with wooden floor and sides.

2. Scrap TNT will be burned on a bed of combustible material.

3. Badly deteriorated fuses and boosters will be destroyed by detonation.

4. Loaded fuse components will be destroyed in burning chamber and metal parts reclaimed.

INSPECTION REQUIREMENTS:

Reclaimable scrap metal will be inspected for adequacy of decontamination in accordance with paragraphs 4.219 thru 4.243 of OMGI and per 2507 of ORD M 7-224.

SAFETY REQUIREMENTS:

1. Safety requirements as outlined in Section 27 of ORD M 7-224, SOP ASO-71 and Amendments 1 and 2, and SOP ASO-14D will be carefully followed.

DISPOSITION OF COMPONENTS AND MATERIAL:

Reclaimable metal to salvage yard.

EQUIPMENT REQUIREMENTS:

Transfer equipment. Burning chamber.
STANDING OPERATION PROCEDURE NO: ASO-29M, Amendment No. 1

NOMENCLATURE: Shell, Fixed, HE, M48 W/Fuse FD M51A5, .05 Second Delay for 75mm Gun.

PURPOSE: To change location of Operation No. 6 from Room 2, AWS Building No. 503 to permit connecting of annealing equipment for 76mm job.

OPERATION NO. 6 - TITLE: Repack or Disassemble Fuses.

LOCATION: Changed from Room 2, AWS Building No. 503 to Room 3 (Washout Room), AWS Building No. 503.

Above Standing Operating Procedure, Amendment No. 1 is approved.

KENNETH E. KNUDSON
Lt Col, Ord Corps
Commanding
STANDING OPERATING PROCEDURE NO: ASO-29M, Amendment No. 2.

NOMENCLATURE: Shell, Fixed, HE, M48 W/Fuze PD M51A5, .05 Sec Delay for 75mm Gun.

PURPOSE: Rescissions, supersessions, and amendments as follows:

OPERATIONS NO. 2 and 4:

Explosive limits for Operations 2 & 4, Room No. 1, AWS Bldg. No. 503 are clarified as follows: Both operations are being performed in the same room without separation by shielding; therefore, the total room limits, not separate operation limits, cited on Sheet 4, Operation No. 2, are repeated on Sheet 6, Operation No. 4.

OPERATION NO. 3:

Explosive limits are amended to read: Six (6) rounds inside of each barricade.

OPERATION NO. 4:

Personnel limits are amended to read:

"Operators 15".

ADD STEP 7:

"All rounds will be gaged for profile and alignment. Rounds failing to gage due to bulge caused by crimp will be filed to remove the bulge. Steel case rounds which fail to gage due to alignment will be realigned by tapping the shell in the proximity of the bourlett. A protector will be used between the shell and tapping tool. Realignment operation will be performed by Surveillance Division personnel."

SAFETY REQUIREMENTS: Number 2 is deleted.

OPERATION NO. 6:

Explosive limits are amended to read:

"1,000 old fuzes.
1,000 old boosters.
1,200 new fuzes with boosters assembled."

STEP NO. 2: Rescinded and superseded by the following:

"Serviceable fuzes and boosters of acceptable size lots (2,000 per lot or more) will be packed in separate containers, and will be properly marked for inter-plant shipment."

Above Standing Operating Procedure, Amendment No. 2 is approved.

KATHERINE E. KNUDSON
Lt Colonel, Ord Corps
Commanding
DEPARTMENT OF THE ARMY
WEGATE ORDNANCE DEPOT
GALLUP, NM, MEXICO

STANDING OPERATING PROCEDURE
(Para 1490, PDI)

FOR

Modification

COMPLETE Nomenclature: Shell, H. E, M3A1, for 60mm Mortars

Incendiary and M2A1 Incendiary Holder.

30P NO. 30 M

Total Quantity Scheduled: 4,486 rds.

Estimated Production Per 8-hr Shift: 900 rds.

Estimated Total Direct Labor Crew Per Shift: 21

Estimated Total Direct Man Hours Per Unit: .21

Estimated Total Ordnance Cost Per Unit: .34

LIMITS ESTABLISHED FOR OPERATION IN BUILDING NO. 19: 960 rds, 1168.5 lbs. explosive, 21 operators, 9 casualties.

LIMITS FOR COMPLETE OPERATION: 3,000 rds, 3,690 lbs. explosives.

LOCATION OF OPERATING BUILDING, BUILDING NO. 19

TAYERS AND/OR EXCEPTIONS AFFECTING THIS SOP (INCLUDE FILE NUMBER, DATE AND EXPIRATION DATE): Permanent exemption on use of LCL Bldg. No. 19 for 4th Ind. to CQ 2300/1626 dated 5 Dec 49 and ONLY-3 333/18836 Wngate, Win 725, 3/75.

APPROVED:

[Signature]

FRANK RSGLES
Lt Col, Ord Corps
Commanding

SHEET 1 OF 6
STANDING OPERATING PROCEDURE FOR: Modification of

NOMENCLATURE: Shell, H.E. M351 for 81mm Mortars

DATE 19 March 1951

LOCATION: Storage Site

ITEM NO

EXPLOSIVE LIMITS: EXPLO: As stored NO OF ITEMS

SHIFT 800 rds

PERSONNEL LIMITS: OPERATORS 6* CASUALS 8

DIRECT LABOR:

SHIFT 6

---

STEP OPERATION NO. 1 TITLE: Remove from Storage

1. Remove ammunition by hand from storage and place on pallet.

2. Pallets will be loaded by approved type electric fork lift truck, on to van, semi-trailer, with wooden sides and floor.

3. Loaded van will be hauled to LCL Bldg. No. 19 by 5-ton 4x2 tractor conforming to Section XIV.007224.

INSPECTION REQUIREMENTS:

SAFETY REQUIREMENTS:

1. Safety shoes and gloves will be worn.
2. Du-gas No. 15 fire extinguisher will be readily available.
3. Free exit from storage site will be maintained.
4. Good housekeeping will be maintained.

DISPOSITION OF COMPONENTS AND MATERIAL:

Ammunition to Operation No. 2.
Damage to reclamation yard.

EQUIPMENT REQUIREMENTS:

One fork lift truck.
One semi-trailer with tractor.

*Includes one fork lift operator and one truck driver.
STANDARD OPERATING PROCEDURE FOR Modification of

NOMENCLATURE: Shell, H.E. M63Al for 3-in. Mortars

44 4CH to 44A and rework 44 4FGA and 44 4CH

LOCATION: LCL Bldg., No. 19, Room 4

EXPLOSIVE LIMITS: Rounds 0.2 lb. No. of Items 760

PERSONNEL LIMITS: Operators 5 Casuals 5

STEP OPERATION NO. 2 TITLE: Primers and Cartridges

1. Ammunition received on pallet by approved gas type fork lift truck from loaded van.**
2. Remove rounds from container and place on canvas covered work table.
3. Remove round from fiber container and inspect.
   Note: Defective or dangerous rds will be hand carried to Barricade 5266 for disposal in accordance with TDD SOP 6.
4. Remove primers from round and place in safe container for transfer to burning ground.
5. Place round in holding fixture and remove primer and cartridge placing same in suitable container for transfer to burning ground.
6. Remove round from holding fixture and place on ammunition cart, not more than 50 rds to cart, for transfer to Operation 3.
7. Old primers, cartridges and primers will be removed to Room 5 pending daily removal to burning ground.

INSPECTION REQUIREMENTS:
Inspect general condition of ammunition.

SAFETY REQUIREMENTS:
1. Ammunition will be handled carefully.
2. Good housekeeping will be maintained.
3. Soda acid type fire extinguishers will be readily available.
4. Free exit from operating room will be maintained at all times.
5. Safety shoes will be worn.

DISPOSITION OF COMPOUND AND MATERIAL:
Ammunition to Operation 3.
Unservicable packing material to salvage.
Serviceable packing material to Operation 4.

EQUIPMENT REQUIREMENTS:
One approved type fork lift truck.
Ammunition carts.
Work tables.
Special primer removal wrenches.

**Total casuals for Bldg. 19 will be limited to 5.
**Notes: Ref. 1stt. FIMP, 14 Sep 50, subject: "Packing of Trucks at Explosive Operations."
Explosive limits for complete operation shall not exceed 3000 rds or 5690 lbs. explosive.
### Standing Operating Procedure (SOP)

**Modification of:** Hull, H.E. 13.24 for 81mm Mortars

**DATE:** 19 March 1981

**ITEM NO:**

**LOCATION:** LOC Bldg. 19, Room 3

**EXPLOSIVE LIMITS:** POUNDS: 246, NO OF ITEMS: 200

**PERSONNEL LIMITS:** OPERATORS: 4, CASUALS: 3

**Shift:** Direct Labor/Shift 4

**STEPS:**

<table>
<thead>
<tr>
<th>Step</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Rounds received from Operation 2 via ammunition cart.</td>
</tr>
<tr>
<td>2.</td>
<td>Round will be hand carried from cart and placed in vise on work table inside of concrete barricades.</td>
</tr>
<tr>
<td>3.</td>
<td>Operator removes old fuse by means of suitable hand wrench and places fuse in tray provided.</td>
</tr>
<tr>
<td>4.</td>
<td>Operator refines round and stakes fuse in place.</td>
</tr>
<tr>
<td>5.</td>
<td>Round is returned to work table outside barricades.</td>
</tr>
<tr>
<td>6.</td>
<td>Operator places round in holding fixture on work table and removes fin.</td>
</tr>
<tr>
<td>7.</td>
<td>Operator installs new fin and increments holder by means of torque wrench and stakes fin in position.</td>
</tr>
<tr>
<td>8.</td>
<td>Round is returned to ammunition cart and dispatched to Operation 4.</td>
</tr>
</tbody>
</table>

**INSPECTION REQUIREMENTS:**

Inspect for proper assembly of fuse and fin assembly.

**SAFETY REQUIREMENTS:**

1. Maximum limits inside each barricade will be one round, 50 fuses, old and new, one operator and one casual.
2. Free exit will be maintained from operating barricade.
3. Safety shoes will be worn.
4. Good housekeeping will be maintained.
5. Soda Acid type fire extinguishers will be available.

**DISPOSITION OF COMPONENTS AND MATERIAL:**

Ammunition to Operation 4.

Unservicable fins to salvage yard.

**EQUIPMENT REQUIREMENTS:**

Ammunition cart, stakes, punches, work tables, non-spark hammers, fuse wrenches, and fin torque wrenches.

*Note: Room 5, Bldg. 19, will be used as storage point for ammunition components and required packing material.*
STANDING OPERATING PROCEDURE FOR: Modification of

NOTES:
Shell, H.E. M3A1 for Bima Mortars

RAPON to RAPAH and remark RAPCO and RAPCN

DATE 19 March 1961

LOCATION: Room 4, BIdr. 19

EXPLOSIVE LIMITS:
POUNDS 2
NO of ITEMS 3
SHIFT 3

PERIODICAL LIMITS:
OPERATOR 3 CASUALS
See sheet 3

STEP OPERATION NO. 8 TITLE: Install Propellant Increments

1. Rounds received from Operation 3 via ammunition cart.
2. Operator places round on canvas covered work table, inserts cartridge and secures primer in place using a thin coat of Petman cement.
3. Operator inserts propellant increments beneath increment holders.
4. Surveillance inspector inspects completed round.
5. Note: Any round which might require cleaning or spot painting will be processed on separate table and returned to inspection point.
6. Serviceable rounds are moved along table to packing operation.

INSPECTION REQUIREMENTS:
Inspect assembly of propellant increments, cartridges and primers.

SAFETY REQUIREMENTS:
1. Not more than 100 rnds of ammunition will be permitted on work table.
2. Safety shoes will be worn.
3. Free exit will be maintained from operation site.
4. Soda Acid type fire extinguishers will be available.
5. Good housekeeping will be maintained.

EQUIPMENT REQUIREMENTS:

Hand tools (Primer wrench)
Work table.
STANDING OPERATING PROCEDURE FOR: Modification of

REMARKS: Shell, H.S., BSAM for 81mm Mortars

REQUEST TO BEAM and rework R4GOA and R4GOH

LOCATION: Room 4, Bldg. 19

EXPLOSIVE LIMITS: 
- MINIMUM 1280 NO OF ITEMS 1000 rds.
- MAXIMUM 800 rds.

PERSONNEL LIMITS: OPERATORS & CASUALS See sheet 3

STEP | OPERATION NO. 6 | TITLE: Remark, Repack and Dispatch to Storage

1. Rounds received from Operation 4 on canvas covered work table.
2. Mark rounds as required and place in fiber container.
3. Stencil fiber container where required and tape.
4. Place repacked round in ammunition container, close and tighten lid and attach seal.
5. Place repacked ammunition on wooden storage pallet.
6. Remove pallet from building using approved type gas fork lift and place in van, with wooden floor and sides, for transportation to storage.

INSPECTION REQUIREMENTS:
Inspect for proper marking, serviceability of containers, etc.

SAFETY REQUIREMENTS:
1. Soda Acid type fire extinguishers will be readily available.
2. Free exit will be maintained from operation site.
3. Good housekeeping will be maintained.
4. Safety shoes will be worn.

DISPOSITION OF COMPONENTS AND MATERIAL:
Reconditioned ammunition to storage.

EQUIPMENT REQUIREMENTS:
- One approved type gas fork lift truck.
- One van, semi-trailer with tractor.
- Stencil material.
- Sealing tool.

SHEET 6 OF 6
# DEPARTMENT OF THE ARMY
# WINGATE ORDINANCE DEPOT
# GALLUP, N.M. NEW MEXICO

## STANDING OPERATING PROCEDURE
(Para 1400, FDI)

### FOR
NORMAL MAINTENANCE

<table>
<thead>
<tr>
<th>HJQIA Cond. 7 Repack to HQLB Cond. 1</th>
</tr>
</thead>
</table>

**COMPLETE NOMENCLATURES:** Shell, Semifixed, Smoke, BJ, BE, 1684, w/Type 23Q, 264 for 105 Howitzers.

<table>
<thead>
<tr>
<th>SOP No.</th>
<th>31 FM</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th><strong>DATE:</strong></th>
<th>28 Mar 1951</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Quantity Scheduled:</strong></td>
<td>97,016 rds</td>
</tr>
<tr>
<td><strong>Estimated Production Per 8-hr Shift:</strong></td>
<td>1,500 rds</td>
</tr>
<tr>
<td><strong>Estimated Total Direct Labor Crew Per Shift:</strong></td>
<td>26</td>
</tr>
<tr>
<td><strong>Estimated Total Direct Man Hours Per Unit:</strong></td>
<td>.13</td>
</tr>
<tr>
<td><strong>Estimated Total Ordnance Cost Per Unit:</strong></td>
<td>.41</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Limits in Operating Building:</strong></th>
<th>Lbs explosive 42, Rounds 300</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Personnel</td>
<td>16</td>
</tr>
<tr>
<td>Casuals</td>
<td>8</td>
</tr>
</tbody>
</table>

**Explosive Limit for Complete Operation:** 1,500 rds 210 lbs explosive

**LOCATION OF OPERATING BUILDING:** Ammunition Workshop Building, as available.

---

**APPROVED:**

[Signature]

FRANK COOLIS
Lt Col, Ord Corps
Commanding

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**SHEET 1 OF 6**
### STANDING OPERATING PROC. FOR: Normal Maintenance of 30P NO 31 HW

**NOMENCLATURE:** Shell, Semifixed, Smoke, HC, HE, HB

**w/fuze T3Q 554, for 105mm Howitzers**

**LOCATION:** Storage Site

**EXPLOSIVE LIMITS:** POUNDS As stored NO OF ITEMS As stored

**PERSONAL LIMITS:** OPERATORS 9* CASUALS 3

<table>
<thead>
<tr>
<th>STEP</th>
<th>OPERATION NO. 1</th>
<th>TITLE Remove from Storage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Remove ammunition from storage, by hand placing bundle on end on wooden pallet.</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Secure bundles on pallet by use of 1(\frac{1}{2})&quot; steel strappings, hand tightened.</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Pallets will be loaded by approved type fork lift truck on to van, semi-trailer, with wooden sides and floor.</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Loaded van will be hauled to Operation No. 2 by 5-ton 4x2 tractor conforming to Section XIV.00 7224.</td>
<td></td>
</tr>
</tbody>
</table>

**INSPECTION REQUIREMENTS:**

None

**SAFETY REQUIREMENTS:**

1. Safety shoes will be worn.
2. Free exit will be maintained from storage site.
3. Good housekeeping will be maintained.
4. Approved type fire extinguishers will be readily available.
5. Water barrel will be conveniently located and kept filled.

**DISPOSITION OF EQUIPMENT AND MATERIAL:**

Ammunition to Operation No. 2.
Damage to reclamation yard.

**EQUIPMENT REQUIREMENTS:**

One approved type fork lift truck.
Two semi-trailers with tractors.

* Includes one fork lift operator and one truck driver.
STANDING OPERATING PROCEDURE FOR Normal Maintenance of SHELL, Semifixed, Smoke, BC, BC, MB

w/ fuse T812, M4, for 105mm Howitzers.

LOCATION: A/V, Bldgs 7, AOG NO

EXPLOSIVE LIMITS: Pounds 42 NO OF ITEMS 300 rds

PERSONAL LIMITS: OPERATORS 3 CASUALS 5*

<table>
<thead>
<tr>
<th>STEP</th>
<th>OPERATION NO. 2</th>
<th>TITLE Receive and Unpack</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Ammunition received on pallet by approved type fork lift truck and closed van. Note: Ref. Ltr. FDAP 14 Sep 1953. Subject: Parking of trucks and rail cars at explosive operations. Explosive limits for complete operation shall not exceed 1500 rds or 210 lbs explosive.</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Remove rounds from clover leaf packing and place on canvas covered work table.</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Disassemble metal parts from clover leaf packing and place on pallets for transfer to salvage yard.</td>
<td></td>
</tr>
</tbody>
</table>

INSPECTION REQUIREMENTS:

Since this is new ammunition, only those rounds selected by Surveillanee Inspector will be opened for inspection.

SAFETY REQUIREMENTS:

1. Approved type fire extinguishers will be readily available.
2. A barrel of water for immersion of smoking round will be conveniently placed.
3. Safety shoes will be worn.
4. Good housekeeping will be maintained.
5. Free exit will be maintained from operating site.

DISPOSITION OF EQUIPMENT AND MATERIAL:

Ammunition to Operation No. 3.
Packing material to salvage yard.

EQUIPMENT REQUIREMENTS:

One fork lift truck.
Hand tools.

* Number of casuals for complete operation shall not exceed 5.

SHEET 3 OF 6
STANDING OPERATING PROC. FOR: Normal Maintenance of

NOMENCLATURE: Shell, Semifixed, Smoke, BU, DE, H04

ITEM NO

w/Exp T34 H04 for 105mm Howitzers

LOCATION: A-1-3, Bldgs.

AS SHOWN ON SHEET 4

EXPLOSIVE LIMITS: FOUND 42 NO OF ITEMS 300

SHIFT 1000 rds

PERSONNEL LIMIT: OPERATORS & CASUALS sheet 3

SHIFT 4

<table>
<thead>
<tr>
<th>STEP</th>
<th>OPERATION NO. 3</th>
<th>TITLE</th>
<th>Stencil fiber containers &amp; boxes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Fiber container containing round received on canvas covered work table from Operation No. 2.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Container stenciled with proper nomenclature by rolling over stencil pad fixed on stencil table.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Boxes received from carpenter shop via wooden pallet.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Proper nomenclature is placed on box.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Box is placed on rolled conveyor and moved to Operation No. 4.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

INSPECTION REQUIREMENT:

Inspect boxes and fiber containers for proper and legible marking.

SAFETY REQUIREMENTS:

1. Free exit will be maintained from operating site.
2. Safety shoes will be worn.
3. Appropriate fire extinguishers will be readily available.
4. Good housekeeping will be maintained.

DISPOSITION OF COMPONENTS AND MATERIAL:

Stencil fiber containers and boxes to Operation No. 4.

EQUIPMENT REQUIREMENTS:

Stencil ink and equipment.

SHEET 4 OF 6
STANDING OPERATING PROCEDURE FOR: Normal Maintenance of 105MM Howitzers

NOMENCLATURE: Shell, Semifixed, Smoke, HE, HE, HE.

w/Fuse T79 MS4 for 105mm Howitzers

LOCATION: A.W.S. HDS.

EXPLOSIVE LIMITS: POUNDS: 42

NO OF ITEMS: 300 rds

PROC/6-HR

PERSONNEL LIMITS: OPERATORS 8 CASUALS

as shown on Sheet 3

DIRECT LABOR

SHIFT 3

SHIFT 4

STEP | OPERATION NO. 4 | TITLE
---|-----------------|----------
1. | Repack and Inspect | 1. Ammunition is removed from stencil table by hand and placed in packing box.
2. | Place card board filler and lid in place and tighten wing nut on box assembly rod.
3. | Install ordnance seal.
4. | Strap boxes.
5. | Remove box from rolled conveyor and place on pallet.
6. | Dispatch finished ammunition to storage.

INSPECTION REQUIREMENTS:

Inspect for proper packing and marking.

SAFETY REQUIREMENTS:

1. Safety shoes will be worn.
2. Approved type fire extinguishers will be readily available.
3. Free exit will be maintained from operating site.
4. Good housekeeping will be maintained.

DISPOSITION OF COMPONENTS AND MATERIAL:

Ammunition to storage.

EQUIPMENT REQUIREMENTS:

Steel strapping and strapping tool.
Lead seals.
One approved type fork lift.

Sheet 6 of 6
STANDING OPERATING PROC.  ARE FOR: Normal Maintenance only.  

NOMENCLATURE: Shell, Semifixed, Smoke, NG, HE, HE.  

w/Fuse T32 1554 for 105mm Howitzers.  

DATE  28 March 1951.  

LOCATION: Igloo Magazine.  

EXPLORATIVE LIMITS: POUNDS: As stored; NO OF ITEMS: As stored.  

PERSONNEL LIMITS: OPERATORS: 6  CASUALS: 3.  

DIRECT LABOR: 

SHIFT: 6.  

<table>
<thead>
<tr>
<th>STEP</th>
<th>OPERATION NO. 5</th>
<th>TITLE: Storage.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Ammunition received on wooden pallets via van, semi-trailer and 5-ton 4 x 2 tractor.</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Palletized ammunition is removed from van by means of electric fork lift truck and carried into igloo.</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Ammunition boxes are removed by hand from pallet and stored in accordance with Ordnance Department Drawing 19-46-3039.</td>
<td></td>
</tr>
</tbody>
</table>

INSPECTION REQUIREMENTS: 

Inspect for proper storage. 

SAFETY REQUIREMENTS: 

1. Safety shoes and gloves will be worn. 
2. Fire extinguishers will be readily available. 
3. Filled water barrel will be conveniently placed. 
4. Free exit will be maintained from storage site. 
5. Good housekeeping will be maintained. 

EQUIPMENT REQUIREMENTS: 

One electric fork lift truck. 
Dunnage. 

SHEET 6 OF 6
STANDING OPERATING PROCEDURE
(Para 1480, PDI)

FOR
Demilitarization.

COMPLETE NOMENCLATURE: Grenade, Rifle, H.E.A.T., MGAL - 34 NR

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>6,694 rds</td>
</tr>
<tr>
<td>Total Quantity Scheduled</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Estimated Production Per 8-hr Shift:</td>
<td></td>
<td></td>
<td>2,600 rds</td>
</tr>
<tr>
<td>Estimated Total Direct Labor Crew Per Shift:</td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Estimated Total Direct Man Hours Per Unit:</td>
<td></td>
<td></td>
<td>.01</td>
</tr>
<tr>
<td>Estimated Total Ordnance Cost Per Unit:</td>
<td></td>
<td></td>
<td>$ .02</td>
</tr>
</tbody>
</table>

LOCATION OF OPERATING AREA: Demolition Ground

*Supplemented with area map showing exact route to be traveled between storage site and demolition ground.

APPROVED:

FRANK E. ALEX
Lt Col, Ord Corps
Commanding

SHRIE 1 OF 6
1. **Ammunition Handling** will conform with:
   b. Paragraphs 103 and 104 of OSM and OCSB §131.

2. **Hazardous Ammunition**

   Since all ammunition involved in this S.O.P. has previously been declared in a hazardous condition, boxes will not be opened at either the storage site or demolition ground.

3. **Safety Limits**

   Explosive and personnel limits for this operation will be maintained at the lowest possible level.

4. **Demolition Ground Procedure**

   All procedures for demolition of this item will comply with Section XVII, OSM, 3 May 1945, OCSB §171, paragraph 1496 of OACI and SOP 14 D, Wingate Ordnance Depot, as amended, copy of which is on file OAS.

5. **Safety Standards and Rules**

   Paragraph 40, Section IV, Part 1, OCSB No. 103 will be complied with.

6. **Personnel Exposure**

   Operations and personnel will be so arranged as to constitute the smallest personnel exposure to any one explosive hazard. Paragraph 77, OSM.

7. **Training**

   Each operator assigned has been thoroughly trained and familiarized with his part of this operation and will be thoroughly briefed as to the hazards involved in handling of this ammunition by Mr. William F. Theisen, Surveillance Division, this headquarters, who has had previous experience with this type of demilitarization at Black Hills Ordnance Depot.

8. **Approvals**

   All approvals required at this installation have been obtained.

9. **Transfer Equipment**

   a. Subject item will be hauled from storage to demolition area in 10-ton stake platform trailer.
b. Trailer will be moved by 5-ton 4x2 tractor conforming to Section XIV, C.O. 7224.

c. Body of trailer will have both front and sides lined with 1" armour plate to a height greater than the cab of the trailer.

d. Inside of armour plate will be lined with sand bags to a height greater than ammunition load.

e. Floor of trailer will be cushioned with 4" to 6" of sawdust.

f. Sawdust bags will be used to prevent shifting of boxes in transit.
STANDING OPERATING PROCEDURE FOR: Demilitarization of SCW NO 32 D

DESCRIPTION: Grenade, Rifle, H.E.A.T. FMAL

SANDBR

LOCATION: Igloo Storage

EXPLOSIVE LIMITS: POUNDS: As stored NO OF ITEMS: As stored

PERSONNEL LIMITS: OPERATORS 3* CASUALS 2** DIRECT LABOR/ SHIFT 3

STEP | OPERATION NO. 1 | TITLE: Remove from Storage

1. Remove box from storage and hand carry to trailer.
2. Box will be so placed on sawdust bed in trailer to prevent shifting.
3. Boxes will be loaded flat in bed of truck with grenade heads pointed rearward.
4. Load will not exceed 60 containers of subject item.
5. Sand bags will be so placed between tail gate and rear of load to prevent shifting of boxes.

INSPECTION REQUIREMENTS:

Inspection at storage site will be made prior to start of hauling operation in order to minimize the number of personnel exposed.

SAFETY REQUIREMENTS:

1. Greater than normal care will be used in handling.
2. Safety shoes and gloves will be worn.
3. Approved type fire extinguisher will be readily available.
4. Free exit will be maintained from Igloo.
5. All other personnel and equipment will be excluded from vicinity.
6. Unnecessary turning of boxes will be avoided.

DISPOSAL OF COMPONENTS AND MATERIAL:

Damage to reclamation yard.

EQUIPMENT REQUIREMENTS:

One special equipped trailer and tractor.

*To consist of 1 trailer operator, 1 explosive operator, 1 demolition foreman

**Two casuals permitted at storage site to allow Surveillance Inspector and Chief of Ammunition Maintenance Section to check proper loading and handling.
STANDING OPERATING PROCEDURE FOR: Demilitarization of

**MATERIALS:** Grenade, Rifle, H.E.A.T. HUSA

**LOCATION:**

**EXPLOSIVE LIMITS:** POUNDS 160 NO OF ITEMS 600

**PERSONNEL LIMITS:** OPERATORS 3 CASUALS None

<table>
<thead>
<tr>
<th>STEP</th>
<th>OPERATION NO. 2</th>
<th>TITLE: Transfer to Demolition Ground</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Loaded ammunition carrier will travel only on a designated route to demolition ground as shown on attached map.</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Foreman of demolition, in personnel carrier, will precede ammunition carrier to demolition ground.</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Speed of trucks will not exceed 20 miles per hour.</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Assistant truck driver or explosive operator will accompany tractor driver.</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>At demolition ground truck will proceed to the immediate site of demolition for unloading.</td>
<td></td>
</tr>
</tbody>
</table>

SAFETY REQUIREMENTS:

1. All unauthorized traffic will be prohibited from designated route of travel during this operation.

EQUIPMENT REQUIREMENTS:

Ammunition carrier.
STANDING OPERATING PROCEDURE FOR: Demilitarization of Grenade, Rifle, M.81, M.911

NOMENCLATURE: Grenade, Rifle, M.E.A.T., M911

DATE: 11 April 1961

ITEM NO: D400-17Y

LOCATION: Demolition Ground

AMNO NO: 353

EXPLOSIVE LIMITS: POUNDS: In accordance with para. 2

PERSONNEL LIMITS: OPERATORS: 3 CASUALS: 2

DIRECT LABOR: SHIFT: 3

OPERATION NO: 3 TITLE: Remove Grenades from Carrier and Detonate

1. Unload grenades and hand carry to position in which they are to be detonated.
2. Position a pre-determined (by trial) number of boxes in a suitable manner to confine dispersion of fragments and detonate, using a sufficient amount of demolition blocks or other suitable detonating agent to insure complete detonation.
3. Detonating agent will be placed as close to the explosive heads of the grenades as packing will permit.
4. All provisions contained in SOP 7, 06, 24 D and Amendment 21 will be strictly adhered to.

SAFETY REQUIREMENTS:

1. Unloading will be accomplished by experienced and qualified personnel.
2. Boxes will be positioned for detonating with minimum handling and exposure of personnel.
3. Operation will be out of bounds to unauthorized personnel.
4. A careful search will be made for duds after each detonation.
5. Duds will not be moved, but will be destroyed in place where found by use of a TNT Block placed adjacent to the dud and initiated by means of a non-electric blasting cap, using safety fuse and lighter.

EQUIPMENT REQUIREMENTS:

- Ammunition carrier
- Galvanometer
- Electric blasting machine

*Two casualties permitted during this operation to allow Surveillance Inspector and Chief of Ammunition Maintenance Section to be present to provide technical advice and assure strict compliance with provisions of this SOP.
DEPARTMENT OF THE ARMY
WINGATE ORDNANCE DEPOT
GALLUP, NEW MEXICO

STANDING OPERATING PROCEDURE
FOR
Demilitarization

COMPLETE NOMENCLATURE: FUSE, MINE, CHEMICAL, MS600.

ANO NO: D-2-53
SOF NO: 459-320
DATES: August 1952

Total Quantity Scheduled: 392,856
Estimated Production Per 8-hr Shift: 1,000
Estimated Total Direct Labor Crew Per Shift: 1
Estimated Total Direct Man Hours Per Unit: 0.032
Estimated Total Ordnance Cost Per Unit: $0.055

Location of Operating Areas:

a. Fuse packing barricade.

b. Demolition Ground.

Supplemented with area map showing relative distance of packing barricade to operating line and route of travel from fuse packing operation to Demolition Ground.

APPROVED:

KENNETH K. THROBB
Lie Col, 3rd Corps Commanding

SHEET 1 OF 3
STANDING OPERATING PROCEDURE FOR DEMOLITION OF SHEET NO. 22

RENZLATURE:Fuse, Mine, Chemical, 1600 DATE: August 1953

LOCATION: Barricade at Open Storage Site E-11 ASO NO. 2-2-53

EXPLOSIVE LIMITS: POUNDS: - - - - - - 50 TO 600

PERSONNEL LIMITS: OPERATORS: 1 CASUALS: 1

STEP: OPERATION NO. 1 TITLE: Pack and Transfer Fuses

Note: Surplus ammunition boxes will be used in packing fuses for transfer to demolition area. Fuses will be separated by 2" undressed or 1-5/8" dressed lumber.

1. Fuses will be packed behind a substantial barricade located in accordance with provisions outlined in paragraph 1779 of OMD M 7-22.

2. Operator engaged in packing fuses will be protected by a 3/4" plexiglass operational shield which has been tested and approved in accordance with paragraph 2504A of OMD M 7-22.

3. Operator will place boxes of packed fuses in barricaded cargo truck parked behind barricade.

4. Cargo truck transporting fuses will proceed to Demolition Ground from E-11 by using unimproved road to igloo H-124, then traveling hard service road past igloos situated between H-124 and H-131, crossing road intersection at Safety Shelter No. 212 and proceeding past igloos H-151 thru H-154, turning right at road end and proceeding past iglows H-174 thru H-177 to petrol road southeast of Highway Bridge No. 9, turning right on petrol road and proceeding thru Gate No. 9 to Demolition Ground. In the event loading docks E-12, 13, 14 and 15 are not being utilized for the loading of ammunition and/or unimproved roads are hazardous because of weather conditions, alternate route on arterial roads leading past aforementioned docks may be utilized.

5. At no time will cargo truck exceed twenty (20) miles per hour. The truck will be driven in such a manner to avoid rough handling of load.

6. Cargo truck will fly red flags on front and rear of vehicle. Other vehicles meeting cargo truck hauling fuses along prescribed route will pull off to side of road, stop vehicle, and yield cargo truck the right-of-way.

INSPECTION REQUIREMENTS:

None.

SAFETY REQUIREMENTS:

1. Number of fuses in truck will not exceed 600.
2. Only one operator and one casual will be allowed at fuse packing operation.
3. Extreme care will be exercised in handling of fuses.
4. Good housekeeping will be maintained.

DISPOSITION OF COMPONENTS AND MATERIAL:

Packed fuses to Operation No. 2.

EQUIPMENT REQUIREMENTS:

Packing table with plexiglass operational shield,
Barricaded cargo truck,
Packing material.
STANDARD OPERATING PROCEDURE FOR Demolition of SCP ASO-140

PROCEDURES: Fuse, Mine, Chemical W/O

DATE: August 1953

LOCATION: Demolition Ground

EXPLOSIVE LIMITS: POUNDS: NO. OF TRUCKS: SHUTTLE: DIRECT LABOR:

PERSONNEL LIMITS: OPERATORS: CASUALTIES: SHUTTLES:

STEP OPERATION NO. 2 TITLE: Directing Fuzes

Note: Cargo truck used in transporting fuzes from 3-11 to Demolition Ground will have both sides and front lined with steel plate at least 1/4" thick and sand bags on all sides excepting rear.

1. Boxes containing fuzes will be unloaded by hand and placed in a trench.

2. Lid of boxes and top packing material will be removed; boxes will be filled with flake TNT and detonating agent placed on top of TNT.

3. Fuzes will be destroyed by detonation in accordance with SCP ASO-140 and Amendment No. 1.

4. Fuzes will be destroyed daily to prevent a large accumulation at Demolition Ground.

Note: 600 fuzes will be the maximum load permitted.

5. A careful search will be made for duds after each detonation, before leaving Demolition Area.

INSPECTION REQUIREMENTS:

None.

SAFETY REQUIREMENTS:

1. Safety requirements as outlined in Section 27, ORD M 7-22a and SCP ASO-140 and Amendment No. 1 will be carefully followed.

2. One man will accompany driver while moving fuzes from operating site to Demolition Ground.

3. The operation as outlined in Step 1 and 2 will be out of bounds to unauthorized personnel.

4. Greater than normal care will be exercised in the movement and handling of mine fuzes.

5. Cargo truck transporting fuzes will proceed to Demolition Ground at a moderate rate of speed by the shortest route possible and in such a manner as to avoid rough handling of load.

EQUIPMENT REQUIREMENTS:

Barricaded cargo truck. Electric blasting machine.

*Truck used in transporting fuzes will be removed from immediate area before starting Step No. 2.
11 September 1952

STANDING OPERATING PROCEDURE NO:  ASO-32D, Amendment No. 1.

NOMENCLATURE:  Fuse, Mine, Chemical, M600.

PURPOSE:  To change method of destroying subject fuses.

Delete AWO No. D-2-53 as authority and add authority Teletype Raritan
ORDJR-QTC 20330-1, dated 29 August 1952.

OPERATION NO. 2 - TITLE:  Destroy Mine Fuses.

Step 2 is rescinded and superseded by the following:

"Boxes containing fuses will be placed two (2) deep in trench; 50-lb boxes of Flake TNT will be placed on top of fuse boxes and detonating agent added. Boxes will not be opened."

The above Standing Operating Procedure, Amendment No. 1, is approved.

KENNETH R. KNUDSON
Lt Col, Ord Corps
Commanding

SHEET 1 OF 1
STANDING OPERATING PROCEDURE NO: ASO-320, Amendment No. 2.

NOMENCLATURE: Fuse, Mine, Chemical, MECO.

PURPOSE: To augment safety requirements.

SAFETY REQUIREMENTS: Sheet 2, Operation No. 1.

Add 5: "Operator performing Steps 1, 2 and 3 will wear hard hat, shatter proof safety goggles and flak suit."

SAFETY REQUIREMENTS: Sheet 3, Operation No. 2.

Add 6: "Operators performing Step 1 of basic Standing Operating Procedure and Step 2 of Amendment No. 1 will wear hard hats, shatter proof goggles and flak suits."

The above Standing Operating Procedure, Amendment No. 1, is approved:

[Signature]
KENNETH E. KNUDSON
Lt Colonel, Ord Corps
Commanding

SHEET 1 OF 1
<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>M75-53</th>
<th>AMO NO.</th>
<th>WOD-E-1-52</th>
<th>SOP/ASC-1-B Revised</th>
<th>DATE: Sept 51</th>
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<tr>
<td>Estimated Total Ordnance Cost Per Unit:</td>
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</table>

**LOCATION OF OPERATING AREA:**


b. Miscellaneous Buildings: TNT Collector Barricade, TNT Service Barricade

**LOCATION OF OPERATING BUILDING:**

Supplemented with area map showing distance relations.

Supplemented with flow chart showing explosive limits and distance relationships between buildings.

APPROVED:

[Signature]

FRANK ECHOLS
Lt Col, Ord Corps
Commanding

SHEET 1 OF 25
SOP 23 R Revised (cont'd)

ASG

Special reference is made to the following regulations in connection with safe handling of explosives and ammunition, which references will be followed:

1. BUILDINGS AND UTILITIES:
   a. Paragraph 14, 15 and Section V of the Ordnance Safety Manual covering utilities, equipment, operating and auxiliary buildings.
   b. Paragraph 1464, FDI, covering line layouts.

2. AMMUNITION HANDLING:
   a. Paragraph 92 (less 92c) and 94, OSM, 3 May 1945, and OCSB #151.
   b. OCSB #100, Change 2, dated 19 Dec 1946, and Change 3, dated 9 Nov 1950, paragraphs 105 and 104, OSM, OCSB #131, and paragraph 1466 of FDI.
   c. Carriers used as service magazines will comply with current existing directives as outlined in OCSB #131.

3. HAZARDOUS AMMUNITION:
   a. Either at the ammunition storage site or after unpacking, all ammunition will be inspected for proper identification and for evidence of excessively deteriorated, damaged or missing components which render the round unsafe to handle, or process in a normal manner.
   b. Such ammunition will be disposed of in accordance with paragraph 107 and Section XVII, OSM, 3 May 1945, or appropriate amendment thereto.

4. SAFETY CLOTHING AND TOOLS:
   a. Sections VIII and XVII, OSM, 3 May 1945, and Section VI, OCSB #105.
   b. Paragraph 12, OSM, 3 May 1946.
   c. Paragraphs 1470 thru 1473.1 of FDI, inclusive.

5. SAFETY LIMITS:
   a. Post operating and explosives limits (see para 106, OSM, and 1486.4 FDI).
   b. Explosive and personnel limits for operating buildings will be maintained at the minimum necessary for safe and efficient operation. (See para 77, OSM).

6. BARRICADES:
   a. OCSB #151 and Change 1 thereto.
   b. Rooms 2, 3, 4, 5 and 6 of ASG Bldg. 600 will be divided into two sections each by means of a 36" sand barricade running lengthwise of the rooms.

SHEET 2 OF 25
ASCs R Revised (cont'd)

BURNING GROUND PROCEDURE:

a. All procedures for destruction of explosives or components will comply with Section XVII, OCM, 3 May 1945, OCSB §102, paragraph 1486 of FDI, FOD WOD TX, Wingate Ordnance Depot, and Amendment #1, copies of which are on file OGC, CAC.

8. SAFETY STANDARDS AND RULES:

a. Paragraph 40, Section IV, Part 1, OCSB §104.

b. Any and/or all standards, i.e., American Safety Standards, National Electrical Code, National Bureau of Fire Underwriters, National Fire Protection Association, American Society of Mechanical Engineers, National Safety Council, Manufacturing Chemists' Association, etc., as applicable to the operation.

9. CONTROL OF OCCUPATIONAL DISEASES:

a. Paragraph 7, OCSB §104, paragraph 1487 of FDI and WOD SOP 15X.

10. PERSONNEL EXPOSURE:

a. Operations and personnel will be so arranged consistent with continuous and efficient operation as to constitute the smallest personnel exposure to any one explosion hazard (see paragraph 77, OCM).

11. POSTING:

a. This SOP will be prepared in segments and applicable segment will be posted at each operation.

12. SERVICE MAGAZINES:

a. Amount of explosives will conform with provisions as outlined in paragraph 816, OCM.

b. Explosive limits will be posted in each service magazine.

13. PROCESS EQUIPMENT:

a. Will comply with regulations contained in paragraph 24, OCM.

14. TRAINING:

a. Each operator assigned has been or will be thoroughly trained and familiarized with his part of this operation and with its relationship to the over-all operation.

15. APPROVALS:

a. All approvals required at this installation have been obtained.
1. Remove from storage
2. Receive
3. Unpack & inspect
4. Remove propellant from cartridge case
5. Pack M65 series fuses.
6. Remove propellant from bags. Pack & transfer to storage.
8. Assemble increment retainer and propelling charge. Insert cup protector.
9. Remove fuses & boosters
10. Drill deep cavity.
11. Clean threads, gauge and insert liner & closing cup
12. Gauge and zone weigh.
13. Clean projectiles
17. Seal, strap and dispatch to storage.

Sheet 4 of 25
### Standard Operating Procedure for: Shell, Semi-Fixed, HE, 840, w/supply

**Location:** Various storage sites  
**Explosive Limits:** Founds As stored  
**Personnel Limits:** Operators 5, Casuals 3  
**Date:** Sept 1961  
**Item No:** E75-33  
**AFC No:** W26-R-1-52  
**Proc No:** SH47  
**Shift:** 1200  
**Direct Line:**  

<table>
<thead>
<tr>
<th>Step</th>
<th>Operation No. 1</th>
<th>Title: Remove from storage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Remove ammunition from stack and place on wooden pallet.</td>
<td></td>
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<tr>
<td>2.</td>
<td>Pallets will be loaded by approved type fork lift truck onto van, semi-trailer or cargo truck, with wooden sides and floor.</td>
<td></td>
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<tr>
<td>3.</td>
<td>Loaded van will be hauled to Receiving Bldg. 516 by means of 5-ton 4x2 tractor conforming to Section XIV, 0.0. 7224.</td>
<td></td>
</tr>
</tbody>
</table>

**Inspection Requirements:** None

**Safety Requirements:**

1. Dry gas type fire extinguishers will be readily available.  
2. Free exit from storage site will be maintained.  
3. Ammunition will be handled carefully.  
4. Good housekeeping will be observed.  
5. Safety shoes and gloves will be worn.

**Disposal of Components and Material:**

Ammunition to Operation 2.  
Damage to damage reclaimation yard.

**Equipment Requirements:**

- 2 vans, semi-trailer, with 5-ton 4x2 tractor, or 5 cargo trucks.  
- 1 approved fork lift truck.  

*Includes one fork lift operator and one truck driver.*
STANDARD OPERATING PROCEDURE FOR: Remotion of...

NOMENCLATURE:
Shell, Semi-Fixed, HE, M48, w/supply charge

DATE: Sept 1951

ITEM NO: R76-55

LOCATION: ANS Bldg. No. 616

EXPLOSIVE LIMITS: POUNDS 1700 NO OF ITEMS 1800 RDS

PERSONNEL LIMITS: OPERATORS 2 CASUALS 3

STEP OPERATION NO. 2 TITLE: Receive from storage

1. Ammunition received from storage site in closed van or cargo truck.
2. Fork lift operator will unload van or truck by use of approved type fork lift truck placing pallets in receiving building.

INSTRUCTION REQUIREMENTS:
None

SAFETY REQUIREMENTS:

1. Explosive limits will be maintained at the lowest amount required for efficient operation.
2. CO2 fire extinguisher will be available at all times.
3. Trucks will not remain at platform longer than necessary to complete unloading operations.

DISPOSITION OF COMPONENTS AND MATERIAL:
Ammunition to Operation 3.

EQUIPMENT REQUIREMENTS:
One approved type fork lift truck.
STANDARD OPERATING PROCEDURE FOR:

DESTRUCTION OF AMMUNITION

ASSUMPTIONS:
- Small, Semi-fixed, HE, H.E. v/supply charge.
- New FD '5145.10' sec. delay, for 75mm Howitzers.
- Used No. 6 [no date provided].
- ASO: 33 P Rev.

LOCATION:
- Room 3, Annex Bldg., 500
- ASO No: WCD-6-1-52
- Prod./HR: 529

EXPLOSIVE LIMITS:
- Pounds: 447
- No. of Items: 300
- Shift: 3:00 P.M.

PERSONNEL LIMITS:
- Operators: 6
- Casuals: 3
- Shift: 3

STEP | OPERATION NO. | TITLE | ASO
--- | --- | --- | ---
1. | Ammunition received on pallet from Bldg. 516 by electric fork lift truck. | Unpack and inspect.
2. | Round will be removed from clover leaf packing and placed on work table where tape will be removed. | 
3. | Cover of fiber container will be removed by means of air operated pull-apart machine. | 
4. | Load cartridge case assembly with increments intact on rubber tired ammunition cart; 38 cases to cart, for transfer to holding barricade, Operation 4. | 
5. | Remove metal packing stop from projectile and place in wooden box for transfer to Operation 16. | 
6. | Place fused projectile on wooden skid on roller conveyor for transfer to Operation 9. | 
7. | Load serviceable fiber containers on carriers for transfer to storage. | 
8. | Load unserviceable containers on carrier for transfer to salvage yard. | 

INSPECTION REQUIREMENTS:
- Inspect rounds for proper identity and dangerous deterioration.
- Inspect packing material for adequacy of decontamination and service-ability in accordance with paragraph 1340 of OASI.

SAFETY REQUIREMENTS:
- Free exit from operating site will be maintained at all times.
- Operators will wear safety shoes.
- One soda acid and one CO2 fire extinguisher will be readily available.
- Good housekeeping will be observed.
- Ammunition cart of cartridge case assemblies will be moved to Operation 4 immediately upon filling tray.
- Dangerous rounds and components will be turned over to Surveillance for disposition.

DISPOSITION OF COMPONENTS AND MATERIAL:
- Cartridge cases to Operation 4.
- Projectiles to Operation 9.
- Packing stops to Operation 16.

EQUIPMENT REQUIREMENTS:
- One electric fork lift truck.
- One fiber container pull-apart machine.
- Rubber tired ammunition carts.
- Roller conveyor. Wooden projectile skins.
- Approved hand tools.

CLOVER LEAF ASSEMBLIES TO SALVAGE YARD.
SERVICEABLE CONTAINERS TO STORAGE.
UNSERVICEABLE CONTAINERS TO SALVAGE YARD.
MATERIALS: Shell, Semi-fixed. HE, 1in. w/supply charge.

LOCATION: Room 3, AMU SELS, 150

EXPLOSIVE LIMITS: Pounds 100 No of Items 50

PERSONNEL LIMITS: OPERATORS 2 CASUALS 3

STEP
OPERATION NO. 4

1. Cartridge cases containing increments received from Operation 3 via rubber tired ammunition cart.
2. Remove increments, except base charge, from cartridge case and separate by cutting cord with spark proof knife or scissors.
3. Inspect charges for correct identity, presence of moisture, mold, discoloration of bags, etc.
4. Pack unserviceable charges in closed powder container and transfer to Operation 21.
5. Pack serviceable charges in wooden box and hand carry to powder barge in room 5, Operation 8.
6. Move ammunition cart containing cases to Operation 8.

INSPECTION REQUIREMENTS:
Inspect charges for correct identity and serviceability.

SAFETY REQUIREMENTS:
1. Free exit from operating site will be maintained.
2. One soda acid or water and one CO2 fire extinguisher will be readily available.
3. Only spark proof tools will be permitted in operating room.
4. Powder and personnel limits will be strictly adhered to.
5. Operators will be required to remove increments from a grounded metal platform and will be required to wear conductive safety shoes.
6. All metal powder containers will be adequately grounded.

DISPOSITION OF COMPONENTS AND MATERIAL:
Primed cartridge cases with base charge to Operation 6,
Serviceable charges to Operation 8,
Unserviceable charges to Operation 21.

EQUIPMENT REQUIREMENTS:
Wooden powder boxes, Closed metal powder containers, Spark proof knives or scissors.
STANDARD OPERATING PROCEDURE FOR: Debagging and powdering

NONDEPLOYMENT: Small, semi-fixed, HE, M60, w/auxiliary charge.

w/aux PB 751AE, .06 sec delay, for 76mm howitzers

LOCATION: Room 5, AWS Bldg. 509 and 609

ITEM NO: R75-53

WEIGHT LIMITS: 100 lbs, 500 lbs

PERSONNEL LIMITS: OPERATORS 4, CASUALTY 3

STEP | OPERATION NO. 5 | TITLE: Debag and pack powder

1. Powder to be debagged received in wooden box from Operation 4.
2. Slit bags of serviceable charges of 2000 lbs or more per powder lot, and remove powder from bags. Bags will be opened in flash shielded, non-ferrous trough directly connected to approved vacuum collector system in AWS Bldg. 509. Receiving bags will be placed in closed non-ferrous containers and transferred to Operation 21.
3. Powder received via vacuum collector system in barracks No. 609 where it will be packed in air tested, zinc lined, wood powder containers.
4. Filled containers will be moved by rubber tired hand trucks to storage barracks No. 606 where they will be properly marked and dispatched to storage.

Note: Lots of powder containing less than 2000 lbs will be packed in non-ferrous metal containers and transferred to Operation 21.

Explosive limit at debagging operation will not exceed 100 lbs of powder.
Explosive limit at vacuum collector in Bldg. 509 will not exceed 150 lbs of powder.
Explosive limit at packing operation in Bldg. 609 will not exceed 150 lbs of powder.

INSPECTION REQUIREMENTS:

Powder containers will be inspected for serviceability. Packed powder to be inspected for proper marking.

SAFETY REQUIREMENTS:

1. A deluge system will be installed directly over debagging operation.
2. Only spark proof tools will be permitted.
3. One tons of water and one 100-lb fire extinguisher will be available.
4. Fire unit will be maintained from operating site.
5. Good housekeeping will be observed.
6. Operators at debagging table and power collector will be required to work from a grounded metal platform and wear conductive safety shoes.
7. Vacuum system will be tested frequently for adequate grounding.
8. Operators will wear fire resistant clothing.

DISPOSITION OF COMPONENTS AND MATERIALS:

Repacked powder to storage. Empty powder bags to Operation 21. Small lots of powder to Operation 21.

EQUIPMENT REQUIREMENTS:

Flash shielded, non-ferrous debagging table fitted with spark proof knives.
Rubber tired hand trucks. Spark proof pliers. Spark proof knives.
STANDARD OPERATING PROCEDURE FOR: Reclamation of

Nomenclature: Shell, Semi-Fixed, HE, M6R, w/supplied charge. DATE: Sept 2021

Mode of Operation: 0.05 sec. delay, for 76mm Howitzers

Location: Room 4, AWS Bldg. 500

Explosive Limits: POUNDS 100 NO OF ITEMS 20

Personnel Limits: Operators 2 Casuals 3

Step 1: Operation No. 6
Title: Remove primer and base charge

1. Cartridge cases containing primer and base charge received from operation 4 via rubber tired ammunition cart.
2. Position cartridge case in air operated primer removal machine and punch out primer with base charge attached. Base charge and primer will be removed from depriming machine and carried thru flash shield and deposited on disassembly table by means of an air driven conveyor.
3. After each primer is removed, operator will check depriming punch to ensure its being free of all metal particles.
4. Operator separates primer and base charge by means of a spark proof knife or scissors.
5. Base charges are packed in wooden box and hand carried to Operation 5.
6. Primers will be packed in wooden box, not over 100 to box, and hand carried to Service Barricade No. 511 from where they will be trucked to Operation 21.

Inspection Requirements:

None.

Safety Requirements:

1. Only spark proof tools will be permitted in this operation.
2. Suitable flash shields will be constructed around primer removal machine.
3. Free exit will be maintained from operating site.
4. One soda acid and one CO2 fire extinguisher will be readily available.
5. Good housekeeping will be observed.
6. Operator separating primer from base charge will work on a grounded platform and will wear conductive safety shoes.
7. Operators will wear fire resistant clothing.

Disposition of Components and Material:

Base charges of lots 1000 lbs or over to Operation 5.
Lots less than 1000 lbs to service magazine 608 for transfer to Operation 21.
Primers to Operation 21.
Serviceable brass cases to Operation 7. Unserviceable cases to salvage.

Equipment Requirements:

Increment and primer removal machine. Non-sparking knife or scissors.
STANDARD OPERATING PROCEDURE FOR: Assembly of...

NOMENCLATURE: Shell, Semi-fixed, HE, 1440, v/suppl. charge

w/fuse PD M1A2, .05 sec. delay, for 75mm Howitzers

LOCATION: Room 5, ANS Bldg. 500

EXPLOSIVE LIMITS: 1 box primers NO OF ITEMS 500 ca.

PERSONNEL LIMITS: OPERATORS 4 CASUALS 3

1. Deplated cases received from Operation 8 via rubber tilled ammunition cart. Primers hand carried from Service Magazine Bldg. 513.
2. Cases will be placed in holding fixture and stencils removed from base by means of wire brush driven by an air powered buffer.
3. Cases will be gauged with "Go-no go" primer hole gauge.
4. All cases will be checked in chamber gauge.
5. Position case in primer seating machine and insert M1A2 primer.
6. Gauge primer for flush seating.
7. Stencil base of case with proper marking.
8. Load acceptable cases on ammunition cart for transfer to Operation 8.
9. Transfer unserviceable cases to salvage.

INSPECTION REQUIREMENTS:

Inspect and gauge primer hole.
Inspect case for corrosion.
Inspect proper seating of primer.
Inspect case in chamber gauge.

SAFETY REQUIREMENTS:

1. Operator buffing cases to wear face shield or goggles.
2. Free exit from operating site will be maintained.
3. One soda acid and one CO2 fire extinguisher will be readily available.
4. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:

Primed cases to Operation 8.
Unserviceable brass to salvage.

EQUIPMENT REQUIREMENTS:

STANDARD OPERATING PROCEDURE FOR: Ignition of HMG 33 R Revised

NOTES: Shell, Semi-fixed, HE, 12.7, v/prop, charge, DATE: Sept 1952

W/Ans Fd 128/50, .05 sec. delay, for 75mm Howitzers
ITEM NO: 1D75-53

LOCATION: Room 6, ANS Bldg. 500
AMO NO: 40D-8-1-52

EXPLOSIVE LIMITS: POUNDS: 352 charges
NO OF ITEMS: 1200 cases

PERSONNEL LIMITS: OPERATORS: 5
CIVILIAN: 3
DIRECT LABOR: 5

STEP OPERATION NO. 8 TITLE: Assemble increment retainer and propelling charge, insert cup protector.

Note: Room 6 is divided into three sections separated by substantial flash shield.

1. Primed cartridge cases received from Operation 7 via ammunition cart.
   Propelling charges received from Service Magazine 507 via rubber lined push-cart. Increment retainers from Service Magazine 511.

2. Section 1 is equipped with a suitable table at which three operators assemble HMG increment retainer to base charge in accordance with Drg. 70-9-126, Rev. 15.

3. In Sections 2 and 3 operators insert base charge and increment retainer in cartridge case by means of air operated assembly machine and properly assemble remaining increments.

4. Protector cups are inserted in mouth of cartridge case.

5. Transfer assembled cartridge cases to Operation 16.

INSPECTION REQUIREMENTS:

Inspect propelling charges for correct lot number, condition and proper assembly.

SAFETY REQUIREMENTS:

1. Free exit from operating site will be maintained.
2. One soda acid and one CO2 fire extinguishers will be readily available.
3. Good housekeeping will be observed.
4. Operators will work from grounded metal platform and will wear conductive safety shoes.

DISPOSITION OF COMPONENTS AND MATERIAL:

Assembled cartridge cases to Operation 16.

EQUIPMENT REQUIREMENTS:

Flash shielded work table.
Increment retainer to primer assembly machines.
Transfer equipment.
STANDARD OPERATING PROCEDURE FOR: Renovation

LOCATION: Room 2, ANS Bldg., 500

EXPLOSIVE LIMITS: POUNDS

PERSONNEL LIMITS: OPERATORS 6

Note: Room 2 is divided into four barricaded operating sections conforming to OCSB No. 151, Change No. 1.

<table>
<thead>
<tr>
<th>STEP</th>
<th>OPERATION NO. 9</th>
<th>TITLE: Remove Cases and boosters.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td>Fused projectiles received from Operation 3 via wooden skids on roller conveyors.</td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td>Operator places projectile in air operated holding fixture and removes fuses.</td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td>Projectile is returned to skid and fuse is placed in fuse tray.</td>
</tr>
<tr>
<td>4.</td>
<td></td>
<td>In Section No. 2 operator removes booster set screw by means of a positive stop, explosion proof electric drill.</td>
</tr>
<tr>
<td>5.</td>
<td></td>
<td>In Section No. 3 operator removes boosters and places them in wooden trays.</td>
</tr>
<tr>
<td>6.</td>
<td></td>
<td>When projectiles are encountered with a high ring of cast TNT in the fuse cavity, operators in Section No. 4 will remove TNT ring by means of suitable tools in order to eliminate shaft breakage in deep cavity drills.</td>
</tr>
<tr>
<td>7.</td>
<td></td>
<td>Projectiles are transferred on roller conveyor to Operation 10.</td>
</tr>
<tr>
<td>8.</td>
<td></td>
<td>Fuses and booster trays will be hand carried and placed on concrete service barricade in Room 3, ANS Bldg. 500, from where they will be transferred by rubber tired ammunition cart to Operations 18, 19, and 20, whichever is applicable. Limits in service barricade will not exceed 300 fuses and boosters.</td>
</tr>
</tbody>
</table>

INSPECTION REQUIREMENTS:

None

SAFETY REQUIREMENTS:

1. Operators will wear safety shoes.
2. Free exit from operating site will be maintained.
3. One soda acid and one CO2 fire extinguisher will be readily available.
4. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:

Projectiles to Operation 10.
Fuses to Operation 18 or 19, whichever is applicable.
Boosters to Operation 20.

EQUIPMENT REQUIREMENTS:

1. Air operated projectile holding fixtures.
2. Positive stop explosion proof electric drill.
4. Booster wrench.
5. Fuses and booster trays.

Note: Explosive limits in operating sections will be as follows: No. 1 - 24 projectiles and 40 fuses. No. 2 - 24 projectiles. No. 3 - 24 projectiles and 40 boosters. No. 4 - 24 projectiles.

* Air driven drills not available.
Note:
Room 3 is divided into 2 barricaded operating sections conforming to OCSB No. 148. The deep cavity drills are to be used in each operating section. Explosive limits in each section will be 48 projectiles or 72 lbs explosive. Personnel limit - 2.
1. Projectiles received from Operation 9 via roller conveyor.
2. Projectile is placed in deep cavity drill (Savanna type) and drilled in accordance with specifications outlined in Drg. 75-444/15, Rev. 4.
3. Explosive dust is removed from cavity by means of approved type vacuum system installed in temporary barricades outside Bldg. 200.
4. Vacuum collector operator will remove TNT from collector at the completion of each 50 rds.
5. TNT will be placed in closed metal containers and placed in service barricades.
6. Drilled projectiles will be returned to skids and transferred by roller conveyor to Operation 11.
7. TNT will be removed by truck to Operation 21.

INSPECTION REQUIREMENTS:
Inspect for loose TNT or foreign material in cavity before drilling. Spot check cavity with concentricity gauge to assure that drill is operating properly.

SAFETY REQUIREMENTS:
1. Provisions contained in OCSB No. 148 will be complied with.
2. Safety shoes will be worn.
3. Free exit will be maintained from operating site.
4. A deluge system will be installed directly over each deep cavity drill.
5. Good housekeeping will be observed.
6. Vacuum system will be located in accordance with para. 109c, OSM.
7. Entire collecting system will be inspected frequently for adequacy of grounding.
8. Pipes and tubes which are a part of collecting system will be disassembled and steam cleaned weekly.

DISPOSITION OF COMPONENTS AND MATERIAL:
Drilled projectiles to Operation 11. TNT to Operation 21.

EQUIPMENT REQUIREMENTS:
Two deep cavity drills (Savanna type). Approved type vacuum collector. Concentricity gauge. Conveyor line.
STANDARD OPERATING PROCEDURE FOR: Renovation of

HOMEOMAT : Shell, semi-bored ,HE, M3, w/supl. charge

v/Fuse PE 304A, .05 sec. delay, for 75mm howitzers

LOCATION: Room 4, A&S Bldg., 500

EXPLOSIVE LIMITS: POUNDS 146

PERSONNEL LIMITS: OPERATORS 5

CASUALS 3

STEP: OPERATION NO. 11

TITLE: Clean threads, gauge and insert liner and closing cup.

Note: Room 4 is divided into 2 barricaded operating sections.

1. Projectile received via roller conveyor from Operation 10.

2. In section 1 projectiles are removed from skid, placed on work table and excessive TNT removed from threads by means of air driven beryllium wire brushes. Loose TNT and dust will be collected by vacuum collector installed in Operation 10.

3. Threads will be cleaned by use of light brush dipped in acetone.

4. In section 2 fuse cavity will be gauged with flush pin gauge.

5. Fuse sent liner and closing cup will be assembled, bottom half of liner coated with acid proof black paint, and inserted into fuse cavity in accordance with Fig. 75-14-445, Rev. 4.

6. Projectiles transferred to Operation 12 by roller conveyor.

Note: Personnel and explosive limits to be maintained as follows: Section 1 - 2 operators, 72 lbs explosives, 48 projectiles, Section 2 - 3 operators, 72 lbs explosives, 48 projectiles.

INSPECTION REQUIREMENTS:

Inspect proper depth of fuse cavity.

Inspect proper coating of fuse liner and closing cup.

SAFETY REQUIREMENTS:

1. Operator on thread cleaning operation will wear respirator.

2. Safety shoes will be worn.

3. Free exit will be maintained from operating site.

4. One soap acid and one CO2 fire extinguisher will be readily available.

5. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:

Projectiles to Operation 12.

EQUIPMENT REQUIREMENTS:

STANDARD OPERATING PROCEDURE FOR: \underline{Removal} OF 33 R. Repaired

NOMENCLATURE: Shell, Semi-fixed, HE, M40, v/supply, charge. DATE: Sept 1953

w/fuze PD M5145, .05 sec. delay, for 75mm Howitzers ITEM NO: R75-53

LOCATION: Room 5, ANS E1dg. No. 500 AVO NO: MOC 9-1-52

EXPLOSIVE LIMITS: POUNDS 250 NO OF ITEMS 250 PROD/8-HR

PERSONNEL LIMITS: OPERATORS 4 CASUALS 3 DIRECT LABOR/SHIFTS 4

STEP OPERATION NO. 12 TITLE: Gauge and zone weigh projectiles.

1. Projectiles received from Operation 11 via roller conveyor.
2. Proper alignment of fuse cavity will be gauged by means of Concentricity Gauge No. C-730L29.
3. When projectiles fail to gauge because of slight burr in threads, threading will be corrected by removing burr with special "positive stop" tap.
4. When projectiles fail to gauge due to improper depth of thread, projectiles will be removed to De-booster Barricade ANS E1dg. No. 514, where projectile will be secured in holding fixture and thread corrected by means of a positive stop tap operated by remote control. Projectiles will then be returned for zone weighing.
5. Zone weigh projectiles as required by Drg. 75-14-645, Rev. A.
6. Insert lifting ring and gasket in projectile.
7. Load projectiles on ammunition cart for transfer to Operation 13.

INSPECTION REQUIREMENTS:

Inspect proper alignment of fuse cavity.

SAFETY REQUIREMENTS:

1. Operators will wear safety shoes.
2. Free exit will be maintained from operating site.
3. One soda acid and one 002 fire extinguisher will be available.
4. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:

Projectiles to Operation 13.

EQUIPMENT REQUIREMENTS:

Concentricity gauges.
Thread tap.
Projectile vise.
Zone scales.
Rubber tired ammunition carts.

SHEET 16 OF 25
STANDARD OPERATING PROCEDURE FOR: Renovation OF

MISCELMATURE: Shell, Semi-fixed, HE, 48, w/mupl'd, charge

DATE: Sept 1951

ITEM NO: E75-53

AWO NO: WED-R-1-52

LOCATION: Sand Blast room, A28 Bldg, 715

EXPLOSIVE LIMITS: POUNDS 150 NO OF ITEMS 150

PERSONNEL LIMITS: OPERATORS 6 CASUALS 3

DIRECT LABOR

SHIFT 1200 hrs.

STEP OPERATION NO. 12 TITLE: Clean projectiles

1. Projectiles received from Operation 12 on rubber tired ammunition cart (70 to cart) via electric tow motor.
2. Tape rotating band and insert wax plug in booster set screw hole.
3. Place 2 projectiles in Pangborn shot blast machine and blast until projectiles are clean.
4. Remove projectiles from sand blast and place on wooden skids on roller conveyor for transfer to Operation 14.

INSPECTION REQUIREMENTS:

Inspect projectiles for complete removal of paint and rust.

SAFETY REQUIREMENTS:

1. Provisions of OCSB No. 175 and Change 1 will be complied with.
2. Free exit will be maintained from operating site.
3. Safety shoes will be worn.
4. Sand blast operator will wear respirator.
5. One soda acid and one CO2 fire extinguisher will be readily available.
6. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:

Cleaned projectiles to Operation 14.

EQUIPMENT REQUIREMENTS:

Pangborn sand blast equipment.
Roller conveyor and skids.
STANDARD OPERATING PROCEDURE FOR: Repaint and stencil projectiles.

OPERATION NO. 14

1. Projectiles received via roller conveyor from Operation 12.
2. Operator removes projectiles from roller conveyor and places it on hook on monorail.
3. Projectile is painted with one coat of olive drab enamel in accordance with Fig. 75-2-269, Rev. 14.
4. After projectiles pass thru dryers and paint is sufficiently dried, operator will spray paint stencil on projectile with proper nomenclature and lot number.
5. After projectiles again pass thru dryers and stenciling is sufficiently dried, operator will remove masking tape from rotating band.
6. Projectile will be removed from monorail and placed on table where they will be gauged by means of Ring Gauge No. G-51-916.
7. Projectiles will be removed from table and placed in ammunition cart for transfer to Operation 15.

INSTRUCTIONS:

Inspect projectiles for proper paint coverage. Inspect for proper nomenclature and lot number. Gauge projectile by means of Ring Gauge.

SAFETY REQUIREMENTS:

1. Painting and drying operations will conform to provisions as outlined in OSHA No. 112.
2. Operators will wear safety shoes.
3. Free exit from operating site will be maintained.
4. Paint supplies will be stored and mixed at a service point 100 feet distant from painting operation.
5. Soda acid and foam type fire extinguishers will be readily available.

DISPOSITION OF COMPONENTS AND MATERIAL:

Projectiles to Operation 15.

EQUIPMENT REQUIREMENTS:

Paint spray equipment with exhaust system.
Ring Gauge No. G-51-916.

SHEET 18 OF 25
STANDARD OPERATING PROCEDURE FOR: Renovation OF LCM-AS20 33 R Revised

DESCRIPTION: Shell, Semi-Fixed, HE, 145mm, w/prop. charge. DATE: Sept 1951

LOCATION: Room 6, AMS Blg. 500

MATERIALS: Fuze 64105, .55 sec. delay, for 75mm Howitzers

ITEM NO: K75-59

EXPLOSIVE LIMITS: POUNDS: 375 NO OF ITEMS 250 prod. SHIFT 1200 rds.

PERSONNEL LIMITS: OPERATORS: 6 CASUALS: 3 DIRECT LABOR/SHIFT 6

STEP: OPERATION NO. 15 TITLE: Assemble Fuzes

- Fuses received from service barricade 512 via rubber tired ammunition cart. Supplementary charges received from Service Barricade 513 via hand truck. Projectiles received from Operation 14 via ammunition cart and electric tow motor.
- Fuses are unpacked and inspected behind barricade.
- Lifting ring and gasket are removed from projectile.
- Supplementary charges will be installed.
- Projectiles will be removed from ammunition cart and placed on table where fuse will be installed.
- Fuse will be tightened by means of fuse wrench and staked in position.
- Inspect and touch up projectiles where necessary with Co2 snail.
- Fuzed projectiles placed on wooden skids on roller conveyor for transfer to Operation 16.

Note: Number of fuses to be permitted in unpacking barricade = 200.
Number of supplementary charges in unpacking barricade = 200.

SAFETY REQUIREMENTS:

1. Free exit from operating site will be maintained.
2. One soda acid and one CO2 fire extinguisher will be readily available.
3. Safety shoes will be worn.
4. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:

- Fuzed projectiles to Operation 16.
- Empty fuse containers and boxes to inert storage. Lifting rings to Operation 12.
- Empty supplementary charge packing material to burning ground.

EQUIPMENT REQUIREMENTS:

- Projectile holding fixture, Fuzes Wrench, Staking tools.

INSTRUCTION REQUIREMENTS:

Percentage acceptance inspection will be performed before fuzes are assembled.

Includes inspection on acceptance inspection.
STANDARD OPERATING PROCEDURE FOR: Stencil packing material

NAME: Shell, Semi-Fixed, HE, M143, w/1068, capper.
LOCATION: Room 7, ANG Bldg. 700

EXPLOSIVE LIMITS: Pounds 298 No of Items 200 rds

PERSONNEL LIMITS: Operators 12 Casuals 3

STEP OPERATION NO. TITLE: and pack.
1. Projectiles received from Operation 16 via roller conveyor. Cartridge cases received from Operation 8 via ammunition cart. Fiber containers and boxes received from storage by ammunition cart.
2. Fiber containers will be properly stenciled.
3. Assemble packing stop in fuse slots and insert in fiber container M183 using sufficient filler to assure tight pack.
4. Assemble cartridge case in fiber container using sufficient filler to assure tight pack.
5. Place fiber container in taping machine and seal with tape.
6. Place packed round in properly stenciled 2 round wooden box and insert sufficient filler to assure a tight pack.
7. Transfer boxed ammunition on roller conveyor to Operation 17.

INSPECTION REQUIREMENTS:
- Inspect proper marking of fiber containers.
- Inspect proper assembly of round.
- Inspect packing.

SAFETY REQUIREMENTS:
1. One acid acid and one C02 fire extinguisher will be readily available.
2. Free exit from operating site will be maintained.
3. Operators will wear safety shoes.
4. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:
Boxed ammunition to Operation 17.

EQUIPMENT REQUIREMENTS:
- Stencil equipment
- Packing tables
- Taping machine

*Personal limit includes 2 inspectors engaged in acceptance inspection.
STANDARD OPERATING PROCEDURE FOR: Generation of

NOMENCLATURE: Shells, Semi-fixed, HE, M46, w/supply charge.

DATE: Sept. 1961

ITEM NO: R75-53

LOCATION: Room 3, ANS Bldg. 500

EXPLOSIVE LIMITS: POUNDS 293 NO OF ITEMS 200 rds

PERSONNEL LIMITS: OPERATORS 6, CASUALS 3

STEP OPERATION NO. 17 TITLE: Seal, strap and dispatch to storage.

1. Boxed ammunition received from Operation 16 via roller conveyor.
2. Cover of box will be closed and sealed.
3. Box will be strapped in accordance with PIP-115.
4. Packed ammunition boxes will be placed on wooden pallet and dispatched to storage in ammunition trucks or vans with wooden floor and sides.

INSPECTION REQUIREMENTS:

Inspect proper sealing and marking of end product.

SAFETY REQUIREMENTS:

1. Safety shoes will be worn.
2. Free exit will be maintained from operating site.
3. One soda acid and one CO2 fire extinguisher will be readily available.
4. Good housekeeping will be observed.
5. The quantity of ammunition loaded in parked van will be considered as a part of building. The determined quantity for safety distances will be the total quantity in vans and building. The total quantity of explosive will not exceed 5000 lbs.

DISPOSITION OF COMPONENTS AND MATERIAL:

Packed ammunition to storage.

EQUIPMENT REQUIREMENTS:


* Personnel limit includes one inspector engaged in acceptance inspection.
STANDARD OPERATING PROCEDURE FOR: Shell, Semi-Fixed, HE, M48, w/napalm charge

NOMENCLATURE: Shell, Semi-Fixed, HE, M48, w/napalm charge

DATA: Sept 1953

ITEM NO: H75-53

LOCATION: Washout Frame, AWG Side, No. 502

FOOD/6-HR

EXPLOSIVE LIMITS: POUNDS NO OF ITEMS 2000 Cases

PERSONNEL LIMITS: OPERATORS 2 CASUALTY 2

DRY/10-Oz.

SHEET 22 OF 25

STEP OPERATING NO. 16 TITLE: Packing of M48 Series Fuses

1. Fuses and boosters received from Operation 9 via rubber tired ammunition cart and electric tow motor.
2. Boosters are removed from trays and assembled "hand tight" to fuse.
3. Assembled fuses are packed in containers in which new fuses are received, properly stenciled and dispatched to storage.

INSPECTION REQUIREMENTS:

Inspect proper packing and marking of "salvage" fuses.

SAFETY REQUIREMENTS:

1. Operators will wear safety shoes.
2. Exit exit will be maintained from operating site.
3. Soda acid fire extinguishers will be available.
4. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:

Salvage fuses to storage.

EQUIPMENT REQUIREMENTS:

Packing table.
Ammunition cart.
Electric tow motor.
Stencill equipment.
Strapping tools.

SHEET 22 OF 25
STANDARD OPERATING PROCEDURE FOR: Disassembly of TEG 15% series fuse

NOMENCLATURE: Shell, Semi-fixed, HK, M49, w/supply chamber

W/Fuse FD 551A5, .65 sec. delay, for 75mm Howitzers

LOCATION: Nashvill Room, AFF Elda. 302

EXPLOSIVE LIMITS: NO OF ITEMS: 1000

PERSONNEL LIMITS: OPERATORS: 5, CASUALS: 3

STEP | OPERATION NO. 29 | TITLE: Disassembly of TEG 15% series fuse

1. Fuses received from Operation 9 via rubber tired cart and electric tow motor.
2. Drill out stake of closing set screw, by means of explosion proof, positive stop electric drill, and remove set screw.
3. Remove closing cap from fuse and remove safety wire and plunger assembly from closing cap.
4. Remove upper lock ring, lock pin, and lower ring from fuse body.
5. Pack inert components in boxes for removal to salvage yard.

INSPECTION REQUIREMENTS:
Inspect inert components to determine that all explosive material has been removed.

SAFETY REQUIREMENTS:
1. Care will be exercised in the removal of powder rings to prevent spillage of black powder.
2. One soda acid and one CO2 fire extinguisher will be readily available.
3. Free exit will be maintained from operating site.
4. Good housekeeping will be observed.
5. Provisions outlined in OESS #151 and Change 1 will be complied with.

DISPOSITION OF COMPONENTS AND MATERIAL:
Inert Components to salvage yard.
Loaded components to Operation 21.

EQUIPMENT REQUIREMENTS:
Explosion proof electric drill with positive stop.
Steel barricaded disassembly machine. Approved hand tools. Holding fixtures.

SHEET 23 OF 25
| STANDARD OPERATING PROCEDURE FOR: Renovation | SCP 206-0 08.09.99 Revised |
| NOMENCLATURE: Shell, Semi-fixed, HE, M48, w/super charge | DATE: Sept 1999 |
| W/No 1454145s, 05 sec. delay, for 75mm Howitzers | ITEM NO: RV5S-52 |
| LOCATION: | AWO NO: W52-2-1-52 |
| EXPLOSIVE LIMITS: POUNDS | PROD/6-MR |
| NO OF ITEMS | SHIFT |
| PERSONNEL LIMITS: OPERATORS | DIRECT LABOR |
| CASUALS | SHIFT |

| STEP | OPERATION NO. 20 | TITLE | Pellets |

*Sheet 24 of 25*
Standard Operating Procedure For: Renovation of

Machining: Shell, Semi-Fixed, HE, M48, w/comp. charge.

Location: Burning Ground

Explosive Limits: FOD/8-HR

Personnel Limits: Operators 2, Casuals 3

Step: Operation No. 21

1. Unsatisfactory propelling charges and loaded fuses and booster components will be moved from respectively designated service magazines by means of ammunition truck with wooden floor and sides.

2. At burning ground components containing different types of explosives will be burned separately.

3. Components will be destroyed by burning in popping oven or confined trench.

4. Provisions contained in SOP No. WOD 7A and Amendment 1 will be complied with.

5. Reclaimed scrap metal will be inspected for adequacy of decontamination in accordance with paragraph 1840 of DACI.

6. Decontaminated scrap metal will be loaded on carrier and transferred to salvage yard.

Inspection Requirements:

Inspect for adequacy of decontamination.

Safety Requirements:

1. Safety requirements as outlined in OSB #171 and SOP No. 7A and Amendment 1 will be carefully followed.

2. Loaded components will be destroyed frequently to prevent a large accumulation.

Disposition of Components and Materials:

Scrap metal to salvage.

Equipment Requirements:

Transfer equipment.
DEPARTMENT OF THE ARMY
WINGATE ORDNANCE DEPOT
GALLUP, NEW MEXICO

STANDING OPERATING PROCEDURE

FOR

Renovation

COMPLETE NOMENCLATURE: Projectile, Fixed, APC-T, Flashless - Smokeless.

ITEM NO: 8765  OCWO NO: F-592  SOP NO: 880-36R  DATE: September 1952

Total Quantity Scheduled: 330,698 rds.

Estimated Production Per 3-hr Shift: 1,200 rds.

Estimated Total Direct Labor Crew Per Shift: 75

Estimated Total Direct Manhours Per Unit: .5

Estimated Total Ordnance Cost Per Unit: $1.07

* LOCATION OF OPERATING AREA:

** LOCATION OF OPERATING BUILDINGS, INCLUDING BUILDINGS NO: 500, 503, 507, 508, 509, 510, 511, 512, 514, 515 and 516.

* Supplemented with area map showing distance relations.

** Supplemented with flow chart showing explosive limits and distance relationships between buildings.

KENNETH E. KNUDSON
Lt. Colonel, Ord Corps
Commanding

SHEET 1 OF 20
Special reference is made to the following regulations in connection with safe handling of explosives and ammunition, which references will be followed:

1. BUILDINGS AND UTILITIES:
   a. Section 5, of the Ordnance Safety Manual 7-224, covering utilities, equipment, operating and auxiliary buildings.

2. AMMUNITION HANDLING:
   b. Sections 23 and 24 of ORDM 7-224.

3. HAZARDOUS AMMUNITION:
   a. Either at the ammunition storage site or after unpacking, all ammunition will be inspected for proper identification and for evidence of excessively deteriorated, damaged or missing components which render the round unsafe to handle, or process in a normal manner.
   b. Such ammunition will be disposed of in accordance with Section 27 of ORDM 7-224 and SOP WOD ASO-14D and Amendment No. 1.

4. SAFETY CLOTHING AND TOOLS:
   a. Section 10 of ORDM 7-224.
   b. Paragraph 1610 of ORDM 7-224.

5. SAFETY LIMITS:
   a. Post operating and explosives limits in accordance with paragraph 1601 of ORDM 7-224.
   b. Explosive and personnel limits for operating buildings will be maintained at the minimum necessary for safe and efficient operation. (See Section 17 of ORDM 7-224.)

6. BARRICADES:
   a. Paragraphs 2503 and 2504 of ORDM 7-224.

7. DEMOLITION GROUND PROCEDURE:
   a. All procedures for destruction of explosives or components by detonation will comply with Section 27, ORDM 7-224 and SOP WOD ASO-14D and Amendment No. 1, copies of which are on file OGU, OAG.

SHEET 2 OF 20
8. **BURNING GROUND PROCEDURE:**
   a. All procedures for destruction of explosives or components will comply with Section 27, ORDM 7-224, and SOP ASO-7X and Amendments 1 and 2, copies of which are on file OCG, OAC.

9. **SAFETY STANDARDS AND RULES:**
   a. Section 9 of ORDM 7-224, Ordnance Technical Industrial Safety.
   b. Any and/or all standards, i.e., American Safety Standards, National Electrical Code, National Board of Fire Underwriters, National Fire Protection Association, American Society of Mechanical Engineers, National Safety Council, Manufacturing Chemists’ Association, etc., as applicable to the operation.

10. **CONTROL OF OCCUPATIONAL DISEASE:**
    a. Section 11 of ORDM 7-224.

11. **PERSONNEL EXPOSURE:**
    a. Operations and personnel will be so arranged consistent with continuous and efficient operation as to constitute the smallest personnel exposure to any one explosion hazard.

12. **POSTING:**
    a. This SOP will be prepared in segments and applicable segment will be posted at each operation.

13. **SERVICE MAGAZINES:**
    a. Amount of explosives will conform with provisions as outlined in paragraph 1602 of ORDM 7-224.
    b. Explosive limits will be posted in each service magazine.

14. **PROCESS EQUIPMENT:**
    a. Will comply with regulations contained in paragraph 1621 and Section 7 of ORDM 7-224.

15. **TRAINING:**
    a. Each operator assigned has been or will be thoroughly trained and familiarized with his part of this operation and with its relationship to the overall operation as directed in paragraph 1625 of ORDM 7-224.

16. **APPROVALS:**
    a. All approvals required at this installation have been obtained.
1. Receive from Storage
2. Unpack and Inspect
3. Pull Apart Complete Round
4. Pack Propellant Powder
5. Deprime Cartridge Case
6. Decontaminate, Anneal, Resize and Clean Cartridge Case
7. Gage and Prime Cartridge Case
8. Defuse Projectile
9. Prepare Projectile for Repainting
10. Paint & Stencil Shell
11. Assemble Projectile
12. Place Powder in Cartridge Case
13. Assemble Complete Round
14. Repair Packing Material
15. Pack Complete Round
16. Destroy Loaded Components
STANDING OPERATING PROCEDURE FOR:  Renovation  OF

NOMENCLATURE:  Projectiles, Fixed. APC-T, Flashless.

Smokeless, V-Type RD 66A2 for 76mm Gun.

DATE:  September 1952

ITEM NO:  R76-5

LOCATIONS:  AWS Ridge, No. 516

OCNO NO:  F-502

EXPLOSIVE LIMITS:  POUNDS:  174  NO OF ITEMS:  1200 rds

PERSONNEL LIMITS:  OPERATORS:  2  CASUALS:  3

STEP  OPERATIONS NO. 1  TITLE:  Receive from Storage

1. Ammunition received from storage on pallets via van-semi-trailer or cargo truck.

2. Forklift operator will unload pallets by means of approved type forklift truck, placing pallets in receiving building.

Note: Trucks used in transporting explosives will comply with provisions outlined in par 2207 of ORM 7-224. Forklift trucks used in this operation will comply with paragraphs 2403 and 2404 of ORM 7-224.

INSTRUCTION REQUIREMENTS:

None

SAFETY REQUIREMENTS:

1. CO2 or Du-gas fire extinguishers will be available.

2. Explosive limits will be maintained at the lowest amount required for efficient operation.

3. Truck will not remain at unloading platform longer than necessary to complete unloading operation.

4. Ammunition will be secured on pallets before moving.

DISPOSITION OF COMPONENTS AND MATERIAL:

Ammunition to Operation No. 2.

EQUIPMENT REQUIREMENTS:

Forklift truck, Van-semi-trailer or cargo truck.

* Forklift operator and truck driver will perform other duties as assigned.
STANDARD OPERATING PROCEDURE NO: Receiving Unit

NOMENCLATURE: Projectile, Fixed, APC-T, Flashless

LOCATION: ROM 1, AUS Bldg, No. 500

EXPLOSIVE LIMITS: Rounds: 14.5 No of Items: 100 rds

PERSONNEL LIMITS: Operators: 6 Casuals: 3

STEP

1. Ammunition received from Bldg. No. 516 on wooden storage pallets via electric forklift truck.

2. Shipping container will be opened and fiber container, containing complete round, removed and placed on canvas covered work table.

3. Complete round will be removed from fiber container and inspected for proper identity and for dangerous deterioration and damaged or missing components. Any dangerous round encountered will be immediately removed from operation and placed in temporary storage behind concrete barricade No. 514 and a Surveillance inspector notified.

4. Packing material will be placed on carrier for transfer to Operation No. 14.

5. Complete round will be placed on power conveyor for transfer to Operation 3. Spacing of units will be in accordance with per 1723, ORDM 7-224. Not closer than eight inches center to center. Spacing blocks to be placed between rounds.

INSPECTION REQUIREMENTS:

Inspect for proper identity and dangerous deterioration which would render round unsafe for handling. Inspect unserviceable packing material for adequacy of decontamination in accordance with per 2507, ORDM 7-224 and paragraphs 4.220 thru 4.223 of OACI.

SAFETY REQUIREMENTS:

1. CO₂ or Dry-gas fire extinguishers will be readily available.

2. Free exit from operating site will be maintained.

3. Operators will wear spark proof safety shoes and gloves.

4. Operator cutting strapping will wear face shield.

5. Good housekeeping will be maintained.

DISPOSITION OF COMPONENTS AND MATERIAL:

Complete round to Operation No. 3.

Repairable packing material to Operation No. 14.

Obsole or irreparable packing material to salvage.

Rounds rejected for improper lot number will be returned to storage.

EQUIPMENT REQUIREMENTS:

STANDING OPERATING PROCEDURE FOR: Renovation of

NOMENCLATURE: Projectile: Fixed, APC-T; Flashless - DATE: September 1952
Smokeless, W/Fuze RD M66A2 for 76mm Gun

ITEM NO: R76-6

LOCATION: Room 2, AWS Bldg. No. 500 10 comp. rds. FOB/3-HR
OCNO NO: F-592


PERSONNEL LIMITS: OPERATORS: A CASUALS: 3
DIRECT LABOR:
S.LF.: A

STEP OPERATION NO. 3 TITLE: Pull Apart Complete Round

1. Rounds received via conveyor from Operation No. 2.

2. Complete round will be removed by hand from conveyer and placed in pull apart machine.

3. Projectile will be separated from cartridge case.

4. Projectile will be removed from machine and placed nose down in separated tray on rubber tired ammunition cart; 70 projectiles to cart.

5. Cartridge case will be removed from machine and propellant powder poured into receiving hopper of vacuum collector system.

6. Cartridge cases will be placed base down in separated trays on rubber tired ammunition cart.

Note: Two complete round pull apart machines and one receiving hopper will be used in this operation.

INSPECTION REQUIREMENTS:
Inspect cartridge case for complete removal of all propellant powder.

SAFETY REQUIREMENTS:

1. Operators will wear conductive sole safety shoes and flame proof coveralls.
2. CO₂ or D₄-gas fire extinguishers will be readily available.
3. Free exit from operating site will be maintained.
4. An approved type deluge system will be installed at this operation.
5. Operators will work from a grounded metal platform.
6. Good housekeeping will be observed.
7. Trays will be inspected and cleaned before inserting brass cases.

DISPOSITION OF COMPONENTS AND MATERIAL:

Propellant powder to Operation No. 4.
Cartridge cases to Operation No. 5.
Projectiles to Operation No. 8.

EQUIPMENT REQUIREMENTS:

2 complete round pull apart machines, 1 powder receiving hopper. Rubber tired ammunition carts with suitable trays.
STANDING OPERATING PROCEDURE FOR: Renovation of
SOP NO: ASO-34R

NOMENCLATURE: Projectile, Fired, ASP-T, Flashless - DATE: September 1942
Smokeless, W/Pulse FD-96642 for 76-mm Guns.
ITEM NO: SB6-5

LOCATION: Powder Collector Barricade, AHS Bldg. No. 509
CEN NO: K-502

EXPLOSIVE LIMITS: POUNDS: 300 NO OF ITEMS: - - -
100/5-HR
SHIFTS: 1,200 rds.
DIREC LABOR:

PERSONNEL LIMITS: OPERATORS: 2 CASUALS: 3
SHIFTS: 2

STEP OPERATION NO. 4 TITLE: Pack Propellant Powder

1. Propellant powder received from Operation No. 2 via vacuum collector system.

2. Air tested M2 or M4VII steel packing containers will be connected to vacuum system and filled with powder.

3. Filled container will be disconnected from vacuum system, contents weighed, adjusted and cover attached.

4. Containers will be stenciled showing net and gross weight, nomenclature of contents, manufacture and powder lot number. Nomenclature will be preceded by word "SALVAGE".

5. Filled containers will be moved by rubber-tired hand truck to Service Barricade No. 508 from where they will be dispatched to storage. Explosive limit in Service Barricade No. 508 will not exceed 3,000 lbs.

INSPECTION REQUIREMENTS:
Inspect powder containers for correct marking.

SAFETY REQUIREMENTS:

1. Operator will wear flame proof coveralls and conductive sole safety shoes.

2. CO2 or Du-gas fire extinguishers will be readily available.

3. Free exit from operating site will be maintained.

4. Good housekeeping will be observed.

5. Operators will conduct weighing operations in opposite barricade from which powder is being received.

DISPOSITION OF COMPONENTS AND MATERIAL:
Packed propellant to storage.

EQUIPMENT REQUIREMENTS:
STANDING OPERATING PROCEDURE FOR: Renovation of 

NOMENCLATURE: Projectile, Fixed, APC-T, Flashless 

DATE: September 1952 

ITEM NO: P76-5 

LOCATION: Room No. 1, AWS Bldg. No. 503 

EXPLOSIVE LIMITS: TOXIC: 

PROD/SH: 

PERSONNEL LIMITS: OPERATORS: 2 

CASUAL: 3 

SHIFT: 2 

STEP 

OPERATION NO. 5 TITLE: Deprime Cartridge Case

1. Cartridge cases received from Operation No. 3 via rubber tired ammunition cart and electric tow motor.

2. Each case will be depth gaged to assure the complete removal of powder.

3. Position cartridge case in air operated primer removal machine and push out primer.

4. Primers will be removed from machine by air operated conveyor and will be packed in sawdust filled boxes for transfer to Service Magazine, Room 3, AWS Bldg. No. 503.

5. Cartridge cases will be removed from machine and inspected for proper dimension of primer hole.

6. Cases will be loaded in dipping baskets on ammunition cart for transfer to Operation No. 6.

INSPECTION REQUIREMENTS:

Gage cartridge cases for serviceability.

SAFETY REQUIREMENTS:

1. Operator of primer removal machine will wear face shield.

2. CO₂ or Du-gas fire extinguishers will be readily available.

3. Free exit from operating site will be maintained.

4. Good housekeeping will be maintained.

5. After each primer is removed from case, operator will check depriming punch to assure it is free of all metal particles.

DISPOSITION OF COMPONENTS AND MATERIAL:

Repairable brass cartridge cases to Operation No. 6.

Steel, irreparable or resized brass cartridge cases to salvage.

Loaded primers to Operation No. 16.

EQUIPMENT REQUIREMENTS:

STANDING OPERATING PROCEDURE FOR: Re-oxygination of 75mm Guns

NUMERATION: Amm onical, Fixed, APC, Flashless, Smokeless, 38mm 6642 for 75mm Guns

ITEM NO: R76-5

LOCATION: Room No. 2, AAU Bldg., No. 503

EXPLORATION LIMITS: PROD/EXP: 1,200 rds.

PERSONNEL LIMITS: OPERATORS: 6

GASOLINE: 3

SHIFT: 1

DASH: 6

OPERATION NO: 6

TITLE: Decontaminate, Anneal, Resize and Clean Brass Cartridge Cases

1. Cartridge cases received from Operation No. 5 in dipping baskets via ammunition carts.
2. Powder residue will be removed by immersing cases in a hot water bath.
3. When dry, the mouth of the cartridge cases will be annealed to a depth of 2-1/4" for a period of approximately eleven seconds at a temperature of 975°F.
4. Dip mouth of cartridge cases in light oil and place in resizing press.
5. Resize mouth of cartridge case to a depth of 2-1/16" and return to dipping basket.
6. Remove oil from mouth of case by immersing in a tank filled with degreasing solution.
7. Rinse cases in clear water.
8. Re-anneal mouth of cartridge case.
10. Load on carrier for transfer to Operation No. 7.

Note: If any corroded cases are encountered, they will be segregated and cleaned by immersing in a hot "Wedac" solution.

INSPECTION REQUIREMENTS:

Cartridge cases will be inspected for compliance with the requirements of applicable specifications and drawings.

SAFETY REQUIREMENTS:

1. Operators will be required to wear face shields, asbestos gloves, plastic gloves and aprons, plus normal protective clothing as the specific job requires.
2. Annealing equipment will be properly ventilated.
3. Operators will wear safety shoes.
4. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:

Renovated cartridge cases to Operation No. 7.

EQUIPMENT REQUIREMENTS:

STANDING OPERATING PROCEDURE FOR: Renovation of SOF NO: ASO-242

MUNICIPALITY: Projectile, Fixed, APC-T, Flashless - DATE: September 1952
Smokeless, M/Fuse BD 66A2 for 76mm Case ITEM NO: P76-5
LOCATION: Room No. 1, AWS Bldg. No. 503 OCMO UO: K-502
PROD/3-HR
EXPLOSIVE LIMITS: POUNDS: -. - NO OF ITEMS: 300 SHIFT: 1,200 rds.
PERSONNEL LIMITS: OPERATORS: 5 CASUALS: 3 DIRECT LABOR/
SHIFT: 5
STEP OPERACTION NO: 7 TITLE: Case and Prime Cartridge Cases

1. Cartridge cases received from Operation No. 6 via ammunition carts.
2. Gage mouth of cartridge case with "GO" and "NO GO" gage.
3. Gage cartridge case in chamber gage.
4. Unpack primers.*
5. Insert primer in cartridge case.
7. Gage seating of primer.
8. Stencil base of cartridge case with correct nomenclature and lot number.
9. Load primed cartridge cases base down in separated trays on rubber tired ammunition carts for transfer to Operation No. 12.
10. Pack irreparable cartridge cases for removal to storage.

INSPECTION REQUIREMENTS:
Inspect primers for correct lot number. Inspect proper gaging of cartridge case.
Inspect proper seating of primer. Inspect primed cartridge case for proper seating of primers.

SAFETY REQUIREMENTS:
1. CO₂ or Du-gas fire extinguishers will be readily available.
2. Operator will wear safety shoes.
3. Free exit from operating site will be maintained.
4. Good housekeeping will be observed.
5. Inspect trays to ascertain that no foreign substance is present before inserting brass case.

DISPOSITION OF COMPONENTS AND MATERIALS:
Primed cartridge cases to Operation No. 12.
Irreparable cases to storage.

MACHINERY REQUIREMENTS:
Cartridge case Chamber Gage No. D6510439. Mouth gage "GO", "NO GO" No. 45057780.
Primer seating machine. Gage flush type for primer seating. Cartridge case marking machine.

* Service point for new primers will be in Room 3, AWS Bldg. No. 503.

SHEET 11 OF 20
STANDING OPERATING PROCEDURE FOR: Renovation of

NOMENCLATURE: Projectile, Fixed, APC-F, Flashless -

LOCATION: Room 3, Arms Bldg., No. 500

EXPLOSIVE LIMITS: POUNDS: 43 NO OF ITEMS: 300

PERSONNEL LIMITS: OPERATIONS: 4 CASUAL: 3

STEP  OPERATIONS NO. TITLE: Defuse Projectiles

1. Projectiles received from Operation No. 3 via ammunition carts; 70 projectiles to cart.
2. Operator will remove 2 projectiles from cart and hand carry to machine located behind concrete barricades.
3. Projectiles will be secured in fuse removal machine.
4. Operator will retire to front of barricade and operate fuse removal machine by means of air control, observing operation by use of mirrors.
5. Fuses with gas check and filler intact will be backed from projectile, a total of four complete revolutions in defusing machine.
6. Operator will remove projectile and fuse from machine and place in ammunition cart, fuse end up, to prevent spillage of loose explosive.
7. Operator will complete removal of fuse by hand packing fuses in wooden boxes for transfer to Operation No. 16.
8. Packed boxes of fuses will be transferred to Service Barricade No. 511.
9. Loose explosive will be removed from cavities and threads of projectiles by means of a dry collector system.
10. Fuse cavities will be closed by insertion of lifting plug to prevent entry of foreign material.

INSPECTION REQUIREMENTS:

Safeguard fuse cavities; inspect projectiles for condition of painted surface.

SAFETY REQUIREMENTS:

1. Operators will wear safety shoes.
2. Free exit from operating site will be maintained.
3. No one will be permitted behind barricade while defusing machine is in operation.
4. CO₂ or Da-gas fire extinguishers will be readily available.
5. Good housekeeping will be maintained.
6. Operators will wear special clothing and will be required to bath and change after tour of duty.

DISPOSITION OF COMPONENTS AND MATERIAL:

Acceptable projectiles to Operation No. 11.
Projectiles requiring removal of rust and repainting to Operation No. 9.
Fuses, gas checks and fillers to Operation No. 16.

EQUIPMENT REQUIREMENTS:

Two (2) remote controlled defusing machines. Transfer equipment.
STANDING OPERATING PROCEDURE FOR: Renovation of SCF No. ASO-24R

NOMENCLATURE: Projectiles, Tipped, APC-7, Flashless - DATE: September 1952
Smokeless, W/Fuze BD M662 for 75mm Gun ITEM NO: B76-5

LOCATION: Sand Blast Room, AMS Blisks, No. 515 OCMO NO: F-602

EXPLOSIVE LIMITS: POUNDS: 11 NO OF ITEMS: 70 PRODUCT: 3-64 RDS.
PERSONNEL LIMITS: OPERATORS: 4 CASUALS: 3 DIRECT LABOR:
SHIFT: 1,200 rds.
SHIFT: None

STEP OPERATION NO. 9 TITLE: Prepare Projectile for Remainting

1. Projectiles received from Operation No. 8 via rubber tired ammunition carts and electric tow motor
2. Tension closing plug and gasket in fuse cavity of projectile
3. Remove projectile from cart, place on work table and cover rotating band with masking tape
4. Place projectile in sand blast machine and blast until surface is clean
5. Projectiles will be removed from machine and placed on wooden skids on roller conveyor for transfer to Operation No. 10

INSPECTION REQUIREMENTS:
Inspect for proper seating of closing plug prior to inserting in sand blast machine

SAFETY REQUIREMENTS:
1. Free exit from operating site will be maintained.
2. Safety shoes will be worn.
3. Sand blast operators will wear goggles and respirator
4. CO₂ or Du-gas fire extinguishers will be available.
5. Good housekeeping will be observed

DISPOSITION OF COMPONENTS AND MATERIAL:
Cleaned projectiles to Operation No. 10

EQUIPMENT REQUIREMENTS:
Panborn Sand Blast equipment. Work tables. Roller conveyor and skids.

SHEET 13 OF 20
STANDING OPERATING PROCEDURE FOR: Renovation of

PROJECTILE: Fixed, APC-T, Flashless

LOCATION: Paint Section, Bldg. No. 515

EXPLOSIVE LIMITS: POUNDS: 73

PERSONNEL LIMITS: OPERATORS: 8

STEP

OPERATION NO. 10

TITLE: Beraint and Stencil Projectiles

1. Projectiles received via roller conveyor from Operation No. 9.

2. Operator removes projectile from roller conveyor and places it on hook on monorail.

3. Projectile is painted with one coat of olive drab enamel in accordance with Drawing 75-2-292, Rev. 14.

4. After projectiles pass thru dryers and paint is sufficiently dried, operator will spray paint stencil on projectile with proper nomenclature and lot number.

5. After projectiles again pass thru dryers and stenciling is sufficiently dried, operator will remove masking tape from rotating band.

6. Projectile will be removed from monorail and placed in ammunition cart for transfer to Operation No. 11.

INSPECTION REQUIREMENTS:

Inspect projectiles for proper paint coverage. Inspect for proper nomenclature and lot number.

SAFETY REQUIREMENTS:

1. Paint spray operators will wear respirators.

2. Operators will wear safety shoes.

3. Free exit from operating site will be maintained.

4. Paint supplies will be stored and mixed at a service point 100 feet distant from painting operation.

5. CO₂ or Du-gas fire extinguishers will be readily available.

DISPOSITION OF COMPONENTS AND MATERIAL:

Projectiles to Operation No. 11.

EQUIPMENT REQUIREMENTS:

Paint spray equipment with exhaust system. Stencil equipment.
STANDING OPERATING PROCEDURE FOR: Renovation of

MUNITIONS: Projectiles, Fixed, ARC-T, Flashless

Smokeless W/Fuze RD M6612 for 76mm Guns

ITEM NO: EN6-5

LOCATION: Room 4, AWS Bldg., No. 500

INO NO: F-502

EXPLOSIVE LIMITS: POUNDS: 43 NO OF ITEMS: 200

DIRECT LABOR

PERSONNEL LIMITS: OPERATORS: 6 CASUALS: 3

SHIFT: 1,200 RIA

STEP OPERATION NO. 11 TITLE: Assemble Projectiles

1. Projectiles received from Operations 8 or 10 via ammunition carts.

2. New fuses received from Service Barricade No. 512 will be unpacked back of concrete barricade in Room 4.

3. Closing plug will be removed from projectile and fuse inserted in fuse cavity hand tight while projectile is in an upright position in ammunition cart.

4. Projectile will be removed from cart and placed in air vise where fuse will be tensioned to withstand a disassembly torque of 100 inch lbs.

5. Projectile will be positioned in press and filler and gas check pressed into place.

6. Projectile will be placed in hydraulic press and caked in accordance with Drawing No. 75-14-269, Rev. 6.

7. Inspect and touch up projectiles with OD Enamel where necessary.

8. Stencil new lot number on projectile.

INSPECTION REQUIREMENTS:

Inspect for proper torque of fuse assembly.

Inspect caulking of fuse.

SAFETY REQUIREMENTS:

1. Operators will wear safety shoes.

2. Free exit from operating site will be maintained.

3. CO₂ or D-gas fire extinguishers will be readily available.

4. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIALS:

Fuzed projectiles to Operation No. 13.

EQUIPMENT REQUIREMENTS:

STANDING OPERATING PROCEDURE FOR: Renovation of SOF No: ASQ-243
NOMENCLATURE: Proxel, Box 1, E-2, Flashless - DATE: September 1952
Smokeless, W/Fuze RD 66012 Cor 76mm Guns
ITEM No: 476-5
LOCATION: Room 4, ANB Bldg. No. 500
OCWO No: F-502
PROB/HR
EXPLOSIVE LIMITS: 500 PERCENT OF SHOAD: 200 cts.
PERSONNEL LIMITS: OPERATORS: 7 CASUALS: 3
SHIFTS: 7

STEP OPERATIONS NO. 12 TITLE: Place Powder in Cartridge Case

1. Cartridge cases received from Operation No. 7 via rubber tired ammunition cart and electric tow motor.
2. New propellant received from Service Barricade No. 507 via ammunition carts.
3. Propellant will be poured from shipping container into a receiving hopper.
4. Powder hoppers will be filled from receiving hopper and weight of each charge adjusted on the Shadowgraph Scales.
5. Weight of each powder charge will be checked on a scale other than those used in weighing of charge. Any charge failing to meet weighing specifications will be returned to weigh operator for adjustment.
6. Propelling charge will be placed in cartridge case by pouring from hoppers thru a copper funnel. Extreme care must be exercised during this operation to prevent any spillage of propellant.
7. Gage height of powder in cartridge case.
8. Return cartridge case to tray on ammunition cart for transfer to Operation 13.

Note: Only authorized personnel will adjust weighing scales.

INSPECTION REQUIREMENTS:

Check each weighing, and check weighing scale every four hours of operation by means of master weight.

SAFETY REQUIREMENTS:

1. Operators will wear conductive sole safety shoes and flame proof overalls.
2. Operators will work from a grounded platform.
3. A deluge system to cover entire powder operation will be installed.
4. CO or Du-gas fire extinguishers will be readily available.
5. Free exit from operating site will be maintained.
6. Good housekeeping will be observed.
7. Copper funnel used in filling cartridge case will be adequately grounded.

DISPOSITION OF COMPONENTS AND MATERIAL:

Cartridge case assembly to Operation No. 13.
Empty powder containers to Operation No. 4.

EQUIPMENT REQUIREMENTS:

Approved hand tools. Powder hopper, Shadowgraph Scales, Powder hoppers, Copper funnels, Gage for height of powder in cartridge case, Transfer equipment.
STANDING OPERATING PROCEDURE FOR: Renovation of

SOF NO: ASC-36A

NOMENCLATURE: Projectiles, Fixed, AF3-T, Flashless -

DATE: September 1952

ITEM NO: RN-53-1

LOCATION: Room 6, ANS Bldg. No. 500

ITEM NO: RN-53-1

EXPLOSION LIMITS: Pounds: 22

NO OF ITEMS: 150

SHIFT: 1,200 rds.

PERSONNEL LIMITS: OPERATORS: 6

CASUALS: 3

DIRECT LABOR:

SHIFT: 6

STEP OPERATION NO. 12 TITLE: Assemble Complete Round

1. Projectiles received from Operation No. 11 via rubber tired ammunition cart.
2. Cartridge cases received from Operation 12 via rubber tired ammunition cart.
3. Transfer projectiles from cart to work table and apply a coat of NRG sealing compound to exterior cylindrical surface to rear of rotating band.
4. Place projectile in assembly press.
5. Remove cartridge case from cart and position in assembly press.
6. Assemble cartridge case to projectile by means of air operated assembly press.
7. Remove round from assembly press and position in crimping machine.
8. Crimp cartridge case to projectile, using eight .375 inch crimps equally spaced.
9. Place complete round on belt conveyor for transfer to Operation No. 15.

INSPECTION REQUIREMENTS:

Inspect the cartridge case for proper crimping.

SAFETY REQUIREMENTS:

1. Operators will wear conductive sole safety shoes.
2. CO₂ or Du-gas fire extinguishers will be readily available.
3. Free exit from operating site will be maintained.
4. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:

Assembled round to Operation No. 15.

EQUIPMENT REQUIREMENTS:

Assembly press. 2 crimping machines. Chamber gage. Pneumatic ejection.

* This operation has been found necessary to prevent spillage of powder while placing case in horizontal crimping machine.
STANDALONE OPERATING PROCEDURE FOR:  Renovation of  

NOMENCLATURE:  Projectile, Fixed, APC-T, Flashless  

ITEM NO:  R76-6  

LOCATION:  West Platform AWS Bldg.  500 - Packing Boxes  

OCCUP NO:  F-502  

EXPOSITIVE LIMITS:  - - -  

PERSONNEL LIMITS:  OPERATORS: 6  CASUALS: 3  

DIRECT LABOR/  

SHEET 18 OF 20  

STEP  OPERATION NO. 14  TITLE:  Repair Packing Material  

1. Fiber containers received from Operation No. 2 via forklift truck.  

2. Containers will be reworked by applying acid proof black paint to repair the protective coating as required.  

3. Reconditioned containers will be stored on pallets and transferred to Operation No. 15.  

4. Wooden boxes received from Operation No. 2 via pallets and forklift truck.  

5. Undesirable nomenclature will be obliterated by the use of masking paint.  

6. Loose or missing hardware will be repaired or replaced.  

7. Boxes will be placed on pallets for transfer to Operation No. 15.  

INSPECTION REQUIREMENTS:  

Containers with all impregnated layers cut or gouged will be rejected. Inspect metal ends of containers for presence of rust.  

SAFETY REQUIREMENTS:  

1. Paint supplies will be stored at a point 100' distant from operation.  

2. CO₂ or D₄-gas fire extinguishers will be readily available.  

3. Good housekeeping will be maintained.  

DISPOSAL OF COMPONENTS AND MATERIAL: 

Reconditioned packing material to Operation No. 15.  

EQUIPMENT REQUIREMENTS:  


* During severe winter weather it will become necessary to transfer these operations to Room No. 1, AWS Bldg. No. 503.
STANDING OPERATING PROCEDURE FOR: Renovation of SHEET NO: ASO-34R

NOMENCLATURE: Projectile, Fixed, APC-7, Flashless - DATE: September 1982
Smokeless, W/Fuze ED M6642 for 76mm Guns ITEM NO: R76-5

LOCATION: Rooms 7 & 8, AVS Bldg. No. 500 CGNO NO: F-502
RM 7: 8# RM 7:50 rds PROD/B-H
RM 7: 9 DIRECT LABOR/

EXPLOSIVE LIMITS: ROUNDS: Rm 8; 15% NO OF ITEMS: Rm 8; 100 rds SHIFT: 1:200 rds.
PERSONNEL LIMITS: OPERATORS: Rm 8: 8 CASUALS: 2 SHIFT: 17

STEP OPERACTION NO. 15 TITLE: Pack Complete Round

1. Rounds received from Operation No. 13 via power conveyor.
2. Each round will be gaged in a pneumatic ejection chamber gage.
3. Rounds will be transferred to packing table and final visual inspection performed.
4. Place round in fiber container, adding sufficient filler to insure a tight pack.
5. Close and seal fiber container with two complete wraps, plus 1" tab, of yellow ammunition tape.
6. Stencil fiber container with proper nomenclature.
7. Stencil 2-rd wooden box with the correct nomenclature and A/C symbol.
8. Place 2-rds in box adding sufficient chipboard filler to insure a tight pack.
9. Close, seal and band packing box.
10. Place finished product on storage pallet and transfer to loading platform by means of electric forklift truck from where it will be dispatched to storage.

Note: Explosive limit for loading platform will not exceed 800 rds.

INSPECTION REQUIREMENTS:
Inspect and chamber gage complete round.
Inspect finished product for correct marking and packing.

SAFETY REQUIREMENTS:
1. Free exit from operating site will be maintained.
2. CO2 or Du-gas fire extinguishers will be readily available.
3. Operators will wear safety shoes.
4. Good housekeeping will be maintained.

DISPOSITION OF COMPONENTS AND MATERIAL:
End product to storage.

EQUIPMENT REQUIREMENTS:
STANDING OPERATING PROCEDURE FOR: Renovation of
SOP NO: ASC-345

NOMENCLATURE: Projectile, Fixed, APC-T, Flashless -
ITEM NO: P76-5

SMokeless, w/Fuze HD M66A2 for 76mm Guns
LOCATION: Demolition and Burning Ground
OEM NO: F-502

EXPLOSIVE LIMITS: -- --
PROD/3-HR
SHIPT: 1,200 cts.

PERSONNEL LIMITS: OPERATORS: 4
CASHUAL: 3
DIRECT LABOR:
SHIPT: 4

STEP OPERATION NO. 16 TITLE: Destroy Loaded Components

1. Loaded components will be transferred from Service Barricade in a cargo
   truck with wooden floor and sides.

2. Fuses will be placed in a trench, an initiating charge added, and destroyed
   by detonation.

3. Primers will be burned in a combustion chamber and metal reclaimed.

4. Reclaimable scrap metal will be dispatched to salvage yard.

INSPECTION REQUIREMENTS:

Inspect reclaimable scrap metal for adequacy of decontamination in accordance with
paragraphs 4.240 thru 4.243 of OACI and paragraph 2507 of ORM 7-224.

SAFETY REQUIREMENTS:

1. Safety requirements as outlined in ORM 7-224, Section 27, SOP ASC-7X,
   Amendments 1 and 2, and SOP ASC-140 and Amendments 1 and 2 will be carefully
   followed.

2. Loaded components will be destroyed at frequent intervals to avoid a large
   accumulation.

DISPOSITION OF COMPONENTS AND MATERIAL:
Salvage metal to scrap yard.

EQUIPMENT REQUIREMENTS:
Transfer equipment, Combustion chamber, Blasting machine.

SHEET 20 OF 20
STANDING OPERATING PROCEDURE NO: ASG-34R, Amendment No. 1.

NONANGULAR*: Projectiles, fixed APCf, flashless-smokeless, w/ fuse BD 6652A2 for 76mm guns.

OCWO NO: F-302

OPERATION NO. 3, Room 2 AWS Bldg. 500- TITLE: Pull Apart Complete Round

EXPLOSIVE LIMITS:
Add 220 primed cartridge cases.

OPERATION NO. 5, Room No. 1, AWS Bldg. 500- TITLE: Deprime Cartridge Cases
OPERATION NO. 7, Room No. 1, AWS Bldg. 500- TITLE: Gage and Prime Cartridge Cases

PERSONNEL LIMITS:
Change to 16 operators.

OPERATION NO. 11, Room No. 4, AWS Bldg. 500- TITLE: Assemble Projectiles

EXPLOSIVE LIMITS:
Add 300 new fuses inside T Barricade and 50 unserviceable projectiles in opposite barricade.

OPERATION NO. 12, Room No. 5 AWS Bldg. 500- TITLE: Place Powder in Cartridge Cases

EXPLOSIVE LIMITS:
Add 6 closed containers of propellant powder inside T Barricade.

NUMBER OF ITEMS:
Add: 210 primed cases
210 primed and charged cases

OPERATION NO. 13, Room 6 AWS Bldg. 500- TITLE: Assemble Complete Round

STEP 8:
Change to read:
Crimp cartridge case to projectile, using eight .625 inch cramps equally spaced.

OPERATION NO. 15, Room 7 AWS Bldg. 500- TITLE: Pack Complete Round

PERSONNEL LIMITS:
Change to read:
11 operators and 5 casuals

The above Standing Operating Procedure, Amendment No. 1, is approved.

KENNETH E. HUDSON
Lt Col, Ord Corps
Commanding

SHEET 1 OF 1
STANDING OPERATING PROCEDURE NO: ABS-742, amendment No. 2, 5 March 1953

NOMENCLATURE: Projectile, fig 24, APC-C, flashless-smokeless, 2/Fuse
BE N6642 for 76mm guns.

ITEM NO: 275-5, OCMO No. F-502

PURPOSE: To provide for replacement of windshields on projectiles which fail to meet the specifications for point gaging.

OPERATION NO. 6

LOCATION: Room No. 3, AWB Bldg. No. 500.

TITLE: Defuse Projectiles, Add "Gage and Replace Defective Windshields".

PERSONNEL LIMITS: Increase to 6 operators.

PROCEDURE:

1. All projectiles will be gaged with point "F" gage.
2. Projectiles which fail to meet specifications will be segregated and placed in trays on ammunition carts.
3. Operator will remove projectile from tray, place in air operated holding fixture and remove windshield by means of windshield wrench.
4. Projectile threads will be cleaned and coated with NBC sealing compound.
5. New windshield will be installed and staked in position.
6. Projectile will be removed from vise and regaged to assure compliance with Drawing 75-2-292, Revision A.

EQUIPMENT: Additional equipment required: Point "F" gages, work tables, holding fixture and approved hand tools.

DISPOSITION OF COMPONENTS AND MATERIAL: Defective windshields will be inspected and transferred to salvage.

The above Standing Operating Procedure, Amendment No. 2, is approved.

[Signature]
KIRK E. WADSWORTH
Lt Col, Ord Corps
Commanding

SHIRT I OF 1
DEPARTMENT OF THE ARMY
WINCATE ORDNANCE DEPOT
GALLUP, NEW MEXICO

9 April 1953

STANDING OPERATING PROCEDURE NO. A30-34R, Amendment No. 5

NOMENCLATURE: Projectile, Fixed, APC-7, Flashless-Smokeless, w/Fuze
BD M5542 for 75MM Guns.

ITEM NO: R76-5 CCM NO. F-502

PURPOSE: To minimize danger of striking and subsequent damage to fuse
tracer in handling projectiles to and from trays in ammunition

OPERATION NO. 2, Room 1: Increase explosive limits to 150 rds.
OPERATION No. 3, Room 2: Increase explosive limits to 150 projecticles.
OPERATION No. 5, Room 3: Establish a limit of 200 old fuses which have
been removed from projectiles.
OPERATION No. 13, Room 6: Establish a limit of 30 primed, rejected cartridg
cases inside concrete cartridge. These cases will be transferred rmm trim point
to Operation 5, Bldg 503 for recovery of primers.

OPERATION No. 15, East Loading Platform Bldg 500: Establish following
limits:
1. 300 fuses
2. 6 containers powder, propellant
3. 220 primed cartridge cases
Above components are to be held at designated
locations on platform while in transit (powder
not to be held longer than 15 minutes) from
service point to operation.

OPERATION No. 7, Room 1, Bldg. 503: Establish a limit of 200 new primers
at unpacking point in No. 1 steel barricade and
limit of 100 reject primers in No. 4 barricade.
OPERATION No. 5 and 7, Eldg. 503: Establish new limits of 2500 new primers and 2500 old primers at service point in Room 3, AVS Eldg No. 503.

Above Standard Operating Procedure, Amendment No. 3, is approved:

Allen T. Hodges, Jr.
Major, Ord Corps
Commanding
STANDING OPERATING PROCEDURE

FOR

ORDNANCE


SCP NO: ASC 34-R AMENDMENT NO: 4 ITEM NO: E76-5 COMO NO: E-502

DATE: 23 April 1953

PURPOSE: To outline a more detailed method to be used in destroying loaded components.

OPERATION NO. 16 is amended as follows:

Part A: Destruction of loaded primers.

Part B: Destruction of BD #66 series fuses.

APPROVED:

[Signature]

KENNETH S. HUDSON
Lt Col, Ord Corps
Commanding

SHEET 1 OF 3
3. Pallet load of primers will be moved from storage site by means of pneumatic tire forklift and placed on platform beside conveyor hopper.

2. Primers will be removed, by hand, from sawdust packing and placed on metal conveyor belt in groups not to exceed four and so spaced as to provide an even flow to burning chamber.

7. Destroyed primers will be collected in metal containers, allowed to cool and moved to inspection point via roller conveyors.

5. Reclaimable scrap will be inspected and packed for transfer to salvage yard.

**Inspection Requirements:**

Inspect reclaimable scrap metal for adequacy of decontamination in accordance with paragraphs 6.203 of OSHA and paragraph 2390 of ORN 7-25.

**Safety Requirements:**

1. Operators exposed to fire will wear flame-proof coveralls.

2. All operators will wear safety goggles or face shields.

7. Safety requirements as outlined in OSHA 7-25, Section 27 and SOP ADD-26 will be carefully followed.

**Exposition of Components and Materials:**

Salvage metal to salvage yard.

**Equipment Requirements:**

Transfer equipment, forklift truck, boiling plant, protective clothing, face shields and safety goggles.
STANDISH OPERATING PROCEDURE FOR: Removal OF

WEAPONS: Projectiles, Fri-A, APC-7 Flashless-Smokeless

DATE: 22 April 1953

ITEMS: 226-5

LOCATION: Explosives Demolition Area

EXPOSURE LIMITS: UNCLASSIFIED

NO OF ITEMS: 5

PERSONNEL LIMITS: OPERATORS: 10 CASUALTY: 5

SHIFT: DIRECT LABOR/

OPERATION NO.: 16 TITLE: Destroy Fuses - Part B

1. Fuses will be transferred from storage site to demolition ground via cargo truck with wooden floor and sides.

2. Boxes containing fuses will be unloaded by hand and hand-carried to demolition trench.

3. Fuses will be removed by hand from sawdust packing and placed in open boxes in trench.

4. Only one layer of boxes will be permitted in trench.

5. Trench will be filled with earth in such a manner as to completely surround fuse boxes.

6. Sufficient fuses TNT to assure complete detonation, will be poured into and over open boxes of fuses.

7. Detonating agent will be added.

8. Connection of the firing circuit to the detonator and initiating charge and all general procedure for the detonation of explosives as outlined in WOD SOP ADO-26 will be adhered to without deviation.

NOTE: Number of fuses to be destroyed at one time will be determined by coordination with Project Engineers to preclude possible damage by fresh concrete.

INSPECTION REQUIREMENTS:

Inspect for compliance with this SOP.

SAFETY REQUIREMENTS:

1. A careful search will be made for duds after each detonation and before leaving the area.

2. Safety requirements as outlined in Section 27, ORDIN 7-224 and SOP ADO-26 will be strictly adhered to.

DISPOSITION OF COMPONENTS: HAZ MAT MATERIALS:

Residue, if any, will be inspected for adequacy of decontamination and turned into the Property Disposal Officer.

EQUIPMENT REQUIREMENTS:

Cargo Truck, Electric blasting machine.

SHEET 3 OF 3
STANDING OPERATING PROCEDURE NO: ASO-348, Amendment No. 5

NOMENCLATURE: Projectile, Fixed, APC-T, Flashless-Backless, w/fuse 3D M6642 for 76mm Guns.

ITEM NO: 576-5 OCWO NO: 3-502

PURPOSE: To provide for the removal of rust spots on projectiles.

OPERATION NO: 3, Room 2, AMS Building 300.

Additional Steps will be added:

7. Cart loaded with projectiles will be moved from vicinity of pull-apart machine before inspection and cleaning of projectiles.

8. Operator will inspect all projectiles for presence of rust and exposed tracer element.

9. Exposed tracer elements will be covered with tape or other suitable cover before using a wire brush in the cleaning of projectiles.

10. Rust will be removed from projectiles by means of hand wire brushes and/or the use of a light application of a Wedac solution depending on the degree of rust encountered.

EQUIPMENT REQUIRED: Hand wire brushes.
Wedac solution and wiping rags.

APPROVED:

KENNETH B. EMMISON
Lt Col, Ord Corps
Comminging

SHEET 1 of 1
DEPARTMENT OF THE ARMY
WINNABOGO ORDNANCE DEPOT
GALLUP, NEW MEXICO

STANDARD OPERATING PROCEDURE
(Para 1420, PDI)

FOR

Examination

COMPLETE NOMENCLATURE: Shell, Semi-Fixed, HE, MAS, w/supplementary charge, w/fuse FD 151AD, .06 sec. delay, for 75mm Howitzers

ITEM NO: R75-55  ANO NO: E-488  SOP NO: 35 R  DATE: June 1951

Total Quantity Scheduled: 200,000 rds.
Estimated Production Per 8-Hr Shift: 1,100 rds.
Estimated Total Direct Labor Crew Per Shift: 73
Estimated Total Direct Man Hours Per Unit: .63
Estimated Total Ordnance Cost Per Unit: $6.647

LOCATION OF OPERATING AREA:

a. Ammunition Work Shop: Ridge, 500, 603, 607, 508, 611, 612, 613, 614, 616 and 618

b. Miscellaneous Buildings: TNT Collector Barricades, TM Service Barricades

LOCATION OF OPERATING BUILDING:

Supplemented with area map showing distance relations.
Supplemented with flow chart showing explosive limits and distance relationships between buildings.

APPROVED:

[Signature]

FRANK EDEL
Lt Col, Ord Corps
Commanding

SHEET 2 OF 25
Special reference is made to the following regulations in connection with safe handling of explosives and ammunition, which references will be followed:

1. BUILDINGS AND UTILITIES:
   a. Paragraphs 14, 15 and Section V of the Ordnance Safety Manual covering utilities, equipment, operating and auxiliary buildings.
   b. Paragraph 14(4), FDI, covering line layout.

2. AMMUNITION HANDLING:
   a. Paragraph 92 (been 92b) and 94, OSM, 3 May 1945, and OCSB #158.
   b. OCSB #100, Change 2, dated 19 Dec 1946, and Change 3, dated 9 Nov 1960, paragraphs 102 and 104, OSM, OCSB #151, and paragraph 1468 of FDI.
   c. Carriers used as service magazines will comply with current existing directives as outlined in OCSB #151.

3. HAZARDOUS AMMUNITION:
   a. Either at the ammunition storage site or after unpacking, all ammunition will be inspected for proper identification and for evidence of excessively deteriorated, damaged or missing components which render the round unsafe to handle or process in a normal manner.
   b. Such ammunition will be disposed of in accordance with paragraph 107 and Section XVII, OSM, 3 May 1945, or appropriate amendment thereto.

4. SAFETY CLOTHING AND TOOLS:
   a. Sections VIII and XVII, OSM, 3 May 1945, and Section VI, OCSB #153.
   c. Paragraphs 1470 thru 1473.1 of FDI, inclusive.

5. SAFETY LIMITS:
   a. Post operating and explosives limits (see para 10b, OSM, and 1404.4, FDI).
   b. Explosive and personnel limits for operating buildings will be maintained at the minimum necessary for safe and efficient operation. (See para 77, OSM).

6. BARRICADES:
   a. OCSB #161 and Change 1 thereto.
   b. Rooms 2, 3, 4, 5 and 6 of ANS Blg, 500 will be divided into two sections each by means of a 36" sand barricade running lengthwise of the rooms.

SHEET 2 OF 25
SB 35 R (cont'd)  

BURNING GROUND PROCEDURE:

a. All procedures for destruction of explosives or components will comply 
   with Section XVII, OSM, 5 May 1945, OCSB #171, paragraph 1436 of PDI, 
   SOP WOD 17, Wingate Ordnance Depot, and Amendment #1, copies of which 
   are on file OOS, OGC.

8. SAFETY STANDARDS AND RULES:

a. Paragraph 42, Section IV, Part 1, OSM #105.

b. Any and/or all standards, i.e., American Safety Standards, National 
   Electrical Code, National Bureau of Fire Underwriters, National Fire 
   Protection Association, American Society of Mechanical Engineers, 
   National Safety Council, Manufacturing Chemists' Association, etc., 
   as applicable to the operation.

9. CONTROL OF OCCUPATIONAL DISEASE:

a. Paragraph 7, OCSB #104, paragraph 1437 of PDI and WOD SOP 161.

10. PERSONNEL EXPOSURE:

a. Operations and personnel will be so arranged consistent with continuous 
   and efficient operation as to constitute the smallest personnel ex- 
   posure to any one explosion hazard (see paragraph 77, OSM).

11. POSTING:

a. This SOP will be prepared in segments and applicable segment will be 
   posted at each operation.

12. SERVICE MAGAZINES:

a. Amount of explosives will conform with provisions as outlined in 
   paragraph 81g, OSM.

b. Explosive limits will be posted in each service magazine.

13. PROCESS EQUIPMENT:

a. Will comply with regulations contained in paragraph 16, OSM.

14. TRAINING:

a. Each operator assigned has been or will be thoroughly trained and 
   familiarized with his part of this operation and with its relationship 
   to the over-all operation.

15. APPROVALS:

a. All approvals required at this installation have been obtained.

SHEET 3 OF 25
1. Remove from storage
2. Receive
3. Unpack & inspect

4. Remove propellant from cartridge case

5. Remove propellant from bags. Pack & transfer to storage.

6. Remove primer and base charge.


8. Assemble incendiary retainer and propelling charge. Insert cup protector.

9. Remove fuses & boosters

10. Drill deep cavity.

11. Clean threads, gauge and insert liner & closing cup

12. Gauge and zone weigh.

13. Clean projectiles


17. Seal, strap and dispatch to storage.

SHEET 4 OF 25
STANDARD OPERATING PROCEDURE FOR:  Renovation of

NOMENCLATURE:  Shell, Semi-fixed, HE, M48, w/suppl.

DATE:  June 1961

ITEM NO:  R75-53

LOCATION:  Various storage sites

AWO NO:  K-451

EXPLOSIVE LIMITS:  POUNDS  As stored

SHIFT 1200

PERSO-NEL LIMITS:  OPERATORS 5  CASUALS 3

DIRECT LABOR:

SHIFT 5

STEP  OPERATION NO. 1  TITLE:  Remove from storage

1. Remove ammunition from stack and place on wooden pallet.
2. Pallets will be loaded by approved type fork lift truck onto van, semi-
   trailer or cargo truck, with wooden sides and floor.
3. Loaded van will be hauled to Receiving Hdg. 516 by means of 5-ton
   4x2 tractor conforming to Section XIV, C.O. 7224.

INSPECTION REQUIREMENTS:

None

SAFETY REQUIREMENTS:

1. Dry-gas type fire extinguishers will be readily available.
2. Free exit from storage site will be maintained.
3. Ammunition will be handled carefully.
4. Good housekeeping will be observed.
5. Safety shoes and gloves will be worn.

DISPOSITION OF COMPONENTS AND MATERIAL:

Ammunition to Operation 2.
Damage to damage reclamation yard.

EQUIPMENT REQUIREMENTS:

2 vans, semi-trailer, with 5-ton 4x2 tractor, or 3 cargo trucks.
1 approved fork lift truck.
*Includes one fork lift operator and one truck driver.

SHEET 5 OF 25
STANDARD OPERATING PROCEDURE FOR: Renovation of

MISCELLANEOUS: Shell, Semi-Fixed, HE, M46, w/suppl. charge

DATE: June 1961

w/fuse PD MELA, .05 sec. delay for 75mm Howitzer

ITEM NO: R75-65

LOCATION: ANS Bldg. No. 516

AWO NO: K-461

EXPLOSIVE LIMITS: POUNDS 1788 NO OF ITEMS 1200 rds

SHIFT 1200 rds

PERSONNEL LIMITS: OPERATORS 2 CASUALS 3

DIRECT LANCE

SHIFT None

<table>
<thead>
<tr>
<th>STEP</th>
<th>OPERATION NO. 2</th>
<th>TITLE: Receive from storage</th>
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<td>1. Ammunition received from storage site in closed van or cargo truck.</td>
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<td>2. Fork lift operator will unload van or truck by use of approved type fork lift truck placing pallets in receiving building.</td>
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INSPECTION REQUIREMENTS:

None

SAFETY REQUIREMENTS:

1. Explosive limits will be maintained at the lowest amount required for efficient operation.
2. CO2 fire extinguisher will be available at all times.
3. Trucks will not remain at platform longer than necessary to complete unloading operations.

DISPOSITION OF COMPONENTS AND MATERIALS:

Ammunition to Operation 2.

EQUIPMENT REQUIREMENTS:

One approved type fork lift truck.
STANDARD OPERATING PROCEDURE FOR: Renovation of

NOMENCLATURE: Shell, Semi-fixed, HE, 346, w/suppl. charge.
ITEM NO: R76-55

LOCATION: Room 1, ANS Bldg 500

EXPLOSIVE LIMITS: POUNDS 447 NO OF ITEMS 200

PERSONNEL LIMITS: OPERATORS 6 CASUALS 3

STEP TITLE: Unpack and inspect

1. Ammunition received on pallet from Bldg. 516 by electric forklift truck.
2. Rounds will be removed from clover leaf packing and placed on work table where tape will be removed.
3. Cover of fiber container will be removed by means of air operated pull-apart machine.
4. Load cartridge case assembly with increments intact on rubber-tired ammunition cart, 88 cases to cart, for transfer to holding barricades, Operation 4.
5. Remove metal packing step from projectile and place in wooden box for transfer to Operation 16.
6. Place fused projectile on wooden skid on roller conveyor for transfer to Operation 2.
7. Load serviceable fiber containers on carrier for transfer to storage.
8. Load unserviceable containers on carrier for transfer to salvage yard.

INSPECTION REQUIREMENTS:

Inspect rounds for proper identity and dangerous deterioration.
Inspect packing material for adequacy of decontamination and serviceability in accordance with paragraph 1940 of Q.A.I.

SAFETY REQUIREMENTS:

1. Free exit from operating site will be maintained at all times.
2. Operators will wear safety shoes.
3. One soda acid and one CO2 fire extinguisher will be readily available.
4. Good housekeeping will be observed.
5. Ammunition cart of cartridge case assemblies will be moved to Operation 4 immediately upon filling tray.

DISPOSITION OF COMPONENTS AND MATERIAL:

Cartridge cases to Operation 4.
Projectiles to Operation 9.
Packing steps to Operation 16.
Clover leaf assemblies to salvage yard.
Serviceable containers to storage.
Unserviceable containers to salvage yard.

EQUIPMENT REQUIREMENTS:

One electric forklift truck.
One fiber container pull-apart machine.
Rubber-tired ammunition carts.
Roller conveyor. Wooden projectile skids.
Approved hand tools.

SHRT 7 OF 25
STANDARD OPERATING PROCEDURE FOR:  Renovation of

HOMECLUSTER: Shell, Semi-fixed, HE, M48, w/suppl. charge.  DATE: June 1961
w/fuse FD 531AS, .05 sec. delay, for 75mm Howitzers  ITEM NO: R75-65

LOCATION: Room 3, ANE BLDG. 600  ANO NO: K-461

EXPLOSIVE LIMITS: POUNDS 100  NO OF ITEMS 86  SHIFTS 1200 Yds
PERSONNEL LIMITS: OPERATORS 2  CASUALS 3
DIRECT LABOR  SHIFT 2

### OPERATION NO. 4 TITLE: Remove Propellant from Cartridge Case

1. Cartridge cases containing increments received from Operation 3 via rubber tired ammunition cart.
2. Remove increments, except base charge, from cartridge case and separate by cutting cord with spark proof knife or scissors.
3. Inspect charges for correct identity, presence of moisture, mold, discoloration of bags, etc.
4. Pack unserviceable charges in closed powder container and transfer to Operation 21.
5. Pack serviceable charges in wooden box and hand carry to powder barricade in room 3, Operation 5.
6. Move ammunition cart containing cases to Operation 6.

### INSPECTION REQUIREMENTS:

Inspect charges for correct identity and serviceability.

### SAFETY REQUIREMENTS:

1. Free exit from operating site will be maintained.
2. One soda acid or water and one CO2 fire extinguisher will be readily available.
3. Only spark proof tools will be permitted in operating room.
4. Powder and personnel limits will be strictly adhered to.
5. Operators will be required to remove increments from a grounded metal platform and will be required to wear conductive safety shoes.
6. All metal powder containers will be adequately grounded.

### DISPOSITION OF COMPONENTS AND MATERIAL:

Primed cartridge cases with base charge to Operation 6.
Serviceable charges to Operation 5.
Unserviceable charges to Operation 21.

### EQUIPMENT REQUIREMENTS:

Wooden powder boxes. Closed metal powder containers. Spark proof knives or scissors.

SHEET 8 OF 26
STANDARD OPERATING PROCEDURE FOR: Debagging of 1000 lbs of powder

NOMINATION: Shell, Semi-fixed, HE, M46, w/supply charge.

DATE: June 1961

TERM NO: R75-52

LOCATION: Room 5, Bldg. 500 and 609

AWO NO: K-451

EXPLOSIVE LIMITS: POUNDS: Debagging 100, Packing 300

PERSONNEL LIMITS: OPERATORS 4, CASUALS 0

DIRECT LABOR: SHIFT 4

STEP OPERATION NO. 5 TITLE: Debag and pack powder

1. Powder to be debagged received in wooden box from Operation 4.
2. Split bags of serviceable charges of 1000 lbs or more per powder lot, and remove powder from bags. Bags will be opened in flash shielded, non-ferrous trowel directly connected to approved vacuum collector system in Bldg. 610. Empty bags will be placed in closed non-ferrous containers and transferred to Operation 21.
3. Powder received via vacuum collector system in barricade No. 309 where it will be packed in air tested, single lined, wood powder containers.
4. Filled containers will be moved by rubber tired hand truck to service barricade No. 508 where they will be properly marked and dispatched to storage.

Note: Lots of powder containing less than 1000 lbs will be packed in non-ferrous metal containers and transferred to Operation 21.

Explosive limit at debagging operation will not exceed 100 lbs of powder.
Explosive limit at vacuum collector in Bldg. 509 will not exceed 150 lbs of powder.
Explosive limit at packing operation in Bldg. 509 will not exceed 150 lbs of powder.

INSPECTION REQUIREMENTS:

Powder containers will be inspected for serviceability.
Packaged powder to be inspected for proper marking.

SAFETY REQUIREMENTS:

1. A deluge system will be installed directly over debagging operation.
2. Only spark proof tools will be permitted.
3. One soda acid or water and one CO2 fire extinguisher will be available.
4. Free exit will be maintained from operating site.
5. Good housekeeping will be observed.
6. Operators at debagging table and powder collector will be required to work from a grounded metal platform and will wear conductive safety shoes.
7. Vacuum system will be tested frequently for adequate grounding.
8. Operators will wear fire resistant clothing.

DISPOSITION OF COMPONENTS AND MATERIAL:

Repacked powder to storage. Empty powder bags to Operation 21. Small lots of powder to Operation 21.

EQUIPMENT REQUIREMENTS:

Flash shielded, non-ferrous debagging table fitted with spark proof knives.
Rubber tired hand truck. Spark proof pliers. Spark proof knives.
STANDARD OPERATING PROCEDURE FOR: Renovation of 33 E

MATERIAL: Shell, Semi-fixed, HE, 543, w/suppl. charge
ITEM No: R75-55

LOCATION: Room 4, ANS Hldg., 500
AWO No: E-461

EXPLOSIVE LIMITS: POUNDS NO OF ITEMS 100 88
SHIFT 1200 rds

PERSONNEL LIMITS: OPERATORS 2 CASUALS 8
DIRECT LABOR/ SHIFT 2

STEP OPERATION NO. 6 TITLE: Remove primer and base charge

1. Cartridge cases containing primer and base charge received from operation 4 via rubber tired ammunition cart.
2. Position cartridge case in air operated primer removal machine and punch out primer with base charge attached. Base charge and primer will be removed from depriming machine and carried thru flash shield and deposited on disassembly table by means of an air driven conveyor.
3. After each primer is removed, operator will check depriming punch to assure its being free of all metal particles.
4. Operator separates primer and base charge by means of a spark proof knife or scissors.
5. Base charges are packed in wooden box and hand carried to Operation 5.
6. Primers will be packed in wooden box, not over 100 to box, and hand carried to Service Barricade No. 611 from where they will be trucked to Operation 21.

INSPECTION REQUIREMENTS:
None.

SAFETY REQUIREMENTS:
1. Only spark proof tools will be permitted in this operation.
2. Suitable flash shields will be constructed around primer removal machine.
3. Free exit will be maintained from operating site.
4. One soda acid and one CO2 fire extinguisher will be readily available.
5. Good housekeeping will be observed.
6. Operator separating primer from base charge will work on a grounded platform and will wear conductive safety shoes.
7. Operators will wear fire resistant clothing.

DISPOSITION OF COMPONENTS AND MATERIAL:
Base charges of lots 1000 lbs or over to Operation 5. Lots less than 1000 lbs to service magazine 508 for transfer to Operation 21. Primers to Operation 21. Serviceable brass cases to Operation 7. Unserviceable cases to salvage.

EQUIPMENT REQUIREMENTS:
Increment and primer removal machine, Non-sparking knife or scissors.
STANDARD OPERATING PROCEDURE FOR: Renovation of

NOMENCLATURE: Shell, Semi-fixed, HE, M42, w/suppl. charge.

DATE: June 1951

ITEM NO: R75-85

LOCATION: Room 6, 4th Bldg., 500

NO OF ITEMS: 500

SHIFTS: 1200 rds

PERSONNEL LIMITS: OPERATORS 4 CASUALS 3

SHIFTS 4

STEP OPERATION NO. 7 TITLE: Assemble primers, stencil.

1. Deprived cases received from Operation 6 via rubber tired ammunition cart. Primers hand carried from Service Magazine Bldg., 512.
2. Cases will be placed in holding fixture and stencil removed from case by means of wire wheel brush driven by an air power buffer.
3. Cases will be gauged with "Go-no go" primer hole gauge.
4. All cases will be checked in chamber gauge.
5. Position case in primer seating machine and insert M16A2 primer.
6. Gauge primer for flush seating.
7. Stencil base of case with proper marking.
8. Load acceptable cases on ammunition cart for transfer to Operation 6.
9. Transfer unserviceable cases to salvage.

INSPECTION REQUIREMENTS:

Inspect and gauge primer hole.
Inspect case for corrosion.
Inspect proper seating of primer.
Inspect case in chamber gauge.

SAFETY REQUIREMENTS:

1. Operator buffing cases will wear face shield or goggles.
2. Free exit from operating site will be maintained.
3. One acid and one CO2 fire extinguisher will be readily available.
4. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:

Primed cases to Operation 6.
Unserviceable brass to salvage.

EQUIPMENT REQUIREMENTS:

STANDARD OPERATING PROCEDURE FOR: Reconditioning of 33 R
NOMENCLATURE: Shell, Semi-Fixed, HE, M46, w/supply charge
ITEM NO: M416
DATE: June 1961
LOCATION: Room 6, AW1 Bldg. 800
IN each operating sec. 88 88 prop P347-8-5R
EXPLOSIVE LIMITS: primed cart., cases NO OF ITEMS charges SHFT 1230 rds
PERSONNEL LIMITS: OPERATORS 5 CASUALS 0
STEP 1. Primed cartridge cases received from Operation 7 via ammunition cart. Propelling charges received from Service Magazine 507 via rubber tired push cart. Increment retainers from Service Magazine 812.
2. Assemble M542 increment retainer to base charge in accordance with Drg. 71-9-126, Rev. 16.
3. Insert base charge and increment retainer in cartridge case by means of air operated assembly machine and properly assemble remaining increments. Assembly machines will be separated by substantial flash shield.
4. Insert protector cup in mouth of cartridge case.
5. Transfer assembled cartridge cases to Operation 16.

INSPECTION REQUIREMENTS:
Inspect propelling charges for correct lot numbers, condition and proper assembly.

SAFETY REQUIREMENTS:
1. Free exit from operating site will be maintained.
2. One soda acid and one CO2 fire extinguisher will be readily available.
3. Good housekeeping will be observed.
4. Operators assembling propelling charges will work from grounded metal platform and will wear conductive safety shoes.

DISPOSITION OF COMPONENTS AND MATERIAL:
Assembled cartridge cases to Operation 16.

EQUIPMENT REQUIREMENTS:
Increment retainer to primer assembly machines.
Transfer equipment.
STANDARD OPERATING PROCEDURE FOR: Renewal of...  

NOMENCLATURE: Shell, Semi-fixed, HE, M45, w/supp charge  

w/fuse PD M118, .06 sec. delay, for 75mm Howitzers  

LOCATION: Room 2, ANS Bldg. 500  

AMO No: K-161  

EXPLOSIVE LIMITS: POUNDS 246 NO OF ITEMS 96  

PERSONNEL LIMITS: OPERATORS 4 CASTAL 3  

DIRECT LABOR/  

SHIFT 4  

STEP  

OPERATION NO. 9  

TITLE: Remove fuses and boosters  

Note: Room 2 is divided into 4 barricaded operating sections conforming to OCSB No. 151.  

1. Fused projectiles received from Operation 3 via wooden skids on roller conveyors.  
2. Operator places projectile in air operated holding fixture and removes fuse.  
3. Projectile is returned to skid and fuse is placed in fuse tray.  
4. Operators No. 2 & 3 remove booster set screws by means of explosion proof electrical drills. Note: Each drilling operation is carried on in a separate barricade.  
5. Operator No. 4 removes boosters and places them in wooden trays.  
6. Projectiles are transferred on roller conveyor to Operation 10.  
7. Fuse and booster trays will be hand carried and placed in concrete service barricade in Room 5, ANS Bldg. 500 from where they will be transferred by rubber tired ammunition cart to Operations 18, 19 & 20, whichever is applicable. Limits in service barricade will not exceed 300 fuses and boosters.  

INSPECTION REQUIREMENTS:  

None  

SAFETY REQUIREMENTS:  

1. Operators will wear safety shoes.  
2. Free exit from operating site will be maintained.  
3. One soda acid and one CO2 fire extinguisher will be readily available.  
4. Good housekeeping will be observed.  

DISPOSITION OF COMPONENTS AND MATERIAL:  

Projectiles to Operation 10.  
Fuses to Operation 18 or 19, whichever is applicable.  
Boosters to Operation 20.  

EQUIPMENT REQUIREMENTS:  

Two air operated projectile holding fixtures. Two explosion proof electric drills. Fuse wrench. Booster wrench. Fuse & booster trays.  

NOTE: Explosive limits in operating sections will be as follows: No. 1 - 24 projectiles and 40 fuses. No. 2 & 3 - 24 projectiles each. No. 4 - 24 projectiles and 40 boosters.
STANDARD OPERATING PROCEDURE FOR:  Resurrection of SCP No. 55 R.

NOMENCLATURE: Shell, Semi-fixed, HE, M45, w/suppl. charge.

DATE: JUNE 1961

ITEM NO: R75-S3

LOCATION: Room 3, ANS Bldg. 500

AWO NO: K-461

EXPLOSIVE LIMITS: POUNDS 144 NO OF ITEMS 96

PERSONNEL LIMITS: OPERATORS 5 CASUALS 1

STEP

OPERATION NO. 10 TITLE: Drill deep cavity

Notes: Room 3 is divided into 2 barricaded operating sections conforming to OCSB No. 151. Two deep cavity drills are to be used in each operating section. Explosive limits in each section will be 48 projectiles of 72 lbs explosive. Personnel limit = 2.

1. Projectiles received from Operation 9 via roller conveyor.
2. Projectiles are placed in deep cavity drill (Sawanna type) and drilled in accordance to specifications outlined in Drg. 75-14-468, Rev. 4.
3. Explosive dust is removed from cavity by means of approved type vacuum system installed in temporary barricade outside Bldg. 500.
4. Vacuum collector operator will remove TNT from collector at the completion of each 50 rds.
5. TNT will be placed in closed metal containers and placed in service barricade.
6. Drilled projectiles will be returned to skids and transferred by roller conveyor to Operation 11.
7. TNT will be removed by trunk to Operation 21.

INSPECTION REQUIREMENTS:

Inspection for loose TNT or foreign material in cavity before drilling. Spot check cavity with concentricity gauge to assure that drill is operating properly.

SAFETY REQUIREMENTS:

1. Provisions contained in OCSB No. 148 will be complied with.
2. Operators will be required to wear respirators.
3. Safety shoes will be worn.
4. Free exit will be maintained from operating site.
5. A deluge system will be installed directly over each deep cavity drill.
6. Good housekeeping will be observed.
7. Vacuum system will be located in accordance with para. 109c, OCM.
8. Entire collecting system will be inspected frequently for adequacy of grounding.
9. Pipes and tubes which are a part of collecting system will be disassembled weekly.

DISPOSITION OF COMPONENTS AND MATERIAL:

Drilled projectiles to Operation 11. TNT to Operation 21.

EQUIPMENT REQUIREMENTS:

Two deep cavity drills (Sawanna type). Approved type vacuum collector. Concentricity gauge. Conveyor line.
STANDARD OPERATING PROCEDURE FOR: Renovation of

NOMENCLATURE: Shell, Semi-fixed, HE, M46, w/ suppl. charge, DATE: June 1961
w/Tune PD M51A5, .05 sec. delay, for 76mm Howitzers

ITEM NO: R75-65

LOCATION: Room 6, ANB Bldg. 600

AWO NO: E-451

EXPLOSIVE LIMITS: POUNDS 144 NO OF ITEMS 96

SHIFT 1200 rds.

PERSONNEL LIMITS: OPERATORS 6 CASUALS 3

DIRECT LABOR

SHIFT 6

Clean threads, gauge and insert liner

Note: Room 6 is divided into 2 barricaded operating sections.
1. Projectile received via roller conveyor from Operation 10.
2. In section 1 projectile is removed from skid, placed on work table and excessive TNT removed from threads by means of air driven beryllium wire brushes. Loose TNT and dust will be collected by vacuum collector installed in Operation 10.
3. Threads will be cleaned by use of light brush dipped in acetone. Acetone will not come in contact with bursting charge.
4. In section 2 fuse cavity will be gauged with concentricity gauge.
5. Fuse seat liner and closing cup will be assembled, bottom half of liner coated with acid proof black paint, and inserted into fuse cavity in accordance with Drg. 76-14-445, Rev. 4.
6. Projectiles transferred to Operation 12 by roller conveyor.

Note: Personnel and explosive limits to be maintained as follows: Section 1 - 2 operators, 72 lbs explosives, 48 projectiles, Section 2 - 4 operators, 72 lbs explosives, 48 projectiles.

INSPECTION REQUIREMENTS:

Inspect proper alignment of fuse cavity.

SAFETY REQUIREMENTS:

1. Operator on thread cleaning operation will wear respirator.
2. Safety shoes will be worn.
3. Free exit will be maintained from operating site.
4. One soda acid and one CO2 fire extinguisher will be readily available.
5. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:

Projectiles to Operation 12.

EQUIPMENT REQUIREMENTS:

Air operated beryllium wire brushes. Air operated projectile rotating device. Concentricity gauge no. 0 750429. Hand tools for insertion of fuse liner & closing cup.
STANDARD OPERATING PROCEDURE FOR: Renovation of SHELL, SRF, M45, w/suppl. charge.  
NOMENCLATURE: SHELL, SRF, M45, w/suppl. charge.  
LOCATION: Room 5, ANG Hdg. 600  
EXPLOSIVE LIMITS: POUNDS 344  
PERSONNEL LIMITS: OPERATORS 3  
ITEM NO: R75-68  
AWO NO: K-451  
NO OF ITEMS 26  
DEP LAUNCH 1200 rds  
SHIFT 3  
SCP NO: 55 R  
DATE: June 1961  

<table>
<thead>
<tr>
<th>STEP</th>
<th>OPERATION NO.</th>
<th>TITLE</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td>Projectiles received from Operation 11 via roller conveyer.</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td>Proper seating of fuse liner and closing cup gauged by means of flush pin gauge no. C-730430.</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td>Zone weigh projectiles as required by Drg. 76-14-445, Rev. 4.</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td></td>
<td>Insert lifting ring and gasket in projectile.</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td></td>
<td>Load projectile on ammunition cart for transfer to Operation 15.</td>
<td></td>
</tr>
</tbody>
</table>

INSPECTION REQUIREMENTS:

Inspect proper seating of fuse liner and closing cup.

SAFETY REQUIREMENTS:

1. Operator will wear safety shoes.
2. Free exit will be maintained from operating site.
3. One soda acid and one CO2 fire extinguisher will be ready available.
4. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:

Projectiles to Operation 15.

EQUIPMENT REQUIREMENTS:

Flush pin gauge no. C-730430. Zone scales. Rubber tired ammunition carts.

SHEET 16 OF 25
STANDARD OPERATING PROCEDURE FOR: Rennovation of

NO. 35 R

NOMENCLATURE: Shell, Semi-Fixed, HE, M48, w/suppl. charge.
DATE: June 1961

ITEM NO: H75-53

LOCATION: Sand blast room, AUS Bldg. 516
AND NO: K-461

EXPLOSIVE LIMITS: POUNDS 150
NO OF ITEMS 160

PHYS/GR
SHIFT 1200 hrs

PERSONNEL LIMITS: OPERATORS 4
CASUALS 3
DUTY LABOR/
SHIFT 4

STEP OPERATION NO. 13 TITLE: Clean projectiles

1. Projectiles received from Operation 12 on rubber tired ammunition
cart (70 to cart) via electric tow motor.
2. Tape rotating band and insert rubber plug in booster set screw hole.
3. Place 2 projectiles in Pangborn sand blast machine and blast until
projectiles are coin clean.
4. Remove projectiles from sand blast and place on wooden skids on roller
conveyor for transfer to Operation 14.

INSPECTION REQUIREMENTS:
Inspect projectiles for complete removal of paint and rust.

SAFETY REQUIREMENTS:

1. Provisions of CGB No. 178 and Change 1 will be complied with.
2. Free exit will be maintained from operating site.
3. Safety shoes will be worn.
4. Sand blast operator will wear respirator.
5. One soda acid and one CO2 fire extinguisher will be readily available.
6. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:
Cleaned projectiles to Operation 14.

EQUIPMENT REQUIREMENTS:

Pangborn sand blast equipment.
Roller conveyor and skids.
STANDARD OPERATING PROCEDURE FOR: Repaint and Stencil Projectiles

MATERIALS: SHELL, Semi-fixed, HE, M48, w/supply charge

ITEM NO: MV7-65

LOCATION: Paint Section, AW 2 Bldg. 205

PROD No: K-451

EXPLOSIVE LIMITS: POUNDS 1040 NO OF ITEMS 1000

SHIFT 1200 hrs

DIRECT LABOR:

SHIFT 6

STEP OPERATIONS NO TITLE

1. Projectiles received via roller conveyor from Operation 16.
2. Operator removes projectiles from roller conveyor and places it on hook on monorail.
3. Projectiles are painted with one coat of olive drab enamel in accordance with Spec. 75-2-299, Rev. 14.
4. After projectiles pass thru dryers and paint is sufficiently dried, operator will remove masking tape from rotating band.
5. Projectiles will be removed from monorail and placed on stencil table and stenciled with proper nomenclature and lot number.
6. Projectiles will be removed from stencil table and placed in ammunition cart for transfer to Operation 16.

INSPECTION REQUIREMENTS:

Inspect projectiles for proper paint coverage.
Inspect for proper nomenclature and lot number.

SAFETY REQUIREMENTS:

1. Painting and drying operations will conform to provisions as outlined in OCSB No. 112.
2. Operators will wear safety shoes.
3. Free exit from operating site will be maintained.
4. Paint supplies will be stored and mixed at a service point 100 ft distant from painting operation.
5. Sod, acid and foam type fire extinguishers will be readily available.

DISPOSITION OF COMPONENTS AND MATERIAL:

Projectiles to Operation 16.

EQUIPMENT REQUIREMENTS:

Paint spray equipment with exhaust system. Stencil table. Stencil equipment.
STANDARD OPERATING PROCEDURE FOR: Renovation of

HOURLY: Shell, Semi-fixed, HE, M15, w/suppl. charge, DATE: June 1961

ITEM NO: R75-55

LOCATION: Room 6, ANS Bldg, 500

EXPLORATORY LIMITS: POUNDS 225 NO OF ITEMS 160 proj.

PERSONNEL LIMITS: OPERATORS: 6 CASUALS: 3

SHIFT: 1200 rds

DIRECT LABOR:

SHIFT 6


1. Fuses are unpacked and inspected behind barricade.
2. Lifting ring and gasket are removed from projectile.
3. Supplementary charges will be installed.
4. Projectiles will be removed from ammunition cart and placed on table where fuse will be installed.
5. Fuse will be tightened by means of fuse wrench and staked in position.
6. Booster set screw holes will be filled with wax.
7. Inspect and touch up projectiles where necessary with OD enamel.
8. Fused projectiles placed on wooden skids on roller conveyor for transfer to Operation 16.

Note: Number of fuses to be permitted in unpacking barricade = 200.
Number of supplementary charges in unpacking barricade = 200.

SAFETY REQUIREMENTS:

1. Free exit from operating site will be maintained.
2. One soda acid and one 002 fire extinguisher will be readily available.
3. Safety shoes will be worn.
4. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:

Fused projectiles to Operation 16.
Empty fuse containers and boxes to inert storage. Lifting rings to Operation 10.
Empty supplementary charge packing material to burning ground.

EQUIPMENT REQUIREMENTS:

Projectile holding fixture. Fuse wrench. Staking tools.
STANDARD OPERATING PROCEDURE FOR: Demolition of

NOMENCLATURE: Shells, Semi- fixed, HE, M16, w/suppl. charge.

w/Fuse PD M616F .05 sec. delay, for 75mm Howitzers

LOCATION: Room 7, ANS Bldg. 500

EXPLOSIVE LIMITS: POUNDS 296 NO OF ITEMS 200 rds

PERSONNEL LIMITS: OPERATORS 8 CASUALS 5

ITEM NO: M75-63

PROD/8-HR

DIRECT LABOR/ SHIFT 6

STEP OPERATION NO. 16 TITLE: Stencil packing material. Assemble

1. Projectiles received from Operation 16 via roller conveyor. Cartridge cases received from Operation 8 via ammunition cart. Fiber containers and boxes received from storage by ammunition cart.

2. Fiber containers will be properly stenciled.

3. Assemble packing stop in fuse slots and insert in fiber container M185 using sufficient filler to assure tight pack.

4. Assemble cartridge case in fiber container using sufficient filler to assure tight pack.

5. Place fiber container in taping machine and seal with tape.

6. Place packed round in properly stenciled 2 round wooden box and insert sufficient filler to assure a tight pack.

7. Transfer boxed ammunition on roller conveyor to Operation 17.

INSPECTION REQUIREMENTS:

Inspect proper marking of fiber containers.

Inspect proper assembly of round.

Inspect packing.

SAFETY REQUIREMENTS:

1. One soda acid and one CO2 fire extinguisher will be readily available.

2. Free exit from operating site will be maintained.

3. Operators will wear safety shoes.

4. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:

Boxed ammunition to Operation 17.

EQUIPMENT REQUIREMENTS:

Stencil equipment. Packing tables. Taping machine.
STANDARD OPERATING PROCEDURE FOR: Renovation of

NOMENCLATURE: Shells, Semi-fired, HE, Mk48, w/supply charges

DATE: June 1961

NOTE: PD 1145, .05 sec delay for 76mm Howitzers

ITEM NO: R75-55

LOCATION: Room 6, ANG Bldg. 600

AWO No: K-451

EXPLOSIVE LIMITS: POUNDS 293 NO OF ITEMS 200 rds

PROM/8-HR

SHIFT: 1200 rds

PERSONNEL LIMITS: OPERATORS 4 CASUALS 3

DIRECT LABOR/SHIFT 4

STEP OPERATION NO. 1 Schedule: Seal, strap and dispatch to storage.

1. Boxed ammunition received from Operation 16 via roller conveyor.
2. Cover of box will be closed and sealed.
3. Box will be strapped in accordance with PIF-12.
4. Packed ammunition boxes will be placed on wooden pallets and dispatched to storage in ammunition trucks or vans with wooden floor and sides.

INSPECTION REQUIREMENTS:

Inspect proper sealing and marking of end product.

SAFETY REQUIREMENTS:

1. Safety shoes will be worn.
2. Free exit will be maintained from operating site.
3. One soda acid and one CO2 fire extinguisher will be readily available.
4. Good housekeeping will be observed.
5. The quantity of ammunition loaded in parked vans will be considered as a part of building. The determined quantity for safety distances will be the total quantity in vans and building. The total quantity of explosive will not exceed 5000 lbs.

DISPOSITION OF COMPONENTS AND MATERIALS:

Packed ammunition to storage.

EQUIPMENT REQUIREMENTS:

**STANDARD OPERATING PROCEDURE FOR:** Disassemble M46 series fuses.  

**NOMENCLATURE:** Shell, Semi-fixed, HE, M46, w/suppl. charge.  

**ITEM NO:** K-161  

**LOCATION:** Washout room, ANG Bldg. 800.  

**EXPLOSIVE LIMITS:** POUNDS NO OF ITEMS 1000 fuses  

**PERSONNEL LIMITS:** OPERATORS 4 CASUALS 3  

**STEP** | **OPERATION NO. 16** | **TITLE:** Disassemble M46 series fuses.  
--- | --- | ---  
1. | Fuses received from Operation 9 via rubber tired ammunition cart and electric tow motor. |  
2. | Fuse will be placed in steel barricaded fuse disassembly machine and head removed by remote control air motor. Head will be packed for transfer to Operation 21. |  
3. | Ogive will be removed by hand and packed in wooden boxes. |  
4. | Stake of bottom closing screw will be drilled out by means of explosion proof electric drill. |  
5. | Bottom closing screw will be removed in barricaded fixture. |  
6. | Plunger will be removed by hand and packed for safe transfer to Operation 21. |  
7. | Pack all serviceable flash tube assemblies for transfer to storage. |  
8. | Pack all serviceable bottom closing screws for transfer to storage. |  
9. | Mark all serviceable components with proper nomenclature before transfer to storage. |  

**INSPECTION REQUIREMENTS:**  

Inspect all serviceable components to be retained to determine that all explosive has been removed.  

**SAFETY REQUIREMENTS:**  

1. | Not more than one tray of fuses (25) will be permitted at the disassembly point. |  
2. | Free exit will be maintained from operating site. |  
3. | Safety shoes will be worn. |  
4. | One soda acid and one CO2 fire extinguisher will be readily available. |  
5. | Good housekeeping will be observed. |  
6. | OSHA No. 101, Change 1, will be complied with. |  

**DISPOSITION OF COMPONENTS AND MATERIALS:**  

Serviceable inert components to storage.  
Unserviceable inert components to scrap.  
Loaded components to Operation 21.  

**EQUIPMENT REQUIREMENTS:**  

Explosion proof electric drill. Two steel barricaded disassembly machines.  
Approved type hand tools. Stencil equipment. Strapping tools.
STANDARD OPERATING PROCEDURE FOR: Renovation of 80F No. 338

NOMENCLATURE: Shell, Semi-fixed HE, No. 46, w/suppl. charge.

DATE: June 1961

w/fuse FD 91645, .06 sec. delay, for 75mm Howsaters.

ITEM NO: R75-53

LOCATION: Washout Room, AWS Bldg., 500

PRODUCT: X-161

EXPLOSIVE LIMITS: NO OF ITEMS 1000

SHUNT 1200 volts

PERSONNEL LIMITS: OPERATORS 4 CASUALS 3

DIRECT LABOR:

SHIFT Crew listed in Operation 16.

STEP OPERATION NO. 19 TITLE: Disassembly of TSQ M64 series fuse.

1. Fuses received from Operation 9 via rubber tired cart and electric tow motor.
2. Drill out stake of closing set screw, by means of explosion proof electric drills, and remove set screw.
3. Remove closing cap from fuse and remove safety wire and plunger assembly from closing cap.
4. Remove upper lock ring, lock pin, and lower ring from fuse body.
5. Pack inert components in boxes for removal to salvage yard.

INSPECTION REQUIREMENTS:

Inspect inert components to determine that all explosive material has been removed.

SAFETY REQUIREMENTS:

1. Care will be exercised in the removal of powder rings to prevent spillage of black powder.
2. Oxy acetylene and one CO2 fire extinguisher will be readily available.
3. Free exit will be maintained from operating site.
4. Good housekeeping will be observed.
5. Provisions outlined in TGSE #161 and Change 3 will be complied with.

DISPOSITION OF COMPONENTS AND MATERIAL:

Inert components to salvage yard.
Loaded components to Operation 21.

EQUIPMENT REQUIREMENTS:

Explosion proof electric drill.
Steel bar loaded disassembly machine. Approved hand tools. Holding fixtures.

SHEET 23 OF 25
**STANDARD OPERATING PROCEDURE FOR:** Renovation of

**NOMENCLATURE:** Shells, Semi-fixed, HE, M68, w/suppl. charge.  
**DATE:** June 1961

**ITEM NO:** R75-68  
**LOCATION:** Washout Room, ANS Bldg., 605

**EXPLOSIVE LIMITS:** No of items 1000

**PERSONNEL LIMITS:** Operators 2  Casuals 3

**SHIFT:** 1200 hrs

**DIHOR LABOR:** Shift crew listed in Operation 18

---

**Pack serviceable boosters. Disassemble unserviceable boosters.**

<table>
<thead>
<tr>
<th>STEP</th>
<th>OPERATION NO.</th>
<th>TITLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Boosters received from Operation 9 via rubber tired cart and electric motor.</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Segregate and pack all serviceable boosters.</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Stencill packaging with proper nomenclature and transfer to storage.</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Remove union skid disc from unserviceable boosters and check rotor position.</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Remove booster cup and pellet from booster in barricade fixture.</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Secure booster in holding fixture and remove rotor cover by means of hand tool.</td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Remove rotor from booster.</td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>Pack rotor, booster body, booster cups and pellets and transfer to Operation 21.</td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>Pack rotor covers in boxes and transfer to salvage yard.</td>
<td></td>
</tr>
</tbody>
</table>

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**INSPECTION REQUIREMENTS:**

Check rotors 100% to determine that rotor is not in armed position prior to removing rotor cover. Any boosters encountered with rotor "not in an unarmed position" will be segregated and disposed of in accordance with paragraph 107, GSH.

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**SAFETY REQUIREMENTS:**

1. Extreme care will be used in handling and disassembly of mutilated boosters.
2. Free exit will be maintained from operating site.
3. One soda acid and one CO₂ fire extinguisher will be available.
4. Good housekeeping will be observed.
5. In instances when any boosters are encountered with loose (not staked) rotor covers, rotor covers and rotors will be removed prior to the removal of booster cups. Otherwise listed procedure will apply.

---

**DISPOSITION OF COMPONENTS AND MATERIAL:**

Loaded components to Operation 21. Insert components to salvage yard.

---

**EQUIPMENT REQUIREMENTS:**

- Barricaded air operated machine for removing booster cup and pellet from booster.
- Holding fixture for booster.
- Rotor cover removal tool.
- Stencill material.
- Strapping tools.
<table>
<thead>
<tr>
<th>STEP</th>
<th>OPERATION NO. 21</th>
<th>TITLE: Destroy loaded components.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Unserviceable propelling charges and loaded fuse and booster components will be moved from respectively designated service magazines by means of ammunition trucks with wooden floor and sides.</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>At burning ground components containing different types of explosives will be burned separately.</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Components will be destroyed by burning in a confined trench.</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Provisions contained in SOP No. MOD-72 and Amendment I will be complied with.</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Reclaimable scrap metal will be inspected for adequacy of decontamination in accordance with paragraph 1840 of QACI.</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Decontaminated scrap metal will be loaded on carrier and transferred to salvage yard.</td>
<td></td>
</tr>
</tbody>
</table>

**INSPECTION REQUIREMENTS:**

Inspect for adequacy of decontamination.

**SAFETY REQUIREMENTS:**

1. Safety requirements as outlined in QSEB #271 and SOP No. 72 and Amendment I will be carefully followed.
2. Loaded components will be destroyed frequently to prevent a large accumulation.

**DISPOSAL OF COMPONENTS AND MATERIAL:**

Scrap metal to salvage.

**EQUIPMENT REQUIREMENTS:**

Transfer equipment.
DEPARTMENT OF THE ARM
WINGATE ORDNANCE DEPOT
GALLUP, NEW MEXICO

STANDARD OPERATING PROCEDURE
(Para 1480, PDI)

FOR

Renovation

COMPLETE NOMENCLATURE: Shell, Semi-fixed, HE, M48, w/supplementary charge, v/Tung 705 M3145, .05 sec. delay, for 75mm Howitzers

ITEM NO: R75-52  AMO NO: WOD-8-3-52  SOP NO: 73 R Revised  DATED: Sent 51

<table>
<thead>
<tr>
<th>Description</th>
<th>Quantity/Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Quantity Scheduled</td>
<td>228,000 rds.</td>
</tr>
<tr>
<td>Estimated Production Per 8-Hr Shift:</td>
<td>1,200 rds.</td>
</tr>
<tr>
<td>Estimated Total Direct Labor Crew Per Shift:</td>
<td>75</td>
</tr>
<tr>
<td>Estimated Total Direct Man Hours Per Unit:</td>
<td>42</td>
</tr>
<tr>
<td>Estimated Total Ordnance Cost Per Unit:</td>
<td>$6.647</td>
</tr>
</tbody>
</table>

**LOCATION OF OPERATING AREA:**


b. Miscellaneous Buildings: TNT Collector Barricades, TNT Service Barricades

**LOCATION OF OPERATING BUILDING:**

*Supplemented with area map showing distance relations.
**Supplemented with flow chart showing explosive limits and distance relationships between buildings.

APPROVED:

[Signature]
FRANK ECCLES
Lt Col, Ord Corps
Commanding

SHEET 1 OF 25
Special reference is made to the following regulations in connection with safe handling of explosives and ammunition, which references will be followed:

1. BUILDINGS AND UTILITIES:
   a. Paragraphs 14, 15 and Section V of the Ordnance Safety Manual covering utilities, equipment, operating and auxiliary buildings.
   b. Paragraph 1464, FBI, covering line layout.

2. AMMUNITION HANDLING:
   a. Paragraph 92 (less 92c) and 94, OSM, 3 May 1945, and OCSB #155.
   b. OCSB #100, Change 2, dated 19 Dec 1946, and Change 3, dated 9 Nov 1950, paragraphs 105 and 104, OSM, OCSB #131, and paragraph 1466 of FBI.
   c. Carriers used as service magazines will comply with current existing directives as outlined in OCSB #151.

3. HAZARDOUS AMMUNITION:
   a. Either at the ammunition storage site or after unpacking, all ammunition will be inspected for proper identification and for evidence of excessively deteriorated, damaged or missing components which render the round unsafe to handle, or process in a normal manner.
   b. Such ammunition will be disposed of in accordance with paragraph 107 and Section XVII, OSM, 3 May 1945, or appropriate amendment thereto.

4. SAFETY CLOTHING AND TOOLS:
   a. Sections VIII and XVII, OSM, 3 May 1945, and Section VI, OCSB #105.
   b. Paragraph 12, OSM, 3 May 1945.
   c. Paragraphs 1470 thru 1473.1 of FBI, inclusive.

5. SAFETY LIMITS:
   a. Post operating and explosive limits (see para 10b, OSM, and 1464, FBI).
   b. Explosive and personnel limits for operating buildings will be maintained at the minimum necessary for safe and efficient operation. (See para 77, OSM).

6. BARRICADES:
   a. OCSB #151 and Change 1 thereto.
   b. Rooms 2, 3, 4, 5 and 6 of ANS Bldg. 500 will be divided into two sections each by means of a 55° sand barricade running lengthwise of the rooms.
SOP 35 R Revised (c .d)

SURVIVING SECOND PROCEDURE:

a. All procedures for destruction of explosives or components will comply with Section XVII, OSM, 5 May 1945, OCSB #171, paragraph 1456 of FDl, DCP WOD 12, Winding Ordnance Depot, and Amendment #1, copies of which are on file OCS, OAC.

8. SAFETY STANDARDS AND RULES:

a. Paragraph 40, Section IV, Part 1, OCSB #103.

b. Any and/or all standards, i.e., American Safety Standards, National Electrical Code, National Bureau of Fire Underwriters, National Fire Protection Association, American Society of Mechanical Engineers, National Safety Council, Manufacturing Chemists' Association, etc., as applicable to the operation.

9. CONTROL OF OCCUPATIONAL DISEASE:

a. Paragraph 7, OCSB #104, paragraph 1437 of FDI and WOD SOP 15X.

10. PERSONNEL EXPOSURE:

a. Operations and personnel will be so arranged consistent with continuous and efficient operation as to constitute the smallest personnel exposure to any one explosion hazard (see paragraph 77, OSM).

11. POSTING:

a. This SOP will be prepared in segments and applicable segment will be posted at each operation.

12. SERVICE MAGAZINES:

a. Amount of explosives will conform with provisions as outlined in paragraph 815, OSM.

b. Explosive limits will be posted in each service magazine.

13. PROCESS EQUIPMENT:

a. Will comply with regulations contained in paragraph 14, OSM.

14. TRAINING:

a. Each operator assigned has been or will be thoroughly trained and familiarized with his part of this operation and with its relationship to the over-all operation.

15. APPROVALS:

a. All approvals required at this installation have been obtained.

SHEET 5 OF 25
1. Remove from storage
2. Receive
3. Unpack & inspect
4. Remove propellant from cartridge case
5. Remove propellant from bags. Pack & transfer to storage.
6. Remove primer and base charge.
8. Assemble increment retainer and propelling charge. Insert cup protector.
9. Remove fuses & boosters
10. Drill deep cavity.
11. Clean threads, gauge and insert liner & closing cup
12. Gauge and zone weigh.
13. Clean projectiles
17. Seal, strap and dispatch to storage.
STEP | OPERATION NO. 1 | TITLE: Remove from storage

1. Remove ammunition from stack and place on wooden pallets.
2. Pallets will be loaded by approved type fork lift truck onto van, semi-trailer or cargo truck, with wooden sides and floor.
3. Loaded van will be hauled to Receiving Bldg. 616 by means of 5-ton 4x2 tractor conforming to Section XIV, 0.0. 7224.

INSPECTION REQUIREMENTS:
None

SAFETY REQUIREMENTS:

1. Dry-chemical fire extinguishers will be readily available.
2. Free exit from storage site will be maintained.
3. Ammunition will be handled carefully.
4. Good housekeeping will be observed.
5. Safety shoes and gloves will be worn.

DISPOSITION OF COMPONENTS AND MATERIAL:
Ammunition to Operation 2,
Damage to damage reclaimation yard.

EQUIPMENT REQUIREMENTS:
2 vans, semi-trailer, with 5-ton 4x2 tractor, or 3 cargo trucks.
1 approved fork lift truck.
*Includes one fork lift operator and one truck driver.
STANDARD OPERATING PROCEDURE FOR:  Maintenance of

MISCELLANEOUS: Shell, Semi-fixed, HE, M68, w/suppl. charge

DATE: Sept 1961

ITEM NO: E28-68

LOCATION: AUS Bldg. No. 616

M19 80mm Howitzer

EXPLOSIVE LIMITS: POUNDS 1788 NO OF ITEMS 1200 rds

NO AOG NO: WOD-R-1-52

PERSONNEL LIMITS: OPERATOR 2 CASUALS 3

DIRECT LABOR:

STEP

OPERATION NO. 2 TITLE: Receive from storage

1. Ammunition received from storage site in closed van or cargo truck.
2. Fork lift operator will unload van or truck by use of approved type
   fork lift truck placing pallets in receiving building.

INSPECTION REQUIREMENTS:

None

SAFETY REQUIREMENTS:

1. Explosive limits will be maintained at the lowest amount required for
   efficient operation.
2. CO2 fire extinguisher will be available at all times.
3. Trucks will not remain at platform longer than necessary to complete
   unloading operations.

DISPOSITION OF COMPONENTS AND MATERIAL:

Ammunition to Operation 3.

EQUIPMENT REQUIREMENTS:

One approved type fork lift truck.
STANDARD OPERATING PROCEDURE FOR: Renovation OF __________________________

NOMENCLATURE: Shell, Semi-fixed, HE, 145's, w/napalm charge, DATE: Sept 1951

v/Fuse PD 5245, 0.5 sec. delay, for 75mm Howitzers. ITEM NO: R75-53

LOCATION: Room 3, AWB Bldg. 500

EXPLOSIVE LIMITS: POUNDS 447 NO OF ITEMS 300

PERSONNEL LIMITS: OPERATORS 6 CASUALS 3

STEP OPERATION NO. 2 TITLE: Unpack and inspect

1. Ammunition received on pallet from Bldg. 216 by electric fork lift truck.
2. Round will be removed from clover leaf packing and placed on work table where tape will be removed.
3. Cover of fiber container will be removed by means of air operated pull-apart machine.
4. Load cartridge case assembly with increments intact on rubber tired ammunition cart, 88 cases to cart, for transfer to holding barricade, Operation 4.
5. Remove metal packing stop from projectile and place in wooden box for transfer to Operation 16.
6. Place fuzed projectile on wooden skid on roller conveyor for transfer to Operation 9.
7. Load serviceable fiber containers on carrier for transfer to storage.
8. Load unserviceable containers on carrier for transfer to salvage yard.

INSPECTION REQUIREMENTS:

Inspect rounds for proper identity and dangerous deterioration.
Inspect packing material for adequacy of decontamination and serviceability in accordance with paragraph 1340 of OML.

SAFETY REQUIREMENTS:

1. Free exit from operating site will be maintained at all times.
2. Operators will wear safety shoes.
3. One soda acid and one CO2 fire extinguisher will be readily available.
4. Good housekeeping will be observed.
5. Ammunition cart of cartridge case assemblies will be moved to Operation 4 immediately upon filling tray.
6. Dangerous rounds and components will be turned over to Surveillance for disposition.

DISPOSITION OF COMPONENTS AND MATERIAL:

Cartridge cases to Operation 4.
Projectiles to Operation 9.
Packing stops to Operation 16.

Clear leaf assemblies to salvage yard.
Serviceable containers to storage.
Unserviceable containers to salvage yard.

EQUIPMENT REQUIREMENTS:

One electric fork lift truck.
One fiber container pull-apart machine.
Rubber tired ammunition carts.
Roller conveyor, Wooden projectile skids.
Approved hand tools.

SHEET 7 OF 25
1. Cartridge cases containing increments received from Operation 3 via rubber tired ammunition cart.
2. Remove increments, except base charge, from cartridge case and separate by cutting cord with spark proof knife or scissors.
3. Inspect charges for correct identity, presence of moisture, mold, discoloration of bag, etc.
4. Pack unserviceable charges in closed powder container and transfer to Operation 21.
5. Pack serviceable charges in wooden box and hand carry to powder barricades in room 3, Operation 5.
6. Move ammunition cart containing cases to Operation 6.

INSPECTION REQUIREMENTS:
Inspect charges for correct identity and serviceability.

SAFETY REQUIREMENTS:
1. Free exit from operating site will be maintained.
2. One soda acid or water and one CO2 fire extinguisher will be readily available.
3. Only spark proof tools will be permitted in operating room.
4. Powder and personnel limits will be strictly adhered to.
5. Operators will be required to remove increments from a grounded metal platform and will be required to wear conductive safety shoes.
6. All metal powder containers will be adequately grounded.

DISPOSITION OF COMPONENTS AND MATERIAL:
Primed cartridge cases with base charge to Operation 6.
Serviceable charges to Operation 5.
Unserviceable charges to Operation 21.

EQUIPMENT REQUIREMENTS:
Wooden powder boxes, closed metal powder containers, spark proof knives or scissors.
STANDARD OPERATING PROCEDURE FOR: Debag and pack powder

HOMENCLATURE: Shell, Semi-fixed, HE, M68, w/suppl. charge

LOCATION: Room 3, ANS Bldg. 500 and 509

EXPLOSIVE LIMITS: POUNDS
- Debagging: 100
- Packing: 500

PERSONNEL LIMITS: OPERATORS 6 CASUALS 3

STEP 
1. Powder to be debagged received in wooden box from Operation 4.
2. Slit bags of serviceable charges of 1000 lbs or more per powder lot, and remove powder from bags. Bags will be opened in flash shielded, non-ferrous trough directly connected to approved vacuum collector system in ANS Bldg. 510. Empty bags will be placed in closed non-ferrous containers and transferred to Operation 21.
3. Powder received via vacuum collector system in barricade No. 509 where it will be packed in air tested, zinc lined, wood powder containers.
4. Filled containers will be moved by rubber tired hand truck to service barricade No. 508 where they will be properly marked and dispatched to storage.

Note: Lots of powder containing less than 1000 lbs will be packed in non-ferrous metal containers and transferred to Operation 21.

Inspection Requirements:
- Powder containers will be inspected for serviceability.
- Packed powder to be inspected for proper marking.

SAFETY REQUIREMENTS:
1. A deluge system will be installed directly over debagging operation.
2. Only spark proof tools will be permitted.
3. One acid, acid or water and one CO2 fire extinguisher will be available.
4. Free exit will be maintained from operating area.
5. Good housekeeping will be observed.
6. Operators at debagging table and powder collector will be required to work from a grounded metal platform and will wear conductive safety shoes.
7. Vacuum system will be tested frequently for adequate grounding.
8. Operators will wear fire resistant clothing.

DISPOSITION OF COMPONENTS AND MATERIAL:

EQUIPMENT REQUIREMENTS:
Flash shielded, non-ferrous debagging table fitted with spark proof knives.
STANDARD OPERATING PROCEDURE FOR

REMOVAL OF SHELL, Semi-Fired, HE, M43, w/prop, charge

ITEM NO: RV-68

LOCATION: Room 4, Area E, Room 606

EXPLOSIVE LIMITS: POUNDS 100, NO OF ITEMS 36

PERSONNEL LIMITS: OPERATORS 2, CASUALS 3

STEP OPERATION NO. 6 TITLE: Remove primer and base charge

1. Cartridge cases containing primer and base charge received from operation 4 via rubber tired ammunition cart.
2. Position cartridge case in air operated primer removal machine and punch out primer with base charge attached. Base charge and primer will be removed from depriming machine and carried thru flash shield and deposited on disassembly table by means of an air driven conveyor.
3. After each primer is removed, operator will check depriming punch to assure it being free of all metal particles.
4. Operator separates primer and base charge by means of a spark proof knife or scissors.
5. Base charges are packed in wooden box and hand carried to Operation 5.
6. Primers will be packed in wooden box, not over 100 to box, and hand carried to Service Barricade No. 01 from where they will be trucked to Operation 21.

INSPECTION REQUIREMENTS:

None.

SAFETY REQUIREMENTS:

1. Only spark proof tools will be permitted in this operation.
2. Suitable flash shields will be constructed around primer removal machine.
3. Free exit will be maintained from operating area.
4. One soda acid and one CO2 fire extinguisher will be readily available.
5. Good housekeeping will be observed.
6. Operator separating primer from base charge will work on a grounded platform and will wear conductive safety shoes.
7. Operators will wear fire resistant clothing.

DISPOSITION OF COMPONENTS AND MATERIAL:

Base charges of lots 1000 lbs or over to Operation 5.
Lots less than 1000 lbs to service magazine 509 for transfer to Operation 21.
Primers to Operation 21.
Serviceable brass cases to Operation 7. Unserviceable cases to salvage.

EQUIPMENT REQUIREMENTS:

Increment and primer removal machine. Non-sparking knife or scissors.
STANDARD OPERATING PROCEDURE FOR: Headsheet of*******

HOMOLOGATION: Shell, Semi-fixed, HE, M66, w/suppl. charge.

DATE: Sept 1962

ITEM NO: RT6-63

LOCATION: Room 8, ANV 3rd, 500

NO OF ITEMS 200 ea.

PERSONNEL LIMITS: OPERATORS 4, CASUALS 3

STEP | OPERATION NO. 7 | TITLE: Shift, inspect, brass cases.

1. Deprime cases received from Operation 6 via rubber tired ammunition cart. Primers hand carried from Service Magazine Bldg. 5X2.
2. Cases will be placed in holding fixture and stenciled removed from base by means of wire wheel brush driven by air powered buffer.
3. Cases will be gauged with "Go-No Go" primer hole gauge.
4. All cases will be checked in chamber gauge.
5. Position case in primer seating machine and insert M61A2 primer.
6. Gauge primer for flush seating.
7. Stencil base of case with proper marking.
8. Load acceptable cases on ammunition cart for transfer to Operation 8.
9. Transfer unserviceable cases to salvage.

INSPECTION REQUIREMENTS:

- Inspect and gauge primer hole.
- Inspect case for corrosion.
- Inspect proper seating of primer.
- Inspect case in chamber gauge.

SAFETY REQUIREMENTS:

1. Operator buffing cases will wear face shield or goggles.
2. Free exit from operating area will be maintained.
3. Gas axe acid and one CO2 fire extinguisher will be readily available.
4. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:

- Primes cases to Operation 8.
- Unserviceable brass to salvage.

EQUIPMENT REQUIREMENTS:

- Brass case holding fixture.
- Stencil press.
- Air powered buffing machine.
- Chamber gauge.
- Primer hole gauge.
- Primer seating press.
- Primer flush gauge.
STANDARD OPERATING PROCEDURE FOR: Renovation OF: SOF NO: 33 R Revised

NOMENCLATURE: Shell: Semi-fixed, HE, 388, w/snap, charge. DATED: Sept 1951

w/Cap FN M314G, .55 sec. delay, for 75mm Howitzers. ITEM NO: B75-53

LOCATION: Room 6, Aus Bldg. 500

EXPLOSIVE LIMITS: POUNDS (0) NO OF ITEMS 35% charges SHIFT 2200 hrs

PERSONNEL LIMITS: OPERATORS 5 CASUALS 3 SHIFT 5

Note: Room 6 is divided into three sections separated by substantial flash shield.

1. Primed cartridge cases received from Operation 7 via ammunition cart. Propelling charges received from Service Magazine 507 via rubber lined push-cart. Increment retainers from Service Magazine 511.
2. Section 1 is equipped with a suitable table at which three operators assemble M311 increment retainer to base charge in accordance with Dry. 71-9-126, Rev. 15.
3. In Sections 2 and 3 operators insert base charge and increment retainer in cartridge case by means of air operated assembly machine and properly assemble remaining increments.
4. Protector cups are inserted in mouth of cartridge case.
5. Transfer assembled cartridge cases to Operation 16.

INSPECTION REQUIREMENTS:
Inspect propelling charges for correct lot number, condition and proper assembly.

SAFETY REQUIREMENTS:
1. Free exit from operating site will be maintained.
2. One soda acid and one C02 fire extinguishers will be readily available.
3. Good housekeeping will be observed.
4. Operators will work from grounded metal platform and will wear conductive safety shoes.

DISPOSITION OF COMPONENTS AND MATERIAL:
Assembled cartridge cases to Operation 16.

EQUIPMENT REQUIREMENTS:
Flash shielded work table.
Increment retainer to primer assembly machines.
Transfer equipment.

Sheet 12 of 25
STANDARD OPERATING P-PROCEDURE FOR: Renovation 01  SQP NO. 13 P-Rev

SHELL MORTAR: Shell, Semi-fixed, HE, 1402, v/surface, charged. DATE: Sept 1953

W/fuse PD 15166, 05 sec. delay for 75mm Howitzer

LOCATION: Room 2, A/B, Bldg. 500

EXPLOSIVE LIMITS: POUNDS 144, NO OF ITEMS 95

PERSONNEL LIMITS: OPERATIONS 6, CASUALS 3

STEP OPERATION NO. 9 TITLE: Remove fuses and boosters.

Note: Room 2 is divided into four barricaded operating sections conforming to OCSA No. 151, Change No. 1.

1. Fused projectiles received from Operation 3 via wooden skids on roller conveyors.

2. Operator places projectile in air operated holding fixture and removes fuse.

3. Projectile is returned to skid and fuse is placed in fuse tray.

4. In Section No. 2 operator removes booster set screw by means of a positive stop, explosion proof electric drill.

5. In Section No. 3 operator removes boosters and places them in wooden trays.

6. When projectiles are encountered with a high ring of cast TNT in the fuse cavity, operators in Section No. 4 will remove TNT rings by means of suitable tools in order to eliminate shaft breakage in deep cavity drills.

7. Projectiles are transferred on roller conveyor to Operation 10.

8. Fuse and booster trays will be hand carried and placed on concrete service barricade in Room 3, A/B, Bldg. 500, from where they will be transferred by rubber tired ammunition cart to Operations 11, 19, and 20, whichever is applicable. Limits in service barricade will not exceed 300 fuses and boosters.

INSPECTION REQUIREMENTS:

None

SAFETY REQUIREMENTS:

1. Operators will wear safety shoes.

2. Free exit from operating site will be maintained.

3. One soda acid and one CO2 fire extinguisher will be readily available.

4. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:

Projectiles to Operation 10.

Fuses to Operation 11 or 19, whichever is applicable.

Boosters to Operation 20.

EQUIPMENT REQUIREMENTS:

Two air operated projectile holding fixtures.

Positive stop explosion proof electric drill.

Fuse wrench.

Booster wrench.

Fuse and booster trays.

Note: Explosive limits in operating sections will be as follows: No. 1 - 24 projectiles and 40 fuses, No. 2 - 24 projectiles, No. 3 - 24 projectiles and 40 boosters, No. 4 - 24 projectiles.

* Air driven drills not available.
STANDARD OPERATING PROCEDURE FOR: Renovation OF

NOMENCLATURE: Shell, Semi-Cased, HE, 148, w/supp., charge.

DATE: Sept 1951

ITEM NO: R75-57

LOCATION: Room 3, Bldg. 500

EXPLOSIVE LIMITS: POUNDS 144, NO OF ITEMS 96

PERSONNEL LIMITS: OPERATORS 6, CASUALS 1

STEP

Note: Room 3 is divided into 2 barricaded operating sections conforming to ONSB No. 148. Two deep cavity drills are to be used in each operating section. Explosive limits in each section will be 138 projectiles or 72 lbs of explosive. Personnel limit - 6.

1. Projectiles received from Operation 9 via roller conveyor.
2. Projectiles are placed in deep cavity drill (Savanna type) and drilled in accordance with specifications outlined in Drps. 75-14-45, Rev. 4.
3. Explosive dust is removed from cavity by means of approved type vacuum system installed in temporary barricade outside Bldg. 500.
4. Vacuum collector operator removes TNT from collector at the completion of each 50 rds.
5. TNT will be placed in closed metal containers and placed in service barricade.
6. Drilled projectiles will be returned to skids and transferred by roller conveyor to Operation 11.
7. TNT will be removed by truck to Operation 21.

INSPECTION REQUIREMENTS:

Inspect for loose TNT or foreign material in cavity before drilling. Spot check cavity with concentricity gauge to assure that drill is operating properly.

SAFETY REQUIREMENTS:

1. Provisions contained in ONSB No. 148 will be complied with.
2. Safety shoes will be worn.
3. Free exit will be maintained from operating site.
4. A deluge system will be installed directly over each deep cavity drill.
5. Good housekeeping will be observed.
6. Vacuum system will be located in accordance with para. 109c, OSM.
7. Entire collecting system will be inspected frequently for adequacy of grounding.
8. Pipes and tubes which are a part of collecting system will be disassembled and steam cleaned weekly.

DISPOSITION OF COMPONENTS AND MATERIAL:

Drilled projectiles to Operation 11. TNT to Operation 21.

EQUIPMENT REQUIREMENTS:

Two deep cavity drills (Savanna type). Approved type vacuum collector. Concentricity gauge. Conveyor line.
STANDARD OPERATING PROCEDURE FOR:  Renovation of  

MISCELLANEOUS: Shell, semi-fixed, HE, W/HE, w/square charge.  

DATE:  Sept. 1951  

w/Fuse FP 10145, 05 sec. delay, for 75mm Howitzers  

LOCATION: Room 4, ACS Bldg: 500  

NRE 50: B75-52  

EXPLOSIVE LIMITS:  

POUNDS   144  NO. OF ITEMS 96  

SHIFT  1200 RDS.  

PERSONNEL LIMITS: OPERATORS 5  CASUALS 3  

DIRECT LABOR/  

STEP  OPERATION NO. 11  TITLE: Clean threads, gauge and insert liner  

Note: Room 4 is divided into 2 barricaded operating sections.  

1. Projectile received via roller conveyor from Operation 10.  
2. In section 1 projectile is removed from skid, placed on work table and excessive TNT removed from threads by means of air driven beryllium wire brushes. Loose TNT and dust will be collected by vacuum collector installed in Operation 10.  
3. Threads will be cleaned by use of light brush dipped in acetone.  
4. Acetone will not come in contact with bursting charge.  
5. In section 2 fuse cavity will be gouged with flush pin gauge.  
6. Fuse seat liner and closing cup will be assembled, bottom half of liner coated with acid proof black paint, and inserted into fuse cavity in accordance with 7-5-11-445, Rev. 4.  
7. Projectiles transferred to Operation 12 by roller conveyor.  

Note: Personnel and explosive limits to be maintained as follows: Section 1 - 2 operators, 72 lbs explosives, 48 projectiles. Section 2 - 3 operators, 72 lbs explosives, 48 projectiles.  

INSPECTION REQUIREMENTS: 

Inspect proper depth of fuse cavity. 
Inspect proper seating of fuse liner and closing cup.  

SAFETY REQUIREMENTS:  

1. Operator on thread cleaning operation will wear respirator.  
2. Safety shoes will be worn.  
3. Fire extinguisher will be maintained from operating site.  
4. One soda acid and one C02 fire extinguisher will be readily available.  
5. Good housekeeping will be observed.  

DISPOSITION OF COMPLETED AND MATERIALS:  

Projectiles to Operation 12.  

EQUIPMENT REQUIREMENTS:  

Air operated beryllium wire brushes. Air operated projectile rotating device. Hand tools for insertion of fuse liner and closing cup. 
Flush pin gauge No. C-730430.  

SHEET 15 OF 25
STEP

1. Projectiles received from Operation 11 via roller conveyor.
2. Proper alignment of fuse cavity will be gauged by means of Concentricity Gauge No. C-1730429.
3. When projectiles fail to gauge because of slight burr in threads, threading will be corrected by removing burr with special "positive stop" tap.
4. When projectiles fail to gauge due to improper depth of thread, projectiles will be removed to De-burring Barricade AWS Bldg. No. 516, where projectile will be secured in holding fixture and thread corrected by means of a positive stop tap operated by remote control. Projectiles will then be returned for zone weighing.
5. Zone weigh projectiles as required by Drgs. 75-14-445, Rev. 4.
6. Insert lifting ring and gasket in projectile.
7. Load projectiles on ammunition cart for transfer to Operation 13.

INSTRUCTION REQUIREMENTS:

Inspect proper alignment of fuse cavity.

SAFETY REQUIREMENTS:

1. Operators will wear safety shoes.
2. Free exit will be maintained from operating site.
3. One soda acid and one CO2 fire extinguisher will be available.
4. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIALS:

Projectiles to Operation 13.

EQUIPMENT REQUIREMENTS:

Concentricity gauges.
Thread tap.
Projectile vise.
Zone scales.
Rubber-tired ammunition carts.

SHEET 16 OF 25
STANDARD OPERATING PROCEDURE FOR: Renovation OF

NOWENCLATURE: Shell, Semi-Fixed, HE, .43, w/supl. charge.

DATE: Sept 1951

w/Pure PT Hala, .05 sec, delay, for 75mm Howitzers

ITEM NO: 875-43

LOCATION: Sand blast room, A&S Bldg. 515

AWD NO: WCD-R-1-52

EXPLOSIVE LIMITS: POUNDS 156 NO OF ITEMS 150

PHB/HR: SHIFT 1200 hrs

PERSONNEL LIMITS: OPERATORS 6 CASUALS 3

DIRECT LABOR/ SHIFT 6

STEP OPERATIONS NO, 13 TITLE: Clean projectiles

1. Projectiles received from Operation 12 on rubber tired ammunition cart (70 to 120) via electric tow motor.
2. Tape rotating band and insert wax plug in booster set screw hole.
3. Place 2 projectiles in Pangborn shot blast machine and blast until projectiles are clean.
4. Remove projectiles from sand blast and place on wooden skids on roller conveyor for transfer to Operation 14.

INSPECTION REQUIREMENTS:

Inspect projectiles for complete removal of paint and rust.

SAFETY REQUIREMENTS:

1. Provisions of OSHA No. 175 and Change 1 will be complied with.
2. Free exit will be maintained from operating site.
3. Safety shoes will be worn.
4. Sand blast operator will wear respirator.
5. One soda acid and one CO2 fire extinguisher will be readily available.
6. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:

Cleaned projectiles to Operation 14.

EQUIPMENT REQUIREMENTS:

Pangborn sand blast equipment.
Roller conveyor and skids.

SHEET 17 OF 25
### Standard Operating Procedure For: Renovation Of

**Operation No.: 14**  
**Title:** Repaint and stencil projectiles.

1. Projectiles received via roller conveyor from Operation 13.
2. Operator removes projectiles from roller conveyor and places it on hook on monorail.
3. Projectile is painted with one coat of olive drab enamel in accordance with Fig. 75-2-269, Rev. 14.
4. After projectiles pass thru dryers and paint is sufficiently dried, operator will spray paint stencil on projectile with proper nomenclature and lot number.
5. After projectiles again pass thru dryers and stenciling is sufficiently dried, operator will remove masking tape from rotating band.
6. Projectiles will be removed from monorail and placed on table where they will be gauged by means of Ring Gauge No. C-51-916.
7. Projectiles will be removed from table and placed in ammunition cart for transfer to Operation 15.

**Inspection Requirements:**
- Inspect projectiles for proper paint coverage.
- Inspect for proper nomenclature and lot number.
- Gauge projectile by means of Ring Gauge.

**Safety Requirements:**
- Painting and drying operations will conform to provisions as outlined in OGSB No. 112.
- Operators will wear safety goggles.
- Free exit from operating site will be maintained.
- Fire supplies will be stored and mixed at a service point 100 feet distant from painting operations.
- Soda acid and foam type fire extinguishers will be readily available.

**Disposal of Components and Material:**
- Projectiles to Operation 15.

**Equipment Requirements:**
- Paint spray equipment with exhaust system.
- Ring Gauge No. C-51-916.
STANDARD OPERATING PROCEDURE FOR: Renovation of FUSE HQ 22.0 Revised
NOMENCLATURE: Shell, Shell-pad, 50S, 505, Wrench, Dolly, 505
PLACE OF REPAIR: 50s, 505 pad, 505
LOCATION: Room 6, 4th Floor, 505
EMPLOYEE LIMIT: 400
PERSONNEL LIMIT: OPERATIONAL: 6 CASUALS: 2
OPERATION NO. 16 TITLE: Assemble Fuses

Fuses received from service barrels 502 via rubber wire ammunition cord. Supplementary charges received from Service Barrels 513 via head truck. Projectiles received from Operation 16 via ammunition cord and electric for motor.
1. Fuses are unpacked and inspected behind barracks.
2. Lifting ring and gasket are removed from projectiles.
3. Supplementary charge will be installed.
4. Projectiles will be removed from ammunition cord and placed on tables where fuse will be installed.
5. Fuses will be tightened by means of fuse wrench and checked in position.
6. Inspect and touch up projectiles where necessary with 505 material.
7. Fused projectiles placed on wooden slats on roller conveyer for transfer to Operation 16.

Note: Number of fuses to be permitted in unpacking barrel 502 - 200.
Number of supplementary charges in unpacking barrel 505 - 200.

SAFETY REQUIREMENTS:
1. Free unit from operating site will be maintained.
2. One self-aid and one CO2 fire extinguisher will be readily available.
3. Safety shoes will be worn.
4. Good housekeeping will be observed.

DISPOSITION OF COMPONENT AND MATERIAL:
Fused projectiles to Operation 16.
Empty fuse container and boxes to insert storage. Lifting ring to Operation 16.
Empty supplementary charge packing material to burning ground.

EQUIPMENT REQUIREMENTS:
Projectile holding fixture, Fuse Wrench, Staking tools.

EQUIPMENT REQUIREMENTS:
Percentage acceptance inspection will be performed before fuses are assembled.

* Includes inspection on acceptance inspection.
STANDARD OPERATING PROCEDURE FOR:  SHELL, Semi-fixed, HE, 4.25", .06 sec., delay, for 75mm Howitzers

DATE: Sept 1967

LOCATION: Room 7, ANS BLDG. 600

EXPLOSION LIMITS: LIGHTS POUNDS NO OF ITEMS 250 rds

PERSONNEL LIMITS: OPERATORS 10+ CASUALS 3

STENCIL, packing material. Assemble and pack.

1. Projectiles received from Operation 15 via roller conveyor. Cartridge cases received from Operation 8 via ammunition cart. Fiber containers and boxes received from storage by ammunition cart.
2. Fiber containers will be properly stenciled.
3. Assemble packing stop in fuse slots and insert in fiber container M105 using sufficient filler to assure tight pack.
4. Assemble cartridge case in fiber container using sufficient filler to assure tight pack.
5. Place fiber container in taping machine and seal with tape.
6. Place packed round in properly stenciled 2 round wooden box and insert sufficient filler to assure a tight pack.
7. Transfer boxed ammunition on roller conveyor to Operation 17.

INSPECTION REQUIREMENTS:

Inspect proper marking of fiber containers.
Inspect proper assembly of round.
Inspect packing.

SAFETY REQUIREMENTS:

1. One soda acid and one CO2 fire extinguisher will be readily available.
2. Free exit from operating sites will be maintained.
3. Operators will wear safety shoes.
4. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIALS:

Boxed ammunition to Operation 17.

EQUIPMENT REQUIREMENTS:

Stencil equipment. Packing tables. Taping machine.

* Personnel limit includes 2 inspectors engaged in acceptance inspection.
STANDARD OPERATING PROCEDURE FOR:  Removal of SHELLS


ITEM No.:  B76-55

LOCATION:  Room 8, ANG Bldg. 600

NO OF ITEMS:  200 rds

EXPLOSIVE LIMITS:  POUNDS: 200

PERSONNEL LIMITS:  OPERATORS & CASUALS:  3

STEP  OPERATION No.  TITLE:  SEAL, STRAP AND DISPATCH TO STORAGE

1. Boxed ammunition received from Operation 16 via roller conveyor.
2. Cover of box will be closed and sealed.
3. Box will be strapped in accordance with MIL-LS.
4. Packed ammunition boxes will be placed on wooden pallet and dispatched to storage in ammunition trucks or vans with wooden floor and sides.

INSPECTION REQUIREMENTS:

Inspect proper sealing and marking of end product.

SAFETY REQUIREMENTS:

1. Safety shoes will be worn.
2. Free exit will be maintained from operating site.
3. One soda acid and one 302 fire extinguisher will be readily available.
4. Good housekeeping will be observed.
5. The quantity of ammunition loaded in parked van will be considered as a part of building. The determined quantity for safety distances will be the total quantity in vans and building. The total quantity of explosive will not exceed 5000 lbs.

DISPOSITION OF COMPONENTS AND MATERIALS:

Packed ammunition to storage.

EQUIPMENT REQUIREMENTS:

Sealing tools, Strapping tools, Wooden pallets, Ammunition trucks or vans, One forklift track.

"Personal limit includes one inspector engaged in acceptance inspection."
STANDARD OPERATING PROCEDURE FOR: Renovation OF: SOP NO: 33 R Revised

NOMENCLATURE: Shell, Semi-fixed, HE, M6, w/suppl. charge.

w/fuse FD M61A5, .05 sec. delay, for 75mm Howitzers

ITEM NO: R75-63

LOCATION: Washout Room, AVG Bldg. No. 503

AND NO: MDB-1-58

EXPLOSIVE LIMITS: POUNDS NO OF ITEMS 2000 FUSE

SHIFT 1200nds.

PERSONNEL LIMITS: OPERATORS 2 CASUALS 3 DIRECT LABOR

SHIFT 2

STEP OPERATION NO. 18 TITLE: Packing of M68 Series fuses.

1. Fuses and boosters received from Operation 9 via rubber tired ammunition cart and electric tow motor.
2. Boosters are removed from trays and assembled "hand tight" to fuse.
3. Assembled fuses are packed in containers in which new fuses are received, properly stenciled and dispatched to storage.

INSPECTION REQUIREMENTS:

Inspect proper packing and marking of "salvage" fuses.

SAFETY REQUIREMENTS:

1. Operators will wear safety shoes.
2. Free exit will be maintained from operating site.
3. Soda acid fire extinguishers will be available.
4. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:

Salvage fuses to storage.

EQUIPMENT REQUIREMENTS:

Packing table.
Ammunition cart.
Electric tow motor.
Stencil equipment.
Strapping tools.

SHEET 22 OF 25
STANDARD OPERATING PROCEDURE FOR: Demolition of

NOMENCLATURE: Shell, Semi-Fixed, HE 120 mm, w/auxiliary charge.
ITEM NO: 1205-53

LOCATION: Washout Room, AVS E10, 501
ASH NO: WOD-R-1-52

EXPLOSIVE LIMITS: 

PERSONNEL LIMITS: OPERATORS 5, CASUALS 3
DIRECT LABOR/SHIFTS 6

STEP OPERATION NO: 29 TITLE: Disassemble of 7.50 mm series fuse.

1. Fuses received from Operation 9 via rubber tired cart and electric tow motor.
2. Drill out stake of closing set screw, by means of explosion proof, positive stop electric drill, and remove set screw.
3. Remove closing screw from fuse and remove safety wire and plunger assembly from closing cap.
4. Remove upper lock ring, lock fin, and lower ring from fuse body.
5. Pack inert components in boxes for removal to salvage yard.

INSPECTION REQUIREMENTS:
Inspect inert components to determine that all explosive material has been removed.

SAFETY REQUIREMENTS:
1. Care will be exercised in the removal of powder rings to prevent spillage of black powder.
2. One soda acid and one CO2 fire extinguisher will be readily available.
3. Free exit will be maintained from operating site.
4. Good housekeeping will be observed.
5. Provisions outlined in GC5B #151 and Change 1 will be complied with.

DISPOSITION OF COMPONENTS AND MATERIAL:
Inert Components to salvage yard.
Loaded components to Operation 21.

EQUIPMENT REQUIREMENTS:
Explosion proof electric drill with positive stop.
Steel barricaded disassembly machine. Approved hand tools. Holding fixtures.
<table>
<thead>
<tr>
<th>STEP</th>
<th>OPERATION NO. 20</th>
<th>TITLE : Deleted</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**STANDARD OPERATING PROCEDURE FOR**: Renovation OF

**NOMENCLATURE**: Shell, Semi-fixed, HE, 446, w/Pypl, Parma.

**DATE**: Sept 1971

**LOCATION**:

**EXPLOSIVE LIMITS**: POUNDS NO OF ITEMS

**PERSONNEL LIMITS**: OPERATORS CASUALS

**AWO NO.**: WDE-4-1-52

**ITEM NO.**: 875-53

**AWD NO.**: WDE-4-1-52

**PROD/3-HR**: SHIFTS

**DIRECT LABOR**:

**SHIFT**:

**SHEET 24 OF 25**
STANDARD OPERATING PROCEDURE FOR: Renovation of

NOMENCLATURE: Shell, Semi-Fixed, HE, 4.58, w/supply charge.

DATE: Sept 1952

ITEM NO: 875-53

LOCATION: Burning Ground

EXPLOSIVE LIMITS:

PERSONNEL LIMITS: OPERATIONS 3 CASUALS 3

SHIFT DIRECT LABOR 2

STEP OPERATION NO. 21 TITLE: Destroy loaded components.

1. Unservicable propelling charges and loaded fuse and booster components
will be moved from respectively designated storage magazines by means of
ammunition truck with wooden floor and sides.
2. At burning ground components containing different types of explosives
will be burned separately.
3. Components will be destroyed by burning in popping oven or confined trench.
4. Provisions contained in SOP No. WGD 7A and Amendment I will be complied
with.
5. Reclaimable scrap metal will be inspected for adequacy of decontamination
in accordance with paragraph 1860 of GAC/1.
6. Decontaminated scrap metal will be loaded on carrier and transferred to
salvage yard.

INSPECTION REQUIREMENTS:
Inspect for adequacy of decontamination.

SAFETY REQUIREMENTS:

1. Safety requirements as outlined in GCSB #171 and SOP No. 7A and
Amendment I will be carefully followed.
2. Loaded components will be destroyed frequently to prevent a large
accumulation.

DISPOSITION OF COMPONENTS AND MATERIAL:

Scrap metal to salvage.

EQUIPMENT REQUIREMENTS:

Transfer equipment.
DEPARTMENT OF THE ARMY
WINNATU ORDNANCE DEPOT
GALLUP, NEW MEXICO

STANDARD OPERATING PROCEDURE

FOR

Normal Maintenance

COMPLETE NOMENCLATURE: Shell, HE, M106, w/supplementary charge, for 8" How.

Maintenance consists of inspection and replacement of supplementary charges where necessary, inspection and cleaning of fuse cavities, removal of loose TNT or oxidation, removal of rust, waxing nose threads, painting and restencilling.

SOP NO. 34 HM

Total Quantity Scheduled

Estimated Production for 8-hr Shift

Estimated Total Direct Labor Crew Per Shift

Estimated Total Direct Man Hours Per Unit

Estimated Total Ordnance Cost Per Unit

LOCATION OF OPERATING AREA:

ARTS Building No. 515

DATE June 1961

1,225 rds.

300 rds.

25

.65

$1.06

APPROVED:

FRANK ROBLES
Lt Col, Ord Corps
Commanding

SHEET 1 OF 4
STANDARD OPERATING PROCEDURE FOR Normal Maintenance of **SOP NO 54 HM**

**NOTES**

HOMESCUTURE: Shell, 86, M106, w/suppl. charge, for 8" Hw.  DATE June 1931

LOCATION: Storage Site

EXPLOSIVE LIMITS: POUNDS As Stored  PROD/3-HR SHIFT 400 rds

PERSONNEL LIMITS: OPERATORS 3  CASUALS 3  SHIFT 3

---

**STEP** | **OPERATION NO. 1** | **TITLE**: Remove from Storage
---|---|---
1. Ammunition removed from storage by means of electric fork lift truck.
2. Pallets will be loaded on semi-trailer or cargo truck with wooden sides and floors.
3. Ammunition will be transferred to Operation 2 at ANS Bldg. 615.

**SAFETY REQUIREMENTS**:

1. Care will be taken in removal of pallets from stack.
2. Free exit will be maintained from igloo.
3. Soda acid or water type fire extinguishers will be available.
4. Good housekeeping will be observed.

**DISPOSITION OF COMPONENTS AND MATERIAL**:

- Ammunition to Operation 2
- Drumage to Reclamation Yard

**EQUIPMENT REQUIREMENTS**:

- Semi-trailer with 5 ton 6x2 tractor, or cargo truck
- Electric fork lift truck

*Includes fork lift operator & truck driver.*
STANDARD OPERATING PROCEDURE FOR: Normal Maintenance of

NOMENCLATURE: Shell, HE, M206, w/supply charge, for 3" How. DATE: June 1961

LOCATION: ANS Building No. 615

EXHIBITS LIMITS ZONE (200 FT OF TYPE 235 A3) DATE: 1961

PROCEDURE LIMITS: OPERATORS 10 CASUALS 5

STEP OPERATIONS NO. 2 TITLE: Inspect & Remove Paint

1. Ammunition will be removed from carrier by means of fork lift truck and placed on work table.
2. Lifting rings and supplementary charges will be removed from projectile, fuse cavity cleaned and gauged.
3. Unserviceable supplementary charges will be replaced and lifting ring installed.
4. Dirt and rust will be removed from projectile body by means of explosion proof buffing machine.
5. Rotating bands will be covered with ammunition tape.
6. Projectiles will be moved to sand blast room and cleaned with sand blast machine.
7. Projectiles moved to Operation 5 via wooden skid on roller conveyor.

INJECTION REQUIREMENTS:

- Inspect serviceability of projectiles.
- Inspect proper gauging of fuse cavity and assembly of supplementary charges.

SAFETY REQUIREMENTS:

1. All operators will be required to wear metal toe guards in addition to safety shoes.
2. Operators of buffing machines will wear goggles or face shields.
3. Sand blast operator will wear respirator and goggles.
4. Not more than three operators will be permitted in sand blast room while machine is in operation.
5. Soda acid or water type fire extinguishers will be available.
6. Free exit from operating site will be maintained.
7. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:

- Projectiles to Operation 5.
- Unserviceable charges to demolition ground for disposal.

EQUIPMENT REQUIREMENTS:

- Fork lift truck, Work tables, Buffing machines, Sand blast equipment.
- Box pallets, Hand tools.

*Since entire operation takes place in Bldg. 615, limits for complete procedure will be: Lbs. explosive - 3662, No. of items - 100, Casuals - 3.
**Unserviceable supplementary charges will be packed in a non-ferrous closed metal container, transferred to burning ground and disposed of by burning in accordance with SOP WOD No. 7 X, Amendment No. 1.

SHEET 3 OF 4
1. Projectiles received from Operation 2 via wooden skid and roller conveyor.
2. Projectiles will be removed from skid and placed on hook on monorail.
3. Paint spray operator will paint projectile with one coat of CO enamel.
4. When paint has sufficiently dried, projectile will be stenciled with the
   proper nomenclature.
5. Tape will be removed from rotating band.
6. Projectiles will be removed from monorail and placed on scales, lifting
   ring removed, and cored weighed.
7. Threads of lifting plug will be coated with wax and inserted in projectile.
8. Metal fiber grumes will be assembled on projectile.
9. Projectiles will be placed on shipping pallet, properly strapped and
   dispatched to storage.

INSPECTION REQUIREMENTS:

1. After removal from sand blast, inspect projectile for complete removal
   of rust.
2. Inspect condition of rotating band.
3. Inspect for proper marking of end product.

SAFETY REQUIREMENTS:

1. Paint spray operator will wear respirator.
2. Safety shoes and metal toe guards will be worn where danger of falling
   projectiles exists.
3. Soda acid and water type fire extinguishers will be available.
4. Good housekeeping will be maintained.
5. Paint and stencil supplies will be stored not less than 100 ft from
   operation.
6. Wax melting equipment will be located 100 ft from Bldg. No. 615.

DISPOSITION OF COMPONENTS AND MATERIAL:

Ammunition to storage.

EQUIPMENT REQUIREMENTS:

Paint spray equipment with water curtained spray booth. Monorail system
with crane. Stencil equipment. Strapping tools. Wax melting equipment.
Zone scales. Fork lift. Van, semi-trailer or cargo truck.
DEPARTMENT OF THE ARMY
WINGATE ORDNANCE DEPOT
GALLUP, NEW MEXICO

STANDARD OPERATING PROCEDURE
FOR

Modification

COMPLETE NOMENCLATURE: Shell, fixed, HE, M48, Super charge and Normal charge,
w/fuse FD M51A4, .15 sec. delay, for 75MM Guns

RIRPM and RILCM modifies to RIRUM
RILGA modifies to RIRUA
RIRAA and RILDA modifies to RIRMA

SOP No: 35 M

Total Quantity Scheduled:

<table>
<thead>
<tr>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>RIRUM</td>
<td>18,311 rds.</td>
</tr>
<tr>
<td>RIRUA</td>
<td>10,210 rds.</td>
</tr>
<tr>
<td>RIRMA</td>
<td>1,297 rds.</td>
</tr>
</tbody>
</table>

DATE: July 1961

Estimated Production per 8-hr Shift: 800 rds.

Estimated Total Direct Labor Crew Per Shift: 20

Estimated Total Direct Man Hours Per Unit: 2

Estimated Total Ordnance Cost Per Unit: $326

LOCATION OF OPERATING AREA:
Ammunition Work Shops - West room and platform Bldg. 503
and TNT packing room Bldg. 503

Note: Since the entire operation is to be accomplished in one room, the following limits will prevail:

Number of rounds complete operation - 1000
Lbs of explosive complete operation - 1490
Number of rounds operating room - 400
Lbs of explosive operating room - 596
Personnel - 20 Casuals - 3

APPROVED:

FRANK EILES
Lt Col, Ord Corps
Commanding

SHEET 1 of 5
STANDARD OPERATING PROCEDURE FOR: Modification of

NOMENCLATURE: Shell, fixed, HE, M10, super charge and
HORIZONTALcharge, w/fuse FD M514A, .15 sec. delay, for 76mm Guns

LOCATION: Various storage sites

EXPLOSIVE LIMITS: As stored

PERSONNEL LIMITS: OPERATORS 4* CASUALS 3

STEP OPERATION NO. 1 TITLE: Remove From Storage

1. Remove containers from storage by hand (when not palletised) and place
   on wooden pallets.
2. Pallets will be loaded by approved type fork lift truck onto van,
   semi-trailer, or cargo truck with wooden sides and floor.
3. Loaded ammunition will be moved to Operation 2, Bldg. 505 by cargo
   truck or 5-ton 4x4 tractor conforming to Section XIV, O.O. Form No. 7224,OGM.

INSPECTION REQUIREMENTS:

None

SAFETY REQUIREMENTS:

1. Safety shoes and gloves will be worn.
2. Du-gas fire extinguisher will be available at all times.
3. Free exit will be maintained from storage site.
4. Good housekeeping will be maintained at all times.
5. Palletized ammunition will be unloaded on platform as far from operating
   room as space will permit.

DISPOSITION OF COMPONENTS AND MATERIAL:

Ammunition to Operation 2,
Damage to reclamation yard.

EQUIPMENT REQUIREMENTS:

One approved type fork lift truck. One semi-trailer with tractor or cargo
truck.

*Includes one fork lift operator and one truck driver.
### STANDARD OPERATING PROCEDURE FOR: Modification of 36 M

#### NOMENCLATURE: Shell, fixed, HE, M3, super charge & normal charge, w/Fuse PD M51A4, .15 sec. delay, for 75MM Guns

**DATE:** July 1961  
**PROD/SH:**  
**SHIFT:** 800 rds  
**LOCATION:** AWS Bldg. No. 503  
**PERSONNEL LIMITS:** OPERATORS 4  
**DIRECT LABOR/SHIFT:** 4

<table>
<thead>
<tr>
<th>STEP</th>
<th>OPERATION NO. 2</th>
<th>TITLE: Receive and Unpack</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Palletized ammunition will be unloaded from carrier by means of approved type fork lift and transported to unpacking table.</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Unpack ammunition and place on canvas-covered work table.</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Remove round from fiber container, placing round on rubber-tired ammunition cart for transfer to Operation 5.</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Obliterate marking on fiber containers and place on cart for transfer to Operation 4.</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Remove undesirable marking from metal cartridge storage case and transfer to Operation 4.</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** When metal cartridge storage cases are found in a rusted condition, they will be removed to Bldg. 516 and reconditioned.

#### INSPECTION REQUIREMENTS:

- Inspect for dangerous or defective rounds.  
- Inspect for proper ammunition lot number.

**Note:** If dangerous round is encountered, it will be immediately removed from operating site to holding revetment at demolition ground.

#### SAFETY REQUIREMENTS:

1. Free exit from operating building will be maintained.  
2. Soda acid or CO2 fire extinguishers will be available.  
3. Safety shoes will be worn.  
4. Good housekeeping will be observed.

#### DISPOSITION OF COMPONENTS AND MATERIAL:

- Packing components to Operation 4.  
- Ammunition to Operation 5.

#### EQUIPMENT REQUIREMENTS:

- One gasoline operated fork lift truck.  
- Ammunition carts.  
- Work table.  
- Hand tools, approved type.

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**Sheet 3 of 5**
STANDARD OPERATING PROCEDURE FOR: Modification of SCP No: 35 M

NOMENCLATURE: Shell, fixed, HE, M48, super charge & normal charge, w/Fuse PD M51A4, .15 sec. delay, for 76mm Guns

DATE: July 1951

LOCATION: 4 barricaded positions, AWS Bldg. No. 503

EXPLOSIVE LIMITS IN EACH BARRICADE: 1 round, 40 fuses

PERSONNEL LIMITS: OPERATORS 1 CASUALS 1

DIRECT LABOR/SHIFTS

<table>
<thead>
<tr>
<th>STEP</th>
<th>OPERATION NO. 3</th>
<th>TITLE: Defuse and Refuse</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Rounds received from Operation 2 via ammunition carts.</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Round will be hand carried from cart and placed in holding fixture on work table inside barricade.</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Operator releases booster holding set screw* and removes fuse and booster.</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Booster and fuse are placed in wooden fuse tray for removal to packing table.</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>New fuse will be removed from tray, inserted in round and tightened to proper tension by means of a suitable fuse wrench, and tighten booster holding set screw.</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Operator will stake fuse in projectile.</td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Refused round will be returned to ammunition cart and transferred to Operation 4.</td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>Unpacking and packing of fuses will be accomplished on a work table in Bldg. 503 as far from other operations as space will permit. Number of fuses at work table will not exceed 200.</td>
<td></td>
</tr>
</tbody>
</table>

INSPECTION REQUIREMENTS:

Inspect proper assembly of fuse and booster.

SAFETY REQUIREMENTS:

1. Operators will wear safety shoes.
2. Soda acid and CO2 fire extinguishers will be available.
3. Frees exit from operating site will be maintained.
4. Any loose TNT in projectile will be removed from round and placed in a non-spark container before fuse is installed.
5. TNT containers will be removed at end of each shift and contents emptied into a closed non-ferrous closed type metal container. Container will be moved to TNT service barricade at Bldg. 500 awaiting removal to burning ground.

DISPOSITION OF COMPONENTS AND MATERIAL:

Ammunition to Operation 4.
Old fuses to unpacking table.

EQUIPMENT REQUIREMENTS:


*If round is encountered which requires undue force in removal of booster holding set screw or booster, it will be hand carried to drilling barricade and set screw drilled out by means of a positive stop explosion proof electric drill. Booster will then be removed and new fuse installed.

Note: TNT packing room of Bldg. 503 will be used as a fuse service barricade. Explosive limits in this room shall not exceed 2500 fuses.
STANDARD OPERATING PROCEDURE FOR: Modification of 35 M  

NOMENCLATURE: Shell, fixed, HE, M48, super charge & normal charge, w/AHE PD M51A4, .15 sec. delay, for 76MM Guns  

DATE: July 1961  

LOCATION: ANB Bld. No. 508  

PERSONNEL LIMITS: OPERATORS 12+  

DIRECT LABOR/SHIFT 10  

STEP | OPERATION NO. 4 | TITLE: Stencil, Repack and Return to Storage  

1. Packing material received from Operation 2 via ammunition cart.  
   Ammunition received from Operation 3 via ammunition cart.  
2. Fiber container will be stenciled with proper nomenclature by means of stencil set on canvas covered work table.  
3. Round will be removed by hand from ammunition cart and placed in fiber container.  
4. Fiber container will be properly taped with ammunition tape.  
5. Round will be placed in metal cartridge case or box, necessary filler added, and properly closed and sealed.  
6. Containers will be stenciled with proper nomenclature as outlined in SEL.  
7. Ammunition will be placed on pallet and returned to storage.  

INSPECTION REQUIREMENTS:  
Inspect for proper assembly of end product in containers.  
Inspect for correct nomenclature.  

SAFETY REQUIREMENTS:  
1. Free exit from operating site will be maintained.  
2. Soda acid or CO2 fire extinguishers will be available.  
3. Operators will wear safety shoes.  
4. Good housekeeping will be maintained.  

DISPOSITION OF COMPONENTS AND MATERIAL:  
End product to storage.  

EQUIPMENT REQUIREMENTS:  
Stencil material. Sealing tools. Strapping tools.  
*Includes one fork lift operator and one truck driver.
DEPARTMENT OF THE ARMY  
WINNEMUDD ORDNANCE DEPOT  
GALLUP, NEW MEXICO  

STANDARD OPERATING PROCEDURE  
FOR  

**Modification**  

**COMPLETE NOMENCLATURE:** Shell, fixed, HE, M48, super charge and normal charge, w/tube FD M54A4, .15 sec. delay for 76MM Guns  

RLPM and R1CM modifies to RLUM  

**SOP NO:** 35 M  
**AMENDMENT NO:** 1  
**DATE:** 19 July 1951  

**PURPOSE:** To eliminate rusted condition of metal cartridge storage case and correct nomenclature to conform with PIP-2.  

| Total Quantity Scheduled: | RLUM | 18,311 rds. |  
| Estimated Production per 8-hr Shift: | | 800 rds. |  
| Estimated Total Direct Labor Crew Per Shift: | | 20 |  
| Estimated Total Direct Man Hours Per Unit: | | .2 |  
| Estimated Total Ordnance Cost Per Unit: | | $.526 |  

**LOCATION OF OPERATION:** AWS BUILDING No. 615  

---  

**APPROVED:**  

[Signature]  
FRANK EUCLES  
Lt Col, Ord Corps  
Commanding  

**SHEET 1 of 2**
STANDARD OPERATING PROCEDURE FOR: Modification of 35 M

NOMENCLATURE: Shell, Fixed, HE, M48, Super Charge & Normal charge, w/fuse FD M2147, .15 sec. delay, for 75MM Guns

AMENDMENT NO. 1

LOCATION: AWS Building No. 515

DATE: 13 July 1961

EXPLOSIVE LIMITS: POUNDS 1788 NO OF ITEMS 1200 rds

SHIFT 800 rds

PERSONNEL LIMITS: OPERATORS 8 CASUALS 3

DIRECT LABOR/SHIFT 8

STEP OPERATION NO. 5 TITLE: Recondition Cartridge Storage Case

1. Ammunition will be received on storage pallets and moved into building by means of gasoline powered fork lift truck.
2. Rounds will be placed on work table and excessive rust removed by means of wire brushes and sand paper.
3. Round will be placed by hand on monorail.
4. Paint spray operator will paint cartridge case with one coat of OD enamel.
5. When paint has sufficiently dried, container will be removed from monorail, placed on storage pallet, and returned to storage.

Note: This operation is to be accomplished with ammunition as packed.

INSTRUCTION REQUIREMENTS:
Inspect proper cleaning of container prior to painting.
Inspect finished product for proper paint coverage.

SAFETY REQUIREMENTS:
1. Paint spray operator will wear respirator.
2. Soda acid or water type fire extinguishers will be available.
3. Paint supplies will be stored at a point not less than 100 ft from operation.
4. Operators will wear safety shoes.
5. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:
Finished product to storage or Building No. 603.

EQUIPMENT REQUIREMENTS:
Paint spray equipment. Cleaning brushes, sandpaper and cleaning rags.
Gasoline powered fork lift truck. Cargo truck.

*Not more than 400 rds of ammunition will be permitted inside painting buildings.
**DEPARTMENT OF THE ARMY**
**WINCHESTER ORDNANCE DEPOT**
**GALLUP, NEW MEXICO**

**STANDARD OPERATING PROCEDURE**

**SOP: Normal Maintenance**

**COMPLETE NOMENCLATURE:** Shell, Semi-Fixed, HE, M46, V/Muzzle DIA M531A4, .15 sec. delay, for 75 mm howitzers, FM54

**PURPOSE:** To change subject ammunition from Condition 5 to Condition 1.

**SOP NO:** 36 NW

<table>
<thead>
<tr>
<th>Item</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Quantity Scheduled</td>
<td>5,794 rds.</td>
</tr>
<tr>
<td>Estimated Production Per 8-hr Shift</td>
<td>300 rds.</td>
</tr>
<tr>
<td>Estimated Total Direct Labor Crew Per Shift</td>
<td>38</td>
</tr>
<tr>
<td>Estimated Total Direct Man Hours Per Unit</td>
<td>38</td>
</tr>
<tr>
<td>Estimated Total Ordnance Cost Per Unit</td>
<td>$2.23</td>
</tr>
</tbody>
</table>

**LOCATION OF OPERATING BUILDING:** LCL Building No. 19

**WAIVERS AND/OR EXEMPTIONS AFFECTING THIS SOP:** Permanent exemption on use of LCL Building No. 19, 4th Edition to 00 2306/1635 dated 5 Dec 69, and ORDL-8 339/18635 Wicking, Wm. 722, 19/72.

**APPROVED:**

[Signature]

FRANK ECLES
Lt Col, Ord Corps
Commanding

**SHEET 1 of 5**
STANDARD OPERATING PROCEDURE FOR: Normal Maintenance of SUP NO. 35 PM

NOMENCLATURE: Shell, Semi-fused, HE, M43, v/Fuse PD M51A4 DATE July 1993

.15 sec. delay, for 75mm Howitzer.

LOCATION: Standard Magazine K

EXPLOSIVE LIMITS: As Stored DIRECT LABOR/

PERSONNEL LIMITS: OPERATORS 2* CASUALS 3 SHIFT 2

STEP OPERATION NO. 1 TITLE: Remove from Storage

1. Remove palletized ammunition from storage by means of an approved type electric fork lift.

2. Pallet will be loaded on van, semi-trailer, or cargo truck with wooden sides and floor.

3. Ammunition will be moved to Operation 2, Bldg. No. 19 by cargo truck or 5-ton 4x2 tractor conforming to Section XIV, O.O. Form No. 7224, OSM.

SAFETY REQUIREMENTS:

1. Dua-gas fire extinguishers will be available in magazine.
2. Care will be exercised by fork lift operator in removing pallets from storage.
3. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:

Ammunition to Operation 2.

EQUIPMENT REQUIREMENTS:

One approved type electric fork lift truck.
One cargo truck or semi-trailer with tractor.

*Includes only one fork lift operator and one truck driver.

SHEET 2 of 5
STANDARD OPERATING PROCEDURE FOR: Normal Maintenance OF SOP NO 36 RN

LEGEND: Shell, Semi-fixed, HE, MEC, w/Fuse M7, DATE July 1991
MALLA .38 sec. delay, for 75MM Mortars.

LOCATION: Rooms 4 & 5 of 1CL Building No. 19

ROOM 5:
POUNDS 775

EXPLOSIVE LIMITS: Room 4:
POUNDS 326
NO. OF ITEMS 400

PERSONNEL LIMITS: OPERATORS 11, CASUALS 3

STEP OPERATION NO. 2 TITLE: Receive and Unpack

1. Ammunition received on cargo truck or semi-trailer will be unloaded by
means of gasoline powered forklift truck and placed in Room 5.
2. Pallets of ammunition will be moved to unpacking operation in Room 4 by
means of pallet jack only.
3. Fiber container will be removed from metal container and placed on canvas
covered work table.
4. Tape will be removed from fiber container, rounds removed and disassembled.
5. Cartridge case containing propelling charge will be placed in separator
tray on ammunition cart and covered with fiber container, capacity 69 cases
to cart.
6. Projectiles will be placed in separator tray on ammunition cart, 70 rds to
cart, and moved by hand to Operation 3.

INSPECTION REQUIREMENTS:
Inspect for dangerous condition of round.

SAFETY REQUIREMENTS:
1. If any dangerous round is encountered, it will be immediately removed from
operation and dispatched to holding barricade in demolition ground awaiting
disposition.
2. Soda acid or water type fire extinguishers will be readily available.
3. Operators will wear safety shoes.
4. Fume escape will be maintained from operating room.
5. Filled carts containing cartridge cases will be parked as far from un-
packing table as space will permit.
6. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:

- Cartridge cases to Operation 4.
- Projectiles to Operation 3.
- Fiber containers and metal containers to Operation 4.

EQUIPMENT REQUIREMENTS:

- Ammunition carts.
- Pallet Jack.
- Work table.
- Wrench for removing lid of metal containers.

SHEET 3 of 5
STANDARD OPERATING PROCEDURE FOR: Normal Maintenance of

NOMENCLATURE: Shell, Semifixed, HE, M43, w/fuse FD M51A4 DATE July 1951

.15 sec. delay, for 75-MM Howitzers.

LOCATION: Room 3 of LEL Bldg, No. 19

EXPLOSIVE LIMITS: POUNDS 596 NO OF ITEMS 400 PROD/8-1R

PERSONNEL LIMITS: OPERATORS 5 CASUALS 3 DIRECT LABOR

SHIFT 5

STEP OPERATION NO. 3 TITLE: Defuse & Refuse, Unpack & Repack Fuses

Fuses will be stored in wooden service barricade and transferred to and from operating site as required. At no time will number of fuses at packing table exceed 200 fuses.

1. Projectiles will be received from operation via ammunition carts and placed in a suitable position outside barricade.
2. Operators will remove one projectile at a time from cart, hand carry to work table inside barricade, and place in holding fixture.
3. Operator will remove fuse by means of a suitable fuse wrench and place old fuse in fuse tray.
4. Operator checks cavity for loose TNT, and if any is present, empties it into a spark-proof container.
5. Operator will insert new fuse in projectile, tighten by means of fuse wrench, and stake fuse in place.
6. Operator will return refused round to ammunition cart for transfer to Operation 4.
7. At fuse table, operator will unpack new fuse and place in fuse tray.
8. Old fuses returned from defusing operation will be packed in fuse box and properly stenciled.

INSPECTION REQUIREMENTS:

Inspect new fuses for correct lot number.
Inspect refused projectiles for proper assembly.

SAFETY REQUIREMENTS:

1. Only one operator will be permitted in each fuse barricade.
2. Operators will wear safety shoes.
3. Free air will be maintained from operating sites.
4. Soda acid or water type fire extinguishers will be available.
5. Containers of loose TNT will be emptied into a closed non-ferrous container which will be removed to TNT service barricade north of Bldg 500 awaiting removal to burning ground.

DISPOSITION OF COMPONENTS AND MATERIAL:

Projectiles to Operation 4.
Old fuses to storage.

EQUIPMENT REQUIREMENTS:

Ammunition carts.
Work tables with projectile holding fixtures.
Fuse trays. Staking tools.
Fuse wrenches. Strapping tools. Stencil equipment.
STANDARD OPERATING PROCEDURE FOR: Normal Maintenance of SOP No. 36.8M

NOMENCLATURE: Shell, Semi-fixed, HE, M62, w/Tube PD M114

DATE: July 1951

.15 sec. delay for 75-81 Heitzers.

LOCATION: Room 4 of LOL Building No. 19

EXPLOSIVE LIMITS: POUNDS 996 NO OF ITEMS 400

PERSONNEL LIMITS: OPERATORS 11 CASUALS Shown in Oper. 2 SHIFT 3

STEP OPERATION NO 4 TITLE: Assemble, Stencil, Reapack & Return to Storage.

1. Projectiles received via ammunition carts from Operation 3.
2. Projectiles will be placed on canvas covered work table and lot suffix added to lot number.
3. Cartridge cases will be removed from ammunition cart, placed on work table, and lot suffix stenciled on case.
4. Fiber containers and metal cartridge storage cases will be stenciled with proper lot suffix.
5. Projectile and cartridge case will be assembled and packed in fiber container.
6. Fiber container will be taped and assembled in metal container.
7. Fiber container will be taped and assembled in metal container.
8. Cover of metal container will have inner cover retainer spring inserted and will be assembled to metal container, properly tightened and sealed, and spring clip attached.
9. End product will be packed on storage pallet and returned to storage.

INSPECTION REQUIREMENTS:

Proper marking.
Correct packing.

SAFETY REQUIREMENTS:

1. Free exit will be maintained from operating room.
2. Soda acid or water type fire extinguishers will be readily available.
3. Operators will wear safety shoes.
4. Good housekeeping will be observed.
5. Gasoline powered fork lift will not be permitted to enter this operating room.

DISPOSITION OF COMPONENTS AND MATERIAL:

End product to storage.

EQUIPMENT REQUIREMENTS:

Ammunition carts, Work table, Wrench for tightening lids of metal containers, Stencil equipment, Sealing tools.
A - BOMB, Frag., 260 LB SILENT
B - 70 BOMBS

C - Operating Personnel
   1 Truck Driver
   1 Lift Operator
   1 Munitions Handler

D - 1 Truck Driver
   1 Lift Operator
   1 Munitions Handler

E - 5 Explosive Operators
   2 Casuals

F - 1 Munitions Handler
   2 Casuals

G - 3 Explosive Operators
   2 Casuals

H - 2 Explosive Operators
   2 Casuals

I - 2 Explosive Operators
   2 Casuals

J - 2 Explosive Operators
   2 Casuals

K - 2 Explosive Operators
   2 Casuals

L - 70 Bombs

M - 3 Explosive Operators
   1 Truck Driver
   1 Munitions Handler
   2 Casuals

Explosive Limits:
   None
   140 Bombs
   5,068 Lbs
   30 Bombs
   1,086 Lbs
   5 Bombs
   181 Lbs
   20 Bombs
   724 lbs
   10 Bombs
   362 lbs
   10 Bombs
   362 lbs
   15 Bombs
   943 lbs
   20 Bombs
   724 lbs

140 Bombs
5,068 Lbs

Above Insert is Approved

DISTRIBUTION:
CG (1)
Ops Officer (2)
Safety & Sec. (1)
C & R (1)
Surveillance Div. (4)
Ammunition Div. (14)
STANDARD OPERATING PROCEDURE NO. WOD 38-NM

ITEM: Bomb: A

DESCRIPTION OF WORK: Service fuze cavities, derust and repaint bomb

OPERATION NO. 1: Load Carrier and transport from storage site to Operation site.

1. Bombs will be removed from stacks and placed in carrier by means of an approved type fork lift truck.

2. Carrier used will be closed van equipped with wooden sides and floor. Load will consist of not more than B bombs.

3. Load will be secured by properly affixing conveyor stop.

4. Loaded van will be hauled to operation site, X-11 by five-ton 4 x 2 tractor which shall conform with Sec. 14 Ordnance Safety Manual O. O. Form 7224.

SAFETY PRECAUTIONS FOR OPERATION NO. 1:

1. Approved type fire extinguishers will be accessible at all times.

2. Free exit from storage site will be maintained at all times.

3. Safety shoes will be worn by all Operating Personnel.

4. Good housekeeping will be maintained at all times.

5. No rough handling of ammunition will be permitted.

Operating Personnel

C

OPERATION NO. 2: Unload Carrier

1. Ammunition will be received in closed van.

2. Fork operator will unload van and place bombs on wooden skid on roller conveyor entering monorail using approved type fork lift truck.

Operating Personnel: D

Explosive Limits: D
SAFETY PRECAUTIONS FOR OPERATION NO. 2:

1. Approved type fire extinguishers will be accessible at all times.

2. Safety shoes will be worn by all Operating Personnel.

3. Good housekeeping will be maintained at all times.

4. No rough handling of ammunition will be permitted.

5. Limits will be posted and not exceeded.

OPERATION NO. 3: Remove closing plugs and fin lock nut and service cavities.

1. Closing plugs and fin lock nut will be removed and placed in container of solvent for cleaning.

2. Fuze cavities will be cleaned, inspected for exudate or other foreign matter, gauged and where necessary will be reclamed using beryllium wool.

3. Lock pin holes in all Al modification bombs will be gauged.

4. Cavities and fuze adapters will be greased using rust preventive, light, Spec. 284BE.

Operating Personnel: Explosive Limits:

E

SAFETY PRECAUTIONS FOR OPERATION NO. 3:

1. Approved type fire extinguishers will be accessible at all times.

2. Safety shoes will be worn by all Operating Personnel.

3. Good housekeeping will be maintained at all times.

4. Limits will be posted and not exceeded.

5. Cleaning solvent will be kept in safety top container.

6. During inspection any bomb showing explosive exudate must be removed to another location for cleaning.

7. All used wiping material will be placed in closed containers and removed from job daily.

8. All stores of material, such as paint, cleaning solvent, rags, etc., will be stored at a point not less than 50 feet distance from operation. Only such amounts as needed for efficient operation will be left at operating lines.
OPERATION NO. 4: Hook bomb on monorail

1. Operator will secure hooks from electrically powered monorail into bomb suspension lugs.

2. Operator will hold hooks in place until monorail chains are taut and carrying full weight of bomb.

3. Remove wooden skid and return to receiving end of conveyor for reuse.

Operating Personnel: Explosive Limits

F

SAFETY PRECAUTIONS FOR OPERATION NO. 4:

1. Approved type fire extinguishers will be accessible at all times.

2. Safety shoes will be worn by all Operating Personnel.

3. Good housekeeping will be maintained at all times.

4. Operator will wear gloves.

5. Limits will be posted and not exceeded.

OPERATION NO. 5: Cleaning components

1. Remove closing plugs and fin lock nut from solvent container.

2. Wipe clean and dry with cloth using brush when necessary.

Operating Personnel: Explosive Limits:

G

SAFETY PRECAUTIONS FOR OPERATION NO. 5:

1. Approved type fire extinguishers will be accessible at all times.

2. Rubber gloves will be worn.

3. Safety shoes will be worn by all Operating Personnel.

4. Good housekeeping will be maintained at all times.

OPERATION NO. 6: Replace closing plugs and fin lock nut.

1. Grease threads of fin lock nut with rust preventive, light, Spec. 264BE and replace on bomb.
2. Apply a sufficient amount of sealing wax to flange of plugs to form a water-tight seal.

3. Replace plugs in bomb hand-tight.

NOTE: All damaged but repairable threads will be repaired.

Operating Personnel: 

Explosive Limits: 

SAFETY PRECAUTIONS FOR OPERATION NO. 6:

1. Approved type fire extinguishers will be accessible at all times.

2. Safety shoes will be worn by all Operating Personnel.

3. Good housekeeping will be maintained at all times.

4. Limits will be posted and not exceeded.

OPERATION NO. 7: Clean and de-rust bomb

1. Clean entire surface of excess grease.

2. Cover threads of fin lock nut with tape to protect from paint spray.

3. Spot de-rust and remove dead paint where necessary using a power-driven wire brush.

4. Dust entire surface with dry cloth.

Operating Personnel: 

Explosive Limits: 

SAFETY PRECAUTIONS FOROperation NO. 7:

1. Approved type fire extinguishers will be accessible at all times.

2. Safety shoes will be worn by all Operating Personnel.

3. Good housekeeping will be maintained at all times.

4. Limits will be posted and not exceeded.

5. Face shields or goggles will be worn.
OPERATION NO. 8: Paint bomb

1. Spray paint entire surface of bomb with lustreless enamel, O. D., Spec. JAN-E-74, Grade 1, using an air pressure type spray gun.

2. Inspect for complete coverage and spot paint any places missed.

Operating Personnel:    Explosive Limits:
J                        J

SAFETY PRECAUTIONS FOR OPERATION NO. 8:

1. Approved type fire extinguishers will be accessible at all times.

2. Spray painters will wear air fed type respirators.

3. Safety shoes will be worn by all Operating Personnel.

4. Good housekeeping will be maintained at all times.

5. Limits will be posted and not exceeded.

OPERATION NO. 9: Stencil and mark bomb

1. Paint with proper color marking to identify bomb as to type filler.

2. Stencil pertinent data in accordance with letter Raritan Arsenal 30 June 1949, Subject: Marking on Demolition Bombs, File No. RA 471,6/1223, WIN 471,6/108, copy of which is attached hereto.

3. Note, Stenciling and marking will not be accomplished until painted bomb is entirely dry.

Operating Personnel:    Explosive Limits:
K                        K

SAFETY PRECAUTIONS FOR OPERATION NO. 9:

1. Approved type fire extinguishers will be accessible at all times.

2. Safety shoes will be worn by all Operating Personnel.

3. Good housekeeping will be maintained at all times.

4. Limits will be posted and not exceeded.

OPERATION NO. 10: Final Inspection

1. Final inspection will be accomplished in accordance with current inspection procedure by the Surveillance Division.
OPERATION NO. 11: Receive bombs from monorail and load on carrier and transfer to storage

1. Power-operated monorail will run bomb onto wooden skid on roller conveyor which has been placed there by operator.

2. Remove monorail hooks from suspension lugs.

3. Move bomb on wooden skid to end of conveyor.

4. Bombs will be removed from conveyor using an approved type fork lift truck and placed in carrier for transportation to storage site. Load will consist of _______ L ________.

5. Empty wooden skid will be returned to receiving end of conveyor for reuse.

Operating Personnel: Explosive Limits:

M M

SAFETY PRECAUTIONS FOR OPERATION NO. 11:

1. Approved type fire extinguishers will be accessible at all times.

2. Safety shoes will be worn by all operating personnel.

3. Good housekeeping will be maintained at all times.

4. Limits will be posted and not exceeded.

Above detailed Standard Operating Procedure is approved.

FRANK EGGLE
Lt Col, Ord Dept
Commanding

DISTRIBUTION:
C.O.
Operations Officer
Safety & Security Branch W.O.D.
Communication and Records
Surveillance Division
Ammunition Division
# INSERT SHEET FOR

**STANDARD OPERATING PROCEDURE WOD NO.**, 26 July 1951

## A
- **BOMB**: 0.5 P. 250 lb*

## B
- **72 BOMBS**

## C
- **Operating personnel**
  - 1 Truck Driver
  - 1 Lift Operator
  - 1 Munitions Handler

## D
- 1 Truck Driver
- 1 Lift Operator
- 1 Munitions Handler

## E
- **Explosive Operators**
  - 5 Operators
  - 2 Casuals

## F
- 1 Munitions Handler
- 2 Casuals

## G
- **Explosive Operators**
  - 5 Operators
  - 2 Casuals

## H
- **Explosive Operators**
  - 2 Operators
  - 2 Casuals

## I
- **Explosive Operators**
  - 2 Operators
  - 2 Casuals

## J
- **Explosive Operators**
  - 2 Operators
  - 2 Casuals

## K
- **Explosive Operators**
  - 2 Operators
  - 2 Casuals

## L
- **72 Bombs**

## M
- **Explosive Operators**
  - 3 Operators
  - 1 Truck Driver
  - 1 Munitions Handler
  - 2 Casuals

---

Above Insert is Approved.

[Signature]

FRANK ECCLES
Lt Col QM Corps
Commanding
DEPARTMENT OF THE ARMY
WINGATE ORDNANCE DEPOT
GALLUP, NEW MEXICO

STANDARD OPERATING PROCEDURE

FOR

Modification

COMPLETE NOMENCLATURE: Shell, Semi-fixed, HE, M48, v/fuze PD M51A4, 15 sec. delay, for 75mm Howitzers, RM3A

PURPOSE: To replace obsolete fuses, pack in new wooden boxes and place subject ammunition in Condition One.

SOP No: SCGW

Total Quantity Scheduled: ____________________________ 160,000 rds.

Estimated Production Per 8-hr Shift: ________________________ 800 rds.

Estimated Total Direct Labor Crew Per Shift: ________________________ 30

Estimated Total Direct Man Hours Per Unit: ________________________ .3

Estimated Total Ordnance Cost Per Unit: ________________________ $ .49

LOCATION OF OPERATING BUILDING: A. W. S. Building No. 503

APPROVED:

FRANK ECCLES
Lt Col, Ord Corps
Commanding
STANDARD OPERATING PROCEDURE FOR: Modification OF SOP NOA SCO9 M

NOMENCLATURE: Shell, Semi-fixed, HE, M25, w/fuse
PB M251A4, 15 sec. delay, for 75mm Howitzers, BUSA

LOCATION: Various Storage Sites

EXPLOSIVE LIMITS: POUNDS: As Stored

PERSONNEL LIMITS: OPERATORS 6† CASUALS 3 DIRECT LABOR 6

STEP OPERATION NO. 1 TITLE: Remove from Storage

1. Ammunition will be removed from storage by hand and placed on suitable pallet.
2. Pallet will be loaded on van, semi-trailer, or cargo truck with wooden sides and floor.
3. Ammunition will be moved to west platform of Bldg. No. 503 by cargo truck or 5-ton 4x2 tractor conforming to Section XIV, 00 Form No. 7224, OSM.

NOTE: Explosive limits on platforms of Bldg. No. 503 will not exceed 1000 rounds or 1500 pounds explosive.

INSPECTION REQUIREMENTS:

None

SAFETY REQUIREMENTS:

1. Du-gas fire extinguishers will be available at storage point.
2. Operators will wear gloves and safety shoes.
3. Free exit from storage site will be maintained.
4. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:

Ammunition to Operation 2.

EQUIPMENT REQUIREMENTS:

One approved type electric fork lift truck.
One cargo truck or semi-trailer with tractor.

*Includes fork lift operator and one truck driver.
STANDARD OPERATING PROCEDURE FOR: Modification of SOP No. 158-M

NOMENCLATURE: Shell, Semi-fixed, HE, M48, v/fuze
PD M31LA, .55 sec. delay, for 75mm Howitzers, KM51
DATE: September 1963
LOCATION: AWS Bldg. No. 502
SHifting 800 rds.

EXPLOSIVE LIMITS: * POUNDS: 745 TON OF WRENS: 500
PERSONNEL LIMITS: OPERATORS: 30 CASUALS: 5 SHIFT: 20

STEP | OPERATION NO. | TITLE: Unpack

1. Ammunition will be moved from platform to unpacking table by means of electric fork lift truck.
2. Ammunition will be placed on canvas covered work table and round removed from fiber container.
3. Cartridge case will be separated from projectile and placed on rubber-tired cart for removal to packing operation.
4. Projectiles will have metal packing stops removed and be placed on wooden skids on roller conveyor for transporting to Operation 3.
5. Fiber containers will have marking obliterated by use of acid proof black paint.

INSPECTION REQUIREMENTS:
Inspect for correct lot number.
Inspect for dangerous condition of complete round.

SAFETY REQUIREMENTS:
1. If any dangerous round is encountered, it will be immediately removed from operation and dispatched to holding barricade in demolition ground awaiting disposition.
2. Soda acid or water type fire extinguishers will be readily available.
3. Operators will wear safety shoes.
4. Free exit will be maintained from operating room.
5. Filled carts containing cartridge cases will be parked as far from unpacking table as space will permit.
6. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIALS:
- Projectiles to Operation 3.
- Cartidge cases to Operation 4.
- Fiber containers to Operation 4.
- Metal parts to salvage.

EQUIPMENT REQUIREMENTS:
- Electric fork lift.
- Ammunition carts.
- Work table.
- Hand tools.

* Explosive and personnel limits shown cover entire operation in Rooms 1 of Bldg. 503.
STANDARD OPERATING PROCEDURE FOR: Modification OF SOP NO. ASO99 M

NOMENCLATURE: Shell, Semi-fixed, HE, M49, w/fuse
PD M31A1, 1.35 sec. delay, for 75mm Howitzers, RM58A

DATE: September 1953

LOCATION: AMS Bldg. No. 503

SHOP 8-4-RR

EXPLORATIVE LIMITS: POUNDS 40 fuses in each barricade

NO OF ITEMS 6 rds.

PERSONNEL LIMITS: OPERATORS 1 CASUALS 2 in each barricade

STEP OPERATION NO. 3 TITLE: Defuse and refuse

1. Ammunition received in first barricade via wooden skids on roller conveyors.
2. Operator will remove fuse by means of holding fixture and fuse wrench.
3. In second barricade operator will remove booster set screw by means of a positive stop, explosion proof, electric drill.**
4. In third barricade operator will remove booster and place in fuse tray.
5. In fourth and fifth barricade operators will install new fuses and stakes
   in position.
6. Refused projectiles will be moved to Operation 4 via wooden skids and roller conveyors.

INSPECTION REQUIREMENTS:

Inspect new fuse for correct lot number.
Inspect refused projectiles for proper assembly.

SAFETY REQUIREMENTS:

1. Only one operator will be permitted in each fuse barricade.
2. Free exit will be maintained from barricade.
3. Operators will wear safety shoes.
4. Operators removing boosters will be provided with a non-corrosive container
   for loose TNT. This container will be emptied into TNT cans in TNT
   service barricade at Bldg. No. 500.

DISPOSAL OF COMPONENTS AND MATERIAL:

Projectiles to Operation 4.
Old fuses to storage.

EQUIPMENT REQUIREMENTS:

Work benches with projectile holding fixtures.
Fuse wrenches.
Booster wrenches.
Staking tools.

* Limits for fuse storage and packing in Room 2, Bldg. 503 will be maintained as
follows:
2000 Fuses
3 Operators
3 Casuals

**Air drills not available.
STANDARD OPERATING PROCEDURE FOR: MODIFICATION OF SCP NO. ASQ M

NOMENCLATURE: Shell, Semi-fixed, HE, M6, w/fuse
PD M614A-.15 sec. delay, for 75mm Howitzers, HALSA

DATE: September 1951

LOCATION: AHQ Bldg. No. 502

PHO/B-EB

SHIFT: 800 rds.

EXPLOSIVE LIMITS: * POUNDS 745 NO OF ITEMS 500

PERSONNEL LIMITS: OPERATORS 30 CASUALS 5

DISTRIBUTION LABOR:

STEP OPERATION NO. TITLE
1. Booster set screw holes will be closed with wax.
2. Proper lot suffix will be added on both projectile and cartridge case.
3. Projectile and cartridge case will be assembled on canvas covered work table.
4. Metal pecking stop will be placed on projectile and assembled round packed in fiber container.
5. Fiber container will be sealed with ammunition tape.
6. Fiber container will be stenciled with proper nomenclature.
7. New boxes will be stenciled with proper marking.
8. Rounds will be placed in boxes and cardboard filler added to insure a tight pack.
9. Boxes will be properly strapped and sealed.
10. Ammunition will be placed on wooden pallets and returned to storage.

INSPECTION REQUIREMENTS:
Inspect proper assembly of round.
Inspect marking and packing of end product.

SAFETY REQUIREMENTS:
1. Free exit will be maintained from operating site.
2. Soda-acid or water type fire extinguishers will be readily available.
3. Operators will wear safety shoes.
4. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:
End product to storage.

EQUIPMENT REQUIREMENTS:
Ammunition carts.
Work tables.
Stencil equipment.
Strapping tools.
Sealing tools.

* Explosive and personnel limits shown cover entire operation in Room 1 of Bldg. 503.
19 January 1952

STANDARD OPERATING PROCEDURE - SOP NO. A-30-391, Amendment No. 1.

OBJECTIVE: Shell, Sanitized, H2, H48 for 75-132 Howitzer.

PURPOSE: To eliminate the possibility of mixing fuses.

OPERATION NO. 3:

Change the unpacking of new fuses from Room 2 to Barricade No. 3 of Room 1 of Building No. 503.

Limits at this operation will be 100 fuses

2 operators

1 casual

Above Standard Operating Procedure, Amendment No. 1 is approved:

[Signature]

B. L. Bowman

Major, Ord Corps

Commanding
DEPARTMENT OF THE ARMY
WINNATZ ORDNANCE CORPS
GALLUP, NEW MEXICO

STANDARD OPERATING PROCEDURE FOR

Modification

COMPLETE Nomenclature: Grenade, Hand, Fragmentation, MK 2, v/Tuex 62041

OPERATION: Disassemble, Recondition and Reassemble v/Tuex 62041

ITEM NO: M400-204AP    SOP NO: 40.11    DATE: October 1951

Total Quantity Scheduled: 20,025 rds.
Estimated Production Per 8-Hr Shift: 2,000 rds.
Estimated Total Direct Labor Crew Per Shifts: 12
Estimated Total Direct Man Hours Per Unit: 0.44
Estimated Total Ordnance Cost Per Unit: 0.078

LOCATION OF OPERATING AREAS: JCL Building No. 12

Waivers and/or exceptions affecting this SOP: Permanent exemption on use of JCL Building No. 12, 6th endorsement to 00 2306/1623, dated 5 December 1949, and

*Supplemented with area map showing distance relations, flow chart and building drawing showing barricades and flow lines.

APPROVED:

[Signature]

R. L. Bowman
Major, Ord Corps
Commanding

SHEET 1 OF 12
SOP 40 M (cont'd)

Special reference is made to the following regulations in connection with safe handling of explosives and ammunition, which references will be followed:

1. BUILDINGS AND UTILITIES:
   a. Paragraphs 14, 15 and Section V of the Ordnance Safety Manual covering utilities, equipment, operating and auxiliary buildings.
   b. Paragraph 1484, FDI, covering line layouts.

2. AMMUNITION HANDLING:
   a. Paragraph 92 (less 92a) and 94, OSM, 3 May 1945, and OCSB No. 158.
   b. OCSB No. 100, Changes 2, dated 19 Dec 1946, and Changes 3, dated 9 Nov 1950, paragraphs 103 and 104, OSM, OCSB No. 131, and paragraph 1466 of FDI.
   c. Containers used as service magazines will comply with current existing directives as outlined in OCSB No. 131.

3. HAZARDOUS AMMUNITION:
   a. Neither at the ammunition storage site or after unpacking, all ammunition will be inspected for proper identification and for evidence of excessively deteriorated, damaged or missing components which render the round unsafe to handle, or process in a normal manner.
   b. Such ammunition will be disposed of in accordance with paragraph 107 and Section XVII, OSM, 3 May 1945, or appropriate amendment thereto.

4. SAFETY CLOTHING AND TOOLS:
   a. Sections VIII and XVII, OSM, 3 May 1945, and Section VI, OCSB No. 103.
   b. Paragraph 12, OSM, 3 May 1945.
   c. Paragraphs 1470 thru 1473.1 of FDI, inclusive.

5. SAFETY LIMITS:
   a. Post operating and explosives limits (see para 10b, OSM, and 1484.4, FDI).
   b. Explosive and personnel limits for operating buildings will be maintained at the minimum necessary for safe and efficient operation. (See para 77, OSM).

6. BARRICADES:
   a. OCSB No. 151 and Change 1 thereto.
   b. Defusing barricades are constructed of one inch armour plate and are 24 inches by 48 inches and 78 inches in height. Access to inside of barricade is provided by means of a sliding door constructed of one inch armour plate. Fuses are to be completely removed from grenade body by means of an air driven motor. Air control valve is so constructed as to prevent operation of motor unless barricade door is closed and in locked position. Locking of barricade door is accomplished by means of an air cylinder which will prevent barricade being opened for a period of at least 10 seconds after fuse is completely removed from grenade body.

SHEET 2 OF 12
7. BATTLE TANKS:
   a. Battle tanks provided for grenades which may be inadvertently activated are
      constructed of one inch armour plate and will be located adjacent to all
      operations where fused grenades are handled manually.

8. GRENADE TRAYS:
   a. Hand trays used in transporting grenades to and from defusing and re-
      fusing operations will be constructed of wood and will be so designed as to
      prevent grenades coming in contact with each other and pull rings being
      caught over the handle of another fuse.

9. FUZE TRAYS:
   a. Loaded fuses removed from grenades will be placed in a wooden box
designed to rigidly hold each individual fuse from coming in contact with
any other fuse.

10. PERSONNEL EXPOSURE:
    a. Operations and personnel will be so arranged, consistent with continuous
and efficient operation, as to constitute the smallest personnel exposure
to any one explosive hazard.

11. POSTING:
    a. This SOP will be prepared in segments and applicable segment will be
posted at each operation.

12. DEMOLITION GROUND PROCEDURE:
    a. Destruction of explosive components will comply with Section XVII, CSM,
3 May 1943, OSB No. 171, paragraph 1496 of FBI and SOP 14D, Wingate
Ordnance Depot as amended, and SOP 71, Amendments 1 and 2.

13. TRAINING:
    a. Each operator assigned will be thoroughly trained and familiarized with
his part of the operation.

14. APPROVAL:
    a. All approvals required at this installation have been obtained.
1. Remove from storage

2. Receive

3. Unpack and inspect

4. Remove fuses

5. Install new fuses

8. Dernust and repaint

6. Inspect, repack and dispatch to storage

7. Destroy fuses
STANDARD OPERATING PROCEDURE FOR: Modification OF SOP NOs 40 M


DATE: October 1951

w/Take Nude

LOCATION: Storage Site

EXPLOSIVE LIMITS: POUNDS NO OF ITEMS: As Stored

PERSONNEL LIMITS: OPERATORS 6* CASUALS 2

SHIFT: A

DIRECT LABOR:

STEP  OPERATION NO.  TITLE: Remove from storage

1. Remove ammunition from stock and place on wooden pallet.
2. Pallets will be loaded by electric fork lift truck onto cargo truck with wooden sides and floor.
3. Loaded truck will proceed to operating building.

INSPECTION REQUIREMENTS:

None

SAFETY REQUIREMENTS:

1. Du-gas fire extinguishers will be readily available.
2. Free exit from storage site will be maintained.
3. Ammunition will be handled carefully.
4. Good housekeeping will be observed.
5. Safety shoes and gloves will be worn.
6. Boxes of grenades will be placed on pallets so they will be stable. Straps will be used by truck driver on each pallet.

DISPOSITION OF COMPOUNDS AND MATERIAL:

Ammunition to Operation 2.
Damage to reclamation yard.

EQUIPMENT REQUIREMENTS:

One electric fork lift truck.
One ammunition truck.

*Includes fork lift operator and truck driver.
STANDARD OPERATING PROCEDURE FOR: Modification OF

NOMENCLATURE: Grenade, Hand, Fragmentation, MK 2.

v/Item No.

LOCATION: Room 4, Ricks, No. 19

EXPLOSIVE LIMITS: POUNDS 460 NO OF ITEMS 5000

PERSONNEL LIMITS: OPERATORS 2 CASUALS 2

STEP OPERATION NO. 2 TITLE: Receive from Storage

1. Ammunition received from storage via ammunition cargo truck.

2. Fork lift operator will unload carrier by means of approved type fork lift truck, placing pallets in receiving room.

INSPECTION REQUIREMENTS:

None

SAFETY REQUIREMENTS:

1. Explosive limits will be maintained at the lowest amount required for efficient operation.
2. Soda-acid or water type fire extinguishers will be available at all times.
3. Good housekeeping will be maintained.

DISPOSITION OF COMPONENTS AND MATERIALS:

Ammunition to Operation 3.

EQUIPMENT REQUIREMENTS:

One approved type fork lift truck.
STANDARD OPERATING PROCEDURE FOR: Modification OF SCP No: 40M

KONSULTORS: Grenade, Hand, Fragmentation, MK 2.

DATE: October 1957

V/Type MOD/AL: ITEM NO: M600-3048P

LOCATION: Room 3, Hldg. No. 39 MOD/8-IR

EXPLOSIVE LIMITS: POUNDS: 56 NO OF ITEMS 200

PERSONNEL LIMITS: OPERATORS 2 CASUALS 3

SHIFT 2,000 RDS

DIRECT LABOR: 2

STEP OPERATION NO. 3 TITLE: Unpack and Inspect

1. Ammunition received from Operation 2 via rubber tired ammunition cart.
2. Grenade boxes will be placed on work table, steel strapping seals and cover removed.
3. Remove fiber containers from packing boxes, remove tape and top from fiber container.
4. Inspect all grenades for presence and proper assembly of safety pin.
5. Remove grenades from fiber containers and place in egg-crate tray.
   Note: Trays will be so constructed that contact of any fuse with any portion of tray or other object is impossible.
6. Trays of grenades will be hand carried to Operation 4.
7. All packing material will be inspected for adequacy of decontamination.

INSPECTION REQUIREMENTS:

Prior to removal of grenade from fiber container, careful inspection will be made to assure that safety capper pin is properly assembled, and for the presence of dangerous deterioration.

SAFETY REQUIREMENTS:

1. Free exit will be maintained from operating site.
2. Soda-acid or water type fire extinguishers will be readily available.
3. A steel baffled tank will be conveniently located to receive any grenade that may be inadvertently actuated.

DISPOSITION OF COMPONENTS AND MATERIAL:

Grenades to Operation 4.
Packing material to Operation 6.

EQUIPMENT REQUIREMENTS:

Steel baffled tank.
Work table.
Grenade trays.
Strap cutting tools.
STANDARD OPERATING PROCEDURE FOR: Modification of M6 MINE

NOMENCLATURE: Grenade, Hand, Fragmentation, Mk 2

W/T No: NOAA1

LOCATION: Barricade, Room 1, ICL Bldg. No. 19

EXPLOSIVE LIMITS: In each barricade - POUNDS 2

NO OF ITEMS: 20 grenades

PERSONNEL LIMITS: OPERATORS 2 CASUALS 1

DIRECT LABOR/SHIFT 2

STEPS

1. Grenades will be hand carried in trays, 20 grenades to tray, from Operation 5, and placed on table inside of barricade.
2. Position grenade in holding fixture inside steel defusing machine.
3. Close door of barricade and operate fuse removal tool by means of air valve.
4. When fuse is completely removed from grenade and barricade door is released, operator will open door of barricade and remove fuse, placing it in a wooden tray for removal to Operation 7.
5. Grenade body is removed from holding fixture, returned to tray and transferred to Operation 5.

INSTRUCTION REQUIREMENTS:

None

SAFETY REQUIREMENTS:

1. A steel baffled tank will be conveniently located to receive any grenade that may be inadvertently actuated.
2. Only one operator will be permitted at each defusing machine.
3. Trays of fuses will be hand carried to service barricade.
4. Defusing fixture will be so constructed that fuse will be physically separated from grenade before door can be opened.

DISPOSITION OF COMPONENTS AND MATERIAL:

Grenades to Operation 5.
Fuses to service barricade.

EQUIPMENT REQUIREMENTS:

Fuse removal barricade and fixtures.
Work table.
Steel baffled tank.
Grenade trays.
STEP  | OPERATION NO. 5 | TITLE: Install New Fuse
--- | --- | ---
1. | Grenades will be hand carried in trays from Operation 4 and placed on work table. |
2. | New fuses received from service barricade will be placed on table, unpacked and inspected. |
3. | Operator will place grenade in holding fixture on work table, apply a coat of acid proof black paint to fuse threads and assemble washer and fuse to grenade. |
4. | Fuse will be secured by means of a spark proof hand wrench. |
5. | Fused grenade will be placed in tray and hand carried to Operation 6. |
6. | If any grenades showing excessive scale or rust are discovered, they will be placed in trays and hand carried to Operation 8. |

INSPECTION REQUIREMENTS:
Inspect new fuses 100%.
Inspect proper assembly of fuse to grenade.

SAFETY REQUIREMENTS:
1. Only one operator will be permitted at each refusing table.
2. A steel baffled tank will be conveniently located to receive any grenade that may be actuated.
3. Only one carton of 25 fuses will be permitted on fusing table.

DISPOSITION OF COMPONENTS AND MATERIAL:
Grenades to Operation 6.

EQUIPMENT REQUIREMENTS:

Work table.
Grenade holding fixture.
Spark proof fuse wrench.
Grenade trays.
Acid proof black paint.
STANDARD OPERATING PROCEDURE FOR: Modification of

HOMOLOGATION: Grenade, Hand, Fragmentation, HE 2

V/Type: MG01A1

ITEM NO: MG01-ZOMAP

LOCATION: Room 2, LOL Bldg. No. 10

PROD/8-HR SHIFT: 2,000

EXPLOSIVE LIMITS: POUNDS 56 NO OF ITEMS 500

PERSONNEL LIMITS: OPERATORS 6 CASUALS 3

DIRECT LABOR/ SHIFT: 6

STEP OPERATION NO. 6 TITLE: Inspect, Repack and Dispatch to Storage

1. Grenade will be hand carried from Operation 5 in fuse trays and placed on packing table.
2. Mark grenades with yellow strip in accordance with Fig. 82-0-41 Rev. 3.
3. Pack grenade in fiber container, using sufficient filler to assure a tight pack.
4. Seal and stencil fiber container.
5. Pack grenades in wooden packing boxes using sufficient filler to assure a tight pack.
6. Seal and stencil packing boxes.
7. Load packed grenades on cargo truck and return to storage.

INSPECTION REQUIREMENTS:
Inspect for compliance with applicable drawings and specifications.

SAFETY REQUIREMENTS:
1. Free exit will be maintained from operation site.
2. Good housekeeping will be observed.
3. Soda-acid or water type fire extinguishers will be readily available.
4. A steel baffled tank will be conveniently located to receive any grenade that may be inadvertently actuated.
5. Boxes of grenades will be placed on pallets so they will be stable. Straps will be used by truck driver on each pallet.

DISPOSITION OF COMPONENTS AND MATERIAL:
Packed grenades to storage.

EQUIPMENT REQUIREMENTS:
Work tables,
Stencil equipment,
Strapping tools,
Sealing tools.
STANDARD OPERATING PROCEDURE FOR: Modification OF SPN HO: 40 M

NOMENCLATURE: Grenade, Hand, Fragmentation, MK 2

ITEM NO: M400-203BP

LOCATION: Demolition Ground

PERSONNEL LIMITS: OPERATORS 2  CASUALS 3

STEP OPERATION NO. 7 TITLE: Destroy Fuses.

1. Fuses will be delivered to Demolition Ground in covered trays by means of cargo truck.
2. Fuses will be destroyed in burning chamber.
3. Unserviceable or contaminated TNT will be burned in accordance with OSB No. 17L.
4. Grenade bodies will be flashed.
5. Reclamable scrap will be loaded on carrier and transferred to scrap yard.

INSPECTION REQUIREMENTS:

Inspect reclamable scrap for adequacy of decontamination.

SAFETY REQUIREMENTS:

1. All provisions contained in SOP No. WCD 7 X, Amendment No. 1, will be adhered to.

DISPOSITION OF COMPONENTS AND MATERIAL:

Scrap metal to scrap yard.

EQUIPMENT REQUIREMENTS:

Burning chamber.
Cargo truck.

SHEET 11 OF 12
STANDARD OPERATING PROCEDURE FOR: Modification OF: SOP NO: 40 M

NOMENCLATURE: Grenade, Hand, Fragmentation, MK 2.

DATE: October 1951

ITEM NO: M200-H30MAP

LOCATION: Room 2, Elna. No. 39

EXPLOSIVE LIMITS: Pounds: 11, No. of Items: 300

PERSONNEL LIMITS: Operators: 5, Casuals: 2

SHIFT: 2,000 rds

DIRECT LABOR:

STEP  OPERATION NO. 8  TITLE: Derust and repaint

1. Clean excessive scale or rust from grenade body by means of wire brush.
2. Touch up or repaint grenade bodies where necessary with olive drab
   primer, quick drying JAR-B-74 lacquer.
3. Return painted grenades to Operation 5.
4. Fuse openings will be adequately plugged or covered prior to cleaning
   operations.

INSPECTION REQUIREMENTS:

Inspect for complete removal of rust.

SAFETY REQUIREMENTS:

1. Soda-acid or water type fire extinguishers will be readily available.
2. Not over one pint of paint will be permitted at painting operation.
3. Good housekeeping will be maintained.

DISPOSITION OF COMPONENTS AND MATERIALS:

Replaced grenades to Operation 5.

EQUIPMENT REQUIREMENTS:

Wire hand brushes.
Paint material.

SHEET 12 OF 12
DEPARTMENT OF THE ARMY
WHITE ORDNANCE DEPOT
GALLOP, NEW MEXICO

STANDARD OPERATING PROCEDURE

FOR

Modification

COMPLETE NOMENCLATURE: Shell, Semifixed, HE, M1, w/fuse PD KM14, .55 Sec.

PRIORITY: For 102028 Hostility

PURPOSE: To replace unserviceable fuses, repack and place subject ammunition in
Condition One.

SOP No: ASQ-3-N

DATE: September 1951

Total Quantity Scheduled: 66,046 rds.

Estimated Production Per 8-hr Shift: 320 rds.

Estimated Total Direct Labor Crew Per Shift: 33

Estimated Total Direct Man Hours Per Unit: 32

Estimated Total Ordnance Cost Per Unit: $.56

LOCATION OF OPERATING BUILDING: A.W.S. Building No. 533

APPROVED:

B. L. Bowman
Major, Ord Corps
Commanding

SHEET 1 OF 5
STEP 1: OPERATION NO. 1. TITLE: Remove from Storage

1. Ammunition will be removed from storage by hand and placed on suitable pallet.
2. Pallet will be loaded on van, semi-trailer, or cargo truck with wooden sides and floor.
3. Ammunition will be moved to west platform of Blög. No. 503 by cargo truck or 5-ton 4 x 2 tractor conforming to Section 14, US Form No. 7224, USA.

Note: Explosive limits for complete operation at Blög. No. 503 will not exceed 1050 rounds or 4340 pounds explosives.

INVENTORY REQUIREMENTS:
None

SAFETY REQUIREMENTS:
1. Portable fire extinguishers will be available at storage point.
2. Operators will wear gloves and safety shoes.
3. Free exit from storage site will be maintained.
4. Good housekeeping will be observed.

RESTRICTION OR CONDITION AND MATERIAL:
Ammunition to Operation 2.

INVENTORY REQUIREMENTS:
One approved type electric fork lift truck,
One cargo truck or semi-trailer with tractor,
*Includes fork lift operator and one truck driver.
STANDARD OPERATING PROCEDURE FOR: Modification of SOP AGO 42 M

BOMESLATION: Shell, Semi-Fuzed, HE, 70, w/Fuse

PD: M-144 .15 Sec. Delay, for 105M1 Mortar

LOCATION: AWs Bldg. No. 503

EXPLOSIVE LIMITS: 1.9 oz  NO OF ITMS: 400

PERSONNEL LIMITS: OPERATORS: 23  CASUALS: 5

STEP   OPERATION NO. 2   TITLE: Unpack

1. Ammunition will be moved from platform to unpacking table by means of electric fork lift truck.
2. Ammunition will be placed on canvas covered work table and round removed from fiber containers.
3. Cartridge case will be separated from projectile and placed on rubber tired cart for removal to unpacking operation.
4. Projectiles will have metal packing stops removed and be placed on wooden skids on roller conveyor for transporting to Operation 3.
5. Fiber containers will have marking obliterated by use of acid proof black paint.

INSPECTION REQUIREMENTS:

Inspect for correct lot number.
Inspect for dangerous condition of complete round.

SAFETY REQUIREMENTS:

1. If any dangerous round is encountered, it will be immediately removed from operation and dispatched to holding barricade in demolition ground awaiting disposition.
2. Soda acid or water type fire extinguishers will be readily available.
3. Operators will wear safety shoes.
4. Free exit will be maintained from operating room.
5. Filled carts containing cartridge cases will be parked as far from unpacking table as space will permit.
6. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:

- Projectiles to Operation 3.
- Cartridge cases to Operation 4.
- Fiber containers to Operation 4.
- Metal parts to salvage.

EQUIPMENT REQUIREMENTS:

- Electric fork lift.
- Ammunition carts.
- Work table.
- Hand tools.

*Explosive and personnel limits shown cover entire operation in Rs. 1 of Bldg. 503.

SHEET 3 OF 5
STANDARD OPERATING PROCEDURE FOR: Modification OP

CLASSIFICATION: Shell, Semi-fuzed, HE, ML, v/fuse

DATE: November 1951

FD 101A, 35 Sec. Delay, for 105MM Howitzers

SHIFT: 800 rds

LOCATION: ANS Bldg. No. 503

EXHAUSTIVE LIMITS: 20 - 60 fuses in each barricade, NO OF ITEMS: 6 rds

PERSONNEL LIMITS: OPERATORS 1 CASUALS 2 in each barricade

STEP OPERATION NO. 3 TITLE: Defuze and Refuze

The storage, unpacking and repacking of fuses will be in Room 2 of Bldg. No. 503. Fuses will be carried in fuse tray, to and from operation, as required. 

1. Ammunition received via wooden skids on roller conveyors.

Note: Skid loaded with projectiles will not be removed from conveyors. Operators will hand carry one projectile at a time to and from operation.

2. Operator will remove fuse by means of holding fixture and fuse wrench.

3. In second barricade operator will remove booster and screw by means of a positive stop, explosion proof, electric drill. **

4. In third barricade operator will remove booster and place in fuse tray.

5. In fourth and fifth barricade operators will install new fuses and stave in position.

6. Refused projectiles will be moved to Operation 4 via wooden skids and roller conveyors.

INSPECTION REQUIREMENTS:

Inspect new fuse for correct lot number.

Inspect refused projectiles for proper assembly.

SAFETY REQUIREMENTS:

1. Only one operator will be permitted in each fuse barricade.

2. Free exit will be maintained from barricade.

3. Operators will wear safety shoes.

4. Operator removing boosters will be provided with a non-ferrous container for loose TNT. This container will be emptied into TNT cans in TNT service barricade at Bldg. No. 500.

DISPOSITION OF COMPONENTS AND MATERIALS:

Projectiles to Operation 4.

Old fuses to storage.

EQUIPMENT REQUIREMENTS:

Work benches with projectile holding fixtures.

Fuse wrenches, booster wrenches, and staking tools.

*Limits for fuse storage and packing in Room, Bldg. 503 will be maintained as follows: 2,000 fuses; 3 Operators; 3 Casuals.

**Air drills not available.
STANDARD OPERATING PROCEDURE FOR: Modification OF 305 NOA SQ. M

NOMENCLATURE: Shell, Semifixed, HE, M1, v/fuze

FD MILA, .55 Sec, Delay, for 105MM Howitzers

LOCATION: ABE Bldg., No. 503

EXPLOSIVE LIMITS* POUNDS 1,936 NO OF ITEMS 400

PERSONNEL LIMITS: OPERATORS 33 CASUALS 5

STEP  OPERATION NO. 4 TITLE: Repack and Return to Storage.

1. Booster set screw holes will be closed with wax.
2. Proper lot suffix will be added on both projectile and cartridge case.
3. Projectile and cartridge case will be assembled on canvas covered work table.
4. Metal packaging stop will be placed on projectile and assembled round packed in fiber container.
5. Fiber container will be sealed with ammunition tape.
6. Fiber container will be stenciled with proper nomenclature.
7. New boxes will be stenciled with proper marking.
8. Rounds will be placed in boxes and cardboard filler added to insure a tight pack.
9. Boxes will be properly strapped and sealed.
10. Ammunition will be placed on wooden pallets and returned to storage.

INSPECTION REQUIREMENTS:

Inspect proper assembly of round.
Inspect marking and packing of end product.

SAFETY REQUIREMENTS:

1. Free exit will be maintained from operating site.
2. Soda-acid or water type fire extinguishers will be readily available.
3. Operators will wear safety shoes.
4. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:

End product to storage.

EQUIPMENT REQUIREMENTS:

Ammunition carts.
Work tables.
Stencill equipment.
Strapping equipment.
Sealing tools.

*Explosive and personnel limits shown cover entire operation in Rm. 1 of Bldg. 503.
DEPARTMENT OF THE ARMY
WINNIE ORDNANCE DEPOT
GALLUP, NEW MEXICO

STANDING OPERATING PROCEDURE

FOR
Demilitarization

COMPLETE NOMENCLATURE: Shell, Semi-fixed, Smoke, HE, BF, MR for 105mm Howitzer.

CODES: 2822-38
SOP NO: ASO-13D
DATES: December 1952

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<td>Estimated Total Ordnance Cost Per Unit:</td>
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LOCATION OF OPERATING BUILDING: LOC Rds. No. 19.

The first seventy-two (72) hours of operation is considered a controlled test to firm this Standing Operating Procedure. (Reference Paragraph 1625 of ORD M 7-224.)

[Signature]
KENNETH E. K sadness
Lt Colonel, Ord Corps
Commander
1. Remove from Storage
2. Unpack and Inspect
3. Remove and Pack Propelling Charge
4. Deprice Cases and Remove Base Charge
5. Pack Cartridge Cases
6. Destroy Primers
STANDING OPERATING PROCEDURE FOR Des军事ization OF SOF No: A90-430

NOMENCLATURE: Shell, Semi-fixed, Smoke, HC, HE, M94

DATE: December 1952

LOCATION: Various Storage Sites

EXPLOSIVE LIMITS: Foundry As Stored NO OF ITs: 9 As Stored SHIFT: 5

PERSONNEL LIMITS: OPERATORS: 5th CASUALS: 3

STEP OPERATION NO. 1 TITLE: Remove from Storage

1. Remove ammunition from storage and place on wooden pallet.

2. Pallets will be loaded by approved type forklift truck onto van, semi-trailer or cargo truck, with wooden floor and sides.

3. Loaded van will be moved to 1st Bldg. No. 19 by means of 5-ton 4x2 tractor.

4. Pallets will be unloaded by means of an electric forklift truck and placed in Room No. 5.

Note: Explosive limit in Room 5 will not exceed 600 rounds.

INSPECTION REQUIREMENTS:

None

SAFETY REQUIREMENTS:

1. Du-gas or CO2 fire extinguishers will be readily available.

2. Free exit from storage site will be maintained.

3. Ammunition will be handled carefully.

4. Good housekeeping will be observed.

5. Safety shoes and gloves will be worn.

DISPOSITION OF COMPONENTS AND MATERIALS:

Ammunition to Operation No. 2.

Damage to reclamation yard.

EQUIPMENT REQUIREMENTS:

One van, semi-trailer, with 5-ton 4x2 tractor, or two cargo trucks.

One approved forklift truck.

*Includes forklift operator.
STANGLING OPERATING PROCEDURE FOR: Demilitarization of SHELL, Semi-Fixed, Smoke, HC, RE, 824

LOCATION: Room 5, LCL Ridg. No. 29.

EXPLOSIVE LIMITS: LOWER LIMIT NO OF ITEMS: 600 rds. UPPER LIMIT 1,200 rds.

PERSONNEL LIMITS: OPERATORS: 8 CASUALS: 3 DIRECT LABOR: 8

STEP OPERATION NO. 2 TITLE: Unpack and Inspect

1. Round in fiber container will be removed from shipping container and placed on canvas covered work table.

2. Tape will be removed from fiber container.

3. Projectile will be removed from fiber container and placed on work table.

4. Packing stop will be removed from fused projectile and placed in container for transfer to storage.

5. Rotating band and breech cover of projectile will be taped.

6. Projectile will be placed on base in storage pallet and blocked to prevent shifting.

7. Cartridge case will be removed from fiber container and placed in egg crate type separator tray on rubber tired ammunition cart, 48 cases to cart, and transferred to Operation No. 3.

8. Fiber containers without lids will be placed on ammunition cart and transferred to Operation No. 5.

9. Lids of fiber containers will be placed in box pallets and transferred to Operation No. 5.

INSPECTION REQUIREMENTS:
Inspect round for correct lot identification.
Inspect for dangerous rounds; any such round will be removed from operating line and placed in AWS Barricade No. 514 and Surveillance Inspector notified.
All packing material will be inspected for adequacy of decontamination in accordance with par 1740 of QACI.

SAFETY REQUIREMENTS:
1. Free exit from operating site will be maintained.
2. CO2 or Du-gas fire extinguishers will be readily available.
3. Operators will wear spark proof safety shoes.
4. Good housekeeping will be maintained.
5. Gas masks, for emergency purpose only, will be available in a convenient location.

DISPOSITION OF COMPONENTS AND MATERIALS:
- Cartridge cases to Opn No. 3.
- Serviceable fiber containers to Opn 5.
- Unserviceable fiber containers to Box Yard.
- Salvage yard.
- Packing stop to Storage.

EQUIPMENT REQUIREMENTS:

SHEET 4 OF 8
STANDING OPERATING PROCEDURE FOR: Demilitarization of 105mm Howitzers

NON-SCIENTIFIC: Shells, Semi-fixed, Smoke, HE, HE M64

LOCATION: Room 3, LCL Bldg. No. 19

EXPLOSIVE LIMITS: 5 Metal Drums of 26 Powder Charges Each

PERSONNEL LIMITS: OPERATIONS: 5 CASUALS: 3

DEPOT NO: NSN 43D

DATE: December 1982

ITEM NO: 2922-38

SHIFT: 1,200 rds.

DIRECT LABOR:

SHIFT: 4

STEP | OPERATION NO. 3 | TITLE: Remove & Pack Propelling Charges
--- | --- | ---
1. | Primed cartridge cases with propelling charges received from opn 2 on rubber tired ammunition cart equipped with eggcrate type trays to separate cases. |  
2. | Operator will cut string with spark proof shears and remove all charges except base charge, from cartridge case. |  
3. | Metal powder packing drums will be air tested for serviceability. |  
4. | All increments of 46 charges, less base charge, will be packed in a grounded metal powder packing drum which will be equipped with a non-ferrous metal self-closing lid. |  
5. | When 46 base charges have been removed from operation 4 and packed with corresponding lot in metal packing drum a strip of 4/10 Methyl Violet paper will be inserted beneath the lid and cover securely closed. |  
6. | Powder drums will be stenciled with DDC markings, proper nomenclature and lot number. |  
7. | Packed powder drums will be transferred via hand truck to a closed van type trailer or cargo truck which will be parked at the extreme north end of west loading platform. After loading 25 drums in vehicle or after each shift operation, material will be dispatched to storage. All charges accumulated while vehicle is being used for transfer activities will be placed in temporary storage in Service Magazine No. 2. All powder stored in Service Magazine No. 1 will be loaded on to vehicle on return trip from permanent storage site. |  

INSPECTION REQUIREMENTS:
Inspect powder bags for evidence of discoloration or other deterioration. Unsuitable charges will be packed separately, turned over to Surveillance Inspector for disposition.

SAFETY REQUIREMENTS:
1. At no time will more than two (2) powder containers be open at operation.
2. D兴致 or C02 fire extinguishers will be available.
3. Free exit will be maintained from operating site.
4. Operators will work from grounded metal platform and wear conductive sole safety shoes.
5. All grounds will be tested before starting operations.
6. All personnel entering this room will wear conductive sole safety shoes.
7. Conductive soled safety shoes will be inspected at the beginning of each shift.
8. All powder operators will wear flame proof coveralls.

DISPOSITION OF COMPONENTS AND MATERIALS:
Cartridge cases to Operation No. 4c Propelling charges to storage.

EQUIPMENT REQUIREMENTS:
Spark proof hand tools and shears.
STANDARD OPERATING PROCEDURE FOR: Demilitarization OF SHELLS, Semi-fixed, Smoke, HA, HE, M64

NOMENCLATURE: Shell, Semi-fixed, Smoke, HA, HE, M64

155mm Howitzers

LOCATION: West Barricade, Room 3, LCL Bldg. No. 19

1 Box Primers

EXPLOSIVE LIMITS: POUNDS: - - - NO OF ITEMS: 16 cases

PERSONNEL LIMITS: OPERATORS: 2 CASUALS: 3

STEP OPERATION NO. TITLE

1. Cartridge cases containing primer and base charge received from Opn 3 via rubber-tired ammunition cart. Not more than 1/8 cartridge cases will be packed in each cart.
2. Cartridge case will be removed from cart and positioned in air operated primer removal machine. Operator will close primer machine door and punch out primer with base charge attached. Base charge and primer will be automatically removed from depriming machine and carried through flash shield and deposited on disassembly table by an air driven conveyor.
3. After 1/8 primers are removed, operator will clean depriming punch with a spark-proof tool to ascertain that punch is free of all foreign particles.
4. Operator separates primer from base charge by means of a spark proof knife or scissors.
5. 1/8 base charges will be placed in a wooden tray equipped with a non-ferrous metal self-closing lid. Tray of 1/8 charges will be hand carried to Opn 3 where they will be packed, 1/8 per metal powder drum, with previously packed increments of same lot.
6. Primers will be packed in wooden box, not over 200 to box. Primers will be separated and cushioned with sawdust. Wooden box of primers will be transferred by hand to Service Barricade No. 2 for temporary storage prior to removal to Operation No. 5. Service Barricade No. 2 will be limited to 1000 primers.

INSPECTION REQUIREMENTS:

None

SAFETY REQUIREMENTS:

1. Only spark proof tools will be permitted in this operation.
2. Suitable flash shields will be constructed around primer removal machine.
3. Free exit will be maintained from operating site.
4. CO2 or Du-gas fire extinguishers will be readily available.
5. Good housekeeping will be observed.
6. Operator separating primer from base charge will work on a grounded platform and will wear conductive safety shoes, and flash proof coveralls.
7. Not more than one primer and base charge will be permitted to accumulate on disassembly table beneath conveyor belt.
8. Primer removal machine will have an automatic sprinkler head installed in the hood of the machine, NOT more than 12" above the conveyor belt and a manual control delay system over the exposed belt conveyor.

EQUIPMENT REQUIREMENTS:

Depriming Machine.

DISPOSITION OF COMPONENTS AND MATERIAL:

Cartridge cases to Operation No. 5.

Base Charges to Operation No. 3.

Primers to Operation No. 6.
STANDING OPERATING PROCEDURE FOR:  Denali for 105mm Howitzer

NOMENCLATURE: Shell, Semi-fixed, Smoke, HC, HE, M61

LOCATION: Room 1, LCL Bldg. No. 19

EXPLOSIVE LIMITS: POUNDS: - -  NO. OF ITEMS: - -

PERSONNEL LIMITS: OPERATORS: 8 CASUALS: 3

DIRECT LABOR/SHIFT: 8

DATE: Dec 52

ITEM NO.

CODE: 2822-38

SHIFT: 1, 200 rds.

STEP | OPERATION NO. 5 | TITLE: Pack Cartridge Cases
--- | --- | ---
1. | Inner sleeves will be removed from fiber containers to permit the packing of two cartridge cases in each container. |
2. | Original markings on fiber containers will be obliterated by means of acid proof black paint. |
3. | Cartridge cases will be packed 2 per fiber container. |
4. | Containers will be closed and sealed with one wrap of ammunition tape. |
5. | Containers will be stenciled with proper nomenclature and lot number. |
6. | Packed containers will be placed in temporary storage in Room 1, LCL Bldg. No. 19. A quantity equivalent to one transportation unit will be accumulated, at which time this quantity will be loaded for outshipment. |
7. | Surplus fiber containers and lids will be properly assembled and palleitized for transfer to storage. |

INSTRUCTION REQUIREMENTS:

Inspect for correct marking.

SAFETY REQUIREMENTS:

1. CO2 or Du-gas fire extinguishers will be readily available.
2. Free exit from operating site will be maintained.
3. Operators will wear safety shoes.
4. Good housekeeping will be maintained.

DISPOSITION OF COMPONENTS AND MATERIAL:

Packed cartridge cases to storage.
Surplus fiber containers to storage.

EQUIPMENT REQUIREMENTS:

Work table, Taping machine, Stencil equipment, Hand tools.
<table>
<thead>
<tr>
<th>STEP</th>
<th>OPERATION NO. 6</th>
<th>TITLE: Destroy Primers.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td>Primmers will be moved to burning ground in a cargo truck with wooden sides and floor.</td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td>Primers will be destroyed in popping plant.</td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td>Reclaimable scrap will be packed in boxes and hauled to salvage yard.</td>
</tr>
<tr>
<td>4.</td>
<td></td>
<td>Any hazardous or badly deteriorated rounds will be destroyed by demolition as outlined in SOP ASC-14D and Amendment No. 1.</td>
</tr>
</tbody>
</table>

**INSPECTION REQUIREMENTS:**
Reclaimable scrap metal will be inspected for adequacy of decontamination in accordance with par 1840a of OACI and SOP DEF-438.

**SAFETY REQUIREMENTS:**
1. Safety requirements as outlined in ORM L-221, Section 27 and SOP ASC-7XE, Amendments No. 1 and No. 2, will be followed.

**DISPOSITION OF COMPONENTS AND MATERIAL:**
Salvage metal to salvage yard.

**EQUIPMENT REQUIREMENTS:**
Transfer equipment and popping plant.
DEPARTMENT OF THE ARMY
WINGATE ORDNANCE Depot
GALLUP, NEW MEXICO

STANDING OPERATING PROCEDURE
FOR
Demilitarization

COMPLETE NOMENCLATURE: Shell, Sd.-fztd. Smoke, HE, HE, M64, for 105mm Howitzers.

CODE: 2B22-28	SOP No: AEO-63D Revision No. 1	DATE: December 1952

Total Quantity Scheduled: 100,113 rds.
Estimated Production Per 8-hr Shift: 1,200 rds.
Estimated Total Direct Labor Crew Per Shift: 27
Estimated Total Direct Man Hours Per Unit: 18
Estimated Total Ordnance Cost Per Unit: $37

LOCATION OF OPERATING BUILDING: 1CL Bldg. No. 30

The first seventy-two (72) hours of operation is considered a controlled test to firm this Standing Operating Procedure. (Reference Par 1625, ORD M 7-224.)

KENNETH E. KNUDSON
Lt Colonel, Ord Corps
Commanding

SHEET 1 OF 8
1. Remove from Storage
2. Unpack and Inspect
   Return Projectile to Storage
3. Remove and Pack
   Propelling Charge
4. Depress Cases and
   Remove Base Charge
5. Pack Cartridge Cases
6. Destroy Primers
STANDING OPERATING PROCEDURE FOR: Demilitarization OF 40mm-43D Rev No. 1

CONCERNING: Shell, Semi-fixed, Sacks, RL, BE, M8A

DATE: December 1942

for 105mm Howitzer

LOCATION: Various Storage Sites

EXPLOSIVE LIMITS: POUNDS: As Stored NO OF ITEMS: As Stored

PERSONNEL LIMITS: OPERATORS: 5# CASUALS: 3 DIRECT LABOR

STEP OPERATION NO. 1 TITLE: Remove Ammunition from Storage

1. Remove ammunition from storage and place on wooden pallet.

2. Pallets will be loaded by approved type forklift truck onto van, semi-trailer or cart truck, with wooden floor and sides.

3. Loaded vehicle will be moved to LOL Bldg. No. 19.

4. Pallets will be unloaded by means of an electric forklift truck and placed in Room 5.

Note: Explosive limit in Room 5 will not exceed 600 rounds. When contents of the van or truck added to the ammunition in Room 5 exceed the 600 round limit, the van or truck will be parked not less than 100 feet from the operating building.

INSPECTION REQUIREMENTS:

1. Inspect for compliance with this SOP, CRD M 7-224, and other pertinent safety regulations and Storage SOP.

SAFETY REQUIREMENTS:

1. Du-gas or CO₂ fire extinguishers will be readily available.

2. Free exit from storage site will be maintained.

3. Ammunition will be handled carefully.

4. Good housekeeping will be observed.

5. Safety shoes and gloves will be worn.

DISPOSITION OF COMPONENTS AND MATERIAL:

1. Ammunition to Operation No. 2.

2. Dummage to reclamation yard.

EQUIPMENT REQUIREMENTS:

One van, semi-trailer, with 5-ton 4x2 tractor, or two cargo trucks. One approved forklift truck.

*Includes forklift operator.
STANDING OPERATING PROCEDURE FOR: Demilitarization OF: SOF NO: AGO-429 REV NO: 3

MATERIAL: Shell, Semi-fixed, Smoke, HE, HE, MG

DATE: December 1952

for 105mm Howitzer

CODE: 2622-2E

LOCATION: Room 5, 105 E.Bldg., No. 19

PROD/SH: 1.000 rds.

EXPLOSIVE LIMITS: FINDS: --- NO CF IT: 48 x 600 rds.

PERSONNEL LIMITS: OPERATORS: 10 CASUALS: 3

DIRECT LAB: SHIFT: 10

STEP (OPERATION NO. 2) TITLE: Unpack Case & Return Shell to Storage

1. Round in fiber container will be removed from shipping container and placed on canvas covered work table.
2. Tape will be removed from end of fiber container in which brass case is located, and cap of container removed.
3. Brass case will be removed from fiber container and placed in a clean egg crate type tray, recessed to protect the primer, on rubber tired cart, 48 cases to each cart, and transferred to Operation No. 3.
4. Fiber container, with projectile therein, will be palletized and transferred to storage, in accordance with the Storage SOP.

INSPECTION REQUIREMENTS:

1. Inspect round for correct lot identification.
2. Inspect for compliance with this SOP, ORD 7-224, and other pertinent safety regulations.
3. Inspect for dangerous rounds; any such round will be removed from operating line and placed in ABB Barricade No. 574, and Surveillance Inspector notified.
4. All packing material will be inspected for adequacy of decontamination in accordance with par 1720 of OAG.
5. Before cartridge cases are placed in the egg crate trays, each section of the tray will be inspected for foreign material which might cause the primer to function.

SAFETY REQUIREMENTS:

1. Free exit from operating site will be maintained.
2. CO2 or Du-gas fire extinguishers will be readily available.
3. Operators will wear spark proof safety shoes.
4. Good housekeeping will be maintained.
5. Gas mask, for emergency purpose only, will be available in a convenient location. Each operator from each shift will be instructed in the use of and responsible for using the mask in the event of an emergency.

DISPOSITION OF COMPONENTS AND MATERIAL:

1. Cartridge cases to Operation No. 3.
2. Packing material to Salvage Yard or Storage.
3. Projectiles in original fiber containers to Storage.

EQUIPMENT REQUIREMENTS:

STANDING OPERATING PROCEDURE FOR: Demilitarization OF 50CAL AMMUNITION

NOMENCLATURE: Shell, Semi-Mixed, Smoke, MC, HE, MDA

DATE: December 1952

LOCATION: Room 3, ICL Bldg. No. 19

SHIFTS: 1, 200 P.M.

EXPLOSIVE LIMITS: 56 cartridge cases with base charges.

PERSONNEL LIMITS: OPERATORS: 5, CASUALS: 3

STEP 1. Primed cartridge cases, with propelling charges, received from Operation 2 on rubber tired ammunition cart equipped with egg crate type trays to separate cases.
2. Operator will cut string with spark proof shears and remove all charges, except base charge, from cartridge case.
3. Metal powder packing drums will be inspected to insure protection of contents against spillage.
4. All increments of 48 charges, less base charge, will be packed in a grounded metal powder packing drum which will be equipped with a non-ferrous metal self-closing lid while packing is being accomplished.
5. When drum is completely packed with the increments of 48 charges, less base charges, a strip of dated N/10 Methyl Violet paper will be inserted beneath the lid and the cover securely closed.
6. Powder drums will be stenciled with IOO markings, proper nomenclature, net weight of contents, gross weight, and powder lot number.
7. Packed powder drums will be transferred via hand truck to a closed van type trailer or cargo truck which will be parked at the extreme north end of west loading platform. After loading 25 drums in vehicle or after each shift operation material will be dispatched to storage. All charges accumulated while vehicle is being used for transfer activities will be held on platform at loading point.

NOTE: Explosive limit at loading point and in truck at no time will exceed 25 drums of powder.

INSPECTION REQUIREMENTS:
1. Inspect powder bags for evidence of discoloration or other deterioration. Unserviceable charges will be packed separately, turned over to Surveillance Inspector for disposition.
2. Inspect for compliance with this SOP, ORDIN 7-224, and other pertinent safety regulations.
3. Increments in blue bags are not unserviceable but the packing drums will have the words "Blue Bags" stenciled thereon.

SAFETY REQUIREMENTS:
1. All grounds will be tested before starting operations.
2. At no time will more than two (2) powder containers be open at operation.
3. Du-gas or CO₂ fire extinguishers will be available.
4. Free exit will be maintained from operating site.
5. Operators will work from grounded metal platform and wear conductive sole safety shoes.
6. All personnel entering this room will wear conductive sole safety shoes.
7. Conductive sole safety shoes will be inspected at the beginning of each shift.
8. All powder operators will wear flame proof coveralls.

DISPOSITION OF COMPONENT AND MATERIALS:
1. Cartridge cases to Operation No. 4.
2. Propelling charges to storage.

EQUIPMENT REQUIREMENTS:
Spark proof hand tools and shears.
STANDD OPERATING PROCEDURE FOR: Demilitarization OF SOP NO: ASC-43D Rev. No. 1
NONEMIUMVERS: Shell, Semi-fixed, Smoke, HE, HE, M6  DATES: December 1952
for 105mm Howitzers
Code: 2322-38
PRDW: 8-108
LOCATION: West Barricade, Room 3, LCL Bldg, No. 19  SHIFT: 1:00 a.m.
EXPLOSIVE LIMITS: 1 Box Primers, 48 cases & 192 base charges
PERSONNEL LIMITS: OPERATORS: 2  CASUALS: 3  DIRECT LABOR:
SHIFT: 2

STEP  OPERATION NO. 4  TITLE: Remove Primer and Base Charge

1. Cartridge cases containing primer and base charge received from Operation No. 3 via rubber tired ammunition cart.
2. Cartridge case will be removed from cart and positioned in air operated primer removal machine. Operator will close primer machine door and punch out primer with base charge attached. Base charge and primer will be automatically removed from depringing machine and carried through flash shield and deposited on disassembly table by an air driven conveyor.
3. Cartridge case, with base charge and primer removed, will be placed in egg crate type trays, mounted on rubber tired ammunition carts, and transferred to Operation No. 5. 48 cases will be placed in each tray.
4. After 48 primers are removed, operator will clean depringing punch with a spark proof tool to ascertain that punch is free of all foreign particles.
5. Operator separates primer from base charge by means of a spark proof knife or scissors.
6. 168 base charges will be packed in a grounded metal powder packing drum which will be equipped with a non-ferrous metal self-closing lid while packing is being accomplished.
7. Primers will be packed in wooden box, not over 200 to box. Primers will be separated and cushioned with sawdust. Wooden box of primers will be transferred to Service Barricade No. 2 for temporary storage prior to removal to Operation No. 6.  Service Barricade No. 2 will be limited to 4,000 primers.
8. Powder drums will be stenciled with 10C markings, proper nonemialture, weight of contents, gross weight and powder lot number.
9. Packed powder drums will be removed from operating site and transferred to storage as outlined in Operation No. 3, Step 7.

INSPCTION REQUIREMENTS:

1. Inspect powder bags for evidence of discoloration or other deterioration. Unserviceable charges will be packed separately, turned over to Surveillance Inspector for disposition.
2. Inspect for compliance with this SOP, OCM 7-224, and other pertinent safety regulations.
3. Operator of depringing machine will remove inspection plate, which is located on the body of the machine directly under the conveyor, after each lunch period and at the close of each shift in order that the Surveillance Inspector may inspect for loose increments.
4. Primer hole of deprived cases will be spot checked to discover evidence of malfunction of depringing press.
5. Increments in blue bags are not unserviceable but the packing drums will have the words "Blue Bags" stenciled thereon.

SHEET 6 OF 8
STANDING OPERATING PROCEDURE FOR: Demilitarization of SCP No. ASD-43P Rev. No. 2

NOMENCLATURE: Shell, Semi-fixed, Smoke, HCl, BE, M3A

DATE: December 1952

for 105mm Howitzer

CODE: 2822-38

LOCATION: West Barricade, Room 3, LCL Base, No. 19

SHIFT: 1-200 rds.

EXPLOSIVE LIMITS: 1 box primers, 69 cases & 192 base charges

PERSONNEL LIMITS: OPERATORS: 2, CASUALS: 3

DIRECT LABOR /

STEP 2 OPERATION NO. 4 (Continued) TITLE: Remove Primer and Base Charge

SAFETY REQUIREMENTS:

1. Only spark proof tools will be permitted in this operation.
2. Suitable flash shields will be constructed around primer removal machine.
3. Free exit will be maintained from operating site.
4. CO₂ or Du-gas fire extinguishers will be readily available.
5. Good housekeeping will be observed.
6. Operator removing primer from base charge will work on a grounded platform.
7. Not more than one primer and base charge will be permitted to accumulate on disassembly table beneath conveyor belt.

DISPOSITION OF COMPONENTS AND MATERIAL:

1. Cartridge cases to Operation No. 5.
2. Base charges to Operation No. 3.
3. Primers to Operation No. 6.

EQUIPMENT REQUIREMENTS:

Depriming Machine
STANDARD OPERATING PROCEDURE FOR: Demilitarization OF SOP No. ASO-23D-Rev No. 3

NOMENCLATURE: Shell, Semi-fixed, Smoke, NC, PE, USA

DATE: December 1952

for 105mm Howitzer

CODE: 2522-38

LOCATION: Room 4, LCL Building No. 19

SHIFT: 1,200 rds.

EXPLOSIVE LIMITS:

PERSONNEL LIMITS: OPERATORS: 5 CASUALS: 3

DIRECT LABOR:

STEP  OPERATION NO.  TITLE:  Pack Cartridge Cases

1. Packing cases will be received from storage site, and assembled in Room No. 4.

2. Cartridge cases will be packed nine (9) per packing case.

3. Packing cases will be closed and sealed with paper tape.

4. Packing cases will be stenciled with proper nomenclature and manufacturer.

5. Packed containers will be placed in temporary storage in Room No. 4, LCL Bldg. No. 19. A quantity equivalent to one transportation unit will be accumulated, at which time this quantity will be loaded for outshipment.

INSPECTION REQUIREMENTS:

1. Inspect for correct marking.

2. Inspect for compliance with this SOP, ORDM 7-224, and other pertinent safety regulations.

3. Cartridge cases and egg crate trays will be inspected for the presence of primers.

SAFETY REQUIREMENTS:

1. CO₂ or Du-gas fire extinguishers will be readily available.

2. Free exit from operating site will be maintained.

3. Operators will wear safety shoes.

4. Good housekeeping will be maintained.

DISPOSAL OF COMPONENTS AND MATERIAL:

1. Packed cartridge cases to temporary storage.

EQUIPMENT REQUIREMENTS:

Work table, Taping machine, Stencil equipment, Hand Tools.
1. Primers will be moved to Burning Ground in a cargo truck with wooden sides and floor.

2. Primers will be destroyed in popping plant.

3. Reclaimable scrap will be packed in boxes and hauled to salvage yard.

4. Any dangerous or badly deteriorated rounds will be destroyed by demolition as outlined in SOP ASO-1-14B and Amendment No. 1.

INSPECTION REQUIREMENTS:

1. Reclaimable scrap metal will be inspected for adequacy of decontamination in accordance with par 1540 of OACI and SOP DEP-14B.

2. Inspect for compliance with this SOP, ODM 7-224, and other pertinent safety regulations.

SAFETY REQUIREMENTS:

1. Safety requirements as outlined in ODM 7-224, Section 27 and SOP ASO-7A, Amendments No. 1 and No. 2, will be followed.

DISPOSITION OF COMPONENTS AND MATERIAL:

1. Salvage metal to salvage yard.

EQUIPMENT REQUIREMENTS:

Transfer equipment and popping plant.

*Inasmuch as the personnel engaged in this operation can destroy primers in a fraction of the time required to produce them, it is not deemed proper that they be considered as direct labor.*

SHEET 3 OF 5
DEPARTMENT OF THE ARMY
WINNACE ORDNANCE DEPOT
GALLUP, NEW MEXICO

STANDING OPERATING PROCEDURE
FOR
Demilitarization

COMPLETE NOMENCLATURE: Shells, HEAT, S.F., 1507 for 105mm Howitzer.

CODE: 2822-79    SOP No: ASO-430 Rev. No. 1, Amendment No. 1    DATE: January 1953

<table>
<thead>
<tr>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Quantity Scheduled</td>
<td>896 rds.</td>
</tr>
<tr>
<td>Estimated Production Per 8-hr Shifts</td>
<td>896 rds.</td>
</tr>
<tr>
<td>Estimated Total Direct Labor Crew Per Shifts</td>
<td>27</td>
</tr>
<tr>
<td>Estimated Total Direct Man Hours Per Unit</td>
<td>18</td>
</tr>
<tr>
<td>Estimated Total Ordnance Cost Per Unit</td>
<td>$37</td>
</tr>
</tbody>
</table>

LOCATION OF OPERATING BUILDING: ECL Building No. 19

KENNETH E. HUDSON
Lt Col, Ord Corps
Commanding

SHEET 1 OF 8
DEPARTMENT OF THE ARMY
WOMMEN ORDNANCE DEPOT
GALLUP, NEW MEXICO

STANDING OPERATING PROCEDURE

FOR

Demilitarisation

COMPLETE NOMENCLATURE: Shell, S.P., HE, ML. (Antitank), for 105mm Howitzers.

CODE: 2822-40  SOF NO: ASC-430 Rev 1, Amend 2  DATES: January 1953

Total Quantity Scheduled: 10,000 units
Estimated Production Per 8-hr Shift: 1,200 units
Estimated Total Direct Labor Crew Per Shift: 27
Estimated Total Direct Man Hours Per Unit: .18
Estimated Total Ordnance Cost Per Unit: $3.37

LOCATION OF OPERATING BUILDING: LCL Building No. 19.

KENNETH E. HUDSON
Lt Col, Ord Corps
Commanding
DEPARTMENT OF THE ARMY
WINGATE ORDNANCE DEPOT
GALLUP, NEW MEXICO
STANDING OPERATING PROCEDURE
FOR
MODIFICATION

FOR AMMT. MCTI.

CONFIDENTIAL TO: MAFPA by Installation thru. DTE. MPO.

CODE: 2002
SOP NNO: 050-200

Date: January 1972

Total Capacity Scheduled:
Estimates Production For 3 Four Shifts:
Estimates Total Direct Labor Crew For Shifts:
Estimates Total Direct Man Hours Per Unit:
Estimates Total Ordnance Cost Per Unit:

LOCATION OF OPERATING FACILITY: 601 Bldg. Bldg. 19

The first seventy-two (72) hours of operation is considered a controlled test to firm this Standing Operating Procedure. (Reference 24114. CRDA 7-224)

SHEET 1 OF 10

[Signature]
HERBERT E. ENSON
Lt. Colonel, 3rd Corps Commanding
SHELL, SMOKE, 5C, BE, M64, FUSE TSQ M54 FOR 105MM HOWITZER

1. Remove from Storage

2. Receive and remove from shipping container (Room 3)

3. Unpack and inspect (Room 3)

4. Defuse and refuse (Room 3)

5. Repack and inspect (Room 5)

6. Dismantle fuses (West concrete barricade) (Room 3)

7. Destroy loaded components (burning ground)

8. Prepare packing material (Room 4)

Sheet 2 of 10
1. Remove ammunition from storage and place on wooden pallet, not more than 7 pallets of 36 rounds each per unit of transportation, one lot per pallet.

2. Pallets will be loaded by approved type forklift truck onto van, semi-trailer, or cargo truck, with wooden floor and sides.

3. Loaded vehicle will be moved to LCL Bldg. (No. 19).

**INSTRUCTION REQUIREMENTS:**

1. Inspect for compliance with this SOP, ORDN 7-28, other pertinent safety regulations, and the Storage SOP, WOD.

**SAFETY REQUIREMENTS:**

1. Dry gas or CO2 fire extinguishers will be readily available.

2. Free exit from the storage site will be maintained.

3. Ammunition will be handled carefully.

4. Safety shoes and gloves will be worn.

5. Good housekeeping will be observed.

**DISPOSITION OF COMPONENTS AND MATERIAL:**

1. Ammunition of Operation No. 2.

2. Damage to Reclamation yard.

**EQUIPMENT REQUIREMENTS:**

1. One van, semi-trailer, w/5 ton 4x2 tractor, or two cargo trucks with wooden floor and sides. One approved electric forklift truck.
1. Pallets will be offloaded from van or truck by means of an electric forklift truck and placed in Room 5.

2. Rounds in fiber container will be removed from shipping containers and placed on a rubber tired ammunition cart, 36 rounds per cart.

3. Ammunition cart containing 36 rounds will be transferred to Operation 3.

NOTE: Explosive limit in LGC Bldg. will not exceed 1000 rounds. When contents of the van or truck added to the ammunition in the building exceed the 1000 round limit, the van or truck will be parked not less than 100 feet from the operating bldg.

INSPECTION REQUIREMENTS:

1. Inspect for compliance with this SOP, ODM 7-224, and other pertinent safety regulations.

SAFETY REQUIREMENTS:

1. Free exit from operating site will be maintained.

2. CO₂ or Du-gas fire extinguishers will be readily available.

3. Operators will wear spark proof safety shoes.

4. Good housekeeping will be maintained.

DISPOSITION OF COMPONENTS AND MATERIAL:

1. Rounds in fiber container to Operation 3.

2. Shipping container to Storage.

EQUIPMENT REQUIREMENTS:

1. Work table; rubber tired ammunition carts.
1. Receive fuses from Storage and unpack behind east barricade. Place in an approved tray, twenty-four (24) fuses per tray.

2. Fuses received from operating stock, stored behind barricade in Room 3; fused shell received from Operation #2 via skids on roller conveyors.

3. Fused shell will be placed in an air vice within an operating barricade and fuse removed with an impact type fuse wrench (S&D Drawing Number C-390). Not more than two (2) strokes of the impact handle will be used to break the stake and remove the fuse from the shell, and no device to gain additional mechanical advantage will be used in conjunction with the fuse wrench. In the event the fuse cannot be removed as outlined above, the fused shell will be removed from the air vice, transferred to AMS Barricade Number 34, and the Surveillance Inspector notified. If fuse cannot be removed from shell in a barricaded fixture, assembly will be destroyed by demolition in accordance with WSD SOP Number ASC-240.

4. Old fuse will be placed in an approved type fuse tray, twenty-four (24) fuses per tray, for transfer to Operation 6.

5. New fuse will be assembled to shell and tightened with a fuse wrench. Fuse will be securely staked with a staking punch and a spark proof hammer.

6. Proper lot number suffix will be stamped on shell.

7. Forty (40) shells with new fuses will be placed in an egg crate type tray mounted on a rubber tired ammunition cart, and transferred to Operation 5.

NOTE: Not more than one thousand (1,000) new fuses will be stored in east barricade.

INSPECTION REQUIREMENTS

1. Visually inspect shell assembly and staking of proper fuse, and proper lot number suffix.

2. Inspect new fuses for proper lot number and servicesability.

3. Inspect fused shells from which old fuses cannot be removed by hand wrench.

4. Inspect for compliance with this SOP, ORIM 7-224, and other pertinent safety regulations.

Sheet 5 of 10
SAFETY REQUIREMENTS:
1. Free exit from operating site will be maintained.
2. CO₂ or Du-gas fire extinguishers will be readily available.
3. Operators will wear spark proof safety shoes.
4. Good housekeeping will be maintained.

DISPOSITION OF COMPONENTS AND MATERIALS:
1. Old fuses to Operation 6.
2. Shell with new fuse assembled to Operation 5.
3. Fused shell from which fuse cannot be removed to AWS Barricade Number 51b.

EQUIPMENT REQUIREMENTS:
Air vice, impact type fuse wrench, staking punch and spark proof hammer, fuse trays, roller conveyor, approved type skids so constructed as to insure there being a minimum of seven (7) inches between ammunition items.

Equipment will be inspected and approved by the Surveillance Inspector for proper grounding prior to operation.
STAGE OPERATIONS: PROCESSING POS. MODIFICATION OF: SOP 101: ASC-001


ITEM NO: 105mm Howitzer

LOCATION: Room 3, 1st Fl, Bldg. No. 19

COD#: 292-7

EXPLOSIVE LIMITS: POUNDS: 200

SHIFT: 1-02-00

PERSONNEL LIMITS: OPERATORS: 5 CASUALS: 3

SHIFT: 5

STEP: OPERATION NO. 3 TITLE: Unpack and Inspect

1. Receive round in fiber container on rubber tired ammunition cart from Operation 2, and place on work table.

2. Remove round from fiber container and place container on box type pallets for transfer to Operation 8.

3. Place cartridge case in a clean egg crate type tray, recessed to prevent possible functioning of primer, and mounted on rubber tired ammunition cart, 48 cases per tray, for transfer to Operation 5.

4. Place fused shell on skids, constructed to assure compliance with ORM 7-22A, (para 1723), on roller conveyor for transfer to Operation 4.

INSPECTION REQUIREMENTS:

1. Inspect for proper identification and lot number.

2. Inspect for dangerous rounds; any such round will be removed from operating line and placed in AWS Barricade No. 514, and Surveillance Inspector notified.

3. Before cartridge cases are placed in trays, each section of the tray will be inspected for foreign material that might cause the primer to function.

4. Inspect for compliance with the SOP, ORM 7-22A, and other pertinent safety regulations.

SAFETY REQUIREMENTS:

1. Free exit from operating site will be maintained.

2. CO2 or Du-gas fire extinguishers will be readily available.

3. Operators will wear spark proof safety shoes.

4. Gas mask, for emergency purposes only, will be available in a convenient location. One operator from each shift will be instructed in the use of and responsible for using the mask in event of emergency.

5. Good housekeeping will be maintained.

DISPOSITION OF COMPONENTS AND MATERIAL:

1. Fiber container to Operation 8.

2. Cartridge case to Operation 5.

3. Fused shell to Operation 4.
EQUIPMENT REQUIREMENTS:

Work table, box type pallets, rubber tired ammunition carts with egg crate type trays, skids for shells, roller conveyor.
STANDING OPERATING PROCEDURE FOR: MODIFICATION OF

R E Q U I R E M E N T S : Shell, SP, Shocks, HC, EC, M6A, W/Fuze

TRO NO: 105mm Howitzer

LOCATION: Room 5, LCL Building No. 10

EXPLOSIVE LIMITS: 1000 g

PERSONNEL LIMITS: Operators: 3

EXPLOSION LIMITS: 600 lbs

NO. OF ITEMS: 600 lbs

CRASH PROGS: 10,000

SHIFT: 13

STEP: OPERATE NO: 5

TITLE: Inspect and inspect

1. Cartridge cases received from Operation 2 via egg crate type tary mounted on rubber-tired ammunition cart; shell received from Operation 4 via egg crate type tary mounted on rubber-tired ammunition cart; fiber containers received from Operation 8 via box type pallets or ammunition cartes.

2. Cartridge cases and shells will be placed on a work table and assembled in a fiber container.

3. Base of cartridge case will be stamped with proper lot number suffix.

4. Container caps will be taped in place, using non-hygrosopic ammunition tape of the proper type (blue-grey, with a one inch yellow stripe in its center).

5. Container will be stenciled with proper nomenclature and lot number.

6. Necessary paper fillers will be placed in shipping containers received from Operation 8 and two fiber containers placed therein, with shell end of rounds reversed. Shipping containers will be closed and sealed, and placed on pallets for transfer to storage.

INSTRUCTION REQUIREMENTS:

1. Inspect for proper stamping of base of cartridge case.

2. Inspect for proper assembly of components by lot number.

3. Inspect for proper pecking, stenciling and taping of fiber container.

4. Inspect for proper closing and sealing of shipping containers.

5. Inspect for compliance with this SOP, ORM 7-224, and other pertinent safety regulations.

SAFETY REQUIREMENTS:

1. CO2 or Durex fire extinguishers will be readily available.

2. Free exit from cooperating site will be maintained at all times.

3. Operators will wear spark proof safety shoes.

4. Good housekeeping will be maintained.
DISPOSITION OF COMPONENTS AND MATERIALS:

1. Ammunition in shipping container to Storage.

EQUIPMENT REQUIREMENTS:

1. Work tables, non-hygroscopic tape, proper rubber stamps, stencilling equipment, roller conveyor.
STANDING OPERATING PROCEDURE FOR: Modification OF SOP NO: A5044M

MACHINE: Shell, SP, Smoke, EC, EP, M/Fuse

TSQ M/Fuse for 105 mm Howitzer

ITEM NO: M/A

LOCATION: Room 3, Barricades

CODE: 222-2

EXPLOSIVE LIMITS: FOUND: M/A NO OF ITEMS: 2000

PROD/8 HR.

SHIFT: 1,000

PERSONNEL LIMITS: OPERATORS: 5 CASUALS: 3

DIRECT LABOR:

SHIFT: 5

STEP: OPERATION NO. 6 TITLE: Dismantle Fuse

1. Fuse to be dismantled received in approved fuse trays, from Operation 4.

2. Drill out stake closing set screw in fuse with a positive stop explosion proof air drill, and remove set screw.

3. Remove closing cap from fuse in a barricaded air operated disassembly machine, operated by remote control.

4. Place on work table and remove upper lock ring, lock pin and lower ring from fuse body.

5. Saw out staves of bottom closing screw in an air operated barricaded machine, operated by remote control.

6. Bottom closing screw will be removed in a barricaded fixture.

7. Separate loaded components by class and pack for transfer to Operation 7 in approved boxes.

8. Pack inert components for transfer to salvage yard.

INSPECTION REQUIREMENTS:

1. Inspect inert fuse components for adequacy of decontamination in accordance with paragraphs 4, 240 through 4, 263 of OACI and Paragraph 2507 of ORDIN 7-224.

2. Inspect for compliance with this SOP, ORDIN 7-224, and other pertinent safety regulations.

SAFETY REQUIREMENTS:

1. CO₂ or Du-gas fire extinguishers will be readily available.

2. Operators will wear spark proof safety shoes.

3. Free exit from operating site will be maintained.

4. Good housekeeping will be maintained.

5. Inspect for compliance with paragraph 25036 of ORDIN 7-224.
DISPOSITION OF COMPONENTS AND MATERIAL:

1. Insert components to salvage yard.
2. Load components to Operation 7.

EQUIPMENT REQUIREMENTS:

1. Explosion proof air drill, barricaded fuse disassembly machine, work table, air operated barricaded saw, barricaded screw removal machine, approved boxes, transfer equipment.

2. Equipment will be inspected by the Surveillance Division for proper grounding prior to operation.
STANDARD OPERATING PROCEDURE FOR: Modification of SUP NO: ASC-651

NOMENCLATURE: Shell, SP, Smoke, WC, BE, M34, W/Fuse

ITEM NO: N/A

LOCATION: Burning area

EXPLOSIVE LIMITS: POUNDS: N/A

NO OF ITEMS: NO

SWITCH: 1,000

PERSONNEL LIMITS: OPERATORS: 5

CASUALS: 7

SWITCH: MORE

STEP: OPERATION: No. 7

TITLE: Destroy loaded fuse components

1. Receive loaded fuse components from Operation 6.

2. Components containing explosives will be transferred to burning area for placement in a combustion chamber, burned, and metal reclaimed.

INSPECTION REQUIREMENTS:

1. Inspect residue of burning operations for adequacy of decontamination of accordance with OACI 4.243 and paragraph 2507 of ORIM 7-224.

2. Inspect for compliance with this SOP, ORIM 7-224, and other pertinent safety regulations.

SAFETY REQUIREMENTS:

1. Safety requirements as outlined in Section 27 of ORIM 7-224, and SOP ASC 7z with amendments there to be published by this Depot will be carefully followed.

DISPOSITION OF COMPONENTS AND MATERIALS:

Reclaimable metal to salvage yard.

EQUIPMENT REQUIREMENTS:

Combustion chamber, transfer equipment.

*Operation will be performed by regularly assigned demolition personnel in conjunction with routine activities.
STAND-LINE OPERATING PROCEDURE FOR: Modulation of SOP NO: ASC-M4

HOMOGENIZATION: Shall be done by HC. EX. B/ST. MK 1/Fuse

TSE No. for 105mm Howitzer

ITEM NO: N/A

LOCATION: Room B, LGI Bldg.

CODE: 2227

EXPLOSIVE LIMITS: Pounds: N/A No of Items: N/A

PERSONNEL LIMITS: OPERATOR: N/A CASH: N/A

SHIFT: 10

OPERATION NO: 8 TITLE: Prepare packing material

1. Receive fiber containers on box type pallet or ammunition carts from Operation 3.

2. Obliterate undesirable markings on fiber containers with black acid proof paint.

3. Place fiber containers on box type pallets or ammunition carts for transfer to Operation 5.

4. Receive shipping containers from Storage.

5. Obliterate undesirable markings on shipping containers with box scrapers.

6. Secure three 5/8" steel straps around box in grooves provided.

7. Place shipping container on pallets for transfer to Operation 5.

INSPECTION REQUIREMENTS:

1. Inspect for obliteration of undesirable markings on fiber and shipping containers.

2. Inspect for compliance with this SOP, CRIM 7-224, and other pertinent safety regulations.

SAFETY REQUIREMENTS:

1. CO₂ or Du-gas fire extinguishers will be readily available.

2. Operators will wear spark proof safety shoes.

3. Free exit from operating site will be maintained at all times.

4. Good housekeeping will be maintained.

DISPOSITION OF COMPONENTS AND MATERIAL:

1. Fiber and shipping containers to Operation 5.

EQUIPMENT REQUIREMENTS:

Approved type forklift truck, black acid proof paint, steel strapping with seals, and sealing machines, paper fillers for shipping containers, box scraper.
DEPARTMENT OF THE ARMY
WINNITAE ORDNANCE DEPOT
GALLOP, NEW MEXICO

1 April 1953

STANDING OPERATING PROCEDURE: SOP No. 450-44M, amendment No. 1
NOMENCLATURE: Shell, 22, Sack, BC, BE, MS, W/Fuse, T34, MS, for 105 mm How.
LOCATION: Room 3, LCL Bldg, No. 19
PURPOSE: To increase the explosive capacity to that required to conduct a safe and efficient operation.

OPERATION NO. 3 Page No. 6

Explosive limits: No of items: 75 rds.

AUX No of items: (96 primed and charged cases (36 Fused projectiles)

Above Standard Operating Procedure, Amendment No. 1 is approved.

KENNETH E. ERNSON
Lt Colonel, Ord Corps
Commanding
DEPARTMENT OF THE ARMY  
WINGATE ORDNANCE DEPOT  
GALLUP, NEW MEXICO  

STANDING OPERATING PROCEDURES  

FOR  

MODIFICATION  

SOP NO: ASO bhM, Amendment 2  

DATE: 22 April 1973  

COMPLETE NOMENCLATURE: Shell, semi-fixed, smoke, crew RD Rn48 W/Fuse TSC  

MODIFIED TO: RADO by installing fuse NT40, M241  

Total Quantity Scheduled: 2,624  

Estimated Production Per 8-Hr Shift: 1,000  

Estimated Total Direct Labor Crew Per Shift: 43  

Estimated Total Direct Man Hours Per Unit: 344  

Estimated Total Ordnance Cost Per Unit: $23  

LOCATION OF OPERATING BUILDING: LCL Bldg. No. 13  

All specifications and regulations covering the item listed above are the same as specified in SOP ASO-474a including all amendments, and all operations concerning this item will comply with this specific SOP.  

APPROVED:  

KENNETH S. JUDDERSON  
Lt Colonel, Ord Corps  
Commanding
**DEPARTMENT OF THE ARMY**
**WINGATE ORDNANCE DEPOT**
**GALLUP, NEW MEXICO**

**STANDARD OPERATING PROCEDURE**

**FOR**

**Modification**

<table>
<thead>
<tr>
<th>COMPLETE NOMENCLATURE: Shell, HE, M1942, 60-MM Mortar</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SOP NO.</strong> 46-M</td>
</tr>
<tr>
<td><strong>DATE:</strong> December 1951</td>
</tr>
<tr>
<td><strong>Total Quantity Scheduled:</strong> 138,000 rds</td>
</tr>
<tr>
<td><strong>Estimated Production Per 8-Hr Shift:</strong> 2,000 rds</td>
</tr>
<tr>
<td><strong>Estimated Total Direct Labor Crew Per Shift:</strong> 50</td>
</tr>
<tr>
<td><strong>Estimated Total Direct Man Hours Per Unit:</strong> 2</td>
</tr>
<tr>
<td><strong>Estimated Total Ordnance Cost Per Unit:</strong> 8,326</td>
</tr>
</tbody>
</table>

**LOCATION OF OPERATING AREA:**

2. Miscellaneous Buildings: TNT Service Barricades

**APPROVED:**

[Signature]

**FRANK ECOLES**
Lt Col, Ord Corps
Commanding

**SHEET 1 OF 16**
1. Remove From Storage
2. Receive From Storage
3. Unpack and Inspect
4. Remove Increments
5. Remove Rust and Corrosion From Gas Check Rings
6. Defuse and Refuse
7. Remove Primer and Cartridge; Replace Fin and Increment Holder
8. Assemble Primer, Cartridge and Increments
9. Repack
10. Seal and Dispatch to Storage
11. Recondition Fiber Containers
12. Recondition and Stencil Metal Containers
13. Repack Fuses
14. Destroy Loaded Components
STANDARD OPERATING PROCEDURE FOR: Modification OF SOP NO: 46 M

NOMENCLATURE: Shell, HE, M4A2, 60-MM Mortar

DATE: December 1921

LOCATION: Various Storage Sites

EXPLOSIVE LIMITS: POUNDS NO OF ITEMS As Stored

PERSONNEL LIMITS: OPERATORS 5 CASUALS 3

SHIFT 2,000 rds

DIRECT LABOR/SHIFT 5

STEP OPERATION NO. 1 TITLE: Remove From Storage

1. Remove ammunition from storage and place on wooden pallet.
2. Pallets will be loaded by approved type fork-lift truck onto van, semi-trailer or cargo truck, with wooden sides and floor.
3. Loaded van will be moved to Receiving Bldg. 516 by means of 5-ton 4 x 2 tractor conforming to Section XIV, 0.0 7224.

INSPECTION REQUIREMENTS:

None

SAFETY REQUIREMENTS:

1. Du-gas fire extinguishers will be readily available.
2. Free exit from storage site will be maintained.
3. Ammunition will be handled carefully.
4. Good housekeeping will be observed.
5. Safety shoes and gloves will be worn.

DISPOSITION OF COMPONENTS AND MATERIAL:

Ammunition to Operation 2.
Dumage to reclamation yard.

EQUIPMENT REQUIREMENTS:

1 van, semi-trailer, with 5-ton 4 x 2 tractor or 2 cargo trucks.
1 approved fork-lift truck.

*Includes fork-lift operator.
STEP  OPERATION NO. 2  TITLE: Receive From Storage

1. Ammunition received from storage site in closed van or cargo truck.

2. Fork-lift operator will unload van or truck by means of approved type fork-lift truck, placing pallets in receiving building.

INSPECTION REQUIREMENTS:

None

SAFETY REQUIREMENTS:

1. Explosive limits will be maintained at the lowest amount required for efficient operation.

2. CO₂ fire extinguishers will be available at all times.

3. Trucks will not remain at unloading platform longer than necessary to complete unloading operation.

DISPOSITION OF COMPONENTS AND MATERIAL:

Ammunition to Operation 3.

EQUIPMENT REQUIREMENTS:

One approved type fork-lift truck.
STANDARD OPERATING PROCEDURE FOR: Modification OF SOP NO. 46 M

NOMENCLATURE: Shell, HE, M4912, 60-MM Mortar

DATE: December 1971

LOCATION: Room 1, AWS Bldg. No. 500

EXPLOSIVE LIMITS: POUNDS 204 NO OF ITEMS 600

PERSONNEL LIMITS: OPERATORS 4 CASUALS 3

STEP  OPERATION NO. 3 TITLE: Unpack and Inspect

1. Ammunition received from Bldg. 516 by electric fork-lift truck.
2. Fiber containers containing mortars will be removed from shipping container and placed on canvas covered work table.
3. Mortar will be removed from fiber container and placed on wooden skid on roller conveyor. Six mortars to a skid.
4. Covers will be replaced on fiber containers, containers placed on rubber tired ammunition carts and moved to Operation 11.
5. Mortars will be moved on roller conveyors to Operation 4.
6. Dangerous or unserviceable mortars will be removed from operating line and placed in temporary storage in AWS Barricade 516 awaiting disposition.

INSPECTION REQUIREMENTS:
Inspect rounds for proper identity and dangerous deterioration.
Inspect packing material for adequacy of decontamination and serviceability in accordance with paragraph 1840 of OMLI.

SAFETY REQUIREMENTS:
1. Free exit from operating site will be maintained at all times.
2. Operators will wear safety shoes.
3. One soda-acid and one CO₂ fire extinguisher will be readily available.
4. Good housekeeping will be maintained.

DISPOSITION OF COMPONENTS AND MATERIAL:
Mortars to Operation 4.
Fiber containers to Operation 11.
Unserviceable packing material to reclamation yard.

EQUIPMENT REQUIREMENTS:
One electric fork-lift truck.
Rubber tired ammunition carts.
Wooden mortar skids.
STANDARD OPERATING PROCEDURE FOR: Modification OF SOP NO. 46 M

NOMENCLATURE: Shell, HE, M49A2, 60-MM Mortar

LOCATION: Room 2, AWS Bldg., No. 500

EXPLOSIVE LIMITS: POUNDS 6.12, NO OF ITEMS 18

PERSONNEL LIMITS: OPERATORS 1, CASUALS 1

STEP OPERATION NO. A TITLE: Remove Propellant Increments

Note: Room 2 is divided into four barricaded operating sections conforming to CCSE No. 151.

1. Mortars received from Operation 3, via wooden skids on roller conveyors.

2. Operator will remove propellant increments from increment holders and place in a nonferrous metal container.

3. Containers will be closed and moved by ammunition cart to AWS Storage Magazine No. 508, awaiting removal to Operation No. 14.

INSPECTION REQUIREMENTS:
None

SAFETY REQUIREMENTS:

1. Operator will be required to work from a grounded metal platform.

2. Increment containers will be of nonferrous metal and properly grounded.

3. Soda-acid or CO2 fire extinguisher will be available.

DISPOSITION OF COMPONENTS AND MATERIAL:

Propellant increments to Operation 14.
STANDARD OPERATING PROCEDURE FOR: Modification OF SOP NO. 46 H

NOMENCLATURE: Shell, HE, M39/42, 60-MM Mortar

LOCATION: Room 2, ABS Bldg., No. 500

EXPLOSIVE LIMITS: POUNDS 3% NO OF ITEMS 100

PERSONNEL LIMITS: OPERATORS 3 CASUALS 3

STEP OPERATION NO. 5 TITLE: Remove Rust and Corrosion From Gas Check Rings

Notes: Each operator will work in a separate barricade section.

1. Operator will remove loaded skid containing six mortars and place on work table.

2. Rust will be removed from gas check rings by means of an air driven beryllium wire brush.

3. Mortars will be returned to roller conveyor for transporting to Operation 6.

INSPECTION REQUIREMENTS:

All mortars will be inspected for complete removal of rust and corrosion.

SAFETY REQUIREMENTS:

1. Operators will be required to wear face shield.

2. Operators will wear safety shoes.

3. Free exit will be maintained from operating site.

4. One soda-acid and one CO2 fire extinguisher will be available.

DISPOSITION OF COMPONENTS AND MATERIALS:

Mortars to Operation 6.

EQUIPMENT REQUIREMENTS:

Work tables.
Air operated beryllium brushes.
Face shields.
STANDARD OPERATING PROCEDURE FOR: Modification OF SOP NO. 46 M

NOMENCLATURE: Shell, HE, M/942, 60-MM Mortar

LOCATION: Room 3, ANS Bldg. No. 500

EXPLOSIVE LIMITS: POUNDS 22 ND OF ITEMS 96

PERSONNEL LIMITS: OPERATORS 3 CASUALS 3

DATE: December 1951

SHIFT/8-HR 2,000 rds

DIRECT LABOR/ 3

STEP OPERATION NO. 6 TITLE: Defuse and Refuse

Note: Each operator will work inside a barricaded section. Supply point for new and old fuses will be inside concrete barricade in Room 3.

1. Operator will remove skid containing six mortars from conveyor and place on work table.

2. One mortar will be removed from skid and placed in air vise and old fuse removed by means of a suitable fuse wrench.

3. New fuse will be inserted by hand and tightened to proper tension with fuse wrench.

4. Metal bodied fuses will be staked to mortar and plastic fuses secured with Putnum cement.

5. Mortars will be returned to roller conveyor for transporting to Operation 7.

6. 4,000 fuses will be stored in service magazine Bldg. No. 512. 500 fuses will be held in rest bay behind concrete barricade in Room 3.

INSPECTION REQUIREMENTS:

Inspect proper assembly of fuse.

SAFETY REQUIREMENTS:

1. One soda-acid and one CO2 fire extinguisher will be available.

2. Operator will wear safety shoes.

3. Free exit will be maintained from operating site.

4. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:

Mortars to Operation 7.

Old fuses to Operation 13.

EQUIPMENT REQUIREMENTS:

Work tables.

Air operated vises.

Fuse wrenches.
STANDARD OPERATING PROCEDURE FOR: Modification of SOP NO. 46 M

MOUSEAILATURE: Shell, HE, M49A2, 60-MM Mortar

LOCATION: Rooms 4 and 5, ANS Bldg, No. 500

EXPLOSIVE LIMITS: POUNDS 32 NO OF ITEMS 36

PERSONNEL LIMITS: OPERATORS 6 CASUALS 3

STEP OPERATION NO. 7 TITLE; and Increment Holder

1. Operator will remove skid containing six mortars from conveyor and place on work table.

2. Mortar will be placed in air operated holding fixture and primer, cartridge, increment holder and fin removed.

3. New fin and increment holder will be assembled and fin staked in position.

4. Old primers and cartridges will be stored in concrete barricade in Room 4, pending removal to Operation 14.

5. Unscrewable nonacceptable fins will be placed on wooden boxes for transporting to salvage yard.

6. Mortars will be spot painted in Room 5, if required.

INSPECTION REQUIREMENTS:

Inspect new fin for proper manufacture and drawing revision. Salvaged fins will be inspected for complete decontamination in accordance with WD-308-439.

SAFETY REQUIREMENTS:

1. Free exit will be maintained from operating site.

2. Operators will wear safety shoes.

3. Soda-acid and one CO2 fire extinguisher will be available.

4. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:

Mortars to Operation 8. Cartridges and primers to Demolition Ground. Unscrewable fins to salvage yard.

EQUIPMENT REQUIREMENTS:


SHEET 9 OF 16
STANDARD OPERATING PROCEDURE FOR: Modification OF: SOP NO. 45 M

NOMENCLATURE: Shell, HE, M49A2, 60-MM Mortar

LOCATION: Room 6, A5E Bldg. No. 500

EXPLOSIVE LIMITS: POUNDS 33 NO OF ITEMS 96

PERSONNEL LIMITS: OPERATORS 6 CASUALS 3

STEP OPERATION NO. 6 TITLE: Assemble Primer, Cartridge and Increments

1. Operators will remove skid containing six mortars from conveyor and place on work table.

2. Cartridge will be properly inserted in fin assembly.

3. Threads of primer will be coated with Petram Cement and inserted in fin.

4. Primer will be properly tightened by use of wrench.

5. The required number of propellant increments will be inserted beneath increment holders on fin assembly.

6. Skids containing mortars will be returned to roller conveyors and moved to Operation 9.

7. Only 2,000 operating trays of increments will be permitted on operation. Two standard containers of increments will be held in rest bay provided behind concrete barricade in Room 6.

INSPECTION REQUIREMENTS:

Inspect proper assembly of components.

SAFETY REQUIREMENTS:

1. Supplies of cartridges and primers will be kept inside concrete barricade.

2. Supply of propellant increments will be stored inside concrete barricade. Containers will be adequately grounded.

3. One soda-acid and one CO₂ fire extinguisher will be available.

4. Free exit will be maintained from operating site.

5. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:

Mortars to Operation 9.

EQUIPMENT REQUIREMENTS:

Work tables.
Primer wrenches.
STANDARD OPERATING PROCEDURE FOR: Modification OF SUP NO. 46 M

NOMENCLATURE: Shell, HE, M9A2, 60-MM Mortar

LOCATION: Room 7, AVG Bldg., 200

EXPLOSIVE LIMITS: POUNDS 80, NO OF ITEMS 200

PERSONNEL LIMITS: OPERATORS 9, CASUALS 3

SHIFT 2,000 YDS, DIRECT LABOR

STEP     OPERATION NO. 9     TITLE: Repack

1. Fiber containers received from Operation 11 will be placed on canvas covered work table.

2. Mortars will be removed from skids and placed on fiber containers and the proper amount of filler added to assure a tight pack.

3. Fiber containers will be closed with ammunition tape.

4. Fiber containers will be stencilled with proper nomenclature.

5. Mortars will be removed from stencil table and placed in shipping containers.

INSPECTION REQUIREMENTS:
Inspect for proper packing and marking.

SAFETY REQUIREMENTS:

1. One CO₂ and one soda-acid fire extinguisher will be readily available.

2. Free exit will be maintained from operating site.

3. Operators will wear safety shoes.

4. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:
Ammunition to Operation 10.

EQUIPMENT REQUIREMENTS:
Taping equipment,
Work tables,
Stencil equipment.

SHEET 11 OF 16
STANDARD OPERATING PROCEDURE FOR: Modification of 807

HOMENCLATURE: Shell, HE, M3A12, 60-MM Mortar

DATE: December 1952

LOCATION: Room B, AWS Build., No. 224

EXPLOSIVE LIMITS: POUNDS 200

NO OF ITEMS 600

PERSONNEL LIMITS: OPERATORS 2 CASUALS 3

STEP  OPERATION NO. 10 TITLE: Seal and Dispatch to Storage

1. Ammunition received from Operation 9 via roller conveyor.
2. Lid of metal container will be properly secured.
3. Containers will be sealed with lead seal.
4. Containers will be placed on storage pallet and properly secured with steel strapping.
5. Palletized ammunition will be moved to loading platform by fork-lift truck.
   Note: Explosive limit on loading platform and truck will be 2,000 rounds or 600 pounds of explosive.

INSPECTION REQUIREMENTS:

Final inspection of end product.

SAFETY REQUIREMENTS:

1. Operators will wear safety shoes.
2. One soda-acid and one CO2 fire extinguisher will be available.
3. Good housekeeping will be maintained.
4. Free exit will be maintained from operation site.

DISPOSITION OF COMPONENTS AND MATERIAL:

Ammunition to salvage.

EQUIPMENT REQUIREMENTS:

Sealing tools.
Fork-lift truck.
STANDARD OPERATING PROCEDURE FOR: Modification of SOP NO. 46 M

NOMENCLATURE: Shell, HE, M622, 60-MM Mortar

DATE: December 1957

LOCATION: Room 3, AWS Bldg. No. 500

SHIFT: 2:00 p.m.

EXPLOSIVE LIMITS: Foundry, None

NO OF ITEMS: None

DIRECT LABOR: 3

PERSONNEL LIMITS: OPERATORS 3 CASUALS 3

STEP OPERATION NO. 11 TITLE: Recondition Fiber Containers

1. Fiber containers received from Operation 3, via ammunition cart.

2. Fiber containers will be removed from ammunition cart and all markings obliterated by means of acid-proof black paint.

3. Containers will be returned to carts and moved by hand to Operation 9.

INSPECTION REQUIREMENTS:

None

SAFETY REQUIREMENTS:

1. One CO₂ and one soda-acid type fire extinguisher will be readily available.

2. Good housekeeping will be maintained.

DISPOSITION OF COMPONENTS AND MATERIAL:

Containers to Operation 9.

EQUIPMENT REQUIREMENTS:

Work table.

Paint containers and brushes.

SHEET 13 OF 16
STANDARD OPERATING PROCEDURE FOR: MODIFICATION OF

NOMENCLATURE: SHELL, HE, M5A2, 60-MM MORTAR

LOCATION: ABS Bldg., No. 515

EXPLOSIVE LIMITS: POUNDS None

PERSONNEL LIMITS: OPERATORS 10 CASUALS 3

STEP OPERATION NO. 12 TITLE: Reconduction & Stencil Metal Containers

1. Metal containers will be removed from carts and placed on work table.

2. Excessive rust and dirt will be removed from container.

3. Containers will be placed on hooks on monorail.

4. Paint spray operator will paint container with one coat of Olive Drab enamel.

5. When container is properly dried it will be removed from monorail and placed on table in spray booth and the proper nomenclature stenciled on three sides.

6. Containers will be placed on carts and dispatched to Operation 9.

INSPECTION REQUIREMENTS:

None

SAFETY REQUIREMENTS:

1. Painting and drying operation will conform to provisions as outlined in ODBE 112.

2. Paint supplies will be stored and used at a service point 100 feet distant from painting operation.

3. Soda-acid and foam type fire extinguishers will be available.

DISPOSITION OF COMPONENTS AND MATERIAL:

Containers to Operation 9.

EQUIPMENT REQUIREMENTS:

Paint spray equipment with exhaust system.

Stencil equipment.
STANDARD OPERATING PROCEDURE FOR: Modification OF SOP NO. 46 M

NOMENCLATURE: Shell, HE, M49A2, 60-MM Mortar

DATE: December 1951

LOCATION: Room 2, AMS Bldg., No. 500

PROD/SHR: 2,000 rounds

SHIFT: 2,000 rounds

DIRECT LABOR:

EXPLOSIVE LIMITS: FOUNDS None NO OF ITEMS 1,000 Fuses SHIFT 3

PERSONNEL LIMITS: OPERATORS 3 CASUALS 3

STEP OPERATION NO. 13 TITLE: Repack Fuses

1. Fuses will be received in trays on rubber tired ammunition carts from Operation 6.

2. Each fuse will have TNT dust removed from threads by means of beryllium brush.

3. Fuse threads will be cleaned with a small brush lightly dipped in acetone.

4. Fuses will be packed in shipping containers.

5. Containers will be properly marked and strapped and moved by ammunition cart to Service Barricade B07.

INSPECTION REQUIREMENTS:
Inspect proper removal of TNT from fuses.

SAFETY REQUIREMENTS:

1. Good housekeeping will be observed.

2. One CO₂ and one soda-acid fire extinguisher will be available.

DISPOSITION OF COMPONENTS AND MATERIAL:
Fuses to storage.

EQUIPMENT REQUIREMENTS:

Beryllium wire brushes.
Acetone brushes.
Stencil equipment.
Strapping tools.
STANDARD OPERATING PROCEDURE FOR: Modification OF 46M

NONDECIATURE: Shell, HE, WAGA2, 60-MM Mortar DATE: December 1951
LOCATION: Burning Ground SHIFT: 2:000 hrs.
PERSONNEL LIMITS: OPERATORS 3 CASUAL TS 0
DIRECT LABOR/ SHIFT: NONE

STEP OPERATION NO. TITLE: Destroy Loaded Components

1. Components will be moved to Burning Ground in a large truck with wooden floor and sides.
2. Cartridges will be destroyed by burning on a bed of combustible material.
3. Primers will be destroyed in popping plant.
4. Reclaimable scrap will be packed in boxes and transported to salvage yard.

INSPECTION REQUIREMENTS:
Reclaimable scrap metal will be inspected for adequacy of decontamination in accordance with paragraph 1840 of OACI and SOP-WOD-43S.

SAFETY REQUIREMENTS:
1. Safety requirements as outlined in OCSB No. 171 and SOP No. 71 and Amendments 1 and 2, will be carefully followed.
2. Loaded components will be destroyed at frequent intervals to prevent a large accumulation.

DISPOSITION OF COMPONENTS AND MATERIAL:
Scrap metal to salvage yard.

EQUIPMENT REQUIREMENTS:
Transfer equipment.
Popping plant.
DEPARTMENT OF THE ARMY
WINGATE ORDNANCE DEPOT
GALLUP, NEW MEXICO

STANDARD OPERATING PROCEDURE
FOR
Modification

COMPLETE NOMENCLATURE: Shell, HE, M62A2, 60-MM MORTAR

SOP NO.: 46M (Amendment No. 1)  DATE: December 1951

Purpose: To provide for cleaning and painting operations in connection with re-
regrouping of subject ammunition.

Operations No. 6 and 7 will be changed to conform with new procedure.

Operations No. 15, 16, 17, 18 and 19 added.

Operation No. 9 changed to allow for stenciling projectile and additional
personnel limits.

APPROVED:

B. L. Bowman

Major, Ord Corps
Commanding

SHEET 1 OF 9
STANDARD OPERATING PROCEDURE FOR: Modification OF 30P-DSG# I

NOMENCLATURE: Shell, HE, M3A2, 60-MM Mortar

LOCATION: Room 2, AWB Bldg, No. 500

EXPLOSIVE LIMITS: FOUNDS:33 NO OF ITEMS: 96

PERSONNEL LIMITS: OPERATORS: 2 CASUALS: 3

STEP OPERATION NO. 6 TITLE: Remove Fin Assembly

1. Operator will remove skid containing six mortars from conveyor and place on work table.

2. One mortar will be removed by hand from skid and placed in air vise.

3. Fin assembly will be removed from mortar by means of a speed wrench so designed as to provide maximum protection for operator.

4. Operator will remove fin assembly from wrench and place in wooden box for transfer to Operation No. 19 or No. 14, according to serviceability of fin.

INSPECTION REQUIREMENTS:

None

SAFETY REQUIREMENTS:

1. Operator will use extreme caution in placing fin assembly in packing box.

2. Safety shoes will be worn.

3. One soda acid and one CO₂ fire extinguisher will be available.

4. Free exit will be maintained.

DISPOSITION OF COMPONENTS AND MATERIAL:

Mortars to Operation 7.

Fin assemblies to Operation No. 19 or No. 14.

EQUIPMENT REQUIREMENTS:

Work bench.

Air Vise.

Fin assembly wrench.

SHEET 2 OF 9
STANDARD OPERATING PROCEDURE FOR: Modification OF SPM 060-16

NOMENCLATURE: Shell, HS, 120mm, 60-MM Mortar

LOCATION: Room 3, Ave Blg., No. 500

EXPLOSIVE LIMITS: FOUNDS: 82, NO OF ITEMS: 240

PERSONNEL LIMITS: OPERATORS: 2, CASUALS: 3

STEP OPERATION NO. 7 TITLE: Remove Fuse and Insert Lifting Ring.

Note: Each operator will work inside a barricaded section. Old fuses will be stored inside concrete barricade in Room 3, awaiting transfer to Operation No. 13.

1. Operator will remove mortar from skid, place in air vise and remove fuse by means of fuse wrench.

2. Old fuse will be placed in tray and when filled be hand-carried to inside of concrete barricade.

3. Operator will remove mortar from vise and empty loose TNT in rubber bucket provided.

4. Lifting ring will be inserted in fuse threads of mortar.

5. Mortar will be placed in holding fixture on rubber tired ammunition cart for transfer to Operation No. 15.

INSPECTION REQUIREMENTS:

None

SAFETY REQUIREMENTS:

1. Only one tray containing 20 fuses will be permitted at operation.

2. Safety shoes will be worn.

3. One CO₂ and one soda-acid fire extinguisher will be available.

4. Free exit will be maintained from operating site.

5. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:

Mortars to Operation 15.

Fuses to Operation 13.

EQUIPMENT REQUIREMENTS:

Ammunition carts.

Air vises.

Fuse wrenches.
STANDARD OPERATING PROCEDURE FOR: Modification OF ASG

NOMENCLATURE: Shell, HE, 500LBS, 60-MM Mortar

LOCATION: Main Hangar Bldg. Hq. Bldg. No. 515

EXPLOSIVE LIMITS: ROOM: 41 NO OF ITEMS: 120

PERSONNEL LIMITS: OPERATORS: 4 CASUALTY: 3

SHIFT: 2,000 rds

DIRECT LABOR:

STEP OPERATION NO. 15 TITLE: Remove Paint and Rust From Mortar Body

1. Mortars received from Operation 7 via rubber tired ammunition cart and electric tow motor.

2. Operator will place mortars on roller of sand blast machine.

3. Doors of sand blast will be closed and machine operated until all old paint has been removed.

4. Cleaned mortars will be removed by hand from sand blast and placed in wooden skids on roller conveyors for transporting to Operation 16.

INSPECTION REQUIREMENTS:

Inspect for complete removal of paint and rust.

SAFETY REQUIREMENTS:

1. Operators will wear safety shoes.

2. Free exit from operating area will be maintained.

3. Soda acid fire extinguishers will be available.

4. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:

Mortars to Operation 16.

EQUIPMENT REQUIREMENTS:

Pangborn sand blast equipment.

Roller conveyors.

Wooden skids.

SHEET 4 OF 9


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1. Mortars will be received via wooden skids on roller conveyors.

2. Mortars will be removed from skids and suspended from hooks on monorail.

3. Paint spray operator will paint mortars with one coat of Olive Drab enamel.

4. After mortars pass thru dryers and paint is sufficiently dried, operator will remove mortars from monorail and place in ammunition cart for removal to Operation 17.

**INSPECTION REQUIREMENTS:**

Gauge mortars.

**SAFETY REQUIREMENTS:**

1. Painting and drying operations will conform to provisions as outlined in OOSB No. 112.

2. Paint supplies will be stored and mixed at a service point 100 feet distant from painting operation.

3. Soda acid and foam type fire extinguishers will be available.

**DISPOSITION OF COMPONENTS AND MATERIAL:**

Mortars to Operation 17.

**EQUIPMENT REQUIREMENTS:**

Paint spray equipment.
STANDARD OPERATING PROCEDURE FOR: Modification OF 60-MM Mortar

NUMERICAL: Shell, HE, M2A2, 60-MM Mortar

LOCATION: Room 4, Anti-Tank, No. 200

EXPLOSIVE LIMITS: Pounds: 82, No. of Items: 240

PERSONNEL LIMITS: Operators: 4, Casuals: 3

STEP OPERATION NO. 17 TITLE: Install Fuses

1. Mortars will be removed from ammunition cart and placed in air vise on work table.

2. Lifting ring will be removed.

3. New fuse will be removed from box, positioned in thread of mortar and tightened with fuse wrench.

4. Plastic body fuses will be secured by application of Petman cement to thread of fuse while metal body fuses will be staked in position.

5. Mortar will be placed on wooden skid on roller conveyor for transfer to Operation 16.

INSPECTION REQUIREMENTS:

Inspect fuses for proper lot number.

SAFETY REQUIREMENTS:

1. Only one box of fuses will be permitted at operating table.

2. Operator will wear safety shoes.

3. One soda acid and one CO₂ fire extinguisher will be available.

4. Free exit from operating site will be maintained.

5. Good housekeeping will be maintained.

DISPOSAL OF COMPONENTS AND MATERIAL:

Mortars to Operation 16.

EQUIPMENT REQUIREMENTS:

Work benches.
Air vises.
Fuse wrenches.
STEP 18: Assemble Fins to Mortars

1. Fused mortars received via roller conveyor from Operation 17.
2. Operator will remove mortar from skid and place in air vise.
3. Thread of fin will be coated with Petman cement.
4. Fin with increment holder attached will be screwed into threads at base of mortar.
5. Fin will be properly tightened by means of torque wrench.
6. Mortars will be returned to roller conveyors and moved to Operation 8.

SAFETY REQUIREMENTS:
1. Free exit from operating site will be maintained.
2. Operators will wear safety shoes.
3. One soda acid and one CO₂ fire extinguishers will be available.
4. Good housekeeping will be maintained.

DISPOSITION OF COMPONENTS AND MATERIAL:
Mortars to Operation 8.

EQUIPMENT REQUIREMENTS:
Air vises.
Fin wrenches.
STANDARD OPERATING PROCEDURE FOR: Modification OF

NAME: SHELL, HE, M2A3, 60-MM Mortar

LOCATION: Concrete Barricades, Boom 5, SHC Bldg, No. 500

EXPLOSIVE LIMITS: FOUND: 33 NO OF ITEMS: 96

PERSONNEL LIMITS: OPERATORS: 7 CASUALS: 3

DATE: December 1951

Amendment No. 3

PROD/3-PR

SHIFT 2,000 RDG

DIRECT LABOR

SHIFT 3

STEP OPERATION NO. 19 TITLE: Remove Cartridge and Primer From Servicable Fins

1. Fin assemblies received from Operation 6 in wooden boxes.

2. Fin will be removed from box and placed in holding fixture on work table.

3. Primer will be removed from fin by means of a suitable primer wrench and carefully packed in wooden box.

4. Cartridge will be carefully removed from fin and placed in a wooden box.

5. Fin will be placed in box for movement to Operation 18.

SAFETY REQUIREMENTS:

1. Extreme care will be used in removal and packing of primer.

2. CO2 fire extinguishers will be available.

3. Free exit from operating site will be maintained.

4. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:

Primer and cartridges to Operation 14.
Fins to Operation 18.

EQUIPMENT REQUIREMENTS:

Work benches.
Fin holding fixtures.
Primer wrenches.
STANDARD OPERATING PROCEDURE FOR: Modification OF SFA-46 M

NOMENCLATURE: Shell, HE, M49A2, 60-MM Mortar

LOCATION: Room 8, AWS Bldg. No. 500

EXPLOSIVE LIMITS: POUNDS: 86 NO OF ITEMS: 200

PERSONNEL LIMITS: OPERATORS: 11 CASUALS: 3

DATE: December 1951

Amendment No. 1

PROD./8-HR

SHIFT: 2,000 rds.

DIRECT LABOR

SHIFT: 2

STEP | OPERATION NO. 9 | TITLE: Stencil Mortars

1. Mortars received from Operation 8 via roller conveyor.

2. Mortar will be removed by hand from conveyor and placed on stencil table.

3. Mortar will be stenciled with proper nomenclature and lot number.

4. Mortar will be packed as outlined on sheet 11 of SOP 46 M.
DEPARTMENT OF THE ARMY
WINITAGE ORDNANCE DEPOT
GALLIP, NEW MEXICO

STANDING OPERATING PROCEDURE
FOR MODIFICATION

COMPLETE NOMENCLATURE: Small, HE, .529, w/wood, chm, w/f PD. M1A4 .40, M1A2, M2, and M9.

ITEM NO: E-623 AVO NO: 5201-53 SOP NO: AE-O-48 DATE: July 1953

Total Quantity Scheduled:

Estimated Production Per 8-hr Shift:

Estimated Total Direct Labor Crew Per Shift:

Estimated Total Direct Man Hours Per Unit:

Estimated Total Ordnance Cost Per Unit:

Location of Operating Area: Armament Workshop Area

Location of Operating Building, Including Building No: 507 and 926

Waivers and/or exemptions affecting this SOP (Include file number, date and expiration date): None

Supplemented with area map showing distance relations.

Supplemented with flow chart showing explosive limits and distance relationships between buildings. (Para, 1954, PDI)

APPROVED:

KENNETH A. KOUPICH
Lt Col, Grd Corps
Commanding

PAGE 1 OF 9
1. Remove from Storage

2. Unpack and Inspect

3. Remove Propellant Increments

4. Unpack and repack propellant increments

5. Assemble Propellant Increments

6. Stencil, pack and dispatch to Storage

PAGE 2 OF 9
1. Remove ammunition from storage and place on wooden pallets.

2. Pallets will be loaded by approved type forklift truck onto van, semi-trailer, with wooden floor and sides. Not more than seven (7) pallets of 36 rounds each per unit of transportation.

3. Loaded van will be moved to loading platform of AMS Building 203 by means of a 5-ton tractor and unloaded by means of electric forklift truck.

NOTE: EXPLOSIVE LIMIT ON LOADING PLATFORM WILL BE TWO LOADS OR 500 ROUNDS.

INSPECTION REQUIREMENTS:
Inspect for compliance with this SOP, ORD M 7-224, other pertinent safety regulations, and the Storage SOP MOD No. AD-2-40.

SAFETY REQUIREMENTS:
1. Dry-chemical or CO2 fire extinguishers will be readily available.
2. Free exit from Storage site will be maintained.
3. Safety shoes and gloves will be worn.
4. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:
1. Ammunition to Operation No. 2.

EQUIPMENT REQUIREMENTS:
1. One van, semi-trailer, w/5-ton tractor.
2. One approved electric forklift truck.
OPERATION NO: 2  TITLE: Unpack and Inspect

1. Ammunition will be moved from loading platform by means of electric fork-lift truck.

2. Shipping container will be opened and fiber container, containing complete round, removed and placed on canvas covered work table.

3. Complete round will be removed from fiber container and inspected for proper identity and for dangerous deterioration and damaged or missing components. Any dangerous round encountered will be immediately removed from operation and placed in temporary storage behind concrete barricade No. 514 and a Surveillance inspector notified. The inspector will remove the dangerous round from behind the barricade and take it to the proper place for storage or disposition. Line rejects stored behind barricade 514 will be removed by the checker once each shift and placed in storage and marked Condition 2.

4. Packing material will be placed on rubber tired ammunition carts for transfer to Operation No. 6.

5. Complete round will be placed on wooden skid on roller conveyor for transfer to Operation No. 3. Skids will be so constructed as to prevent any danger of subjects coming in contact, of sufficient length to assure an 8" interval between items, and no exposed metal will come in contact with the round.

INSPECTION REQUIREMENTS:

Inspect for proper identity and dangerous deterioration.

SAFETY REQUIREMENTS:

1. CO₂ or Dry-chemical fire extinguishers will be readily available.
2. Free exit from operating site will be maintained.
3. Operators will wear spark proof safety shoes and gloves.
4. Operators of steel strapping will wear face shields.
5. Good housekeeping will be maintained.

DISPOSITION OF COMPONENTS AND MATERIAL:

Complete round to Operation 3.
Packing material to Operation 6.

EQUIPMENT REQUIREMENTS:

Electric fork lift truck
Canvas covered work table
Ammunition carts
Strip cutter
Wooden ammunition skids
Roller conveyor

* This includes the number of items for complete operations in Room 1 of Blg. 503.

** Includes all operators and inspectors for complete operations in Room 1 of Blg. 503.
1. Complete round received from Operation No. 2 via wooden skids on roller conveyor.

2. Operator will remove container extension assembly from round and place in holding fixture on skid.

3. Propellant increment holders will be removed and M36 propellant removed and packed in wooden trays for transfer to Operation No. 4. Powder trays will be provided with a cover.

**INSTRUCTION REQUIREMENTS:**

Perform 100% visual inspection on extension container for evidence of cracks, splits, or canisteration.

**SAFETY REQUIREMENTS:**

1. Operators will wear flame-proofed coveralls and conductive solid safety shoes.

2. Operators will work from grounded platform.

3. Free exit from operating site will be maintained.

4. CO₂ or Na₂CO₃ fire extinguishers will be readily available.

5. Good housekeeping will be maintained.

**DISPOSITION OF COMPONENTS AND MATERIAL:**

Rounds to Operation No. 5.
Propellant increments to Operation No. 4.

**EQUIPMENT REQUIREMENTS:**

Work table
Powder trays
Approved hand tools
NOTE: Service point for increments will be in Room 3, Bldg. 503, and will be hand carried to and from 4 as required. Explosive limit in service room will not exceed 1500 lbs. of propellant increments.

1. Old increments will be hand carried from Operation No. 3 and packed in shipping containers.

2. Containers will be properly stenciled and transferred to service point, Room 3.

3. New propellant increments will be unpacked from shipping container.

4. Correct amount of propelling increments for each round will be determined by use of shadograph scales.

5. Increments will be placed in separator trays, 20 complete charges per tray, and hand carried to Operation No. 5. Powder trays will be provided with a cover.

INSPECTION REQUIREMENTS:
Inspect increments for serviceability and proper identity.

SAFETY REQUIREMENTS:
1. Operators will wear conductive soled safety shoes and flame proofed coveralls.

2. Operators will work on grounded platforms.

3. Free exit from operating site will be maintained.

4. CO₂ or Du-Gea fire extinguishers will be readily available.

5. Good housekeeping will be observed.

6. A deluge system will be installed above powder tables.

7. Flame proof blankets will be provided at each exit of Room No. 2.

DISPOSITION OF COMPONENTS AND MATERIAL:
Old propelling increments to storage.
New propelling increments to Operation No. 5.

EQUIPMENT REQUIREMENTS:
Work table.
Powder trays.
Shadograph scales.
STANDARD OPERATING PROCEDURE: Modification of ROP no. AM-9-49

LOCATION: Barracks 3-4, and 5, Room 4, AMO 2189, 593

EXPLOSIVE LIMITS: POUNDS: 3 E/D

PERSONNEL LIMITS: OPERATORS: 1 CASUALS: 1

STEP 1: OPERATION NO: 5 TITLE: Assemble Propellant Increment

1. Round received from Operation No. 3 via wooden skids on roller conveyors

2. Increments hand carried in wooden trays from Operation No. 4

3. Operator will place the equivalent of 51 sheets of increments on the cartridge container assembly and insert the propellant holder. Increments from one (1) powder lot only will be used on any one round.

4. The equivalent of 51 sheets of increments will be assembled on the cartridge extension assembly and propellant holder affixed.

5. Container extension assembly will be assembled hand tight.

6. Assembled rounds will be moved on roller conveyor to Operation No. 6

INSPECTION REQUIREMENTS:

Inspect for correct number of increments and proper assembly.

SAFETY REQUIREMENTS:

1. Operators will wear flame-proofed coveralls and conductive soled shoes.
2. Operators will work from grounded platform.
3. Free exit from operating site will be maintained.
4. CO2 or Na-Des fire extinguishers will be readily available.
5. Good housekeeping will be maintained.

EQUIPMENT REQUIREMENTS:

Increment trays
Wooden ammunition skids
Roller conveyors
Work tables

PAGE 7 OF 9
STANDARD OPERATING PROCEDURES FOR MODIFICATION OF SEP 30: AN-9-46

MACHINE: Shell RE. XM29 V/Squad Crew V/Pass Pod

LOCATION: Room 1, AWS Bldg. 507

ITEM NO: R 626

NO OF ITEMS: 1200 EV

DIRECT LABOR: 16

PERSONNEL LIMITS: OPERATORS: 2 CASUALS: 6

STEP: OPERATION NO. 6 TITLE: Stencil, pack, and dispatch to Storage.

1. Round will be stencilled with the proper Lot No., suffix.

2. Round will be removed from skid and placed on canvas covered work table where it will be properly packed in fiber container.

3. Fiber container will be taped with yellow ammunition tape and container stencilled with the appropriate lot suffix.

4. Packed round will be placed in packing box and sufficient filler added to insure a tight pack.

5. Appropriate lot suffix will be added to lot number on packing box.

6. Box will be strapped and sealed.

7. End item will be placed on wooden pallets, 18 rds. to pallet and transferred to loading platform by means of electric forklift truck.

8. From loading platform ammunition will be dispatched to storage.

INSPECTION REQUIREMENTS:
Inspect for proper packing and marking.

SAFETY REQUIREMENTS:

1. Operators will wear spark proof safety shoes.

2. Strapping machine operator will wear face shield.

3. Safe exit from operating site will be maintained.

4. CO or Du-Gas fire extinguisher will be readily maintained.

5. Good housekeeping will be observed.

DISPOSITION OF COMPOSITION AND MATERIAL:
Ammunition to Storage.

EQUIPMENT REQUIREMENTS:

Electric forklift truck,
Automatic strapping machine,
Taping machine,
Calking tools,
Stencil equipment.

NOTICE: All tools and equipment will be inspected by surveillance division for compliance with safety regulations prior to being put in use.

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ORDNANCE AMMUNITION CENTER
U. S. ARMY
JOLIET, ILLINOIS

ORDLY-M-L 310/63481 Wingate

3 September 1953

PMiller/as/5230

SUBJECT: Standing Operating Procedure for Modification of Shell, HE, M329
W/Supplementary Charge, W/Fuze, PD, M51A5, 4.2" Mortar

TO: Commanding Officer
   Wingate Ordnance Depot
   Gallup, New Mexico

The inclosed Standing Operating Procedure and Flow Chart for modification of subject ammunition have been reviewed by this office and are considered satisfactory with the following comments:

a. Reference Step 6, Operation 5, it is recommended that the assembled rounds on the roller conveyor be so spaced as to reduce the possibility of propagation of detonation from item to item should an incident occur (reference paragraph 1723 CSM).

b. Reference page 6, Operation 4, the explosives limit for room 2, service room, does not correspond to that shown on layout drawing. This should be clarified.

c. The quantity of propellant increments stored in service room of Building 503 should be reduced to a normal four-hour supply (reference paragraph 1602 of ORD M 7-224).

FOR THE COMMANDING GENERAL:

H. L. GEUENZLER
Assistant

1 Incl
   SOP and Flow Chart
DEPARTMENT OF THE ARMY
WINGATE ORDNANCE DEPOT
GALLUP, NEW MEXICO

STANDING OPERATING PROCEDURE
FOR
DEMILITARIZATION

COMPLETE NOMENCLATURE: Shells, SP, M67 V/Fuze BD M66 for 105mm Howitzer

ITEM NO: D104-6   AWO NO: 4752-53   SOP NO: AN-0-40   DATE: July 1953

Total Quantity Scheduled: 395 rds.

Estimated Production Per 8-hr Shift: 450 rds.

Estimated Total Direct Labor Crew Per Shift: 9

Estimated Total Direct Man Hours Per Unit: 16

Estimated Total Ordnance Cost Per Unit: $35

LOCATION OF OPERATING AREA:

A. Ammunition Work Shop:

B. Demolition and Burning Ground

LOCATION OF OPERATING BUILDING, INCLUDING BUILDING NO: 500, 508, 511 and 516.

WAIVERS AND/OR EXEMPTIONS AFFECTING THIS SOP (INCLUDE FILE NUMBER, DATE AND EXPIRATION DATE): None

APPROVED: Kenneth E. Knudson

KENNETH E. KNUDSON
Lt Col, Ord Corps
Commanding

SHEET 1 OF 6
1. Receive from Storage
2. Unpack and Inspect
3. Remove Fuzes
4. Destroy Loaded Components
STANDING OPERATING PROCEDURE: Demilitarisation

NOMENCLATURE: Shell, S/F HEAT, M67, W/Fuze BD M62 for 105mm Howitzer

LOCATION: AWS Building, #516

EXPLOSIVE LIMITS: POUNDS: NO OF ITEMS: 895

PERSONNEL LIMITS: OPERATORS: 2 CASUALS: 3

STEP | OPERATION NO. 1| TITLE: Receive from Storage

1. Ammunition received from storage on pallets via van semi-trailer with wooden floor and sides and 4x2 5-ton tractor.

2. Pallets of ammunition will be removed from van by means of electric forklift truck and placed in temporary storage in receiving building #516.

INSPECTION REQUIREMENTS:

Inspect for compliance with this SOP, ORD M 7–224, other pertinent regulations and storage SOP WOD No. AD–0–4.

SAFETY REQUIREMENTS:

1. CO² or Du–Gas fire extinguishers will be readily available.
2. Free exit from storage site will be maintained.
3. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:

Ammunition to Operation No. 2.

EQUIPMENT REQUIREMENTS:

1. Electric forklift truck.
2. Van semi-trailer and 5-ton tractor.
**STANLING OPERATING PROCEDURE FOR: Demilitarization OF**

**NAME:** Shell, S/F HEAT, M67 W/Time Exp M62 for 105mm How DATE: July 1953

**ITEM NO:** D105-6

**LOCATION:** Room No. 1, AWS Building 500

**AWO NO:** 4342-53

**EXPLOSIVE LIMITS:** POUNDS: NO OF ITEMS: 100

**SHIFT:** 450 rds

**PERSONNEL LIMITS:** OPERATORS: 3 CASUALS: 3

**DIRECT LABOR:** SHIFT: 3

---

**STEP** | **OPERATION NO. 2** | **TITLE:** Unpack and Inspect
---|---|---

1. Ammunition will be transported from receiving building to Operation #2 by means of an electric fork lift truck.

2. Round will be removed from pallet and placed on canvas covered work table.

3. Projectile will be removed from fiber container and placed in wooden separator tray on rubber tired ammunition cart. 48 projectiles to a cart.

**NOTE:** Cartridge case and powder has previously been removed and demilitarized.

4. Fiber containers will be inspected for complete decontamination and dispatched to storage.

---

**INSPECTION REQUIREMENTS:**

Inspect for proper identity of ammunition. Inspect packing material for adequacy of decontamination in accordance with requirements of paragraph 2507 of ORD M 7-224.

---

**SAFETY REQUIREMENTS:**

1. Operators will wear spark proof safety shoes.
2. Free exit from operating site will be maintained.
3. CO2 or Du-Gas fire extinguishers will be readily available.
4. Good housekeeping will be observed.

---

**DISPOSITION OF COMPONENTS AND MATERIAL:**

- Projectiles to Operation No. 3.
- Packing material to Storage.

---

**EQUIPMENT REQUIREMENTS:**

- Electrical fork lift truck
- Rubber tired ammunition carts
- Work table
STANDING OPERATING PROCEDURE FOR: Demilitarization OF

SOP NO. AM-2-50

NOMENCLATURE: Shell, SE, HEAT, M67, W/Dusa BD M62 for 105mm

DATE: July 1953

Location: Room 3, AWS Bldg. 500

ITEM NO: D104-6

Mfg No: 4759-59

PROD/8 HR

EXPLOSIVE LIMITS: POUNDS: NO OF ITEMS: 100

SHIFT: 450

PERSONNEL LIMITS: OPERATORS: 2 CASUALS: 3

DIRECT LABOR

SHIFT: 2

STEP

OPERATION No. 3 TITLE: Remove fuses

1. Ammunition carts of projectiles will be wheeled by hand from Operation 2.

2. Operator will remove projectile from tray and hand carry to fuse removal machine behind concrete barricade.

3. Projectile will be positioned in fuse removal machine.

4. Operator will retire to outside of barricade and operate machine by remote control.

5. Projectile will be removed from machine, cavity plugged to prevent spillage of explosive and placed in pallet for transfer to Operation No. 4.

6. Fuses will be packed in sawdust filled box and hand carried to service barricade Bldg. 511 from where they will be dispatched to Operation No. 4.

INSPECTION REQUIREMENTS:

Inspect for compliance with this SOP.

SAFETY REQUIREMENTS:

1. Defuzing machine will not be operated until all personnel are outside barricade.
2. Operators will wear spark proof safety shoes.
3. CO2 or Du-Gas fire extinguishers will be readily available.
4. Free exit from operating site will be maintained.
5. Good housekeeping will be observed.
6. Any spilled explosive filler will immediately be placed in water in a rubber bucket for transfer to burning ground.

DISPOSITION OF COMPONENTS AND MATERIAL:

Defused projectiles to Operation No. 4.
Fuses to Operation No. 4.

EQUIPMENT REQUIREMENTS:

Defuzing machine.
Ammunition Carts.
Fuse packing material.
STANDING OPERATING PROCEDURE: Demilitarization
OF: SOP No. AD-0-20

NUMERATION: Shell, ST. HEAT, M67 w/Fuse BD M62 for 105mm How; DATE: July 1953

ITEM NO: B95-6

LOCATION: Demolition and Burning Ground
AWO NO: 4762-53

EXPLOSIVE LIMITS: POLICY: No of Items:
PROD/BR: 200
DIRECT LAB/SHIF: 4

PERSONNEL LIMITS: OPERATORS: 4 C-rad ALS: 3

STEP OPERATION NO. TITLES: Destroy Loaded Components

DESTRUCTION OF FUSES

1. Boxes containing fuses will be placed in a trench and banked with earth in such a manner as to completely surround fuse box.

2. Sufficient flake TAT to assure complete demolition will be poured into and over open fuse boxes.

3. Detonating agent will be added.

4. Connection of the firing circuit to the detonator and initiating charge and all general procedures for the destruction of explosives as outlined in WOD SOP AD-0-28 will be adhered to without deviation.

DESTRUCTION OF PROJECTILES

5. Projectiles will be removed from carrier and placed on cleared ground at intervals of not less than 70 inches in accordance with provisions outlined in paragraph 2725 of OSM.

6. Combustible material will be placed adjacent to fuse cavity of each projectile and a powder train laid to each projectile.

7. Powder train will be ignited with a safety fuse of such length as to permit personnel to retire to a safe position.

8. Projectiles will be allowed to cool for a period of 24 hours before inspecting for decontamination.

9. Rotating bands will be removed from projectiles, metal segregated and transferred to salvage. This operation will be performed at machine shop after explosive filler has been burned out.

NOTICE: If any loaded projectiles are found from which it is impossible to remove the fuse they will be destroyed by detonation in a demolition trench in accordance with the provisions of paragraphs 2715 and 2717 of OSM and SOP AD-0-28.

INSPECTION REQUIREMENTS:
Inspect burned out projectiles for complete removal of explosive filler.
Inspect all salvage metal in accordance with paragraph 2507 of OSM and paragraphs 4240 thru 4243 of OAM by Surveillance Inspectors.

SAFETY REQUIREMENTS:

1. Great care will be exercised in positioning of projectiles to prevent mass detonation.

2.无论是加项目标与金 SealS are to cool before inspecting (24 hours).

3. Decontamination of projectiles will be conducted in accordance with provisions of paragraph 2715 and 2725 of OSM and SOP AD-0-27.

4. Provisions of SOP AD-0-28 will be strictly adhered to in the destruction of fuses.

DISPOSITION OF COMPONENTS AND MATERIALS:

Scrap metal to salvage.

EQUIPMENT REQUIREMENTS:
Transfer equipment
Protective clothing
Hand tools
<table>
<thead>
<tr>
<th>Section</th>
<th>Copies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage Division</td>
<td>5</td>
</tr>
<tr>
<td>Ammunition Maintenance</td>
<td>10</td>
</tr>
<tr>
<td>Safety</td>
<td>2</td>
</tr>
<tr>
<td>Surveillance</td>
<td>10</td>
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<tr>
<td>Management</td>
<td>2</td>
</tr>
<tr>
<td>Operational Planning</td>
<td>1</td>
</tr>
</tbody>
</table>
CHANCE ORDER NUMBER 39  
Dated: 6 August 1953  
Sheet 1 of 1  
(1 Insert Sheet No. 25 attached)

REFERENCE: STANDING OPERATING PROCEDURE FOR LOADING, ASSEMBLING AND MARKING BOMB, 750 LB. DEMOLITION T5HE, ITEM NUMBER 10549 AND BOMB C.P. 1000 LB. MK. 83 MOD. 1, ITEM NUMBER 10619.

SOP NUMBER 8 Dated: 3 April 1953, and Change Orders

INSTRUCTIONS:

2. Remove original Sheet 25 of 30, and insert attached Sheet 25 of 30.

Submitted By:  
Concurred By:

[Signatures]

Reviewed By:  
Director of Safety

[Signature]

[The document is filled with signatures of various officials, including the Director of Production, Director of Manufacturing, General Manager, and Commanding Officer.]
STANDING OPERATING PROCEDURE FOR LOADING AND ASSEMBLING

BMES: 750 LB., DEMOLITION TYPE, TRITONAL LOADED AND
EGP: 1000 LB. MK. 83 MOD. 1

LOAD LINE I AND III BUILDING NUMBER 17
EXPLOSIVE LIMITS FOR BLDG/AREA 65,000 Lbs.
PERSONNEL LIMITS FOR BLDG/AREA 40

SOP NUMBER 8
Dated: 3 April 1953
CO # 39
Dated: 6 Aug. 1953
Item No. 10549 and 10619

STEP | OPERATION NO. 23 | TITLE: BREAKDOWN AND PELLET BOMB BODY

1. Receive bombs from Operation 16.
2. Position bombs at body pellet station.
3. Install fuze well holding jig and splash guards and thread protectors. (Alternate)
4. Break crust, submerge and mix into molten core of bomb cast.
5. Add pellets, submerge to floor of core.
6. Build up core to specified height.
7. Molten Tritonal may be added or taken from body core as required.
8. Pellets received from Operation 19.
9. Molten Tritonal received from Operation 20.
10. Transfer bomb to Operation 21.

INSPECTION SHALL BE IN ACCORDANCE WITH INSPECTION AND QUALITY CONTROL PROCEDURES.

SAFETY REQUIREMENTS:

Personnel protective clothing and equipment shall conform with Section 10 of OSM.
Hand tools shall conform with para. 1614 of OSM.

EQUIPMENT REQUIREMENTS:

Fuse Well Holding Jigs
Splash Guards
Thread Protectors
Work Platforms

Bomb Carts
Molten Tritonal Handling Equipment
Hand Tools
Cleaning Equipment
DEPARTMENT OF THE ARMY
WINGATE ORDNANCE DEPOT
GALLUP, NEW MEXICO

STANDING OPERATING PROCEDURE

FOR

DEMILITARIZATION

COMPLETE NOMENCLATURE: Shell, HE, M71, W/O Band, F/FT Fuse for 90mm Gun, PWSLA

ANO NO: TUD-B-1-53       SOP NO: AN-9-57       DATE: July 1953

Total Quantity Scheduled: 424 rds

Estimated Production Per 8-Hr. Shift: 424 rds

Estimated Total Direct Labor Crew Per Shift: 19

Estimated Total Direct Man Hours Per Unit: 12

Estimated Total Ordnance Cost Per Unit: $31

LOCATION OF OPERATING AREA: Ammunition Work Shop and Burning Ground

WAIVERS AND/OR EXEMPTIONS AFFECTING THIS SOP (INCLUDE FILE NUMBER, DATE AND EXPIRATION DATE): None

APPROVED:

KENNETH E. KNUDSON
Lt. Col., Ordnance Commanding

SHEET 1 OF 7
1. Receive from Storage
2. Unpack and inspect
3. Pull apart complete round
4. Deprime Cartridge Case
5. Destroy Loaded Components

SHEET 2 OF 7
1. Ammunition received from storage on pallets via van semi-trailer with wooden floor and sides and 4 x 2 5-ton tractor.

2. Pallets of ammunition will be removed from van by means of electric fork lift truck and placed in temporary storage in receiving building no. 516.

INSPECTION REQUIREMENTS:
Inspect for compliance with this SOP, ORD 7-224, other pertinent regulations and Storage SOP WOD No. AD-0-4.

SAFETY REQUIREMENTS:
1. CO₂ or Du-gas fire extinguishers will be readily available.
2. Free exit from storage site will be maintained.
3. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIALS:
Ammunition to Operation No. 2.

EQUIPMENT REQUIREMENTS:
One electric fork lift truck.
One van semi-trailer and 5-ton tractor.
1. Ammunition will be transported from receiving building to Operation No. 2
by means of an electric fork lift truck.

2. Fiber container containing complete round will be removed from shipping
container and placed on canvas covered work table.

3. Round will be removed from fiber container and placed on rubber-tired
ammunition cart, 25 rounds to cart. Round will be placed in a horizontal
position in wooden bed of truck and blocked to prevent slipping.

4. Fiber containers and boxes will be inspected for complete decontamination
and dispatched to storage.

INSPECTION REQUIREMENTS:

Inspect for proper identity and lot number.
Inspect packing material for adequacy of decontamination in accordance with
requirements of paragraphs 2507 of ORD M 7-224.

SAFETY REQUIREMENTS:

1. Operators will wear spark proof safety shoes.
2. Free exit from operating site will be maintained.
3. CO₂ or D.O₂ gas fire extinguishers will be readily available.
4. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:

Round to Operation No. 3.
Unserviceable packing material to scrap.
Serviceable packing material to storage.

EQUIPMENT REQUIREMENTS:

Electric fork lift truck.
Rubber-tired ammunition carts.
Work tables.
Approved hand tools.
STANDING OPERATING PROCEDURE FOR: De-militarization OF  

LOCATION: ANS Bldg. 500, Room 3  

EXPLOSIVE LIMITS:  

PERSONNEL LIMITS: OPERATORS: 2 CASUALS: 3  

STEP  
OPERATION NO. 3 TITLE: Pull Apart Complete Round  

1. Ammunition carts containing complete rounds will be wheeled by hand from Operation No. 2.  
2. Operator will remove round from cart and hand carry to pull-apart machine behind concrete barricades.  
3. Round will be positioned in pull-apart machine.  
4. Operator will retire to outside of barricades and operate machine by remote control.  
5. Cartridge case will be removed from machine, hand carried to adjacent barricades and powder poured into a powder container which will be equipped with a self-closing lid and properly grounded. Amount of powder in packing barricades will be limited to one container, about 100 lbs. Filled container of powder will be moved by rubber-tired hand truck to powder barricade No. 508 and placed in temporary storage awaiting transfer to burning ground.  
6. Prised cartridge case will be placed in a separator tray on ammunition cart, not more than 50 cases to a cart, and hand wheeled to Operation No. 4.  
7. Tension on projectile closing plug will be relieved by means of hand wrench.  
8. Projectile will be hand carried and placed in a box pallet outside barricade.  
9. Pallet load of 70 projectiles will be transferred from Room 3 by means of an electric fork lift truck to Bldg. 516 awaiting dispatch to burning ground.  

INSPECTION REQUIREMENTS:  
Inspect for compliance with this SOP and complete removal of powder from cartridge cases.  

SAFETY REQUIREMENTS:  
1. Pull-apart machine will not be operated until all personnel are outside barricades.  
2. An adequate de-luge system will be installed over equipment in both operating barricades.  
3. Operators will wear conductive soled safety shoes.  
4. No one will be permitted in area immediately north of Bldg. 500 while pull-apart machine is in operation.  
5. Free exit from operation site will be maintained.  

DISPOSITION OF COMPONENTS AND MATERIAL:  
Cartridge Cases to Operation No. 4  
Projectile to Operation No. 5  
Powder Propellant to Operation No. 5  

EQUIPMENT REQUIREMENTS:  
Pull apart machine  
ammunition carts  
powder containers  
wrench for projectile closing plug  

SHEET 5 OF 7
1. Primed cartridge cases will be hand wheeled on rubber tired ammunition carts from Operation 3.
2. Cartridge cases will be removed from tray and positioned on deprimer machine.
3. Deprimer machine will be actuated and primer removed by a hollow ground primer punch.
4. Primers will be automatically removed from machine by a belt conveyor and deposited in a water filled container. (Not more than 50 primers to container)
5. Deprised cases will be removed from machine and packed for transfer to storage.
6. Primers will be packed in sawdust in a used ammunition box and hand carried to Service Magazine No. 512 from where they will be dispatched to Operation No. 5. Explosive limit in Service Magazine No. 512 will be 4204 primers.
   Number of primers per box will be limited to 100.

**Inspection Requirements:**

Inspect cartridge for complete removal of primer and propellant. Inspect for compliance with this SOP.

**Safety Requirements:**

1. After removal of each primer, operator will inspect primer punch for the presence of any foreign particles which might cause firing of primer.
2. Operator will wear face shield while operating machine.
3. CO2 or Na-Gas fire extinguishers will be readily available.
4. Free exit from operating site will be maintained.
5. Good housekeeping will be observed.

**Disposal of Components and Materials:**

Primers to Operation No. 5.
Deprised Cartridge Cases to Storage.

**Equipment Requirements:**

Deprimer press equipped with hollow ground punch.
Packing material.
Transfer equipment.
Components to be destroyed will be held in suitable revetments in burning ground awaiting demilitarization.

**PRIMERS**

1. Primers will be demilitarised in Popping Plant under procedure established in SOP No. AD-0-26.

**PROPPELLANT**

2. Powder will be spread in a bed not more than 3 inches deep and burned in accordance with procedure outlined in SOP No. AD-0-27.

**PROJECTILES**

3. Projectiles will be removed from carrier, closing plug removed, and placed on cleared ground at intervals of 30 inches in accordance with provisions outlined in paragraph 2726 of OSN.

4. Combustible material will be placed adjacent to fuse cavity of each projectile and powder train layered.

5. Powder train will be ignited with a safety fuse of sufficient length to permit personnel to retire to a safe position. (Missile distance)

6. Projectiles will be allowed to cool for a period of 24 hours before inspection for decontamination.

7. Rotating bands will be removed from projectiles, metal segregated and transferred to salvage. Debudding will be performed at the burning ground at a selected spot completely removed from the burning site.

**INSPECTION REQUIREMENTS:**

Surveillance inspector will inspect and stamp all projectiles for complete decontamination. Inspect all salvage metal in accordance with paragraph 2530 of OSN and Paragraphs 4.240 through 4.243 of OMSR.

**SAFETY REQUIREMENTS:**

1. Extreme care will be exercised in positioning of projectiles to prevent mass detonation.

2. Burned out projectiles must be allowed to cool for a period of 24 hours before inspecting.

3. Decontamination of projectiles will be conducted in accordance with provisions of paragraphs 2715 and 2716 of OSN and SOP AD-0-27.

4. Provisions of SOP No. AD-0-26 will be strictly adhered to in the destruction of primers.

5. Provisions of SOP No. AD-0-27 will be followed in burning of propellant powder.

**DISPOSITION OF COMPONENTS AND MATERIAL:**

Scrap metal to salvage.

**NOTICES:** All equipment and tools used in demilitarization of subject material will be inspected and approved by the Safety Director before operation is started.

**Sheet 7 of 7**
STANDING OPERATING PROCEDURE FOR

Demilitarization

COMPLETE NOMENCLATURE: Shells, 2" Hx, Mk111, M/Dicto FD M98, for 75mm How. 3.9mm

AMO NO: 30D-11-52 S-P NO: AM-0-56 REV. DATE: July 1953

Total Quantity Scheduled: 3,197 rds

Estimated Production Per 8-hr Shift: 1,200 rds

Estimated Total Direct Labor Crew Per Shift: 11

Estimated Total Direct Man Hours Per Unit: 273

Estimated Total Ordnance Cost Per Unit: $0.155

LOCATION OF OPERATING AREA:

a. Ammunition Work Shop:

b. Burning Ground:

LOCATION OF OPERATING BUILDING, INCLUDING BUILDING NO: ABS Bldg. 500, 501, 512, 516.

WAIVERS AND/OR EXCEPTIONS AFFECTING THIS SOP (INCLUDE FILE NUMBER, DATE AND EXPIRATION DATE): None

APPROVED:

[Signature]

M. M. AMES

Lt Col, Ord Corps

Commanding
1. Receive from Storage

2. Unpack and Inspect

3. Remove Projectile from Cartridge

4. Remove Primer and Base Charge

5. Destroy Loaded Components
1. Ammunition received from storage on pallets via van semi-trailer with wooden floor and sides and 4x2 5-ton tractor.

2. Pallets of ammunition will be removed from van by means of electric forklift truck and placed in temporary storage in receiving building no. 516.

**INSPECTION REQUIREMENTS:**

Inspect for compliance with this SOP, other pertinent regulations and Storage SOP No. Ab-O-4.

**SAFETY REGULATIONS:**

1. Fire exit from storage site will be maintained.
2. CO2 or Du-Gan fire extinguishers will be readily available.
3. Good housekeeping will be maintained.

**DISPOSITION OF COMPONENTS AND MATERIAL:**

Ammunition to Operation No. 2.

**EQUIPMENT REQUIREMENTS:**

Electric forklift truck.
Van semi-trailer and 5-ton tractor.

**NOTICE:** All equipment and tools used in demilitarization of subject material will be inspected and approved by the Safety Director before Operations are started.
1. Ammunition will be transferred from receiving building to Operation #2 by means of an electric fork lift truck.
2. Fiber container containing round will be removed from clever-load packing and placed on canvas covered work table.
3. Round will be removed from fiber container, and inspected for deterioration which would render the round unsafe to handle. Any round showing evidence of dangerous deterioration will immediately be called to the attention of the Surveillance Inspector who will remove the item from the pecking table and hand carry to Barricade #3. The Surveillance Division will advise on final disposition procedure.
4. Projectile will be removed from cartridge case and packed on base in wooden box pallets. 144 projectiles to a pallet.
5. Cartridge cases containing primer and propellant will be placed in wooden separator trays on rubber tired ammunition carts. 70 cases to a cart and hand wheeled to Operation #3.
6. Packing material will be placed on pallet for transfer to storage.
7. Pallet loads of projectiles will be securely blocked to prevent shifting and returned by electric forklift truck to Bldg. 515 awaiting dispatch to storage.

INSPECTION REQUIREMENTS:
Inspect for proper identity of ammunition and dangerous deterioration of round. Inspect packing material for adequacy of decontamination in accordance with provisions of paragraph 2507 of OSM.

SAFETY REQUIREMENTS:
1. Operators will wear spark proof safety shoes.
2. Free exit from operating area will be maintained.
3. CO2 or Dry-CO2 fire extinguishers will be readily available.
4. Good housekeeping will be observed.
5. Trays for primed cartridge cases will be carefully inspected and cleaned before filling.

DISPOSITION OF COMPONENTS AND MATERIAL:
Metal packing parts to salvage.
Fiber containers to storage.
Fused projectiles to storage.
Cartridge cases to Operation #3.

EQUIPMENT REQUIREMENTS:
Electric fork lift truck.
Ammunition carts with separator trays.
Box pallets.
Approved hand tools.

NOTE: Projectiles and fuses are to be demilitarized at a later date when facilities of the washout plant are available.
STANDING OPERATING PROCEDURE NO: Demilitarization

MATERIAL: Shell, SE, HE, HEAT, FM/HE, PD 140 for 255mm Shell

LOCATION: Room 42, AMB Flg. 500

EXPLOSION LIMITS: MIN: 100 MAX: 10

PERSONNEL LIMITS: OPERATORS: 1 DIRECT LABOR: 1

TITLE: Remove Propellant from Cartridge Case

1. Cartridge cases containing increments and primers received from Operation 52 via rubber tired ammunition carts.

2. All increments, except base charge, will be removed from cartridge case and separated from base charge by cutting cord with spark proof knife or scissors. Cartridge cases will not be removed from tray during this operation.

3. Increments will be placed in a metal powder drum for transfer to burning ground.

4. Filled powder drums will be closed and moved by hand truck to powder magazine no. 503 awaiting transfer to Operation 55.

NOTE: Explosive limit in building 508 will be 10,000 lbs. of packed powder.

INSTRUCTION REQUIREMENTS:

Inspect for compliance with this SOP.

SAFETY REQUIREMENTS:

1. Operator will wear conductive soled safety shoes and flame proofed coveralls.
2. Only spark proof tools will be permitted in operating room.
3. Operator will work from a grounded platform.
4. Free exit from operating site will be maintained.
5. Powder container will be adequately grounded.
6. Fire extinguishers will be readily available.
7. A deluge system will be installed at this operation.

DISPOSITION OF COMPONENTS AND MATERIAL:

Cartridge cases to Operation 54.
Powder to Operation 55.

EQUIPMENT REQUIREMENTS:

Ammunition Cart.
Powder containers.
Spark proof hand tools.
1. Cartridge cases containing primer and base charge will be hand wheeled from Operation 3 on rubber tired ammunition cart.
2. Position cartridge case in air operated primer removal machine and punch out primer with base charge attached. Base charge and primer will be removed from depriming machine and carried through flash shield and deposited on disassembly table by means of an air driven conveyor.
3. After each primer is removed, operator will check depriming punch to assure it being free of all foreign particles.
4. Operator will separate primer and base charge by means of spark proof knife or scissors.
5. Base charge will be placed in a grounded metal powder drum with self closing lid. Drum containing powder will be transferred on rubber tired hand truck to Bldg. No. 508.
6. Primers will be placed in a water filled container, 70 primers to container.
7. Primers will be transferred to a new dust filled box, 140 to box and hand carried to Service Magazine 512 awaiting transfer to Operation #5. Explosive limit in Bldg. 512 will be 3200 primers.
8. Cartridge case will be packed and dispatched to storage.

INSPECTION REQUIREMENTS:
Inspect for compliance with this SOP.
Inspect each cartridge case for complete removal of powder.

SAFETY REQUIREMENTS:
1. Operators will wear conductive soled safety shoes and flame proofed coveralls.
2. This operation will be protected by an adequate deluge system controlled by fuseable links above conveyors.
3. Only spark proof hand tools will be used.
4. Free exit from operating site will be maintained.
5. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:
Cartridge cases to Storage.
Base charge to Operation #5.
Primers to Operation #5.

EQUIPMENT REQUIREMENTS:
Depriming machine.
Powder cases.
Spark Proof Knife scissors
Ammunition carts.
Components to be destroyed will be held in suitable revetments at Burning ground awaiting demilitarization.

PRIMERS

1. Primers will be demilitarized in Popping Plant under procedure established in SOP No. AD-O-26.

POWDER PROPELLANTS

2. Powder will be spread on a bed not more than three inches deep and burned in accordance with procedure outlined in SOP No. AD-O-27.

INSPECTION REQUIREMENTS:

Inspect all salvage metal in accordance with paragraph 2500 of GSH and paragraph 4.240 through 4.243 of GACI.

SAFETY REQUIREMENTS:

1. Operators will wear the prescribed safety clothing.
2. Provisions outlined in SOP No. AD-O-26 and AD-O-27 will be strictly adhered to.

DISPOSITION OF COMPONENTS AND MATERIAL:

Scrap Metal to salvage.

EQUIPMENT REQUIREMENTS:

Popping Plant.
Transfer equipment.

SHEET 7 OF 7
OPERATION OF THE LING
STANDARD OPERATING REPORT
GUNNERY, NAVY HOSPITAL

July 1953

STARTING OPERATING PROCEDURES FOR M-1943, Amendment No. 1

CONCLUSIONS: Shell, 60, MG. 15, 4.2mm 203 for 7.62mm

PURPOSE: To provide for a more rapid, economical and efficient operation (after
the base charges are sealed to the inside base of the cutting case).

OPERATION NO. 1, Room 2:

Personnel limitation: Increase number of operators to 3.

STEP 1:

AID Step 2: Base charge will be separated from the primer and removed
from cartridge case by means of a special tool. Base charge
removal should be gradual. Charge will be placed in a grounded steel
powder bin. With safe closing lid, a grounding rod will be
inserted on rubber-tired hand cart in Bin No. 503.

OPERATION NO. 4:

Revised title to read: Cleaner primer and base charges from the charge
as required to the principle.

APPROVED

[Signature]

F. C. W. HINCH

[Title and Date]

[Stamp]
DEPARTMENT OF THE ARMY
WONGOE ORDNANCE DEPOT
GALUP, NEW MEXICO

STANDING OPERATING PROCEDURE

FOR

Demilitarization

<table>
<thead>
<tr>
<th>COMPLETE NONEXPLOSION CHARGE, Propelling Stock, 6th Cav.</th>
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<tbody>
<tr>
<td>OCWO No: WCO-2-4-52</td>
</tr>
</tbody>
</table>

| Total Quantity Scheduled: | 8722 |
| Estimated Production Per 8-Hr Shift: | 600 chgs. |
| Estimated Total Direct Labor Crew Per Shifts: | 36 |
| Estimated Total Direct Manhours Per Unit: | 223 |
| Estimated Total Ordnance Cost Per Unit: | 6.40 |

* LOCATION OF OPERATING AREA:
  a. Ammunition Work Shop.

** LOCATION OF OPERATING BUILDING, INCLUDING BUILDINGS NO. | 500

* Supplemented with area map showing distance relations.

** Supplemented with flow chart showing explosive limits and distance relationships between buildings.


KENNETH E. KNOBLOCH
Lt Col, Ord Corps
Commanding Officer
1. Remove and Transfer From Storage

2. Receive and Unpack

3. Debag Propellant Powder

4. Pack Powder

5. Destroy Powder Bags, Cartridges, Igniters, Flash Cartridge Storage Cases

SHEET 2 OF 7
STANDING OPERATING PROCEDURES FOR: Demilitarization of 600 Charges, Propelling for 6th Gun

LOCATION: Various Storage Sites

DATE: August 1953

OCCUPATION: 600 Charges

EXPLOSIVE LIMITS: POUNDS: As Stored NO OF ITEMS: - - - SHIIFT: 600 Charges

PERSONNEL LIMITS: OPERATORS: 2 CASUALTIES: 3 DIRECT LABOR: SHIIFT: 2

STEP OPERATION NO. 1 TITLE: Remove and Transfer from Storage

1. Cartridge storage cases will be removed from storage and placed on wooden pallets.

2. Containers will be secured on pallets before moving.

3. Pallets will be loaded by electric forklift truck onto van, semi-trailer or cargo truck, with wooden floor and sides.

4. Loaded van will be moved to receiving platform building No. 500 by means of a 5-ton 4x2 tractor.

5. At receiving platform pallets will be unloaded by means of electric forklift truck.

Note: Explosive limit will not exceed 120 charges on platform.

INSPECTION REQUIREMENTS:
Inspect for compliance with this SOP and Storage SOP No. AB-0-4

SAFETY REQUIREMENTS:

1. Dry-gas or CO2 fire extinguishers will be readily available.

2. Free exit from storage site will be maintained.

3. Safety shoes and gloves will be worn.

4. Good housekeeping will be observed.

5. Trucks used in hauling will comply with provisions outlined in par 2207 of ORDN 7-224.

DISPOSITION OF COMPONENTS AND MATERIAL:

Propelling charges to east platform Bldg. 500 Damage to reclamation yard.

EQUIPMENT REQUIREMENTS:

One semi-trailer, with 5-ton 4x2 tractor, or cargo truck. Two electric forklift trucks. Ammunition pallets.

Includes forklift operator and truck driver.

NOTICE: All equipment and tools used in demilitarization of subject material will be inspected and approved by the Safety Director before starting operations.
STANDING OPERATING PROCEDURE FOR: Demilitarization of SCP No M-9-50

NOMENCLATURE: Charge, Propelling for 16 Gun

DATE: August 1953

LOCATION: Room 3, ABS Bldg., No. 500

CFC NO.: EOD-D-4-52

EXPLOSIVE LIMITS: 1 = 1 NO OF ITEMS: 90

PROD/8-HR SHIFT: 600

PERSONNEL LIMITS: OPERATORS: 5 CASUALS: 3

SHIFT: 5

DIRECT LABOR:

STEP | OPERATION NO. 2 | TITLE: Receive and Unmark

1. Propelling charges received from receiving platform via electric forklift truck.

2. Remove cartridge storage case from pallet and place on work table.

3. Remove cover from cartridge storage case and place in tote box.

4. Remove charge from cartridge storage case and place on power conveyor for transfer to Operation No. 3.

5. Remove paper liners from cartridge storage case and pack for transfer to burning ground.

6. Inspect cartridge storage case for loose powder and place on carrier for transfer to Operation No. 5.

INSPECTION REQUIREMENTS:

Inspect unpacked charge for evidence of excessive deterioration of propellant powder and black powder and for visible contamination. Any charge showing excessive deterioration or torn ignitor pads will be immersed in water for transfer to Operation No. 5.

SAFETY REQUIREMENTS:

1. Operators will wear conductive sole safety shoes and flame proof coveralls.

2. Operators will work from a grounded platform.

3. Free exit from operating site will be maintained.

4. CO₂ or Du-gas fire extinguishers will be readily available.

5. A deluge system will be installed above unpacking table.

6. Good housekeeping will be observed.

7. Five blankets will be available at escape doors.

DISPOSITION OF COMPONENTS AND MATERIAL:

Powder chargers to Operation No. 3.

Cartridge storage cases to Operation No. 5.

Paper liners to burning ground.

EQUIPMENT REQUIREMENTS:


SHEET 4 OF 7
STANDING OPERATING PROCEDURE FOR: Demilitarization of SEP No. AM-2-60

NOMENCLATURE: Charge, Propelling for 6" Gun  DATE: August 1953

LOCATION: Room No. 7, ABS Bldg. No. 500  OCMO NO: NO-D-6-52

EXPLOSIVE LIMITS: POUNDS: --- NO OF ITEMS: 6  PROD/ID: ---

PERSONNEL LIMITS: OPERATOR: 3  CAUSALS: 3  SHIFT: 3

STEP  OPERATION NO.  TITLE: Debag Propellant Powder

1. Propelling charges received from Operation No. 2 via power conveyor.

2. Operator will remove charge from conveyor and place on debaging table.

3. Fabric will be slit with a spark proof knife and propellant emptied through a screen into a chute equipped with a flash-back damper. Core will be taken to prevent cutting igniter pad.

4. Empty charge bag, with loaded ignitor and core will be placed in water filled containers and closed prior to dispatch to Operation No. 5.

INSPECTION REQUIREMENTS:

Inspect for compliance with this SOP

SAFETY REQUIREMENTS:

1. Operators will wear conductive sole safety shoes and flame proof coveralls.

2. Debaging will be performed from a grounded platform.

3. Debaging operation will be performed beneath an automatic and hand operated sluice.

4. Free exit from operating site will be maintained.

5. Spilled powder will be swept up immediately and placed in a water filled container.

6. Only spark proof tools will be used.

7. Five blankets will be available at escape doors.

DISPOSITION OF COMPONENTS AND MATERIAL:

Propellant powder to Operation No. 4.
Powder bags with cores and igniters to Operation No. 5.
Scrap powder to Burning Ground.

EQUIPMENT REQUIREMENTS:

STANDING OPERATING PROCEDURE FOR:  Desensitization
OF:  6th Gun

NOMENCLATURE:  Charges, Propelling for 6th Gun

DATE:  August 1953

LOCATION:  Room 6 AB  Block 500

AWO No.: FOR-4-52

EXPLOSIVE LIMITS:  POUNDS: 200

NO. OF ITEMS:  600

PERSONNEL LIMITS:  OPERATORS:  3

GASMAIL:  2

DIRECT LABOR:  SHIFT:  3

STEP  OPERATION NO. A  TITLE: Pack Powder

1.  Powder received from Operator No. 3 via non-ferrous metal chute equipped with self-closing flash -back damper.

2.  52 steel powder container will be placed on scales directly beneath powder chute.

3.  Container will be filled with powder and weight adjusted to 110 lbs. net.

4.  Container will be closed and placed on rubber tired ammunition cart and hand wheeled to Room 5 where they will be stenciled with applicable nomenclature and lot number.

5.  Containers will be placed on storage pallet on rubber tired ammunition cart.  8 containers to pallet, and wheeled by hand to loading platform from where they will be dispatched to storage.

NOTE:  Explosive limit in Room 4 will not exceed 9 closed containers of powder or 1000 lbs.  Explosive limit on loading platform will be 40 containers of packed powder or 4400 lbs.

INSPECTION REQUIREMENTS:
Inspect powder containers for correct marking.

SAFETY REQUIREMENTS:

1.  Operators will wear flame proof coveralls and conductive soled safety shoes.

2.  An adequate deluge system will be installed above weighing operation.

3.  Free exit from operating site will be maintained.

4.  Good housekeeping will be observed.

5.  Weighing operator will work from a grounded platform.

6.  Scales and powder containers will be grounded.

DISPOSITION OF COMPONENTS AND MATERIAL:
Pack propellant powder to storage.

EQUIPMENT REQUIREMENTS:

Rubber tired ammunition cart.
Scales.
Stencil equipment.
1. Materials will be transferred to Burning Ground in a cargo truck with wooden floor and sides.

2. Cartridge storage cases will be unloaded from carrier and flashed by means of a scrap wood fire.

3. Decontaminated case will be inspected and placed on carrier for transfer to salvage yard.

4. Powder bags, cores, igniters and scrap powder will be placed in beds or trains and destroyed by burning.

**INSPECTION REQUIREMENTS:**

Reclaimable scrap metal will be inspected for adequacy of decontamination in accordance with paragraphs 4.240 thru 4.243 of OACI and SOP WSD-ASO-435.

**SAFETY REQUIREMENTS:**

1. Safety requirements as outlined in ORDW 7-224, Section 27, and SOP AD-0-27 will be carefully followed.

**DISPOSITION OF COMPONENTS AND MATERIALS:**

Inert cartridge storage cases to salvage.

**EQUIPMENT REQUIREMENTS:**

Transfer equipment.
STANDING OPERATING PROCEDURE NO: AH-0-60, Amendment No. 2

NOMENCLATURE: Charge, Propelling, No for 4.5" Gun

PURPOSE: To provide for a more safe, economical and efficient operation.

OPERATION NO. 2, Room 8, Bldg 500

EXPLOSIVE LIMITS:

No of Items: 50
Change to read:

No of Items: 75

OPERATION NO. 3, Room 7, Bldg 500

EXPLOSIVE LIMITS:

No of Items: 8
Change to read:

No of Items: 15

APPROVED:

[Signature]

WILLIAM MENCHE
Colonel, Ordnance Corps
Commanding
DEPARTMENT OF THE ARMY  
WINNABOGE CHEMICAL DEPOT  
GALLUP, NEW MEXICO  

STANDING OPERATING PROCEDURE FOR  

De-bagging  

COMPLETE NOMENCLATURE: 105 mm, Propelling Charges.  

ITEM NO: D-105-TG, ANV NO: 4350-57, SOP NO: HM-0-51  

DATE: August 1953  

Total Quantity Scheduled: 220,000 lbs  

Estimated Production Per 8-hr Shift: 6,000 lbs  

Estimated Total Direct Labor Crew Per Shift: 13  

Estimated Total Direct Man Hours Per 100 lbs: 0.173  

Estimated Total Ordnance Cost Per 100 lbs: 0.364  

LOCATION OF OPERATING AREA:  

a. Ammunition Work Shop:  

b. Burning Ground  

LOCATION OF OPERATING BUILDING, INCLUDING BUILDING NO: 200, 528, 529, 510, 511, and 516  

WAIVERS AND/OR EXEMPTIONS AFFECTING THIS SOP (INCLUDE FILE NUMBER, DATE AND EXPIRATION DATE: N/A)  

APPROVED:  

Allen T. Hodges Jr.  
Major, Ordn Corp  
Commanding
1. Remove from storage

2. Separate powder bags

3. Separate powder from powder bags

4. Pack powder

5. Destroy powder bags

Sheet 2 of 3
STANDING OPERATING PROCEDURE FOR: De-bagging
OF: SOP NO. AM-0-61

NOMENCLATURE: 105 Hov. Propelling Charge
ITEM NO.: B-105-70

LOCATION: Storage Iglous
AND NO.: 4296-51

EXPLOSIVE LIMITS: POUNDS: As stored NO. OF ITEMS:
PEOD/5-54
SHIFT: 4,000 lbs
DIRECOT LABOR/ SHIFT: 4

PERSONNEL LIMITS: OPERATORS: 1 CASUALS: 1

STEP | OPERATION NO. | TITLE: Remove from Storage

1. Powder containers will be removed from storage and placed on wooden pallets. 9 containers to pallet.

2. Pallets will be loaded by means of an electric forklift truck unto cargo truck with wooden floor and sides. 3 pallets to truck load.

3. At receiving Building No. 516 pallets will be unloaded by means of electric forklift truck.

Note: Explosive limits in Bldg. 516 will be 50 powder containers or 5000 lbs of powder.

INSPECTION REQUIREMENTS:
Inspect for compliance with this SOP and Storage SOP WOD No. AD-0-4

SAFETY REQUIREMENTS:
1. Co(2) or Dugas fire extinguishers will be available at both storage site and Bldg. 516.
2. Free exit from igloo will be maintained.
3. Operators will wear spark proof safety shoes.
4. Good Housekeeping will be observed.

DISPOSAL OF COMPONENTS AND MATERIAL:
Powder to Operation #2
DAMAGE to reclamation yard.

EQUIPMENT REQUIREMENTS:
2. Electric forklift trucks
Cargo truck

SHEET 3 OF 7
OPERATING PROCEDURE FOR: Powdering

IDENTIFICATION: 1016 Raw, Propelling Charge

LOCATION: Room 2

EXPLOSIVE LIMITS: Pounds: 200 lbs. No. of Items: 6000 lbs.

PERSONNEL LIMITS: OPERATORS: 1 CAULKS: 3 DIRECT LABOR/SHIFT: 3

STEP

1. Powder received from Operation 1 via electric fork lift truck.

2. One pallet or 900 lbs of powder will be placed in Room No. 1 which will be used as an Operational Supply for No. 2 operation. Explosive limit in this room will be 1000 lbs of powder.

3. Operator will remove one container from pallet and move it to powder cutting table in Room 2 by means of a rubber tired ammunition cart.

4. Operators will separate powder bags by cutting strings with a spark proof knife or scissors.

5. Powder bags will be placed in wooden box for transfer to Operation No. 3

6. Covers will be replaced on powder containers and transferred to Operation No. 4

INSPECTION REQUIREMENTS:
Inspect powder for lot integrity
Inspect for compliance with this SOP

SAFETY REQUIREMENTS:
1. Operators will wear flame proofed coveralls and conductive soled safety shoes.
2. Cutting operation will be conducted from a grounded platform.
3. An adequate deluge system will be installed at operation.
4. Free exit from operating site will be maintained.
5. Powder will not be left in an uncovered container.
6. Good Housekeeping will be maintained.
7. Fire proof blankets will be available at escape doors.

DISPOSITION OF COMPONENTS AND MATERIAL:
Powder to Operation No. 3
Powder containers to Operation No. 4

EQUIPMENT REQUIREMENTS:
Electric fork lift
Rubber tired ammunition carts
Spark proof knife or scissors
Work table.
STANDING OPERATING PROCEDURE FOR: De-bagging

OF: SOP No. AM-9-61

NOMENCLATURE: 101 Raw Propelling Charges

DATE: August 1953

ITEM NO: D-305-7U

LOCATION: Room 1 AMG Bldg. 500

AMG NO: 9360-53

EXPLOSIVE LIMITS: ROUNDS: 200 lbs NO. OF ITEMS: 1000 lbs.

SHIFT: 6000 lbs.

PERSONNEL LIMITS: OPERATORS: 1 CASUALS: 3

DIRECT LABOR:

SHIFT: 9

STEP OPERATION NO. 1 TITLE: Separate powder from powder base.

1. Powder in wooden boxes will be hand carried from Operation 2 and placed on table at cutting machine.

2. Operator will place powder filled bags on conveyor of cutting machine. 1 bag per conveyor cup except incoming numbers 6 & 7 which will be 2 per cup.

3. Powder will be automatically removed from machine hopper by means of vacuum powder collector.

4. Empty powder bags will be removed from machine and placed in grounded metal powder container and moved by rubber tired hand truck to Service Magazine No. 511 awaiting dispatch to Operation No. 5

NOTICE

When a lot of powder has been debagged, the cutting machine and collector system will be cleaned of powder before a new lot is started.

INSPECTION REQUIREMENTS:

Inspect for compliance with this SOP

SAFETY REQUIREMENTS:

1. Operators will wear flame proofed coveralls and nonmetallic soled safety shoes.

2. Cutting machine operator will work from grounded platform.

3. An automatic and hand dump system will be installed.

4. An automatic cut-off switch will be installed to stop vacuum collector.

5. Free exit from operating site will be maintained.

6. Machine repairs will not be made until all powder has been removed from machine and room, in compliance with paragraph 301 of GRRM 7-224 and 30-5-52.

7. Fire proof blanket will be available at escape doors.

DISPOSITION OF COMPONENTS AND MATERIAL:

Powder to Operation No. 4
Powder bags to Operation No. 5

EQUIPMENT REQUIREMENTS:

Powder de-bagging machine.
Rubber tired hand truck.
STANDING OPERATIONAL PROCEDURE FOR: De-backing

LOCATION: ANS Bldg. 409 and 510

EXPLOSIVE LIMITS: PRECISE: 300 NO. OF ITEMS: 4000 lbs.

PERSONNEL LIMITS: OPERATORS: 3 CASUALS: 3 SHIFT: 3

STEP

1. Propellant powder received from Operation 3 via vacuum collector system.

2. N2 steel powder containers will be connected to vacuum system and filled with powder.

3. Container of powder will be removed from vacuum system and powder packed in metal powder drums.

4. Containers will be stenciled showing net and gross weight, nomenclature of contents, manufacture and powder lot numbers. Nomenclature will be preceded by the word "Salvage".

5. Filled containers will be moved by rubber tired hand truck to Service Barricade No. 300 from where they will be dispatched to storage. Explosive limit in Service Barricade will not exceed 10,000 lbs.

INSPECTION REQUIREMENTS:
Inspect powder containers for correct marking.
Inspect for compliance with this SOP
Inspect powder cans for complete removal of powder or extraneous material prior to packing with salvaged powder.

SAFETY REQUIREMENTS:

1. Operators will wear flame proof coveralls and conductive sole safety shoes.

2. CO(2) or Dugas fire extinguishers will be readily available.

3. Free exit from operating site will be maintained.

4. Good housekeeping will be observed.

5. Operators will work from a grounded platform.

DISPOSITION OF COMPONENTS AND MATERIAL:
Packed propellant powder to storage.

EQUIPMENT REQUIREMENTS:
Vacuum Collector System
Scales
Rubber tired hand truck
Spark proof hand tools.
STANDING OPERATING PROCEDURE FOR: De-bagging

NON-INCINERATORS: 105 How Propelling Charge

DATE: August 1979

ITEM NO: P-105-7U

LOCATION: Burning Ground

EXPLOSION LIMITS: POUNDS: NO. OF ITEMS: SHIFT: 6000 lbs

PERSONNEL LIMITS: OPERATORS: 2 CASUALS: 3 DIRECT LABOR:

STEP | OPERATION NO. 4 | TITLE: Destroy powder bags

1. Powder bags in closed metal drums will be transferred to burning ground.

2. POWDER bags will be spread on a bed and burned in accordance with procedure outlined in SOP No. AD-Q-27.

3. Empty powder drums will be loaded on carrier and returned to Operation No. 3

NOTICE

All equipment and tools used in demilitarization of subject material will be inspected and approved by the Safety Director before operation is started.

INSPECTION REQUIREMENTS:

Inspect for compliance with SOP no. AD-Q-27, burning ground procedure

SAFETY REQUIREMENTS:

1. Operators will wear flame proof coveralls.
2. Provisions of SOP No. AD-Q-27 will be carefully followed.

DISPOSITION OF COMPONENTS AND MATERIAL:

Empty powder drums to Operator No. 3

EQUIPMENT REQUIREMENTS:

Cargo truck with wooden floor and sides.

SHEET 7 OF 7
DEPARTMENT OF THE ARMY
WINGATE ORDNANCE DEPOT
GALLUP, NEW MEXICO

STANDING OPERATING PROCEDURE
FOR

RENOVATION

COMPLETE NON-METAL: Shell, Smoke 20's, H57, W/Fuse PD M52A2 for 105mm Mortar

ITEM NO: R61-5 AND NO: 100-2-2-53 SOP NO: AM-0-63 DATE: October 1953

Total Quantity Scheduled: 9,212 rds

Estimated Production Per 8-hr Shift: 1,000 rds

Estimated Total Direct Labor Crew Per Shift: 81

Estimated Total Direct Man Hours Per Unit: 1,086

Estimated Total Ordnance Cost Per Unit: $3.75

LOCATION OF OPERATING AREA:

a. Ammunition Work Shop
b. Miscellaneous Buildings
c. Burning and Demolition Ground

LOCATION OF OPERATING BUILDING, INCLUDING BUILDING NO: 503, 514, 515, and

Miscellaneous temporary service magazines.

WAIVERS AND/OR EXEMPTIONS AFFECTING THIS SOP (INCLUDE FILE NUMBER, DATE AND EXPIRATION DATE): None.

Supplemented with area map showing distance relations.

Supplemented with flow chart showing explosive limits and distance relationships between buildings. (Para 11.8.2, FDI)

APPROVED:

WILLIAM HEIDEN
Colonel, Ord Corps
Commanding
1. Receive from Storage

2. Unpack and Inspect

3. Disassemble Complete Round

4. Clean Metal Surfaces of Projectile

5. Repaint and Cage Projectiles

6. Reassemble Complete Round

7. Recondition Packing Material

8. Pack and Dispatch to Storage

9. Destroy Loaded Components
STANDARD OPERATING PROCEDURE FOR: Renovation OF SDP NO: 6-9-63

NON-RELEVANT: Shell, Smoke, .45, 55gr., 1/2 fuse PD M5212 for DATE: October 1953

SITE: Mortar

LOCATION: Loading Platform Bldg. 503

EXPLOSIVE LIMITS: POUNDS: 1200

PERSONNEL LIMITS: OPERATORS: 2 CASUALS: 3

STEP 
OPERATION NO: 1 TITLE: Receive from Storage

1. Ammunition received on storage pallets from storage via van semi-trailer with wooden floor and sides and 12 x 25-ton tractor.

2. Pallets will be removed from van and placed at holding point on loading platform by means of electric fork lift truck.

NOTICE: 66 rds per pallet.
7 pallets per truck.

INSTRUCTION REQUIREMENTS:

Inspect for compliance with this SDP, ORD M 7-22h, other pertinent safety regulations and Storage SDP MOD NO. AD-0-4a.

SAFETY REQUIREMENTS:

1. Water filled barrels will be available. If a leak is found, the operator, wearing protective clothing will immerse the round in the water filled barrel and notify the Ammunition Inspector immediately.

2. Free exit from operating site will be maintained.

3. Good housekeeping will be observed.

4. Transfer equipment will not remain at loading platform longer than necessary to discharge load.

5. Chemical kit for group C chemicals will be available in accordance with paragraph 3925 of ORD M 7-22h.

6. Approved type fire extinguishers will be readily available.

DISPOSITION OF COMPONENTS AND MATERIALS:

Ammunition to operation No. 2.

EQUIPMENT REQUIREMENTS:

Electric fork lift truck
Van semi-trailer, 12 x 5-ton tractor

NOTICE: Chemical kits for Group C chemicals water filled barrels, and personnel protective equipment will be available whenever 45 ammunition is being handled.

NOTICE: All tools and equipment relating to Explosive operations will be inspected and approved by the Surveillance Division before starting this Renovation project.

NOTICE: Records for building and operating buildings will be posted with appropriate fire symbols in accordance with para 1222, ORD M 7-22h.

NOTICE: All tools, equipment and protective equipment relating to industrial operations will be inspected and approved by the Safety Director before starting this Renovation project.
STANDING OPERATING PROCEDURE FOR: Renovation OF

SHP NO: AM-0-63

NOMENCLATURE: Shells, Smoke, MP, H37, H/Fuse PB No 2A2 for DATE: October 1953

81mm Mortar NO: 300 SHIFT: 1,000 rds

ITEM NO: B3-5

LOCATION: Loading Platform A/B Ridge 503 AND NO: MD-4-2-53

EXPLOSIVE LIMITS: 600 SHIFT: 1

PERSONNEL LIMITS: OPERATORS: 36 CASUALS: 6 SHIFT: 1

STEP

OPERATION NO: 2 TITLE: Unpack and Inspect

1. Ammunition received from Operation No. 1 via electric fork lift truck.
2. Rounds will be removed from shipping container and placed on canvas covered work table.
3. Unpack round from fiber container and inspect for proper identity, dangerous deterioration and missing components.
4. Place round on wooden skid on roller conveyor for transfer to Operation No. 3. Two rounds per skid.
5. Load packing material on pallets and transfer to Operation No. 7.

NOTE: Any round showing evidence of dangerous deterioration will immediately be called to the attention of the Surveillance Inspector who will remove the item from the packing table and hand carry to Barricade No. 514. The Surveillance Division will advise on final disposition procedures.

INSPECTION REQUIREMENTS:

Inspect for proper identity and dangerous deterioration.
Inspect for presence and proper assembly of safety pin and fuse wire.
Inspect for compliance with provisions outlined in this SOP.

SAFETY REQUIREMENTS:

1. Operators will wear spark proof safety shoes.
2. Operator cutting steel strapping will wear face shield.
3. Free exit from operating site will be maintained.
4. Water filled barricades will be available. If a leaker is found, the operator, wearing protective clothing will immerse the round in the water filled barrel and notify the Ammunition Inspector immediately.
5. Good housekeeping will be maintained.
6. Proper deluge system will cover all operations where propellant powder is exposed.
7. Operators handling exposed ammunition will wear flame proofed gloves, coveralls, and chemical safety goggles.
8. Approved type fire extinguishers will be readily available.

EQUIPMENT REQUIREMENTS:

- Electric fork lift truck.
- Canvas covered work table.
- Approved hand tools.

DISPOSITION OF COMPONENTS AND MATERIALS:

Rounds to Operation 3. Packing material to Operation 7.
HESMCATUR: Shells, Shells, F, H7, W/4225 PD, NO. 2404 FOR
DEPARTMENT: October 1965

ITEM NO: 201-5

LOCATION: Barricade Section Room 3, 5th Bldg, 503

AM No: 303, 2-53

EXPLOSIVE ITEMS: ROUNDS: 250 primers, 900 fuses, 900 items

50 Fuses

PERSONNEL LIMITS: OPERATORS: 36 CASUALS: 12

DIRECT LABOR: 1000

STEPS:

1. Propellant increments will be removed in Barricade No. 1 and placed in a
grounded non-scruby metal container, 65 lbs to container. Filled
container will be removed to temporary service magazine emulating
transfer to storage or burning operation.

2. Fuses will be removed in barricade No. 2 and 3 by placing round in an air
air operated vise and removing fuse by means of an approved hand fuse
wrench. Staking of fin assembly will be released by means of an approved
wrench.

3. Fuses will be placed in a wooden tray, 20 to a tray, and hand carried to
Room No. 2, 5th Bldg, 503 will be used as a service and packing
point for both new and used fuses. Limits in this room will be 1,000 fuses,
3 operators, and 3 casuals.

4. Round will be removed from vise and cavities of rounds to be repainted,
will be closed by insertion of a lifting plug.

5. In barricades 1 & 2, fin assemblies, increment holders, primers and
cartridges will be removed. Fin assemblies, or/and primers will be removed
by approved type wrenches so designed as to provide maximum protection to
the operator.

6. Components will be placed in wooden trays and hand carried to temporary
service magazines. Not more than 500 of any one item will be permitted
at operating site. Not more than 5000 old primers will be permitted in
barricades.

7. Rounds showing slight rust on gas check rings will be buffed by means of
a beryllium wire buffing wheel driven by an air motor. Rounds which
require cleaning and painting will be removed from conveyor and placed
in separator trays on a rubber tired ammunition cart, 60 rounds to cart,
and transferred to Operation 4.

INSTRUCTIONS FOR OPERATORS:

Inspect for compliance with provisions outlined in this SOP.

SPECIAL REQUIREMENTS:

1. Operator removing propellant increments will wear chemical safety goggles,
face proofed coveralls, and gloves, conductive soled safety shoes and
will work from a grounded platform.

2. Water filled barrels will be readily available, if a leak is found, the
operator, wearing protective clothing will immerse the round in the water,
fill barrel and notify the ammunition inspector immediately.

3. Operating line will be equipped with an adequate deluge system.

4. Free exit from operating site will be maintained.

5. Good housekeeping will be observed.

6. Operators on buffing wheel will wear face shields.

7. Approved type fire extinguishers will be readily available.

8. Flame proofed blankets will be available at exits of all rooms where
exposed propellant increments are handled.

DISPOSAL OF COMPONENTS AND MATERIALS:

Rounds 1 or 6.

Papers to Room 2.

Floors, cartridges and primers to proper service magazines.

EQUIPMENT REQUIREMENTS:

Air operated projectile holding fixtures. Approved hand tools, wooden trays, air
driven buffers, rubber tired ammunition carts.
 opera.ion No. 4, TITLE: Clean Metal Surfaces of Projectiles

1. Projectiles received from Operation No. 3 via rubber tired ammunition carts and electric tow motor.
2. Operator will place projectiles on roller of sand blast machine, in correct position to eliminate possible unscrewing of lifting plug.
3. Doors of sand blast will be closed and machine operated until all old paint has been removed.
4. Cleared projectiles will be removed by hand from sand blast and placed on wooden skids on roller conveyors for transportation to Operation 5.

INSPECTION REQUIREMENTS:
Inspect for complete removal of paint and rust.
Rounds requiring sand blasting will be inspected for presence of crumding explosives, chemical or inert seal.
Inspect for compliance with provisions outlined in this SOP.

SAFETY REQUIREMENTS:

1. Operators will wear safety shoes, also approved chemical safety goggles and flame proofed coveralls, and gloves.
2. Free exit from operating site will be maintained.
3. Water filled barrels will be available. If a leak is found, the operator, wearing protective clothing will immerse the round in the water filled barrel and notify the Ammunition Inspector immediately.
4. Good housekeeping will be observed.
5. Approved type fire extinguishers will be readily available.

DISPOSITION OF CO-PRODUCTS AND RAW MATERIALS:
Projectiles to Operation No. 6.

EQUIPMENT REQUIREMENTS:

Pennrorn sand blast equipment.
 Roller conveyors.
 Wooden skids.
 Electric tow motor.
STANDING OPERATING PROCEDURE FOR Repainting OP

NOTE: Date: October 31

LOCATION: Paint Shop, Bldg No. 215

PERSONNEL LIMITS: OPERATORS: 12 CASUALS: 3 SHIFT: 4

1. Projectiles will be received via wooden skids on roller conveyors from sand blast.
2. Projectiles will be removed from skids and suspended from hooks on monorail.
3. Paint spray operator will paint projectiles with one coat of Blue Grey enamel. SPEC MIL-E-10637 (GRB) & EOD-21162- S A H R.
4. After projectiles pass thru dryers and paint is sufficiently dried, projectiles will be stenciled with proper nomenclature, lot No. and lot suffix as outlined in sketch page 7a.
5. Operator will remove projectiles from monorail and place in ammunition cart for removal to Operation No. 6.

DESCRIPTION OF WORK:

Gauge projectiles.
Inspect for compliance with provisions outlined in this SOP.

SAFETY AS PROVISIONS:

1. Painting and drying operation will conform to provisions as outlined in paragraph 1211 of OSH.
2. Paint supplies will be stored and mixed at a service point 100 feet distant from painting operation.
3. Water filled barrels will be available. If a leak is found, the operator, wearing protective clothing will immerse the hand in the water filled barrel and notify the Ammunition Inspector immediately.
4. Paint booth and drying ovens will be equipped with an adequate deluge system.
5. Paint spray operator will use approved respirator.
6. Operators will wear chemical safety goggles and flame proofed coveralls and gloves.
7. Free exit will be maintained from operation site.
8. Approved type fire extinguishers will be readily available.

Paint spray equipment.
STANDING OPERATING PROCEDURE FOR: Operation OF SOF No. AM-04-43

DESCRIPTION: Shell, Smoke, 4.4 lb, HgP, Data and Fuzes on SG242 for:

ITEM No.: R 11-3

LOCATION: Room 1, A21 Building No. 503

EXPLOSIVE LIMITS:

A. No. of Items: 9 rds
B. EXPLOSION: 1000 rds

PHYSICAL LIMITS:

A. OPERATIONS: 36
B. CASUALTIES: 6
C. SPILLS: 12

STEP 1: OPERATION No. 6

TITLE: Reassemble Complete Round

1. Projectiles received from Operations 3 or 5 will be removed from trays between barricades 5 and 6 and new fuses and increment holders installed.
2. In barricades 6 and 7 operators will remove projectiles from skids, place in air vise and install new fuses. Fuses will be secured by the use of cement cement or staking, depending on the nature of the event. New fuses will be buried and removed from unloading room No. 2 in wooden trays, 20 fuses to a tray. Not more than 40 fuses will be permitted in each barricade. Personnel limit in barricade 6 and 7, 1 operator, 1 casual.
3. In barricade section No. 6, cartridge and primers will be installed.
   (Service point for new primer will be in Room No. 2 
   Bldg 503 and will not exceed 600. Service point for cartridges will be in temporary service magazine, limits will not exceed 500). Primers will be secured in position by application of cement cement or thread primer. Personnel limit on this section will be 2 operators and 2 casual. Components will be limited to 500 items.
4. In barricade section No. 7, new propellant increments will be installed. Not more than 3 operators and 1 casual will be permitted in this section. Amount of propellant increments permitted will not exceed one increment containing 100 lbs. of propellant.
5. Assembled round will be passed through an alignment guide. Any round failing to guide will be removed from line and deficiency corrected or the round rejected. Passing operation will be performed by only one person.

INSTRUCTIONS:

Inspect all rounds for proper assembly of components.
Inspect for correct marking and stenciling.
Inspect for compliance with provisions of the SOP.

SAFETY INSTRUCTIONS:

1. Operators assembling cartridges, primers and increments will wear flame proofed coveralls, gloves, and chemical safety glasses.
2. Operators installing increments will wear conductive safety shoes and work from a grounded platform. Increment container will be grounded.
3. An adequate decontamination system will be installed above operating positions.
4. Free exit from operating site will be maintained.
5. Good housekeeping will be observed.
6. Water filled barrels will be available. If a leak is found, the operator, wearing protective clothing will immerse the round in the water filled barrel and notify the Ammunition Inspector immediately.
7. Approved type fire extinguishers will be readily available.
8. Flame proofed blankets will be available at exits of all rooms where exposed propellant increments are handled.

DESCRIPTION OF EQUIPMENT USED IN INITIAL:

Assembled round to Operation 5.

EQUIPMENT USED:

Fuse wrenches, staking tools, air vise, primer wrenches and stencil equipment.
STORAGE OPERATING LOCATION NO: Innovation OF SHEET NO: AN-0-69
HOLDING AREA: Shell, Smoke, VP HZ, D/MA PD HC242 for DATE: October 1943
ITEM NO: E 01-5
LOCATION: ATS Bldg 515 SHEET NO: HOD-E-2-57
EXPLOSIVE LIMITS: POUNDS NO OF ITEMS 500 SHEET: 1,000
PERSONNEL LIMITS: OPERATOR: 12 CASUALS: 6

STEP:

1. Fiber containers will be repaired where necessary and present markings obliterated by the use of acid proof black paint applied with a brush.
2. Outer packing metal containers will be cleaned and positioned on print system monorail.
3. Metal containers when used for outer pack will be sprayed with one coat of blue grey enamel to obliterate present markings and preserve containers, SPEC 11224-1429 (OLD) & 300-11162 S A R.
4. After passing through drying oven metal containers will be spray stenciled with appropriate nomenclature and lot suffix as outlined in sketch page 9a and when sufficiently dry will be removed from monorail, placed on rubber tired ammunition carts and dispatched to Operation No. 3, when metal containers are not used for outer pack, they will be sprayed with one coat of blue grey enamel and returned to storage.
5. 33rd wooden box when used for the outer pack will be stenciled with the correct nomenclature and 415 symbol as outlined in sketch page 9b.

INSTRUCTION REQUIREMENTS:

Inspect containers for condition and current stencil information.
Inspect for compliance with this SOP.

SAFETY REQUIREMENTS:

1. Painting operation will conform to provisions outlined in ARA 1211 of OSH.
2. Paint supplies will be stored and mixed at a service point 100 ft distant from painting operations.
3. Spray operators will wear respirators.
4. Paint booths and drying will be equipped with an adequate dilution system.
5. Good housekeeping will be observed.
6. Safety shoes will be worn.
7. Water filled barrels will be readily available. If a leak is found, the operator, wearing protective clothing, will immerse the round in the water filled barrel and notify the Ammunition Inspector immediately.
8. Free exit from operating site will be maintained.

DISPOSITION OF MATERIALS AND WASTE:

Material is to Operation No. 3.
When metal containers are not used for the outer pack, they will be returned to storage.

EQUIPMENT REQUIREMENTS:

Paint spray and stencil equipment.
MARKING ON TOP OF BOX

1. ICC NOMENCLATURE (1/6" MIN) - AMMUNITION FOR CANNON WITH SMOKE PROJECTILES
2. AIC SYMBOL (1" MIN) MAY BE PLACED LENGTHWISE ON COVER RAJA
3. LOT NUMBER (1" MIN)
4. AIC AND LOT NUMBER SHALL READ IN THE SAME DIRECTION
5. SHELLS TO BE PACKED WITH NOSE ENDS INDICATED (1/6" MIN)
NOTE:
APPLY COLOR STRIPE ON BLUE-GREY BACKGROUND ON 2 RIGHT HAND DIAGONALLY OPPOSITE CORNERS

MARKING ON BOTH ENDS OF BOX: 1. INSERTION SYMBOL (1.0" MIN.) RAJA
2. LOT NUMBER (3.0" MIN.) START/STOP
APPLIED AT BOTTOM OF CREAT AND MAY BE APPLIED IN 2 LINES.
STANDING OPERATING PROCEDURE FOR: Renovation OF

NONNOMENCLATURE: Shell, Shells, WP, M67, M/Fuse PD, M52/42 for

SITE: Oct 1953

ITEM NO: R61-5

LOCATION: Room 1, ABS Bldg 500

EXPLOSIVE LIMITS: POINTS:

NO OF ITEMS: 300

SHIFT: 1,000

PERSONNEL LIMITS: OPERATORS: 25 CASUALS: 6

DIRECT LABOR

SHIFT: 6

STEP

OPERATION NO: 8

TITLE: Pack and Dispatch to Storage

1. Inspect each round for correct assembly of safety pins and fuse safety wire before placing in fiber containers.

2. Pack complete round in fiber container using sufficient filler to assure tight pack.

3. Seal fiber containers with 2" blue gray with yellow stripe ammunition tape.

4. Stencill fiber containers with the correct nomenclature as outlined in sketch page 10a.

5. Place round in metal shipping container and secure cover.

6. Seal metal shipping containers with lead seals.

7. Remove containers from conveyor and place on storage pallets.

8. When wooden box is used for outer pack, place 2 rds in box adding sufficient chipboard filler to assure a tight pack.

9. Close, seal and band packing box.

10. Pallets of renovated ammunition will be moved to loading platform by means of an electric fork lift truck. Ammunition will be loaded on a van semi-trailer and dispatched to storage.

NOTICE: 66 rds per pallet
7 pallets per truck

INSTRUCTION REQUIREMENTS:

Inspect for proper marking and packing.
Inspect for compliance with this SOP.

SAFETY REQUIREMENTS:

1. Operators will wear spark proof safety shoes.

2. Water filled barrels will be readily available. If a leak is found, the operator, wearing protective clothing will immerse the round in the water filled barrel and notify the Ammunition Inspector immediately. Free exit from operating site will be maintained.

3. Good housekeeping will be maintained.

4. Operator handling the unpacked rounds will wear chemical goggles and flame proof coveralls and gloves.

5. Approved type fire extinguishers will be readily available.

DISPOSITION OF COMPONENTS AND MATERIAL:

Renovated ammunition to storage.

EQUIPMENT REQUIREMENTS:

Packing Table, Taping Machine, Electric fork lift truck

Stencil equipment, Sealing tools.
SHELL SMOKE WP 1/4" M57A1 W/FUZE PD M52A2 FOR 81 MM MORTAR

LOT [ ] [ ] [ ] [ ] [ ] 3/4"

NOTE:
ALL MARKING TO BE APPLIED PERPENDICULAR TO THE AXIS OF THE CONTAINER READING FROM TOP TO BOTTOM. MARKING AT TWO POINTS 180° FROM EACH OTHER.

MARKING OF FIBER CONTAINERS

SHEET 10A
STANDIG OPERATING PROCEDURE NO: Renovation of

SOP NO: AH-0-63

NOMENCLATURE: Shells, Smoke WP, M/Fuse PD 15242 for

ITEM NO: W87-7-5

LOCATION: Demolition and Burning Ground

EXPLOSIVE LIMITS: POUNDS: 150 OF ITEMS: SHUT

PERSONNEL LIMITS: OPERATORS: 4 CASHALS: 3 SHUTS: None

OPERATION NO: 9 TITLE: Destroy Loaded Components

1. Unserviceable components will be transported to Demolition ground in a cargo truck with wooden floor and sides.

2. Components awaiting demilitarization will be stored in proper revetments, fuel tanks.

3. Unserviceable fuses will be destroyed by placing in a trench in open ammunition boxes.

4. Sufficient scrap TNT will be added to assure complete detonation.

5. Detonating agent will be added and fuses destroyed as outlined in SOP AD-0-26.

6. Primers will be destroyed by burning in Detonator Destruction plant as outlined in SOP AD-0-26.

7. Scrap metal will be inspected and packed for transfer to salvage yard.

CARTRIDGES AND PROPILANT INGREDIENTS

8. Cartridges and increments will be spread on burning ground in a bed not more than 3 inches deep and destroyed by burning as outlined in SOP No. AD-0-27.

INSTRUCTION REQUIREMENTS:

Inspect all reclaimable scrap metal for decontamination in accordance with paragraphs 4.2.10 through 4.2.3 of UAGL. Inspect for compliance with applicable safety regulations and SOP's.

SAFETY REQUIREMENTS:

1. Operators will wear flame proofed coveralls and safety shoes.
2. All provisions for safety outlined in SOP AD-0-26, 27 and 28 will be strictly adhered to.

DISPOSITION OF COMPONENTS AND MATERIALS:

Scrap metal to salvage yard.

EQUIPMENT REQUIREMENTS:

Transfer equipment.
Detonator destruction plant.
STANDING OPERATING PROCEDURE NO: AN-O-63, Amendment No. 1
NOMENCLATURE: Shell, Smoke, WP, M37 w/Fuse PD M52A2
PURPOSE: To provide for a more safe and efficient operation
Operating No. 2 Bldg. 503
LOCATION: Change to read, Room 2, ANS BLDG 503 delete, Loading platform ANS BLDG 503
Operation No. 3 Bldg. 509
EXPLOSIVE ITEMS: Change to read, 250 ignition cartridges. Delete, 250 cart/ores
SAFETY REQUIREMENTS: Add Step 9

9. Operators removing primers and cartridges will wear approved type safety goggles.

APPROVED:

WILLIAM NICHOLS
Colonel, Ord Corps
Commanding
DEPARTMENT OF THE ARMY
WINNACE CRIPSHOE DEPOT
GALLUP, NEW MEXICO

30 October 1953

STANDING OPERATING PROCEDURE NO. 3 (AM-D-63) Amendment No. 2

NOMENCLATURE: Shell, Smoke, WP, M57 W/Fuse FD M52A2 for 81MM MORTAR

PURPOSE: To provide for a more safe efficient operation.

OPERATION NO. 3, Room 1, Bldg. 503

a. Explosive Items: Delete, 250 primers and change to read 500 primers.

b. Step 6. Delete the last part of step 6 and change to read. Not more than 5000 old primers will be permitted in service magazines.

OPERATION NO. 6, Room 1, Bldg. 503

a. Step 3. Delete the last part of step 3 and change to read. Components will be limited to 500 primers and 500 cartridges.

APPROVED:

[Signature]
WILLIAM M. WICHER
Colonel Ord Corps
Commanding
DEPARTMENT OF THE ARMY
WINGATE ORDNANCE DEPOT
GALLUW, NE: MEXICO

STANDING OPERATING PROCEDURE
FOR
DEMILITARIZATION

COMPLETE NOMENCLATURE: Rocket, Target 3.25 SPRNB

CODE NO: 2622-45  ARO NO: GCJO 00101 0  SUP NO: AM-0-61  REV:  DATE: OCT 53

Total Quantity Scheduled: ________________________________ 11,300

Estimated Production Per 8-Hr Shift: ____________________ 1,500

Estimated Total Direct Labor Govt Per Shift: ______________ 30

Estimated Total Direct Man Hours Per Unit: ______________ 2.16

Estimated Total Ordnance Cost Per Unit: ___________________ $9.34

LOCATION OF OPERATING AREA: Ammunition Workshop Area

LOCATION OF OPERATING BUILDING, INCLUDING BUILDING NO: 500, 514, and 516

WAIVERS AND/OR EXEMPTIONS AFFECTING THIS SOP (NONE)

APPROVED:

[Signature]
WILLIAM M. HENDERSON
Colonel, Ord Corps
Commanding

ORDA-Rep 1-16-53
1. Remove and Transfer from Storage
2. Unpack and Inspect
3. Disassemble Rocket and Rocket Motor
4. Disassemble Nose Assembly
5. Segregate Packing Material & Components
6. Destroy Loaded Components
STANDING OPERATING PROCEDEC FOR: AMMUNITION OF
SOP NO: AN-Q-64

PHYSICAL: Rocket Target 3.25 SCHR

DATE: Oct. 53

ITEM NO:

LOCATION: Various Storage Sites

AMM NO: 20101-0

EXPOSIVE LIMITS: POUNDS: As Stored NO. OF ITEMS: StoreSHIFT: 1500

PERSONNEL LIMITS: OPERATORS: 6 CASUALS: 3 DIRECT LABOR/

SHIFT: 6

STEP OPERATION NO: 1 TITLE: Remove & Transfer from Storage

1. Remove ammunition from storage and place on wooden pallet.

2. Pallets will be loaded by approved type forklift onto van, semi-trailer, with wooden floor and sides. Not more than 7 pallets of 42 rounds each per unit of transportation.

3. Loaded van will be moved to loading platform of Bldg 516 by a 5-ton tractor and unloaded by means of an approved type forklift truck.

NOTE: Explosive limit in Bldg No. 516 will be 600 rounds.

INSPECTION REQUIREMENTS:

Inspect for compliance with this SOP, ORD M 7-224, other pertinent Safety regulations and the storage SOP WOD No. AD-Q-64.

SAFETY REQUIREMENTS:

1. Du-Gas or CO2 fire extinguishers will be readily available.

2. Free exit from storage site will be maintained.

3. Safety shoes and gloves will be worn.

4. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:

Ammunition to Operation No. 2.

Damage to Lumber Yard.

EQUIPMENT REQUIREMENTS:

One van, semi-trailer, W/5-ton Tractor.

Electric Forklift Truck

NOTICE: All tools and equipment will be inspected by Surveillance Division and Safety Inspectors for compliance with safety regulations prior to being placed in use.
STANDING OPERATING PROCEDURES FOR RELOADING OF

ZONICULATURE: Rocket, Target 3.25, SOME

DATE: Oct. 53

ITEM NO.

LOCATION: Room No. 1, AWE BLDG. 516

EXPLOSIVE LIMITS:

FONHiS: 64

PERSONNEL LIMITS:

OPERATORS: 7

CASUALS: 1

DIRECT LABOR:

SHIFT: 4/5

STEP

OPERATION NO. 2

TITLES: Unpack and Inspect

1. Rockets received from Bldg 516 via approved type Forklift truck.

2. Seals and strapping will be removed from packing box.

3. Rocket will be removed from box and paper packing removed from rocket.

4. Rocket will be placed in empty box, which will be used to transport rounds via of roller conveyor to Operation No. 3. Head of rocket will be permitted to extend over the end of box in such a position as to prevent striking any foreign object.

5. Fin assemblies will be removed from the box and packed for transfer to salvage.

INSPECTION REQUIREMENTS:

Inspect for proper identification, dangerous deterioration and missing components which would render the rocket unsafe to handle.

If any such rounds are found the Surveillance Inspector will be notified and rocket held to Barricade No. 514 for disposition.

SAFETY REQUIREMENTS:

1. Strap cutting operator will wear gloves and face shield.

2. All operators will wear safety shoes.

3. Fire extinguishers will be readily available.

4. Free exit from operating site will be maintained.

5. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIALS:

Rockets to Operation No. 3.

Fin assemblies to salvage.

Paper packing to burning ground.

EQUIPMENT REQUIREMENTS:

Forklift trucks.

Roller conveyors.

Hand tools.

7109-1-68

12-52-300
STANDARD OPERATING PROCEDURES FOR MANUFACTURING OF SELLERS

RE Ames, Target 3,28,9000

ITEM NO: 00010-0

LOCATION: Rooms 3, 4, 5, and 6, WNS Block, No. 500

EXPLOSIVES LIMITS:

POWDER: In each room NO. OF ITEMS: 14

PERSONNEL LIMITS:

OPERATORS: 6 CASUALS: 3

NOTE: OPERATIONAL No. 9 TITLE: Disassemable Rocket Motor

1. Rocket received from Operation No. 2 via roller conveyors.
2. Operator will remove rocket from box and hand carry to concrete barricade "A" and place in air vise.
3. Nose assembly will be removed by means of a strap wrench.
4. Motor tube with strap igniter and propellant powder intact will be removed from vise and hand carried to table in barricade B.
5. Nose assembly will be returned to box on conveyor.
6. In barricade "B" operator will remove strap assembly from motor tube.
7. Ignitor bag and cordite will be removed from strap assembly and placed in water filled powder containers.
8. Motor tube and strap assembly will be returned to box on conveyor.
9. When powder containers are filled they will be moved by means of a rubber tailed cart to the east platform of Bldg. 500 from where they will be dispatched to Burning Ground.

LIMITS IN OPERATING BARRICADES

1 Operator 1 Casual
1 Rocket or motor tube assembly
1 Can propellant in each operating barricade.
50 Cans propellant in east loading platform.

NOTE: Table tops in operations when conductive soled shoes are required will comply with paragraph 7009 of M.D. M 7-224.

INSPECTION REQUIREMENTS:

Inspect for Compliance with this SOP.

SAFETY REQUIREMENTS:

1. Operators will wear flame proofed coveralls and conductive soled safety shoes.
2. Equipment will be grounded and operators will work from grounded platform.
3. Fire extinguishers will be readily available.
4. Free exit from operating site will be maintained.
5. Good housekeeping will be observed.
6. Flame proof blankets will be available at exit doors adjacent to powder operating bays.

DISPOSITION OF COMPONENTS AND MATERIAL:

Nose assemblies to Operation 4
Motor tubes and strap assemblies to Operation 5
Ignitor bags and cordite propellant to Operation 6

EQUIPMENT REQUIREMENTS:

Air vises, Strap wrenches
Work table and water filled powder containers
STANDING OPERATING PROCEDURE NO.: 3

LOCATION: Room 7 AWIS Bldg 500

EXPLOSIVE LIMITS: NEVER
NO. OF ITEMS: 20
PERSONNEL LIMITS: OPERATORS: 3 CASUALS: 3

STEP | OPERATION NO. | TITLE: Disassemble Nose Assembly

1. Assemblies received from Operation No. 3 via roller conveyor.
2. Operator will clip ignitor wires from nose assembly by means of spark proof pliers.
3. Nose assemblies will be removed from box, placed in an air vice and ignitor tube removed from assembly by means of a spark proof wrench.
4. Ignitor tubes will be packed in used ammunition boxes for transfer to Operation No. 6.
5. Insert metal parts will be placed in box pallets for transfer to salvage.

NOTICE: Suitable shields will be placed in room 7 to separate operations.

Filled boxes of ignitor tubes will be moved to east platform of Bldg 500 from where they will be transferred to Operation 6.

Limits on platform will not exceed 4000 packed ignitor tubes.

SPECIFICATION REQUIREMENTS:
Inspect for Compliance with this SOP.

SAFETY REQUIREMENTS:
1. Operators will wear flame proofed coveralls and conductive solid safety shoes.
2. Operations will be conducted from a grounded platform.
3. Fire extinguishers will be readily available.
4. Free exit from operating site will be maintained.
5. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:
Ignitor tubes to Operation 6
Insert metal parts to salvage

EQUIPMENT REQUIREMENTS:
Air vise
Spark proof hand tools

CRKZA-L-68
12-58-300
ITEM NO: 45-0-53

LOCATION: Room 8 AW 1056 PLUG 500

EXPLOSIVE LIMITS: POUNDS: None

PERSONNEL LIMITS: OPERATORS: 4

INVENTORY NO.: 30101-0

PROD/3-HE

STEP

OPERATION NO. 5 TITLE: Segregate Packing Material and Components

1. Material and Components received from Operation 4 via roller conveyor.

2. Motor tubes will be removed from packing box, and closing cap removed and tube placed on pallet for transfer to Operation 6.

3. Trap assemblies will be removed from packing box and placed on pallets for transfer to Operation 6.

4. Packing boxes will be removed from conveyor and strapped on pallets for transfer to salvage yard.

INSPECTION REQUIREMENTS:

Inspect packing boxes for adequacy of decontamination as outlined in paragraphs 4.240 thru 4.243 of 0.A.C.I.

SAFETY REQUIREMENTS:

1. Operators will wear safety shoes.

2. Fire extinguishers will be readily available.

3. Free exit from operating site will be maintained.

4. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:

Packing boxes to salvage.
Motor tubes and trap assemblies to Operation No. 6.

EQUIPMENT REQUIREMENTS:

Fork lift Truck
Strapping Tools
OPERATION NO. 6  TITLE: Destroy Loaded Components

1. Components to be destroyed will be delivered to Burning Ground by cargo truck or trailer.

2. Components waiting demilitarization will be stored in proper revetments.

3. Motor tubes and trap assemblies will be decontaminated by flushing with a wood burning torch.

4. Trash tubes will be demilitarized by burning in Detonator destruction Plant as outlined in SOP AD-0-26.

5. Igniter bags and cordite Propellant will be spread in burning ground in a bed not more than 3 inches deep and destroyed by burning as outlined in SOP AD-0-27.

INSPECTION REQUIREMENTS:

Inspect and mark all reclaimable scrap metal for decontamination in accordance with paragraphs 4-240 thru 4-243 of O.A.C.1.

Inspect for compliance with applicable safety regulations and SOP's.

SAFETY REQUIREMENTS:

1. Operators will wear flame proofed coveralls and safety shoes.

2. All provisions for safety outlined in SOP AD-0-26 and 27 will be strictly adhered to.

DISPOSITION OF COMPONENTS AND MATERIAL:

Scrap metal to salvage.

EQUIPMENT REQUIREMENTS:

Transfer equipment
Detonator destruction Plant
DEPARTMENT OF THE ARMY
WEGAMBQ G/A RMACE DEPOT
GALLUP, NEW MEXICO

3 November 1953

STANDING OPERATING PROCEDURE NO: (Am-61) Amendment No. 1

NOMENCLATURE: Rocket, Target 3.25

PURPOSE: To provide for a more safe, efficient and economical operation.

Operation: No. 4, Room 7, Bldg 500

Step 3. Delete, and change to read.

Nose assemblies will be removed from box, placed in an air vise and ignitor tube removed from assembly by means of an approved type steel wrench.

APPROVED:

[Signature]

WILLIAM MCNICHOL
Colonel Ord Corps
Commanding
DEPARTMENT OF THE ARMY
WIRGATE ORDNANCE DETOT
GALLOP, NEW MEXICO

STANDING OPERATING PROCEDURE FOR

DEMILITARIZATION

COMPLETE NON-DELETIONS: 

COORD: 2022-59 AWD NO: 00209-9 SOP NO: AM-0-65 REV. DATE: OCT 53

Total Quantity Scheduled: 87,357 ea

Estimated Production Per 8-Hr Shifts: 2,000

Estimated Total Direct Labor Crew Per Shift: 13

Estimated Total Direct Men Hours Per Unit: 752

Estimated Total Ordnance Cost Per Unit: $201.11

LOCATION OF OPERATING AREAS:
AMMUNITION WORK SHOP

LOCATION OF OPERATING BUILDING, INCLUDING BUILDING NO: LCL BLDG. No. 19

WAIVERS AND/OR EXEMPTIONS APPEARING ON THIS SOP: NONE

APPROVED:

WILLIAM NICHOLAS
Colonel, Ord Corps
Commanding

SHEET 1 OF 7
1. Transfer from Storage
2. Unpack and Inspect
3. Dismantle Fuses
4. Dismantle Boosters
5. Destroy Loaded Components
NOTE: This item is now stored on pallets.

1. Pellets will be loaded by approved type forklift truck onto van, semi-trailer, or cargo truck with wooden floor and sides.
2. Loaded vehicle will be moved to LCL Bldg. No. 19.
3. At LCL Bldg pellets of fuses will be unloaded from vehicle by means of an electric forklift and stored in Room No. 4.

NOTE: Explosive limit in Room 4 will not exceed 10,000 fuses.

INSTRUCTION REQUIREMENTS:

Inspect for compliance with this SOP, Safety regulations and the Storage SOP, WO# No. AD-0-4.

SAFETY REQUIREMENTS:

1. Free exit from storage site will be maintained.
2. Fire extinguishers will be available wherever ammunition is being handled.
3. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:

Ammunition to Operation No. 2.
Damage to reclamation Yard.

EQUIPMENT REQUIREMENTS:

Van, semi-trailer or cargo truck.
Electric forklift truck.

NOTE: Table and equipment will be inspected and approved by the Surveillance Division and the Safety Director before starting this operation.
1. Fuses will be moved by rubber tired ammunition cart from service point in Area 4 to unpacking operation.

2. Shipping container will be opened and fuses removed.

3. Fuses and boosters will be separated and placed in wooden cases and booster trays and be 23 carted to Operations No. 3 and 4.

NOTE: These booster casings are assembled head tight.

4. Fiber containers and packing boxes will be dispatched to salvage or stored according to type and serviceability.

Inspect fuses for damage or deterioration which would render the fuse unsafe to handle.

Inspect packing material for adequacy to decontamination as outlined in paragraph 4.240 thru 4.247 of DADL.

SAFETY REQUIREMENTS:

1. Any fuse showing damage or deterioration will be carefully repacked and dispatched to Operation No. 5.

2. Operators will wear safety shoes and gloves.

3. Operators cutting or shearing will wear gloves and face shield.

4. Mire extinguishers will be readily available.

5. Free exit from operating site will be maintained.

DISPOSITION OF COMPONENTS AND MATERIAL:

Fuses to Operation No. 3 for use, material to salvage or store, etc.

Boosters to Operation No. 6, etc.

COMMENTS AND ILLUSTRATIONS:

Rubber tired Ammunition Cart.

Work Tricle.

Strap Cutter.
STANDING OPERATING PROCEDURE TIT: Decontamination OF SOP NO: AN-0-66

DESCRIPTION: Fuse into Hot &/or Cold

DATE: Oct 43

ITEM NO:

LOCATION: West Concret Barricade, Room 3 LCU BLDG No. 12

AWO NO: 00232-9

EXPLOSIVE LIMITS: POUNDS: NO. OF ITEMS: 1000

FLOOR/8-HR:

SHIFT: 2000

PERSONNEL LIMITS: OPERATORS: 6 CASUALS: 3

SHIFT: 6

STEP

1. Fuse to be dismantled received in approved fuse trays, from Operation 2.
2. Drill out stake closing set screw in fuse with a positive stop explosion proof air drill, and remove set screws.
3. Remove closing cap from fuse in a barricade air operated disassembly machine, operated by remote control.
4. Place on work table and remove upper lock ring, lock pin and lower ring from fuse body.
5. Saw out stakes of bottom closing screw in an air operated barricaded machine, operated by remote control.
6. Bottom closing screw will be removed in a barricaded fixture.
7. Separate loaded components by class and pack for transfer to Operation 5 in approved boxes.
8. Pack inert components for transfer to salvage yard.
9. Mark all items or packages for identification purposes.

NOTE: Powder train rings and bottom closing nute containing black powder will be placed in water filled containers.

INSPECTION REQUIREMENTS:

1. Inspect inert fuse components for adequacy of decontamination in accordance with paragraphs 4, 240 thru 4, 249 of OACI and Paragraph 2507 of ORBM 7-224.
2. Inspect for compliance with this SOP, ORBM 7-224, and other pertinent safety regulations.

SAFETY REQUIREMENTS:

1. CO2 or Dry-gas fire extinguishers will be readily available.
2. Operators will wear spark proof safety shoes.
3. Free exit from operating site will be maintained.
4. Good housekeeping will be maintained.
5. Inspect for compliance with paragraph 25086 of ORBM 7-224.
6. Drill press operator will wear safety goggles.

DISPOSITION OF COMPONENTS AND MATERIAL:

Inert fuse parts to salvage
Loaded fuse parts to Operation 5

EQUIPMENT REQUIREMENTS:

Explosive proof drill press
Barricaded fuse disassembly machine
Approved hand tools
STANDARD OPERATING PROCEDURE NO: 019
Disclaimer of

HEADLINE: Fuse T90 H/M/Porter

DATE: Oct. 53

ITEM NO:

LOCATION: West Concrete Barricades, Room 2 LCL BRD L# 30

AMM NO: 00200-9

EXPLOSIVE LIMITS: Fuse No. OF ITEMS: 1000

FDG/6-HR.

SHIFT: 2000

PERSONNEL LIMITS: OPERATORS: 6 CASUALS: 3

DIRECT LABOR:

SHIFT: 6

STEP: OPERATION NO: 3 TITLE: Disassemble Fuses

1. Fuse to be disassembled received in approved fuse trays from Operation 2.
2. Drill out setke closing set screw in fuse with a positive stop explosion proof air drill, and remove set screw.
3. Remove closing cap from fuse in a barricade air operated disassembly machine, operated by remote control.
4. Place on work table and remove upper lock ring, lock pin and lower ring from fuse body.
5. Saw out stakes of bottom closing screw in an air operated barricaded machine, operated by remote control.
6. Bottom closing screw will be removed in a barricaded fixture.
7. Separate loaded components by class and pack for transfer to Operation 5 in approved boxes.
8. Pack inert components for transfer to salvage yard.
9. Next all items or packages for identification purposes.

NOTES: Powder train rings and bottom closing nuts containing black powder will be placed in water filled containers.

INSTRUCTION REQUIREMENTS:

1. Inspect inert fuse components for adequacy of decontamination in accordance with paragraphs 4, 243 thru 4, 245 of OCM and Paragraph 2507 of OCM 7-224.
2. Inspect for compliance with this SOP, OCM 7-224, and other pertinent safety regulations.

SAFETY REQUIREMENTS:

1. CO2 or DNgas fire extinguishers will be readily available.
2. Operators will wear spark proof safety shoes.
3. Free exit from operating site will be maintained.
4. Good housekeeping will be maintained.
5. Inspect for compliance with paragraph 2508 of OCM 7-224.
6. Drill press operator will wear safety goggles.

DESCRIPTION OF COMPONENTS AND MATERIAL:

Inert fuse parts to salvage
Loaded fuse parts to Operation 5

EQUIPMENT REQUIREMENTS:

Explosive proof drill press
Barricaded fuse disassembly machine
Approved hand tools
STANDING OPERATING PROCEDURE FOR: Special Operations

TITLE: Disassemble Boosters

ITEM NO: 12-52-300

LOCATION: West Barricade Room 3, BLDG. No. 19

Explosive Limits:

POISON: NO. OF ITEMS: 500

PERSONNEL LIMITS:

OPERATORS: 1

DIRECT LABOR:

SHIFT: 1

TIME: Operation No. 6

1. Boosters will be hand carried in wooden trays from Operation No. 2.

2. Position booster in barricaded machine and remove booster cup and pellet from booster body.

3. Pack booster cups and pellets in wooden ammunition boxes separating each layer with cardboard filter.

4. Booster bodies will be placed in ammunition boxes with cardboard between the layers.

5. As soon as boxes are filled they will be moved to Room 4 from where they will be dispatched to Operation 5.

Inspection Requirements:

Inspect for compliance with this SOP.

Safety Requirements:

1. Operator will wear flame proofed coveralls and safety shoes.

2. Free exit from operating site will be maintained.

3. Fire extinguishers will be readily available.

4. Good housekeeping will be observed.

5. Booster dismantling machine will be constructed in such a manner that doors must be closed in order to operate.

Disposition of Components and Material:

Booster bodies and cups with pellets to Operation 5.

Equipment Requirements:

Barricaded booster disassembly machine.
STANDING OPERATING PROGRAM FOR: Demilitarization OF:

NAME/LOCATION: Proc. 329, MPD 9/Booster

DATE: Oct. 73

ITEM NO:

AMQ NO: 0022-0

PROD/REV: 00

SHIFT: 2000

PERSOAL LIMITS:

OPERATORS: 4

CASUALS: 2

DIRECT LABOR:

SHIFT: 4

STEP:

OPERATION NO: 5

TITLE: Destroy Loaded Components

1.Fuse and booster components to be demilitarized will be transported to Burning Ground area in surge truck with wooden floor and sides. Components waiting demilitarization will be stored in proper revetments.

2. Boosters will be destroyed by placing in a trench.

3. Sufficient scrap TNT will be added to assure complete demolition.

4. Detonating agent will be added and boosters destroyed as outlined in SOP AD-0-26.

Fuse Ports

5. Fuse ports will be destroyed by burning in Detonator Destruction Plant as outlined in SOP AD-0-26.

6. Scrap metal will be inspected and packed for transfer to salvage yard.

INSPECTION REQUIREMENTS:

Inspect all reclaimable scrap metal for decontamination in accordance with paragraphs 4.320 thru 4.243 of OACI.

Inspect for compliance with applicable safety regulations and SOP's.

SAFETY REQUIREMENTS:

1. Operators will wear flame proofed coveralls and safety shoes.

2. Plant operators will wear safety goggles and face shield.

3. All provisions for safety outlined in SOP AD-0-26 and 26 will be strictly adhered to.

DISPOSITION OF COMPONENTS AND MATERIALS

Scrap metal to salvage yard.

EQUIPMENT REQUIREMENTS:

Transfer equipment.

Detonator Destruction Plant.
STANDING OPERATING PROCEDURE NO: AM-0-65, Amendment No. 1

OBJECTIVE: Fuse TSQ H54 V/Seater.

PURPOSE: To provide for a more safe and efficient Operation.

OPERATION NO: 3, Room 3, LCL Bldg., No. 19.

STEP 2. Delete and change to read:

Drill out stake closing set screw in fuse with a positive stop approved type electric drill, and remove set screw.

PERIOD TIME LIMITS: Change operators from 6 to 7.

APPROVED:

Allen T. Kelley, Jr.
Major, C&ESCO CORPS
Commanding
STANDING OPERATING PROCEDURE NO: AN-0-65, Amendment No. 2.

INSTALLATION: FUSE TSQ MG 4 W/Booster.

PURPOSE: To provide for a more safe and efficient operation.

OPERATION NO: 3, Room 3, LBL Blg. No. 19.

SAFETY REQUIREMENTS:

Step 6

Add. or face shields

APPROVED:

WILLIAM MILLER
COMMANDING OFFICER
COLOGNE ORDNANCE CORPS
COMMANDING
STANDING OPERATING PROCEDURE NO: AM-0-65 Amendment No. 3

NOMENCLATURE: FUSE TSQ 32, W/BOSTER

PURPOSE: To provide for a more safe and efficient operation

OPERATION NO: 3, Room 3, BLD 130, FLD 19

SAFETY REQUIREMENTS

ADJ. Step 7

STEP 7. All operators handling black powder train rings will wear flameproof coveralls.

APPROVED:

WILLIAM MORRIS
Colonel, Ord Corps
Commanding
DEPARTMENT OF THE ARMY
WINGATE ORDNANCE DEPOT
GALLUP, NEW MEXICO

4 December 1959

STANDING OPERATING PROCEDURE NO: AM-0-65, Amendment No. 4.

NOTES/CLARIFICATION: FUSE TSO, M54 w/BOOSTER.

PURPOSE: To provide for a more safe and efficient operation.

OPERATION NO: 4, Room 7, LCL Bldg No. 19.

PERSONNEL LIMITS:

Change operators from 1 to 2.

APPROVED:

WILLIAM WENGER
Colonel Ordnance Corps
Commanding
DEPARTMENT OF THE ARMY
WHITE SANDS MISSILE RANGE
NAVARRETE COUNTRY DEPOT
GALLUP, NEW MEXICO

STANDARD OPERATING PROCEDURE NO: AN-O-65, Amendment No. 5

EXHIBIT NUMBER: Fuse TSQ, M54 W/Booster

PURPOSE: To provide for a more safe and efficient operation

FIRE DIRECTION: 2, Room No. 3, LCI BLDG No. 19

EFFECTS MODIFIES:

- Reduces operators from 1 to 2 operators

EFFECTS ON PROCEDURE:

1. Step 3A

- M54 Boosters are found staked to the fuse bodies, operators in barricades

NEW PROCEDURE: Position fuse into a holding vise and remove boosters with a spark

NEW LIMITS IN BARRICADES 3 and 4

- Two operators in each barricade

NEW LIMIT IN EACH BARRICADE

APPROVED:

WILLIAM MENEGHER
Colonel, Ord Corps
Commanding
STANDING OPERATING PROCEDURE No.: AM-6-65, Amendment No. 6

NOMENCLATURE: Fuze, TSO, M54

PURPOSE: To provide for a more safe and efficient operation

OPERATION: No. 1. Page 3 of 7

Delete Step 3 and note under Step 3, and change to read:

Step 3. At ICL Bldg pallets of fuses will be unloaded from vehicles or means of an approved forklift and stored in service magazine located 100 feet from operating site.

NOTE: Explosive limit in service magazine will not exceed 10,000 fuses.

APPROVED:

[Signature]

WILLIAM NICHOL
Colonel, Ord Corps
Commanding

9 February 1954

Total Quantity Scheduled: 9260 ea.

Estimated Production Per 8-Hr. Shift: 300 ea.

Estimated Total Direct Labor Cost Per Unit: $17.

Estimated Total Direct Non-Hours Cost Per Unit: $10.

Estimated Total Ordinance Cost Per Unit: $20.60.

Location of Operating Area: FURTHER YORK SHOP AREA.

Location of Operating Building, Including Building No: 153, 154, 155.

MILITARY AND/or CRITIQUE ITEMS AFFECTING THIS JOB: none.

NOTICE: All tools and equipment used in explosive hazardous operations will be inspected and approved by the Surveillance Division before they will be utilized in this operation.

NOTICE: All tools and equipment used in industrial hazardous operations will be inspected and approved by the Safety Director.

APPROVED:

[Signature]

ALLEN T. HODGES,蚄

MAJOR, ORDNANCE CORPS

Commanding

Sheet 1 of 12
1. Receive and Transfer from Storage
2. Unpack and Inspect
3. Remove Fuses and Boosters
4. Washout Projectiles
5. Flake and Pack TNT
6. Prepare Shells for Painting
7. Paint & Pallete Shell, Dispatch to Storage
8. Demilitarize Fuses and Boosters
9. Destroy Loaded Components
HOME OFFICE: Projectiles Div. 104, C-8

ITEM NO: 27

LOCATION: Storage Isolated

AS 1256-72

EXPLOSIVE LIMITS: POUNDS: As Stored, 12.5 IB. OF ITEMS: Stored

PERSONNEL LIMITS: OPERATORS: 2, CASUAL: 3

SHIFT: 2, 800 rds

OPERATION NO: 1

ITEMS: Remove and Transfer from Storage

NOTE: This ammunition is now stored on pallets.

1. Pallets will be loaded by approved type forklift onto van, semi-trailer with wooden floor and sides, 7 pallets to trailer.

2. Loaded van will be moved to loading platform of Bldg. 503 by a 5-ton tractor and unloaded by means of an approved type forklift truck.

NOTE: Explosive limit on loading platform will not exceed 2,000 projectiles and will be kept to the minimum required for efficient operations.

INSPECTION REQUIREMENTS:

Inspect for compliance with this SOP, OSK 7-224 and Storage SOP, WOD No. AD-04.

SAFETY REQUIREMENTS:

1. Fire extinguishers will be readily available.

2. Free exit from operating site will be maintained.

3. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:

Projectiles to Operation No. 2

Dunnage to Lumber Yard

EQUIPMENT REQUIREMENTS:

Van semi-trailer, 5-ton Tractor

Electric forklift truck
STEP

1. Projectiles received from loading platform via electric forklift truck.

2. Fiber containers will be removed from pallet and placed on a convey covered work table.

3. Projectiles will be removed from container, and steps removed and each projectile placed on a wooden skid on a roller conveyor for transfer to Operation No. 3. Pallets will be designed to maintain an 8 inch spacing between projectiles.

4. Metal end stops will be packed in boxes for transfer to Storage.

5. Fiber container will be placed on carrier for transfer to Burning Ground in explosive burning area.

6. If any projectiles are found which show damage or deterioration the Surveillance Inspector will be notified and projectile will be transferred by Surveillance Inspector to Barricade 514 awaiting disposition.

NOTE: Each day at the beginning of the day shift, hazardous items stored in Barricade 514 will be transferred by a Surveillance Inspector, to the Demolition Ground for destruction in accordance with para 2706 of OBD RD 57-224.

INSTRUCTION REQUIREMENTS:
Inspect for proper identification and dangerous deterioration.
Inspect for compliance with this SOP.

SAFETY REQUIREMENTS:

1. Operators will wear safety shoes and gloves.
2. Fire extinguishers will be readily available.
3. Free exit from operating site will be maintained.
4. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:

Projectiles to Operation No. 3.
End stops to Storage.
Fiber containers to Burning Ground.

EQUIPMENT REQUIREMENTS:

Electric forklift
Work Table
Wooden Skids
Roller Conveyors
Anchorage, Alaska

LOCATION: AWO NO: OCPO 4360-57

EXPLOSIVE LIMITS: POUNDS: NO. OF ITEMS: *

PERSONNEL LIMITS: OPERATIONS: 6 CASUALS: 0 F sidel 6

STEP | OPERATION NO. 9 TITLE: Remove Fuses and Boosters

1. Fuse projectiles received from Operation 2 via wooden skids on roller conveyors.
2. In No. 1 Barricade operator will place projectiles in air vans and remove fuse by means of an approved fuse wrench.
3. Projectiles will be returned to skid and fuses placed in fuse tray 25 to tray.
4. In No. 2 Barricade operator will remove the booster case cover by means of a positive stop explosion proof electric drill.
5. In No. 3 Barricade operator will remove boosters and place in a wooden tray 25 per tray.
6. Projectiles will be removed from line, loose explosive filler emptied into water filled rubber bucket and projectile placed base down in wooden pallet for transfer to Operation No. 4.
7. Pallets containing projectiles with explosive filler exposed will be covered with flame resistant canvas at all times except when removing or replacing projectiles. Pallets will be kept free of explosive or extraneous material.
8. Trays containing fuses and boosters will be hand carried to Barricades No. 6 and 7 where they will be packed in ammunition boxes for transfer to Operation No. 8.

INSTRUCTION REQUIREMENTS:
Inspect for compliance with this SOP.

SAFETY REQUIREMENTS:
1. Operators will wear safety shoes.
2. Drill press operators will wear safety goggles or face shield.
3. Fire extinguishers will be readily available.
4. Drill speed will not exceed 125 rpm.
5. A rubber bucket containing water will be positioned beneath booster removal operation to collect any loose explosive.

DISPOSITION OF COMPOUNDS AND MATERIALS:
Projectiles to Operation 4.
Fuses and Boosters to Operation 8

EQUIPMENT REQUIREMENTS:
Air visas, Fuse wrench, Booster wrench, Fuse trays, Ammunition Carts and a position stop explosion proof electric drill.

*Explosive limits in each operating barricade will be as follows:
1. One tray of 25 fuses or boosters and 4 projectiles.
2. Personnel limit in each operating barricade will be 1 Operator & 2 Casual.
3. In fuse and booster packing barricade limits will not exceed 300 each fuses and boosters.
4. Packed fuses and boosters will be moved to storage point on loading platform by rubber tired cart.
5. Limits on platform will be 1000 fuses and boosters.
PROCEDURE:

1. Projectiles received from Operation No. 3 via electric tow motor and rubber-tired ammunition cart.
2. Position projectiles over nozzles on washout manifold.
3. Open valve on circulating line and wash until projectile is free of explosive filler.
4. Rinse projectile with clear hot water.
5. Remove projectile from washout manifold and return to wooden rack on ammunition cart.
6. Inspect interior of shell for complete removal of explosive filler.
7. Excut T7T to feed tank in flasher room.

DESTRUCTION REQUIREMENTS:

By the use of electric gooseneck flashlight inspect each shell for complete removal of explosive filler.

SAFETY REQUIREMENTS:

1. Before start and during operation at 1 hour intervals water temperature and steam pressure gauge will be checked.
2. Only approved safety tools and equipment will be used.
3. Prescribed types of special clothing and shoes will be worn.
4. Floors and equipment will be kept free of TNT by frequent flushing with hot water.
5. CO2 or Du-plex fire extinguishers will be available.
6. Free exit from operating site will be maintained.

DISPOSITION OF COMPONENTS AND MATERIALS:

T7T to Operation No. 5
Shells to Operation No. 6
Explosive charge to empty tank and Operation No. 2.

EQUIPMENT REQUIREMENTS:

Extra: Tow motors, ammunition cart, cleaning equipment.

NOTE: During clean up period, after all T7T has been conducted from washout tanks, personnel limits will be raised to 10 operators to permit efficient cleaning of plant.

*Includes electric tow motor operators.

**All workers handling exposed toxic explosives will be supplied with and will wear:
(a) Flame proofed coveralls, (b) Socks, (c) Underwear, (d) Head covering, (e) Conductive safety shoes, (f) Overcoats, where necessary, (g) Plastic or rubber gloves where necessary.
STANDARD OPERATING PROCEDURE FOR: Desensitization of TNT

DATE: Nov 1953

CHECKLIST:
- Amorine fumes 1/4 size 106cm, 30% solution

LOCATION:
- Flaking and Packing Rooms, AAS Bldg., No. 506
- EXPLOSION LIMITS:
  - POWDER: 0.5 to 0.7
  - EXPLOSION LIMITS: 1500 in packing room

PERSONNEL LIMITS:
- OPERATORS: 1, CASUALTIES: 3

STEP
OPERATOR NO: 5 TITLES: Flake and Pack TNT

1. Check flaker drum for proper speed (5 to 11 rpm), flaker blades, 1.25 inches from drum, circulating water system and TNT dust collector for proper functioning.
2. Remove TNT from feed tank by gravity flow.
3. Flake TNT.
4. Fill and weigh boxes of TNT from hopper.
5. Transfer box to vibrator and filter to pack contents.
6. Seal paper liner, close and string boxes.
7. Stencil TNT box in accordance with lst NDRI-I 100.16/1268, para 7, dated 25 March 1978, and appropriate ICC markings.
8. Load boxes of TNT on wooden pallet on rubber tired ammunition cart and move to a point 100 feet from operations. Pallet load of TNT will then be transported and placed in closed van in barricaded storage site No. 506, by means of pneumatic tire powered fork lift; 27 each 50 pound boxes to pallet.
9. Dispatch packed TNT to storage.

INSTRUCTION REQUIREMENTS
- Inspect proper closing and marking of TNT box.

SAFETY REQUIREMENTS
- Operators will wear prescribed special clothing and safety shoes.
- Only approved type safety tools and equipment will be used.
- Good housekeeping will be maintained.
- CO2 or Degas fire extinguishers will be readily available.
- Free unit from operating site will be maintained.
- Floor will be kept free of TNT by frequent flushing with hot water.
- Operator weighing TNT will wear dust respirator.

DISPOSITION OF COMPOUNDS AND MATERIALS

Packaged TNT for...

EQUIPMENT REQUIREMENTS
- Feed tank, Flaker, Scales, Vibrator, Roller conveyors, Work table, Strapping tools, Stencil equipment, Transfer equipment.
- Strapping of TNT boxes will be performed outside packing room.
- Explosive limits in barricade No. 506 will be 10,000 pounds.
OPERATION NO. 6  TITLE: Prepare Shells for Painting

1. Shells received from Operation No. 5 via ammunition cart and electric tow motor.
2. Operator will cover rotating band with masking tape.
3. Shell will be placed in sand blast machine and blasted until both exterior and interior surfaces are clean.
4. Shell will be removed from sand blast machine and placed on wooden skid on roller conveyor.
5. Abrasive dust will be removed from interior of shell by means of compressed air, regulated to 10 lbs PSI.
6. Shell will be transferred to Operation No. 7 via roller conveyor.

INSPECTION REQUIREMENTS:
Inspect shell for complete removal of explosive filler before placing in sand blast.
Inspect shells for complete removal of paint and rust.

SAFETY REQUIREMENTS:
1. Sand blast operators will wear respirators and safety goggles.
2. Safety shoes will be worn.
3. Good housekeeping will be maintained.
4. CO2 or D-4 dry fire extinguishers will be readily available.

DISPOSITION OF COMPONENTS AND MATERIALS:
Shells to Operation No. 7.

EQUIPMENT REQUIREMENTS:
Sand blast equipment, wooden skids and roller conveyors, ammunition cart.
ITEM:  Operation NO. 7  TITLE: Paint & Palletized Shell  Dispatch to Storage

1. Paint shell cavity with acid proof black paint.
2. Apply a light coat of shell gesso to threads of lifting plug and insert in shell.
3. Place shell on hook on monorail of paint system.
4. Paint exterior surfaces of shell and lifting plug, except rotating band, with one coat of lacquer enamel.
5. Remove masking tape from rotating band.
6. Remove shell from monorail, cover with corrugated fiber-board sleeve and place on shipping pallet.
7. Transfer palletized shells to storage.

INSPECTION REQUIREMENTS:
Inspect shell for complete paint coverage.
Inspect each shell for correct casting manufacturer.

SAFETY REQUIREMENTS:
1. Paint spray operators will wear respirators.
2. Paint supplies will be stored at a service point 100 feet distant from operations.
3. Operators will wear safety shoes.
4. CO₂ or D-530 fire extinguishers will be readily available.
5. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIALS:
Palletized shells to storage.

EQUIPMENT REQUIREMENTS:
Paint spray equipment with exhaust system and dryers.
### Operation No. 8: Demilitarize Fuses and Boosters

Demilitarization of fuses and boosters will be performed in the LCO Building as outlined in SOP AN-0-65.
STANDING OPERATING PROCEDURE FOR DESTRUCTION OF

PROJECTILES 1/3 FUSE 105MM BW HE

NAME:

DATE:

Nov. 1953

LOCATION:

Demolition and Burning Ground

AM No:

OSPO L-360-59

EXPLOSIVE LIMITS:

POUNDS:

SHIFT:

0600 hrs

PERSONNEL LIMITS:

OPERATORS: 1

Casuals: 3

Direct Labor:

None

STEP

OPERATION NO. 9

TITLE: Destroy Loaded Components

1. Explosive sludge will be moved to burning ground in barrels or tanks by means of cargo truck.
2. Sludge will be placed on a bed of combustible material, confined in a trench and burned while still damp.
3. Unserviceable fuse parts will be destroyed in Detonation Destruction Plant and metal reclaimed.
4. Unserviceable boosters will be destroyed by burning in Detonation Plant as outlined in SOP AD-0-26.

DISPOSAL REQUIREMENTS:

Reclaimable scrap metal will be inspected for adequacy of decontamination in accordance with paragraphs 4.2.10 thru 4.2.13 of OACI and para 2507 of ORD No. 7-22.

SAFETY REQUIREMENTS:

1. Safety requirements as outlined in Section 27 of ORD No. 7-22h, SOP AD-0-26, and SOP AD-0-27a will be carefully followed.
2. Explosive sludge will be burned before completely dried to prevent scattering by the wind.
3. Operators will wear flame proofed coveralls and safety shoes.

DISPOSITION OF CONFLUENTS AND MATERIALS

Reclaimable metal to salvage yard.

EQUIPMENT REQUIREMENTS

Transfer equipment.
Detonator Destruction Plant.

SHEET 11 OF 11
DEPARTMENT OF THE ARMY
LINGATE ORDNANCE DEPOT GALLUP, NEW MEXICO

DEC 1953

STANDING OPERATING PROCEDURE NO: AN-0-67 MODIFICATION NO: 1 (Para. 3400.2 ORDN 3-8).

NOMENCLATURE & AMOUNT: 6700 en TNT loaded 105mm HOW. Projectiles W/O Fuzes.
3197 en TNT loaded 75mm HOW. Projectiles W/O Fuzes.

PURPOSE: To provide a Standing Operating Procedure for removal of TNT explosive filler.

APPLICABLE OPERATIONS TO BE FOLLOWED:

Operation No. 1: Remove and Transfer from Storage.
Operation No. 2: Washout Projectiles.
Operation No. 3: Flake and Pack TNT.

105mm HOW. Projectiles to be held in temporary storage awaiting disposition.

75mm HOW. Projectiles will have rotating bands removed and transferred to salvage.

* During bad weather or night operation TNT boxes may be moved to Room No. 2 for strapping operation.

Limits in Room 2 will be 1 pallet load or 1350 lbs of TNT.
Personal Limit: 2 Operators, 3 Casuals.

APPROVED:

WILLIAM MUNCHER
Colonel, Ordnance Corps
Commanding
**DEPARTMENT OF THE ARMY**
**VINCENZA ORDNANCE Depot**
**CALIF, NEW MEXICO**

**STANDARD OPERATING PROCEDURE**

**FOR**

**Demilitarization**

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**LOCATION OF OPERATING AREA:**

Ammunition Work Shop

**LOCATION OF OPERATING BUILDING, INCLUDING BUILDING NO:**

19

**WAIVERS AND/OR EXEMPTIONS AFFECTING THIS SOP (INCLUDE FILE NUMBER, DATE AND EXPIRATION DATE):**

NONE

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**NOTICE:** All tools and equipment used in explosive hazardous operations will be inspected and approved by the Surveillance Division before they will be utilized in this operation.

**NOTICE:** All tools and equipment used in industrial hazardous operations will be inspected and approved by the Safety Director.

**APPROVED:**

WILLIAM KUSCHER
Colonel, 3rd Corps
Commanding
1. Remove and Transfer from Storage

2. Unpack, Inspect and Dispose of Components

3. Destroy Loaded Components
STANDING OPERATING PROCEDURE FOR: Familiarization of SOP No. AM-0-50

HOSPITAL: Rocket Kit 5.5" T-27

DATE: Dec. 1951

ITEM NO: WOD-10

LOCATION: Storage Point

EXPLOSIVE LIMITS: FOG/DOS: As Stored NO. OF ITEMS: Stored

PERSONNEL LIMITS: OPERATIONS: 2 CASES: 3

NOTE: This ammunition is now stored on pallets.

1. Pallets will be loaded by approved type forklift onto van, semi-trailer with wooden floor and sides. 7 pallets to trailer.

2. Loaded van will be moved to loading platform of Bldg. No. 19 by a 5-ton tractor, unloaded by means of an approved type forklift and placed in Room 4.

NOTE: Explosive limit in Room 4 will not exceed 2000 items and will be kept to the minimum required for efficient operation.

INSPECTION REQUIREMENTS:

Inspect for compliance with this SOP, QSM 7-224 and Storage SOP No: AD-0-4.

SAFETY REQUIREMENTS:

1. Fire extinguishers will be readily available.

2. Free exit from operating site will be maintained.

3. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIALS:

Rocket kits to Operation No. 1.
Damage to Lumber Yard.

EQUIPMENT REQUIREMENTS:

Van Semi-trailer, W/5-ton Tractor.
Electric Forklift Truck.
STANDING OPERATING PROCEDURE FOR: Demilitarization OF: SOP No. AH-0-69

NOTE: Rocket Kit 415, 2-23

DATE: Dec. 1957

LOCATION: Room 5, LCL Bldg. No. 19

AMO No. 28654900-21-31026

EXPLOSIVE LIMITS: POUNDS: NO. OF ITEMS: 1000

PERSONNEL LIMITS: OPERATORS: 16 CASUALS: 3

STEP OPERATION NO. 2 VITAL: Unpack, Inspect and Dispose of Components

1. Ammunition received from Room 4 via electric fork-lift truck.

2. Operators will remove seals, strapping and covers from shipping containers and place contents on work tables.

3. Cardboard boxes will be opened and metal parts removed.

4. Wool packing filler will be packed for transfer to salvage.

5. Bayonet ignitors will be moved to a separate table before unpacking.

6. Igniters will be removed from packing and placed in wooden containers for transfer to Operation 3.

NOTE: If any igniter bayonets are broken to permit spillage of powder they will be immediately placed in a water filled container.

7. All cardboard boxes, fiber containers and scrap paper will be loaded on carrier and transferred to explosive burning ground.

INSPECTION REQUIREMENTS:

Inspect item for proper identification.
Inspect all metal parts for adequacy of decontamination in accordance with paragraphs 4.243 thru 4.243 of OACI and para 2.307 of CER N7-224.

SAFETY REQUIREMENTS:

1. Operator cutting steel strapping will wear gloves and goggles.

2. All operators will wear spark proof safety shoes.

3. Fire extinguishers will be available.

4. Fire exit from operating site will be maintained.

5. Good housekeeping will be observed.

6. All operators handling bayonet ignitors will wear flame proof coveralls.

DISPOSAL OF CON-USABLE AND INEDIBLE:

Metal parts to salvage
Wool packing filler to salvage
Packing boxes to salvage
Bayonet igniters to Operation 3
Scrap material to explosive burning ground

EQUIPMENT REQUIREMENTS:

Electrical Forklift.
Work Tables.
Approved hand tools.

*Filled containers of bayonet igniters will be stored in temporary service bermise outside Bldg. 19 from where they will be dispatched to Operation 3.

Limits in bermise will be 2,500 items.
STANDING OPERATING PROCEDURE FOR: Deactivation of

NAME: Rocket Kit 6" T-23

LOCATION: Explosive Burning Ground

LOCATION DESCRIPTION: PMD/52

EXPLORATIVE LIMITS:

PNEUMATIC

PERSONNEL LIMITS:

OPERATORS: 4

CASUALS: 1

SHIFT: 2002

SHIFT LABOR:

TIME: 1002

1. Loaded components will be moved to burning ground in cargo truck with wooden floor and sides.

2. Ignitors will be placed on a bed of combustible material and destroyed by burning as outlined in SOP AD-O-27.

INSTRUCTION REQUIREMENTS:

Inspect for compliance with SOP AD-O-27.

SAFETY REQUIREMENTS:

1. Operators will wear flame proofed coveralls and safety shoes.

2. Safety requirements outlined in COM 7-226 and SOP AD-O-27 will be carefully followed.

EQUIPMENT REQUIREMENTS:

Transfer equipment.
DEPARTMENT OF THE ARMY
WINGATE ORDNANCE DEPOT
GALLUP, NEW MEXICO

STANDING OPERATING PROCEDURE
FOR

NORMAL MAINTENANCE

COMPLETE Nomenclature: Projectiles, fixed, APG-T, M92 W/Fuse

RP, M69 for 30-MM Gun

CODE NO: 232 AWO WO1 SOP NO: AH-0-70 AW  DATE: January 1951

Total Quantity Scheduled: 1,758

Estimated Production Per 8-Hr. Shift: 1,500

Estimated Total Direct Labor Crew Per Shift: 16

Estimated Total Direct Man Hours Per Unit: .08

Estimated Total Ordnance Cost Per Unit: .14

LOCATION OF OPERATING AREA:
AMMUNITION WORK SHOP AREA

LOCATION OF OPERATING BUILDING, INCLUDING BUILDING NO:

LOL, ELIG. NO. 19

WAIVERS AND/OR EXEMPTIONS AFFECTING THIS SOP: NONE

NOTICE: All tools and equipment used in explosive hazardous operations will be inspected and approved by the Surveillance Division before they will be utilized in this operation.

NOTICE: All tools and equipment used in industrial hazardous operations will be inspected and approved by the Safety Director.

APPROVED:

WILLIAM MERRICK
COLOURED CIVIL CORPS
COMMANDING

GALLUP 4-3A
LCP 4-16-53

SHEET 1 OF 5
1. Received from Storage

2. Remove Cap, Inspect, Insert
   Retainer Ring Spring, Repack

3. Return to Storage
OPERATING PROCEDURE FOR: HE-818A (AD-0-70)

STORAGE LOCATION: Storage Point

EXPLOSIVE LIMITS:
- As Stored: As Stored
- No. of Items Stored: 4

PERSONNEL LIMITS:
- Operators: 2
- Casualties: 1
- Direct Labor: 2

STEP 1: OPERATION NO: 1
TITLE: Remove and Transfer from Storage

NOTES:
- This ammunition is now stored on pallets, 45 rounds to pallet.
- Pellets will be loaded by approved type forklift onto van, semi-trailer with wooden floor and sides, 7 pallets to trailer.
- Loaded van will be moved to loading platform of Bldg. No. 19 by a 5-ton tractor and unloaded by means of an approved type forklift and placed in room 4.
- Note: Explosive limit in room 4 will be kept to the minimum required for efficient operations.

INSPECTION REQUIREMENTS:
Inspect for compliance with this SOP, and storage SOP, No. AD-0-4.

SAFETY REQUIREMENTS:
1. Fire extinguishers will be readily available.
2. Free exit from operating site will be maintained.
3. All operators will wear safety shoes.
4. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIALS:
Rounds to Operation 2.

EQUIPMENT REQUIREMENTS:
1. Van semi-trailer, W/5-ton tractor
2. Electric forklift truck

CHECKED: L. D. 2-68
12-58-399 SHEET 3 OF 4
STANDING OPERATING PROCEDURE FOR: NORMAL MAINTENANCE OF 30MM GUN

PROCEDURE:
1. Ammunition received from Room 4 via electric forklift truck.
2. Operators will remove rounds from pallet and place on a canvas covered work table.
3. Operators will unscrew wing bolt with approved type wrench and remove cap assembly. Rounds with cap assembly removed from container will not be stored upright on end.
4. Operators will insert spring, inner cover retainer in the cap assembly to hold the inner cover.
5. Operators will replace cap assembly on container and tighten wing bolt with approved type wrench.
6. Operators will seal wing bolt to cap assembly with lead wire cards.
7. Operators will mark cap with the model number and "MOD 1" will be added. Reference CRIM 3-4, Para. 6.100a.

OPERATION NO: 16
CASUALS: 1
DIRECT LABOR:
SHIFT: 16

INSTRUCTION:
Inspect for proper installation of the spring inner cover retainer.
Inspect for compliance with this SOP.

SAFETY REQUIREMENTS:
1. Operators will wear safety shoes and gloves.
2. Fire extinguishers will be readily available.
3. Free exit from operating site will be maintained.
4. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:
Rounds to Operation No. 3.

EQUIPMENT REQUIREMENTS:
Electric forklift
Work table
MOD lead seals
Wooden pallets

CRIM-1-68
12-52-300
SHMT 4 OF 5
STANDARD OPERATING PROCEDURE FOR: NORMAL MAINTENANCE OF

DATE: January 1954

LOCATION: Room 5, LOL BLDG. NO. 19

EXPLOSIVE LIMITS: POUNDS: 500

PERSONNEL LIMITS: OPERATORS: 16, CASUALS: 3

STEP OPERATIONS: 1. PACK and Return to Storage

1. Operators will pack containers on pallets, 48 containers to pallet.
2. Pallets will be loaded by approved type forklift onto van, semi-trailer with wooden floor and sides, 7 pallets to trailer, for transfer to storage.

INSPECTION REQUIREMENTS:

Inspect for proper markings, serviceability of containers, etc.

Inspect for compliance with this SOP.

SAFETY REQUIREMENTS:

1. Fire extinguishers will be readily available.
2. Free exit from operating site will be maintained.
3. All operators will wear safety shoes.
4. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:

Ammunition to Storage.

EQUIPMENT REQUIREMENTS:

Van semi-trailer, W/5-ton tractor
Electric forklift truck
STANDING OPERATING PROCEDURE
FOR
DEMILITARIZATION

ORDNANCE SIGNATURES: Projectiles, APC-2, M61 W/Fuze BD M66A1

And M/O Fuse, for 75mm Gun.

2322-56 AWO NO: 311 SOP NO: AH-C-71 ITEM NO: MOD-13 DATE: Jan. 44

Entity Scheduled:

Total Production Per 8-Hr. Shift:

Estimated Total Direct Labor Crew Per Shift:

Estimated Total Direct Man Hours Per Unit:

Estimated Total Ordnance Cost Per Unit:

LOCATION OF OPERATING AREA:

ARMAMTN WORK SHOP

LOCATION OF OPERATING BUILDING, INCLUDING BUILDING NO:

- No. 503, 514, and 2 temporary service magazines

WARNING AND/OR EXCEPTIONS AFFECTING THIS SOP (INCLUDE FILE NUMBER, DATE AND EXPIRATION DATE):

NONE

Supplemented with area map showing distance relations.

Supplemented with flow chart showing explosive limits and distance relationships between buildings. (Para 146, FDI)

NOTES:

All tools and equipment used in explosive hazardous operations will be inspected and approved by the Surveillance Division before they will be utilized in this operation.

Not: All tools and equipment used in industrial hazardous operations will be inspected and approved by the Safety Director.

APPROVED:

WILLIAM HENRIOT
COLORADO ORD CORPS
Commanding
1. Remove and Transfer from Storage
2. Unpack and Inspect
3. Pull Apart Complete Round
4. Pack Propellant Powder
5. Defuse Projectiles
6. Separate Cartridge Cases
7. Burn out Explosive Filler and Destroy Loaded Components
OPERATION NO: 1  TITLE: Remove and Transfer from Storage

1. Ammunition will be removed from storage and placed on wooden transfer pallets.
2. Pallets will be loaded by approved type forklift onto van, semi-trailer with wooden floor and sides, 7 pallets to trailer.
3. Loaded van will be moved to loading platform of Bldg. 503 by a 5-ton tractor and unloaded by means of an approved type forklift, truck.

NOTE: Explosive limit on loading platform will not exceed 1,000 rounds and will be kept to the minimum required for efficient operations.

SOP NO: CSM-7-294
W/5-ton Tractor
OPERATION NO: 2
NOTE: Explosive limit on loading platform will not exceed 1,000 rounds and will be kept to the minimum required for efficient operations.

SOP NO: CSM-7-294
1. Wire extinguishers will be readily available.
2. Drive exit from operating site will be maintained.
3. Good housekeeping will be observed.
4. Ammunition handlers will wear gloves and spark proof safety shoes.

DISPOSITION OF COMPOUNDS AND MATERIAL:

1. Ammunition to reclamation yard.
2. Ammunition to Operation No. 2.
OPERATING PROCEDURE FOR DEMOLITION 00

HOW TO IDENTIFY:

Y/Carrel APC-T, H61

WEIGHT: V/250 lb N6661 for 75MM Gun

LOCATION: Room No. 1 AVE BLDG. 507

EXPERIENCED LIMITS: FOUNDED

INSTRUCTION: OPERATORS: 20° CASUALS: 5

NOTE: OPERATION NO. 2  TITLE: Unpack and Inspect

1. Rounds will be moved from unloading platform via electric forklift truck.
2. Round in fiber container will be removed from shipping container and placed on canvas-covered work table.
3. Round will be removed from fiber container and placed on wooden skid on roller conveyor. Skids will be so constructed to comply with provisions of Para. 1723 of OSW.
4. Fiber containers will be placed on carrier for transfer to burning ground.
5. Packing boxes will be placed on pallets for transfer to box yard.

NOTE: If any rounds are found which show dangerous deterioration the Surveillance Inspector will be notified and round will be transferred by Surveillance Inspector to Barricade 514 awaiting disposition.

Once each day, hazardous items stored in Barricade 514 will be transferred by a Surveillance Inspector to the Demolition Ground for destruction in accordance with Para. 2709 of OMD K7-224.

SPECIAL REQUIREMENTS:

Inspect for proper identification and dangerous deterioration.
Inspect for compliance with this SOP.

SAFETY REQUIREMENTS:

1. Operators will wear gloves and spark proof safety shoes.
2. Operator cutting strapping will wear face shield and/or safety goggles.
3. Fire extinguishers will be readily available.
4. Free exit from operating site will be maintained.
5. Good housekeeping will be observed.

REGULATION OF OPERATIONS:

Barricade to operation area.
Fiber containers to burning ground.
Packing boxes to box yard.

EXTRA REQUIRMENTS:

Electric Forklift
Work Table
Wooden Skids
Roller Conveyors

*Explosive and Personnel limits cover all operations performed in Room 1, Bldg. 507.
1. Complete round received from Operation 2 via wooden skids on roller conveyors.
2. Operator will remove round from skid and position in vertical pull-apart machine.
3. Projectile will be pulled from cartridge case by means of compressed air.
4. Cartridge case will be removed from machine and propellant powder emptied into a non-sparking metal chute which will extend through a substantial fire wall and will be equipped with a flash-back damper.
5. Empty cartridge case will be returned to skid on roller conveyor.
6. Projectile will be removed from machine and returned to skid on conveyor.

Screw down requirements:

Inspect cartridge cases for complete removal of powder.

Safety requirements:

1. An adequate duffle system will be installed at pull-apart machine.
2. Operators will wear flame proofed coveralls and conductive soled safety shoes.
3. Operation will be conducted from a grounded platform.
4. Fire exit from operating site will be maintained.
5. Good housekeeping will be observed.
6. Fire extinguishers will be readily available.

Documentation of components and materials:

Propellant Powder to Operation 4.
Projectiles to Operation 5
Cartridge Cases to Operation 6

Equipment requirements:

Vertical Pull-apart Machine
PROCEDURES:

1. Powder will be received from Operation No. 3 via a non-sparking chute equipped with a flash-back damper.

2. Powder will flow directly into a powder shipping container which will be mounted on a scales.

3. Filled containers will be immediately closed and moved by rubber tired hand truck to service point in Room 3, A85 BLDG. 503.

4. Powder containers will be stenciled with the proper nomenclature and placed on transfer pallet.

*Explosive limits in Room 3 will not exceed 5,000 lbs of powder.

INSPECTION REQUIREMENTS:

Inspect powder containers for serviceability and correct marking.

SAFETY REQUIREMENTS:

1. An adequate deluge will be installed at filling and weighing operation.

2. Operators will wear flame proofed coveralls and conductive soled safety shoes.

3. Filling and weighing operation will be conducted from a grounded platform.

4. Free exit from operating site will be maintained.

5. Good housekeeping will be observed.

6. Fire extinguishers will be readily available.

DESCRIPTION OF COMPONENTS AND MATERIALS:

Propellant powder to burning ground or storage

NOTES: Powder lots of less than 1,000 lbs are to be destroyed by burning.
OPERATING PROCEDURE FOR: Deactivation of

**SOP NO:**

**OBJECTIVE:** Projectile APL-7 M61

**DATE:** Jan. 74

**ITEM NO:** MOD-12

**LOCATION:** Room No. 1 AWS XE115, 501

**EXPLOSIVE LIMITS:** POUNDS: 500

**PERSONNEL LIMITS:** OPERATORS: 20

**SHIFT:** 1200

**NOTES:** Explosive limit in service magazine will not exceed 2,000 fuses.

**OPERATION NO:** 5

**TITLE:** Deactivate Projectiles

---

1. Projectiles received from Operation 3 via wooden skids and roller conveyor.
2. Operator will remove two projectiles from skid and hand carry to defusing machine behind barricade No. 3.
3. Projectiles will be positioned in machine and secured by air vise.
4. Operators will retire to outside of barricade and operate machine by remote control, observing operation by means of a mirror.
5. When fuses have been sufficiently freed to permit removal by hand, the machine will be stopped and projectiles returned to skids on conveyor.
6. Projectiles will be placed fuse end up in a wooden pallet and fuse removed before additional projectiles are placed in pallet.
7. Filled pallets of projectiles will be moved by electric forklift truck to holding point on unloading dock awaiting transfer to Operation 7 at burning ground. Number of projectiles on loading dock will not exceed 100.
8. Fuses will be removed from projectiles and packed in boxes for transfer to Operation 7.
9. Filled boxes of fuses will be closed with tape to prevent spillage of filler.
10. Filled boxes of fuses will be moved to service magazine.

**SAFETY REQUIREMENTS**

Inspect for compliance with this SOP.

---

1. Defusing machine will not be operated while any one is inside barricade.
2. Operators will wear spark proof safety shoes.
3. Fire extinguishers will be readily available.
4. Fire exit from operating site will be maintained.
5. Good housekeeping will be observed.

**DISPOSITION OF COMPONENTS AND MATERIALS**

Projectiles to Operation 7
Fuse to Operation 7

**APPENDIX**

Remote controlled defusing machine.

--Some projectiles in this group are without fuse. These projectiles will be placed in a vise and base plug, containing tracer element removed. Plugs with tracer element will be transferred to Operation 7. Projectiles will be inspected and transferred to salvage.

**ORIKA-L-68**

12-92-300
STANDARD OPERATING PROCEDURE FOR: Demilitarization OF

MATERIAL: Projectile APC-T M61

W/Tube RD M66A1 for 75MM Gun

LOCATION: Room No. 1, AMX UDC No. 52

EXPLOSIVE LIMITS: FOUND; NO. OF ITEMS: 500

PERSONNEL LIMITS: OPERATORS: 20 CASUALS: 5

SIZE
OPERATION NO: 6 TITLE: Deprim Cartridge Case

1. Cartridge cases received from Operation 5 via wooden skids and roller conveyor.
2. Inspect cartridge cases for complete removal of powder.
4. Primmers will be removed from machine by air operated conveyor and deposited in a water filled container.
5. Primmers will be removed from water, packed in a wooden box and hand carried to service magazine.*
6. Deprimed cartridge cases will be removed from machine, inspected for decontamination and placed on carrier for transfer to salvage.

*Number of primers in service magazine will not exceed 2,000.

UNSPENT REQUIREMENTS:

Inspect cartridges cases for complete decontamination in accordance with provisions of Pern. 2307 of OSH and 4.240 thru 4.243 of OAS.

SAFETY REQUIREMENTS:

1. Fire extinguishers will be readily available.
2. Operator will wear flame proofed coveralls and safety spark proof shoes.
3. Free exit from operating site will be maintained.
4. Good housekeeping will be observed.

DISPOSITION OF COMPOUNDS AND MATERIAL:

Primmers to Operation 7
Cartridge cases to Salvage

DISPENSATION RIGHTS:

Depriming Press

ORDER 1-66
12-52-900

SHEET 8 OF 9
OPERATION No: 7 TITLE: Destroy Loaded Components

1. All loaded components will be transferred from operating site via cargo truck with wooden floor and sides.
2. Rags, in unserviceable ammunition boxes will be placed in a trench, and destroyed by detonation as outlined in SOP No. AD-0-28.
3. Unsuitable powder will be placed on a bed of combustible material and burned as outlined in SOP No. AD-0-27.
4. Primers and Base Plugs containing tracer elements will be destroyed in detonator destruction plant as outlined in SOP No. AD-0-26.

PROJECTILES

1. Remove tape closing from fuse cavity and slightly loosen explosive filler by means of spark proof tools.
2. Position projectiles on ground as outlined in Para. 2726 of OSM.
3. Combustible material will be placed adjacent to fuse cavity and a powder train laid.
4. Powder train will be ignited with a safety fuse of sufficient length to permit personnel to retire to a safe position. (Missile Distance).
5. Projectiles will be allowed sufficient time to cool before inspection for decontamination.

DISPOSITION REQUIREMENTS:

Surveillance inspector will inspect and stamp all projectiles for complete decontamination.
Inspect all salvage metal in accordance with Para. 2507 of OSM and 4,240 through 4,243 of OAC.

SAFETY REQUIREMENTS:

1. Operators will wear safety shoes and flame proofed coveralls.
2. Safety requirements outlined in Section 27 of OSM and SOP's AD90-26, 27, & 28 will be carefully followed.

DISPOSAL OF COMPONENTS AND MATERIAL:

Reclaimable scrap metal to salvage.

DISPOSAL REQUIREMENTS:

Detonator destruction plant
Transfer equipment
DEPARTMENT OF THE ARMY
WINGATE ORDANANCE DEPOT
GALLUP, NEW MEXICO

11 March 1954

STANDING OPERATING PROCEDURE NO: AN-O-71, Amendment No. 1

NOMENCLATURE: Projectiles, ACO-7, M61 W/fuse BD M661, and W/o fuse, for
75 mm Gun

PURPOSE: To establish the arrangement and quantity of projectiles which
may be safely burned at one time in compliance with Para, 2726
of Ch. 8, 224.

1. A series of controlled tests will be conducted by Surveillance
Division and Ammunition Maintenance Division to establish a safe
method for burning explosive filler from subject projectiles.

2. Upon conclusion of tests, prescribed method of placing and burning
projectiles will be incorporated in the Standing Operating Pro-
cedure.

3. The first tests will be conducted using groups of 500 projectiles.
These groups will be spaced not less than 50 feet apart.

4. Bottom layer of projectiles will be placed on angle iron approx.
2" above the ground in stable stacks.

APPROVED:

Allen J. Nguyen
Major, Ord Corps
Commanding
DEPARTMENT OF THE ARMY
WHITESTONE ORDNANCE DEPOT
GALLUP, NEW MEXICO

10 March 1954

STANDING OPERATING PROCEDURE NO: AEO-72, Amendment No. 2.

COMPLETE NOMENCLATURE: Projectile, APC-T, M61, V/Fuse RD, M66AL and V/0
Fuse, for 75MM Gun.

PURPOSE: To provide a Standing Operating Procedure for demilitarization
of following item and quantity scheduled.

COMPLETE NOMENCLATURE: Cartridge, APC-T, M66, V/Fuse RD, M72 and V/0 fuse,
for 75MM Gun.

ITEM NO: WOB-14

Total Quantity Scheduled: 246,360 items

Estimated Production Per 8-Hr. Shift: 1,200 items

Estimated Total Direct Labor Crew Per Shift: 23

Estimated Total Direct Man Hours Per Unit: 15

Estimated Total Ordnance Cost Per Unit: $0.32

LOCATION OF OPERATING BUILDINGS, INCLUDING BUILDING NO:

503, 516 and 2 temporary service buildings.

NOTICE: All provisions, explosive limits, personnel limits and safety require-
ments provided for, in the original SOP No. AEO-72, will be
strictly adhered to, along with the additional steps and require-
ments listed below.

OPERATING NO: 5, Room No. 1, BLDG. 503

NOTE: AND

Explosive limit in defusing barricade will be two (2) projectiles.

*Some projectiles in this group are without fuses. These project-
iles will be placed in defusing machine and base plug, containing tracer
element removed. Plugs with tracer element will be transferred to Operation
7, projectiles will be inspected and stamped by Surveillance prior to being
transferred to Salvage.
Amendment No. 2, to SOP No. AM-0-71, (Con't)

OPERATION NO: 6, Room No. 1, Bldg. 503

Step 3: ADD

British type primers will be backed out by means of an air operated depriming machine.

Equipment Requirements:

ADD

Depriming machine for British type primers.

OPERATION NO: 7, Demolition and Burning Ground.

Fuses will be destroyed in the Detonator Destruction Plant as outlined in SOP No: AD-0-27.

APPROVED:

WILLIAM MERSHINE
COLONEL GWG CORPS
Commanding
STANDING OPERATING PROCEDURE NO: AM-0-71, Amendment No. 3.

COMPLETE HOMOLOGATION: Cartridge, APC-T, M26, W/Fuse, BD, W72 and W/O Fuse for 57mm Gun.

PURPOSE: To provide for a more efficient and safe operation.

OPERATION NO: 5, Room 1 Bldg. 503.

ADD STEP 5A
When projectiles are found where it is impossible to remove the fuse using the defusing machine, projectiles will be taken to a rest bay in barricade 4. Later projectiles will be moved to barricade 51¼ to await disposition. Limits in barricade 4 will not exceed 82 projectiles.

OPERATION NO: 6, Room 1 Bldg. 503.

ADD STEPS 5A AND 5B
3A When cartridges cases are found with stuck primers, which cannot be removed with the air operated depressor machine, cartridge cases will be packed in fiber container and placed base end down in box pallet. Not more than 125 containers to pallet.
3B When box pallet is filled to the required amount of cases, pallet will be transferred to the burning ground area.

BURNT GROUND AREA:

1. Pallet of cases will be unloaded from carrier by means of an approved type forklift truck.
2. Operator will remove five (5) cases from pallet and position them in steel barricaded firing stand.
3. Operator will stand behind barricaded section of stand and fire primer with a locally designed firing pin with handle attached by placing firing pin on primer cap and striking pin with a hammer.
4. Operator will remove the inert cases from firing stand and place them in a box pallet for transfer to machine shop.
5. Operator performing this operation will wear flame proofed coveralls, gloves, face shields and/or safety goggles.

NOTE: No one will be permitted in front of firing stand (unbarricaded section) while operator is firing primers.

APPROVED:

WILLIAM HAMBER
COMMANDING OFFICER
CORPS OF MILITARY ENGINEERS
STANDING OPERATING PROCEDURE NO: AM-C-71, Amendment No. 4.

COMPLETE NOMENCLATURE: Cartridge, APC-3, Mod. W/Fuse, BD, M72 and W/Fuse for 57mm Gun.

PURPOSE: To provide a Standing Operating Procedure for packing the 57mm Primers after they have been removed from the cartridge case.

OPERATION NO: 6, Room No. 1, Bldg. 303.

ADD: STEP 3C

Operator, after having removed Light Primer by means of Breechface machine, will pack primers in wooden box in layers with cardboard filler between each layer. Not more than 350 primers to box, and hand carried to service magazine.

APPROVED:

[Signature]

WILLIAM MICHAEL
COLONEL GDN (G) CORPS
Commanding
STANDING OPERATING PROCEDURE NO: AH-O-71, Amendment No. 5.

COMPLETE nomenclature: Cartridge, APOC, N86, W/Fuse BD, N72 and W/C Fuse for 57mm Gun.

PURPOSE: To provide for a continuous operation of the line, when defusing machine is down due to undue strain forced on machine, caused when fuse threads are coated with excess NC compound.

OPERATION NO: 5, Room No 1, Bldg. 505.

Alternate Method for this Operation.

1. When defusing machine is down projectiles will be placed fuse end up in a wooden box pallet not more than 300 projectiles to pallet, and not more than 1 pallet to room No. 1.

2. When pallet is full to the required amount of projectiles, pallet will be moved by an electric forklift truck to the West loading platform, not more than 7 pallets will be allowed on platform at any one time.

3. Projectiles will be loaded on van semi-trailer and transferred to demolition ground to await destruction as outlined in SOP NO: AH-O-22.

APPROVED:

WILLIAM KERNER
COLLUS, OLD CORPS
Commanding
STANDING OPERATING PROCEDURE NO: AM-5-71, Amendment No. 7.

COMPLETE NOMENCLATURE: Cartridge, APC-T, M6, w/fuse BU, M72 for 57mm Gun.

PURPOSE: To establish new rest bay and explosive limits for packed propellant powder.

PROCEDURE:

OPERATION NO. 4: Pack Propellant Powder.

STEP 3: DELETE AND CHANGE TO READ:

Filled containers will be immediately closed and moved by rubber-tired hand truck to service magazine No. 2 (limits in service magazine No. 2), will not exceed 3,000 lbs.

AND STEP 3A

Containers will be removed from service magazine placed on transfer pallets and loaded on van by approved type forklift truck for transfer to storage.

STEP 4: DELETE AND CHANGE TO READ:

Powder containers will be stenciled outside of room No. 2 and prior to being filled with propellant powder.

OPERATION NO. 5: Defuse Projectiles

STEP 10: Add Service Magazine No. 1

OPERATION NO. 6

STEP 5: Add Service Magazine No. 1

APPROVED:

[Signature]

WILLIAM HENKER
Colonel Ord Corps
Commanding
DEPARTMENT OF THE ARMY
WEAVER CLEAREDANCE DEPOT
GALLUP, NEW MEXICO

26 May 1954

STANDING OPERATING PROCEDURE NO: AM-0-71, Amendment No. 6

COMPLETE NOMENCLATURE: Cartridge, AM-T, M36, w/fuse BB, M72 for 57mm Gun.

PURPOSE: To provide and establish a procedure for destroying by detonation projectiles with frozen fuses generated from 57mm Gun operation.

PROCEDURE:

1. Projectiles will be positioned on ground (base fuse to base fuse) at demolition sites, one projectile high and not more than 1000 projectiles to each demolition set-up.

2. Detonating agent (Demolition blocks of Bangalore torpedo or both) will be laid cross-wise on projectiles as necessary to assure complete detonation.

3. All provisions, safety regulations and demolition operations will be in accordance with original SOP AD-0-28.

4. Superseded and rescinds amendment No. 4 of SOP AD-0-28, dated 5 April 1954.

Personnel Limits: Operators 7, Casuals 5.

APPROVED:

[Signature]

WILLIAM MENZIES
Colonel, Ord Corps
Commanding

CONCILIATION:

[Signature]

Asst for Supply

[Signature]

Chief, Surv. Div.

[Signature]

Chief, Arm Maint Div.

[Signature]

Safety

[Signature]
STANDING OPERATING PROCEDURE NO AM-6-71, Amendment No 9

EXECUTIVE: Cartridge, APC-7, 106, V/Pass 30, M72 for 57MM Gun

PURPOSE: To provide a procedure for unpacking rounds from one round metal container and provide for disposition of metal containers.

Operation No 2, Room 1, MG 503

AUD: Step 6 and Step 7

Step 6 - Rounds that are packed in one round metal containers will be placed on work table and container cover removed. Rounds will be removed from metal containers and placed on wooden skids on roller conveyor.

Step 7 - Metal containers will be placed on pallet and/or in box pallets for transfer to salvage yard. Lids will be packed separately.

INSPECTION REQUIREMENTS:

Surveillance Inspector will inspect and stamp all metal containers for complete decontamination prior to being transferred.

DISPOSITION OF COMPONENTS:

Metal Containers to Salvage Yards.

APPROVED:

[Signature]

WILLIAM HENNES
Colonel, Ord Corps
Commanding

CONCURRENCE:

Assistant for Supply

Chief, Surv Div

Chief, Arm Maint Div

Safety

Management
DEPARTMENT OF THE ARMY
WINNIE GRINNELL DEPOT
GALUP, NEW MEXICO

7 June 1954

STARTING OPERATING PROCEDURE NO: AM-O-71, Amendment No 10

NOMENCLATURE: Cartridge, APC-T, N66 w/fuse KD, M72 for 57mm Gun

PURPOSE: To provide and establish an alternate procedure for destroying by
detonation projectiles with frozen fuses generated from 57mm Deail operation.

PROCEDURE:

1. Projectiles packed in box pallet with nose end down and the fuse and
exposed in an upright position will be positioned at demolition site, not more
than 30% projectiles to box pallet, 3 pallets to demolition set up.

2. Detonating agent (demolition blocks) will be placed on top of exposed
fuses. Blocks will be positioned two deep and will completely cover the mass in
the pallet.

3. Boxes of flake TNT will be positioned next to pallets around the outside
as deemed necessary.

4. All provisions, safety regulations and demolition operations will be
in accordance with original SOP AD-O-26.


APPROVED:

ALLEN T. RICHARDS,
Major, Ord Corp
Commanding
STANDING OPERATING PROCEDURE NO. AH-0-71, Amendment No. 11

NOMENCLATURE: Cartridge, APC-T, M66, W/Fuse HD, M72 for 57mm Gun

PURPOSE: To establish alternate methods when depriming machine is down for repairs and air operated conveyor is out of order.

OPERATION NO. 6. Bldg. 7503. Title: Deprime cartridge cases

Step 3. Primed cartridge cases will be placed in box pallet and moved to west loading dock for temporary storage.

   a. When machine has been repaired, primed cartridge cases will be returned to operation as needed.

Limits on west dock: Not more than 1,500 cartridge cases.

Step 4. Container partly filled with water will be positioned inside barricaded machine, under cartridge case and press out primer into container.

   a. When container is sufficiently filled with primers it will be removed from machine and replaced with another container, partly filled with water. Step 5 of the original SOP will be followed.

NOTICE: No one will be permitted behind unbarricaded depriming machine while machine is being operated.

APPROVED:

[Signature]
WILLIAM KINZER
Colonel, Ord Corps
Commanding

CONCURRANCE:

Act for Supply  [Signature]
Chief, Surv Div  [Signature]
Chief, Arm Maint Div  [Signature]
Safety  [Signature]
Management  [Signature]
DEPARTMENT OF THE ARMY
VIRGINIA ORDNANCE DEPOT
CAMDEN, NEW MEXICO

STANDARD OPERATING PROCEDURE
FOR
Demilitarization

COLATURSA: Shells, How., Spgs., Wk. VIO

RM: FT. BLISS, 409th Engr. Corps

1. CODE NO.: 2312.53
2. AWC: 241
3. SOP NO.: 9M-212
4. DATE: Jan. 1954

2. Section Per Sh. Shift: 200 rds.
3. Direct Labor Rate Per Hour: $2.00
4. Direct Man Hours Per Unit: 20.
5. Ordinance Cost Per Unit: $0.44
6. Handling Area: AMMUNITION WORK SHOP
7. Operating Building, Including Building No.: BLD. 551, BLD. 33

9. OPERATIONS INCLUDE: Firing, Plant Inspection, Date and EX.

1. Tools and equipment relevant to explosive operations will be inspected and approved by the Surveillance Division before starting this Demilitarization Project.
2. Tools, equipment, and protective equipment relating to industrial operations will be inspected and approved by the Safety Director before starting this Demilitarization Project.

APPROVED:

WILLIAM H. GREEN
COLONEL, OLD CORPS
Commanding
1. Remove and Transfer from Storage.

2. Remove Round from Shipping Container.

3. Unpack and Inspect.

4. Remove Increments.

5. Remove Fuse and Assembly.

6. Remove Cartridge & Primer from Fin.

7. Disassemble Fuse.

8. Destroy Loaded Components.
STANDING OPERATING PROCEDURE FOR Demilitarization OF
SOP NO: AM-0-72

DESCRIPTION: Shell, Fixed, Smoke, WP, T1020

V/Fuse: PD. 402 for 105 mm Mortar

ITEM NO: WOD-11

LOCATION: Storage Area

AMO NO: 277

EXPLOSIVE LIMITS: POUNDS: As Stored NO. OF ITEMS: As Stored SHIFTS: 200 rds

PERSONNEL LIMITS: OPERATORS: 2 CASUALS: 1

DIRECT LABOR: SHIFTS: 2

STEP

OPERATION NO: 1 TITLE: Remove & Transfer from Storage

NOTE: This Ammunition is now stored on pallets.

1. Pallets will be loaded by electric forklift truck onto van, semi-trailer with wooden floor and sides. 48 rounds to pallet, 7 pallets to van.

2. Loaded van will be moved to LCL E1dg. by a 5-ton tractor.

3. Pallets will be unloaded from van by electric forklift and placed in room 4 of E1dg. No. 19.

NOTE: Explosive limit in this room will not exceed 300 rds. including rounds in the van.

INSPECTION REQUIREMENTS:

Inspect for compliance with Storage SOP, WOD NO, AD-0-4.

SAFETY REQUIREMENTS:

1. Free exit from operating site will be maintained.

2. Good housekeeping will be observed.

3. A water filled barrel will be located adjacent to magazine door.

4. A chemical kit containing first aid equipment will be available at operations.

5. Fire extinguishers will be readily available.

6. Operators will wear safety shoes.

DISPOSITION OF COMPONENTS AND MATERIAL:

Ammunition to Operation No. 2.

Dunnage to Dunnage Yard.

EQUIPMENT NEEDED:

Van, semi-trailer, W/5-ton tractor.

Electric Forklift Truck
OPERATING PROCEDURE FOR DECOLORIZATION OF SHELL, FIXED, SMOKE, WP, T1952

MATERIAL: SHELL, FIXED, SMOKE, WP, T1952

ITEM NO.: WDD-11

LOCATION: Room 4, LCL Bldg. No. 19

EXPLOSIVE LIMITS: POUNDS: 200 
NO. OF ITEMS: 500

PERSONNEL LIMITS: OPERATORS: 3 
CASUALTS: 2

STEPS:

1. Seals and straps will be removed from packing cartons.
2. Rounds in fiber containers will be removed from boxes and placed on a rubber tired ammunition cart, not more than 50 rds to cart, for transfer to Operation No. 3.
3. Packing boxes will be placed on pallets for transfer to box yard.

INSTRUCTION REQUIREMENTS:

Inspect packing material for complete decontamination.

SAFETY REQUIREMENTS:

1. Operators will wear spark proof safety shoes.
2. Operator cutting straps will wear face shield and/or safety goggles.
3. A water filled barrel will be located adjacent to Operation to receive any smoking round.
4. Free exit from operating site will be maintained.
5. Good housekeeping will be observed.
6. A chemical kit containing first aid equipment will be available at Operations.
7. Fire extinguishers will be readily available.

DISPOSITION OF COMPONENTS AND MATERIALS:

Ammunition to Operation No. 3.
Packing boxes to box yard.

EQUIPMENT REQUIREMENTS:

Electric fork lift truck.
Unpacking table.
Rubber tired ammunition cart.
Hand tools.

SOP NO.: AM-0-72
DATE: Jan. 1952
ADM NO.: 211

PROD/SH. 
SHIFT: 800-4:00

SHEET 4 OF 10
DEAULS "OPERATING PROCEDURES "EXPERIMENTALIZATION OF"

HOW TO APPLY: Shell, Filled, Smoke, WP, T922

ITEM NO: WOD-11

LOCATION: Room 3, LG, BLDG. No. 19

EXPLOSIVE LIMITS: POUNDS: NO. OF ITEMS: 200 N.R.

PERSONNEL LIMITS: OPERATING: 11* CASUAL:

DIRECT LAB: 2

OPERATION NO: 1 TITLE: Unload and Inspect

1. Ammunition received from Operation 2 via rubber tired ammunition cart.
2. Round will be removed from ammunition cart and placed on canvas covered work table.
3. Round will be removed from fiber container and placed on wooden skid on roller conveyor, one round to skid. Skids will be so constructed as to afford proper spacing and protection to primer.
4. Fiber containers will be placed on carrier for transfer to burning ground.

NOTICE: If any rounds are discovered which show dangerous deterioration the surveillance inspector will be immediately notified. If the round is determined to be unsafe to process, the inspector will remove it from the operating line and place it in barricade No. 514 from where it will be transferred to demolition ground and destroyed by detonation.

NOTICE: If a leaking or smoking projectile is found, the operator, wearing protective clothing will immerse the round in water filled barrel and notify the Ammunition Inspector immediately.

APPLICATION REQUIREMENTS:

Inspect for proper identity and dangerous deterioration.

Inspect for compliance with this SOP.

SAFETY REQUIREMENTS:

1. Operators will wear spark proof safety shoes, flame proofed coveralls, flame proofed gloves and chemical safety goggles.
2. Water filled barrels will be conveniently located.
3. Free exit from operating site will be maintained.
4. Good housekeeping will be observed.
5. A chemical kit containing first aid equipment will be readily available.
6. Fire extinguishers will be readily available.

DISPOSITION OF COMPONENTS AND MATERIAL:

Complete round to Operation No. 2.

After containers to burning ground.

EQUIPMENT LIST:

Work table
Ammunition cart
Wooden skids
Roller conveyor

* Number of rounds and personnel limits will include all operations performed in Room 3 of Bldg. No. 19.

SHN 5 OF 12
OPERATING PROCEDURE NO: 12,56-700

PERSONNEL: Shell, Floyd, Smoking, WP, T2142

ITEMS: Jan. 1954

LOCATION: Room 3, I33 Blk, 12, Barricade No. 1

PROD/SHR: 250

EXPOSURE LIMIT: POLYESTER

NO. OF ITEMS: 200 PCE.

RELEASE LIMIT: OPERATORS: 11 CASUALS: 1

SHR: 1

OP.

OPERATION NO: 4 FIELD: Remove increments

1. Round received from operation 3 via of wooden skid on roller conveyor.
2. Operator will remove propellant increment from fin assembly.
3. Increments will be placed in water in metal powder container for transfer to operation No. 8.
4. Packed containers of increments will be moved to concrete Barricade A awaiting transfer to operation 8. Storage of increments in barricade A will not exceed 4,000 increments or 1 day production.

NOTE: This operation will be conducted from a grounded platform.

Personal and explosive limits in Barricade No. 1 will not exceed:

1. Operator
2. Casual
3. Complete rounds

NOTICE:

If a leaker is found, the operator, wearing protective clothing will immerse the round in the water filled barrel and notify the Ammunition Inspector immediately.

Inspection Requirements:

Inspect for compliance with this SOP.

SAFETY REQUIREMENTS:

1. Operator will wear conductive soled safety shoes, flame proofed overalls, flame proof gloves and chemical safety goggles.
2. A water filled barrel will be conveniently located.
3. Free exit from operating site will be maintained.
4. Good housekeeping will be maintained.
5. A chemical kit containing first aid equipment will be readily available.
6. Fire extinguishers will be readily available.

DISPOSITION OF COMPONENTS AND MATERIAL:

1. Round to Operation 5.
2. Increments to Operation 8.

SUPERVISOR: L.58
12-56-700

SHEET 6 OF 10
A. OPERATING PROCEDURE FOR DEMILITIZATION

MANUFACTURER: Shell,百科, Trego, WI. T1952

V/Field: PD. MAC for 105mm Mortar

LOCATION: Room 19, Barricade No. 2 & 3, LOC, M189, No. 72

AMM NO: 273


PRESUMED LIMITS: OPERATORS: 11 CASUALS: 3

DIRECTIONS:

1. Shells received from operation 4 via wooden skids on roller conveyor.
2. Operator will remove shell from skid and position in air vise.
3. Pin assembly will be removed from shell by means of hand wrench.
4. Pin assembly will be returned to skid for transfer to Operation No. 5.
5. Fuse will be removed from shell by means of hand wrench and placed in fuse tray. 20 fuses to tray.
6. Shell will be returned to skid and moved to barricade No. 5, where fuse well cap will be removed.
7. Open cavity of projectile will be closed with tape and projectile placed in box pallet for transfer to operation No. 6.
8. Trays of fuses will be hand carried to operation No. 7.

NOTE:
Personnel and explosive limits in defusing barricades.

1 Operator, 1 Casual, 3 Shells, 20 Fuses.

NOTICE:
If a leak is found, the operator, wearing protective clothing will immerse the round in the water filled barrel and notify the Ammunition Inspector immediately.

INSTRUCTION REQUIREMENTS:
Inspect for compliance with this SOP.

SAFETY REQUIREMENTS:

1. Operators will wear spark proof safety shoes, flame proofed clothing, flame proofed gloves and chemical safety goggles.
2. A water filled barrel will be conveniently located.
3. Free exit from operating site will be maintained.
4. A chemical kit containing first aid equipment will be readily available.
5. Good housekeeping will be observed.
6. Fire extinguishers will be readily available.

DISPOSITION OF COMPONENTS AND MATERIALS:

Fin assemblies to Operation 6.
Fuses to Operation 7.
Shells to operation 8.
Fuse well caps to Operation 6.

REQUIREMENTS:

Air Vises
Fin Wrenches
Fuse Wrenches
Fuse Trays
OPERATING PROCEDURE FOR Demilitarization OF

NOMENCLATURE: Shell, Fixed, Smoke, WP, TUM2

DATE: Jan, 1954

ITEM NO: WCD-11

LOCATION: Room 3, Barricade No. 4, LCB Bldg. No. 10

SHIFTS: 820, 820nds.

WEAR LIMITS: OPERATOR: 11 CASUALS: 3

DIRECT LABOR

1. Pin assembly received from operation 5 via wooden skid and roller conveyor.
2. Pin assembly will be removed from skid and placed in primer removal machine. Machine will be equipped with an adequate plastic flash shield to protect operator, and the rounds moving along conveyor.
3. Primers removed from pin will be placed in ammunition boxes for transfer to operation 6.
4. Primers will be placed in boxes for transfer to Operation 8.
5. Pins will be inspected for adequacy of decontamination and packed for transfer to salvage.

Personnel and explosive limits for No. 4, barricade will not exceed: 1 Operator, 1 Casual, 3 Shells, 200 Primers, 200 Cartridges

NOTES: Dismantling of fuses, Operation No. 7 will be performed at a later date. Concrete barricade C will be used as a service point for fuses and primers. Limits in barricade B will be 1,000 primers and 1,000 fuses, cartridges will be hand carried to barricade A and packed for transfer to Operation 8. Limit in Barricade A will be 1,000 cartridges.

INSPECTION REQUIREMENTS:
Inspect pins for adequacy of decontamination.

SAFETY REQUIREMENTS:
1. Operator will wear spark proof safety shoes, flame proofed coveralls, flame proof gloves and chemical safety goggles.
2. A water filled barrel will be conveniently located.
3. Free exit from operating site will be maintained.
4. Good housekeeping will be observed.
5. A chemical kit containing first aid equipment will be readily available.
6. Fire extinguishers will be readily available.

DISPOSITION OF COMPONENTS AND MATERIAL:
Primers and cartridges to Operation 8.
Pins to salvage yard.

FACILITIES:
Primer removal fixture.
OPERATION NO: 7  TITLE: Disassemble Fuses

1. Fuses will be hand carried in fuse trays from Operation No. 5.
2. Fuse will be placed in holding fixture in barricaded booster removal machine and booster removed.
3. Booster cap with pellet will be packed in wooden ammunition box for safe transfer to operation 6.
4. Fuse body will be removed from machine, placed in a holding fixture and slider plug and slider removed by means of a screw driver.
5. Pack slider with detonator in wooden box for transfer to Operation 6.
6. Drill out screws from head of fuse and remove head from body assembly.
7. Pack fuse parts in wooden boxes for transfer to Operation 8.

NOTE: Personal and explosive limits for Barricade "B".

4 Operators, 3 Casuals, 800 Items.

INSTRUCTION REQUIREMENTS:

Inspect for compliance with this SOP.

SAFETY REQUIREMENTS:

1. Operators will wear spark proof safety shoes.
2. Fire extinguishers will be readily available.
3. Drilling operations will be performed by a positive stop spark proof electric drill.
4. Free exit from operating site will be maintained.
5. Good housekeeping will be observed.
6. Operator removing slider assembly will wear safety goggles.

DISPOSITION OF COMPONENTS AND MATERIAL:

Fuse parts and booster to Operation 8.

REQUIREMENT REQUIREMENTS:

Barricaded, remote controlled machine for removal of boosters, Spark proof, positive stop electric drill.
Vise
Weld torch

CLEA-L-68
12-23-73

SHEET 9 OF 10
OPERATION NO: 8 TITLE: Destroy Loaded Components

1. Fire Fuses and Primers will be decontaminated in Detonator Destruction Plant and metal reclaimed as outlined in SOP No. AD-O-26.

2. Boosters and slider detonators will be destroyed by detonation as outlined in SOP No. AD-O-26.

3. Cartridges will be destroyed by burning on a bed of combustible material as outlined in SOP AD-O-27.

4. Projectiles will be removed from pellets and placed in double rows on open ground.

5. Sufficient detonating agent will be placed in fuse cavity and between rows of assure complete rupture of projectiles.

6. Detonation will be accomplished by the use of electric blasting cap and electric blasting machine.

INSTRUCTION REQUIREMENTS:

Inspect all reclaimable scrap metal in accordance with provisions of Para. 2507 of CSM and Para. 4,240 through 4,243 of CSM.

SAFETY REQUIREMENTS:

1. Operators will wear safety shoes, flame proofed clothing and chemical safety goggles and gloves while handling White Phosphorus Projectiles.

2. A chemical first aid safety kit will be readily available.

3. Safety precautions outlined in SOP's No. AD-O-26, 27, and 28 will be carefully followed.

DISPOSITION OF COMPONENTS AND MATERIAL:

Scrap metal to Salvage Yards

EQUIPMENT REQUIREMENTS:

Transfer equipment

Detonator destruction plant

ORD. No. 66
12-52-500

SHEET 10 OF 10
DEPARTMENT OF THE ARMY
WHITE OAK ARSENAL DEPOT
GALLUP, NEW MEXICO

STANDING OPERATING PROCEDURES
FOR

DEMONETIZATION

COMMENTS OR SUGGESTIONS: [Signature and Name, Date]

FEBRUARY 1968

CODE FOR 3-64-W-3 AND NO. 3186-64 KEMP RD: 75 (0-01) DATE: February 1968

Total Quantity Scheduled: 82,892

Total Direct Production Per 3-Mo. 6,184

Total Direct Labor Cost Per Shift: 15

Total Direct Man Hour Per Unit: 20

Total Unit Cost Per Unit: $0.37

LOCATION OF OPERATING AREA: AMMUNITIONWORK SHOP AREA

NUMBER OF OPERATING DIVISIONS: [Division Name], BUILDING NO. 12, LOL. BLDG.

Supervisory Magazine, No., Lot, and Lot.

REMARKS/SHIPMENTS AFFECTING AMMO SPO (106) GOOD FILE NUMBER, DATE AND

REMARKS

NOTES: All tools and equipment will be inspected and approved by Surveillance
Division and Safety Director before they will be utilized in this
operation.

APPROVED:

[Signature and Name: WILLIAM HINCHER, COL. OUR GD CORPS, Commanding]

ORDN. 415

FEBRUARY 1968

FILE 1 OF 6
1. Remove and Transfer from Storage
2. Unpack, Inspect and Debag
3. Pack Propellant
4. Destroy Unsuitable Powder, Ignitors and Packing Material

Sheet 2 of 6
OPERATING PROCEDURES FOR: Propellants, KOAL, Green Pro.

SOP NO: AM-0-77

DATE: 14 Feb. 1954

EFLCA

PKG NO: QAd-D-68

LOCATION: Storage Bunker

AGO NO: QAG-D-68

METRIC LIMIT: POUNDS: As Stated, NO. OF LEVELS: As Stated

SHIFT: 600

MAXIMUM LIMITS: OPERATORS: 4  CASUAL: 1

DIRECT LABOR/SHIFT: 4

OPERATION NO: 1  TITLE: Receipt and Transfer from Storage

- Powder will be removed from storage and placed on wooden pallets.
- Not more than 75 containers to pallet.
- Pallets will be loaded by electric forklift onto van semi-trailer with wooden floor and sides. 7 pallets to truck load.
- Loaded van will be moved to service magazine, No. 507 by 5-ton tractor.
- Van will be unloaded by approved type forklift and pallets placed in service magazine.

NOTE: Explosive limit in each service magazine will not exceed 5,000 lbs. of propellant and will be kept to the minimum requirement for efficient operation.

REQUIREMENTS:

- Report for compliance with this SOP and Storage SOP WOD No. AM-0-6.

REQUIREMENTS:

- Fire extinguishers will be readily available at both Ipole and Service Magazines.
- Ammunition handlers will wear spark proof safety shoes and gloves.
- Free exit from operating site will be maintained.
- Good housekeeping will be observed.

SUMMARY OF COMPONENTS AND MATERIAL:

- Propellant to Operation 2.
- Runage to Runage Yard.

REQUIREMENTS:

- Electric forklift truck
- Van semi-trailer W/5-ton tractor
OPERATING PROCEDURE FOR: Unwork, Ignit... DATE: 15 Feb. 1928

LOCATION: Room No. 7 A U.S. Army, Ind. Bus. 12; AND NOS. OAC-B-44

EXPLOSIVE LIMITS: POLARIS: 100 NO. 99. ITEMS: 100 CHAS. SHOT: 1200 CHAS.

PERSONNEL LIMITS: OPERATORS: 9 CASUAL: 3 DIRECT LABOR: 9 SHIFT: 9

Step: OPERATION NO. 3 TITLE: Unwork, Ignit and Debake

1. Propelling charges will be moved from service magazine to building platform by a pneumatic tired forklift track.
2. Pallet will be moved from platform to unpacking table by hand operated pallet jack.
3. Container will be removed from pallet and placed on work table with grounded top.
4. Charges will be removed from fiber container.
5. Packing material will be placed on carrier for transfer to burning ground.
6. Igniter cover will be removed from charge and charges will be separated by means of a non-ferrous metal sissors.
7. Charges will be placed in covered wooden boxes boxes and hand carried to debaging trough. Charges containing igniter pad will be kept separate and debaged by especially trained operators.
8. Operators at debaging trough will fill bags with a non-ferrous metal knife and apply propellant into debaging hoppers.
9. Supply powder bags with igniter pad attached will be placed in water filled containers, other bags will be packed dry.

INSPECTION REQUIREMENTS:
Inspect packing material for complete removal of explosive.
Inspect charges for correct identity, foreign material or dangerous deterioration which would render the propellent unsafe to handle or otherwise unserviceable, such charges will be immediately immersed in water filled containers for transfer to Operation No. 4.

SAFETY REQUIREMENTS:
1. Unpacking table and debaging troughs will be equipped with an adequate deluge system.
2. Operators will wear conductive oiled safety shoes, flame proofed coveralls and flame proofed gloves.
3. Free exit from operating site will be maintained.
4. Good housekeeping will be maintained.
5. Unpacking and debaging operators will work from a grounded platform.
6. Debaging chutes will be equipped with a flash-back damper.
7. Fire proofed blankets will be available at escape doors.
8. Approved type fire extinguishers will be readily available.

INSTRUCTIONS FOR CONTINGENCY PLAN
Propellant to Operation No. 4
Packing materials, empty pallets, and unsharable powder to Operation No.

INSTRUCTIONS FOR SHUTDOWN:
Hand operated pallet jack,
Unpacking table,
Debaging troughs,
Non-ferrous knives and sissors

SECR 4 OF 6
STORAGE, TRANSPORT, PROCEDURE: 

1. Propellant received on Fort unit No. 2 via tank car, metal chute equipped with a flanged end. 
2. Tank car containers will be handled using the following equipment: 
   a. Propellant will be transferred from the tank car to the storage tank using a hose and hand truck. 
   b. Containers will be placed on a lift below guard rail and filled to measured weight. 
   c. Guard rail and cover will be placed and container closed. 
   d. Container will be placed on a trolley and raised to a safety level. 
   e. Safety rails will be removed from loading area and container closed. 

NOTICE: Tank of propellant shall be closed and container on loading dock will be removed and placed on a secure area to prevent.

INSTRUCTION TO FOLLOW:

1. Use proper equipment for proper handling. 
2. Ensure complete removal of protective covers prior to transferring tank to storage tank.

SAFETY PRECAUTIONS:

1. Operators will wear standard safety goggles, reflective safety vests, and hard hats.
2. Loading operation will be conducted from a secured platform.
3. All areas from operating units will be maintained.
4. Hardhats will be used.
5. Adequate safety barriers will be installed during loading operations.
6. Pressure type fire extinguishers will be available.
7. Fireproof blankets will be installed at units.

INJURY PREVENTION:

Exposed:
- Rubber tire hand trucks
- Small equipment
- Photographing film and brushes

DO NOT USE FOR EXTERNAL STORAGE.
STANDARD OPERATING PROCEDURE FOR: Destabilization #7

SOP NO: AD-0-27

REMARKS: Tested, Proposed 1/11/84, Spares Resealed

DATE: 16 Feb, 1984

ITEM NO:

LOCATION: Explosive Burning Ground

AMM NO: CAC-D-46

EXPLOSION LIMITS: POINT:

No. OF ITEMS:

EXPIRED LIMITS: OPERATOR:

WASTE:

DESTRUCTION LABLE:

SHUT: None

Destroy Unservicable Powder, Igniters and packing Material.

OPERATION NO: 4

1. All powder and materials to be destroyed will be transferred to burning ground in cargo truck or van with wooden floor and sides.

2. Deteriorated powder charges and igniter pods will be transported in water filled containers.

3. Packing material will be buried in explosive burning pit.

4. Powder and black powder igniters will be spread on a bed of combustible material, not more than 3 inches in depth and burned as outlined in SOP No. AD-0-27.

INSTRUCTIONS REQUIRED:

Inspect for compliance with SOP AD-0-27, burning ground procedure.

SAFETY REQUIREMENTS:

1. Operators will wear flame proofed overalls, gloves and spark proof safety shoes.

2. Provisions outlined in SOP for Burning Ground Procedure will be carefully followed.

DESCRIPTION OF COMPOUNDS AND MATERIAL:

All components will be destroyed by burning.

TRANSFER REQUIREMENTS:

Transfer Equipment

COMA-40
12-52-300

SHEET 6 OF 6
STANDING OPERATING PROCEDURE NO: AM-0-73, Amendment No. 1.

NOMENCLATURE: Charge, Propelling, M111, Green Bag.

PURPOSE: To provide for a more economical and efficient operation.

OPERATION: No. 1, LOCATION: Storage Igloo

Step No. 1.
Change 75 containers to 92 containers to pallet.

OPERATION: No. 2, LOCATION: Room No. 5

Explosive Limits:
Change No. of pounds to 900 pounds.
Change No. of items to 225 chgs.

APPROVED:

[Signature]

ALLEN T. FROEBER, JR.
Major, Ord Corps
Commanding
DEPARTMENT OF THE ARMY
MINNESOTA ORDNANCE DEPOT
GALLUP, NEW MEXICO

11 March 1954

STANDING OPERATING PROCEDURE NO: AM-0-73, Amendment No. 2.

COMPLETE NOMENCLATURE: Charge, Propelling, M1A1, Green Bag for 155 MM How.

PURPOSE: To provide for a more efficient operation.

OPERATION NO. 3, Room 4, Bldg. No. 19.

STEP 5. Rescind and delete this entire step.

APPROVED:

[Signature]

WILLIAM THORNTON
COLONEL, G-3
Commanding
STANDING OPERATING PROCEDURE

FOR

Normal Maintenance

COMMUNICATIONS: Shells Fixed T92 and M72 for 90MM Gun

PEODA, POSTA AND POSTS

<table>
<thead>
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<th>Item</th>
<th>Description</th>
<th>Units</th>
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<td>1</td>
<td>Quantity Scheduled:</td>
<td>6,469 rds.</td>
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<tr>
<td>2</td>
<td>Production Per 8-Hr, Shifts:</td>
<td>600 rds.</td>
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<td>3</td>
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<td>4</td>
<td>Total Direct Man Hours Per Unit:</td>
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<td>5</td>
<td>Total Ordnance Cost Per Unit:</td>
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AMMUNITION WORK SHOP AREA

CAGE OF OPERATING BUILDING, INCLUDING BUILDING NO: 500, 514 & 516

WARNING AND/OR LIMITATIONS AFFECTING THIS SOP (INCLUDE FILE NUMBER, DATE AND SIGNING OFFICER): NONE

ALL TOOLS AND EQUIPMENT WILL BE INSPECTED AND APPROVED BY SURVEILLANCE DIVISION AND SAFETY DIRECTOR BEFORE THEY WILL BE UTILIZED IN THIS OPERATION.

APPROVED:

WILLIAM M. TURNER
COLONEL ORD CORPS
Commanding
1. Remove and Transfer from Storage
2. Unpack and Inspect
3. Torque Test and Retension Pure
4. Repack and Dispatch to Storage
OPERATING PROCEDURE FOR: Normal Maintenance OF
SOP No: AM-0-74

ITEM NO: SHELL, Mixed 30g and M71
for 50mm Gun F508A, F508A and F508E

LOCATION: Various Storage Sites

MATERIAL LIMITS: POUNDS: As Stored NO. OF ITEMS: As Stored SHIPS: 600 rds

PERSONNEL LIMITS: OPERATORS: 4 CASUALS: 3 DISTRICT LABOR:

SHIFT: 4

OPERATION NO: 1 TITLE: Remove and Transfer from Storage

Ammunition will be removed from storage and placed on pallets. 36 rds. to pallet.

Pallets will be loaded by electric forklift onto van semi-trailer with wooden floor and sides. 7 pallets to van.

Loaded van will be moved to Receiving Building No. 516 by 5-ton tractor.

Van will be unloaded by approved type forklift truck.

Explosive limit in Bldg. No. 516 will not exceed 500 rds.

REQUIREMENTS:

Impact for compliance with Storage SOP, WOD No. AD-0-4.

METHODS:

Fire extinguishers will be readily available.
Free exit from Storage site will be maintained.
Good housekeeping will be observed.
Ammunition handlers will wear gloves and spark proof safety shoes.

REQUIREMENTS:

Ammunition to Operation No. 2
Damage to reclaimation yard.

REQUIREMENTS:

Van semi-trailer, W/5-ton tractor
Electric forklift truck

UNIT 1-43
15-1-53
UNIT PROCEDURE FOR INITIAL MAINTENANCE OF

SOP NO: AR-0-74

SMALL, FAMILIAR AND SIMPLE TOOLS AND

EMAIL: P-301, P-30A AND P-30B

EMAIL NO: 6-302-10-79

AFRICA M.

ROOM NO. 1 AND BLDG. 500

AND NO: 6-302-10-79

PANEL/INC: 6-30

EMPLOYMENT LIMITS: POUNDS: NO. OF ITEMS: 100 RDS.

SHIFT: 600 RDS.

DIRECT LABOR:

OPERATORS: 8 CASUALS: 3

SHIFT: 4

OPERATION NO: 2 TITLE: Unpack and Inspect

Ammunition received from Bldg. 516 via electric forklift track.
Sealed and covers will be removed from shipping containers.
Rounds in fiber container will be removed from box and placed on
canvas covered work table.
Complete round will be removed from fiber container and placed
on work table.

NOTE:

If any rounds are found which show dangerous deterioration the
Surveillance Inspector will be notified and round will be trans-
ferred by Surveillance Personnel to Barricade 514 awaiting disposition.

REQUIREMENTS:

Inspect for compliance with this SOP
Inspect for proper identification and dangerous deterioration.

EQUIPMENT:

Operators will wear spark proof safety shoes and gloves where
possible.
Fire extinguishers will be readily available.
Free exit from operating site will be maintained.
Good housekeeping will be observed.

ITEMIZATION OF COMPONENTS AND MATERIALS:

Shell to Operation No. 3

Packing material to Operation No. 4

EQUIPMENT REQUIREMENTS:

Electric forklift
Work tables
Hand tools
OPERATING PROCEDURE FOR: Normal Maintenance OF  

DATE: 15 Feb 59

LOCATION: Room No. 2 ANS Blks. 500

PROCEDURE AND POSTS

ITEM NO:

AMO NO: 4-297-19-48

SHIFT: 600 rds.

DIRECT LABOR:

LIMITS:

OPERATOR: 9 CASUALS:

OPERATION NO: 3 TITLE: Torque Test and Retention Fuse

1. Operator will remove round from unpacking table and place on fuse testing table.

2. Round will be positioned in holding fixture.

3. Fuse will be torque tested and set at prescribed tension.

4. Round will be removed from holding fixture and placed in fiber container on packing table.

USE OF REQUIREMENTS:

Inspect for compliance with this SOP.

Inspect for correct setting of fuse.

SAFETY REQUIREMENTS:

Operators will wear spark proof safety shoes.

Five extinguishers will be readily available.

Free exit from operating site will be maintained.

Good housekeeping will be observed.

DIRECTION OF COMPONENTS AND MATERIAL:

Round to Operation No. 4

MATERIAL REQUIREMENTS:

Shell holding fixture.

Torque wrenches.

Screw driver

SHEET 5 OF 6

L2-02 3/0
PROCEDURE FOR: Normal Maintenance OF

Small Fixed, 155 and 20mm Gun

PSGEO, PSTA and P5STS

LOCATION: Room No. 1 AVS Bldg. 500

AMO NO: 4-292-10-49

WEIGHT: 200 LBS

NO. OF ITEMS: 100 PDS.

SHIPS: 600 PDS.

PERSONNEL INVOLVED: OPERATORS: 2 CASUALS: 2

SUPPLEMENTARY INFORMATION: OPERATION NO. 4 TITLE: Re-pack and Dispatch to Storage

1. Round will be placed in fiber container and sufficient filler added to insure a tight pack.
2. Fiber container will be sealed with ammunition tape.
3. Seals on fiber containers will be repaired by applying acid proof black paint where required.
4. Round will be returned to packing box.
5. Box will be closed and sealed.
6. Strapping will be renewed where required.
7. Ammunition will be returned to pallet and moved by electric forklift to Bldg. 526 from where it will be dispatched to Storage.

INSTRUCTIONS:

Inspect for compliance with this SOP.

MEASURES TO PREVENT:

1. Operators will wear spark proof safety shoes.
2. Free exit from operating site will be maintained.
3. Fire extinguishers will be readily available.
4. Good housekeeping will be observed.

COMPONENTS AND MATERIAL:

Ammunition to Storage

EQUIPMENT REQUIREMENTS:

Taping machine
Strapping tools
Roller conveyors
Sealing tools
DEPARTMENT OF THE ARMY
WINGATE ORDNANCE DEPOT
GALLUP, NEW MEXICO

STANDING OPERATING PROCEDURE
FOR

Normal Maintenance

CONCEPTUAL LAYOUT:

MAINTENANCE

AMMUNITION WORK SHOP AREA

QUANTITIES: 292-11 AWO No: 5-292-11-74

TOTAL ORDNANCE COST PER UNIT: $20.37

UNIT OF OPERATING AREA:

UNIT OF OPERATING BUILDING, INCLUDING BUILDING NO: 500

NOTES AND/OR EXCEPTIONS AFFECTING THIS SOP (INCLUDE FILE NUMBER, DATE AND REASON FOR DATE):

NONE

All tools and equipment will be inspected and approved by Surveillance Division and Safety Director before they will be utilized in this operation.

APPROVED:

WILLIAM HENDRICK
COLONEL, ORD CORPS
Commanding

SHEET 1 OF 5
OPERATION NO.: 3  TITLE: Remove and Transfer from Storage

1. Ammunition will be removed from storage and placed on wooden pallets.
   16 boxes to pallet.

2. Pallets will be loaded by electric forklift onto van semi-trailer with
   wooden floor and sides. 7 pallets to van.

3. Headed van will be moved to east platform of Wab Blag. No. 300 by
   5-ton tractor.

4. Van will be unloaded by electric forklift truck.

Note: In order to provide sufficient space for sorting, the explosive limit
   on loading platform will be 10,000 fuses, packed in shipping containers.

INSTRUCTION REQUIREMENTS:

Inspect for compliance with this SOP and with Storage SOP, WOD No. AD-O-4.

SAFETY REQUIREMENTS:

1. Fire extinguishers will be readily available.

2. Free exit from operating site will be maintained.

3. Good housekeeping will be observed.

4. Ammunition handlers will wear gloves and spark proof safety shoes.

REFERENCE REQUIREMENTS:

Van semi-trailer  W/5-ton tractor

electric forklift truck
UNPACKING OPERATING PROCEDURE FOR NORMAL MAINTENANCE OF

PROJECTILES: Fuse, Rocket, Bags, AM-20, 143

LOCATION: Room 2, USA Building, 500

PERMANENT LIMITS: SPOH: 120 TIMES 100

OPERATION NO: 2 TITLE: Unpack and Inspect

1. Fuses will be moved from loading platform by electric forklift.
2. Shipping container will be placed on a work table and cover removed.
3. Each fuse will be removed from packing and inspected for lot number identity.
4. All metal fuse containers which have had the seal broken during previous inspections will be securely sealed by use of ammunition tape, coated with acid proof black paint.
5. Fuses will be repacked in original box if serviceable or transferred to new shipping container.
6. Boxes will be removed from table and placed on roller conveyor.
7. Containers which are sealed by taping will be separated and shipping container marked, to show that contents has been resealed.

PREOPERATIONAL REQUIREMENTS:

Inspect for correct lot identity.
Inspect sealing of fuse containers.
Inspect serviceability of shipping containers.

SAFETY REQUIREMENTS:

Free exit from operating site will be maintained.
Fire extinguishers will be readily available.
Operators will wear spark proof safety shoes.
Good housekeeping will be observed.
Operator cutting strapping will wear face shield.

DESCRIPTION OF COMPONENTS AND MATERIAL:

Packed fuses to Operation No. 3.
Repairable boxes to Dammage Shop.
Unserviceable boxes to Salvage.

additional REQUIREMENTS:

Work Table
Roller Conveyor
Electric Forklift
Sand Scales
OPERATION NO: 3  TITLE: Rebag and Dispatch to Storage

1. Transferred from Operation No. 2 via roller conveyor.
2. Box lids will be secured in place by means of wood screws.
3. All non-standard markings on shipping containers will be obliterated with marking paint.
4. Boxes will be stenciled with the correct lot number and nomenclature.
5. Boxes will be restrapped and sealed.
6. Product will be removed from conveyor and placed on wooden pallets.
7. Pallets will be returned to loading platform by electric forklift truck from where they will be dispatched to Storage.

INSTRUMENT REQUIREMENTS:

Inspect for compliance with this SOP.

PRECAUTIONS:

1. Fire extinguishers will be readily available.
2. Paint supplies will be stored 100 ft. from operation.
3. Free exit from operating site will be maintained.
4. Operators will wear spark-proof safety shoes.
5. Good housekeeping will be observed.

LIST OF COMPONENTS AND MATERIALS:

Pass to Storage

REQUIRED REQUIREMENTS:

Electric forklift truck
Roller conveyors
Paint supplies
Stencil equipment
Strapping tools
STANDING OPERATING PROCEDURE NO. AN-O-75, Amendment No. 1

DESCRIPTION: Fuses, Rocket Nose, AN-MK 149 Mod 0. (Navy) SXP-14

PURPOSE: To move normal maintenance operation from Bldg. #500 to Bldg. #19

Make following changes:

Sheet 1: Location of operation will be changed to Bldg. #19

Sheet 2: OPERATION NO. 1, Step 3, change to:

Van will be unloaded into Room 4, Bldg. #19, by electric forklift.

NOTE: Limit in Room 4 will be 5,000 fuses to provide sufficient space for sorting of small lots of fuses.

Sheet 3: OPERATION NO. 2

Location to be changed from Room 3, ANS Bldg. #500 to Room 5, Bldg. #19.
Number of items to be changed from 100 to 1000.
Personnel Limits: Changed to 14 Operators 3 Casuals

Sheet 4: OPERATION NO. 3

Location to be changed from Room 7, ANS Bldg. #500 to Room 5, Bldg. #19.

OPERATION NO. 3, Step 3, change to read:

Non-standard markings on serviceable shipping containers will be obliterated on west platform when weather conditions permit. During inclement weather this work may be performed in Room 4. Personnel limits at this operation will be 2 Operators and 3 Casuals.

OPERATION NO. 3, Step 7, change to read:

Completed pallets of fuses will be returned to Room 4 from where they will be dispatched to storage.

APPROVED:

WILLIAM KENCHER
Colonel, Ord Corps
Commanding

CONCURRENCE:

Asst for Supply

Chief, Surv Div

Chief, Amn Maint Div

Safety

Management
DEPARTMENT OF THE ARMY
WINGATE ORDNANCE DEPOT
GALLUP, NEW MEXICO

STANDING OPERATING PROCEDURE
FOR

DEMILITARIZATION

COMPLETE NOMENCLATURE: Flare, Toy Target, M49

ITEM NO: MOD-15 AWO NO: 0GWO 40650400-23-11226 DATE: 1 March 1955

CODE NO: REV: SOF NO: AM-O-76

Total Quantity Scheduled: 2,886

Estimated Production Per 8-Hr. Shift: 2,000

Estimated Total Direct Labor Crew Per Shift: 6

Estimated Total Direct Man Hours Per Shift: 0.0024

Estimated Total Ordnance Cost Per Unit: $0.005

LOCATION OF OPERATING AREA: EXPLOSIVE BURNING GROUND

WAIVERS AND/OR EXEMPTIONS AFFECTING THIS SOP:

NONE

APPROVED:

WILLIAM MENCHER
COLONEL OLD CORPS
Commanding

CPLFA-43A
REP. 4-16-53
STANDING OPERATING PROCEDURE FOR: Ammunition<br>STORAGE<br><br>LOCATION: Storage Location<br>EXPLOSIVE LIMITS: POUNDS: As stored. NO. OF ITEMS: As stored.


STEP | OPERATION NO: 1 | TITLE: Remove and Transfer from Storage
1. Ammunition will be removed from storage and placed on wooden pallets.
2. Pallet will be placed in van, semi-trailer with wooden floor and sides, 7 pallets to van.
3. Loaded van will be moved to burning ground by 5-ton tractor.
4. At burning ground pallets of ammunition will be unloaded by pneumatic forklift truck.

INSPECTION REQUIREMENTS:
Inspect for compliance with: (CP: MOD NO. AD-04).

SAFETY REQUIREMENTS:
1. Munition handlers will wear spark proof safety shoes and gloves.
2. Fire extinguishers will be readily available.
3. Free exit from storage site will be maintained.
4. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:
Ammunition to Burning Ground
Dunnage to Dunnage Yard.

EQUIPMENT REQUIREMENTS:
Van, semi-trailer W/5-ton Tractor.
Electric forklift truck.
Pneumatic tired forklift.
STANDING OPERATING PROCEDURE FOR: Desmilitarization OF Flares, Tow Target, M50

NO. OF ITEMS: M50

LOCATION: Explosive Burning Ground

EXPLOSIVE LIMITS: POUNDS: 28.86 NO. OF ITEMS: 1,886

PERSONNEL LIMITS: OPERATORS: 6 CASUALS: 3

STEP OPERATION NO: 2 TITLE: Unpack and Destroy Flares

1. Flares will be removed from shipping containers.

2. Flares will be spread on a bed of combustable material in burning pit and ignited by means of a combustable train and fuse lighter as outlined in Explosive Burning Area SOP. NO. AD-0-27.

3. Packing boxes will be inspected for complete decontamination and transferred to box yard.

INSPECTION REQUIREMENTS:

Inspect for correct identity of items.

Inspect packing boxes for decontamination.

Inspect for compliance with safety regulations and pertinent SOP's.

All boxes will be inspected & stamped by surveillance for complete Decontamination, before boxes are transferred to Box Yard.

SAFETY REQUIREMENTS:

1. Operator cutting steel strapping will wear face shield.

2. Operators will wear flame proofed coveralls and safety shoes.

3. Safety precautions outlined in Explosive Burning Area SOP. NO. AD-0-27, will be carefully followed.

DISPOSITION OF COMPONENTS AND MATERIAL:

Ammunition boxes to Box Yard.

EQUIPMENT REQUIREMENTS:

Transfer equipment

Strap cutter

Sheet 3 of 3
STANDING OPERATING PROCEDURE FOR

NORMAL MAINTENANCE

COMPLETE NOMENCLATURE: DISSE, GC. THE SOME, AM-NWCX

ITEM NO: 1 AND NO: 2 SOF NO: AM-O-24 DATE: 15 March 1943

Total Quantity Scheduled: 620
Estimated Production Per 3-Hr. Shift: 290
Estimated Total Direct Labor Crew Per Shift: 33
Estimated Total Direct Man Hours Per Unit: 92
Estimated Total Ordnance Cost Per Unit: $1.09
Total Explosive Allowance at Operating Site: 73,160 Libs.
Total Casuals Allowed at Operating Site: 4

LOCATION OF OPERATING BUILDING, INCLUDING BLD. NO: 1A11

WAIVERS AND/OR EXEMPTIONS AFFECTING THIS SOP (INCLUDING FILE NUMBER, DATE, AND EXPIRATION DATE): 

APPROVED:

[Signature]
WILLIAM McFARREN
COLONEL  ORG CORPS
Commanding

CRUHA-434
REP. 4-16-53

SHEET 1 OF 3

701
1. Load Carrier & Transport Ammo. to Operation Site
2. Unload Carrier and Clean Bomb
3. Hook Bomb on Monorail
4. Remove Plugs & Nuts, Inspect and Service Cavities
5. Clean Components
6. Replace Plugs & Nuts
7. Clean and De-rust Bomb
8. Repaint Bombs
9. Restrip Bombs
10. Remove Bomb from Monorail & Install Shipping Bands
11. Stencil Bomb
12. Load Carrier for Transfer to Storage
STANDING OPERATING PROCEDURE FOR: NORMAL ATTACHMENTS OF BOMBS

AIRCRAFT: Bomb, GP, Tgt. 500 lb, AN-M66AH1

LOCATION: Various Open T-Sites

EXPLOSIVE LIMITS: phosphate 84.020% X-Site NO OF ITEMS: As Stored

PERSONNEL LIMITS: OPERATORS: 1st shift 3rd shift: 4th shift: 1

TRUCK

OPERATION NO: 1 TITLE: Load Carrier & Transport Ammunition to Operating Site.

1. Bombs will be removed from damage in open T-site and placed in carrier by means of an approved type forklift truck and bobber chain attachments, not more than three bombs will be picked up by forklift at any one time.

2. Carrier used will be a van equipped with wooden sides and floor. Load will consist of 5 skids, 7 bombs per skid, or a total of 35 bombs per van.

3. Load will be secured by properly affixed conveyor stop.

4. Loaded van will be moved to operation site by tractor which will conform with section 24, ODM 7-224.

INSPECTION REQUIREMENTS:

Inspect for compliance with this SOP, SOP AD-0-4, ODM 7-224 and other pertinent safety regulations.

SAFETY REQUIREMENTS:

1. Approved type fire extinguishers will be readily available.
2. Safety shoes and gloves will be worn by operating personnel.
3. Free exit from operating site will be maintained.
4. Rocks will be carefully placed into center suspension lugs.
5. Good housekeeping will be maintained.
6. Proper placards will be posted.
7. Personnel and explosive limits will be conspicuously posted.

DISPOSITION OF COMPONENTS AND MATERIAL:

Bombs to Operation No. 2.

EQUIPMENT REQUIREMENTS:

Two (2) vans, Semi-trailer with 5-ton tractor,
1 each pneumatic tire gas fork lift,
1 each bobber attachments for bomb handling.

* Includes truck driver and forklift operator.
STANDING OPERATING PROCEDURE FOR: NORMAL MAINTENANCE OF BOMBS

PROCEDURE: Bomb OP TDT 5304 (CH-2061)

LOCATION: Building 7-33, Bay 17, Runs 29-30 West

EXPLOSIVE LIMITS:

- Furnace: 15-420,000,000,000
- Oxygen: 15-420
- Hydrogen: 35-420

PERSONNEL LIMITS:

- OPERATORS: 6
- CASUALS: 3

STEP

OPERATION NO. 1: UNLOAD CART & BOMB SHIPS

1. Ammunition will be received in vans, semi-trailer from operation No. 9.
2. Forklift operator will unload vans using gas forklift and bomb bar and chain attachments. No more than three bombs will be picked up by forklift at any one time.
3. Forklift operator will position bombs on large work table, not more than 6 bombs will be permitted on table at one time.
4. Operators will clean bombs with the use of cleaning solvent and wire brush and/or rags.
5. After each bomb has been sufficiently cleaned forklift operator will pick up bomb and place bomb on wooden skid positioned on bomb roller conveyor.
6. Bombs on conveyor will be spaced as a minimum the length of one bomb apart.

NOTE:

- Bombs found with damaged center lugs: tag bomb "for double suspension only" and carry as cond 1 under present AIC.
- Bombs found with damaged double lugs: tag bomb "for single suspension only" and carry as cond 7 under present AIC.

INSTRUCTION REQUIREMENTS:

Inspect for compliance with this SOP, OPD-7-424 and other pertinent safety regulations.

SAFETY REQUIREMENTS:

1. Approved type fire extinguishers will be readily available.
2. Safety shoes and gloves will be worn by operating personnel.
3. Good housekeeping will be maintained.
4. Bomb hooks will be hooked into and/or unhooked from center suspension lug with care.
5. Free exit from operating site will be maintained.
6. Cleaning solvent will be kept in safety type containers.
7. Operators cleaning bombs with solvent will wear rubber gloves and aprons.
8. All will be placed in covered metal containers.
9. Only such amounts of cleaning solvent as are required for efficient operation will be left at operating line.
10. All stores of material such as cleaning solvent, rags, etc., will be stored at a point not less than 100 feet from operation.
11. Personnel and explosive limits will be conspicuously posted.

DISPOSAL OF COMPONENT AND MATERIALS:

Bombs to Operation No. 3, via roller conveyor.

EQUIPMENT REQUIREMENTS:

- Supply of wire brushes
- One (1) pneumatic tire gas forklift
- Sections of bomb roller conveyor
- Supply of bomb skids
- Two (2) five gallon cans for cleaning solvent.

* INCLUDES driver and one forklift operator.
1. Operator will secure hooks suspended from electrically powered monorails into single bomb suspension lug (Navy Type).

2. Operator will hold hook in place until monorail chain is taut and carrying full weight of bomb.

3. Operator will remove wooden skid from bomb conveyor line for return to operation No. 2 for reuse.

INSTRUCTION REQUIREMENTS:

1. Inspect for compliance with this SOP, OSHA 7-224 and other pertinent Safety regulations.

SAFETY REQUIREMENTS:

1. Approved type fire extinguishers will be readily available.

2. Safety shoes and gloves will be worn by operating personnel.

3. Good housekeeping will be maintained.

4. Free exit to operating site will be maintained.

5. Personnel and explosive limits will be conspicuously posted.

DISPOSITION OF COMPONENTS AND MATERIALS:

Bombs to Operation No. 4.

EQUIPMENT REQUIREMENTS:

1. Electrically powered monorail starts and continues through Operation No. 10.

2. Bomb roller conveyor.

3. Bomb skids

OJMA-L-68
12-52-300

SHEET 5 OF 14
STANDING OPERATING PROCEDURE FOR: NORMAL MAINTENANCE FOR SBF-1A

NAME: BOMB OP. TUN. & CRT. BM-12341

DESCRIPTION: Building 111, Barracks West

ITEM NO.

LOCATION:

EXPLOSIVE LIMITS: FORNS: 250 NO. OF ITEMS: 250

INEXPLOSIVE LIMITS: OPERATIONS: 25 CAPITALS: 2

DIRECT LABOR:

STEP 1: Casing plugs, fin lock nut will be removed and placed by hand in container of cleaning solvent, and casing and/or wooden plug will be removed from cavity.

2. Fuse cavity will be cleaned with acetone, inspected for anomalies or other foreign matter, and where necessary will be cleaned using beryllium wool.

3. Cavities will be gauged after cleaning.

4. Lock pin holes in all Al modification bombs will be aligned.

5. Cavities and fuse adapters will be coated with grease rust preventative, light, spec. 2608.

NOTES: Bombs painted with alzolite do not have fin lock nuts attached.

INSPECTION REQUIREMENTS:

1. Inspect for proper alignment of lock pin holes in all Al modification bombs, where lock pin holes fail to align bombs will be classified as Al-156 bombs.

2. Inspect for compliance with this SOP, MIL-7-329, and other pertinent safety regulations.

3. Inspect for serviceable fuse seat lines.

SAFETY REQUIREMENTS:

1. Approved type fire extinguishers will be available.

2. Safety shoes will be worn by operating personnel.

3. Good housekeeping will be maintained.

4. Cleaning solvent and acetone will be kept in safety top containers.

5. All used wiping material will be placed in closed containers and removed from job daily.

6. All stores of material, such as cleaning solvent, rag, etc., will be stored at point not less than 100 feet distant from operations. Only such amounts as are required for efficient operation will be left at operating line.

7. During inspection if any bombs are found with explosive extend, each bomb will be thoroughly cleaned with acetone.

DISPOSITION OF COMPLAINTS AND MATERIAL:

Plugs and nuts to Operation No. 5

Bombs to Operation No. 6

EQUIPMENT REQUIREMENTS:

Fuse cavity gages, clearing plug removal wrenches, Hanorall, Wood plug removal tool

INCLUDES Surveillance Inspector.
STANDING OPERATING PROCEDURE FOR: NORMAL MAINTENANCE OF TABA

SOP NO: AM-O-04

NOMENCLATURE:

Reme: OP, TN, SMT, AL, M.D.A.

DATE: 15 May 74

LAUNCHER:

Building XII, Bay-13 and 14 Rear

AND NO.

P/D No.

EXPLOSIVE LIMITS:

POWDER: HOP, HOP, [HOP], HOP

SHELF LIFE: 240

DIRECT LABOR:

PERSONNEL: 2, CASUAL: 2

SHELF: 2

SHELF OPERATING NO. 5

ITEMS: Clean Components

1. Receive cleaning plugs and fin lock nuts from operation 4 in container of
   solvent and place on work table, receive additional fin lock nuts from
   storage for the zincoolite painted bomb

2. Remove cleaning plugs from container

3. Wipe clean or brush clean, using steel wire brush where necessary and dry with
   cloth

4. Threads on the zincoolite painted bomb that receives the fin lock nut will be
   thoroughly cleaned of protective coating by using thread cleaning tools

5. Move plugs and fin lock by hand to operation No. 6

INSTRUCTION REQUIREMENTS:

1. Inspect for compliance with this SOP, OSHA 7-224, and other pertinent safety
   regulations

SAFETY REQUIREMENTS:

1. Approved type fire extinguishers will be readily available
2. Safety shoes will be worn by operating personnel
3. Good housekeeping will be maintained
4. Operator cleaning plugs and nuts will wear rubber or plastic gloves & aprons
5. Free exit from operating site will be maintained
6. Cleaning solvent will be kept in safety top containers
7. Rags will be placed in covered metal containers
8. Personal and explosive limits will be conspicuously posted
9. All stores of material, such as cleaning solvent, rags, etc., will be stored at
   a point not less than 100 feet from operation
10. Only such amounts as are required for efficient operation will be left at
    operating line

DISPOSITION OF COMPONENTS AND MATERIAL:

Plugs and nuts to operation No. 6

EQUIPMENT REQUIREMENTS:

1. Cleaning materials and table
2. Rubber or Plastic gloves and aprons
3. Supply of steel brushes

SHEET 7 OF 18
STANDBD OPERATING PROCEDURE FOR: NORMAL MAINTENANCE OF BOMBS

MANUFACTURER: Bomb, 6P, Typ. 500, AM-5744

LOCATION: Building X-11, Bay 32 and 34 East

EXPLOSIVES LIMITS: Equation: 720

PERSONNEL LIMITS:

OPERATIONS: 1

SPECIAL: 1

INSTRUCTIONS:

1. Remove fin lock nuts and nose plugs from operation No. 5.
2. Damaged repairable threads will be repaired.
3. Clean threads of fin lock nut with rust preventative, light spec. 2029.
4. Apply a sufficient amount of sealing wax to plugs to form a water-tight seal.
5. Replace plugs and fin lock nut hand-tight.

NOTES: Approved type melting pot will be used to liquify sealing wax.

INSTRUCTIONS FOR PERSONNEL:

Inspect for compliance with this SOP, ORDM 7-224, and other pertinent safety regulations.

SAFETY REQUIREMENTS:

1. Approved type fire extinguishers will be readily available.
2. Safety shoes will be worn by operating personnel.
3. Good housekeeping will be maintained.
4. Operators applying sealing wax to plugs will wear rubber or plastic gloves.
5. Free exit from operating site will be maintained.
6. Melting pot will be grounded.
7. Personnel and explosive limits will be conspicuously posted.

DESCRIPTION OF COMPONENTS AND MATERIALS:

Bombs for operation No. 7.

EQUIPMENT REQUIREMENTS:

Approved type melting pot
Rubber or Plastic gloves

CHECK L-65
12-32-300

SHEET B OF 14
**STANDING OPERATING PROCEDURE FOR: NORMAL MAINTENANCE OF SUFA**

**SOP NO:** AM-0-00

**MISCELLANEOUS:** Road of T&F, 5006 AM-008821

**DATE:** 17 Mar, 72

**LOCATION:** Building 40, Bay 30 and 31 West

**NO:**

**EXPLOSIVE LIMITS:**

- **Power:** 1.76
- **No. of Loads:** 6, **Rounds:** 6

**PERSONNEL LIMITS:**

- **Operators:** 2
- **Casualty:** 1
- **Direct Labor:**
- **SUA:** 2

**STEPS:**

1. Operators will clean entire surface of grime and dirt.
2. Cover threads of flux lock nut with tape to protect from paint spray.
3. Spot-durst and remove oxidized paint where necessary, using an air driven wire brush.
4. Dust entire surface with dry cloth.

**INSTRUCTION REQUIREMENTS:**

Inspect for compliance with this SOP, ORD-7-224 and other pertinent safety regulations.

**SAFETY REQUIREMENTS:**

1. Approved type fire extinguishers will be readily available.
2. Safety shoes will be worn by operating personnel.
3. Good housekeeping will be maintained.
4. Face shield and/or goggles will be worn by operator of air driven brush and other personnel in immediate vicinity.
5. Fire exit from operating site will be maintained.
6. Rags will be placed in covered metal containers.
7. Personnel and explosive limits will be conspicuously posted.

**DISPOSAL OF DEPOTS AND MATERIALS:**

Bombs to operation No. 3.

**EQUIPMENT REQUIREMENTS:**

- Air driven wire brush
- Face shield and/or goggles.

OQDA-L-68
12-52-300
STANDING OPERATING PROCEDURE FOR: BOMB MAINTENANCE OF B-24

NOMENCLATURE: Bomb, GP. THT, 500; AL-MCG41

DATE: 15 Mar. 52

LOCATION: BUILDING X-21; Bsc-7 thru 9; 9003

EXPLOSIVE LIMITS: EXPRESS; 250; NO. OF ITEMS: 9 Bombs

PERSONNEL LIMITS: OPERATORS: 9, CASHIERS: 3

STEP

OPERATION NO: 8

PROCEDURE: Repaint Bomb

1. Brush paint and/or spray paint entire surface of bomb, positioned on monorail line, with lustrous, U.B. paint, Spec. JAN-E-349-46, Grade 1, when spray painting operators will use air pressure type spray gun.

2. Operator will inspect for complete coverage and spot-paint any places missed.

NOTES: Paint will be stored at a point not less than 100 feet distant from operation. Only such amounts as are required for efficient operation will be left at operating line.

INSPECTION REQUIREMENTS:

1. Inspect for compliance with this SOP, ORdn 7-224 and other pertinent safety regulations.

2. Inspect for complete coverage of paint on entire bomb.

SAFETY REQUIREMENTS:

1. Approved type fire extinguishers will be readily available

2. Safety shoes will be worn by operating personnel

3. Good housekeeping will be maintained.

4. Operators painting bombs with brush will wear flameproof coveralls and gloves, when spray painting operators will also wear approved type respirators.

5. Personnel and explosive limits will be conspicuously posted.

DISPOSITION OF COMPONENTS AND MATERIAL:

1. Bombs to Operation No. 9.

EQUIPMENT REQUIREMENTS:

1. Flameproof coveralls and gloves

2. Paint brushes

3. Spray-paint equipment

4. Approved type respirators

ITEM NO: 5009

SH R T E NO: 10 OF 14
STANDING OPERATING PROCEDURE FOR: NORMAL MAINTENANCE OF SLAVA

NON-QUALIFIED: Bomb, GF, TMT, 500E, AK-6/641

DYE: 14 Mar. 44

ITEM NO:

LOCATION: BUILDING X-31, BAY-7, through 12 East

AMO NO:

EXPLOSION LIMITS: POUNDS: 1.456 NO. OF ITEMS: 21 BOMBS

PROD./ER.

SHIFT: 200

PERSONNEL LIMITS: OPERATORS: 1 CASUALS: 3

DIRECT LABOR/

SHIFT: 1

STEPS

OPERATION NO: 9 TITLE: Paints/Strips Bomb

1. Strip with proper color and number of stripes to identify bomb as to type filler. Ref: see Page 114 and 115 for correct striping and markings.

NOTE: Striping should not be accomplished until paint on bomb is entirely dry.

INSPECTION REQUIREMENTS:

Inspect for compliance with this SOP, ORM 7-224, and other pertinent safety regulations.

SAFETY REQUIREMENTS:

1. Approved type fire extinguishers will be readily available.

2. Safety shoes will be worn by operating personnel.

3. Good housekeeping will be maintained.

4. Free exit from operating site will be maintained.

5. Personnel and explosive limits will be conspicuously posted.

DISPOSITION OF COMPONENTS AND MATERIAL:

Bombs to Operation No. 10.

EQUIPMENT REQUIREMENTS:

Striping equipment

Sheet 11 of 18

CRML-L-68
12-52-300
STANDING OPERATING PROCEDURE FOR NORMAL MAINTENANCE OF BOMBS

SOP NO. AN-O-24

DATE: 15 Nov 54

ITEM NO.:

LOCATION: BUILDING X-31, BAY 2, Thru 12 Rest

AMO NO.:

EXPLOSIVE LIMITS: PHONEX 5,785 NO. OF ITEMS: 23, Bombs

PERSONNEL LIMITS: OPERATORS: 1 CASUALS:

DIRECT LABOR:

SHEET

OPERATION NO. 9: TITLE: RESTRIPE BOMBS

1. Strip with proper color and number of stripes to identify bomb as to type filler. Ref: see page 116 and 118 for correct stripping and markings.

NOTE: Stripping should not be accomplished until paint on bomb is entirely dry.

INSPECTION REQUIREMENTS:

Inspect for compliance with this SOP, CR-46 7-224 and other pertinent safety regulations.

SAFETY REQUIREMENTS:

1. Approved type fire extinguishers will be readily available.

2. Safety shoes will be worn by operating personnel.

3. Good housekeeping will be maintained.

4. Free exit from operating site will be maintained.

5. Personnel and explosive limits will be conspicuously posted.

DISPOSITION OF COMPONENTS AND MATERIALS:

Bombs to Operation No. 10.

EQUIPMENT REQUIREMENTS:

Stripping equipment

CR-46-60
12-52-300

SHRFT 11 OF 14
MARKING DIAGRAM

To be located in line with double suspension lugs, stenciling may be separated when necessary to avoid interference with the single suspension lug.

Drawn By: [Signature]
Approved By: [Signature]
Date: [Date]
LIST OF HOURS

A - For less than overseas shipment, shipping point, destination and shipping ticket No. shall be stenciled in 3/8 inch high letters and figures located approximately 180° from marking shown.

B - Coat entire exterior surface of bomb, including fin lock nut and closing plugs, except threads (adapters optional) shipping bands, fin lock nut protector stop and fin lock nut protector with olive drab, lacquer enamel Grade I or olive drab, enamel Grade I. In all cases, paint the nose and tail ends of the bomb with yellow lacquer enamel or yellow enamel, as shown on the marking diagram to indicate that the bomb is loaded with high explosives. When bomb is coated with lacquer enamel, paint yellow bands with lacquer enamel or enamel. When bomb is coated with enamel use enamel only for yellow bands, see data card for type of painting on empty bombs. When shipping bands are not removed in loading operation, painting of the periphery of the bomb under the bands may be omitted.

C - Mark type of bursting charge in two places 180° apart, and located in line with single and double suspension lugs. (B)

D - Coat when bomb is TNT loaded.

E - Insert AIC symbol. (B)

F - Insert date (month and year) loaded.

G - Insert loaders lot number. (B)

H - Insert average (25 bombs in lot) gross weight as shipped.

K - Volume, cubic feet of inclosing rectangular parallelepiped.

L - Coat threads of fin lock nut lightly with rust preventive compound, Grade I.

M - Coat threads with acid-proof black paint, Type II end assemble while wet.

N - Coat interior surface of base plug and stud with acid-proof black paint, Type II.

P - Coat threads in nose cavity with rust preventive compound, Grade I, prior to assembling nose closing plug.

Q - Mark with black stencil ink.

R - Marking on nose of bomb to be in opposite direction of other marking (i.e., with top of letters toward tail end of bomb).

S - Indicates United States property.

T - This space reserved for stamps of inspector who accepts the loaded bomb.
STANDING OPERATIONS - PROCEDURE FOR: GENERAL CLEANING OF SKIDS

STANDARDS: NOCH BE TPT 200 ALUMINUM

DATES: 15 Nov. 74

ITEM NO.

LOCATION: BUILDING 2-11, MW-30, PARKING LOTS

EXPLOSIVES LEVEL: 21, 2021. 1 OF LUGGAGE 32

MANUAL LEVEL: OPERATOR 1, CASUALTY 2

STEP 1. Fill book with Protectors, Shipping Bends.

2. Forward motion of manual moves box on skid to peak incline allowing operator to remove manual book from suspension line due to shock in chain.

3. Bomb is moved on wooden skid to end of conveyor line where skid is stopped by positive block and bombs are rolled from skids on conveyor line to skids positioned on stencilling table.

4. Operators will install shipping bends and fill lockout protectors.

5. Wooden skids will be returned to receiving end of roller conveyor for reuse.

NOTE: For alternate method for installing shipping bends see operation No. 2.

1. Inspect for compliance with this SOP, Chapter 7-21, and other pertinent safety regulations.

2. Inspect for proper installation of shipping bends.

SAFETY REQUIREMENTS:

1. Approved type fire extinguishers will be readily available.

2. Safety shoes will be worn by operating personnel.

3. Good housekeeping will be maintained.

4. Free exit from operating site will be maintained.

5. Personnel and explosive limits will be conspicuously posted.

DISPOSITION OF COMPONENTS AND MATERIALS:

1. Bombs to operation No. 11.

EQUIPMENT REQUIREMENTS:

Supply of bombs skids.
Sections of bomb roller conveyor
Stencilling table

* When using alternate method at operation No. 2, operators at operation 10 will be decreased to 1 operator.

SHRUG 12 OF 14
STANDING OPERATING PROCEDURE FOR: NORMAL MAINTENANCE OF BOMB

HOUSING: BOMB, GP, TNT, 50k, AN-65241

SOP NO: AN-O-20

WHEN USED: 9 Mar 50

ITEM NO:

LOCATION: BUILDING X, 3RD BAY, 3RD CUST

AMO NO:

EXPLODING LIMITS: PHOSPH: 1.67% NO. OF ITEMS: 6 BOMBS

PROD/6-TE.

PERSONNEL LIMITS: OPERATORS: 3 CASUALS: 3

SHIP: 3

STEP | OPERATION NO: 11 Title: Stencil Bomb

1. Bomb is rolled off of skid and rolled along wooden table.

2. Bomb is stenciled with pertinent data in accordance with drawing page 11A and 11B of this SOP.

3. Bomb is then rolled by hand to operation 12 on table.

NOTES: Stenciling must be done on bomb which is entirely dry.

INSPECTION REQUIREMENTS:

1. Inspect for compliance with this SOP, OMEM 7-224 and other pertinent safety regulations.

2. Inspect for completion of normal maintenance required.

3. Inspect for correct markings, stenciling, etc., in accordance to drawing 11A and 11B of this SOP.

SAFETY REQUIREMENTS:

1. Approved type fire extinguishers will be available.

2. Safety shoes will be worn by operating personnel.

3. Good housekeeping will be maintained.

4. Free exit from operating site will be maintained.

5. Only operating supply of stencil ink will be kept at operation.

6. Personnel and explosive limits will be conspicuously posted.

DISPOSITION OF COMPONENTS AND MATERIAL:

Bombs to Operation No. 12.

EQUIPMENT REQUIREMENTS:

Work Table.

Stencil equipment.
DEPARTMENT OF THE ARMY
WINGATE CHEMICAL DEPOT
GALLOP, NEW MEXICO

STANDING OPERATING PROCEDURE FOR

DEMILITARIZATION

COMPLETE DESCRIPTION: Shot, Fixed, APC-T, M41, 37MM Guns.

CODE NO: AWO NO: SOP NO: AMO-57 ITEM NO: DATE: 15 April 54

Total Quantity Scheduled:

Estimated Production Per 8-Hr. Shift:

Estimated Total Direct Labor Crew Per Shift:

Estimated Total Direct Man Hours Per Unit:

Estimated Total Ordnance Cost Per Unit:

LOCATION OF OPERATING AREA:

LOCATION OF OPERATING BUILDING, INCLUDING BUILDING NO: BLDG. 500

WAIVERS AND/OR EXCEPTIONS AFFECTING THIS SOP (INCLUDE FILM NUMBER, DATE AND EXPIRATION DATE):

NONE

NOTICE: All tools and equipment used in explosive hazardous operations will be inspected and approved by the Surveillance Division before they will be utilized in this operation.

NOTICE: All tools and equipment used in industrial hazardous operations will be inspected and approved by the Safety Director.

NOTE: Power conveyor belt will be treated with suitable material to assure that belting is conductive.

Q- How many personnel were at East Dock de-stacking boxes? 100 Boxes.

APPROVED:

WILLIAM HANCOCH
Colonel, Ord. Corps
Commanding
1. Remove and Transfer from Storage

2. Unpack and Inspect

3. Pull-apart Complete Round

4. Collect and Pack Propellant Powder

5. Deprime Cartridge Cases

6. Pack Projectiles and Deprimed Cartridge Cases

7. Burn Tracer from Projectile

8. Remove Rotating Band and Scrap Metal
STANDING OPERATING PROCEDURE FOR: De-alleasuring of Pkrs

NOMENCLATURE: Shot, Fixed, AP-W, NC, 37mm Case

LOCATION: Various Storage Sites and Bldg. 516

EXPLOSIVE LIMITS: FUMES: As Stored. NO. OF ITEMS: As Stored

PERSONNEL LIMITS: OPERATORS: 3 CASUALTS: 1

SHIFT: 5,000

DIRECT LABOR:

SOP NO: AM-0-97

DATE: 15 April 44

ITEM NO:

1. Ammunition will be removed from storage by hand, and placed on wooden transfer pallets. Palletized ammunition will be removed from storage by approved type forklift.

2. Pallets will be loaded by approved type forklift onto van, semi-trailer with wooden floor and sides, 7 pallets per trailer.

3. Loaded van will be moved to receiving Bldg. No. 516 by means of five ton 4 x 2 tractor.

4. Forklift operator will unload pallets at receiving building by means of approved type forklift truck, placing pallets in receiving building.

NOTE: Limits at Bldg. 516 will not exceed 6,720 rounds.

INSPECTOR REQUIREMENTS:

Inspect for compliance with this SOP and Storage SOP WDD No. AD-0-4.

SAFETY REQUIREMENTS:

1. Fire extinguishers will be readily available.

2. Free exit from operating site will be maintained.

3. Operators will wear safety shoes and gloves.

4. Good housekeeping will be maintained.

5. Proper placards will be posted.

DISPOSITION OF COMPOUNDS AND MATERIAL:

Damage to ammunition yard.

EQUIPMENT REQUIREMENTS:

1. One van, semi-trailer

2. One truck, tractor 5-ton

3. Approved type forklift

Dont storage personnel included?
STANDING OPERATING PROCEDURE FOR: Desensitization of RDSH  

SOP NO: AM-9-07

FIRE LAYOUT:

SHOT FIRED:

APL NO:

DATE: 15 April 1954

LOCATION:

ROOM: 1, MSG BLDG NO 516

ARK NO:

EXHIBIT INJURY:

ROOM NO.

SHIFT: 5,000

PERSONNEL LIMIT:

OPERATORS: 5

CASHIER: 3

SHIFT: 5

STEP

OPERATION NO: 2  TITLE: Unpack and Dispose

1. Ammunition removed on pallet from Bldg 516 by approved type forklift truck.
2. Operator will cut and remove steel strapping while still on pallet.
3. Remove packing boxes from pallet and place on unpacking table.
4. Remove fiber containers from packing box and place on unpacking table.
5. Remove metal end of fiber container with local removal tools.
6. Remove round from fiber container and place on table.
7. Rounds will be transferred from table and placed on power conveyor two rounds side by side in marked off blocks spaced two feet apart.
8. Fiber containers, metal ends and fiber board will be packed in pallet box and/or placed on power conveyor and shipped in van for transfer to ammunition burning ground.
9. *Serviceable packing boxes will be palletized for transfer to East platform and moved to Operation No 5 and 6 as required, all other packing boxes palletized and transferred to salvage.

NOTE: If any unsafe rounds are found they will be packed in fiber container and immediately transferred by Surveillance Inspector to Barricade 514. Limits at barricade 514 will not exceed 200 rounds.

*Obliterating all old markings and restocking of serviceable packing boxes will be performed on East platform prior to being moved to operation 5 and 6.

INSPECTION REQUIREMENTS

1. Inspect Pallet for proper identity and dangerous deterioration.
2. Inspect for compliance with this SOP, ORD 7-224, and other pertinent safety regulations.
3. Inspect all packing material for complete desensitization.
4. All items going to salvage will be inspected and stamped by Surveillance Inspector for desensitization prior to being transferred to salvage.

SAFETY REQUIREMENTS

1. Free exit from operating site will be maintained.
2. Approved type fire extinguishers will be readily available.
3. Good housekeeping will be maintained.
4. Operators will wear safety shoes and gloves.
5. Operator cutting and removing steel strapping will wear safety goggles and/or face shield.
6. Personnel and explosive limits will be conspicuously posted.
7. Power conveyor will be properly maintained.

DISPOSITION OF COMPONENTS AND MATERIAL

1. Complete rounds to Operation No 3.
2. Fiber containers, metal ends and fiber board to demolition burning ground.
3. Serviceable packing boxes to East platform and moved to Operation No 5 and 6 as required.
4. All other packing boxes to salvage.

EQUIPMENT REQUIREMENTS

1. Electric forklift truck.
2. Work table.
3. Metal and removal tools.
4. Power conveyor.
5. Approved hand tools.
6. Van, Semi-trailer (P.M. job done in it)
OPERATIONAL PROCEDURE No: 12

LOCATION: Room 1, Bldg. 96, 10th Floor

EXPLOSIVE LIMIT: 100 lbs

PERSONNEL LIMIT: 4 people

1. Ammunition received on pallet from Bldg. 96 by approved type forklift truck.
2. Operator will cut and remove steel strapping while still on pallet.
3. Remove packing boxes from pallet and place on unpacking table.
4. Remove fiber containers from packing box and place on unpacking table.
5. Remove metal and fiber container with local removal tools.
6. Remove round from fiber container and place on table.
7. Rounds will be transferred from table and placed on power conveyor two rounds side by side in marked off blocks spaced two feet apart.
8. Fiber containers, metal ends and fiber bond will be packed in pallet box for transfer to ammunition burning ground.
9. Serviceable packing boxes will be palletized for transfer to East platform and moved to operation No. 5 and 6 as required. All other packing boxes palletized and transferred to salvage.

NOTE: If any unsafe rounds are found they will be packed in fiber container and immediately transferred by Surveillance Inspector to barricade 5&4. Limits at barricade 5&4 will not exceed 200 rounds.

INSPECTION REQUIREMENTS:
1. Inspect round for proper identity and dangerous deterioration.
2. Inspect for compliance with this SOP and other pertinent safety regulations.
3. Inspect all packing material for complete decontamination.
4. All items going to salvage will be inspected and stamped by Surveillance Inspector for decontamination prior to being transferred to salvage.

SAFETY REQUIREMENTS:
1. Free exit from operating site will be maintained.
2. Approved type fire extinguishers will be readily available.
3. Good housekeeping will be maintained.
4. Operators will wear safety shoes and gloves.
5. Operator cutting and removing steel strapping will wear safety goggles and face shields.
6. Personnel and equipment limits will be conspicuously posted.
7. Power conveyor will be properly grounded.

DISPOSITION OF CONTAMINATED AND MATERIALS:
1. Complete round to operation No. 3.
2. Fiber containers, metal ends and fiber bond to ammunition burning ground.
3. Serviceable packing boxes to East platform and moved to operation No. 5 & 6 as required.
4. All other packing boxes to salvage.

EQUIPMENT REQUIREMENTS:
1. Electric forklift truck.
2. Work tables.
3. Metal and removal tools.
4. Power conveyor.
5. Approved hand tools.
6. Pallet jack.

SHELF 4 OF 10
STORAGE OPERATING PROCEDURES FOR FACILITATION OF HOPPERS

JOB NO. 4-H-0-97

CONTRACTIONS: Shot, Poured, Applied, No. 2, Hop, Flow

LOCATION: Room 5, AES House, 210

AMO NO.: 173144

EXPLOSIVE LIMITS: POUNDS: none, MG. 100/200, 2 per day

PERSONNEL LIMITS: Operators: 2 per day, Operators: 1 per day

STEP 1. OPERATION NO. 3: Pull-apart Cartridge
data

1. Rounds received from operation No. 2, via power conveyor.
2. Machine operator will remove rounds from power conveyor and position in pull-apart machine.
3. Projectiles will be pulled from cartridge cases and propellant powder automatically emptied into vacuum receiver.
4. Operator will return projectile and cartridge case to power conveyor for transfer to operation No. 5.

NOTE: The two pull-apart operations will be shielded from each other by an operatinonal shield.

5. Only one operator will operate controls on pull-apart machine.

INFORMATION REQUIREMENTS:

1. Inspect for compliance with this SOP, CEMI 7-224 and other pertinent safety regulations.
2. Inspect cartridge cases for complete removal of all propellant powder.
3. Shoes and equipment will be tested for rustiness prior to starting operation.

SAFETY REQUIREMENTS:

1. Adequate hood will be installed directly above each pull-apart machine, which can be activated with automatically and/or manually.
2. Operator will wear conductive sealed safety suit.
3. Operator will wear fully proofed coveralls, and caps.
4. Operator will work from a grounded platform.
5. Approved type fire extinguishers will be readily available.
6. Free exit from operating site will be maintained.
7. Good housekeeping will be maintained.
8. Blankets will be available at exits doors.
9. All equipment will be properly grounded.
10. Power conveyor will be equipped with manually operated positive stop.
11. Personal and explosive limits will be conspicuously posted.

DISPOSITION OF COMPOSITES AND MATERIAL:

1. Propellant powder to Operation No. 4.
2. Primed cartridge cases to Operation No. 6.
3. Projectiles to Operation No. 6.

EQUIPMENT REQUIREMENTS:

1. Two pull-apart machines.
2. Vacuum extractor system items.
3. Power conveyor.
4. Universal and automatic solution system.

Q: What about Room No. 2? Adequate safety protection? Why not inspect in room 2?
Q: Why are 3 operators needed for each bay - This would serve in doubling a 1 operator job of the people emptying cartridges.
STANDING OPERATING PROCEDURE FOR: Propellant Collection


LOCATION: Powder Collection Barricade No. 89

200 lbs in

DEPARTMENT LIMITS: CONTAINER: No. OF OPERATORS: 3

PERSONNEL LIMITS: OPERATORS: 3

STEP
OPERATION NO. 1
1. Powder received via vacuum collector system in Barricade No. 505.
2. Propellant powder will be packed in a grounded and prestamped 52 steel end/or Mark 7 steel containers, and weighed on ground platform scales.
3. A dotted strip of methyl violet paper will be placed beneath lid and hand tightened.
4. Powder containers will be removed from platform scales positioned on two wheeled rubber tired ammunition cart and moved by hand to Service Barricade Bldg. No. 500 awaiting transfer to storage.
5. Propellant powder in manufacture lots of less than 1,000 lbs will be packed in containers transferred to service magazine No. 507 awaiting transfer to burning ground.

NOTES: All mixing and stencil mixing operations will be located at not less than 50 feet from operations.

Prior to packing propellant powder into containers they will be air tested, and old markings will be obliterated and the nomenclature and other pertinent information of the new item as necessary will be stenciled on containers.

INSTRUCTION REQUIREMENTS:
1. Inspect for compliance with this SOP, OIM 7-224 and other pertinent safety regulations.
2. Powder containers will be inspected for serviceability.
3. Packed powder containers will be inspected for proper markings and methyl violet paper.
4. Methyl violet paper will be inserted in each powder container.
5. Equipment and shoes will be tested for resistance prior to starting operation.

SAFETY REQUIREMENTS:
1. Operators will wear safety shoes with conductive soles.
2. Operators will wear flame proofed coveralls, and caps.
3. Approved type fire extinguishers will be readily available.
4. Good housekeeping will be maintained.
5. Operators will work from a grounded conductive floor.
6. Equipment will be properly grounded.
7. Personnel and explosive limits will be conspicuously posted.
8. All spilled powder will be carefully swept up and placed in a covered container, partly filled with water for transfer to burning ground.

DISPOSITION OF COMPONENTS AND MATERIAL:
1. Serviceable packed powder to storage.
2. Unservicable packed powder and spilled powder to burning ground.

EQUIPMENT REQUIREMENTS:
1. Platform scales
2. Rubber tired ammunition carts
3. Vacuum collector system
4. Stencil and obliterating equipment
5. A supply of 52 steel end/or Mark 7 steel containers

* Explosive limit in service barricade No. 507 and 508 will not exceed 5,000 lbs each.

OILKA-L-69
12-32-200

Q-why are 3 operators needed? The man used wedged and mixed 32 lbs. He saw no aluminized, all his instructions were to stencile 32 lbs. Is there a reason? He also used water. Is the name of the item 32 lbs? Inrush 32 lbs. How come?
A. Insert number of composition.
B. Insert gross weight in pounds.
C. Insert size of web.
D. Insert lot number including manufacturer's initials and date.
   Example: Lot No. 12345 of 1959.
E. Insert inside feet displayed as nearest tenth of a foot.
F. Insert net weight in pounds.
G. Insert type of grain.

NOTE: Markings shall be as shown on one side of the box.

NOTE: For all reclaimable propellant powder the word "Salvage" will precede "Propellant Explosives"
STANDING OPERATING PROCEDURE (SOP) DESTRUCTION OF EXPLOSIVES

OPERATOR: Shot, Firing, Air-T. 1611, 37MM Guns

DATE: 3 May 1956

LOCATION: BOC No. 6, AUS BING 500

EXPLORATIVE LIMITS: FRENCH: None

PERSONNEL LIMITS: OPERATIONS: A NON-REMAIN CASUALTY: 1 NON-CASUAL: 1

SOP NO. 5

TITLE: Deprize Cartridge Cases

1. Cartridge cases received from Operation No. 6 via power conveyor.
2. Remove cartridge case from power conveyor and position in air-operated primer removal machine and press out primer.
3. Primers will be removed from machine by a gravity chute and deposited in a container partly filled with water.
4. Container with water and primers will be hand carried into cubicle A. Room 6 will be removed from container packed not more than 600 primers in used ammunition boxes in layers with card board filler between each layer and hand carried into cubicle B, moved to service magazine 512 awaiting transfer to temporary storage.
5. Deprized cartridge cases will be removed from machine and placed back on power conveyor for transfer to Operation No. 6.

NOTE:
Prior to packing primers in used ammunition boxes all old markings will be obliterated and will be marked and/or stenciled with name of item and other pertinent information necessary.

Limit in Cubicle A, 600 primers. Cubicle B, 3,000 primers.

Limit in service magazine 512, 5,000 primers.

INSTRUCTION REQUIREMENTS:
1. Inspect cartridge case to insure removal of all propellant powder prior to depriming.
2. Inspect for compliance with this SOP, ORDN 7-224 and other pertinent safety requirements.

SAFETY REQUIREMENTS:
1. Free exit from operating site will be maintained.
2. Operator will wear flame proofed coveralls, conductive soled safety shoes and gloves.
3. Approved type fire extinguishers will be readily available.
4. Operator will work from a grounded floor.
5. Good housekeeping will be observed.
6. The two depriming operations will be shielded from each other.
7. Power conveyor will be equipped with manually operated positive stop.
8. Equipment will be properly grounded.

DISPOSITION OF COMPONENTS AND MATERIALS:
1. Primers to temporary storage.
2. Cartridge cases to Operation No. 6. (See Note)

EQUIPMENT REQUIREMENTS:
1. Two depriming machines
2. Water tight containers
3. Supply of used ammunition boxes
4. Power conveyor
5. Strapping equipment

NOTE: Cartridge cases to operation No. 6, and/or placed on power conveyor in operation No. 5, Room 6 for transfer to cubicle and moved to salvage.
Standing Operating Procedure for Depriming Cartridge Cases

SOP No. AM-0-97

Responsibilities: Stk. Eng., APL, MO 9, SPN Gang

Date: 25 April 44

Ammo No.

Location

5 AMM DYE - 500

Ammo

NAME

Pounds

No. of Items per Pk.

5 per Pack

1 per pk

1 per Pack

2 per Pack

State

God Ammunition

PM: 5

PM: 5

PM: 5

Inspecting Cartridge Cases to Depriming Operations

1. Cartridge cases received from operation 3 via power conveyor.
2. Remove cartridge case from power conveyor and position in air operated primer removal machine and process one primer.
3. Primes will be removed from machine by a gravity chute and deposited in a container partly filled with water.
4. Container with water and remains will be hand carried into caddy A. Room 6.
5. Primes will be removed from container, packed not more than 500 prims in used ammunition boxes in layers with cardboard filler between each layer and hand carried into caddy B, ready to service magazine 512 awaiting transfer to temporary storage.
6. Deprized cartridge cases will be removed from machine and placed back on power conveyor for transfer to Operation 6.

Notes:
Prior to packing primes in used ammunition boxes all old markings will be obliterated and will be marked and/or stenciled with new name of item and other pertinent information necessary.

Limit in Carriage A. 500 primes, Carriage B. 2,000 primes.

Limit in service magazine 512. 5,000 primes.

Inspection Requirements:
1. Inspect cartridge case to ensure removal of all propellant powder prior to depriming.
2. Inspect for compliance with this SOP, Ch. 17-22 and other pertinent safety requirements.

Safety Requirements:
1. Free exit from operating site will be maintained.
2. Operator will wear flame proofed coveralls, conductive safety shoes and gloves.
3. Approved type fire extinguishers will be readily available.
4. Operators will work from a grounded floor.
5. Good housekeeping will be observed.
6. The two depriming operations will be shielded from each other.
7. Power conveyor will be equipped with manually operated positive stop.
8. Equipment will be properly grounded.

Disposal of Components and Material:
1. Primes to temporary storage.
2. Cartridge cases to Operation No. 6.

Equipment Requirements:
1. Two depriming machines
2. Water tight containers
3. Supply of used ammunition boxes
4. Power conveyor
5. Strapping equipment

How many persons? When done? 415 - conveyor through two? 515...?


Where is machinery located? (operator's limit)

12-52-500

Does a personnel pass by company Article 56, 627 to 720

The depriming operation themselves?
STANDARD OPERATING PROCEDURE FOR: Disinfection and Repair of Cartridges

SOP NO: AN-0-97

MATERIAL: Shell, 120mm, APC-RM, M2, 4000 Shells

DATE: 25 April 72

ITEM NO:

LOCATION: Barn 7, C&O Hq, 200

AND NO:

EXPLOSIVE LIMITS: FUNERAL: 20 FT, NO. OF SHELLS: 200 Projectiles

LORK LABOR:

EXPLOSIVE LIMITS: OPERATORS: 1, CASHIERS: 3, WORKERS: 15

SHEET

OPERATION NO: 6 TIME: Peak Projectiles and Disinfect Cartridge Cases

1. Deprived cartridge cases and projectiles received from operation 5 via power conveyor.
2. Serviceable packing boxes received from East Platform via approved type fork-lift truck. Deprived cartridge cases will be removed from power conveyor, inspected for decontamination, and stacked in box pallets placed on rubber tired hand carts and moved to East Platform for transfer to salvage. Where: East Platform - Projectiles 5,660.
3. Projectiles will be removed from power conveyor and packed in used ammunition boxes positioned on pallet, not more than 60 projectiles per box, & 12 boxes to pallet and moved to East Platform awaiting transfer to ammunition burning area. Where: East Platform - Projectiles 5,660.

NOTE: Prior to packing projectiles in used ammunition boxes, all old markings will be obliterated and will be marked and/or stained with name of item and other pertinent information necessary. Limit for East Platform - Projectiles 5,660.

INSTRUCTION REQUIREMENTS:

1. Inspect cartridge cases for complete decontamination in accordance with provisions of para. 4, 290 thru 4, 297 of OCM and para. 297 of OCM 7-224.
2. Surveillance inspector will inspect and stamp all cartridge cases for complete decontamination prior to being packed for salvage.
3. Inspect for compliance with this SOP, OCM 7-224, and other pertinent safety regulations.

SAFETY REQUIREMENTS:

1. Free exit from operating area will be maintained.
2. Operators will wear safety shoes and gloves.
3. Approved type fire extinguisher will be readily available.
4. Good housekeeping will be maintained.
5. Operator stripping boxes will wear safety goggles and/or face shield.
6. Power conveyor will be equipped with automatic positive stop.

DESCRIPTION OF COMPOUNDS AND MATERIALS:

1. Deprived cartridge cases to salvage.
2. Projectiles to ammunition burning ground.

EQUIPMENT REQUIREMENTS:

1. Rubber tired hand carts.
2. Supply of used ammunition boxes.
3. Strapping equipment.
4. Forklift truck.

Only 3 people when a shopping operation is included, and ATF equipment.
Standard Operating Procedure Title: Deactivation Forcible

Date: 15 April 76

Location: Acquisition Processing Station

Confidentiality: Restricted

No. of Items: 1

Personnel Listed: Operations 1

SOP No: 00-97

No. 7 Tiles: Reentry from Pre-War:

2a. Projectiles received from operation No. 6, via van semi-trailer with wooden mides and floors, 7 pallets to trailer (Cherry - 1st box of operation)

2b. Projectiles will be unloaded at the trailer by crane. Destroying Furnace by approved type forklift truck.

3a. Operators will remove projectiles from box, place tracer composition against metal burning rod (Positioned in pipe of furnace) and composition against rod to create friction which ignites tracer composition.

4a. Drop projectiles with burning tracer on to manually operated steel grate inside furnace. After tracer composition has completely burned out, operator will pull handles of steel grate and let projectile drop into metal boxes positioned on roller conveyors.

5a. Full metal boxes will be pulled along roller conveyor to a designated spot and projectiles dumped on ground to cool.

6a. Surveillance Inspector will inspect and stamp all projectiles for complete decontamination prior to being packed for transfer to Operation 8.

7a. Projectiles will be packed in boxes for transfer to Operation 8.

Inspection Requirements:

1. Inspect for compliance with this SOP, ORDN 7-228 and other pertinent safety regulations.

2. Surveillance inspector will inspect and stamp all projectiles for complete decontamination prior to being packed for transfer to Operation No. 8.

Safety Requirements:

1. Operators will wear flame proofed coveralls and gloves.

2. Operators will wear safety goggles and/or face shields.

3. Approved type fire extinguishers will be readily available.

4. Operators will wear safety shoes.

5. Good housekeeping around furnace will be maintained.

Disposal of Components and Materials:

Projectiles to Operation No. 8.

Equipment Requirements:

1. Tracer Destruction Furnace.

2. Approved type forklift and transfer equipment. ( Exactly what?)

3. Supply of ammunition boxes.

4. Approved tool for unloading boxes.

Storage own delivering projectiles?

Do the forklift need only this 1 time during the whole day? If so, then perhaps someone other method could be used.
STANDING OPERATING PROCEDURE FOR DEBENDING MACHINE

LOCATION: Scrap Yard

DESCRIPTION: Operate 4, 30-4A, M1, 2724 Grade

EXPOSURE LIMITS: POLYMER: HGS: NO. OF CANS: As Provided

OPERATION: OPERATORS: 1

STEP

1. Insert projectiles received from Operations No. 7, via yard, semi-trailer, pull to trailer.
2. Projectiles will be unloaded at the scrap yard by approved type fork lift truck.
3. Operator will remove projectiles from box, placing them in automatic debending machine for removal of rotating bands.
4. Operator will remove projectiles from machine and metal will be segregated accordingly.

When projectiles are found where the rotating bands can not be removed by debending machine, operator will cut and remove band by hand using hammer and chisel.

SPECIAL REQUIREMENTS:

1. Inspect for compliance with this SOP, ORIR 7-224 and other pertinent safety regulations.
2. Inspect scrap metal in accordance with paragraphs 4, 290 through 4, 293 of ORIR and paragraphs 2507 of ORIR 7-224.

SAFETY REQUIREMENTS:

1. Operators will wear safety shoes and gloves.
2. Approved type fire extinguishers will be readily available.
3. Operators will wear safety goggle and/or face shields.
4. Good housekeeping will be observed.

DISPOSAL OF CONCESSION AND MATERIAL:

1. Rotating bands to scrap
2. Shell body to scrap

EQUIPMENT REQUIREMENTS:

1. Debending machine
2. Approved hand tools
3. Transfer equipment
4. Forklift truck

ORDA-49
12-2-300
4078 personnel? Sheet 10 of 10
DEPARTMENT OF THE ARMY
WHEELER CLEANSING DEPOT
GALLUP, NEW MEXICO

26 May 1954

STANDING OPERATING PROCEDURE NO. AL-0-77, Amendment No. 2.

NOMENCLATURE: Shot, fixed, APL-2, H-51, 37mm Gun.

PURPOSE: To provide for a more efficient and economical operation.

Operation No. 4, Powder collection barricade No. 509.

Step 3. Delete and change to read:

Place lid on container and hand tighten.

NOTE: Delete:

Containers will be air tested.

APPROVED:

WILLIAM MONCER
Colonel Ord Corps
Commanding

CONCURRENCE:

Chief, Arm Maint Div. [Signature]

Chief, Surv Div. [Signature]

Ass't for Supply [Signature]

Safety [Signature]
DEPARTMENT OF THE ARMY
UNITED STATES ARMY DEPOT
GALUP, NEW MEXICO

3 August 1954

STANDING OPERATING PROCEDURE NO: AN=O-97, Amendment No. 3

F Monogrammation: Shot, fixed, AP-3, M51, 3" Gun

PURPOSE: To establish an alternate method for packing M532 Primers

Packing of M532 Primers, in Cubicle A, Operation No. 5, Step 4:

Pack 840 per box.

EXPLOSIVE LIMITS: 120 Primers, Cubicle A (1 box); 640 Primers, Cubicle B (2 boxes); 1,660 Primers, Service Magazine 512 (3 boxes); 2,520 Primers.

APPROVED
WILLIAM M. KENEDY
Colonel, OS Corps
Commanding

CONCURRENCE:

Asst for Supply

Chief, Surv Div

Chief, Arm Maint Div

Safety

Management
STANFORD OPERATING PROCEDURE
FOR
DEPFLATIONIZATION

COMPLETE NORMING CHART: B142, PD, M55, E121, NS, NY

ITEM NO: 8530-09 AND NOT: SOP NOTAM 9-160 DATE: 12 April 1972

Total Quantity Scheduled: 78,866
Estimated Production Per 8-Hr. Shift: 1,800
Estimated Total Direct Labor Hours Per Shift: 13
Estimated Total Direct Man Hours Per Unit: 337
Estimated Total Ordnance Cost Per Unit: $1,714

LOCATION OF OPERATING AREA:

LOCATION OF OPERATING BUILDING, INCLUDING BUILDING NO: Bldg. No. 19

WAIVERS AND/OR EXEMPTIONS AFFECTING THIS SOP (INCLUDE FILE NUMBER, DATE AND EXPIRATION DATE):

None

NOTICE: All tools and equipment used in explosive hazardous operations will be inspected and approved by the Surveillance Division before they will be utilized in this operation.

NOTICE: All tools and equipment used in industrial hazardous operation will be inspected and approved by the Safety Director.

APPROVED:

WILLIAM NUGGER
COLONEL, IED CORPS
Commanding

ORDCA-631
REP. 4-16-55

SHEET 1 OF 5
1. Transfer from Storage
2. Unpack and Inspect
3. Remove Boosters
4. Manually Fuses
5. Destroy Loaded Components
If, to accomplish a task, an commanding officer believes an exemption to mandatory requirement of regulations is necessary, such need for exception will be pointed out and fully justified upon forwarding procedures for review and authorization (reference paragraphs 103 and 105 of ORD M 7-224).

Operations for specific scheduled items should be planned for completion on a day-to-day basis to eliminate the accumulation in operating buildings or at any location of hazardous material resulting from demilitarization operations (reference paragraph 1602 of ORD M 7-224, 4 Sept 1951). In no event will a scheduled item be reported completed so long as any rounds or components for this item remain to be disposed of other than through salvage channels.

Inspection requirements for ammunition are included in drawings and specifications, Ordnance Inspection Handbooks, ORD-M-39, ORD-M-490-8, and ORD-M-490-41, and in classifications of defects listed for each item. In order to insure that the ammunition produced, renovated, or demilitarized in accordance with this Typical Procedure will meet the requirements described in the documents listed above, certain process inspections are specified as a part of the Typical Procedure. Specific instructions concerning the acceptance inspection of the end product will be issued by OEMP-A. All residual metal components and all packing material, after demilitarization, will be inspected and certified for adequacy of decontamination in accordance with paragraphs 4.294 through 4.293 of the OGI and paragraphs 2507 and 2513 of ORD M 7-224, 4 Sept 1951.

Safety requirements which are mandatory for demilitarization and renovation of ammunition items are included in Ordnance Safety Manual, ORD M 7-224. Ordnance Corps Technical Instructions of the 700 series and in other applicable directives. Such requirements will be complied with as stated in paragraphs 103, 104, and 105 of reference manual, special attention being directed to the following:

1. EXPLOSIVES AND AMMUNITION HANDLING:
   Paragraphs 107, 120, 1717, 1718, 1719, 1308, 2302 through 2306, 2116 and Section 28 of ORD M 7-224.

2. EXPLOSIVES AND AMMUNITION HANDLING:
   a. Either at the storage site, or after unpacking, all ammunition and explosives will be inspected for proper identification, evidence of contamination, excessively deteriorated, damaged or missing components and other defects which would render the item unsafe to handle or process in a normal manner. Such items should be disposed of in accordance with the provisions of paragraph 2706 of ORD M 7-224.

   b. Paragraphs 1207, 1222 and Section 26 of ORD M 7-224.

3. SAFETY CLOTHING AND EQUIPMENT:
   Paragraphs 1610, 1612, 1618, and Sections 13 and 29 of ORD M 7-224.

4. SAFETY LIMITS:
   Explosive and personnel limit will be established, posted and maintained at the minimum necessary for safe and efficient operation (reference paragraphs 1631 and 1632 of ORD M 7-224).

5. OPERATIONAL SHIELDS:
   Paragraphs 250, 2504, 2508 and 2610 of ORD M 7-224.

6. BARRIERS:
   Paragraphs 206, 207 and Section 17 of ORD M 7-224.

7. INSTRUCTION OF EXPLOSIVES AND AMMUNITION:
   Paragraphs 9, 311 through 9,314 of the TAC and Section 27 of ORD M 7-224.

8. SAFETY RULES AND STANDARDS:
   a. Paragraphs 101, 102, 103, 916, 1625 and 2301 of ORD M 7-224.
   b. Reference publications pages I through IX of ORD M 7-224.
STANDING OPERATING PROCEDURE

REVISION NUMBER: 1

NON-CONDUCTORS: Fuse, Pk. No. 3 (All Bola)

DEPT: 13 April 44

UNIT: 6098-30

LOCATION: Various Storage Sites & Service Hq. at Bldg. 512

IWO NO:

EXPLOSIVE LIMITS: FLOOD: As Stowed NO. OF ITEMS: As Stowed

30/016-HH

PERSONNEL LIMITS: OPERATIONS: 0

DIRECTIONS: 2000

CASUALTY: 0

SELECT: 2

STEP

OPERATION NO. 1 TITLE: fuse for from storage

1. Boxes of fuses will be removed by hand from stacks and placed on pallets not more than 12 boxes to pallet.

2. Pallets will be removed from Igloo by approved type forklift and truck and loaded onto van semi-trailer, or cargo truck with wooden floor and sides.

3. Loaded vehicle will be moved to Bldg. No. 1.

4. At Bldg. No. 19 pallets of fuses will be unloaded from vehicle by means of an approved type forklift and stored in service magazine.

NOTES: Explosive limit in service magazine will not exceed 3,600 fuses.

INSTRUCTION REQUIREMENTS:

1. Check that boxes are stacked and/or secured on pallets for safe transfer to operation No. 2.

2. Inspect for compliance with this SOP, Safe regulations and the storeroom SOP, 30C 50, 33C 14A.

SAFETY REQUIREMENTS:

1. Free exit from storage site will be maintained.

2. Approved type fire extinguishers will be available.

3. Good housekeeping will be observed.

4. Operators will wear safety shoes and gloves.

5. Proper place cans will be posted.

DESCRIPTION OF EQUIPMENT AND MACHINERY:

1. Ammunition to operation No. 2.

2. Damage to reclamation yard.

EQUIPMENT REQUIREMENTS:

Van, semi-trailer or Cargo truck
Approved type forklift truck

INDEX: L-68
12-52-309

STG: 8 OF 8
STANDING OPERATING PROCEDURE

OPERATION NO: 2 TITLE: Unpack and inspect

SOP NO: AM-0-120

NAME/CLASHER: Fuses, PD 659 (all types)

LOCATION: Room No 3 Blk No 19

EXPLOSIVE LIMITS:
- POUNDS: 
- NO. OF ITEMS: 400 fuses
- OPERATORS: 1
- CASUALTY: 3

PERSONNEL LIMITS: DIRECT LABOR/SHIFT: 2000

1. Fuses will be transferred on pallet from service magazines to head cart on loading platform with an approved type forklift truck. Not more than 400 fuses to pallet.

2. Head cart will be moved to room No. 3.

3. Operator will cut and remove steel strapping. Remove boxes of fuses from pallet and place on unpacking table.

4. Operator will open lid on box and remove fuses with booster attached and place in wooden fuse trays, 49 fuses to tray.

5. Operator will hand carry fuse trays to operation No. 3.

6. Egg crate material will be palletized for transfer to ammunition burning grounds.

7. Empty ammunition boxes will be palletized for transfer to salvage and/or operation No. 3 and 4 as required.

INSPECT 3 REQUIREMENTS:
1. Inspect for compliance with this SOP, OMD M 7-224 and other pertinent safety regulations.

2. Inspect for dangerous deterioration, missing components and for presence and proper assembly of safety wire and safety pin.

3. Inspect packing materials in accordance with provisions 2907 of OMD M 7-224

4. All items going to salvage will be inspected and stamped by Surveillant.

SAFETY REQUIREMENTS: Inspector prior to being transferred to salvage.
1. Any fuse found with missing or improperly assembled safety wire or which shows dangerous deterioration will be repacked and dispatched to Service Magazine No. 2 for transfer to operation No. 5.

2. Operator will wear safety shoes and gloves

3. Operator cutting and removing strapping will wear gloves, face shield, and/or safety goggles

4. Approved type fire extinguishers will be available

5. Clear exit from operating site will be maintained

6. Good housekeeping will be observed

7. Personnel and explosive limits will be continuously posted

DISPOSITION OF COMPONENTS AND MATERIAL:
1. Fuses with boosters attached to Operation No. 3

2. Egg-crate material to ammunition burning ground

3. Empty ammunition packing boxes to storage

EQUIPMENT REQUIRED:
1. Work table
2. Steel strap cutter
3. Hand cart
4. Fuse trays
OPERATION NO: 3 TITLE: Remove boosters and booster pellets

1. Fuses with boosters attached will be received in fuse trays from operation No 2, 20 fuses to tray.
2. Fuses will be removed from tray, placed in holding fixture in a barricaded booster removal machine, booster and booster pellet removed.
3. Booster will be packed in used ammunition wooden boxes with cardboard filler between each layer and dispatched to Room 4 awaiting transfer to Operation No. 5
4. Booster pellet will be submerged in container partly filled with water and dispatched to Room 4 awaiting transfer to Operation No. 5
5. Fuses will be removed from booster removal machine and placed in fuse tray and hand carried to Operation 4

NOTE: All used wooden ammunition boxes will be marked and/or stenciled with name of item and other pertinent information necessary prior to being used to pack components for salvage and/or ammunition destruction area.

INSPECTION REQUIREMENTS:

1. Inspect for compliance with this SOP, OCM 7-224 and other pertinent safety regulations.

SAFETY REQUIREMENTS:

1. Personnel and explosive limits will be posted.
2. Approved type fire extinguishers will be available.
3. Free exit from operating site will be maintained.
4. Good housekeeping will be observed.
5. Operators' all wear flame proof coveralls, gloves and conductive sole safety shoes.
6. Booster removal machine will be constructed in such a manner that doors must be closed in order to operate.
7. Machine will be properly grounded.

DISPOSITION OF COMPONENTS AND MATERIAL

**1. Boosters to Room 4 awaiting transfer to Operation No. 5
**2. Boosters pellets to Room 4 awaiting transfer to Operation No. 5
**3. Fuses to operation No. 4

EQUIPMENT REQUIREMENTS:

1. Barricaded remote controller machine for removal of boosters
2. Holding fixtures
3. Wooden boxes and paper filler
4. Water tight containers
5. 400 Boosters, 1200 pellets, 400 fuses
6. Limits in Room 4, 2000 boosters, 2000 booster pellets

ORDNANCE L-68
12-52-300
1. Fuses will be received in fuse trays from Operation from Operation No. 3.
2. Fuses will be removed from trays and placed in a holding fixture mounted on a positive stop electric drill.
3. Drill out stake of head assembly and slider assembly.
4. Fuse will be placed in a holding fixture and slider assembly removed with non-sparking screwdriver. Slider assembly will be packed in wooden boxes with cardboard filler between each layer and dispatched to Room 4 awaiting transfer to Operation No. 5.
5. Head assembly will be removed from fuse body.
6. Insert fuse body will be packed in wooden boxes for transfer to salvage.
7. Head assembly will be placed in holding fixture mounted on a positive stop electric drill. Drill out stake of delay and primer assembly.
8. Delay and primer will be removed from head with an approved type wrench.
9. Delay and primer assembly will be packed in wooden ammunition boxes with cardboard filler between each layer and dispatched to Room 4 awaiting transfer to Operation No. 5.
10. Insert Head Assembly will be packed in boxes for transfer to salvage.

NOTE: All machines used in the above operations will be equipped with approved plastic shields to provide maximum protection to operators.

NOTE: All used wooden ammunition boxes will be marked and/or stenciled with name of item and other pertinent information necessary prior to being used to pack components for salvage and/or ammunition destruction area.

INSPECTION REQUIREMENTS:
1. Inspect for compliance with this SOP. ORN 7-224 and pertinent safety regulations.
2. Inspect for compliance with paragraphs 2503 and 2508 of ORN 7-224.
3. Inspect inert fuses components for adequacy of decontamination in accordance with paragraphs 4, 240 thru 4, 243 of OAO.
4. All items going to salvage will be inspected and stepped by surveillance.

SAFETY REQUIREMENTS: inspects prior to being transferred to salvage.
1. Operators will wear spark proof safety shoes and gloves.
2. Approved type fire extinguishers will be available.
3. Drilling operations will be performed by a positive stop spark proof electric drill.
4. Free exit from operating area to be maintained.
5. Good housekeeping will be observed.
6. Operators performing drilling operations will wear face shield and/or safety goggles.
7. Personnel and explosive limits will be conspicuously posted.

DISPOSITION OF COMPONENTS AND MATERIAL:
1. All inert components to salvage.

2. All components containing explosive to operation No. 5.

EQUIPMENT REQUIREMENTS:
Shielded, positive stop electric drill
Hold fixtures
Hand tools
Supply of boxes

1200 fuses, 1200 sliders, 1200 delay and primers
OPERATION NO: 5 TITLE: Destroy Loaded Components

1. Fuse and booster components to be demilitarized will be transported to ammunition destruction area in a cargo truck with wooden floor and sides. Components awaiting demilitarization will be stored in proper revetments.

BOOSTERS AND BOOSTERS PELLETS

2. Receive boosters and booster pellets (boxed) at the demolition site and unload from carrier by hand and/or approved type fork lift truck.

3. Position boosters and booster pellets at demolition site (using available old packing boxes to contain items in the demolition set up)

4. Additional scrap flare TNT will be added as deemed necessary.

5. Detonating agent will be added (Bangalore torpedo's and/or chain demolition blocks) boosters and pellets destroyed as outlined in SOP AD-0-25.

FUSE COMPONENTS

6. Slider assembly, delay and primer assembly will be destroyed by detonation as outlined above and/or destroyed by burning in detonator destruction plant as outlined in SOP AD-0-25.

NOTE: All scrap metal will be inspected and stamped by Surveillance prior to being packed for transfer to salvage yard.

INSPECTION REQUIREMENTS:

1. Inspect all reclassifiable scrap metal for decontamination in accordance with paragraphs 4.240 thru 4.243 of OACI.

2. Inspect for compliance with applicable safety regulations, SOP's and ORDN 7-224.

3. All scrap metal will be inspected and stamped by Surveillance Inspector prior to being packed for transfer to salvage.

SAFETY REQUIREMENTS:

1. Operators will wear flame proofed coveralls, gloves and safety shoes.

2. Plant operators will wear safety goggles and/or face shields.

3. All provisions for safety outlined in SOP AD-0-26 and 26 will be strictly adhered to.

DISPOSITION OF COMPONENTS AND MATERIAL:

All scrap metal to salvage yard.

EQUIPMENT REQUISITE:

Transfer equipment
Blasting equipment
Detonator Destruction Plant

ORUKA-L-68
12-52-300

SHIFT 8 OF 8
STANDING OPERATING PROCEDURE NO: AM-0-100, Amendment No 1

NOMENCLATURE: FUSE, FD, K53 (all Mods)

PURPOSE: To provide and establish an alternate procedure for disassembly and decontaminating of Fuses, FD, K53 (all Mods)

PROCEDURE:
Operation No 4 Bldg 19

1. Fuses will be removed from trays and placed in a holding fixture mounted on a positive stop electric drill.

2. Drill out stake of head assembly.

3. Fuse will be placed in a barricaded holding fixture and head assembly will be removed from fuse body.

4. Head assembly and fuse body will be packed in wooden ammunition boxes with cardboard filler between each layer and dispatched to Room 4 awaiting transfer to Operation No 5.

Operation No 5, Ammunition Burning Ground Area

1. Head assembly and fuse body assembly will be placed on a bed of combustible material (scrap lumber) at the burning site.

2. Sufficient scrap lumber will be placed on these items to assure complete contamination.

3. Propellant powder to be used for igniting combustible material will be stored at interline distance from operating site until bed has been completed.

4. Operators will lay the ignition train of propellant powder to combustible material and burning will be as outlined in SOP AD-0-27.

5. All other provisions and procedures in the original SOP AM-0-100 is applicable and will be complied with.

6. Alternate Method:

   a. Head assembly and fuse body assembly will be decontaminated in detonator destruction plant in accordance with SOP AD-0-86.

APPROVED:

WILLIAM McNEEB
Colonel, Ord Corps
Commanding

CONCURRENCE:

Asst for Supply

Chief, Surv Div

Chief, Arm Maint Div

Safety

Management
STANDIMG OPERATING PROCEDURE NO. AD-0-100, Amendment No. 2

HOMECATURL: FUZE, PD, M53 (all types)

PURPOSE: To provide an alternate procedure for disposal of booster pellets in Fuzes PD M53 (all types), reject fuses, and to establish explosive limits in operating and storage rooms.

PROCEDURE:

1. Delete words 'and booster pellets' wherever they appear in Operations Nos. 3 and 5.

2. OPERATION NO. 3 - Delete Step 4 in its entirety and replace with:

   Step 4. Booster pellets remain in fuse bodies for transfer to Operation 5, Amend 1, and fuse bodies taken to Burning Ground for decontamination.

   Add Step 5. In cases where booster cup breaks off, fuse will be considered a reject. Transfer to reject box in Operation No. 4. Tape component (booster cup) together. Hand carry.

3. AMEND 1, OPERATION NO. 4, BLDG. 19:

   Step 4 will be changed to read as follows:

   "Fuse bodies will be packed and transferred to Room #5".

4. If any Fuzes, PD, M52EB are found mixed with M53 series, they will be removed to Room 4, Bldg. 19, and packed in box for transfer to Demolition Grounds for destruction in accordance with SOP No. AD-0-26.

5. Reject Fuses: Reject fuses will be returned to Room 4, awaiting transfer to Demolition Grounds for destruction in accordance with SOP No. AD-0-26. Limit reject fuses to 250 in Room #4.

6. EXPLOSIVE LIMITS:

   OPERATION NO. 3 - Boosters, 1650 per box and per room. 1650 boosters per storage Room 4, prior to transfer to Demolition Grounds.

   OPERATION NO. 4 - Fuse bodies, 560 per box, per room. 1120 fuse bodies (2 boxes) per storage Room #5, prior to transfer to Burning Ground.

   OPERATION NO. 4 - Fuse noses, 600 per box, per room. 1200 fuse noses (2 boxes) per storage Room #4, prior to transfer to Burning Ground.

Appr.:

WILLIAM H. KESSLER
Colonel, Ord Corps
Commanding

CONCURRENCE:

Asst for Supply
Chief, Surrv Div
Chief, Arm Maint Div
Safety
Management
STANDING OPERATING PROCEDURE NO: 84-0-160, Amendment No. 3

NOMENCLATURE: FUZE, FD, M42 (All Modes)

PURPOSE: To establish additional storage space for fuse bodies accumulated in Operation 4, prior to transfer to Burning Ground.

Add to Amendment 2, EXPLOSIVE LIMITS, OPERATION NO. 4:

Transfer fuse bodies to Barricade No. 507. Limits in this barricade will be not more than 1000 fuse bodies.

APPROVED:

WILLIAM MENCHER
Colonel, Ord Corps
Commanding

CONCURRENCE:

Asst for Supply  T. E. Estabrook
Chief, Surv Div  T. A. M. Wingate
Chief, Amm Maint Div  B. J. Walker
Safety  C. W. Hage
Management  J. E. W. H. Titus
DEPARTMENT OF THE ARMY
WINGATE ORDNANCE DEPOT
GALLUP, NEW MEXICO

STANDING OPERATING PROCEDURE
FOR

C O M P L E T E  N O M E N C L A T U R E:  Cartridge, Caliber 50, Limited, M2. (T11CR)


T o t a l  q u a n t i t y  S c h e d u l e d:  856,515 rds.

E s t i m a t e d  P r o d u c t i o n  P e r  8  H r .  S h i f t:  35,000 rds.

E s t i m a t e d  T o t a l  D i r e c t  L a b o r  C r e w  P e r  S h i f t:  1.8

E s t i m a t e d  T o t a l  D i r e c t  H o u r s  p e r  U n i t:  .0037

E s t i m a t e d  T o t a l  O r d n a n c e  C o s t  P e r  U n i t:  $9,008

L O C A T I O N  O F  O P E R A T I N G  A R E A

A M M U N I T I O N  W O R K  S H O P  A R E A


L G B L D G.  N O .  10

EXPIRATION DATE):

N O M E S

N O T I C E S:  All tools and equipment used in explosive hazardous operations will be inspected and approved by the Surveillance Division before they will be utilised in this operation.

N O T I C E S:  All tools and equipment used in industrial hazardous operations will be inspected and approved by the Safety Director.

A P P R O V E D:

Allen T. Hodges
MAJOR ORD CORPS
COMMANDING

CHUKA-431
REF. 4-16-53

SHEET 1 OF 6
1. Remove and transfer from storage.

2. Unpack, De-link and Inspect.

3. Re-link and Repack.

4. Disassemble, Incendiary and Tracer cartridges.
**STANDING OPERATING PROCEDURE FOR:** Modification of SOP No: AM-0-101

**NOMENCLATURE:** Cartridge, Caliber .50, Limited, M2, (TIER)

**LOCATION:** Standard Magazine

**EXPLOSIVE LIMITS:** FOUNDS: As Stored. NO. OF ITEMS: As Stored

**PERSONNEL LIMITS:** OPERATORS: 2. CASUALS: 3

<table>
<thead>
<tr>
<th>STEP</th>
<th>OPERATION NO: 1</th>
<th>TITLE: Remove and Transfer from Storage</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOTE: This ammunition is now stored on storage pallets, 9,450 rds to pallet.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>Pallet will be removed from storage by electric forklift and placed in cargo truck or van semi-trailer with wooden floor and sides, not more than 6 pallets to load.</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Loaded van will be moved to Bldg No. 19 by 5-ton tractor.</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>At Bldg No 19 pallets will be unloaded by electric forklift and placed in concrete barricade &quot;A&quot; room No 3.</td>
<td></td>
</tr>
<tr>
<td>NOTE: Explosive limit in Bldg 19 will not exceed 65,000 rds and will be kept to the minimum consistent with efficient operation.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NOTE: Barricade &quot;A&quot; Limit 30,000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**INSPECTION REQUIREMENTS:**

Inspect for compliance with storage SOP, WCO No. AD-0-4.

**SAFETY REQUIREMENTS:**

1. Free exit from storage site will be maintained.
2. Fire extinguishers will be readily available.
3. Good housekeeping will be observed.

**DISPOSITION OF COMPONENTS AND MATERIAL:**

Ammunition to Operation No 2.

**EQUIPMENT REQUIREMENTS:**

Cargo truck or van, W/5-ton tractor
Electric Forklift truck

* Operators will also be utilized in the transfer and storage of completed item.
Standing Operating Procedure FOR: Modification OF

NOMENCLATURE: Cartridge, Caliber 50, Limited, M2. (TILCER)

DATE: May 1954

ITEM NO:

LOCATION: Room 3    BLDG No. 19

AND NO: RA 471/4344

EXPLOSIVE LIMITS: POWERS:

NO OF ITEMS: 1,000

SHIFT: 5

FREIGHT RATE

Explosive limits for operations 2 and 3 5,000 rds

PERSONNEL LIMITS:

OPERATORS: 12

CASUALS: 3

SHIFT: 5

STEP

OPERATION NO: 2  TITLE: Unpack, de-link and Inspect

1. Metal containers will be removed from wire bound wooden shipping containers and placed on table beside de-linking table.

2. Belt will be removed from metal box and placed in de-linking machine.

3. AP and tracer cartridges will be removed from belt and placed in wooden trays for transfer to operation No. 3. (See Note)

4. Incendiary cartridges that have been delinked will be placed in wooden boxes for transfer to temporary storage.

NOTE: Approximately 10,000 tracer cartridges will be relinked in operation No. 3. Balance of tracer cartridge will be handled in accordance with step 4 instructions for incendiary cartridge.

NOTE: AP Cartridges in excess of qty that can be linked concurrently with delinking operation will be transferred to temporary storage and returned for linking later.

INSPECTION REQUIREMENTS: Inspect for lot integrity and serviceability of A.P. cartridges.

SAFETY REQUIREMENTS:

1. Fire extinguishers will be readily available.

2. Operators will wear safety shoes.

3. Free exit from operating site will be maintained.

4. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:

A.P. Cartridges to Operation No. 3.

Approximately 10,000 tracer cartridges to Operation No. 3

Tracer and incendiary cartridges to temporary storage.

EQUIPMENT REQUIREMENTS:

Delinking table

Transfer equipment
STANDING OPERATING PROCEDURE: Modification of

HOMELOCATION: Cartridge, Caliber 50, Limited, NZ (TLCR) DATE: May 1954

LOCATION: Room No 3, ICL Bldg No 19

EXPLOSIVE LIMITS: BOUNDS: NO OF ITEMS: 5,000

EXPLOSIVE LIMITS for Operations 2 and 3, 5,000 rds

PERSONNEL LIMITS: OPERATORS: 12 CASUALS: 3

STEP 
OPERATION NO: 3 TITLE: Re-link and Repack

1. Belt links and A.P cartridges will be positioned in linking machine and cartridges pressed into belt links.
2. Assembled belts will be inspected and gaged.
3. Belts will be packed in proper position in metal boxes.
4. Data cards will be placed on top of packed belt.
5. Metal box will be closed and stenciled with appropriate nomenclature and new AIC.
6. Two metal boxes will be packed in each wire bound wooden shipping container.
7. Container will be closed and sealed.
8. One 5/8" steel strap will be placed around shipping container.
9. *Shipping container will be stenciled with appropriate nomenclature, lot No, and new AIC.
10. Packed ammunition will be placed on storage pallet and returned to storage.

NOTE: Approximately 10,000 tracer cartridges will be relinked in accordance with Step 1 instructions for A.P. Cartridges, packed in metal boxes and placed in concrete barricade B.Limits Barricade B, 30,000 rds.

* See Marking Sketch No 5A.

INSPECTION REQUIREMENTS:

Inspect for proper assembly of cartridge in belt.
Inspect for correct packing of belt.

SAFETY REQUIREMENTS:

1. Operators will wear safety shoes.
2. Free exit from operating site will be maintained.
3. Fire extinguishers will be readily available.
4. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:

Ammunition to Storage
10,000 tracer cartridges to concrete barricade B

EQUIPMENT REQUIREMENTS

Linking machine, Stencil equipment, Strapping and sealing tools.
Small Arms Ammunition _______ 1"
STANDING OPERATING PROCEDURE:  Modification of

NOMENCLATURE: Cartridge, Caliber 50, Limited, M2, (TLI08)

DATE: May 1964

LOCATION: Explosive Burning Area

AMO NO: FA 472/4311

EXPLOSIVE LIMITS: POUNDS: 6  NO OF ITEMS: 1

PROD/8-HR

PERSONNEL LIMITS: OPERATORS: 6  CASUALS: 3

DIRECT LABOR/shift: 6

---

**OPERATION NO:** A  **TITLE:** Demol Incendiary and Tracer Cartridges

1. Incendiary and tracer cartridges to be demilitarized will be transported from temporary storage in cargo truck with wooden floor and sides.
2. Cartridges will be destroyed by burning in detonator destruction plant as outlined in SOP AD-0-26.
3. Scrap metal will be sorted, inspected and packed for transfer to salvage yard.
4. Empty metal containers will be inspected for complete decontamination and returned to storage.

---

**INSPECTION REQUIREMENTS:**

Inspect all reclaimable scrap metal for decontamination in accordance with paragraphs 4.240 thru 4.243 of OACI.
Inspect for compliance with applicable safety regulations and SOP.

---

**SAFETY REQUIREMENTS:**

1. Operators will wear flame proofed coveralls and safety shoes.
2. Plant operators will wear face shields.
3. All provisions outlined in SOP AD-0-26 will be strictly adhered to.

---

**DISPOSITION OF COMPONENTS AND MATERIAL:**

Scrap metal to salvage yard.

---

**EQUIPMENT REQUIREMENTS:**

Transfer Equipment
Detonator destruction plant

---

Sheet 6 of 6
STANDING OPERATING PROCEDURE NO: AM-0-101, Amendment No 1

NOMENCLATURE: Cartridge, Cal. 50 linked.

PURPOSE: To provide for a more safe and efficient operation.

Operation No 3, Room No 3, Bldg No 19.

Personnel Limits: Change to read operators II

Step 5 and 9. Delete and change to read:

   All metal boxes and wire bound containers will have old markings obliterated and the Nomenclature and other pertinent information of the new item as necessary stenciled on containers prior to packing new item. This operation will be performed in Room 4, Bldg 19.

Limits: Personnel 2, Cases 3.

APPROVED:

[Signature]

WILLIAM NICHOLLS
Colonel Ord Corps
Commanding

CONCURRENCE:

Asst for Supply

Chief, Surv. Div.

Chief, Amm Maint Div.

Safety

[Signatures]
DEPARTMENT OF THE ARMY
VULCAN ORDNANCE Depot
GALLUP, NEW MEXICO
STANDING OPERATING PROCEDURE
FOR
Demilitarisation

COMPLETE NOMINATIONS: B576, GP, 250 lb, AN-157 and KZ-120

ITEM NO: AN-9-17-56   SOP NO: AN-9-162   DATE: 14 June 1956

Total Quantity Scheduled:

Estimated Production Per 8-hr Shift:

Estimated Total Direct Labor Hours Per Shift:

Estimated Total Direct Man-Hours Per Unit:

Estimated Total Ordnance Cost Per Unit:

LOCATION OF OPERATING BUILDING, INCLUDING BLDG NO:

NOTICE: All tools and equipment used in explosive hazardous operations will be inspected and approved by the Surveillance Division before they will be utilised in this operation.

NOTICE: All tools and equipment used in industrial hazardous operations will be inspected and approved by the Safety Director.

I certify that copies of approved SOP will be posted at operation sites indicated and that all employees have been or will be thoroughly instructed in the provisions of this SOP.

Prepared by:

Concluded in:

Approved:

WILLIAM McNEAL
Colonel, Ord Corps
Commanding

ORDKA-13A
Rev: 5-6-54

SHEET 3 OF 12
If, to accomplish a task, a Commanding Officer believes an exception to mandatory requirement of regulation is essential, such need for exception will be pointed out and fully justified upon referring procedures for review. Operations involving such unauthorized deviations will not be started prior to receipt of exception from the Chief of Ordnance.

Operations for specific scheduled items should be planned for completion on a day-to-day basis to eliminate the accumulation in operating building or at any location of hazardous material resulting from demilitarization operations (reference paragraph 1602 or CDF M 7-224, 4 Sept 51). In no event will a scheduled item be reported complete so long as any rounds or components for this item remain to be disposed of other than through salvage channels.

Inspection requirements for ammunition are included in drawings and specifications, Ordnance Inspection Handbooks, CDF-M-608, CDF-M-608-B, and CDF-M-608-M, CDF R 2, and in classifications of defects issued for each item. In order to insure that the ammunition produced, reconditioned or demilitarized in accordance with this Typical Procedure will meet the requirements described in the documents listed above, certain process inspections are specified as a part of the Typical Procedure. Specific instructions concerning the acceptance inspection of the end product will be issued by CDF-3-J. All residual metal components and all peeling material, after demilitarization, will be inspected and certified for adequacy of decontamination in accordance with paragraphs 4.510 through 4.513 of the 1001 and paragraphs 2407 and 2408 of CDF M 7-224, 4 Sept 51.

Safety requirements which are mandatory for demilitarization and renovation of ammunition items are included in Ordnance Safety Manual, CDF M-7-224, Ordnance Corps Technical Instructions of the 700 series and in other applicable directives. Such requirements will be complied with as stated in paragraphs 103, 104 and 105 of referenced manual, special attention being directed to the following:

1. **Explosives and Ammunition Handling**

2. **Explosives and Ammunition Hazards**
   a. Either at the storage site, or after unpacking, all ammunition and explosives will be inspected for proper identification, evidence of contamination, excessively deteriorated, damaged or missing components and other defects which would render the item unsafe to handle or process in a normal manner. Such items should be disposed of in accordance with the provisions of paragraph 2708 of CDF M 7-224.
   b. Paragraphs 1207, 1222 and Section 26 of CDF M 7-224.

3. **Safety Clothing and Tools**
   Paragraphs 1610, 1612, 1614 and Sections 10 and 22 of CDF M 7-224.

4. **Safety Limiters**
   Explosive and personal limits will be established, posted and maintained at the minimum necessary for safe and efficient operation (reference paragraphs 1601 and 1602 of CDF M 7-224).

5. **Operational Shield**
   Paragraphs 250, 2503, 2504, and 2616 of CDF M 7-224.
6. **BARRICADES:**
   Paragraphs 206, 207 and Section 17 of ORD M 7-224.

7. **DESTRUCTION OF EXPLOSIVES AND AMMUNITION:**
   Paragraphs 9.313 through 9.314 of the OAOI and Section 27 of ORD M 7-224.

8. **SAFETY RULES AND STANDARDS:**
   a. Paragraphs 101, 102, 103, 506, 1625 and 2501 of ORD M 7-224.
   b. Reference publications pages I through IX of ORD M 7-224.

9. **ROADS:**
   All roads leading into this operational area will be "blocked off" and no traffic will be allowed to travel these roads while operation is in progress.
1. Remove from Storage

2. Transfer amm to storage barricade No 521

3. Remove and replace base plate assembly and loosen nose plug

4. Transfer bombs from service storage barricade No 521

5. Washout explosive filler

6. Flake and pack explosive filler

7. Disassemble base plate assembly

8. Repaint and remark inert bombs

9. Destroy loaded components
STANDING OPERATING PROCEDURE FOR: Decontamination of...

NOTES/LATURE: Bomb, Op. 250 lb., AN-M67 and M7221

DATE: 16 June 1956

LOCATION: Various Storage Sites

EXPLOSIVE LIMITS: PMES: As stored NO OF ITEMS: As stored

PERSONNEL LIMITS: OPERATORS: 3rd CASUALTY: 3

DIRECT LABOR:

STEP:

1. Bombs will be removed from storage and placed in carrier by means of an approved type forklift truck and bomb bar chain attachments, not more than three bombs will be picked up by forklift at any one time.
2. Carrier used will be a van equipped with wooden sides and floor, load will consist of 2 skids, 2 bombs per skid.
3. Load will be secured by properly affixed conveyor stop.
4. Loaded van will be moved to service storage Barricade 521 by tractor which will conform with Section 24, ORN M 7-224.

INSTRUCTION REQUIREMENTS:

Inspect for compliance with this SOP, Storage SOP AD-0-4, ORN M 7-224 and other pertinent safety regulations.

SAFETY REQUIREMENTS:

1. Approved type fire extinguishers will be readily available.
2. Safety shoes and gloves will be worn by operating personnel.
3. Free exit from operating site will be maintained.
4. Hooks will be carefully placed into suspension lugs.
5. Good housekeeping will be maintained.
6. Personal and explosive limits will be conspicuously posted.

DISPOSITION OF CONFRUDENTS AND MATERIALS:

Bombs to Operation No 2.

EQUIPMENT REQUIREMENTS:

1. Van, semi-trailer with 5 ton tractor
2. Approved type forklift
3. Each bar attachments for bomb handling.

* Includes forklift operator and truck driver.

SHEET 5 OF 12.
STANDING OPERATING PROCEDURE FOR: Demilitarization OF

SOP NO: AM-5-112

MATERIAL: BOM- GP- 250 lb, AN-M57 and M57A1

DATE: 31 June 1956

ITEM NO:

LOCATION: Service Storage Barricade No. 521

AMO NO:

EXPLOSIVE LIMITS: POUNDS: 15,000 PD OF TYPES: 100 Bombs

PROD/8-HR

SHIFT: 80

DIRECT LABOR

PERSONNEL LIMITS: OPERATORS: 2" CASUALS: 3

SHIFT: 0

OPERATION NO: 2 TITLE: Transfer to Service Storage Barricade No. 521

1. Ammunition will be received in van, semi-trailer from operation no 1.

2. Forklift operator will unload van, using gas forklift and bomb bar and chain attachments. Not more than three bombs will be picked up by forklift at any one time.

3. Bombs will be positioned on 4" by 4" wooden dunnage laid parallel on ground.

INSPECTION REQUIREMENTS:

Inspect for compliance with this SOP, OHD M 7-224 and other pertinent safety regulations.

SAFETY REQUIREMENTS:

1. Approved type fire extinguishers will be readily available.

2. Safety shoes and gloves will be worn by operating personnel.

3. Hooks will be carefully placed into suspension lugs.

4. Good housekeeping will be maintained.

5. Personnel and explosive limits will be conspicuously posted.

DISPOSITION OF COMPONENTS AND MATERIAL:

Bom to operation No 3.

EQUIPMENT REQUIREMENTS:

Van, semi-trailer with 5 ton tractor
Approved type gas forklift
Bar attachments for bomb handling

* Includes truck driver and forklift operator.
STANDING OPERATING PROCEDURE FOR: Demilitarization CF
SOP NO: AN-6-102

HOMELINESTORY: BOMB, CF, 250 lb AN-137 and K5211
DATE: 16 June 1956

ITEM NO:

LOCATION: Television Disassembly Barricade No 520
ANO NO:

EXPLOSIVE LIMITS: POUNDS: 150, NO OF ITEMS: 1 bomb
PROD/8-hr
SHIFT: 00
DIREcT LABOR
SHIFT: 2

PERSONNEL LIMITS: OPERATORS: 3, CASUALTIES: 3

STEP OPERATION NO: 2. TITLE: Remove and replace base plate assembly and

1. Bombs will be received from service storage barricade No 521 by approved type
forklift truck, one (1) bomb at a time.
2. Forklift operator will place bomb on wooden skid on roller conveyor. Position
bomb under holding vice and engage bomb with base plate removal machine.
3. Forklift operator will remove forklift truck to a position behind barricade
No 520.
4. Operators will retire behind barricade No 518 and will operate base plate
removal machine by remote control observing operation by use of TV EQUIPMENT.
5. Operators will return to barricade No 520 and carefully remove the base plate
assembly to assure booster casing did not become separated from the adapter.
(Note: Base plate assembly will be carefully replaced with threads engaged
sufficiently to hold in place during transit.
6. A suitable container will be placed under tail end of bomb prior to removal of
base plate assembly to collect any explosive filler that may be dissolved while
removing and replacing base plate assembly.
7. Bomb will be removed from holding device, and turned end for end on the conveyor,
position bomb under holding device and engage nose plug removal tool. Step 4
and 5 will be compiled with.
8. Bombs will be returned to Barricade No 521 awaiting transfer to Bldgs 503 and/or
515.

NOTE: In the event booster casing w/etyl pellet becomes disassembled from the
adapter and remains engaged in the explosive filler, removal of the booster or
pellet may be effected by means of a vacuum hose; or by means of a conductive
rubber suction cup. No attempt will be made to loosen or dislodge pellet by
use of any other tool. If booster pellet cannot be removed in the above manner,
the opening will be sealed, and bomb transferred to demolition site and destroyed
by detonation.

NOTE: If and when blue smoke is observed on the TV camera operator will immediately
"shut off" operating machine and activate deluge system.

INSPECTION REQUIREMENTS:
1. Inspect for compliance with this SOP, ORD M 7-224, and other pertinent safety
regulations.
2. Inspect base plate assembly and nose plug to assure that threads are engaged
sufficiently with the threads of bomb so they will not fall out in transit.
3. Inspect to assure booster casing did not become separated from the adapter and
remains engaged in the explosive filler.

SAFETY REQUIREMENTS:
1. Operators will wear safety shoes, gloves and flame proofed coveralls.
2. Free exit from operating site will be maintained.
3. No one will be permitted beside and/or in front of barricade No 521 while
machine is in operation.
4. Approved type fire extinguishers will be readily available.
5. Any bomb suspected of Al modification must be considered as being so modified.
6. All safety devices shall be installed directly above disassembly equipment, which
can be electrically operated from Barricade No 518.
7. All equipment will be properly grounded.
8. Personnel and explosive limits will be conspicuously posted.
9. A red flag will be displayed on the flag pole when disassembly operation is in
progress.
10. A white flag will be displayed on the flag pole when disassembly operation is
not in progress.

DISPOSITION OF COMPONENTS AND MATERIAL:
Bombs to Operation A.

EQUIPMENT REQUIREMENTS:
1. 1. Disassembly equipment, w/barricade and remote control shelter. 2. Approved hand
tools. 3. Transfer equipment *includes one forklift operator. 4. Portable vacuum
unit.
** After base plug has been loosened sufficiently, operators will turn off machine
and lock the switch in the "off" position.

SHEET 2 OF 12
Transfer bombs from service storage

OPERATION NO: & TITLE: barricade 521

1. Forklift operator will place bombs in carrier by means of an approved type forklift truck and bomb bar chain attachments, not more than 7 bombs per skid. 7 skids to load. Carrier used will be a van, equipped with wooden floor and sides.
2. Load will be secured by properly affixed conveyor stops.
3. Load will be moved to bldge 503 and/or 515.
4. Bombs will be unloaded from van using an approved type forklift and bomb bar chain attachments, and placed on ammunition carts for transfer into washout plant.

SECTION REQUIREMENTS:

Inspect for compliance with this SOP, O & D M 7-224 and other pertinent safety regulations.

SAFETY REQUIREMENTS:

1. Approved type fire extinguishers will be readily available.
2. Safety shoes and gloves will be worn by operating personnel.
3. Load will be carefully placed into suspension lugs.
4. Good housekeeping will be maintained.
5. Personnel and explosive limits will be conspicuously posted.

SECTION OF COMPONENTS AND MATERIAL:

Bombs to Operation No 5.

SUPPORT REQUIREMENTS:

Van, Semi-trailer with 5 ton tractor
Approved type forklift truck
Bar attachments for bomb handling

Includes truck driver and fork lift operator.
STANDING OPERATING PROCEDURE FOR: Reactorization OF

OPERATION NO: 5  TITLE: Washout explosive filler

1. Bombs received in washout room via ammunition carts.
2. Base plate assembly will be removed from bombs placed in ammunition boxes with card board filler between each layer for transfer to operation No 7.
3. Fork lift operator will position bombs over nozzles on washout rack.
4. Open valve on circulating line and wash until bomb is free of explosive filler.
5. Line bomb with clear hot water.
6. Remove bomb from washout rack and return to ammunition cart.
7. Inspect interior of bomb for complete removal of explosive filler.
8. Nose plug will be removed, threads cleaned thoroughly and nose plug replaced hand tight.
9. Bombs on ammunition cart will be transferred and loaded on van outside of Bldg for movement to operation No 8.
10. Washout TNT to feed tank in flaker room in accordance with SOP AD-AM-70.

NOTE: At the end of each days operation foreman will open the master switch and lock switch in the "Off" position.

NOTE: At the beginning of each days operation foreman will turn pumps by hand to assure the pumps have not set up with explosive filler prior to unlocking the master switch.

INSPECTION REQUIREMENTS:

1. By use of electric gooseneck flashlight inspect each bomb for complete removal of explosive filler. Bombs containing explosives will be returned to washout operation.
2. Inspect nose plug for complete decontamination.
3. Inspect for compliance with this SOP, SOP AD-AM-70, ORD M 7-224, and other pertinent regulations.

SAFETY REQUIREMENTS:

1. Before start and during operations at 1 hour intervals water temperature and steam pressure gauge will be checked.
2. Only approved safety tools and equipment will be used.
3. Prescribed type of special clothing and shoes will be used.
4. Floors and equipment will be kept free of TNT by frequent flushing with hot water.
5. Approved type fire extinguishers will be readily available.
6. Good housekeeping will be observed.
7. Free exit from operating site will be maintained.
8. Personnel and explosive limits will be conspicuously posted.

DISPOSAL OF COMPONENTS AND MATERIAL:

TNT to operation No 6
Bombs to operation No 8
Base plate assembly to Operation No 7

EQUIPMENT REQUIREMENTS:

Washout plant, electric tow motor, ammunition cart, cleaning equipment,
* Includes electric tow motor operators.
** All workers handling exposed toxic explosives will be supplied with and will wear: A. Flamed proofed coveralls, B. Socks. c. Underwear, D. head covering, e. conductive safety shoes, f. plastic or rubber gloves where necessary, g. rubber aprons.
STANDING OPERATING PROCEDURE FOR: Demilitarization of

NOMENCLATURE: BOMB, GP, 250 lb AN-M27 and AN-M761

DATE: 14 June 1954

LOCATION: Flaking and Packing Rooms, AMR Bldg No 503

5000 lb in packing room

EXPLOSIVE LIMITS: INFLATION in flaking room NO OF TMRS: SHUTT: 2

PERSONNEL LIMITS: OPERATORS: 1, CASUAL: 3

STEP

OPERATION NO: 6 TITLE: Flake and Pack TNT

1. Check flaker drum for proper speed (5 to 11 rpm), flaker blade for correct settling (.025 inches from drum) circulating water system and TNT dust collector for proper functioning.
2. Remove TNT from feed tank by gravity flow.
3. Flake TNT.
4. Fill and weigh boxes of TNT from hopper.
5. Transfer box to vibrator and firmly pack contents.
6. Seal paper liner, close and strap box.
7. Stencil TNT box in accordance with 1fr ORDLX-I 400,16/12882, para 7, dtd 15 March 1948 and appropriate ICC markings.
8. Pallet of 27 each 50 pound boxes of TNT will be transported by a gasoline powered fork lift truck with pneumatic tires to temporary storage site No 506 (barricaded) and placed in a closed van awaiting transfer to storage.

INSPECTION REQUIREMENTS:

1. Inspect proper closing and marking of TNT box.
2. Inspect for compliance with this SOP, SOP NO AD-AM-70, ORD 7-224.

SAFETY REQUIREMENTS:

1. Operators will wear prescribed special clothing and safety shoes, as outlined in Operation No 10.
2. Only approved type safety tools and equipment will be used.
3. Good housekeeping will be maintained.
4. CO or Du-gas fire extinguishers will be readily available.
5. Free exit from operating site will be maintained.
6. Floors will be kept free of TNT by frequent flushing with hot water.
7. Operator weighing TNT will wear dust respirator.

DISPOSITION OF COMPONENTS AND MATERIAL:

Packed TNT to Storage.

EQUIPMENT REQUIREMENTS:

Feed tank, flaker, scales, vibrator, roller conveyer, work table, strapping tools, stencil equipment, transfer equipment.

**Strapping of TNT boxes will be performed outside of packing room, however, during night operations or inclement weather boxes may be strapped in the packing room.

**Explosive limits in Barricade No 506 will be 10,000 pounds.
1. Base plate assembly received from operation No. 3.
2. Boxes containing base plate assembly will be placed on work table.
3. Base plate assembly will be removed from box and positioned in barricaded machine and remove booster cup and pellet from adapter booster assembly.
4. Pack booster cups with pellet in wooden ammunition box, separating each layer with cardboard filler for transfer to Operation No. 5.
5. Remove base plate assembly from machine, place in ammunition boxes and hand carry to next barricade, Room 2.
6. Base plate assembly will be positioned in barricaded machine and adapter, booster removed.
7. Inserted adapter booster and tail plug will be cleaned thoroughly with brush and acetone.
8. Inserted adapter booster and tail plug will be reassembled to base plate.

CONCERNED REQUIREMENTS:

1. Inspect for compliance with this SOP, WIP M 7-224, and other pertinent safety regulations.
2. Inspect base plate assembly for complete deactivation.

SOP REQUIREMENTS:

1. Operators will wear safety shoes, gloves and flame resistant coveralls.
2. Free exit from operating site will be maintained.
3. Approved type fire extinguishers will be readily available.
4. All equipment will be properly grounded.
5. Personal and explosive limits will be conspicuously posted.
6. Good housekeeping will be observed.

MACHINES, OR COMPONENTS AND MATERIALS:

1. Base plate assembly to Operation No. 6.
2. Booster cup and pellet to Operation No. 9.

SUPPLIES AND MATERIALS:

Surrounded disassembly machines.
Winning equipment, container
Transfer equipment.
STANDING OPERATING PROCEDURE FOR: Desalination of

SOP NO: AM-G-102

REMARKS: BOMB, GP, 25013, AR 977-2 and AR 972-1

DATE: 14 June 1944

ITEM NO: 1

LOCATION: I-11

A-104

PROP/8-M

EXPLOSION LIMITS: BLOWOUT: None. No flammable liquids required

SHIFT 29

PERSONNEL LIMITS: OPERATORS: 89 CASUALS: 3

SHIFT 8

STEP OPERATION NO: 3 TITLE: Repaint and restencil inert bomb

1. Inert bombs will be received in van, semi-trailer from operation No 5.
2. Forklift operator will unload van, using approved type forklift and bomb bar chain attachments.
3. Forklift operator will position inert bombs on wooden skid on roller conveyor.
4. Operator will secure bombs suspended from electrically powered monorail into single bomb suspension lug.
5. Wooden skid will be removed from conveyor for return to Step 3.
6. Nose plug will be removed and interior painted with acid proof black and reassembled, tail plug will be cleaned and coated with acid proof black paint.
7. Operator will replace the inert rear plate assembly head tight.
8. Operator will spray paint entire surface of bomb with lustreless, O.D. paint Spec JAN-E-LVT, grade I, using air pressure type spray gun.
9. Operator will inspect for complete coverage and spot paint any missed.
10. After O.D. paint is sufficiently dried operator will mark bomb with one inch black bands on the tail and nose, the type, nominal weight and model are marked on the nose in black one inch high letters with one quarter inch between markings.
11. BOLT WILL be stenciled in two inch letters longitudinally on body between shipping bands in two or more places, equally spaced.
12. Shipping bands will be properly installed.

NOTE: Prior to assembly of nose and tail plugs cavities will be coated with preservatives rust preventative.

INSPECTION REQUIREMENTS:

1. Inspect for compliance with this SOP, GED M 7-224, and other pertinent safety regulations.
2. Inspect for complete coverage of O.D. Paint, correct markings, and correct type, nominal weight and model of bombs.

SAFETY REQUIREMENTS:

1. Operators will wear safety shoes and gloves.
2. Operators doing the painting will wear flame proofed coveralls and approved type respirator.
3. Approved type fire extinguisher will be readily available.
4. Good housekeeping will be observed.
5. Personnel and explosive limits will be posted.

DISPOSITION OF COMPONENTS AND MATERIALS:

Inert bombs to temporary storage.

EQUIPMENT REQUIREMENTS:

STANDING OPERATING PROCEDURE FOR: Demolition Of

SOP NO: AD-0-102

NOMENCLATURE: Bomb, GP, 250 lb, AT-47 and K57AI

DATE: 14 June 1974

LOGIC: Demolition Area

EXPOSURE LIMITS: POUNDS: NO. OF items: 201 Boosters

PROD/8-HR SHIFT: 203

PERSONNEL DRILLS: OPERATORS: 5 CASUALS: 3

DIRECT LABOR/ SHIFT: 5

STEP | OPERATION NO: 9 TITLE: Destroy Loaded Components

1. Booster cup and pallet received from operation 7 in cargo truck with wooden floor and sides.
2. Ammunition box containing booster cup and pallet will be positioned at demolition site.
3. Boxes of scrap TNT will be added as necessary to assure complete detonation.
4. Detonating agent (Bangalore torpedo) will be laid across boxes and boosters destroyed by detonation as outlined in SOP AD-0-26.

INSTRUCTION REQUIREMENTS:

Inspect for compliance with SOP's, ORD R 7-224 and other pertinent safety regulations.

SAFETY REQUIREMENTS:

1. Operators will wear flame proofed coveralls and safety shoes.
2. All provisions for safety outlined in SOP AD-0-26 will be strictly adhered to.
3. Components will be packed in boxes to insure safe transportation to Demolition Grounds.

DISPOSITION OF CO-PRODUCTS AND MATERIAL:

NONE

EQUIPMENT REQUIREMENTS:

Transfer equipment.
Demolition equipment.
STANDING OPERATING PROCEDURE NO: AM-O-162, Amendment No 3

NOMENCLATURE: BOMBS, GP, 250 lb, GP-N57 and BOMBS, GP, 500 lb GP-266

PURPOSE: To provide for a more safe, efficient and economical operation.

Operation No 1: Various Storage Sites: Alternate Methods:

1. Bombs will be removed from present location by approved type forklift truck, transferred to OI 1544, placed on damage outside of OI. Not more than five bombs will be picked up by forklift at one time.

2. Forklift operator will move one bomb into OI 1544 and place on damage.

3. Operators will drill pin holes (with a positive stop attached) in base plate to one half inch diameter to accommodate larger pins on removed wrench. Depth of pin holes will remain the same.

4. Oil will be applied to drill to keep drill and plate from becoming too hot.

5. Bomb, after being drilled will be returned to damage outside of OI and another bomb taken in to be drilled.

6. While the fifth bomb is being drilled, forklift operator will return to bomb storage site and pick up more bombs. Return to OI 1544, place on damage and pick up bombs that have been drilled and return to storage site. Bombs will be placed in carrier for transfer to Operation No 2.

NOTE: Power plant will be located not less than 50 feet from operation.

Personal Limits: Operators: 2 Casuals: 3

Explosive Limits: Inside of OI 1544, No of bombs 1

Explosive Limits: Outside of OI 1544, No of bombs 5

Operation No 4: Alternate Method:

1. Forklift operator will place bombs in carrier by means of an approved type forklift truck and bomb bar attachments. Carrier used will be a ven, equipped with wooden floor and sides.

2. Load will be secured by properly affixed conveyer stops.

3. Load will be transferred to temporary storage. At a later date bombs will be transferred to sheds 500 and/or 513 as needed.

E. L. Walker
DIVISION CHIEF

APPROVED: WILLIAM MCMORRIS
Colonel, Ordnance Commanding

CONCURRENCE:

Ammunition Maintenance
Storage Survey
Surveillance
Safety
Management
ASO
STANDING OPERATING PROCEDURE NO.: AM-C-102, Amendment No. 4

NOMENCLATURE: BOC, 6P, 500-2b. AM-M4

PURPOSE: Alternate method for disposing of Comp "B", Operation No. 5, Washout Explosive Mover

1. Comp B will be removed with shovels (sparks proof) from Washout Tank.

2. Place in barrels for transportation to Demolition Area.

3. Barrels will be positioned on pallets or rubber tired hand cart. Barrels will be filled only half full. Three barrels to pallet and will be strapped firmly to each other.

4. Markings on used frag bomb barrels will be obliterated and restencilled (prior to being filled with Comp B), with scrap Comp B and/or other pertinent information as necessary.

5. Pallet will be removed from hand cart by approved type forklift truck and positioned in van for transfer to demolition area. Van will be behind barri-cade No. 506. Pallet will be placed over containers prior to transfer to Demolition Grounds.

DESTROYED COMPONENTS:

1. Comp B received from washout operations in van will be unloaded and positioned at demolition site by approved type forklift truck. Not more than four (4) pallets to demolition set-up.

2. Plastic explosive (Comp C) will be primed with an electric blasting cap by holding the explosive around the cap.

3. Plastic explosive with electric blasting cap will be placed inside of barrel on the scrap Comp B.

4. Scrap Comp B will be destroyed by detonation as outlined in SOP AR-9-22

APPENDIX

WILLIAM H. HENRY
Colonel, Ord Corps
Commanding

[Signatures of other personnel]
DEPARTMENT OF THE ARMY
WIN-AFF ORDANCE DEPOT
GALUP, NEW MEXICO

STANDARD OPERATING PROCEDURE
FOR

DESTRUCTION

COMPLETE NOMENCLATURE:  Reman: N. V. 2. 3. 722

ITEM NO. 1200-15  AWC NO:  SUP NO:  17 AUG 1954

Total Quantity Scheduled:  28,822

Estimated Production Per 8-hour Shift:  600

Estimated Total Direct Labor Crew Per Shift:  14

Estimated Total Direct Man-hours Per Unit:  39

Estimated Total Ordnance Cost Per Unit:  .70

LOCATION OF OPERATING BUILDING, INCLUDING ELM. No:  BLK. 419

NOTICE: All tools and equipment used in explosive hazardous operations will be inspected and approved by the Surveillance Division before they will be utilized in this operation.

NOTICE: All tools and equipment used in industrial hazardous operations will be inspected and approved by the Safety Director.

I certify that copies of approved SOP will be posted at operation sites indicated and that all employees have been or will be thoroughly instructed in the provisions of this SOP.

P. L. Walker
DIVISION CHIEF

Prepared By:

Hayden B. Brown

CONSUMED IN:
Ammo Maint. Div.
Storage Div.
Surveillance Div.
Safety Div.
Management
ASQ

APPROVED:

WILLIAM MENDER
Colonel, Ord Corps
Commanding

CRUSA-43A
REV. 5-6-54

SHEET 1 OF 7
1. Remove and Transfer from Storage

2. Unpack and Inspect

3. Disassemble Rocket

4. Remove Nose Plug and Supplementary Charge (if present), Loosen Fuse Seat Liner and Replace Nose Plug.

5. Burn Explosives - Salvage Scrap Metal.
STANDARD OPERATIVE PROCEDURE FOR

LOCATION: Idaho Station
EXPLOSIVE LIMITS: LOWER: 6.4 PERCENT
PERSONNEL LIMITS: OPERATOR: 1, CASUAL: 1

STEPM Operation No. 1 Title: Remove and Transfer from Storage

1. Boxes will be placed on pallets from permanent storage. Each box will contain not more than 21 boxes. Boxes will be secured on pallet.

2. Pallets will be removed from storage by approved type forklift truck and loaded onto van, semi-trailer with wooden floor and sides. Not more than 42 packed rockets to pallet, 7 pallets to van.

3. Loaded van will be moved to west side of Bldg. #19, Room 4.

INSTRUCTION REQUIREMENTS:

Inspect for compliance with this SOP and other pertinent regulations.
Inspect for compliance with storage SOP and No. AD-0-4.
Van is considered part of Operation 2 for explosive limits.

SAFETY REQUIREMENTS:

1. Free exit from operating site will be maintained.
2. Good housekeeping will be observed.
3. Approved type fire extinguishers will be readily available.
4. Operators will wear safety shoes.

DISPOSITION OF COMPONENTS AND MATERIAL:

Packed rockets to Room 4, Bldg. #19.

EQUIPMENT REQUIREMENTS:

Van, Semi-trailer, w/5-ton tractor
Approved type forklift truck

*Includes 1 Fork Lift Operator and 1 Truck Driver
PREPARED FOR: ROCKET, HE, .50 T22
DATE: 10 August 56

ITEM NO: B200-15

LOCATION: Block #5, Room / ARO NO:

EXPLOSIVE LIMITS: POUNDS: 33.50 NR OF ITEMS: 350
SHIFT/8-HR DIRECT LABOR:

PERSONNEL LIMITS: OPERATORS: 2 CASUALS: 3
SHIFT: 1

STEP OPERATION NO: 2. TITLE: Unpack and Inspect

1. Pallets of packed rounds received from packed van as required by approved type forklift truck.
2. Boxes will be removed from pallet, placed on work table, seals, strapping and lid removed.
3. Fiber container removed from box and placed on table. Ammunition tape removed.
4. Rocket will be removed from fiber container, inspected and transferred to ammunition cart. Empty fiber containers placed on ammunition cart for transfer to Operation No. 3
5. Place 8 rockets on each of two (2) rubber tired ammunition carts, horizontally and braced at both ends of carts.
6. Used ammunition boxes will be placed on pallets and strapped for transfer to salvage.
7. Packing material will be palletized and strapped for transfer to temporary storage.

IMPORTANT REQUIREMENTS:
Respect for compliance with this SOP and other pertinent regulations.
Respect rocket for correct identification, missing components, dangerous deterioration and/or other condition which could render the round unsafe to handle or process in normal manner.
Respect packing boxes for adequacy of decontamination (Paragraphs 2507 of GSP and 3500 of WW) and transfer to salvage yard.

EQUIPMENT REQUIREMENTS:
During all operations rocket should be pointed in direction which would cause least damage in event of accidental ignition of propelling charge.
Approved type fire extinguishers will be readily available.
Free exit from operating site will be maintained.
Safety shoes and gloves will be worn.
Good housekeeping will be observed.
Operator cutting strapping will wear gloves, goggles and/or face shield.
Explosive and personnel limits will be conscientiously posted.
Operators strapping boxes will wear gloves, goggles and/or face shield.
Handling will be handled with extreme care.

RETURN OF COMPONENTS AND MATERIAL:
Packets to Room 3, Operation No. 3.
Inspected boxes to salvage yard.
Packing material to temporary storage.

EQUIPMENT REQUIREMENTS:
Aging Table
Approved Type Hand tools
Rubber tired ammunition cart
Approved Type forklift truck
Strapping equipment

DATE: 9-56
4-52-300
STEP

1. Rockets received from Operation 2 via rubber tired ammunition cart.

2. Rounds will be placed on table behind steel Barricades 1 and 3. Net more than 12 rounds to each barricade. Explosive limit per barricade - 70 lbs.

3. Rounds will be transferred from steel Barricades 1 and 3 into Barricades A and B for disassembly. Not more than one round will be permitted in either Barricade A or B during disassembly.

4. Operators in Barricades A and B will position rocket into disassembly machine where rocket head will be disassembled from motor body assembly.

5. Operators will retire to front of Barricades and will operate disassembly machines by remote control, observing operation by use of mirrors.

6. Motor body assembly will be removed from machine and replaced in fiber container and hand carried to box pallet positioned at south wall of Room 3. Limit at this location will be one box pallet. Pallet when full will be moved to Room 5 for transfer to operation no. 5.

7. Head assembly will be removed from machine and head carried to steel barricade No. 3, Operation No. 4. Explosive limits - 2 Head.

INSPECTION REQUIREMENTS:

Inspect for compliance with this SOP and other pertinent regulations.

If fire or smoke is noted during disassembly operation, the operation should be stopped and deluge system activated. Wait for five minutes after fire or smoke has disappeared. Inspect and determine if disassembly will be continued. Unsafe rockets shall be transferred to demolition area for destruction (Paragraphs 2703 and 2727 of OSM).

SAFETY REQUIREMENTS:

1. Operator will activate disassembly machine by remote control positioned in front of barricade, observing operation through mirrors.

2. Caution will be taken in hand carrying motor body assembly and head assembly.

3. Filmsproofed overalls, gloves and caps will be worn.

4. Conductive rubber safety shoes will be worn.

5. Free exit from operating area will be maintained.

6. Good housekeeping will be observed.

7. Fire extinguishers of approved type will be readily available.

8. Approved type deluge system will be installed.

9. Ammunition will be handled with extreme care.

POSITION OF COMPONENTS AND MATERIAL:

Motor body assembly to box pallet at south wall of Room 2.

Head assembly to steel Barricade No. 3, Operation No. 4.

EQUIPMENT REQUIREMENTS:

Rubber tired ammunition cart.

Work tables.

Disassembly machines.

DATE: 10 August 54

LOCATION: Bldg. 719, Room 3

EXPLOSIVE LIMITS: 3 POUNDS, 1/2 OF ITEMS: 1 per box

PERSONNEL LIMITS: OPERATORS: 2 Barr A CASUALS: 1 Barr B

DIRECT LABOR/SHIFT: 600
STANDIND: OPERATING PROCEDURE FOR: Details OF

NOMENCLATURE: Rocket, 67th, 222

DATE: 10 August 1956

ITEM NO: 11200-15

LOCATION: Steel Barricade No. 2, Bldg. #19

NO. OF ITEMS: 500

DIRECT LABOR:

PERSONNEL LIMITS:

OPERATORS: 2

SHIFT: 8-HR

SHIFT: 3

STEPS:

1. Rocket heads carried by hand from Operation No. 3 and placed on table. Not more than two (2) rocket heads permitted at Barricade 3 at one time.

2. Operator will position rocket head in holding vise. Nose plug will be removed, cavity inspected for supplementary charge and removed if present.

3. Fuse seat liner will be removed with locally designed tools, packed in boxes and then full, place boxes in barr No. 2 (limits not more than 300 liners) awaiting transfer to a location outside of building (not less than 50 feet) where liners will be cleaned with acetone and packed in boxes for transfer to salvage. Nose plugs will be replaced into the rocket heads.

4. Supplementary charges, if present, will be packed in used ammunition boxes with cardboard separators between each layer, placed in Barricade No. 2, (not more than 300 charges) and transferred to Service Magazine No. 1, awaiting transfer to demolition area. Limits in Service Magazine No. 1, not more than 2,000 charges.

5. Rocket heads will be placed in box pallet positioned on rubber tired ammunition cart in steel barricade No. 2. Box pallet, when full, will be moved to west loading dock.

6. Forklift operator will move box pallet containing rocket heads to Service Holding Point not less than 500 feet from Bldg. #19, awaiting transfer to Burning Ground. Explosive limit in van, not more than 7 pallets or 440 rounds.

INSPECTION REQUIREMENTS:

Inspect for compliance with this SOP and other pertinent regulations.
Inspect fuse seat liner for complete decontamination in accordance with provisions of paragraph 4.240 through 4.243 of OAG and paragraph 25/7 of CHM 7-224.
Surveillance inspector will inspect and stamp all fuse seat liners for complete decontamination prior to being packed for salvage.

SAFETY REQUIREMENTS:

1. Free exit from operating site will be maintained.
2. Approved type fire extinguishers will be readily available.
3. Operators will wear conductive sole safety shoes and flame-proofed coveralls and gloves.
4. Good housekeeping will be observed.
5. Explosive and personal limits will be conspicuously posted.
6. Care will be taken in handling all components.
7. Machinery will be properly grounded.

DISPOSITION OF CONTENTS AND MATERIALS:

Supplementary charges (if present) to Barricade No. 2, to Service Magazine No. 1 for transfer to Operation No. 5.
Rocket heads to packed van, for transfer to Operation No. 5.
Fuse seat liners to salvage.

EQUIPMENT REQUIREMENTS:

Work table
Holding vise
Approved type hand tools
Approved type forklift

ORDA-J-68
12-52-300
STANDING OPERATING PROCEDURE FOR: Rocket, HE, 4.5", T22

INSTRUMENT: DATE: 10 August 1956
ROCKET, HE, 4.5", T22

ITEM NO.: D200-35

LOCATION: Burning Ground

EXPLOSIVE LIMITS: FOUNDER: NO. OF ITEMS: 600
PROD. 8-HR
SHIFT: 600

PERSONNEL LIMITS: OPERATORS: 8 CASUALS: 7
DIRECT LABOR:
SHIFT: 8

STEP

MOTOR BODY ASSEMBLY

1. Motor body assembly received at Burning Ground via van semi-trailer and/or cargo truck. Carrier will be unloaded by approved type forklift truck.

2. Motor tube assembly will be positioned at Burning Site in pairs, tail to tail, crisscrossed in a double row. Space each pair approximately 12 inches apart.

3. Place a band full of propellant powder into and at the open end of motor tubes.

4. Lay an ignition train connecting each of the two rockets at the end of double row and burning will be as outlined in SOP No. AD-O-27.

5. ROCKET HEADS

1. Remove plug from nose of rocket and place in wooden box, for transfer to Salvage

2. Remove fuse seat liner and place on combustible material for flashing, after flashing fuse seat liner will be inspected for decontamination and placed in boxes for transfer to Salvage.

3. Rocket heads will be placed on their sides, four high, 600 per demolition setup.

NOTE: A series of tests will be conducted at Burning Ground to determine quantity of Rocket heads for the most effective and safest decontamination.

INSPECTION REQUIREMENTS:
Inspect for compliance with this SOP and other pertinent regulations. Inspect and mark all reclaimable scrap metal for decontamination in accordance with Paragraphs 4.240 thru 4.243 of OAC. Inspect for compliance with applicable safety regulations and SOP's.

SAFETY REQUIREMENTS:
1. Operators will wear flameproofed coveralls, gloves and safety shoes.
2. All provisions for safety outlined in SOP AD-O-26 and AD-O-27 will be strictly adhered to.
3. Propellant powder to be used for igniting combustible material will be stored at intermediate distance from operating site until bed of scrap lumber has been completed.

DISPOSITION OF COMPONENTS AND MATERIAL:
Scrap metal to salvage

EQUIPMENT REQUIREMENTS:
Transfer equipment.
OPERATING PROCEDURE FOR:  Rocket, HE, 4.5", 122

SLP NO: AM-D-104

LOCATION: HESC, 672-1324-6

EXPLOSIVE LIMITS: LOWER: 6000; UPPER: 174

PERSONNEL LIMITS: PERMITS: 3; CONTROL: 1

1. Pallets of packed rounds received from marked van as required by approved type forklift truck.
2. Boxes will be removed from pallet, placed on work table, sealed, strapping and lid removed.
3. Fiber container removed from box and placed on table. Ammunition tape removed.
4. Rocket will be removed from fiber container, inspected and transferred to ammunition cart. Empty fiber containers placed on ammunition cart for transfer to Operation No. 3
5. Place 16 rounds on rubber tired ammunition cart, horizontally and braced at both ends of cart.
6. Used ammunition boxes will be placed on pallets and strapped for transfer to salvage.

INSPECTION REQUIREMENTS:
Inspect for compliance with this SOP and other pertinent regulations
Inspect rocket for correct identification, missing components, dangerous deterioration and/or other condition which could render the round unsafe to handle or process in normal manner
Inspect packing boxes for adequacy of decontamination (Paragraphs 2507 of OSM and 451 of DAE) and transfer to salvage yard.

SAFETY REQUIREMENTS:
1. During all operations rocket should be pointed in direction which would cause least damage in event of accidental ignition of propelling charge.
2. Approved type fire extinguishers will be readily available.
3. Free exit from operating site will be maintained.
4. Safety shoes and gloves will be worn.
5. Good housekeeping will be observed.
6. Operator cutting strapping will wear gloves, goggles and/or face shield.
7. Explosive and personal limits will be conspicuously posted.
8. Operators strapping boxes will wear gloves, goggles and/or face shield.
9. Ammunition will be handled with extreme care.

DISPOSAL OF COMPONENTS AND MATERIAL:
Rockets in fiber containers to Frame 13, Operation No. 3.
Inspected boxes to salvage yard.

EQUIPMENT REQUIREMENTS:
Unpacking Table
Approved type hand tools
Rubber tired ammunition cart
Approved type forklift truck
Strapping equipment

ORDHA-I-68
12-32-300

SHEET 4 OF 7
STANDARD OPERATING PROCEDURE

HOLLOW: Rocket, ML. A.5.272

LOCATION: MLR, F19, Room 2

EXPLOSIVE LIMITS: 0.00 per room 1.00 per room

PERSONNEL LIMITS: 2 OPKERS 1 Carriage 1.00 per cell

STEP

1. Rockets received from Operation 2 via retired tired ammunition cart.

2. Rounds will be placed on table behind steel Barricades 1 and 2, not more than eight (8) rounds to each barricade. Explosive limit per barricade - 70 lbs.

3. Rounds will be transferred from steel Barricades 1 and 2 into Barricades A and B for disassembly. Not more than one round will be permitted in either barricade A or B during disassembly.

4. Operators in Barricades A and B will position rocket into disassembly machine where rocket head will be disassembled from motor body assembly.

5. Operators will retire to front of Barricades and will operate disassembly machines by remote control, observing operation by use of mirrors.

6. Motor body assembly will be removed from machine and replaced in fiber container and hand carried to box pallet positioned at south wall of Room 3. Limit at this location will be one box pallet. Pallet when full will be moved to Room 5 for transfer to Operation no. 3.

7. Head assembly will be removed from machine and hand carried to Steel Barricade No. 3, Operation No. 4. Explosive limits - 2 Heads.

INSPECTION REQUIREMENTS:

Inspect for compliance with this SOP and other pertinent regulations.

If fire or smoke is noted during disassembly operation, the operation should be stopped and deluge system activated. Wait for five minutes after fire or smoke has disappeared. Inspect and determine if disassembly shall be continued. Unsafe rockets shall be transferred to demolition area for destruction (Paragraphs 2708 and 2727 of OSM).

SAFETY REQUIREMENTS:

1. Operator will activate disassembly machine by remote control positioned in front of barricade, observing operation through mirrors.

2. Caution will be taken in hand carrying motor body assembly and head assembly.

3. Flameproofed coveralls, gloves and caps will be worn.

4. Conductive soled safety shoes will be worn.

5. Free exit from operating side will be maintained.

6. Good housekeeping will be observed.

7. Fire extinguishers of approved type will be readily available.

8. Approved type deluge system will be installed.

9. Ammunition will be handled with extreme care.

DISPOSITION OF COMPONENTS AND MATERIALS:

Motor body assembly to box pallet at south wall of Room 3.

Head assembly to steel Barricade No. 3, Operation No. 4.

EQUIPMENT REQUIREMENTS:

Rubber tired ammunition cart.

Work tables.

Disassembly machines.

ORDKA-L-65
12-52-300
STANDING OPERATING PROCEDURE FOR: R221-0F

NOMENCLATURE: Rocket, M5, 4.5", T22

DATE: 10 August 1956

LOCATION: Steel Barricade No. 3, Room 3, Bldg. 729

EXPLOSIVE LIMITS:

F安排ions: 4,000 lb., of Items: 150 Fm

PERSONNEL LIMITS:

OPERATORS: 1, CASUALS: 1

DIRECT LABOR/SHIFT:

STEP 1: Remove Nose Plug and Supplementary Charge (if present), Loosen Fuse Seat Liner and Replace Nose Plug

1. Rocket heads carried by hand from Operation No. 3 and placed on table. Not more than two (2) rocket heads permitted at Barricade 3 at one time.

2. Operator will position rocket head in holding vise. Nose plug will be removed, cavity inspected for supplementary charge & removed if present.

3. Fuse seat liner will be loosened and shifted in cavity, nose plugs replaced into rocket heads.

4. Supplementary charges, if present, will be packed in used ammunition boxes with cardboard separators between each layer, placed in Barricade No. 2, (not more than 300 charges) and transferred to Service Magazine No. 1, awaiting transfer to demolition area. Limits in Service Magazine No. 1, not more than 2,000 charges.

5. Rocket heads will be placed in box pallet positioned on rubber tired ammunition cart in steel Barricade No. 4. Box pallet, when full, will be moved to west loading dock.

6. Forklift operator will move box pallet containing rocket heads to Service Holding Point not less than 300 feet from Bldg. #19, awaiting transfer to Burning Ground. Explosive limit in van, not more than 7 pallets or 4,480 rounds.

INSPECTION REQUIREMENTS:

Inspect for compliance with this SOP and other pertinent regulations.

SAFETY REQUIREMENTS:

1. Free exit from operating site will be maintained.

2. Approved type fire extinguishers will be readily available.

3. Operators will wear conductive soled safety shoes and flameproofed coveralls and gloves.

4. Good housekeeping will be observed.

5. Explosive and personnel limits will be conspicuously posted.

6. Care will be taken in handling all components.

7. Machinery will be properly grounded.

DISPOSITION OF COMPONENTS AND MATERIAL:

Supplementary charges (if present) to Barricade No. 2, to Service Magazine No. 1 for transfer to Operation No. 5.

Rocket heads to packed van, for transfer to Operation No. 5.

EQUIPMENT REQUIREMENTS:

Work table

Holding vise

Approved type hand tools

Approved type forklift

ORDNANCE 1-68
12-52-300
DEPARTMENT OF THE ARMY
WINDMERE ORDNANCE DEPOT
GALLOP, NEW MEXICO

1 September 1:54

STANDING OPERATING PROCEDURE NO: AE-4-154, Amendment No. 1.

NOMENCLATURE: Rocket, Td. 4.5", T12

PURPOSE: To establish explosive limits for Room 5, Operation 3, and to alter Step 2 of Operation 3.

Explosive Limits, Room 5, MG. 19, Step 6, Operation 3:
600 Roun. 2,000 lbs.

Change Step 2, Operation 3 to read:

Rounds will be wheeled behind steel barricades 1 and 5 on rubber-tired ammunition carts for more than eight (8) rounds per cart. Explosive limits per barricade - 70 lbs.

APPROVED:

WILLIAM R. BERNER
Colonel, Ord Corps
Commanding

CONCURRENCE:

Asst for Supply

Chief, Surv Div

Chief, Arm Maint Div

Safety

Management
STANDING OPERATING PROCEDURE No. 450-3.16 Amendment No. 2

NOMENCLATURE: ROCKET, M2, 2.30, 712

PURPOSE: To make for a more efficient operation.

PROCEDURE:

1. Raise number of operators from 3 to 12 in operation No. 5.

2. Delete item 3 of operation No. 9. ROCKET HEADS.

3. Add item 3 to read as follows: Rocket heads will be placed on their sides, four high, 1500 per demobilized set up.

APPROVED:

Allen H. Myers
Major, Ord Corps
Commanding

CONCURRENCE:

[Signatures]

Asset for Supply

Chief, Serv Div

Chief, Amm Maint

Safety

Management
DEPARTMENT OF THE NAVY
Navy and Marine Corps
Contract No. 00012-62-C-9000

FOR

RAVENOVER

CONTRACTORS:

1111 11th St., NW, Washington, DC 20500

DATE:

November 8, 1962

SCHEDULE:

10 June

CONTRACT OR TASK NUMBER:

AT-0-56-2

REMARKS:

1. This is a pilot lot and the estimated production, labor manhours, and cost
will not be a standard or the referenced item.

2. All tools and equipment used in explosives hazards operations will be
inspected and approved by the Surveillance Division before they will be
utilized in this operation.

3. All tools and equipment used in industrial hazards operations will be
inspected and approved by the Safety Director.

I certify that copies of approved SOP will be posted at operation sites indicated
and that all employees have been or will be thoroughly instructed in the provisions
of this SOP.

Division Chief

PREPARED BY:

CONTRACTOR:

APPROVED:

ELLEN T. ROGERS, JR.

Maj., 3rd Corps

Carolina
STANDING OPERATING PROCEDURE FOR: Removal of

**NOMENCLATURE:** Shells, 36 Smoke, BC, BE, R84

Duraluq w/fuze 36SQ 550L for 105MM How.

**LOCATION:** As Stored

**EXPLOSIVE LIMITS:** PURCHASES: As Stored NO OF TIMES: As Stored

**PERSONNEL LIMITS:** OPERATORS: 5 CASUALS: 3

<table>
<thead>
<tr>
<th>STEP</th>
<th>OPERATION NO: 1</th>
<th>TITLE: Remove and transfer from storage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Pallet of 40 rounds will be removed from storage and loaded by electric fork lift on approved type transfer equipment.</td>
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<tr>
<td>2.</td>
<td>Pallet will be transferred to Hldg 19 Room 4.</td>
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</tbody>
</table>

**SAFETY REQUIREMENTS:**
1. Free exit from storage site will be maintained.
2. Fire extinguishers will be readily available.
3. Ammunition handlers will wear spark proof safety shoes and gloves.
4. Good housekeeping will be observed.

**DISPOSITION OF COMMODITY AND MATERIALS:**
Ammunition to Operation No. 2
Dunnage to Dunnage yard.

**EQUIPMENT REQUIREMENTS:**
Electric fork-lift truck
Van semi-trailer, w/5-ton tractor.

*Personnel will also be used in the transfer and storage of completed item.*
STANDING OPERATING PROCEDURE FOR:  Redemption OF

MATERIALS: Shell, SP, Smoke, HE, HE, MIA

DUAL ROLL-DROP (502 502) FOR 102MM How.

LOCATION: Room 4, Bldg. 19

EXPLOSIVE LIMITS: POWER: 40,000 BPD. 50,000 BPD.

PERSONNEL LIMITS: OPERATOR: 4; CASUALLIES: 0

STAGE

<table>
<thead>
<tr>
<th>OPERATION NO:</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>TITLE</td>
<td>Unpack and Inspect</td>
</tr>
</tbody>
</table>

1. Place ammunition on work table and remove tape and lift from fiber container.

2. Remove projectile from container and place in box pallet on rubber tired ammunition cart for transfer to Operation 4.

3. Projectile will be transferred to Operation 8 via approved transfer equipment.

4. Servicable fiber container from storage will be transferred to drill work table where 2 1/4" vent holes will be drilled in neck tube 180° apart and approximately 1" from the joint of the container and cover.

5. Unservicable containers will be placed on carrier for transfer to explosive burning area.


INPECTION REQUIREMENTS:

Inspect for lot integrity.

Inspect fiber containers for serviceability and complete decontamination.

SAFETY REQUIREMENTS:

1. Operators will wear spark proof safety shoes.

2. Fire extinguishers will be readily available.

3. Free exit from operating site will be maintained.

4. Good housekeeping will be observed.

5. Gas masks will be available at this operation.

DISPOSITION OF COMPONENTS AND MATERIAL:

- Projectiles to Operation 4.
- Servicable fiber containers to storage.
- Unservicable containers to explosive burning ground.

EQUIPMENT REQUIREMENTS:

- Electric fork-lift truck
- Work table
OPERATION NO: 3  TITLE:  Gague cart, cases and install primers.

1. New cartridge cases and primers received from storage to Room 3, Bldg 19
2. Primers will be transferred to operation via rubber tired hand cart. Not more than 1 box or 40 (whichever is less) will be permitted at operation.
3. Cartridge cases will be placed on work table, removed from packing and gauged.
4. Transfer cartridge cases to Barricade A and seat primers by means of approved primer seating press. Seating of primer will be gauged with flush type gauge.
5. Remove pramed case from press and transfer to work table where base of case will be stencilled with appropriate lot number and nomenclature.
6. Place cases in or on approved transfer equipment for transfer to Operation 7.
7. Packing material will be placed on carrier and transferred to reclamation yard.
8. Lot numbers on projectile will be obliterated by use of grey shell paint.

INSTRUCTIONS:

1. Operators will wear spark proof safety shoes.
2. Primer press operator will wear safety goggles.
3. Fire extinguishers will be readily available.
4. Free exit from operating site will be maintained.
5. Good housekeeping will be observed.
6. Protective clothing.

DISPOSING OF COMPONENTS AND MATERIAL:

Pramped cartridge cases to Operation No 7.

Packing material to reclamation yard.

EQUIPMENT REQUIRED:

Cartridge case gage
Primer seating press
Case stamping press
Obliterating paint
Brushes, paint
Rags, cleaning
Stenciling equipment
Flush type gage
OPERATIONAL PROCEDURE FOR: Renovation OF

DATE: 8 December 1974

LOCATION: Room 3, Area 154. 1

EXPOSING LIMITS: FOUND: NO OF ITEMS: 40

PERSONNEL LIMITS: OPERATIONS: 2

STEP

1. Projectiles received via approved transfer equipment.
2. Operator will remove projectile from transfer equipment and place in air vise in barricade 1.
3. Fuse will be removed from projectile by means of fuse wrench and nose plug inserted in projectile.
4. Fuses will be placed in fuse trays and hand carried to room 5 where they will be packed in a used ammunition box for transfer to operation 9.
5. Before removing projectile from vise the operator will loosen the base plate by means of hand wrench.
6. Remove projectile from vise and transfer to barricade 2.

DESTRUCTION REQUIREMENTS:

Inspect for compliance with this SOP and other pertinent regulations.

SAFETY REQUIREMENTS:

1. Operators will wear flame proofed coveralls and safety shoes.
2. Fire extinguishers will be readily available.
3. Free exit from operating site will be maintained.
4. Good housekeeping will be observed.
5. Grounding of equipment.

DISPOSITION OF COMPONENTS AND MATERIAL:

Projectiles to Operation 5

Fuses to Operation 9

EQUIPMENT REQUIREMENTS:

Fuse trays
Air Vises
Fuse Wrenches
Base Plug Wrenches
Work Tables
STANDING OPERATING PROCEDURE FOR: Renovation OF

SOP NO: AH-C-106-P

NOMENCLATURE: Shell, 30, Smoke, MC, NS, HS, Dalgran

ITEM NO: 8 December 1957

w/fuse, MTOQ, 2901 for 105mm Howitzer.

LOCATION: Room 3 Bldg. 19

ITEM NO: 8105-39

EXPLOSIVE LIMITS: POUNDS: NO OF ITEMS: 40

MIL/8-HR

PERSONNEL LIMITS: OPERATIONS: 5 CASUALTIES: 2

DIRECT LABOR: SOUTH: 5

STEP

1. Projectile received from operation 4 will be placed on work table and base plug removed.
   2. Shell will be inspected for shifting or oxidation of smoke mix or other unsafe condition.*
   3. Fillers, canister,** baffle plate and bursting charge will be removed from projectile.
   4. Old bursting charges will be placed in water, filled container for removal to Operation 9.
   5. Interior of projectile will be inspected for serviceability**.
   6. Projectile will be hand carried to barricade 4.
   7. New bursting charge, baffle plate, canister, fillers and base plate will be reassembled in projectile. Hand tighten base plate.
   8. Transfer projectile to Operation 6, in barricade 5.

* In the event a round is found in an unsafe condition, it will be submerged in a drum of water. Baffle plate, nose plug and shell will be removed from water, cleaned and returned to production if acceptable. The drum of water, canister and bursting charge will be transferred to burning ground and contents destroyed by burning. Not more than the contents of 10 shells will be allowed to accumulate in the drum.

INSPECTION REQUIREMENTS:

**Where rust is found on canister it will be removed before reassembly. A buffing station will be set up in Room 3.

*** If inside of projectile shows rust, it will be cleaned and touched up with acid proof paint in barricade 3.

SAFETY REQUIREMENTS:

1. Operators will wear conductive soled safety shoes, flame proof coveralls and safety goggles.
2. All operations will be performed from a grounded platform.
3. An adequate deluge system will be installed at each work table.
4. Substantial barriers will separate work stations.
5. Free exit from operating site will be maintained.
6. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:

Projectiles to Operation 6
Bursting charges to Operation 9

EQUIPMENT REQUIREMENTS:

Work tables
Water filled barrels
Air buffer
Holding Fixtures
OPERATING PROCEDURE FOR: Fuzing DTU, MG, M2, M7, M18, M18A1

LOCATION: Room Bldg 19

EXPLOSIVE LIMITS: POUNDS: 5000
NO OF ITEMS: 40

PERSONNEL LIMITS: OPERATORS: 4, CASUALS: 3

STEP | OPERATION NO: 6 TITLE: Fuzing projectile, tighten and stake base plate

1. Projectiles received from operation 5 and placed in air vise barricade 5
2. Plug will be removed from nose of projectile, placed on tray (20 per tray) and returned to Operation 4.
3. New fuse will be assembled to projectile and properly staked in position.
4. Base plug will be tightened and staked.
5. Projectile will be removed from vise and transferred to barricade 3 for any paint touch up as necessary.
6. Projectiles to be staked with new lot number and transferred to Operation 8.
* New fuses will be unpacked, checked for serviceability and correct lot numbers and placed in fuse trays, 20 per tray for movement to assembly table.

INSTRUCTION REQUIREMENTS:
None

SAFETY REQUIREMENTS:
1. Operators will wear safety shoes.
2. Fire extinguishers will be readily available.
3. Free exit from operating site will be maintained.
4. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:
Projectiles to Operation 8

EQUIPMENT REQUIREMENTS:
- Work tables with air vises
- Fuzing wrenches
- Base plug wrenches
- Staking tools
- Staked material
- Paint brushes

Sheet 7 of 17
1. Dualgran charges will be transferred from storage to barricade B
2. Cartridge case will be placed (received from operation 3) on work table.
3. Dualgran charge will be placed in cartridge case.
4. Cartridge case and protector caps will be transferred to Operation 8.

NOTE: Explosive limit at assembly table will be 1 container of charges.

INSTRUCTION REQUIREMENTS:

Inspect for compliance with this SOP and other pertinent regulations.

SAFETY REQUIREMENTS:

1. Operators will/flush proofed coveralls, gloves, and cap and conductive soled safety shoes.
2. Operators will assemble charges from a grounded platform.
3. Fire proof blankets will be available at exits.
4. Free exit from operating site will be maintained.
5. An adequate deluge will be installed at each assembly table.
6. Good housekeeping will be observed.
7. Powder containers will be grounded.

DISPOSITION OF COMPONENTS AND MATERIALS:

Cartridge cases to Operation 6.

Empty powder containers to storage.

EQUIPMENT REQUIREMENTS:

Work tables
Hand tools
Ammunition received from operation 6, and inspected for serviceability.

2. Serviceable, drilled fiber containers received from Operation 2 will be placed on work table and lids removed.

3. Projectile and cartridge case will be assembled in container and sufficient filler added to ensure a tight pack.

4. Fiber container will be sealed with ammunition tape.

5. Container will be stenciled with correct lot number and nomenclature.

6. Round will be placed in shipping box 2 rds per box.

7. Box will be closed and sealed and strapped.

8. Packed ammunition will be palletized, 40 rounds, per pallet.

9. Pallet will be moved to loading platform via forklift from where pallet will be dispatched to storage.

INSPECTION REQUIREMENTS:

Inspect packing and marking of ammunition.

Inspect for compliance with this JBP and other pertinent regulations.

SAFETY REQUIREMENTS:

1. Strapping machine operator will wear face shield.

2. All operators will wear spark proof safety shoes.

3. Free exit from operating site will be maintained.

4. Fire extinguishers will be readily available.

5. Good housekeeping will be observed.

6. Strapping machine, taping machine will be grounded.

DISPOSITION OF COMPONENTS AND MATERIAL:

Ammunition to Storage.

SUPPORT REQUIREMENTS:

Packing table, taping machine, stencil table and stencil material, electric forklift, hand tools, pallets.
OPERATION NO: 9  TITLE: Destroy Loaded Components

1. All material to be demilitarized will be transported to explosive burning ground in cargo truck with wooden floor and sides. Components awaiting demilitarization will be stored in proper revetments.

2. Scuttling charges and unserviceable canister will be spread on a bed of combustible material and destroyed by burning, as outlined in JCP AD-0-27.

3. Fuse parts will be destroyed by burning in Detonator Destruction Plant as outlined in JCP AD-0-26.

4. Scrap metal will be inspected and packed for transfer to salvage yard.

INSTRUCTIONS:

Inspect all reclaimable scrap metal for decontamination in accordance with paragraphs 4.250 thru 4.253 of OASL.

Inspect for compliance with applicable safety regulations and JCP's.

SAFETY REQUIREMENTS:

1. Operators will wear flame proofed coveralls and safety shoes.
2. Plant operators will wear face shields.
3. All provisions for safety outlined in JCP AD-0-26 and AD-0-27 will be strictly adhered to.

DISPOSITION OF COMPONENTS AND MATERIALS:

Scrap metal to salvage yard.

EQUIPMENT UTILIZED:

Transfer equipment
Detonator Destruction Plant.
NOTE: Weather permitting, box will be stenciled at loading platform Bldg 508.

1. Boxes will be placed on roller conveyors and stenciled with the correct lot number and manufacturing.

2. Stenciled boxes will be removed from conveyor and placed on rubber-tired ammunition carts for transfer to Operation 6.

**INSPECTION REQUIREMENTS:**

Inspect for correct marking of boxes.

**SAFETY REQUIREMENTS:**

1. Operators will wear safety shoes.
2. Fire extinguishers will be readily available.
3. Good housekeeping will be maintained.

**DISPOSITION OF COMMODITIES AND MATERIAL:**

Ammunition boxes to Operation 3

**EQUIPMENT REQUIREMENTS:**

- Stencil equipment
- Ammunition Carts
DEPARTMENT OF THE ARMY
WYOMING ORDNANCE DEPOT
GALLUP, NEW MEXICO

STANDING OPERATING PROCEDURE
FOR

Renovation

Complete Nomenclature: Shell, E.E., Spokes, HC, BK, WBP, Duralumin

Item No: 5205-39 and No: 323-5030

SOP No: AM-0-10611

Date: 26 December 1951

Total Quantity Scheduled:

Estimated Production Per 8-Hr. Shift:

Estimated Total Direct Labor Crew Per Shift:

Estimated Total Direct Man-Hours Per Unit:

Estimated Total Ordnance Cost Per Unit:

Location of Operating Building, Including Bldg No:

Area 500, 508, 511, 512, 513, 514, 516

Ammunition Work Shops

NOTICE: All tools and equipment used in explosive hazardous operations will be inspected and approved by the Surveillance Division before they will be utilized in this operation.

NOTICE: All tools and equipment used in industrial hazardous operations will be inspected and approved by the Safety Director.

I certify that copies of approved SOP will be posted at operation sites indicated and that all employees have been or will be thoroughly instructed in the provisions of this SOP.

Prepared By:

DIVISION CHIEF

APPROVED:

ALLEN T. HODGES, Jr.
Major, Ord Corps
Commanding
SOP No: AR-O-106-81

If, to accomplish a task, a Commanding Officer believes an exception to mandatory requirement of regulations is essential, such need for exception will be pointed out and fully justified upon referring procedures for review. Operations involving such unauthorized deviations will not be started prior to receipt of exemption from the Chief of Ordnance.

Operations for specific scheduled items should be planned for completion on a day-to-day basis to eliminate the accumulation in operating building or at any location of hazardous material resulting from demilitarization operations (reference paragraph 1602 of OMD M 7-224, 4 Sept 51). In no event will a scheduled item be reported complete as long as any rounds or components for this item remain to be disposed of other than through salvage channels.

Inspection requirements for ammunition are included in drawings and specifications, Ordnance Inspection Handbooks, OMD-M605, OMD-M608-8, and OMD-M608-11, OMD, Part 4, and in classifications of defects issued for each item. In order to insure that the ammunition produced, renovated or demilitarized in accordance with this typical procedure will meet the requirements described in the documents listed above, certain process inspections are specified as a part of the Typical Procedure. Specific instructions concerning the acceptance inspection of the end product will be issued by OMD M-1. All residual metal components and all packing material, after demilitarization, will be inspected and certified for adequacy of decontamination in accordance with paragraphs 4.110 through 4.513 of the OMD and paragraphs 2207 and 2208 of OMD M 7-224, 4 Sept 51.

Safety requirements which are mandatory for demilitarization and renovation of ammunition items are included in Ordnance Safety Manual, OMD M 7-224, Ordnance Corps Technical Instructions of the 700 series and in other applicable directives. Such requirements will be compiled with as stated in paragraphs 103, 104, and 105 of referenced manual, special attention being directed to the following:

1. EXPLOSIVES AND AMMUNITION HANDLING:

   Paragraphs 907, 1620, 1717, 1718, 1729, 1808, 2002 through 2008, 2115, 2226 and Section 24 of OMD M 7-224.

2. EXPLOSIVES AND AMMUNITION HAZARDS:

   a. Either at the storage site, or after unpacking, all ammunition and explosives will be inspected for proper identification, evidence of contamination, excessively deteriorated, damaged or missing components and other defects which would render the item unsafe to handle or process in a normal manner. Such items should be disposed of in accordance with the provisions of paragraphs 2708 of OMD M 7-224.

   b. Paragraphs 1207, 1222 and Section 26 of OMD M 7-224.

3. SAFETY CLOTHING AND TOOLS:

   Paragraphs 1610, 1612, 1614, and Sections 10 and 29 of OMD M 7-224.

4. SAFETY LIMITS:

   Explosive and personnel limits will be established, posted and maintained at the minimum necessary for safe and efficient operation (reference paragraphs 1601 and 1602 of OMD M 70224).

5. OPERATIONAL SHIELDS:

   Paragraphs 2503, 2504 and 2616 of OMD M 7-224.

6. BARRIERS:

   Paragraphs 208, 207 and Section 17 of OMD M 7-224.

ShirT OF
73 DESTRUCTION OF EXPLOSIVES AND APPARATUS:

Paragraphs 9.311 through 9.314 of the NAV and Section 27 of OAH H 7-224.

8. SAFETY RULES AND STANDARDS:

a. Paragraphs 101, 102, 103, 906, 1625 and 2501 of OAH H 7-224.

b. Reference publications pages I through IX of OAH H 7-224.

c. Equipment used in this SOP will be grounded as required.

d. Water in drums will be available through operation as required.

e. A grounding wire or rod will be installed at all black powder operations.
STORAGE

1. Remove and transfer from storage

2. Unpack and Inspect

3. Gage cartridge cases and install primers

4. Remove fuses and loosen base plate

5. Replace expelling charges

6. Refuse projectile, tighten and stake base plate

7. Assemble charge propelling in Cartridge Case

8. Assemble and repack

9. Dismantle Fuze

10. Destroy loaded components
STANDING OPERATING PROCEDURE FOR: Destruction of

SECRET OF

OFFICER: Shell, 25 F, 105mm HE, 100% Dualgren

DATE: 29 December 1972

I/O NO.: 1905-29

LOCATION: Storage Site

EXPLOSIVE LIMITS: POUNDS AS STORED: OR STORED

PERSONNEL LIMITS: OPERATORS: 5 CASUALS: 3

STEP OPERATION NO.: 1 TITLE: Remove and Transfer from Storage

NOTE: This ammunition is stored on pallets. 63 rounds to pallet.

1. Pallet will be removed from storage and loaded by electric forklift on semi-trailer with wooden floor and sides. 7 pallets per van.

2. Loaded van will be transferred to receiving building No. 516 by 5-ton tractor.

3. Ammunition will be unloaded from van by electric forklift and placed in receiving building.

4. Fire symbol 3 will be displayed on van.

NOTE: Explosive limit in building No. 516 will not exceed 854 rds, and will be kept to the minimum consistent with efficient operation.

INSPECTION REQUIREMENTS:

Inspect for compliance with Storage SOP, I/O No. AD-0-4.

SAFETY REQUIREMENTS:

1. Free exit from storage site will be maintained.
2. Fire extinguishers will be readily available.
3. Ammunition handlers will wear spark proof safety shoes and gloves.
4. Good housekeeping will be observed.

DISPOSITION OF COMPONENTS AND MATERIAL:

Ammunition to Operation No. 2

Damage to damage yard.

EQUIPMENT AND MACHINERY:

Electric forklift truck.

Van, semi-trailer, w/5-ton tractor.

*Personal will also be used in the transfer and storage of completed item.
STANDING OPERATING PROCEDURE FOR:  Operation 9  EXPLOSION NO:  9006-39

CONFIRMED TITLE: SHELL, 8" SPG.  BC, ML, 164, Dau-Drift.  DATE:  29 December 1954

WEAPONS: M29A2 155mm for 105mm How.

LOCATION: Room 1, Aus 119 500

EXPLOSIVE LIMITS:  PERCENT: NO OF TIMES: 100 rds

PERSONNEL LIMITS:  OPERATORS: 4  CASUALS: 3

STEP  OPERATION NO: 2  TITLE: Unpack and Inspect

1. Ammunition received from receiving building via approved forklift truck.
2. Fiber container with projectile will be removed from pallet and placed on work table where tape and lid will be removed.
3. Projectile will be removed from fiber container and placed on power conveyor for transfer.
4. Fuze stop, protector cup and usable filler will be transferred to repacking operation via approved transfer equipment.
5. Used containers will be placed on carrier for transfer to holding point awaiting transfer to explosive burning area. Keep containers for burning ground 100 feet from Bldg 516.

NOTE: There will be no more than 20 projectiles with or without fiber containers on work table at any one time.

Spacing of projectiles on conveyor will be a minimum of 2 feet apart so as to accommodate cartridge cases.

INSPECTION REQUIREMENTS:

Inspect for lot integrity, and evidence of contamination or excessive deterioration which would render the round unsuitable to handle.

Inspect fiber containers for complete decontamination.

NOTE: Unsafe rounds will be hand carried to concrete barricade 514 awaiting transfer to demolition ground. Explosive Limits Barricade 514 - 10 rounds.

Unsafe rounds will be handled by qualified personnel only.

SAFETY REQUIREMENTS:

1. Operators will wear spark proof safety shoes.
2. Fire extinguishers will be readily available.
3. Free exit from operating site will be maintained.
4. Good housekeeping will be observed.
5. Gas masks will be available at this operation.
6. Water filled container will be available at operation.

DISPOSITION OF COMPONENTS AND MATERIAL:

Projectile to Operation 5.
Used containers to explosive burning ground.
Fuze stops, protector cups, and usable filler to Operation No. 3.

REQUIREMENTS:

Electric forklift truck
Work table
Power conveyor
Hand tools
Pallets, upright.
STANDING OPERATING PROCEDURE

STATION: OP 13755

OPERATION: INSTALL PRIMERS IN CARTRIDGE CASES

STATION: OP 13755

OPERATION: INSTALL PRIMERS IN CARTRIDGE CASES

LOCATION: Room 2, Bldg 500

PERSONNEL LIMITS:
- Operators: 5
- Casualty: 3
- Shift: 2

EXPLOSIVE LIMITS:
- Found: 15
- Shift: 1200
- Primed: 15
- Shift: 1200

OPERATION NO. 1: INSTALL PRIMERS IN CARTRIDGE CASES

1. New cartridge cases received from storage, to east platform Bldg 500.

2. New primers received from storage to Service Magazine No 511, limit at this point will not exceed 10,000 primers.

3. Primers will be transferred to operation by rubber-tired hand cart. Not more than one box of primers will be permitted at operation.

4. Cartridge cases received from east platform will be removed from packing and gauged.

5. Primers will be inserted in cartridge case and seated by means of approved primer seating press.

6. Seating of primer will be gauged with flush type gage.

7. Base of cartridge case will be stenciled with appropriate lot number and nomenclature, using white stencil ink.

8. Primed case will be placed on power conveyor for transfer to Operation No. 7.

9. Packing material will be placed on carrier and transferred to burning ground.

10. Lot number on projectile will be obliterated by use of gray shell paint.

NOTE: Not more than 1/2 gallon paint will be permitted in room.
Not more than 1200 new cartridge cases on east platform.
Not more than 2 pallets of empty boxes on east platform.

SAFETY REQUIREMENTS:
1. Operators will wear conductive soled safety shoes.
2. Primer press operator will wear safety goggles and/or face shield and protective clothing.
3. Fire extinguishers will be readily available.
4. Free exit from operating site will be maintained.
5. Good housekeeping will be observed.
6. Equipment needing grounding will be grounded.

INSPECTION REQUIREMENTS:
Inspect for compliance with this SOP and other pertinent regulations.

DISPOSITION OF COMPONENTS AND MATERIAL:
Primed cartridge cases to Operation No. 7.
Packing material to reclamation yard.

EQUIPMENT REQUIREMENTS:
Cartridge case gages, primer seating press, case stamping press, obliterating paint, brushes, paint, rags, cleaning, stenciling equipment, gage, primer, flush type.
1. Projectiles received via power conveyor.

2. Operator will remove projectile from conveyor and place in air vise.

3. Fuse will be removed from projectile by means of fuse wrench.

4. Fuses will be placed in fuse trays, 20 fuses to tray and hand carried to concrete barricade A in Room 3 where they will be packed in used ammunition boxes and placed on rubber tired cart for transfer to east platform awaiting transfer to Operation 9 or temporary storage.

5. Before removing projectile from vise the operator will loosen the base plate by means of a hand wrench.

6. Projectiles will be returned to conveyor for transfer to Operation 5.

NOTE: The number of old fuses in barricade B will not exceed 500. The number of fuses at each fusing operation will not exceed 20. Limits east platform - 500 fuses.

INSTRUCTION REQUIREMENTS:
Inspect for compliance with this SOP and other pertinent regulations.

SAFETY REQUIREMENTS:
1. Operators will wear flame proof coveralls, gloves and conductive soled safety shoes.
2. Fire extinguishers will be readily available.
3. Free exit from operating site will be maintained.
4. Good housekeeping will be observed.
5. Grounding of equipment.
6. Operators will operate from a grounded platform.

DISPOSITION OF COMPONENTS AND EQUIPMENT:
Projectiles to Operation 5
Fuses to Operation 10

EQUIPMENT REQUIRED:
Fuse trays
Air vise
Fuse wrenches
Base plug wrenches
Work tables
STOP

OPERATION NO: 5 TITLE: Replace expelling charges

1. Projectiles received from Operation 4 via power conveyor.
2. Projectiles will be placed on work table and base plug removed.
3. Shell will be inspected for dents or oxidation of smoke mix or other unsafe conditions.
4. Fillers, casings, baffle plate and expelling charge will be removed from projectile.
5. Expelling charges will be placed in water filled container for removal to east platform awaiting transfer to Operation 9. Drum containing expelling charges will be removed at least once each day, at 0730 and at 1500.
6. Interior of projectile will be checked for serviceability.
7. New expelling charge is baffle plate, casings, fillers and base plate will be reassembled in projectile. Base plate hand tight. Base plug will be cemented with NNC compound.
8. Projectile will be returned to power conveyor for transfer to Operation 6.

In the event a round is found in an unsafe condition it will be submerged in a drum of water. Baffle plate, nose plug and shell will be removed from water, cleaned and returned to production if acceptable. The drum with water, casings and expelling charges will be transferred to burning ground and contents destroyed by burning. Not more than the contents of 10 shells will be allowed to accumulate in the drum.

NOTES:
- Containers with expelling charges will be closed and moved to east platform at least once each shift. Containers will be palletised with 9 containers per pallet awaiting transfer to burning ground. Explosive limit on east platform will be 30 containers.
- A non-ferrous metal punch will be used to dislodge any baffle plates which are found to be lodged at base end of projectile. Baffle plate will be dissolved from nose end to facilitate removal from base end.
- Reject casings will be hand carried to concrete barricade A in Room 5 where they will be packed in used ammunition boxes awaiting transfer to Operation 9.
- Explosive limit in Barricade A = 72 Containers. 72 Containers (new Service Magazine for new casings will be on north side of Rdg 500. Limit 2000.

INSPECTION \& ULTRA-VIOLETS
- Where rust is found on casings it will be removed and spot painted before resuming. A buffing station will be set up in Barricade A if necessary.
- If inside of projectile shows rust it will be cleaned and touched up with acid proof paint.
- Service barricade for expelling charges will be Rdg 512, (explosive limit 2000 Cg) from where they will be moved by rubber tired hand trucks to Barricade B. Limit of expelling charges in barricade will be 3 containers or 720 charges. Expelling charges will be placed in closed containers from supply to assembly table.

SAFETY REQUIREMENTS:
1. Operators will wear conductive soled safety shoes, flame proof coveralls and safety goggles.
2. All operations will be performed from a grounded platform.
3. An adequate de-luge system will be installed at each work table.
4. Substantial barriers will separate work stations.
5. Free exit from operating site will be maintained.
6. Good housekeeping will be preserved.
7. Containers containing expelling charges will be grounded.
8. Fire extinguishers will be readily available.

DISPOSITION OF COMPONENTS AND MATERIALS

(Cont’d)
Operation No 5 (Cont')

DISPOSITION OF COMPONENTS AND MATERIAL

Unserviceable casemates to Operation No 9
Projectiles to Operation 6
Expelling charges to Operation 9.

EQUIPMENT REQUIREMENTS:

Work tables
Water filled barrels
Air buffer
Holding fixtures
Paint
Brush, paint
Rags, cleaning.

Sheet 2 of 2
STAGING OPERATING PROCEDURE: Refuse projectile, tighten & stake base plate

DATE: 30 December 1954

LOCATION: Room 5 A-5 Bldg 500

EXPLOSIVE LIMITS: No of Tons: 15

PERSONNEL LIMITS: Operators: 3 Casuals: 2

STEP | OPERATION NO. | TITLE |
--- | --- | --- |
1 | 6 | Refuse projectile, tighten & stake base plate |
2 |  |  |
3 |  |  |
4 |  |  |
5 |  |  |
6 |  |  |
7 |  |  |
8 |  |  |
9 |  |  |

1. Projectiles received from Operation 5 via power conveyor.
2. Projectile will be removed from conveyor and placed in air vise.
3. New fuse will be overstamped, assembled to projectile and properly staked in position. Torque 400 inches lbs minimum.
4. Base plug will be staked lightly in threads in 3 places 120 degrees apart.
5. Projectiles will be returned to conveyor for transfer to Operation 6.
6. Paint on projectile will be checked and touched up if required.
7. Projectile will be stenciled with new lot number.

NOTE: Not more than 1 1/2 trays of fuses at each refusing station. Paint will be kept at a minimum for efficient operation and in an approved container.

INSPECTION REQUIREMENTS:
Inspect for compliance with this SOP and other pertinent regulations.

SAFETY REQUIREMENTS:
1. Operators will wear safety shoes, (conductive soled)
2. Fire extinguishers will be readily available.
3. Free exit from operating site will be maintained.
4. Good housekeeping will be observed.
5. Operator will work from grounded platform.
6. Equipment will be grounded.

DISPOSITION OF COMPONENTS AND MATERIAL:
Projectiles to Operation 8.

EQUIPMENT REQUIREMENTS:
Work tables with air vise
Fuse wrenches
Base plug wrenches
Staking tools
Stencil material
Paint brushes
Paint
Rags, cleaning
STANDING OPERATING PROCEDURE FOR: Renovation of

NOMENCLATURE: Shell, S.F. Smoke, HC, HE, MB, Dualgran

M/Fuse, MTQG for 10RM3k now.

LOCATION: Room 6 A/S Bldg 500

EXPLOSIVE LIMITS: POUNDS: NO OF ITEMS: 15

PERSONNEL LIMITS: OPERATOR: 3 CASUALS: 3

STEP OPERATION NO: 7 TITLE: Insert Charge Propelling in Cartridge Case

1. Dualgran charges will be transferred from storage to Service Magazine No. 508 from where they will be moved via approved transfer equipment to concrete barricades in Room 6. Explosive Limit in Building 508 will be 5000 lbs and 500 charges in a barricade Room 6.

2. Cartridge cases will be removed from conveyor and placed on work table.

3. Dualgran charge will be placed in cartridge case in sequence 1 to 7. No 4 increment with fail will be towards primer.

4. Cartridge cases will be returned to conveyor for transfer to Operation 8.

NOTE: Explosive Limit at each assembly table will be one container of dualgran charges.

INSTRUCTION REQUIREMENTS:

Empty powder containers will be inspected for decontamination.

SAFETY REQUIREMENTS:

1. Operators will wear flame proofed coveralls, gloves and cap and conductive soled safety shoes.
2. Operators will assemble charges from a grounded platform.
3. Fire proof blankets will be available at exits.
4. Free exit from operating site will be maintained.
5. An adequate deluge will be installed at each assembly table.
6. Good housekeeping will be observed.
7. Powder containers will be grounded.
8. Fire extinguishers will be readily available.

DISPOSITION OF COMMODITIES AND MATERIAL:

Cartridge cases to Operation 8.

Empty powder containers to storage.

EQUIPMENT REQUIREMENTS:

Work tables
Hand tools
1. Ammunition received via power conveyor.

2. Fiber containers received from east platform will be unpacked, placed on work table and lids removed.

3. Containers will be positioned in holding fixture and holes drilled in the neck of tube. The vent holes will be 1/4 inch diameter, 140 degrees apart and approximately one (1) inch from joint of the cover and container.

4. Remove container from holding fixture, place on work table where projectile and cartridge case will be assembled in container and sufficient filler added to insure a tight pack. Ring gauge projectile before installing in container.

5. Fiber container will be sealed with ammunition tape by means of a taping machine.

6. Container will be stencilled with correct lot number and nomenclature.

7. Round will be placed in shipping box. Two rounds per box and sufficient filler added to ends to make a tight pack.

8. Box will be closed and sealed.

9. Box will be strapped by means of automatic strapping machine. 3 straps per box.

10. Packed ammunition will be removed from conveyor and secured on storage pallet.

11. Pallet will be moved to loading platform by forklift truck from where ammunition will be dispatched to storage.

**NOTE:** Explosive limit on loading dock will not exceed 360 rounds.

- Room 7: 72 rounds.
- Room 8: 96 rounds.

**INSPECTION REQUIREMENTS:**

Inspect packing and marking of ammunition.

Inspect for compliance with this SOP.

**SAFETY REQUIREMENTS:**

1. Strapping machine operator will wear face shield and/or safety goggles.
2. All operators will wear spark proof safety shoes.
3. Free exit from operating site will be maintained.
4. Fire extinguishers will be readily available.
5. Good housekeeping will be observed.
6. Strapping machine, taping machine will be grounded.
7. Operator cutting steel strapping will wear face shield and/or safety goggles.
8. Combustible material on each dock will be a minimum of 50 feet from ammunition.

**DISPOSITION OF COMPONENTS AND MATERIAL:**

Ammunition to storage.

**EQUIPMENT REQUIREMENTS:**

Packing table, taping machine, stencil table and stencil material, roller conveyor, automatic strapping machine, electric forklift, band tools, pallets.
STANDING OPERATING PROCEDURE FOR: Renovation of

MISCELLANEOUS: Shell, SF, Smoke, HC, EC, KX, Dualgran

DATE: 29 December 1974

NO: H-0-106-11-1

W/Fuse MSW, I-501 for 105mm Howitzer

LOCATION: Shot Blast Room, Bldg 515

EXPERIMENTAL LIMITS: BOMBS: NO OF ITEMS: 1000

PERSONNEL LIMITS: OPERATORS: 5 CASUALS: 3

STEP | OPERATION NO: | TITLE: Dismantle Fuses

1. Fuses will be transferred by cargo truck to Bldg 515 or storage.
2. Drill out stake casing set screw in fuse with a positive shop explosion
   proof air drill, and remove set screw.
3. Remove closing cap from fuse in a barricade air operated disassembly
   machine, operated by remote control.
4. Place on work table and remove upper lock ring, lock pin, and lower ring
   from fuse body.
5. Saw out staked bottom closing screw in an air operated barricaded
   machine, operated by remote control.
6. Bottom closing screw will be removed in a barricaded fixture.
7. Separate loaded components by class and pack for transfer to Operation 5 in
   approved boxes.
8. Pack inert components for transfer to salvage yard.
9. Mark all items or packages for identification purposes.

NOTES:
Powder train rings and bottom closing nuts containing black powder will be
placed in water filled containers.

NOTES:
Service Magazine for fuses will be along reinforced concrete wall outside shot
blast room.
Black powder train will be held in Service Magazine A intra line distance
from building 515. Other components will be held in Service Magazine B
inter line distance from Bldg 515.

INSCRIPTION REQUIREMENTS:
1. Inspect inert fuse components for adequacy of decontamination in accordance
   with paragraphs 4.240 thru 4.243 of OCM and paragraph 2507 of OCM 7-224.

2. Inspect for compliance with this SOP, OCM 7-224, and other pertinent safety
   regulations.

SAFETY REQUIREMENTS:
1. CO2 or Dugas fire extinguishers will be readily available.
2. Operators will wear spark proof safety shoes.
3. Free exit from operating site will be maintained.
4. Good housekeeping will be maintained.
5. Inspect for compliance with paragraph 25086 of OCM 7-224.
6. Drill press operator will wear safety goggles.

DISPOSITION OF COMPONENTS AND MATERIALS:
Inert fuse parts to salvage
Loaded fuse parts to Operation 10.

EQUIPMENT REQUIREMENTS:
Explosive proof drill press
Barricaded fuse disassembly machine
Approve hand tools
OPERATING PROCEDURE FOR: Demolition of

SOP No: AH-0-106-B-1

NON-DECLASSIFIED: Shells, SF, HC, L, MG, Dualgren

DATE: 29 December 1976

W/Unit HTSQ M501 for 105mm Howitzer

T/M No: K105-39

LOCATION: Explosive Burning Ground

A.O No: 5050

EXPLOSIVE LIMITS: Foundry: No of Items:

SHIFT: 4:00

PERSONNEL LIMITS: Operators: 4 Casuals: 3

SHIFT: 4

TRASH OPERATION No: 10 TITLE: Destroy loaded components

1. All material to be demilitarized will be transported to explosive burning ground in cargo truck with wooden floor and sides. Components awaiting demilitarization will be stored in proper revetment.

2. Expelling charges and unserviceable canister will be spread on a bed of combustible material and destroyed by burning, as outlined in SOP AD-0-27.

3. Fuse parts will be paid on a bed of combustible material and destroyed by burning as outlined in SOP AD-0-27.

4. Scrap metal will be inspected and packed for transfer to salvage yard.

INSPECTION REQUIREMENTS:

Inspect all reclaimable scrap metal for decontamination in accordance with paragraphs 4.240 of DAD. O

Inspect for compliance with applicable safety regulations and SOP's.

SAFETY REQUIREMENTS:

1. Operators will wear flame proofed coveralls and safety shoes.

2. Plant operators will wear face shields.

3. All provisions for safety outlined in SOP AD-0-26 and AD-0-27 will be strictly adhered to.

DISPOSITION OF COMPONENTS AND MATERIAL:

Scrap metal to salvage yard.

EQUIPMENT REQUIREMENTS:

Transfer equipment
Detonator destruction plant
STANDING OPERATING PROCEDURE: Stenciling Ammunition Boxes

SOP NO: AM-C-106-R-1

NOMENCLATURE: Shell, 30 cal, Spako, H.C., No. 1624, Duplakan

DATE: 29 December 1954

W/NO: MT-3, 1501, for 1000 rounds

TECH NO: R125-39

LOCATION: Rldg 515

SIZE NO: 5050%

EXPLOSIVE LIMITS: POUNDS: Insert NO OF ITEMS: Ship: 600 boxes

PERSONNEL LIMITS: OPERATIONS: 6 Casual: 3 SHIFT: 6

NOTE:

1. Boxes will be placed on roller conveyors and stencilled with the correct lot number and nomenclature.

2. Stencilled boxes will be removed from conveyor, placed on pallets and boxes transferred to operating line by tow motor or forklift trucks.

INSTRUCTION REQUIREMENTS:

Inspect for correct marking of boxes.

SAFETY REQUIREMENTS:

1. Operators will wear safety shoes.

2. Fire extinguishers will be readily available.

3. Good housekeeping will be maintained.

DISPOSITION OF COMPONENTS AND MATERIAL:

Ammunition boxes to Operation 6.

EQUIPMENT REQUIREMENTS:

Stencil equipment
Roller conveyors
Approved transfer equipment
18 January 1955

STANDING OPERATING PROCEDURE NO: AM-0-108-R1, Amend 3

NOMENCLATURE: SHELL, S.F. Smoke, HC, BT, MG, Dualgran, for 105 MM Howitzer.

PURPOSE: To clarify SOP

Operation No 5

Notes under Steps: Add as follows:

Explosive limits of cannisters at each work table will not exceed 15 cannisters.

Cannisters found with deep pitted rust or a loose spiral will be rejected. Cannisters showing discoloration and/or formulations of light to medium rust in the flash tube are considered acceptable for reuse. No attempt will be made to remove rust from the flash tube. Cannisters having rust on the exterior wall that can be removed by wiping and/or light buffing will be acceptable for reuse.

Operation No 9

Steps 3 and 5:

Substitute the word "shielded" for the word "barricaded".

Step 6:

Substitute the words, "with a hand operated" for the words "in a barricaded".

Approved:

[Signature]

ALLEN T. HODGES JR.
Major Ord Corps
Commanding
DEPARTMENT OF THE ARMY
MINES DIV. Ord. NO. DEPOT
GALLUP, New Mexico

24 January 1955

STANDING OPERATING PROCEDURE NO: AO-106-S1, Amendment No 4

NON-ACRONYMS: Shell, SF, Smoke, HC, HE, HEA, Dualgran, w/fuze, M134, M501 for 105mm Howitzer.

PURPOSE: To make provision for substitute equipment.

Operation 9
Delete Step 2

Add step 2 to read as follows: "Drill out stake closing set screw in fuze with a positive stop explosion proof electric or air drill and remove set screw."

APPROVED:

[Signature]

ALLEN T. HOUSES JR.
Major, Ord Corps
Commanding

CONCURRENCES:

Asst for Supply
Chief, Surv. Div.
Chief, Arm Maint Div.
Storage Division
Safety
Management
DEPARTMENT OF THE ARMY
HEADQUARTERS, ORDNANCE DEPOT
GALUP, NM, MEXICO

26 January, 1955

STANDING OPERATING PROCEDURE NO: AH-0-106-51, Amendment No. 5

NOMENCLATURE: Shell, 6F, Smoke, HC, HE, M34, Dualgren, w/fuze, M34, M501 for 105mm Howitzer.

PURPOSE: To create a more efficient operation.

Operation 5

Delete Step 5

Add step 5 to read as follows: "Expelling charges will be placed in metal container for removal to cast platform awaiting transfer to operation 9. Drum containing expelling charges will be removed at least twice each day, morning and afternoon."

Operation 9

Delete 1st Note

Add first note to read as follows: "Powder train rings and bottom closing nuts containing black powder, will be placed in metal container with lid, each container being properly grounded."

Change requested by:

E. L. Walker
E. L. WALKER

CONCURRENCE:

Asst for Supply
Surveillance
Ammo Maint. Div.
Storage Division
Safety
Management

APPROVED:

Allen J. Hingos, Sr.
Major, Ord Corps
Commanding
STANDING OPERATING PROCEDURE NO: AM-G-105-RL, Amendment No. 6

NOMENCLATURE: Shell, SF, Smoke, HCl, HE, WP, Dualgran, w/fuze, MTSQ, M501 for 105mm Howitzer.

PURPOSE: To provide for extraordinary condition

Operation 5

Add Note: In the event it becomes necessary to segregate serviceable and unserviceable cannisters prior to renovation, serviceable cannisters will be placed in service magazine on North side of Bldg 500. The present explosive limit of 2000 cannisters will be raised to 20,000. All projectiles from which cannisters have been removed will be replaced in original packing in room 7 and transferred to temporary storage on East platform. Limits will be 1000 projectiles awaiting transfer to storage via approved transfer equipment. Unserviceable cannisters will be temporarily stored in service magazine 513 awaiting transfer to burning ground via approved transfer equipment. Explosive limit of cannisters in service magazine 513 will be 4000. Reject cannisters will be held in Bldg 513 only when the above extraordinary situation exists. There will be no fuses stored in Bldg 513 when cannisters are present.

Change requested by: E.L. Walker

CONCURRENCE:

Asst for Supply
Surveillance Div.
Amn Maint. Div.
Storage Div.
Safety
Management

APPROVED:

Allen T. Hodges, Jr.
Major, Ord Corps
Commanding
DEPARTMENT OF THE ARMY
WRIGHTS ORDANANCE DEPOT
GALUP, NEW MEXICO

1 February 1955

STANDING OPERATING PROCEDURE NO: AN-C-105-R1, Amendment No. 7

NOMENCLATURE: Shell, SP, Smoke, HE, HE, M54, Dualgran, w/Fuse, M53Q, M501 for 105mm Howitzer.

PURPOSE: To create a more efficient operation: Disassemble fuses:
Operation No. 9
Raise number of operators from 5 to 7.

Change requested by: E. E. Weller

CONCURRENCE:

Aunt for Supply
Surveillance
Ammc Maint. Div.
Storage Div.
Safety
Management

APPROVED:

Allen J. Hoke
Major  Ord Corps
Commanding
STANDING OPERATING PROCEDURE NO. AM-0-256-R-1, Amendment No. 3

NOMENCLATURE: Shell, Sz, Smoke, No, Bl, Ø12, Decalcar, NFAS, NFSS, NFSS for 105mm Howitzer.

PURPOSE: To clarify explosive limits

Operation No. 9 - Disassemble Fuses

Add Note:
Explosive limits of black powder train rings, butten closing mix and closing caps in S-98, 115 will be the production of 1 shift or 2000 of each, whichever is less.

Change requested by: E. L. Welker

CONCURRENCE:


APPROVED:

[Signature] ALLEN T. RICHARDS, Jr., Major, Ord Corps

Commanding
DEPARTMENT OF THE ARMY
WINCHESTER ORDNANCE DEPOT
GALLUP, NEW MEXICO

6 Feb. 53

STANDING OPERATING PROCEDURE No.: AM-S-106-52, Amendment No. 9

NOMENCLATURE: Shell, SP, Smoke, EC, HE, MG, Dualgran, w/fuse, MTS, M50M, etc. 105mm Howitzer.

PURPOSE: To establish explosive limits

Operation 6 - Assemble and Repeel

Add to Notes: Surveillance Inspection Room (in room 8) 25 rounds.

Change Requested by: E. L. Walker

CONECERNEE:

Asst for Supply
Surveillance Div.
Ammo Maint. Div.
Storage Div.
Safety
Management

APPROVED:

Allen T. Rogers, Jr.
Major, Ord Corps
Commanding
DEPARTMENT OF THE ARMY
KINGMAN CRUDE DEPOT
GALLUP, NEW MEXICO

9 February 1966

STANDING OPERATING PROCEDURE NO: AM-0-205-P2, Amendment Dec 10

NOMENCLATURE: Shell, SP, Smoke, HC, HE, M3A, Dualgren, prop, MTSQ, MGOL for 105mm Howitzer

PURPOSE: To increase efficiency of operation

Operation 5 - Replace Expelling Charges

Explosive limits - Change number of items from 15 to 30.

Note under steps: Change ammonia explosive limit at each work table from 15 to 30.

Operation 7 - Insert Charge Expelling in Cartridge Case

Add Step 3a: Reject dualgren charges will be placed in a metal container with lids. Explosive limit per container will be 25. Container will be transferred to east platform at least once each day awaiting transfer to operation 10. Platform explosive limit will be 2 containers or 50 charges.

Signed Requested By: E.L. Walker

CONCURRENCE:

Asset for Supply
Surveillance
Ammo Maint. Div.
Storage Div.
Safety
Management

APPROVED:

Allen T. Rogers, Jr.
Major, Ord Corp
Commanding
STANDING OPERATING PROCEDURE No. AV-3-166-W1. Amendment No. 11

NOMENCLATURE: Shell, 270 Smoke, HE, HE, M4, Dualprop, m/fox0, MTSQ, M501 for 105mm Howitzer.

PURPOSE: To increase efficiency of operation.

Operation 5 - Replace Expelling Charges.

Add to steps under steps:

The explosive limit of rejected canisters on east platform of Bldg. 500 will be

1,000 canisters or 16 boxes.

Change Requested By: E. L. WALKER

CONCURRENCE:

[Signatures]

APPROVED:

[Signature: Allen T. Hodges, Jr., Major/ ord. Corps, Commanding]
STANDING OPERATING PROCEDURE NO:  AM-C-106-91, Amendment No. 12

NOMENCLATURE: Shell, S7, Smoke, EC, PE, M34, Dual-charge, w/fuze, M7SQ, M501
for 105mm Howitzer.

PURPOSE: To provide for extraordinary condition

Operation 5 - Replace Expelling Charges

Inspection Requirements

Add sentence to read as follows: Projectiles found with rust which requires buffing will be stamped inert, palletized and transferred to Machine Shop via approved transfer equipment. Upon completion of buffing operation projectiles will be returned to production line via approved transfer equipment.

Chnaro requested by: E. L. Walker

CONCURRENCE:

Asst for Supply
Surveillance
Ammo Maint. Div.
Storage Div.
Safety
Management

APPROVED:

Allen T. Hodges, Jr.
Major, Ord Corps
Commanding
1. Fuse received on truck. Time to be entered on log at the loading point.
2. Each box of fuses will be counted and weighed in the same manner.
3. Fuses in packages more than one box will be opened and stripped invoices from each.
4. Operator will remove fuse from the boxes in a manner that will prevent any damage to the fuses.
5. Remove fuses from boxes and place them in the correct order.
6. Remove boxes from the truck and place them in the correct order.
7. Open boxes and remove fuses from them. Make sure they are placed in the correct order.
8. Remove fuse body from machine and place the fuse body in a box. Follow the instructions on the package.

NOTES:
- Mean 5 h. 50 min. approx. 1500 per day.
- Personnel limits mean 5 or more operators at once operating machine 3 operators.

Explosive Limits: 8 ppm. Compressed air 1.5%.

Induction equipment:
- Inspect for compliance with this and other permit regulations.

SAFETY REQUIREMENTS:
1. Fuse disassembly machine will be constructed to prevent operating until assembly.
2. Operators will wear flame resistant coveralls, gloves and protective goggles. Safety shoes will be worn at a grounded platform.
3. Fire extinguishers will be readily available.
4. Good housekeeping will be observed.
5. Disassembly machine will have fume extraction.

DISPOSITION OF REMAINING FUSIBLE MATERIAL:
- Fuse and fuse bodies in Operation 3.

EMPLOYMENT DEPARTMENT:
- Fuse disassembly machine

WHERE FUSE BODIES ARE TRIMMED, MATERIAL WILL BE COLLECTED IMMEDIATELY. THE FUSE TRIMMED IN SEC. 3.3.
- WHERE FUSES ARE TRIMMED, MATERIAL WILL BE COLLECTED IMMEDIATELY. THE FUSES WILL BE PROCESSED, PULVERIZED AND COMBINED INTO A COMBUSTIBLE MOLDING.
DEPARTMENT OF THE ARMY
WINGATE ORDNANCE DEPOT
GALLUP, NEW MEXICO

STANDING OPERATING PROCEDURE
FOR

Demilitarization

COMPLETE NOMENCLATURE: Bomb, Fragmentation, TNT, 22-lb. M72, w/parachute

ITEM NO: WOD-2   AMO NO:  SOF NO: AM-0-207   DATE: August 1956

TOTAL Quantity Scheduled: 350,000
Estimated Production Per 8-hr. Shift: 1,500
Estimated Total Direct Labor Crew Per Shift: 40
Estimated Total Direct Man-hours Per Unit: 40
Estimated Total Ordnance Cost Per Unit: 44

LOCATION OF OPERATING BUILDING, INCLUDING BUDDG. NO: Bldg. 503, AMDL.

NOTICE: All tools and equipment used in explosive hazardous operations will be inspected and approved by the Surveillance Division before they will be utilized in this operation.

NOTICE: All tools and equipment used in industrial hazardous operations will be inspected and approved by the Safety Director.

I certify that copies of approved SOP will be posted at operation sites indicated and that all employees have been or will be thoroughly instructed in the provisions of this SOP.

E. L. Walzer
DIVISION CHIEF

Prepared By:

CONCURRED IN:
Ammo. Maint.
Storage
Safety
Surveillance
Management

APPROVED
Allen J. Shively
Major Ord Corps
Commanding

ORDA-43A
Rev. 5-6-54

SHEET 1 OF 15
If, to accomplish a task, a Commanding Officer believes an exemption to mandatory requirement of regulations is essential, such need for exception will be pointed out and fully justified upon referring procedures for review. Operations involving such unauthorized deviations will not be started prior to receipt of exemption from the Chief of Ordnance.

Operations for specific scheduled items should be planned for completion on a day-to-day basis to eliminate the accumulation in operating building or at any location of hazardous material resulting from demilitarization operations (reference paragraph 1602 of ORD M 7-224, 4 Sept 51). In no event will a scheduled item be reported complete so long as any rounds or components for this item remain to be disposed of other than through salvage channel.

Inspection requirements for ammunition are included in drawings and specifications, Ordnance Inspection Handbooks, ORD-M606, ORD-M608-B, and ORD-M608-M1, OACI, Part 4, and in classifications of defects issued for each item. In order to insure that the ammunition produced, renovated or demilitarized in accordance with this Typical Procedure will meet the requirements described in the documents listed above, certain process inspections are specified as a part of the Typical Procedure. Specific instructions concerning the acceptance inspection of the end product will be issued by ORBL-1. All residual metal components and all packing material, after demilitarization, will be inspected and certified for adequacy of decontamination in accordance with paragraphs 4.510 through 4.513 of the OACI and paragraphs 2507 and 2508 of ORD M 7-224, 4 Sept 51.

Safety requirements which are mandatory for demilitarization and renovation of ammunition items are included in Ordnance Safety Manual, ORD M 7-224, Ordnance Corps Technical Instructions of the 700 series and in other applicable directives. Such requirements will be complied with as stated in paragraphs 163, 504 and 105 of referenced manual, special attention being directed to the following:

1. **EXPLOSIVES AND AMMUNITION HANDLING**

   Paragraphs 907, 1520, 1717, 1718, 1719, 1868, 2002 through 2458, 2115, 2116 and Section 24 of ORD M 7-224.

2. **EXPLOSIVES AND AMMUNITION HAZARDS**

   a. Either at the storage site, or after unstacking, all ammunition and explosives will be inspected for proper identification, evidence of contamination, excessively deteriorated, damaged or missing components and other defects which would render the items unsafe to handle or process in a normal manner. Such items should be disposed of in accordance with the provisions of paragraph 1708 of ORD M 7-224.

   b. Paragraphs 1207, 1322 and Section 26 of ORD M 7-224.

3. **SAFETY CLOTHING AND TOOLS**

   Paragraphs 1612, 1612, 1621, and Sections 14 and 23 of ORD M 7-224.

4. **SAFETY LIMITS**

   Explosive and personal limits will be established, posted and maintained at the minimum necessary for safe and efficient operation (reference paragraphs 3521 and 3602 of ORD M 7-224).

5. **SPECIAL TECHNICAL SHEETS**

   Paragraphs 2503, 266 and 266a of ORD M 7-224.

6. **BARriers**

   Paragraphs 266, 207 and Section 17 of ORD M 7-224.
7. DESTRUCTION OF EXPLOSIVES AND ARMAMENT:

Paragraphs 9.311 through 9.314 of the OECI and Section 27 of ORD M 7-224.

8. SAFETY RULES AND STANDARDS:

a. Paragraphs 101, 102, 103, 906, 1625 and 2501 of ORD M 7-224.

b. Reference publications pages I through IX of ORD M 7-224.
1. Remove and transfer from storage
2. Unpack and inspect
3. Remove parachute assembly
4. Remove nose plugs
5. Release base plugs
6. Washout explosive filler
7. Flake and pack TNT
8. Disassemble and inspect washed out bombs
9. Disassemble parachute unit
10. Disassemble fuse
11. Destroy loaded components and explosive sludge
STANDING OPERATING PROCEDURE FOR: Demilitarization of

NOMENCLATURE: Bomb, Fragmentation, TEC, 22-lb., M72,

v/parachute

LOCATION: Various Storage Sites

EXPLOSIVE LIMITS: POUNDS: Stored NO OF ITEMS: Stored

PERSONNEL LIMITS: OPERATORS: A* CASUALS: 3

STEP OPERATION NO: 1 TITLE: Remove and transfer from storage

1. Boxes will be removed from storage and placed on pallet.

2. Munition Handler will remove storage dunnage and stack outside igloo.

3. Pallets will be loaded by approved type forklift onto van, semi-trailer with wooden floor and sides. Not more than 50 bombs per pallet, 7 pallets to van.

4. Loaded van will be moved to west platform, Bldg. 503 and pallets unloaded on platform by electric forklift.

EXPLOSIVE LIMITS RECEIVING PLATFORM: 550 bombs.

INSPECTION REQUIREMENTS:

Inspect for compliance with this SOP and other pertinent regulations.

SAFETY REQUIREMENTS:

1. Fire extinguishers will be readily available.

2. Free exit from igloo will be maintained.

3. Operators will wear safety shoes and gloves.


5. Good housekeeping will be maintained.

DISPOSITION OF COMPONENTS AND MATERIAL:

Bombs to Operation 2.

Dunnage to Dunnage Yard.

EQUIPMENT REQUIREMENTS:

1 Van, Semi-trailer
1 Truck, Tractor, 5-ton
1 Electric Forklift

* Includes forklift operator and truck driver.
STANDING OPERATING PROCEDURE FOR: Demilitarization OF

NOMENCLATURE: Bomb, Fragmentation, TNT, 23-lb, M72.

ITEM NO: W00-2

LOCATION: Room No. 1, AWS Bldg 503

AWO NO: 506590.00-19-11020

EXPLOSIVE LIMITS: POUNDS: 15 lbs NO. OF ITEMS: 50

PERSONNEL LIMITS: OPERATORS: 4 CASUALS: 3

STEP  OPERATION NO: 2 TITLE: Unpack and Inspect

1. One pallet of bombs (50 bombs) received via electric forklift and placed beside work table.
2. Strapping and seals will be removed from packing box.
3. Bombs will be removed from box and placed on work table.
4. If any unsafe bombs are found the Surveillance Inspector will be notified and bomb will be hand carried to Barricade No 514 awaiting disposition. Limits at Barricade No. 514 - 5 Bombs.
5. Fuses will be repacked in used ammunition boxes and transferred to temporary holding bay, Service Magazine No 2 for transfer as required to operation No. 10 Bldg 19, Service Magazine 2.

* Limits in Room 1, Bldg No 503 will be 300 bombs.
  Number of Operators - 24, Casuals - 5
  Limits in Service Magazine No. 2 will be 1500 fuses.
  Limits in Room 1 AWS Bldg 503 will be 3 boxes or 300 fuses.

INSPECTION REQUIREMENTS:

1. Inspect for compliance with this SOP and other pertinent regulations.
2. Inspect bombs for dangerous deterioration and/or other conditions which would render bomb unsafe to handle or process in normal manner.
3. Inspect packing boxes for adequacy of decontamination and transfer to Salvage Yard.

SAFETY REQUIREMENTS:

1. Operators will wear safety shoes and gloves.
2. Fire extinguishers will be readily available.
3. Fire exit from operating site will be maintained.
4. Good housekeeping will be observed.
5. Operators doing the strap cutting will wear gloves, face shields and/or safety goggles.
7. Explosive limits will be conspicuously posted.

DISPOSITION OF COMPONENTS AND MATERIAL:

1. Bombs to Operation 3
2. Boxes to Salvage Yard
3. Fuses to Operation 10

EQUIPMENT REQUIREMENTS:

Electric forklift
Power Conveyor
Strap cutter and pliers
Face shield
Strapping tools
Pallets

*Number of items combined with number of items in operation No 3 will be posted at operational site.
STANDING OPERATING PROCEDURE FOR: Demilitarization OF

NOMENCLATURE: Bomb, Fragmentation, TNT, 23-lb.
ITEM NO: KCD-2

LOCATION: Room 1, AWS Elde No 502
AWO NO: 50650400-10-11020
PROD/6-HR SHRIFT: 1500

EXPLOSIVE LIMITS: POUNDS: NO OF ITEMS: 20 Bombs

PERSONNEL LIMITS: OPERATORS: 3 CASUALS: 3
DIRECT LABOR SHRIFT: 4

STEP
OPERATION NO: 3 TITLE: Remove parachute assembly

1. Bombs received from Operation 2 on work table.
2. Release set screws on parachute end of bombs by means of hand or air impact screwdriver.
3. Position bomb in air vise and remove parachute unit by means of strap wrench.
4. Place bomb body on power conveyor for transfer to Operation 4.
5. Place parachute unit in box pallet on ammunition cart for transfer to Operation 9.

INSPECTION REQUIREMENTS:
Inspect for compliance with this SOP and other pertinent regulations.

SAFETY REGULATIONS:
1. Operators will wear safety shoes and gloves.
2. Fire extinguishers will be readily available.
3. Good housekeeping will be maintained.
4. Free exit from operating site will be maintained.
5. Space bombs a minimum of two feet apart.

DISPOSITION OF COMPONENTS AND MATERIALS:
2. Parachute unit assemblies to Operation 9.

EQUIPMENT REQUIREMENTS:
Air vises, strap wrenches, screwdriver, power conveyor, box pallets, ammunition carts

* Number of items combined with number of items in operation No 2 will be posted at operational site.
STANDING OPERATING PROCEDURE FOR: Demilitarization OF

NOMENCLATURE: Bomb. Fragmentation. THT. 23-lb. M72

v/parachute

LOCATION: Room 3, AWS Bldg. 503

EXPLOSIVE LIMITS: POUNDS: NO OF ITEMS: 4 ea per bnv

1 per

PERSONNEL LIMITS: OPERATORS: BARRICADE CASUALTIES: ea bnv

DIRECTIONS: 1500

DIRECT LABOR:

SHIFT: 2

STEP

OPERATION NO: 4. TITLE: Remove nose plug.

1. Bombs received from Operation 3 via power conveyor.

2. Bomb will be removed from power conveyor and placed in air vise.

3. Nose plug will be removed from bomb body by means of hand wrench.

4. Bomb will be replaced on power conveyor for transfer to Operation No. 5.

5. Nose plugs will be removed from conveyor and placed in used ammunition boxes for transfer to salvage.

INSPECTION REQUIREMENTS:

Inspect for compliance with this SOP and other pertinent regulations.

SAFETY REGULATIONS:

1. Operators will wear safety shoes and gloves.

2. Fire extinguishers will be readily available.

3. Good housekeeping will be observed.

4. Free exit from operating site will be maintained.

DISPOSITION OF COMPONENTS AND MATERIAL:

1. Nose plugs to Salvage

2. Bombs to Operation 5

EQUIPMENT REQUIREMENTS:

Air vise

Power conveyor

Nose plug wrench
STANDING OPERATING PROCEDURE FOR: Demilitarization OF  

NOMENCLATURE: Bomb, Fragmentation, TNT, 23-lb, M72, w/parachute  

LOCATION: Room 1, ABS Bldg #503  

EXPLOSIVE LIMITS:  

POUNDS: 8.1  

3 bombs per line  

NO. OF ITEMS: 1  

PER EI LIMITS:  

OPERATORS: barricade  

CASUALS: ec berr.  

SHIFT: DIRECT LABOR/SHIFT: 5  

FAB No: 50650400-19-11020  

SOP NO: AM-0-107  

DATE: August 1954  

ITEM NO: WDD-2  

UNIT:  

1. Bombs received from Operation 4 via power conveyor.  

2. Operator hand carries 3 bombs to each machine in barricade.  

3. Bombs are placed in base plug removal machine and secured by pneumatic clamp.  

4. Operators retire to front of barricade and release base closing plug by means of remote controlled air powered machine. This operation is observed by means of mirror.  

5. Operators return to barricade, remove bombs from machine, and hand carry to power conveyor.  

6. Bombs will be removed from conveyor and placed in box pallet on ammunition cart and transferred to Operation 6.  

NOTE: Base plug is not completely removed from bomb until it reaches washout operation.  

Explosive Limits: Not more than 120 bombs per cart.  

Not more than 640 bombs on platform for washout or storage.  

INSPECTION REQUIREMENTS:  

Inspect for compliance with this SOP and other pertinent regulations.  

SAFETY REQUIREMENTS:  

1. Operators will wear gloves and safety shoes.  

2. Only 3 bombs permitted behind each barricade while machine is in operation.  

3. Approved type fire extinguishers will be readily available.  

4. Free exit from operating site will be maintained.  

5. Good housekeeping will be observed.  

6. At no time will machine be operated when anyone is behind barricade.  

DISPOSITION OF COMPONENTS AND MATERIAL:  

Bombs to Operation No 6.  

EQUIPMENT REQUIREMENTS:  

Base closing plug machine  

Ammunition Cart  

Box Pallet  

Power conveyor  

SHEET 9 OF 15
SWALLOWING OPERATING PROCEDURE FOR: Demilitarization of Fragmentation, TN?

NOMENCLATURE: Bomb, Demilitar 23-lb. M72

LOCATION: Washout Room, ANS Bldg. No. 503

EXPLOSIVE LIMITS: POUNDS: 5000 No. OF ITEMS:Bomb
460
4 box pallets

PERSONNEL LIMITS: OPERATORS: 5 CASUALS: 3

STEP

OPERATION NO: 6 TITLE: Washout TNT filler

1. Bombs received from Operation 5 via electric tow motor and rubber tired ammunition cart.
2. Position bombs over nozzles on washout manifold after removal of base plug.
3. Open valve on circulating line and wash until bomb is free of explosive filler.
4. Rinse bomb with clear hot water.
5. Remove bomb from washout manifold and return to ammunition cart.
6. Inspect interior of bomb for complete removal of explosive filler.
7. Empty TNT to feed tank in flaker room.
8. Base plugs are washed in hot water.
9. Washed out bombs and base plugs transferred to Operation 8 by electric tow motor.

NOTE: Temporary storage for backlog of washed out bodies will be open site between igloos I-1549 and I-1550.

INSPCTION REQUIREMENTS:
Inspect for compliance with this SOP and other pertinent regulations.

SAFETY REQUIREMENTS:

1. Before starting and during operation at one-hour intervals, water temperature and steam pressure gauge will be checked.
2. Only approved safety tools and equipment will be used.
3. Prescribed types of special clothing and shoes will be worn.
4. Floors and equipment will be kept free of TNT by frequent flushing with hot water.
5. Free exit from operating site will be maintained.
6. Small sludge tank will be replaced once per week and large sludge sump will be drained and cleaned a minimum of once each three months.

DISPOSITION OF COMPONENTS AND MATERIAL:
1. TNT to Operation 7.
2. Bombs and base plugs to Operation 8.

EQUIPMENT REQUIREMENTS:
Washout plant, electric tow motor, ammunition carts, box pallets

NOTE: During clean-up period, after all TNT has been exhausted from washout tanks, personnel limits will be raised to 10 Operators to permit efficient cleaning of plant.

*All workers handling exposed toxic explosives will be supplied with and will wear:
STANDING OPERATING PROCEDURE FOR: Demilitarization OF

SOP NO: AM-2-107

NOMENCLATURE: Bomb, Fragmentation. TNT, 23-lb M72

DATE: August 1954

ITEM NO: WSD-2

LOCATION: Flaking and packing room, ANS Bldg #503

5000 in flaking room

AOC NO: 406/50/400-19-11020

EXPLOSIVE LIMITS: POUNDS: 15,000 in packing rm NO OF ITEMS: 5,000

PERSONNEL LIMITS: OPERATORS: 4 CASUALS: 3

DIRECT LABOR/SHIFT: 4

STEP OPERATION NO 7 TITLE: Flake and pack TNT

1. Check flaker drum for proper speed (5 to 11 rpm), flaker blade for correct setting (.025 inches from drum), circulating water system and TNT dust collector for proper functioning.

2. Remove TNT from feed tank by gravity flow.

3. Flake TNT.

4. Fill and weigh boxes of TNT from hopper.

5. Transfer box to vibrator and firmly pack contents.

6. Seal paper liner, lid of cardboard box will be glued and lid closed.

7. Stencil TNT box in accordance with letter ORD-L-1-400.16/12882, para 7, dtg 15 March 1948 and appropriate ICC markings.

8. TNT box will be placed on pallet on a rubber-tired ammunition cart and box strapped, 27 each 50 lb boxes per pallet.

9. Pallet load will be moved to point 50 feet from operation awaiting transfer to closed van in barricaded storage site No 906. Transfer will be accomplished with approved type forklift truck.

INSPECTION REQUIREMENTS:

Inspect for compliance with this SOP and other pertinent regulations.

SAFETY REQUIREMENTS:

1. Operators will wear prescribed special clothing and safety shoes as outlined in Operation 6.

2. Only approved type safety tools and equipment will be used.

3. Good housekeeping will be maintained.

4. CO 2 or Du-gas fire extinguishers will be readily available.

5. Free exit from Operating Site will be maintained.

6. Floors will be kept free of TNT by frequent flushing with hot water.

7. Operators weighing TNT will wear dust respirator.

8. Truck traffic will be prohibited while flaking and packing operation is in progress.

9. Exhaust blower will be checked periodically for explosive contamination and cleaned when necessary.

DISPOSITION OF COMPONENTS AND MATERIAL:

Packed TNT to storage.

EQUIPMENT REQUIREMENTS:

Feed tank, flaker, scales, vibrator, roller conveyors, work table, strapping tools, stencil equipment, transfer equipment, packing material.

*Explosive limits Barricade # 506 - 10,000 lbs.

SHEET 11 OF 15
STANDING OPERATING PROCEDURE FOR: Demilitarization OF

NOMENCLATURE: Bomb, Fragmentation, TNT, 22-lb M72
ITEM NO: H90-2
m/parachute

LOCATION: Room 2, Bldg 503
AHD NO: 506504200-19-11020
PROD/EP: BR
SHIFT: 1500

EXPLOSIVE LIMITS: FOUND: NO OF ITEMS:
DIRECT LABOR/
OPERATORS: 3 CASUALS: 3
SHIFT: 3

STEP OPERATION NO: 8 TITLE: Disassemble and inert washed out bombs

1. Bombs received from washout plant, Operation No 6, via ammunition carts and electric tow motor.

2. Bomb will be removed from cart and placed on adapter bushing disassembly machine, which removes fuse well cups and separates adapter bushing from bomb body.

3. Metal parts will be separated and inspected for complete removal of TNT, if any part is found which shows TNT contamination it will be segregated and returned to washout operation. Decontamination will be certified by Surveillance stamp.

4. Inert metal parts will be loaded on dump truck and/or box pallet and transferred to salvage yard, after being inspected and stamped by Surveillance Inspector.

5. Where necessary bakelite cup will be broken with improvised hand tool.

INSPECTION REQUIREMENTS:

1. Scrap metal will be inspected for adequacy of decontamination in accordance with paragraphs 4.240 thru 4.243 of ORCI and paragraph 2507 of ORD M 7-224.

2. Inspect for compliance with this SOP and other pertinent regulations.

SAFETY REQUIREMENTS:

1. Operators will wear goggles or face shields, safety shoes and gloves.
2. Fire extinguishers will be readily available.
3. Good housekeeping will be observed.
4. Free exit from operating site will be maintained.

DISPOSITION OF COMPONENTS AND MATERIAL:

Metal parts to Salvage Yard.

EQUIPMENT REQUIREMENTS:

Bomb disassembly machine
Dump truck and/or box pallet
STANDING OPERATING PROCEDURE FOR: Demilitarization of Parachute


DATE: August 1954

ITEM NO: M02-2

LOCATION: Room 1, A&W Bldg 503

PROD/HR: 6

SHW: 1000

EXPLORATIVE LIMITS: 2000

NO OF ITEMS: 2000

PERSONNEL LIMITS: OPERATORS: 5

CASUALS: 3

DIRECT LABOR:

SHW: 5

---

STEP OPERATION NO: 9 TITLE: Disassemble parachute unit

1. Parachute unit assemblies received from Operation 3 via rubber tired ammunition cart.

2. Operator will remove unit from cart and place in holding fixture on electric drill press equipped with explosion proof motor.

3. Base of parachute container will be removed by cutter.

4. Unit will be placed on work table and parachute assembly removed. Shroud will be separated from metal parts by means of scissors or knives.

5. Parachutes will be baled and properly marked for transfer to Salvage Officer.

6. Metal parts will be placed in dump truck or pallet boxes and transferred to salvage.

INSPECTION REQUIREMENTS:

Inspect for compliance with this SOP and other pertinent regulations.

SAFETY REQUIREMENTS:

1. Operators will wear safety shoes and gloves.

2. Fire extinguishers will be readily available.

3. Good housekeeping will be observed.

4. Free exit from operating site will be maintained.

5. Machine operator will wear face shield and/or goggles.

DISPOSITION OF COMPONENTS AND MATERIAL:

Parachutes to Salvage.

Metal parts to Salvage.

EQUIPMENT REQUIREMENTS:

- Machine for removing ends from parachute assembly.
- Work table.
- Ammunition Cart.
- Knives and Scissors.
STANDING OPERATING PROCEDURE FOR: Demilitarization OF SOP NO: AM-0-107

NOMENCLATURE: Bomb, Fragmentation, TNT 22-lb M72 DATE: August 1954
w/parachute

ITEM NO: WOD-2

LOCATION: Room 4, Bldg 19 AMD NO: 50650/CC-19-11020

EXPLOSIVE LIMITS: POUNDS NO OF ITEMS: 750 PROD/8-8R

PERSONNEL LIMITS: OPERATORS: 3 CASUALS: 3

SHIFT: 1400 DIRECT LABOR:

SHIFT: 3

STEP OPERATION NO: 10 TITLE: Disassemble M120 series fuse

1. Fuses received on pallet from Service Magazine No 2.
2. Packed fuses will be placed on work table and box lid removed.
3. Fuses in hermetically sealed cans (from box) will be placed on work table and metal stripping removed from can.*
4. Operator will remove fuse from can and place in wooden tray (20 per tray) on rubber tired ammunition cart for transfer to disassembly machine.
5. Remove fuse from tray and position in barricade fixture.
6. Remove booster by remote control, closing barricade door before operating machine.**
7. Open barricade door and remove booster and pack in wooden boxes for transfer to Operation 11 (temporary holding point Room 5 Barricade A - Explosive limit 1500 boosters).
8. Remove fuse body from machine and pack for transfer to Room 5 awaiting transfer to Operation 11. Explosive limit is 1500 fuse bodies - Cubicle B.

Room 5 Bldg 19, Set up 3 shields to make 5 cubicles.

NOTE: Supplies will be moved at least once each shift.

Explosive limits Room 5 Barricade A - 1,000 lbs
Explosive limits Room 5 Barricade B - 1,000 lbs

INSPECTION REQUIREMENTS:

Inspect for compliance with this SOP and other pertinent regulations.

SAFETY REQUIREMENTS:

1. Fuse disassembly machine will be so constructed to prevent operating until door is closed.
2. Operators will wear flameproofed coveralls, gloves and conductive soled safety shoes, and will work from a grounded platform.
3. Fire extinguishers will be readily available.
4. Good housekeeping will be observed.
5. Disassembly machine will have positive lock.
6. Where hazardous fuses are found, Surveillance will be notified immediately and fuses transferred to demolition area.

DISPOSITION OF COMPONENTS AND MATERIAL:

Boosters and fuse bodies to Operation 11.

EQUIPMENT REQUIREMENTS:

Fuse disassembly machine

**Where fuses are found in which booster cups cannot be removed by normal operation, fuses will be carefully packed for transfer to Operation 11, where they will be destroyed by detonation.
STANDING OPERATING PROCEDURE FOR: Demilitarization of EXPLOSION LIMITS: FEUDES: NO. OF ITEMS: DIRECT LABOR/ 1. Explosive sludge will be moved to Burning Ground in barrels or tanks by 2. Sludge will be placed on a bed of combustible material, confined in a trench 3. Boosters will be placed in a trench and destroyed by detonation as outlined 4. Fuse bodies will be laid on a bed of combustible material and burned. means of cargo truck. and burned while still damp. in SOP No. AM-0-28. 

OPERATION NO: III TITLE COMPONENTS: Destroy explosive sludge and loaded

1. Inspect for adequacy of decontamination in accordance with paragraphs 4.240 thru 4.243 of DMC1 and paragraph 2507 of ORD M 7-224,
2. Inspect for compliance with this SOP and other pertinent regulations.

SAFETY REQUIREMENTS:
1. Safety requirements outlined in Section 27 of OSM, SOP's AD-0-27 and AD-0-28 will be carefully followed.
2. Explosive sludge will be burned before completely dried to prevent scattering by wind.
3. Operators will wear flameproofed coveralls and safety shoes.

DISPOSITION OF COMPONENTS AND MATERIAL:
Metal parts to Salvage.

EQUIPMENT REQUIREMENTS:
Transfer equipment.
**STANDARD OPERATING PROCEDURE**

**FOR**

**Deactivation**

**COMPLETE NATURE:** Cluster, Fqg Round 111-1

**NO:** 301-11  **AM NO:** 11067  **SOP NO:** 10-33-32-31  **DATE:** 24 November 1951

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**LOCATION OF OPERATING BUILDING, INCLUDING BLDG. NO.:** BLDG. 500 ANSA

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**NOTICE:** All tools and equipment used in explosive hazardous operations will be inspected and approved by the Surveillance Division before they will be utilized in this operation.

**NOTICE:** All tools and equipment used in industrial hazardous operations will be inspected and approved by the safety director.

I certify that copies of approved SOP will be posted at operation sites indicated and that all employees have been or will be thoroughly instructed in the provisions of this SOP.

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**Prepared By:**

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**CONCURRED IN:** Ammunition Maintenance

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**APPROVED:**

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**Allen T. Hodge, Jr.**

Major, Ord Corps

Commanding
1. Open and Inspect

2. Unpack, inspect and disassemble Cluster

3. Remove Fuses

4. Remove booster and/or fuses

5. Remove Boosters

6. Remove Irreparable Pins

7. Pack Components

8. Obliterate and Restencil

9. Destroy Fuses and Boosters
In order to reserve boxed cluster bombs from top of stack, the stacks may be stair stepped or a platform can be made by using pallets to stand on in order to hand the box to operators at the lower level to place on roller conveyor, as described in step 2.

Two (2) operators will be required to hand boxes off top of stack to next (2) two operators standing on either pallet platform or stack that is stair stepped who will place box on skid on roller conveyor. Rope handles will not be used during the handling of the box. Box will be grasped at the bottom by each operator. At no time will cluster bomb be moved in other than horizontal position. At no time will more boxes be placed on conveyor than would extend beyond the opening of the door and box high.

Box strapping will be cut and placed in containers for transfer to salvage as box is moved outside storage door.

Box will be pushed on roller conveyor to Inspection station from the Storage door by personnel assigned inspection operation.

Place one box of cluster bombs on conveyor. At no time will the cluster bomb be handled in other than a horizontal position.

One operator will push cluster on conveyor a minimum of 100 feet from storage point to inspection station.

Receive one (1) cluster from conveyor, place on inspection table.

Remove lead wire leads, place in container for transfer to salvage.

Remove wood box lid. The wood box is lined with a metal liner with metal lid. Remove the metal lid by grasping wire handle. Do not bend metal lid more than necessary as it will replace.

Inspect all fuses to make sure that all safety devices are in place. Any bomb found without safety block or missing striker plates will be handled as follows:

Cense all operations immediately. Notify the Chief of the Ammunition Maintenance Division, Phone 50 or 31, Cidef, Ammunition Inspection (Surveillance Office, Phone 79).

All ammunition personnel and authorized equipment will be evacuated and all doors will be closed within a radius of twelve hundred (1200) feet from open side of barricades and eight hundred feet (800) from closed side of barricades. All roads within the radius will be protected by watchmen to stop traffic from entering until the cluster has been repaired and transferred to the Demolition Ground. The representative from the Ammunition Inspection Office will remain at the operation until the Division Chiefs arrive and make a decision as to the repair necessary to the cluster for safe transfer. All repair work will be made by inspection personnel.

If safety blocks are missing an improvised safety block will be installed and taped in place with a 1/2 x 6" strip of adhesive tape.

If the striker plate is missing a small clip will be carefully secured to hold striker pin in place.

When necessary repairs are made after complete inspection, replace serviceable cluster on conveyor and move a minimum of 120 feet where boxes will be palletized for transfer to temporary holding point awaiting transfer via van or cargo truck. One operator will move box on conveyor keeping control of cluster at all times. 10 boxes per pallet. One pallet will be transferred to Y Pad 300 feet away.

Unserviceable cluster will be handled in accordance with para. 5 (Safety Regulations.)

During normal inspection, if contents and all safety devices of cluster pass inspection, but safety block requires tape, tape safety blocks in place with 1/2 x 6" adhesive tape. Make two (2) complete wraps around safety block and around arming tape.
14. Replace metal lid to metal lid box, close lid of wood box, close hardware. Box will be transferred to conveyer and/or by hand load cart and pushed 120 feet to holding point.
15. Not more than one (1) box open on inspection table at any one time.
16. Pallets will be moved to Bldg 50A, from 1 via van or cargo truck as required. Not more than 7 pallets per van.

NOTE: During this entire operation fused cluster bombs will be handled with extreme care. Boxes will not be walked, tumbled, slid or placed in a vertical position. When box is removed from stock (2) two operators will be required to handle the box at all times.

INSPECTION REQUIREMENTS:

1. Immediately upon opening cluster box, boxes assembled to bombs will be checked for presence of safety block and/or striker head.
2. All fuses to have safety blocks taped in place before transfer.
3. All ammunition will be inspected for proper identification and for evidence of excessive deterioration, damaged or missing components that would render the rounds unsafe for further handling. A representative of the ammunition inspector office will recommend disposition of all faulty rounds found.
4. Inspect all boxes for correct AID, lot number and markmanship.

SAFETY REQUIREMENTS:

1. Cluster bombs will be handled with extreme care. Boxes will not be walked, tumbled, slid or placed in vertical position.
2. Ammunition will be securely blocked in place on van before van is moved.
3. All roads leading to operations will be blocked off to through traffic.
4. All ammunition personnel and authorized equipment will be evacuated from area if a fuse is found with a missing safety block or missing striker head.
5. Reject clusters will be transferred to van or cargo truck to demolition ground.
6. The fuse becomes armed when the safety block is displaced from the position between the striker and vane hub, whether the arming vane has turned or not.
7. Fused cluster with displaced safety block and/or missing striker plate will be handled only by qualified inspection personnel.
8. Operators cutting box strapping will wear approved type eye protection.

DISPOSITION OF COMPONENTS AND MATERIAL:

1. Rejected clusters to Demolition Grounds.
2. Clusters to Bldg 50A Room 1.
3. Steel strapping to salvage.

EQUIPMENT REQUIREMENTS:

Conveyor
Approved transfer equipment
Strapping equipment
STANDING OPERATIONS: Unload, Inspect and Disassemble Cluster

OPERATIONS NO.: 2
TITLE: Unload, Inspect and Disassemble Cluster

LOCATION: Bldg 500, Room 3

TYP NO.: 11020 Rev 2

EXPLODERS IN USE: FOUR: 400 NO. TYMNO.: 150 bombs

STAFF L. D. 2,000

PERSONNEL LIMITS: OPERATIONS: 6 CASUALTIES: 3

STEP

1. pallets of bombs will be moved to Room 2, Bldg 500 via approved transfer equipment and placed next to conveyor.
2. Cut strap and remove box lids.
3. If any bombs are found unsealed, foreman and surveillance inspector will tape box before it is placed on conveyor. If the event bomb is found with safety block or similar plate missing, operation will cease and room will be evacuated and surveillance will be immediately notified and proper action taken for disposal.
4. Bands containing cluster will be cut where cluster is in box.
5. Individual bombs will be placed on power conveyor a minimum of 2' apart for transfer to Operation 3.
6. Adapters will be palletized for transfer to salvage.
7. Cluster components will be palletized for transfer to saleage.
8. Scrap metal will be removed and placed on or in approved containers for transfer to saleage.
9. Boxes will be palletized for transfer to Room 8 Operation 8.

NOTES: In the event a power conveyor is unavailable, a roller conveyor will be substituted in this and all subsequent operations in this SOP.

INSTRUCTION REQUIREMENTS:
Inspect for compliance with this SOP and other pertinent regulations.

SAFETY REGULATIONS:

1. Fire extinguishers will be readily available.
2. Free exit from operating site will be maintained.
3. Good housekeeping will be observed.
4. Operators will wear safety shoes, gloves and safety glasses.
5. Clusters will be handled with extreme caution and kept in a horizontal position at all times.
6. Personal and explosives limits will be conspicuously posted.

DISPOSAL OF COMPONENTS AND MATERIAL:

1. Boms to Operation 3
2. Scrap metal to salvagde
3. Wood boxes to Operation 7

EQUIPMENT REQUIREMENTS:

- Power Conveyor
- Work Table
- Skids
- Strapping Equipment
- Pallets
- Approved transfer equipment
STAGING OPERATION NO. 3, OPERATIONS: Spectra Dash

1. Bombs received from Operation 2 via power conveyor.
2. Bombs will be placed on wooden slab. 3 bombs per slab, hand carried behind remote control barricade. Not more than 3 bombs behind barricade during defusing operation.
3. Place fused bombs in holding fixture of defusing machine.
4. Operator will operate air valve and remove fuses by remote control.
5. Fuses without booster will be removed from holding fixture and transferred to Barricade B and packed in use ammunition boxes, inspected, labeled and strapped for transfer to salvage.
6. Fuses w/boosters and boosters will be removed from holding fixture and transfer to Barricade B and packed in use ammunition boxes, inspected, labeled and strapped for transfer to service magazine 51. pending transfer to burning ground. Figures of fuses will have cardboard blanks in between.
7. Bombs w/o boosters will be placed on conveyor for transfer to Operation 6.
8. Bombs with booster will be placed on power conveyor for transfer to Operation 4.

NOTE: In the event a fuse becomes armed during defusing operation, surveillance inspector will be notified immediately and the proper action taken.

INSPECTION REQUIREMENTS:
1. Inspect for compliance with this SOP and other pertinent regulations.
2. Fuses w/o booster will be inspected for complete decontamination and boxes checked by surveillance prior to transfer to salvage.

SAFETY REQUIREMENTS:
1. Fire extinguishers will be readily available.
2. Free exit from operating site will be maintained.
3. Good housekeeping will be observed.
4. Operators will wear safety shoes, gloves, and flame proof coveralls.
5. Bombs will be handled with extreme caution and kept in a horizontal position at all times.

DISPOSITION OF MATERIAl:
Bombs to Operation 5
Inert fuse bodies to salvage. Attached fuses and boosters to Operation 10

EQUIPMENT REQUIREMENTS:
Power conveyor
Fuse removal machine
Adhesive tape
Approved transfer equipment
Pallets

NOTE: Explosive Limits:
Room 3 Barricade B 500 Fuses w/boosters

SHEET: 6 OF 12
STANDING OPERATING PROCEDURE FOR:  

NOMENCLATURE: Cluster Bomb M12

ITEM NO.: H92-11

LOCATION: Bldg 500 Room A

EXPLOSIVE LIMITS: 75% UNDER 175°, 25% OVER 250°.

PERSONNEL LIMITS: OPERATIONS: 2 at front 2 at back; 3 at room.

NOTE: 24, November 1976

OPERATION NO.: A TITLE: Remove cluster and/or fuses

1. Remove bomb with booster via power conveyor from Operation 3.
2. Remove bomb with booster from power conveyor, place on wooden skid. 3 bombs to skid.
3. Hand carry 3 bombs on skid behind barricade A and place in holding fixture. Not more than 3 bombs behind barricade during deboosting operation.
4. Operate deboosting machine with air valve.
5. Remove boosters from holding fixture and transfer to barricade B or pack in wooden box as in step 5 of operation 3.
6. Remove boosters without booster from holding fixture, place on power conveyor, and transfer to Operation 6.
7. In the event that boosters are removed from bomb w/fuse this operation will be used to remove fuse w/booster. Steps of Operation 3 will be followed.
8. Boosters that cannot be removed from bombs in this operation will be placed on power conveyor and transferred to Operation 5, Room 5.

NOTE:

In the event a fuse becomes stuck during deboosting operation, surveillance inspector will be notified immediately and the proper action taken.

NOTE:

Some of boosters with boosters will be transferred by hand truck to Service Magazine 511, awaiting transfer to demolition ground.

NOTE:

Bombs from which boosters cannot be removed will be transferred to Barracks 514 awaiting transfer to demolition ground for destruction.

Boosters will be stored in Service Magazine 512 awaiting transfer to Operation 10.

INVESTIGATION REQUIREMENTS:

Inspect for compliance with this SOP and other pertinent regulations.

SAFETY REQUIREMENTS:

1. Free exit from operation site will be maintained.
2. Good housekeeping will be maintained.
3. Fire extinguishers will be readily available.
4. Operators will wear safety shoes and gloves.
5. Operators stripping pallets will wear safety glasses.

DISPOSAL OF COMPONENTS AND MATERIALS:

Boosters to Operation 9.
Bomb bodies to Operation 7.
Fuses w/o boosters to Salvage.
Fuses with boosters to Operation 9.

EQUIPMENT REQUIREMENTS:

Approved transfer equipment
Power conveyor
Adhesive tape
Deboosting machine
Pallets

*Barricade A 3 bombs
Barricade B Boosters: 3 full boxes Fuses w/booster 2 full boxes
Explosive Limits: 511 3000 Fuses w/boosters, 514 20 bomb 512 3000 boosters.

SHEET 1 OF 12
STANDARD OPERATING PROCEDURE FOR: Debooster and Transfer

STANDARD OPERATING PROCEDURE FOR: Debooster and Transfer

ITEM NO: WOD-11

LOCATION: Bldg 500 Room 5

EXPLOSIVE LIMITS: POWDERS: TO/ LO EXP: 70% / 25% 

PERSONNEL LIMITS: OPERATOR: 2 

STEP | OPERATION NO: | TITLE: Remove Boosters

1. Hand carry bomb behind barricade A and place in holding fixture. No more than 1 bomb behind barricade during deboster operation.
2. Operator will operate air valve and remove booster by remote control.
3. Remove booster and transfer to Berricade B and pack in wooden box.
4. Remove bomb from barricade and place on power conveyor and transfer to Operation 6.
5. When bomb is found from which booster cannot be removed, it will be hand carried to Bldg 514 awaiting transfer to demolition ground for destruction.

NOTE: Boxes will be transferred to Service Magazine 512.


INSPECTION REQUIREMENTS:
Inspect for compliance with this SOP and other pertinent regulations.

SAFETY REQUIREMENTS:
1. Free exit from operation site will be maintained.
2. Good housekeeping will be maintained.
3. Fire extinguishers will be readily available.
4. Operators will wear safety shoes and gloves.
5. Operators trimming pallets will wear safety glasses.

DISPOSITION OF COMPONENTS AND MATERIAL:
Boosters to Operation 9
Bomb bodies to Operation 7

EQUIPMENT REQUIREMENTS:
Approved transfer equipment
Power conveyor
Adhesive tape
Debooster machine
Pallets
STAND-UP OPERATING PROCEDURE FOR: Demilitarization OF: SUP NO: AM-9-107-S3
OMENATIURE: Cluster Frag Bomb M1A1 (50X1)
DATE: 24 November 1954
CONTRACT NO: WPD-11
LOCATION: Bldg 500 Room 6
REO NO: 11020 Rev 1
EXPLOSIVE LIMITS: RADIUS: 2000 FOET OF ITEMS: 21 ROOMS
PERSONNEL LIMITS: OPERATORS: 2 CASUALS: 3
SHIFT: 2

OPERATION NO: 6 CIRCLE REMOVE INSERUSABLE FIN

1. Remove bombs with unserviceable fins. All fins from unserviceable bombs from power conveyor and hand carry behind Barricade A and place in holding fixture. Explosive limit Barricade A will be 3 bombs. During fin removal.

2. Remove fin by use of burn tool.

3. Fin and bomb will be removed from holding fixture and placed on power conveyor for transfer to Operation 7.

4. Nose plug retained on operation in Bldg 500 will be inserted in fuse cavity as bomb moves along power conveyor.

INPECTION REQUIREMENTS:
Inspect for compliance with this SOP and other pertinent regulations.

SAFETY REQUIREMENTS:
1. Free exit from operation site will be maintained.
2. Good housekeeping will be maintained.
3. Fire extinguishers will be readily available.
4. Operators will wear safety shoes and gloves.
5. Operators strapping pallets will wear safety glasses.

DISPOSITION OF COMPONENTS AND MATERIAL:
Bombs to Operation 7
Unserviceable Fins to Salvage

EQUIPMENT REQUIREMENTS:
Powers Conveyor
Transfer equipment
Holding Fixtures
Table
Hand tools
STANDARD OPERATING PROCEDURE SMP: Returned Goods OT  
SEP ED:  AN-0107-K1  

NOMENCLATURE: Cluster Fused Rock Mile (CRM)  
RMT ED:  24 November 1954  

TERM NO:  N0011  

LOCATION: Bldg 500 Room 2  

AND ED:  11020 Rev 2  

EXPLOSIVE LIMIT:  

PERSONNEL LIMIT:  

DIRECT LABOR:  

STEP  
OPERATION NO:  7 TITLE: Pack Components  

1. Remove bomb with fin, pack in box and strap for transfer to storage.  
2. Remove unserviceable fins and pack in box pallet for transfer to salvage.  
3. Remove unserviceable bombs and pack in box pallet for transfer to burning ground.  
4. Serviceable bombs to east platform Bldg 500 for transfer to storage.  
5. Fins to east platform Bldg 500 for transfer to salvage.  

EXPLOSIVE LIMIT: East Platform 1200 Bombs.  

INSPECTION REQUIREMENTS:  
Inspect for compliance with this SOP and other pertinent regulations.  

SAFETY REQUIREMENTS:  
1. Free exit from operating site will be maintained.  
2. Fire extinguishers will be readily available.  
3. Good housekeeping will be maintained.  
4. Operators will wear safety shoes, gloves.  

DISPOSITION OF COMPONENTS AND MATERIAL:  
As directed in steps.  

EQUIPMENT REQUIREMENTS:  
Approved transfer equipment  
Pallets  
Power Conveyor  
Strapping equipment
OPERATING PROCEDURE

OPERATION: Cluster Frag. 1 [CLUSTER]

LOCATION: Hldg 500 Room 6

EXPLOSIVE LIMITS: POWER: Am Bomb 50 CE (HEP). As Bond

PERSONNEL LIMITS: OPERATOR: 3. CASUALTIES: 3

STEP

1. Received boxes from Operation 2 via approved type forklift
2. Obliterate all markings except ICC marking and lot number
3. Restamal as follows:
   10 each: Bomb, Frag. ERN411 or ML w/fin or without fin without fuse
   ML w/fin Stock No. 5001-90-4204
   ML w/fin Stock No. 5001-90-4203
4. Boxes restamalled will be transferred to Operation 7

INSTRUCTION REQUIREMENTS:

Inspect for compliance with this SCP and other pertinent regulations.

SAFETY REQUIREMENTS:

1. Not more than 1 gallon of paint in room.
2. Free exit from operating site will be maintained.
3. Mixing of paint will be conducted not less than 100 feet away from operation site.
4. Fire extinguishers will be readily available.
5. Cleaning rags will be kept in closed metal container.
6. Good housekeeping will be observed.
7. Operators will wear safety shoes.
8. Operator cutting strapping will wear face shield and/or safety goggles.

DISPOSITION OF COMPONENTS AND MATERIALS:

Stenciled boxes to Operation 7

EQUIPMENT REQUIREMENTS:

Stencil equipment
Transfer equipment
Pallets
OPERATION NO.: 9  TITLE: Destroy Fuses and Boosters

1. Boosters and Fuses will be moved to demolition ground in boxes via approved type transfer equipment.

2. Fuses and booster will be positioned at demolition site, detonating agent (salvage flake 3MT) in cardboard boxes placed around and atop each demolition setup. Destruction will be by detonation as outlined in SOP AD-0-28.

3. Reject items will be destroyed in accordance with SOP AD-0-28.

INSPECTION REQUIREMENTS:

Inspect for compliance with this SOP and other pertinent regulations.

SAFETY REQUIREMENTS:

1. Safety requirements outlined in Section 27 of OPM and SOP AD-0-28 will be carefully followed.

2. Operators will wear flameproofed coveralls and safety shoes.

DISPOSAL OF COMPONENTS AND MATERIALS:

None

EQUIPMENT REQUIREMENTS:

Transfer equipment
STANDING OPERATING PROCEDURE NO: AM-0-107, Amendment No 2

NOMENCLATURE: Bomb, Frag, TNT, 23 lb. M72

PURPOSE: To increase efficiency of operation.
Operation No 2 - Increase operators from 4 to 7.
Operation No 2 - Add Note

In the event that parachutes are not assembled to bomb and are packed in pasteboard box in same shipping container the following procedure will apply.

1. Parachute assembly will be removed from shipping container, placed on work table and end of pasteboard box will be removed with approved tool.

2. Parachute assembly will be removed from pasteboard box with locally designed spark proof tool.

3. Parachute assembly will be palletized for transfer to operation 9.

Operation 5

Add under "Explosive Limits" the following:

When platform explosive limit of 840 bombs and washout room explosive limit of 480 bombs is reached, the balance will be placed in temporary storage at Bldg 515. The explosive limit in Bldg 515 is 5000 lbs or 1852 bombs.

Operation 6

Add Step 10 to read as follows:

Wheneducation difficulties are experienced at 1st tank, it will be drawn off into approved containers and hand carried to flaker room and emptied into settling tank.

Add Step 11 to read as follows:

When education difficulties are experienced at 2nd tank it will be drawn off through draw off valve into approved containers and emptied into No 1 tank.

Add Step 12 to read as follows:

When TNT oils are evident in quantity it will be drawn off into approved containers and emptied into No 1 tank. When tank is drained completely, education
SOP NO. AH-O-207

Valves will be removed and serviced.

Operation No 9 - Increase Operators from 5 to 7.

APPROVED:

Allen T. Hedges
Major Ord Corps
Commanding

CONCURRENCE:

Asst for Supply
Chief, Surv Div
Chief, Arm Maint Div
Safety
Management
DEPARTMENT OF THE ARMY
WINGATE ORDNANCE DEPOT
GALLUP, NM NEW MEXICO

15 October 1964

STANDING OPERATING PROCEDURE NO: AM-0-107, Amendment No 2

NOMENCLATURE: Bomb, Frag, TNT, 23 lb. M72

PURPOSE: To increase efficiency of operation

Operation 3

Delete Step 4

Add Step 4 to read as follows: Place bomb body on skid on conveyor for transfer to Operation 4.

Operation 4

Delete Step 1

Add Step 1 as follows: Bombs on skids received from Operation 3 via conveyor.

Add Step 2 as follows: Bombs will be removed from conveyor, placed in skids and positioned in air vise.

Step 4 Delete the word "Power".

Step 5 Change word "salvage" to "storage".

Change Step 1 of "Disposition of components and Material" to read: Nose plugs to Storage.

Operation 5

Step 1 Delete the word "power".

Step 5 Delete the word "power".

Add Step 7 to Operation 5 "Skids will be placed on rubber-tired ammunition carts and returned to operation 2.

Add "Skids" wherever conveyor is used.

CONCURRENCE:

APPROVED:

E.L. Walker
Chief, Amm Maint Div.

Allen J. Hodges
Major Ord Corps

Commanding
STANDING OPERATING PROCEDURE NO: 107, Revision No 1

NOMENCLATURE: BOMB, Frag, TNT, 25 lb M72 w/parachute

PURPOSE: To include Detail of Cluster Frag Bomb M161 (M21V1)

C. H. WALKER
Chief, Amn Maint Div.

COPCURRENCE:

ASN Maint:  
Storage:  
Surveillance:  
Safety:  
Management:  
ASD:  

APPROVED:

ALLEN T. RODGERS JR.
Major, Ord Corps
Commanding
1. Remove and Transfer from Storage

2. Unpack and Inspect

3. Disassemble Cluster

4. Remove Fuses

5. Remove bomb from Conveyor

6. Remove booster and irreparable fuses

7. Destroy Boosters and Fuses
STEP

OPERATION No: 3. TITLE: Reserve and transfer from storage

1. Operators will remove box from stack via either stair stepping boxes or a platform, keeping box in horizontal position at all times.
2. Two operators will hand box off top of stack to two operators standing on either pallet platform or stack.
3. Operators will palletize boxes for transfer to Plag 500 via Building 916. Not more than 16 boxes per pallet.
4. Pallets will be loaded by approved forklift onto van, semi-trailer with wooden floor and sides. Not more than 7 pallets per van.
5. Filled van will be moved to Plag 916 and pallets unloaded, with approved forklift truck. Explosive limits Plag 916, 21 pallets or 336 boxes.
6. Boxes will be transferred to Operation 2 as required via approved transfer equipment.

INSPECTION REQUIREMENTS:
Inspection for compliance with this SOP and other pertinent regulations.

SAFETY REQUIREMENTS:

1. During this operation, fused cluster bombs will be handled with extreme caution. Boxes will not be walked, tumbled, slid or placed in any position other than horizontal.
2. Two operators will be required to handle boxes until they are palletized.
3. Rope handles will not be gripped during the handling of the box. Box will be gripped at the bottom by each operator.
4. Good housekeeping will be maintained.
5. Free unit will be maintained.
6. Fire extinguishers will be marked available.
7. Operators will wear safety shoes and gloves.

DISPOSITION OF COMPONENTS AND MATERIAL:

Bomb to Operation 2
Damage to Damage Yard

EQUIPMENT REQUIREMENTS:

Pallets
Approved Transfer Equipment

*Includes forklift operator and truck driver

2 Pages
SAMPLE OPERATING PROCEDURE

SHEET NO.: 11

MATERIAL: Cluster Main Body 3140 (S1247)

LOCATION: Floor 516 and Roof 1 of Bldg 500

EXPLANATION: ADN: 12-2030 Revision 3

PERSONNEL LIMITS: OPERATORS: 4

DATE: 21 Oct 54

ITEM NO.: MGR-13

INSPECTION REQUIREMENTS:

Inspect for compliance with this SOP and other pertinent regulations.

SAFETY REQUIREMENTS:

1. Fire extinguishers will be readily available.
2. Free exit from operating area will be maintained.
3. Good housekeeping will be observed.
4. Safety shoes and gloves will be worn.
5. Personal and explosive limits will be conspicuously posted.
6. Operator strapping pallets will wear safety glasses.
7. Clusters will be handled with extreme caution and kept in a horizontal position at all times.

DISPOSAL OF COMPONENTS AND MATERIALS:

Metal liners to salvage.
Boxes (wood) and packing material to be burned at burning ground or boiler.
Clusters to Operation 3.

EQUIPMENT REQUIREMENTS:

Conveyor
Approved transfer equipment
Pallets
Skids
Work table
Strapping equipment
STANDING OPERATING PROCEDURE NO.: 10-01-40

NOMENCLATURE: Cluster Ring Pack M5A1 (CLVP)

DATE: 23 Oct 1964

LOCATION: Bldg 500 Room 2

EXPLOSIVE LIMITS: POUNDS: 75 NO OF ITEMS: 25

PERSONNEL LIMITS: OPERATORS: 3 CASUALS: 3

SHIFT: 1500

DIRECT LABOR/SHIFT: 2

SHEET 5 OF 9

STEPS:

OPERATION NO. 3 TITLE: Disassemble Cluster

1. Cluster on skid received from Operation 2
2. Cluster and skid will be removed from conveyor and placed on work table.
3. Bands confining cluster will be cut.
4. Adapters will be palletized for transfer to salvage.
5. Individual books will be replaced on conveyor a minimum of one foot apart.
6. Skids will be returned to Operation 2 via approved transfer equipment.
7. Scrap metal will be removed and placed on or in approved containers for transfer to salvage.
8. Books will be replaced on conveyor for transfer to Operation 4.
9. Cluster components will be palletized for transfer to salvage.

INSPECTION REQUIREMENTS:

Inspect for compliance with this SOP and other pertinent regulations.

SAFETY REQUIREMENTS:

1. Fire extinguishers will be readily available.
2. Free exit from operating site will be maintained.
3. Good housekeeping will be observed.
4. Operators will wear safety shoes, gloves and safety glasses.
5. Clusters will be handled with extreme caution and kept in a horizontal position at all times.

DISPOSAL OF COMPONENTS AND MATERIAL:

1. Books to Operation 4
2. Skids to Operation 2
3. Scrap metal to salvage.

EQUIPMENT REQUIREMENTS:

- Conveyor
- Work table
- Skids
- Strapping equipment
- Pallets
- Approved transfer equipment.
STANDING OPERATING PROCEDURE NO: 904-11. CP: 

CLASSIFICATION: Cluster Zone Bomb Blk. (GSE).

DATE: 23 Oct 1956

LOCATION: Bldg 900 Rooms 3 and 4

AND No: 1920 Revision 1

EXPLOSIVE LIMITS: Bombs: 20. NO OF FUSE: 10, FUSE: 100

PERSONNEL LIMITS: OPERATORS NO. USED: 3 NO. OPER. 1

STEP | OPERATION NO: 4 | TITLE: Remove Fuses

1. Bombs received from Operation 3 on conveyor.
2. Fuse will be removed from bomb by remote control.
3. Fuses will be placed in fuse trays, 20 fuses to tray and hand carried to concrete barricades B in Rooms 3 and 4 where they will be packed in used ammunition boxes with cardboard filler between each layer and placed on approved transfer equipment for transfer to burning ground. Explosive limit barricades B 1500 fuses.
4. Cavity in bomb body will be taped and bomb replaced on conveyor for transfer to Operation 5.
5. Bombs in which the boosters remain after removal of the fuse will be replaced on the conveyor and transferred to Operation 6.

INSPECTION REQUIREMENTS:

Inspect for compliance with this SOP and other pertinent regulations.

SAFETY REQUIREMENTS:

1. Fire extinguishers will be readily available.
2. Free exit from operating site will be maintained.
3. Good housekeeping will be observed.
4. Operators will wear safety shoes, gloves, and flame proof coveralls.
5. Bombs will be handled with extreme caution and kept in a horizontal position at all times.

DISPOSITION OF COMPONENTS AND MATERIAL:

Bombs to Operation 6
Fuse to Burning Ground

EQUIPMENT REQUIREMENTS:

- Conveyor
- Fuse removal machine
- Adhesive tape
- Approved transfer equipment
- Pallets
STANDING OPERATING PROCEDURE FOR

CLUSTER FRYE BOMB MDL

LOCATION: Bldg 500 Room 5 and 6

EXPLOSIVE LIMITS: POUNDS: 600

PERSONNEL LIMITS: OPERATORS: 2

STEP

1. Bombs with booster left intact after removal of fuse will be removed from the conveyor and positioned in the debooster machine.

2. Remove booster by remote control.

3. Pack boosters in wooden boxes with cardboard filler between each layer for transfer to Operation 7. Explosive limit in hangar E Room 5 is 1000 boosters.

4. Bomb body cavities will be taped and replaced on conveyor for transfer to Operation 7, keeping a minimum of 1 foot apart.

5. Bombs found to have unserviceable fuses will be removed from conveyor in room 6 and placed in holding fixture and fuse removed with a fuse removal wrench.

6. Unsuitable fuses will be palletized for transfer to salvage.

INSTRUCTION REQUIREMENTS:

Inspect for compliance with this SOP and other pertinent regulations.

SAFETY REQUIREMENTS:

1. Free exit from operation site will be maintained.
2. Good housekeeping will be maintained.
3. Fire extinguishers will be readily available.
4. Operators will wear safety shoes and gloves.
5. Operators strapping pallets will wear safety glasses.

DISPOSITION OF COMPONENTS AND MATERIAL:

Boosters to Operation 7
Bomb bodies to Operation 8
Fuses to salvage.

EQUIPMENT REQUIREMENTS:

Approved transfer equipment
Conveyor
Adhesive tape
Debooster machine
Pallets.
STANDING OPERATING PROCEDURE FOR:  DEMOLITION  CUM

NOMENCLATURE:  Cluster Frag. Bomb K5NL (K56L)  DATE:  23 Oct 94

LOCATION:  Demolition Ground  ITEM NO:  1000-11

EXPLOSIVE LIMITS:  PERCUT:  As read  NO OF PERC:  10  SHEET:  1500

PERSONNEL LIMITS:  OPERATORS:  2  CASUALTIES:  0  DIRECT LABOR:

<table>
<thead>
<tr>
<th>STEP</th>
<th>OPERATION NO: 7</th>
<th>TITLE:  Destroy Fuzes and Boosters</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Fuzes and Boosters will be moved to demolition ground in boxes via approved type transfer equipment.</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Fuzes and boosters will be placed in a trench and destroyed by detonation as outlined in SOP AM-0-28.</td>
<td></td>
</tr>
</tbody>
</table>

INSPECTION REQUIREMENTS:

1. Inspect for adequacy of decontamination in accordance with paragraphs 4.240 thru 4.243 of GM-1 and para. 2507 of CAAM 7-224.

2. Inspect for compliance with this SOP and other pertinent regulations.

SAFETY REQUIREMENTS:

1. Safety requirements outlined in section 27 of GM and SOP AM-0-28 will be carefully followed.

2. Operators will wear flameproofed coveralls and safety shoes.

DISPOSAL OF COMPONENTS AND MATERIAL:

Metal parts to salvage.

EQUIPMENT REQUIREMENTS:

Transfer equipment.
STANDING OPERATING PROCEDURE NO: AH-0-107, Amendment No. 4

NOMENCLATURE: Bomb, Frag, TM-23 1lb M72

PURPOSE: To increase economy of operation

ADD: Operation 11 to read as follows:

LOCATION: Blg 19 Room 3

EXPLOSIVE LIMITS: Founds 500 No of Items: 500

PERSONNEL LIMITS: Operators: 2 Casuals: 3

STEP OPERATION NO: TITLE: Fuse and Booster Breakdown

1. Boxes of fuses with boosters attached received from Operations 4 and 5 Blg 500 via Service Storage Magazine 511. Temporary holding point Blg 19 in Room 4.

2. Boxes received from Room 3 via approved transfer equipment.

3. Band confining box out and lids removed.

4. Fuse will be placed in barricaded deboosting machine, and booster will be removed from fuse body.

5. Insert fuse bodies will be placed in approved containers and transferred to Room 5 awaiting transfer to salvage via approved transfer equipment.

6. Boosters will be packed in used ammunition boxes with cardboard between layers, palletized and transferred to Room 5 awaiting transfer to demolition green.

INSTRUCTION REQUIREMENTS:

Impact for compliance with this SOP and other pertinent regulations.

SAFETY REQUIREMENTS:

1. Free exit from operating site will be maintained.

2. Good housekeeping will be observed.

3. Fire extinguishers will be readily available.

4. Operators will wear safety shoes and gloves.

5. Operators strapaging will wear safety gasses.

DISPOSITION OF COMPONENTS AND MATERIAL:

Boosters to Operations 10
Insert Fuse Bodies to Salvage

EQUIPMENT REQUIREMENTS:

Approved transfer equipment
Pallets
Deboosting Machine

EXPLOSIVE LIMITS:

Room 4 1500 fuses w/boosters
Room 5 1500 boosters
Operation No. 2
Step 4 - Delete
Step 5 - Delete
Step 5 - Add: "Boxes will be palletized for transfer to Operation 9, Room 8."

Operation No. 4
Step 6 - Delete
Add Step 6 to read: Bomb without boosters will be placed on power conveyor for transfer to Operation 7.

Delete Step 2 of "Disposition of Components and Material"
Add Step 2 to "Disposition of Components and Material" to read: Insert fuse bodies to salvage. Attached fuses and boosters to Operation 11.

Operation No. 5
Delete Step 5
Add Step 5 to read: Remove boosters from holding fixture, transfer to Barricade B and pack in wooden box.

Delete Step 6
Add Step 6 to read: Remove bomb w/booster from holding fixture, place on power conveyor and transfer to Operation 7.
Add Step 3 to "Disposition of Components and Material" to read: Fuses w/boosters to Operation 11.
Add the following under Explosive limits: Pennis: 70 No. of Items: 25
Change number of operators from 1 to 4

Operation No. 6
Add Step 5
When bomb is found from which booster cannot be removed, it will be hand-carried to Bldg 514 awaiting transfer to Demolition ground for destruction.

Explosive Limits: Bldg 514 20 Bombs.

Operation No. 7
Add Step 4 to read: These plug retained from Operation in Bldg 503 will be inserted in fuse cavity as bomb moves along power conveyor.

Operation No. 8
Step 1 - Delete
Step 1 - Add: "Remove bomb with fin, pack in box and strap for transfer to storage."
STANDING OPERATING PROCEDURE NO: AM-0-107, Amendment No 4

27 October 1954

E. L. Walker
Chief, Amm Maint Div.

APPROVED:

Gary P. Frame
Major, G.E.
Commanding

CONCURRENCE:

Asst for Supply

Chief, Surv. Div.

Chief, Amm Maint Div.

Safety

Management

Sheet 3 of 3
STANDING OPERATING PROCEDURE NO: AM-C-107, Amendment No 5

NOMENCLATURE: Bomb, Frag, TNT, 2 lb. #72

PURPOSE: To expedite washout of TNT.

Operation No 6

Add step 10 to read: When bombs are found in which the tail base plug cannot be removed, operators will remove plastic fuze well cup from nose cavity by means of a sparkproof tool.

APPROVED:

Allen T. Hodges Jr.
Major Ord Corps
Commanding

CONCURRENCE:
Asst for Supply
Chief, Surv Div
Chief, Amm Maint P
Safety
Management
STANDING OPERATING PROCEDURE NO: AH-0-107, Amendment No 6 (Revision No. 1)

NOMENCLATURE: CLUSTER, Frag, "Bomh, M1A1

PURPOSE: To include Demol Cluster Frag Bomb M1A1 (SLVVL)

Outline procedure will be as follows on attached sheets.

STEP

OPERATION: Open and Inspect

NOTE: During this entire operation fused cluster bombs will be handled with extreme care. Boxes will not be walked, tumbled, slid or placed in a vertical position. When box is removed from stack (2) two operators will be required to handle the box at all times.

1. In order to remove boxed cluster bombs from top of stack, the stacks may be stair stepped or a platform can be made by using pallets to stand on in order to hand the box to operators at the lower level to place box on skid on roller conveyor, as described in step 2.

2. Two (2) operators will be required to hand boxes off top of stack to next (2) two operators standing on either pallet platform or stack that is stair stepped who will place box on skid on roller conveyor. Rope handles will not be used during the handling of the box. Box will be grasped at the bottom by each operator. At no time will cluster bomb be moved in other than horizontal position. At no time will more boxes be placed on conveyor than would extend beyond the opening of the door and 1 box high.

3. Box will be pushed on roller conveyor to Operation No 2 from the Storage door by personnel assigned inspection operation.

4. Place one box of cluster bombs on conveyor. (At no time will the cluster bomb be handled in other than a horizontal position.)

5. One operator will push cluster on conveyor a minimum of 100 feet from storage point to inspection station.

6. Receive one (1) cluster from conveyor, place on inspection table.

7. Remove lead wire seals, cut box strapping, place in container for transfer to salvage.

8. Remove wood box lid. The wood box is lined with metal liner with metal lid. Remove the metal lid by grasping wire handle. Do not bend metal lid more than necessary as it will be replaced.

9. Inspect all fuses to make sure that all safety devices are in place. Any bomb found without safety block or missing striker plates will be handled as follows:

Cease all operations immediately. Notify the Chief of the Ammunition Maintenance Division, Phone 50, or 39, Chief, Ammunition Inspection (Surveillance Office, Phone 79)

All ammunition personnel and motorized equipment will be evacuated and all igloo doors will be closed within a radius of twelve hundred (1200) feet from open side of barricades and eight hundred feet (800) from closed side of barricades. All roads within the radius will be protected by watchmen to stop traffic from entering until the cluster has been repaired and transferred to the Demolition Ground. The representative from the Ammunition Inspection Office will remain at the operation until the Division Chief's arrive and make a decision as to the repair necessary to the cluster for safe transfer. All repair work will be made by inspection personnel.
10. If safety blocks are missing, an improvised safety block will be installed and taped in place with a 1/2" x 6" strip of adhesive tape.

11. If the striker plate is missing a small clip will be carefully secured to hold striker pin in place.

12. a. When necessary repairs are made after complete inspection, replace serviceable cluster on conveyor and move a minimum of 120 feet where boxes will be palletized for transfer to temporary holding point awaiting transfer via van or cargo truck. One operator will move box on conveyor keeping control of cluster at all times. 16 boxes per pallet. One pallet will be transferred to a Pad 300 feet away.

   b. Unserviceable cluster will be handled in accordance with para. 5 (Safety Regulations.)

13. During normal inspection, if contents and all safety devices of cluster pass inspection, but safety block requires tape, tape safety blocks in place with 1/2 x 6" adhesive tape. Make two (2) complete wraps around safety block and around arming vane.

14. Replace metal lid to metal lined box, close lid of wood box, Close Hardware.

14a. Box will be transferred to conveyor and/or two wheel hand cart and pushed 120 feet to holding point.

15. Not more than one (1) box open on inspection table at any one time.

**INSTRUCTION REQUIREMENTS:**

1. Immediately upon opening cluster box, fuses assembled to bombs will be checked for presence of safety block and/or striker heads.

2. All fuses to have safety blocks taped in place before transfer.

3. All ammunition will be inspected for proper identification and for evidence of excessively deterioration, damaged or missing components that would render the rounds unsafe for further handling. A representative of the ammunition inspectors office will recommend disposition of all faulty rounds found.

4. Inspect all boxes for correct AIC, Lot Number and Nomenclature.

**SAFETY REQUIREMENTS:**

1. Cluster bombs will be handled with extreme care. Boxes will not be walked, tumbled, slid or placed in a vertical position.

2. Ammunition will be securely blocked in place on van before van is moved.

3. All roads leading to operation will be blocked off to through traffic.

4. All ammunition personnel and motorized equipment will be evacuated from area if a fuse is found with a missing safety block or missing striker head.

5. Reject clusters will be transferred in van or cargo truck to demolition ground.

6. The fuse becomes armed when the safety block is displaced from the position between the striker and vane hub, whether the arming vane has turned or not.

7. Fused cluster with displaced safety block and/or missing striker plate will be handled only by qualified inspection personnel.

8. Operators cutting box strapping will wear approved type eye protection.

**DISPOSITION OF COMPONENTS AND MATERIALS:**

1. Rejected clusters to Demolition Grounds.

2. Clusters to Bldg 500 Room 1.

3. Steel strapping to salvage.

Personnel Required: 11
SOP No: ANSO-207, Amend No 1

E. L. Walker
F. L. Walker

APPROVED:

ALLEN T. HODGES, JR.
Major, Ord Corps
Commanding

CONCURSENCE:
Asst for Supply
Chief, Surv. Div.
Anal Maint Div.
Safety
Management
DEPARTMENT OF THE ARMY
WINNAT ORDNANCE DEPOT
GALLUP, NEW MEXICO

23 November 1956

STANDING OPERATING PROCEDURE NO. L-0-307 Revision No. 1, Issue 7

NOMENCLATURE: BOMB, FRAG, TNT, 25 lb. M72

PURPOSE: To make provisions for extraordinary condition.

Add the following relative to fuse breakdown in Room 3 of BlDG 15,
Operation No 10:
When fuses are found from which boosters cannot be removed
fuses will be packed for safe transfer to demolition ground. Fuses
will be destroyed by detonation in accordance with SOP No
AD-0-28.

S. G. MILES
Chief, Amm Maint Div

CONCURRENCE:

Amm Maint Div
Storage Div
Surveillance
Safety
Management
ASO

APPROVED:

ALEX H. HODGSON JR.
Major, 3rd Corps
Commanding
DEPARTMENT OF THE ARMY
WINGATE ORDNANCE DEPOT
GALLOP, NEW MEXICO

STANDING OPERATING PROCEDURE FOR

Alternate Method for Demilitarization of

COMPLETE NOMENCLATURE: Basp. Fragmentation, TNF, 22-lb. M72, w/parachute

ITEM NO: WFD-2 ARO NO: 11020 SOP NO: AM-9-107 A/6(2) DATE: 26 November 1956

Total Quantity Scheduled: 350,660

Estimated Production Per 8-hr Shift: 2,500

Estimated Total Direct Labor Crew Per Shift: 36

Estimated Total Direct Man-hours Per Unit: 21

Estimated Total Ordnance Cost Per Unit: 

LOCATION OF OPERATING BUILDING, INCLUDING BLDG NO: Bldg F-35 - Bldg 503, ANSA & Buring Gr

NOTICE: All tools and equipment used in explosive hazardous operations will be inspected and approved by the Surveillance Division before they will be utilized in this operation.

NOTICE: All tools and equipment used in industrial hazardous operations will be inspected and approved by the Safety Director.

I certify that copies of approved SOP will be posted at operation sites indicated and that all employees have been or will be thoroughly instructed in the provisions of this SOP.

L. L. Walker
DIVISION CHIEF

Prepared by:

APPROVED:

Allen T. Hodges Jr
Major, Ord Corps
Commanding
1. Remove and transfer from storage
2. Unpack and inspect
3. Remove parachute assembly
   - 6. Disassemble parachute unit
   - 7. Disassemble Fuses
4. Remove nose plugs
5. Release base plugs
6. Destroy leaded components
STANDING OPERATING PROCEDURE FOR: Demilitarizing OF

NOMENCLATURE: Bomb, Fragmentation, THT, 23-10-1972

LOCATION: Various Storage Sites

EXPLOSIVE LIMITS: POUNDS: As Stored. NO OF ITEMS: As Stored

PERSONNEL LIMITS: OPERATORS: 4. CASUALTIES: 3

STEP OPERATION NO: 1. TITLE: Remove and transfer from storage

1. Boxes will be removed from storage and placed on pallet.
2. Munition handler will remove storage damage and stack outside igloo.
3. Pallets will be loaded by approved type forklift onto van, semi-trailer
   with wooden floor and sides. Not more than 50 bombs per pallet, 7 pallets
   to van.
4. Loaded van will be moved to west platform, Bldg 503 and pallets unloaded
   on platform by electric forklift.

EXPLOSIVE LIMITS RECEIVING PLATFORM: 550 Boms.

INSPECTION REQUIREMENTS:

Inspect for compliance with this SOP and other pertinent regulations.

SAFETY REQUIREMENTS:

1. Fire extinguishers will be readily available.
2. Free exit from igloo will be maintained.
3. Operators will wear safety shoes and gloves.
4. Boxes will be handled with extreme care. Reference HDRM-7-224 Paragraph 20-6.
5. Good housekeeping will be maintained.

DISPOSITION OF COMPONENTS AND MATERIAL:

Bombs to Operation 2
Dunnage to Dunnage Yard

EQUIPMENT REQUIREMENTS:

1 Van, Semi-trailer
1 Truck, Tractor, 5-ten
1 Electric Forklift

*Includes forklift operator and truck driver.
STEP 2 - Operation No. 2: Unpack and Inspect

1. Two pallets of bombs (100 bombs each) received via electric forklift and placed beside work table.
2. Strapping and seals will be removed from packing box.
3. Bombs will be removed from box and placed on work table. (a maximum of 12 bombs on table).
4. Release set screws on parachute end of bombs by means of hand or air impact screwdriver.
5. If any unsafe bombs are found, the Surveillance Inspector will be notified and bomb will be hand carried to Barricade No. 5 (as awaiting disposition).
6. Fuses will be repacked in used ammunition boxes with cardboard fillers between layers and transferred to temporary holding bay.
7. **Bombs will be placed on power conveyor in a diagonal position for transfer to Operation 3 (A minimum of 12" space will be maintained between bombs).

LIMITS:

8. Limits in Room 1, Bldg 503 will be 300 bombs.
   Number of Operators: 24 - Casuals 5.
   Limits in Room 3, Bldg 503 will be 1250 fuses. When explosive limit of fuses is reached in Room 3, Bldg 503 the additional loading of fuses will be placed in Barricade 506. The explosive limit for this barricade is 20,000 fuses. When limit in 506 is reached excess will be removed to burning ground. (7 yds for Storage Limits in Room 1, Bldg 503 will be 3 boxes or 360 fuses. When limit is reached in room 1, Bldg 503, fuses will be transferred to east platform where limit will be 8 boxes on 1 pallet.

Note: In the event that parachute is separate from bomb, cardboard box containing parachute assembly will be removed from shipping container and placed on pallet, not more than 190 boxes per pallet.

2. Transfer palletized boxes to carpenter shop awaiting disassembly.

INSTRUCTION REQUIREMENTS:

1. Inspect for compliance with this SOP and other pertinent regulations.
2. Inspect for dangerous deterioration and/or other conditions which would render bomb unsafe to handle or process in normal manner.
3. Inspect packing boxes for adequacy of decontamination and transfer to Salvage Yard.

SAFETY REQUIREMENTS:

1. Operators will wear safety shoes and gloves.
2. Fire extinguishers will be readily available.
3. Good housekeeping will be observed.
4. Free exit from operating site will be maintained.
5. Operators doing the strap cutting will wear gloves, face shields and/or safety goggles.
6. Ammunition will be handled with extreme care. Reference CUSM 7-224, Para. 20-6.

7. Explosive limits will be conspicuously posted.

DISPOSAL OF OUTFALLS AND IMPELLE:

1. Bombs to Operation 3
2. Fuses to Salvage Yard
3. Fuses to Operation 7

EQUIPMENT REQUIREMENTS:

- Electric forklift
- Power conveyor or roller conveyor
- Strap cutters and pliers and screwdriver
- Face shield
- Strapping tools
- Pallets

* Number of items required to be posted at operational site.
** In the event that power conveyor is not available, roller conveyor will be used in this and all subsequent operations of this SOP.
STANDARD OPERATING PROCEDURE

NONCLASSIFICATION: Bomb, Presentation T/L. 23-JL 4-72

DATE: 24 November 1972

ITEM NO: 100-2

LOCATION: Room 3, ANS Bldg No 502

AND NO: 50659100-19-11020

EXPLOSIVE LIMITS: PMMS: NO OF ITEMS: 20 Bombs*

PMMS/8-2000

PERSONNEL LIMITS: OPERATORS: 3 CASUALS: 2

DIRECT LABOR: 3

SHIFT: 2000

STEP

OPERATION NO: 3 TITLE: Recover parachute assembly

1. Place bombs received from Operation 2 bin conveyor on work table.
2. Position bomb in air vise and remove parachute unit by means of strap wrench.
3. Place bomb body on conveyor for transfer to Operation 4. (Place bomb parallel to conveyor a minimum of 1 ft apart).
4. Place parachute unit in upright pallet on or in approved transfer equipment to Operation 6.

INSTRUCTION REQUIREMENTS:

Inspect for compliance with this SOP and other pertinent regulations.

SAFETY REGULATIONS:

1. Operators will wear safety shoes and gloves.
2. Fire extinguishers will be readily available.
3. Good housekeeping will be maintained.
4. Free exit from operating site will be maintained.
5. Space bombs a minimum of one foot apart.

DISPOSITION OF COMPONENT AND MATERIAL:

1. Bombs to Operation 4
2. Parachute unit assemblies to Operation 6

EQUIPMENT REQUIREMENTS:

Air vises, strap wrenches, screwdriver, power conveyor, pallets, ammunition carts.

*Number of items combined with number of items in Operation No 2 will be posted at operational site.
1. Bombs received from Operation 3 via conveyor.
2. Operator will remove nose plug by hand on conveyor.
3. Where nose plug cannot be removed by hand, bomb will be removed from conveyor and positioned in air vise.
4. Nose plug will be removed from bomb body by means of hand wrench.
5. Bomb will be replaced on conveyor for transfer to Operation No. 5. (Space bombs a minimum of 12” apart.)
6. Nose plugs will be placed in used ammunition boxes for transfer to storage.

INSPECTION REQUIREMENTS:
Inspect for compliance with this SOP and other pertinent regulations.

SAFETY REGULATIONS:
1. Operators will wear safety shoes and gloves.
2. Fire extinguishers will be readily available.
3. Good housekeeping will be observed.
4. Free exit from operating site will be maintained.

DISPOSITION OF COMPONENTS AND MATERIAL:
1. Nose plugs to storage
2. Bombs to Operation 5

EQUIPMENT REQUIREMENTS:
Air vise
Power conveyor
Nose plug wrench
1. Bombs received from Operation 4 via conveyor, are placed on 3 bomb skids.

2. Operate hand carries 3 bombs to each machine in hurracade.

3. Bombs are placed in case plug removal machine and secured by pneumatic clamp.

4. Operators return to front of hurracade and release hurracade plug by means of remote controlled air-powered machine. This operation is observed by means of a mirror. In event hurracade plug cannot be released, bomb will be destroyed by detonating, or demolition, or burn.

5. Operators return to hurracade, remove bombs from machine and hand carry to conveyor, place on conveyor or in horizontal parallel position for transfer to operation 5, keeping a minimum of 12" apart.

6. Bombs will be removed from conveyor and placed in box pallet and transferred to Operation 8 via approved transfer equipment. Rejects will be placed in box pallet and transferred to Operation 0 at least once each day. Pallets in room 1 not to exceed 50 boxes.

NOTE: Box plug is not completely removed from box until it reaches burn room.

LIMITATION

Not more than 120 bombs per cut, in pallet.
Not more than 900 bombs on platforms for burning room.

When platform explosive limits of 250 bombs is reached, the balance will be placed in temporary storage at Oddg 515. Explosive limit in Oddg 515 is 5000 lbs of 0.552 bombs.

1. OPERATIONS LIMITATION

Inspect for compliance with this SOP and other pertinent regulations.

D79-354

JAN 1944

apos

NAME TO OPERATION No 8

D79-353

NAME TO OPERATION 8

Box plug removal machine
Functioning
Conveyor
SOP NO. 48-10-7A 8-2

LOCATION: Carpenter Shop

EXPLOSIVE LIMITS: PER NIH: NO OF ITEMS: As Required

PERSONNEL LIMITS: OPERATORS: 3 CASUALTY: 0

STEP

1. Parachute unit assemblies received from Operation 3 via approved transfer equipment.

2. Operator will remove unit from pallet and place on work table.

3. Remove base and lid.

4. Remove parachute assembly and cut shrouds at open end of container as close to wrapping as possible.

5. Remove pressed board liner from parachute and place in container.

6. Parachutes will be baled and properly marked for transfer to salvage.

7. Replace lid on unit and place in used ammunition boxes and/or pallets for transfer to storage.

INSPECTION REQUIREMENTS:

Inspect for compliance with this SOP and other pertinent regulations.

SAFETY REQUIREMENTS:

1. Operators will wear safety shoes and gloves.

2. Fire extinguishers will be readily available.

3. Good housekeeping will be observed.

4. Free exit from operating site will be maintained.

5. Strapping operator will wear safety goggles or face shield.

DISPOSITION OF CONSUMED AND MATERIAL:

Parachutes to salvage
Metal parts to storage

EQUIPMENT REQUIREMENTS:

Work table
Approved hand tools
Combination strapping equipment
Approved transfer equipment
1. Fuses received from Operation 2 will be placed in Room 3 holding point.
2. Fuses in hermetically sealed cans (from box) will be placed on work table and metal stripping removed from can.
3. Operator will remove fuse from can and place in wooden tray (40 per tray) and hand carry to disassembly machine in Room 2.
4. Fuses will be placed in tray and position in barricaded fixture.
5. Operate machine by remote control, closing barricade door before operating machine.
6. Open barricade door and remove booster and pack in wooden box with cardboard fillers between layers, for transfer to Operation 8 or temporary holding point in Room 4. Explosive limit at each machine is 1 box booster. (Place cardboard fillers between layers).
7. Remove fuse body from machine and pack in wooden box with cardboard fillers between layers. Explosive limit: 1 box fuse bodies at each machine. Personal limit: 2 operators at each machine.
8. Wooden box with fuse bodies will be transferred to Room 4 awaiting transfer to Operation 8.

NOTE: Explosive Limits Room 2: 3 trays fuses at each machine, 1 box booster at each machine, 1 box fuse bodies at each machine.
Explosive Limits Room 3: 8 trays or 160 fuses at unpack table, 1200 fuses in room.
Explosive Limits Room 4: 3000 fuse bodies, 3000 boosters and 200 reject fuses.
Personal Limits Room 3: 2 operators at unpack table, 2 operators at each deboosting machine.

Where hazardous fuses are found, surveillance will be notified immediately and fuses transferred to Hazardous Area. Where fuses are found from which booster cups cannot be removed by normal operation, fuses will be carefully packed for transfer to Room 4 awaiting transfer to Operation 8 where they will be destroyed by detonation.

INSTRUCTIONS:

Inspect for compliance with this OP and other pertinent regulations.

SAFETY REQUIREMENTS:

1. Fuse disassembly machine will be so constructed to prevent operating until door is closed.
2. Operators will wear flameproofed overalls, gloves and conductive soled safety shoes, and will work from grounded platform.
3. Fire extinguishers will be readily available.
4. Good housekeeping will be observed.
5. Disassembly machine will have positive lock.

DISPOSITION OF COMPOUNDS AND MATERIAL:

Boosters and fuse bodies to Operation 8.

EQUIPMENT REQUIREMENTS:

Approved hand tools
Fuse disassembly machines (2)
Approved transfer equipment
Work Tables
1. Bomb bodies received from Operation 1 via approved transfer equipment.
2. Remove base closing plug by hand from bomb body and place plugs in box pallet.
3. Place bomb bodies in the single rows with a minimum of 2 feet between rows, stacks not to exceed 4 bomb in height. Each row will be set on angle iron with cavities toward each other. Space between rows will be filled with combustible material and burning will be as outlined in SOP AD-0-27.
4. Each row of bomb bodies will not exceed 1000 hours.
5. Place base closing plugs on bed of combustible material and burn in accordance with SOP AD-0-27.
6. Boosters will be placed in a trench and destroyed by detonation as outlined in SOP AD-0-26.
7. Fuzes bodies will be laid on a bed of combustible material and burned in accordance with SOP AD-0-27.
8. Bomb bodies will be inspected for complete removal of HT. If any bomb is found which shows the contamination it will be segregated and burned. Decontamination will be certified by Surveillance Stamp.
9. Burned out bomb bodies will be transferred to salvage via approved transfer equipment.

INSPECTION REQUIREMENTS:
1. Inspect for adequacy of decontamination in accordance with paragraphs 4.240 thru 4.243 and paragraph 207 of GEM 7-222.
2. Operators will wear flame proofed coveralls and safety shoes.
3. Inspect for compliance with this SOP and other pertinent regulations.

SAFETY REQUIREMENTS:
1. Good housekeeping will be observed.
2. Free exit from operating site will be maintained.

DISPOSITION OF COMPONENTS AND MATERIALS:

Metal parts to salvage.

EQUIPMENT REQUIREMENTS:

Approved transfer equipment.
STANDING OPERATING PROCEDURE FOR: SOP No. AM-0-107-A (R2)

NOMENCLATURE: 1) 100-lb. Fragmentation, TNT, 23-lb. M72, w/parachute

PURPOSE: To comply with technical requirements

Operation 8

Add Step 8a to read:

Bomb body interiors will be cleaned with compressed air to insure complete removal of ash and other foreign substances. Compressed air will be diverted through cavities utilizing one or more hoses and an appropriate size compressor placed a minimum of 50 feet from bodies being cleansed. Operator will wear full face shield and gloves.

Add Note # 3 to Operation No 2 to read as follows:

When parachute adapter loosens with parachute container, place wrench on adapter and remove parachute container from adapter with strap wrench while bomb is in holding fixture.

E. L. Walker

CONCURRED IN:

Asst for Supply Ops

Chief, Ammunition Div

Chief, Surveillance Div

Safety Div

Management

APPROVED:

Allen T. Holness, Jr.
Major, Ord Corps
Commanding
STANDING OPERATING PROCEDURE FOR: AM-0-1074-52 Amendment No 1

NOMENCLATURE: BOMB, Fragmentation, TNT, 23-lb, M72, W/Parachute

PURPOSE: To clarify SOP

Operation No 2

Step 8 - Delete last sentence reading, "When limit is reached in Room 1 Building 503, fuses will be transferred to west platform where limit will be 8 boxes on 1 pallet".

Add last sentence to read: "When limit is reached in Room 1 Building 503, fuses will be transferred to west platform where limit will be 900 fuses.

E. L. WALKER
Division Chief

CONCURRED IN:

Asst for Supply Operations
Ammunition Maintenance Division
Chief, Surveillance Division
Safety Division
Management

APPROVED:

Allen J. Hodges, Jr.
Major, Ord Corps
Commanding
STANDING OPERATING PROCEDURE No: AH-O-107-41, Amend No. 1

NOMENCLATURE: Cluster, Frog Bomb, M111 (51/61)

PURPOSE: To make provision for an extraordinary condition.

Operation 2

Add the following under "Note":

Bombs found to have cracked heads shall be placed in a box pallet. When a full pallet is accumulated it will be transferred via forklift to Bldg 503, where the base plug will be removed. Upon completion of the removal of base plugs, bombs will be transferred to burning ground via approved transfer equipment.

E. B. Walker
E. B. Walker

CONCURRANCE:

Ass't for Supply

Ammunition Maintenance

Chief, Surveillance

Safety Division

Management

APPROVED:

ALLEN T. HODGES, JR
Major, Ord Corps
Commanding
28 January 1955

STANDING OPERATING PROCEDURE FOR: SOP NO: AM-0-107-A (R2) Amend No. 3

NOMENCLATURE: BOMB, Fragmentation, TNT, 23-lb, M72, w/parachute

PURPOSE: To provide alternate method for disposition of fuzes.

Operation 2

Step 6, Delete

Step 6, Add to read as follows:

Fuzes will be repacked in used ammunition boxes with cardboard fillers between layers and transferred to temporary holding point (Y pad at burning ground) awaiting transfer to operation 8

Operation 7

Delete entire operation.

Operation 8

Add step 10 to read:

Fuzes will be destroyed by detonation in accordance with SOP AD-0-28.

Change requested by: E. L. Walker

CONCURRENCE:

Asst for Supply
Surveillance Div
Amm Maint Div
Storage Division
Safety
Management

APPROVED:

Allan W. Hodges, Jr.
Major, 3rd Corps
Commanding
STANDING OPERATING PROCEDURE No. SOP AIP-187-A (R2), Amendment No. 4

NOMENCLATURE: Bomb, fragmentation, TNT, 23-lb., M72, w/parachute

PURPOSE: To rectify distance requirements

Operation 8 - Destroy Loaded Components

Delete Step 8a

Add Step 8c to read as follows:

Bomb body interiors will be cleaned with compressed air to insure complete removal of ash and other foreign substances. Compressed air will be diverted through nozzles utilizing one or more hoses and an appropriate size compressor placed a minimum of 25 feet from bomb bodies being cleaned. Operator will wear full face shield and gloves.

Add Note No. 3 to Operation No. 2 to read as follows:

When parachute adapter leashes with parachute container, place wrench on adapter and remove parachute container from adapter with strap wrench while bomb is in holding fixture.

"Amendment of 27 Dec 54 is rescinded."

Change Requested by

CONCURRENCE:

Asset for Supply

Surveillance Div

Arm Maint. Div.

Storage Div.

Safety

Management

APPROVED:

Allen T. Fidges, Jr.

Major, Ord Corps

Commanding
DEPARTMENT OF THE ARMY
WHARTON ARMORY DEPT
GALLUP, NEW MEXICO

STANDING OPERATING PROCEDURE
FOR

Deactivation

COMPLETE NOMENCLATURE: Shell, T50A, Spoke, WP, T5642

ITEM NO: M08-11, AMO NO: 223, SOP NO: EM-O-110, DATE: October 1974

Total Quantity Scheduled: 3,004 rds

Estimated Production Per 8-hr Shift: 800 rds

Estimated Total Direct Labor Crew Per Shift: 12

Estimated Total Direct Man-hours Per Unit: 19

Estimated Total Ordnance Cost Per Unit: $0.53

LOCATION OF OPERATING BUILDING, INCLUDING BLDG. NO: Ammunition Work Shop

LPL Bldg No 12.

NOTICE: All tools and equipment used in explosive hazardous operations will be inspected and approved by the Surveillance Division before they will be utilized in this operation.

NOTICE: All tools and equipment used in industrial hazardous operations will be inspected and approved by the Safety Director.

I certify that copies of approved SOP will be posted at operation sites indicated and that all employees have been or will be thoroughly instructed in the provisions of this SOP.

E. L. Walker
DIVISION CHIEF

Prepared By:

Concurred In:

Ammo Maint:
Storage:
Surveillance:
Safety:
Management:
ASO

APPROVED:

ALLEN T. HODGE, JR.
Major, Ord Corps Commanding

SHEET OF
If, to accomplish a task, a Commanding Officer believes an exemption to mandatory requirement of regulations is essential, such need for an exemption will be pointed out and fully justified upon referring procedures for review. Operations involving such unauthorized deviations will not be started prior to receipt of exemption from the Chief of Ordnance.

Operations for specific schedule items should be planned for completion on a day-to-day basis to eliminate the accumulation in operating building or at any location of hazardous material resulting from demilitarization operations. (Reference paragraph 1602 of ORD M 7-224, April 1951). In no event will a scheduled item be reported complete as long as any rounds or components for this item remain to be disposed of other than through salvage channels.

Inspection requirements for ammunition are included in drawings and specifications, Ordnance Inspection Handbooks, ORD-M608, ORD-M606-8, and ORD-M608-ML. ORD-1, part 4, and in classifications of defects issued for each item. In order to ensure that the ammunition produced, renovated or demilitarized in accordance with this Typical Procedure will meet the requirements described in the documents listed above, certain process inspections are specified as a part of this Typical Procedure. Specific instructions concerning the acceptance inspection of the end product will be issued by OMC-1. All residual metal components and all packing material, after demilitarization, will be inspected and certified for adequacy of decontamination in accordance with paragraphs 5.610 through 5.613 of the OACI and paragraphs 2507 and 2508 of ORD M 7-224, April 1951.

Safety requirements which are mandatory for demilitarization and renovation of ammunition items are included in Ordnance Safety Manual, ORD M 7-224, Ordnance Corps Technical Instructions of the 700 series and in other applicable directives. Such requirements will be complied with as stated in paragraphs 103, 104 and 105 of referenced manual, special attention being directed to the following:

1. **Explosives and Ammunition Handling:**

   Paragraphs 907, 1620, 1717, 1718, 1719, 1605, 2002 through 2008, 2115, 2116 and Section 26 of ORD M 7-224.

2. **Explosives and Ammunition Hazards:**

   a. Either at the storage site, or after unpacking, all ammunition and explosives will be inspected for proper identification, evidence of contamination, excessively deteriorated, damaged or missing components and other defects which would render the item unsafe to handle or process in a normal manner. Such items should be disposed of in accordance with the provisions of paragraph 2708 of ORD M 7-224.

   b. Paragraphs 1207, 1222 and Section 26 of ORD M 7-224.

3. **Safety Clothing and Tools:**

   Paragraphs 1420, 1619, 1614, and Sections 26 and 29 of ORD M 7-224.

4. **Safety Limits:**

   Employee and personal limits will be established, posted, and maintained at the minimum necessary for safe and efficient operation (Reference paragraphs 1601 and 1602 of ORD M 7-224).

5. **Operational Supplies:**

   Paragraphs 2507, 2508 and 2516 of ORD M 7-224.

6. **Blankities:**

   Paragraphs 266, 267 and Section 17 of ORD M 7-224.
SOP NO: AM-0-110

7. DESTRUCTION OF EXPLOSIVES AND AMMUNITION:

Paragraphs .311 through 9.316 of the OACT and Section 27 of ORD M 7-224.

8. SAFETY RULES AND STANDARDS:

a. Paragraphs 101, 102, 103, 906, 1625 and 2501 of ORD M 7-224.

b. Reference publications pages 1 through IX of ORD M 7-224.

c. First Aid Equipment — The following first-aid equipment shall be centrally stored and issued to the one in charge of a group of personnel required to work with group C chemical munitions:

1. Copper sulfate pads sufficient for each worker.

2. A 5-gallon pail or other vessel and two sponges.

3. A 1-gallon bottle of 5 percent copper sulfate solution and gauze sponges.

9. FIRST AID FOR GROUP C CHEMICAL MUNITIONS:

Phosphorus burns are especially severe because phosphorus buried in the flesh is absorbed and poisons the entire body. The tissues immediately around the burn are particularly affected by the absorbed phosphorus. Any part burned by phosphorus should be plunged under water as soon as possible. This stops the phosphorus from burning. Large amounts of copper sulfate (5 percent solution) should be applied or copper sulfate pads should be used according to directions. This treatment should be continued for 3 minutes. The phosphorus particles (copper-plated and black-colored) should be removed by washing or with forceps, and the injury treated like an ordinary burn. Since VP is soluble in oil, oily-base salves should not be used to treat burns. Such salves may cause systemic poisoning.
1. Remove and transfer from storage

2. Transfer from van to room 4. Remove round from shipping container

3. Unpack and inspect

4. Remove increments

5. Remove fin assembly

6. Remove fuse

7. Remove cartridge and primer from fin

8. Remove projectiles and fins from conveyor

9. Destroy loaded components
STANDING OPERATING PROCEDURE FOR: Detail of 

NOMENCLATURE: Shell, F1, 12.7x105mm, L203 

W/Fuse FR, M6A2 for L203 Mortar. 

LOCATION: Storage Igloo 

EXPLOSIVE LIMITS: 

PERSONNEL LIMITS: OPERATORS: 4 CASUALTIES: 3 

NOTE: This ammunition is now stored on pallets. 

1. Pallets will be loaded by electric forklift truck onto van, semi-trailer with wooden floor and sides. 36 rounds to pallet, 7 pallets to van, 252 rounds. 

2. Loaded van will be moved to Bldg No 19 by a 5 ton tractor. 

NOTE: Explosive limits in truck will be included in explosive limits permitted in room 4, Operation No 2. 

INSPECTION REQUIREMENTS: 

Inspect for compliance with Storage SOP, WOD No. AD-0-4. 

SAFETY REQUIREMENTS: 

1. Free exit from operating site will be maintained. 

2. Good housekeeping will be observed. 

3. A water filled barrel will be located adjacent to magazine door. 

4. A chemical kit containing first aid equipment will be available at operations. 

5. Fire symbol No 4 will be displayed. 

6. Fire extinguishers will be readily available. 

7. Operators will wear safety shoes. 

DISPOSITION OF COMPONENTS AND MATERIALS: 

Dumage to Dumage Yard. 

EQUIPMENT REQUIREMENTS: 

Van, semi-trailer, w/5-ton tractor. 

Electric forklift truck. 

* Contents of chemical kit are as in step 8 of Safety Rules and Standards.
STANDING OPERATING PROCEDURE FOR: 

NO. 111 OR 65-0-130

MATERIAL: Shell, Fixed, Smoke, WP, 75mm

DATE: October 1956

V/Type: PD, MAP for LOGM Mortar

ITEM NO: 500-11

LOCATION: Room 4, Bldg No 39

AHD NO: 232

PROD/8-ER

EXPLOSIVE LIMITS: ROUNDS: 840

MIXING: 540 rds

ITEMS: 3 CASUALTY: 3

DIRECT LABOR:

SHIFT: 2

STEP | OPERATION NO: 2 TITLE: Transfer from van to room 4. Remove round from shipping container.

1. Pallets will be removed from van and transferred to bldg 19 as required by an approved type forklift truck.

2. Seals and strapping will be removed from packing boxes.

3. Rounds in fiber containers will be removed from boxes and placed on a rubber tired ammunition cart, not more than 50 rds to cart, for transfer to Operation No 3.

4. Packing boxes will be placed on pallets for transfer to box yard.

INSPECTION REQUIREMENTS:

Inspect packing material for complete decontamination.

SAFETY REQUIREMENTS:

1. Operators will wear spark proof safety shoes.

2. Operators cutting strapping will wear face shield and/or safety goggles.

3. A water filled barrel will be located adjacent to Operation to receive any smoking round.

4. Fire symbol No 1 will be displayed.

5. Free exit from operating site will be maintained.

6. Good housekeeping will be observed.

7. A chemical kit containing first aid equipment will be available at operations.

8. Fire extinguishers will be readily available.

9. Ammunition cart will be blocked in such a manner as to insure a stable load.

DISPOSITION OF COMPONENTS AND MATERIAL:

Ammunition to Operation No 3.

Packing boxes to box yard.

EQUIPMENT REQUIREMENTS:

- Electric forklift truck.
- Unpacking table.
- Rubber tired ammunition carts.
STANDING OPERATING PROCEDURE FOR: DEPT 1 OF 4 SOF NO: AK-C-110

NOMENCLATURE: Shell, Fixed, Smoke, WP, TGAZ

U/Asst. PD: 9642 for 105mm Mortar

LOCATION: Room 3, LOL Bldg No 19

DATE: October 1954

ANU NO: 253

EXPLOSIVE LIMITS: FPOHS: NO OF TONS: 200 lbs

NONE: SHIFT: 800 lbs

PERSONNEL LIMITS: OPERATORS: 11* per room CASUALS: 3 DIRECT LABOR: 2 SHIFT: 6

STEP
1. Ammunition received from Operation 2 via rubber tired ammunition cart.
2. Rounds will be removed from ammunition cart and placed on work table.
3. Round will be removed from fiber container, placed on wooden skid on roller conveyer, one round to skid. Skids will be so constructed as to afford proper spacing and protection to primer.
4. Fiber containers will be placed in carrier for transfer to burning ground.

NOTE:
If any rounds are discovered which show dangerous deterioration the Surveillance Inspector will be immediately notified. If the round is determined to be unsafe to process, the Inspector will remove it from the operating line and place it in Barricade No. 54 from where it will be transferred to Demolition Ground and destroyed by detonation.

NOTICE:
If a leaker or smoking projectile is found, the operator, wearing protective clothing will immerse the round in the water filled barrel and notify the Ammunition Inspector immediately.

2 Operators, 2 Casuals

INSPECTION REQUIREMENTS:

Inspect for proper identity and dangerous deterioration.

Inspect for compliance with this SOP.

SAFETY REQUIREMENTS:

1. Operators will wear spark proof safety shoes, flame proofed coveralls, flame proofed gloves and chemical safety goggles.
2. Water filled barrels will be conveniently located.
3. Free exit from operating site will be maintained.
4. Good housekeeping will be observed.
5. A chemical kit containing first aid equipment will be readily available.
6. Fire extinguishers will be readily available.
7. Fire symbol No 4 will be displayed.

DISPOSITION OF COMPONENTS AND MATERIAL:

Complete round to Operation No 4.

Fiber containers to burning ground.

EQUIPMENT REQUIREMENTS:

Work table
Ammunition cart
Wooden skids
Roller conveyer
Van, semi-trailer

*Number of rounds and personnel limits will include all operations performed in Room 3 of Bldg No 19.
OPERATION NO.: 1 TITLE: Remove Incrments

1. Round received from operation 3.
2. Operator will remove propellant increments from fin assembly.
3. Increments will be placed in metal powder container for transfer to operation No. 3. Metal container will be properly grounded.
4. Filled containers of increments will be moved to concrete barricade A awaiting transfer to operation 5. Storage of increments in barricade A will not exceed 3200 increments or 500 lbs and will be transferred once each day.

Note:
This operation will be conducted from a grounded platform. Personnel and explosive limits in barricade No. 1 will not exceed:
1 Operator
2 Casuals
3 Complete rounds
1 Container of propellant increments.

Notice:
If a leak is found, the operator, wearing protective clothing will immerse the round in the water filled barrel and notify the Ammunition Inspector immediately.

Inspection Requirements:
Inspect for compliance with this SOP.

Safety Requirements:
1. Operator will wear conductive soled safety shoes, flame proofed coveralls, flame proof gloves.
2. A water filled barrel will be conveniently located.
3. Free exit from operating site will be maintained.
4. Good housekeeping will be maintained.
5. A chemical kit containing first aid equipment will be readily available.
6. Fire extinguishers will be readily available.
7. Deluge hose will be installed.

Disposal of Components and Material:
Round to Operation No 5.
Incrments to Operation No 2.

Equipment Requirements:
Roller conveyor
Deluge
**STANDING OPERATING PROCEDURE FOR:** Detall of  
**NOMENCLATURE:** Shell, Fixed, Round, WP, 7.62,  
W/Pug PT, M4A2 for L00W* Porter  
**LOCATION:** Room 3 Barricade No 3 Bldg 10  
**EXPLOSIVE LIMITS:** Pounds: 1000  
**PERSONNEL LIMITS:** Operators: 11  
**STEP** | **OPERATION NO.** | **TITLE:** Remove Fin Assembly  
--- | --- | ---  
1. | | Rounds received from Operation No 4 via roller conveyor.  
2. | | Rounds will be removed from conveyor and positioned in holding fixture.  
3. | | Fin assembly will be removed with locally designed tool.  
4. | | Projectile and fin assembly will be replaced on conveyor.  
**INSPECTION REQUIREMENTS:**  
Inspect for compliance with this SOP and other pertinent regulations.  
**SAFETY REQUIREMENTS:**  
1. Good housekeeping will be observed.  
2. Fire extinguishers will be readily available.  
3. Operators will wear spark proof safety shoes, flame proofed clothing, flame proof gloves and chemical safety goggles.  
4. A water filled barrel will be conveniently located.  
5. Free exit from operating site will be maintained.  
6. A chemical kit containing first aid equipment will be readily available.  
**DISPOSITION OF COMPONENTS AND MATERIAL:**  
Projectile to Barricade 5.  
Fin assembly to Barricade 4 Operation 7.  
**EQUIPMENT REQUIREMENTS:**  
- Work table  
- Holding Fixture  
- Hand tools  
- Skids  
- Conveyor
STANDING OPERATING PROCEDURE NO: 6

NOMENCLATURE: Shell, Smoke, Fixed, WP, 1255
ITEM NO: 442-11

LOCATION: Barricade 3, Room 1, Skid 19

EXPLOSIVE LIMITS: ILLUM: NO OF ITEMS: 200

PERSONNEL LIMITS: OPERATORS: 11 CASUALS: 2

STEP | OPERATION NO: 6 TITLE: Remove Fuse

1. Rounds received from Operation 5 on wooden skids via conveyor.
2. Operator will remove round from skid and position in holding fixture.
3. Fuse will be removed from round by means of approved hand tool and placed in used ammunition box with cardboard fillers between layers.
4. Round will be returned to skid and moved to Barricade No 3, Operation 6.
5. Boxed fuses will be transferred to Room 5 awaiting transfer to Operation 8.
6. Remove burster and place in used ammunition boxes with cardboard between layers for transfer to Operation 8.

NOTE: Personnel and explosive limits in defuzing barricade - 1 operator, 2 casuals, 3 shells, and 60 fuses or 1 box.

NOTE: If a leaker is found, the operator, wearing protective clothing will immerse the round in the water filled barrel and notify the ammunition inspector immediately.

1 Operator, 2 Casuals.

INSPECTION REQUIREMENTS:

Inspect for compliance with this SOP and other pertinent regulations.

SAFETY REQUIREMENTS:

1. Operators will wear spark proof safety shoes, flame proofed clothing, flame proof gloves and safety goggles.
2. A water filled barrel will be conveniently located.
3. Free exit from operating site will be maintained.
4. A chemical kit containing first aid equipment will be readily available.
5. Good housekeeping will be observed.
6. Fire extinguishers will be readily available.

DISPOSITION OF COMPONENTS AND MATERIAL:

Fuses to Room 5
Rounds to Operation 6

EQUIPMENT REQUIREMENTS:

Holding fixture
Skids
Conveyor
Work table
Used Ammunition boxes
Hand tools
Approved transfer equipment
STANDING OPERATING PROCEDURE FOR: M1 GM 155mm SHELL

NOMENCLATURE: M155 SHELL, Fuzed, Smoke, VT, 1552

LOCATION: Room 5, Barricade No 4, ICL Plow No 13

EXPLOSIVE LIMITS: EXPLOSION LIMIT 200 Rpm

PERSONNEL LIMITS: OPERATORS: 11 CASUALS: 3

OPERATION NO: 7 TITLE: Remove Cartridge and Primer from Fin.

1. Fin assembly received from operation 5 via wooden skid and roller conveyor.
2. Fin assembly will be removed from skid and placed in primer removal machine. Machine will be equipped with an adequate plastic flash shield to protect operator and the rounds moving along conveyor.
3. Primers removed from fin will be packed in ammunition boxes and removed to Room 5, for transfer to Operation 8.
4. Cartridges will be removed from fin and packed in ammunition boxes, cardboard and removed to Room 5, for transfer to Operation 8.
5. Fin will be inspected for adequacy of decontamination and replaced on conveyor.

Personnel and explosive limits for No. 4 barricade will not exceed 1 Operator, 2 Casuals, 3 Shells, 200 Primers, 800 Cartridges.

NOTE: Explosive limits for Room 5. Not to exceed 800 primers, 800 cartridges. Primers and cartridges will be moved out once each shift.

INSPECTION REQUIREMENTS:

Inspect fins for adequacy for decontamination in compliance with provisions of paragraph 2507, 921 and Para's 4.310 through 4.313 of the QACI.

SAFETY REQUIREMENTS:

1. Operator will wear spark proof safety shoes, flame proofed coveralls, flame proofed gloves and chemical safety goggles.
2. A water filled barrel will be conveniently located.
3. Free exit from operating site will be maintained.
4. Good housekeeping will be observed.
5. A chemical kit containing first aid equipment will be readily available.
6. Fire extinguishers will be readily available.

DISPOSITION OF COMPONENTS AND MATERIAL:

Primers and cartridges to Room 5 for transfer to Operation 8.

Fins to Operation 8 for transfer to salvage yard.

EQUIPMENT REQUIREMENTS:

Primer removal fixture.
STANDING OPERATING PROCEDURE FOR:  recoil  OF  

SOP NO:  AM-0-110

NOMENCLATURE:  Shell, Fixed, Smoke, WP, TM-182

W/Fuze FT M4A2 for 105/16 Mortar

DATE:  October 1964

ITEM NO:  M01-11

LOCATION:  Room 3, Barricades 1, Bldg 19

AWO NO:  253

EXPLOSIVE LIMITS:

POUNDS:  2

NO OF ITEMS:  200

SHIFT:  240 mg

PERSONNEL LIMITS:

OPERATORS:  1

CASUALS:  2

SHIFT:  2

DIRECT LABOR:

STEP

OPERATION NO:  8

TITLE:  Remove projectiles and fins from conveyor

1.  Projectiles will be removed from conveyor and palletized for transfer via approved transfer equipment to Bldg 516 awaiting removal to Operation 9.

2.  Fins will be removed from conveyor and palletized for transfer to salvage.

NOTE:

Explosive limit in Bldg 516 will be 1600 rounds.

INFORMATION REQUIREMENTS:

Inspect for compliance with this SOP, and other pertinent regulations.

SAFETY REQUIREMENTS:

1.  Good housekeeping will be observed.

2.  A chemical first aid kit will be readily available.

3.  Operators will wear safety shoes, flame proofed clothing safety goggles and gloves.

4.  A free exit will be maintained from operating site.

5.  A water filled container will be conveniently located.

DISPOSITION OF COMPONENTS AND MATERIAL:

Fins to salvage
Projectiles to Bldg 516

EQUIPMENT REQUIREMENTS:

Pallets
Approved transfer equipment

SHEET 12 OF 13
STANDING OPERATING PROCEDURE FOR: Hard 4F

SOP NO: AD-0-110

NOMENCLATURE: Shell, Fused, Smoke, WP, T782
ITEM NO: 601-5

FUSE: F9A1442 for 106mm Mortar
ITEM NO: 601-1

LOCATION: Demolition and Burning ground
INC NO: 253

EXPLOSIVE LIMITS: POUNDS: NO OF ITEMS:
PHG: 0-100
DIRECT LABOR:

PERSONNEL LIMITS: OPERATORS: 4 CASUALS: 3 SHEET: 4

STEP

1. Fuzes will be destroyed by detonation as outlined in SOP No. AD-0-28.

2. Cartridges and primers will be destroyed by burning on a bed of combustible material as outlined in SOP AD-0-27.

3. Projectiles will be removed from pallets and placed in double rows on open grounds.

4. Sufficient detonating agent (Bangalore Torpedoes) will be laid lengthwise along projectiles to assure complete rupture of projectiles. Not more than 500 to set up. Beds will be separated 1501 and

5. Detonation will be accomplished by the use of electric blasting cap and electric blasting machine.

6. Fuzes and bursters will be positioned at demolition site, detonating agent will be added as required to ensure a complete detonation.

INSPECTION REQUIREMENTS:

Inspect all reclaimable scrap metal in accordance with provisions of Para. 2507 of OSM and Para. 4.240 through 4.243 of GACI.

SAFETY REQUIREMENTS:

1. Operators will wear safety shoes, flame proofed clothing and chemical safety goggles and gloves while handling White Phosphorous Projectiles.

2. A chemical first aid safety kit will be readily available.

3. Safety precautions outlined in SOP's No. AD-0-26, 27 and 28 will be carefully followed.

DISPOSITION OF COMPONENTS AND MATERIAL:

Scrap metal to Salvage Yard.

EQUIPMENT REQUIREMENTS:

Transfer equipment.

Detonator destruction plant.
STANDING OPERATING PROCEDURE FOR: Title of Procedure

SOP NO: AM-0-110

PREVIOUS: Shell, Fuzed, Smoke, WP, T1932

ITEM NO: 407-11

LOCATION: Demolition and Burning Grounds

W/Fuse: FB, M42 for 105mm Mortar

EXPLOSIVE LIMITS: Pounds: No of Items:

PERSONNEL LIMITS: Operators: Casuals: Shift:

STEP OPERATION NO: TITLE: Destroy Loaded Components

1. Fuses will be destroyed by detonation as outlined in SOP No. AD-0-25.

2. Cartridges and primers will be destroyed by burning on a bed of combustible material as outlined in SOP AD-0-27.

3. Projectiles will be removed from pallets and placed in double rows on open grounds.

4. Sufficient detonating agent (Bangalore Torpedoes) will be laid lengthwise along projectile to assure complete rupture of projectile. Not more than 500 to set up. Beds will be separated 1501 and

5. Detonation will be accomplished by the use of electric blasting cap and electric blasting machine.

6. Fuses and bursters will be positioned at demolition site, detonating agent will be added as required to assure a complete detonation.

INSPECTION REQUIREMENTS:

Inspect all reclaimable scrap metal in accordance with provisions of Para. 2507 of OSM and Para. 4.240 through 4.243 of GACI.

SAFETY REQUIREMENTS:

1. Operators will wear safety shoes, flame proofed clothing and chemical safety goggles and gloves while handling White Phosphorus Projectiles.

2. A chemical first aid safety kit will be readily available.

3. Safety precautions outlined in SOP’s No. AD-0-26, 27 and 28 will be carefully followed.

DISPOSITION OF COMPONENTS AND MATERIAL:

Scrap metal to Salvage Yard.

EQUIPMENT REQUIREMENTS:

Transfer equipment.

Detonator destruction plant.
STANDING OPERATING PROCEDURES FOR: Demol OF BNG, EX

NO.: 126A1 (128)

LOCATION: Storage Sites

EXPLOSIVE LIMITS: Unvalidated

PERSONNEL LIMITS: OPER./TOLG: 48 CASUALS: 3

STEP 	 OPERATION NO: 1 TITLE: Open and Inspect

1. Forklift operator will remove 1 drum from storage and transfer to inspection site which is a minimum of 100 feet from storage site. At no time will cluster be moved in other than a horizontal position. (When inspection is too far to be reached practically with forklift, cluster will be moved with other approved transfer equipment.

2. Drum will be placed on disassembly machine in barricaded inspection station, and lock ring disassembled from drum.

3. Operator will secure drum pull apart devices and retire to remote control station from which drum will be pulled apart.

4. Personnel making inspection of cluster will time their return to inspection station so as to allow a minimum of 30 seconds elapsed time between the pulling apart of drum and exposure to cluster. If necessary the cluster will be uncrated to perform this inspection.

5. EXTREME HAZARDOUS CONDITION

Inspect all fuses to make sure that all safety devices are in place. Any bomb found without safety block or missing striker plates will be handled as follows:

- Cease all operations immediately. Notify the Chief of the Ammunition Maintenance Division, Phone 50 or 31, Chief, Ammunition Inspection (Surveillance Office, Phone 79).
- All ammunition personnel and motorized equipment will be evacuated and all igloo doors will be closed within a radius of twelve hundred (1200) feet from open side of barricade and eight hundred feet (800) from closed side of barricade. All roads within the radius will be protected by watchmen to stop traffic from entering until the cluster has been repaired and transferred to the Demolition Ground. The representative from the Ammunition Inspection Office will remain at the operation until the Division Chief's arrive and made a decision as to the repair necessary to the cluster for safe transfer.
- If safety blocks are missing and improvised safety block will be installed and taped in place with a 1/2" x 6" strip of adhesive tape.
- If the striker plate is missing a small clip will be carefully secured to hold striker pin in place. All repair work will be made by inspection personnel. Transfer equipment transferring reject cluster to demolition ground will be a sand bag barricaded truck.

6. When necessary repairs are made after complete inspection, serviceable clusters will be replaced in drum and drums reassembled reversing operation of pull apart machine. Lock ring will not be reassembled to drums unless a loose fit between drums exists. (Drums which may come apart during normal transfer operation constitute a loose fit.)

7. During normal inspection, if contents and all safety devices of cluster pass inspection, but safety block requires tape, tape safety blocks in place with 1/2 x 6" adhesive tape. Make two (2) complete wraps around safety block and around arming vane.

8. Not more than one (1) drum open on inspection table at any one time.

9. Operator will remove drum from pull apart machine with forklift and transfer to I Pad which will be temporary holding point.
10. Unserviceable clusters will be handled in accordance with para 5 of safety regulations.

11. Drums will be moved to Bldg 500, Room 1, via van or cargo truck as required. Maximum per van will be 12 drums.

NOTE: During this entire operation, fused clusters/bombs will be handled with extreme care. Drums will not be walked, tumbled, slid or placed in a vertical position.

**INSTRUCTION REQUIREMENTS:****

1. Immediately upon opening cluster drum, fuses assembled to bombs will be checked for presence of safety block and/or striker heads.

2. All fuses to have safety blocks taped in place before transfer.

3. All ammunition will be inspected for proper identification and for evidence of excessive deterioration, damaged or missing components that would render the rounds unsafe for further handling. A representative of the ammunition inspectors office will recommend disposal of all faulty rounds found.

4. Inspect all drums for correct AES, Lot Number and Nomenclature.

**SAFETY REQUIREMENTS:****

1. Cluster bombs will be handled with extreme care. Drums will not be walked, tumbled, slid or placed in a vertical position. Bombs may be rolled to position for fork lift to remove barrel from storage.

2. Ammunition will be securely blocked in place on van before van is moved.

3. All roads leading to operation will be blocked off to through traffic.

4. All ammunition personnel and motorized equipment will be evacuated from area if a fuse is found with a missing safety block or missing striker head.

5. Reject clusters will be transferred in barricaded van or cargo truck to demolition ground.

6. The fuse becomes armed when the safety block is displaced from the position between the striker and vane hub, whether the arming vane has turned or not.

7. Fused cluster with displaced safety block and/or missing striker plate will be handled only by qualified inspection personnel.

8. Operators cutting drum strapping will wear approved type eye protection.

9. Personal barricade will be constructed of 8" x 8" timbers with 1" steel plate roof.

**DISPOSITION OF COMPONENTS AND MATERIAL:****

1. Reject clusters and/or reject bombs to demolition grounds.

2. Serviceable clusters in drums to Bldg 500, Room 1.

**EQUIPMENT REQUIREMENTS:****


* Includes 2 Forklift Operators and 1 Truck Driver.
SECTION I. GENERAL

1. Purpose & Scope: To establish a safe uniform procedure for the handling of fuses, M407A1.

2. References:
   a. DD Form 7-22h
   b. JM 9A1021
   c. JMD 73-2-416


   a. Tools and Equipment
   b. Adequate barriers for disassembly of fuses
   c. Tool shop with non-spark tools
   d. Stencils as required
   e. Fire extinguishers

SECTION II. PROCEDURE

5. Method of Performance:

   a. Removal of booster cup
      (1) Place fuse in shielded vice
      (2) Remove stake by drilling, with positive stop drill
      (3) Remove booster cup completely with an approved type tool
      (4) Remove explosive from booster cup

   b. Removal of booster assembly
      (1) Remove stake by drilling, with positive stop drill
      (2) Remove booster assembly from fuse body with an approved type tool

   c. Removal of delay element
      (1) Remove stake by drilling, with positive stop drill
      (2) Remove delay element with an approved type tool

   d. Removal of Head Assembly
      (1) Remove stake by drilling, with positive stop drill
      (2) Remove head assembly from fuse body with an approved type tool
      (3) Remove primer or delay element

   e. Reassemble Fuses

   f. Stencil Fuses "Inert"

   g. Explosive elements will be transferred to demolition
General Instructions and Safety Precautions

1. Safety goggles shall be worn at all times when disassembly is in progress.
2. Provisions of OSHA-7.224 shall be complied with.
3. Personnel requirements shall be kept at a minimum for a safe operation.
4. Operation must comply with the S. C. P.

REVISIONS: None

APPROVED: Allen J. Myers
Maj. Ord Corp
Commanding

CONCURRENCE:

for Chief/Surveillance Division

Management
DEPARTMENT OF THE ARMY
WINGATE ORDNANCE DEPOT
GALLUP, NEW MEXICO

SOP NO. 8-X

January 1951

SUBJECT: AMMUNITION CONDITION REPORT PROCEDURE

I. PURPOSE: To clarify use of Ammunition Condition Report, to establish policy for its implementation and to outline procedure to be followed by all interested divisions and branches in the completion thereof.

II. DEFINITIONS:

A. Ammunition Condition Report (ACR)--Form CO 517--An instrument used for the disposition of ammunition, components, and explosives, including demolition items which have become unserviceable or which have been officially declared obsolete.

B. Unserviceable ammunition--Ammunition, components and explosives will be considered unserviceable when they can not be effectively used for their intended purpose.

C. Transfer--CRMA L Form No. 260--A document used to indicate location changes of particular items of ammunition.

III. CATEGORIES OF AMMUNITION CONDITION REPORTS:

A. Type 1--Basic portion of form completed with recommendations or request for disposition of item(s) involved. This type will be used in all cases not covered by Type 2.

B. Type 2--Basic and 3rd endorsement completed indicating ammunition determined by Surveillance Division or high authority to constitute a hazard requiring immediate disposal and disposition by demolition, burning or demil- tarization completed.

IV. PROCEDURE TO BE FOLLOWED IN COMPLETION OF AMMUNITION CONDITION REPORT TYPE 1:

A. Surveillance Division will inspect and declare ammunition unserviceable as required and notify Storage Branch.

B. Storage Branch, Ammunition Division, will physically move unserviceable items to site selected by Storage Branch and approved by Surveillance Division.

C. Storage Branch will complete Transfer in triplicate, record location, and distribute one copy to Stock Control Branch, Ammunition Division, one copy to Ammunition Maintenance Branch, Ammunition Division, and one copy to Surveillance. ACR number will appear on Transfer.

SHEET 1 OF 3
D. Surveillance Division will prepare ACR, assign serial number and will tag ammunition in storage site with copy of ACR in waterproof envelope, Form No. WDA001451-2.

E. Ammunition Maintenance Branch will add item to roster of work to be accomplished.

F. Surveillance Division will submit ACR through channels with copy to Stock Control Branch for vouchering.

G. Upon return of ACR with 2nd indorsement completed, Surveillance Division will forward copy to Stock Control Branch.

H. Stock Control Branch will notify Storage Branch of intended disposition of ammunition and Storage Branch, if disposition is other than destruction, will schedule work.

I. If indicated disposition is destruction by demolition, burning, or demilitarisation, Storage Branch will notify Ammunition Maintenance Branch, which will schedule work.

J. Ammunition Maintenance Branch will obtain working copy of ACR with stamped certificate from Stock Control, request Storage Branch to move ammunition, identified by AIC, lot, and ACR number assigned from storage site to appropriate site of operations; verify the above information; and proceed with indicated action in accordance with WOD-30P 7-X, 14D, or other applicable SOP.

K. When indicated action has been taken, Superintendent, Ammunition Maintenance Branch will sign certificate on reverse of ACR form indicating completion and return that copy of ACR to Stock Control to be forwarded to Surveillance Division.

L. Surveillance Division will complete 3rd indorsement on ACR, forward necessary copies through channels and furnish Stock Control with original copy for vouchering.

V. PROCEDURE TO BE FOLLOWED IN COMPLETION OF ACR TYPE 2;

A. Surveillance Division or higher authority will determine ammunition in storage or at operating site to be unserviceable and/or dangerous in storage or for further handling.

B. Surveillance Division will notify Ammunition Maintenance Branch and Storage Branch of requirements.

C. Storage Branch will physically move ammunition to applicable operation site, complete Transfer in triplicate with ACR number indicated and distribute as outlined in Section IV C above.

D. Ammunition Maintenance Branch will verify with Surveillance Division AIC, lot, quantity, and ACR number assigned and will proceed with action directed.
in accordance with SOP 7-X on 14D.

E. As soon as possible Surveillance Division will prepare ACR indicating reason for destruction and present copy to Superintendant Maintenance Branch for completion of certificate on reverse side indicating completion.

F. Surveillance Division will then complete 3rd indorsement on ACR, forward necessary copies through channels and furnish Stock Control with copy for vouchering. Original, when returned with 2nd indorsement "approved", will be forwarded to Stock Control as replacement voucher.

FRANK ECCLES
Lt Col, Ord Corps
Commanding
STANDING OPERATING PROCEDURE NO. 13 X

2 May 1961

FOR: MOVEMENT OF RAILROAD CARS

I. Partly loaded or loaded unblocked cars will be moved only with the approval of the Surveillance Inspector after all personnel have been removed or cleared from the car.

II. No loaded car will be moved to the set out track of the Classification Yard from leading site until completely blocked and approval for movement has been given from the Commercial Traffic Office, except as outlined in paragraph 3 below.

III. In the event of an emergency where loaded and blocked cars have to be removed from leading site, and Commercial Traffic Office cannot be reached to issue necessary instructions for the movement of car to the Classification Yard, the Chief, Storage Division, or his assistant, has authority to order the loaded and blocked car to one of the storage tracks of the Classification Yard. Cars will not be placed on set out track for removal by Santa Fe Railroad until ordered to do so by Commercial Traffic Branch.

IV. No cars will be moved from Classification Yard without orders from Commercial Traffic Office.

V. Conductor will make switch list of cars moved from Classification Yard to Docks or from Docks to Classification Yard. Switch lists will be turned over to Commercial Traffic Office as soon as possible.

VI. Conductor will check car numbers with Santa Fe switch list. If there is no Santa Fe switch list, conductor will make one for Commercial Traffic Office.

VII. When a blue flag is posted on railroad cars or on railroad tracks, train crew will not move cars until blue flag is moved by person that posted the flag.

VIII. Whenever train crews are shifting cars in the area, personnel in charge will phone the Commercial Traffic Branch for further instructions prior to return to the Roundhouse.

DISTRIBUTION:

CAC (5)
Com (1)
Saf (2)
Asst (6)
Ens (1)
3rd (20)
Afns (5)
Sur (4)
Cbu (10)

APPROVED: Frank E. Bues<br>Lt Col, Ord Corps<br>Commanding

SHEET 1 OF 1