DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

DISPENSER, MINE: GROUND VEHICLE, M128: PREPARATION FOR SHIPMENT AND STORAGE

Headquarters, Department of the Army, Washington, D.C.

1 September 1984

SECTION I

INTRODUCTION

1. Scope. The purpose of this bulletin is to provide the general requirements for the preservation, packaging, packing, and marking of M128 Ground Vehicle Mine Dispenser (GVMD).

2. Levels of Preservation, Packaging, and Packing. This bulletin provides for Level A preservation, packaging, and packing in accordance with AR 700-15. Level A provides protection in open and shed storage, and during overseas shipment when deck loading or over-the-beach delivery will be encountered.

3. General. The preservation, packaging, and packing instructions contained in this bulletin are required to afford protection against corrosion, deterioration, and damage during storage and shipment. Applicable documents are listed in Appendix I of this TB.

4. Reporting of Equipment Publications Improvements. The reporting of errors, omissions, and recommendations for improving this publication by the individual user is encouraged. Reports should be submitted on DA Form 2028 (Recommended Changes to Publications and Blank Forms) and forwarded directly to Commander, US Army Armament, Munitions and Chemical Command, ATTN: DRSMC-MAS (R) Rock Island, IL 61299-5001. A reply will be furnished directly to you.

SECTION II

GENERAL INSTRUCTIONS

5. General. The following general instructions cover the processes involved in the preparation for shipment and storage of M128 GVMD, including the safe use and handling of related materials. Methods of cleaning, drying, unit protection, types of preservation, and methods of application are described in TM 38-230-1. Refer to SB 38-100 for sources of materials and equipment used in cleaning, preservation, packaging, and packing.

6. Disassembly.

a. Disassembly. To facilitate shipments to ports, overseas, or to facilitate loading and storage, the four leveling jacks will be raised to their highest adjustment and rotated to the stowed position. The locking pin will be engaged in each jack. The lower, retractable lunette will be moved to the inner position and secured with locking pin. Four side reflectors will be removed (two from front sides of dispenser and two from rear sides), and screws, washers, lens and gasket secured to each reflector housing with tape. Other equipment, including reflectors, will be preserved and stored in the on vehicle equipment (OVE) storage box as follows:

(1) On Vehicle Equipment (OVE). The OVE for the dispenser consists of one spade, one fire extinguisher, one mine dispenser manual crank, one tire hand crank, four leveling jack hand cranks, one inadvertent mine launch prevention pin assembly, two safety chain shackles with attaching hardware and tools, one tools roll, one tire gauge, one pair of pliers, two screwdrivers, one double-end socket, three wrenches, one rawhide mallet and one socket wrench bar. The double-end socket will be coated with P-19 preservative and installed in the large round tube located in the OVE cabinet under the operator’s control box storage cabinet. The socket wrench bar will be coated with P-19 preservative and installed in the smaller round tube located in the OVE cabinet. The tire gauge, pliers, screwdrivers, and wrenches will be coated with P-19 preservative and individually wrapped in barrier material, type II, grade A, class 2, MIL-B-121, and secured with tape, PPP-T-42. These tools will be packed into the tools roll, the roll folded tightly and installed on the top shelf inside the operator’s control box storage cabinet. The rawhide mallet will be installed in the circular tube located on the side wall inside the operator’s control box storage cabinet. The spade, mine dispenser manual crank, tire hand crank, and four leveling jack hand cranks will each be coated with P-19 preservative and stored in the wood OVE storage box as shown in Figures 1 and 2. The fire extinguisher, inadvertent mine launch prevention pin assembly (wrap pennant around pin), two safety chain shackles (coat with P-19 preservative) and four reflectors are each to be placed in fiberboard boxes, PPP-B-6361, the boxes sealed with tape, PPP-T-76, and stored in the wood OVE storage box as shown in

PACKAGING MATERIAL

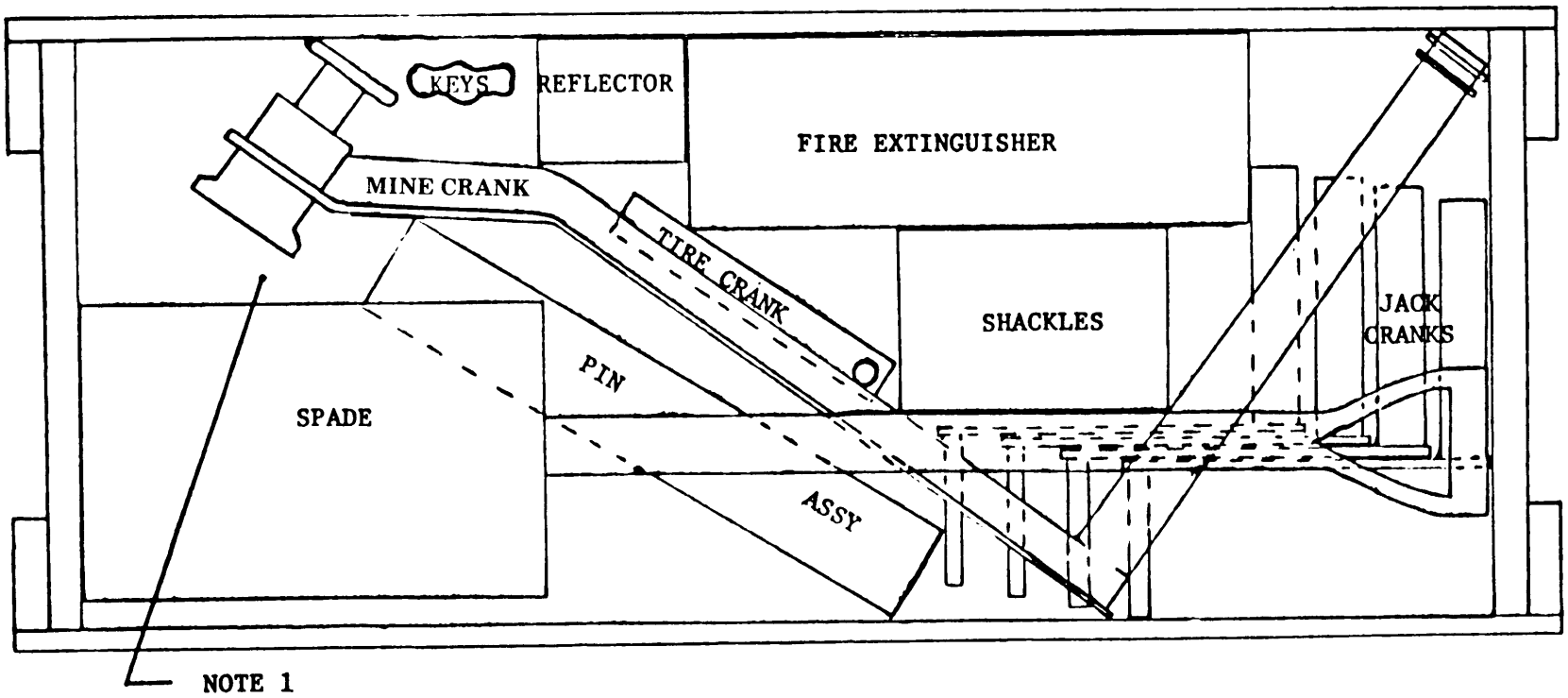
BOX, WOOD - CLASS 2, STYLE 4, PPP-B-621. EXCEPT TOP TO BE CONSTRUCTED FROM 1/2 IN. THICK, 5 PLY PLYWOOD, GRADE CD, BONDED WITH EXTERIOR GLUE, NN-P-530. OUTSIDE TO BE COMPLETELY PAINTED WITH ENAMEL, CAMOUFLAGE, COLOR FOREST GREEN NO. 34079, MIL-E-52798.
INSIDE DIMENSION: 38 1/2 X 15 7/8 X 5 1/4.

BOX, FIBERBOARD - TYPE CF, CLASS WEATHER RESISTANT, GRADE W6c, STYLE RSC, PPP-B-636.
INSIDE DIMENSION:- FIRE EXTINGUISHER: 14 7/8 X 5 1/8 X 5. -SHACKLES (2): 7 X 4 5/8 X 5.
- RFLECTORS (4): 4 7/8 X 3 7/8 X 2 7/8. -MINE PIN ASSY: 16 1/4 X 2 3/8 X 2 3/8.

BAG, BARRIER - TYPE I, CLASS B, MIL-B-117. DIMENSIONS - BELTS: 10 X 18 MIN KEYS: 3 X 4 MIN.

FILLER - FIBERBOARD, WEATHER RESISTANT, PPP-F-320 AND/OR CUSHIONING, PPP-C-1797.

TAPE - PPP-T-76 FOR FIBERBOARD BOX.



NOTE 1: Two belts in bag, packed in this area on top of spade and crank. Removed from figure for clarity.

Figure 1: Packing configuration for OVE wood box.

PACKAGING MATERIAL

CUSHIONS -POLYSTYRENE, FOAM, TYPE 1, 1. LB/CU FT DENSITY, MIL-P-60312.
DIMENSIONS - CUSHION 1: 8. X 3. X 5 1/4
2: 5. X 4. X 5 1/4 2 REQUIRED
3: 9. X 5 3/4 X 3.
4: 9. X 5. X 2 3/4
5: 7 1/2 X 4 1/4 X 3.

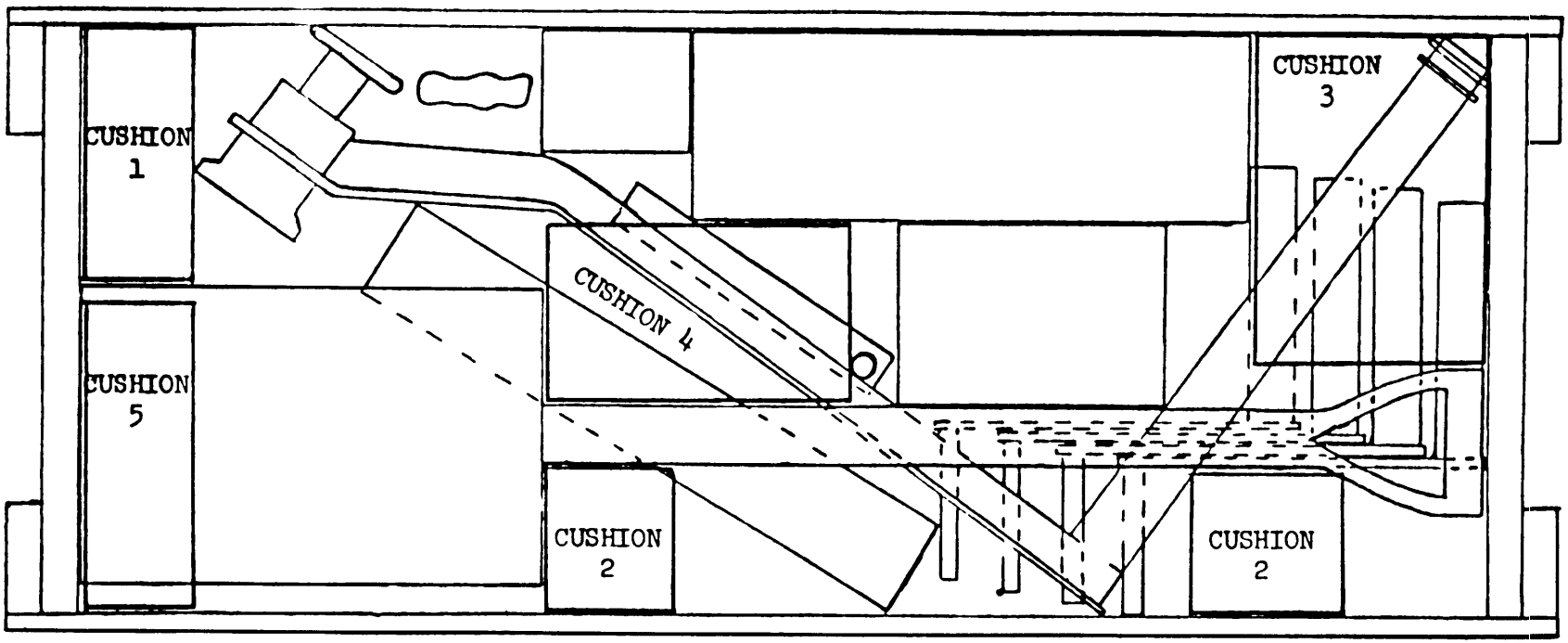


Figure 2. Packing configuration for OVE wood box.

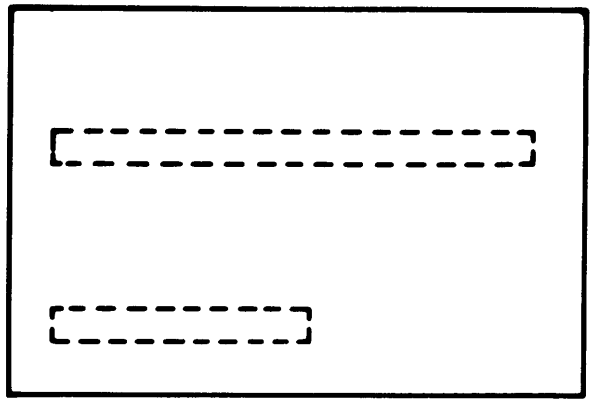


Figure 3. Marking on fiberboard box, barrier bag and wood box.

Figures 1 and 2. (Add additional filler material to each box to assure tight packing). Two belts (alternator and fan) removed from the engine will be placed in a barrier bag, the barrier bag heat sealed and the belts stored in the wood OVE storage box as shown in Figures 1 and 2. Keys for the padlocks will be placed in the barrier bag, the bag heat sealed and the keys stored in the wood OVE storage box as shown in Figure 1, Six cushions will be positioned around and on top of items, as shown in Figures 1 and 2. Filler material will be added, as required, to ensure contents are tightly packed. The wood box will be closed by strapping with three metal straps, class 1, type I, finish B, size 3/4 in., QQ-S-781. Each fiberboard box, barrier bag and wood box will be marked to indicate contents, as shown in Figure 3.

(2) Wood OVE storage box on dispenser. The packed and strapped wood OVE storage box (see Figures 1 and 2) will be placed on the front of the dispenser chassis, behind the control cable connector and in front of the launcher assembly. The box will be positioned across the width of the chassis and secured to the chassis with two straps, class 1, type I, finish B, size 3/4 in., QQ-S-781. One strap will be positioned across the forward portion of the box, down the ends and under the chassis. The second strap will be positioned across the rear portion of the box, around and under the dispenser brake support and under the chassis. A piece of solid fiberboard, PPP-F-320, will be placed at each contact point between the strapping and the chassis.

7. Cleaning and Drying. Exterior of the dispenser and any exposed surfaces for which application of a preservative is specified will be cleaned and dried in accordance with TM 38-230-1. When possible, the entire item will be cleaned without interruption. However, when interruptions are necessary, temporary protection will be provided to the areas that have been cleaned.

a. Cleaning.

(1) Field cleaning. Methods C-1, C-3, C-14, C-15 normally are used in field cleaning operations. Examples of mechanical means employed in the field application of method C-1 are buffing, sanding, and scratch brushing. Examples of chemical means are petroleum solvents and alkaline

compounds.

(2) Shop cleaning operations. Cleaning operations performed within a building normally are accomplished by methods C-1, C-3, C-5, C-7, C-9, C-12, C-14, C-15, C-18.

NOTE

Do not handle parts with bare hands after cleaning has been accomplished.

(3) Fingerprint removal. Prior to preservation, provide additional cleaning to critical and precision machined surfaces by applying method C-5 to remove fingerprints and perspiration residues.

(4) Precautionary measures. Protect items made of rubber, such as hose, tires, and electrical insulation from petroleum solvents by shielding with grease-proof barrier material or other suitable material. Protect all items subject to damage by steam cleaning, such as built-in test equipment (BITE), alternators and starters, by shielding them with waterproof barrier material. When impracticable to properly shield the items, remove during the cleaning operations.

b. Drying. Immediately after cleaning, items will be thoroughly dried using the most applicable method of drying. Air lines supplying compressed air for drying metal surfaces and for spraying paint or preservatives will be equipped with oil and water separators. These separators will be located in the air lines no more than 25 feet from the discharge end of the hose. Drain the separator and the air compressor storage tank at frequent intervals by opening the drain cocks, allowing any residual oil and water to drain from the units.

8. Treatment and Painting.

a. General. The M128 dispenser will be camouflage-painted in the field. Painted surfaces of the dispenser on which the paint has been damaged will be treated and repainted in accordance with TB 746-95-1 and TM 43-0139. Protect machined surfaces, roller chains, tires, information plates, and other items that may be damaged if painted, by masking or covering with suitable material. Reusable shields should be used when possible for masking purposes. Replace all required markings that are obliterated by the painting operations.

b. Storage Activities.

(1) Equipment being maintained for storage will be spot painted unless damage to the existing paint coating is sufficient in scope to make complete repainting more economical. Variances in shades of the paint used for spot painting from that of the original paint are not justification for complete repainting. Damaged or deteriorated portions of painted surfaces will be cleaned of all oil, grease, dirt, loose scaly rust, and blistered paint prior to spot painting, Immediately following the cleaning operation, coat the area from which the paint has been removed by brushing or spraying with paint conforming to TM 43-0139. Equipment requiring complete painting will be treated and painted in accordance with specific instructions in 8.d. below.

(2) In general, painted surfaces of an item being prepared for shipment will have the appearance of a new or nearly new item.

c. Maintenance Activities. Equipment, attachments and external component parts being repaired by maintenance activities will be treated and painted in accordance with instructions in 8.d. below. Engine, muffler, and those component parts that may be subjected to temperatures of 450°F or above will be painted with heat-resisting paint or coated

with type P-1 preservative in accordance with paragraph 15.d.

d. Specific Instructions. On those items or component parts where it is necessary to completely remove all paint to the bare metal, the requirements are as follows:

(1) Surface pretreatment. Ferrous metal, zinc, aluminum, and aluminum alloy surfaces thoroughly cleaned, and from which the paint has been completely removed, will be treated with materials cited in the appropriate sections of TM 43-0139.

(2) Primer and paint application. The first coat of primer or paint will be applied to a dry, clean surface as soon as practicable after cleaning and pretreatment. Each paint coating will provide a satisfactory film and a smooth surface, free of runs, sags, or other defects which might interfere with the proper application and adhesion of subsequent coats. If applied by spraying, thin the paint as recommended by the paint manufacturer. Do not apply paint to surfaces that are wet or frosted. Coatings should be applied in a temperature not less than 50°F. All painting operations (prime and finish coats) will be continuous and completed as soon as possible.

(3) Drying time. The drying time between coats under favorable air drying conditions should be as specified by the manufacturer. Allow increased drying time during unfavorable drying conditions such as low temperature and high humidity.

9. Lubrication. Unless otherwise specified herein, when lubricating equipment, use lubricants in accordance with LO 9-1095-205-12. Equipment cleaned by processes indicated in para 7a.(1) and (2) will be relubricated when processes remove or contaminate previously applied lubricants.

10. Preservation.

a. Atomize Spray Equipment. When atomize spraying of preservative oils is specified, equipment shown in Figures 4 and 5 or equivalent will be used.

b. Methods and Preservatives. Methods of preservation and packaging indicated by symbols and preservatives identified by “P” number in this bulletin will conform to the corresponding symbols in TM 38-230-1. When type P-10 preservative oil is specified, the oil will conform to Specification MIL-L-21260. Other preservatives will conform to the specifications listed for Army use. All exterior unpainted surfaces will be coated with type P-19 preservative. This includes, but is not limited to, safety chains, springs, both lunette assemblies, tube fittings, brackets, clamps, leveling jacks and drawbar surfaces exposed by disassembly. All exposed oil can points such as, but not limited to, levers, locking bars, latches, hinges, hinge pins, locking pins, lunette pins, locking bars, linkage and threaded ends of yokes and related clevis pins will be lubricated with oil conforming to P-9 preservative. Excess lubricant will be removed after lubrication. Working mechanism of padlocks, latches, door locks and hand operated locking knobs will be lubricated with graphite conforming to SS-G-659.

d. Damaged Gaskets. Care must be exercised to prevent damage to gaskets when removing components. A new gasket will be used when the gasket originally used shows evidence of damage.

e. Tape. Unless otherwise specified, when tape is specified for sealing, tape conforming to Specification PPP-T-60, type IV, will be

used.

11. Marking. Registration and Agency identification marking will be in accordance with AR 746-1 and TB 746-95-1.

a. Preservation Data Marking. Preservation data marking will be stenciled or printed on pressure sensitive labels for CONUS and oversea shipments. Labels will be 2-1/2 inches high and 20 inches wide. The following basic marking is required:

(1) Packing document number and revision number, level and date of protection.

(2) Gross weight, 12,500 lbs; cube, 1122 cu ft; outside dimensions, 198″ x 96″ x 102″

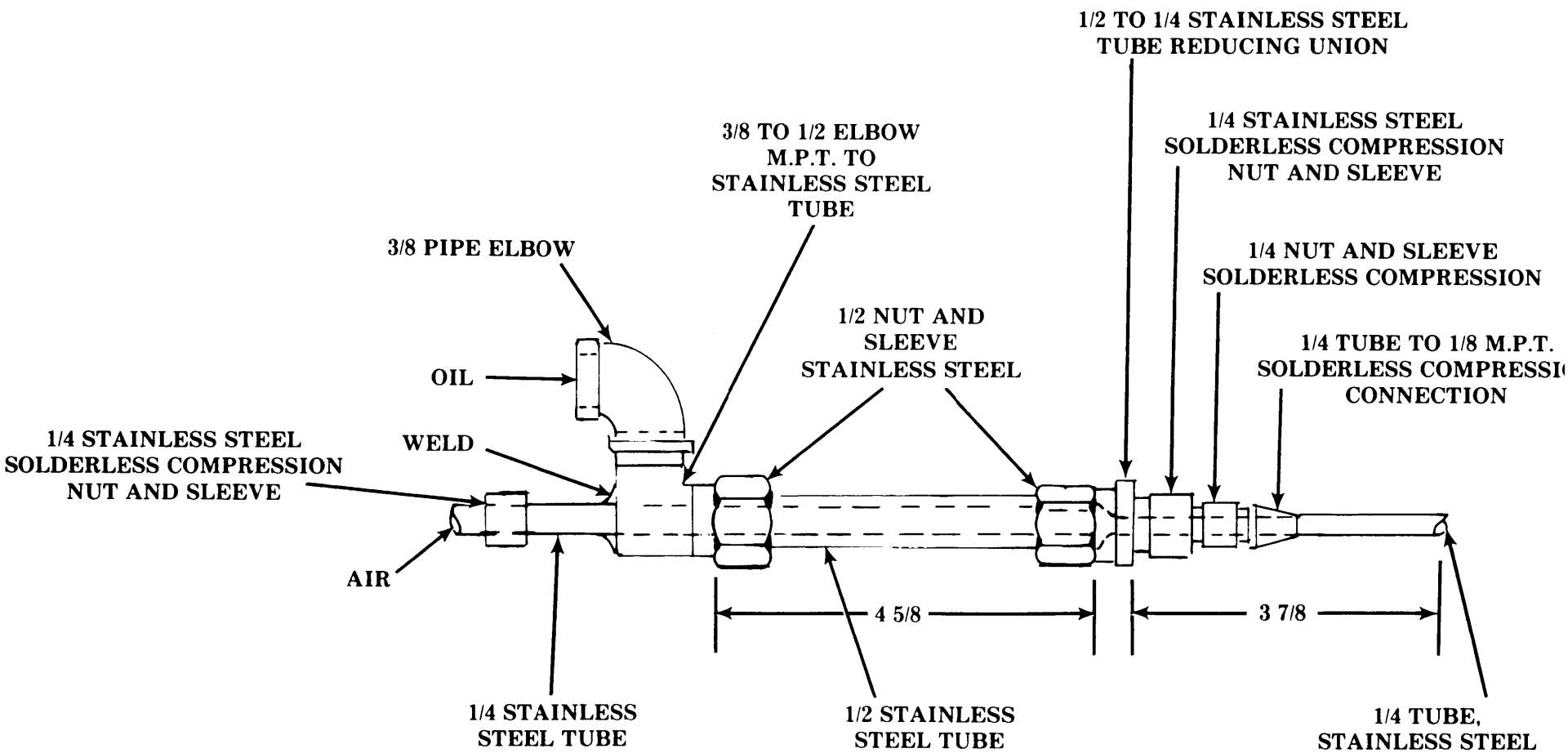
(3) Organizations, UIC

(4) Preservation data marking will be 1/2 inch high and will be spaced as indicated in Figure 6.

b. Labels. Labels for Level A shipments, other than entirely printed, will be waterproofed by coating the entire outer surface of the label with a coating compound conforming to Specification MIL-C-17504.

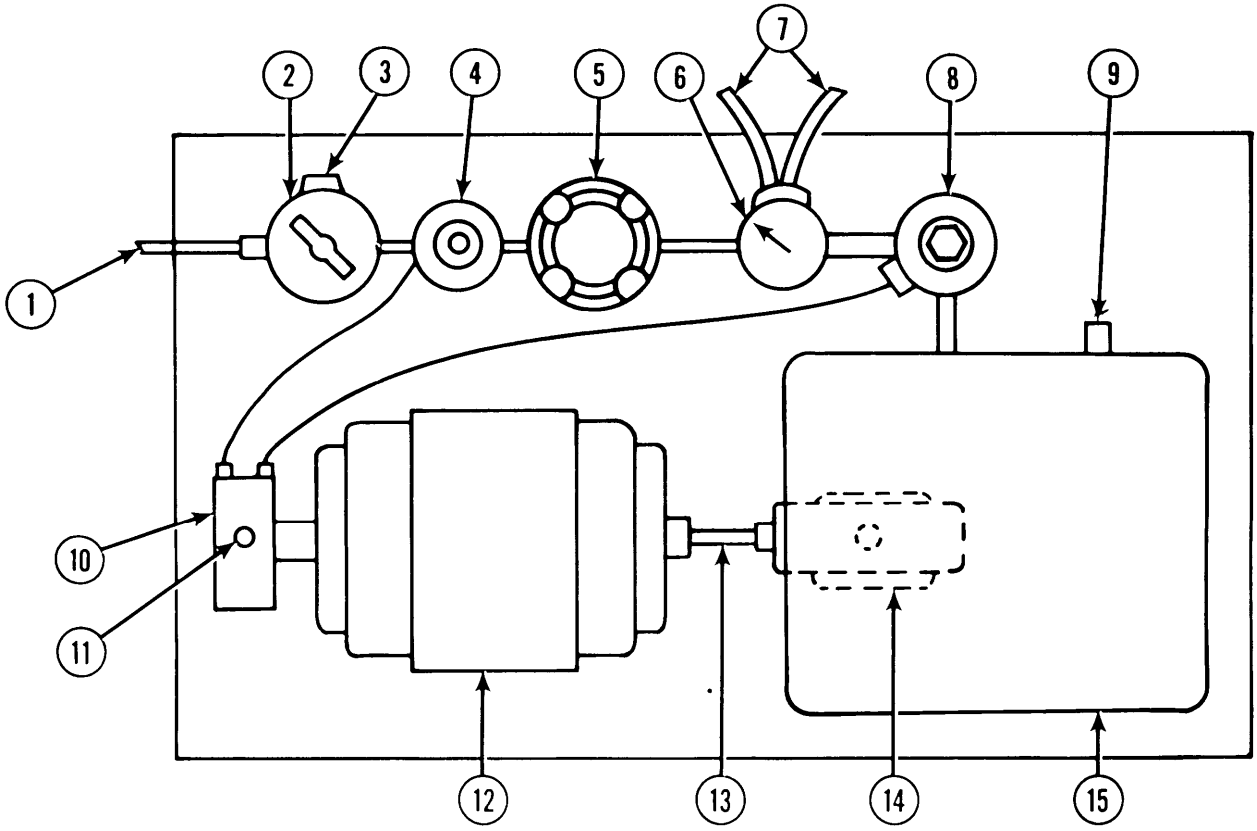
c. Tags. Cloth shipping tags conforming to Specification UU-T-81D, type A, will be used to show applicable warnings, cautions, and notes.

12. Use and Handling of Cleaning and Preservative Materials. Observe precautionary measures in the use and handling of cleaning and preservative materials to ensure that hazards to personnel, facilities, and equipment are properly controlled or eliminated. Information on hazards and their control is available from TM 38-230-1, safety regulations, safety officers, and safety engineers.



NOTE: ALL DIMENSIONS ARE IN INCHES

Figure 4. Fabrication details for oil spray atomizing nozzle



1. AIR LINE
2. AIR PRESSURE REGULATOR
3. AIR PRESSURE GAGE
4. SOLENOID
5. MOISTURE SEPARATOR
6. OIL PRESSURE GAGE
7. TWO DOUBLE TAPED LINES
8. SOLENOID VALVE
9. OIL TANK LEVEL GAGE
10. ELECTRIC JUNCTION BOX
11. ELECTRIC LINE
12. MOTOR,1/4 HP
13. SHAFT
14. POSITIVE DISPLACEMENT OIL PUMP
15. OIL TANK

NOTE:

THIS EQUIPMENT HAS PROVEN SATISFACTORY FOR PROCESSING ENGINE THRU SPARK PLUG OPENINGS IN CONJUNCTION WITH FIGURE 1

Figure 5. Pressure pump.

SECTION III

SPECIFIC PRESERVATION AND PACKAGING INSTRUCTIONS

13. General.

a. The following instructions provide the preservation and packaging requirements for level A. Items previously preserved will not be depreserved to meet a lower level. No preservative will be applied to components, assemblies, or surfaces that are adequately painted. Perform the preservation of components in the sequence necessary to prevent the operation of previously preserved components. Preserve engines after there is no further need for them to operate other components or accessories.

b. Method II packaging should be used for items of a highly critical nature requiring protection from the damaging effects of water vapor and will be accomplished as described in TM 38-230-1. Units that require method II packaging are exemplified by electrical equipment and other valuable equipment that would be damaged by the application of a contact preservative or by incomplete depreservation. Contact preservative used in conjunction with method II packaging must be such as to permit operation of the equipment without removal of the preservative. The preservatives usually used are P-7, P-9, P-10, P-11 P-17, P-19, and P-20.

CAUTION

Do not use VCI oils with method II packs.

14. Liquid Cooling System.

a. Examination. Thoroughly examine the cooling system for faulty or deteriorated gaskets and rubber hose, leaks, rust, dirt, loose connections, and evidence of oil seepage into the system. If level of coolant is low, inspect lubricant in engine crankcase for contamination with ethylene glycol compound.

b. Repairs. Perform minor repair necessary as a result of examination (14. a. above) prior to cleaning (14.c. below).

c. Flushing and Cleaning. When flushing and cleaning is required, drain the cooling system and use cleaning compound conforming to Specification MIL-C-10597 in accordance with manufacturers' instructions. Allow the engine to cool before cleaning all sediment from the radiator cap, drain cocks, and the overflow pipe. Close all drain cocks and engine block drains.

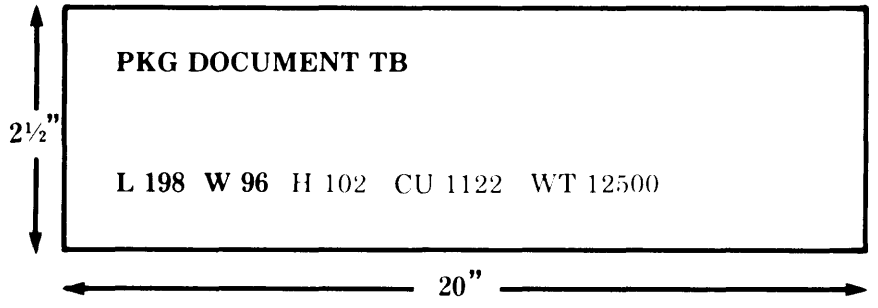
d. Preservation. Fill the cooling system with a clean solution of ethylene glycol or arctic-type antifreeze in accordance with FED-STD-O-A-548, type II. To determine the percent of antifreeze required, it is necessary to consider the area where the item is being stored and the areas where the item will be shipped. Annotate the depreservation guide to indicate the antifreeze and percentage thereof that the cooling system contains.

NOTE

A tag bearing the information "COOLING SYSTEM FILLED WITH ANTIFREEZE (ARCTIC-TYPE) - DO NOT DRAIN" will be securely attached to the radiator filler neck.

15. Engine.

a. Step 1. Disconnect the engine fuel supply line near the fuel supply tank and connect a portable container



LINE ONE WILL CONTAIN THE APPLICABLE PACKAGING DOCUMENT NUMBER, REVISION NO.,LEVEL OF PACKAGING MONTH AND YEAR OF PRESERVATION RESPECTIVELY.

LINE TWO WILL CONTAIN THE OUTSIDE LENGTH, WIDTH AND HEIGHT IN INCHES, OUTSIDE CUBE TO THE NEAREST FOOT AND GROSS WEIGHT TO THE NEAREST POUND.

LINES THREE WILL CONTAIN THE ORGANIZATION'S UIC (ABBREVIATE WHEN NECESSARY.

Figure 6. Example of preservation data marking label.

with two compartments (one compartment containing fuel conforming to Specification VV-F-800 and the other compartment containing type P-20, MIL-L 46002, preservative oil) to the fuel intake line.

b. Step 2. Disconnect the engine fuel supply return line and connect a line to permit draining the return fuel into a recovery container.

c. Step 3. Start the engine on fuel and operate until thoroughly warm. Accelerate engine to 3/4 speed and, at the same time, switch the fuel supply selector valve to preservative oil position.

d. Step 4. Operate the engine until undiluted preservative oil is flowing into the recovery container and then stop the engine.

e. Step 5. Disconnect portable containers and reconnect all permanent fuel lines.

NOTE

The recovered fuel and oil mixture will not be used to preserve other fuel systems.

f. Combustion Chambers and Valves.

(1) General

(a) Cooling. Prior to processing engine, the engine will be cooled to assure that cylinder head temperature, measured at injector nozzle flange surface of all cylinders is not more than 100°F. Cooling will be accomplished by induced air currents, circulation of engine coolant, or by waiting the period of time required to arrive at the above specified temperature. When surrounding air temperature exceeds 100°F (370°C), engine will be cooled to an equivalent temperature. After engine has been cooled, the fuel supply system from the fuel tank will be shut off. A portable container with two compartments will be positioned to provide gravity feed to the engine. One compartment will be filled with P-20 grade 1 of MIL-P-46002 to which has been added an oil soluble red dye conforming to MIL-D-81298 in a concentration sufficient to impart a marked coloring to the oil. The second compartment will be filled with diesel fuel conforming to VV-F-800. The fuel line between the primary fuel filter and fuel pump at the primary fuel filter outlet will be disconnected. The residual diesel fuel from the secondary fuel filter will be drained. The filter can will be removed and the filter element extracted. The filter can will be filled with oil, preservative, grade 1, MIL-P-46002 and replaced. The residual dispenser fuel return line will be disconnected at quick disconnect coupling. A transparent plastic tube will be connected to the engine end of the disconnected fuel return line and the other end of the plastic tube inserted into a recovery container to collect the residual returned oil. An air restrictor plate fabricated in accordance with Figure 7 will be installed at the nearest and most convenient place to cut off the air supply to the engine, assuring that air leakage to the engine is completely sealed off. The fuel line on the auxiliary fuel tank will be turned to the preservative oil position (grade 1, MIL-P-46002). The throttle will be placed at the maximum open position and engine cranked with starter for a minimum period of 30 seconds, not exceeding a maximum of 45 seconds. (Note: Engine may fire for approximately five seconds. If engine continues to fire, stop cranking and rock starter intermittently to prevent engine from running). The fuel valve on the auxiliary fuel container will be turned to the OFF position. The filter can will be removed from the secondary fuel filter, the

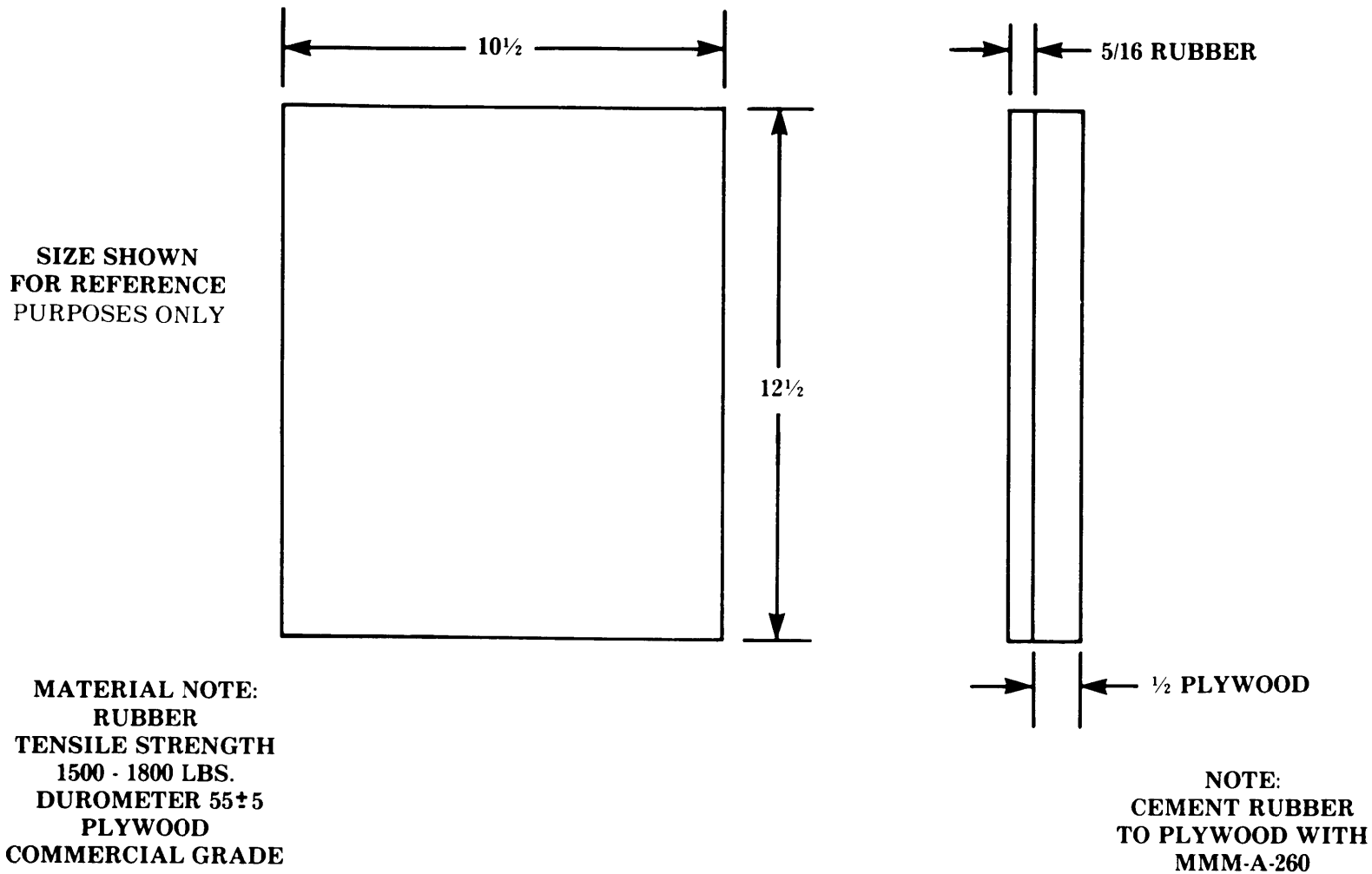


Figure 7. Air restrictor plate.

oil, preservative grade 1, MIL-P-46002, will be drained and the can wiped clean with a clean lint-free cloth. The element will be reinstalled, the can filled with diesel fuel, VV-F-800, and the filter can reinstalled.

NOTE 1 - The container shown in Figure 8 has proven satisfactory for engine preservation.

CAUTION - Special precautions will be taken to assure that time limits specified will not be exceeded or the engine, starter or starter solenoid may be damaged.

(b) Preservative formula. The amount of preservative oil to be sprayed into each cylinder is one ounce for each cylinder.

CAUTION

Precautions must be taken to assure that the amount of oil injected into the combustion chamber and manifolds will not result in hydrostatic lockup of the engine. The engine will then be allowed to stand idle for 12 hours. The engine crankshaft will then be rotated manually, or by the starting motor if manual rotation is not possible, to assure that the amount of oil injected into the combustion chambers and manifolds permit free rotation of the engine.

(c) Air pressure. The maximum air pressure for spraying preservative oil must not exceed 25 psi.

(2) Combustion chamber and valves.

(a) Combustion chamber

1. Step 1. Remove the intake manifolds, the exhaust manifolds and the rocker arm covers from the engine.

2. Step 2. Completely close the fuel throttle.

3. Step 3. Manually depress each intake valve and atomize spray one-fourth of the determined amount of type P-10, type I or II, grade 10, preservative oil through the open intake port into each cylinder.

4. Step 4. Manually depress each exhaust valve and atomize spray one-fourth of the determined amount of type P-10, type I or II, grade 10, preservative oil through the open exhaust port into each cylinder.

5. Step 5. With the valves released, rotate the engine two complete revolutions or until all valves have completed a full cycle.

CAUTION

Due to the tendency of these engines to fire and run on the preservative oil, the engine should be rocked over.

6. Step 6. Repeat the preservation cycle (steps 3 and 4), after which the crankshaft will not be rotated.

7. Step 7. Reinstall the intake manifolds and the exhaust manifolds.

8. Step 8. Spray the rocker arm assemblies, springs, guides, valve stems, push rods, and the inside of the rocker arm covers with type P-10, grade 10, preservative oil and reinstall the rocker arm covers.

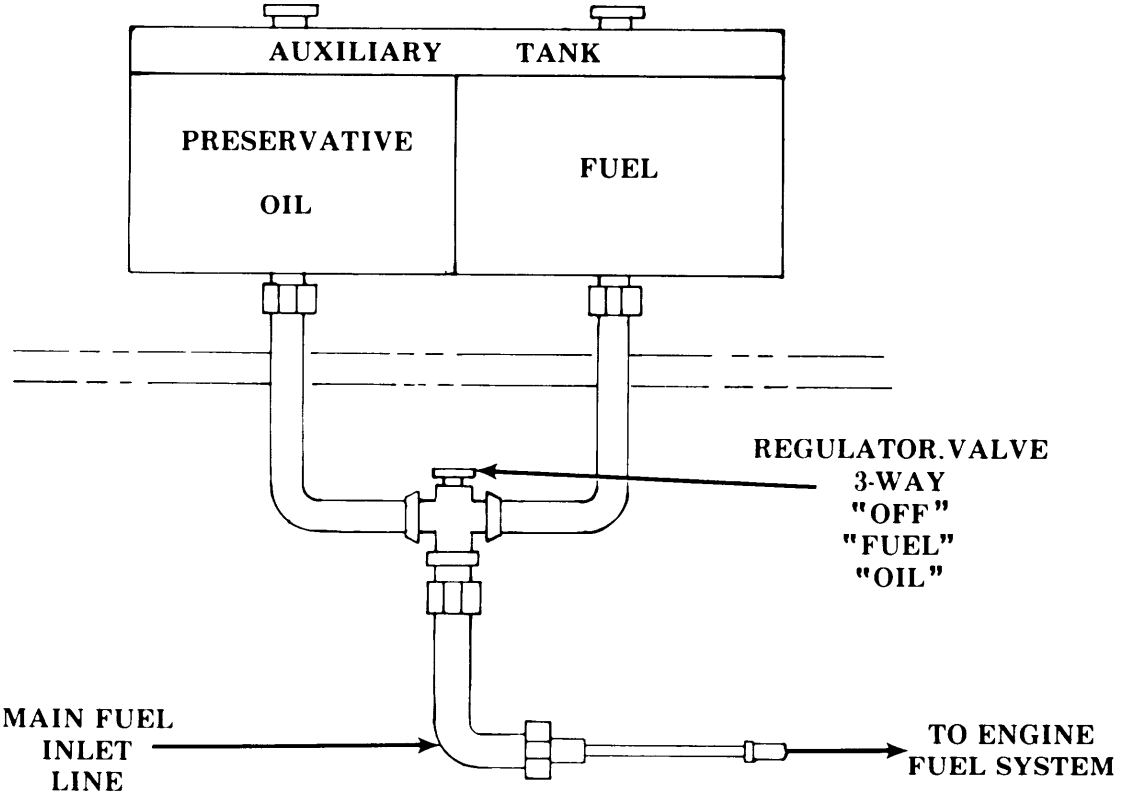


Figure 8. Auxiliary fuel container.

(b) Manifolds, exhaust pipes and mufflers.

1. Step 1. After completion of engine preservation, clean all rust, scale, and loose paint from areas where the paint has been damaged on manifolds, exhaust pipes and mufflers, and coat the surfaces with the same type paint originally used.

WARNING

A warning tag bearing the information "OPENING OF EXHAUST PIPE SEALED - REMOVE SEAL BEFORE STARTING ENGINE" will be securely attached to the exhaust pipe.

(c) Engine openings. After completion, seal all openings into the engine, crankcase breathers and oil filler.

(d) Engine purging. The fuel return lines will be purged of all oil, preservative, MIL-P-46002, by turning the auxiliary fuel tank valve to the diesel fuel position. The engine will be cranked by starter for a period of time to remove all traces of red preservative oil from the plastic return line.

CAUTION

Do not operate starter for a period exceeding 45 seconds. If preservative oil has not been purged, the starter will be rested for three minutes and purging operation repeated.

16, Engine Accessory Group.

a. Air Cleaner

(1) Dry type

(a) Step 1. Remove the filter element and clean all residue from the interior surfaces.

(b) Step 2. Atomize spray all unpainted, uncoated interior metal surfaces, including metallic filter elements with P-20 preservative oil conforming to grade 1 of MIL-P-46002. Allow to drain and remove excess preservative oil from the cleaner. Exercise care to prevent the oil from contacting non-metallic filter elements.

(c) Step 3. Reinstall the filter element.

(d) Step 4. Seal all openings with tape conforming to type IV, PPP-T-60 or cover with 6 mil polyethylene conforming to type II of L-P-378, secured with PPP-T-60 type IV tape.

WARNING

A tag bearing the information "AIR CLEANER SEALED - REMOVE SEAL BEFORE OPERATING ENGINE" will be securely attached to the air cleaner frame.

(2) Air intake system. Air intake tube at outlet side of air cleaner will be disconnected and one ounce of P-20 preservative oil conforming to grade 1 of MIL-P-46002 will be atomize sprayed into intake opening directed toward the engine. Air intake tube to air cleaner will be reconnected.

b. Ether Cylinder. The ether cylinder will be removed from the solenoid actuator valve and discarded. The solenoid will be coated with type P-19 preservative. The cap will be screwed on the solenoid actuator.

c. Tachometer Drive Adapters.

(1) Remove the adapter and coat

all metal surfaces normally lubricated by the engine lubrication system with type P-11 preservative and reinstall.

d. Flywheel Ring Gears and Starter Drives.

(1) Step 1. Remove cover plates to gain access to flywheel ring gear and starter drive mechanism. If a cover is not available, remove starter.

(2) Step 2. Coat the flywheel ring gears and the starter drive mechanism with type P-10, type I, grade 10, preservative oil.

(3) Step 3. Reinstall cover plates, or starter if removed.

e. Screens, Strainers and Filters. Remove and clean screens, strainers, filters, and their housing of all foreign matter prior to engine preservation. Reinstall or replace as required.

f. Electrical Components. Seal with tape all openings into generator, starters, voltage regulator, and other electrical components that may permit direct entry of water. Alternator and starter will have openings sealed with tape conforming to type IV, PPP-T-60.

WARNING

A tag bearing the information "ALTERNATOR AND STARTER SEALED - REMOVE SEALS BEFORE STARTING ENGINE" will be securely attached to the alternator.

g* Operator's Control Box. The operator's control box will be packaged in accordance with method IIb of Specification MIL-P-116.

WARNING

A tag bearing the information "ENGINE PRESERVED, AIR CLEANER, EXHAUST PIPE, ALTERNATOR AND STARTER SEALED - REMOVE SEALS BEFORE STARTING ENGINE" will be secured in a conspicuous location in the operator's control box cabinet or main control panel cabinet.

CAUTION

A tag bearing the information "ENGINE WILL NOT BE OPERATED AFTER PROCESSING" will be secured on the main control panel.

17. Fuel Tank. The fuel tank will be completely drained of fuel by removing the fuel drain plug. The fuel line shut-off valve will be open while the tank is draining and closed thereafter. The valve is located at the base of the fuel tank. The tank will be solvent cleaned by process C-3 using solvent P-D-680. The metallic drain plug and tank filler cap will be coated with lubricating oil conforming to grade 10, MIL-L-21260 and reinstalled.

18. Coolant Heater. The interior of the coolant heater will be atomize sprayed with type P-9 corrosion preventative conforming to VV-L-800. The interior can be accessed through the exhaust port located at the underside of the heater.

19. Gears.

a. Exposed Gears. Exposed gears will have gear teeth, bearings, and any unpainted surfaces coated with type P-n preservative conforming to MIL-G-23827.

b. Enclosed Gears and Gear Housings.

(1) Step 1. Gear housings which are not lubricated by the engine system, such as wheel bearings, transmissions (except automatic), power transfers, final drives, and other gear trains, will be inspected for level of lubricant and for evidence

of water contamination of lubricant.

(2) Step 2.

(a) Lubricant not contaminated. Lubricant, as specified by LO 9-1095-205-12, will be added to raise existing lubricant to operating level .

(b) Lubricant contaminated. The lubricant will be drained. The gear housing will be flushed with type P-3 preservative conforming to grade 3, MIL-C-16173, agitated with dry compressed air, and completely drained. The drain plug will be coated with type P-10 preservative conforming to type I, grade 10, MIL-L-21260. The housing will be filled to operating level with lubricant specified by LO 9-1095-205-12.

(3) Step 3. Gears will be operated under no load to ensure coating of all interior surfaces and components of housing.

20. Leveling Jacks, Swivel and Lock Pins, Trunnion Axle, and Wheel Bearings. Leveling jacks, swivel and lock pins, and trunnion axle will have fittings, sliding or moving parts, and any unpainted surfaces coated or packed with type P-11 preservative. Wheel bearings will be packed with type P-n preservative conforming to MIL-G-10924. Excess preservative will be removed after application.

21. Drive Chains.

a. Enclosed Chain. Preserve in accordance with paragraph 19.b. preservative will be removed. All surfaces of the chains and sprockets will be coated with type P-19 preservative.

22. Belt Pulleys and Drive Belts. Unpainted surfaces of pulley grooves will be coated with P-19 preservative. Both alternator and fan drive belts will be removed and stored in the OVE storage box.

NOTE

A tag bearing the information "BELTS FOR ALTERNATOR AND FAN REMOVED - STORED IN WOOD OVE STORAGE BOX" will be securely attached to one of the pulleys. Tag each belt with appropriate identification (fan or alternator).

23. Brakes.

a. Air Brake System.

(1) Air line connections and air reservoir tank. Air reservoir tank will be drained of all condensation by opening the tank drain valve. The interior surface of the tank will be atomize sprayed with lubricating oil conforming to Grade 10, MIL-L-21260. The interior can be accessed through either of two pipe plugs at the ends of the tank. The threads of the pipe plugs will be coated with the same lubricating oil and reinstalled. The drain valve will be closed. Exposed ends of service air lines will be covered with tape conforming to type IV, PPP-T-60. Air line filters will be drained and closed. Exhaust port of relay valve will be closed by inserting plastic plugs conforming to MIL-C-5501 or sealed with tape conforming to type IV, PPP-T-60.

CAUTION

A tag bearing the information "EXHAUST PORT OF BRAKE RELAY VALVE SEALED - REMOVE PLUG OR TAPE BEFORE OPERATING BRAKES" will be securely attached to the end of the air line hose.

(2) Air lines, lighting cable, safety chains and wheel chocks. Air line hoses, lighting cable and safety chains will be wrapped around upper or lower lunette or dispenser chassis. Connectors at end of air lines will be secured in dummy couplings under chassis, Connector on lighting cable will be secured in retaining clamp under chassis. Hooks on ends of safey chains will be secured in position on each side of trailer. (Two shackles will be removed and stored in OVE storage box.) Hoses, cable and chains will be secured in place with tape conforming to type IV of PPP-T-97, 3/4-inch width. Tape will completely encircle the dispenser member to which it is attached and overlap approximately six inches. Hoses and cable will have a bend of not less than 12-inch radius when wrapped around dispenser member. Dust cap will be positioned on connector located on dispenser behind lunettes. Wheel chocks and chains will be attached to the corresponding brackets on the rear of the dispenser chassis. Secure chocks and chains in place with tape, PPP-T-97, as above.

b. Hydraulic Brake System. The system will be checked for level of fluid. If fluid is low, fluid conforming to MIL-L-46176 will be added to bring it up to operating level.

c. Handbrake. If unpainted, the lever assembly will be coated with type P-1 preservative conforming to Grade 1, MIL-C-16173. The hinge at the base of the lever assembly will be coated with type P-10 lubricating oil conforming to type I, Grade 10, MIL-L-21260. The rod connected to the lever assembly will be coated with type P-1 preservative conforming to Grade I, MIL-C-16173. The hand brake will be released for storage.

24. Hydraulic Reservoir and Hydraulic Control System (except Hydraulic Brakes). If not already full, the hydraulic reservoir will be filled to operating level with petroleum based hydraulic fluid conforming to MIL-L-5605. The hydraulic system will be operated through all ranges for a minimum of two minutes to ensure fluid coverage of all interior parts and surfaces. The reservoir will be completely drained.

NOTE

Hydraulic fluid may be reused if not contaminated.

25. Unprotected Exterior Metal Surfaces.

a. Machined Surfaces. Machined surfaces are considered precision when the preservative will require removal upon placing the units in operation. Surfaces are considered non-precision when removal of the preservative will not be required.

(1) Precision. Precision machined surfaces will be coated with type P-n preservative. The preserved surfaces will be wrapped or covered with barrier material conforming to s edification MIL-B-121, type I, grade A, class 2, secured in place with tape.

(2) Non-precision. Non-precision machined surfaces will be coated with type P-1 preservative.

b. Unpainted Exposed Surfaces (other than machined). Unpainted

exposed ferrous metal surfaces such as tie rods, clevises, bolts, springs, pins, sheaves, grease fittings, and other nonmachined surfaces, including those surfaces exposed by disassembly, will be coated with type P-1 preservative.

26. Wheels, Axles and Bearings.

a. Step 1. Wheels, hubs, bearings and brake drums will be removed. Exposed machined surfaces will be preserved by the procedure described in paragraph 25.a.

b. Step 2. Total surface of the brake drums will be coated with synthetic primer conforming to specification TI-P-664 or MIL-P-46093. Care must be taken to ensure that a thin, unbroken coating is applied, and that the primer does not contact the brake linings or rubber parts.

c. Step 3. Openings of the hubs will be covered with barrier material conforming to specification MIL-B-121, type I, grade A, class 2, secured with tape.

d. Step 4. Bearings will be cleaned using method C-5, coated with type P-11 preservative.

e. Step 5. Bearings, brake drums, hubs and wheels will be reinstalled.

NOTE

A tag will be attached to the hub assemblies bearing the information "Brake drum braking surface coated with primer. Remove before operation."

27. Rubber Tires. Rubber tires will be. stored by enclosing tires and wheels within protective polyethylene bags. Prior to installing bags, each tire, wheel assembly, and polyethylene bag will be cleaned using process C-1 of TM 38-230-1. All foreign objects lodged or imbedded in tire treads will be removed. After tires have been allowed to thoroughly dry, the polyethylene bags will be placed over the tire and wheel assembly in a manner that will permit securing to axles. Excess material at the opening of the bag will be folded against axle assembly and secured with rope conforming to class 2, specification T-R-571 with 5/8-inch circumference. Corners of the bag will be folded against the installed bag and secured with tape. The drain holes approximately 1/4-inch in diameter will be provided at the lowest point of the bag.

28. Pumps. Exterior of pumps will be thoroughly cleaned and dried by process C-1 of TM 38-230-1. Any unpainted exterior surfaces will be preserved with P-10 preservative conforming to type I, grade 10, MIL-L-21260.

29. Electric Components (other than engine accessories).

a. Openings. Openings into starters, switches, controls, junction boxes, power, power receptacles, lamps and ends of cables such as intervehicular cables, auxiliary power cables, and feeder cables will be sealed with tape.

b. Circuit Card Assembly for Built-in Test Equipment (B. I. T. E.)/ ALARM Control Panel. The 17 printed circuit card assemblies will be removed from the B.I.T.E./ALARM Control Panel and packaged separately for storage on the dispenser. A rubber shorting bar will be placed over the connector on each card assembly. Each card assembly will be wrapped in one polypropylene wrap and secured with three pieces of tape, PPP-T-42. Card assembly 1 thru 16 will be wrapped in the 12 x 10 inch cushioning and card assembly 17 will be wrapped in the

16 x 7-1/2 inch cushioning. Each wrapped card assembly will be inserted into a barrier bag and heat sealed. Wrapped card assembly 1 thru 16 will be inserted into the 6-1/2 x 14 inch bag and card assembly 17 will be inserted into the 8-1/2 x 11-1/2 inch bag. Each card assembly 2, 3, and 4 will be placed into one of the 10-1/4 x 5-3/8 x 1-1/4 inch fiberboard boxes, card assemblies 1 thru 16 into a 10-1/4 x 5-3/8 x 1 inch fiberboard box, and card assembly 17 into the 7-3/4 x 7-3/4 x 1-1/8 fiberboard box. Each box will be sealed with tape, PPP-T-76. Each box and bag will be marked indicating nomenclature of card assembly enclosed. Cushions and packed fiberboard boxes will be placed in wood box as shown in Figure 9. Fiberboard boxes containing card assemblies 1 thru 14 will be placed on their sides into the wood box on top of the bottom cushion. Fiberboard boxes containing card assemblies 15, 16, and 17 will be laid flat and placed on top of the other boxes and then the top cushion placed over these boxes. Filler material, PPP-F-320, will be added around contents as required for tight packing. The wood box will be closed by strapping with two metal straps, class I, type I, finish B, size 3/4 inch, QQ-S-781. The exterior of the wood box will be marked indicating contents.

30. Hose and Hose Couplings. Unpainted ferrous metal hose couplings and fittings will be coated with type P-1 preservative. Openings of fittings in connectors where removals are made will be sealed with plugs or caps conforming to specification MIL-C-52078 or with tape. Free ends of hose attached to the equipment will be wrapped with type C-1 or C-2 waterproofed kraft wrapping paper. Extend the wrap at least 4 inches onto the body of the hose and secure with tape. Hoses with free ends will be coiled on hose reels, if so equipped, or coiled and tied or strapped to the equipment.

31. Equipment Accessory Group.

a. Locks, Keys, and Openings. The interior of locks will be lightly dusted with flaked lubricating graphite conforming to Federal Specification SS-G-659A. The locks will be operated with keys to distribute the graphite over the interior surface. Padlocks secured to the equipment will be overwrapped with type I, grade A, greaseproof barrier material. The wrap will be secured with tape. Padlocks not secured to the equipment will be packaged by method IC-1 and placed in the OVE cabinet. Openings in locks other than padlocks will be sealed with tape. All keys will be coated with type P-7 preservative, packaged by method IC-1, and stored in the OVE cabinet.

b. Hinges and Fasteners. Oil hinges and fasteners with type P-9 preservative oil. Activate the hinges and fasteners to ensure penetration of the preservative oil.

c. Wood Box with Printed Circuit Card Assembly on Dispenser. The packed and strapped wood box containing the printed circuit card assembly will be placed on top of the operator's control box storage cabinet. The box will be secured in place with two metal straps, class 1, type I, finish B, size 3/4 inch, QQ-S-781, positioned widthwise, and one metal strap positioned lengthwise over the box and down the sides and ends and under the cabinet. A piece of solid fiberboard, PPP-F-320, will be placed at each contact point between the strapping and the storage cabinet (Figure 9).

d. Magazine Gearbox, Pump Drive Assembly, Rotary Actuator Case, and

PACKAGING MATERIAL

BOX, WOOD - CLASS 2, STYLE 4, PPP-B-621. EXCEPT TOP TO BE CONSTRUCTED FROM 1/2 IN. THICK, 5 PLY PLYWOOD, GRADE CD, BONDED WITH EXTERIOR GLUE, NN-P-530. OUTSIDE TO BE COMPLETELY PAINTED WITH ENAMEL, CAMOUFLAGE, COLOR FOREST GREEN NO. 34079, MIL-E-52798.
INSIDE DIMENSION: 21 3/4 X 12 1/4 X 9.

BOX, FIBERBOARD - TYPE CF, CLASS WEATHER RESISTANT, GRADE W6c, STYLE OPF, PPP-B-636.
INSIDE DIMENSION: CARD ASSY 1, 5-16: 10 1/4 X 5 3/8 X 1. 13 REQUIRED
CARD ASSY 2, 3, 4: 10 1/4 X 5 3/8 X 1 1/4 3 REQUIRED
CARD ASSY 17: 7 3/4 X 7 3/4 X 1 1/8 1 REQUIRED

BAG, BARRIER - TYPE I, CLASS F, MIL-B-117. DIMENSIONS: 6 1/2 X 14. 16 REQUIRED
DIMENSIONS: 8 1/2 X 11 1/2 1 REQUIRED

WRAP - CUSHIONING, POLYPROPANE, PPP-C-1797. DIMENSIONS: 12 X 10 X 1/8 THICK 16 REQUIRED
DIMENSIONS: 16 X 7 1/2 X 1/8 THICK 1 REQUIRED

CUSHION - POLYURETHANE FOAM, TYPE 1, CLASS 2, 2. LB/CU FT DENSITY, MIL-P-26514.
DIMENSIONS - TOP & BOTTOM: 21 1/4 X 12 X 1. SIDES: 19 1/4 X 6 1/2 X 1. ENDS: 12 X 6 1/2 X 1.

TAPE - FOR WRAP: PPP-T-42 FOR FIBERBOARD BOX: PPP-T-76.

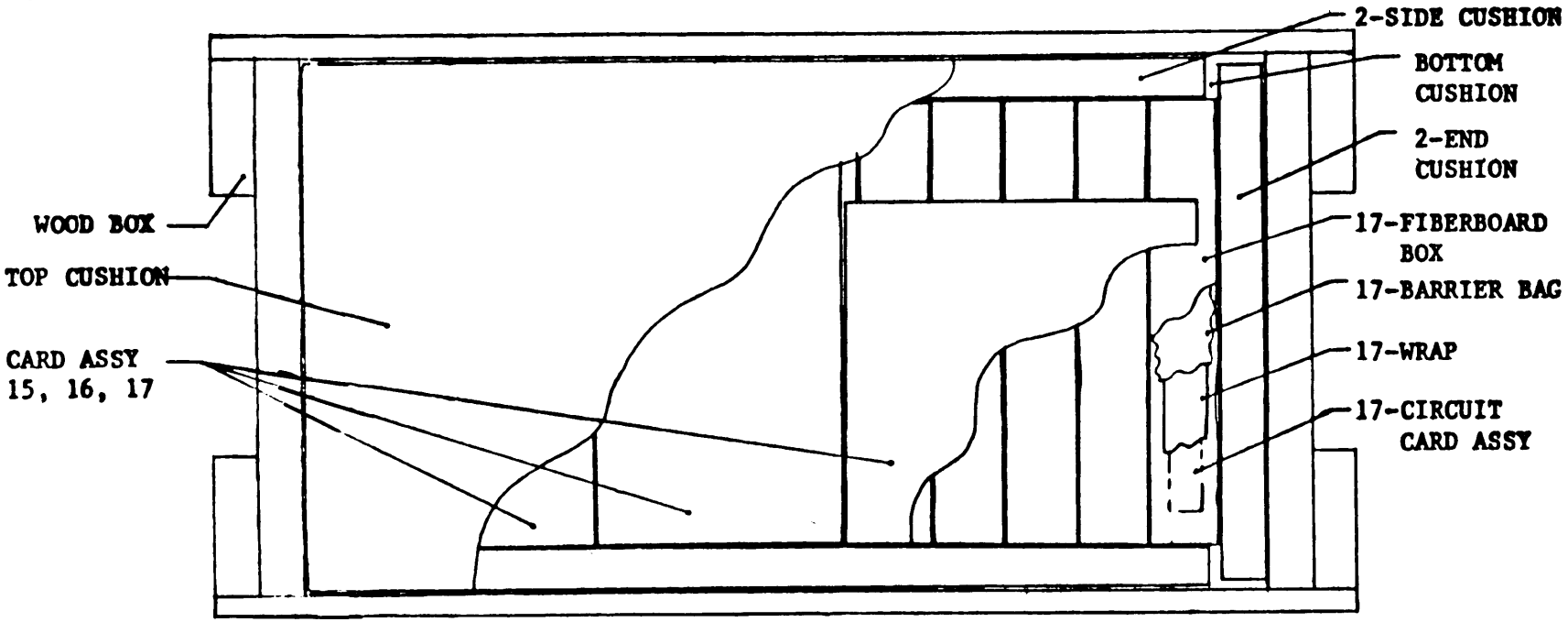


Figure 9. Packing configuration for printed circuit cards wood box.

Vehicle Speed Sensing System Gearbox. Both magazine gearboxes, pump drive assembly, and rotary actuator case will be filled to operating level with lubricating oil conforming to MIL-L-2105, grade 80/90 as specified in the applicable drawing, specification or lubrication order. Vehicle encoder assembly will be filled to operating level with lubricating oil conforming to MIL-L-2105, grade 75, as specified in the applicable drawing, specification or lubrication order. These systems will be operated through all ranges for a minimum of two minutes at sufficient speed to assure lubricant coverage of all interior parts and surfaces. DD Form 1397 will be completed to indicate grade and type of lubricating oil used.

e. Dispenser Fitted Cover. The dispenser cover (P/N 9291399) will be placed over the entire dispenser and secured at the corners and along the front, back and sides. The cover will be pulled tightly over the dispenser but care must be taken not to tear or puncture the cover.

32. Lamps, Reflectors, and Mirrors. Removed lamps, reflectors, and mirrors will be preserved by method IC-2.

33. Meters, Gages, and Instrument Panels. No preservation or protective coverings are required for meters, gages, and instrument panels of equipment including those not enclosed in a cab.

34. Identification Plates. Identification plates, except photosensitized anodized aluminum, will be coated with waterproof varnish.

35. Batteries. Batteries will be stored by securing them in the equipment battery carrier. Electrolyte level will be checked and, if necessary, brought to operating level. The battery case, posts, and cables will be thoroughly cleaned and dried by process C-1 to ensure the removal of all dirt and corrosion. Battery posts, cable terminals, and exposed parts of cables will be sparingly coated with P-11 grease. The cables will be secured to the battery box with 3/4 inch tape conforming to type IV of PPP-T-97. (Do not connect cable terminals to battery posts.) The battery covers will be closed and secured.

36. Technical Publications. Manuals and Publications will be packaged by method IC-1.

37. Equipment Logbook. Two copies of DD Form 1397 "Processing and Reprocessing Record for Shipment and Issue of Vehicles and Space Engines (MIL-V-62038)" will be provided. Information on forms will include preservation accomplished and depreservation instructions. The Equipment Log Book Binder and one copy of DD Form 1397 will be placed in a bag conforming to Type I, Class B, Style 2 of MIL-B-117, 6 mil thick. The bag will be closed by heat sealing and secured in the operation's control box storage cabinet. The other copy of DD Form 1397 will be waterproofed with adhesive conforming to MMM-A-178 and securely attached to the door of the electrical enclosure.

38. Intermediate Packaging. Repair parts, tools, basic issue items, technical publications, and removed components requiring the protection of a container will be intermediate packaged. If space is sufficient, the OVE cabinet will be used as the intermediate package with the lid closed and secured. If space is insufficient, weather resistant fiberboard boxes conforming to specification PPP-B-636 or PPP-B-640 will be used as intermediate containers Providing weight and size limits are met and providing the containers will receive sufficient protection from

water. Protection from water is considered sufficient when the containers are placed in another container or they are placed within an enclosed cab. Intermediate package items that cannot be packaged as stated above will be packaged in close fitting boxes conforming to Specification PPP-B-601, overseas type, style 1. The number, size, and weight of boxes will be determined by the available space and convenience for securing to the equipment.

SECTION IV

GENERAL PACKING AND SHIPPING INSTRUCTIONS

39. General. This section contains general packing requirements for levels A and B: Items previously packed will not be repacked to meet a lower level unless required by the mode of transportation being used for shipment. In all cases, movable parts of equipment such as revolving drums, drum conveyors, shakers, articulating frames and pivot axles will be immobilized for shipment by installing the stabilizing devices furnished with the equipment. Secure the revolving house of truck mounted as outlined in TB 740-358. Blocking, bracing, anchoring and/or cushioning will be provided as necessary when packing to prevent damage to the end item and the components. Additional information on packing and techniques on the application of blocking, bracing, anchoring and cushioning are described in TM 38-230-2 and MIL-STD-1186.

a. Logbook. The logbook will be placed in the OVE cabinet. If the OVE cabinet will not hold the logbook, it will be secured in a conspicuous and protected location on the equipment.

b. Components and intermediate containers; Packaged and unpackaged components and intermediate containers will be secured on the basic unit in a manner that will not increase cubage or interfere with towing or lifting the unit with slings. When the components cannot be positioned on the unit, they will be consolidated into a container conforming to Specification PPP-B-601, overseas type, style 1, PPP-B-621, class 2, style as applicable; MIL-C-104, type I or II, class 1 or 2, style A; or MIL-C-3774, type I or II. Selection of the consolidation container will be based on the size and weight of the contents and their need for protection.

c. Operator's Control Box and Control Cables. The operator's control box will be secured on mounts inside operator's control box storage cabinet. The 35 ft. and 12 ft. control cables will be coiled and stored on the lower shelf in the storage cabinet. The storage cabinet door will be closed and secured.

d. Doors, Covers and Panels. All doors, covers and panels will be closed and secured or locked, as required. This will include, but is not limited to, main control panel cabinet door, operator's control panel storage cabinet door, on vehicle equipment door, BITE/Alarm control panel cabinet door, magazine access doors, drive sprocket access doors, launcher wheel door, muzzle cover, infeed chute covers, magazine entrance covers, battery box covers, launcher access cover and engine hinged panels. Keys for padlocks used to secure doors will be stored in the OVE storage box.

e. Launcher Assembly. The launcher assembly will be rotated completely to the right side of the dispenser and secured in this position by tightly attaching a metal strap, class 1, type I, finish B, size 3/4-inch, QQ-S-781, between the eye bolt located on the support plate of the launcher assembly and the assist handle located on the outside edge of the right magazine. A piece of solid fiberboard, PPP-F-320, will be placed between the strap and the metal of the dispenser at each contact point.

40. Oversea Address Marking.

a. Oversea Address Marking. Oversea address marking will be printed or stenciled on separate pressure

sensitive labels, six inches high and 20 inches wide. The dispenser will be marked for shipment in accordance with MIL-STD-129. Marking will be 3/4-inch high, spaced as indicated in Figure 10 and be as specified in the shipping order. When space is not adequate to accommodate the complete address using 3/4-inch characters, marking size will be reduced to 5/8-inch to 1/2-inch. Stenciling will be waterproofed as in paragraph 11.b.

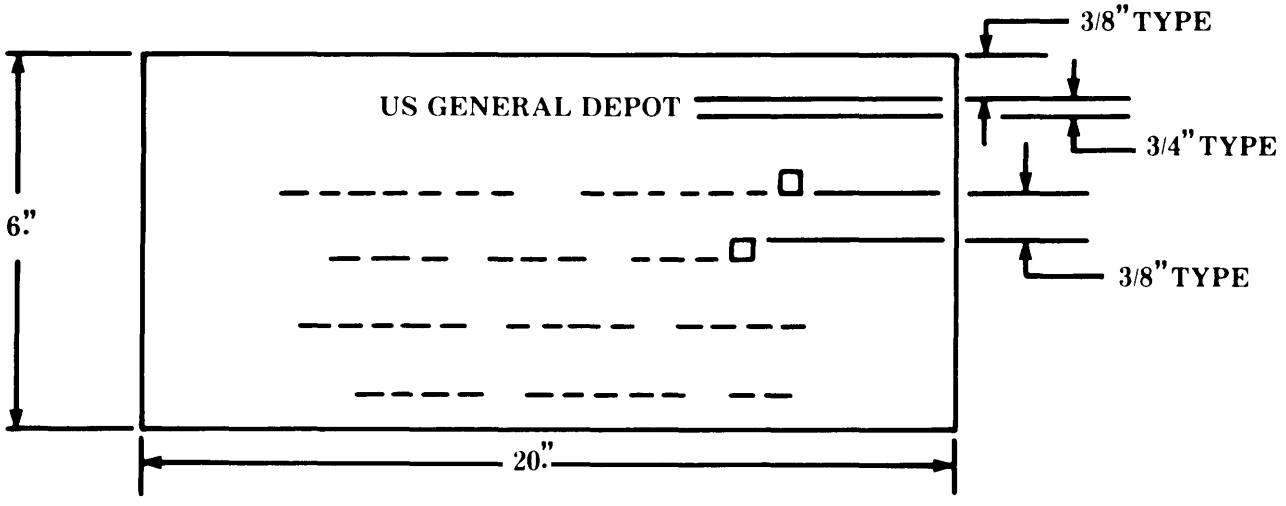
b. Label Sizes. Label sizes will be altered only when one or more of the following conditions exist:

(1) If 6 x 20 inch address label is not large enough to accomodate specified marking when using the minimum 1/2-inch lettering, label size will be increased as required.

(2) When unique configuration of the processed dispenser makes it impossible to find a suitable location for either or both of the labels of the prescribed dimensions, labels will altered as required to fit the available space. Labels will be of appropriate size to accommodate the required stenciling.

(3) Prior to using labels varying in size from the prescribed examples cited, samples will be submitted for approval to US Army Armament, Munitions, and Chemical Command, ATTN: DRSMC-LCV-SP(D), Dover, N.J. 07801.

c. Location of Marking Labels. CONUS shipment will have one preservation data marking label applied on the rear or right side near the rear, on each dispenser and dispenser cover. Oversea shipments will have one preservation data marking label and one address marking label, applied on the rear or right side near the rear, on each dispenser and dispenser cover. When possible, labels will be positioned on the dispenser at a height of not more than six feet or less than four feet. When the above locations are not practical, the best alternate location will be used.



ADDRESS LABLE WILL CONTAIN THE COMPLETE ADDRESS INDICATED ON THE SHIPPING ORDER.

Figure 10. Example of address marking label.

41. Loading.

a. Rail Shipment. Loading of the dispenser on open top single or multi-level railroad cars will be in accordance with the applicable requirements of TM 55-1095-205-14, "Transportability Guidance, Dispenser, Mine: Ground Vehicle, M128." The quantity of units to be loaded on each railcar, the type of railcar, and the applicable transportation data will be as authorized by the responsible Government transportation office (or officer).

b. Highway Shipment. Loading of dispenser for shipment by highway will be in accordance with the applicable requirements of TM 55-1095-205-14, "Transportability Guidance, Dispenser, Mine: Ground Vehicle, M128."

c. Marine Shipment. Unless otherwise specified, dispenser production contractor or rebuild activity is not responsible for this requirement; shiploading activities will accomplish this requirement. Loading of dispenser for shipment by water will be in accordance with the applicable requirements of TM 55-1095-205-14, "Transportability Guidance, Dispenser, Mine: Ground Vehicle, M128."

d. Air Shipment. Loading of the dispenser for movement by air will be in accordance with the applicable requirements of TM 55-1095-205-14, "Transportability Guidance, Dispenser, Mine: Ground Vehicle, M128."

SECTION V

REPROCESSING

42. Dispenser Fitted Cover. The dispenser cover will be removed from the dispenser. Care must be taken not to tear or puncture the cover.

43. Operator's Control Box and Control Cables. The operator's control box and control cables will be reinstalled. Reinstallment procedure is described in TM-9-1095-2O5-2O, "Maintenance Instructions: M128 Ground Vehicle Mine Dispenser."

44. Launcher Assembly. The metal strap securing the launcher assembly will be removed. The strap is located between the support plate of the launcher assembly and the assist handle on the outside edge of the right magazine.

45. Batteries. Battery posts and cable terminals will be cleaned. Batteries will be charged or serviced if necessary, and the cables reconnected.

46. Magazine Gearbox, Pump Drive Assembly , Rotary Actuator Case, and Vehicle Speed Sensing System Gearbox. Both magazine gearboxes, pump drive assembly, and rotary actuator case will be checked for fluid level and, if necessary, filled to operating level with lubricating oil conforming to MIL-L-2105, grade 80/90. The vehicle speed sensing system gearbox will be checked for fluid level and, if necessary, filled to operating level with lubricating oil conforming to MIL-L-2105, grade 75.

47. Hose and Hose Couplings. Plugs or caps will be removed from openings of fittings in connectors where hose has been removed. Wrapping will be removed from free ends of hoses and hoses will be reconnected.

48. Electronic Components.

a. Circuit Card Assemblies for Built-In Test Equipment (B. I. T. E)/ ALARM Control Panel. The 17 printed circuit card assemblies will be unpacked from their wood storage box and reinstalled in the B.I.T.E./ALARM control panel.

b. Openings. Tape used to seal openings into starters, switches, controls, junction boxes, power receptacles, lamps and ends of cables such as intervehicular cables, auxiliary power cables and feeder cables will be removed.

49. Rubber Tires. Polyethylene bags used to protect each tire will be removed. Tire pressure will be brought to operating level.

50. Wheels, Axles and Bearings.

a. Wheels, hubs, brake drums will be removed.

b. Barrier material covering the opening of hubs will be removed.

c. Primer on the braking surfaces of the brake drums will be removed.

d. Brake drums, hubs, and wheels will be reinstalled.

51. Hydraulic Reservoir. If there is any fluid in the hydraulic reservoir, it will be drained. Reservoir filters will be removed and replaced using the procedure described in TM-9-1095-2O5-2O. The reservoir will be filled to operating level with petroleum based hydraulic fluid conforming to MIL-L-5605.

52. Brakes.

a. Hydraulic Brake System. The system will be checked for level of fluid. If fluid level is low, fluid conforming to MIL-L-46176 will be added to bring up to operating level.

b. Air Brake System. The plug or tape sealing the exhaust port of the brake relay valve will be removed. Tape covering exposed ends of air service lines will be removed. Air line hoses and lighting cable will be reconnected.

53. Drive Belts. Alternator and fan drive belts, stored in the OVE storage cabinet, will be reinstalled.

54. Gear Housings. Gear housings will be inspected for level of lubricant and evidence of water contamination. If there is no evidence of contamination, lubricant will be brought to operating level with lubricant specified by the applicable lubrication order. If there is contamination, the lubricant will be drained and the housing flushed with type P-3 preservative conforming to grade 3, MIL-C-16173. Lubricant conforming to the applicable lubrication order will then be added to bring to operating level .

55. Engine Accessory Group.

a. Tape sealing any openings of the air cleaner will be removed.

b. A new ether cylinder will be installed on the solenoid actuator valve.

c. Tape sealing all openings into alternator, starter, voltage regulator, and other electrical components will be removed.

d. Engine oil filter will be replaced.

56. Liquid Cooling System.

a. Examination. The cooling system will be thoroughly examined for faulty or deteriorated gaskets and rubber hose, leaks, rust, dirt, loose connections, and evidence of oil seepage into the system.

b. Repairs. Minor repairs, necessary as a result of the examination, will be made.

co If no repairs are necessary, coolant level will be checked and, if necessary, will be brought to operating level with ethylene glycol or arctic-type antifreeze.

57. Fuel Tank. The fuel tank will be filled with fuel and the fuel line shutoff valve opened.

58. Relectors. Four side reflectors (two front and two rear) will be reinstalled. Reflector units are stored in the OVE storage cabinet.

APPENDIX I

REFERENCES

1. Army Regulations (AR)

AR 700-15	Packaging of Materiel.
AR 746-1	Packaging of Army Materiel for shipment and storage.

2. Technical Bulletins (TB)

TB 740-358	Storage, Handling and Shipment of Truck Mounted Cranes.
TB 746-95-1	Color, Marking and Camouflage Pattern Painting for Armament Command Equipment.

3. Technical Manuals (TM)

TM 9-1095-205-10	Operator's Manual for M128 Ground Vehicle Mine Dispenser.
TM 9-1095-205-20	Maintenance Instructions for M128 Ground Vehicle Mine Dispenser.
TM 9-1095-205-34	Intermediate (Field) (Direct and General Support) Maintenance Manual for M128 Ground Vehicle Dispenser.
TM 38-230-1	Packaging of Materiel: Preservation (vol. 1).
TM 38-230-2	Packaging of Materiel: Preservation (vol. 2).
TM 43-0139	Painting Instructions for Field Use.
TM 55-1095-205-14	Transportability Guidance, Dispenser, Mine: Ground Vehicle, M128.

4. Supply Bulletin (SB)

SB 38-100	Preservation, Packaging, Packing and Marking Materials, Supplies, and Equipment used by the Army.

5. Lubrication Order (LO)

LO 9-1095-205-12	Lubrication order for M128 Ground Vehicle Mine Dispenser.

By Order of the Secretary of the Army:

JOHN A. WICKHAM, JR.
General, United States Army
Chief of Staff

Official:

ROBERT M. JOYCE
Major General, United States Amy
The Adjutant General

Distribution:

To be distributed in accordance with DA Form 12–40, organizational and Direct support maintenance requirements for M128 Ground Vehicle Mine Dispenser.

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