

INCH-POUND

MIL-DTL-45360H(AT)

31 March 1997

SUPERSEDING

MIL-C-45360G(AT)

5 December 1991

DETAIL SPECIFICATION

CARRIERS, PERSONNEL, FULL-TRACKED,
ARMORED: M113A2 AND M113A3;
MORTARS, SELF-PROPELLED: M106A2 (107MM), M125A2 (81MM) AND
M1064, M1064A3 (120MM); SMOKE GENERATORS: M1059, M1059A3 AND M58;
PROCESSING FOR STORAGE AND SHIPMENT OF

This specification is approved for use by the U.S. Army Tank-automotive and Armaments Command, Department of the Army, and is available for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers the processing for storage and shipment of the M113A2 and M113A3 Armored, Full-Track, Personnel Carriers; the 107mm, M106A2, and 81mm, M125A2, and 120mm, M1064, M106A3 Self-Propelled Mortars; and the M1059, M1059A3 and M58 Smoke Generators (see 1.2 and 6.1).

1.2 Classification. Processing should be of the following levels, as specified (see 6.2):

Level A - Maximum military protection.

Level A is the processing required for the protection of vehicle during shipment, handling, and storage exceeding 90 days from date of actual processing. This level does not provide for driveaway capability. It does provide for domestic or overseas shipment.

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: U.S. Army Tank-automotive and Armaments Command, ATTN: AMSTA-TR-E/BLUE, Warren, MI 48397-5000, by using the Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document, or by letter.

AMSC N/A

FSC 2350

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

MIL-DTL-45360H(AT)

Level B - Minimum military protection.

Level B is the limited processing required for the protection of vehicle during shipment, handling, and storage not to exceed 90 days from date of actual processing. This level provides for driveaway capability, and domestic or overseas shipment (excluding open deck loading).

2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in sections 3 and 4 of this specification. This section does not include documents cited in other sections of this specification or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirement documents cited in sections 3 and 4 of this specification, whether or not they are listed.

2.2 Government documents.

2.2.1 Specifications, standards, and handbooks. The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those listed in the issue of the Department of Defense Index of Specifications and Standards (DoDISS) and supplement thereto, cited in the solicitation (see 6.2).

SPECIFICATIONS

FEDERAL

A-A-203	- Paper, Kraft, Untreated.
A-A-208	- Ink, Marking, Stencil, Opaque (Porous and Nonporous Surfaces).
A-A-374	- Sodium Bicarbonate, Technical.
A-A-883	- Tape, Pressure Sensitive Adhesive, Masking.
A-A-1051	- Paperboard, Wrapping and Cushioning.
A-A-52518	- Tire, Pneumatic: Retread and Repair Materials (Metric).
A-A-52546	- Hose, Preformed: Semi-Flexible, Reinforced.
A-A-55057	- Panels, Wood/Wood Based; Construction and Decorative.
O-S-801	- Sulfuric Acid Electrolyte; for Storage Batteries.
P-D-220	- Detergent, General Purpose.
TT-E-529	- Enamel, Alkyd, Semigloss, Low VOC Content.

MIL-DTL-45360H(AT)

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| TT-V-121 | - Varnish, Spar, Water-resisting. |
| UU-T-81 | - Tags, Shipping and Stock. |
| MMM-A-179 | - Adhesive, Paper Label, Water-resistant. |
| PPP-B-601 | - Boxes, Wood, Cleated Plywood. |
| PPP-B-621 | - Box, Wood, Nailed, and Lock Corner. |
| PPP-C-1752 | - Cushioning Material, Packaging Polyethylene Foam. |

DEPARTMENT OF DEFENSE

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| MIL-B-117 | - Bag, Sleeve and Tubing - Interior Packaging. |
| MIL-B-121 | - Barrier Material, Greaseproofed, Water-proofed, Flexible. |
| MIL-C-450 | - Coating Compound, Bituminous Solvent Type, Black (for Ammunition). |
| MIL-C-5501/7 | - Cap and Plug, Protective, Dust and Moisture Seal. |
| MIL-C-10597 | - Cleaning Compound with Conditioner for Engine Cooling Systems. |
| MIL-G-10924 | - Grease, Automotive and Artillery. |
| MIL-B-11188 | - Battery, Storage: Lead Acid. |
| MIL-A-11755 | - Antifreeze, Arctic-type. |
| MIL-C-16173 | - Corrosion Preventive Compound, Solvent Cutback, Cold-Application. |
| MIL-D-16791 | - Detergent, General Purpose (Liquid, Nonionic). |
| MIL-L-21260 | - Lubricating Oil, Internal Combustion Engine, Preservative and Break-in. |
| MIL-T-22085 | - Tape, Pressure-Sensitive, Adhesive, Preservation and Sealing. |
| MIL-B-22191 | - Barrier Materials, Transparent, Flexible Heat-Sealable. |
| MIL-T-37402 | - Tester, Antifreeze Solutions. |
| MIL-P-46002 | - Preservation Oil, Contact and Volatile Corrosion-Inhibited. |
| MIL-A-46153 | - Antifreeze, Ethylene Glycol, Inhibited, Heavy Duty, Single Package. |
| MIL-H-46170 | - Hydraulic Fluid, Rust Inhibited, Fire Resistant Synthetic Hydrocarbon Base. |
| MIL-T-50036 | - Talc, Technical, T1 and T3. |
| MIL-P-52905 | - Paint, Camouflage, Removable. |
| MIL-D-81298 | - Dye, Liquid, for the Detection of Leaks in Aircraft Fuel Systems. |

MIL-DTL-45360H(AT)

STANDARDS

DEPARTMENT OF DEFENSE

- MIL-STD-129 - Marking for Shipment and Storage.
- MIL-STD-2073-1 - Standard Practice for Military Packaging.

(Unless otherwise indicated, copies of the above specifications, standards, and handbooks are available from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.)

2.2.2 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this document to the extent specified herein. Unless otherwise specified, the issues are those cited in the solicitation.

DEPARTMENT OF LABOR (DOL)

Code of Federal Regulation (CFR), Title 29

DEPARTMENT OF TRANSPORTATION (DoT)

Code of Federal Regulation (CFR), Title 49

ENVIRONMENTAL PROTECTION AGENCY (EPA)

Code of Federal Regulation (CFR), Title 40

(Copies of the Code of Federal Regulations are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.)

DEPARTMENT OF TRANSPORTATION (DoT)

Federal Motor Carrier Safety Regulations (FMCSR).

(Application for copies should be addressed to the Department of Transportation, Bureau of Motor Carrier Safety, Washington, DC 20590.)

Hazardous Materials Regulations.

(Application for copies should be addressed to the Department of Transportation, Hazardous Materials Regulations Board, Washington, DC 20590.)

MIL-DTL-45360H(AT)

DRAWING

ARMY

12269128 - Closure Kit, Vehicle Protective.

(Copies of these drawings are available from the U.S. Army Tank-automotive and Armaments Command, ATTN: AMSTA-TR-E/BLUE, Warren, MI 48397-5000.)

2.3 Non-Government publications. The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of the documents which are DoD adopted are those listed in the issue of the DoDISS cited in the solicitation. Unless otherwise specified, the issues of documents not listed in the DoDISS are the issues of the documents cited in the solicitation (see 6.2).

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI/AWC101 - Wire Fabric (Industrial).

(Application for copies may be obtained from the American National Standards Institute, 11 West 42nd Street, New York, NY 10036.)

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

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| ASTM A228/A228M | - Standard Specification For Steel Wire, Music Spring Quality (DoD Adopted). |
| ASTM E437 | - Standard Specification For Industrial Wire Cloth And Screens (Square Opening Series) (DoD Adopted). |
| ASTM D1974 | - Standard Practice For Methods Of Closing, Sealing, And Reinforcing Fiberboard Shipping Containers (DoD Adopted). |
| ASTM D3953 | - Standard Specification For Strapping, Flat Steel And Seals (DoD Adopted). |
| ASTM D5118/D5118M | - Standard Practice For Fabrication Of Fiberboard Shipping Boxes (DoD Adopted). |
| ASTM D5330/D5330M | - Standard Specification For Pressure-Sensitive Tape for Packaging, Filament-Reinforced (DoD Adopted). |
| ASTM D5486/D5486M | - Standard Specification For Pressure- Sensitive Tape For Packaging, Box Closure And Sealing (DoD Adopted). |

MIL-DTL-45360H(AT)

(Application for copies should be addressed to the American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.)

ASSOCIATION OF AMERICAN RAILROADS PUBLICATIONS (AAR)

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| Section No. 1 | - General Rules Governing Loading of Commodities on Open Top Cars. |
| Section No. 6 | - Rules Governing the Loading of Department of Defense Material on Open Top Cars. |

(Application for copies should be addressed to the Association of American Railroads, Publication Department, 50 F Street N.W., Washington, DC 20001-1564.)

INTERNATIONAL AIR TRANSPORT ASSOCIATION (IATA)

Dangerous Good Regulations (For Commercial Passenger and Cargo Air Shipment).

(Application for copies should be addressed to International Air Transport Association, Sales Organization, 2000 Peel Street, Montreal, Quebec, H3A 2R4, Canada.)

INTERNATIONAL CIVIL AVIATION ORGANIZATION (ICAO)

Technical Instructions

(Application for copies should be addressed to International Civil Aviation Organization, Docuemnt Sales Unit, 999 University Street, Montreal, Quebec H3C 5H7, Canada.)

INTERNATIONAL MARITIME DANGEROUS GOODS CODE (IMDG)

For Vessel Shipment

(Application for copies should be addressed to American Label Mark Co., Label Master Division, 5724 North Pulaski Road, Chicago, IL 60646.)

2.4 Order of precedence. In the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

MIL-DTL-45360H(AT)

3. REQUIREMENTS

3.1 Level A.

3.1.1 First article. When specified (see 6.2), a sample shall be subjected to first article inspection in accordance with 4.2. Approval of this vehicle shall not relieve the contractor of his obligation to process all vehicles in accordance with this specification. Unless otherwise specified by the acquisition activity, any change to materials or design after approval shall require additional vehicles be inspected as specified in 4.2. The Government representative shall select the vehicle to be inspected.

3.1.2 Government furnished equipment (GFE). Unless previously accomplished, GFE (other than installed) shall be packaged, packed, and marked in accordance with the individual document for the specific item. GFE shall be stowed with basic issue items (BII).

3.1.3 Preservatives and atomized spray equipment. When atomized spraying of preservative oils is specified, compressed air supply lines shall be equipped with moisture separators every 50 feet or fraction thereof.

3.1.4 Processing records. Records of vehicle processing shall be maintained and shall be readily available for review by Government representatives.

3.1.5 Disassembly. Projecting parts whose removal will accomplish desired cube reduction and parts susceptible to damaged and pilferage shall be removed from the vehicle. Removed bolts, nuts, screws, pins and washers shall be placed in one of the mating parts and secured. Bare metal surfaces of removed parts shall be preserved, packaged, packed in accordance with MIL-STD-2073-1, identified and stowed securely with the vehicle.

3.1.5.1 Matchmarking. Parts removed from the vehicle shall be matchmarked when necessary to facilitate reassembly. Matchmarking information shall be put on cloth shipping tags conforming to Type A of UU-T-81, or on metal tags using waterproofed ink or paint, and attached to mating parts. The marked cloth shipping tags shall be waterproofed with varnish conforming to TT-V-121 or adhesive conforming to MMM-A-179.

3.1.6 Record forms. Two copies of DA Form 2258 shall be completed with information that includes preservation accomplished and depreservation instructions. The Equipment Log Book Binder and one copy of DA Form 2258 (see 6.4) shall be placed in a bag conforming to Type I, Class B, Style 2, 6 mil of MIL-B-117; the bag shall be closed by heat sealing and securely attached in the driver's compartment of vehicle. The other copy of DA Form 2258 shall be waterproofed with adhesive conforming to MMM-A-179, or sealed in a plastic bag, and securely attached in a conspicuous location on the exterior of the vehicle.

MIL-DTL-45360H(AT)

3.1.7 Cleaning and drying (see 4.5.2.1).

3.1.7.1 Interior of vehicle. Interior surfaces of vehicle shall be cleaned with solution of detergent conforming to P-D-220, or Type 1 of MIL-D-16791, and water. Solution temperature shall not exceed 210 degrees Fahrenheit (°F), and pressure shall not exceed 5 pounds per square inch (psi) measured 4 inches from the nozzle. After cleaning, cleaned surfaces shall be rinsed with clean water and dried. Care shall be taken during cleaning and rinsing operations to assure that no solution or water enters instruments, connections, or other components susceptible to water damage. Solution or water shall not accumulate and remain in cavities that cannot be drained. Vehicles with decals, markers, straps, and floor plates installed shall only be hand cleaned with solution of P-D-220, or Type 1 of MIL-D-16791, and water to prevent damage to these components. Cleaned surfaces shall be hand rinsed and dried.

3.1.7.1.1 Cleaning and drying of battery supports and retainers. Battery supports and retainers shall be cleaned with a solution of one-half pound of sodium bicarbonate conforming to A-A-374 per gallon of water. After cleaning, cleaned surfaces shall be flushed with clean water, then thoroughly dried. Dried surfaces shall then be preserved in accordance with 3.1.8.2.

3.1.7.1.2 Cleaning and drying of backrests and seats. The backrest and seat cushions shall be cleaned with a solution of detergent conforming to P-D-220, or Type 1 of MIL-D-16791, in warm water. After cleaning, the cushions shall be wiped with cloths saturated with clean water to remove cleaning solution. Care shall be taken not to saturate the cushions with cleaning solution or water. After rinsing, the cushions shall be dried, then protected in accordance with 3.1.9.3.

3.1.7.2 Exterior of vehicle. The exterior of vehicle shall be cleaned using solution of detergent conforming to P-D-220, or Type 1 of MIL-D-16791, in warm water or steam. Cleaning shall remove all foreign matter. After cleaning, cleaned surfaces shall be rinsed with clean water or steam and thoroughly dried. Care shall be taken to avoid entry of water or steam into the driver's or engine compartments.

3.1.8 Preservation.

3.1.8.1 Relubrication. If the vehicle has been operated more than 75 miles since lubrication, or after the vehicle has been cleaned in accordance with 3.1.7.2, the vehicle shall be relubricated using materials conforming to drawings, specifications or lubrication order applicable to the vehicle. All exposed oil can points such as, but not limited to, levers, locking levers, locking bars, locking pins, pintle pins, hinge pins, hinges strikers, wing nuts, door locks, hand-operated locking knobs, latches, linkage, and threaded ends of yokes and related clevis pins shall be coated with lubricant conforming to MIL-L-21260, grade PE10-1. Excess lubricant shall be removed after coating.

MIL-DTL-45360H(AT)

3.1.8.2 Preservation of battery supports and retainers. Top battery supports and retainers shall be preserved with compound conforming to MIL-C-450.

3.1.8.3 Transmission, transfer assembly, control differential, and final drives. The transmission shall contain lubricating oil conforming to grade 10 of MIL-L-21260 filled to operating level. The transfer assembly, control differential, and final drives shall contain lubricating oil conforming to grade 10 or 30, as annotated with type and grade of lubricant used (see 3.1.6).

3.1.8.4 Cooling system. When specified (see 6.2), the cooling system shall be protected by one the following procedures (see 4.5.2.2):

- a. For storage in areas where the temperature can drop below -55°F, systems will be protected as specified in 3.1.8.4.3
- b. For all other storage environments, cooling systems will be protected as specified in 3.1.8.4.2 and 3.1.8.4.3.
- c. Reference TB 750-651, Use of Antifreeze Solutions, Antifreeze Extender, Cleaning Compounds, and Test Kit in Engine Cooling Systems.

3.1.8.4.1 Arctic antifreeze compound procedure. Cooling system will be cleaned and flushed using MIL-C-10597 prior to filling to operating level with antifreeze compound conforming to MIL-A-11755. The compound will be used without dilution. A warning tag, bearing the information "COOLING SYSTEM FILLED WITH ANTIFREEZE (ARCTIC TYPE) - - DO NOT DRAIN" will be securely attached to the radiator filler neck. Arctic-type antifreeze (MIL-A-11755) must be replaced on an annual basis.

3.1.8.4.2 Antifreeze solutions. Cooling systems will be filled up to the operating level with a solution consisting of 4.75 pints of ethylene glycol antifreeze (MIL-A-46153) to be included in preparation of 1 gallon of antifreeze solution. Antifreeze inhibited solution (MIL-A-46153), may be retained in engine cooling systems for an extended period of time from the fill date, provided the coolant meets the freeze point requirements (-55°F) and the reserve alkalinity requirements (blue dip stick).

NOTE: Commercial brands of antifreeze must be changed prior to putting vehicles into storage.

3.1.8.4.3 Testing antifreeze. Antifreeze shall be checked during scheduled maintenance services, or during climatic change service. Testing of the system coolant shall include the following:

MIL-DTL-45360H(AT)

- a. Test the antifreeze protection by using a combination antifreeze and battery tester.
- b. Test for reserve alkalinity (corrosion protection).
- c. Visual inspection for coolant cleanliness, including excessive rust, foreign particles, and/or sediment.

NOTE: Recycle all antifreeze.

3.1.8.5 Engine crankcase preservation. The crankcase shall be filled to operating level with lubricating oil conforming to MIL-L-21260 of the seasonal grade specified in the applicable drawing, specification, or lubrication order. DA Form 2258 shall be annotated with type and grade of lubricant used.

3.1.8.6 Compression ignition engine. Compression ignition engine preservation shall be in accordance with 3.1.8.6.1 through 3.1.8.6.5 in an uninterrupted sequence and the following two exceptions:

- a. Engine without turbochargers, process per all paragraphs with the exception of 3.1.8.6.4.
- b. Engines with turbochargers, process per all paragraphs with the exception of 3.1.8.6.3.

3.1.8.6.1 Initial conditions. Prior to processing, engine shall be cooled to assure that the cylinder head temperature, measured at the injector nozzle flange surface of all cylinders, is not more than 100°F. Cooling shall 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 the ambient temperature exceeds 100°F, the engine shall be cooled to ambient temperature.

3.1.8.6.2 Fuel system and combustion chamber preservation. A portable auxiliary container with a filtering device and regulator valve, shall be filled with preservative oil conforming to 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. Position container to allow gravity feed to the engine. Fuel supply system from the fuel tank shall be shut off. Disconnect the fuel pump supply line between the primary fuel filter and the fuel pump at the filter end. Connect this line to the auxiliary container containing preservative oil.

- a. Disconnect vehicle fuel return line at quick disconnect coupling. Connect a transparent plastic fuel line to the engine end of the disconnected fuel return line. Place the other end of transparent fuel line into a recovery container to collect the return oil.

MIL-DTL-45360H(AT)

- b. Disconnect the air cleaner hose between the air cleaner and engine intake at the air cleaner outlet. Place an air restrictor boot over the engine intake to completely shut off the supply of air to the engine. (The air restrictor boot shown in figure 1 has proven satisfactory for engine preservation.)
- c. Place the engine fuel control to the "ON" position. Open the regulator valve on the auxiliary container. Crank the engine with the starter (NOTE: Engine may fire for approximately 5 seconds) for not less than 30 seconds and not greater than 45 seconds. If the red-colored preservative oil is not observed within the 30- to 45-second period, rest the starter for a period of 3 minutes and repeat the cranking procedure.

CAUTION: Special precautions shall be taken to assure that the time limits specified are not exceeded. Damage to the starter solenoid or hydrostatic lock may result.

- d. Close the regulator valve on the auxiliary container and disconnect it from the fuel pump supply line and reconnect the fuel pump supply line to the primary filter. Remove the transparent fuel line, and reconnect the vehicle fuel return line at the quick disconnect coupling. Turn on the vehicle fuel supply system. Remove the air restrictor boot and reinstall the hose to the air cleaner (see 4.5.2.3).

3.1.8.6.3 Preservation through air intake and exhaust system, without turbocharger.

Atomize 1 ounce of preservative oil conforming to grade 1 of MIL-P-46002 into the exhaust opening. Seal the opening with tape conforming to type IV of MIL-T-22085. Disconnect the hose at the air intake and atomize 1 ounce of preservative oil conforming to grade 1 of MIL-P-46002 into the intake manifold. Seal the opening with tape conforming to Type IV of MIL-T-22085 (see 4.5.2.3).

3.1.8.6.4 Preservation through air intake and exhaust system, with turbocharger.

Atomize 1 ounce of preservative oil conforming to grade 1 of MIL-P-46002 into the external exhaust opening. Seal the opening with tape conforming to type IV of MIL-T-22085. Remove the exhaust tube between the turbocharger and left exhaust manifold. Atomize 1 ounce of preservative oil conforming to grade 1 of MIL-P-46002 into the left exhaust manifold, then atomize 2 ounces of grade 1 of MIL-P-46002 into the right exhaust manifold and the bottom of turbocharger through the left opening in the bottom of turbocharger, and replace the left exhaust tube. Disconnect the air cleaner hose at the turbocharger inlet, and atomize 1 ounce of grade 1 of MIL-P-46002 into the turbocharger. Seal the opening with tape conforming to type IV of MIL-T-22085 (see 4.5.2.3).

MIL-DTL-45360H(AT)

3.1.8.6.5 Preservation through oil level gage rod opening. Remove the oil level gage rod and atomize 6 ounces of preservation oil conforming to grade 1 of MIL-P-46002 into the crankcase through the gage rod opening. An extension of sufficient length to permit the nozzle to be within the crankcase (but not submerged in the crankcase oil) shall be used. Reinstall the gage rod.

- a. All openings to engine interior, oil gage rod, oil filter cap, and crankcase breathers shall be sealed with tape conforming to Type IV of MIL-T-22085.

WARNING TAG:

A red warning tag, bearing the information "ENGINE PRESERVED WITH VCI - DO NOT CRANK" and "BEFORE CRANKING, REMOVE TAPE FROM ALL SEALED AREAS (EXHAUST, AIR INTAKE or TURBOCHARGER INLET, OIL GAGE ROD, OIL FILLER CAP AND CRANKCASE BREATHERS)" shall be placed in a conspicuous location with the driver's compartment.

- b. DA Form 2258 shall be annotated to show the engine is preserved with grade 1 of MIL-P-46002 (see 4.5.2.3).

3.1.8.6.6 Preservation through flywheel housing. Two ounces of preservative oil conforming to grade 1 of MIL-P-46002 shall be atomized into the flywheel housing (see 4.5.2.3).

3.1.8.7 Personnel and engine compartment heaters and lines. Personnel and engine heaters shall have the fuel supply shut off valve located at the inlet side of fuel filters turned to the off position. The main fuel line supplying fuel to the heaters shall be disconnected at a point closest to shut off valves. Fuel from the fuel lines shall be allowed to drain. Seal ends of disconnected fuel lines and shut off valves with plastic plugs/caps conforming to MIL-C-5501, with tape conforming to Type II of MIL-T-22085. The external exhaust stack shall have the opening sealed with tape conforming to Type IV of MIL-T-22085. A plastic plug/cap conforming to MIL-C-5501 may be used. Four warning tags, each bearing the information "HEATER FUEL LINES DISCONNECTED AND SEALED. PRIOR TO PLACING PERSONNEL OR ENGINE HEATERS IN OPERATION, REMOVE PLUGS/CAPS OR TAPE FROM FUEL LINES, EXHAUST STACK AND SHUT OFF VALVES. OPERATE HEATER FUEL PUMP AND DRAIN A MINIMUM OF ONE QUART OF FUEL THROUGH THE FUEL LINES INTO A PORTABLE CONTAINER. RECONNECT HEATER FUEL LINES.", shall be prepared. One tag each shall be secured to the personnel and engine heater operating switches and one each to the personnel and engine heaters.

MIL-DTL-45360H(AT)

3.1.8.8 Fuel tank preservation. Residual fuel in the tank is unacceptable. If the tank cannot be completely drained, JP-8 fuel must be flushed through the tank to provide microbiological protection and keep varnish from seizing up the injectors (see 4.5.2.4).

3.1.8.8.1 Fuel tank security. After processing the fuel tank as specified in 3.1.8.8, the armored fuel cap(s) shall be secured with the combat lock(s).

3.1.8.9 Ramp lift assembly. All unpainted metal surfaces of the ramp lift assembly, excluding cylinder rod, shall be coated with preservative conforming to grade 4 of MIL-C-16173.

3.1.8.9.1 Ramp hydraulic reservoir. The ramp hydraulic reservoir shall be filled with hydraulic fluid conforming to Type I of MIL-H-46170.

3.1.8.10 Machine gun pintle mount. The machine gun pintle mount shall be removed and mounting bolts and washers reinstalled. Bare metal surfaces of the pintle shall be preserved with grease conforming to MIL-G-10924 and wrapped with barrier material conforming to type II, grade A, class 2 of MIL-B-121. The wrap shall be secured with tape conforming to type IV, class 1 of ASTM D5486/D5486M. The preserved mount shall be identified and securely stowed within the vehicle.

3.1.8.11 Hatches and doors. Rubber seals around hatches and doors shall be coated with powdered talc conforming to A-A-52518 or talc, technical, MIL-T-50036. For shipment, hatches and doors shall be closed and locked from the inside, except the driver's hatch. The driver's hatch shall be closed and secured from the outside with a bolt having nut drawn up tight and exposed threads peened over to prevent easy removal, or a bolt having a nut drawn up tight with the nut tack welded to the bolt, or with a Government-issued padlock. For storage, hatches and doors shall be locked from the inside, except that the ramp door shall be secured in the open position for ventilation.

3.1.8.12 Ventilation.

3.1.8.12.1 Engine compartment access plate and drain plugs. The engine compartment access plate, gasket, and attaching hardware on the underside of the vehicle shall be removed for ventilation. A screen conforming to Figure 2 shall be installed in the access plate opening, and secured with four of the existing mounting screws and washers. The two forward MS drain plugs and the rear bilge drain plug shall be removed for drainage. A screen conforming to Figure 3 shall be installed in rear bilge opening, and held in place with retainer spring conforming to figure 4. Bare metal surfaces of drain plugs shall be preserved with compound conforming to grade 4 of MIL-C-16173. The plate, gasket, and preserved drain plugs shall be packaged as specified in 3.1.9.9.

MIL-DTL-45360H(AT)

- a. The information "REMOVED SCREEN, INSTALL ACCESS PLATE AND GASKET, FRONT AND REAR DRAIN PLUGS BEFORE VEHICLE OPERATION" shall be stenciled on the exterior of the vehicle using white or tan paint conforming to MIL-P-52905. Stenciling shall be in characters not less than 3/4-inch high.

3.1.8.12.2 Engine compartment access panels. One engine compartment panel in the crew compartment shall be removed, and stowed securely in the crew compartment. A warning tag, bearing the information "ENGINE COMPARTMENT PANEL REMOVED: LOWER RAMP OR OPEN HATCHES WHEN OPERATING ENGINE", shall be attached in a conspicuous location within the driver's compartment.

3.1.8.13 Miscellaneous preservation. Except as otherwise specified herein, all exposed, unpainted, metal surfaces on the exterior of the vehicle, except the track shoes, shall be coated with compound conforming to grade 1 of MIL-C-16173. All exposed, unpainted, unplated, metal surfaces on the interior of the vehicle shall be coated with compound conforming to grade 4 of MIL-C-16173.

3.1.8.14 Smoke generator preservation (M1059, M1059A3, M58 ONLY)

3.1.8.14.1 Fog oil tank. The fog oil tank shall be drained to the maximum extent possible. The fog tank cap and filler screen shall be removed and coated with lubricating oil conforming to MIL-L-21260, grade PE10-1. The interior of tank shall be coated by fogging with preservation oil conforming to MIL-L-21260, grade PE10-1. The excess preservative oil shall be drained off. The tank cap and filler screen shall be reinstalled.

3.1.8.14.2 Gasoline cans (M1059, M1059A3 ONLY). The fuel lines shall be disconnected at the quick-disconnect couplings and the gasoline cans shall be removed from the vehicle. Using preservative oil conforming to MIL-L-21260, grade PE10-1, the interior of cans shall be flushed or fog-sprayed, assuring complete coverage, and drained. The filler caps shall be replaced and the gasoline cans shall be reinstalled to their stowed positions.

3.1.8.14.3 Smoke generators (M1059, M1059A3 ONLY). All port openings to both smoke generators shall be sealed with tape conforming to Type IV of MIL-T-22085

3.1.8.14.4 Smoke generator and graphite ejector (M58). The openings of the smoke and ejector ports shall be sealed with tape conforming to type IV of MIL-T-22085.

MIL-DTL-45360H(AT)

3.1.9 Packaging.

3.1.9.1 Dry charged batteries and cables. Dry charged batteries shall be installed and secured in the vehicle battery carrier. Battery cables shall be secured to the battery carrier with 3/4-inch tape conforming to ASTM 5330. Battery filler cap openings shall be sealed by placing a 2-inch wide by 3-mil thick piece of film conforming to type II of MIL-B-22191 over each filler cap opening with the cap removed. The sheet shall be of sufficient length to allow it to be depressed into the opening to the same depth as the filler plug. Filler caps shall be screwed or inserted into openings to form a complete seal without damaging the sheet. If batteries have been processed in accordance with MIL-B-11188, they need not be reprocessed as above.

3.1.9.2 Electrolyte. Electrolyte shall be packaged and packed in accordance with O-S-801, except that the exterior container shall conform to PPP-B-621, Class 2, or PPP-B-601, overseas type. Marking shall conform to O-S-801. The packed electrolyte shall be stowed in the same location as the BII and secured independently to permit separate removal.

3.1.9.3 Packaging of backrests and seats. Cushions of backrests and seats (3.1.7.1.2) shall be covered with paper conforming to A-A-203 with a basic weight of not less than 60 pounds. The paper shall be secured with tape conforming to type I of A-A-883.

3.1.9.4 Periscopes. If installed, periscopes shall be removed from the vehicle, cleaned, dried, and immediately packaged and packed in accordance with Level A requirements of MIL-STD-2073-1, then securely stowed within the personnel compartment. Plugs conforming to PPP-C-1752, type I, class 2, 2-inches thick, shall be installed in the openings (see figures 6 and 7).

3.1.9.5 Fire extinguishers. Fire extinguishers shall contain 90 percent of rated full charge. All seals shall be intact. DA Form 253 shall be completed and attached securely to each extinguisher (see 6.3)

3.1.9.6 Mortar mount (M106A2, M125A2, M1064, M1064A3 ONLY). Mortar mount handling brackets and hardware shall be removed and packaged in a type CF, Class Weather-Resistant box conforming to ASTM D5118/D5118M. The box shall be closed in accordance with method 4B2 of ASTM D1974 identified as to contents, and securely stowed within the personnel compartment.

3.1.9.7 Bipod cover (M125A2 ONLY). The Bipod cover shall be removed for shipment, identified, and stowed and secured with BII packs within the vehicle. Cushioning conforming to type II of A-A-1051 shall be used under strapping to prevent damage to item.

MIL-DTL-45360H(AT)

3.1.9.8 BII. Unless otherwise specified (see 6.2), BII shall be preserved to military preservation to protect the items during shipment, handling, indeterminate storage, and distribution to consignees worldwide. Preserve in accordance with MIL-STD-2073-1. BII shall be packed into one or more shipping containers in accordance with Level A or Level B (see 6.2) packing requirements of MIL-STD-2073-1. BII shall be packed separately (e.g., not packed with On Vehicle Equipment, disassembled items, removed items). BII shipping containers that are secured and stowed on the outside of the vehicle must be packed in PPP-B-601, overseas type containers only. All containers that exceed 100 pounds must have skids or a pallet base to permit ease of handling.

3.1.9.8.1 Stowage and securement of BII. BII and items removed for shipment shall be identified to the pertinent vehicle by serial number. (NOTE: BII and items removed for shipment shall not be identified to the pertinent vehicle by serial number, if vehicle has been rebuilt or revised at depot). BII shall be stored inside buildings, except during shipment. Packed BII and removed items shall be placed within the personnel compartment of the vehicle. Large wooden boxes shall be placed on the vehicle floor and shall be secured with 1-1/4-inch wide strapping conforming to Type I, heavy duty, Finish A of ASTM D3953. (NOTE: If BII and other containers are placed in fiberboard containers and it has been determined 1.25 inch wide strapping will cause damage to containers, strapping width shall be reduced to 0.75 inch wide.) Strapping shall be secured to holding devices within the compartment. Additional strapping may be required if 0.75 inch wide strapping is used. All containers shall be secured in such a manner as to prevent any movement during transit and to prevent damage to containers or vehicle interiors. Corner protectors shall be used under all strapping.

3.1.9.8.2 Stowage and Securement of BII (M1059, M1059A3, M58). BII and items removed for shipment shall be identified to the pertinent vehicle by serial number. (NOTE: BII and items removed for shipment shall not be identified to the pertinent vehicle by serial number, if vehicle has been rebuilt or revised at depot). Packed BII shall be placed on a saddle similar to the one shown on Figure 5. The saddle shall be installed over the trim vane. Track shroud bolts that have been removed and replaced by longer bolts shall be coated with preservative conforming to grade 4 of MIL-C-16173. Removed bolts shall be wrapped with barrier material conforming to type II, grade A, Class 2 of MIL-B-121 and placed in a cloth bag identified with a tag. The tag shall contain the following information: "TRACK SHROUD BOLTS: REINSTALL WHEN BII SADDLE IS REMOVED FROM VEHICLE". The bag shall be secured in a conspicuous location within the driver's compartment. BII containers shall be placed on the saddle in a position which will not increase the overall cube of the vehicle. Smaller wooden boxes shall be secured to the larger boxes with 3/4-inch-wide strapping conforming to type I, heavy duty, finish B, grade 2 of ASTM D3953. BII shall then be secured to the saddle in each direction with two 1.25 inch-wide strapping conforming to type I, heavy duty, finish B, grade 2 of ASTM D3953. Corner protectors shall be used under all strapping. If it is ascertained that the interior of the M58 vehicle will accommodate the stowage of the BII and items removed for shipment a saddle shall not be required. Stowage and securement will be as stated in 3.1.9.8.1.

MIL-DTL-45360H(AT)

3.1.9.9 Access plate, gasket, and drain plugs. The access plate, gasket, and preserved drain plugs (see 3.1.8.12.1) shall be packaged in a box conforming to type CF, Class Weather-Resistant of ASTM D5118/D5118M. The box shall be closed in accordance with method 4B2 of ASTM D1974, identified as to contents, and securely stowed within the personnel compartment.

3.1.9.10 Packaging of tow hooks. Tow hooks and related hardware shall be removed for shipment and packaged in a type CF, Class Weather-Resistant box conforming to ASTM D5118/D5118M. The box shall be closed in accordance with method 4B2 of ASTM D1974, identified as to contents, and securely stowed within the personnel compartment.

3.1.10 Vehicle closure.

3.1.10.1 Closure kit. Unless otherwise specified (see 6.2), each vehicle, except the M1059, M1059A3 and M58, shall be provided with a vehicle protective closure kit. The closure kit shall be fabricated, assembled, and installed in accordance with Drawing 12269128.

3.1.10.1.1 Depot closure kit box marking. The information "DO NOT DESTROY - USE FOR RETURN SHIPMENT OF VEHICLE CLOSURE KIT" shall be stenciled on the depot closure kit box in lettering not less than 3/4-inch high with a contrasting color of enamel conforming to TT-E-529. Do not mark closure kit box if it is ascertained the container will not accommodate the closure kit.

3.2 Level B Vehicles shall be processed in the same manner as specified for Level A, with the following exceptions.

3.2.1 Transmission, transfer assembly, control differential, and final drives. The transmission, transfer assembly, control differential, and final drives shall contain operational lubrication as specified on applicable drawings, specifications, or lubrication order, filled to operating level. If, however, these units contain lubricating oil conforming to type I, grade 10 or 30 of MIL-L-21260, an additional amount of the same oil shall be added to attain operating level. Operating lubricants shall not be mixed with MIL-L-21260, an additional amount of the same oil shall be added to attain operating level. Operating lubricants shall not be mixed with MIL-L-21260 except in an emergency. DA Form 2258 shall be annotated to indicate the grade of operational lubricant or preservative oil used.

3.2.2 Engine crankcase. The engine crankcase shall contain normal operational lubricant as specified in the lubrication order, filled to operational level. DA Form 2258 shall be annotated to indicate the grade of lubricant used.

3.2.3 Engine preservation. The engine shall require no preservation for Level B shipment and storage.

MIL-DTL-45360H(AT)

3.2.4 Personnel heater and fuel pump. The personnel heater and fuel pump shall be in ready-to-use condition. The heater exhaust openings shall be closed with a plastic plug conforming to MIL-C-5501/7 (see figure 6), or closed with tape conforming to type IV of MIL-T-22085. A warning tag, bearing the information "HEATER EXHAUST OPENINGS CLOSED, REMOVE PLUG OR TAPE BEFORE OPERATING", shall be attached to the heater controls.

3.2.5 Fuel. Unless otherwise specified (see 6.2), the vehicle will be shipped with 1/4 tank of JP-8 fuel.

3.2.6 Backrests and seats. Cushions of backrests and seats shall not be covered. If cushions are received packaged, they shall be stowed as received in the crew compartment.

3.2.7 Vehicle closure. Vehicle closure kits shall not be provided for Level B shipment and storage.

3.2.8 Tow hooks. Tow hooks shall be removed for overseas shipment only (see 3.1.9.10).

3.2.9 Engine compartment access panels. Engine compartment access panels in the crew compartment shall not be removed.

3.2.10 Bilge pump outlets. Bilge pump outlets shall be closed with plastic plugs conforming to MIL-C-5501/7 (see figure 6), or closed with tape conforming to type IV of MIL-T-22085. A warning tag, bearing the information "BILGE PUMP OUTLETS CLOSED PRIOR TO OPERATING BILGE PUMP, REMOVE PLUGS OR TAPE FROM OUTLETS", shall be secured to the bilge pump operating switch.

3.2.11 Machine gun pintle mount. For CONUS shipment only, machine gun pintle mount shall not be removed.

3.2.12 Stowage and securement of BII (M1059, M1059A3, M58). BII and items removed for shipment may be stowed on top side of vehicle and secured as required.

3.3 Materials. Materials shall be as specified herein and in referenced specifications and drawings. Material shall be free from all defects and imperfections that might affect the serviceability and appearance of the finished product (see 4.5.1).

3.3.1 Recycled, virgin and reclaimed materials. There are no requirements for the exclusive use of virgin materials. The use of recycled or reclaimed (recovered) materials is acceptable provided that all other requirements of this specification are met (see 4.5.1 and 6.5.1).

MIL-DTL-45360H(AT)

3.4 Loading.

3.4.1 Loading flat cars. Loading of vehicles on open top railroad cars shall be in accordance with the applicable requirements of Section 1, General Rules Governing the Loading of Commodities on Open Top Cars, and Figure 87 or 87A, Section 6, Rules Governing the Loading of Department of Defense Material on Open Top Cars, publication of the Association of American Railroads.

3.4.2 Highway shipment. Loading of vehicles for shipment by haulaway and rules for shipment by driveaway or towaway shall be in accordance with Interstate Commerce Commission publication "Federal Motor Carrier Safety Regulations", and applicable military publications.

3.4.3 Reprocessing engine after loading.

3.4.3.1 Level A. If the engine is operated in connection with the moving of vehicle to the loading area or during the loading itself, the engine shall be reprocessed as specified in 3.1.8.6 through 3.1.8.6.5. The vehicle cover shall be rolled clear of the engine intake and exhaust to provide air circulation and to prevent damage to the cover. After reprocessing of engine, the vehicle cover shall be replaced in its original position.

3.4.3.2 Level B. If the engine is operated in connection with movement of vehicle for loading or unloading, there shall be no additional processing of engine.

3.5 Marking. In addition to any special marking required in the contract (see 6.2), the vehicle shall be marked in accordance with MIL-STD-129.

3.5.1 Lifting points. The information "LIFT HERE" with an arrow pointing to the lifting eye shall be stenciled adjacent to each lifting eye using black ink conforming to A-A-208.

3.5.1.1 BII marking. In addition to any special marking required by the contract or order (see 6.2), each item shall be identifiable either by visual observation or by a part number (P/N) National Stock Number (NSN). A packing list shall be provided to identify the contents of the BII. The exterior container will be marked with the NSN of the vehicle and the words "ASSORTED BII". The vehicle USA registration number (serial number) will be required on the exterior containers when there are BII shortages and when match-marking is required to identify a BII set to a specific vehicle.

3.6 Drive-on/drive-off capability. When the vehicle is to be operated for loading or unloading (see 6.2), the following provisions shall apply.

MIL-DTL-45360H(AT)

3.6.1 Additional fuel. When specified (see 6.2), additional fuel shall be added, as required, to accomplish movement of the vehicle. JP-8 fuel shall be used to prevent microbiological contamination of the fuel system and to ensure injectors do not seize during shipment and temporary storage.

3.6.2 Batteries and electrolyte. Batteries shall be filled with electrolyte, fully charged, and battery cables connected. After vehicle self-movement for loading or placement in storage, both battery cables shall be disconnected and secured away from the battery terminals. A warning tag, bearing the information "VEHICLE PRESERVED FOR DRIVE-ON/DRIVE-OFF. BEFORE CRANKING, CONNECT BOTH BATTERY CABLES TO BATTERY TERMINALS. ENGINE AND FUEL TANKS CONTAIN JP-8 FUEL," shall be attached in a conspicuous location within the driver's compartment.

3.7 Vehicle transport requirements. Vehicle(s) offered for transport must comply with the following applicable requirements regardless of requirements contained in this document. In cases of conflict the Code of Federal Regulations (CFR) will take precedence.

- a. International Civil Aviation Organization (ICAO) Technical Instructions, International Air Transport Association (IATA) Dangerous Good Regulations (For Commercial Passenger and Cargo Air Shipment).
- b. International Maritime Dangerous Goods Code (IMDG) (For Vessel Shipment).
- c. Joint Service Regulation AFJMAN24-204/TM38-250 (For Military Air Shipments).
- d. CFR Titles 29, 40 and 49.

4. VERIFICATION

4.1 Classification of inspections. The inspection requirements specified herein are classified as follows:

- a. First article inspection (see 4.2).
- b. Conformance inspections (see 4.5).

4.2 First article inspection. First article inspection shall be performed on one of the first 10 production processed vehicles when a first article sample is required (see 3.1.1). The vehicle shall be subjected to the inspections specified in 4.5.

4.3 Production processed vehicles. Unless otherwise specified (see 6.2), all production processed vehicles shall be subjected to the inspections specified in 4.5.2 through 4.5.2.3.

MIL-DTL-45360H(AT)

4.4 Failure. Failure of the first article, or any production processed vehicle, to conform to the applicable requirements of this specification shall be cause for rejection of the vehicles by the Government. No vehicles shall be accepted until objective evidence that the contractor has corrected the condition causing the failure has been provided to the Government. A complete or partial reinspection may be required by the procuring activity at the contractors expense to substantiate any implemented corrective action.

4.5 Conformance inspections.

4.5.1 Materials. Except for materials that have been inspected by the Government at source, all materials to be used in processing of vehicles shall be inspected in accordance with the material specification; or certified inspection and laboratory test reports shall be provided which show that furnished materials conform to the applicable material specification (see 6.5.1).

4.5.2 Processing. Except as otherwise specified herein, vehicle processing shall be inspected to determine conformance to this specification. Inspection of processing shall include all items specified in Table I and 4.5.2.1 through 4.5.2.4.

TABLE I. Processing inspection
(See indicated paragraphs for Levels A & B requirements.)

Component	Cleaning Levels A & B	Preservation		Packaging/Stowage	
		Level A	Level B	Level A	Level B
Processing records				3.1.4	3.1.4
Disassembly				3.1.5	3.1.5
Matchmarking				3.1.5.1	3.1.5.1
Interior of vehicle	3.1.7.1				
Battery supports and retainers	3.1.7.1.1	3.1.8.2	3.1.8.2		
Backrests and seats	3.1.7.1.2			3.1.9.3	3.2.6
Exterior of vehicle	3.1.7.2				
Relubrication		3.1.8.1	3.1.8.1		
Transmission, transfer assembly, control differential, and final drives 1/		3.1.8.3	3.2.1		
Engine crankcase 1/		3.1.8.5	3.2.2		
Compression ignition engine		3.1.8.6	3.2.3		

MIL-DTL-45360H(AT)

TABLE I. Processing inspection - Continued
(See indicated paragraphs for Levels A & B requirements.)

Component	Cleaning Levels A & B	Preservation		Packaging/Stowage	
		Level A	Level B	Level A	Level B
Preservation thru fuel system and combustion chamber		3.1.8.6.2	3.2.3		
Preservation thru air intake and exhaust system, without turbocharger		3.1.8.6.3	3.2.3	3.1.8.6.3	
Preservation thru air intake and exhaust system, with turbocharger		3.1.8.6.4	3.2.3	3.1.8.6.4	
Preservation thru oil level gage rod opening		3.1.8.6.5	3.2.3	3.1.8.6.5	
Preservation thru fly-wheel housing		3.1.8.6.6			
Personnel and engine compartment heaters and lines		3.1.8.7	3.2.4		
Fuel tank		3.1.8.8	3.2.5		
Cooling system <u>1</u> /		3.1.8.4	3.1.8.4		
Water & antifreeze procedure		3.1.8.4.1	3.1.8.4		
Arctic antifreeze procedure		3.1.8.4.1	3.1.8.4		
Antifreeze solution		3.1.8.4.2	3.1.8.4		
Ramp winch assembly		3.1.8.9	3.1.8.9		
Ramp hydraulic reservoir		3.1.8.9.1	3.1.8.9.1		
Machine gun pintle mount		3.1.8.10	3.2.11		
Hatches & doors		3.1.8.11	3.1.8.11		
Ventilation & screen		3.1.8.12.1	3.1.8.12.1	3.1.9.9	3.1.9.9
Bipod cover				3.1.9.7	3.1.9.7

MIL-DTL-45360H(AT)

TABLE I. Processing inspection - Continued
(See indicated paragraphs for Levels A & B requirements.)

Component	Cleaning Levels A & B	Preservation		Packaging/Stowage	
		Level A	Level B	Level A	Level B
Engine compartment				3.1.8.12.2	3.2.9
access panels					
Mortar mount				3.1.9.6	3.1.9.6
Miscellaneous		3.1.8.13	3.1.8.13		
preservation					
Dry charged batteries		3.1.9.1	3.1.9.1	3.1.9.1	3.1.9.1
and cables					
Electrolyte				3.1.9.2	3.1.9.2
Periscopes				3.1.9.4	3.1.9.4
Fire extinguishers				3.1.9.5	3.1.9.5
Record forms				3.1.6	3.1.6
Tow hooks				3.1.9.10	3.2.8
Basic issue items				3.1.9.8	3.1.9.8
Strapping				3.1.9.8.1	3.1.9.8.1
Stowage and				3.1.9.8.2	3.2.12
securement of BII					
(M1059, M1059A3,					
M58)					
Vehicle closure kit				3.1.10.1	3.2.7
Fuel tank security				3.1.8.8.1	
Loading on flat cars				3.4.1	3.4.1
Highway shipment				3.4.2	3.4.2
Reprocessing engine				3.4.3.1	3.4.3.2
after loading					
Marking				3.5	3.5
Lifting points				3.5.1	3.5.1
Depot closure kit				3.1.10.1.1	
box marking					

1/ Inspect DA Form 2258

4.5.2.1 Cleaning. To determine conformance to 3.1.7.1, the interior of vehicle shall be examined for cleanliness. One vehicle each day shall be tested for cleanliness in accordance with the applicable provisions of MIL-STD-2073-1. To determine conformance with 3.1.7.2, the exterior of vehicle shall be examined for cleanliness. Surfaces on which tape is to be applied shall be examined for cleanliness before application.

MIL-DTL-45360H(AT)

4.5.2.2 Cooling system. To determine conformance to 3.1.8.4, one processed vehicle shall be selected at random from each day's production. The engine coolant shall be tested using a hydrometer-thermometer type tester, with a range of -60 to +160°F, conforming to MIL-T-37402.

4.5.2.3 Engine. To determine conformance to 3.1.8.6.1 through 3.1.8.6.6, the interior of engine from 1 of the first 10 production processed vehicles shall be examined for surface coverage. The engine shall be disassembled to the extent necessary to permit visual examination of all surfaces within the combustion chamber. (NOTE: The combustion chamber shall be considered as all surfaces within the cylinder, from and including the crown of the piston, to and including the surfaces of the head within the cylinder.) All surfaces within the combustion chamber shall have a "wet" coating of preservative oil such as is obtained when the item is dipped or flushed with the oil.

4.5.2.4 Fuel tank. to determine conformance to 3.1.8.8, visual inspection of preservative application shall be accomplished.

5. PACKAGING

This section is not applicable to this specification.

6. NOTES

(This section contains information of a general or explanatory nature, that may be helpful, but is not mandatory.)

6.1 Intended use. Vehicle processing covered by this specification is intended to protect the vehicles for storage outside of buildings, for immediate use shipment, and for domestic or overseas shipment, including carloading.

6.2 Acquisition requirements. Acquisition documents must specify the following:

- a. Title, number, and date of this specification.
- b. Issues of DoDISS to be cited in the solicitation, and if required, the specific issue of individual documents referenced (see 2.1.1)
- c. Applicable level of processing (see 1.2).
- d. When first article is required (see 3.1.1).
- e. Applicable procedure for protection of cooling system (see 3.1.8.4).
- f. If BII should be processed, packed, or stored other than as specified (see 3.1.9.8).
- g. If vehicle closure kit is not required (see 3.1.10.1).
- h. If residual fuel should be drained from the fuel tank prior to shipping (see 3.2.5).
- i. If special marking is required (see 3.5).

MIL-DTL-45360H(AT)

- j. If BII marking is required (see 3.5.1.1).
- k. If vehicle drive-on and drive-off capability is required (see 3.6).
- l. If additional fuel should be supplied (see 3.6.1)
- m. If first article sample size should be other than as specified (see 4.2).
- n. If production processed vehicles should be subjected to inspections other than as specified (see 4.3).

6.3 Safety precautions. Caution should be exercised in handling carbon dioxide (CO₂) fire extinguisher cylinders. Cylinders should not be dropped, permitted to strike each other, or handled roughly. Extreme care should be exercised during the reinstallation operation to avoid tripping the fire extinguisher control trigger (see 3.1.9.5).

6.4 Forms. A copy of the "Equipment Log Book" and all required forms (see 3.1.6) will be furnished to the contractor by the Government at least 30 days before shipment of the vehicles required by the contract delivery schedule.

6.5 Definitions.

6.5.1 Recovered materials. "Recovered materials" means materials that have been collected or recovered from solid waste (see 6.5.2).

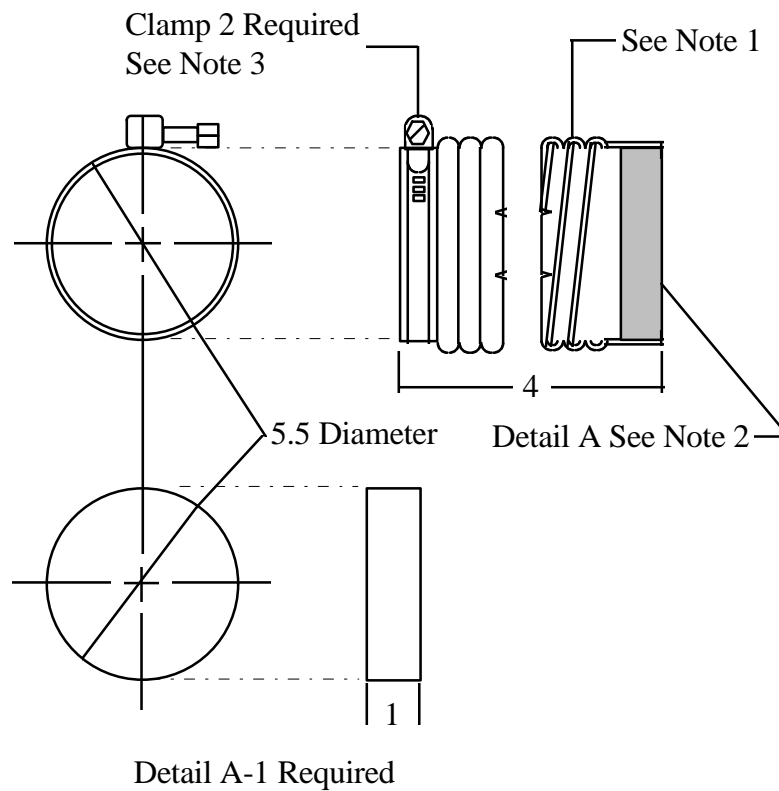
6.5.2 Solid waste. "Solid waste" means (a) any garbage, refuse, or sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility; and (b) other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities. It does not include solid or dissolved material in domestic sewage, or solid or dissolved material in irrigation return flows or industrial discharges which are point sources subject to permits under section 402 of the Clean Water Act, (33 U.S.C. 1342 et seq.), or source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 U.S.C. 2011 et seq.) (Source: Federal Acquisition Regulations, Section 23.402).

6.6 Subject term (key word) listing.

Loading
 Packaging
 Packing
 Ramp winch assembly
 Relubrication
 Stowage
 Vehicle closure
 Vehicle protection
 Ventilation

MIL-DTL-45360H(AT)

6.7 Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

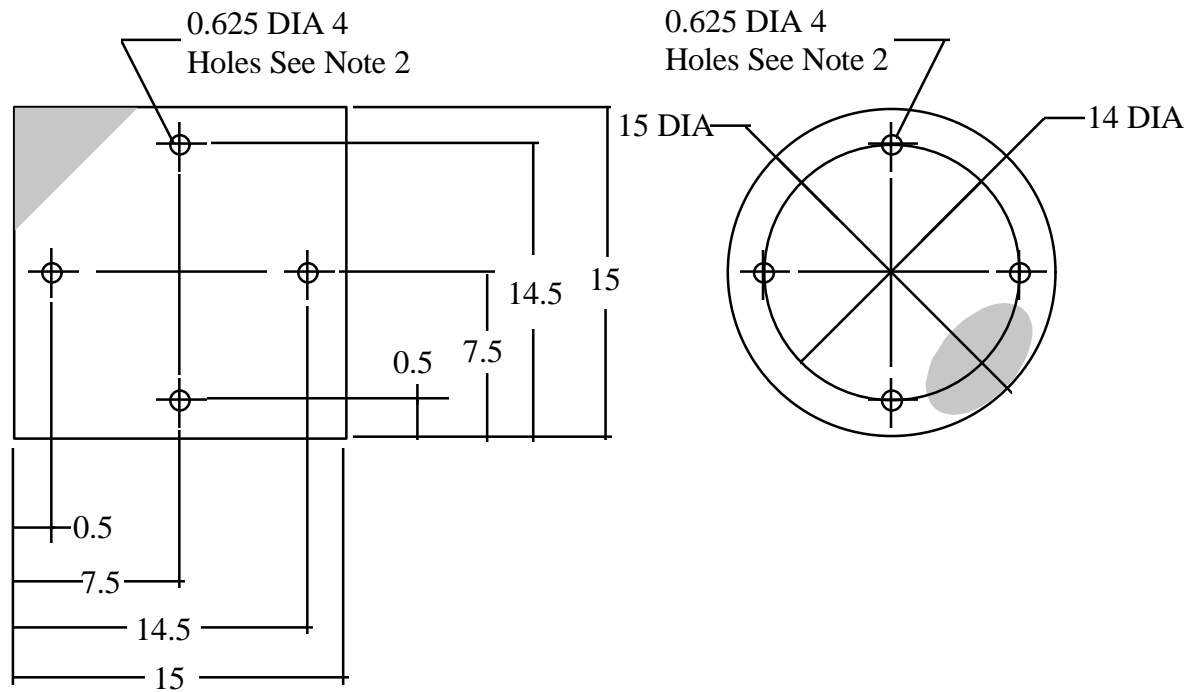


NOTES:

1. Flexible hose to be made from material conforming to A-A-52546 or equivalent.
2. Plug to be made from 1 inch plywood, A-A-55057, type a, std. int. with ext. glue.
3. Use clamp, hose, low pressure type "F" with diameter range 4.125 and 7 inches.

FIGURE 1. Boot, air restrictor.

MIL-DTL-45360H(AT)

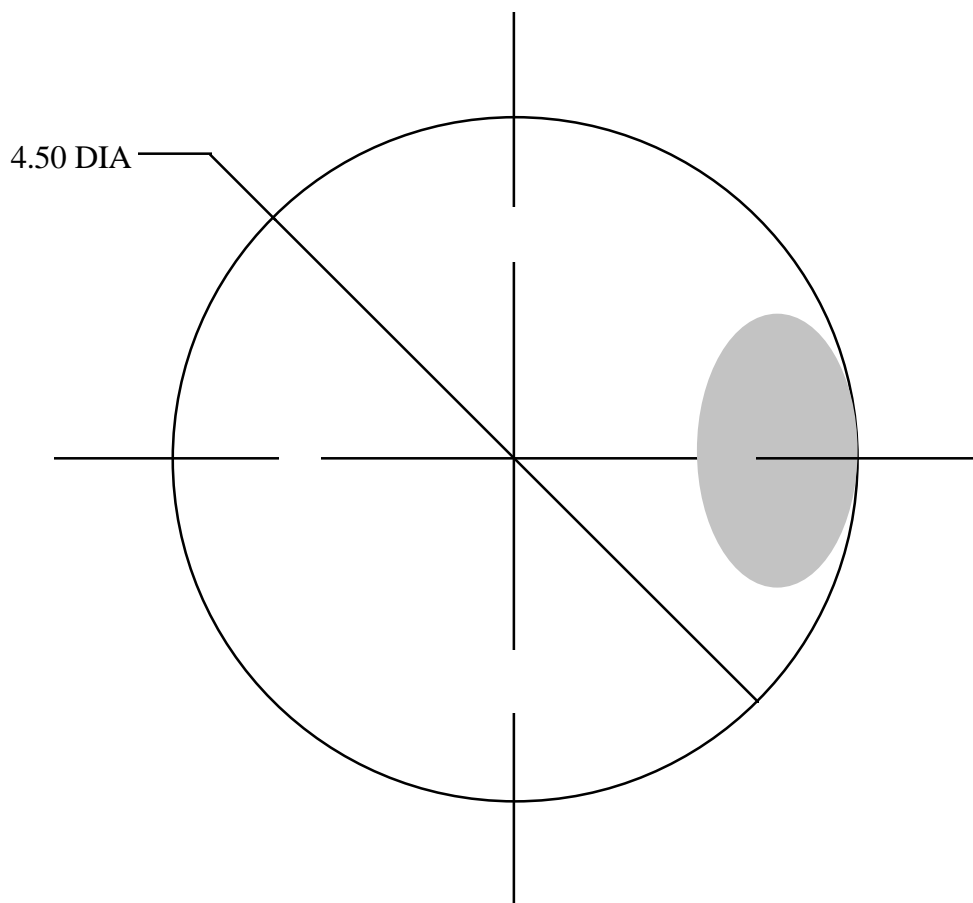


NOTES:

1. Material, wire cloth, plain weave, 4x4 mesh, 0.0348 diameter per ANSI/AWCI01 and ASTM E437.
2. Holes may be formed with drift pin at installation.
3. Dimensions are in inches.

FIGURE 2. Screen.

MIL-DTL-45360H(AT)

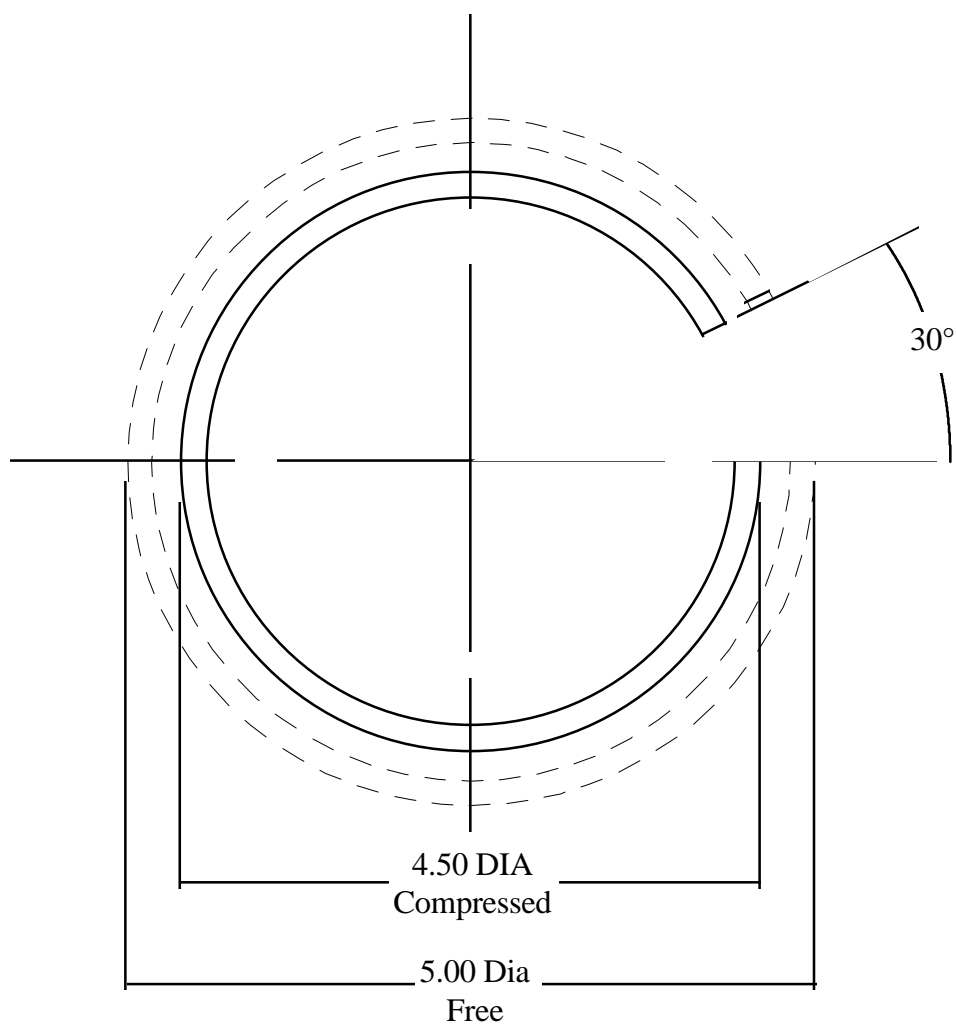


NOTES:

1. Material, wire cloth, plain weave, 4x4 mesh, 0.0348 diameter per ANSI/AWCI01 and ASTM E437.
2. Dimensions are in inches.

FIGURE 3. Screen.

MIL-DTL-45360H(AT)

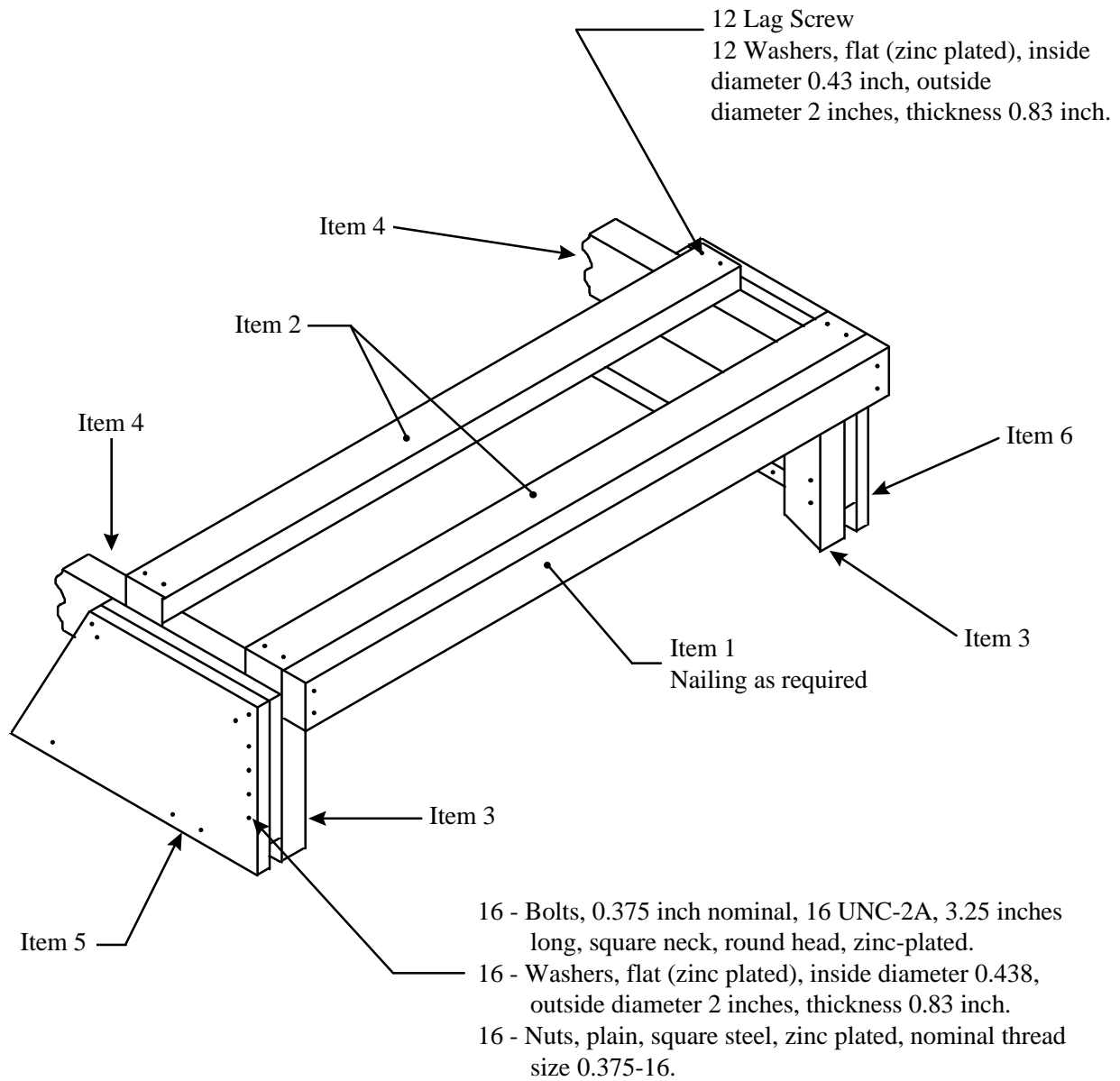


NOTES:

1. Material, wire, steel, carbon, spring, music, per ASTM A228/A228M.
2. Dimensions are in inches.

FIGURE 4. Spring, retainer.

MIL-DTL-45360H(AT)



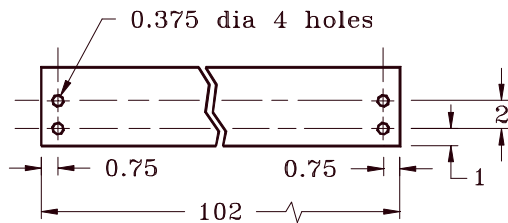
SHEET 1 OF 3

NOTES:

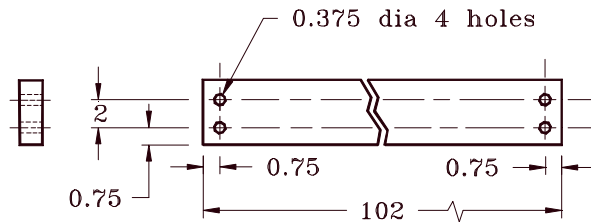
1. See figures 5a and 5b for details of items 1 through 6.
2. Dimensions are in inches.
3. Tolerance unless otherwise specified $\pm 1/16$.

FIGURE 5. Saddle BII stowage.

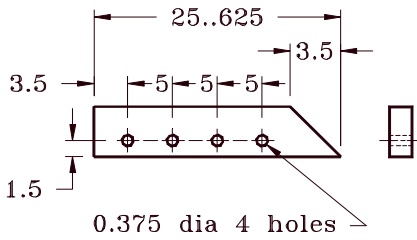
MIL-DTL-45360H(AT)



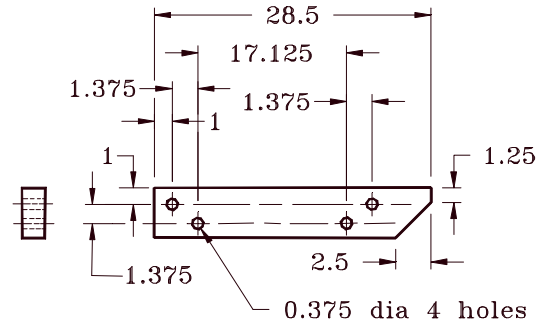
ITEM 1
2 X 6 NOM



ITEM 2 - 2 REQD
2 X 4 NOM



ITEM 3 - 2 REQD
2 X 4 NOM



ITEM 4 - 2 REQD
2 X 4 NOM

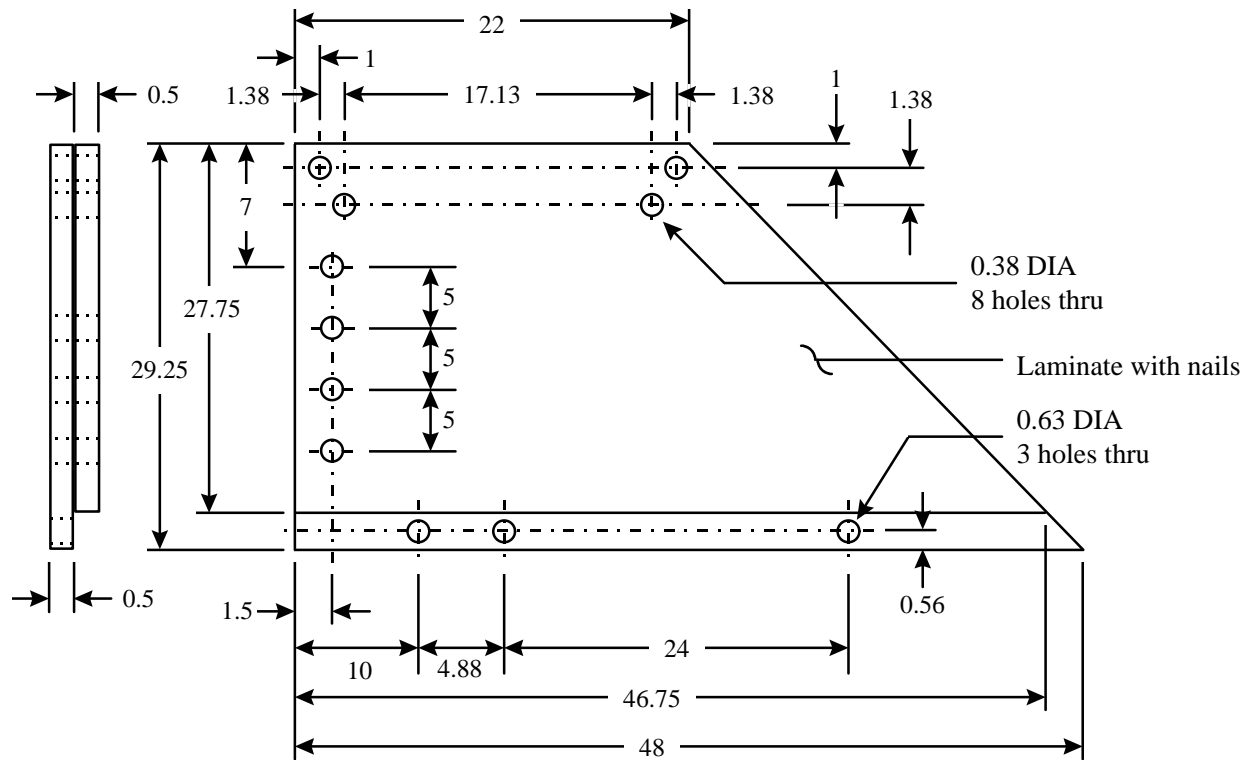
SHEET 2 OF 3

NOTES:

1. Material: lumber.
2. Dimensions are in inches.
3. Tolerance unless otherwise specified $\pm 1/16$.

FIGURE 5a. Saddle BII stowage.

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ITEM 5 SHOWN
ITEM 6 OPPOSITE

SHEET 3 OF 3

NOTES:

1. Material: plywood, A-A-55057, type A, std. int. with ext. glue.
2. Dimensions are in inches.
3. Tolerance unless otherwise specified $\pm 1/16$.

FIGURE 5b. Saddle BII stowage.

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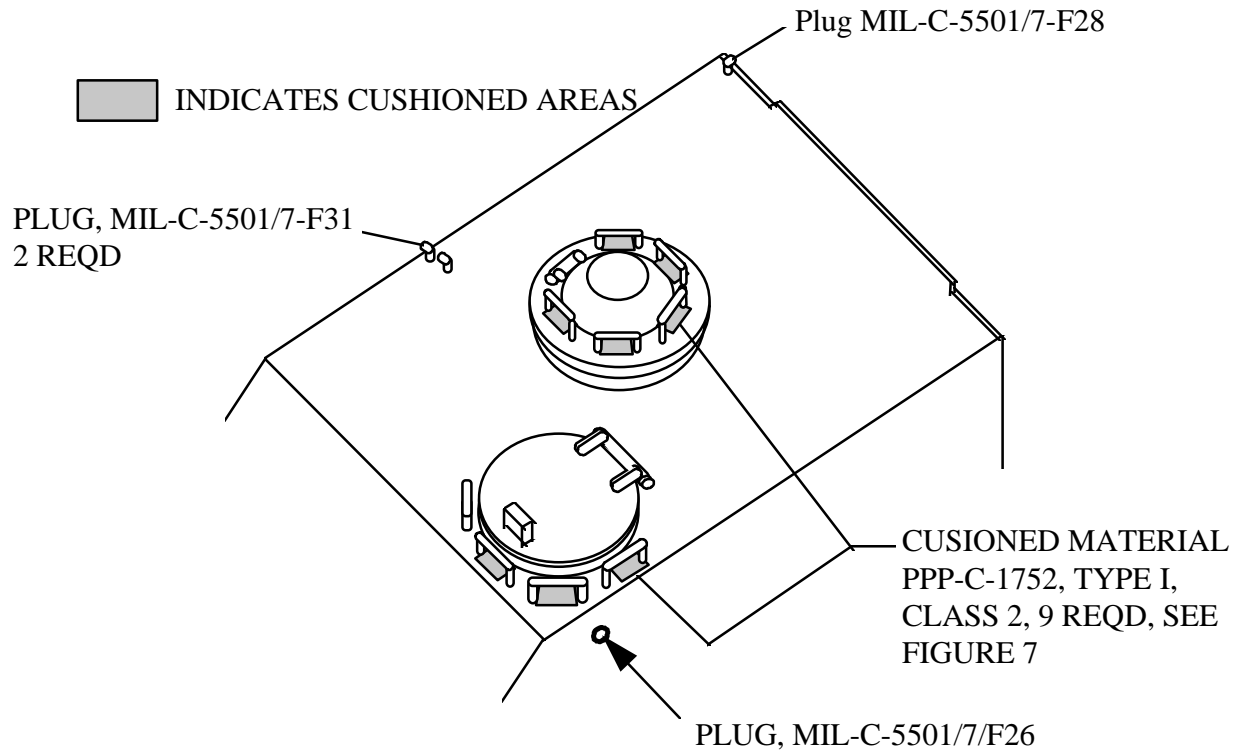


FIGURE 6. Closures.

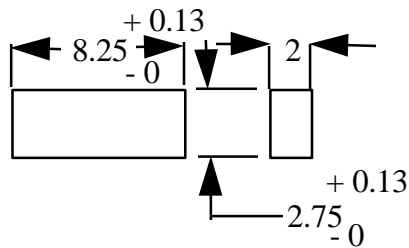


FIGURE 7. Cushioning material.

MIL-DTL-45360H(AT)

Custodian:
Army - AT

Preparing Activity:
Army - AT

(Project 2350-0491)

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

INSTRUCTIONS

1. The preparing activity must complete blocks 1, 2, 3, and 8. In block 1, both the document number and revision letter should be given.
2. The submitter of this form must complete blocks 4, 5, and 7.
3. The preparing activity must provide a reply within 30 days from receipt of the form.

NOTE: This form may not be used to request copies of documents, nor to request waivers, or clarification of requirements on current contracts. Comments submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or to amend contractual requirements.

I RECOMMEND A CHANGE:

1. DOCUMENT NUMBER

MIL-DTL-45360H(AT)

2. DOCUMENT DATE (YYMMDD)

970331

3. DOCUMENT TITLE Carriers, Personnel, Full-Track, Armored: M113A2 and M113A3; Mortars, Self-Propelled: M106A2 (107MM), M125A2 (81MM) and M1064, M1064A3 (120MM); Smoke Generators: M1059, M1059A3 and M58; Processing for Storage and Shipment Of

4. NATURE OF CHANGE (Identify paragraph number and include proposed rewrite, if possible. Attach extra sheets as needed.)

5. REASON FOR RECOMMENDATION

6. SUBMITTER

a. NAME (Last, First, Middle Initial)

b. ORGANIZATION

c. ADDRESS (Include Zip Code)

d. TELEPHONE (Include Area Code)

(1) Commercial
(2) AUTOVON
(If applicable)

7. DATE SUBMITTED
(YYMMDD)

8. PREPARING ACTIVITY

a. NAME

b. TELEPHONE (Include Area Code)

(1) Commercial (2) AUTOVON
(810) 574-8745 786-8745

c. ADDRESS (Include Zip Code)

Commander
U.S. Army Tank-automotive and Armaments Command
ATTN: AMSTA-TR-E/BLUE
Warren, MI 48397-5000

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5203 Leesburg Pike, Suite 1403
Falls Church, VA 22041-3466
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