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MILITARY SPECIFICATION

# MOUNTING KIT: Ml, ROLLER, MINE CLEARING:

# TRACK-WIDTH, TANK MOUNTED

This specification is approved for use within the USA Belvoir Research, Development, and Engineering Center, 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 defines a mounting kit used in attaching the track width, tank mounted, mine clearing roller assembly kit to the M1 series tank.

## 2. APPLICABLE DOCUMENTS

2.1 Government documents.

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

SPECIFICATIONS

FEDERAL

| | |
|---|---|
| PPP-B-601 | - Boxes, Wood, Cleated-Plywood. |
| TT-C-490 | - Cleaning Methods for Ferrous Surfaces and Pretreatments for Organic Coatings. |

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: USA Belvoir Research, Development, and Engineering Center, ATTN: STRBE-TSE, Fort Belvoir, VA 22060-5606 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC N/A FSC 2590

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| MIL-B-121 | - Barrier Material, Greaseproofed, Water-proofed, Flexible. |
| MIL-P-14232 | - Parts, Equipment, and Tools for Army Materials, Packaging of. |
| MIL-C-16173 | - Corrosion Preventive Compound, Solvent Cut-back, Cold Application. |
| MIL-C-22750 | - Coating, Epoxy Polyamide. |
| MIL-C-46168 | - Coating, Aliphatic Polyurethane, Chemical Agent Resistant. |
| MIL-P-52192 | - Primer Coating, Epoxy. |
| MIL-P-53022 | - Primer, Epoxy Coating, Corrosion Inhibiting; Lead and Chromate Free. |
| MIL-P-53030 | - Primer Coating, Epoxy, Water Reducible, Lead and Chromate Free. |

STANDARDS

FEDERAL

| | |
|---|---|
| FED-STD-101 | - Preservation, Packaging, and Packing Material, Test Procedures. |

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| MIL-STD-105 | - Sampling Procedures and Tables for Inspection by Attributes. |
| MIL-STD-129 | - Marking for Shipment and Storage. |
| MIL-STD-810 | - Environmental. |
| MIL-STD-838 | - Lubrication of Military Equipment. |
| MIL-STD-889 | - Dissimilar Metals. |
| MIL-STD-1472 | - Human Engineering Design Criteria for Military Systems, Equipment and Facilities. Calibration Systems Requirements. |
| MIL-STD-45662 | - Calibration Systems Requirements. |

HANDBOOK

MILITARY

| | |
|---|---|
| MIL-HDBK-113 | - Guide for the Selection of Lubricants, Fluids, Preservatives and Specialty Products for Use in Ground Equipment Systems. |

2.1.2 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this specification to the extent specified herein. Unless otherwise specified, the issues shall be those in effect on the date of the solicitation.

ME

| | |
|---|---|
| TA13227E7180 | - Mounting Kit, M1, Mine Clearing Roller |

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(Copies of specifications, standards, handbooks, drawings, publications, and other Government documents required by contractors in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting officer.)

2.2 Other publications. The following document(s) form a part of this specification to the extent specified herein. Unless otherwise specified, the issues of the documents which are DOD adopted shall be those listed in the issue of the DoDISS specified in the solicitation. Unless otherwise specified, the issues of documents not listed in the DoDISS shall be the issue of the non-Government documents which is current on the date of the solicitation.

AMERICAN WELDING SOCIETY (AWS)

D1.1 - Structural Welding Code - Steel
D1.2 - Structural Welding Code - Aluminum

(Application for copies should be addressed to the American Society of Welding Society, 550 N.W. LeJeune Rd., PO Box 351040, Miami, FL 33135.)

AMERICAN SOCIETY FOR MECHANICAL ENGINEERS (ASME)

Boiler and Pressure Vessel Code, Section IX, Welding and Brazing Qualifications

(Application for copies should be addressed to the American Society of Mechanical Engineers, 345 East 47th Street, New York, NY 10017.)

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI/AS 478 - Identification Marking Methods

(Application for copies should be addressed to the American National Standards Institute, 1430 Broadway, New York, NY 10018.)

(Non-Government standards and other publications are normally available from the organizations which prepare or which distribute the documents. These documents also may be available in or through libraries or other informational services.)

2.3 Order of precedence. In the event of a conflict between the text of this specification and the references cited herein, (except for associated detail specifications, specifications sheets or MS standards), the text of this specification shall take precedence. Nothing in this specification, however, shall supersede applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 Description. The M1 roller mounting kit (M1RMK) provides the interface between the track width, tank mounted mine clearing roller kit and the Ml series tank. The mounting kit consists of a one piece weldment with integrated mounting brackets and a hydraulic quick disconnect system with

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applicable components and assemblies of the present mounting kit and retrofit kit for the M60 tank. The quick disconnect mechanisms are mounted to the mounting kit and enable the driver inside the vehicle to disconnect the roller kit from the mounting kit. The driver can also manually disconnect the roller kit from an open driver's hatch. Requirements for the mounting kit shall be in accordance with TA13227E7180.

3.2 Drawings. The drawings forming a part of this specification are end product drawings. No deviations from the prescribed dimensions or tolerances are permissible without prior approval of the contracting officer. Where tolerances could cumulatively result in incorrect fits, the contractor shall provide tolerances within those prescribed on the drawings to ensure correct fit, assembly, and operation of the kit. Any data (e.g., shop drawings, layouts, flow sheets, processing procedures, etc.) prepared by the contractor or obtained from a vendor to support fabrication and manufacture of the production item shall be made available upon request, for inspection by the procuring activity or his designated representative.

3.3 First article. Unless otherwise specified (see 6.2), one or more samples shall be subjected to first article inspection (see 4.3 and 6.3). Any changes or deviations of mounting kits from the approved first article during production will be subject to the approval of the contracting officer. Approval of the first article will not relieve the contractor of his obligation to furnish mounting kits conforming to this specification.

3.4 Materials. Materials shall be as specified on the applicable drawings. Materials not specified shall be selected by the contractor and shall be subject to all provisions of the specification.

3.4.1 Material deterioration prevention and control. The mounting kit shall be fabricated from compatible materials, inherently corrosion resistant or treated to provide protection against the various forms of corrosion and deterioration that may be encountered in any of the applicable operating and storage environments to which the item may be exposed.

3.4.1.1 Dissimilar metals. Dissimilar metals shall not be used in intimate contact with each other unless protected against galvanic corrosion. Dissimilar metals and methods of protection are defined and detailed in MIL-STD-889.

3.4.1.2 Identification of materials and finishes. The contractor shall identify the specific material, material finish or treatment for use with each component and subcomponent, and shall make information available upon request to the contracting officer or designated representative.

3.4.1.3 Recovered materials. For the purpose of this requirement, recovered materials are those materials which have been collected from solid waste and reprocessed to become a source of raw materials, as distinguished from virgin raw materials. The components, pieces and parts incorporated in the item may be newly fabricated from recovered materials to the maximum

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extent practicable, provided the item produced meets all other requirements of this specification. Used, rebuilt or remanufactured components, pieces and parts shall not be incorporated in the item.

3.5 Environmental requirements. The mounting kit shall conform to the following environmental requirements.

3.5.1 Operating temperatures. The mounting kit shall perform in any ambient temperature from -25 to +140 °F.

3.5.2 Storage temperature. The mounting kit shall perform after exposure to an ambient temperature from -60 °F to +160 °F.

3.6 Safety. Nonfunctional sharp edges, projecting points, and excessive length of fastening devices shall be avoided.

3.7 Human factors engineering. The mounting kit shall conform to human factors engineering design criteria as described in MIL-STD-1472. Special design emphasis shall be given, but not limited to paragraphs 4 (General Requirements), 5.5 (Labeling), 5.6 (Anthropometry), 5.9 (Design for Maintainability), and 5.13 (Hazards and Safety) of MIL-STD-1472, as applicable.

3.8 Interchangeability. All parts having the same part number shall be functionally and dimensionally interchangeable. Interchangeable parts are defined as two or more like parts possessing such functional and physical characteristics as to be equivalent in performance and durability and capable of being exchanged one for the other without alteration of the parts themselves or of adjoining parts and without selection for fit or performance.

3.9 Treatment and painting.

3.9.1 External. Normally painted surfaces, externally located on the tank, shall be cleaned and treated in accordance with TT-C-490, type I or II. Prime per MIL-P-52192, MIL-P-53030 or MIL-P-53022. Primer shall have a dry film thickness of 1.0-1.5 mils. The painted surfaces shall be color green 383 conforming to MIL-G-46168 applied in two coats at least 1.8 mils thick (total) without sags, runs or thin areas. The kit shall then be overcoated in accordance with the Government furnished camouflage patterns with MIL-C-46168 top coat of the colors specified in the camouflage patterns.

3.9.2 Internal. The normally painted portions of the kit, internally located on the tank, shall be cleaned and treated in accordance with TT-C-490, type I or II. Prime per MIL-P-52192, MIL-P-53020 or MIL-P-53022. Primer shall have a dry film thickness of 1.0 - 1.5 mils. The final painted surfaces shall be color 17925 white applied in two coats at least 1.8 mils thick (total) without sags, runs or thin areas and shall conform to MIL-C-22750.

3.10 Construction.

3.10.1 Lifting provisions. The mounting kit shall have lifting eyes in accordance with drawing TA13227E7180 to allow its installation onto the tank by the tank crew with the help of a wrecker, tank recovery vehicle or any appropriate vehicle organic to the tank unit.

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3.10.2 Tiedown provisions. The mounting kit shall allow the Ml tank to be tied down for transportation purposes while it remains mounted on the tank. The mounting kit shall include lifting and towing eyes in accordance with drawing TA13227E7180.

3.11 Identification marking. The kit shall be identified and marked in accordance with ANSI/AS 478.

3.12 Weight. The weight of the mounting kit, in its fully completed configuration shall not exceed 3,000 pounds.

3.13 Performance.

3.13.1 Hydraulic release. The mounting kit shall be capable of hydraulically releasing the roller assemblies in less than 30 seconds on a zero degree incline. The hydraulic release mechanism shall be activated by a switch located in the driver's compartment.

3.13.2 Manual release. The mounting adapter shall be capable of manually releasing the roller assembly by means of a lever mechanism located on the outside of the tank near the driver's batch. The lever mechanism shall actuate release at the roller assembly with an applied force no greater than 52 pound-feet while the vehicle is stationary on a zero degree incline.

3.14 Mission reliability. The mounting kit shall have a mission reliability of .90 probability of completing a one hour mission.

3.14.1 Mission. The mounting kit mission consists of the following:

a. Install roller kit on tank within 15 minutes. (Mounting kit is already installed).
b. Operate the tank with roller over secondary roads for 45 minutes.
c. Hydraulically release roller assemblies from inside tank.

3.14.2 Failure definition. A failure is defined as any malfunction which causes or may cause inability to commence mission, cessation of mission, degradation of performance capability of the mounting kit by continued operation, or serious safety hazard. Simultaneous related malfunctions are considered as one failure. Failure is also considered if there is a delay or prevention of an operating cycle to the extent that specified performance requirements cannot be met.

3.15 Maintainability.

3.15.1 Mean time to repair (MTTR). The mounting kit shall have to repair at organizational level of 30 minutes or less.

3.15.2 Maintenance ratio. The mounting kit shall have a MR not to exceed 0.1 man-hours per hour of operation. Maintenance ratio is defined as the ratio of the total active scheduled and unscheduled maintenance man-hours required to the total operating time. Man-hours for repair of replaced

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components and scheduled checks and services are not included. The maintenance schedule shall be established prior to the start of any testing. Repair of blast damage is not included in the maintenance ratio.

3.16 Workmanship. Each mounting kit component shall be clean and free from sand, dirt, fins, pits, scale, corrosion, burrs, sharp edges, cracks, poor welds or welds not meeting drawing requirements, or any other defects that could impair the function of the mounting kit.

3.16.1 Metal fabrication. Metal used in fabrication shall be free of kinks and sharp bends. The straightening of material shall be done by methods that will not damage the material. Corners shall be square and true. All bends shall be made with controlled means to ensure uniformity of size and shape. Precaution shall be taken to avoid overheating. Heated aluminum shall be allowed to cool by natural convection. External surfaces shall be free from burrs, sharp edges, and corners, except when sharp edges or corners are required or where they are not detrimental to safety.

3.16.2 Welding. The surface of parts to be welded shall be free from rust, corrosion, scale, paint, and grease, and from mill scale that can be removed by chipping and wire brushing, as well as from other foreign matter. Welds shall withstand stress without permanent deformation or failure when the parts connected by the welds are subjected to proof and service loading. Parts to be joined by fillet welds shall be brought into as close contact as possible, and in no event shall be separated by more than 3/16 inch unless appropriate bridging techniques are used. The welding process used in fabrication of the mounting kit shall be as specified in applicable drawings. No deviations from these requirements are permissible without prior approval from the Government.

3.16.2.1 Welders. Before assigning any welder or welding operator to welding work covered by this specification, the contractor shall obtain certification that the welder or welding operator has passed qualification tests as prescribed by one of the following listed codes for the type of welding operations to be performed and that such qualification is effective as defined by the particular code:

AWS D1.1, Structural Welding Code - Steel
AWS D1.2, Structural Welding Code - Aluminum
ASME Boiler and Pressure Vessel Code, Section IX, Welding and Brazing Qualifications

Contractors who make only horizontal welds need not qualify for "all position welding." Certification shall be made available for review, upon request, by the contracting officer or designated representative. The Government reserves the right to require the recertification of any welder or welding operator.

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3.16.2.2 Welding procedure. Welding procedures shall be qualified in accordance with AWS D1.1 or AWS D1.2 as appropriate, and shall be made available to the contracting officer or designated representative.

3.16.2.3 Workmanship specimens. Workmanship specimens that are required by the applicable specifications shall be approved by quality assurance representatives of the Government (see 6.2).

3.17 Lubricants. The procedure of the selection of lubricants shall be in accordance with MIL-STD-838, section 5. Lubricants selected shall be in accordance with MIL-HDBK-113, chapter 2. When the specification of the lubricant selected includes a requirement for a qualified products list (OPL), the lubricant supplied shall be from a source that is listed on the applicable OPL (see 6.5).

3.18 Government-furnished property. The following property will be furnished by the Government (see 6.6):

| Item No. | Description | Identification | Quantity |
|---|---|---|---|
| 1 | Pattern drawings | Camouflage Patterns | As Required |

QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the contractor is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract or purchase order, the contractor may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

4.1.1 Responsibility for compliance. All items must meet all requirements of sections 3 and 5. The inspection set forth in this specification shall become a part of the contractor's overall inspection system or quality program. The absence of any inspection requirements in the specification shall not relieve the contractor of the responsibility of assuring that all products or supplies submitted to the Government for acceptance comply with all requirements of the contract. Sampling in quality conformance does not authorize submission of known defective material, either indicated or actual, nor does it commit the Government to acceptance of defective material.

4.1.2 Disassembly inspection. Failure of any examination by the first article mounting kit components shall be cause for disassembly, in the presence of the Government representative, of the first article mounting kit components to the extent necessary to determine the cause of the failure. Each disassembled part shall be examined in detail for compliance with this specification and referenced drawings in

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regard to materials, dimensions, tolerances, and workmanship. Parts not complying with such requirements shall be rejected and shall be cause for rejection of the first article mounting kit components. Reassembly with replacement parts shall be the responsibility of the supplier.

4.1.3 Parts and components. Upon fabrication, parts and components shall be inspected for compliance with the referenced specifications, standards, drawings, and tolerances as shown on the drawings.

4.1.4 Inspection equipment. Unless otherwise specified in the contract, the contractor is responsible for the provision and maintenance of all inspection equipment necessary to assure that supplies and services conform to contract requirements. Inspection equipment must be capable of repetitive measurements to an accuracy of 10 percent of the measurement tolerance. Calibration of inspection equipment shall be in accordance with MIL-STD-45662, Notice 3.

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

a. First article inspection (see 4.3).
b. Quality conformance inspection (see 4.4).
c. Inspection comparison (see 4.6).
d. Inspection of packaging (see 4.7).

4.3 First article inspection. One or more first article kits from the first five units being fabricated by production tooling shall be examined for compliance with the drawings and in accordance with 4.5.1 to determine conformance to the requirements of this specification. Each first article kit shall be tested in accordance with 4.5.2.1.

4.3.1 Inspection failure. Failure of a first article kit to meet any requirement specified herein during the examination specified in 4.3 shall be cause for rejection of the first article mounting kit and shall be cause for refusal by the Government to accept production kits until evidence has been provided by the contractor that corrective action has been taken to eliminate the deficiencies. Correction of such deficiencies shall be accomplished by the contractor at no cost to the Government on mounting kit components previously accepted and produced under the contract. Any deficiencies found as a result of the first article inspection will be considered prima-facie evidence that all kits accepted prior to the completion of first article inspection are similarly deficient, unless evidence to the contrary is furnished by the contractor and such evidence is acceptable to the Government.

4.4 Quality conformance inspection.

4.4.1 Sampling. Sampling for examination shall be in accordance with MIL-STD-105.

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4.4.2 Examination. Samples selected in accordance with 4.4.2 shall be examined in accordance with 4.5.1 and tested in accordance with 4.5.2.1. Acceptable quality level (AOL) shall be 1.0 percent defective for major defects and 2.5 percent for minor defects.

4.5 Inspection schedule.

4.5.1 Examination. Units for examination shall be examined in accordance with table I, examination schedule.

4.5.1.1 Examination conditions. Unless otherwise specified, conformance examination shall be performed by the contractor at the contractor's location, and witnessed by the Government.

4.5.1.2 Examination procedures (first article). One or more first article kits, selected at random, shall be examined for conformance to dimensions specified on the drawings.

TABLE I. Examination schedule.

| First Article | Quality Conformance | Characteristics | Requirement Paragraph |
|---|---|---|---|
| | | MAJOR | |
| X | X | 101. Dimensions not as specified. | 3.2 |
| X | X | 102. Parts and components not as specified. | 3.2 |
| X | X | 103. Material not as specified. | 3.4 |
| X | X | 104. Materials are not resistant to corrosion or deterioration for the applicable storage and operating environment. | 3.4.1 |
| X | X | 105. Dissimilar metals as defined in MIL-STD-889 are not effectively insulated from each other. | 3.4.1.1 |
| X | X | 106. Contractor does not have documentation available for identification of materials, material finishes, or treatments. | 3.4.1.2 |

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TABLE I. Examination schedule. (Cont'd)

| First Article | Quality Conformance | Characteristics | Requirement Paragraph |
|---|---|---|---|
| X | X | 107. Safety is not as specified. | 3.6 |
| X | X | 108. Interchangeability not as specified. | 3.8 |
| X | X | 109. External treatment and painting not as specified. | 3.9.1 |
| X | X | 110. External paint color not as specified. | 3.9.1 |
| X | X | 111. Camouflage pattern not as specified. | 3.9.1 |
| X | X | 112. Internal treatment and painting not as specified. | 3.9.2 |
| X | X | 113. Internal paint color not as specified. | 3.9.2 |
| X | X | 114. Weight not as specified. | 3.12 |
| X | X | 115. Workmanship not as specified. | 3.16 |
| X | X | 116. Metal fabrication not as specified. | 3.16.1 |
| X | X | 117. Welds not as specified. | 3.16.2 |
| X | X | 118. Welding certification not as specified. | 3.16.2.1 |
| X | X | 119. Welding procedure not as specified. | 3.16.2.2 |
| X | X | 120. Lubricants not as specified. | 3.17 |
| X | X | 121. Used, rebuild, or remanufactured components, pieces, or parts incorporated in mounting kits. | 3.4.1.3 |
| X | X | 122. Lifting and tiedown provisions not as specified on the drawing. | 3.10.1 & 3.10.2 |
| X | X | 123. Human factors engineering not as specified. | 3.7 |
| | | MINOR | |
| X | X | 201. Identification marking not as specified. | 3.11 |

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4.5.2 Tests. Units for inspection shall be tested in accordance with table II, test schedule.

4.5.2.1 Performance tests.

4.5.2.1.1 Hydraulic release. With the mounting kit mounted using the installed interface configuration for its intended application or equivalent, verify the roller assemblies are hydraulically released from the mounting kit as specified in 3.13.1.

4.5.2.1.2 Manual release. With the mounting kit mounted using the installed interface configuration for its intended application or equivalent, verify the lever mechanism allows the roller to be as specified in 3.13.2.

4.5.2.2 Environmental tests.

4.5.2.2.1 Low temperature storage and operation. The mounting kit shall be tested in accordance with MIL-STD-810D, method 502.2, procedure I and II to verify conformance to 3.5.1 and 3.5.2. Using MIL-STD-810D, method 502.2, procedure I maintain the assembly at the extreme low temperature specified in 3.5.2 for a period of 24 hours. At the conclusion of this time proceed with MIL-STD-810D, method 502.2, procedure II by stabilizing the assembly at the extreme low temperature specified in 3.5.1 and performing the test specified in 4.5.2.1.1. Return the assembly to 73 ±18 °F and perform the test specified in 4.5.2.1.1.

4.5.2.2.2 High temperature storage and operation. The mounting kit shall be tested in accordance with MIL-STD-810D, method 501.2, procedure I and II to verify conformance to 3.5.1 and 3.5.2. Using MIL-STD-810D, method 501.2, procedure I maintain the assembly at the extreme high temperature specified in 3.5.2 for a period of 48 hours. At the conclusion of this time proceed with MIL-STD-810D, method 501.2, procedure II by stabilizing the assembly at the extreme high temperature specified in 3.5.1 and performing the test specified in 4.5.2.1.1. Return the assembly to 73 ±18 °F and perform the test specified in 4.5.2.l.l.

4.5.2.3 Mission reliability test. The mounting kit shall be subjected to 11 one hour missions. The missions shall be conducted in accordance with 3.14.1. All incidents shall be scored against the failure definition (see 3.14.2) by the authorized Government representative. Nonconformance to 3.14 shall constitute failure of the test.

4.5.2.4 Maintainability. Throughout performance of the mission reliability test (see 4.5.2.3) the time to repair each incident shall be recorded. The mean time to repair and the maintenance ratio shall be calculated. Nonconformance to 3.15 shall constitute failure of the test.

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TABLE II. Test schedule.

| First Article | Quality Conformance | Test | Test paragraph |
|---|---|---|---|
| X | X | Performance | 4.5.2.1 |
| X | | Environmental | 4.5.2.2 |
| X | | Reliability | 4.5.2.3 |
| X | | Maintainability | 4.5.2.4 |

4.6 Inspection comparison. The Government may select kits at any time during the first article period and subject them to the examinations specified in 4.4.2 to determine conformance to the requirements of this specification. The inspection will be performed by the contractor at the contractor's location and witnessed by the Government on kits selected at random from those which have been accepted by the Government, but will not include the previously inspected first article kits.

4.6.1 Inspection failure. Failure of an inspection comparison kit to meet any requirement specified herein during, and as a result of, the examination shall be cause for rejection of the inspection comparison kit and shall be cause for refusal by the Government to continue acceptance of first article kits until evidence has been provided by the contractor, at no cost to the Government, that all deficiencies have been corrected. Any deficiencies found as a result of inspection comparison will be considered prima-facie evidence that all kits accepted prior to the completion of inspection comparison are similarly deficient, unless evidence to the contrary is furnished by the contractor and such evidence is acceptable to the Government.

4.7 Inspection of packaging.

4.7.1 First article pack inspection.

4.7.1.1 Examination. The first article pack shall be examined for the defects listed in 4.7.2.3. Presence of one or more defects shall because for rejection.

4.7.1.2 Tests. The first article pack shall be subjected to the pendulum impact test in accordance with FED-STD-101, test method 5012. At the conclusion of the test, any shifting of packed components, loosening or breaking of hold-down provisions, ties, blocking or bracing, or damage to system components shall constitute failure of the test and be cause for rejection.

4.7.2 Quality conformance inspection of pack.

4.7.2.1 Unit of product. For inspection purposes, a completed-pack ready for shipment shall be considered a unit of product.

4.7.2.2 Sampling. Sampling for examination shall be in accordance with MIL-STD-105.

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4.7.2.3 Examination. Samples selected in accordance with 4.7.2.2 shall be examined for the major defects as shown in table III. The AQL shall be 1.0 percent defective.

TABLE III. Examination schedule.

| Number | Characteristics | Requirement paragraph |
|---|---|---|
| | MAJOR | |
| 126. | Ferrous metal surfaces not preserved as specified. | 5.2.1 |
| 127. | Items in individual cartons not preserved as specified. | 5.2.1 |
| 128. | Hydraulic lines not sealed as specified. | 5.2.2 |
| 129. | Technical publications not preserved as specified. | 5.2.3 |
| 130. | Unit packaging of kit components not as specified. | 5.3.3 |
| 131. | Level A box not as specified. | 5.3.1 |
| 132. | Placement of unit packaged components in shipping container not as specified. | 5.3.1/5.3.2/ 5.3.3 |
| 133. | Blocking of kit and components not as specified. | 5.3.1/5.3.2/ 5.3.3 |
| 134. | Strapping not as specified for level A. | 5.3.1 |
| 135. | Level C box not as specified. | 5.3.2/5.3.1 |
| 136. | Strapping not as specified for level C. | 5.3.2/5.3.1 |
| 137. | Container identification markings not as specified. | 5.4 |

5. PACKAGING

5.1 First article pack. The contractor shall furnish a first article pack for examination within the time frame specified (see 6.2) to prove prior to starting production packaging that applied preservation, packing, and marking comply with the packaging requirements of this specification. Examinations shall be those specified in section 4 and shall be subject to surveillance and approval by the Government (see 6.4). The first article pack may be prepared utilizing either first article kit or a production kit. When the first article kit is utilized, any preservation and packing shall be removed by the contractor at no expense to the Government, when requested by the Government, to facilitate comparison between the first article kit and production kit.

5.2 Preservation.

5.2.1 Ferrous metal surfaces. Any unpainted or machined ferrous metal surfaces on any of the kit components shall be coated with preservative conforming to MIL-C-16173, grade 2, or equivalent. Those items placed in individual cartons shall be wrapped with barrier material conforming to MIL-B-121.

5.2.2 Hydraulic lines. Hydraulic lines, both rigid and flexible types, not connected to another component, shall have their ends sealed with plastic caps or plugs to prevent entrance of dirt or water.

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5.2.3 Technical publications. Technical publications shall be placed together in a suitably sized polyethylene bag, not less than 4 mils thick. The bag shall be closed by heat sealing.

5.3 Packing. Packing shall be level A or C as specified.

5.3.1 Level A. The complete kit shall be packed in boxes conforming to PPP-B-601, overseas type, style A except that gross weight may be increased to a maximum of 1,300 pounds.

5.3.2 Level C. The complete kit shall be packed as specified for level A, except that the boxes shall be domestic type, style optional.

5.3.3 Components. Individual components shall be separately packaged by either self-seal envelopes, sealed bags, corrigated containers or barrier wrap to keep parts separate within the exterior containers. Components shall be cushioned, wrapped, blocked, braced and anchored in accordance with MIL-P-14232.

5.4 Marking. Marking for shipment and storage shall be in accordance with MIL-STD-129.

6. NOTES

6.1 Intended use. The mounting kit permits the attachment of the mine clearing roller system on an M1 series tank.

6.2 Ordering data. The basic acquisition document should specify the following:

a. Title, number, and date of this specification.
b. Date of issue of DoDISS applicable to this contract and exceptions thereto (see 2.1.1).
c. Time frame required for submission of first article kit (see 3.3).
d. Data requirements (see 3.16.2.1 and 4.1).
e. Time frame required for submission of welding workmanship specimens (see 3.16.2.3).
f. Number of units required for first article inspection (see 4.3).
g. Government and contractor inspection responsibility (see 4.1).
b. Time frame required for submission of first article pack (see 5.1).
i. Degree of packing required (see 5.3).
j. Time frame when camouflage pattern data (see 3.18) is required.

6.3 First article. When a first article inspection is required, the items should be a preproduction model. The first article should consist of one or more units. The first article should consist of one or more units. The contracting officer should include specific instructions in acquisition documents regarding arrangements for examinations, tests, and approval of the first article test results and disposition of the first article test results and disposition of the first article.

6.4 First article pack. Any changes or deviations of production packs from the approved first article pack will be subject to the approval of the contracting officer. Approval of the first article pack will not

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relieve the contractor of his obligation to package the mounting kits in accordance with this specificaton.

6.5 Lubricants. MIL-STD-838 Lubrication of Military Equipment, prescribes the policy for using specification-type products wherever possible and provides specific requirements for potential use of non-standard proprietary products. MIL-STD-838 is implemented by MIL-HDBK-113 Guide for Selection of Lubricants, Fluids, Preservatives and Specialty Products for Use in Ground Equipment Systems. The contracting officer should note that unless otherwise authorized by the US Army Belvoir Research, Development, and Engineering Center (ATTN: STRBE-VF), Fort Belvoir, VA 22060-5606, lubricants, fluids, and greases for ground equipment systems must be restricted to those listed under MIL-HDBK-113, chapter 2.

6.6 Government-furnished property. The contracting officer should arrange to furnish the property listed in 3.18.

6.7 Subject term (key word) listing.

Mounting kit, Ml
Mounting kit, Ml, tank mounted
Mounting kit, Ml, roller

Military custodians:
Army – ME

Review activity:
DLA – CS

Preparing activity:
Army – ME

Project 2590–A201