

MIL-H-3780C
5 March 1976

SUPERSEDING
MIL-H-3780B
8 September 1967

MILITARY SPECIFICATION

HANGER AND TRACK SETS, HORIZONTAL SLIDING DOOR

This specification is approved for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers steel tracks, hangers, brackets, and hardware for horizontal sliding doors.

1.2 Classification. Hangers and track for sliding doors shall be of the following sets, as specified (see 6.2):

Sets:

- A - Double parallel track for: Single door, 12 by 12 feet, weight 800 pounds.
- B - Single track for: Double door, 10 by 12 feet, weight 300 pounds.
- C - Single track for: Double door, 12 by 14 feet, weight 400 pounds.
- D - Single track for: Double door, 14 by 16 feet, weight 600 pounds.
- E - Single track for: Double door, 20 by 14 feet, weight 800 pounds.
- F - Single track for: Double door, 6 by 10 feet, weight 300 pounds.
- G - Single track for: Single door, width, height, and weight as specified (see 6.2).

2. APPLICABLE DOCUMENTS

2.1 Issues of documents. The following documents of the issue in effect on date of invitation for bids or request for proposal form a part of this specification to the extent specified herein.

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SPECIFICATIONS

FEDERAL

- QQ-S-781 - Strapping, Steel, and Seals.
- PPP-B-601 - Boxes, Wood, Cleated-Plywood.
- PPP-B-621 - Boxes, Wood, Nailed and Lock-Corner.
- PPP-B-636 - Boxes, Shipping, Fiberboard.

MILITARY

- MIL-T-704 - Treatment and Painting of Material.

STANDARDS

FEDERAL

- FED. STD. No. 356 - Commercial Packaging of Supplies and Equipment.

MILITARY

- MIL-STD-105 - Sampling Procedures and Tables for Inspection by Attributes.
- MIL-STD-129 - Marking for Shipment and Storage.
- MIL-STD-130 - Identification Marking of US Military Property.

(Copies of specifications and standards required by contractors in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

2.2 Other publications. The following documents form a part of this specification to the extent specified herein. Unless otherwise indicated, the issue in effect on date of invitation for bids or request for proposal shall apply.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

- A 366 - Steel, Carbon, Cold-Rolled Sheet, Commercial Quality.
- A 569 - Steel, Carbon (0.15 Maximum, Percent), Hot-Rolled Sheet and Strip, Commercial Quality.

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(Application for copies should be addressed to the American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.)

NATIONAL BUREAU OF STANDARDS (NBS)

Handbook H28 - Screw-Thread Standards for Federal Services.

(Application for copies should be addressed to the Superintendent of Documents, Government Printing Office, Washington, DC 20402.)

SOCIETY OF AUTOMOTIVE ENGINEERS (SAE)

SAE Handbook.

(Application for copies should be addressed to the Society of Automotive Engineers, 400 Commonwealth Drive, Warrendale, PA 15096.)

(Technical society and technical association specifications and standards are available for reference from libraries. They are also distributed among technical groups and using Federal agencies.)

3. REQUIREMENTS

3.1 Description. The steel hanger and track sets shall include all track, track brackets, hangers, end stops, screws, nuts, and bolts required for complete installation. When specified (see 6.2), stay rollers, floor guides, door pulls, chafe strips and wedges, and door handles shall be furnished.

3.2 Material. Material shall be as specified herein. Materials not specified shall be selected by the contractor and shall be subject to all provisions of this specification.

3.2.1 Steel. Steel shall conform to either ASTM A 366 or A 569.

3.3 Track. Track shall be of the one-piece, round or rectangular, enclosed type with flat or round hanger troughs. Troughs shall not bind the wheeled trucks.

3.4 Hangers. Hangers shall be rigid-frame or knuckle-joint type with trucks and aprons. Trucks shall be 2- or 4-wheel type with lubricated ball or roller bearings and a threaded pendant. The hanger truck wheels

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shall not bind on the truck body. Hangers shall have either front and back aprons or a single apron. Aprons shall have a hole on the top to receive the truck pendant. Aprons shall be adjustable to the following thicknesses, as specified (see 6.2): 1-3/4 to 2-1/2 inches, 1-3/4 to 3 inches, and 2-1/2 to 3 inches. Aprons shall be attached to doors by through bolting.

3.5 Brackets. Brackets shall be of the side-wall type with the hanging ear above the track. Center brackets shall be riveted or welded together at the hanging ear with a hole for attachment through the hanging ear. Center stop brackets shall be similar to center brackets with the addition of a door stop member projecting below the bracket at the center. The stop shall be secured to the bracket. Double parallel center brackets shall be composed of a track support for each track, a wall angle, and bracing. End brackets shall be similar to center brackets with the addition of a stop. Brackets occurring at track joints shall provide for alinement and anchoring of the joined ends of the track.

3.6 Threads. Screw threads for all thread-securing or -attaching devices and threaded parts shall be in accordance with NBS Handbook H28.

3.7 Identification marking. The hanger and track sets shall be identified in accordance with MIL-STD-130.

3.8 Treatment and painting. Unless otherwise specified (see 6.2), all parts of the hanger and track sets normally painted shall be cleaned, treated, and painted in accordance with MIL-T-704, Type A, color as specified (see 6.2).

3.9 Workmanship. The quality of workmanship shall be such so as to produce hanger and track sets that are in accordance with the requirements of this specification and are constructed so as to insure proper functioning of all parts of the units.

3.9.1 Metal fabrication. Metal used in fabrication shall be free from kinks and sharp bends. The straightening of material shall be done by methods that will not cause injury to the material. Corners shall be square and true. Flame-cutting, using tips suitable for the thickness of the steel, may be employed instead of shearing and sawing. All bends shall be made with controlled means to insure uniformity of size and shape. Precaution shall be taken to avoid overheating. Heated steel

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shall be allowed to cool slowly. 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.

3.9.2 Welding. The surfaces of parts to be welded shall be free from rust, scale, paint, grease, mill scale that can be removed by chipping and wire brushing, and other foreign matter. Parent materials, weld filler metals, and fabrication techniques shall be as required to enable the hanger and track sets to conform to the examination requirements specified in Section 4. 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. Unless otherwise specified (see 6.2), the welding process used in fabrication of the hanger and tracks sets shall be at the option of the contractor.

3.9.3 Bolted connections. Boltholes shall be accurately formed and shall have the burrs removed. Washers or lockwashers shall be provided where necessary. Matching thread areas securing bolts conforming to SAE J429 or capscrews shall be of sufficient strength to withstand the tensile strength of the bolt. All fasteners shall be correctly torqued and shall have full thread engagement. Bolts shall protrude not more than 2 full threads.

3.9.4 Riveted connections. Rivets shall fill the holes completely. The upset rivet heads shall be full, neatly made, concentric with the rivet holes, and in full contact with the surface of the member, and shall be in accordance with SAE J492.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract, the contractor is responsible for the performance of all inspection requirements specified herein. Except as otherwise specified in the contract, the contractor may utilize 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 Component and material inspection. The contractor is responsible for insuring that components and materials used are manufactured, examined, and tested in accordance with referenced specifications and standards, as applicable.

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

- (a) Quality conformance inspection (see 4.3).
- (b) Inspection of packaging (see 4.5).

4.3 Quality conformance inspection.

4.3.1 Sampling. Sampling for examination shall be in accordance with MIL-STD-105, Inspection Level II.

4.3.2 Examination. Samples selected in accordance with 4.3.1 shall be examined as specified in 4.4.1. AQL shall be 2.5 percent defective.

4.4 Inspection procedure.

4.4.1 Examination. The hanger and track sets shall be examined as specified herein for the following major defects:

- 101. Components missing or not as specified.
- 102. Material not as specified.
- 103. Track not as specified.
- 104. Hangers not as specified.
- 105. Brackets not as specified.
- 106. Identification marking illegible or missing.
- 107. Treatment and painting not as specified.
- 108. Workmanship not as specified.

4.5 Inspection of packaging.

4.5.1 Quality conformance inspection of pack.

4.5.1.1 Unit of product. For the purpose of inspection, a completely processed pack prepared for shipment shall be considered a unit of product.

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

4.5.1.3 Examination. Samples selected in accordance with 4.5.1.2 shall be examined for the following defects. AQL shall be 2.5 percent defective.

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109. Materials, methods, and containers not as specified. Each incorrect material, method, or container shall be considered one defect.
110. Fiberboard boxes not closed as specified for Level A or B.
111. Strapping not as specified for Level A or B.
112. Commercial packaging not in accordance with referenced document.
113. Marking missing, illegible, or incorrect.

5. PACKAGING

5.1 Preservation. Preservation shall be Level A or Commercial, as specified (see 6.2).

5.1.1 Level A. Components of each set, except the tracks which shall be bundled in sets, shall be placed in a box conforming to PPP-B-636, Class Weather Resistant, type, variety, and grade as applicable. The box shall be closed in accordance with Method V of the appendix to the box specification. The contents shall be cushioned as necessary to prevent damage.

5.1.2 Commercial. The components of each set shall be preserved to afford protection against damage during distribution to the user in accordance with FED. STD. No. 356.

5.2 Packing. Packing shall be Level A, Level B, or Commercial, as specified (see 6.2).

5.2.1 Level A. The preserved components and the bundled tracks, comprising complete sets of like description, shall be packed in boxes conforming to PPP-B-601, Overseas Type, style optional, Grade B, or PPP-B-621, Class 2, style optional. Strapping shall conform to QQ-S-781, Class 1, Type I or IV, size as applicable. Unless otherwise specified (see 6.2), strapping shall be Finish B. When specified (see 6.2), strapping shall be Finish A.

5.2.2 Level B. The preserved components and the bundled tracks, comprising complete sets of like description, shall be packed as specified in 5.2.1, except that the boxes shall be Domestic Type and strapping shall be either Finish A or B.

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5.2.3 Commercial. Preserved components, comprising complete sets of like description, shall be packed in containers which will assure safe delivery to destination at lowest ratings in compliance with FED. STD. No. 356.

5.3 Marking.

5.3.1 Levels A and B. Levels A and B marking shall be in accordance with MIL-STD-129.

5.3.2 Commercial. Commercial marking shall be in accordance with FED. STD. No. 356.

6. NOTES

6.1 Intended use. Hanger and track sets are intended for use in installing and operating horizontal sliding doors operated by the steel-track and hanger-wheel method.

6.2 Ordering data. Procurement documents should specify the following:

- (a) Title, number, and date of this specification.
- (b) Set required (see 1.2).
- (c) Width, height, and weight required for Set G (see 1.2).
- (d) Door hardware required (see 3.1).
- (e) Size of adjustable apron required (see 3.4).
- (f) When treatment and painting shall be other than as specified, and color of paint required (see 3.8).
- (g) When the welding process shall not be at the option of the supplier (see 3.9.2).
- (h) Degree of preservation and packing required (see 5.1 and 5.2).
- (i) When strapping shall be other than as specified (see 5.2.1).

Custodians:
Army - ME
Navy - YD
Air Force - 82

Preparing activity:
Army - ME

Review activity:
DSA - IS

User activity:
Army - CE

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