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Superseding AS7092A

Fittings, Cargo Tiedown, Aircraft

FSC 1670

RATIONALE

This document has been determined to contain basic and stable technology which is not dynamic in nature.

STABILIZED NOTICE

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NOTICE

This document has been taken directly from U.S. Military Specification MIL-F-7092, Amendment 2, Notice 2, Notice 3 and contains only minor editorial and format changes required to bring it into conformance with the publishing requirements of SAE technical standards. The initial release of this document is intended to replace MIL-F-7092, Amendment 2, Notice 2, Notice 3. Any part numbers established by the original specification remain unchanged.

The original Military Specification was adopted as an SAE standard under the provisions of the SAE Technical Standards Board (TSB) Rules and Regulations (TSB 001) pertaining to accelerated adoption of government specifications and standards. TSB rules provide for (a) the publication of portions of unrevised government specifications and standards without consensus voting at the SAE Committee level, and (b) the use of the existing government specification or standard format.

Under Department of Defense policies and procedures, any qualification requirements and associated qualified products lists are mandatory for DOD contracts. Any requirement relating to qualified products lists (QPL's) has not been adopted by SAE and is not part of this SAE technical document.

1. SCOPE:

1.1 This specification covers the requirements for one type of tiedown fitting for installation in the floors of aircraft.

2. APPLICABLE SPECIFICATIONS, OTHER PUBLICATIONS, AND DRAWINGS:

2.1 The following publications, of the issue in effect on date of invitation for bids, shall form a part of this specification to the extent specified herein:

2.1.1 Specifications:

Military

JAN-P-120	Packaging and Packing for Overseas Shipment - Cartons, Folding, Paperboard
JAN-P-105	Packaging and Packing for Overseas Shipment - Boxes, Wood, Cleated, Plywood
JAN-P-106	Packaging and Packing for Overseas Shipment - Boxes, Wood, Nailed
JAN-P-125	Packaging and Packing for Overseas Shipment - Barrier-Materials, Waterproof, Flexible
JAN-P-139	Packaging and Packing for Overseas Shipment - Plywood, Container Grade
MIL-S-6758	Steel; Chrome-Molybdenum (4130) Bars, Rods, and Forging Stock (For Aircraft Applications)

Air Force-Navy Aeronautical

AN-QQ-S-689	Steel; Nickel (2330), Bar and Rod
AN-P-13	Preservation and Packaging; Parts and Equipment (General Specification for)
AN-S-12	Steel; Chrome-Nickel-Molybdenum (8630) Sheet and Strip
AN-QQ-S-685	Steel; Chrome-Molybdenum (4130), Plate, Sheet, and Strip

U. S. Army

94-40645	Marking; Exterior, Domestic and Export Shipment, by Contractors

2.1.2 Other Publications:

Bureau of Supplies and Accounts

Navy Shipment Marking Handbook

2.1.3 Drawings:

Air Force-Navy Aeronautical Standard Drawing

AN7516 Fitting - Cargo Airplane Tiedown

(Copies of this specification and copies of other publications referenced herein or required for Government procurement, and the Index of Military Aeronautical (AN or MIL) Standards, may be obtained upon application to the Commanding General, Air Materiel Command, Wright-Patterson Air Force Base, Dayton, Ohio; or the Commanding Officer, U. S. Naval Air Station, Johnsville, Pennsylvania.)

3. REQUIREMENTS:

3.1 Materials:

The materials shall conform to applicable specifications as specified herein. Materials which are not covered by applicable specifications or which are not specifically described herein shall be of the best quality, of the lightest practicable weight and entirely suitable for the purpose intended.

3.1.1 Material for the stud and ring shall be in accordance with Specification MIL-S-6758 or AN-QQ-S-689. Material for the floor plate shall be in accordance with Specification AN-QQ-S-685 or AN-S-12.

3.1.1.1 Heat Treatment: Steel shall be heat-treated to 125,000 psi tensile strength.

3.2 Design and Construction:

3.2.1 The fitting shall consist of a stud and a ring attached to a plate as shown on Drawing AN7516.

3.2.2 Fittings shall be so designed and constructed that they will not interfere with loading aircraft in normal operations; they shall be capable of taking rolling wheel loads and normal handling loads.

3.2.3 The fittings shall be easily maintained free from clogging by dirt, mud, debris, ice, et cetera, without the use of special equipment.

3.2.4 The fittings shall be of simple design, shall contain a minimum number of moving parts, and shall be as light in weight as possible to meet the requirements specified herein.

3.2.5 The fittings shall contain no openings by which dust, dirt, debris, et cetera, can pass through to the space beneath the floor.

3.2.6 The fittings shall be so designed and constructed that the top surface of the stud and of the attaching means of the ring will be flush with the fitting plate.

3.2.7 The fitting shall be designed so that the stud only shall be permanently attached within the clearance circle shown on Drawing AN7516. The diameter of the clearance circle shall be as shown and shall be concentric with the stud, to permit the attaching and detaching of mating pieces of equipment such as seats, stanchions, et cetera.

3.3 Strength:

3.3.1 Stud: The stud and its attachment to the plate and floor shall be capable of withstanding an ultimate load of 1,350 pounds applied upward at an angle of 22 degrees from the vertical centerline of the stud and intersecting this vertical centerline at the top of the stud. The stud shall also be capable of taking a 2,500-pound ultimate down-load perpendicular to the floor surface.

3.3.2 Ring: The ring and its attaching means shall sustain a 1,250-pound ultimate load perpendicular to the floor surface and a 500-pound ultimate load parallel to the floor surface in any direction, simultaneously applied.

3.4 Workmanship:

All details of workmanship shall be in accordance with high-grade aircraft construction practice.

4. SAMPLING, INSPECTION, AND TEST PROCEDURES:

4.1 General:

All the tests required for the testing of the fittings are classified as Inspection tests, for which necessary sampling techniques and methods of testing are specified in this section. The contractor shall furnish all samples and shall be responsible for accomplishing the required tests. When inspection is conducted at the contractor's plant, all inspection and testing shall be under the supervision of the Government Inspector. Contractors not having laboratory testing facilities satisfactory to the Government shall engage the services of a commercial testing laboratory acceptable to the Inspector. The contractor shall furnish test reports, in duplicate, showing quantitative results for all tests required by this specification, and signed by an authorized representative of the contractor or laboratory, as applicable. Acceptance or approval of material during course of manufacture shall in no case be construed as a guaranty of the acceptance of the finished product.

4.2 Examination of Product:

Each fitting shall be carefully examined to determine conformance with this specification with respect to design and construction.

4.3 Strength Test:

4.3.1 Sampling: Sufficient fittings to insure consistency of manufacture shall be selected from each lot by the Inspector for subjection to the tests for strength.