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Superseding AS25959

Tie Downs, Cargo, Aircraft

RATIONALE

AS25959 was returned to military custody as MIL-DTL-25959D at their request. Accordingly, it is hereby cancelled as regards SAE.

CANCELLATION NOTICE

This document has been declared "CANCELLED" as of June 2006. By this action, this document will remain listed in the Numerical Section of the Aerospace Standards Index.

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NOTICE

This document has been taken directly from U.S. Military Specification MIL-DTL-25959D, Notice 1, Amendment 1 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-DTL-25959D, Notice 1, Amendment 1. 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 Scope:

This specification covers four types of aircraft cargo tie downs.

1.2 Classification:

Tie downs covered by this specification shall be one of the following types:

MB-1	10,000 pound capacity
CGU-4/E	Same as MB-1 except the adjuster mechanism hook is turned 180 degrees
MB-2	25,000 pound capacity
CGU-3/E	Same as MB-2 except the adjuster mechanism hook is turned 180 degrees

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 requirements documents cited in sections 3 and 4 of this specification, whether or not they are listed.

2.2 Government documents:

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

SPECIFICATIONS

DEPARTMENT OF DEFENSE

MIL-DTL-6458 - Chain Assemblies, Single Leg, Aircraft Cargo Tie Down

STANDARDS

DEPARTMENT OF DEFENSE

MIL-STD-130 - Identification Marking of US Military Property

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

2.3 Non-Government publications:

The following document(s) form a part of this document to the extent specified herein. Unless otherwise specified, the applicable issues of the documents which have been adopted by the DoD are those listed in the specific issue of the DoDISS cited in the solicitation. Unless otherwise specified, the documents not listed in the DoDISS are the issues of the documents cited in the solicitation (see 6.2).

AMERICAN SOCIETY FOR QUALITY CONTROL (ASQC)

ANSI/ASQC Z1.4 - Sampling Procedures and Tables for Inspection by Attributes (DoD adopted)

(Application for copies should be addressed to American Society for Quality Control, 611 East Wisconsin Avenue, P.O. Box 3005, Milwaukee, WI 53201-3005, or to the American National Standards Institute, 11 West 42nd Street, New York, NY 10036.)

RADIO TECHNICAL COMMISSION FOR AERONAUTICS (RTCA)

RTCA/DO-160 - Environmental Conditions and Test Procedures for Airborne Equipment

(Applications for copies should be addressed to RTCA, Inc, 1140 Connecticut Ave. NW, Washington, DC 20036.)

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.

3. REQUIREMENTS:

3.1 Qualification:

The tie downs furnished under this specification shall be products that are authorized by the qualifying activity for listing on the applicable Qualified Products List before contract award (see 4.2 and 6.3).

3.2 Materials:

All materials shall be suitably treated to resist corrosion due to electrolytic decomposition, fungus, salt spray, and any other atmospheric condition that may be encountered during operational use or storage.

3.3 Design and construction:

The tie down shall be as simple, lightweight, and compact as possible and shall be constructed so that no parts will work loose in service. It should be of rugged construction so as to withstand the rough handling encountered in installation and service. Frequent dropping of the tie down 16 feet to a concrete runway should not deform the tie down in such a manner that it would cause it to be rendered inoperable. There shall be no sharp corners or other stress risers which would tend to cause cracks with repeated use under normal operating conditions. All mechanisms shall be so constructed that they will not cause injury to operating personnel. The MB-1 and MB-2 design shall be such that the adjuster mechanism hooks face downward when the tie downs are positioned with the release levers on top.

- 3.3.1 Tensioning ability: After preliminary adjustment of the tie down to remove excess slack, the tensioning assembly shall be operable and shall be capable of applying tension to the chain of not less than 300 pounds with a manually applied force of not more than 60 pounds. This mechanism shall be designed in such a manner that manually applied forces in excess of this magnitude shall not result in failure. Failure is defined as catastrophic as well as permanent deformation of components.
- 3.3.2 Tension releasing: The tie down shall be so designed that the chain assembly can be manually released and automatically separated from the tensioning assembly in a single operation with an applied force not exceeding 50 pounds while restraining loads that apply 5000 pounds tension on the chain. It shall also be possible, by the application of additional force, to release the chain assembly from the tensioning assembly while restraining loads that apply 10,000 pounds tension (MB-1 and CGU-4/E) or 25,000 pounds (MB-2 and CGU-3/E). Any release mechanism which results in any component of the tensioning assembly becoming detached or damaged or does not permit the tie down to be immediately reapplied shall not be acceptable. The mechanism shall be designed in such a manner that inadvertent release of the mechanism by personnel moving about the aircraft will be improbable. Any design which requires operating personnel to exercise extreme caution in releasing the tie down under the proof loads cited in this specification shall not be acceptable.

3.4 Components:

Each tie down shall consist of a chain assembly and tensioning assembly.

- 3.4.1 Chain assembly: The chain assembly shall conform to MIL-DTL-6458 as follows:
- Type I chain assembly for MB-1 and CGU-4/E tie down.
 - Type II chain assembly for MB-2 and CGU-3/E tie down.
- 3.4.2 Tensioning assembly: The tensioning assembly adjustment shall be capable of quickly providing any adjustment within the range of 0 to at least 3.5 inches. Preliminary adjustment of the tie down length shall be accomplished as specified in 3.4.2.2. Final adjustment of the tie down length shall be provided by a take-up in the tensioning assembly itself.