

AEROSPACE STANDARD



AS8804

REV.
A

Issued 1997-09
Cancelled 2001-07

Deicing System, Pneumatic Boot, Aircraft, General Specification For

CANCELLATION NOTICE

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NOTICE

This document has been taken directly from U.S. Military Specification MIL-D-8804B and contains only minor editorial and format changes required to bring it into conformance with the publishing requirements of SAE technical standards.

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, (b) the use of the existing government specification or standard format, and (c) the exclusion of any qualified product list (QPL) sections.

1. SCOPE:

1.1 Scope:

This specification covers the general requirements for pneumatic deicing systems for wings, empennages, radomes, radio masts, air induction system entrance cones, and ducts of aircraft. Deicing boots shall be of one type, operating at 15 to 22 psig pressure.

2. APPLICABLE DOCUMENTS:

2.1 Government documents:

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- 2.1.1 Specifications, standards, and handbooks: The following specifications and standards form a part of this document to the extent specified herein. Unless otherwise specified, the issue 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

PPP-B-585	Boxes, Wood, Wirebound
PPP-B-591	Boxes, Shipping, Fiberboard, Wood Cleated
PPP-B-601	Boxes, wood, Cleated Plywood
PPP-B-621	Boxes, Wood, Nailed and Lock-Corner
PPP-B-636	Boxes, Shipping, Fiberboard

MILITARY

MIL-C-104	Crates, Wood, Lumber and Plywood Sheathed, Nailed and Bolted
MIL-P-116	Preservation, Methods of
MIL-W-5088	Wiring, Aerospace Vehicle
MIL-P-5518	Pneumatic Systems, Aircraft, Design and Installation General Specification For
MIL-T-5842	Transparent Areas, Anti-Icing, Defrosting, and Defogging Systems, General Specification For
MIL-E-6051	Electromagnetic Compatibility Requirements, Systems
MIL-P-8564	Pneumatic System Components, Aeronautical, General Specification For
MIL-S-8879	Screw Threads, Controlled Radius Root With Increased Minor Diameter, General Specification For
MIL-L-10547	Liners, Case, and Sheet, Overwraps, Water Vaporproof or Waterproof, Flexible
MIL-B-18927	Environmental Control Systems, Aircraft, General Requirements For
MIL-B-81365	Bleed Air Systems, General Specification For

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2.1.1 (Continued):

STANDARDS

MILITARY

MIL-STD-100	Engineering Drawing Practices
MIL-STD-129	Marking for Shipment and Storage
MIL-STD-130	Identification Marking of U.S. Military Property
MIL-STD-280	Definitions Of Item Levels, Item Exchangeability, Models and Related Terms
MIL-STD-461	Electromagnetic Emission and Susceptibility Requirements For the Control of Electromagnetic Interference
MIL-STD-470	Maintainability Program Requirements (For Systems and Equipment)
MIL-STD-471	Maintainability Demonstration
MIL-STD-704	Aircraft Electric Power Characteristics
MIL-STD-785	Reliability Program for Systems and Equipment Development and Production
MIL-STD-810	Environmental Test Methods and Engineering Guidelines
MIL-STD-1186	Packaging and Packing for Overseas Shipment General Specification
MIL-STD-2069	Requirements For Aircraft Nonnuclear Survivability Program
MIL-STD-2073-1	DOD Material Procedures For Development And Application Of Packaging Requirements
MIL-STD-2089	Aircraft Nonnuclear Survivability Terms

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

PUBLICATIONS

Navy Department Specification

SD-8706	Data And Tests, Engineering Contract Requirements For Aircraft Weapon Systems
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(Copies of documents are available from the Navy Aviation Supply Office, Code 03443, 5801 Tabor Avenue, Philadelphia, PA 19120-5099.)

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- 2.1.2 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.

UNITED STATES GOVERNMENT PRINTING OFFICE

GPO Style Manual

(Application for copies should be addressed to the Superintendent of Documents, Government Printing Office, Washington, DC 20402-0001.)

PUBLICATIONS

DEPARTMENT OF TRANSPORTATION/FEDERAL AVIATION ADMINISTRATION HANDBOOKS

DOT/FAA/CT-88/8-1 Aircraft Icing Handbook Volume 1
DOT/FAA/CT-88/8-2 Aircraft Icing Handbook Volume 2

(Unless otherwise indicated, copies of the above handbooks are available from U.S. Department of Commerce, 5285 Port Royal Road, Springfield, VA 22161.)

2.2 Non-Government publication:

The following document forms 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 SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D3951 Packaging, Commercial

(Applications for copies should be addressed to the American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103-1187.)

(Non-Government standards and other publications are normally available from the organizations that prepare or 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 conflict between the text of this document and the references cited herein (except for related associated detail specifications, specification sheets, or MS standards), 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 First article:

When specified (see 6.2) a sample shall be subjected to first article inspection (see 6.4) in accordance with 4.4.2.

3.2 Component design:

All pneumatic components used in the system shall conform to the design and operating requirements as specified in MIL-P-8564.

3.3 Material:

Materials for deicing components shall be in accordance with the aircraft detailed specification. For any material used which is not covered in the aircraft detailed specification, the manufacturer may use his material with the approval of the contracting activity.

3.4 Icing conditions:

The atmospheric conditions for icing occurrence shall be those as specified in MIL-T-5842.

3.5 Threads:

Threads used on the deicing components shall be in accordance with MIL-S-8879. Pipe threads shall not be used.

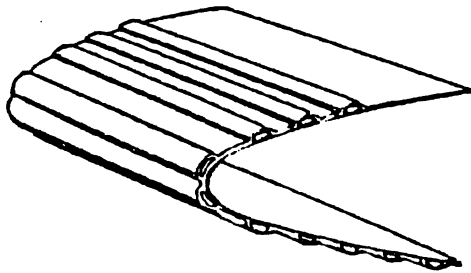
3.6 Environment:

All components used in the system shall operate without system failure or performance degradation in all the environments for which the aircraft is designed. Any equipment installed in locations where explosive vapors may exist shall be safe for operation in this location.

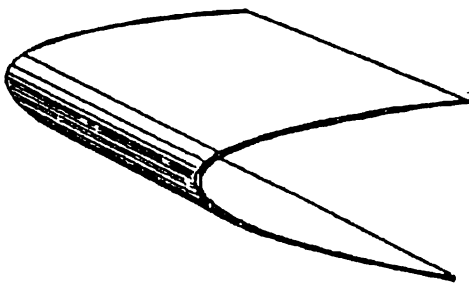
3.7 Design and construction:

- 3.7.1 Deicing boots: The deicing boots shall be designed with pneumatically inflated tubes which, when fully expanded, shall not distort the outer surface of the wing such that excessive transient aerodynamic degradation is incurred or cause the formation of an unstable turbulent boundary layer (see Figure 1). Inflatable boots shall be designed to operate at extremes of design pressure ± 10 percent and shall be able to extend chordwise or spanwise along the leading edges and fillets of the wings, fins, stabilizers, radio masts, radomes, and scoops. Typical installation of deicing boots are shown in Figure 2, and Figure 3 for fixed wing and rotary wing aircraft.

SPANWISE DIRECTION

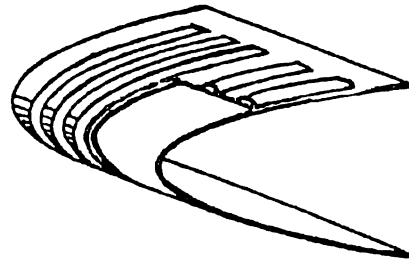


TUBES INFLATED

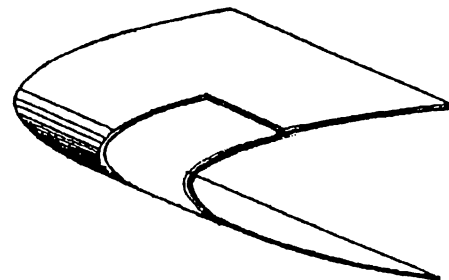


TUBES DEFLATED

CHORDWISE DIRECTION



TUBES INFLATED



TUBES DEFLATED

FIGURE 1. Inflatable deicing tubes.