



AEROSPACE STANDARD

AS683™**REV. E**

Issued 1964-04
Reaffirmed 2006-05
Revised 2019-10

Superseding AS683D

Installation Procedures and Torques for Fluid Connections

RATIONALE

Graphics redrawn to correct typo of view (d) in Figure 1. Graphics in Figures 2, 3, 4, and 5 enlarged to add clarity. Document ownership revised on last sheet of this document.

FOREWORD

Changes in this revision are format/editorial only.

1. SCOPE

These procedures cover the following:

Section 3 - Cone end connections for flared tube and brazed ferrule, with and without gasket.

Section 4 - Boss end connections, positioned type, with back-up ring.

Section 5 - Boss end connections, positioned type, without back-up ring.

Section 6 - Boss end connections, non-positioned type.

Section 7 - Bulkhead connections.

1.1 Purpose

To establish standard installation procedures for fluid connection parts listed in this standard.

1.2 All parts with lockwire holes shall be lockwired per AS567.

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2. APPLICABLE DOCUMENTS

The following publications form a part of this document to the extent specified herein. The latest issue of SAE publications shall apply. The applicable issue of other publications shall be the issue in effect on the date of the purchase order. In the event of conflict between the text of this document and 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.

2.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or +1 724-776-4970 (outside USA), www.sae.org.

AMS7276	Rubber: Fluorocarbon (FKM) High-Temperature-Fluid Resistant Low Compression Set for Seals in Fuel Systems and Specific Engine Oil Systems
AMS-G-4343	Grease, Pneumatic System
ARP573	Silver, Copper and Nickel Alloy Brazed Joints for Aerospace Propulsion Systems
AS567	Safety Cable, Safety Wire, Key Washers, and Cotter Pins for Propulsion Systems, General Practices for Use of
AS930	Fitting End, Straight Thread, Port Connection, Design Standard
AS1038	Fitting, Elbow, 90°, Standard and Reducer, Bulkhead, Flared
AS1039	Fitting, Tee, Standard and Reducer, Bulkhead on Side, Flared
AS1078	Fitting End, Flared Tube Connection, Extended Thread, Design Standard
AS1171	Boss-Fluid Connection, Internal Straight Thread, Shallow Tap
AS3074	Gasket - 37° Flared Tube Fitting, Nickel, AMS5553
AS3075	Gasket - 37° Flared Tube Fitting, Nickel, AMS5553
AS3208	Packing, Preformed - AMS7276 - Seal
AS3282	Gasket - 37° Flared Tube Fitting, Nickel, AMS5553
AS3551	Packing, Preformed - O-Ring Seal, AMS7272
AS3578	Packing, Preformed - O-Ring Seal, AMS7271
AS4330	Tubing, Flared, Standard Dimensions For, Design Standard
AS4395	Fitting End, Flared, Tube Connection, Design Standard
AS4396	Fitting End, Bulkhead, Flared, Tube Connection, Design Standard
AS5160	Fitting, Bolt, Flared
AS5161	Fitting, Bolt, Fluid Passage
AS5174	Fitting, Union and Reducer, Flared
AS5175	Nut, Coupling, Flared

AS5176	Fitting, Sleeve, Flared
AS5202	Port Or Fitting End, Internal Straight Thread, Design Standard
AS5406	Fitting, Union, Tube, .375 Bulkhead
AS8879	Screw Threads - UNJ Profile, Inch Controlled Radius Root With Increased Minor Diameter
AS9058	Ring - Back-Up, Boss Connection, AMS3652, AMS3656, AMS3660, AMS3667
AS9201	Nut, Plain, Hexagon, Boss Connection, Silver Plated, 347 Cres UNS S34700
AS9385	Packing, Performed, AMS7267, O-Ring
AS9902	Plug, Machine Thread Drilled, Preformed Packing, AS8879 Thread (UNS S34700)
AS9966	Packing, Preformed - AMS7273, Seal
AS33583	Tubing End Double Flare, Standard Dimensions for
AS90991	Nut, Hexagon, Drilled, Boss Connection, Aluminum - UNS A92024
AS91001	Nut, Hexagon, Drilled, Boss Connection, Cres - UNS S30400
AS92001	Nut, Hexagon, Drilled, Boss Connection, Aluminum - UNS A92014

2.2 U. S. Government Publications

Copies of these documents are available online at <https://quicksearch.dla.mil>.

MS9015	Plug, Machine Thread- "O" Ring Seal
MS9095	Nipple, Tube - Aluminum, Boss
MS9096	Elbow, Tube - AMS4135, Boss, 90 Deg
MS9097	Elbow, Tube - AMS4135, Boss, 45 Deg.
MS9193	Nipple, Tube - SAE-AMS5639, Boss
MS9194	Elbow, Tube - SAE-AMS5646, Boss, 90 Degrees
MS9195	Elbow, Tube - SAE-AMS5639, Boss, 45 Degrees
MS9196	Tee, Tube - SAE-AMS5646, Boss
MS9197	Nut, Tube Coupling-CRES SAE-AMS5646, Silver Plate
MS9198	Nut, Tube Coupling-CRES SAE-AMS5646
MS9483	Ferrule, Brazing, Tube Fitting-Cres SAE-AMS5646, Straight
MS9901	Plug, Machine Thread - AMS5646
MS9953	Plug, Machine Thread - AMS4121
MS9954	Plug, Machine Thread-Drilled, AMS4121

MIL-PRF- 5606	Hydraulic Fluid, Petroleum Base; Aircraft, Missile, and Ordnance
MIL-PRF-7808	Lubricating Oil, Aircraft Turbine Engine, Synthetic Base
MIL-PRF-83282	Hydraulic Fluid, Fire Resistant, Synthetic Hydrocarbon Base, Metric, NATO Code Number H-537
MIL-PRF-87257	Hydraulic Fluid, Fire Resistant; Low Temperature, Synthetic Hydrocarbon Base, Aircraft And Missile
VV-P-236	Petrolatum, Technical

2.3 NAS Publications

Available from Aerospace Industries Association, 1000 Wilson Boulevard, Suite 1700, Arlington, VA 22209-3928, Tel: 703-358-1000, www.aia-aerospace.org.

NAS1149 Washer, Flat

3. CONE END CONNECTIONS FOR FLARED TUBE AND BRAZED FERRULE

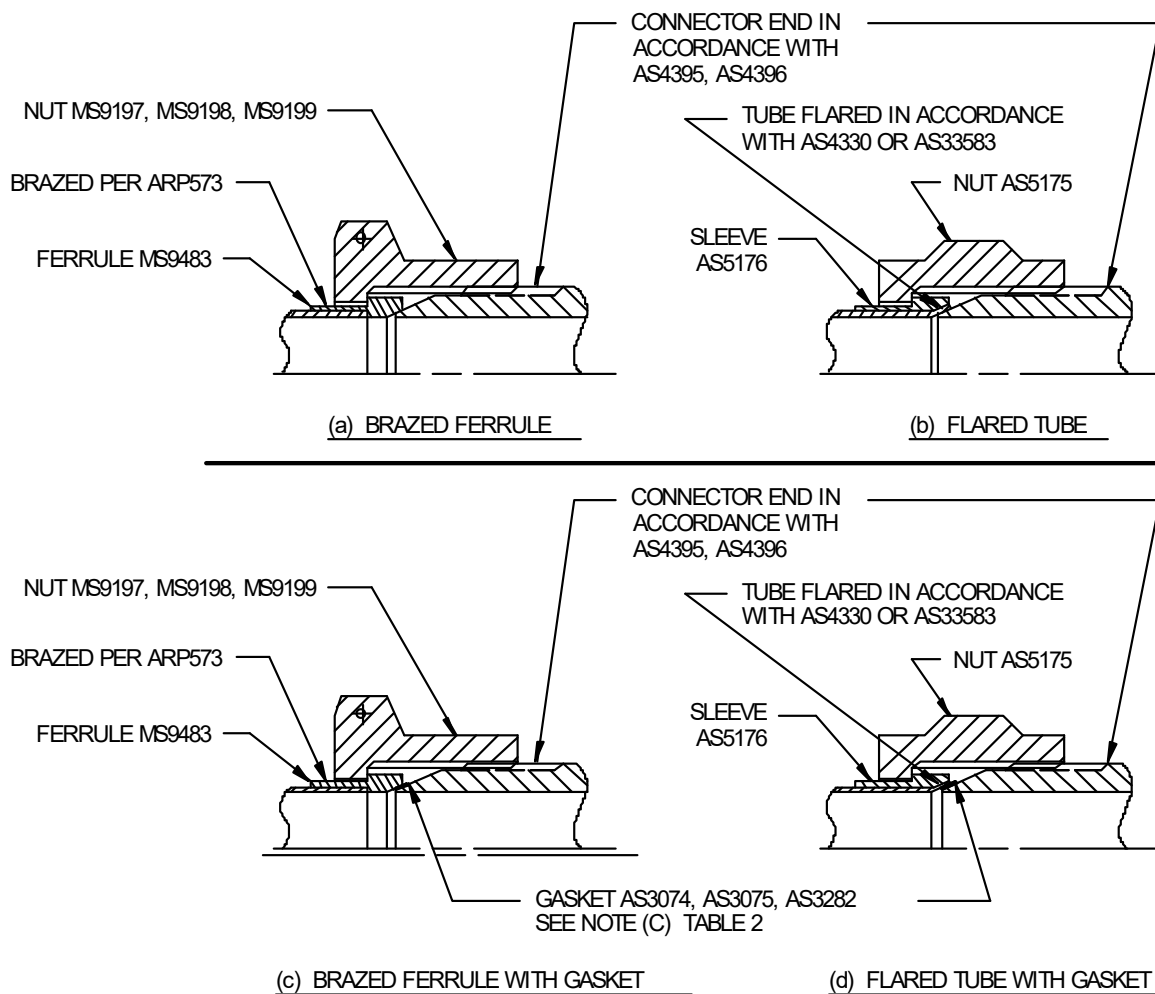


Figure 1 - Cone end connectors for flared tube and brazed ferrule

