AEROSPACE STANDARD

AS5959	REV. B
Issued 2006-03 Revised 2013-12 Superseding AS5959A	

Axially Swaged Fittings, Installation and Inspection Procedure

RATIONALE

Added tooling part numbers for size -20 to the tables, deleted style P inspection gages, add anodize as tube installation marking and updated figures.

1. SCOPE

1.1 Purpose

This procedure establishes the instructions to prepare tube ends and install and inspect axially swaged permanent tube fittings qualified to AS5958. This procedure is applicable when specified on the engineering drawing or in the procurement document.

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 724-776-4970 (outside USA), www.sae.org.

AS5958 Fittings, Axially Swaged Tube with Flareless Separable, Fluid System for Operating Pressures Up to and Including 5080 psi (35 000 kPa), Specification for

TO PLACE A DOCUMENT ORDER: **Tel: 877-606-7323 (inside USA and Canada)**
Tel: +1 724-776-4970 (outside USA)
Fax: 724-776-0790
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SAE values your input. To provide feedback on this Technical Report, please visit
http://www.sae.org/technical/standards/AS5959B

3. TOOLING AND GAGING VERIFICATION REQUIREMENTS

3.1 Tooling and Gaging Verification

Prior to the listing of new gaging and tooling numbers in this procedure, the fitting/tooling system supplier shall demonstrate the interchangeability/capability by assembling and gaging two sample fittings of each size of each manufacturer listed in the PRI-QPL 5958. The assembled fittings shall be tested to and pass the AS5958 impulse test requirements. Potential suppliers shall submit a plan to demonstrate interchangeability/capability to the Performance Review Institute (PRI), G-3 Fluid Distribution, Qualified Products Group (QPG), at PRI, 161 Thorn Hill Rd, Warrendale, PA 15086-7527. The QPG will grant approval for the suppliers numbers and name be added for the applicable tools or gages after demonstrating interchangeability/capability.

4. GENERAL

4.1 Dimensions

All dimensions in this specification are in inches.

4.2 Tube End Preparation

The tube ends shall be cut square as defined in Figure 1. The tube ends, I.D. and O.D., shall be free of burrs.

4.3 Tube Condition - Sealing Area

The tube sealing area shall be in accordance with the tubing specification finish requirement. There shall be no scratches or other handling damage marks. This area shall be clean and free of paint, glue or any other foreign substance.

4.4 Tube Marking

4.4.1 Pre-Applied Tube End Marking

At least one pair of marks, (positioning marks and inspection marks) as shown in Figure 1, shall be pre-applied with the given dimensions from Table 1 to each prepared tube end prior to fitting installation. A suitable permanent method such as ink stamp, anodize, or electro-etch, etc., may be used. Should the tube ends be unmarked, the appropriate marks shall be applied using tube marking gage as shown in Figures 2A and 2B, and using a suitable permanent ink felt tipped pen such as Sanford Sharpie TEC (Trace Element Certified) marker no. 13401.

NOTE 1: Due to the possibility of contaminating titanium tubing, inks which contain lead, 25 ppm maximum, or free halogens, 225 ppm combined maximum, should not be used for marking.

NOTE 2: See Table 2 for suppliers of marking gages.

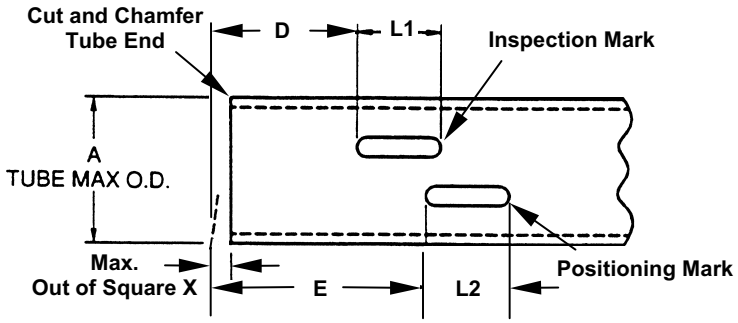

FIGURE 1 - TUBE MARKING USING INK STAMP, ANODIZE, OR ELECTRO-ETCH

TABLE 1 - DIMENSIONS FOR INK STAMP OR ELECTRO-ETCH (INCH)

Dash Size	Dia "A" Max.	Inspection Mark Length (L1)	Positioning Mark Length (L2)	D ±0.010	E ±0.010	Max. Out of Square "X"
-04	0.253	0.300	0.300	0.330	0.402	0.003
-06	0.378	0.300	0.300	0.518	0.619	0.003
-08	0.504	0.350	0.350	0.663	0.794	0.005
-10	0.629	0.350	0.350	0.899	1.088	0.005
-12	0.754	0.350	0.350	1.042	1.232	0.005
-16	1.004	0.400	0.400	1.299	1.498	0.012
-20	1.254	0.400	0.400	1.572	1.781	0.015

4.4.2 Marking Gage Positioning

The marking gage should be bottomed on the end of the tube.

FIGURE 2A - APPLICATION OF TUBE INSPECTION MARKS USING MARKING GAGE AND PEN AS LISTED IN TABLE 2

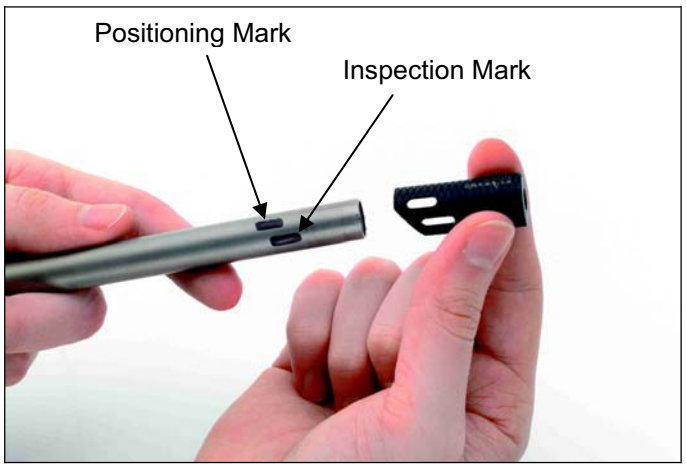

FIGURE 2B - TUBE INSPECTION MARKS AFTER REMOVING MARKING GAGE

FIGURE 2