



AEROSPACE STANDARD

AS5551™

REV. B

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Superseding AS5551A

(R) Fitting Assembly - 24° Cone Flareless per AS5827, 5080 psi,
Port Connection, Port Preparation, Installation and Removal of AS5550 and AS5865

RATIONALE

Port preparation tooling consolidated into Table 3C. Addition of alternate tooling numbers in Tables 1B, 2B, and 3C. Correct Table 2A, Port Number 24 Installation Torque to 1900 through 2100 lbf.in. Add user definition requirement if torque values desired are other than those listed in Tables 1A or 2A. Update Section 5 to improve port cavity definition. Update 6.2.4 and 7.2.4 to recognize use of the sealants/primers and discourage use of Zinc Chromate primer. Update 6.2.5 and 7.2.5 for installation torque limits. Correction of references.

1. SCOPE

This SAE Aerospace Standard (AS) establishes the requirements for port preparation, installation, and removal procedure for AS5550 fitting assembly and AS5865 fitting reducer assembly, and is applicable when specified on engineering drawings, or in procurement documents.

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.

AMS3276	Sealing Compound, Integral Fuel Tanks and General Purpose, Intermittent Use to 360 °F (182 °C)
AS568	Aerospace Size Standard for O-rings
AS1241	Fire Resistant Phosphate Ester Hydraulic Fluid for Aircraft
AS5000	Fitting, Plug-in Union, Ring Locked, 24 Degree Cone, Fluid Connection, 5080 psi (35 000 kPa), Specification for
AS5550	Fitting Assembly, Ring Locked, Adapter, Flareless to Port, Extra Fine Threads, 5080 psi

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AS5827 Fitting End, Flareless, Extra Fine Thread, Design Standard

AS5865 Fitting Reducer Assembly, Ring Locked, Adapter, Flareless to Port, Extra Fine Threads, 5080 psi

2.2 NAS Publications

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

NAS1611 Packing, Ethylene Propylene Preformed O-ring Phosphate Ester Resistant

NAS1613 Seal Element, Packing, Preformed, Ethylene Propylene Rubber

2.3 U.S. Government Publications

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

MIL-PRF-23377 Performance Specification: Primer Coatings: Epoxy, High-Solids

2.4 SSPC Publications

Available from the Society for Protective Coatings, 40 24th Street, 6th Floor, Pittsburgh, PA 15222-4600, Tel: 412-281-2331, <http://www.sspc.org>.

SSPC-PAINT-25 Zinc Oxide, Alkyd, Linseed Oil Primer for Use Over Hand Cleaned Steel

3. GENERAL DESIGN INFORMATION

- 3.1 These fitting assemblies provide a semi-permanent male fitting for use in fluid systems of 5080 psi and compatible with titanium at -65 to +230 °F temperature range.
- 3.2 Fitting assembly per AS5550 installed per this document into ports prepared per Section 5 shall have stand-off dimensions "P" and "R" in Figure 1 and Table 1A.
- 3.3 Fitting reducer assembly per AS5865 installed per this document into ports prepared per Section 5 shall have stand-off dimensions "P" and "R" in Figure 2 and Table 2A.
- 3.4 O-ring size per Tables 1A and 2A must be used. The O-ring compound shall be specified by the using design activity and shall be selected based on system fluid and temperature.
- 3.5 The lockring is driven into the mating port serrations after the fitting assembly or fitting reducer assembly have been torqued. This prevents the fitting assembly from rotating in the port during coupling nut assembly and disassembly and also eliminates the necessity of lock wiring the fitting. Only one wrench is required to install or remove coupling nut.
- 3.6 Fitting assembly AS5550 removal is accomplished by lifting the lockring out of the port using a removal tool per Table 1B.
- 3.7 Fitting reducer assembly AS5865 removal is accomplished by lifting the lockring out of the port using a removal tool per Table 2B.
- 3.8 These fitting assemblies require special tooling for proper installation. Tooling must be certified to have been used during the qualification of fitting assemblies. Tooling is available from Alcoa Fastening Systems, Fullerton, California, USA - CAGE Code 66776; or equivalent alternate source (Faber Enterprises, Canoga Park, California, USA - CAGE Code 14397, or Shur-Lok Company, Irvine, California, USA - CAGE Code 97393).

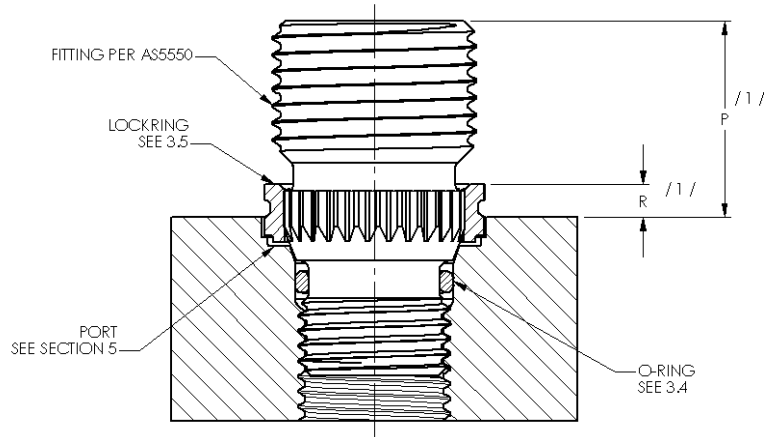


Figure 1 - Installed fitting assembly

/1/ "P" and "R" dimensions are for design purposes only and represent final stand-off dimensions. Do not use as installation dimensions.

Table 1

Table 1A - O-ring, stand-off and torque for AS5550

Port Number	AS5550 Dash Number	O-ring Size when Used with AS1241 Fluid (Compound NAS1613)	P ±0.0175	R Max	Installation Torque lbf.in
04	04	AS568-010	0.587	0.124	60- 100
06	06	AS568-012	0.609	0.13	180- 245
08	08	AS568-014	0.702	0.13	430- 510
10	10	AS568-016	0.765	0.13	600- 680
12	12	AS568-116	0.838	0.14	855- 945
16	16	AS568-120	0.838	0.14	800-1260
20	20	AS568-123	0.838	0.14	1520-1680

Table 1B - Tooling - installation and removal for AS5550

Port Number	O-ring Tool Number		Combination Wrench and Drive Tool Number		Lockring Removal Tool Number	
	Option 1	Option 2	Option 1	Option 2	Option 1	Option 2
04	ORT312	MORT312	RFKA9904DW	MFKA9904DW	RF04LPDE	MF04LPDE
06	ORT437	MORT437	RFKA9906DW	MFKA9906DW	RF06LPDE	MF06LPDE
08	ORT562	MORT562	RFKA9908DW	MFKA9908DW	RF08LPDE	MF08LPDE
10	ORT687	MORT687	RFKA9910DW	MFKA9910DW	RF10LPDE	MF10LPDE
12	ORT812	MORT812	RFKA9912DW	MFKA9912DW	RF12LPDE	MF12LPDE
16	ORT1125	MORT1125	RFKA9916DW	MFKA9916DW	RF16LPDE	MF16LPDE
20	ORT1312	MORT1312	RFKA9920DW	MFKA9920DW	RF20LPDE	MF20LPDE