



# AEROSPACE STANDARD

**AS5104™****REV. B**

|            |         |
|------------|---------|
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Superseding AS5104A

Plugs, Port Connection, Ring Locked,  
AS1300 Port, Installation and Removal of

## RATIONALE

This technical report is being stabilized because it covers technology, products, or processes which are mature and not likely to change in the foreseeable future.

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## 1. SCOPE:

This SAE Aerospace Standard (AS) provides the essential minimum design, installation, and removal standard for AS5103 plugs and is applicable when specified on engineering drawings, or in procurement documents.

## 2. REFERENCES:

### 2.1 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.

#### 2.1.1 SAE Publications: Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

|        |                                                                            |
|--------|----------------------------------------------------------------------------|
| AS568  | Aerospace Size Standard for O-Rings                                        |
| AS1300 | Port-Ring Locked Fluid Connection Type, Standard Dimensions for            |
| AS5103 | Fitting Assembly, Plug, Ring Locked Port Connection, 4000 psi and 5000 psi |

## 3. GENERAL DESIGN INFORMATION:

### 3.1 These plugs provide a semi-permanent closure primarily for use in fluid systems with operating pressures per Table 1 and compatible with titanium at -65 to +450 °F temperature range:

TABLE 1 - System Working Pressures

| Standard Number | System Working Pressure (psi) Operating | System Working Pressure (psi) Burst | Size                       |
|-----------------|-----------------------------------------|-------------------------------------|----------------------------|
| AS5103          | 4,000                                   | 16,000                              | All Sizes                  |
| AS5103          | 5,000                                   | 20,000                              | 04, 06, 08, 10, 12, and 16 |

- 3.2 Plugs per AS5103 and installed per this document into ports per AS1300 shall have a stand-off per dimension "P", Figure 1 and Table 2.
- 3.3 O-ring size per Table 2 and per AS568 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.
- 3.4 The lockring is driven into the mating port serrations after the plug has been torqued. This eliminates the necessity of lock wiring the plug.
- 3.5 Plug removal is accomplished by lifting the lockring out of the port using a removal tool.
4. DESIGN REQUIREMENTS:
- 4.1 Minimum data to be specified on engineering drawing or specification.
- 4.1.1 Port diameter to be at least the minimum specified in AS1300.
- 4.1.2 Location of port.
- 4.1.3 Specific port size per AS1300. If tap drill depth is not through, then specify control dimensions.
- 4.1.4 Specific plug size per AS5103.
- 4.1.5 Specific O-ring size and compound (see 3.3).
- 4.1.6 Install plug per this document.
- 4.1.7 Corrosion protection is specified in 5.2.4. If materials or fluids require primer different from zinc chromate primer or if an additional sealant is required, so specify.
- 4.1.8 Pressure testing of individual units is specified in 6.1. Testing other than that shown shall be specified.
- 4.1.9 The boss material for a 4,000 and 5,000 psi system must have a minimum shear strength per Table 3 to resist the axial load being generated from a respective burst pressure of 16,000 and 20,000 psi (based on thread minimum shear engagement area shown).