



SURFACE VEHICLE INFORMATION REPORT

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Common Port Connections Used in Truck and Bus Air Brake Systems

RATIONALE

This document is intended to help new to industry personnel on the common port connections used in truck and bus applications.

1. SCOPE

This SAE Information Report lists common port connection types used in truck, bus, truck-trailer, converter dolly, and multi-purpose vehicles with air brake systems at the time of publication. The purpose of the document is to give system designers and users a starting point for connector selection and a reference to the standards that govern these connector types. Also included are notes on common practices associated with these ports.

CAUTION: Consult the relevant standard for the connector before making a decision on suitability for use in a specific application.

2. REFERENCES

2.1 Applicable Documents

The following publications form a part of this specification to the extent specified herein. Unless otherwise indicated, the latest issue of SAE publications shall apply.

2.1.1 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.

SAE J476	Dryseal Pipe Threads
SAE J1926-1	Connections for General Use and Fluid Power - Ports and Stud Ends with ASME B1.1 Threads and O-Ring Sealing - Part 1: Threaded Port with O-Ring Seal in Truncated Housing
SAE J1926-2	Connections for General Use and Fluid Power - Ports and Stud Ends with ASME B1.1 Threads and O-Ring Sealing - Part 2: Heavy-Duty (S Series) Stud Ends
SAE J1926-3	Connections for General Use and Fluid Power - Ports and Stud Ends with ASME B1.1 Threads and O-Ring Sealing - Part 3: Light-Duty (L Series) Stud Ends
SAE J1926-4	Connections for General Use and Fluid Power - Ports and Stud Ends with ASME B1.1 Threads and O-Ring Sealing - Part 4: External Hex and Internal Hex Inch Port Plugs - Dimensions, Design, Test Methods, and Requirements

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Documents

Document Sharing Hub

2.1.2 ANSI Accredited Publications

Copies of these documents are available online at <http://webstore.ansi.org/>.

ANSI/ASME B1.20.1 Pipe Threads, General Purpose, Inch

ANSI/ASME B1.20.3 Dryseal Pipe Threads, Inch

2.1.3 ISO Publications

Copies of these documents are available online at <http://webstore.ansi.org/>.

ISO 7 Pipe Threads Where Pressure-Tight Joints are Made on the Threads

ISO 228 Pipe Threads Where Pressure-Tight Joints are Not Made on the Threads

ISO 4039 Road Vehicles - Pneumatic Braking Systems

ISO 6149 Connections for Hydraulic Fluid Power and General Use

ISO 11926 Connections for General Use and Fluid Power

3. PORT TYPES

3.1 Pipe Threads

3.1.1 NPT per ANSI/ASME B1.20.1

Threaded connection where pressure-tight joints are required. It is intended that these tapered pipe threads be made up wrench-tight with thread sealant. Thread sealant prevents spiral leak path. Average condition is shown in Figure 1. Common connection throughout the industry. Can be difficult to orient shaped parts. Can also be more subject to leaks than other port types.

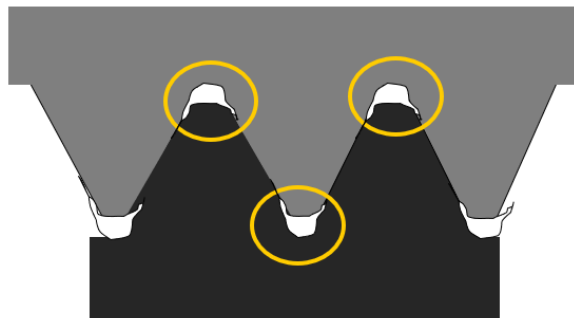


Figure 1

3.1.2 NPTF (Dryseal) per ANSI/ASME B1.20.3 or SAE J476

The significant feature of the Dryseal thread is controlled truncation at the crest and root to assure metal to metal contact coincident with or prior to flank contact. Contact at the crest and root prevents spiral leakage and ensures pressure-tight joints without the use of a lubricant or sealer. Average condition is shown in Figure 2. Common connection throughout industry. Commonly thread sealant is used even though not specifically required. Assembly is easier if lubricant or sealer is used as it reduces rotational torque required. Also, thread sealant can prevent thread galling on prone materials such as stainless steel.