



Inspection Bulletin

North American Standard Inspection Program

2026-03 – Air Brake System Fittings

Created: April 23, 2026

Summary

There are many original equipment manufacturer (OEM) air fittings and several aftermarket air fittings that make it difficult to identify compliant air fittings during a roadside inspection.

This inspection bulletin is intended to provide clarification on what the brake manufacturers consider a compliant/non-compliant manufactured fitting versus a non-manufactured fitting and how to deal with each of them during an inspection.

Background

In the U.S., Title 49 Code of Federal Regulations § 393.45 (a) states that all brake tubing and hoses, brake hose assemblies, and **brake hose end fittings** must meet the applicable requirements of Federal Motor Vehicle Safety Standard (FMVSS) No. 106, which requires the symbol “DOT,” constituting a certification by the manufacturer that the component conforms to all applicable motor vehicle safety standards.

Similarly, in Canada, National Safety Code (NSC) Standard 11B indicates that an **end fitting**, line, repair method, installation or modification that does not meet industry standard is non-compliant. The OEM is required to ensure its fittings are compliant with Canadian Motor Vehicle Safety Standard (CMVSS) 106, which requires a designation consisting of block capital letters or numerals.

It is important to note that the marking requirements in the U.S. regulations and NSC Standard 11B specifically apply to **end fittings**. A brake hose end fitting means a coupler, other than a clamp, designed for attachment to the end of a brake hose. An end fitting creates a threaded connection at the end of a hose that allows its attachment to a non-regulated fitting or other system component.

There are many OEM and aftermarket end fittings; some are made to FMVSS/CMVSS standards, and others are not.

Fittings

OEM Approved

There are many OEM fittings used in the production of an air-braked vehicle and these fittings may not be marked at all. They can range from compression fittings, push-to-connect fittings or gladhands, and can be made of brass, poly or a combination thereof.

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FMVSS/CMVSS 106 Approved End Fittings

There are aftermarket end fittings that are used for repair. These end fittings must be FMVSS/CMVSS approved fittings, but they are not always easy to identify. They will be marked somewhere on the fitting as shown in the examples below.



Compression Fittings – Copper Tubing

Nut hex flats are marked.



Compression Fittings – Nylon Air Brake Tubing

Nut hex flats are marked.



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Push-to-Connect Fittings – All Brass

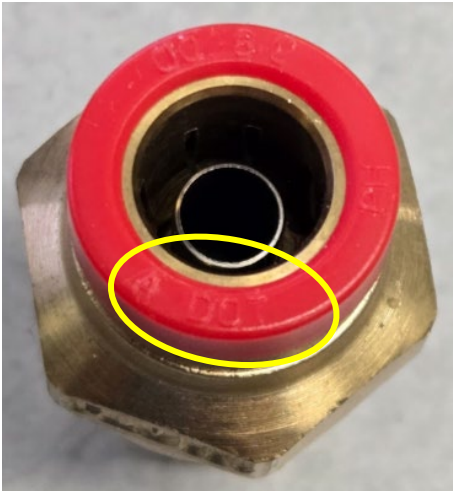
The marking is on the face of the collet. It can be difficult to see, especially if it's painted.



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Push-to-Connect Fittings – Brass and Thermoplastic

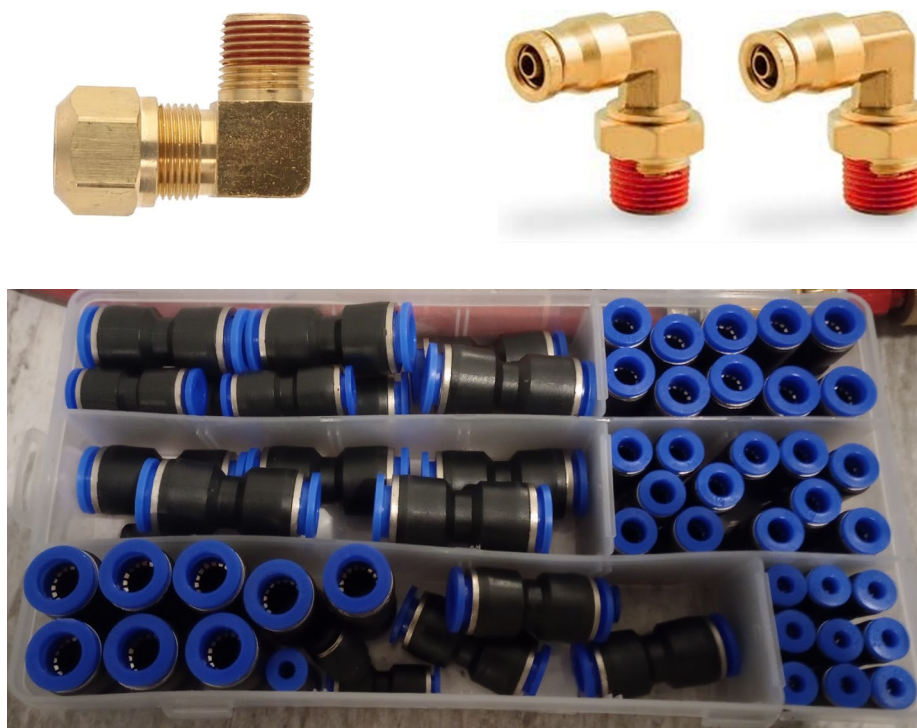
Sometimes colored caps are used; they will be marked as well. The marking is on the face of the collet. It can be difficult to see, especially if it's painted.



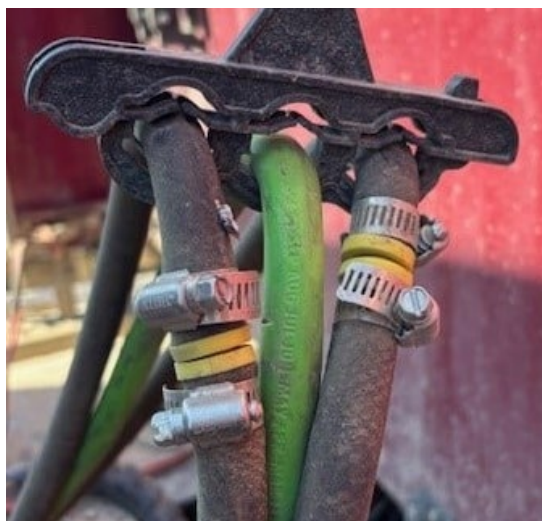
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Non-FMVSS/CMVSS 106 End Fittings

Other non-FMVSS/CMVSS end fittings (with no markings) on the market appear similar to compliant end fittings but are considered violations when used on an air braked vehicle system.



Other barbed repair couplers that are used in the industry are not DOT compliant, the use of these couplers is a violation, but not out of service.



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Other Fittings/Connections

Other fittings or connections may be found in an air brake system. These fittings do not meet the definition of an end fitting (they are not connected to the end of the tubing or hose). They connect to the end fitting through a threaded connection and are not regulated. Use of these fittings between end fittings and other components is acceptable and not a violation.



Improperly Joined Hoses/Lines

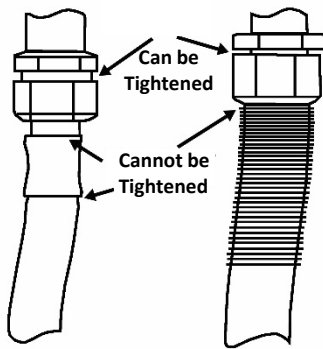
Improperly joined brake hoses/lines by means of tubing and clamps are a violation and should be declared out of service.



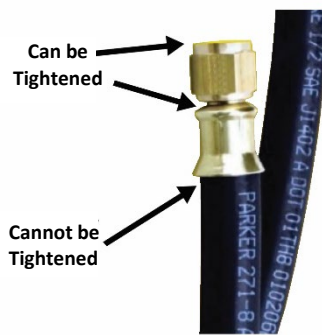
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Air Leaks at Fittings

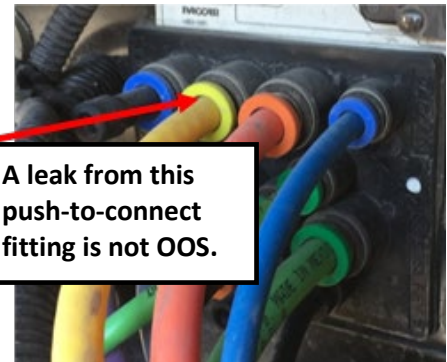
There are times when leaks are found in various locations around a fitting. In cases where the leak is found in a location of the fitting that can be tightened or it is a push-to-connect fitting, a violation for the leak should be documented but not declared out of service. See the examples below.



Non-Swivel Fitting



Swivel Fitting



Push-to-Connect Fitting

Inspection Guidance

When conducting a North American Standard Inspection and there is an end fitting repair **not marked** as FMVSS/CMVSS 106 compliant, a violation may be documented.

An audible air leak at a fitting in a location that can be tightened (at the thread or swivel) is a violation but not out of service. An audible air leak at a fitting in a location that cannot be tightened or anywhere else in the air line is a violation and out of service.

Regardless of the type of fitting or the location, when an audible air leak is detected in any portion of the brake system, an air loss test must be conducted. If the vehicle fails the test, the vehicle will be declared out of service for failing the air loss rate test.