

# Supplemental Air Valve and Fitting Arrangements - Non-Catalyzed DPF

M-258-009

(May 2008)

## Valid for

All LEU and MRU built with a non-catalyzed DPF.

## Case description

On MRU and LEU model chassis equipped with the non-catalyzed Diesel Particulate Filter (DPF), a supplemental air valve directs a burst of air pressure (up to 10 seconds in duration) from the chassis air system to the DPF thermal regenerator during the flame detection stage of the regeneration cycle to ensure proper ignition of the air/fuel mixture.

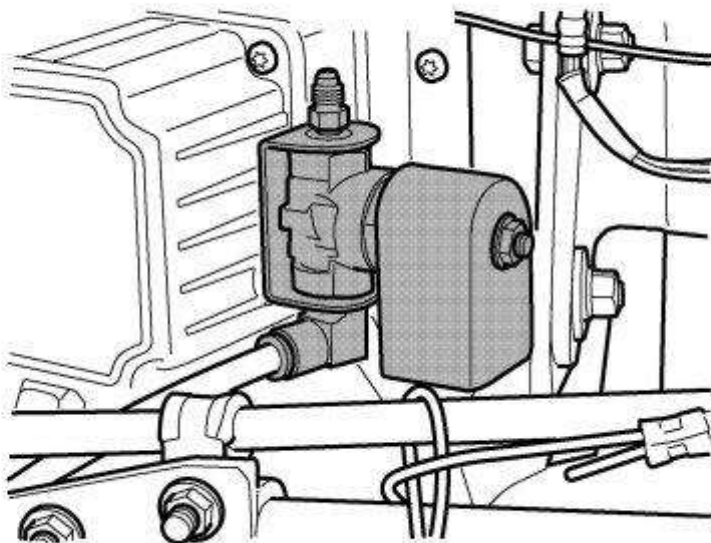
*Note: Does not apply to Mack Trucks Australia.*

## SUPPLEMENTAL AIR VALVE FITTINGS

The fitting installed in either the supply or delivery port of the supplemental air valve contains a pressed-in orifice, or has a reduced inside diameter to reduce the amount of airflow through the valve. Depending upon the valve part number, three different fitting configurations were used, and replacement valves available through the MACK Parts System are supplied with the correct fitting combination. If the fittings are removed from an existing valve for any reason, care must be taken so that an orifice fitting, or a fitting with a reduced inside diameter is not replaced with a standard fitting. Doing so would result in too much airflow through the valve, and a higher-than-normal decrease in air system pressure when the supplemental air valve actuates.

*Note: There is no risk of losing brake air system pressure, as the system is protected by a pressure protection valve, which prevents the system from draining below a specific set-point.*

**Supplemental Air Valve**



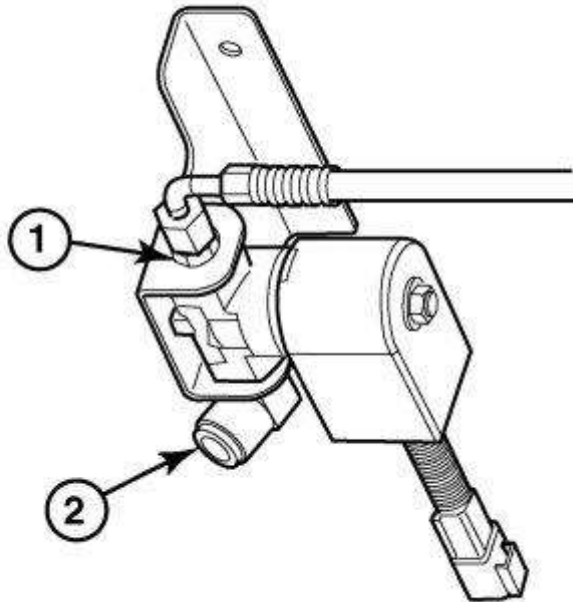
## Supplemental Air Valve Production Release Levels

Depending on production release level, three different supplemental air valve configurations were utilized, any of which are acceptable provided the correct fitting configuration is maintained.

First Production Release Level (up to December 2007)

- MACK part number 20991721 (vendor part number 2023153-B)
- Straight fitting with no special features.
- 90-degree elbow fitting with a pressed-in orifice to reduce airflow.

**Air Valve with Orifice in Elbow**



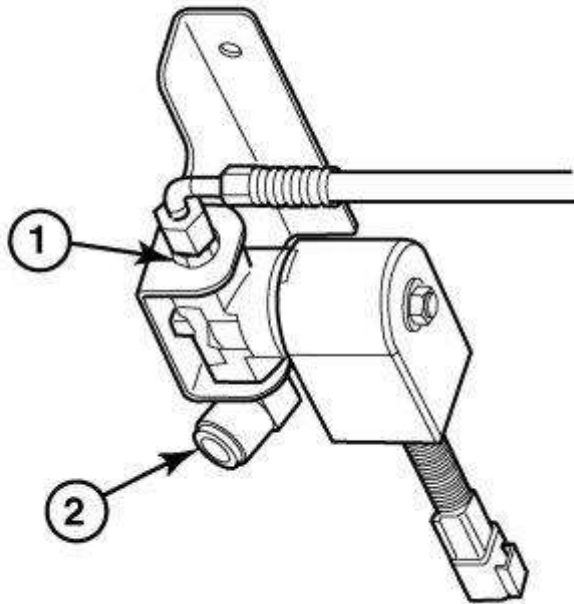
1. Straight Fitting

2. 90-Degree Elbow Fitting with Orifice

Second Production Release Level (up to December 2007)

- MACK part number 20991721 (vendor part number 2023153-F)
- Straight fitting has reduced inside diameter (ID) to reduce airflow. ID is 2.44 mm.
- 90-degree elbow fitting DOES NOT have a pressed-in orifice or reduced inside diameter.

**Air Valve with Reduced ID in Straight Fitting**



1. Straight Fitting with Reduced ID

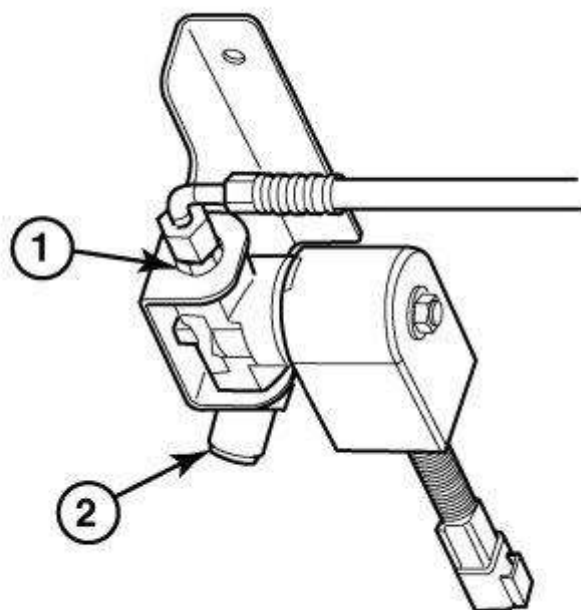
2. 90-Degree Elbow Fitting (does not have an orifice)

*Note: Note that the part numbers for the first and second release levels are the same. The difference between the two is that the earlier version utilizes a 90-degree elbow fitting with a pressed-in orifice in the outlet port, whereas the later version utilizes a straight fitting with a reduced inside diameter in the inlet port. DO NOT replace a fitting having a pressed-in orifice with a standard fitting or a fitting having a reduced ID with a standard fitting, as this would result in too much airflow through the valve.*

Third Production Release Level (December 2007 and later)

- MACK part number 21095083 (EMCON 2024454)
- Straight fitting has reduced inside diameter (ID) to reduce airflow. ID is 2.44 mm.
- 45-degree elbow fitting, DOES NOT have an orifice or reduced inside diameter.

#### **Air Valve with Reduced ID in Straight Fitting and 45° Elbow**



1. Straight Fitting with Reduced ID

2. 45-Degree Elbow Fitting (does not have an orifice)

Effective December 2007, the current supplemental air valve (part number 21095083) is the only valve available through the MACK Parts System. These service replacement supplemental air valves include new, correct fittings, and these fittings must be used. DO NOT use fittings from the removed valve, or standard replacement fittings, as this could result in a valve with two orifice fittings (air inlet and air outlet), or no orifice fittings at all. Additionally, if fittings are removed for any reason, the correct fitting configuration must be installed at both locations (inlet and outlet ports).

## Issued by

Technical Service