



U.S. Department
of Transportation
**National Highway
Traffic Safety
Administration**

ODI RESUME

Investigation: PE08-069
Date Opened: 12/09/2008 Date Closed: 07/01/2009
Principal Investigator: Nate Seymour
Subject: Air Compressor Discharge Line

Manufacturer: Mack Trucks, Inc
Products: 2008 Mack Trucks CHU/CXU
Population: 3,380

Problem Description: The air compressor discharge line is not compatible with the air compressor head fitting. A leak or complete separation may result, and limits the vehicle's ability to maintain sufficient air supply for the brakes and other air operated components.

FAILURE REPORT SUMMARY

	ODI	Manufacturer	Total
Complaints:	0	35	35
Crashes/Fires:	0	0	0
Injury Incidents:	0	0	0
# Injuries:	0	0	0
Fatality Incidents:	0	0	0
# Fatalities:	0	0	0
Other:	0	639	639

Description of Other: Warranty Claims

Action: Mack has announced an Owner Notification Program. This PE is closed.

Engineer: Nate Seymour
Div. Chief: Richard Boyd *RB*
Office Dir.: Kathleen C. DeMeter

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Summary:

ODI opened this investigation based on a review of Early Warning Field reports which indicated instances of the air compressor discharge line coming loose or separating on certain model year 2008 Mack Trucks. Further review indicated that Mack had issued a Service bulletin (#SB 531014) in May 2008. A revised air line was incorporated into production in May 2008 and the ferrule type fitting was changed to a 37 degree flare compression type fitting. The failure resulted in a diminished air supply to the truck's braking system.

During the investigation, ODI collected information from Mack, examined warranty claims, discussed the problem with fleet managers and confirmed that the subject vehicles meet the requirements of FMVSS 121, (Air Brake Systems). This standard includes a requirement for an air pressure gauge, and an audible and visual warning signal. The air system normally operates at 100 -120 psi. If the air discharge line becomes loose, the system will continue to hold air but replenishment may be diminished depending on the degree of leakage. If the air line separates, air system replenishment will cease and air pressure will drop as system air is used during brake applications. As the air pressure drops, the dashboard mounted gauge provides a continuous pressure status. Drivers are required to

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have a CDL (commercial drivers' license) with air brake endorsement and part of the training to obtain such a license includes learning how to monitor and respond to the air pressure system gauges. As the pressure drops below 60 psi, the audible/ visual warning device activates alerting the driver to take appropriate action to stop the truck in a safe location. If the air pressure is allowed to drop below 45 psi, the parking brakes will begin to apply. ODI confirmed that approximately 94% percent of the trucks have "engine brakes" that provide supplemental braking and allow a driver with a leaking discharge line to use the compression of his engine to slow the truck, thus further preserving available air pressure.

Using warranty claim data, ODI contacted 47 owners/drivers to gain an understanding of the problem and learned that 16 of the 47 discovered the problem while the truck was parked. Of the 31 drivers that discovered the problem while driving only 13 found it necessary to stop on the roadway's shoulder. Of those 13, four made temporary repairs in place and continued driving the truck. The remaining 18 were able to safely drive to a location away from the roadway to wait for assistance. Thus, 38 of the 47 vehicles surveyed were repaired in a garage or facility. Nine of the 47 were apparently towed.

ODI has carefully reviewed the warranty claims and concluded that 639 reports are applicable in that warranty was performed on those trucks to replace or repair the defective air compressor fitting. Based on fleet interviews and warranty claim review, ODI believes the vast majority of the warranty claim repairs were performed in safe locations. The data indicates that the majority of failures were resolved off the highway in a safe location due to the warning system required by FMVSS 121 or during the driver's daily truck inspection required by the Federal Motor Carrier Safety Administration. During the investigation, ODI established that no crashes, injuries or fatalities have occurred as a result of this problem

On May 21, 2009, Mack announced that they would conduct an Owner Notification Program to address this matter and as of June 24, 2009, 824 trucks have been repaired. After examining all the relevant facts (no crashes, deaths or injuries, mandated audible and visual warning, 94% of the subject vehicles have an engine brake, the ONP has a 24% completion rate after 31 days, and the majority of repairs are made off the highway), ODI believes that the ONP is sufficient and further action is unwarranted at this time. Therefore, this investigation is closed.