Solution K21250579
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** SOLUTION **

Title	Mack Chassis - Equipped With An Automated Manual Transmission Model D or F (mDrive, AMT-D, AMT-F) - Transmission Oil Leakage From Transmission Input Shaft Seal Or Output Shaft Seal - US10 And Newer Emissions, Common Model Years 2010 And Newer

Mack Models

Mack Model	AN - Anthem , CHU - Pinnacle, Axle back , CXU - Pinnacle, Axle front , GU - Granite , TD - Titan

Emission Standard

Emission Standard	US10 , US10+OBD13 , US14+OBD13 , US14+OBD15 , US14+OBD16 , US17+OBD16 , US17+OBD18

Engine family

Engine family	MP7 , MP8 , MP10

Transmission

Transmission	AMT-F , AMT-D , AMT-F

** SOLUTION **

Cause

Accumulation of debris in the left side vent ports of the tranmsission main case (corrosion, road salt, dirt, etc) may result in oil leaks present at the transmission input and output shaft seals.

The vent ports allow air exhausted from the shift solenoids and pistons to exit the main case. It also allows for equalization of internal and external pressures, as heat generated from operation will cause pressure in the case to increase. **For the AMT-F this is the only vent for the TECU and gearcase**.

Blockage of these ports allows pressure to build to a point that it forces oil past the input and output shaft seals. In extreme cases, the pressure buildup can be high enough that operation can be affected. Excessive internal pressure caused by blocked vents may result in slow or sluggish gear shifts.

Solution

When diagnosing and repairing a shaft seal leak:

1. Check the vent ports on the upper left side of the the main gearbox housing for any sort of blockage or obstruction.

Clogged vent ports

2. Clean out any debris that is observed during the inspection. (see inspection and cleaning below)

3. Check the tranmsission oil level in the gearbox.

- **If the lube level is excessively low:** Proceed to the next section.
- **If the lube level is at an acceptable level:** Fill the transmission oil to the correct level and check operation.

For excessively low transmission oil levels, or customer report of noise from the transmission:

1. The transmission will need to be inspected for internal damage. Removal may be required for proper inspection.

Inspection and cleaning

Due to the location of the vent ports it is very difficult, in most applications, to see the vents. An inspection mirror and flashlight can be used to see if there is a buildup of roadsalt or other debris in the ports.
If the ports are clogging then use a small screwdriver or similar tool to break up the deposits in the ports.

Clean and remove the upper oil fill plug from the main case on the right side of the gearbox.

<<<<<Insert picture of plug locations here>>>>>

Wrap a clean rag around an air nozzle and blow air into the case. Use proper eye protection. A complete seal is not needed. All you want to do is create enough pressure to force the debris from the vents on the left side of the case.

NA_Sister solutions	K11907301
Solution visibility	Dealer distribution

Function(s)/component(s) affected

Function affected	Input Shaft , Output Shaft , Lubrication

Function Group

Function Group	43 gearbox

Customer effect

Main customer effect	fluid
Noise	whine
Fluid problem	leak , level incorrect
Fluid implicated	Transmission Oil
Visual appearance	leaking

Conditions

Vehicle operating mode	when driving
Frequency of occurrence of problem	random
Location of problem	underneath cab

Administration

Author	RU4469V
Dealer ID	RU4469V
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