



NA_MACK_Vehicle_Range

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Anthem , CHU , CXU , GU , M746 , M748 , Granite , TD

NA_VOLVO_Vehicle_Range

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VNR , VNX , VNL , VNM , VHD , VAH

Engine family

Engine family Volvo , Mack

Emission Standard

Emission Standard 2018 , OBD2017 , US17 GHG , US16 , US15 , US13 OBD , US14 GHG

**** SOLUTION ****

Title (customer effect) Oil Contamination Of The Clutch Due To Rear Crankshaft Adaptor O-ring Leakage - Oil Leak At Clutch And Flywheel Housing; Possible Burnt Clutch Smell And/Or Clutch Slipping; Possible Customer/Initial Report Of Crankshaft Rear Main Seal Leak - **OBD13 And Newer (16-Pin Diagnostic Connector)**

Cause Vehicles may present with oil leak coming from the clutch/flywheel housing and observation of burned clutch smell or clutch slipping. These symptoms can be mistaken as a crankshaft rear main seal leak.

Solution**Overview**

The o-ring that seals the rear crank gear flange to the crankshaft can leak oil into the cavity on the rear of the crank. This oil builds up and leaks out under the bolt heads of the flywheel and contaminates the clutch. The oil in the flywheel/clutch housing will be black like engine oil and the evidence of the leak will be all the way around the housing due to the oil being slung out of the clutch assembly. When the source of the leak is the crankshaft rear main seal or a transmission seal, oil will run down the face of the engine or the transmission and pool in the bottom of the housing. Oil will not be distributed all the way around the housing as it would from the rear crank gear flange o-ring.

Several examples of visual symptoms of this issue can be seen below (all pictures can be clicked for full-size image):



Engine Oil Accumulation in Bottom of Flywheel Housing



Engine Oil on the Clutch Disk and Flywheel Bolt threads



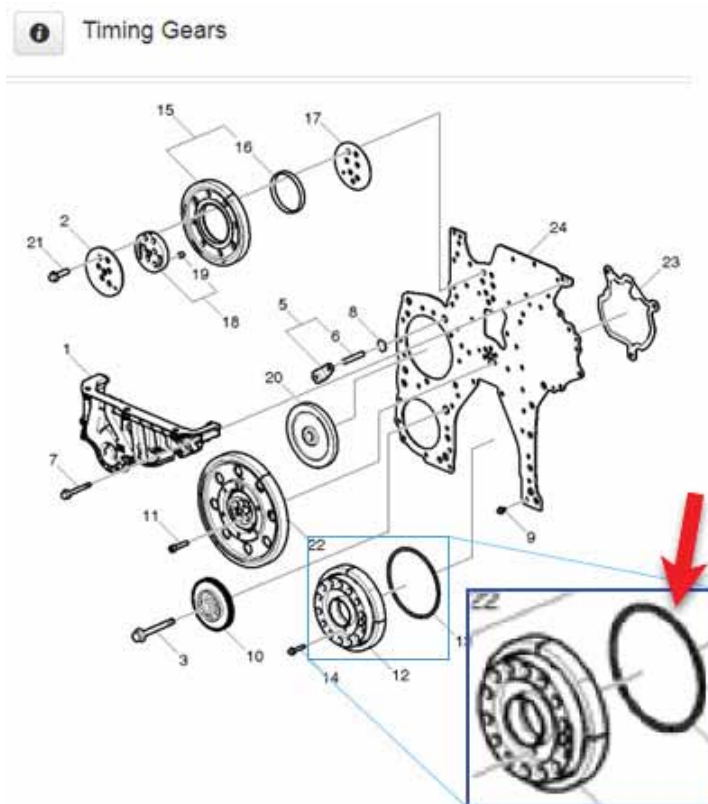
Engine Oil Leak - Not from Main Seal - Note that there is no oil path visible from the bottom of the crank flange down the face of the housing to the visible buildup



Oil Film visible on inner circumference of the Clutch Housing

Repair

A. This repair will require the removal of the flywheel housing in order to remove the rear crank flange adaptor and replace the o-ring. An exploded diagram showing the o-ring can be seen below:



Note that the O-ring is located under the Timing Gear assembly in Impact, not the Crankshaft assembly.

- The procedure for flywheel housing removal and reinstallation can be found in the Service tab of Impact, Operation [2125-03-02-03 Flywheel Housing, Replacement](#).

B. The clutch and pressure plate need to be replaced.

C. The flywheel should be cleaned and inspected, then resurfaced or replaced as necessary.

- Flywheel resurfacing guidelines can be found in the service tab of Impact, [Function Group 216: FSB 216-002 Flywheel Resurfacing Guidelines](#)
- **If the flywheel is blued on the back side**, it must be replaced. Refer to the guidelines above to assist with assessment.

Solution visibility	Dealer distribution
Function(s)/component(s) affected	
Function affected	engine lubrication , automatic transmission , engagement
Function Group	
Function Group	2153 Timing Gear , 216 crank mechanism , 41 clutch
Customer effect	
Main customer effect	odour , fluid , road behaviour , slipping
Fluid problem	leak
Fluid implicated	oil
Road behaviour	driveability
Visual appearance	leaking
Conditions	
Vehicle operating mode	when driving
Vehicle load	half laden , unladen , fully laden
Frequency of occurrence of problem	always
Vehicle mileage	new , less than 50,000 km
Location of problem	underneath cab
Administration	
Author	UT9268H
Dealer ID	UT9268H
Last modified by	RU4469V
Creation date	27-03-2018 16:03
Date of last update	10-04-2018 20:04
Review date	27-03-2019 00:03
Status	Published

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