



Mack Models

Mack Model LR , MRU - TerraPro , TE - TerraPro , AN - Anthem , CHU - Pinnacle, Axle back , CXU - Pinnacle, Axle front , GR - Granite , GU - Granite , PI - Pinnacle

Volvo Models

Volvo Model VNL , VNM , VNR , VNX , VAH , VHD

Engine family

Engine family 11L Engine , 13L Engine , MP7 , MP8

Emission Standard

Emission Standard US17+OBD16 , US17+OBD18 , US17+OBD19

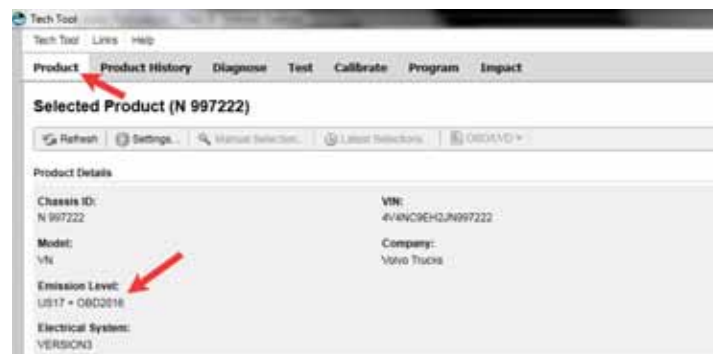
** SOLUTION **

Title Diagnostic Trouble Codes (DTC) **P0087** Fuel Rail/System Pressure Too Low, **P016F** Closed Loop Fuel Pressure Control At Limit - Pressure Too Low, **P228F** Fuel Pressure Regulator Exceeded Learning Limits - Too High; Damaged Lip Seal On Secondary Fuel Filter; Possible Uneven Operation - **US17+OBD16 And Newer Emissions (Common Rail Fuel System), Model Year 2018 And Newer**

Cause A compromised lip seal on the secondary fuel filter may result in unfiltered fuel bypassing the filter and entering into the high pressure fuel system. This may result in fault codes or other symptoms related to fuel pressure.

Solution **1. Verify the chassis emissions level and ensure that the vehicle is within the applicable range for this solution.**

- Details can be found in the Product Details box on the Product tab in PTT as seen below:



2. Review the DTC Readout

- If any combination of **P0087-00**, **P016F-00**, **P228F-00** are present, proceed with the instructions below.

3. Start An eService Case.

3.1. Include the following information:

- This CBR Solution number.
- A description of symptoms present at the vehicle's arrival.
- A complete DTC readout from the time of the vehicle's arrival.

3.2. Inspect the Fuel Tank Vent Filter Connections.

3.2.1. Verify that the filter present and is not clogged. **Note findings in the eService case.**

3.2.2. **Take pictures** of the vent filter hose connection at the filter housing and at the fuel tank. An example of the pictures required can be seen below:



Fuel tank connection



Filter housing connection

3.2.3. **Attach** the pictures to the eService case.

3.3. Remove and inspect the Secondary Fuel Filter.

3.3.1. Inspect the condition of the fuel filter lip seal. **Note findings in the eService case.** An example of a filter with a damaged lip seal and the lip seal appearance can be seen below:



3.3.2. **Take picture(s)** of the top of the filter with a clear view of the lip seal similar to the angle shown in the example above.

3.3.3. Take a picture of the date code printed on the side of the fuel filter canister.

3.3.4. Attach the pictures to the eService case.

4. Both the Primary and Secondary Fuel Filters must be replaced when diagnosis is completed.

Solution visibility	Dealer distribution
Function(s)/component(s) affected	
Function affected	fuel supply , fuel system
Function Group	
Function Group	23 fuel system, excluding gas propulsion
Customer effect	
Main customer effect	stumble , fault code/display
Fluid problem	leak , priming/loss of prime , restriction
Fluid implicated	fuel
Fluid pressure	low pressure
Fault code(s)	
OBD 2013 Diagnostic Trouble Codes	P0087-00 , P0094 , P016F-00 , P228F-00
Conditions	
Vehicle operating mode	when driving , when stationary
Administration	
Author	UT0455H
Dealer ID	UT0455H
Last modified by	RU4469V
Creation date	04-05-2018 17:05
Date of last update	21-01-2019 15:01
Review date	30-04-2019 00:04
Status	Published
Average score	1
Number of scores	1
NA_Author_Group	GTT