

Mack Check Fuel Filter - Instrument Cluster Warning Message And Icon - US20 Emissions



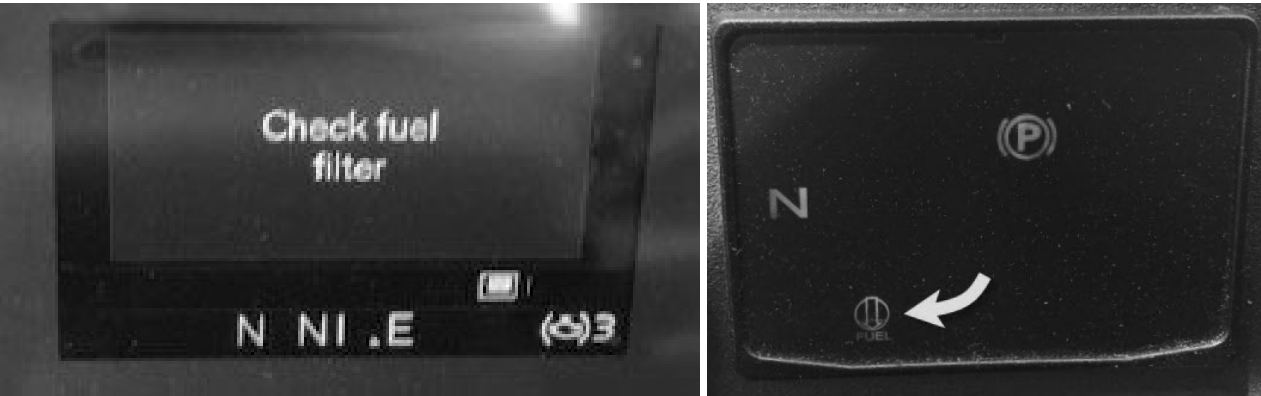
Beginning with US17+OBD20 and US21+OBD20 emissions (emissions level depends on the engine installed), vehicles built with Mack engines have been equipped with a dedicated supply fuel pressure sensor. The pressure sensor is used to continually monitor the fuel supply pressure and provide early warning detection of low fuel supply pressure or filter restriction. The engine control module (EMS) monitors the pressure sensor values and activates a warning message or icon in the instrument cluster (IC), depending on the model of the vehicle, when the supply pressure values are below the calibrated limit. It is necessary to have the correct software for the EMS and IC to enable this early warning detection.

IMPORTANT

Any potential root cause for a decrease in supply fuel pressure will activate the warning message.

The warning message and icon do not automatically indicate fuel filter(s) are the only component th
at needs to be investigated for the decrease in supply fuel pressure.

Example of message and icon:



Applicable Vehicles with a main software (MSW) Part Number listed below or newer for the EMS and IC will have the early warning fuel filter restriction message enabled. (Excluding EMS MSW# 23820138 & 23841271)

Model	IC MSW Part #
AN, GR, PI	23752219
LR	23745220
TE	23814202

Engine	EMS MSW Part #
11L VGT	23783118
13L VGT	23783118
13L TC	23783119



Description of functionality: How and when warning message or icon will appear.

Once per drive cycle

If low supply fuel pressure is detected, the warning will appear in the instrument cluster display or the telltale panel. It will remain in the “Pop-up Notices” screen in the instrument cluster display for the remainder of that drive cycle.

Goes away after key off

On the next drive cycle, the warning will no longer be displayed (unless the low supply fuel pressure is detected again).

Warning message or icon history can be viewed in Tech Tool

Tech Tool Operation ID 2300-08-03-02 Fuel Pressure. See the section below for more detailed information.

P008A Low Pressure Fuel System Pressure - Too Low:

The functionality remains unchanged for model year 2021 and still has an associated MIL lamp.

Diagnosing Vehicles with Warning Message Or Icon

Warning history can be viewed in Tech Tool

Tech Tool Operation ID 2300-08-03-02 Fuel Pressure, in Tech Tool SW version **2.7.115** and later, enables new functionality related to the warning message or icon. Warning history, as well as live supply fuel pressure data, are available in this operation. See section below for more detailed information.

Warning message or icon has no corresponding DTC

The fuel filter warning is not triggered by a DTC. Instead, parameters are transmitted by the EMS for the instrument cluster to display the warning message or icon. Below are new parameters related to supply fuel pressure that can be viewed in Tech Tool Operation ID 2300-08-03-02 Fuel Pressure.

Param eter	Description
P1WE R	Fuel System, Fuel Filter Clogging Symptom Detected, Status
P1WE	Fuel System, Latest Clogged Fuel Filter Symptom Detected, Timestamp

 Live UI

P1WE M	Number of warning events since last EMS SW update
P1WE G	The first time since last EMS SW update that the warning was set
P1F24	Supply Fuel Pressure (gauge)

Parameters/Warning Status cannot be cleared like a DTC

The warning status parameters listed above (P1WER, P1WES, P1WEM, P1WEG) cannot be erased/reset with a DTC clear. The only way to reset them is with an EMS SW update. However, P1WER can be “healed” (see below).

Warning Message or Icon Status (P1WER) takes 5 drive cycles to “heal”

The warning status parameter P1WER, can “heal” and reset its status back to inactive. This will occur if 5 drive cycles are completed with no warning or low pressure symptoms being detected.

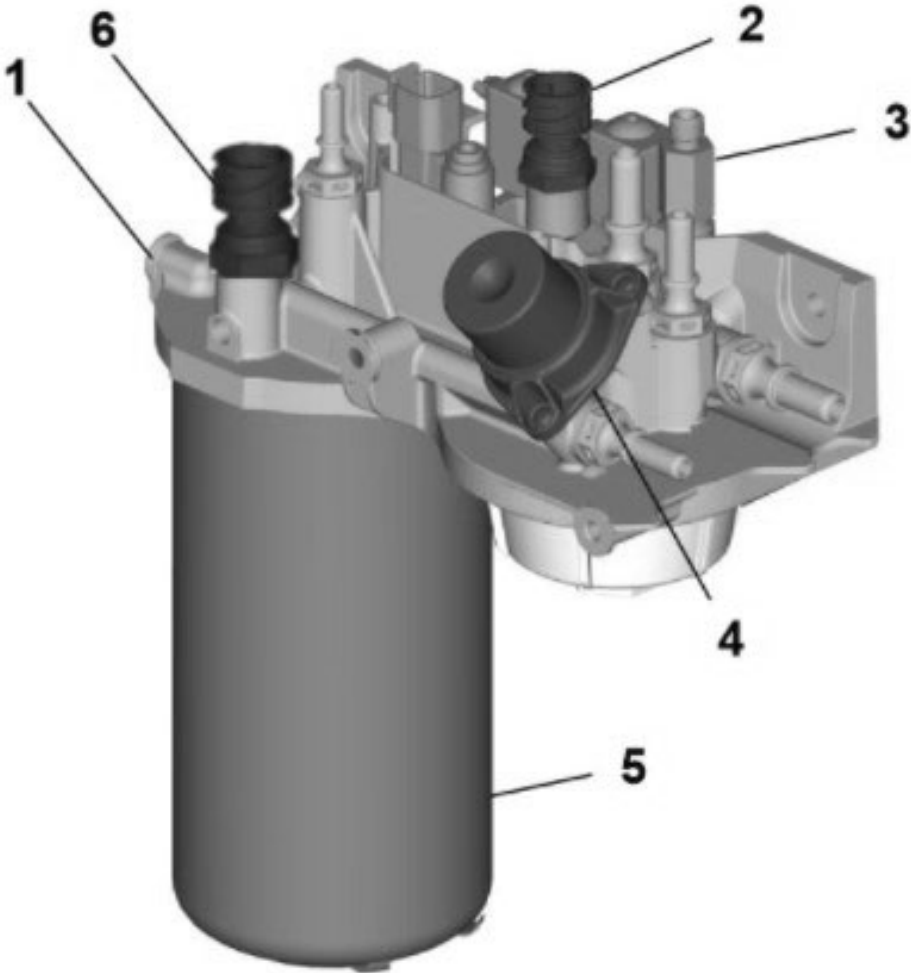
Warning Message relationship with P008A, P20DC, P0087, P228F, P016F, P1036

The fuel filter warning diagnostic is designed to be an early warning so the driver can bring the vehicle in for filter replacement before more severe fuel system low pressure or high fuel pressure DTCs occur. However, it is possible for a vehicle to have an active fuel filter warning status and other fuel system DTCs active.

Further information

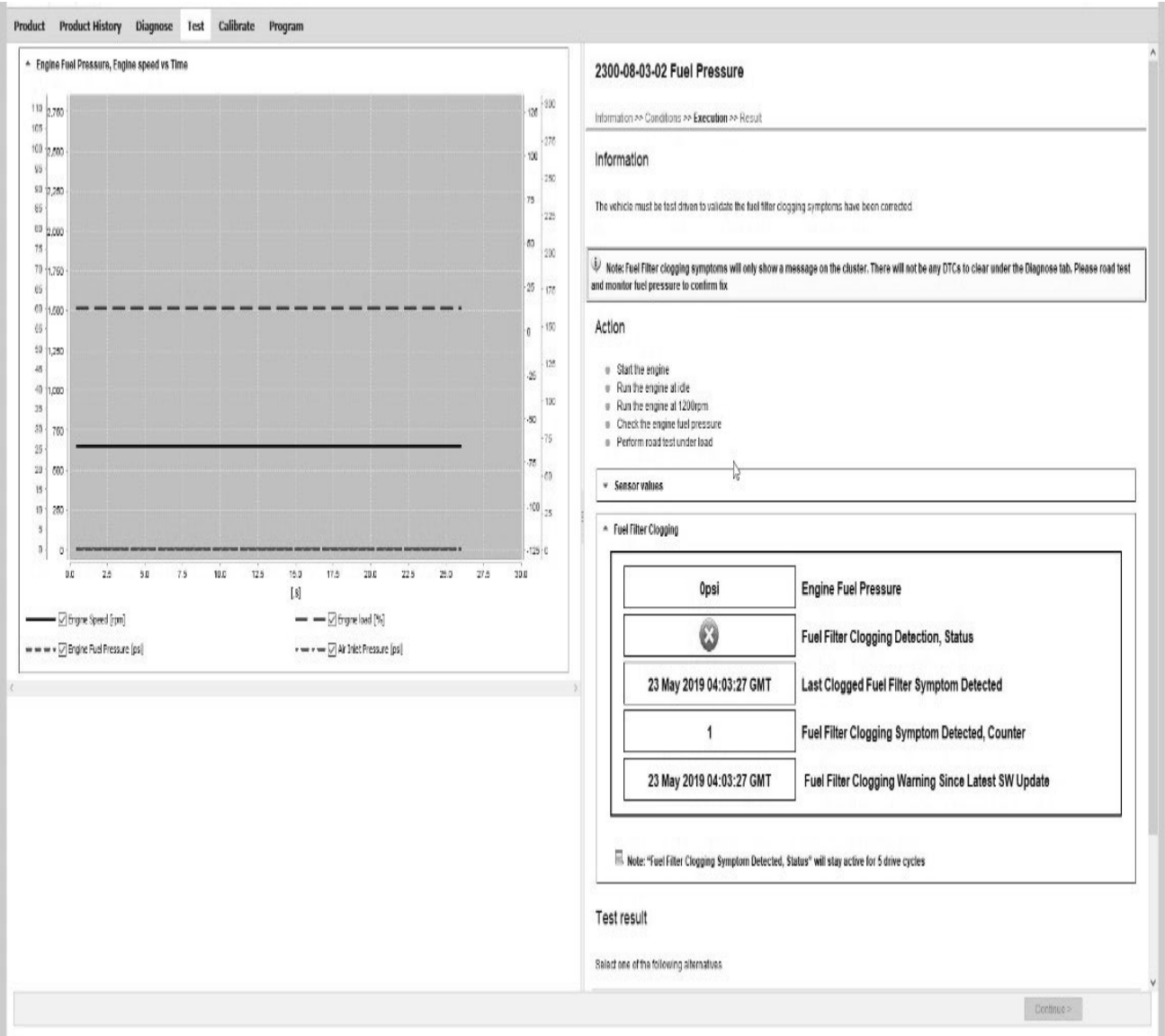
Fuel filter housing components

Fuel filter housing



1	Fuel filter housing
2	Fuel pressure sensor (AHI fuel pressure)
3	AHI module
4	Hand pump (fuel primer pump)
5	Filter
6	Fuel pressure sensor (supply fuel pressure) (vehicles built on or after January 1, 2020)

PTT screen for Operation 2300-08-03-02 Fuel Pressure



Tags

fuel filter warning

fuel filter message

fuel filter icon



Live UI

id links and attachments



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Help

Product History

Diagnose

Test

Calibrate

Program

Impact

tion and click Start

function

and maintenance

Engine mounting and equipment

General

line

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l system

2300-08-03-02 Fuel Pressure

2300-08-03-02 Fuel Consumption, Check

2300-03-03 Injector Function

2300-08-03-02 Common Rail Fuel System

2300-08-03-03 Injectors oscilloscope

2300-08-03-02 Injector Cut Out, Manual

2300-08-03-01 Cylinder Balancing

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l system and instruments

2300-08-03-02 Fuel Pressure

☐ Run the operation in simulation mode

Purpose

Check the engine fuel pressure

Start >

VIN: 4V4NC9EHXJN884960

Work Order: CBR1

P