

## CEL/DEF Lights Illuminated or Flashes

### Service Update #22-0402



FIGURE #1

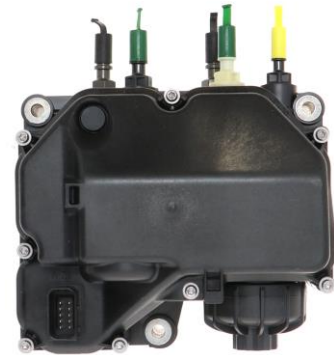


FIGURE #2

### DIAGNOSTIC CODE #3574 ACTIVE or INACTIVE

We recently have seen issues on Cummins powered units where the Check Engine Light or Diesel Exhaust Fluid light may “Flash” or completely illuminate. When diagnostics are performed, in the majority of the time fault code **#3574-Aftertreatment 1 Diesel Exhaust Fluid Pressure Sensor-Data valid but below normal operating range** is found to have been logged or even active.

After following the troubleshooting steps and finding nothing conclusive, we went back to the basic system to investigate probable causes for low pressure in the system and investigated what might be causing a restriction. We checked hoses to ensure none were kinked and there were no issues with their integrity. We then checked the required maintenance schedule to find that the first service interval on the system is required at 24 months or 225,000 miles where the DEF tank Head Unit filter is to be changed.

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We proceeded to remove DEF heads and examine filters to find multiple issues. We found some where there was evidence of DEF “crystallizing as in FIGURE #3 around the mounting screw and the filter had crystallized DEF inside as can be seen where the filter appears “puffed” up. We found dirty and contaminated filters as in FIGURE #4 and we found evidence of dirty, crystallized DEF inside the filter which caused the filter material to contact the draw tube connector due to suction from a contaminated filter as in FIGURE #5.

**Proper DEF tank head filter can be determined working through parts, and referencing Service Update #22-0312 should the DEF Head been updated.**



FIGURE #3



FIGURE #4



FIGURE #5

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Seeing as these filters were found to be contaminated, we wanted to make sure we were evaluating the system as a whole and looked to see where else there may be an issue and looked further upstream to the DEF/Dosing Pump also referred to as the Supply Module:

**Supply Module.** The Supply Module is part of a high accuracy system for injecting diesel exhaust fluid into the exhaust aftertreatment system. It has a 12V electronically operated pump and metering system, controlled by the engine ECM which delivers diesel exhaust fluid to the Dosing Module mounted in the exhaust system upstream of the catalyst. The Supply Module has a 10 micron main filter which is serviceable. The Supply Module and Dosing Module system is designed to deliver a precise amount of DEF solution by weight into the exhaust system according to capacity, which is calculated by an external algorithm. The use of any fluid other than DEF is prohibited. Engine coolant is used to heat the module. The coolant flow direction through the supply module is non-directional so either connector can be utilized as inlet or outlet.

We knew that to properly correct this condition that the system should be thoroughly cleaned and rinsed which could dislodge crystals and contaminants causing further issues. As stated in the description of the Supply Module, there is a serviceable 10 micron DEF filter in the which we feel should also be changed.

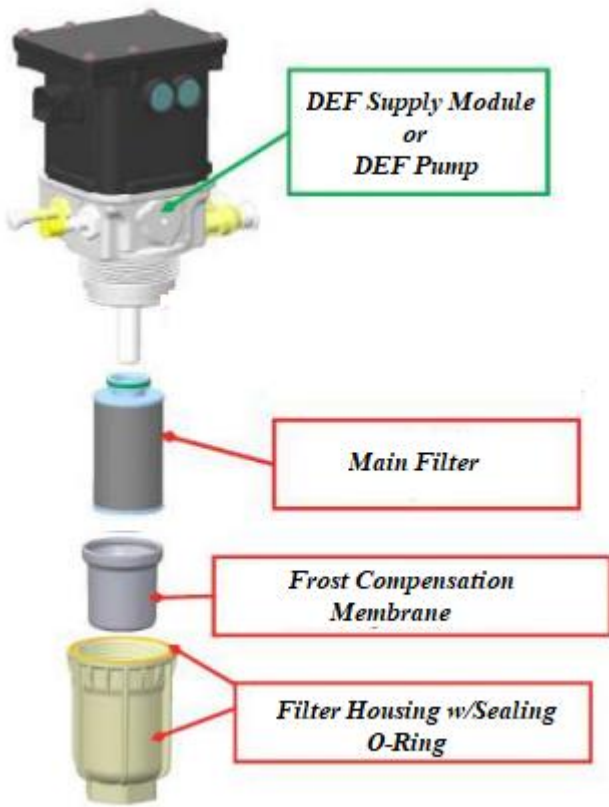
There are 2 Supply Modules used (FIGURES #1 & #2) and the one specific to units can be determined by the body number of the vehicle working with Parts seeing as the filter kits are different.

FIGURES #6 & #7 show the 2 different Supply Modules, the part numbers for the filter kits and their assembly.

PLEASE NOTE: The kit shown in FIGURE #6 comes with a new filter housing and lubricant where the kit in FIGURE #7 does not, but that kit does come with a tool to remove the filter.

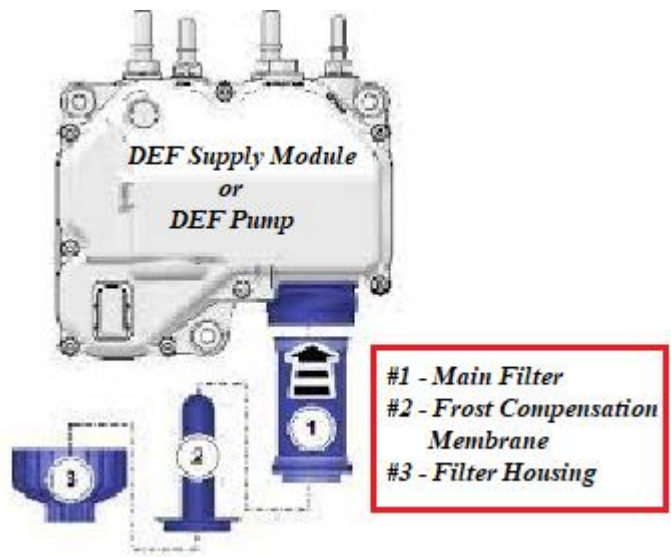
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**FILTER  
KIT #UF106**

**FIGURE #6**



**FILTER  
KIT #UF101**

**FIGURE #7**

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When replacing filters and servicing the system, you should completely flush and rinse the system with distilled water to remove any contaminants/crystallized DEF. In doing so, with the Supply Module shown in Figure #1, we found that there is a small screen located behind the inlet port shown below (FIGURE #8) and you may choose to remove the port to rinse or to replace the screen (FIGURE #9).

## SCREEN & REMOVAL TOOL #4388377 SHOWN IN FIGURE #9

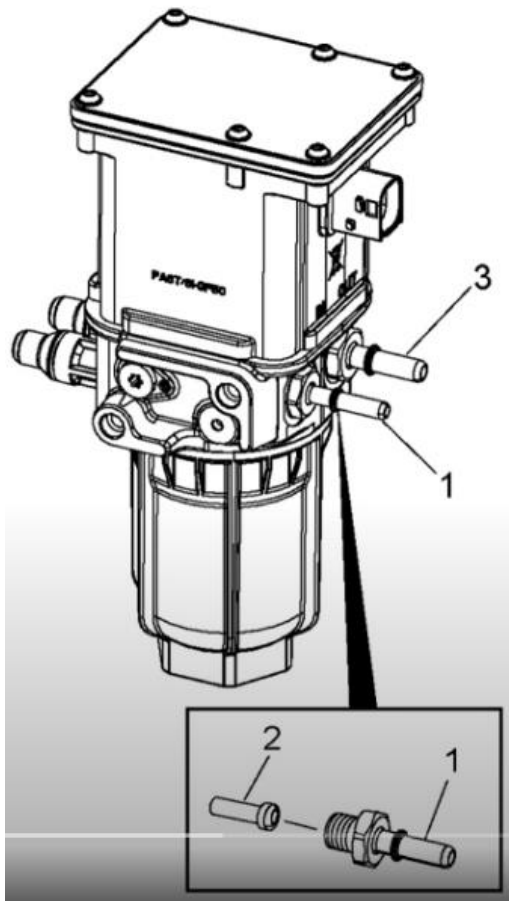


FIGURE #8



FIGURE #9

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**CONTACT OUR SERVICE OR PARTS DEPARTMENT WITH ANY  
QUESTIONS**

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