

On the Line

Mystery Filter

Prompts Low Oil Pressure Message

Panic comes when the Low Oil Pressure Message/Light appears in the instrument cluster. The first assumption is no oil pressure, which is certain to cause major engine damage. Any symptom or signal relating to the possibility of low oil pressure should be treated as no oil pressure, even if the engine is not making abnormal noises. Better safe than sorry.

In some cases the engine may have good oil pressure with a low oil pressure message displayed. If the symptoms involve a 2005-2016 GM vehicle equipped with a V8 engine and active fuel management (AFM) the condition may be the result of a contaminated filter screen designed to prevent contaminants from entering and damaging the AFM system components or rendering them inoperative. The filter screen provides filtration for the oil that flows through the valve lifter oil manifold inlet and its related solenoids that control the valve lifters, providing cylinder activation/deactivation for the AFM system when commanded by the electronic control module (ECM).

When the low oil pressure message appears, a defective oil pressure sensor is the first suspect. Often, replacing the sensor fails to eliminate the illuminated message resulting in a panic situation. At this point most assume that the condition is due to oil pump related issues or major engine damage. The oil filter has also been blamed for the condition. Some engines get major repairs performed in a futile attempt to eliminate the low oil pressure message. Later, they determine the symptoms were due to a lack of oil supplied to the oil pressure sensor.

MYSTERY FILTER SCREEN

The hidden AFM oil filter screen is a small cylindrical filter slightly longer than one inch and a half inch in diameter and is positioned below the oil pressure sensor. While its purpose is to protect the AFM system, it restricts oil to the oil pressure sensor when the filter screen becomes restricted with debris/sludge, prompting the low oil pressure message. With the oil pressure sensor removed, the filter screen can

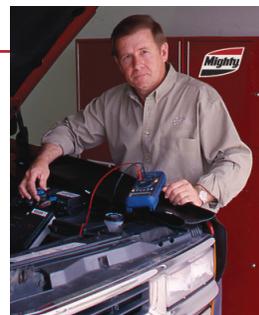
be removed with a pick or a piece of wire. The filter screen can be cleaned with brake cleaner and low air pressure and reused, however most replace the filter screen, as it is a low cost item, usually priced in the range of six dollars. The oil pressure sensor and filter screen can be removed without removing the intake, which is the procedure recommended by the vehicle manufacturer. It is a challenge, but it can save some labor hours. Part of the procedure involves some skinned knuckles, a lot of swearing, and a nasty vocabulary.

ENGINE SLUDGE

After replacing several of the mentioned filter screens due to the accumulation of sludge deposits, we can only question some of the recommended extended oil drain intervals. Can the vehicles be driven the extended mileage intervals and remain free of deposits, or are the recommended service intervals a marketing strategy to sell vehicles? If your customer chooses to follow the extended service intervals, be certain to recommend an extended life oil filter. With a conventional filter, oil filter bypass can occur, resulting in contaminated oil flowing to vital engine components.

For those credited with many years of automotive experience and have witnessed the effects of poor maintenance and engine sludge conditions, the extended service intervals create much uncertainty, especially those applications that call for once a year or every 12-15K mile service intervals.

For a complete listing of vehicles (provided by GM) equipped with the AFM filter screen, refer to Mighty Tech Tip #185 *LOW OIL PRESSURE MESSAGE... Locating the Mystery Filter*. The Tech Tip contains additional oil pressure concerns such as losing oil pressure during an oil filter change and GM front mounted crankshaft driven oil pumps with sticking pressure regulating valves.



By Larry Hammer
Technical Services



"THE PROBLEM IS A MYSTERY, MADAM...
BUT NOT TO WORRY... THIS KIND OF THING
BRINGS OUT THE BEST IN WALTER."