

Low Oil Pressure Warning A Challenge for the Lube Shop

Nothing gets the vehicle owner's attention any faster than a "Low Oil Pressure" warning. For the lube shop owner, the worst possible time for a symptom like this to occur is following a lube service. Trying to convince the vehicle owner the symptoms were not related to your service can be a challenge.

The Ford F150 4x4 equipped with the 3.5L EcoBoost displayed a "Low Oil Pressure" warning message and the oil pressure gauge dropped to zero. Those symptoms will cause any vehicle owner or seasoned technician to panic.

Failure Symptoms

The Low Oil Pressure warning would appear in the instrument cluster, and the oil pressure gauge needle would drop to zero when the idle speed approached 500 RPMs. Much later in the diagnostics it was determined a slight increase in the idle RPM would extinguish the warning message and the oil pressure gauge would display a normal oil pressure reading. And this is where opinions differ on the cause and cure for the symptoms, as there are several possibilities that must be considered when troubleshooting a low or no oil pressure symptom. Let's consider some possibilities:

- 1) Taking a true oil pressure reading with a mechanical gauge would be my preference, but a challenge with the 3.5L engine.
- 2) Some would be convinced that the symptoms were due to worn engine components, bearings, etc.
- 3) Low oil level and the pick-up tube not completely submerged.
- 4) Pick-up tube sealed with contamination: That is a labor-intensive procedure to explore, as the labor rate for removal of the oil pan is 5.1 hours.
- 5) Defective oil pump: That would be my last consideration, as the labor rate for replacement of the oil pump is 13 hours. To gain access, the front of the engine must be disassembled. If you go this deep into the

engine and based on mileage, the timing chains and related components must be considered, which can quickly run the bill upwards of 3K dollars.

Oil Pressure Switch

Chances are great the symptoms can be corrected by installing a new oil pressure switch. If the application is a 4x4 you will need a mirror and a flashlight just to inspect the switch and connector, as it is located behind the alternator and beneath the plumbing for the driver side turbo-charger. The oil pressure sensor is an on/off switch with no reflection of the actual engine oil pressure. The engine has pressure or it doesn't. Replacing the switch on a 4x4 must be done from beneath the hood. If the vehicle is a 2-wheel drive, accessibility to the sensor can be achieved from beneath the vehicle. The switch is positioned directly behind the alternator, so be certain to disconnect the negative battery cable before attempting to replace it. Damage to the alternator can be expensive and labor intensive, somewhere in the range of 1K dollars in parts and labor.

I just changed an oil pressure switch for the symptoms illustrated in this writing. The application was a 2013 F150 4x4 and by the time I completed the job I looked like I had been in a hatchet fight. I had lots of cuts, bruises and scrapes, but I was successful in restoring the gauge reading and eliminating the warning lamp.

Increasing Idle RPM

We have had reports of technicians restoring the gauge readings and extinguishing the Low Oil Pressure warning message by performing a throttle-body clean-up, which often increases the idle RPM. Others have accomplished the same via a program modification in the PCM to increase the idle RPM. Both may work, but it wouldn't be my first choice of repair.



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