On the Line

Troubleshooting Oil Filter Housing Leakage

What to Know About Chrysler's 3.6L Pentastar Engine

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The shop had just performed a lube service on the 2014 Jeep Wrangler equipped with a 3.6L Pentastar engine. Days later, the customer returned with an oil leakage complaint. When parked on an incline, oil would pool beneath the vehicle and a foul odor was emitted due to the oil coming in contact with the hot engine and exhaust components. When it was determined the oil filter housing was the culprit, the vehicle owner returned to the dealer for warranty repairs. Initially, he was told that overtightening the oil filter cap was the reason for the damaged housing and he was quoted $600 for the repair cost. When the dealer determined that the vehicle was one of several vehicles identified in Chrysler Service Bulletin #09-008-15 for leakage conditions, the housing was replaced under warranty. The mentioned service bulletin identifies several 2014 Chrysler, Dodge and Jeep applications and specific production dates that may encounter oil filter housing leakage. At the time of this writing, the housing was on backorder with Chrysler. This can only mean that oil filter housing leakage is a common issue with these applications, therefore be prepared for the encounter.

LIONEL LIKES THEM CAPS NICE AND **TIGHT**. THE PROBLEM IS, THIS IS THE THIRD HOUSING HE'S ABOUT TO DEMOLISH IN LESS THAN A WEEK.

OIL FILTER HOUSING

The oil filter housing and cooler is positioned beneath the intake manifold, which is referred to as the valley of the engine block. Both oil and coolant flow through the housing, which is sealed to the engine via O-rings. The presence of leakage in this area is difficult to pinpoint, as a quart of oil may accumulate in this area before any evidence of leakage may be observed, and then it may only be present when the vehicle is parked on an incline.

OIL POOLING IN ENGINE VALLEY

Prior to servicing any application equipped with this oil filter housing/cooler arrangement, we recommend checking the engine valley for evidence of oil pooling due to housing leakage. Identifying a leakage condition prior to servicing the vehicle can save a lot of frustration and it may prevent you from having to absorb some unnecessary parts and labor costs that were not your fault.

Fabricate a dipstick (preferably from wood) and insert the dipstick next to the filter housing, allowing it to descend to the bottom of the engine valley. This will allow you to measure the presence of oil accumulating due to housing leakage. Minute wetness on the tip of the dipstick should be no cause for concern, as this is most likely spillage that has occurred when changing the oil filter. If your inspection reveals an accumulation of oil in this area, a discussion with the vehicle owner should occur prior to servicing the vehicle. If the customer is not receptive to having the housing replaced, be certain to document your recommendation on the repair order and have them sign it. Retain a copy for your records. We have heard reports of fires occurring due to oil filter housing leakage.

TORQUEING THE OIL FILTER CAP

Some vehicle owners have been falsely told that aftermarket oil filters would damage the oil filter housing, and others have advised that over-tightening the oil filter cap would crack the housing. We agree that over-tightening the cap could damage the housing and each shop owner/service manager must caution their lube techs not to over-tighten the cap when changing the filter.

While there has been no documentation that over-tightening the oil filter cap has resulted in the damage to the housings illustrated in the Chrysler Service Bulletin, it is of major concern. The cap is stamped with a torque spec of 25Nm (18 ft. lbs.). Over-tightening the cap can result in damage to the oil filter/cooler housing in the form of cracks, or disturbing the housing O-rings, resulting in leakage. Torqueing the cap can save hundreds of dollars in unnecessary repairs.

We have observed a lot of caps that were cracked from over-tightening and most likely a few housings have been destroyed in the process. While this writing has been focused on 2014 applications equipped with the 3.6L Pentastar engine, other year model vehicles with this same engine and oil filter housing/cooler arrangement are subject to the same conditions.

For additional information and illustrations, ask your Mighty Rep for a copy of Tech Tip #180 *Chrysler's 3.6L Pentastar Engine...With Oil Filter Housing Leakage.*