

Oil Cooler Leakage The Oil Filter Is Often Blamed

Oil leaks are not a normal characteristic and if you are servicing a vehicle and leakage is present, it should be brought to the attention of the vehicle owner and documented on the repair order for future reference. Keep a copy just in case of engine damage that may occur later, especially if the repairs are not authorized. We have all heard the claim... I didn't have the problem until you serviced my vehicle.

When leakage is present following an oil change, the filter almost always gets the blame. A second filter is usually installed without first exploring the source of the leakage. Be especially focused on any application fitted with an oil cooler as it can provide an elusive source of leakage that is easy to miss in the diagnostic process. The following applications frequently encounter leakage complaints and are often assumed to be the fault of the filter.

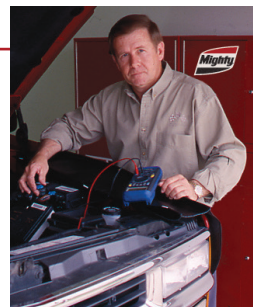
GM's 1.4L and 1.5L Oil Leakage

GM applications ranging from model years 2016-2022 equipped with 1.4L LE2, 1.5L LYX and 1.5L LFX engines including models Buick Encore, Chev Cruze, Chev Equinox, Chev Malibu, Chev Trax and GMC may encounter oil leakage, which is coming from an area above the oil filter. The leak appears to be coming from the lower crankcase extension to block sealing surface or to a porous engine block. The actual source of the leakage may be from the turbocharger oil feed pipe fitting at the engine block or from the engine oil cooler gasket. Pinpointing the source of the leak may require the addition of an oil dye to the crankcase lubricant and a leak detection lamp. It may be necessary to drive the vehicle for several miles prior to performing the lamp evaluation. If the engine oil cooler is removed, a replacement gasket should be installed. If the turbocharger oil feed pipe is removed for inspection purposes, the fitting and gasket must be replaced.

Chrysler, Dodge and Jeep

Mopar applications equipped with 2.0L and 2.4L engines may encounter oil cooler leakage often misdiagnosed as a leaking oil filter. The engine side of the cooler is sealed to the engine with a gasket/O-ring secured by a connector bolt. The opposite end of the bolt serves as the oil filter attachment point. The bolt should be torqued to 36 ft. lbs. The connector bolt may loosen with multiple oil filter changes, promoting leakage. Gasket compression is another consideration, requir-

ing a replacement gasket between the oil cooler and engine. Examine the oil filter side of the cooler for damage or deformation, which can prevent the oil filter gasket from sealing properly to the cooler. Overtightening the connector bolt can damage or distort the cooler, which is a stamped piece of metal and not a machined surface like the engine block. A bolt not properly torqued can loosen during oil filter changes, resulting in leakage.



By Larry Hammer
Technical Services

Nissan Applications

Oil cooler leakage has plagued Nissan applications equipped with VQ30 (3.0L) and VQ35 (3.5L) engines since the year 2000. The same cooler arrangement is included with current production vehicles. What appears to be oil filter leakage is actually a poor seal between the oil cooler O-ring and the engine.

Nissan has a revised O-ring, which is not a typical O-ring, requiring a trip to the dealer. Nissan recalled certain production vehicles including: 2011-2012 Nissan Frontier, Xterra, Pathfinder and Nissan NV vehicles due to the connector bolts being below specification strength. The bolts may break at the oil filter attachment point resulting in leakage. The torque spec for the connector bolt is 36 ft. lbs.

Chrysler 3.6L Pentastar Engine

The plastic filter housing and cooler assembly on the 3.6L Pentastar engine has a history of oil leakage. The housing is positioned beneath the intake manifold (engine valley) and has a history of leakage. The leakage is not often immediately visible following an oil change as this area may accumulate a quart of oil before displaying any sign of leakage. Damage to the cooler housing in the form of cracks or disturbing the O-rings often occurs due to overtightening the oil filter cap during a lube service, resulting in oil or coolant leakage. The torque spec on the cap is 25 Nm (18 ft. lbs.). To check for oil pooling in the engine valley, fabricate a dipstick (preferably of wood) and insert it next to the oil filter housing and allow it to bottom out at the base of the engine valley. A small amount of wetness on the tip of the dipstick may be the result of spillage when changing the oil filter and should be no cause for concern. Pooling in this area should receive immediate attention, as the potential for a fire exists.

