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### Corrosion on oil spin-on filters due to installation errors

*Incorrect installation of spin-on filters (OC) can lead to corrosion damage and ultimately oil leakage.*

#### Installation of oil filters

Oil filters are available as filter elements (OX) and spin-on filters (OC). The two variants differ not only in their design but also—and significantly—in the way they are replaced.

In the case of OX filters, the cover of the oil filter housing is loosened with a tool, such as a socket spanner, and then



Figure 1: The OCS removal tool may only be used to loosen the filter.



Figure 2: The new filter is tightened by hand.

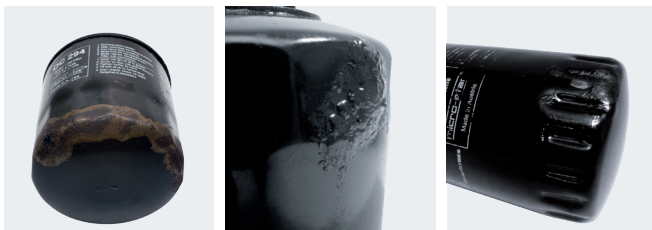


Figure 3: Corrosion damage can develop on the spin-on oil filter.

retightened using the same tool once the filter element has been replaced.

The procedure is different for spin-on filters. Here, the filter to be replaced is removed with a special removal tool, such as MAHLE OCS. However, this tool must not be used to install the new filter. OC filters may only be tightened by hand and in accordance with the vehicle manufacturer's specifications.

Tightening the filters with a removal tool can damage the surface coating, leading to serious problems. Because the spin-on filter is often in an exposed position on the engine, it's subjected to high levels of stress from water spray, exhaust heat, stone chips, etc. It can corrode rapidly if the protective coating is damaged. Constantly changing temperatures and winter road salt can accelerate rusting to the point where the filter leaks and oil escapes.

#### Correct spin-on oil filter installation

In addition to the vehicle manufacturer's specifications, attention must be paid to the following points when installing spin-on filters:

- If necessary, remove the old seal on the oil filter flange and clean the sealing area.
- -Coat the seal of the new filter with clean engine oil.
- -Position the filter and screw it in by turning it the specified minimum number of times until the seal is in contact.
- -Hand-tighten the filter to the specified torque or angle of rotation.
- Fill with engine oil, start the engine, and check the oil level.
- Finally, check for leaks.

#### Important!

Oil spin-on filters may be removed using a removal tool, but tightening may only be done by hand and in accordance with the vehicle manufacturer's specifications.