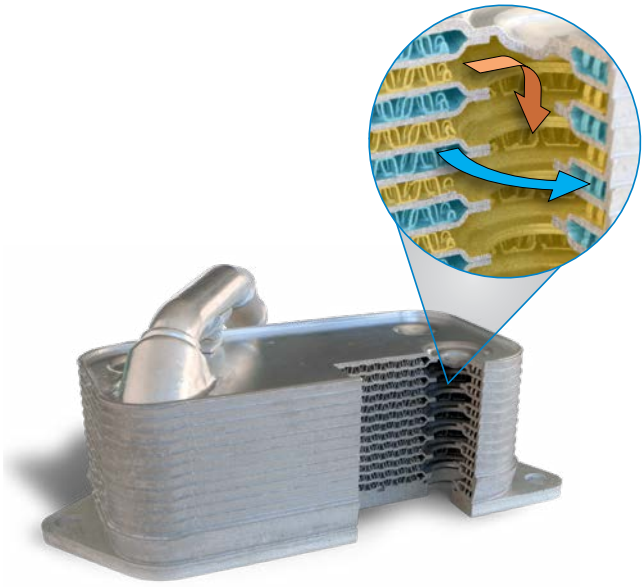
SERVICE INFORMATION

OIL COOLER – SERVICE NOTES

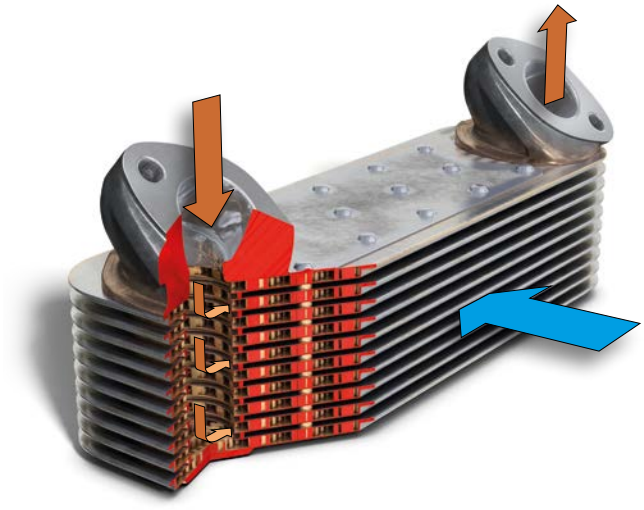
Oil coolers are usually made of aluminium or stainless steel. Several plates positioned on top of one another create separated channels, with channels containing oil alternating with channels containing coolant agent. For improved heat transfer, the channels usually include fins to increase their surface area. The coolant agent used is typically either a coolant or airflow.

For engine parts subjected to high levels of stress, such as pistons, the engine oil is not only used for lubrication and ultrafine sealing around the piston rings, but also as a cooling agent. The oil cooler, which is integrated into the closed oil circuit, provides additional cooling for the engine.

Oil coolers are robust components. Any damage is almost always caused by external influences or incorrect handling.



Oil cooler in a passenger car



Oil cooler in a utility vehicle

MALFUNCTIONS, CAUSES, REMEDIES

The following symptoms and malfunctions may indicate damage to the oil cooler:

- Oil in the coolant
- Excessive loss of coolant
- Increasing engine temperature
- Reduced engine performance

The causes of this can be:

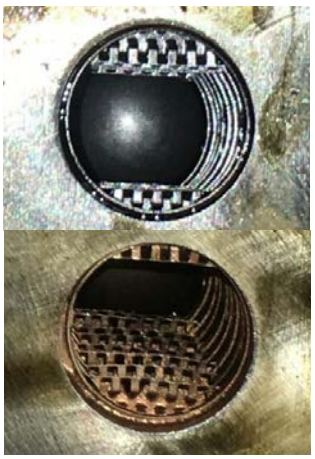
- Congestion in the channels due to dirt particles
- Leakages caused by stone chipping, warping during installation, driving the vehicle on uneven ground or corrosion
- Fitting error

Oil coolers can become dirty or even clogged as a result of abrasion or chips. Dirt particles cannot be completely removed from the fine fins by cleaning them. If an old oil cooler is reused, these dirt particles can work loose, enter the oil circuit and cause engine damage or premature wear. For this reason, the oil cooler should not be cleaned when reconditioning an engine, instead the oil cooler should always be replaced.

Most mechanical damage is caused by external influences, such as stone chipping or corrosion. The soldered or crimped fins may splinter if the vehicle suffers an impact when driving over bumps in uneven ground. Leaks can also occur due to incorrectly installed, misaligned seals or incorrect tightening torques.

Inlet channel with impurities

Clogged cooler fins



Oil inlet:

- Good condition in top image
- Corroded in bottom image

Mechanical damage

NOTE

Make sure that no impurities enter the oil circuit. Check or replace the oil filter regularly.

CAUTION

Leaks in the oil system can not only cause environmental damage, but also engine damage. During maintenance, technicians should therefore not only ensure that there are no leaks from the oil cooler, but also that the oil-carrying pipes are in good condition.