



Drive

Cooling system

- Changes

Water cooling

The radiator is made completely of aluminium. To date, the radiator tanks were made of plastic. The use of only one material greatly simplifies recycling of the radiators/coolers.

The belt pulley for the coolant pump was adapted to the new 6-rib V-belt. Two different water pumps are used for the E60 and E65:

A new coolant pump with a plastic pulley and modified impeller diameter is fitted in the E60 (with no viscous fan). The coolant pump of the M47TU (automatic transmission) was adopted for the E65 (with viscous fan).

The thermostat housing was adopted from the M47TU (common part) for both coolant pumps.

The coolant hoses are equipped with the quick-release couplings already known from the M47TU.

A suction-action viscous fan and a pressing-action electric fan (600 W) are used for the E65. Only suction-action electric fans (400 W for manual gearbox, 600 W for automatic gearbox) are fitted in the E46 and E60.

Air flap control is used for the E60 (the air flap control system and cooling module are described in the documentation E60, M54 Cooling system).

The coolant on the E60 no longer need replacement (lifetime coolant).



Drive

Charge air cooling

The connections for the charge air duct/charge air cooling are equipped with quick-release couplings.

The intercooler is made completely of aluminium. Plastic parts are no longer fitted.

Transmission oil cooling system

The transmission oil cooler with integrated thermostat is located on the oil pan of the engine.



Drive

- Charge air cooling

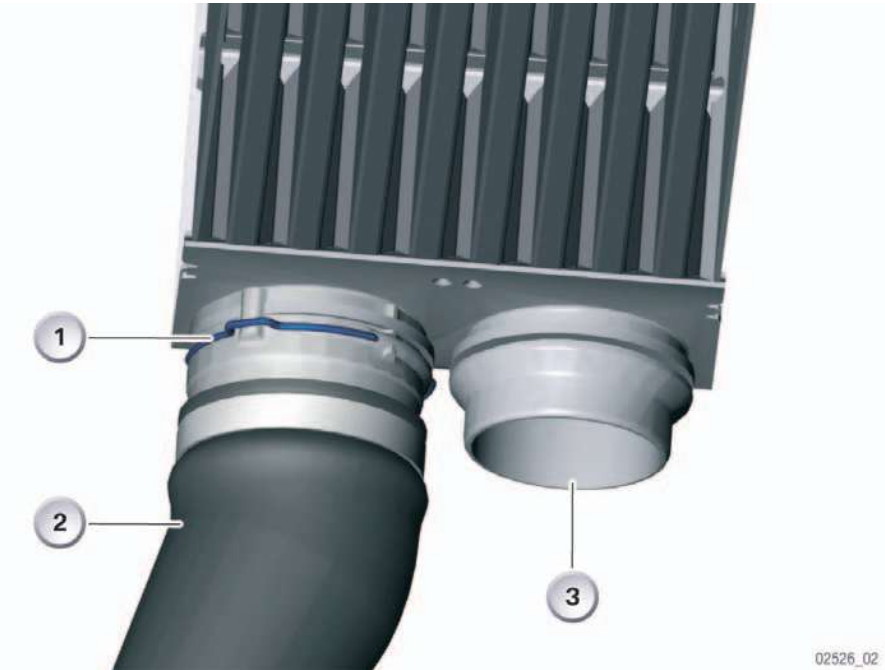


Fig. 10: Quick-release couplings of the charge air duct on the intercooler

Index	Explanation
1	Clip
2	Charge air duct with quick-release coupling
3	Charge air outlet at intercooler

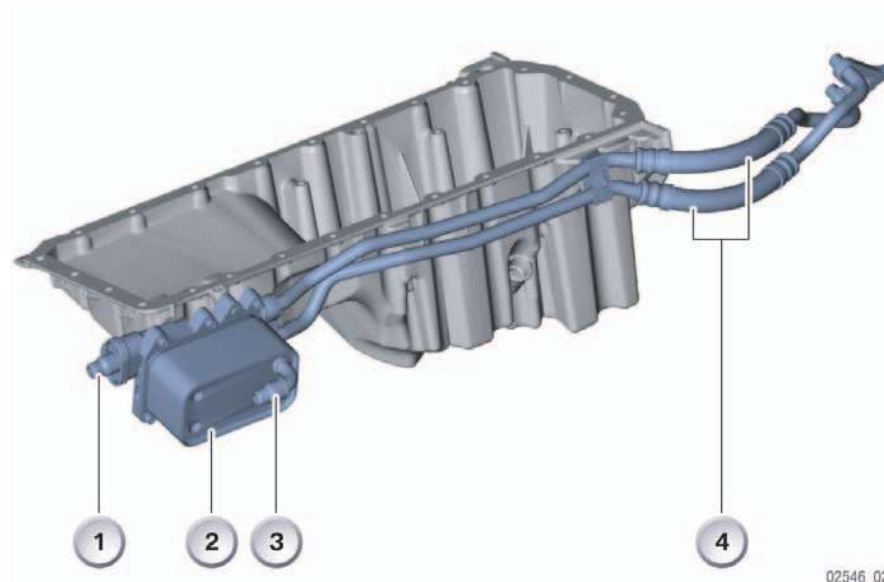
The connections for the charge air duct are equipped with quick-release couplings that ensure reliable mounting of the charge air duct.

To mount the duct, the quick-release couplings are fitted on the connections such that a clip engages in the recess in the connections. The clips must be removed to detach the duct. The charge air duct can then be detached from the connection.



Drive

- Transmission oil cooling system



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Fig. 11: Oil pan and transmission oil cooler

Index	Explanation
1	Coolant connection at thermostat
2	Transmission oil cooler
3	Coolant connection at transmission oil cooler
4	Transmission oil lines to automatic gearbox

The transmission oil cooler is located on the oil pan of the engine.

A thermostat is integrated in the transmission oil cooler. A transmission oil-flooded wax element is located in the thermostat. The wax element is flooded by the transmission oil.

The thermostat controls the amount of water flowing through the oil cooler as a function of the oil temperature.