Replacement of coolant pump with thermal management unit, Schaeffler Thermal Management 538 0360 10 for 1.8/2.0 TFSI EA888 Gen3 VW Group engines, procedure shown on Audi TT MK3 2.0 TFSI

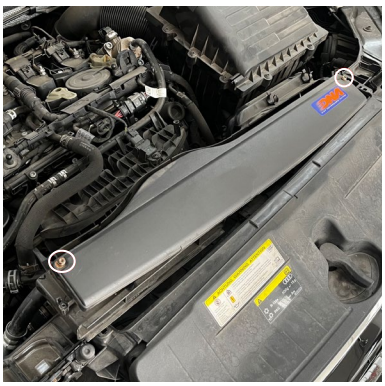
Removal procedure

1 Remove the lower cover under the engine

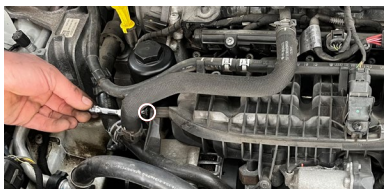
2 Remove the engine cover by pulling it up

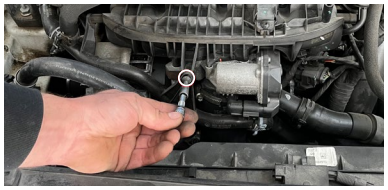
3 Remove the air filter housing and air duct cover

4 Unscrew two bolts left and right, unclip air duct bottom section and detach



5 Unscrew coolant pipe from intake manifold and set it aside so that it does not obstruct

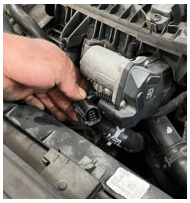


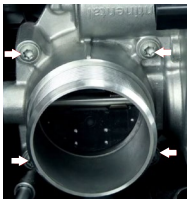


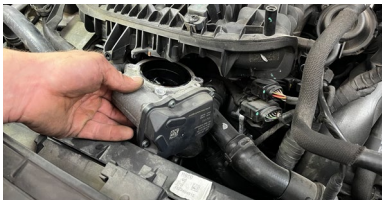
6 Remove clamp on the throttle valve hose, clamp on intercooler hose and unlock the coolant pipe

7 Unscrew two mounting bolts of charge air pipe, disconnect the boost pressure sensor plug and remove the whole charge air pipe by pulling it downwards

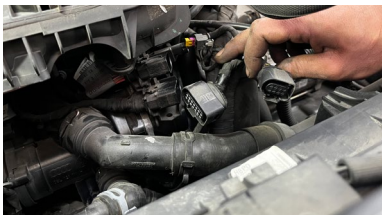
8 Unplug throttle valve connector, unscrew its 4 mounting bolts and remove throttle body from the intake manifold



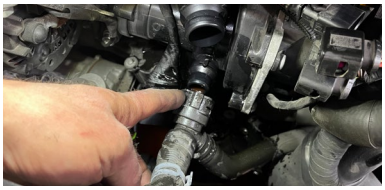


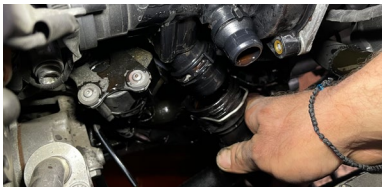


9 Disconnect connectors, unscrew 2 securing bolts and lay bracket to one side



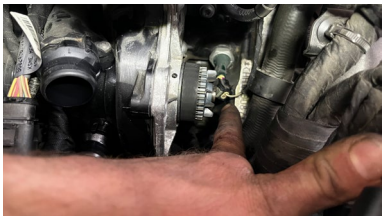
10 Place a liquid collection container under the engine, carefully detach all coolant connections (3) from thermal management unit by lifting the retaining clips and push them to one side





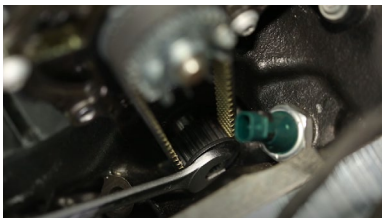
11 Remove counter supporting bar between the intake manifold and engine block

12 Unscrew two bolts, remove toothed belt guard and disconnect the plug on the oil pressure switch

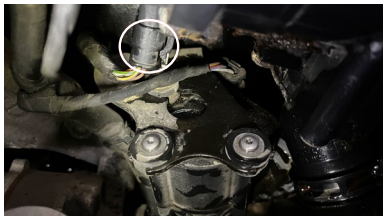


13 Loosen the bolt for the water pump drive pulley on balancer shaft and remove the toothed belt

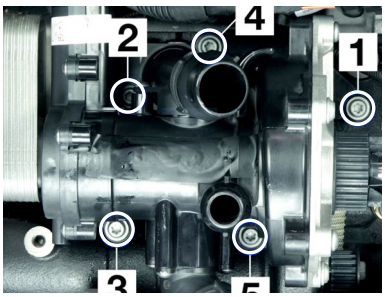
Caution: Left hand thread, make sure the engine does NOT turn when releasing the bolt



14 Disconnect plug from the thermal management unit



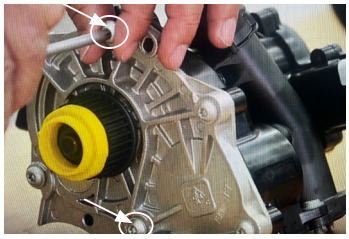
15 Unscrew 5 mounting bolts, remove coolant pump with thermal management unit from the centering pins on the engine block and pull away from the engine oil cooler



Installation procedure

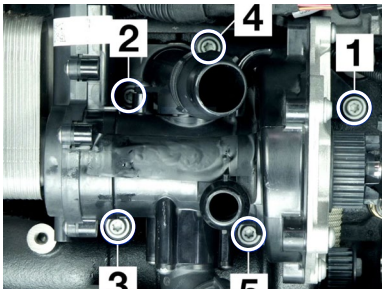
Installation is carried out in reverse order, note the following points:

1 Before installing the new module, loosen and remove two bolts in order to be able to install the toothed belt guard after module installation on cylinder block.



2 Carefully clean sealing surfaces on the cylinder block. It is strongly recommended to use new o-rings for the connecting pipe. Moisten new o-rings only with coolant. Fit connecting pipe into engine oil cooler opening. Push coolant pump with thermal management unit onto connecting pipe and centering pins in the cylinder block

3 Tighten 5 bolts of thermal management unit with a torque of 9Nm



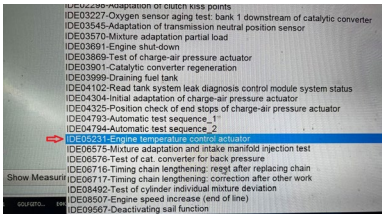
4 Install new toothed belt and screw included in kit 538 0360 10

Caution: Left hand thread, make sure the engine does **NOT** turn when tightening the bolt, tightening torque 9 Nm + 90°

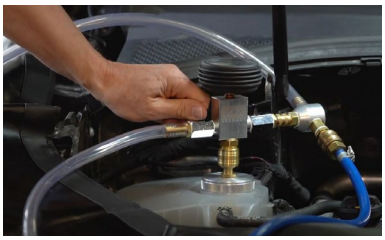
5 The cooling system must be filled by following the manufacturer's recommended procedure using a vacuum filling device and bleed using a suitable diagnostic tool.

Procedure:

1 Connect vehicle diagnostic tool, switch on ignition and select "Fill/bleed cooling system" function.



2 Fill cooling system with coolant G12++ or G12evo using a suitable vacuum filler device. This device generates vacuum in the cooling system. By creating vacuum in the system, coolant is being sucked out of the coolant container and consequently filled into the cooling system. When coolant level is at the "max" marking in the coolant expansion tank, disconnect the vacuum filling device.



3 Check coolant level again/ add more coolant if necessary.

4 Disconnect the diagnostic device and switch off the ignition.

5 When the engine is cold, the coolant level should be between "min" and "max" markings. Fill more coolant if necessary.

6 If this procedure is not followed, damage to the water pump and or engine may occur. This may also invalidate the warranty.