

REPLACING THE TRANSMISSION OIL COOLER THERMOSTAT (G12)

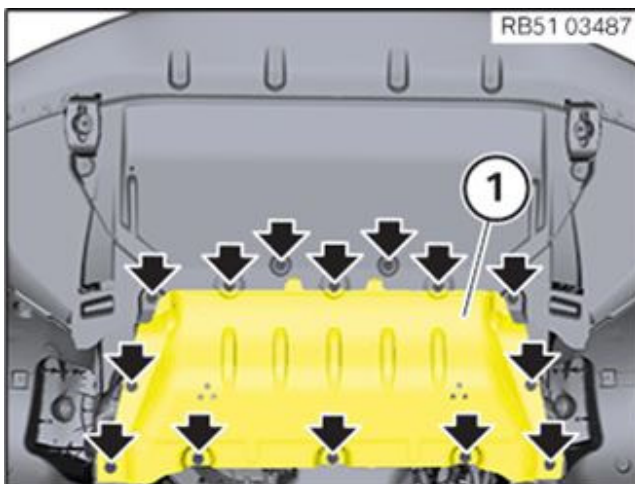
Preliminary Work:

Remove the radiator electric fan. Follow Repair Instruction **17 11 035 Removing and installing/replacing fan cowl with electric fan.**

Remove the left front wheel arch cover. Follow Repair Instruction **51 71 038 Remove and install/replace front left wheel arch cover (front section) on the left or right.**

Remove the left steering assembly cover. Follow Repair Instruction **51 75 010 Removing and installing/replacing left or right steering assembly cover.**

Transmission Cooler Thermostat Replacement Procedure



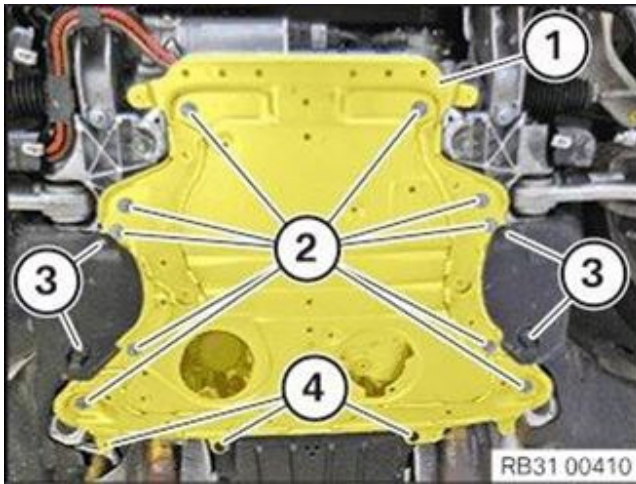
1. Remove the front underbody protection.

- Loosen all indicated screws.
- Remove Front underbody protection (1).



2. Remove the transmission underbody protection.

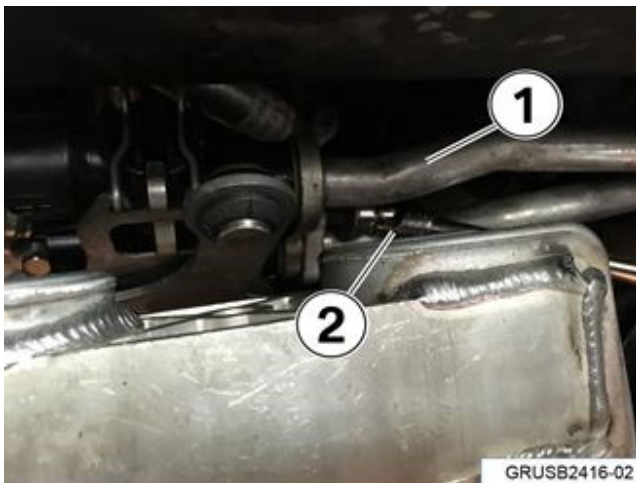
- Loosen all indicated screws.
- Remove protection pan (1).



3. Remove the stiffening plate.
- Loosen screws 3 and 4.
 - Loosen screws 2.
 - Remove stiffening plate 1.



Note: The transmission cooler thermostat is visible through the wheel well between the left front frame rail and the front sub-frame.



Attention

Transmission fluid will spill! Place a catch pan under the car in the area of the transmission cooler thermostat. Do not re-use spilled fluid.

4. (access through the wheel well)
Remove the bolt holding the transmission side cooler lines (1) from the thermostat using a 1/4", 10 mm universal socket with extension (2).



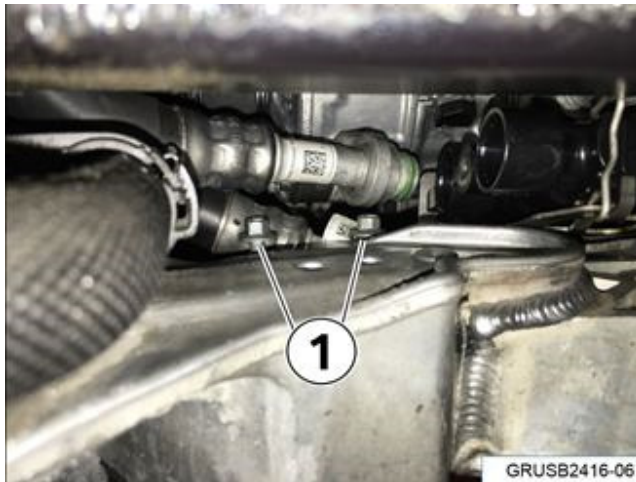
5. Remove the bolt holding the cooler lines to the transmission thermostat.
 - a) Combine a 1/4", 10 mm universal socket with extension(s) to reach a length 8.5" (1).



- b) (access from under the car) feed the socket/extension up over the front sub-frame and attach the socket to the bolt holding the cooler lines to the transmission thermostat on the cooler side (1).



- c) Attach a ratchet to the socket extension from over the sub-frame by the radiator (1) and remove the bolt for the cooler lines.



6. Remove the transmission cooler thermostat together with the bracket.
 - a) Remove the two 8mm bolts (1) that hold the thermostat bracket to the sub-frame.



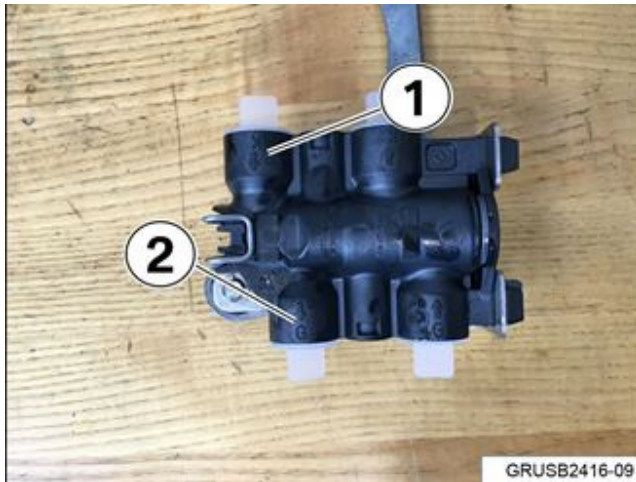
Note: The illustration shows the bolts already loosened as a reference for the location of the bolts.



- b) (Access from under the engine compartment) Rotate and pull out the transmission cooler thermostat with bracket (1).



7. Undo retaining clip (1) and remove the old thermostat.



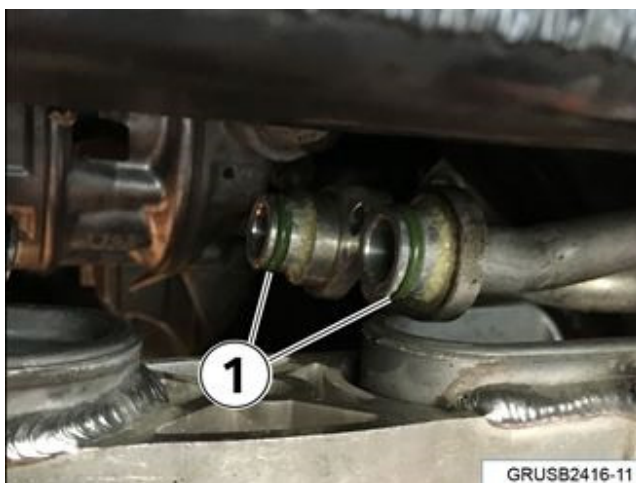
8. Install the new thermostat to the bracket.



Note: The direction of transmission fluid flow. "K" is transmission cooler side (1) and "G" is the transmission side (2).



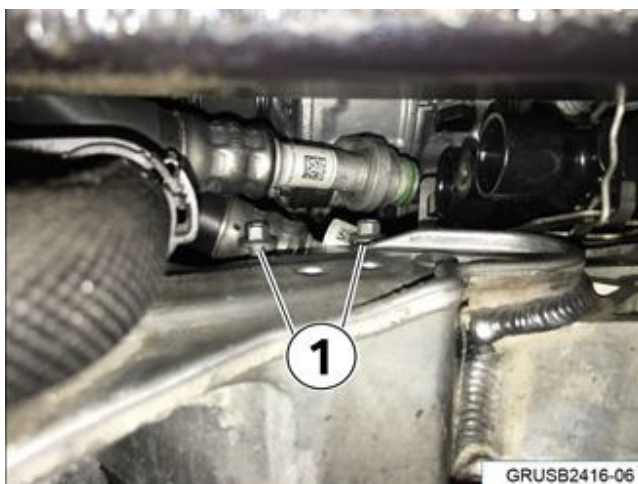
9. Attach the bracket (1) to the new thermostat before installation.



10. Replace the O-rings on the transmission cooler lines (from transmission) (1).



11. Replace the O-rings on the transmission cooler lines (from transmission cooler) (1).



12. Tighten down the thermostat bracket bolts (1) to 8Nm.

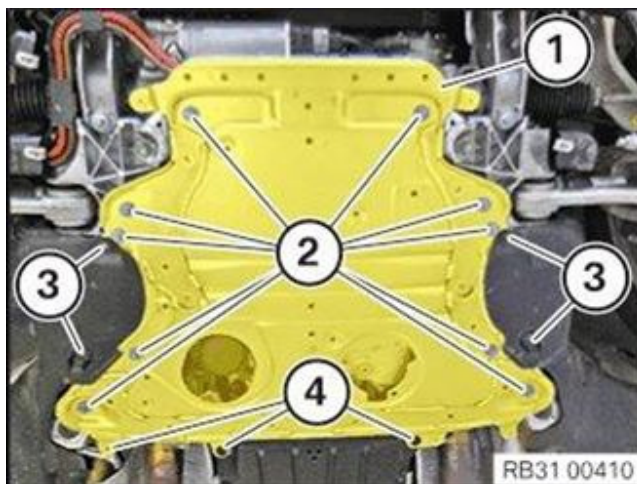


13. Tighten down the retaining bolt (1) for the cooler lines on the transmission side to 8Nm.



14. Tighten down the retaining bolt (1) for the cooler lines on the cooler side to 8Nm.

- 15. Install the electric fan for the radiator.
- 16. Install left steering assembly cover.
- 17. Install the left front wheel arch cover.



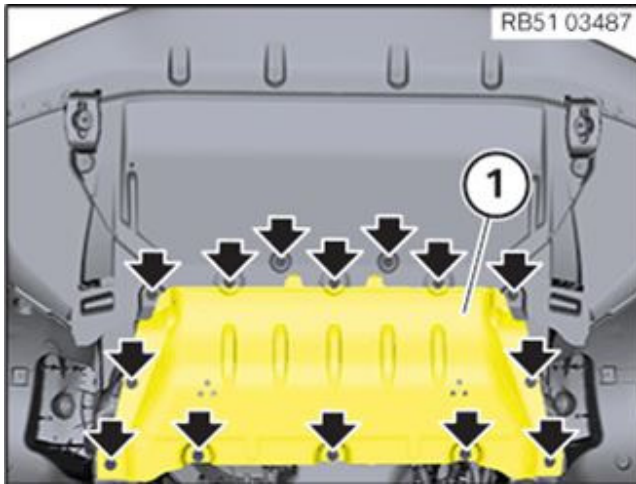
18. Install the stiffening plate (1)

- Tighten screws (3) and (4). Tightening torque 3 Nm.
- Replace screws (2) (P/N 31 10 6 870 648). Tightening torque: 15 Nm jointing torque followed by angle torque of 90°



19. Install the transmission underbody protection (1)

- Tightening torque 3 Nm.



20. Install front underbody protection
- Tightening torque 3 Nm.

21. After all repairs are complete, perform an oil-level adjustment through ISTA.

Follow ISTA path: Service function/Power train/transmission control unit
8HPTU/Transmission oil/Oil-level adjustment.



Note: Preconditions for oil-level adjustment with the BMW diagnostic system

- Initial condition: Transmission oil temperature is 30° to 40°C
- Final condition: Transmission oil temperature is 40° to 50°C

22. Test drive the vehicle for 10 minutes.

23. After test drive, to confirm the repairs, connect to ISTA/D and read out the transmission fluid temperature (through diagnostic requests).

- The transmission fluid should be between 74°C and 90°C when the engine is at operating temperature.