



How to change engine  
thermostat on **BMW 5**  
**Saloon (E39)** –  
replacement guide

## SIMILAR VIDEO TUTORIAL



This video shows the replacement procedure of a similar car part on another vehicle

### **Important!**

This replacement procedure can be used for:  
BMW 5 Saloon (E39) 520d 2.0

The steps may slightly vary depending on the car design.

This tutorial was created based on the replacement procedure for a similar car part on: BMW 3 Touring (E46) 320d 2.0

REPLACEMENT: ENGINE THERMOSTAT – BMW 5  
SALOON (E39). TOOLS YOU'LL NEED:



- All-purpose cleaning spray
- Sealant
- Torque wrench
- Combination spanner #13
- Drive socket # 7
- Drive socket # 10
- Drive socket # 12
- Drive socket # 13
- HEX bit No.H5
- Ratchet wrench
- Flat screwdriver
- Seal scraper
- Fluid container
- Funnel
- Crow bar
- Microfibre towel
- Fender cover
- Wheel chock

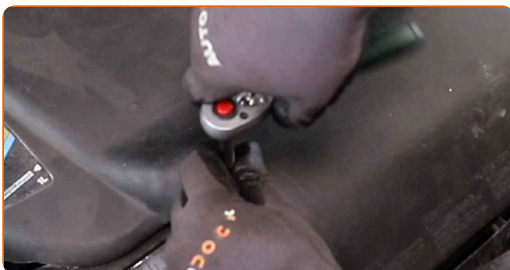
[Buy tools](#)

Replacement: engine thermostat – BMW 5 Saloon (E39). AUTODOC recommends:

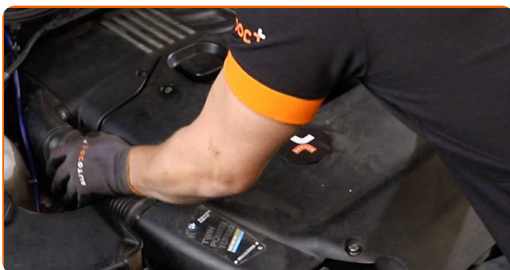
- Check the condition of the coolant every time you replace the thermostat. Change the coolant if necessary.
- Please note: all work on the car – BMW 5 Saloon (E39) – should be done with the engine switched off.

**CARRY OUT REPLACEMENT IN THE FOLLOWING ORDER:**

- 1 Open the bonnet.
- 2 Use a fender protection cover to prevent damaging paintwork and plastic parts of the car.
- 3 Unscrew the fasteners of the air distribution housing assembly. Use a drive socket #12. Use a ratchet wrench.



- 4 Remove the air distribution housing assembly.



- 5 Secure the wheels with chocks.

6

Lift the car using a jack or place it over an inspection pit.



7

Unscrew the engine cover fastener. Use HEX No.H5. Use a ratchet wrench.



8

Remove the engine cover.



**AUTODOC recommends:**

- Do not apply excessive force when removing the part. Otherwise you may damage it.

9

Prepare a container for fluids.



10 Unscrew the coolant drain plug. Use a flat screwdriver.



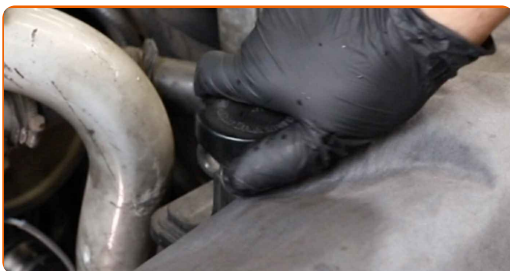
11 Drain the coolant from the engine.



Replacement: engine thermostat – BMW 5 Saloon (E39). Tip from AUTODOC experts:

- Caution! The coolant can be very hot.
- Wear gloves to prevent contact with hot liquid.
- All work should be done with the engine stopped.
- Wait until the coolant has completely flowed out of the drain hole.

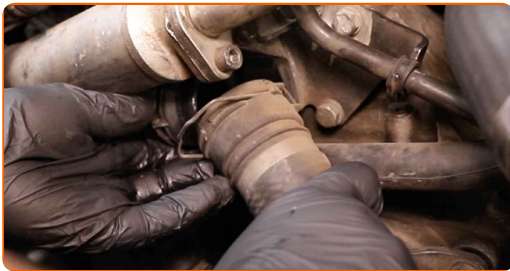
12 Unscrew the coolant reservoir cap.



**13** Disconnect the coolant pipe retaining clip. Use a crowbar.



**14** Detach the coolant hose. Use a crowbar.



Replacement: engine thermostat – BMW 5 Saloon (E39). AUTODOC recommends:

- Be careful! The coolant may leak.

**15** Screw in the coolant drain plug. Use a flat screwdriver.



**16** Remove the fastening clamps of the air filter breather pipe and the air filter inlet pipe. Use a drive socket #7. Use a ratchet wrench.



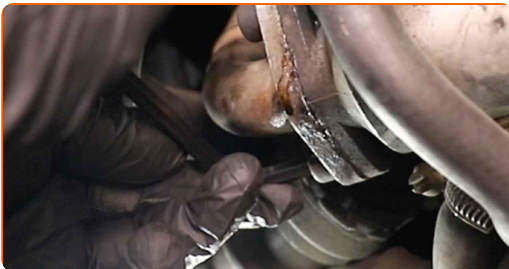
17 Remove the air intake hose.



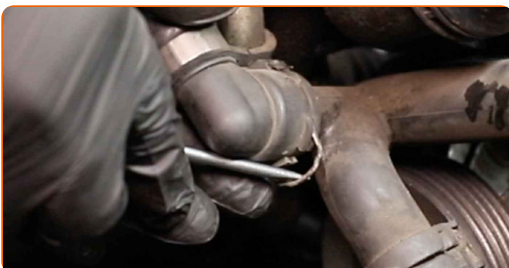
18 Cover the air intake hose with a microfibre towel to prevent dust and dirt from getting into the system.



19 Unscrew the EGR cooler fasteners. Use HEX No.H5.



20 Disconnect the coolant pipe retaining clip. Use a crowbar.



21 Detach the coolant hose.





Replacement: engine thermostat – BMW 5 Saloon (E39). Tip from AUTODOC experts:

- Be careful! The coolant may leak.

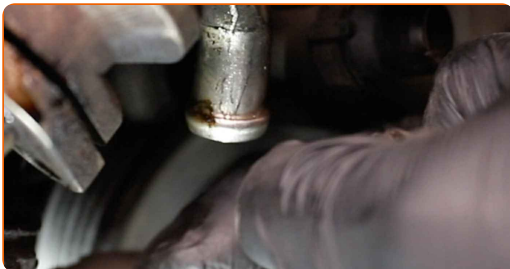
22

Loosen the coolant hose clamp. Use a drive socket #7. Use a ratchet wrench.



23

Detach the coolant hose.



Replacement: engine thermostat – BMW 5 Saloon (E39). Tip:

- Be careful! The coolant may leak.

24

Loosen the clamp on the EGR cooler pipe. Use a drive socket #7. Use a ratchet wrench.



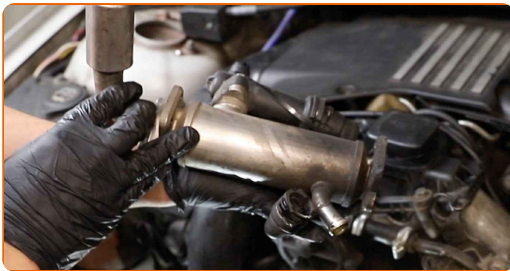
25 Disconnect the EGR cooler pipe.



26 Unscrew the EGR cooler fasteners. Use a combination spanner #13.



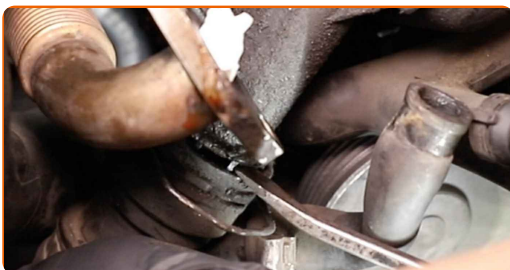
27 Remove the EGR cooler.



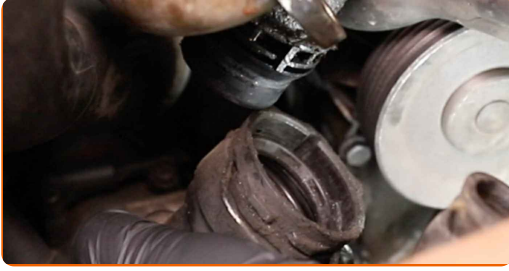
28 Cover the EGR cooler pipe with a microfibre cloth to prevent dust and dirt from entering the system.



29 Disconnect the coolant pipe retaining clip. Use a crowbar.



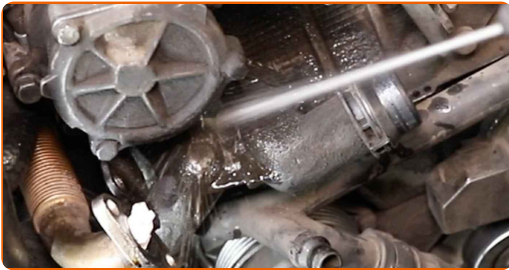
30 Detach the coolant hose.



Replacement: engine thermostat – BMW 5 Saloon (E39). Tip from AUTODOC:

- Be careful! The coolant may leak.

31 Clean the thermostat housing fasteners. Use all-purpose cleaning spray.



32 Unscrew the thermostat housing fasteners. Use a drive socket #10. Use a ratchet wrench.



33

Unscrew the EGR cooler bracket. Use a drive socket #13. Use a ratchet wrench.



34

Unscrew the thermostat housing fasteners. Use a drive socket #10. Use a ratchet wrench.



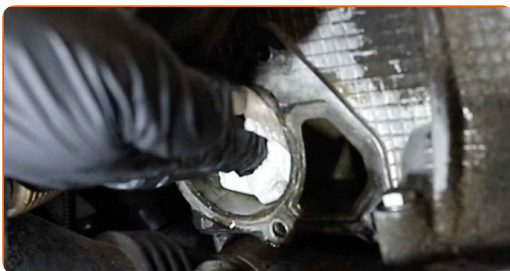
35

Remove the thermostat housing.



36

Cover the EGR cooler pipe with a microfibre cloth to prevent dust and dirt from entering the system.



37

Clean the thermostat housing mounting seat. Use a seal scraper. Use all-purpose cleaning spray.



38

Remove the microfibre cloth.



39

Treat the thermostat housing mounting seat. Use a sealant.

40

Install the new thermostat housing.

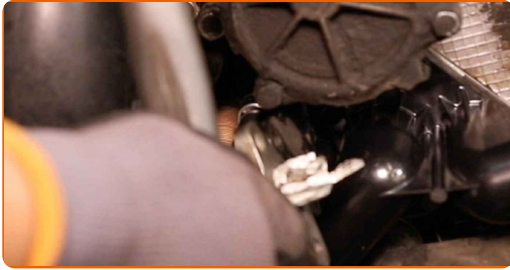


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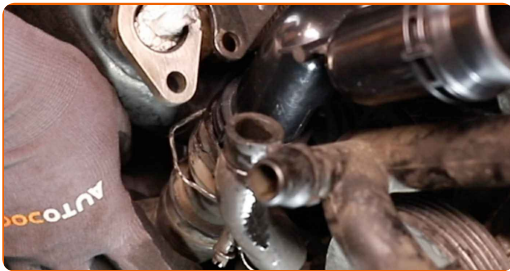
Tighten the thermostat housing fasteners. Use a drive socket #10. Use a torque wrench. Tighten it to 9 Nm torque.



**42** Tighten the EGR cooler bracket. Use a drive socket #13. Use a torque wrench. Tighten it to 14 Nm torque.



**43** Attach the coolant hose.



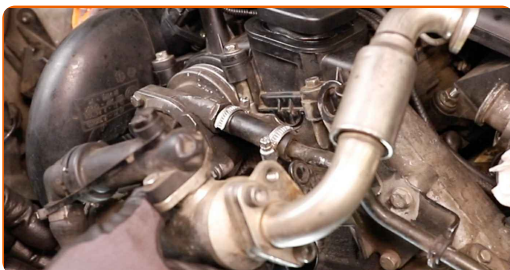
**44** Connect the coolant pipe retaining clip.



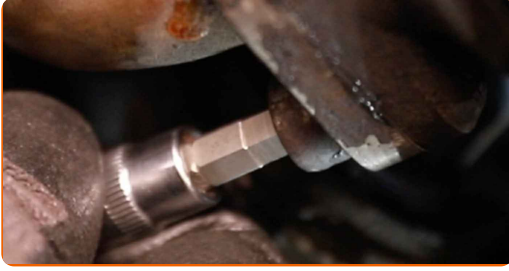
**45** Remove the microfibre cloth from the EGR cooler pipe.



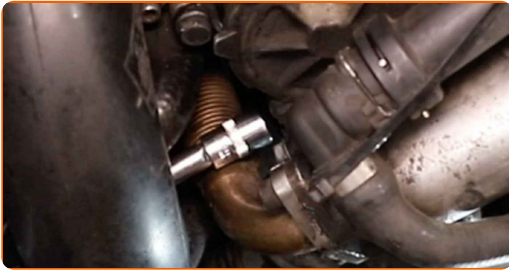
**46** Install the EGR cooler.



**47** Tighten the EGR cooler fasteners. Use HEX No.H5. Use a torque wrench. Tighten it to 6 Nm torque.



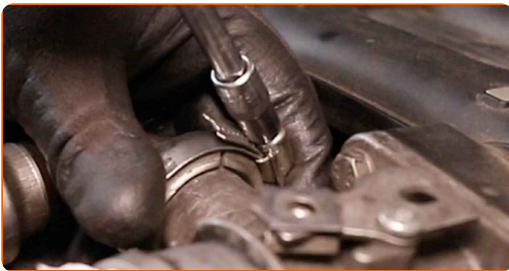
**48** Tighten the EGR cooler fasteners. Use a drive socket #13. Use a torque wrench. Tighten it to 12 Nm torque.



**49** Connect the EGR cooler pipe.

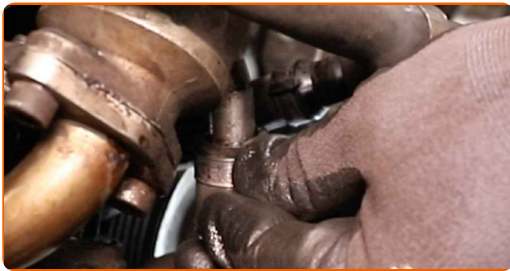


**50** Tighten the clamp of the EGR cooler pipe. Use a drive socket #7. Use a ratchet wrench.



51

Attach the coolant hose.



52

Secure the coolant hose clamp. Use a drive socket #7. Use a ratchet wrench.



53

Attach the coolant hose.



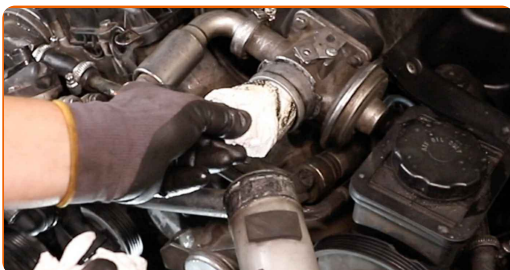
54

Connect the coolant pipe retaining clip.



55

Remove the microfibre cloth from the coolant hose.

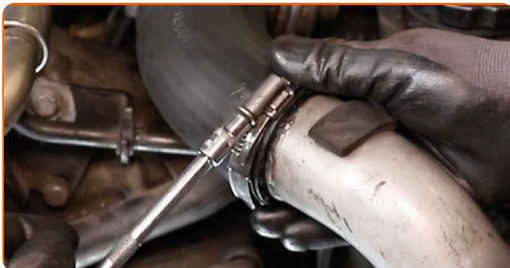




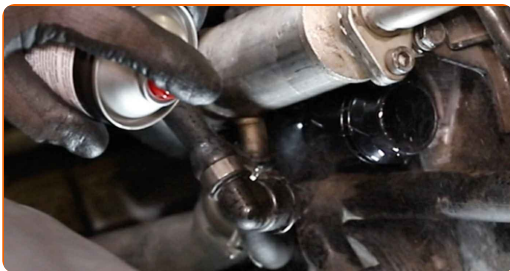
**56** Install the air intake hose and secure it.



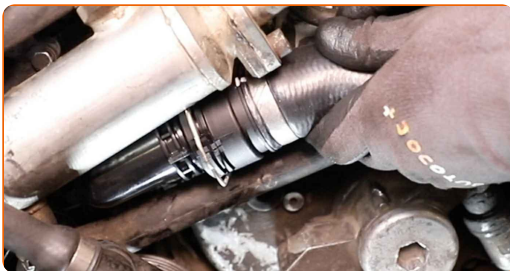
**57** Install the fastening clamps of the air filter breather pipe and the air filter inlet pipe. Use a drive socket #7. Use a ratchet wrench.



**58** Clean the mounting seats of the coolant hose. Use all-purpose cleaning spray.



**59** Attach the coolant hose.



60 Connect the coolant pipe retaining clip.



61 Insert the funnel.



62 Pour coolant in the coolant reservoir.



Replacement: engine thermostat – BMW 5 Saloon (E39). AUTODOC experts recommend:

- Only use the coolant recommended by the manufacturer.
- The coolant level should be at the MAX mark.
- Wait until the air goes out of the system.

63

Unscrew the bleeder screws. Use a flat screwdriver.



Please note!

- This is necessary to remove any remaining air from the system.

64

Screw in the bleeder screws. Use a flat screwdriver.



65

Check the coolant level. If necessary, top up to the required level.



66

Screw on the coolant reservoir cap.



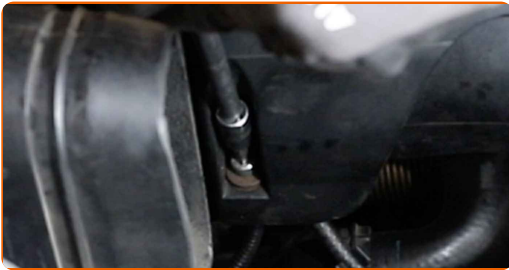
67 Install the engine cover and secure it.



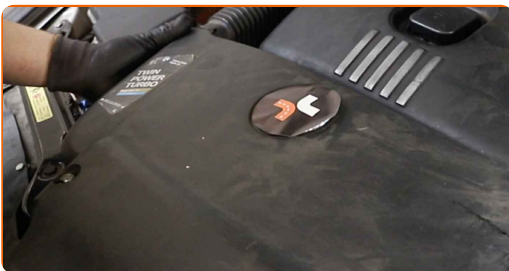
**AUTODOC recommends:**

- When installing, do not use excessive force to avoid damage to the part.

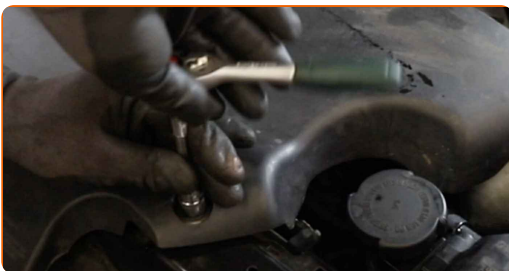
68 Screw in the engine cover fasteners. Use HEX No.H5. Use a ratchet wrench.



69 Reinstall the air distribution housing assembly.



70 Screw in the fasteners of the air distribution housing assembly. Use a drive socket #12. Use a ratchet wrench.



- 71 Lower the car.
- 72 Remove the jacks and chocks.
- 73 Run the engine for a few minutes. This is necessary in order to make sure that the component operates properly.
- 74 Shut off the engine.
- 75 Remove the fender protection cover.
- 76 Close the hood.

**WELL DONE!** 

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