# **+** AUTODOC CLUB

How to change engine thermostat on **Alfa Romeo 147 937** – replacement guide







#### **VIDEO TUTORIAL**



### important!

This replacement procedure can be used for:

ALFA ROMEO GTV (916C\_) 2.0 T.SPARK 16V, ALFA ROMEO SPIDER (916S\_) 2.0 T.SPARK 16V, ALFA ROMEO 146 (930) 1.6 i.e. 16V T.S. (930.B2B), ALFA ROMEO 145 (930) 1.6 i.e. 16V T.S. (930.A2), ALFA ROMEO 156 Saloon (932) 1.6 16V T.SPARK, ALFA ROMEO 156 Saloon (932) 2.0 16V T.SPARK, ALFA ROMEO GTV (916C\_) 1.8 16V, ALFA ROMEO SPIDER (916S\_) 1.8 16V, ALFA ROMEO 145 (930) 1.8 i.e. 16V (930.A1A), ALFA ROMEO 146 (930) 1.8 i.e. 16V T.S. (930.B1A), ALFA ROMEO 145 (930) 2.0 16V (930.A5), ALFA ROMEO 146 (930) 2.0 16V (930.B5), ALFA ROMEO 156 Sportwagon (932) 1.6 16V T.SPARK., ALFA ROMEO 156 Sportwagon (932) 1.8 16V T.SPARK, (+3)

The steps may slightly vary depending on the car design.

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## REPLACEMENT: ENGINE THERMOSTAT – ALFA ROMEO 147 937. TOOLS YOU MIGHT NEED:



- All-purpose cleaning spray
- Electronic spray
- Sealant
- Torque wrench
- Drive socket #7
- Drive socket # 13
- Torx bit T40
- Ratchet wrench

- Seal scraper
- Flat screwdriver
- Funnel
- Clic-R collar pliers
- Fluid container
- Crow bar
- Microfibre towel
- Fender cover

**BUY TOOLS** 

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### Replacement: engine thermostat – Alfa Romeo 147 937. AUTODOC experts recommend:

- Check the condition of the coolant every time you replace the thermostat. Change the coolant if necessary.
- Please note: all work on the car Alfa Romeo 147 937 should be done with the engine switched off.

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

1

3

Open the hood.



Use a fender protection cover to prevent damaging paintwork and plastic parts of the car.



Unscrew the coolant reservoir cap.



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



5 Prepare a container for fluids.



Disconnect the coolant pipe retaining clip. Use a flat screwdriver.



Detach the coolant hose.



Replacement: engine thermostat – Alfa Romeo 147 937. Tip from AUTODOC:

• Caution! Coolant may leak out of the coolant lines and thermostat housing.

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8







Drain the coolant from the engine.



## Replacement: engine thermostat – Alfa Romeo 147 937. AUTODOC experts recommend:

- 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.

9 Attach the coolant hose.



- Connect the coolant pipe retaining clip.
- Lower the car.



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Unscrew the engine cover fastener. Use Torx T40. Use a ratchet wrench.



13 Unscrew the oil filler plug.



14 Remove the oil filler cap.



Remove the engine cover.



#### AUTODOC recommends:

 Replacement: engine thermostat – Alfa Romeo 147 937. Do not use excessive force when removing the part as this may damage it.

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16 Install the oil filler cap.



Tighten the oil filler cap.



On the right side, detach the PCV valve hose from the engine cover. Use a flat screwdriver.



Cover the PCV valve hole with a microfibre cloth to prevent dirt and foreign objects from getting into the system.



Detach the mass air flow sensor connector.

20



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Disconnect the MAF sensor wiring. Use a flat screwdriver.



Unscrew the clamp and fasteners on the air filter intake pipe. Use a drive socket #7. Use a ratchet wrench.



Disconnect the air intake pipe from the air filter housing.



Cover the throttle body with a microfibre towel to prevent dust and dirt from getting into the system.



Remove the filter element from the filter housing.

25



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Prepare a container for fluids.



Unplug the connector of the coolant temperature sensor.



Loosen the coolant hose clamp. Use a flat screwdriver.



Detach the coolant hose.



Replacement: engine thermostat – Alfa Romeo 147 937. Tip:

• Caution! Coolant may leak out of the coolant lines and thermostat housing.

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



Detach the coolant hose.



Replacement: engine thermostat – Alfa Romeo 147 937. Tip from AUTODOC experts:

- Caution! Coolant may leak out of the coolant lines and thermostat housing.
- Loosen the coolant hose clamp. Use a flat screwdriver.



Detach the coolant hose.



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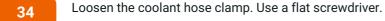






#### Replacement: engine thermostat – Alfa Romeo 147 937. Tip from AUTODOC:

• Caution! Coolant may leak out of the coolant lines and thermostat housing.





35 Detach the coolant hose.

36



Replacement: engine thermostat – Alfa Romeo 147 937. AUTODOC experts recommend:

• Caution! Coolant may leak out of the coolant lines and thermostat housing.





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Remove the thermostat housing together with the thermostat. Use a crowbar.



#### AUTODOC recommends:

- Replacement: engine thermostat Alfa Romeo 147 937. To avoid damaging the part when removing it, do not use excessive force.
- Clean the mounting seats of the thermostat housing. Use a seal scraper. Use all-purpose cleaning spray.



- Treat the thermostat housing mounting seat. Use a sealant.
- Install the new thermostat housing together with the thermostat.



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Tighten the thermostat housing fasteners. Use a drive socket #13. Use a torque wrench. Tighten it to 11 Nm torque.



42 Attach the coolant hose.



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



44 Attach the coolant hose.

45



Secure the coolant hose clamp. Use clic-R collar pliers.



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46 Attach the coolant hose.



Secure the coolant hose clamp. Use clic-R collar pliers.



48 Attach the coolant hose.

50



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



Treat the coolant temperature sensor connector. Use dielectric grease.



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Plug in the connector of the coolant temperature sensor.



Insert the filter cartridge into the filter housing. Make sure that the filter edge fits tight to the housing.



Remove the microfibre towel from the throttle body.



Connect the air intake pipe to the air filter housing.

55



Tighten the clamp and fasteners on the air filter intake pipe. Use a drive socket #7. Use a ratchet wrench.



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Remove the microfibre cloth from the PCV valve hole.



On the right side, attach the PCV valve hose to the engine cover. Use clic-R collar pliers.



Treat the mass air flow sensor connector. Use dielectric grease.



Attach the mass air flow sensor connector.



60 Connect the MAF sensor wiring.



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- 61 Unscrew the oil filler plug.
- Remove the oil filler cap.



Install the engine cover and secure it.



#### **AUTODOC** recommends:

- Replacement: engine thermostat Alfa Romeo 147 937. To avoid damaging the part during installation, do not use excessive force.
- 64 Install the oil filler cap.
- Tighten the oil filler cap.



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Screw in the engine cover fasteners. Use Torx T40. Use a ratchet wrench.



- Remove the coolant reservoir cap.
- 68 Insert the funnel.



69 Pour coolant in the coolant reservoir.



#### **AUTODOC** recommends:

- 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.

Run the engine for a few minutes. This should be done in order to remove residual air from the cooling system and to check if the components are operating correctly.

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71 Shut off the engine.

72 Install the coolant reservoir cap.



73 Screw on the coolant reservoir cap.



Remove the fender protection cover.



75 Close the hood.





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