

Turbocharger (TC) 1, replacing

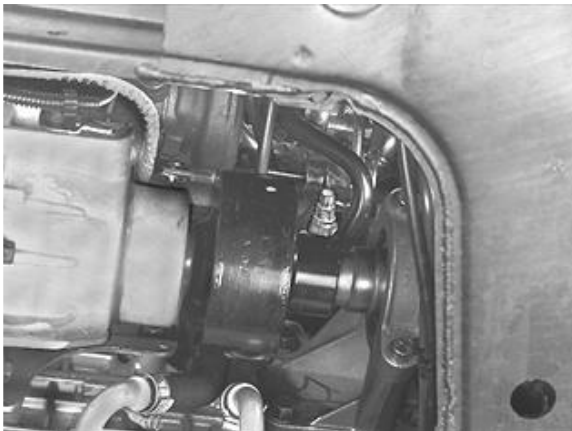
Special tools: [999 5972](#)

Removing turbocharger (TC) for cylinders 1, 2, 3

Preparation

Remove

- the screw for the engine stabiliser brace mounting on the engine
- the screws for the engine stabiliser brace mountings between the suspension turrets
- the plastic charge air pipe. Place to one side
- the plastic intake pipe. Put it to one side.



Remove

- the intake and charge air pipes from turbocharger (TC)
- the heat deflector plate
- the pipe screws for the oil pressure pipe.

Slacken off the screw for the clamp between the oil pressure pipe for the turbocharger (TC) for cylinders 4,5,6 and the water pump intake pipe.

- the hose from the pressure regulator at the T piece
- the expansion tank cap.

Raise the car.

Remove the left front wheel.

Remove the splash guard under the engine.

Connect a hose to the engine coolant drain cock.

Drain the coolant into a **clean** container.

Close the cock.

Remove

- the rear SIPS member
- the nuts for the rear flange seal on the catalytic converter
- the nuts for the front flange seals on the catalytic converters.

Expose the heated oxygen sensor (HO2S) wiring.

Disconnect the connectors.



Unclip the brake pipe from the holders on the front SIPS member.



Position a mobile jack with universal plates [999 5972](#) under the catalytic converters.
Remove the screws from the front SIPS member.
Pull back and lower the catalytic converters with their heat deflector plates.

Note! The routing of the heated oxygen sensor (HO2S) wiring over the brake pipe.

Remove the right drive shaft. See [Half shaft, right, replacing](#).



Remove

- the pipe screws for the coolant pipes. Place the pipes to one side
- the pipe screws for the oil pressure outlet on the engine
- the oil pressure pipe
- the screws for the oil return line. Carefully turn the pipe to one side
- the lower nuts from the turbocharger (TC) mounting in the manifold.

Removing the turbocharger (TC)

Lower the car.
Remove the remaining turbocharger (TC) mounting nuts.
Lift off and remove the turbocharger (TC).



Installing the turbocharger (TC) for cylinders 1, 2, 3

Transferring components



Transfer

- the hose for the pressure regulator.

Checking pressure regulator setting

Check the pressure regulator setting. See [Pressure regulator, checking/adjusting](#)

Installing the turbocharger (TC)

Lubricate the studs using paste, P/N: **116 1408**. **Avoid skin contact with the paste.**

Hold the turbocharger (TC) in position. Install the upper nuts. Use **new** nuts. Tighten to **25 Nm**.

Install the oil pressure pipe with pipe screws and **new gasket washers**. **Do not tighten yet.**

Finishing

Raise the car.

Install

- the lower nuts for the turbocharger (TC) / manifold. Use **new nuts**. Tighten to **25 Nm**
- the pipe screw for the oil pressure outlet on the engine. Use **new gasket washers**. Tighten to **38 Nm**
- the oil return line. Use a **new gasket and sealing ring**
- lower coolant pipe. Use **new gasket washers**.



- the catalytic converter unit with the heat deflector plate. Use **new nuts and gaskets**.

Lubricate all the studs. Use paste, P/N: **116 1408**. **Avoid skin contact with the paste.**

Connect the pipe to the engine. Use a mobile jack with universal plate [999 5972](#) as support.

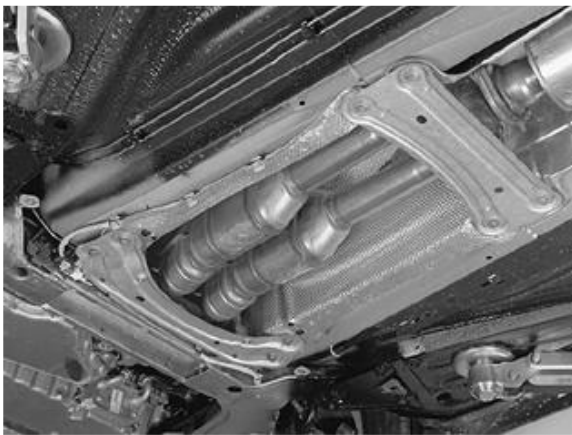
Note! Ensure that the heated oxygen sensor (HO2S) wiring is above the brake pipe.

Press the brake pipe into place on the front SIPS member.

Connect to the rear exhaust pipe. Install all nuts loosely.

Install the screws for the front SIPS member.

Remove the mobile jack.



Tighten

- the nuts for the front flange seal. Tighten alternately. Tighten to **25 Nm**
- the front SIPS member. Tighten to **25 Nm**
- the rear flange seal nuts. Tighten to **25 Nm**
- the rear SIPS member. Tighten to **25 Nm**.



Connect the heated oxygen sensor (HO2S) wiring connectors.

Secure the wiring at the rear edge of the sub-frame.

Install the splashguard under the engine.

Install the left front wheel. See [Installing wheels](#).

Install the right drive shaft. See [Half shaft, right, replacing](#).

Lower the car.



Install the pipe screw for the upper coolant pipe. Use a **new gasket washer**. Tighten to **26 Nm**.

Tighten the pipe screw for the oil pressure pipe.

Tighten to **18 Nm**.

Close the clamp between the oil pressure pipe and the water pump intake pipe.



Install

- the heat deflector plate. Use new screws. Tighten to **25 Nm**
- the intake and charge air hooks. Align against the plastic pipes and tighten.
Press the plastic pipes into place. Tighten the hose clamps
- the mounting screws for plastic pipes and tighten
- the hose from the pressure regulator to the T piece
- the engine stabiliser brace between the suspension turrets. Tighten to **50 Nm**
- the screw for the engine stabiliser brace mounting on the engine. Tighten to **80 Nm**
- the expansion tank cap.

Final check

Check coolant and oil levels.

Test drive the engine.
Check for leakage.
Top up the coolant if necessary.

Turbocharger (TC) 2, replacing

Special tools: [999 5972](#)

Removing turbocharger (TC) for cylinders 4, 5, 6

Preparation

Remove

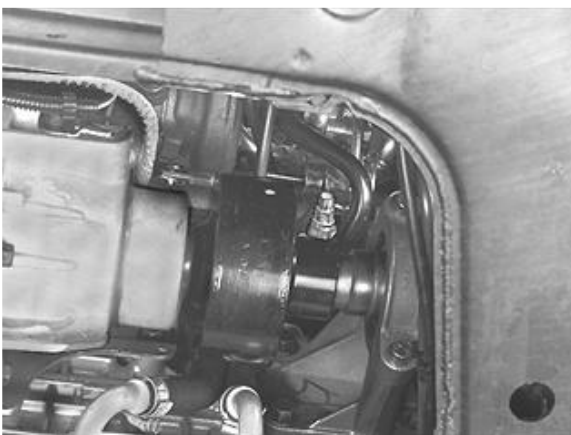
- the screw for the engine stabiliser brace mounting on the engine
- the cross stay between the suspension turrets
- the plastic charge air pipe. Place to one side
- the plastic intake pipe. Put it to one side.



Remove

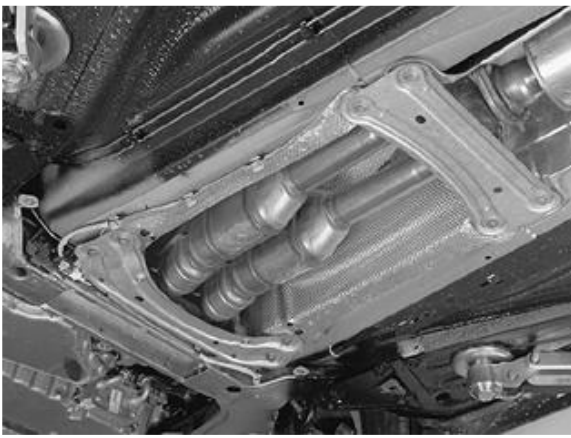
- the intake and charge air pipes from turbocharger (TC)
- the heat deflector plate
- the pipe screw for the oil pressure pipe
- the clamp between the oil pressure pipe and water pump intake pipe
- the hose from the pressure regulator at the T piece
- the expansion tank cap.

Raise the car.
Remove the left front wheel.
Remove the splash guard under the engine.
Connect a hose to the engine coolant drain cock.
Drain the coolant into a **clean** container.
Close the cock.



Remove

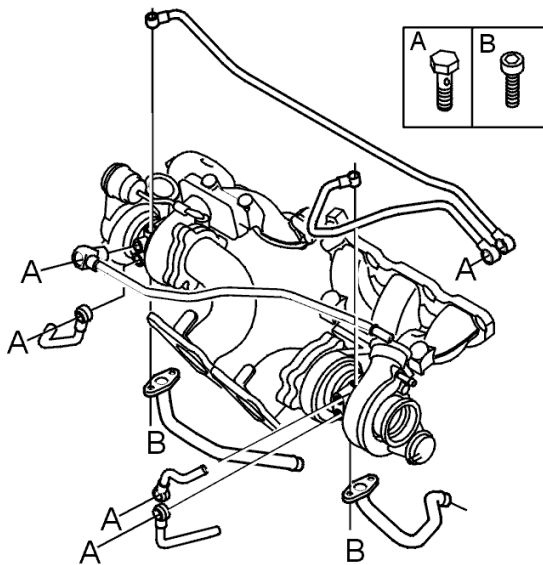
- the rear SIPS member
- the nuts for the rear flange seal on the catalytic converter
- the nuts for the front flange seals on the catalytic converters.



Expose the heated oxygen sensor (HO2S) wiring.
Disconnect the connectors.
Disconnect the brake pipe from the holders on the front SIPS member.

Position a mobile jack with universal plates [999 5972](#) under the catalytic converters.
Remove the screws for the front SIPS member.
Pull back and lower the catalytic converters with their heat deflector plates.

Note! The routing of the heated oxygen sensor (HO2S) wiring over the brake pipe.



Remove

- the right-hand drive shaft. See [Half shaft, right, replacing](#)
- the pipe screws for the coolant pipes. Place the pipes to one side
- the pipe screws for the oil pressure outlet on the engine
- the screws for the oil return line. Carefully turn the pipe to one side
- the lower nuts from the turbocharger (TC) mounting in the manifold.

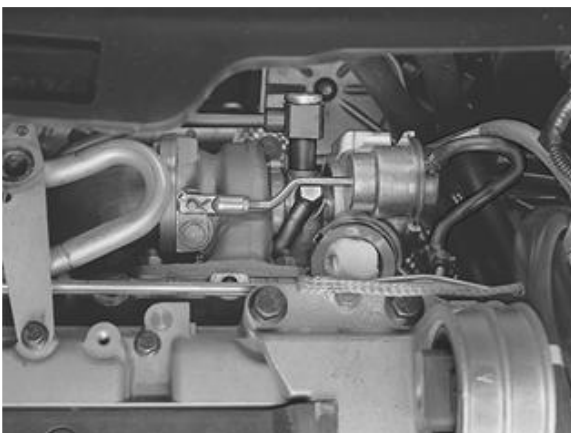
Removing the turbocharger (TC)

(The illustration is not entirely accurate because the pulsed secondary air injection system (PAIR) pump is discontinued)

Lower the car.

Remove the remaining turbocharger (TC) mounting nuts.

Lift off and remove the turbocharger (TC).



Installing the turbocharger (TC) for cylinders 4, 5, 6

Transferring components

Transfer the pressure regulator hose.



Check pressure regulator setting

Check the pressure regulator setting. See [Pressure regulator, checking/adjusting](#)

Installing the turbocharger (TC)

Lubricate the studs using paste, P/N: **116 1408**. **Avoid skin contact with the paste.**

Hold the turbocharger (TC) in position. Install the upper nuts. Use **new** nuts. Tighten to **25 Nm**.

Install the oil pressure pipe with pipe screws and **new gasket washers**. **Do not tighten yet.**

Install the clamp between the oil pressure pipe and water pump intake pipe. **Do not tighten yet.**



Finishing

(The illustration is not entirely accurate because the pulsed secondary air injection system (PAIR) pump is discontinued)

Raise the car.

Install

- the lower nuts for the turbocharger (TC) / manifold. Use **new nuts**. Tighten to **25 Nm**
- the pipe screw for the pressure oil outlet on the engine. Use **new gasket washers**. Tighten to **38 Nm**
- the oil return line. Use a **new** gasket

- lower coolant pipe. Use **new gasket washers**.
Tighten to **26 Nm**.

Install the right drive shaft. See [Half shaft, right, replacing](#).

Install the catalytic converter unit with the heat deflector plate. Use **new nuts and gaskets**.

Lubricate all the studs. Use paste, P/N: **116 1408**. **Avoid skin contact with the paste.**

Connect the pipe to the engine. Use a mobile jack with universal plate [999 5972](#) as support.

Note! Ensure that the heated oxygen sensor (HO2S) wiring is above the brake pipe.

Press the brake pipe into place on the front SIPS member.

Connect to the rear exhaust pipe. Install all nuts loosely.

Install the screws for the front SIPS member.

Remove the mobile jack.

Tighten

- the nuts for the front flange seal. Tighten alternately.
Tighten to **25 Nm**
- the front SIPS member. Tighten to **25 Nm**
- the rear flange seal nuts. Tighten to **25 Nm**
- the rear SIPS member. Tighten to **25 Nm**.

Connect the heated oxygen sensor (HO2S) wiring connectors.

Secure the wiring at the rear edge of the sub-frame.

Install the splashguard under the engine.

Install the left front wheel. See [Installing wheels](#).

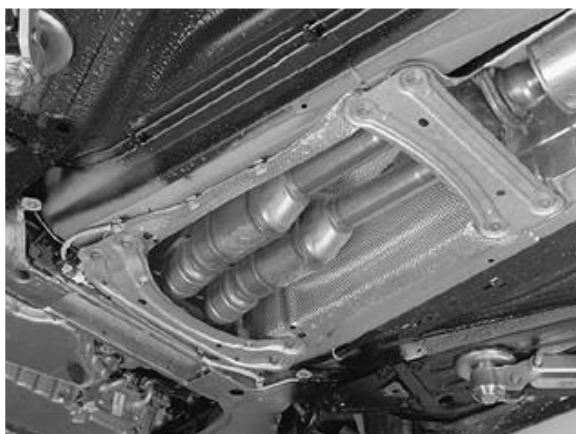
Install the right drive shaft. See [Half shaft, right, replacing](#).

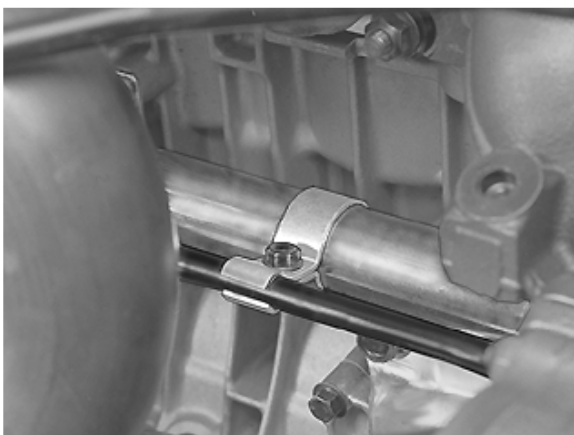
Lower the car.

Install the pipe screw for the upper coolant pipe. Use **new gasket washers**. Tighten to **26 Nm**.

Tighten the pipe screw for the oil pressure pipe.
Tighten to **18 Nm**.

Close the clamp between the oil pressure pipe and the water pump intake pipe.





Install

- the heat deflector plate. Use new screws. Tighten to **25 Nm**
- the intake and charge air hooks. Align against the plastic pipes and tighten.
Press the plastic pipes into place. Tighten the hose clamps
- the mounting screws for plastic pipes and tighten
- the hose from the pressure regulator to the T piece
- the screw for the engine stabiliser brace mounting on the engine
- the cross stay between the suspension turrets
- the expansion tank cap.

Final check

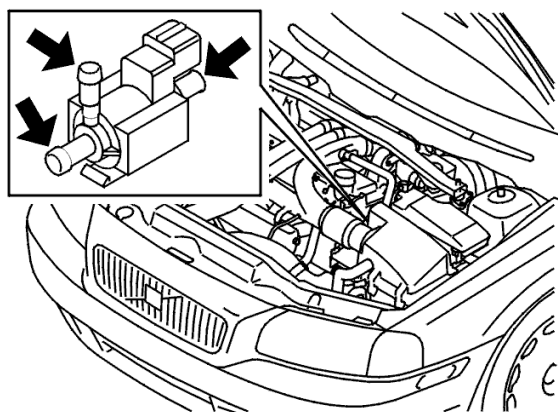
Check coolant and oil levels.

Test drive the engine.

Check for leakage.

Top up the coolant if necessary.

Replacing the turbocharger (TC) control valve



Removing the turbocharger (TC) control valve

Lift the valve away from the air cleaner (ACL) cover.

Remove the connector from the valve.

Mark up and pull off the hoses.

Installing the turbocharger (TC) control valve

Install

- the hoses according to the marking on the control valve
- the connector on the valve

- the valve on the air cleaner (ACL) cover.