

Quick check, turbocharger (TC)

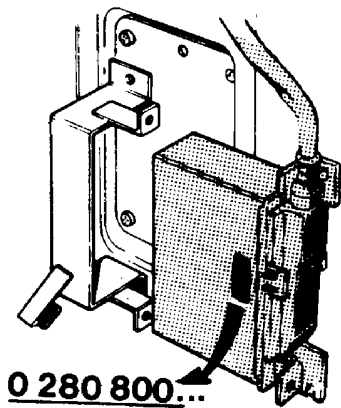
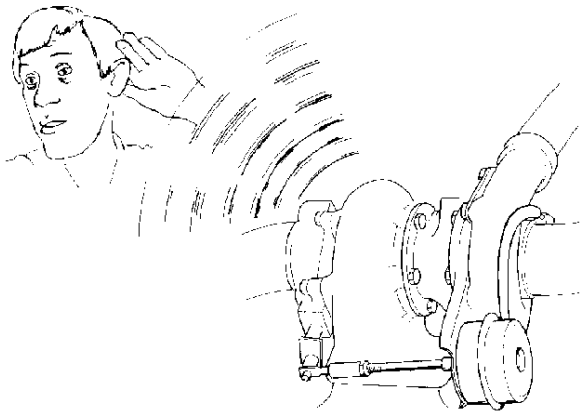
Stop engine and listen to turbocharger (TC) at the moment of stopping

Normally the rotating turbocharger (TC) components stop moving after the engine.

If this is not the case:

Remove the inlet hose from the compressor housing. Check afterwards that:

- the compressor wheel spins easily when rotated
- axial- and radial play feels normal
- the compressor wheel does not rub the compressor housing



Replacing turbocharger (TC)

In a number of cases the turbocharger (TC) has been changed unnecessarily. This happened because some play has been felt when checking (the shaft floats on an oil film)

Play should always be checked before replacing, to determine if the bearings are worn.

The turbocharger (TC) should always be replaced complete:

- plug all terminals on the old turbocharger before it is sent away

Replacing turbocharger (TC)

Remove:

- the heat deflector plate over the exhaust manifold



Disconnect the components from the turbocharger

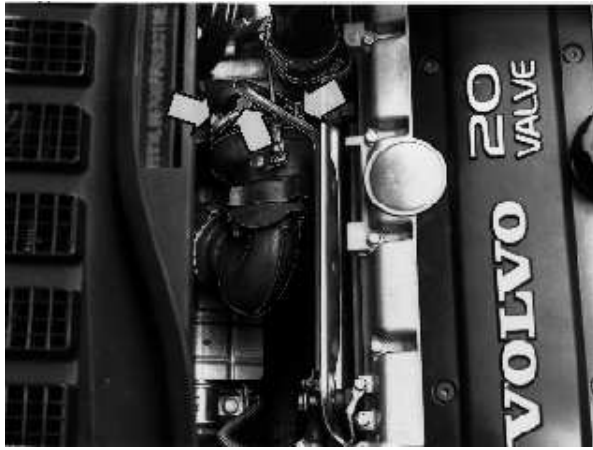
Disconnect upper charge air pipe with lower rubber hose, from the turbocharger (TC) and place it to one side.

Remove fresh air intake.

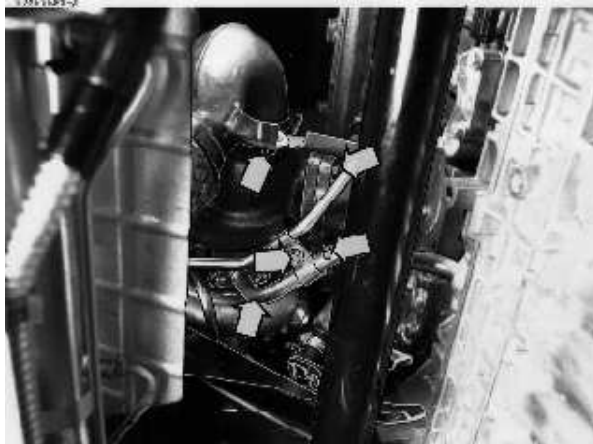
Remove inner heat deflector plate.

Slacken off the turbocharger (TC) upper coolant return pipe, clamp the coolant hose with lock grip pliers and place the pipe/hose to one side.

Slacken off oil inlet nipple.



Raise the car

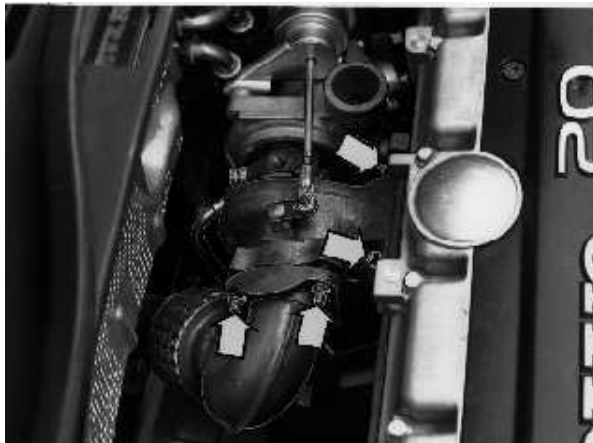


Remove:

- the clamp between pipes
- oil return line
- exhaust pipe bracket screw
- exhaust pipe-turbocharger (TC) nut
- exhaust manifold-turbocharger (TC) nuts

Apply lock grip pliers to the coolant inlet hose.

Lower the car.



Remove turbocharger (TC)

Remove exhaust pipe-turbocharger (TC) nuts.

Remove coolant inlet pipe.

Remove the nuts, turbocharger (TC)-exhaust manifold.



Disconnect the hoses for:

- boost pressure (red)
- by-pass valve (white)
- pressure regulator (yellow)

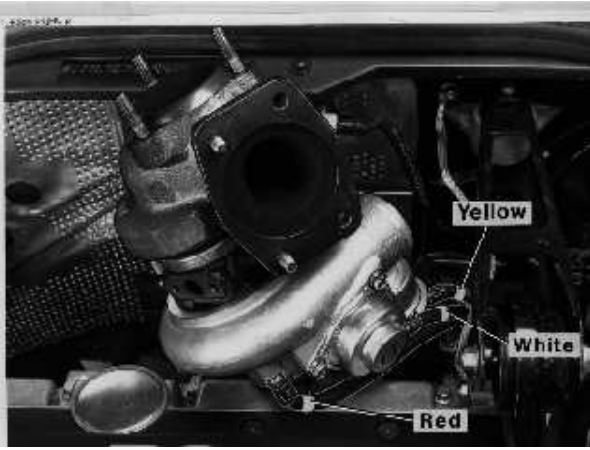
Remove:

- turbocharger (TC)
- old studs from exhaust manifold.

Note! Studs should always be secured with strong thread sealant, P/N 1161076-5, when installed.

Install:

- new studs (if any are missing) tighten to **20 Nm**
- turbocharger (TC)
- hoses according to marking

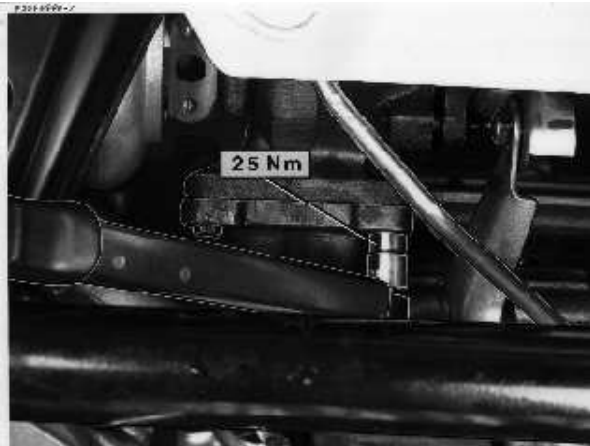


- both upper exhaust manifold nuts, and tighten them slightly

raise the car

Install:

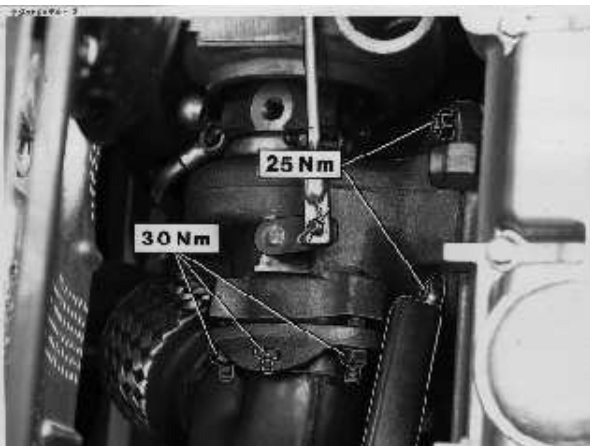
- exhaust manifold lower nuts, tighten to **25 Nm**.



Tighten turbocharger (TC)

Tighten upper exhaust manifold bolts to **25 Nm**.
Tighten exhaust manifold to turbocharger (TC), tighten all nuts to **30 Nm** at the same time checking that the planes are parallel.

Raise the car



Install lower oil pipe

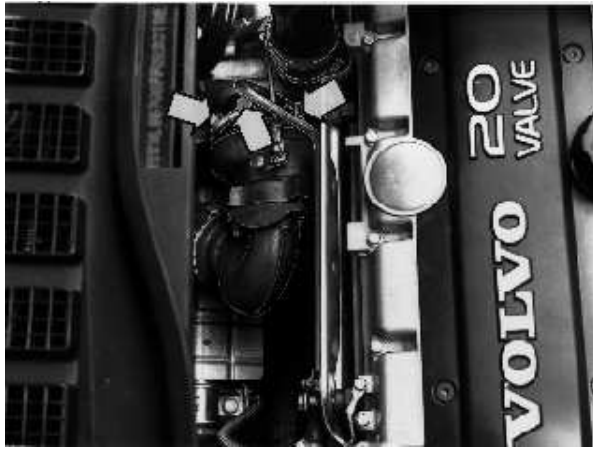
Install oil pipe (lubricate O-ring).
Install exhaust pipe bracket screw.

Lower the car.



Install:

- oil inlet pipe
- Inlet and outlet coolant pipes (remove lock grip pliers)
- fresh air intake hose



- inner heat deflector plate
- upper charge air pipe
- outer heat deflector plate

Note! Install new copper washers for the coolant pipe and for the upper oil pipe.

Raise the car

Install clamp between pipes

Remove lock grip pliers from coolant return hose.

Lower the car.

Test function

Check boost pressure.

Check oil and coolant levels.

Check oil and coolant levels.

Hint: Diagnostic trouble code (DTC) 3-5-2 can occur after turbocharger replacement, if so reset

