

BHW Engine Thermostat Replacement

NEVER perform this procedure on a hot engine.

Parts:

Thermostat adapter 038 121 121 B
Seals 038 121 119 B and N 907 653 01
Thermostat 044 121 113
G12 or G13 coolant
Wire ties (optional)

Tools:

Pick tool

10mm socket and ratchet plus extensions such as a 6 inch one and a longer one (1/4 inch drive suggested)

A u-joint or use a 10mm flex socket

Wire snipper (optional)

Rag and duct tape (optional)



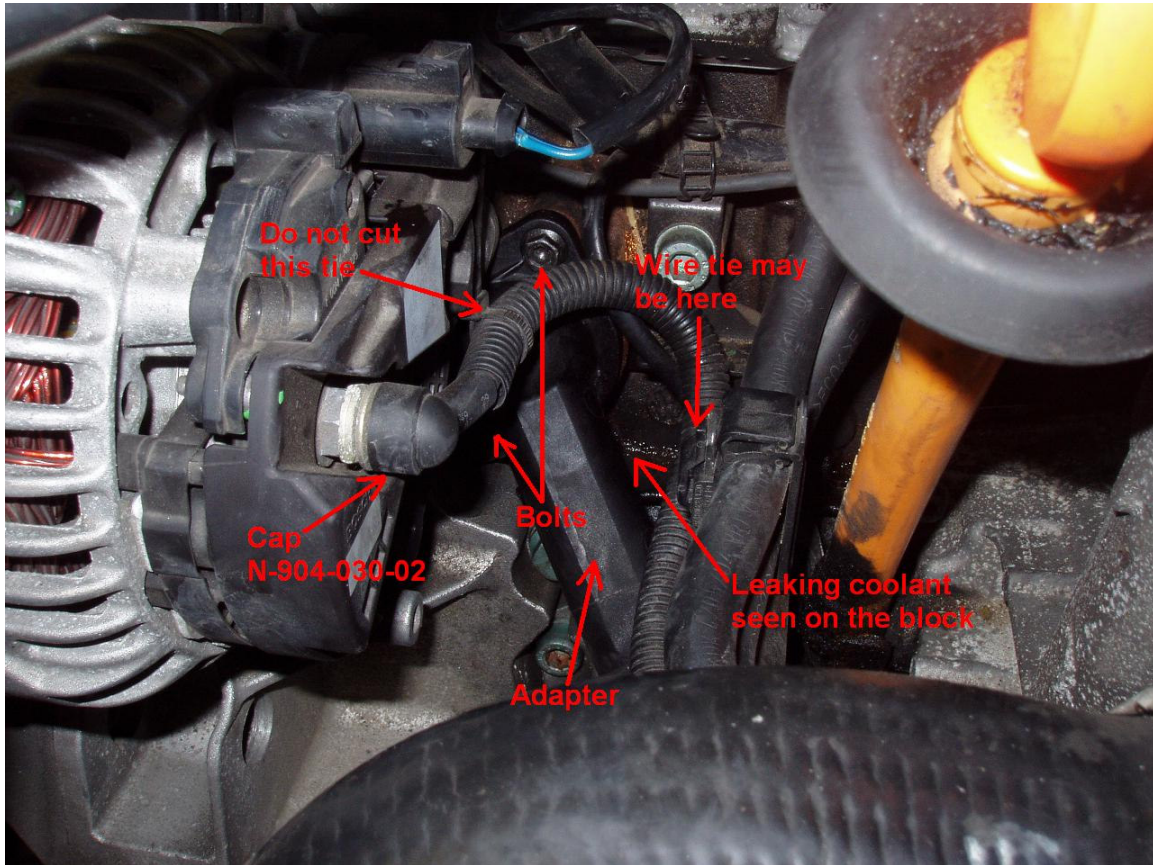
Start by removing the front bumper cover. This is documented in the first part of the TDICLUB thread <http://forums.tdiclub.com/showthread.php?t=241307>.

Drain the coolant from a cold engine. On a stock radiator there is a red drain cock knob to turn with a flat blade screwdriver and a 10mm nipple for a hose. If you have an aftermarket radiator, you may not have a drain on the radiator and you'll have to disconnect the lower radiator hose.

Remove the engine cover if equipped.

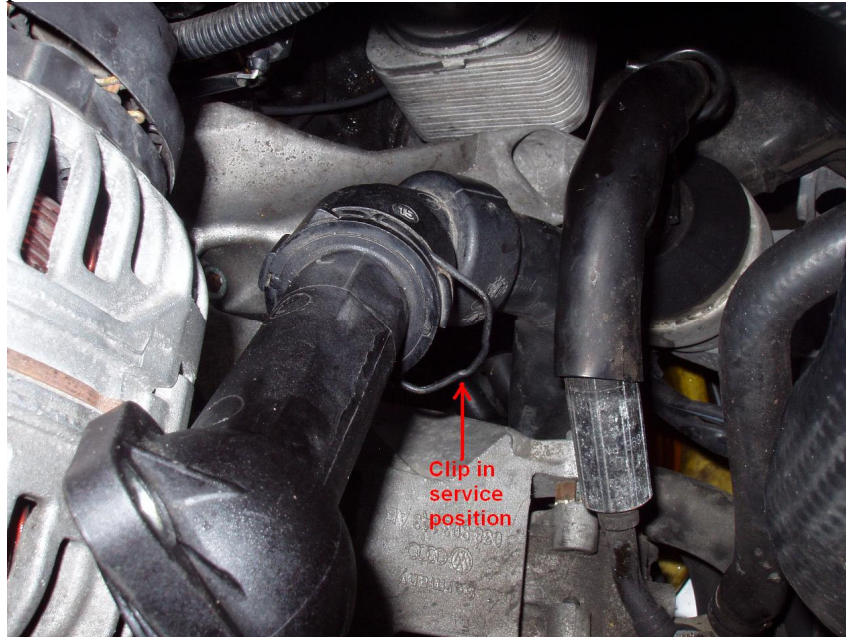
You will be working near the alternator. If your alternator does not have the cap over the positive cable securing nut, drape a sturdy holeless rag over the back of the alternator and secure in place with duct tape. The nut cap is part number N 904 030 02 if you need one.

Although it is a nuisance, do not snip the wire tie securing the cable to the back of the alternator. You may snip the one holding the wiring to the coolant pipe near the fuel lines. Now you can hold the cable out of the way as necessary during the procedure.



Unbolt the adapter from the engine block. There are two bolts as shown. Pull out the adapter, thermostat, and large o-ring seal. The adapter's locking tabs for the thermostat will break off most of the time.

Put the retaining clip in the service position at the hose end of the adapter.
Pull the adapter out of the hose.



Use a pick tool to remove the small o-ring seal.



Install a new o-ring in the hose and put the clip back in the installed position.

Assemble the adapter, large o-ring and thermostat. Put the o-ring on the adapter, then put the thermostat on the adapter and turn it so that it locks into the tabs inside the adapter. This will hold the o-ring in place as the thermostat and adapter are installed to the engine.



Position the thermostat in the engine block hole, align the bolt holes and press the adapter in until it is flush with the block.

Install the bolts and tighten to 15 Nm.

Slide the hose onto the adapter until it locks into place.

Install a new wire tie if necessary.

Remove protective rag if installed.

Proceed to refilling the system with coolant or replacement of the coolant temperature sensor if needed.

Install the engine cover if equipped.

I pressurize the cooling system with VW tool VAG-1274 B after all cooling system work is completed.



Filling the cooling system is a matter of pouring coolant in, and letting air out. Start by making sure the small hose that connects to the top of the expansion bottle does not have coolant in it. Pull back the heater core hose to allow air out through the bleed hole. Slowly fill the system with coolant until the expansion bottle is filled to the seam.

You can further fill the system until coolant comes out the bleed hole by the procedure at this TDICLUB post: <http://forums.tdiclub.com/showpost.php?p=1808372&postcount=11>

I use the VAG 1274 B to push coolant through the system until it comes out the bleed hole.

Reconnect and clamp the heater core hose.

The system is mostly full at this point. Start the engine and run it until fully warmed up. You will hear "gurgling" at first. Run the engine at higher RPMs to get the water pump to fully circulate the coolant. Allow the car to cool down. Top up with coolant, and re-bleed the system through the heater core hose. Repeat as necessary.