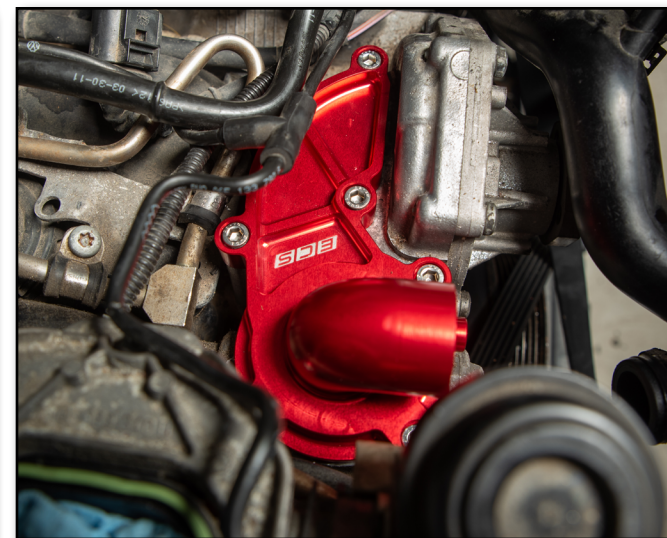
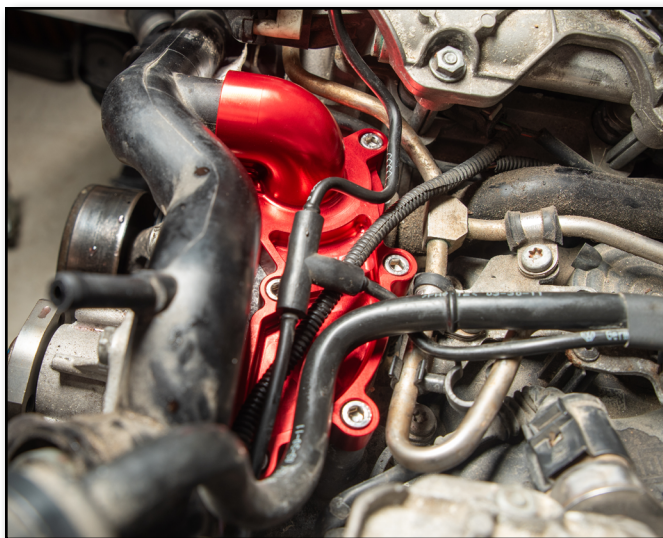
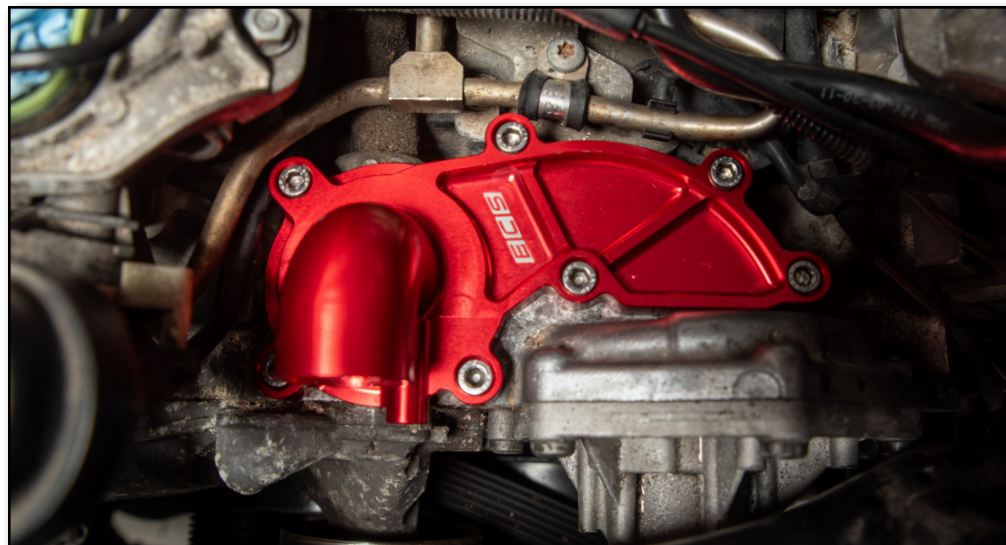




## Audi B8 3.0T Billet Thermostat Housing Installation Instructions - [Click HERE to Shop](#)



**Skill Level**  
**2 - Moderate**  
**Some Experience**  
**Recommended**



Proper service and repair procedures are vital to the safe, reliable operation of all motor vehicles as well as the personal safety of those performing the repairs. Standard safety procedures and precautions (including use of safety goggles and proper tools and equipment) should be followed at all times to eliminate the possibility of personal injury or improper service which could damage the vehicle or compromise its safety.

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## REQUIRED TOOLS

Note: The tools required for each step will be listed by the step number throughout these instructions.

### Standard Automotive Tools

- **Protecta-Sockets (for lug nuts)** ..... [ES#2221243](#)
- **3/8" Drive Ratchet** ..... [ES#2765902](#)
- **3/8" Drive Torque Wrench** ..... [ES#2221245](#)
- **3/8" Drive Deep and Shallow Sockets** ..... [ES#2763772](#)
- **3/8" Drive Extensions** ..... [ES#2804822](#)
- **Hydraulic Floor Jack** ..... [ES#2834951](#)
- **Torx Drivers and Sockets** ..... [ES#11417/8](#)
- **1/2" Drive Deep and Shallow Sockets** ..... [ES#2839106](#)
- **1/2" Drive Ratchet**
- **1/2" Drive Extensions**
- **1/2" Drive Torque Wrench** ..... [ES#2221244](#)
- **1/2" Drive Breaker Bar** ..... [ES#2776653](#)
- **Bench Mounted Vise**
- **Crows Foot Wrenches**
- **Hook and Pick Tool Set** ..... [ES#2778980](#)

### Required For This Install

- **1/4" Drive Ratchet** ..... [ES#2823235](#)
- **1/4" Drive Deep and Shallow Sockets** ..... [ES#2823235](#)
- **1/4" Drive Extensions** ..... [ES#2823235](#)
- **Plier and Cutter Set** ..... [ES#2804496](#)
- **Flat and Phillips Screwdrivers** ..... [ES#2225921](#)
- **Jack Stands** ..... [ES#2763355](#)
- **Ball Pein Hammers**
- **Pry Bar Set** ..... [ES#1899378](#)
- **Electric/Cordless Drill**
- **Wire Strippers/Crimpers**
- **Drill Bits**
- **Punch and Chisel Set**
- **Hex Bit (Allen) Wrenches and Sockets** ..... [ES#11420](#)
- **Thread Repair Tools** ..... [ES#1306824](#)
- **Open/Boxed End Wrench Set** ..... [ES#2765907](#)

### Available On Our Website

### Specialty Tools

- **Coolant Refill/Air Purge Tool** ..... [ES#2712734](#)

## INSTALLATION NOTES

- **RH** refers to the *passenger side* of the vehicle.
- **LH** refers to the *driver side* of the vehicle.
- Always use the proper torque specifications.
- If applicable to this installation, torque specifications will be listed throughout the document and at the end as well.
- Please read all of these instructions and familiarize yourself with the complete process **BEFORE** you begin.

## GENERAL PREPARATION AND SAFETY INFORMATION

ECS Tuning cares about your health and safety, please read the following safety information. This information pertains to automotive service in general, and while it may not pertain to every job you do, please remember and share these important safety tips.

- Park your car in a safe, well lit, level area.
- Shut the engine off and remove the key from the ignition switch.
- Make sure any remote start devices are properly disabled.
- **ALWAYS** wear safety glasses.
- Make sure the parking brake is applied until the vehicle is safely lifted and supported.
- Whether lifting a vehicle using an automotive lift or a hydraulic jack, be sure and utilize the factory specified lift points.
- Lifting a vehicle in an incorrect location can cause damage to the suspension/running gear.
- **ALWAYS** support the vehicle with jack stands.
- **ALWAYS** read and follow all safety information and warnings for the equipment you are using.



**NEVER** get underneath a vehicle that is supported only by a jack, and **ALWAYS** make sure that the vehicle is securely supported on jack stands.

## REMOVING THE STOCK THERMOSTAT HOUSING

### Step 1: 10mm Socket & Ratchet

Disconnect the negative (-) terminal (arrow) from the battery located under the spare tire.



### Step 2:

Remove the bumper cover by doing the following:

- Remove the radiator cover then remove the two screws that secure the top of the bumper cover to the core support.
- Lift the vehicle, then remove the belly pans and front wheels.
- Remove screws that secure the bottom of the bumper cover to the core support.
- Remove the screws from the front of the inner fender liners, peel the liners back slightly, then loosen the 10mm nuts that secure the bumper cover to the fenders.
- Disconnect the connectors for the fog lights.
- Disconnect any additional connectors or headlight washer lines.
- Release the front bumper cover from each fender.
- Slide the bumper cover off of the vehicle and set it aside.

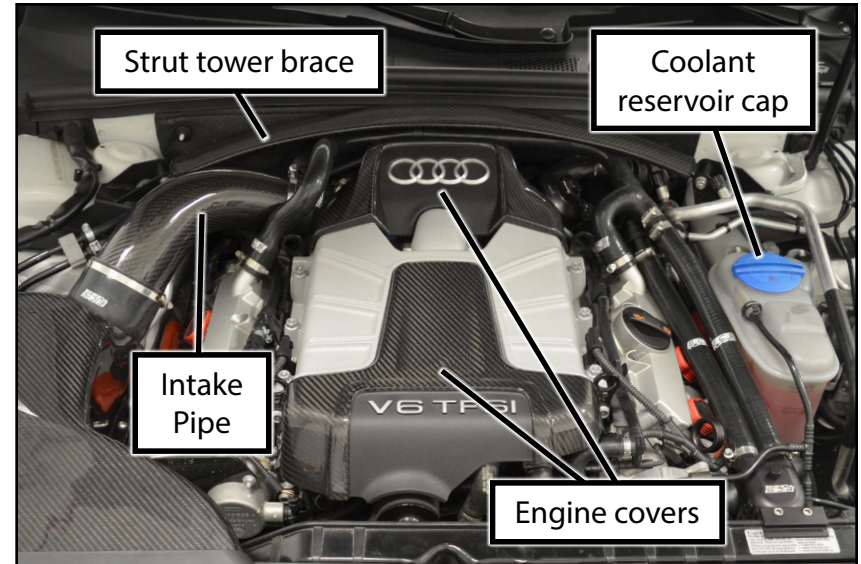




## REMOVING THE STOCK THERMOSTAT HOUSING

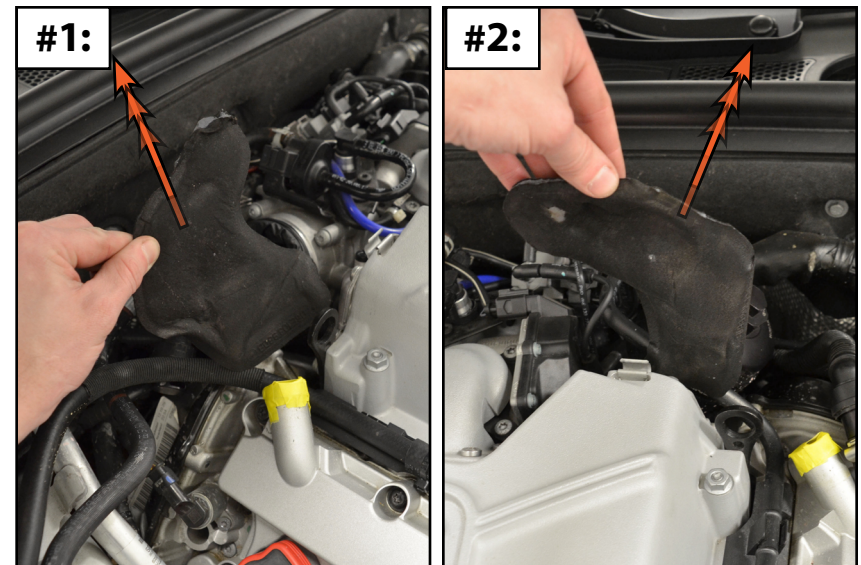
### Step 3:

Working under the hood, remove the intake pipe, engine covers, strut tower brace (if equipped), and the coolant reservoir cap.



### Step 4:

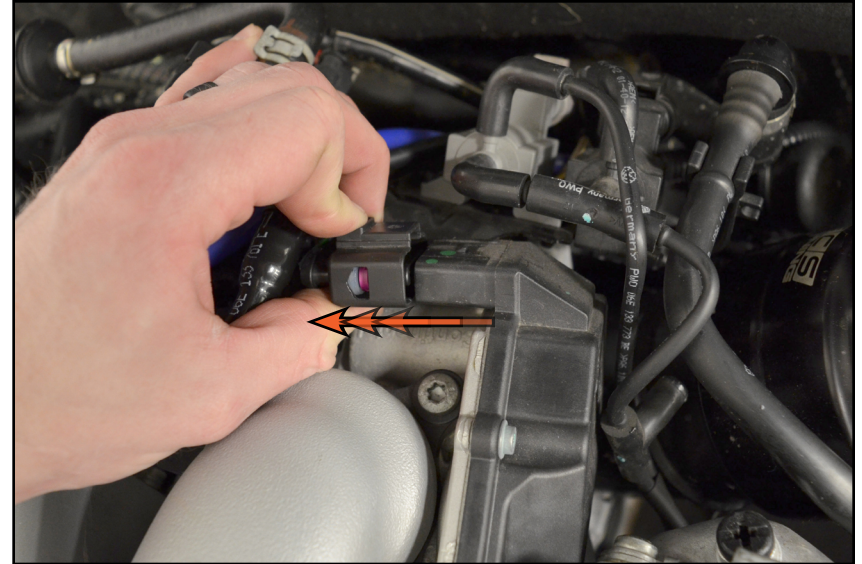
Remove the heat insulation from the back of the supercharger on both sides as shown. Note the orientation and the placement of this insulation for proper reinstallation.



## REMOVING THE STOCK THERMOSTAT HOUSING

### Step 5:

Disconnect the connector from the control valve as shown.



### Step 6:

Lift up on the rubber mount that secures the EVAP canister purge valve to the top of the supercharger (as shown in **Photo #1**), then depress the retaining tabs and release the purge valve line from the fitting (as shown in **Photo #2**).





## REMOVING THE STOCK THERMOSTAT HOUSING

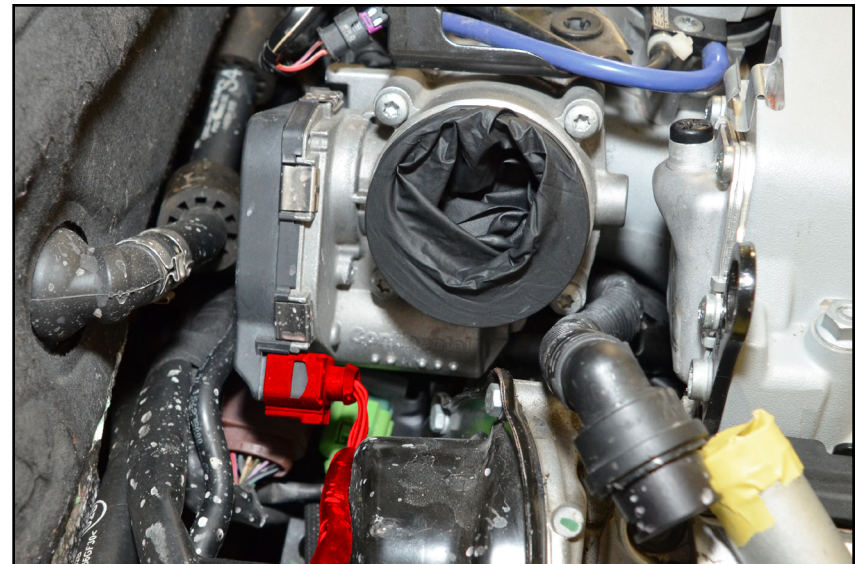
### Step 7:

Flip the purge valve over and disconnect the connector (highlighted in **RED**), then move the valve out of the way.



### Step 8:

Release the throttle valve electrical connector (highlighted in **RED**) and slide it off of the throttle valve.

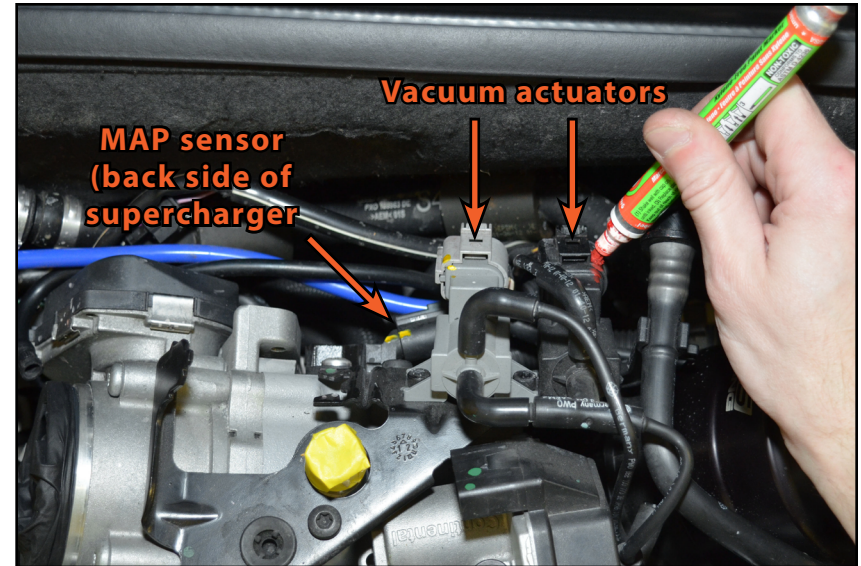




## REMOVING THE STOCK THERMOSTAT HOUSING

### Step 9:

Mark the electrical connectors on the vacuum actuators and the MAP sensor with a marker or paint pen, then release them.



### Step 10:

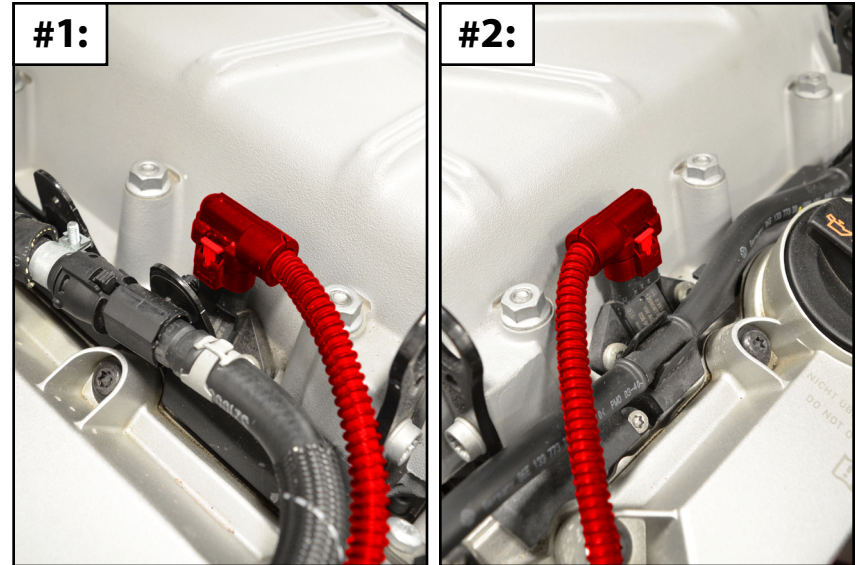
Mark all of the vacuum hoses on the vacuum actuators on top of the supercharger with a marker or paint pen, then release them.



## REMOVING THE STOCK THERMOSTAT HOUSING

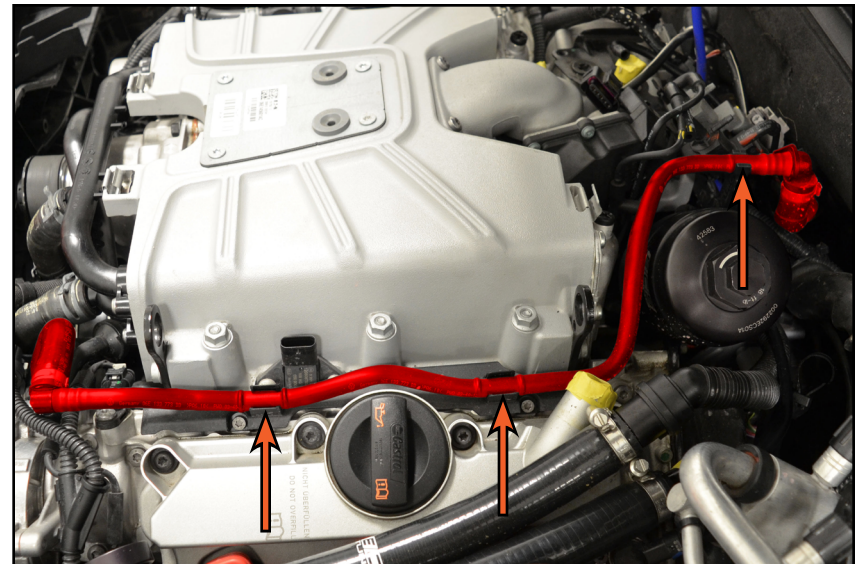
### Step 11:

Release the locking tabs and disconnect the boost pressure sensors (highlighted in **RED** in **Photo #1 & #2**) on both sides of the supercharger, then move the harnesses out of the way.



### Step 12:

Gently lift the brake booster vacuum line (highlighted in **RED**) out of its mounting clips (arrows).

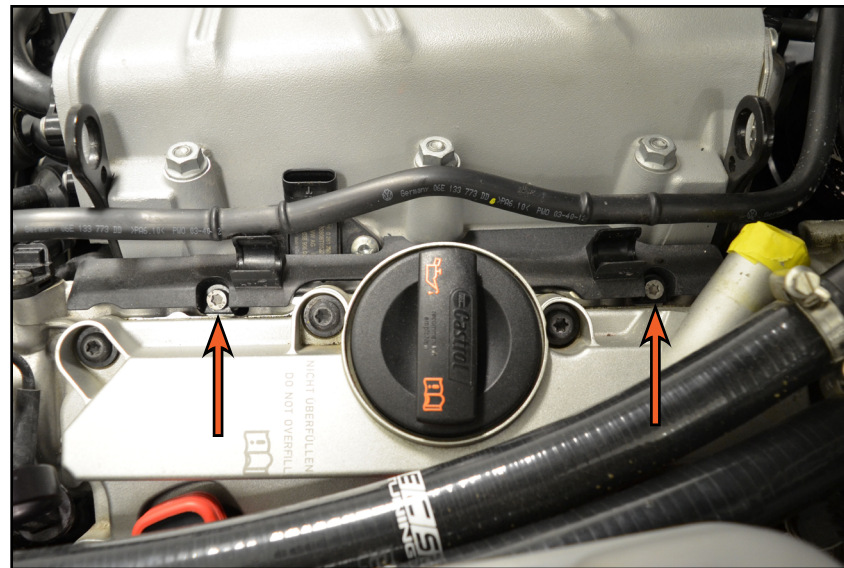




## REMOVING THE STOCK THERMOSTAT HOUSING

### Step 13: T25 Torx

Remove the two screws which hold the vacuum line bracket along the LH side of the supercharger.



### Step 14:

Pull the fuel line out of the fuel line mounting bracket on the RH side of the supercharger, then move it out of the way.

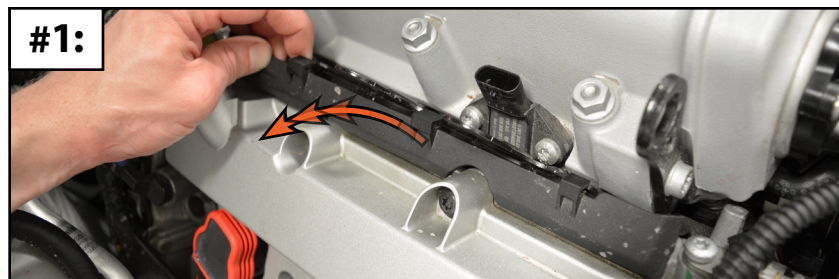




## REMOVING THE STOCK THERMOSTAT HOUSING

### Step 15: T25 Torx

Gently lift the plastic trim off of the fuel line mounting bracket (as shown in **Photo #1**), remove the two screws (arrows in **Photo #2**) and remove the fuel line mounting bracket.



### Step 16: 16mm Socket & Ratchet, 3/16" Drill Bit

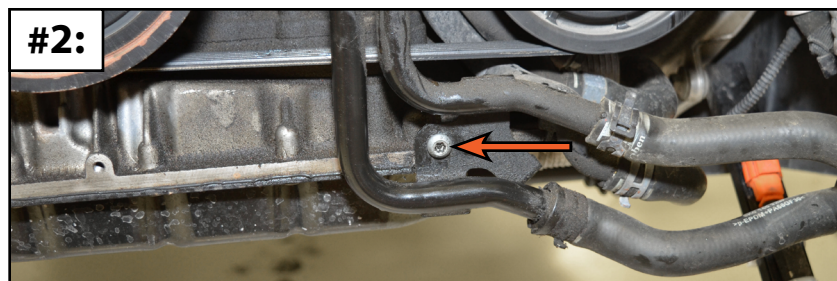
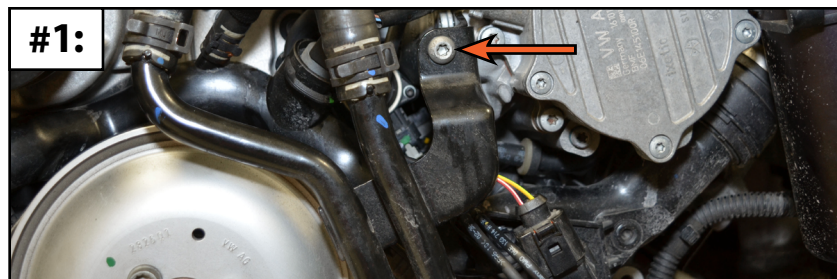
Rotate the supercharger belt tensioner clockwise, insert a drill bit (arrow) through the hole in the tensioner to retain it in place, then remove the belt.



## REMOVING THE STOCK THERMOSTAT HOUSING

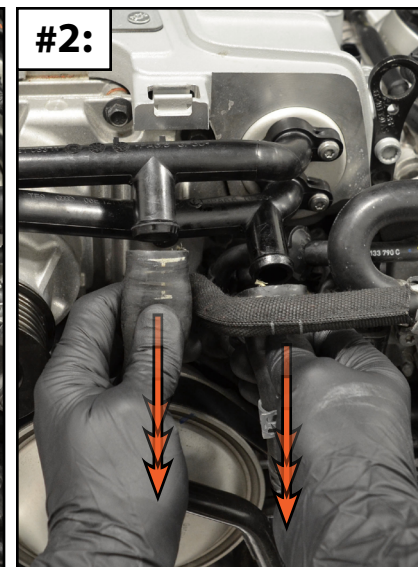
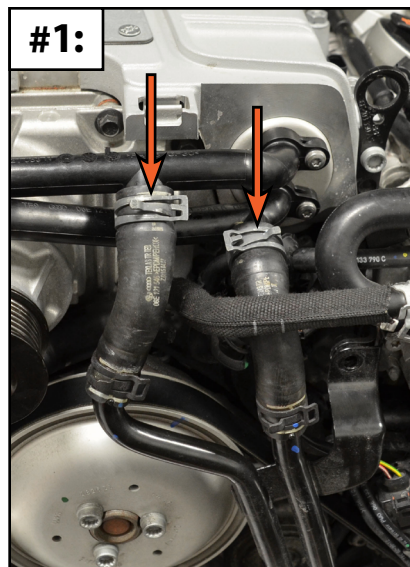
### Step 17: T30 Torx

Locate and remove the screws (arrows in **Photo #1 & #2**) that secure the left front coolant pipe assembly to the engine.



### Step 18: Hose Clamp Pliers

Release the clamps (arrows in **Photo #1**) and remove the coolant hoses from the front of the supercharger (as shown in **Photo #2**), then move the entire left front coolant pipe assembly out of the way.





## REMOVING THE STOCK THERMOSTAT HOUSING

### Step 19: 13mm Socket & Ratchet

Use compressed air to remove any dirt or debris from around the supercharger then remove the six nuts (circled in RED) that secure the supercharger to the engine.



### Step 20:

Slowly lift the supercharger upward and off of the engine, ensuring that all connections have been released and nothing gets hung up in the process.

The supercharger has four lift points, one on each corner. Try placing long dowel rods or ½" extensions through these lift points to use as handles while lifting the supercharger off of the engine as shown in the photo.

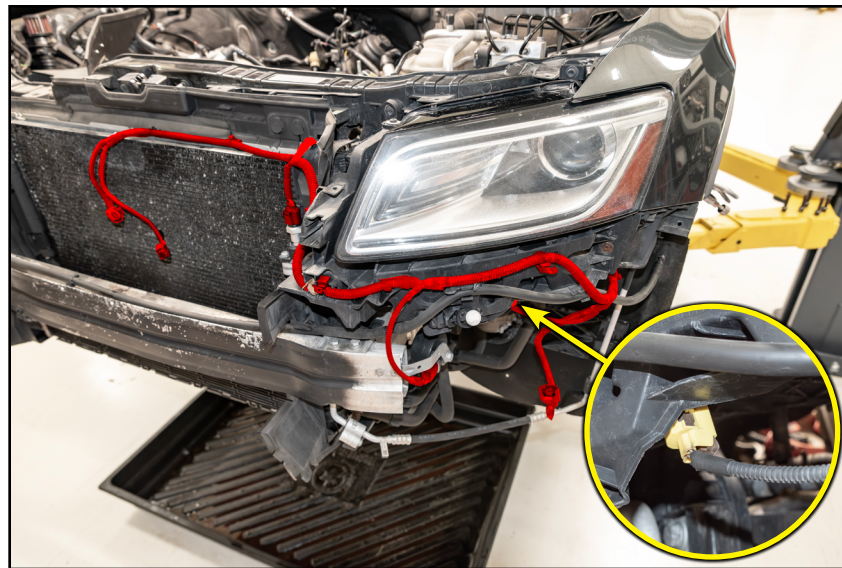




## REMOVING THE STOCK THERMOSTAT HOUSING

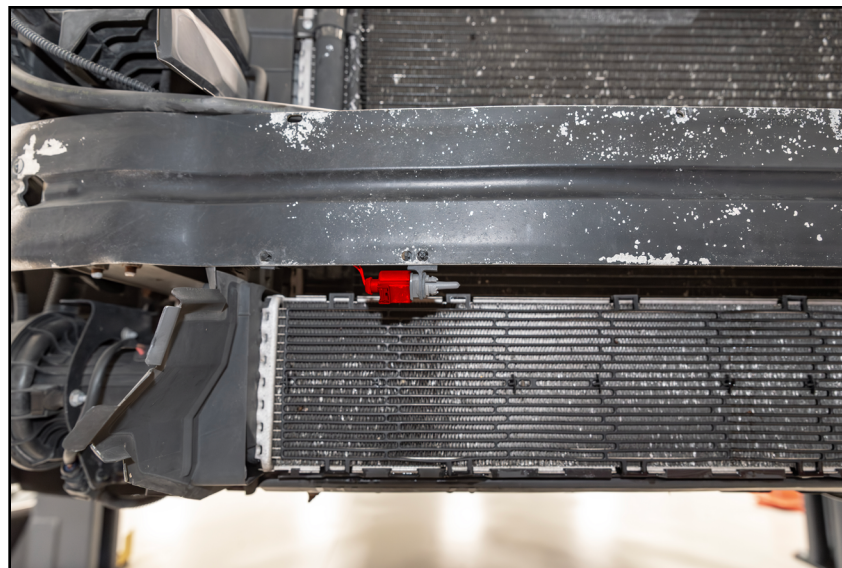
### Step 21:

Disconnect and free up the wiring harness (highlighted in **RED**) that connects the LH horn, A/C condenser, and LH crash sensor (inset photo) and runs across the top of the radiator.



### Step 22:

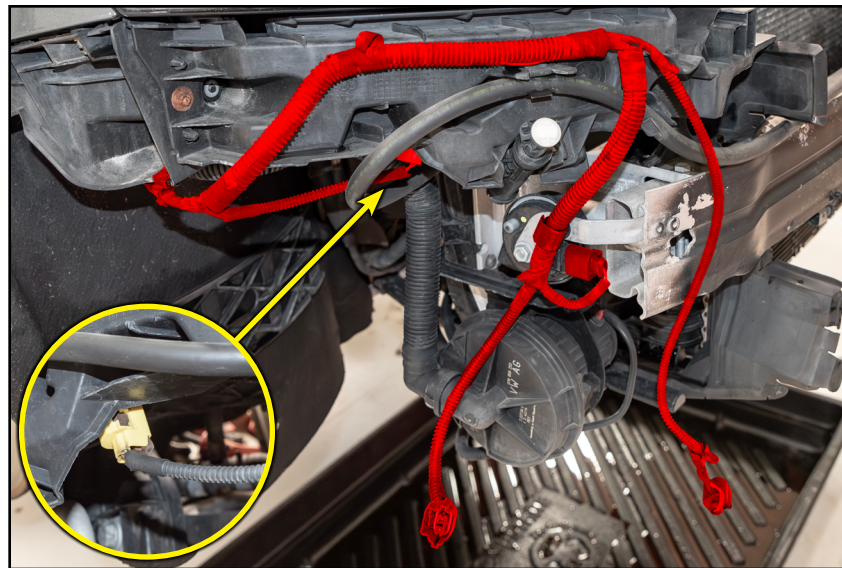
Disconnect the connector (highlighted in **RED**) from the ambient air temperature sensor.



## REMOVING THE STOCK THERMOSTAT HOUSING

### Step 23:

Disconnect and free up the wiring harness (highlighted in **RED**) that connects the RH horn and RH crash sensor (inset photo).



### Step 24: 13mm Wrench, 13mm Socket & Ratchet

Remove the bolts and nuts (arrows) that secure the crash beam to the vehicle, then remove the crash beam.

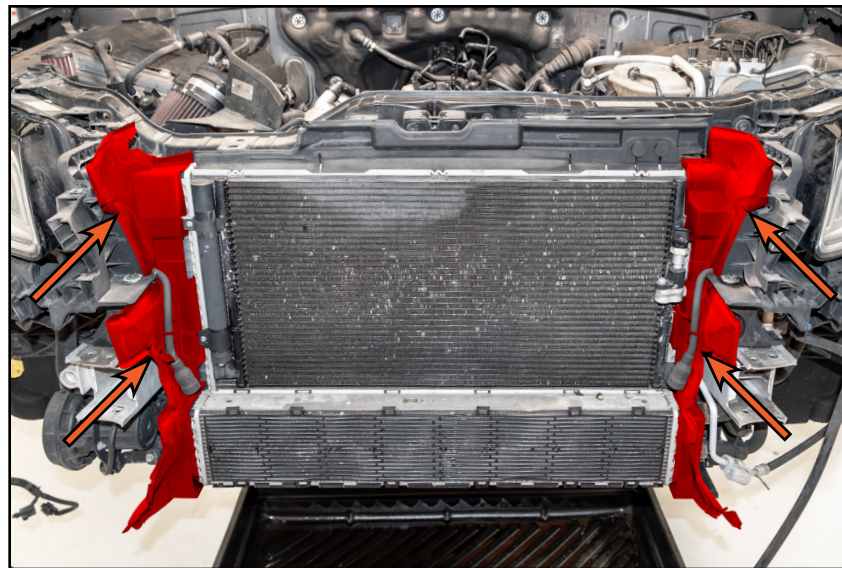




## REMOVING THE STOCK THERMOSTAT HOUSING

### Step 25: Flat Head Screwdriver

Depress the retaining tabs (arrows) and pull the air shrouds (highlighted in **RED**) free from the front of the core support.



### Step 26: T30 Torx

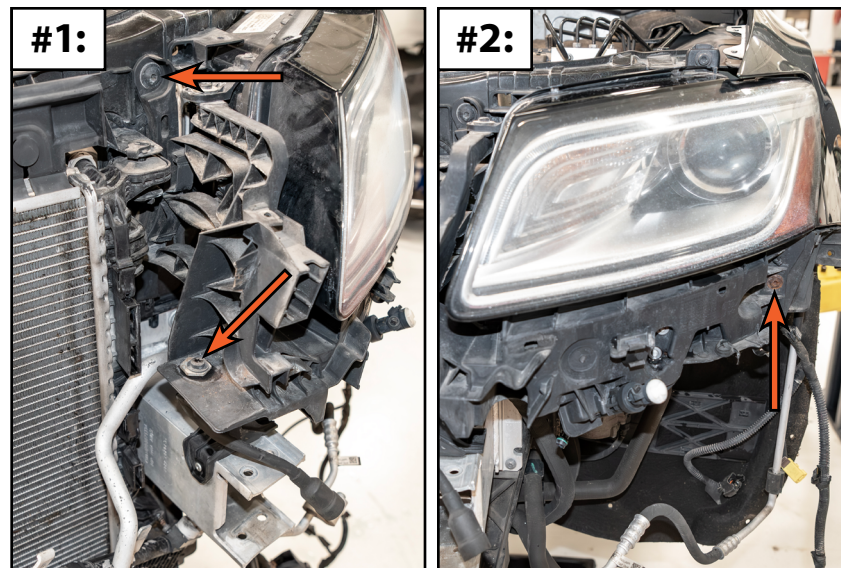
Remove the screw (circled in **RED**), then depress the locking tab (arrow) to release the intercooler from the core support. Carefully hang the intercooler below the core support.



## REMOVING THE STOCK THERMOSTAT HOUSING

### Step 27: T30 Torx Socket & Ratchet

Remove the three screws (arrows in **Photo #1 & #2**) that secure the front of the LH headlight bracket to the vehicle.



### Step 28: T30 Torx Socket & Ratchet

Disconnect the connector (highlighted in **RED**), remove the two remaining screws (arrows), and remove the headlight and headlight bracket from the vehicle.

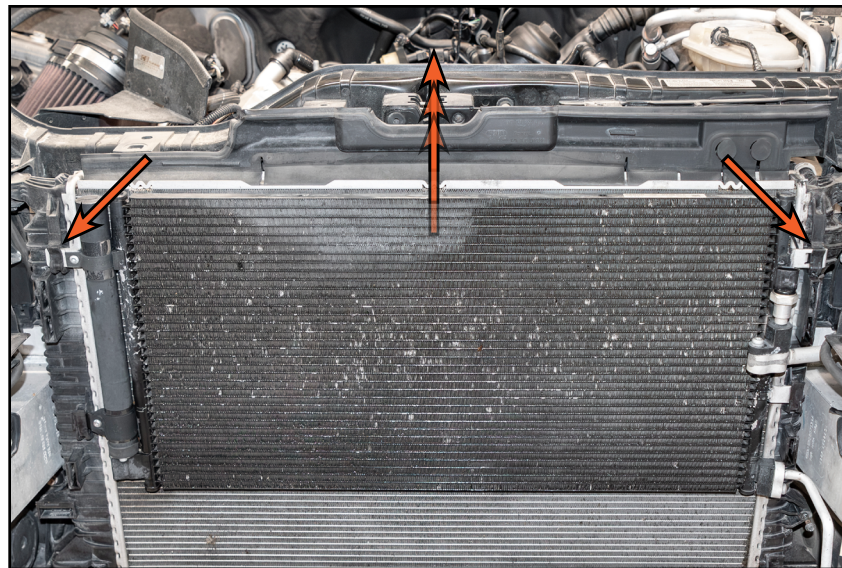




## REMOVING THE STOCK THERMOSTAT HOUSING

### Step 29: Flat Head Screwdriver

Depress the release tabs (arrows) and lift the A/C condenser upward to free it from the radiator.



### Step 30:

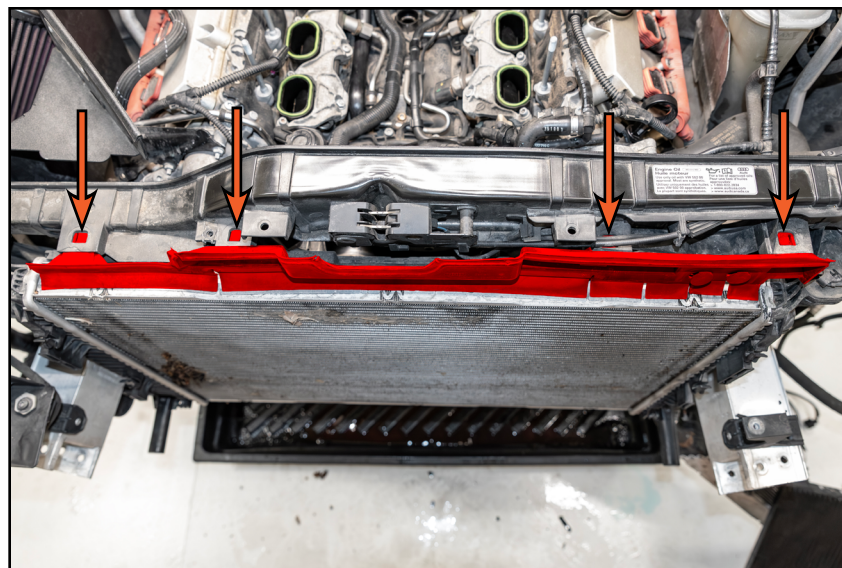
Carefully pivot the condenser out of the way, being careful not to bend or stress the A/C lines.



## REMOVING THE STOCK THERMOSTAT HOUSING

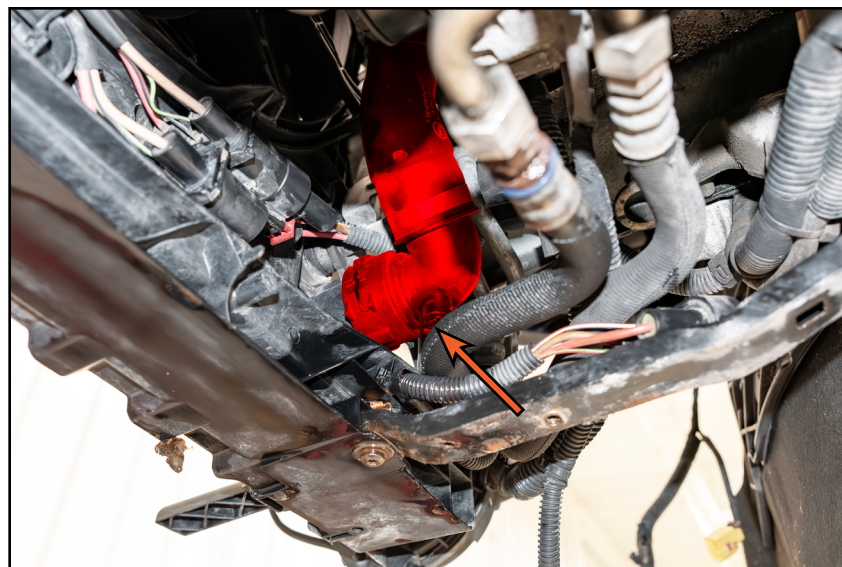
### Step 31: Flat Head Screwdriver

Depress the retaining tabs (arrows) and pull the upper air shroud (highlighted in **RED**) free from the core support.



### Step 32: Angled Pick Tool

Open the coolant drain and drain the coolant. Pull the spring clip upward and remove the lower hose (highlighted in **RED**) free from the radiator.

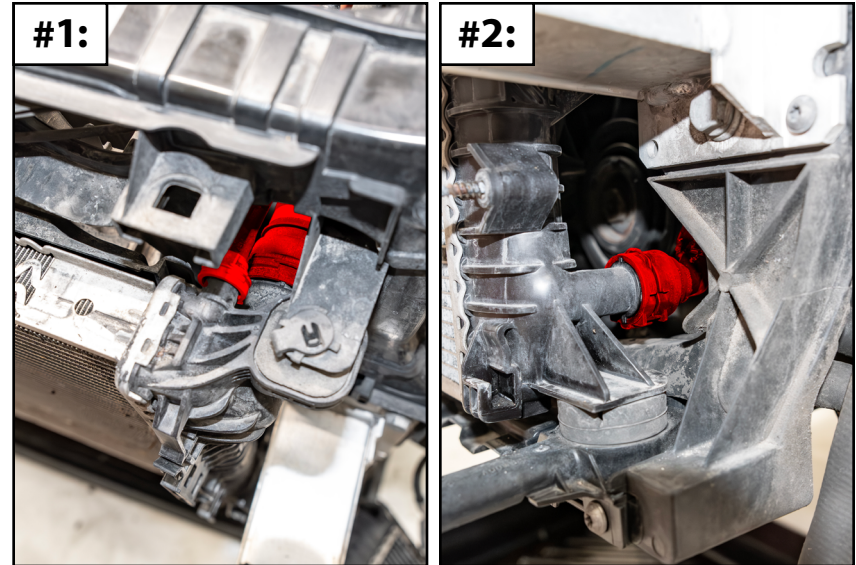




## REMOVING THE STOCK THERMOSTAT HOUSING

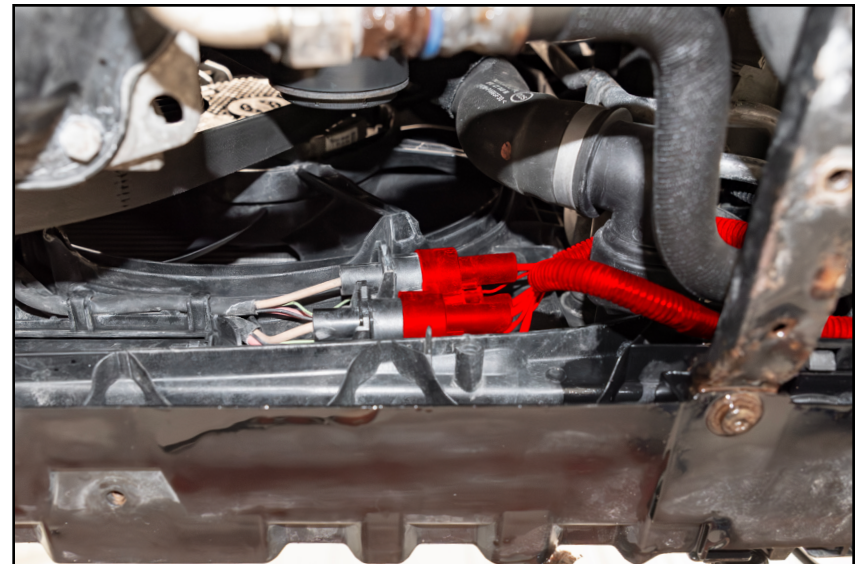
### Step 33: Angled Pick Tool

Use a pick tool to pull the spring clips upward and remove the remaining radiator hoses (highlighted in **RED** in **Photo #1 & #2**).



### Step 34: Angled Pick Tool

Release the retaining tabs and disconnect the fan connectors (highlighted in **RED**).

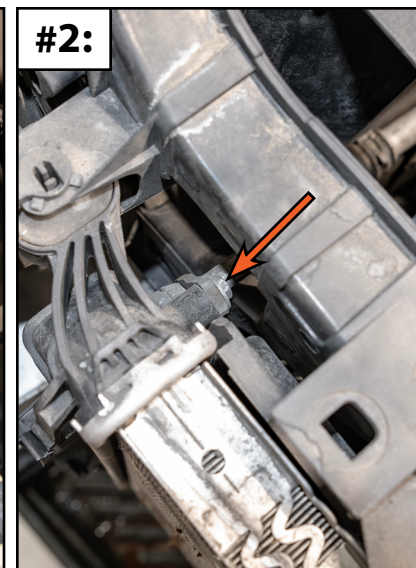
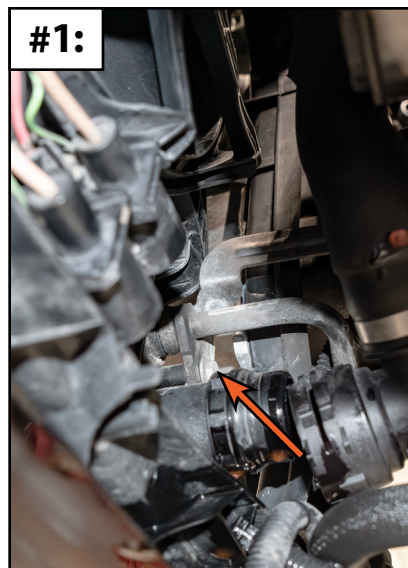




## REMOVING THE STOCK THERMOSTAT HOUSING

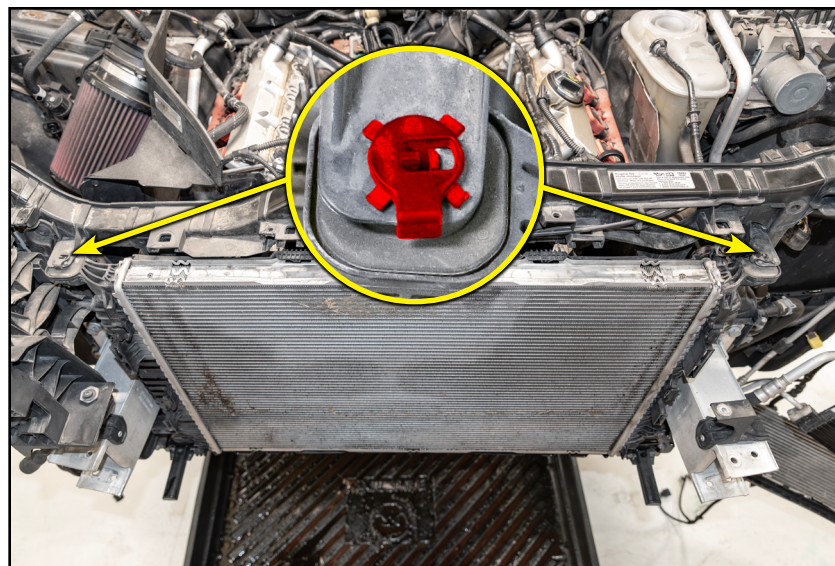
### Step 35: 10mm Socket & Ratchet

**If your vehicle is equipped with an automatic/S-Tronic transmission:** Remove the bolt (arrow in **photo #1**), then pull the lower transmission fluid line free from the port on the radiator. Remove the bolt (arrow in **photo #2**), then disconnect the upper transmission fluid line free from the port on the radiator.



### Step 36: Angled Pick

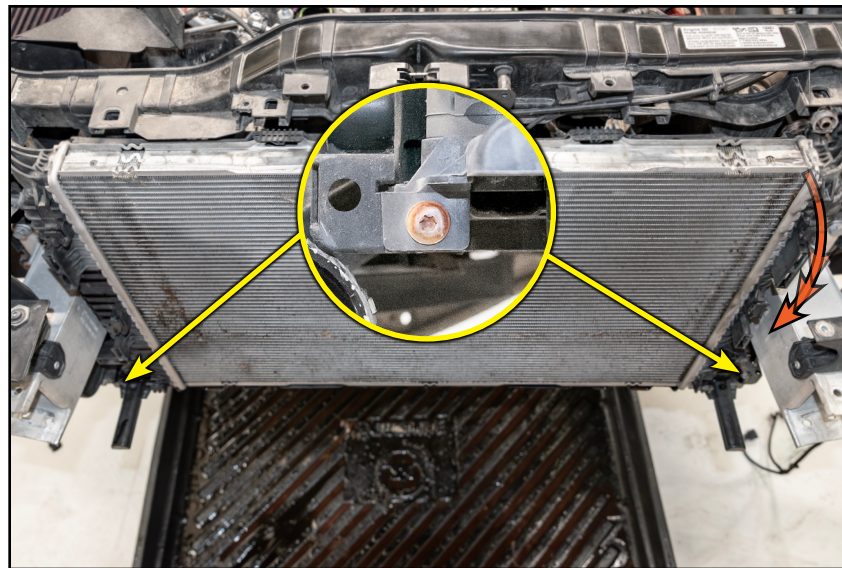
Push in on the tab and pull up to remove the two upper radiator mounting posts (highlighted in **RED** in inset photo).



## REMOVING THE STOCK THERMOSTAT HOUSING

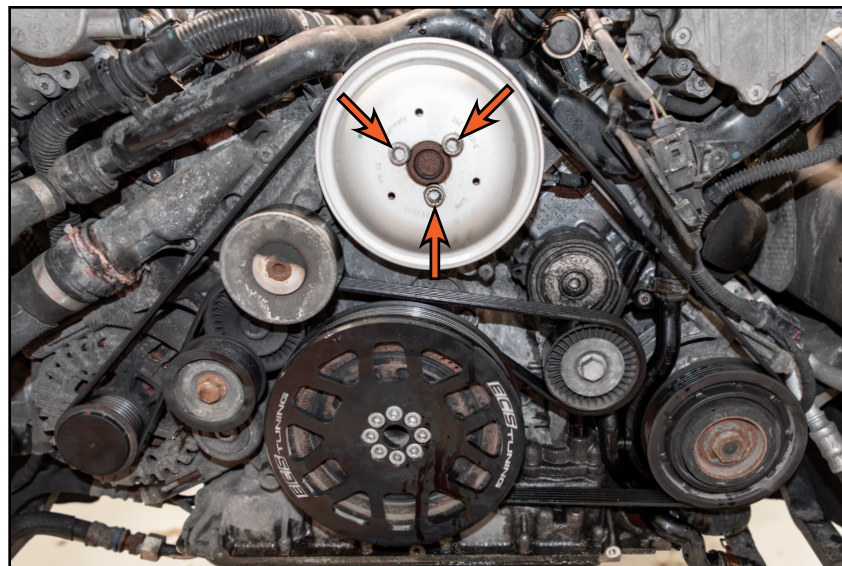
### Step 37: T30 Torx Socket & Ratchet

Remove the two screws (inset photo) that secure the lower radiator mounts to the core support and carefully pivot the radiator out of the core support and remove it from the vehicle.



### Step 38: M10 Triple Square Socket & Ratchet

Carefully loosen each of the water pump pulley bolts (arrows) slightly, but **do not** fully remove them yet.

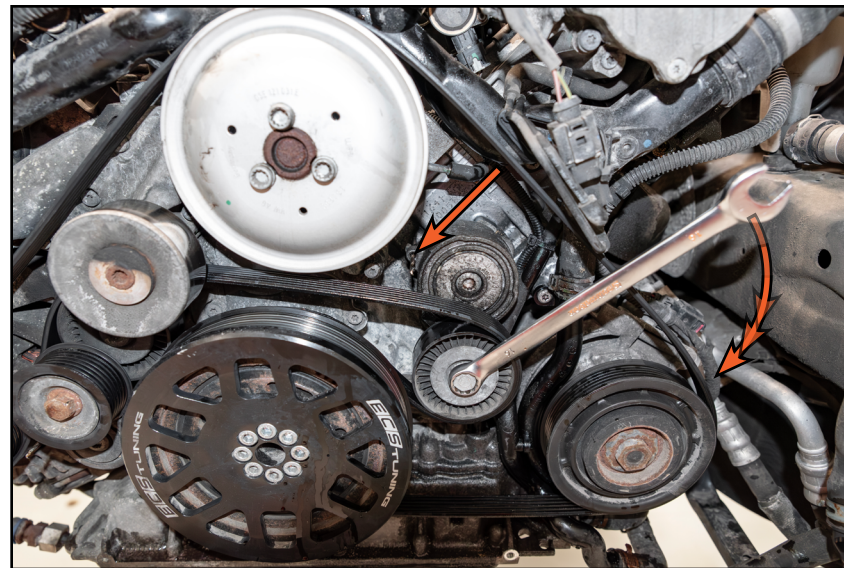




## REMOVING THE STOCK THERMOSTAT HOUSING

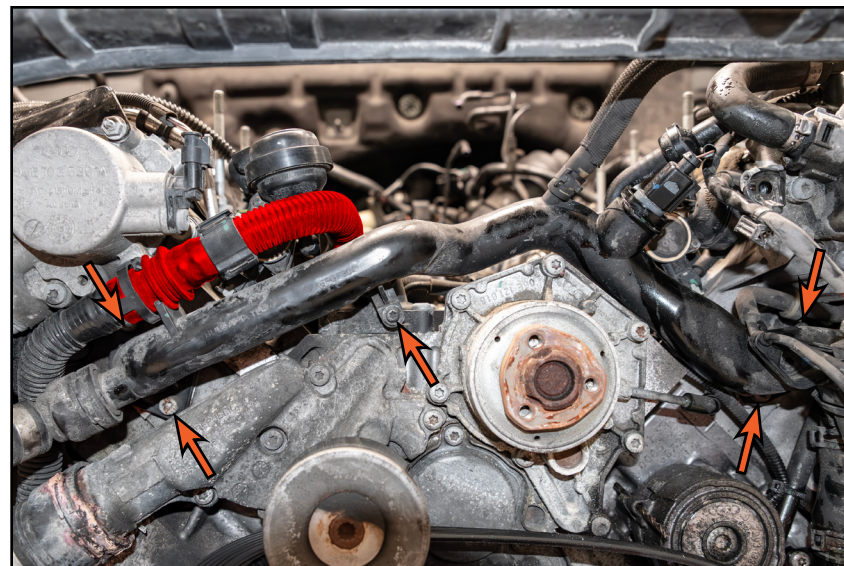
### Step 39: M10 Triple Square Socket & Ratchet

Rotate the belt tensioner clockwise, insert a drill bit (arrow) through the hole in the tensioner to retain it in place, then remove the belt. Remove the water pump pulley bolts and remove the pulley.



### Step 40: T25, T30 Torx Socket & Ratchet

Disconnect the secondary air injection hose (highlighted in **RED**) and move it out of the way. Remove the 5 screws (arrows) that secure the front coolant pipe to the engine and thermostat housing.

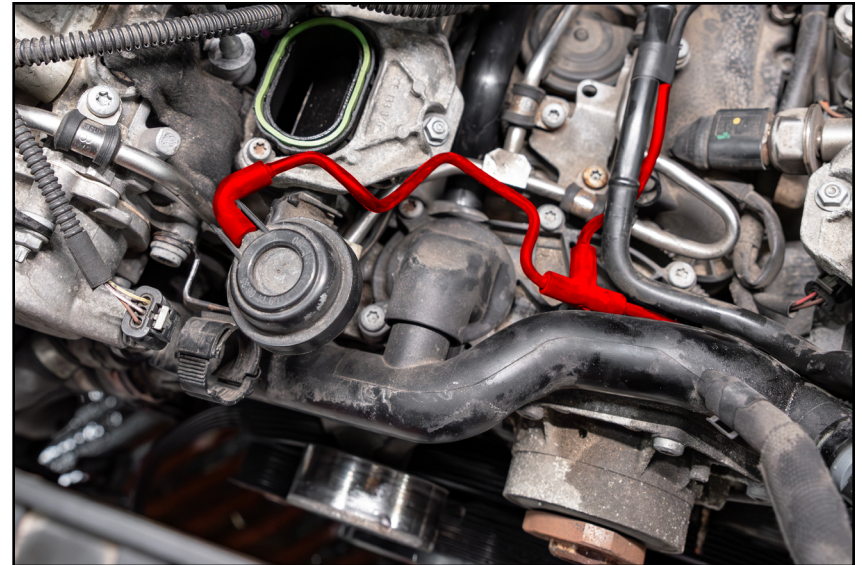




## REMOVING THE STOCK THERMOSTAT HOUSING

### Step 41:

Disconnect the vacuum line (highlighted in **RED**) and move it out of the way.



### Step 42:

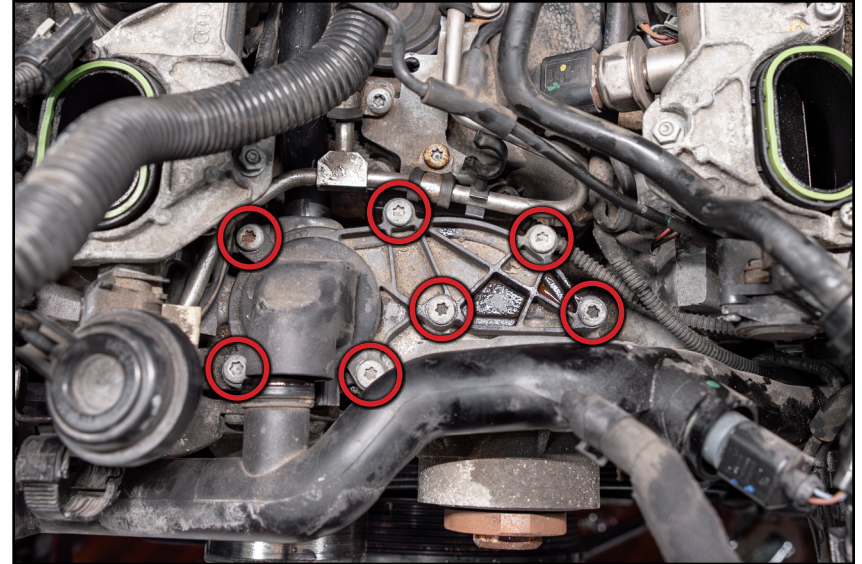
Pull the front coolant pipe out of the thermostat housing as shown.



## REMOVING THE STOCK THERMOSTAT HOUSING

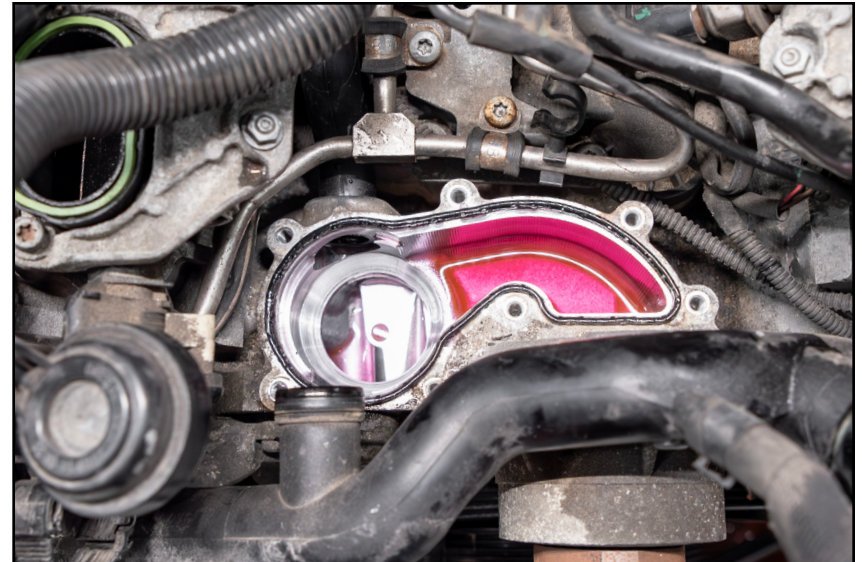
### Step 43: T30 Torx Socket & Ratchet

Remove the seven screws (circled in **RED**) and remove the thermostat housing from the vehicle.



### Step 44:

Thoroughly clean the mating surface for the thermostat housing to remove any leftover gasket material, corrosion, or debris.





## INSTALLING THE NEW THERMOSTAT HOUSING

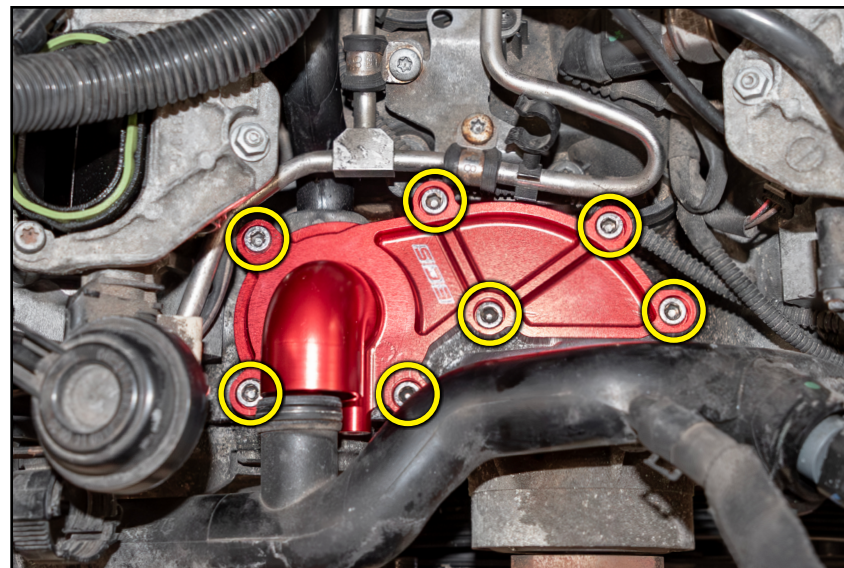
### Step 1:

Install the provided gasket into the groove in the bottom of the new thermostat housing as shown.



### Step 2: 5mm Hex (Allen) Socket & Torque Wrench

Install the new thermostat housing into the engine, securing it into place with the provided M6 x 22mm screws (circled in **YELLOW**) and torquing them to 9 Nm (7 Ft-lbs).



## INSTALLING THE NEW THERMOSTAT HOUSING

### Step 3: 13mm Socket & Ratchet

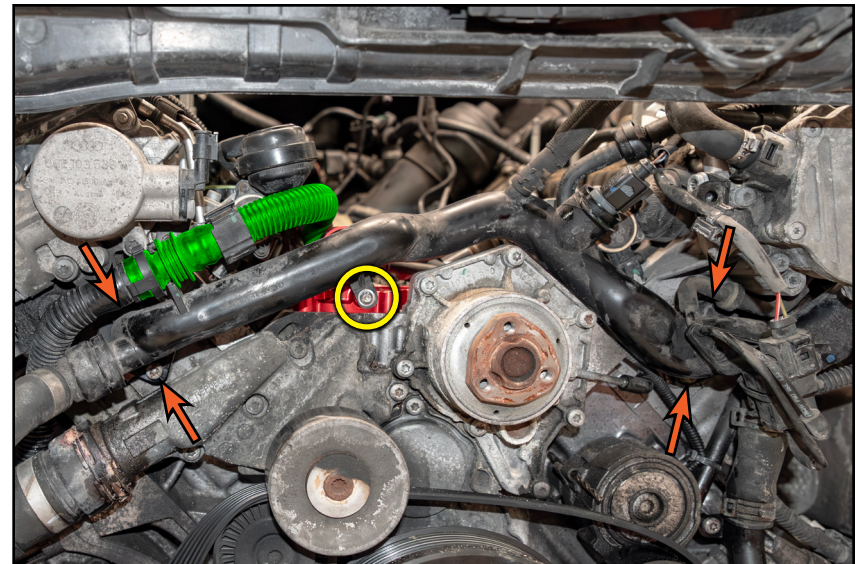
Reconnect the vacuum line (highlighted in **GREEN**) as shown, then push the front coolant pipe back into the thermostat housing as shown.

All three front coolant pipe O-rings (available [HERE](#)) should be replaced at this point to prevent future leaks.



### Step 4:

Reconnect the secondary air injection hose (highlighted in **GREEN**), then reinstall the front coolant pipe screws (arrows) and torque them to 9 Nm (7 Ft-lbs). Install the provided M5 screw (circled in **YELLOW**) to secure the front coolant pipe to the thermostat housing and tighten it until snug.

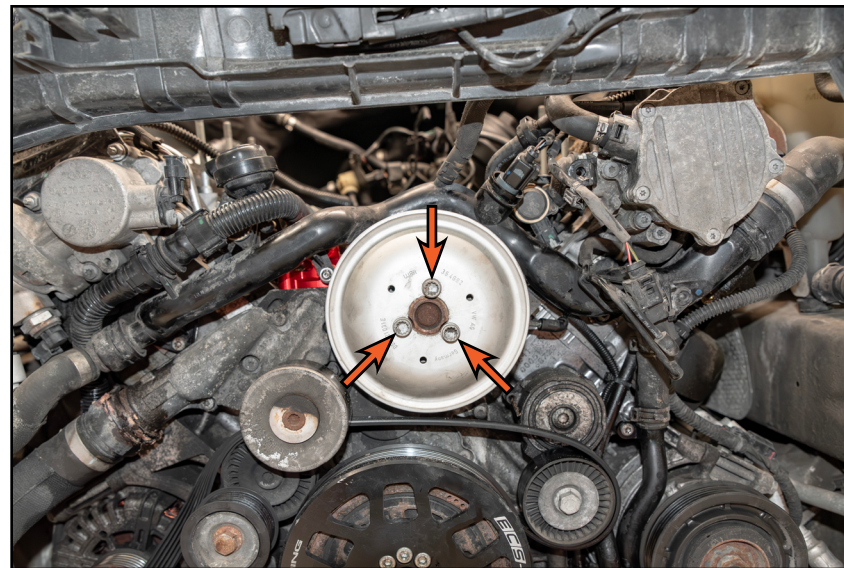




## INSTALLING THE NEW THERMOSTAT HOUSING

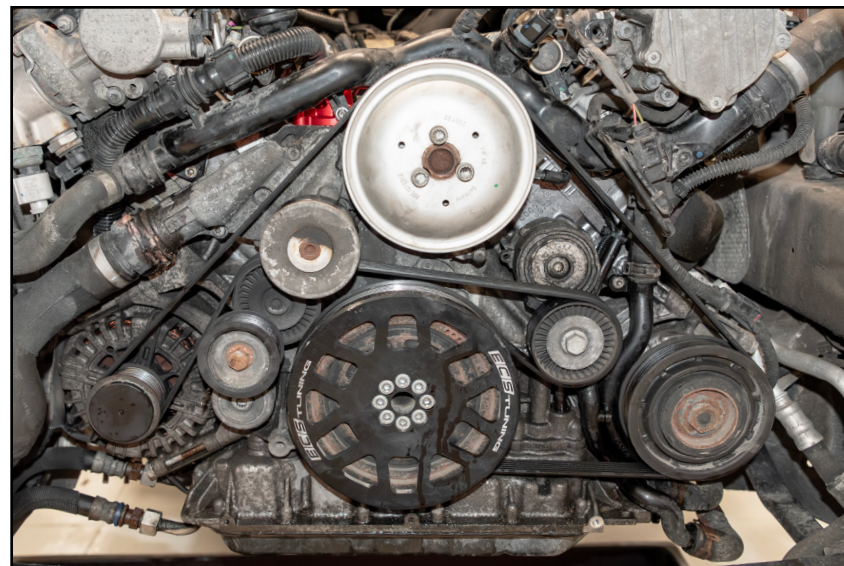
### Step 5: M10 Triple Square Socket & Ratchet

Reinstall the water pump pulley and reinstall the screws (arrows).



### Step 6: M10 Triple Square Socket & Torque Wrench

Re-route the belt, then rotate the tensioner clockwise, remove the drill bit and release the tensioner. Torque the water pump pulley bolts to 20 Nm (15 Ft-lbs).



## INSTALLING THE NEW THERMOSTAT HOUSING

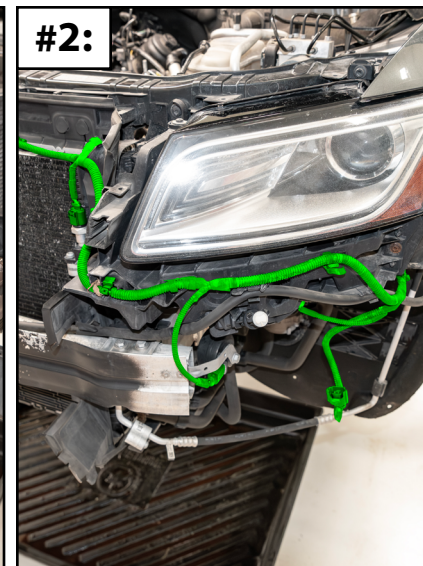
### Step 7:

Reinstall the left front coolant pipe assembly, radiator, A/C condenser, headlight, intercooler, and crash beam in reverse order of removal.



### Step 8:

Reconnect the LH and RH wiring harnesses (highlighted in **GREEN** in **Photos #1 & #2**).

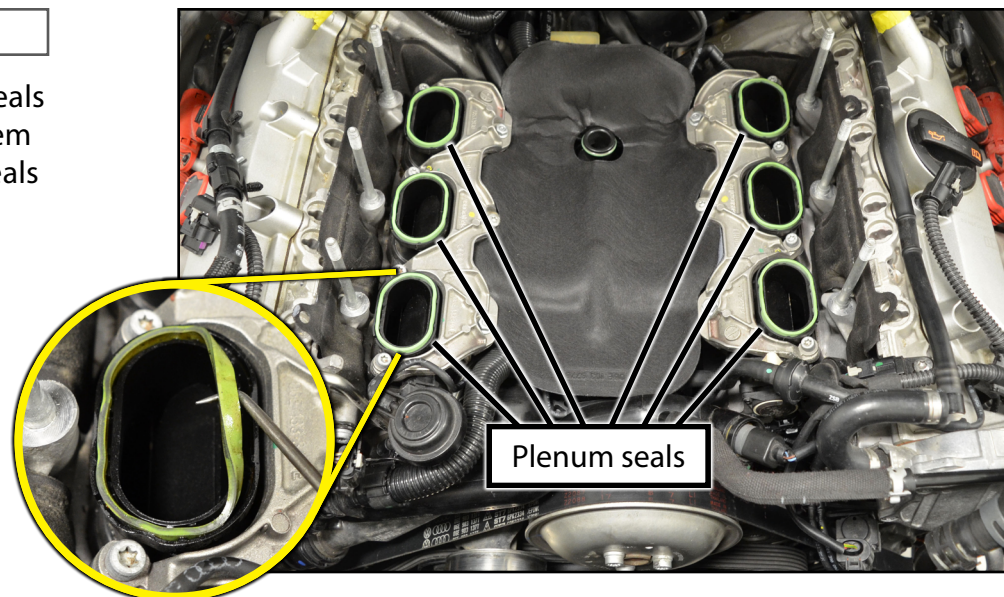




## INSTALLING THE NEW THERMOSTAT HOUSING

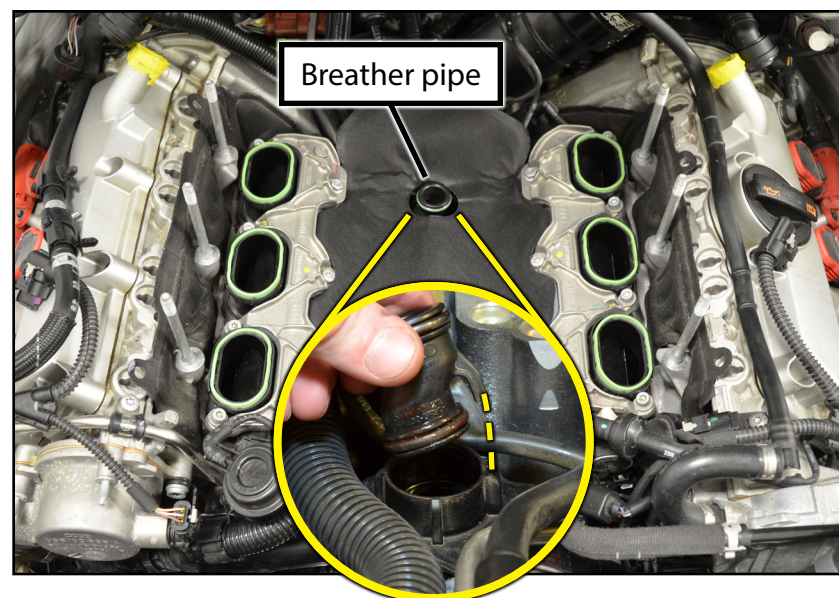
### Step 9: Small Pick

Inspect the six plenum seals for signs of wear or damage. These seals can be wiped clean and reused, but it's a good idea to replace them if they have become hardened from engine heat cycling. These seals can be found on our website by clicking [HERE](#).



### Step 10:

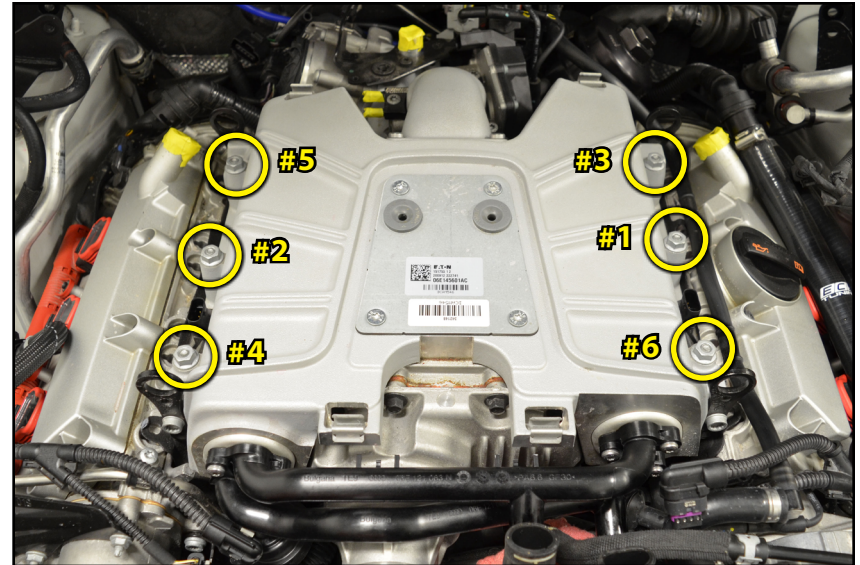
Locate the breather pipe which connects the PCV assembly to the bottom of the supercharger. This pipe can sometimes stick in the bottom of the supercharger and must be reinstalled into the PCV assembly. We suggest replacing both of the seals on this pipe now while it's accessible, they can be found on our website by clicking [HERE](#).



## INSTALLING THE NEW THERMOSTAT HOUSING

### Step 11: 13mm Socket & Torque Wrench

Carefully lower the supercharger onto the engine, being careful not to snag any hoses or wiring harnesses along the way. Reinstall the six supercharger nuts and torque them to 20 Nm (15 Ft-lbs) in the order shown in the photo on the right.



### Step 12:

Reinstall the supercharger belt, all vacuum lines, electrical connectors, and coolant hoses in reverse order of removal. Make sure that the coolant drain valve on the radiator has been CLOSED before proceeding to the next steps.





## INSTALLING THE NEW THERMOSTAT HOUSING

### Step 13:

Reinstall the bumper in reverse order of removal. Reinstall the intake pipe, engine covers, and strut tower brace (if equipped).



### Step 14: Coolant Refill/Air Purge Tool

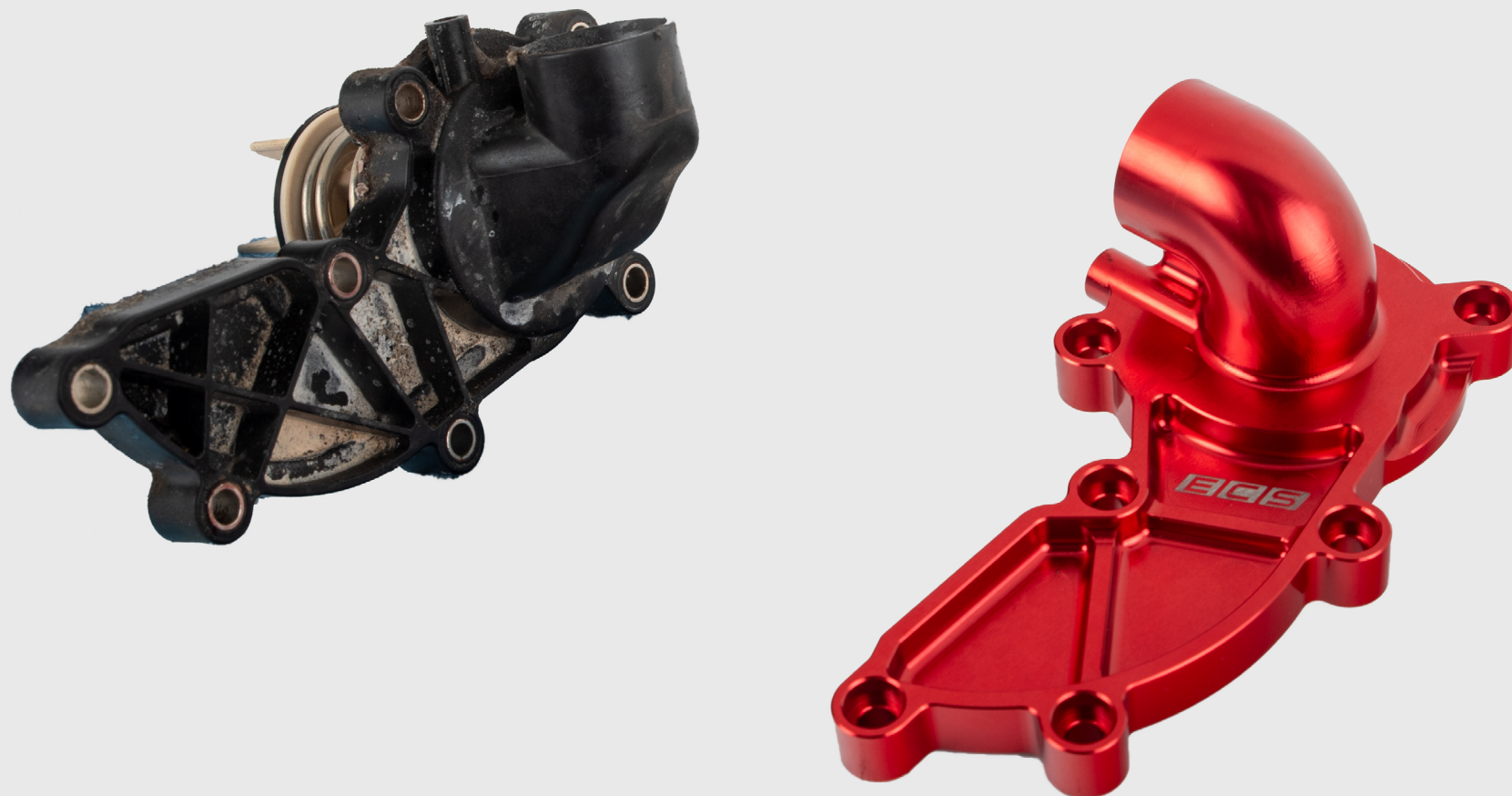
Fill the coolant system with fresh coolant and bleed it to remove any air from the system.

**If your vehicle is equipped with an automatic/S-Tronic transmission:** Check and refill the transmission fluid to ensure it is at the proper level.



***Congratulations, your installation is complete!***

## Your Billet Thermostat Housing installation is complete!



### These instructions are provided as a courtesy by ECS Tuning

Proper service and repair procedures are vital to the safe, reliable operation of all motor vehicles as well as the personal safety of those performing the repairs. Standard safety procedures and precautions (including use of safety goggles and proper tools and equipment) should be followed at all times to eliminate the possibility of personal injury or improper service which could damage the vehicle or compromise its safety.

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