



PERFORMANCE BY  
**INTEGRATED  
ENGINEERING**

## **IE Audi B9 S4 & S5 Race FDS Intercooler Install Guide IETPCK5**

Thank you for purchasing the best performing intercooler on the market! This instruction guide is used for installation of IE's FDS Intercooler System for Audi B9 S4, and S5 applications. This kit needs to be installed by a professional or an experienced technician. Integrated Engineering is not responsible for any damage caused by incorrect installation.

### **Additional Required Parts:**

- [IETPCK6 IE Aluminum Charge Pipes](#)

### **Required Tools:**

- Flathead screwdriver
- Socket wrench
- Socket extension(s)
- 4mm Allen
- 5mm Allen
- 6mm Allen
- 10mm socket
- 13mm socket
- 13mm crescent wrench
- 16mm Socket
- 17mm Wheel Socket
- T25 torx bit
- T27 torx bit
- T30 torx bit
- Needle nose pliers
- 5mm allen wrench
- 3/16" allen wrench
- Two Long "Service Position" bolts
- Copper Anti Seize

### Included Components:

- 1X - B9 S4 Race Intercooler Welded Assembly
- 2X - B9 S4 Race IC Frame Bracket
- 2X - B9 S4 Race IC Radiator Bracket
- 2X - B9 S4 Race IC Pass. Silicone Coupler
- 2X - B9 S4 Race IC Driver Silicone Coupler
- 4X - 18-8 Stainless Steel, M6 x 1 mm Thread, 12mm Long
- 4X - 18-8 Stainless Steel Hex Nut, M8 x 1.25 mm Thread
- 12X - 18-8 Stainless Steel Oversized Washer for M8 Screw Size, 8.4 mm ID, 24 mm OD
- 4X - SHCS, M8 x 1.25, 30mm Long, 18-8
- 4X - M8 x 1.25, 25mm Long, 18-8
- 4X - SS Worm-Drive Clamp for Soft Hose & Tube, 2-9/16" to 3-1/2", 59mm-82mm

Before you begin, open your IE Downpipe Kit, inspect all components, and verify their quantities.



**Some install steps may be shown on different vehicles, but the instructions remain the same.** Begin by preparing your workspace and tools required, and allow the car to cool before beginning this install procedure.



Remove Engine Cover by pulling directly up off the 4 mounting tabs located near the corners.



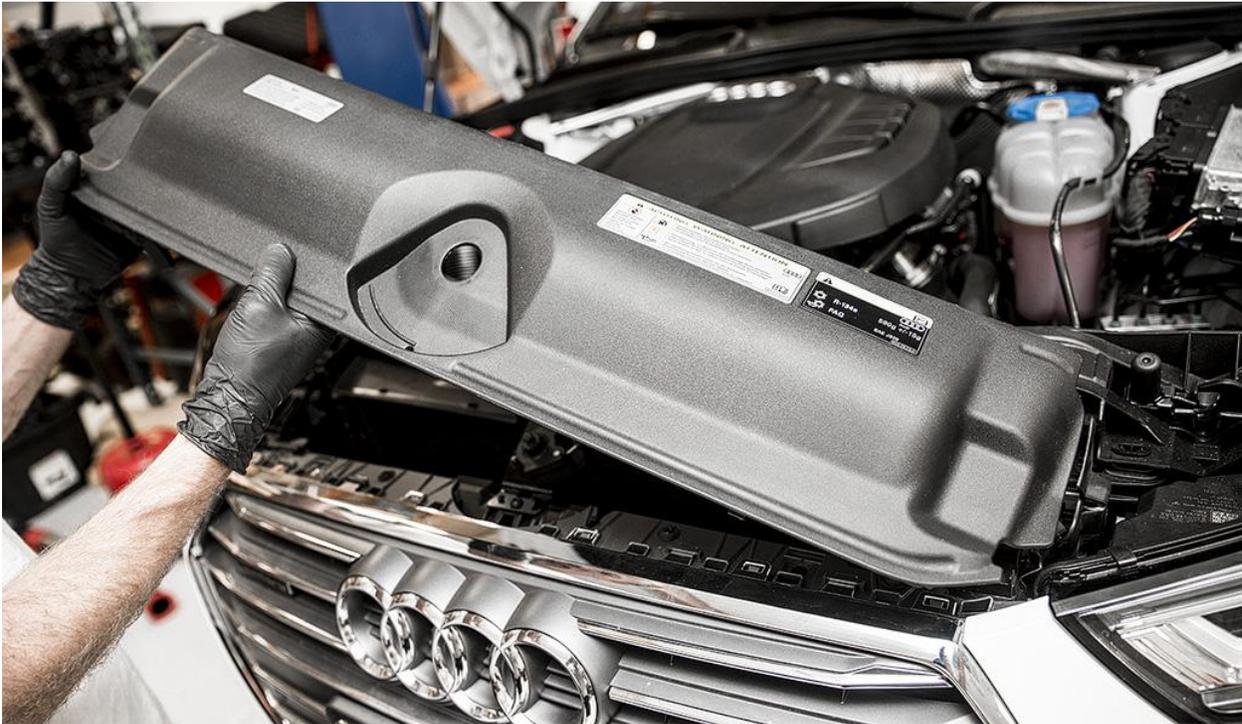
Install guide is shown with IE Polymer Air Intake. If you need OE Intake removal Instructions, refer to [IEINCK5 Install Guide](#) for removal procedure. Begin removal of intake by loosening the band clamp that fastens silicone hose to the inlet.



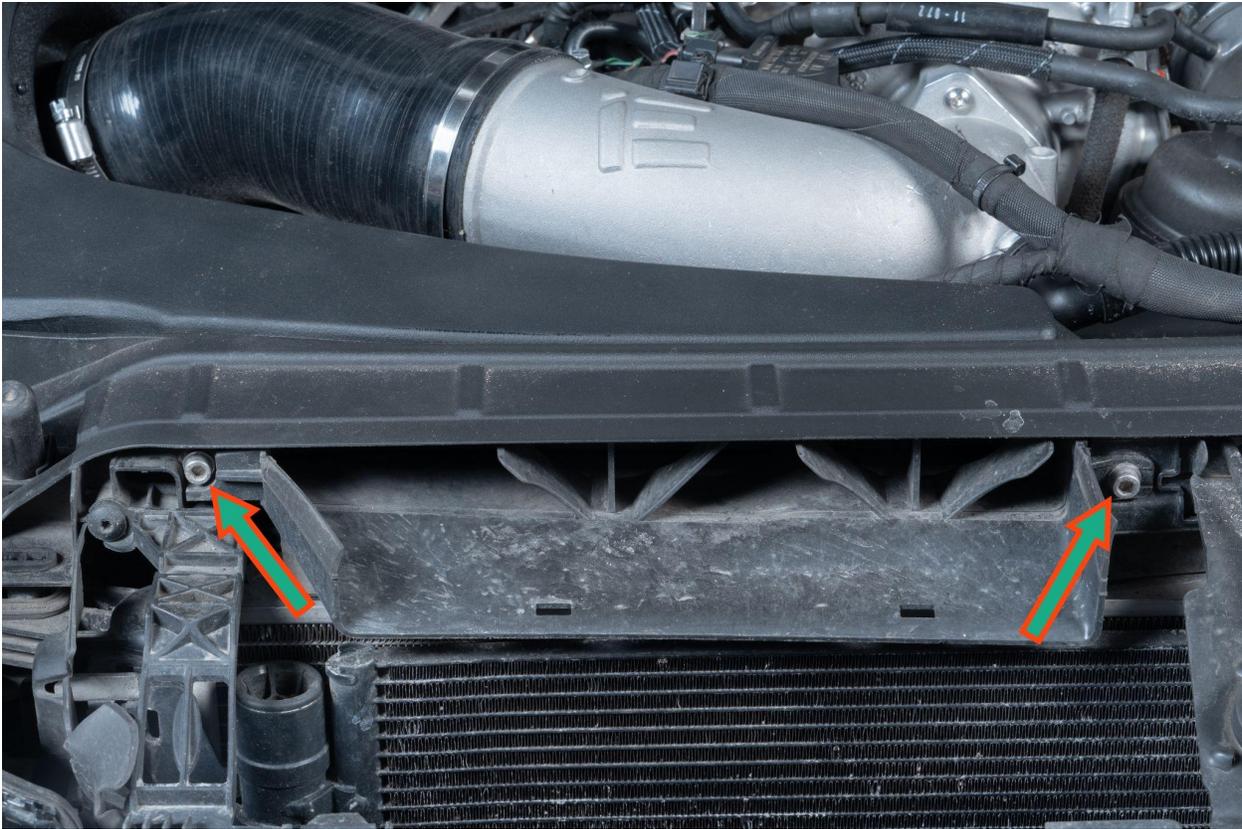
Remove the hood release handle by pushing on the lock tab and pulling upwards.



Remove the plastic bumper cover by gently pulling up on the front edge.



Remove the two 5mm allen mounting bolts that fasten the intake to the radiator support



Remove Intake from the Engine Bay



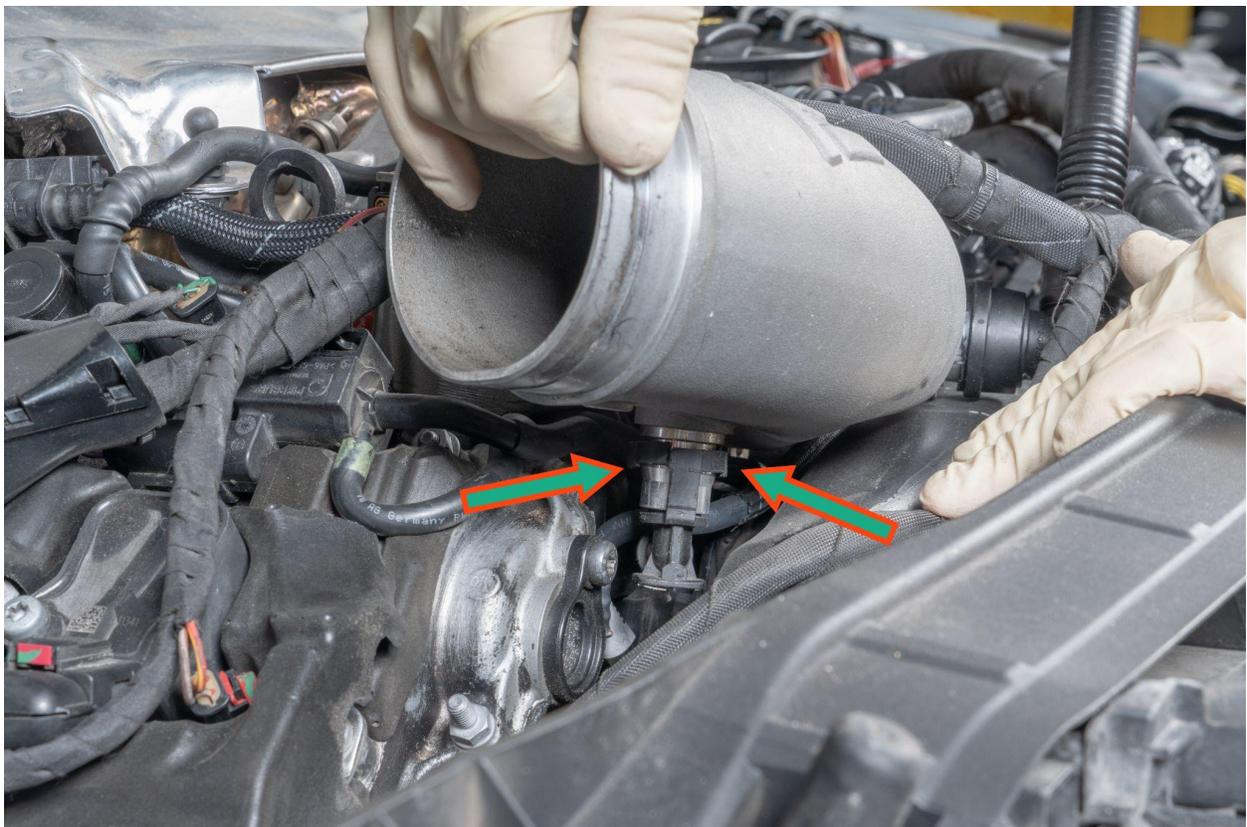
Remove the two PCV hoses from the PCV plate and Charge pipe. Squeeze the retaining clips and pull away.



Install guide is shown with IE Aluminum Turbo Inlet. If you need OE Inlet removal Instructions, refer to [IEINCK4 Install Guide](#) for removal procedure. Remove the 4mm Turbo Inlet screw on the top of the inlet.



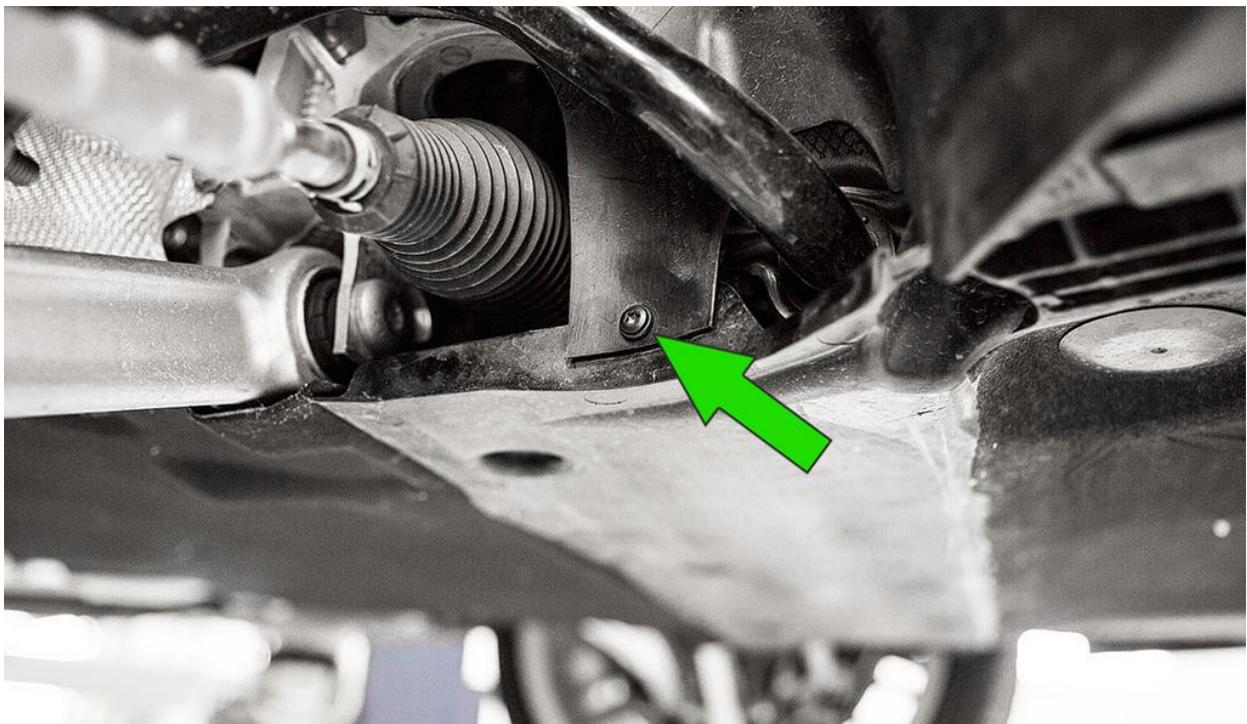
Remove lower PCV from the bottom of the inlet by pinching both sides of the retainer.



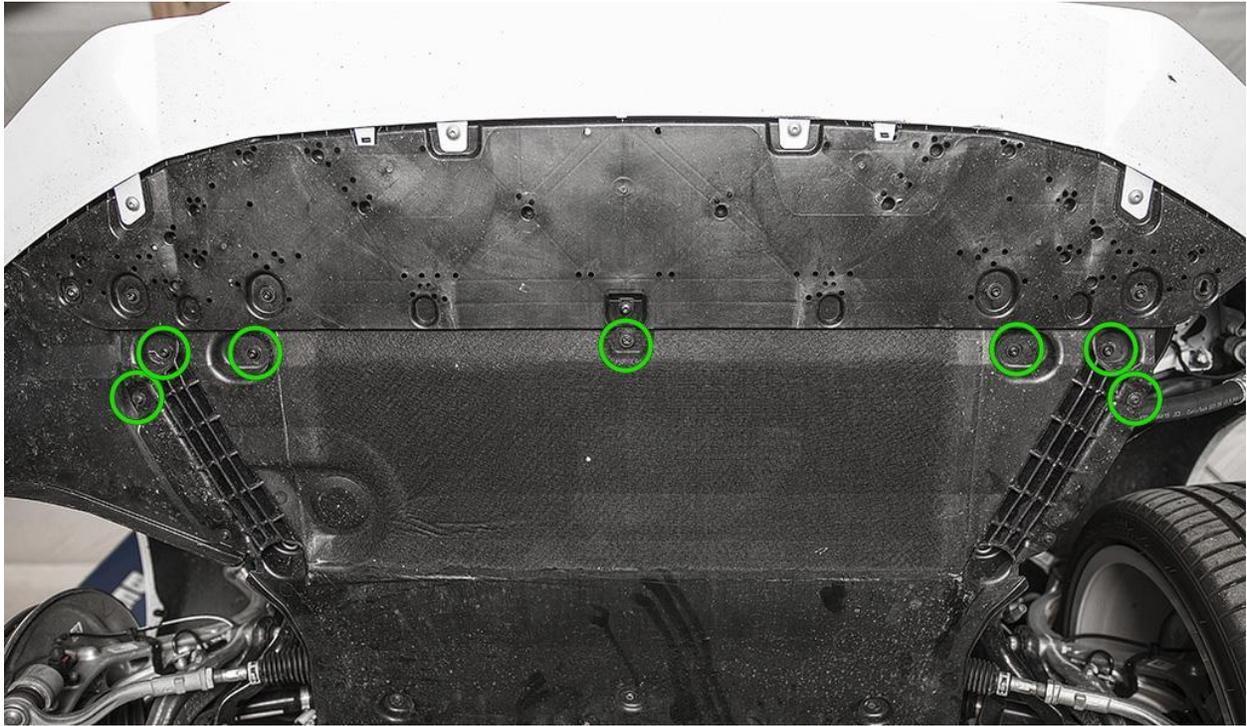
Jack up, and support the vehicle, then remove two front wheels using 17mm Socket



Once you have gained access to the fender liners and belly pan hardware. First remove the belly pan, start with the T27 torx screw in the fender well on each side.



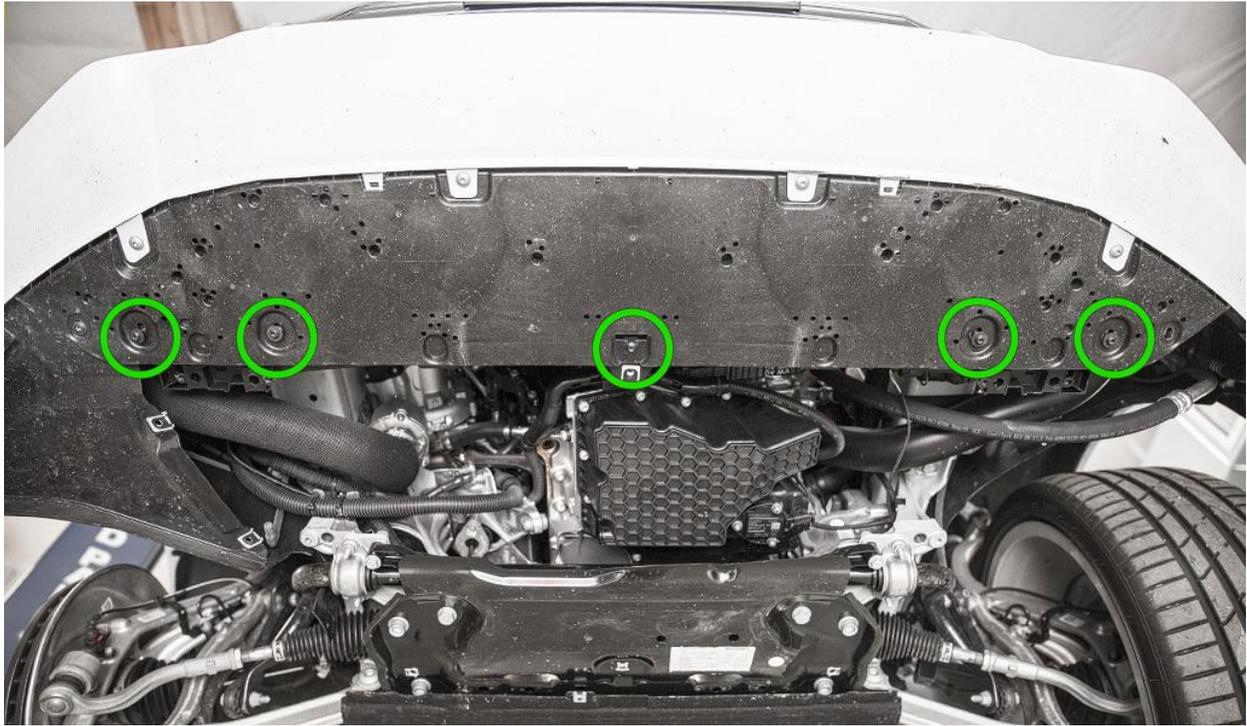
Then remove the remaining seven T25 torx screws holding the belly pan in place.



Remove the belly pan from the vehicle by sliding backwards.



Remove the four T30 torx screws and one T25 torx screw from the underside of the bumper that secures it to the radiator support.



Remove the plastic push retainer from the fender liner by carefully prying under it with a flat head screwdriver or trim removal tool.



Remove the three plastic nuts with a 10mm socket and the eight T25 torx screws in the wheel well that secure the wheel liner.



You can now fully remove the lower wheel liners. Repeat this process on both sides.



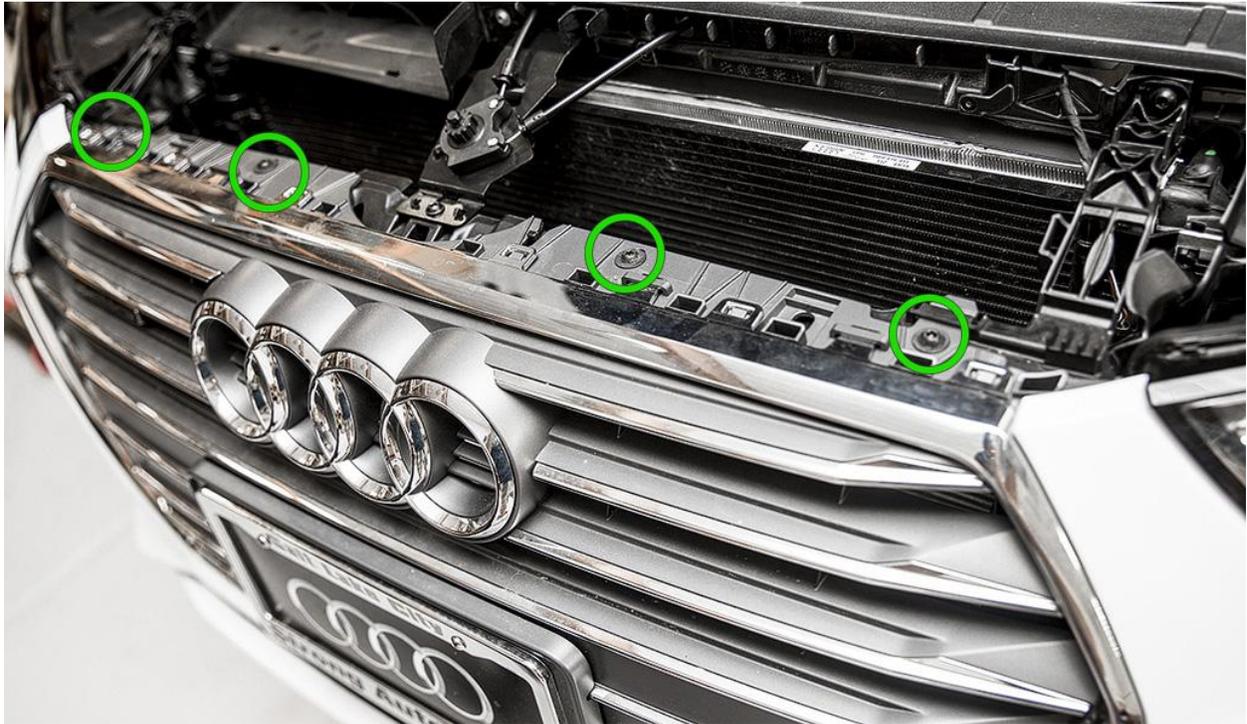
Remove the plastic bumper to fender push-lockers, one is located on each side.



Using a long extension, locate and remove the T30 bumper to fender bolt, one on each side.



Remove the four T30 torx screws located on top of the grill.



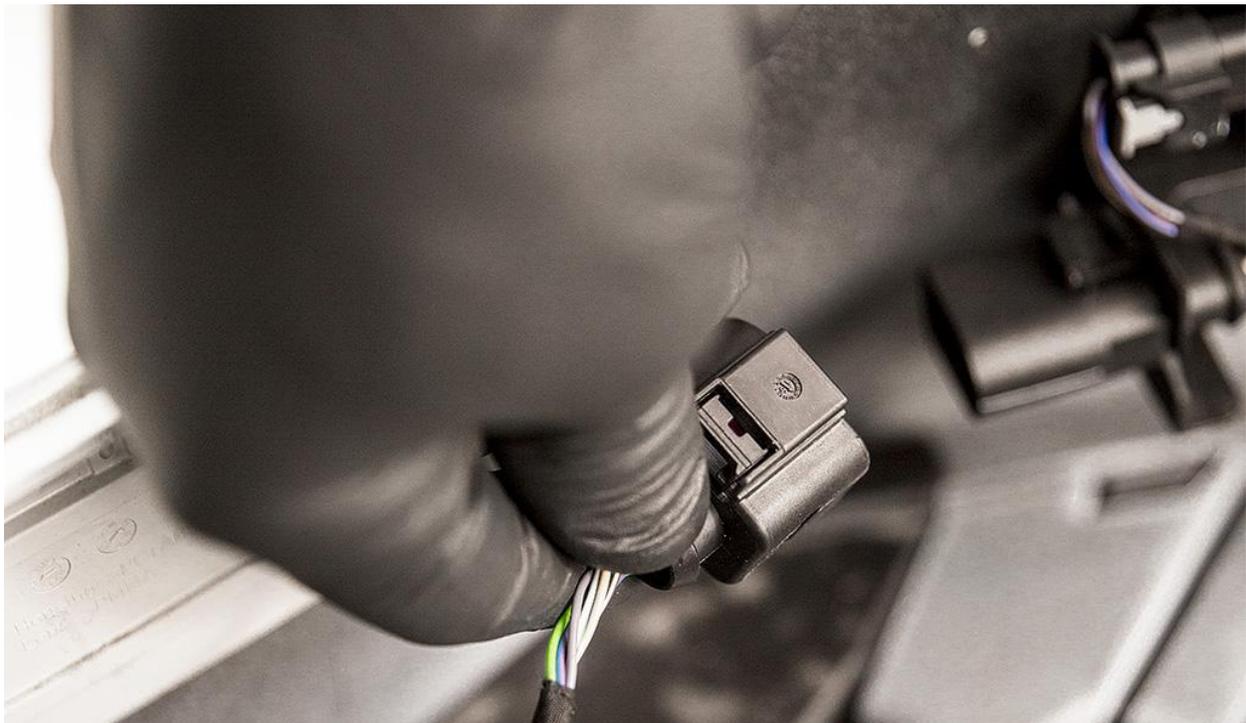
Release the grill from the bumper support bracket by gently pulling the clips up and forward.



Release the bumper cover from the fender by pulling on the outer top edge. Repeat on both sides. *Note: Use caution during this step to not break the plastic clips that fasten the bumper.*



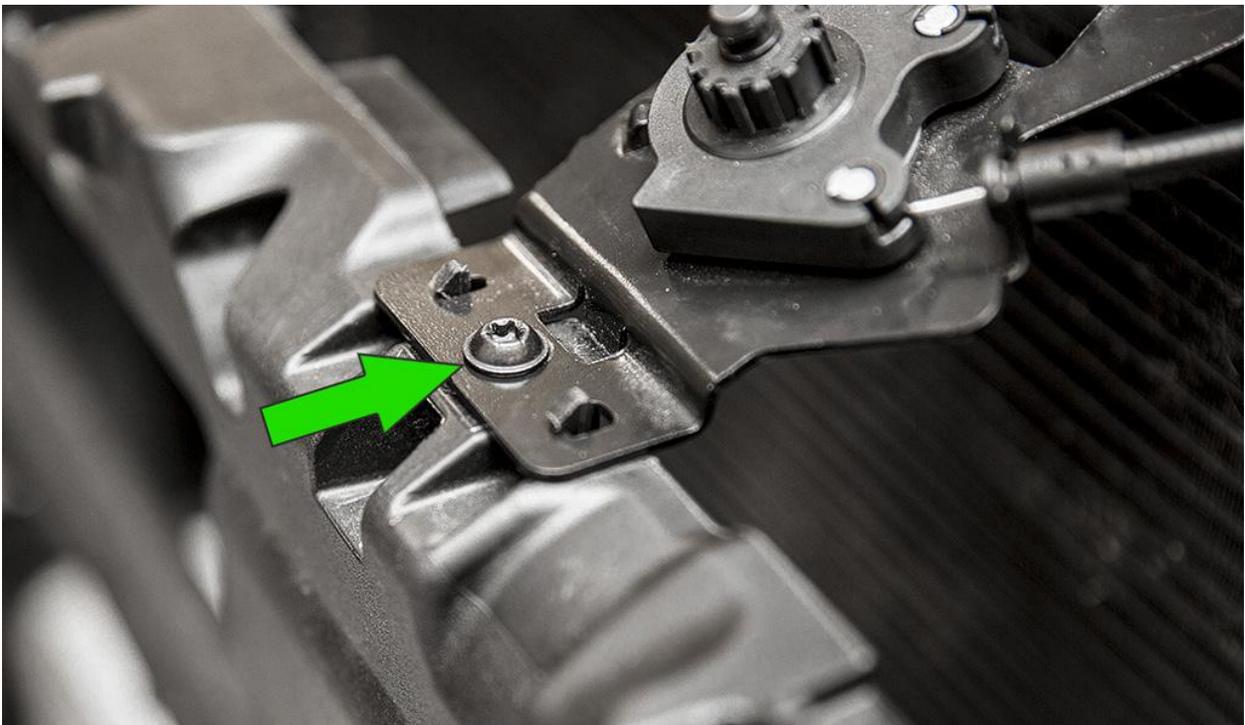
Pull the driver's side of the bumper cover forward and disconnect all electrical connectors located inside. *Note: Do not pull the bumper too far forward in this step, it can damage the bumper harness.*



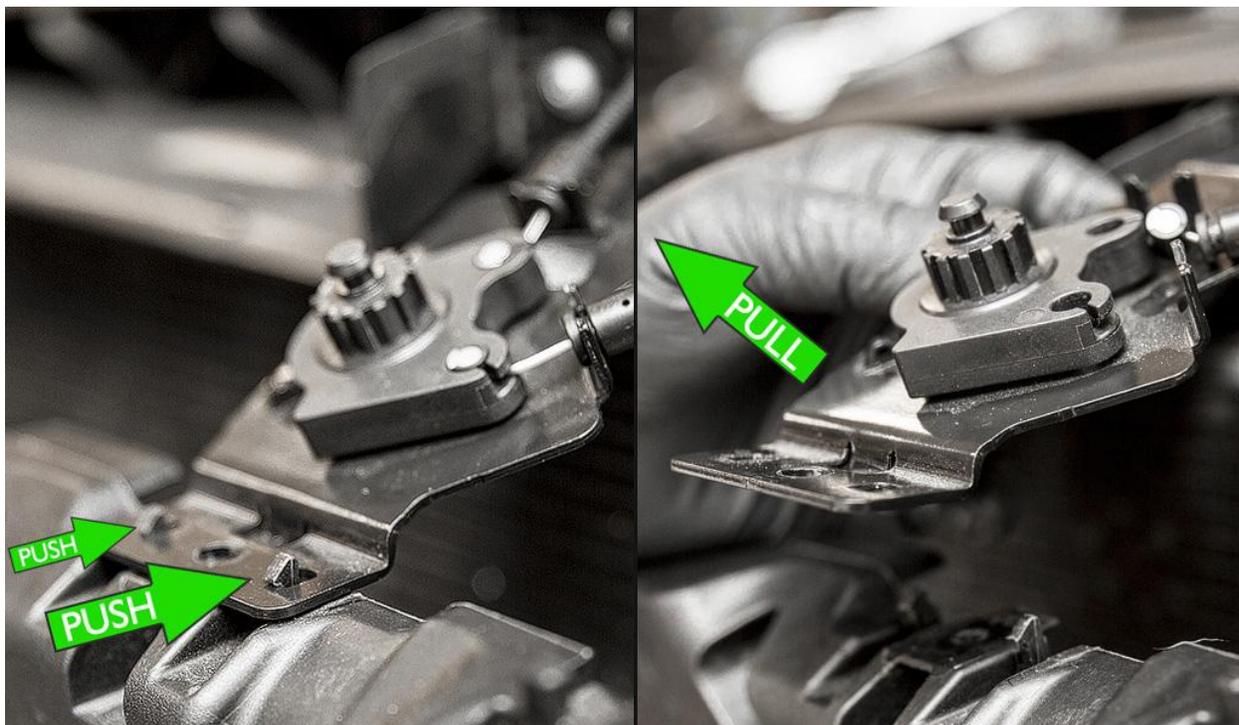
Verify all harness connectors are disconnected and free, then completely remove the front bumper.



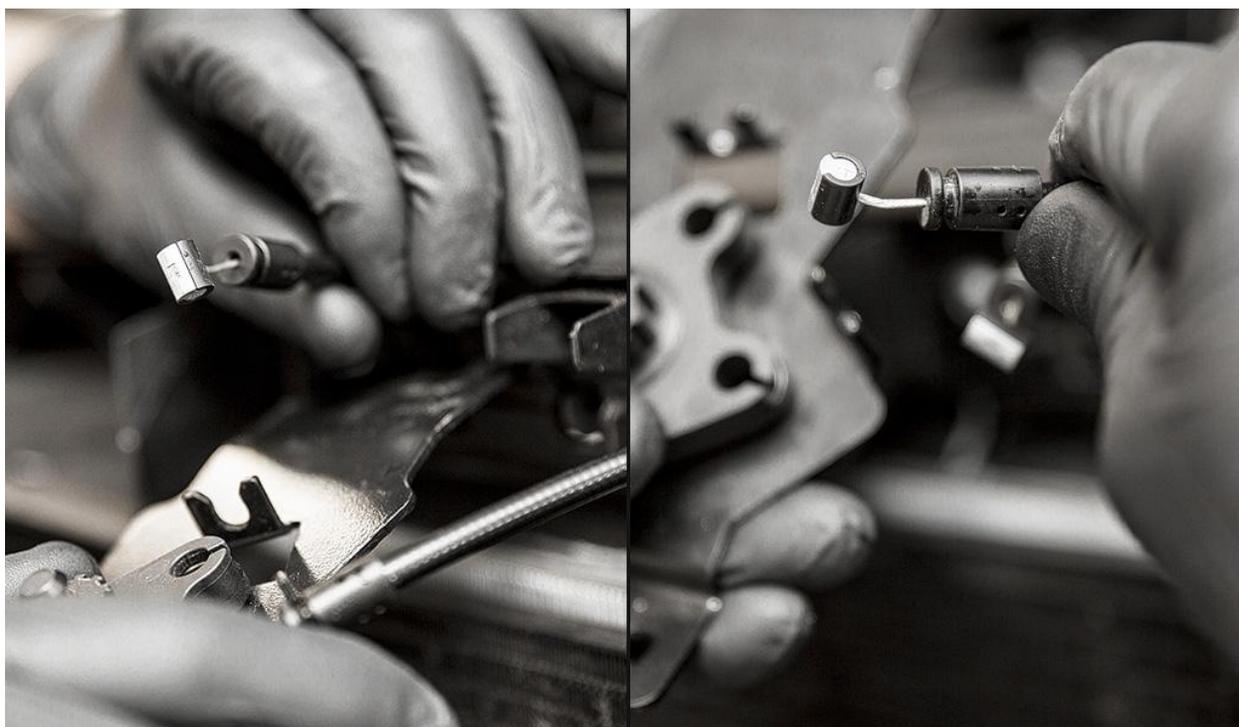
Remove the T30 torx screw from the hood latch cable bracket.



Push the two securing tabs forward and pull up to remove the hood release cable bracket.



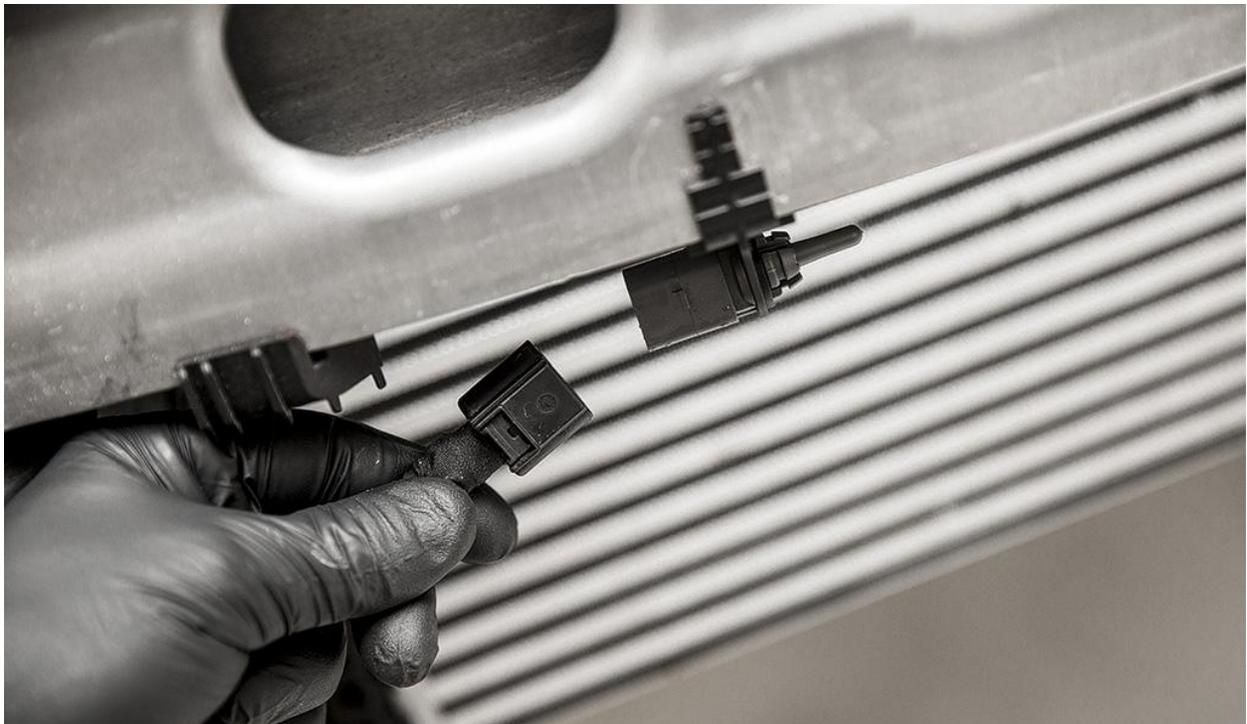
Disconnect the two hood release cables from the bracket.



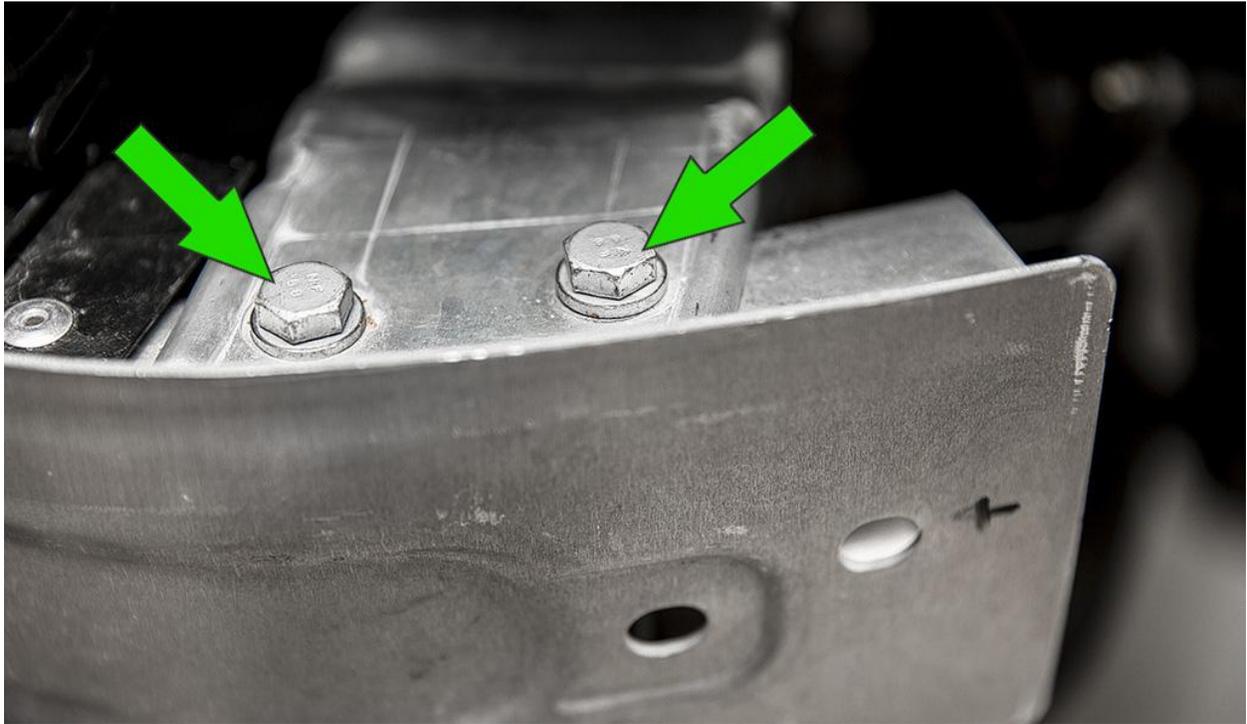
Release the wiring harness clip from the crash beam.



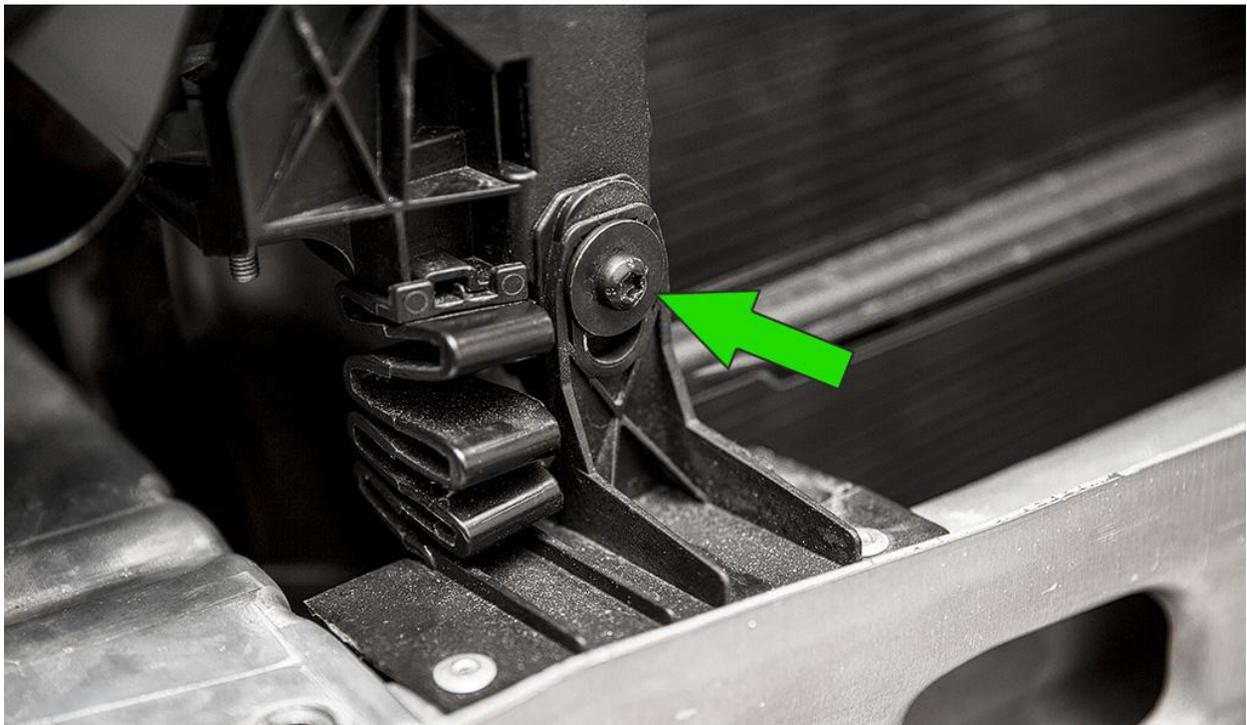
Unclip any harness connectors located on the crash beam and set out of the way.



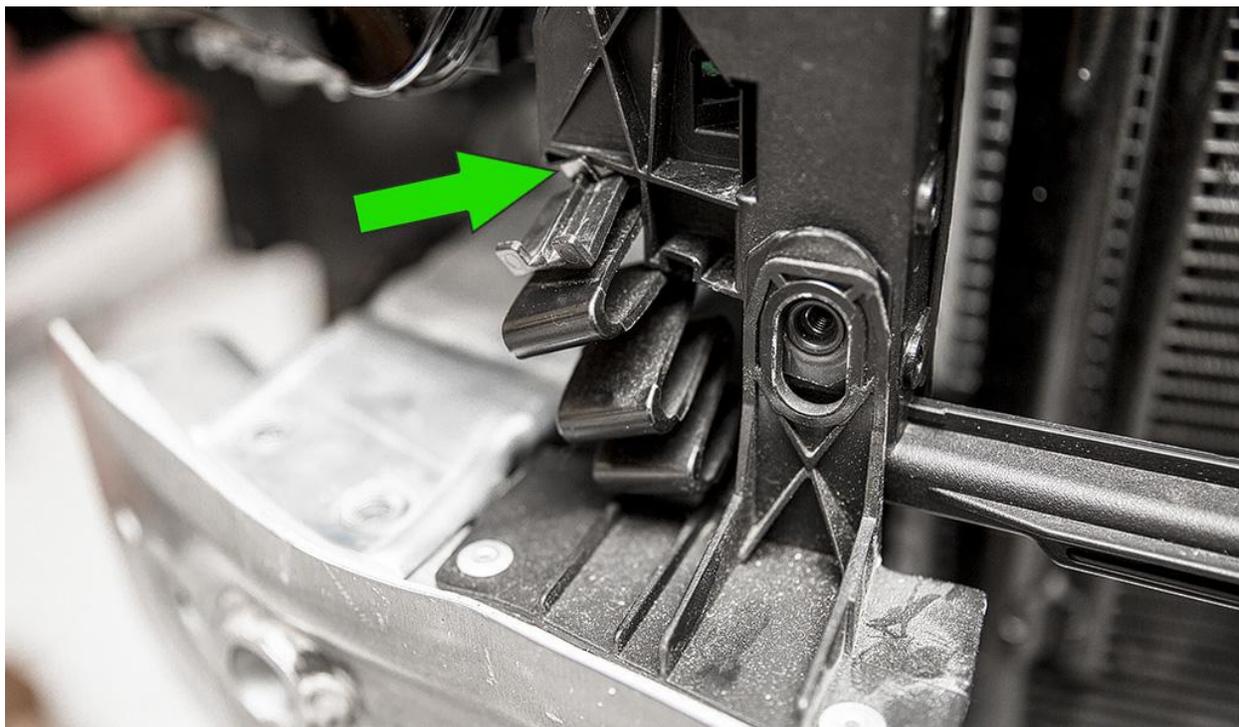
Remove the two nuts and two bolts from each side of the crash beam using a 13mm socket and wrench.



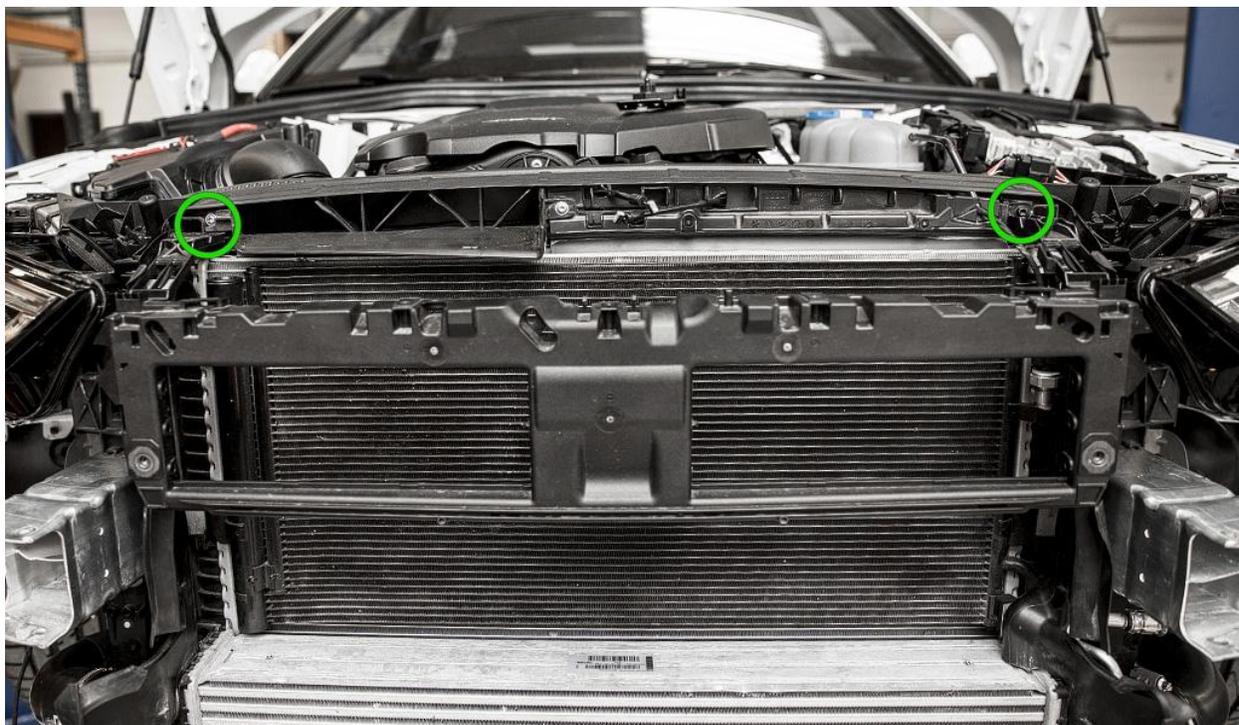
Remove the two T30 torx screws securing the crash beam to the plastic support bracket on both sides.



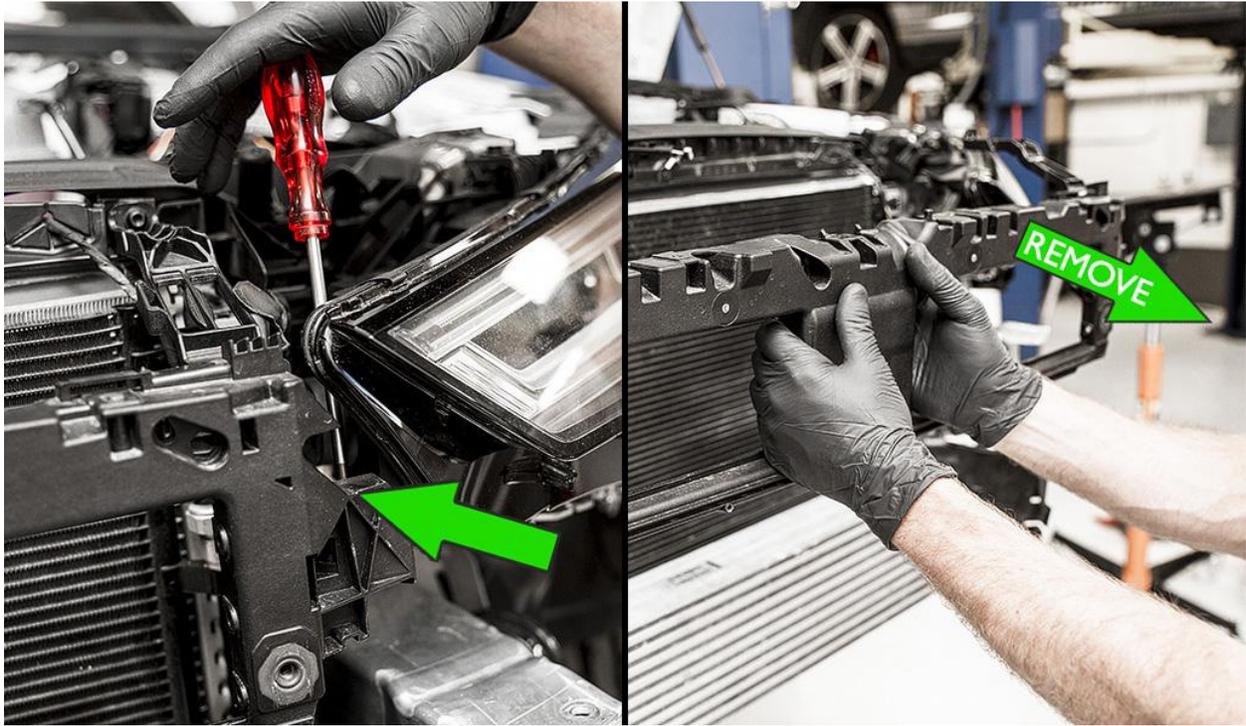
Release the two plastic spring clips by pushing down on the tab and pulling forward. Now you can remove the crash beam.



Remove the two upper T30 torx screws from the plastic support bracket.



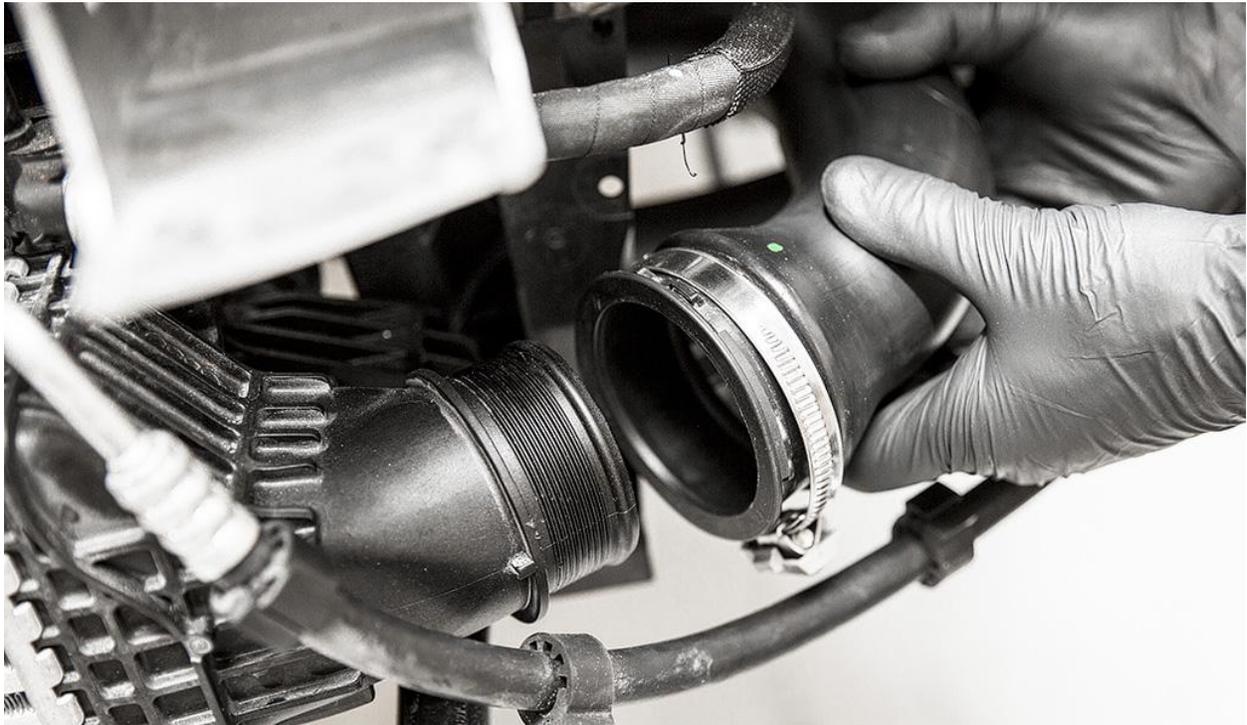
Using a long T30 torx driver, remove the remaining two T30 torx screws located in the center of the plastic support brackets on both sides, then fully remove the bracket assembly.



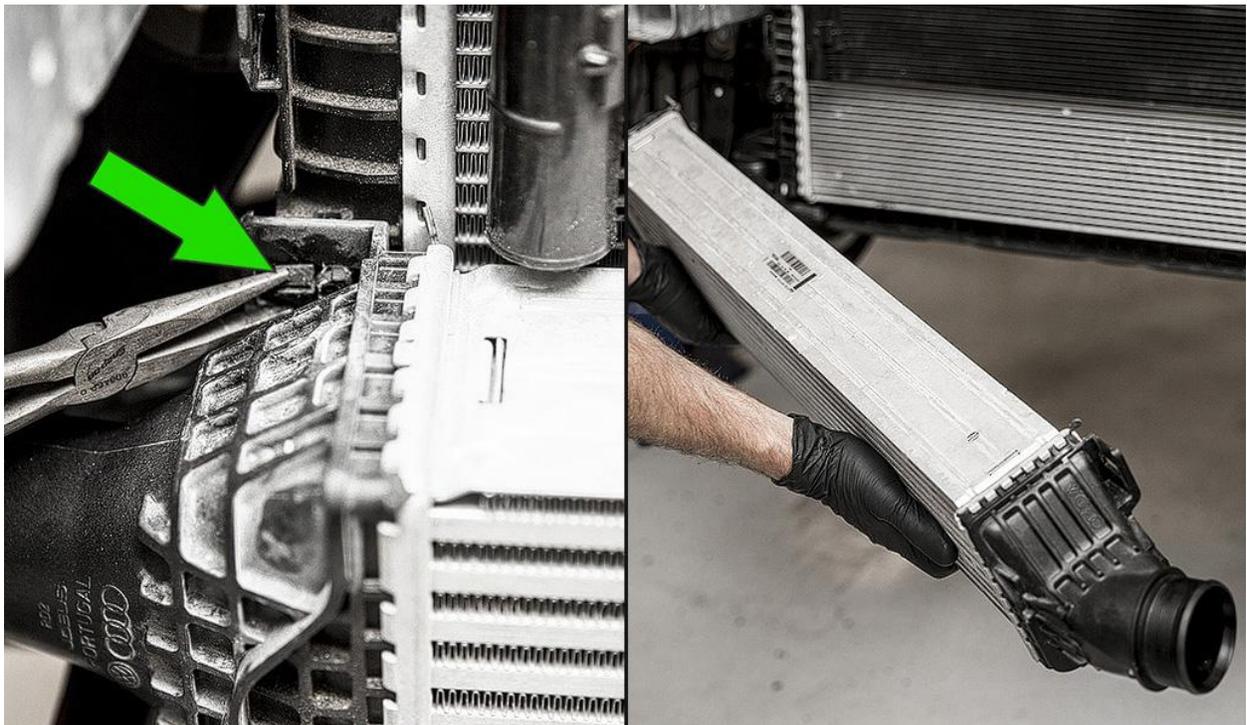
Remove the plastic air shrouds by pushing in on the two retainer tabs (one top, one bottom) and pulling forward. Repeat on both sides. Be careful to not damage the shrouds as you will need to re-install them on your new intercooler.



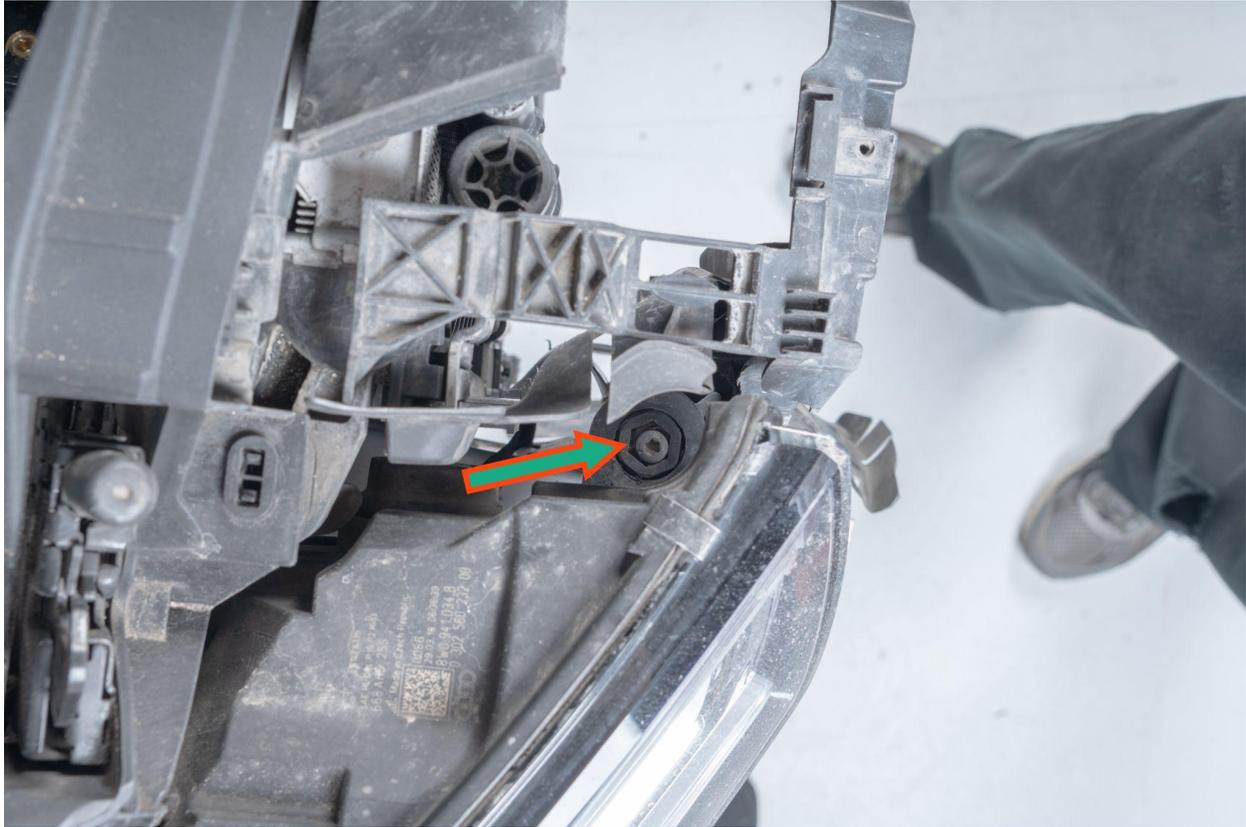
Loosen the stock hose clamps from the intercooler hose, then pull back to remove it from the OE intercooler. Repeat on both sides.



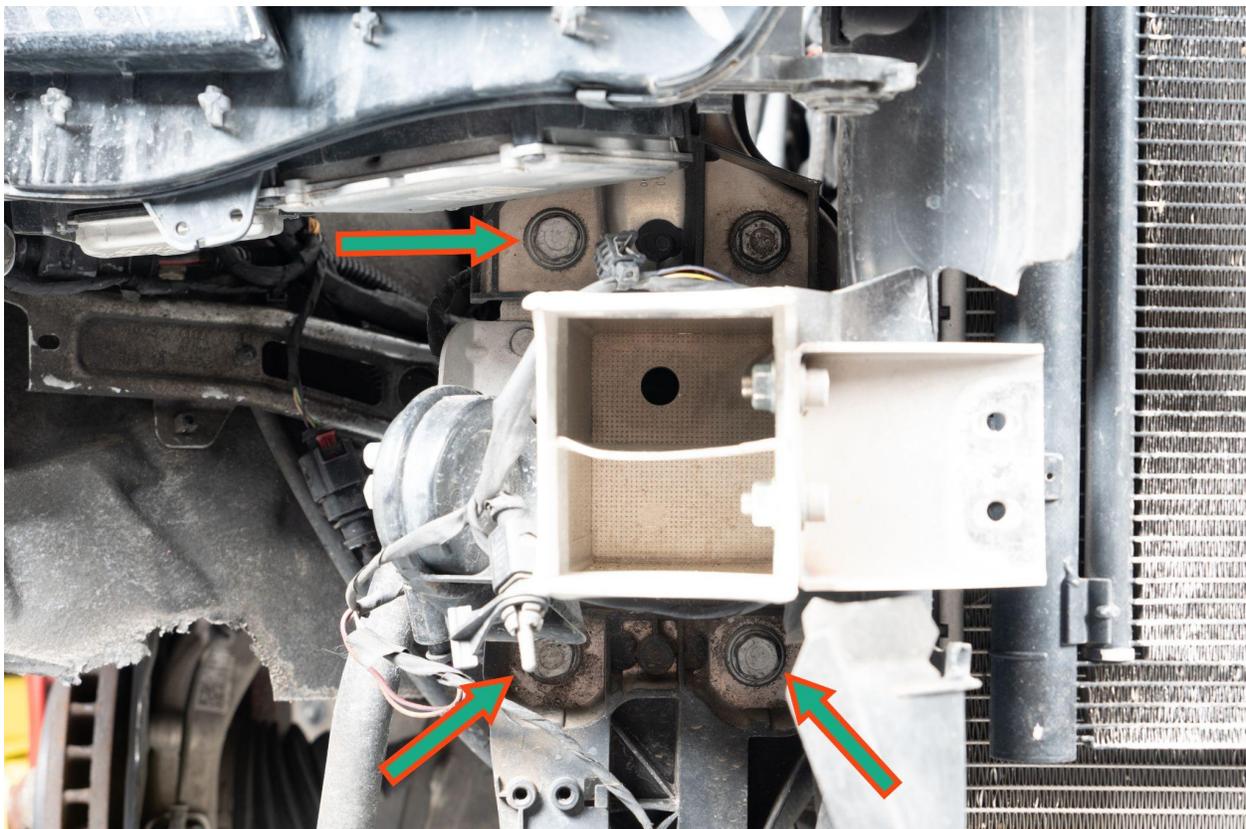
Using a pair of needle nose pliers, release the two pinch clips from the stock intercooler and remove it from the vehicle.



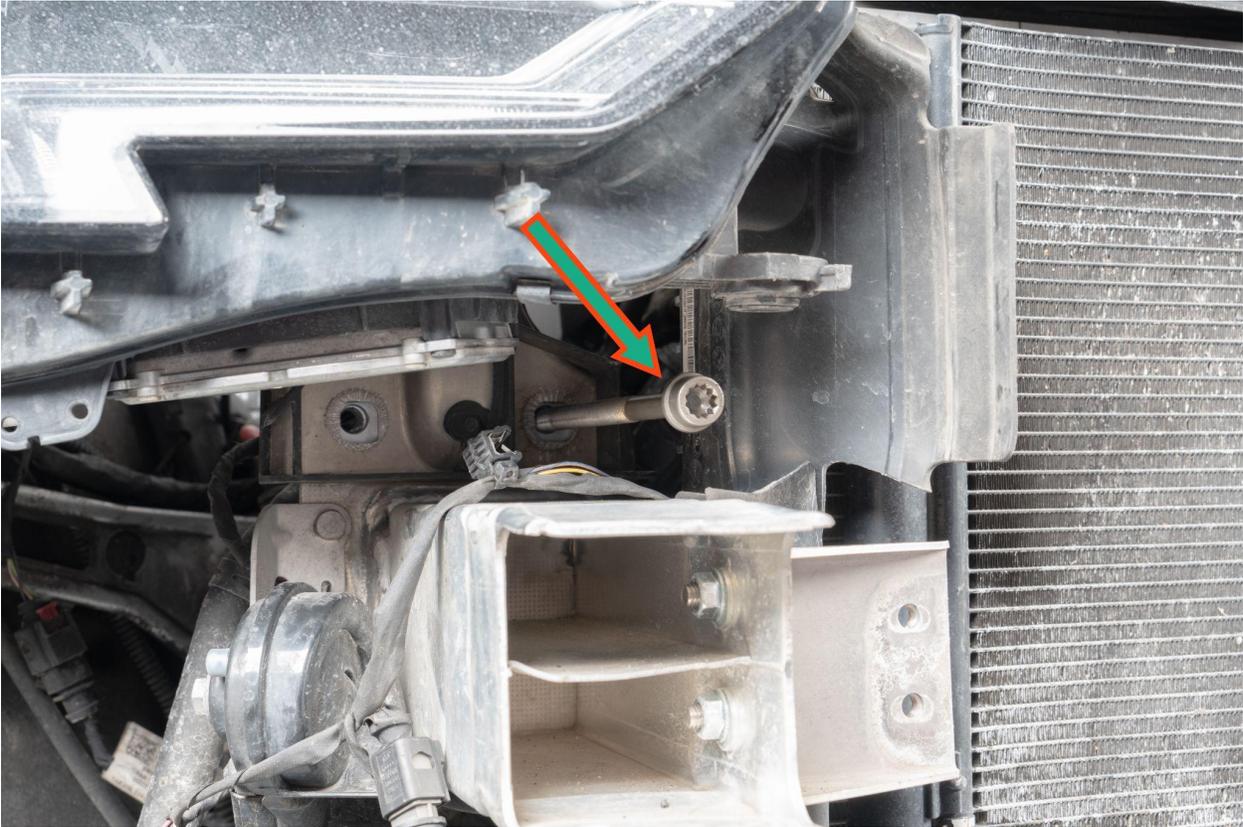
Remove two (one per headlight) T30 Headlight retainer bolts located on the front corner of the headlights



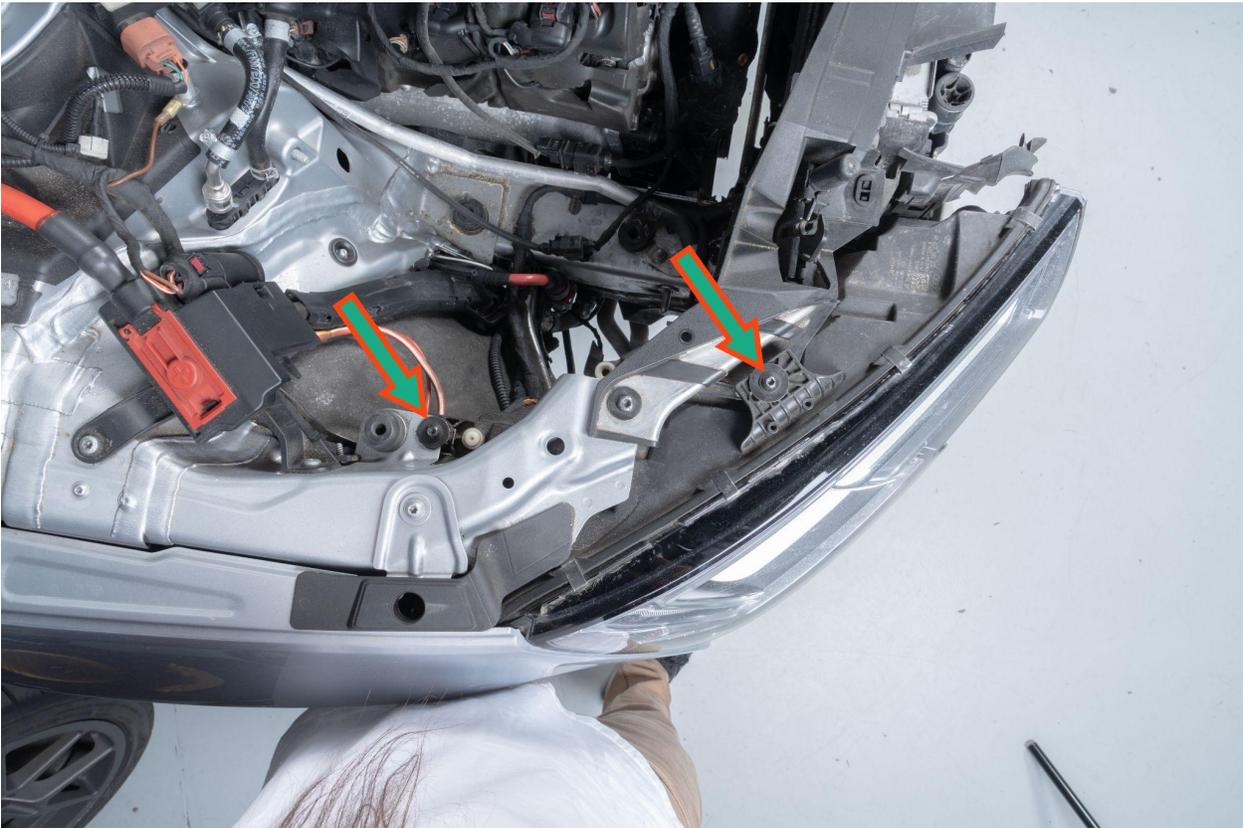
Remove three of the four 16mm crash beam bolts (leave one in) Repeat on other side



Insert long service position bolts, then remove remaining OEM bolts from the crash beam.



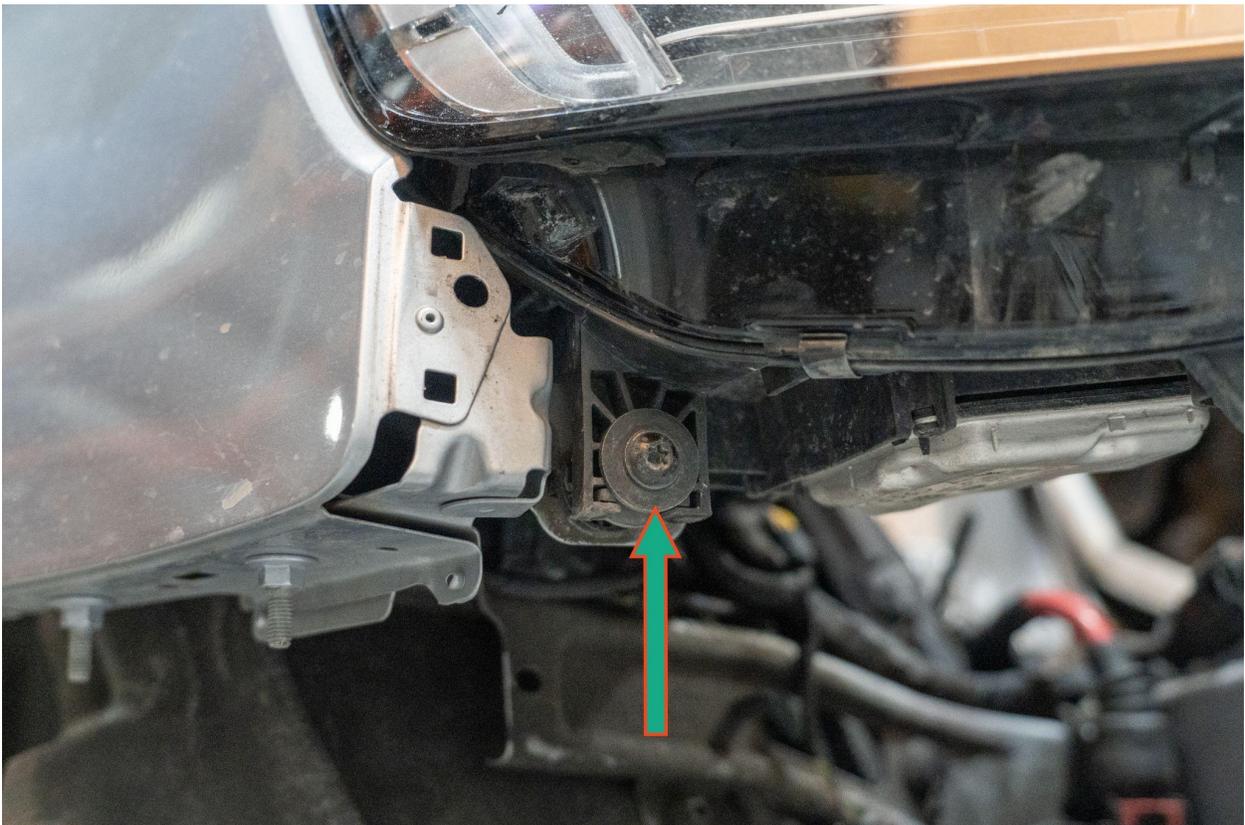
Remove two T30 Bolts that attach the headlights to the body. Repeat on other side



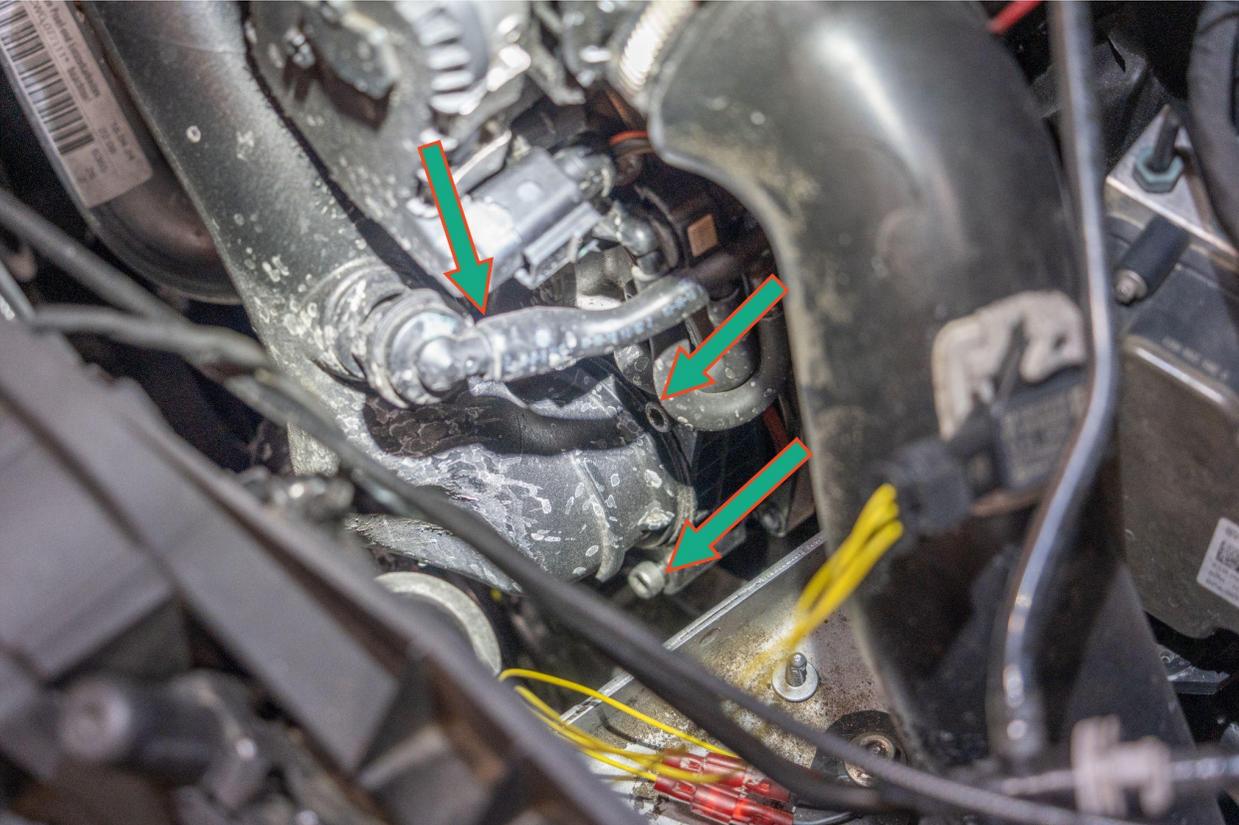
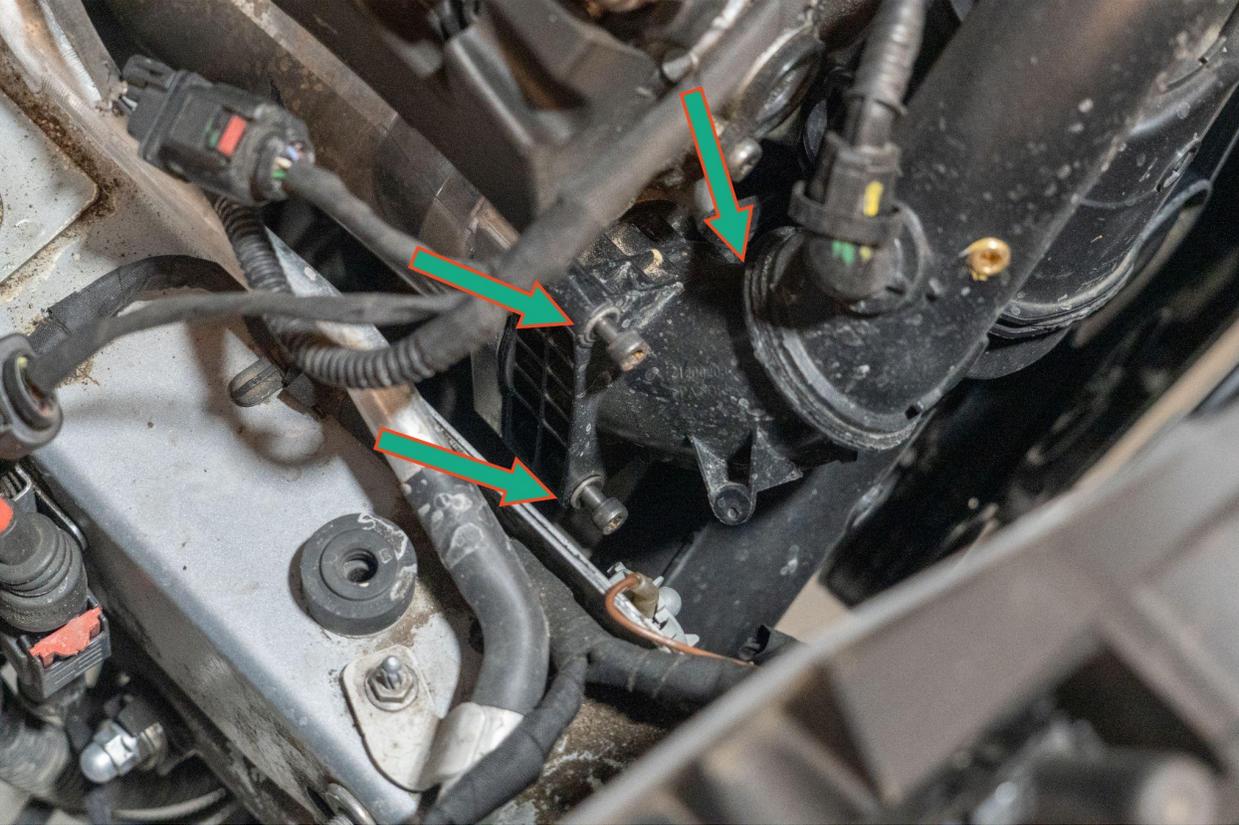
Remove two 10mm nuts on the bumper alignment bracket, then remove bracket from body

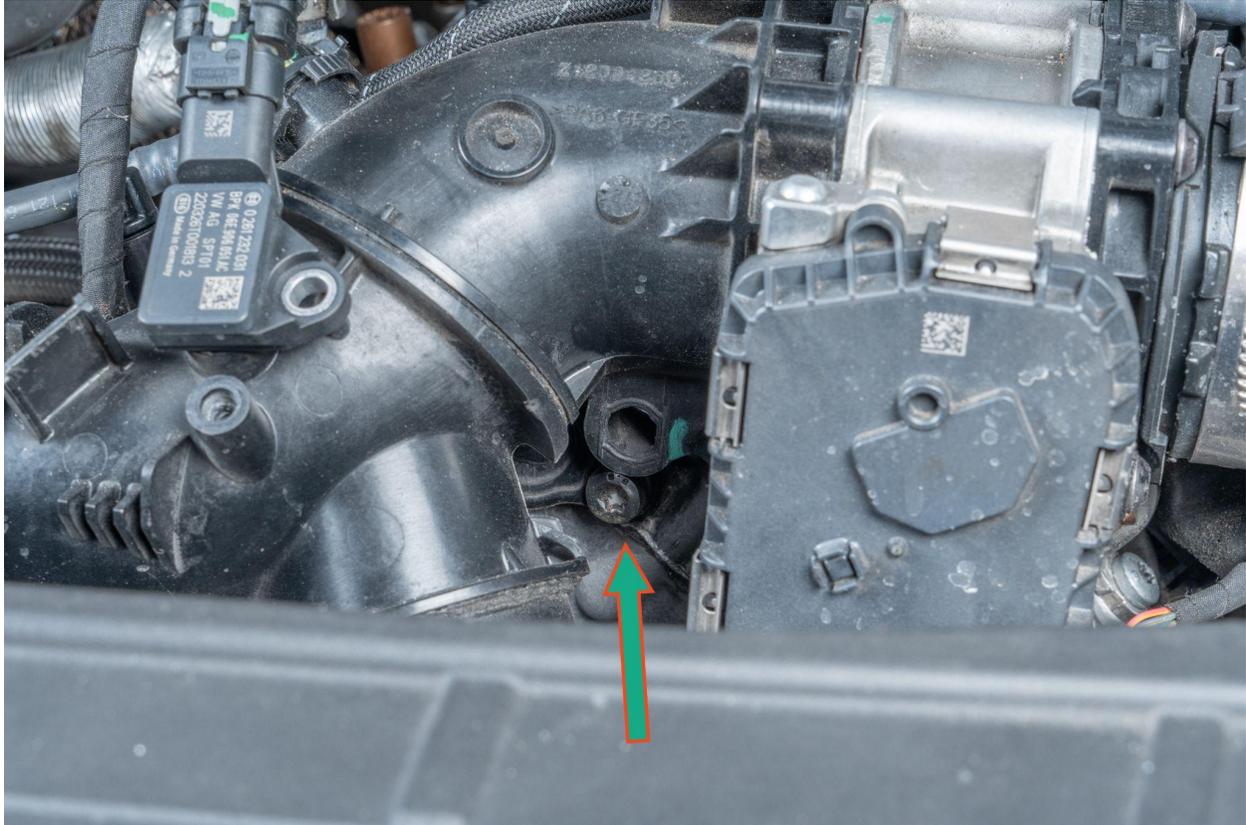


Remove lower T30 headlight screw



Remove a total of six T30 charge pipe to intake manifold bolts. Three on each side, and one near the throttle body.





Remove two T30 Screws that secure the hot side charge pipe to the turbo. One is pictured, the other is located on the bottom side and will need to be removed blind.



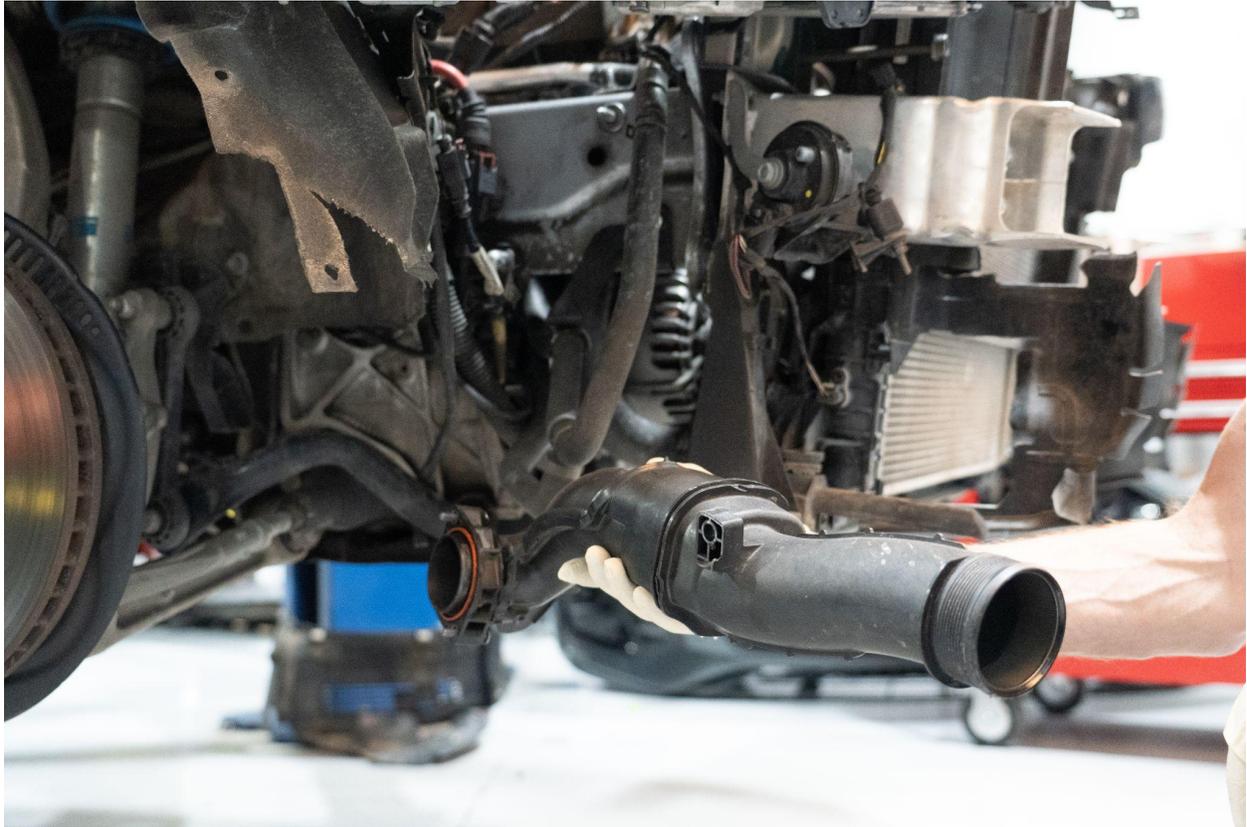
Pull the front clip a few inches forward to set the front clip to service position.



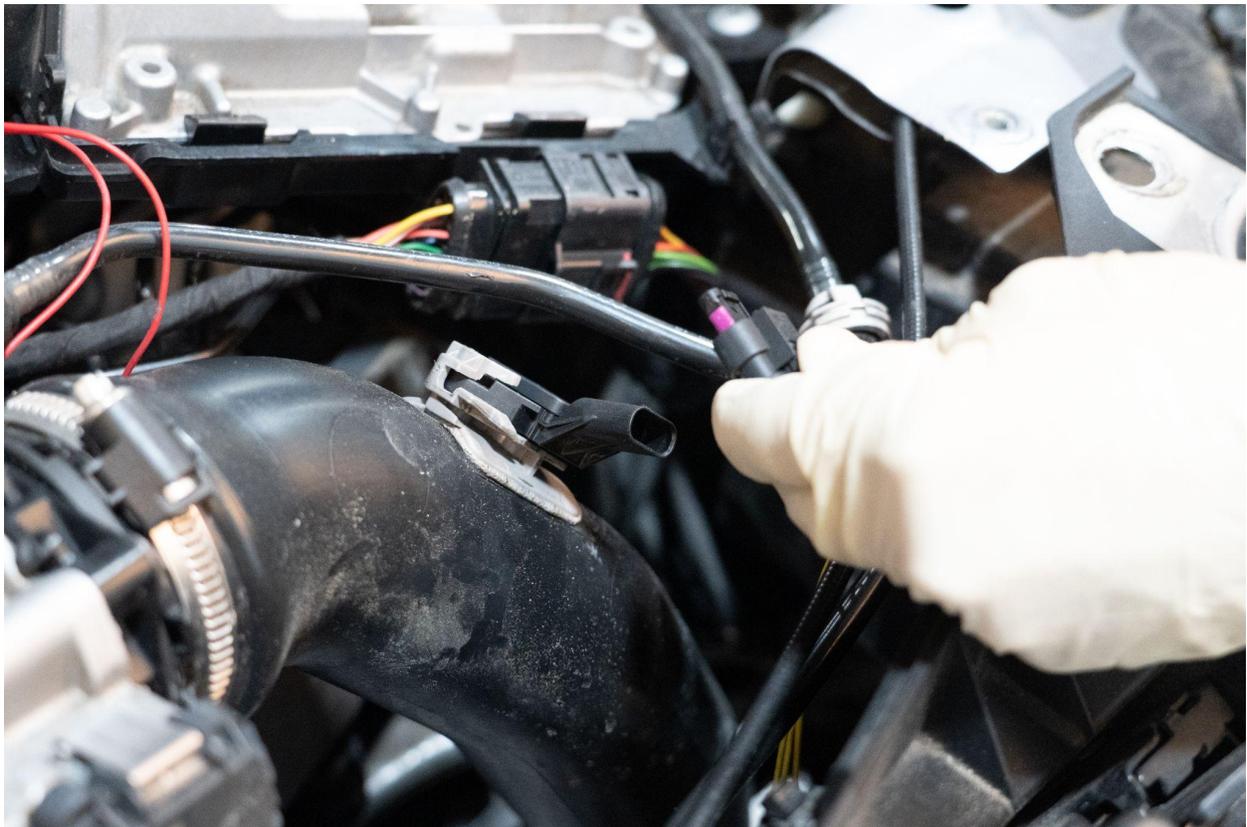
Remove charge pipe hose from the bottom of the hot side charge pipe using flat head screwdriver.



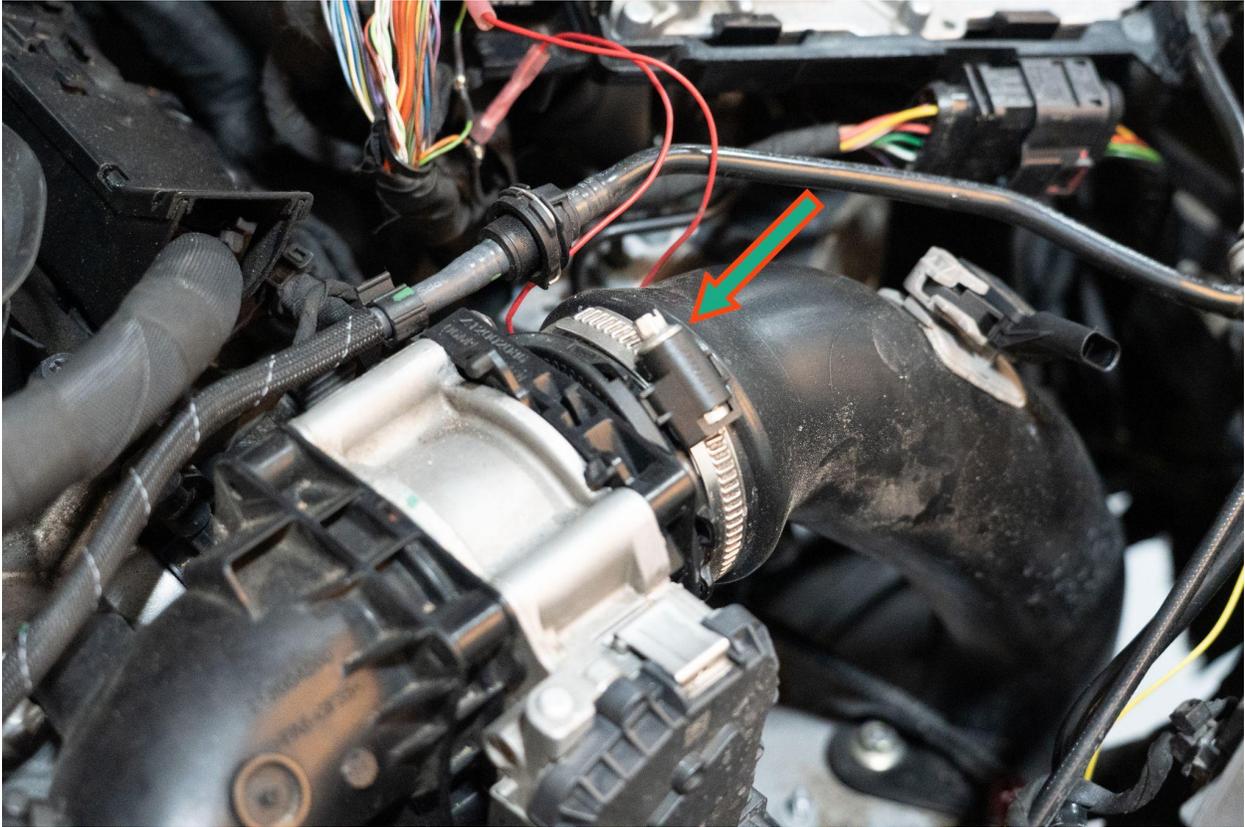
Pull charge pipe away from the turbo, then fish the pipe out the bottom of the vehicle.



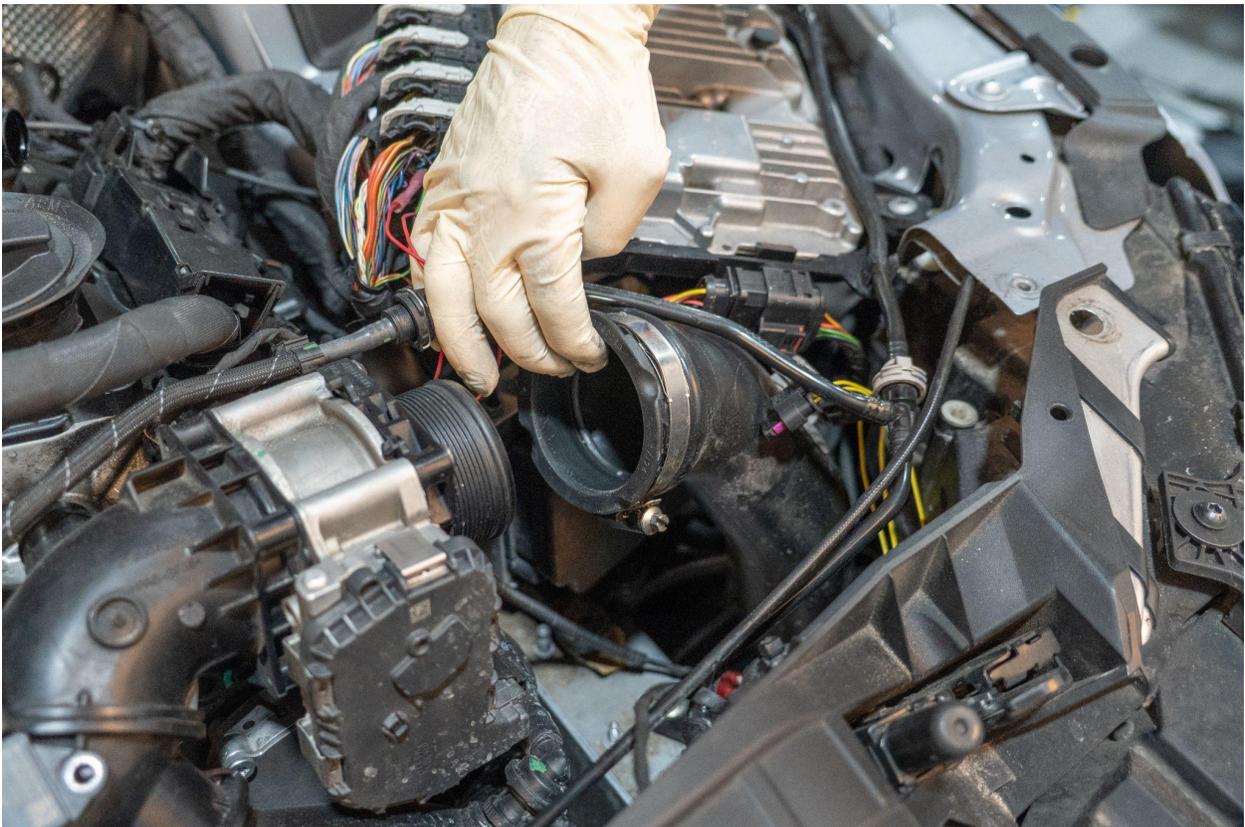
Disconnect the MAP sensor plug located near the top of the cold side charge pipe.



Loosen upper Cold Side Charge pipe hose clamp using a flat head screwdriver.



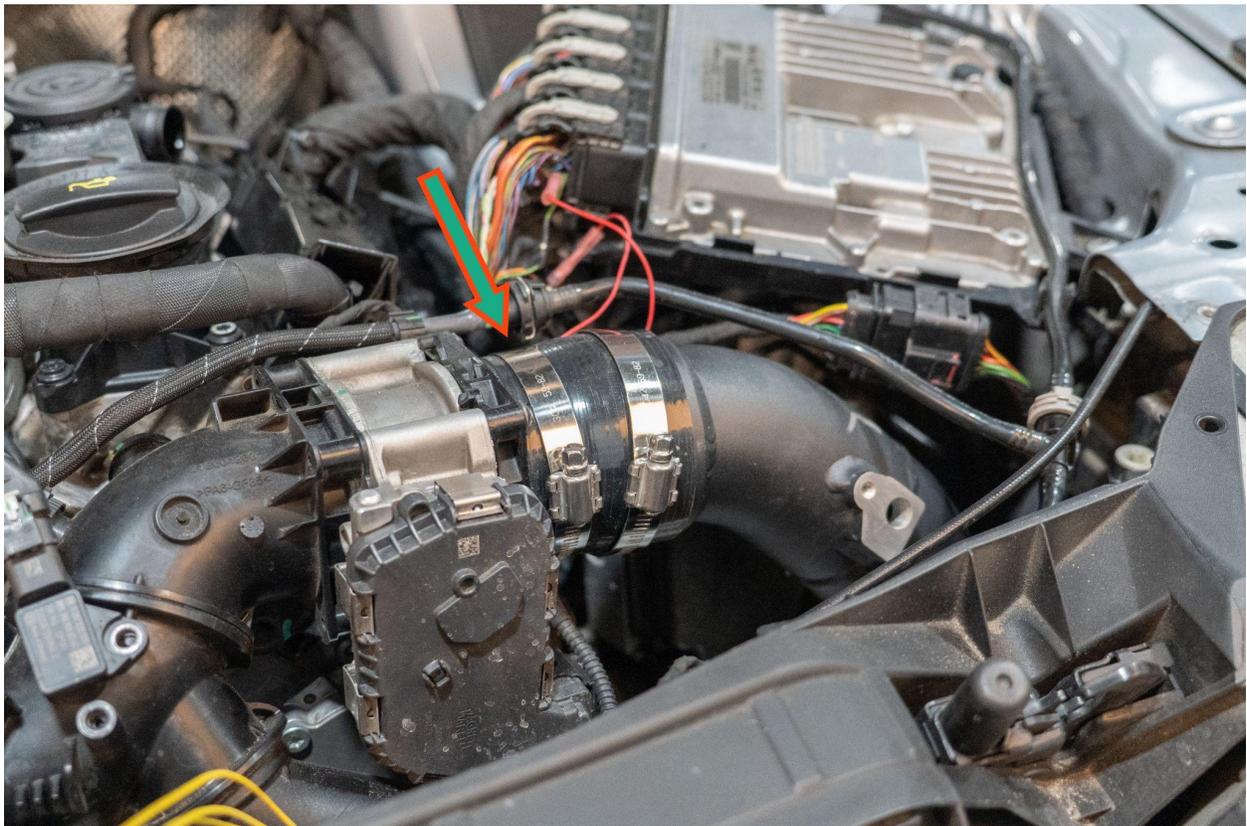
Remove cold side charge pipe from the throttle body and fish out the bottom of the vehicle.



Attach supplied coupler to your IE upper cold side charge pipe along with two hose clamps



Raise cold side charge pipe in from the bottom of the vehicle and push onto the throttle body.



Remove MAP sensor from OE charge pipe by depressing gray tab,



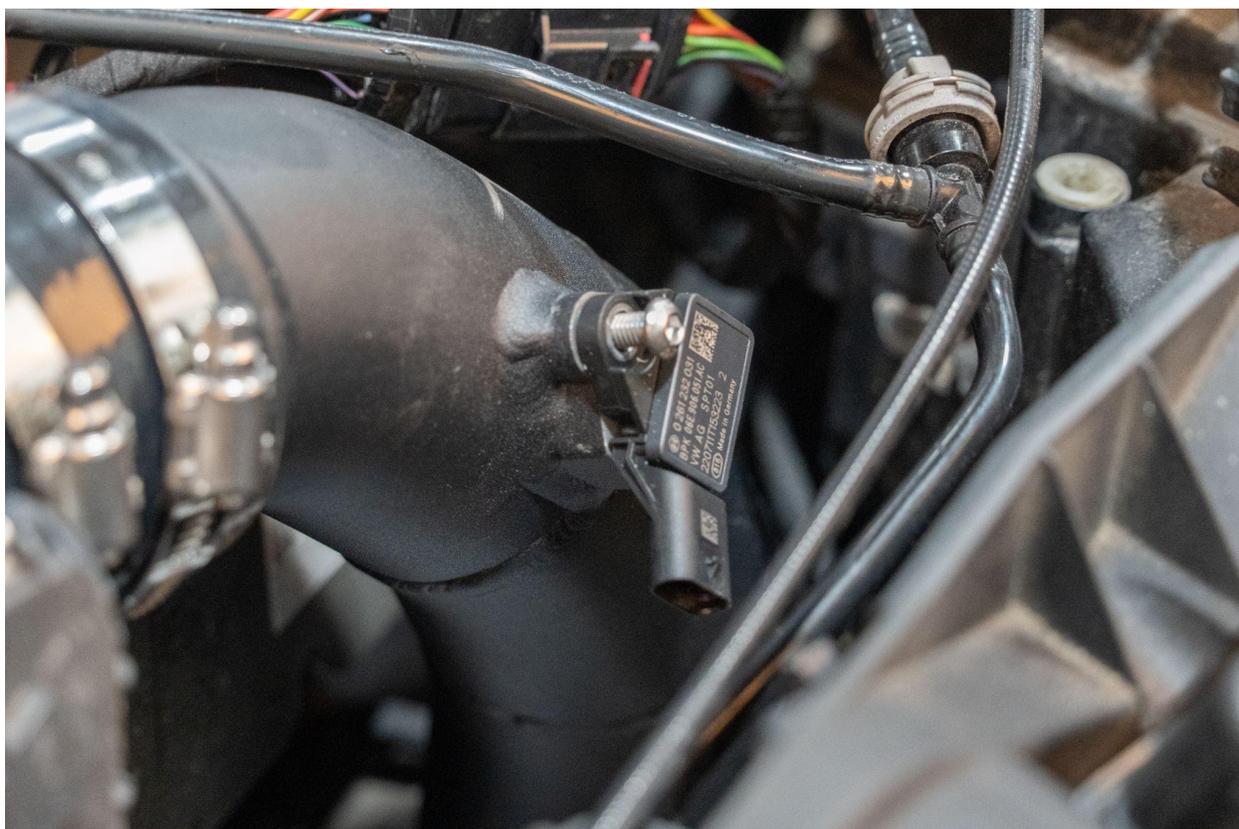
then rotating the sensor,



then pulling the sensor straight out of the mount.



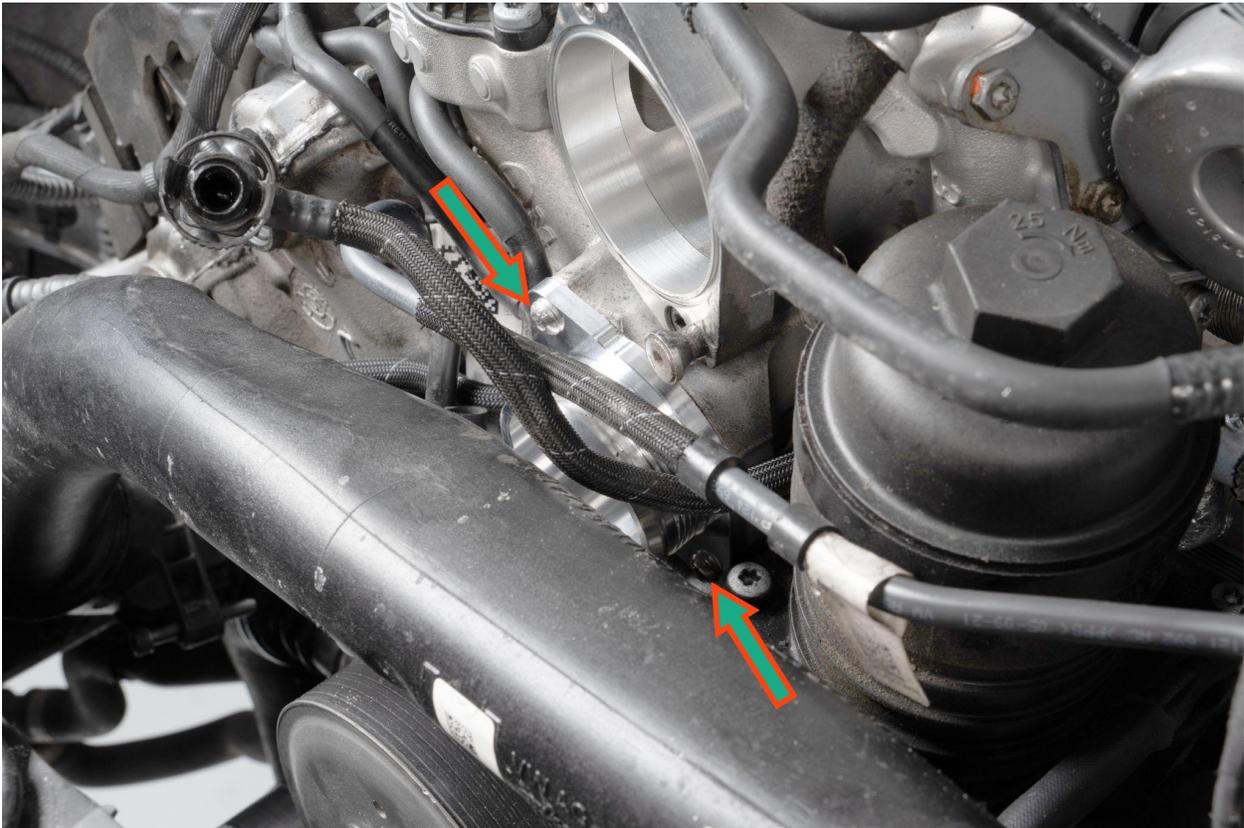
Press in OE MAP sensor into the IE cold side Charge pipe and install the 4mm retainer screw.



Install O-Ring onto the IE Turbo Adapter.



Install Turbo adapter onto turbo using two 4mm screws.



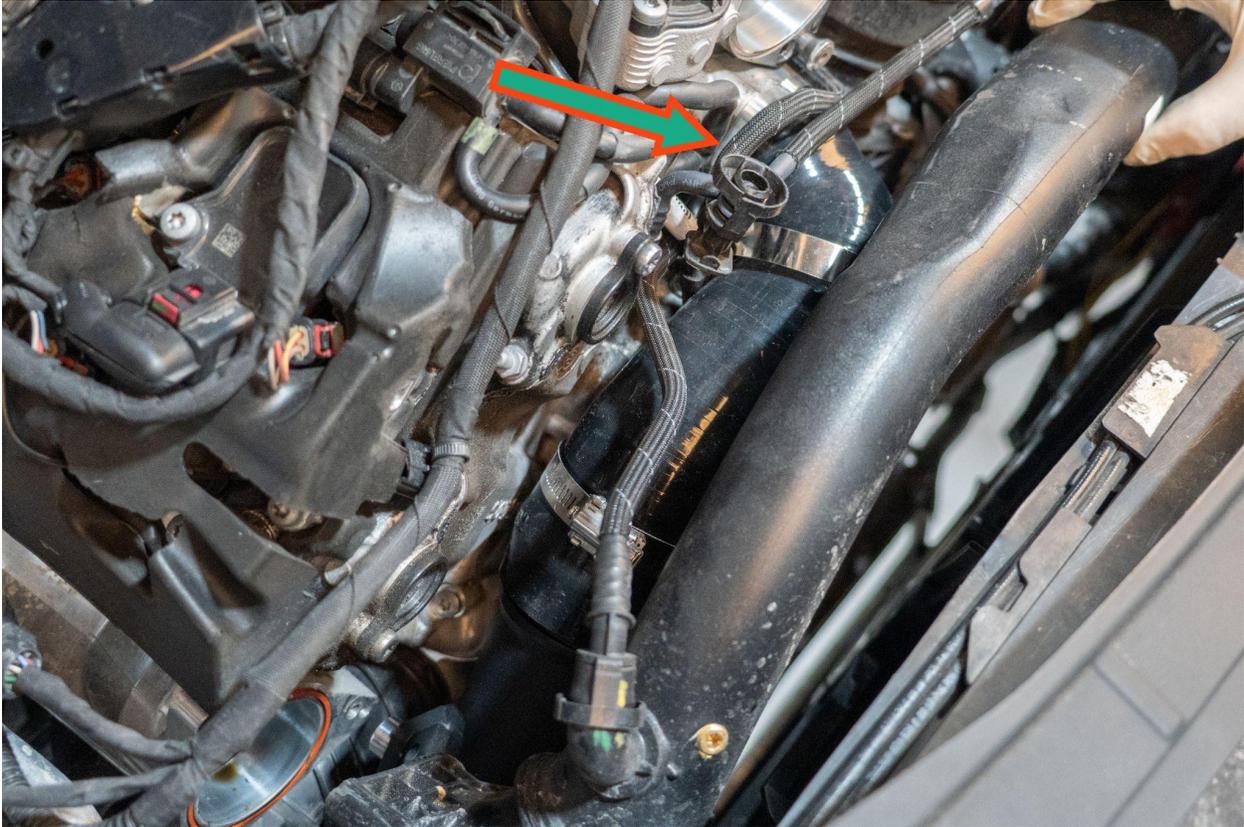
Press provided spacer onto the hot side charge pipe mount.



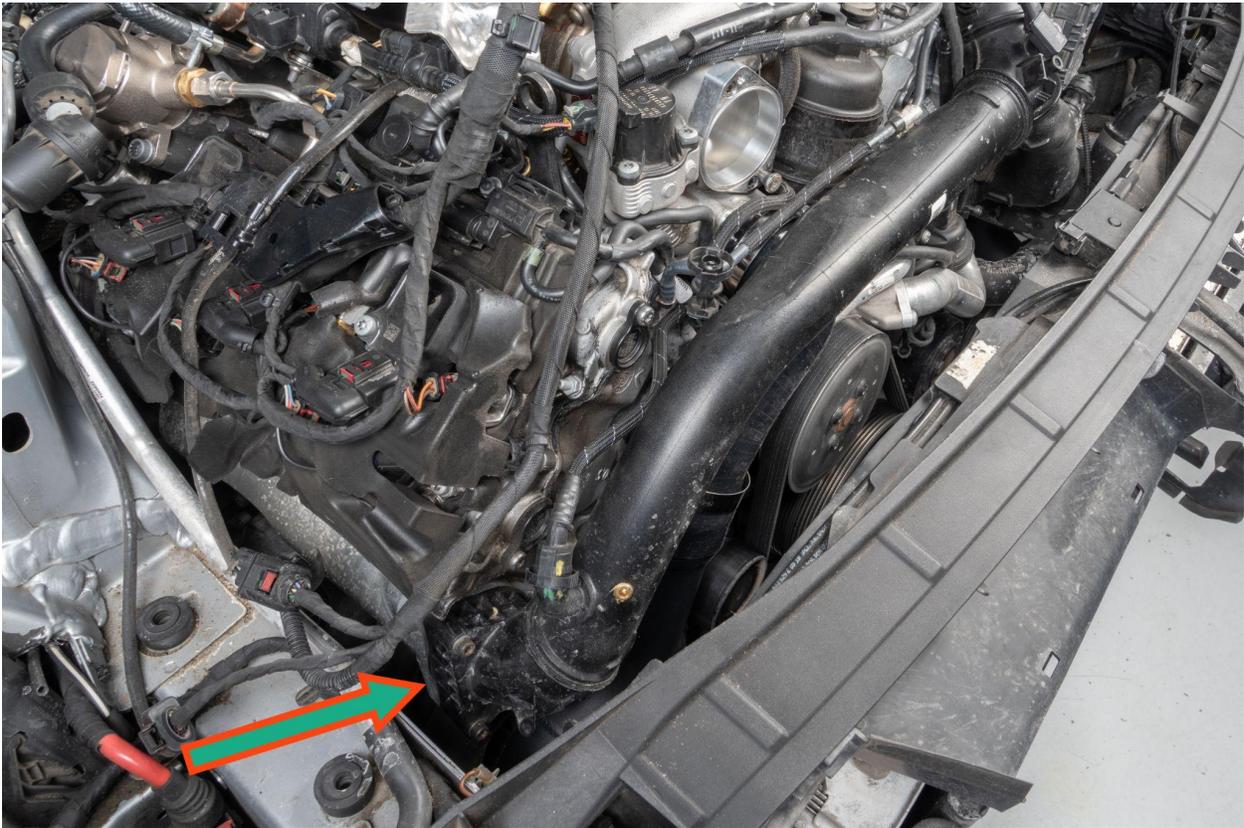
Install upper silicone coupler onto the hot side charge pipe, then install band clamps.



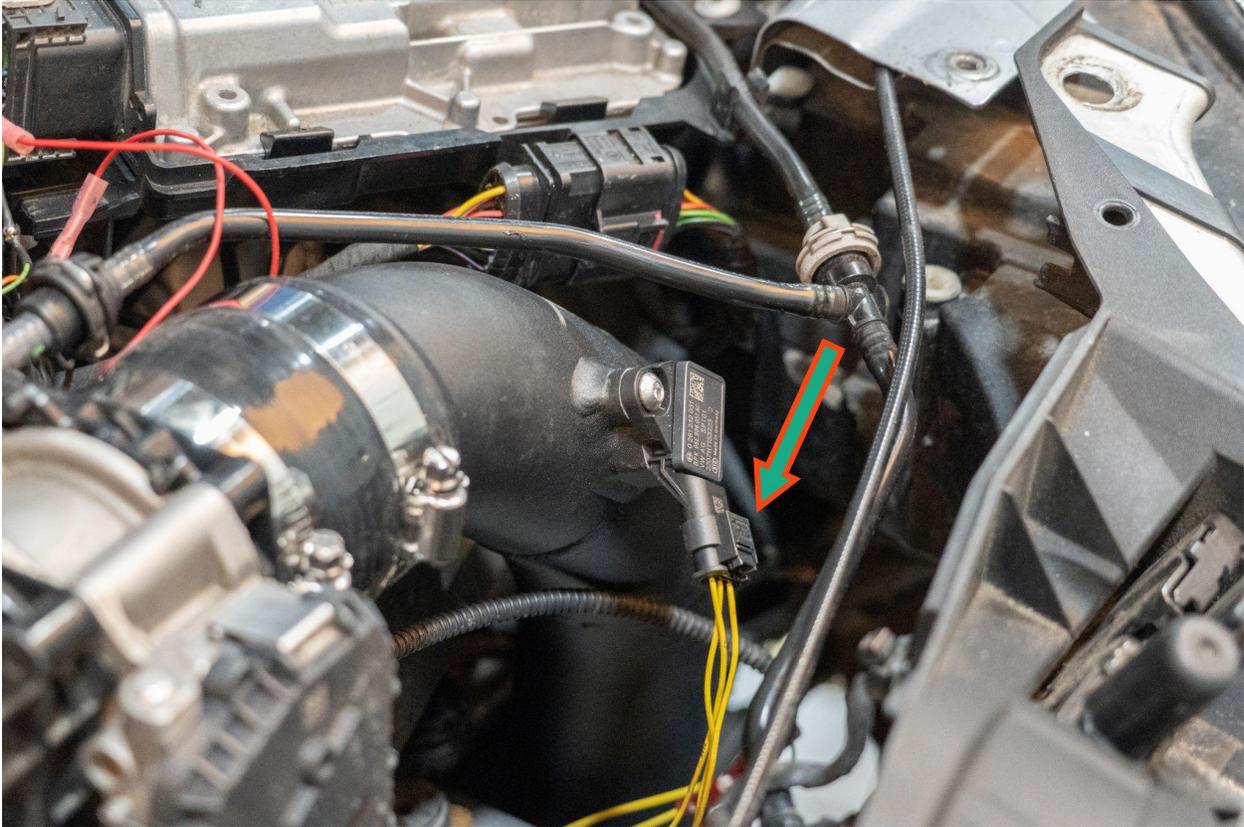
Lower hot side charge pipe into the engine bay and attach to the turbo adapter, tighten band clamp.



Reinstall throttle body to intake manifold charge pipe.



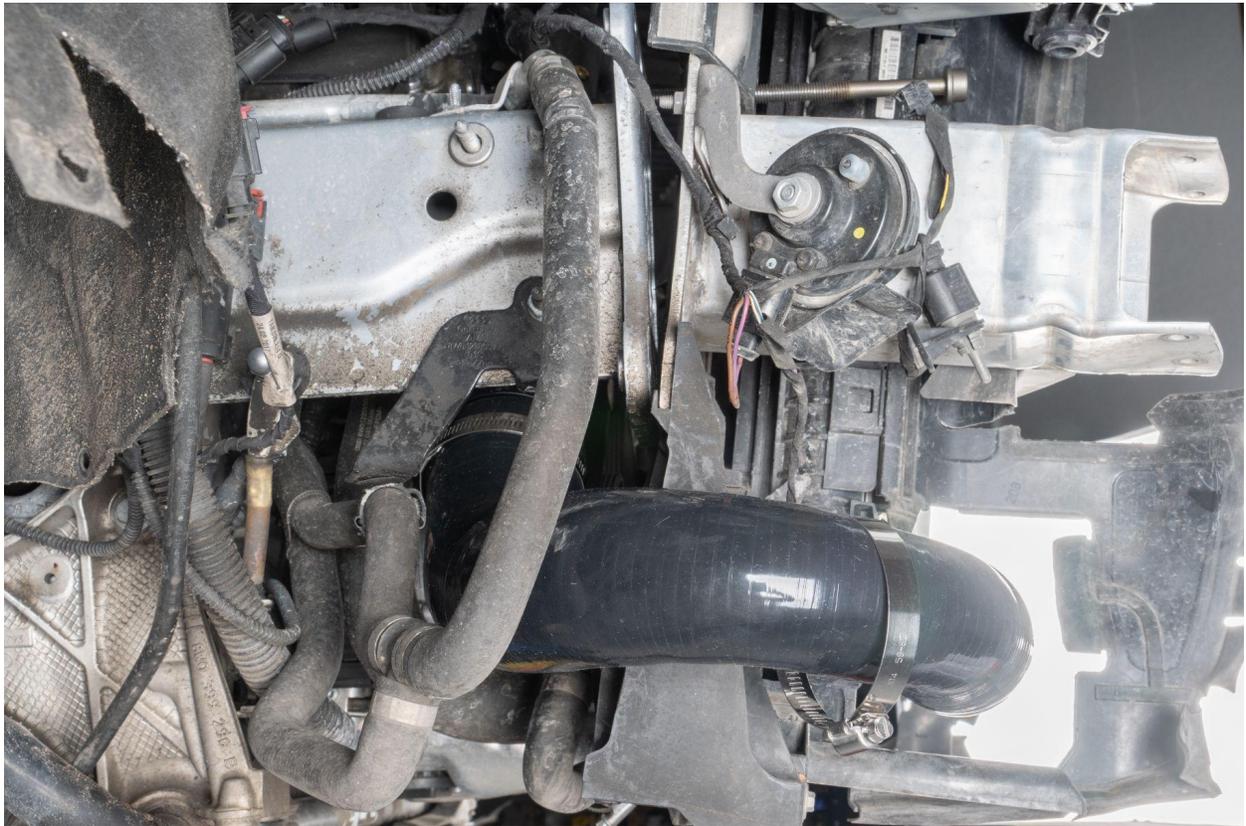
Reattach MAP sensor harness to MAP sensor.



Install clamps on hot side charge pipe to intercooler silicone coupler.



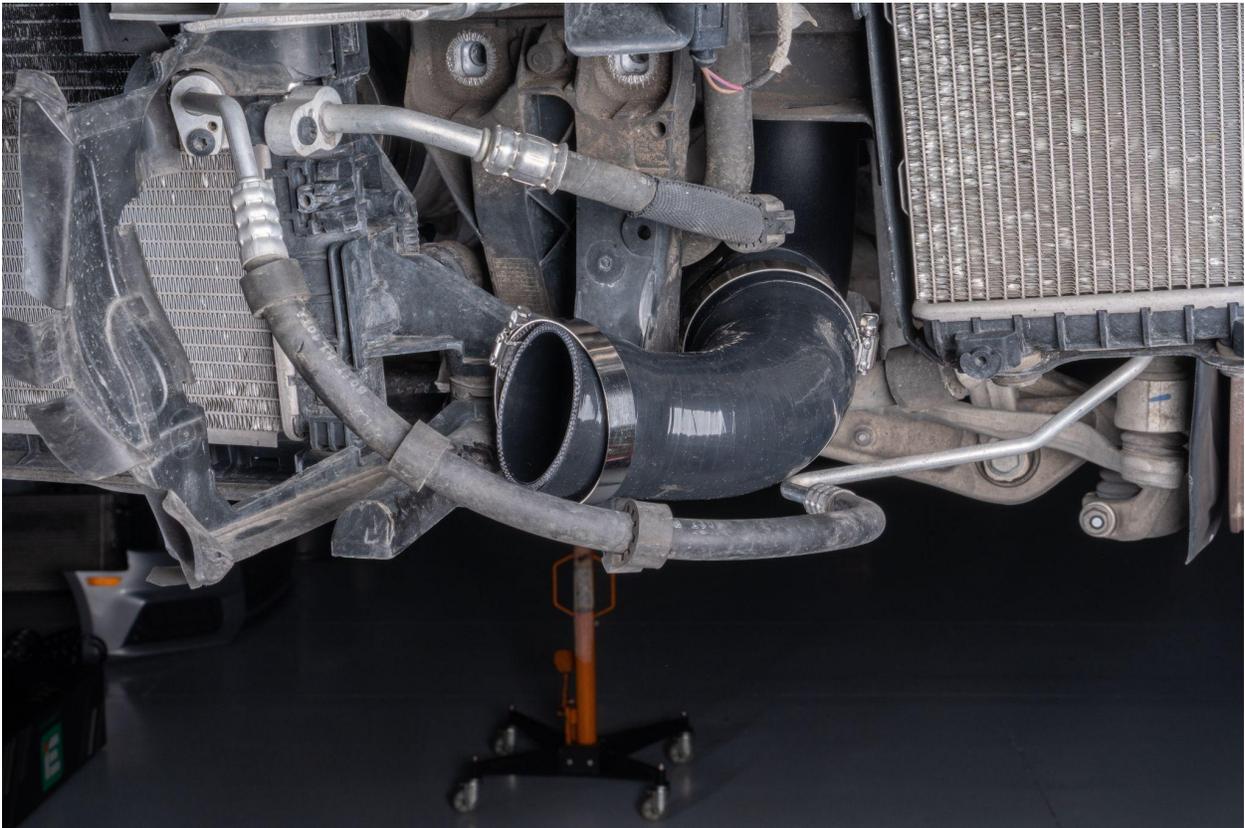
Install silicone coupler to lower hot side charge pipe.



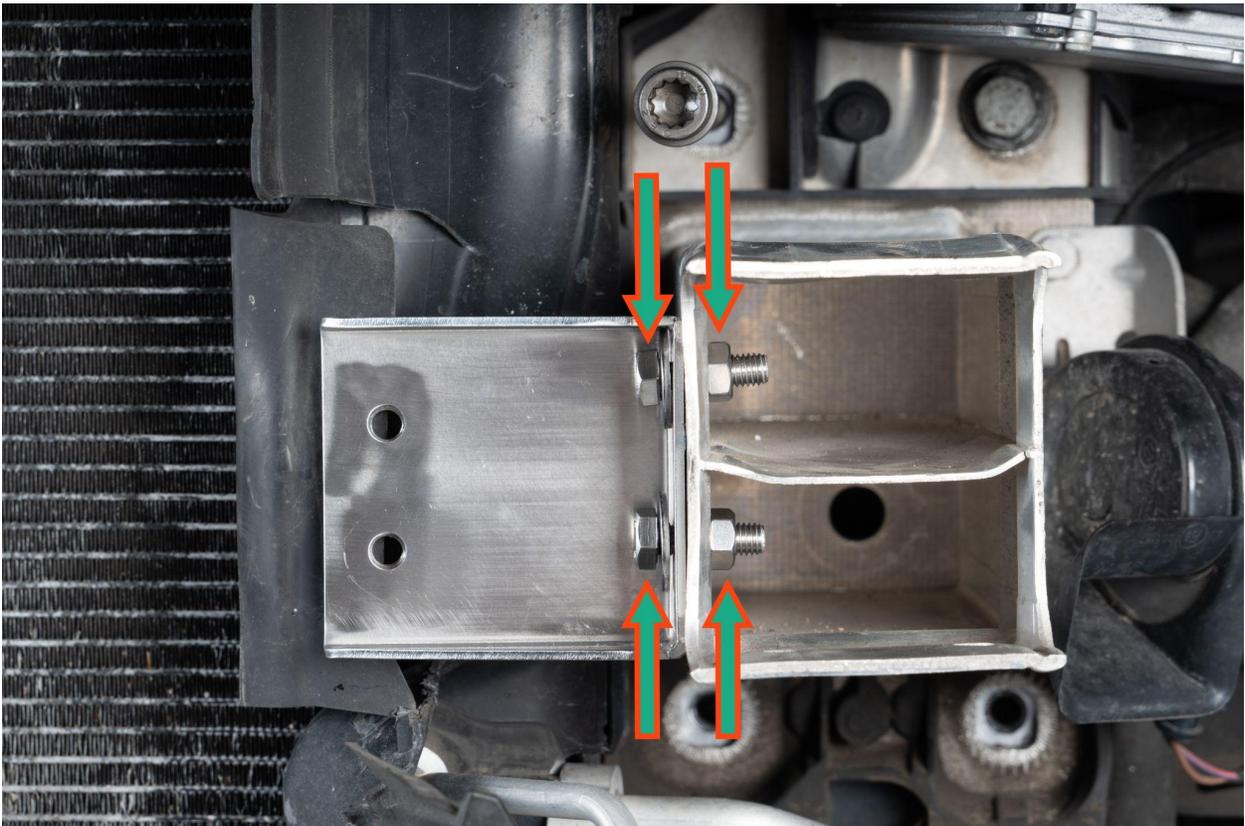
Install clamps onto cold side to intercooler silicone coupler.



Install silicone coupler to lower cold side charge pipe.



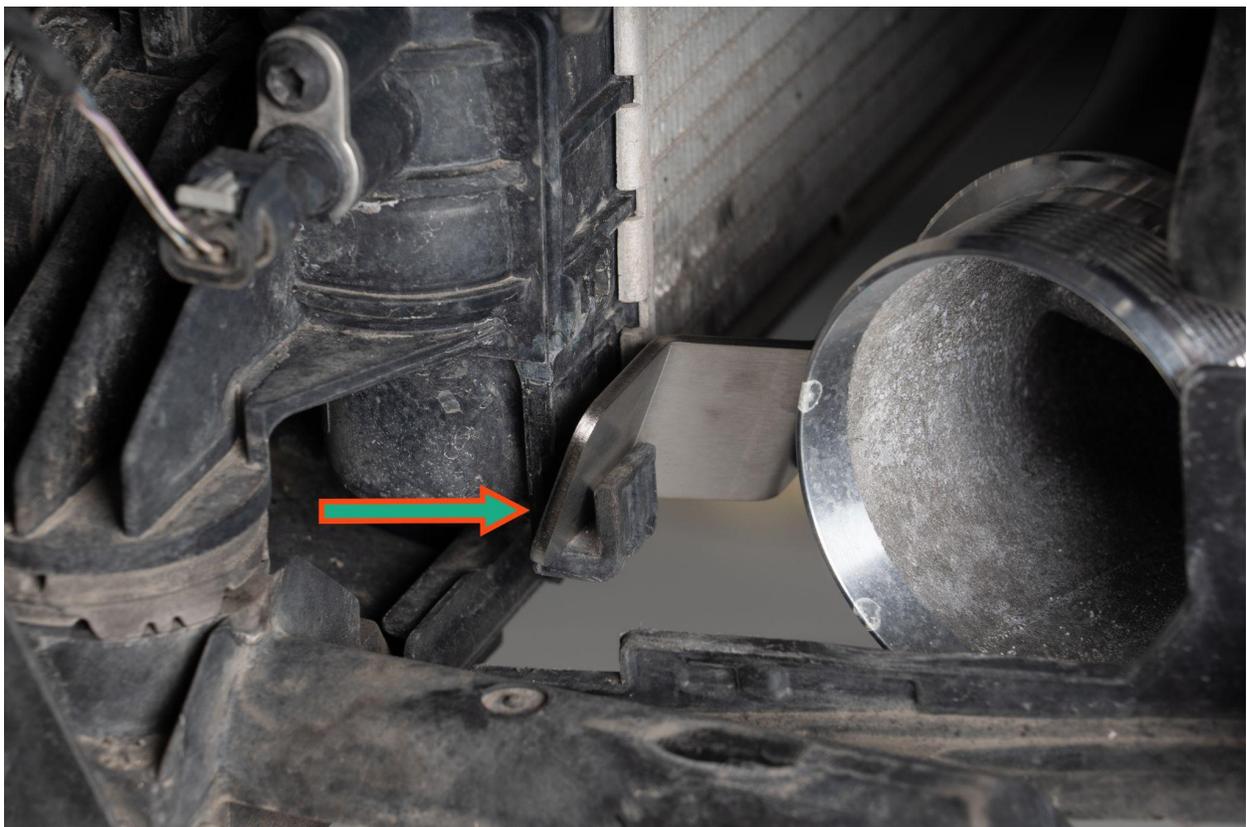
Loosely Install mounting brackets on each side of the frame using the supplied 13mm hardware. The bracket screws will have a washer on both sides as well as the nut.



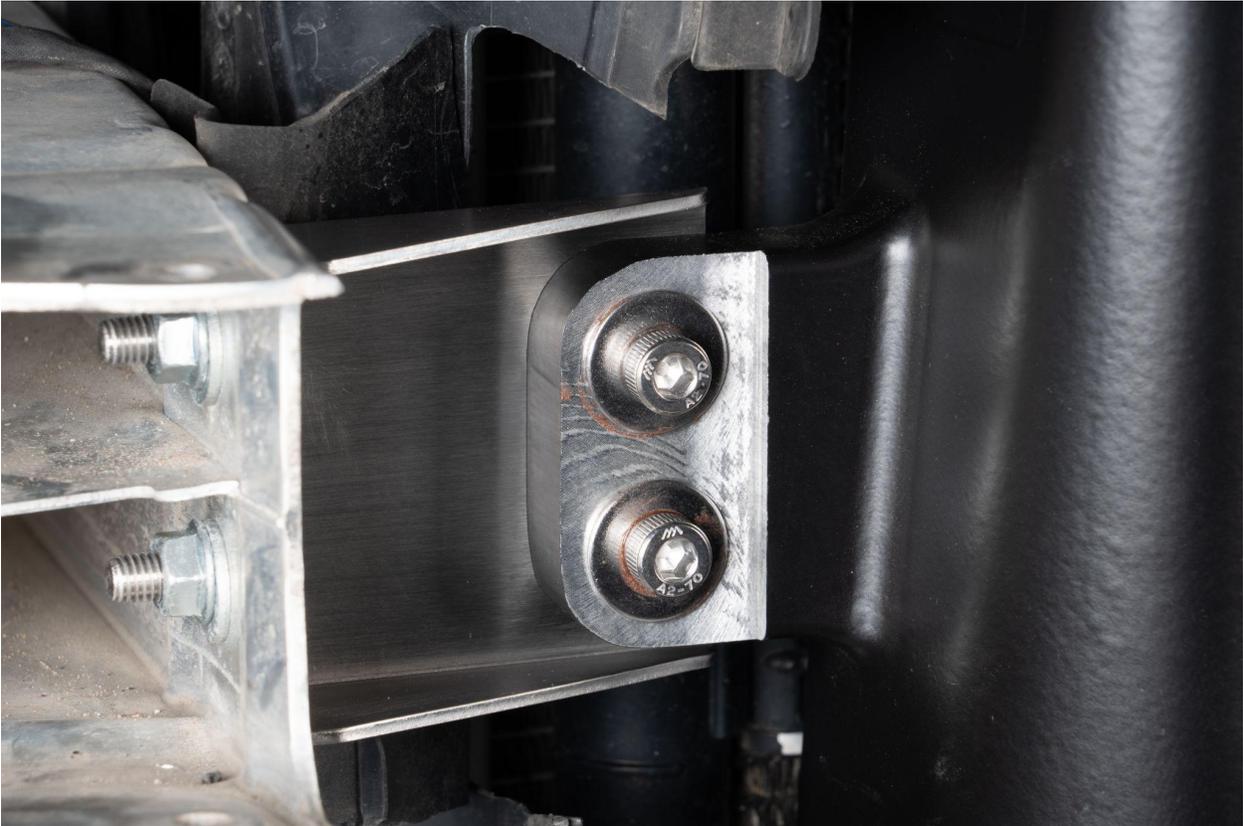
Install both guide tabs using two (per side) supplied 4mm button head screws.



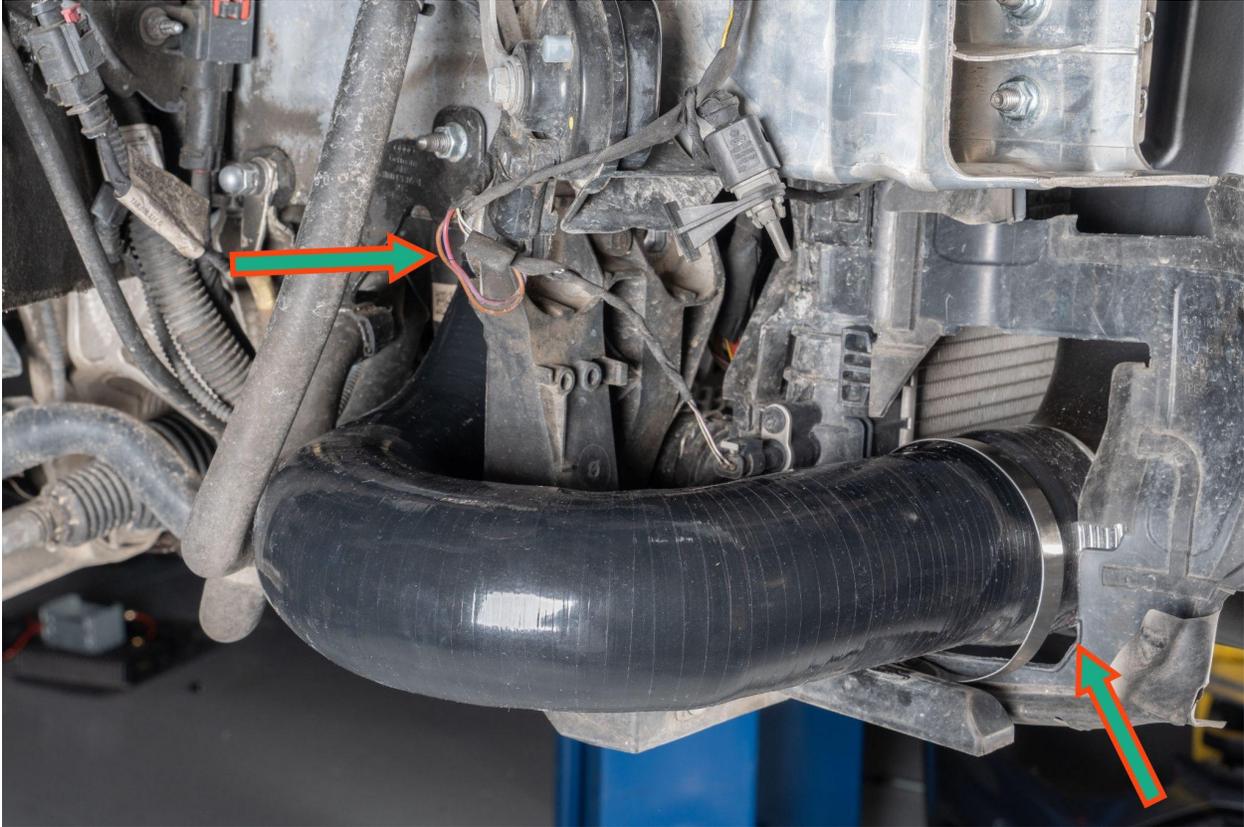
Drop the Intercooler into locating tabs located at the bottom of the AC condenser.



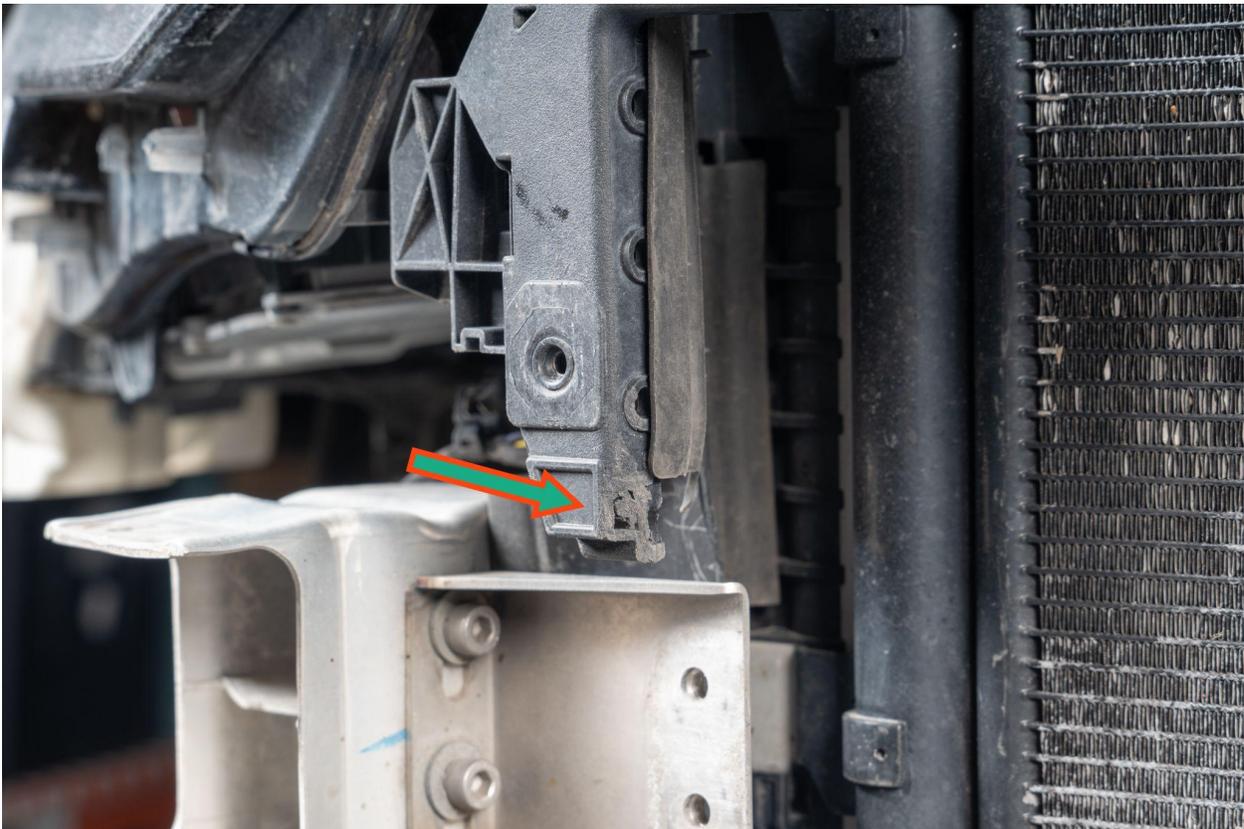
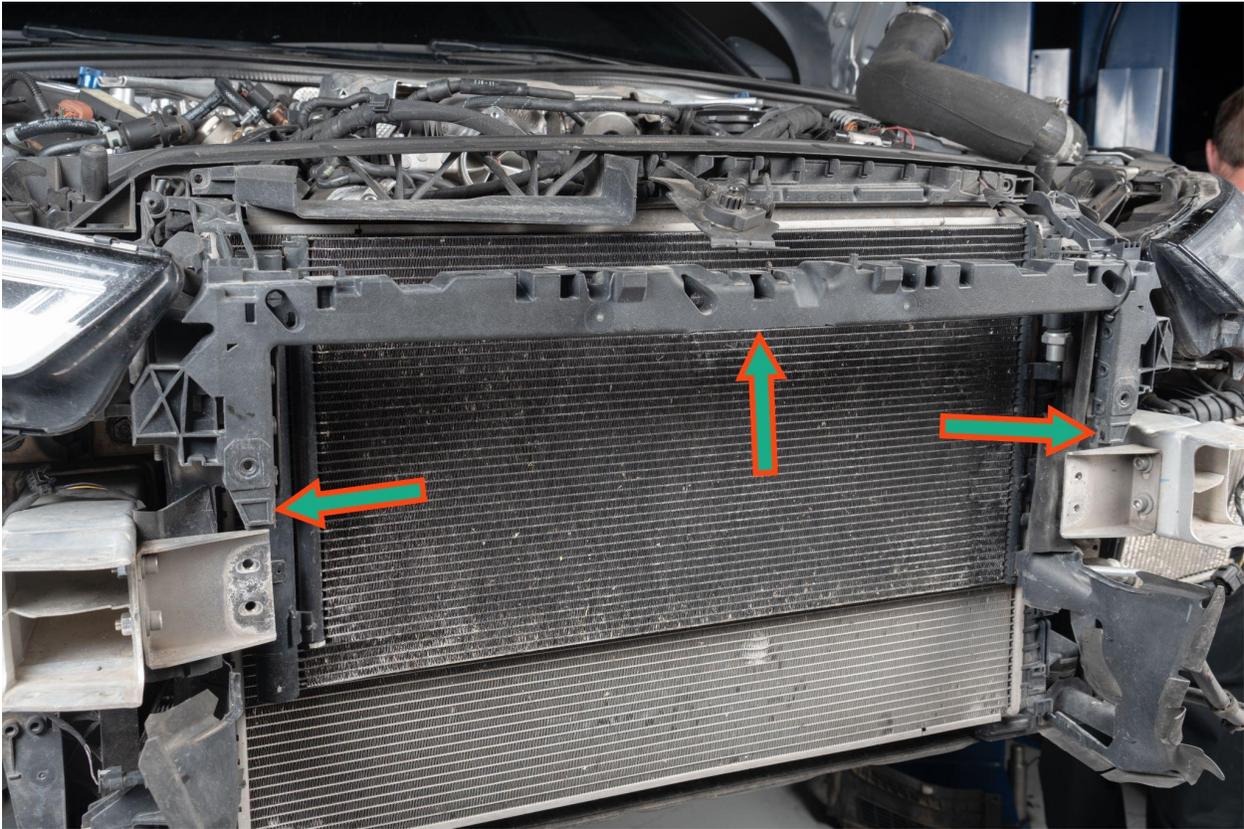
Install four (two per side) 6mm screws and washers that attach the intercooler to the upper mounting brackets. We recommend using copper anti seize on these bolts.

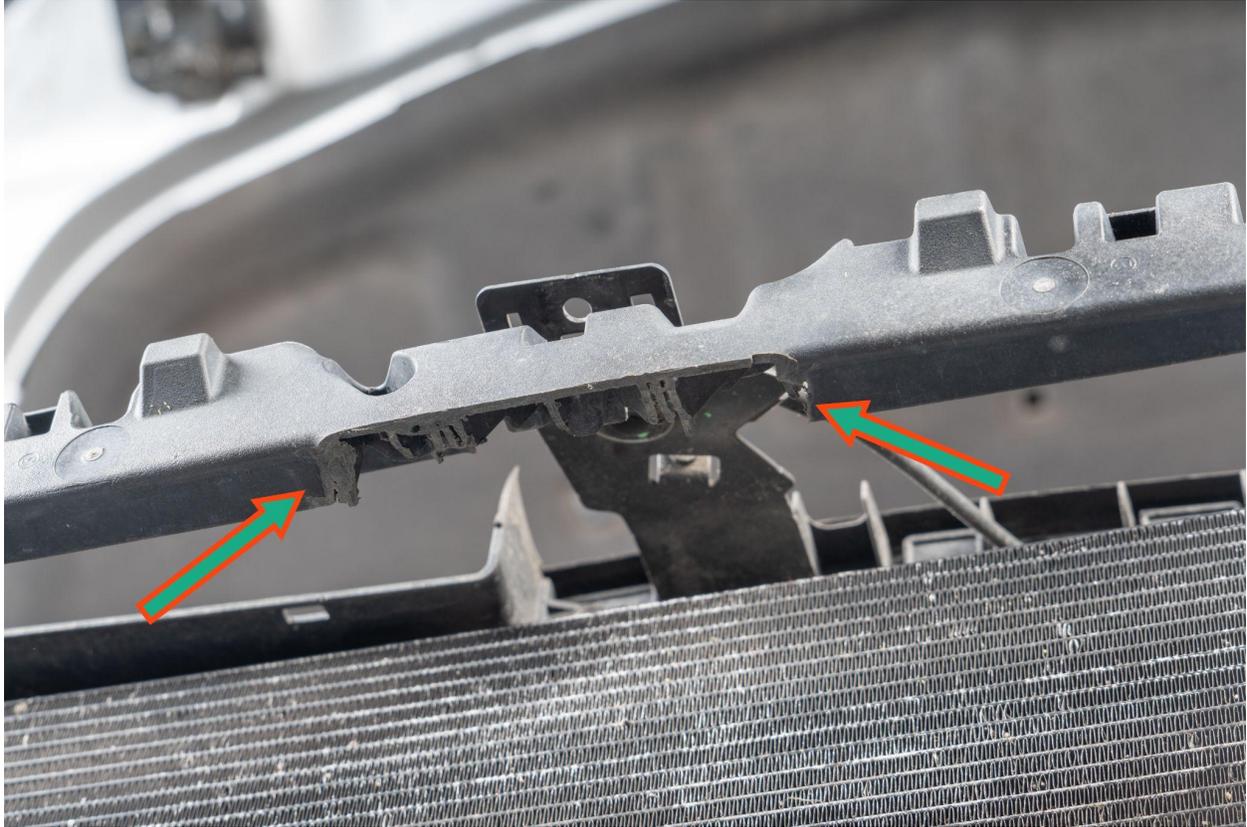


Install silicone couplers between your IE Charge Pipes, and IE Race Intercooler.



Trim Plastic Support as shown using a cutoff wheel.





Confirm everything has been reinstalled and no leftover parts remain. Start the car and confirm that there are no air leaks in the system. Once you have confirmed the system to be leak free, reverse installation instructions for assembly. Enjoy the benefits of more power from your IE FDS Race Intercooler!



Thank you for purchasing another Integrated Engineering product. We are dedicated to serving your VW/Audi engine and performance needs. Please check our website frequently for new product releases. If you have any questions or concerns about this product please do not hesitate to contact us.

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