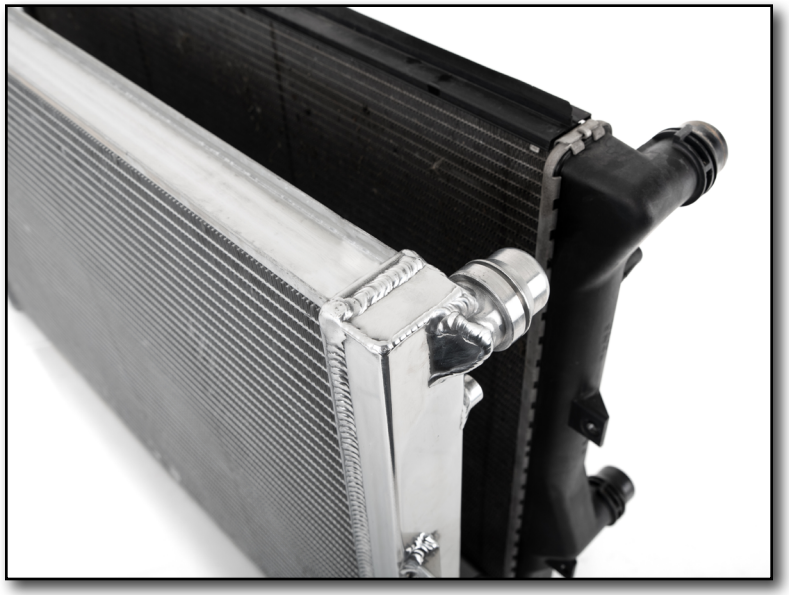
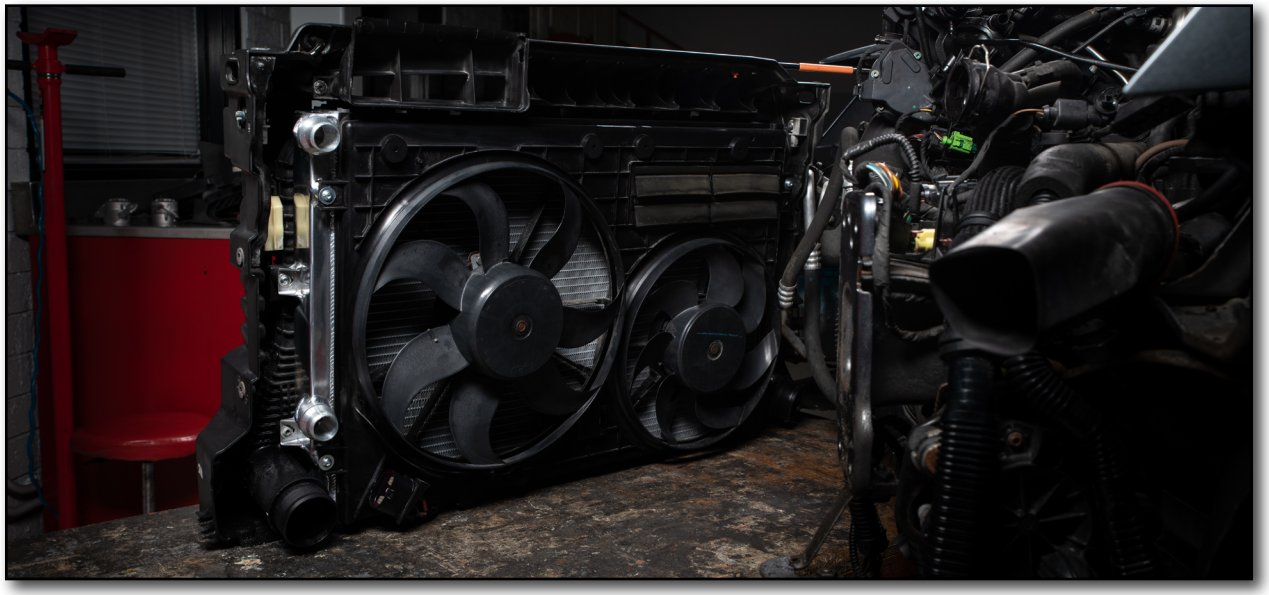
VW MK5/MK6 FSI Aluminum Radiator Installation Instructions - Click HERE to Shop

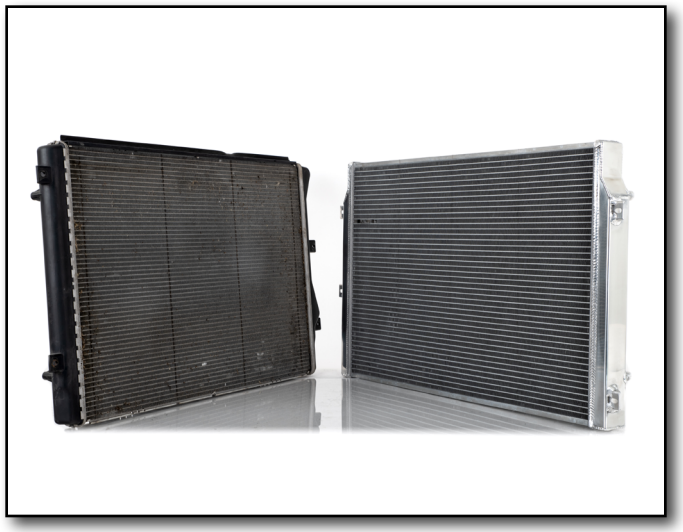
Skill Level
2 - Moderate

Some Experience Recommended









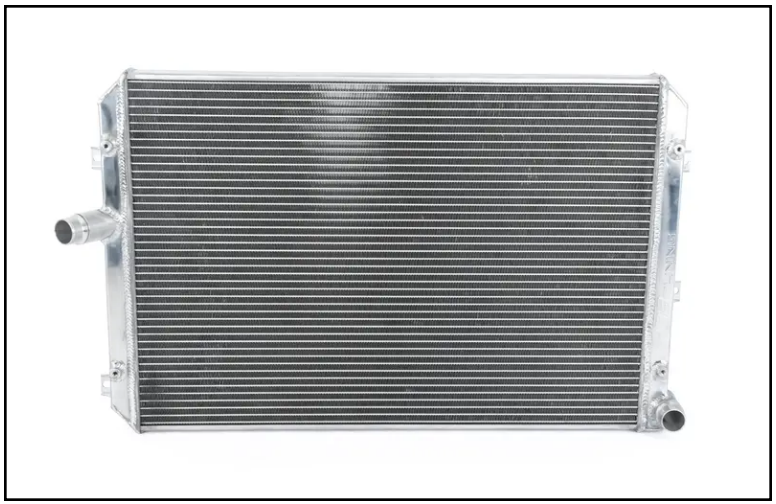


Proper service and repair procedures are vital to the safe, reliable operation of all motor vehicles as well as the personal safety of those performing the repairs. Standard safety procedures and precautions (including use of safety goggles and proper tools and equipment) should be followed at all times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

TABLE OF CONTENTS

Required Tools and Equipment pg.3
Installation and Safety Information pg.4
Before You Begin pg.5
Removing the Stock Radiator pg.6
Installing the New Aluminum Radiator pg.20
Bleeding the Cooling System pg.25

KIT CONTENTS



ECS Aluminum Radiator Upgrade



Radiator Mounting Hardware

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
- **⅜" Drive Ratchet** ..... ES#2765902
- **⅜" Drive Torque Wrench** ..... ES#2221245
- **⅜" Drive Deep and Shallow Sockets** ..... ES#2763772
- **⅜" Drive Extensions** ..... ES#2804822
- **Hydraulic Floor Jack** ..... ES#240941
- **Torx Drivers and Sockets** ..... ES#11417/8
- ½" Drive Deep and Shallow Sockets ..... ES#2839106
- ½" Drive Ratchet
- ½" Drive Extensions
- **½" Drive Torque Wrench** ..... ES#2221244
- **½" Drive Breaker Bar** ..... ES#2776653
- Bench Mounted Vise
- Crows Foot Wrenches
- **Hook and Pick Tool Set** ..... ES#2778980

Required For This Install

- **¼" Drive Ratchet** ..... ES#2823235
- **¼" Drive Deep and Shallow Sockets** ..... ES#2823235
- **¼" 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.

BEFORE YOU BEGIN

Step 1:

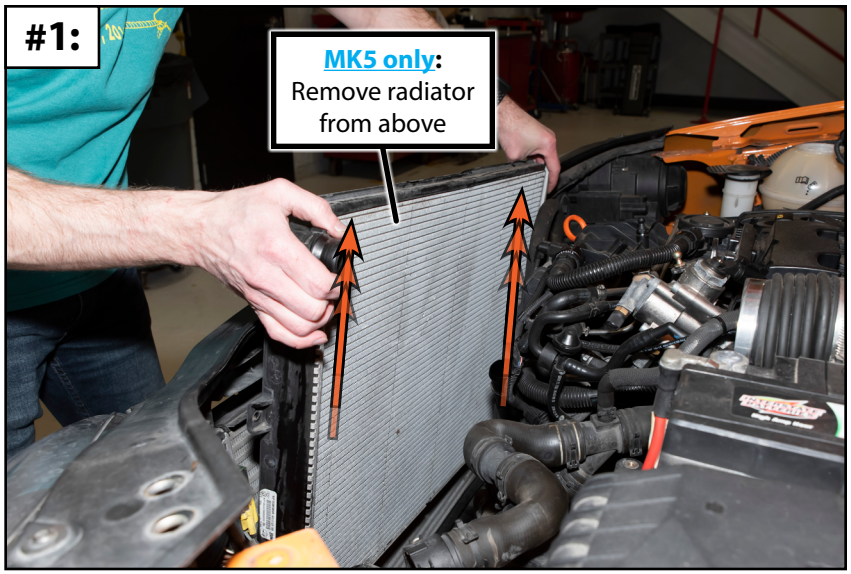
Before the install, we want to go over some important information. This radiator fits the MK5 GTI with the FSI engine as well as the MK6 Golf R (since it also has an FSI engine), but the removal steps are not the same.

The **MK5 GTI** has different air conditioning lines that prevents the radiator from being removed from below. On this application it can only be removed from above (**photo #1**). There are going to be extra steps to releasing the lock carrier.

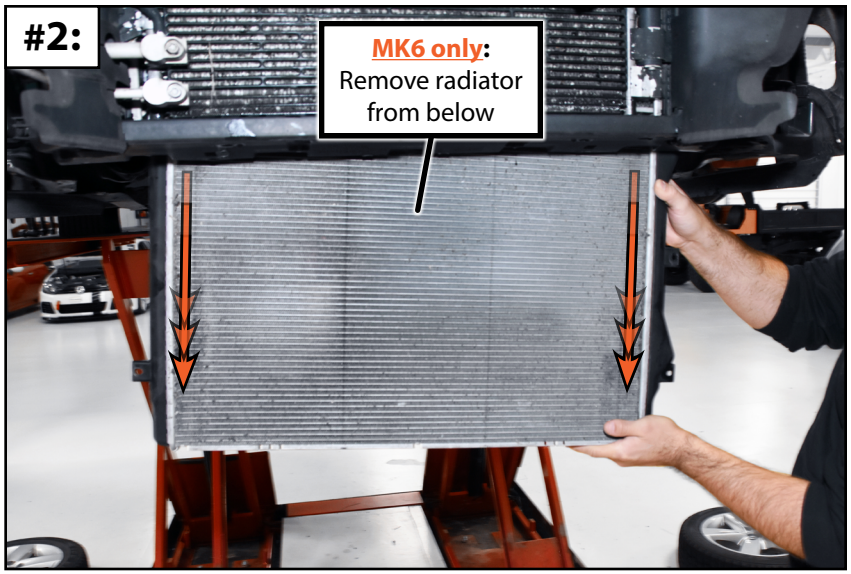
The radiator in the **MK6 Golf R** can only be removed from below (**photo #2**). Removal may be tricky to do with the vehicle on jack stands. There may not be enough clearance to get it out before it hits the ground. If you run into this issue, you should be able to do the following:

- Support the lock carrier from below.
- Slide the lock carrier forward slightly.
- Unbolt the condenser from the front of the intercooler.
- Remove the crash beam.
- Carefully swing the condenser and lock carrier out of the way.
- Remove the intercooler and access the radiator from the front.

#1:



#2:



REMOVING THE STOCK RADIATOR

Step 1:

Disconnect the negative (–) battery cable from the battery and remove the air box (**photo #1**).

Safely lift and support the vehicle. Remove the front wheels. Remove the T25 screws (circled in **YELLOW** in **photo #2**) that secures the belly pan to the vehicle. Remove the belly pan.

MK5 only:

Proceed to the next page.

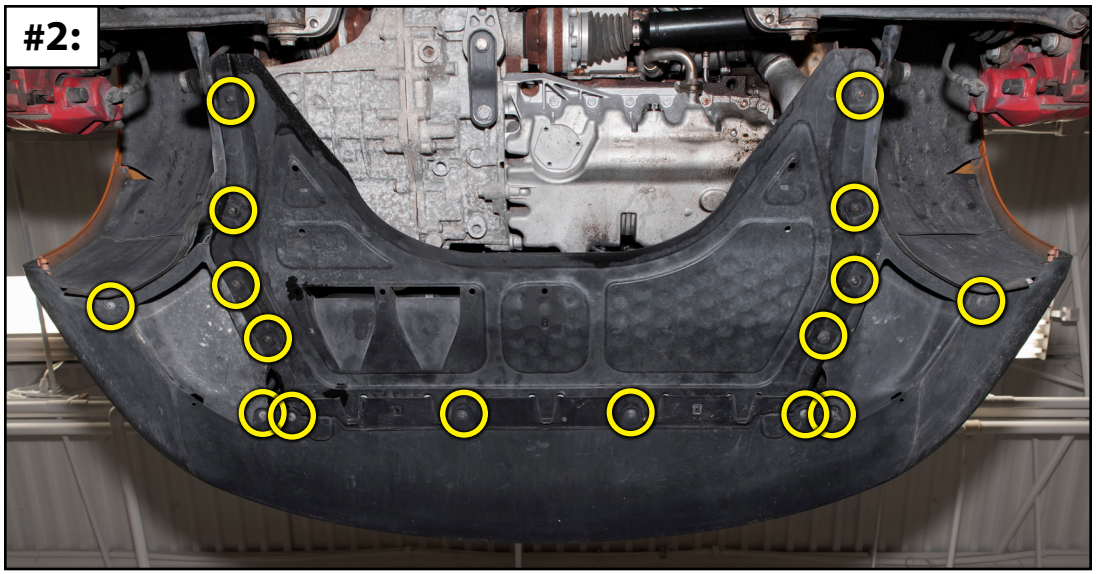
MK6 only:

Skip ahead to page 10.

#1:



#2:



REMOVING THE STOCK RADIATOR

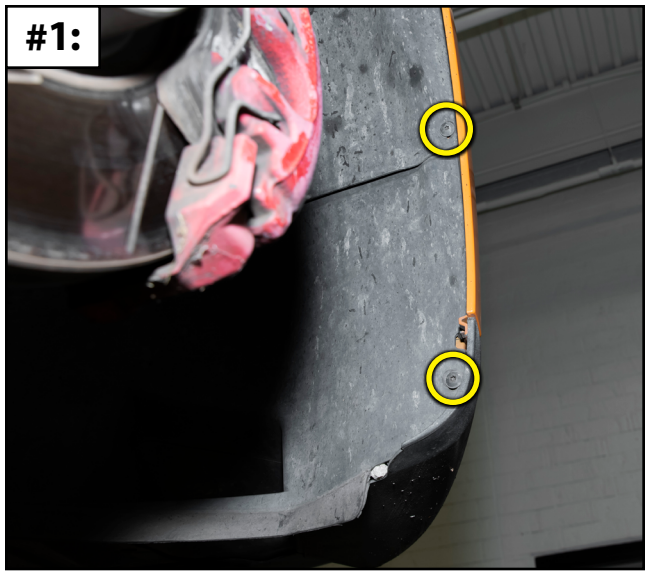
Step 2:

MK5 only:

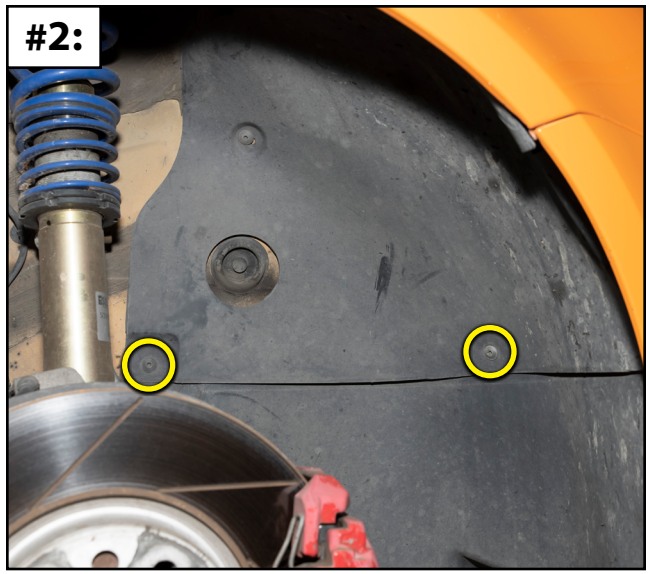
Remove the T25 Torx screws (circled in **YELLOW** in **photo #1 & photo #2**) that secure the lower fender liners into place. Remove the lower fender liners.

Remove the final two T25 Torx screws from each side of the bumper cover (circled in **YELLOW** in **photo #3**).

#1:



#2:



#3:



REMOVING THE STOCK RADIATOR

Step 3:

MK5 only:

Disconnect the front bumper cover harness (highlighted in **GREEN** in **photo #1**) from the chassis. This harness supplies power to the fog lights, marker lights, and temp sensor.

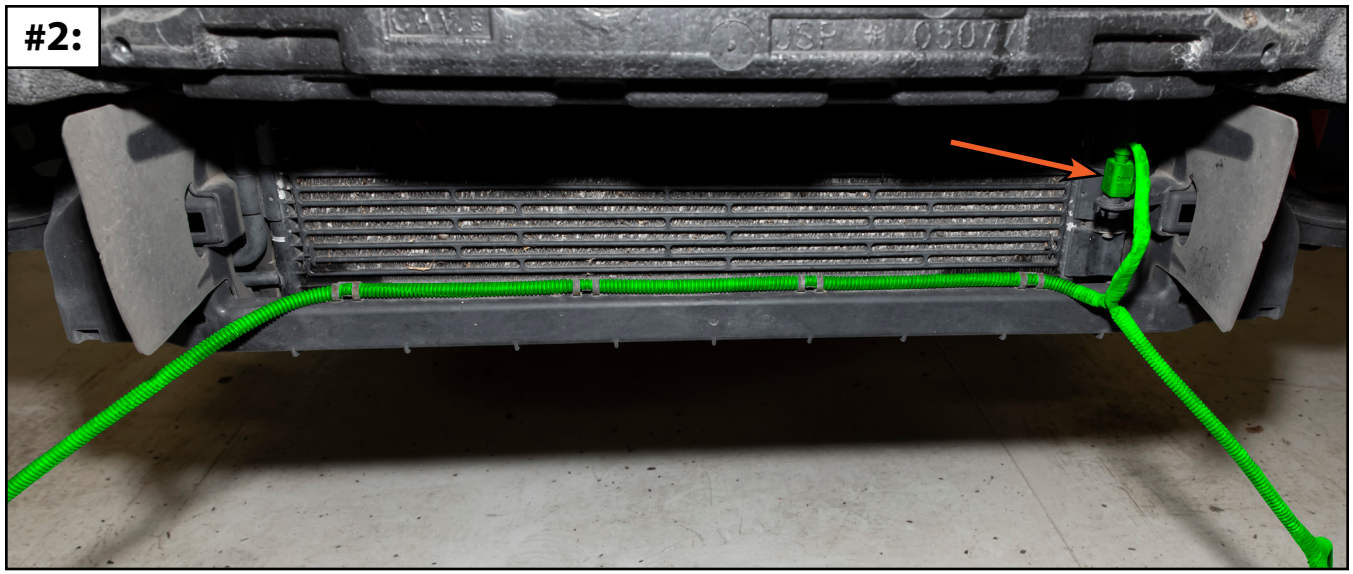
Before removing the bumper cover, release the harness from the clips that secure it in place in front of the condenser (highlighted in **GREEN** in **photo #2**).

Disconnect the ambient air temp sensor (arrow in **photo #2**).

#1:



#2:



REMOVING THE STOCK RADIATOR

Step 4:

MK5 only:

Remove the two T25 Torx screws (circled in **YELLOW** in **photo #1**) that secure the grille to the core support.

Remove the grille or gently pull it forward to remove the two T30 Torx screws (highlighted in **GREEN** in **photo #2**) that secure the bumper cover to the crash beam.

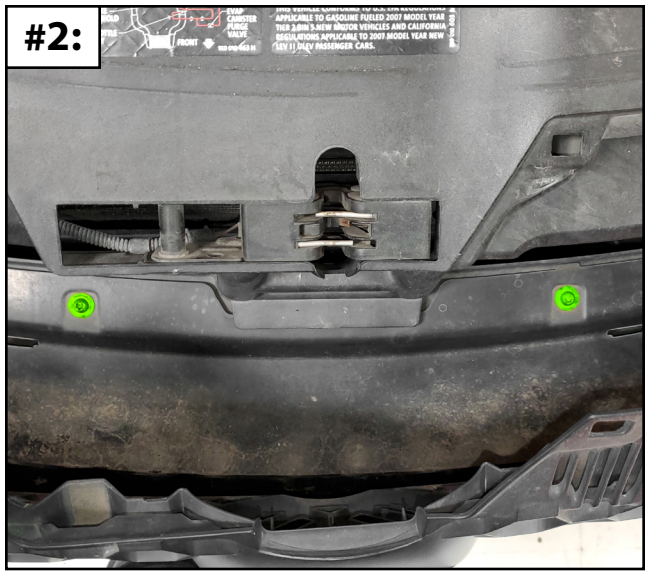
Grasp each side of the bumper cover and pull it toward the front of the vehicle to release it from the clips (**photo #3**).

Carefully remove the bumper cover and set it aside (not shown).

#1:



#2:



#3:



REMOVING THE STOCK RADIATOR

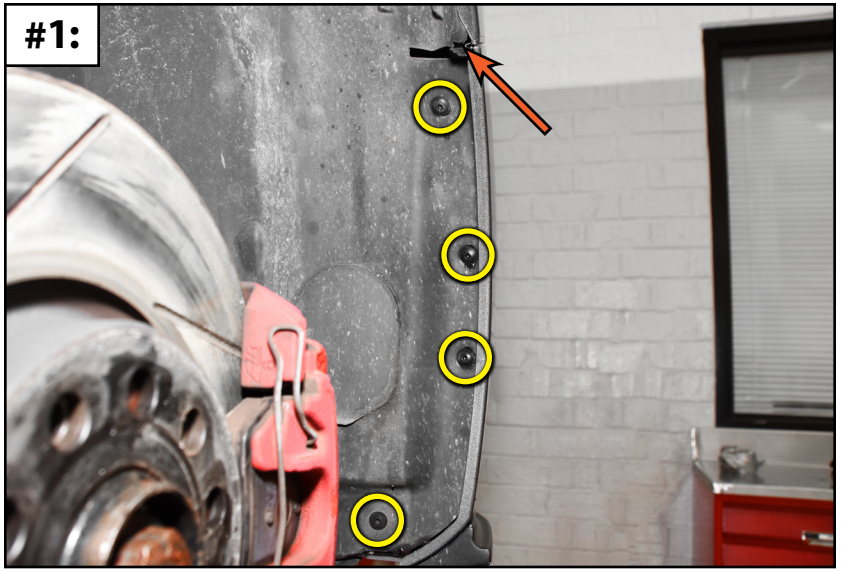
Step 2:

MK6 only:

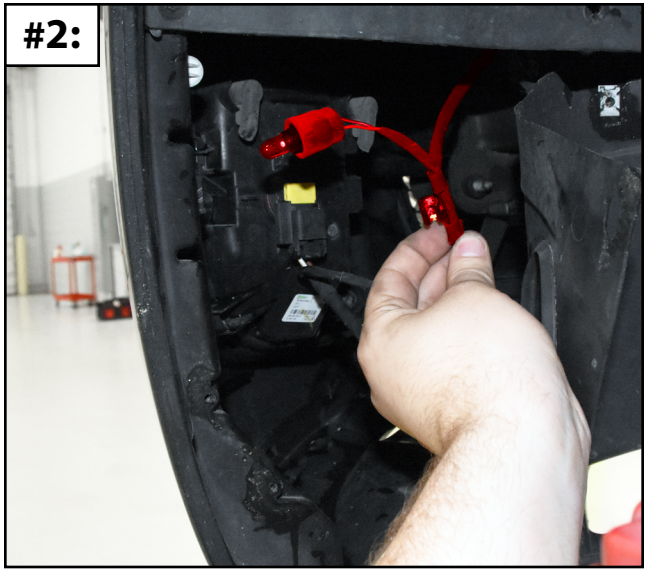
Remove the T25 Torx screws (circled in **YELLOW** in **photo #1**) that secure the lower fender liners into place.

Pull back the fender liners, then disconnect the side marker bulbs (highlighted in **RED** in **photo #2**) and the fog light connectors (highlighted in **RED** in **Photo #3**) if equipped.

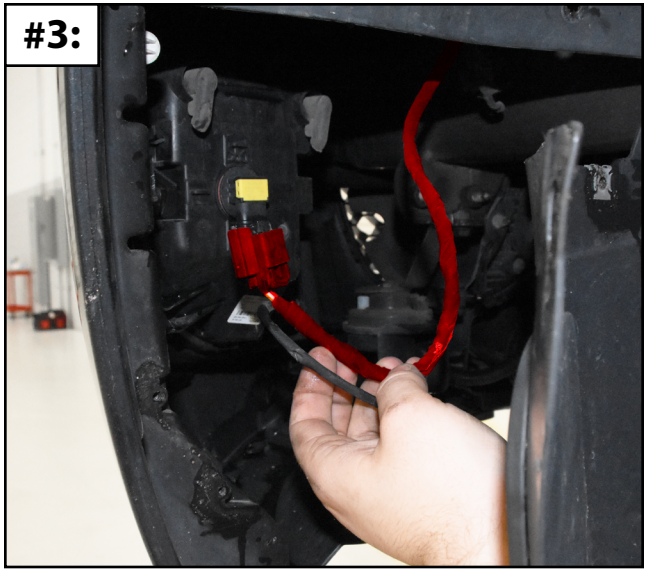
#1:



#2:



#3:



REMOVING THE STOCK RADIATOR

Step 3:

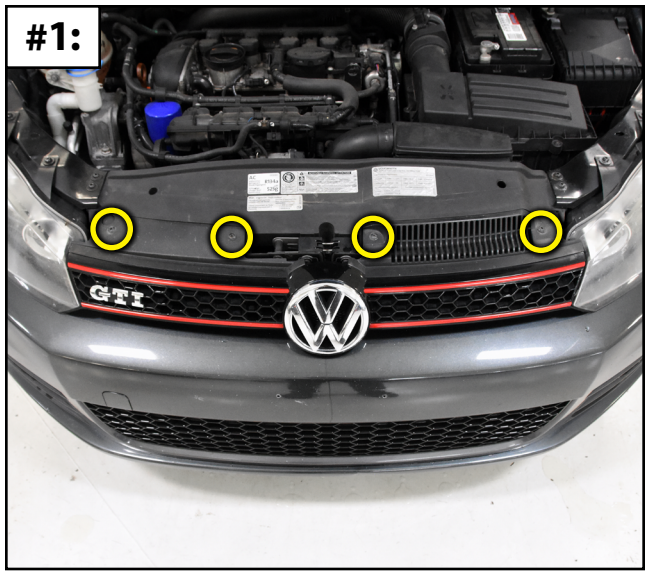
MK6 only:

Remove the four T25 Torx screws (circled in **YELLOW** in **photo #1**) that secure the grille to the core support.

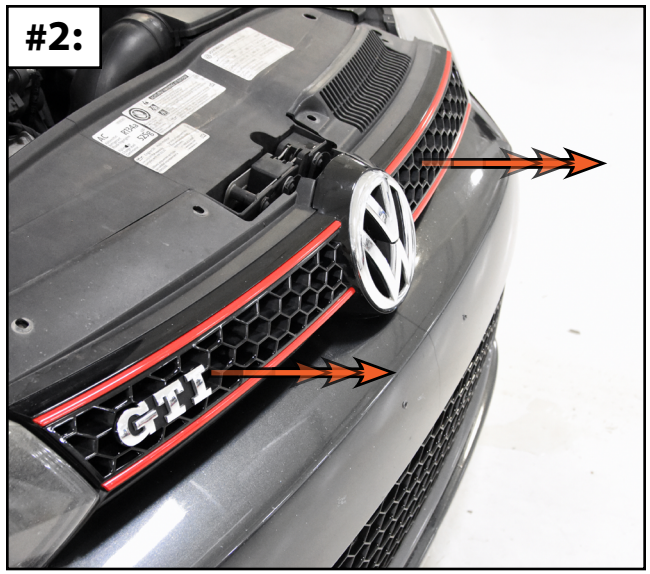
Remove the grille by pulling it towards the front of the vehicle and free from the bumper (**photo #2**).

Some vehicles have two additional screws which secure the bumper to the core support. If equipped, remove these screws (circled in **YELLOW** in **photo #3**) before moving forward.

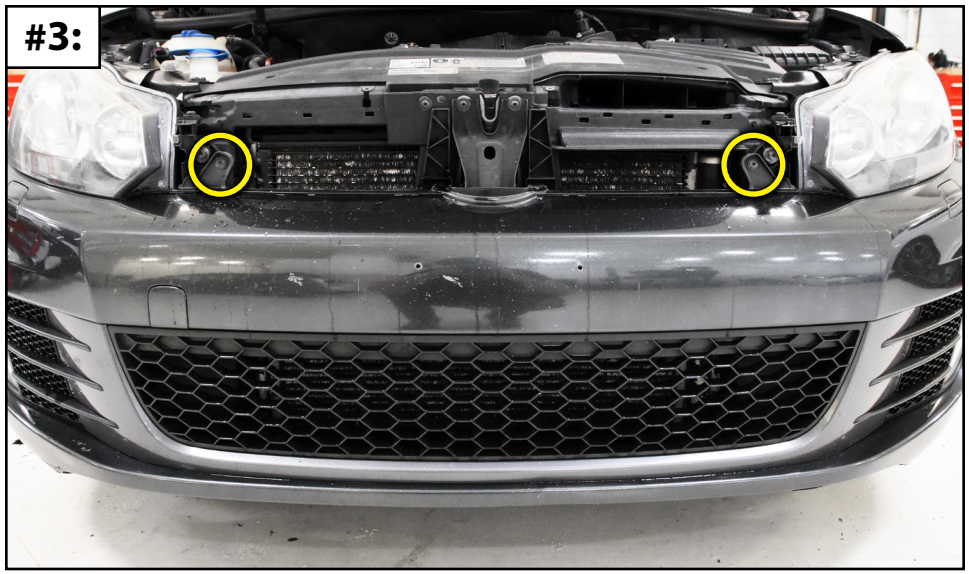
#1:



#2:



#3:



REMOVING THE STOCK RADIATOR

Step 4:

MK6 only:

Carefully (but firmly) pull the bumper free from the fenders (as shown in **photo #1**).

Carefully remove the bumper cover from the vehicle and set it aside (**photo #2**).

#1:



#2:



REMOVING THE STOCK RADIATOR

Step 5:

If equipped, remove the noise pipe from the engine bay (highlighted in **GREEN** in **photo #1**).

Remove the intercooler inlet coupler (highlighted in **GREEN** in **photo #2**).

Remove the intercooler outlet coupler (highlighted in **GREEN** in **photo #3**).

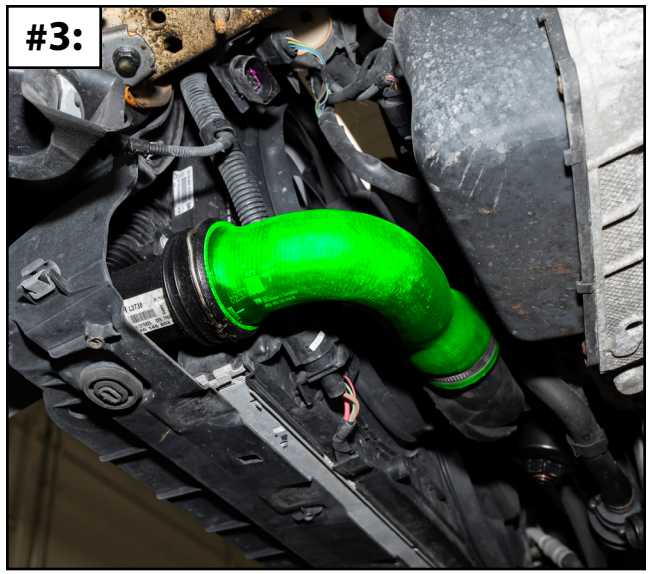
#1:



#2:



#3:



REMOVING THE STOCK RADIATOR

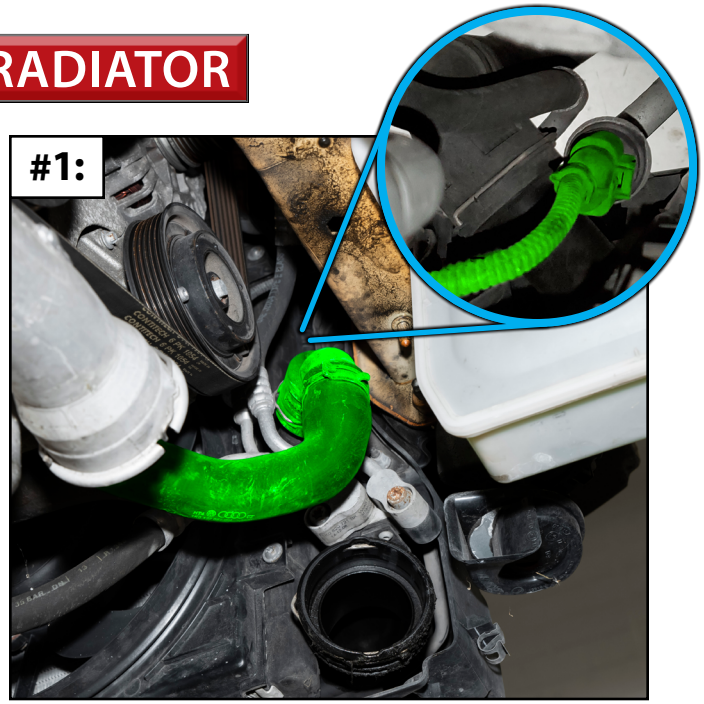
Step 6:

Place a drain pan under the vehicle to catch any spills. Remove the clip from the lower radiator hose, then pull the hose (highlighted in **GREEN** in **photo #1**) off to drain the cooling system. Disconnect the harness from the A/C line next to the radiator hose (highlighted in **GREEN** in the inset photo).

Once most of the coolant has drained, repeat this process with the upper radiator hose (highlighted in **GREEN** in **photo #2**).

Disconnect the harness from the fan shroud (highlighted in **GREEN** in **photo #3**).

#1:



#2:



#3:



REMOVING THE STOCK RADIATOR

Step 7: T30 Torx

Remove the four screws (circled in **YELLOW**) which secure the fan shroud to the back of the radiator.



Step 8:

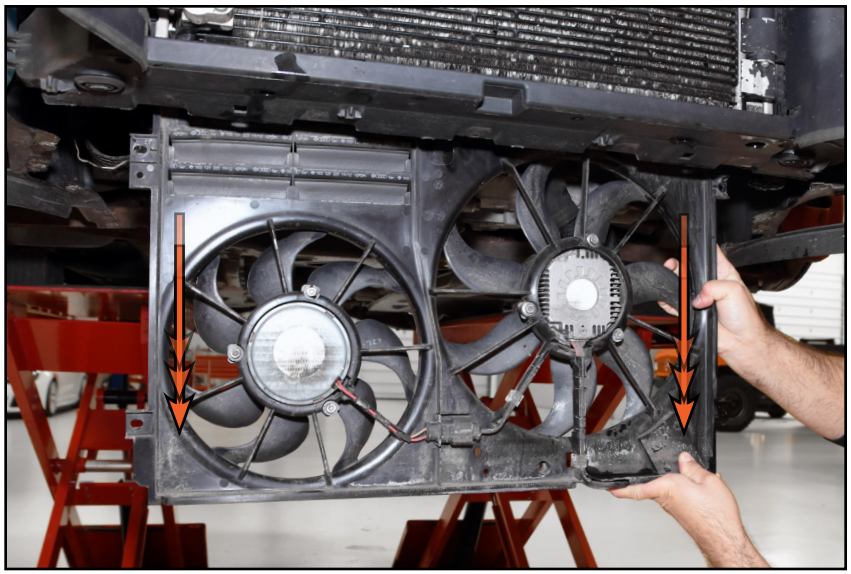
Carefully guide the fan shroud down and out from the vehicle as shown.

MK5 only:

Proceed to the next page.

MK6 only:

Skip ahead to page 18.



REMOVING THE STOCK RADIATOR

Step 9:

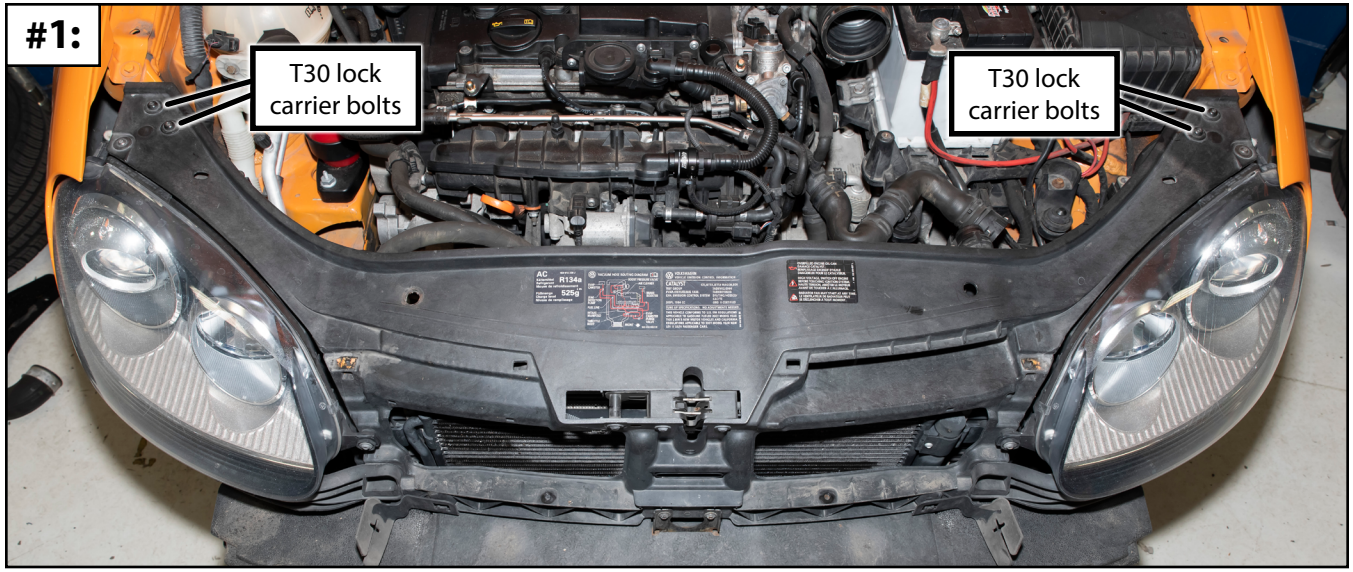
MK5 only:

If you own a MK5, the radiator has to be removed from above. Start by removing the four T30 Torx bolts (**photo #1**) from the top of the core support.

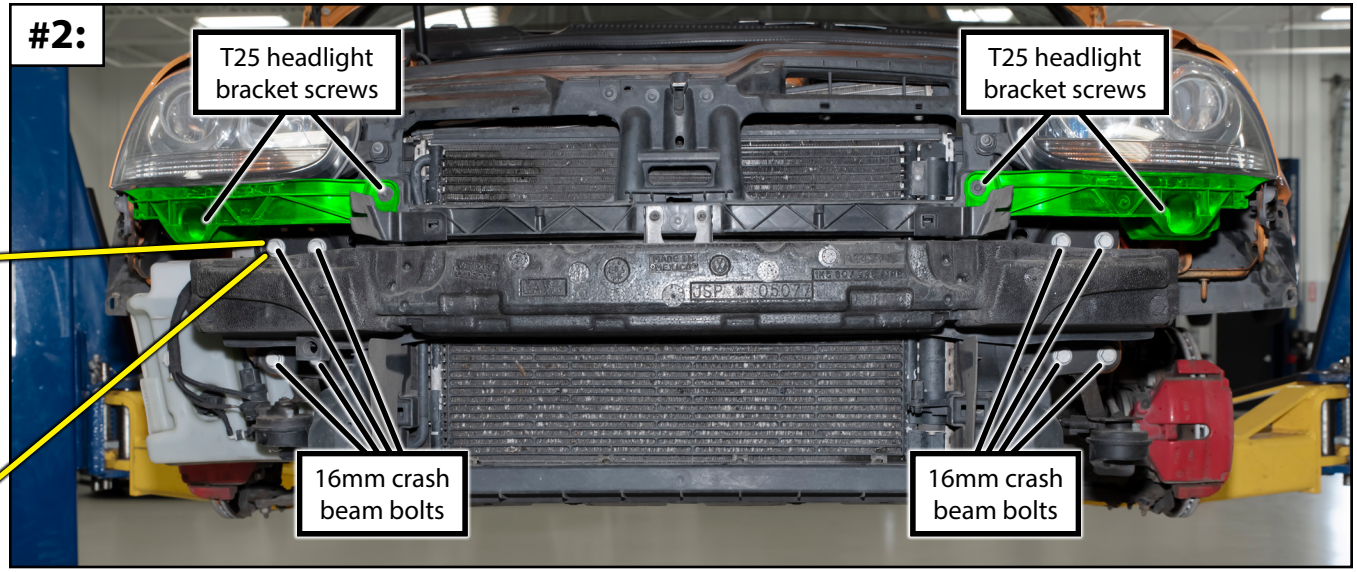
Remove the T25 screws which secure the headlight brackets (**photo #2**).

It's a good idea to mark the position of at least one crash beam bolt on each side to make reassembly easier later (**YELLOW** inset photo). Loosen (but ***DO NOT*** remove) the 16mm crash beam bolts (**photo #2**).

#1:



#2:





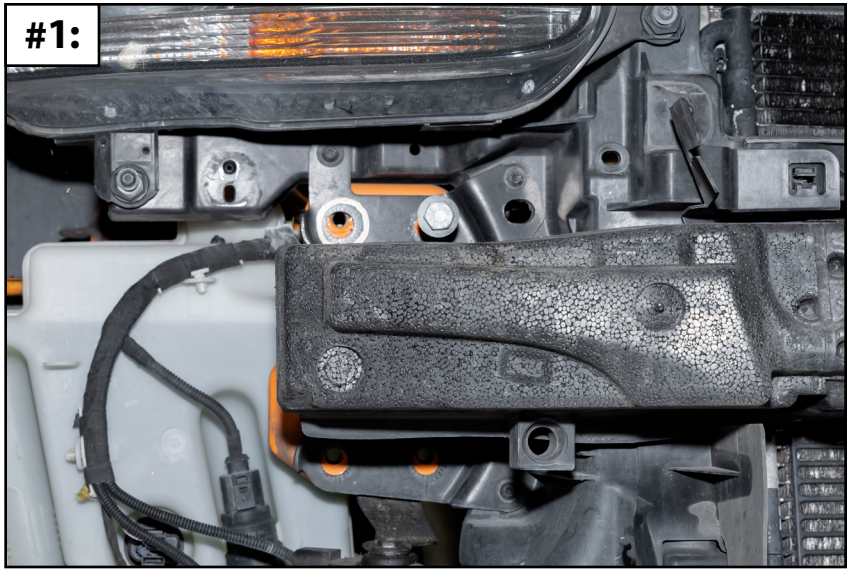
REMOVING THE STOCK RADIATOR

Step 10:

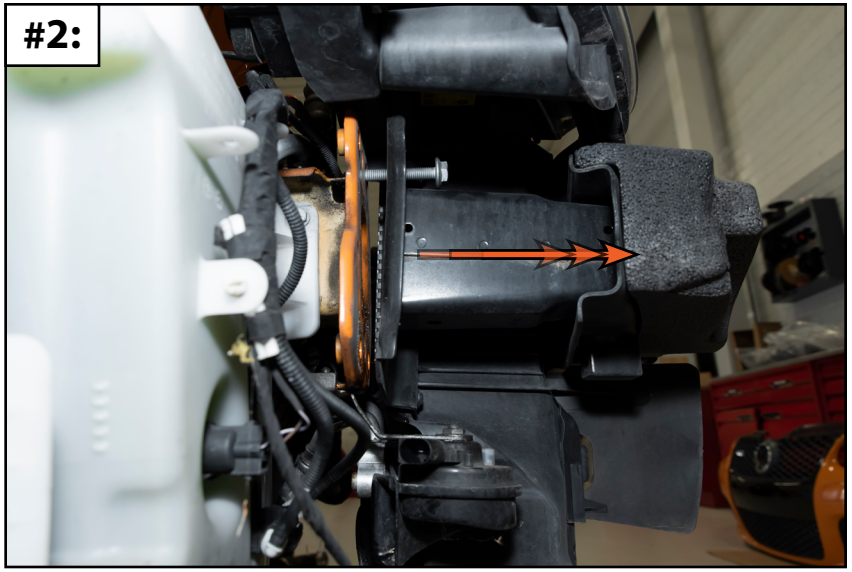
MK5 only:

Leave one bolt partially threaded in on each side to support the core support (**photo #1**). Pull the lock carrier forward approximately 1-2 inches (**photo #2**).

#1:



#2:



REMOVING THE STOCK RADIATOR

Step 11:

Remove the four T30 Torx screws (circled in YELLOW in **photo #1**) that secure the radiator to the back of the intercooler.

MK5 only:

Carefully guide the radiator up and out of the engine bay (**photo #2**), then proceed to the next page.

MK6 only:

Carefully guide the radiator down and out of the engine bay (**photo #3**), then proceed to the next page.

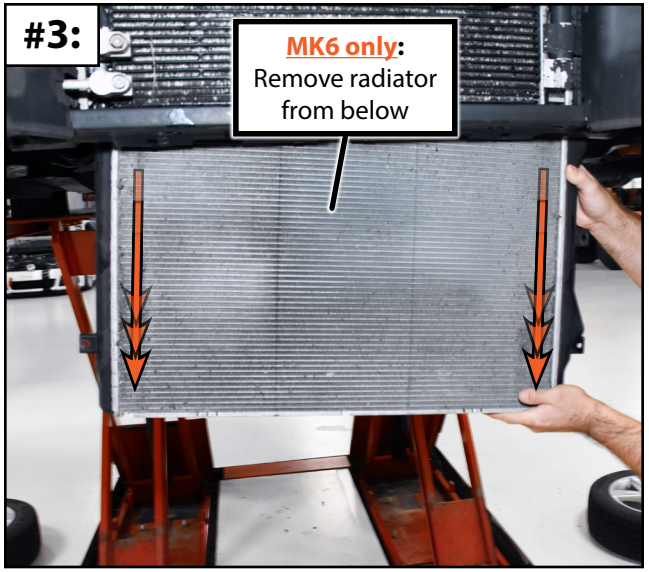
#1:



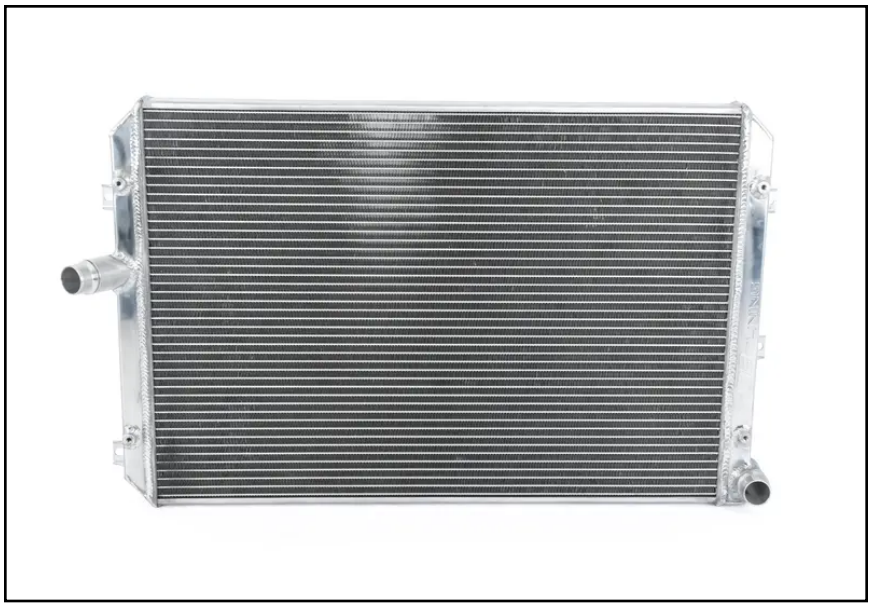
#2:



#3:



REMOVING THE STOCK INTERCOOLER



If you are installing an aluminum radiator alone:

- Please continue to the next page for the installation of your new radiator.



If you are also installing an upgraded cast aluminum intercooler:

- Please reference the instructions under the "Installation" tab on ES#4350569 or ES#4352590 for detailed removal steps.

INSTALLING THE NEW ALUMINUM RADIATOR

Step 1:

MK5 only:

Carefully guide the radiator back into place from above (**photo #1**).

Continue to the next page ***before*** installing any of the hardware to secure the radiator into place.

MK6 only:

Carefully guide the radiator back into place from below (**photo #2**).

Continue to the next page ***before*** installing any of the hardware to secure the radiator into place.

#1:



#2:



INSTALLING THE NEW ALUMINUM RADIATOR

Step 2:	4mm Hex (Allen)

Secure the new radiator to the back of the intercooler; if you have a stock intercooler, you can reuse the original hardware for this step. If you have an upgraded cast aluminum intercooler, you'll need to use the screws which were provided with that intercooler kit (circled in YELLOW in **photo #1**). Tighten these screws until snug, or until they make contact + ⅛ turn.

Carefully guide the fan shroud into position, then secure it using the four provided screws (circled in YELLOW in **photo #2**).

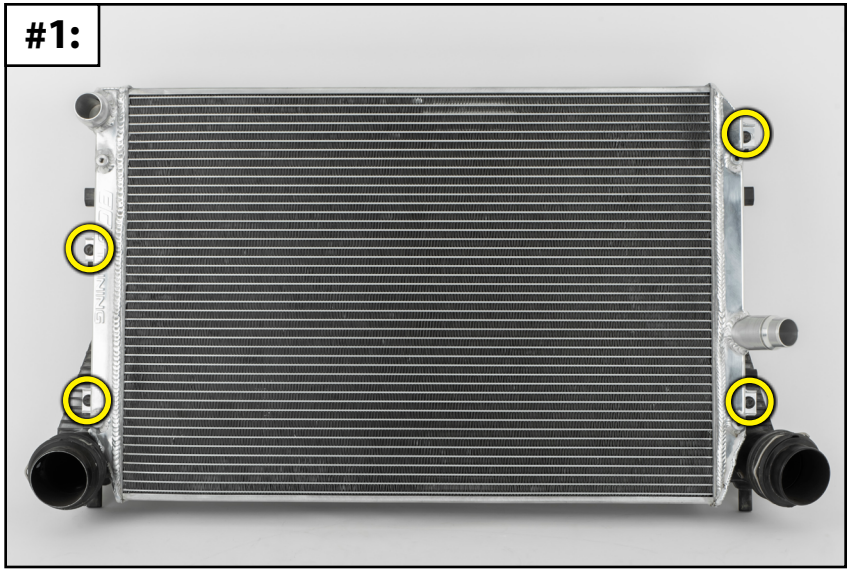


Apply **BLUE** threadlocker to the bolts in **photo #1** if you're installing this radiator onto an aftermarket cast aluminum intercooler.

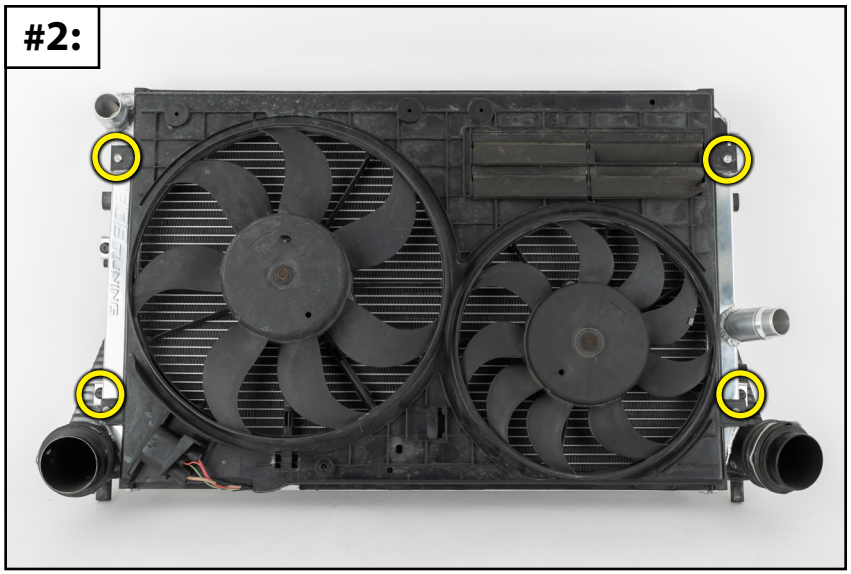


Apply **BLUE** threadlocker to the fan shroud bolts in **photo #2** to lessen the risk of them backing out over time.

#1:



#2:



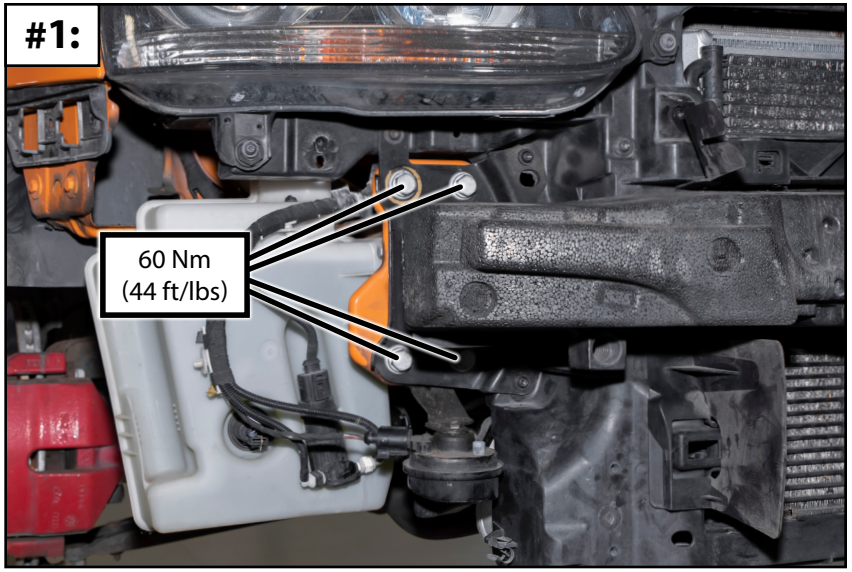
INSTALLING THE NEW ALUMINUM RADIATOR

Step 3: 16mm Socket & Torque Wrench

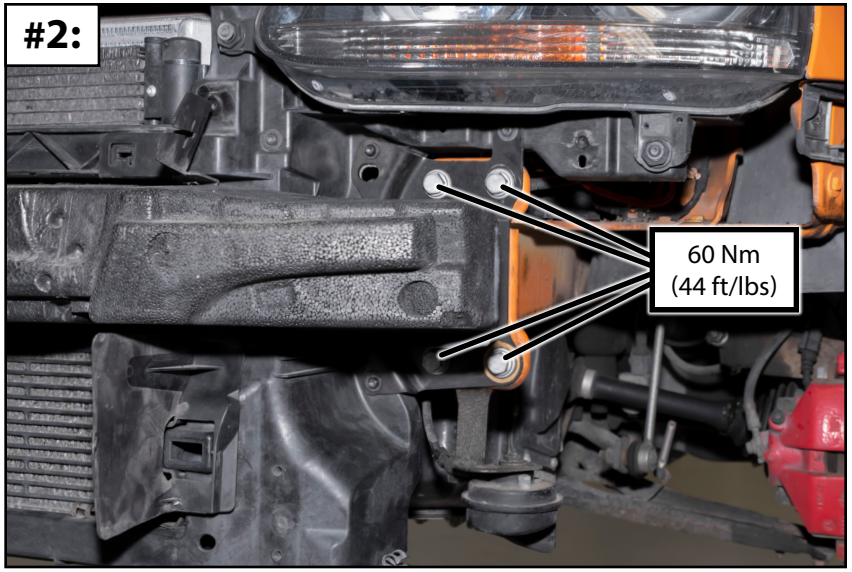
Reinstall the crash beam bolts (**photo #1 & photo #2**). Tighten them to 60 Nm (44 ft/lbs).

Reinstall the two plastic air shrouds and the upper air guide (**MK6 only**, not shown).

#1:



#2:



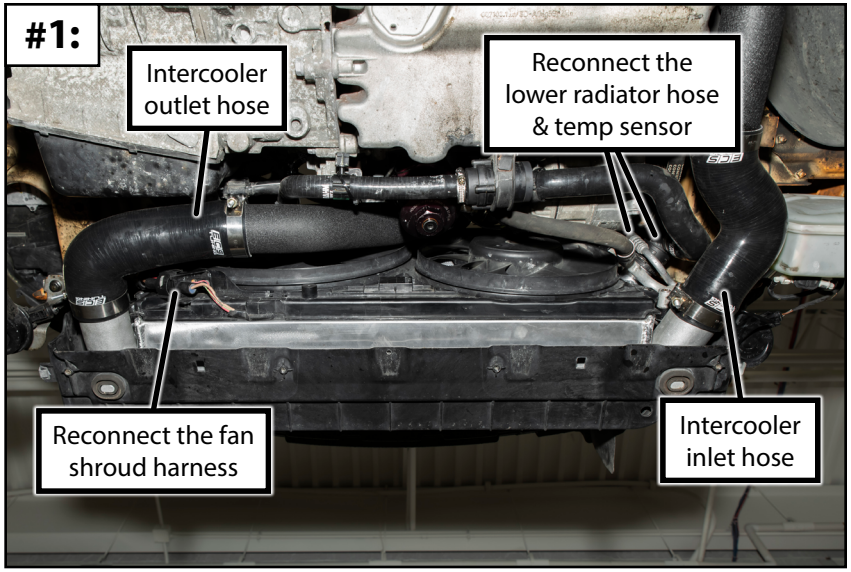
INSTALLING THE NEW ALUMINUM RADIATOR

Step 4:

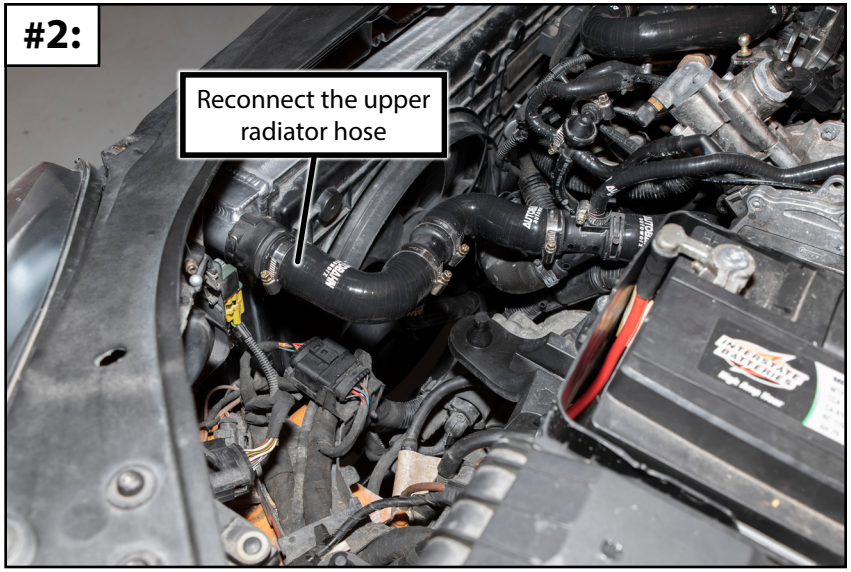
Reinstall the lower radiator hose (**photo #1**) and upper radiator hose (**photo #2**) onto the radiator. Be sure to push the hose fittings on as far as they will go, then slide the retaining clips back into place. Give each hose a quick tug to ensure it is fully seated.

Reconnect the fan shroud harness (**photo #1**). Install the intercooler inlet and outlet hoses (**photo #1**).

#1:



#2:



- [ ] Reinstall the bumper cover, reconnect the bumper harness.
- [ ] Reinstall the grille.
- [ ] Reinstall the lower fender liners.
- [ ] Reinstall the belly pan.
- [ ] Reinstall the wheels, torque the wheel bolts to 120 Nm (89 Ft-lbs).
- [ ] Reinstall the noise pipe (if equipped).
- [ ] Reinstall the intake system.
- [ ] Reconnect the negative (–) battery terminal.
- [ ] Fill and bleed the coolant system (more information on page 25).

#1:



#2:



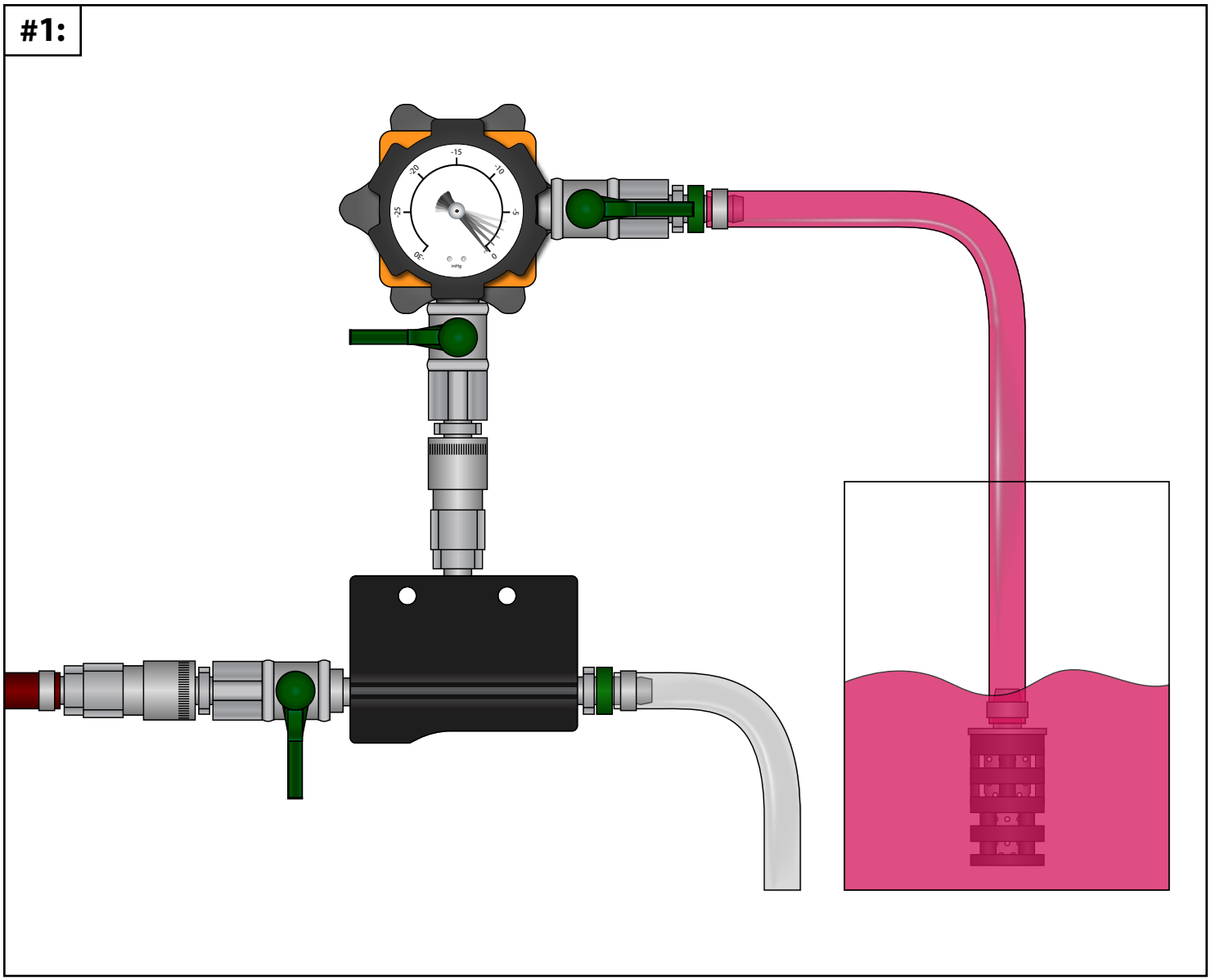
BLEEDING THE COOLING SYSTEM

Step 1:

We ***HIGHLY*** recommend using our Schwaben Coolant Refill/Air Purge Tool (ES#2712734) to properly fill the system and remove any air from the system.

Congratulations, your installation is complete!

#1:



Your Aluminum Radiator 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.

Although this material has been prepared with the intent to provide reliable information, no warranty (express or implied) is made as to its accuracy or completeness. Neither is any liability assumed for loss or damage resulting from reliance on this material. SPECIFICALLY, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER WARRANTY IS MADE OR TO BE IMPLIED WITH RESPECT TO THIS MATERIAL. In no event will ECS Tuning, Incorporated or its affiliates be liable for any damages, direct or indirect, consequential or compensatory, arising out of the use of this material.