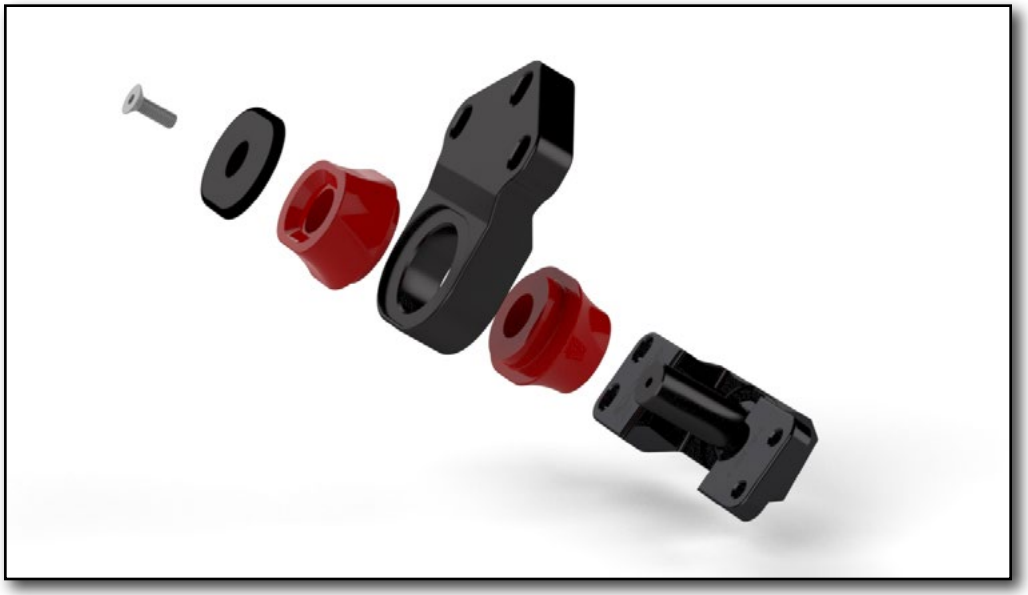
Volkswagen/Audi MQB 1.8T/2.0T Gen3 Performance Engine and Trans Mount Installation Instructions

Skill Level 2 - Moderate

Some Experience Recommended



INTRODUCTION

ECS Tuning Performance Polyurethane Engine and Transmission Mounts

Perfect Performance; the ultimate goal we are all looking for, and when it comes to building your car, there are many pieces to the puzzle. Luckily, with our new **polyurethane** engine and transmission mounts for your MQB VW/Audi, we've been able to put together a few of the ***big*** pieces of that puzzle for you. The factory mounts on your car keep things smooth and quiet, but put the pedal down and much of your precious horsepower gets wrapped up, twisted, and lost in rubbery confusion. Our new **polyurethane** engine and transmission mounts eliminate this problem and send the power straight down the line to the wheels. Power, stability, and response were the expectation and the result of these designs, and they won't disappoint.

Installing our engine and trans mounts is an easy afternoon project that only requires a few standard automotive tools. Our step by step instructions will make you breeze right through it, and we've provided all the required hardware to make sure you get the job done right, the first time. Before you begin, read through these instructions and check the required tool list to make sure you have everything you need. Thank you for looking to ECS Tuning for all your performance and repair needs, we appreciate your business!

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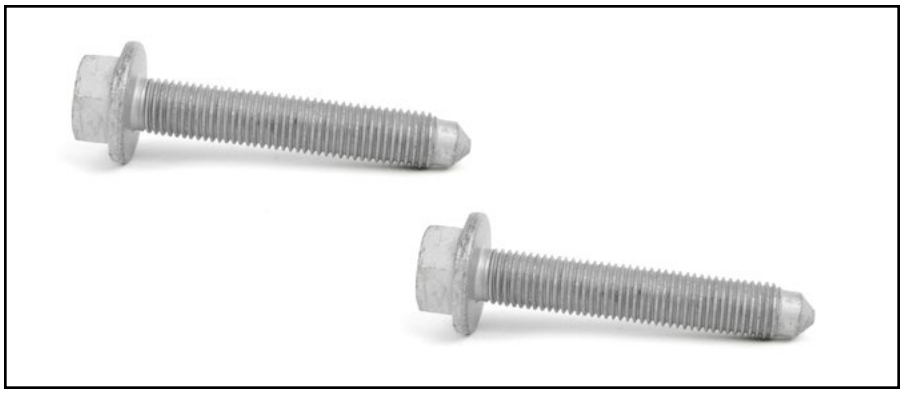
KIT CONTENTS - ENGINE MOUNT

ECS Performance Engine Mount



M12x70mm Bolts (2)

M10x55mm Bolt (1)

M10x55mm Bolt w/Stud (1)

KIT CONTENTS - TRANSMISSION MOUNT

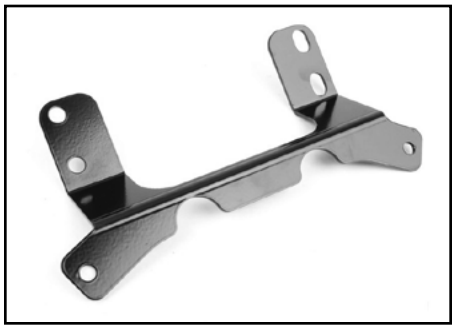
ECS Performance Transmission Mount

M12x70mm Bolts (3)

M10x35mm Bolts (4)

M6 Clip Nuts (2)

M6x40mm Bolts (2)



Battery Tray Support Bracket

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

- **VAG Connector Release Tool** ES#2628676
- **Locking Hose Clamp Pliers** ES#2702616

SHOP SUPPLIES AND MATERIALS

Standard Shop Supply Recommendations: We recommend that you have a standard inventory of automotive shop supplies before beginning this or any automotive repair procedure. The following list outlines the basic shop supplies that we like to keep on hand. Shop supplies with a hyperlink are available on our website.

- Hand Cleaner/Degreaser - Click Here
- Pig Mats - for protecting your garage floor and work area from spills and stains - Click Here
- Spray detailer - for rapid cleaning of anything that comes into contact with your paint such as brake fluid - Click Here
- Micro Fiber Towels - for cleaning the paint on your car - Click Here
- Latex Gloves - for the extra oily and dirty jobs - Click Here
- Medium and High Strength Loctite Thread lock compound - to prevent bolts from backing out - Click Here
- Anti-Seize Compound - to prevent seizing, galling, and corrosion of fasteners - Click Here
- Aerosol Brake/Parts Cleaner - for cleaning and degreasing parts
- Shop Rags - used for wiping hands, tools, and parts
- Penetrating oil - for helping to free rusted or stuck bolts and nuts
- Mechanics wire - for securing components out of the way
- Silicone spray lube - for rubber components such as exhaust hangers
- Paint Marker - for marking installation positions or bolts during a torquing sequence
- Plastic Wire Ties/Zip Ties - for routing and securing wiring harnesses or vacuum hoses
- Electrical tape - for wrapping wiring harnesses or temporary securing of small components

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.

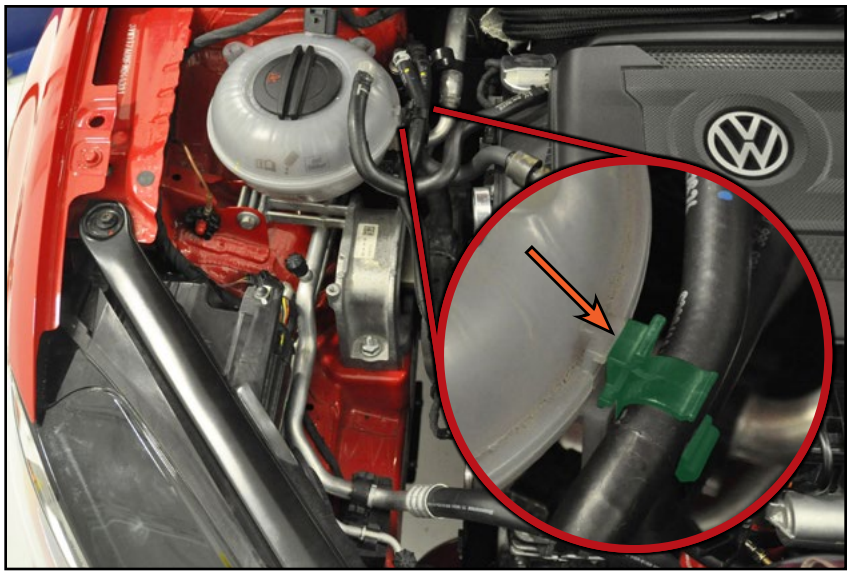
NEVER get underneath a vehicle that is supported only by a jack, and ALWAYS make sure that the vehicle is securely supported on jack stands.

INSTALLING THE ENGINE MOUNT

Step 1:

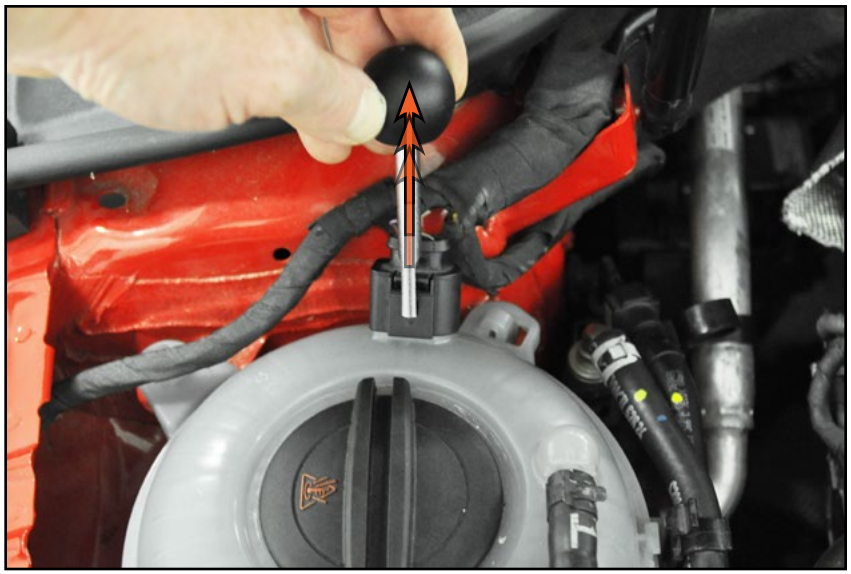
We're going to begin by loosening the coolant reservoir so we can get a little better access to the mount - no need to disconnect hoses or drain any coolant, we're just going to position it out of the way.

First, locate the hose clip on the side of the reservoir, pull back on the tab, then slide it up out of the groove.



Step 2: VAG Connector Release Tool

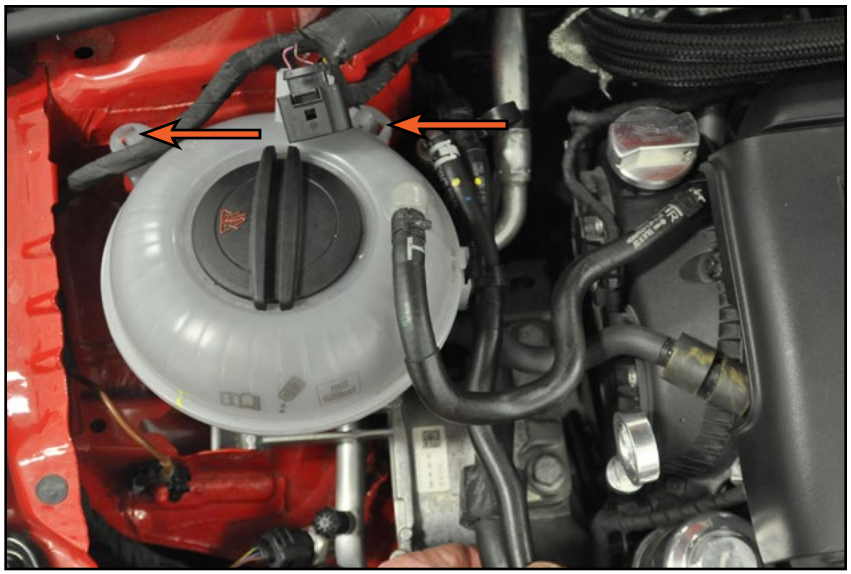
Disconnect the coolant reservoir sensor using our VAG connector release tool, or you can release the connector lock with a small pick or screwdriver.



INSTALLING THE ENGINE MOUNT

Step 3: Flat Blade Screwdriver

Gently pry the two hold down tabs on the coolant reservoir in the direction of the arrows, then lift the reservoir upward to unseat it. You will see that you can move it around easily for the access you need to the engine mount.



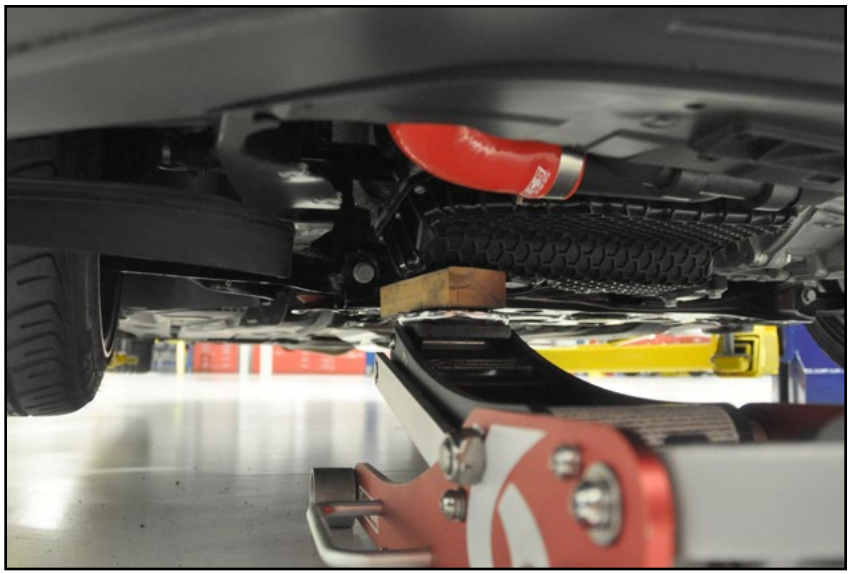
Step 4: Hydraulic Jack

Support the engine underneath the oil pan using a hydraulic jack. Be sure to use a block of wood between the jack and the edge of the oil pan (where it is the strongest).

CAUTION: Do not lift the engine or use excessive force with the jack. Its only purpose is to support the weight of the engine while the engine mount is removed.

NOTE

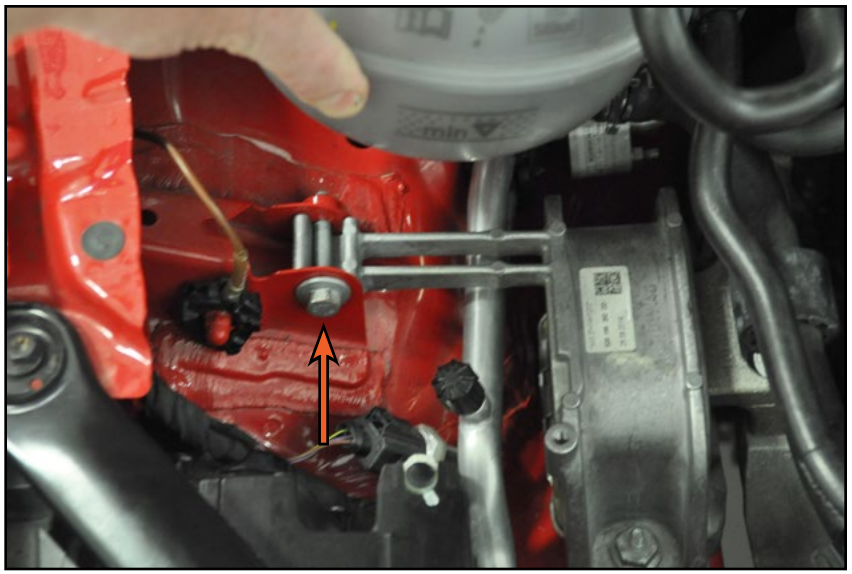
If you have one installed, you may have to remove your skid plate or insulation panel to access the oil pan.



INSTALLING THE ENGINE MOUNT

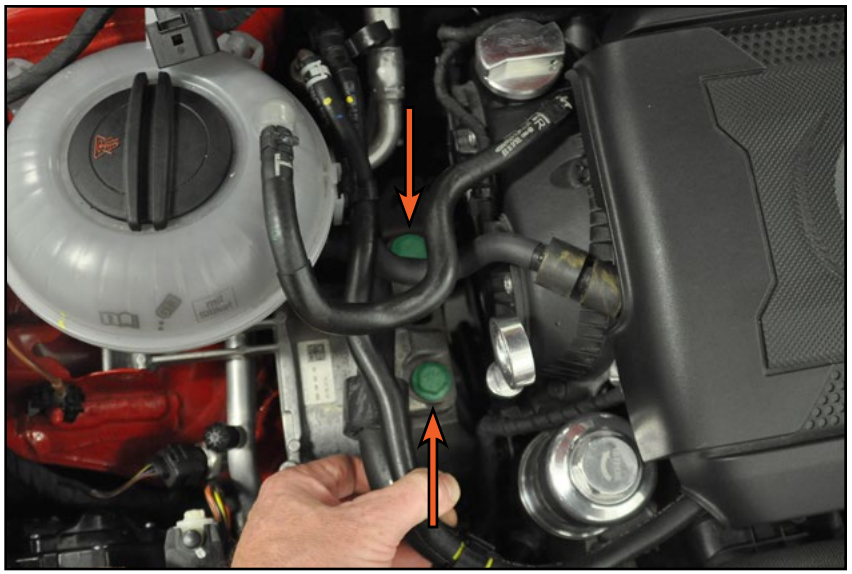
Step 5: 13mm Socket & Ratchet

Remove the bolt that secures the lateral support for the original engine mount.



Step 6: 18mm Socket & Ratchet

Move the coolant reservoir and hoses as needed for access, then remove the two bolts holding the original engine mount to the engine bracket.



TECH TIP

If the bolts do not unthread easily, the mount is on a bind. Raise or lower the jack as needed so they thread out easily.

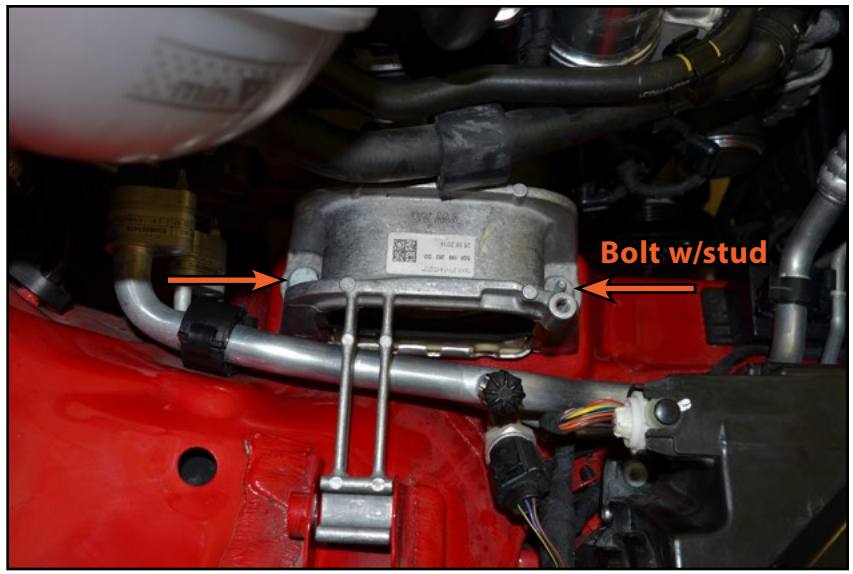
INSTALLING THE ENGINE MOUNT

Step 7: 16mm Socket & Ratchet

Move the coolant reservoir and hoses as needed for access, then remove the two bolts holding the original engine mount to the body frame rail.

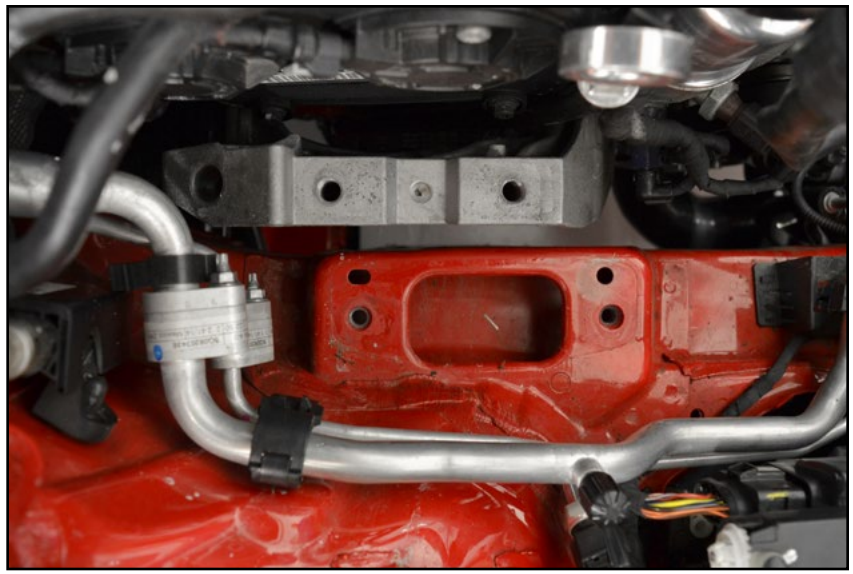
Note the position of the bolt with the M6 mounting stud on top.

Lift out the original engine mount.



Step 8:

Now we're ready to install the new ECS performance engine mount, but first we must take some time to look at the adjustment procedure as specified by VW/Audi. Please reference the ***"Adjusting the New ECS Mounts"*** section which starts on Page 25 **BEFORE** installing your new engine mount.



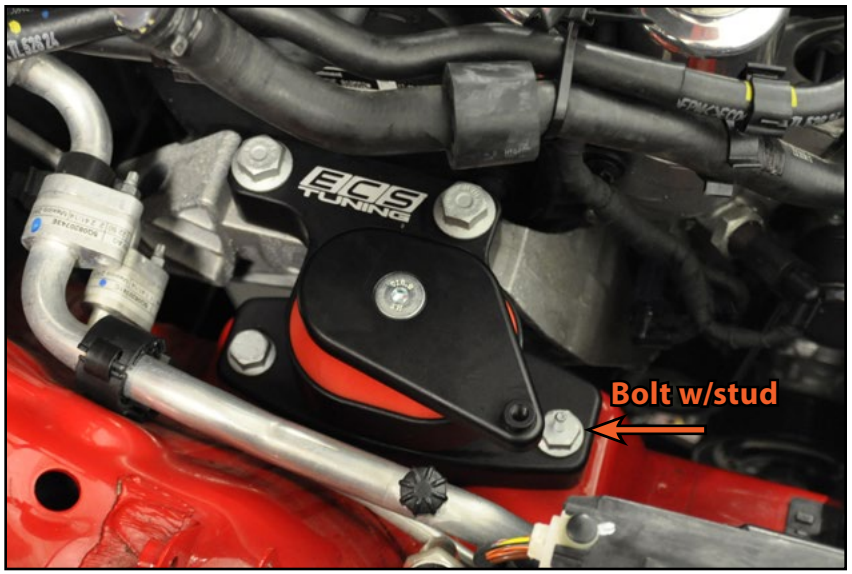
INSTALLING THE ENGINE MOUNT

Step 9: 16mm & 18mm Sockets, Torque Wrench

Place the new ECS Polyurethane mount into the car and install the new bolts included with the kit. Thread them in until they are all fully seated and hand tight. Be sure to locate the M10 bolt with mounting stud towards the front of the car as shown.

Torque the engine mount to body M10 bolts to 40 Nm (30 Ft-lbs) + 90°.

Torque the engine mount to engine bracket M12 bolts to 60 Nm (44 ft-lbs) + 90°.



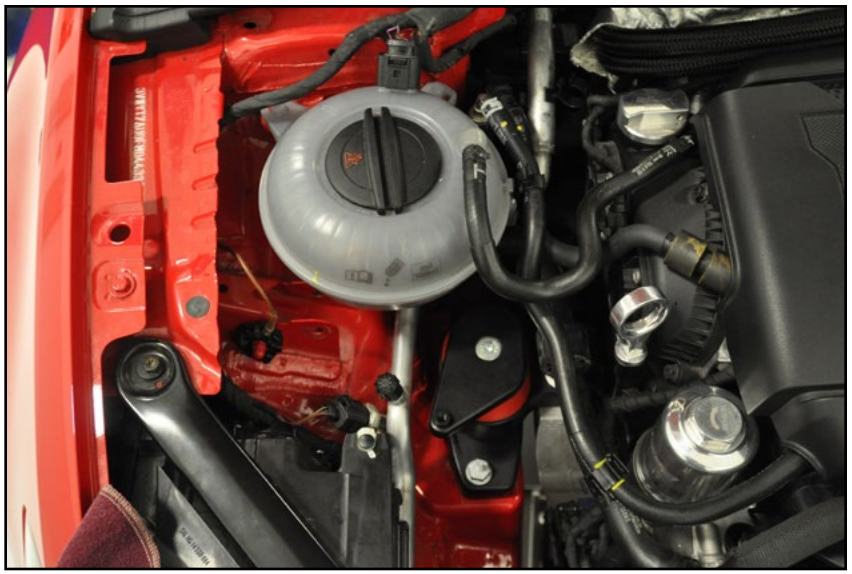
TECH TIP

Raise or lower the jack as required so the bolts thread in easily and do not bind the mount during installation.

Step 10:

Reinstall the coolant reservoir, plug in the level sensor, and install the hose clip on the side.

Remove the jack from underneath the engine.



NOTE

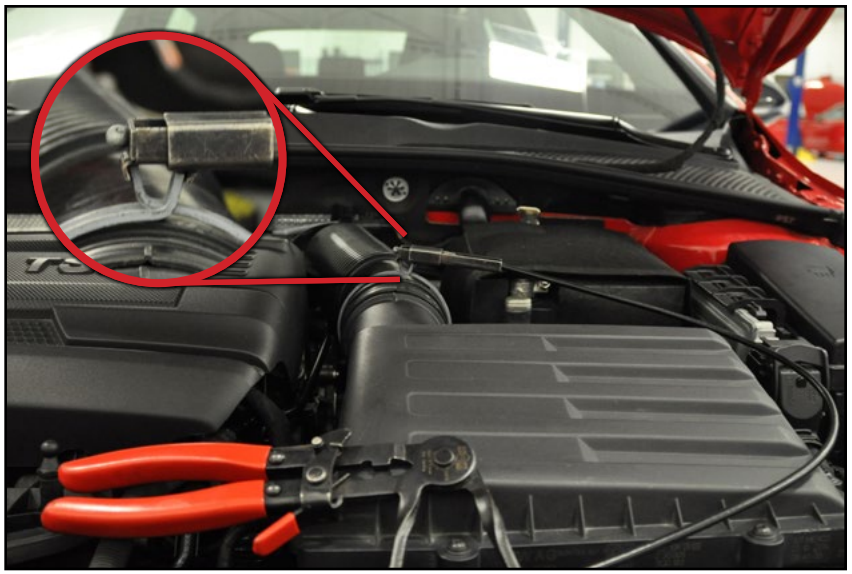
The threaded mounting hole on the engine mount cap, along with the stud on the forward M10 engine mount bolt, can be used to provide an installation location for accessories such as our catch can system.

Your engine mount installation is complete!

INSTALLING THE TRANSMISSION MOUNT

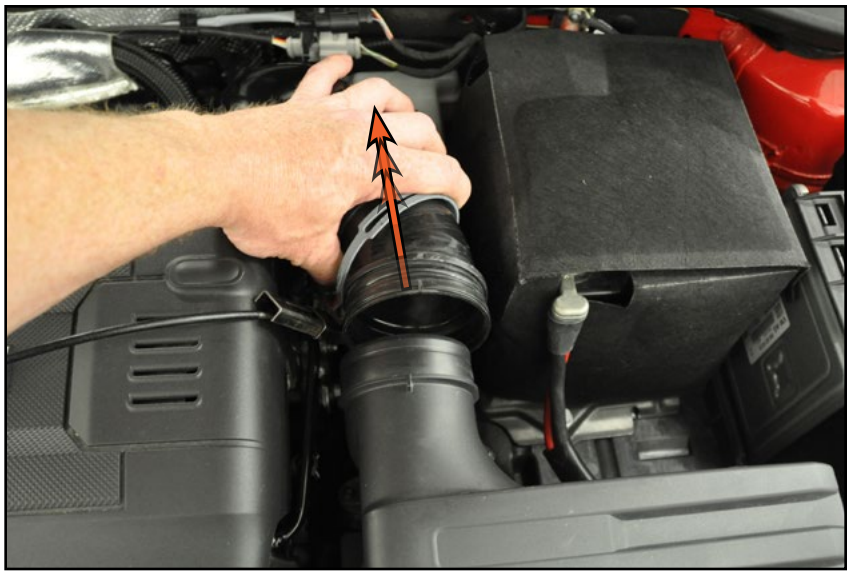
Step 1: Locking Hose Clamp Pliers

You'll have to remove the air box, so begin by loosening the spring clamp between the air box and the intake tube.



Step 2:

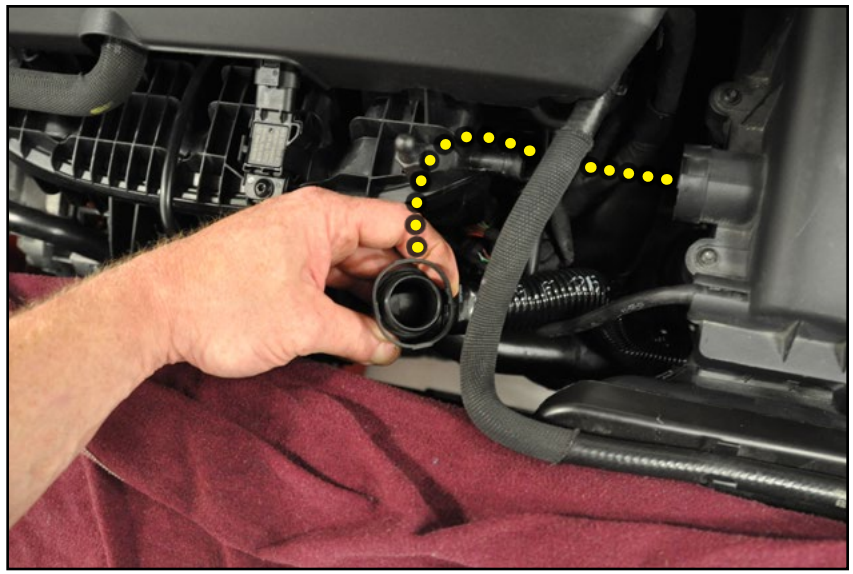
With the clamp loosened and moved out of the way, pull the intake tube off of the air box.



INSTALLING THE TRANSMISSION MOUNT

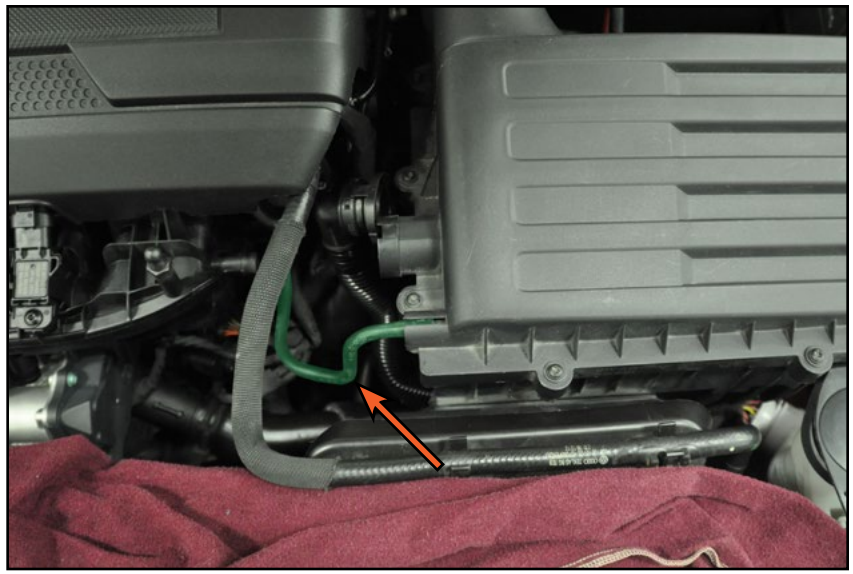
Step 3:

Some vehicles will have a secondary air injection tube connected to the side of the air box. If equipped, remove it at this time by pinching the sides of the tube end together and pulling it off the air box.



Step 4:

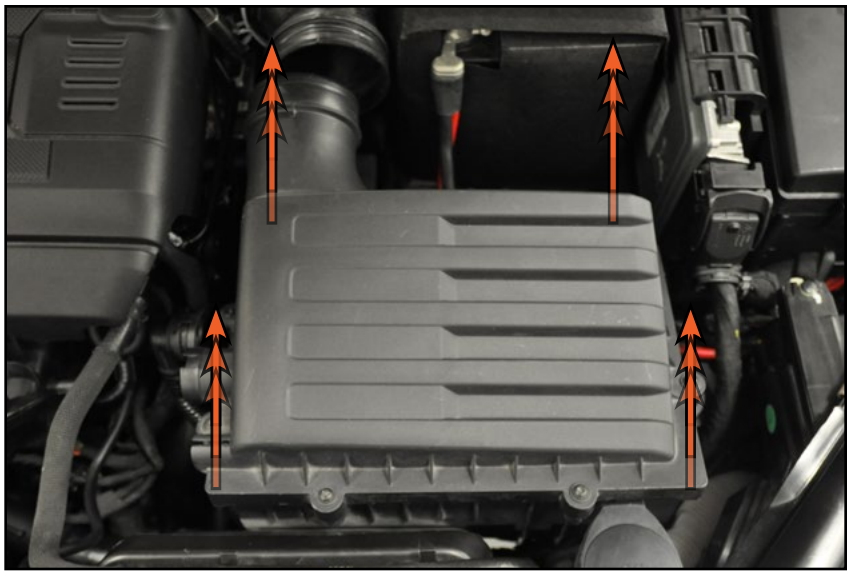
Carefully pull the vacuum hose off the side of the air box.



INSTALLING THE TRANSMISSION MOUNT

Step 5:

Pull up on the air box at all four corners. It's only held on by rubber grommets and you'll feel it "pop" off, then you can lift it out and remove it.



Step 6: 10mm Socket & Ratchet

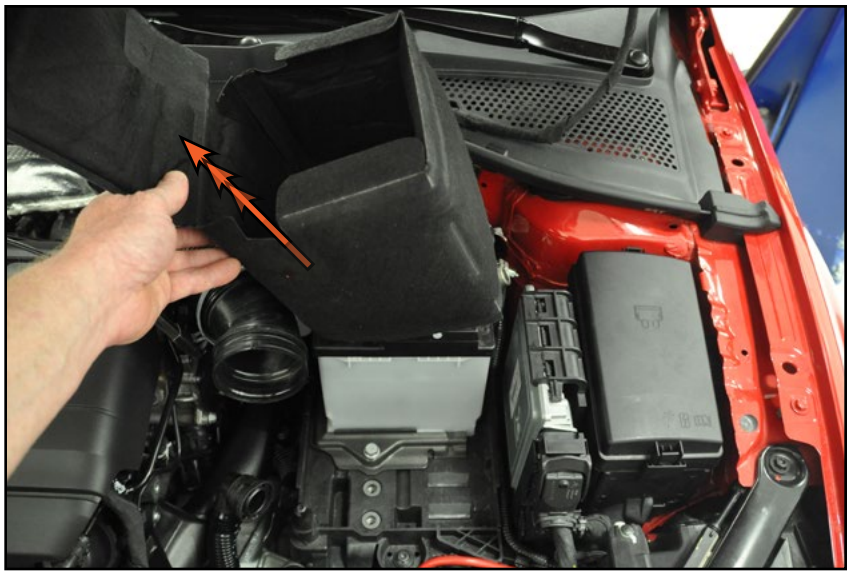
Open the top of the battery insulator, then disconnect both battery terminals.

CAUTION: To reduce the risk of fire, explosion, or personal injury; when disconnecting the battery, **ALWAYS** remove the negative battery terminal first.

INSTALLING THE TRANSMISSION MOUNT

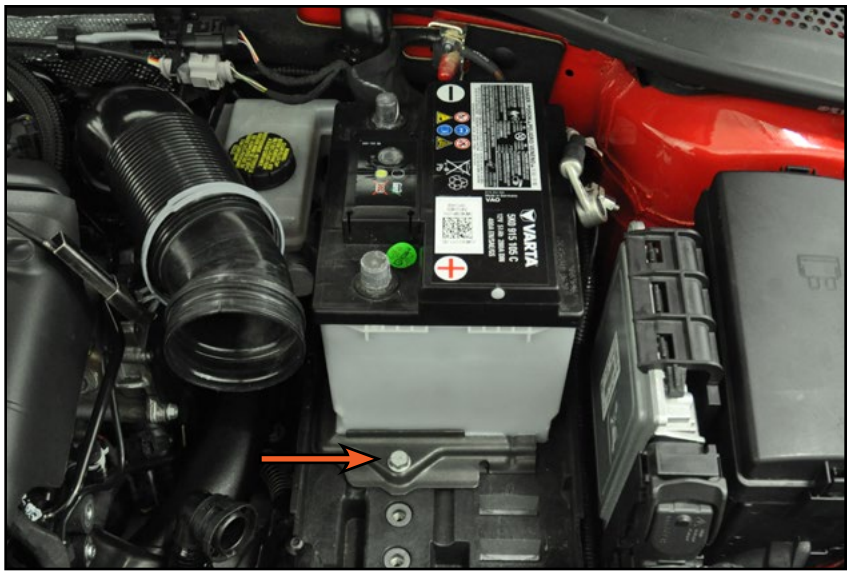
Step 7:

Lift off the battery insulator.



Step 8: 13mm Socket & Ratchet

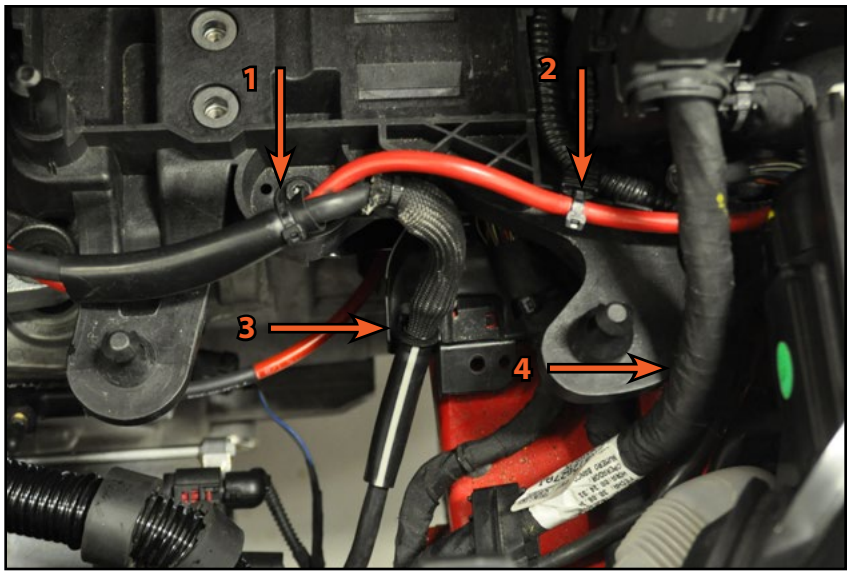
Remove the battery hold down, then lift the battery out of the car.



INSTALLING THE TRANSMISSION MOUNT

Step 9:

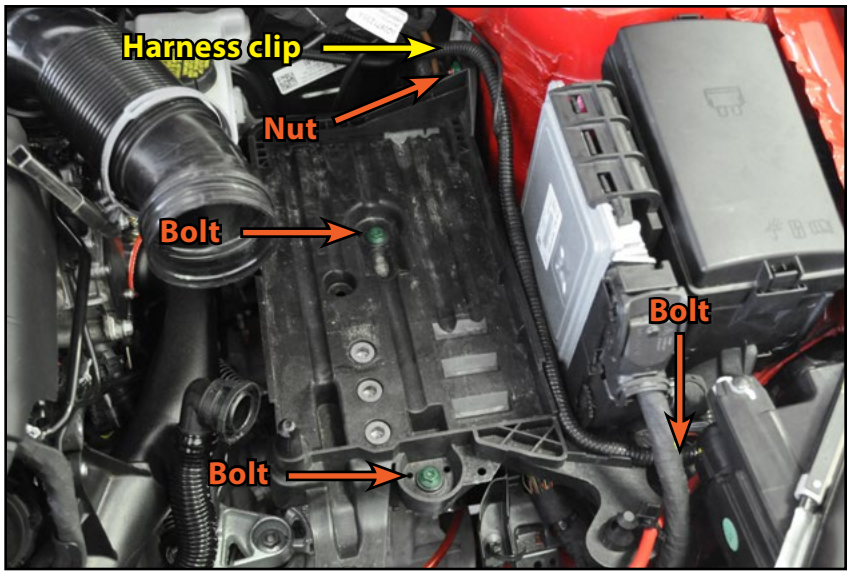
The battery cable, wiring harness, and PCM harness are secured to the battery tray in four locations. Carefully pry the retainers loose so all cables and harnesses are free from the tray.



Step 10: 10mm Socket & Ratchet

Remove the four battery tray fasteners (three bolts and 1 nut).

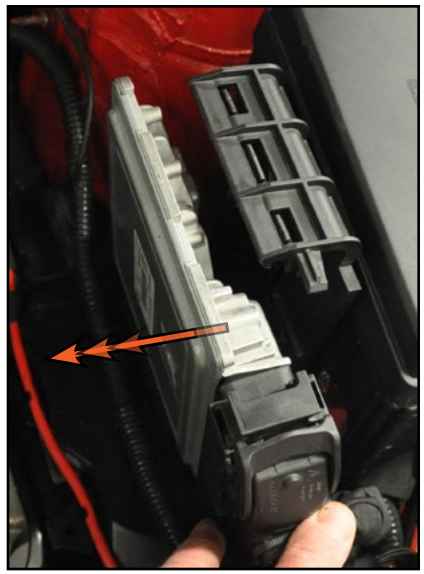
There is also one more clip on the back of the battery tray that secures a wiring harness in place (yellow arrow). Pry the clip off, then lift the battery tray out of the car.



INSTALLING THE TRANSMISSION MOUNT

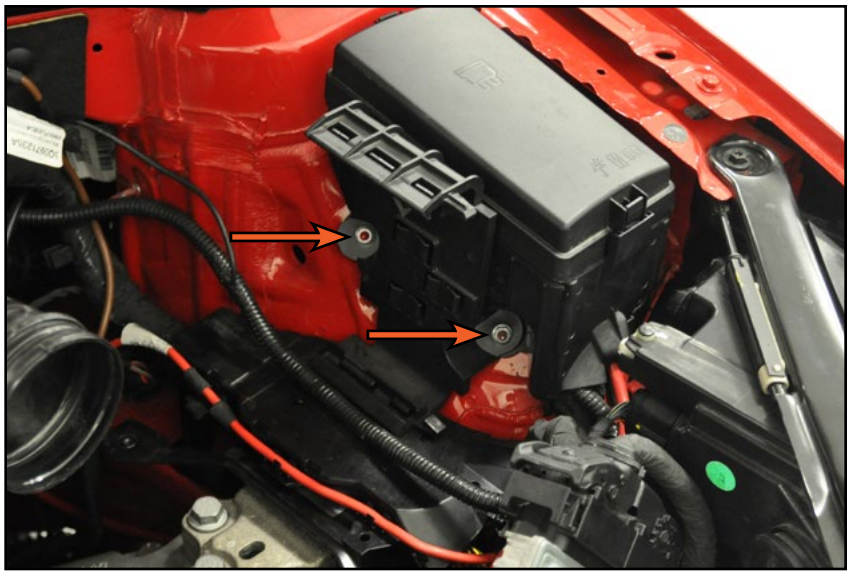
Step 11:

Release the PCM from its mounting bracket by pulling up on the plastic rail and unclipping it from the top, then tilt the PCM outward, lift it out of the bracket, and position it out of the way towards the front of the car. **DO NOT** disconnect it.



Step 12: 10mm Socket & Ratchet

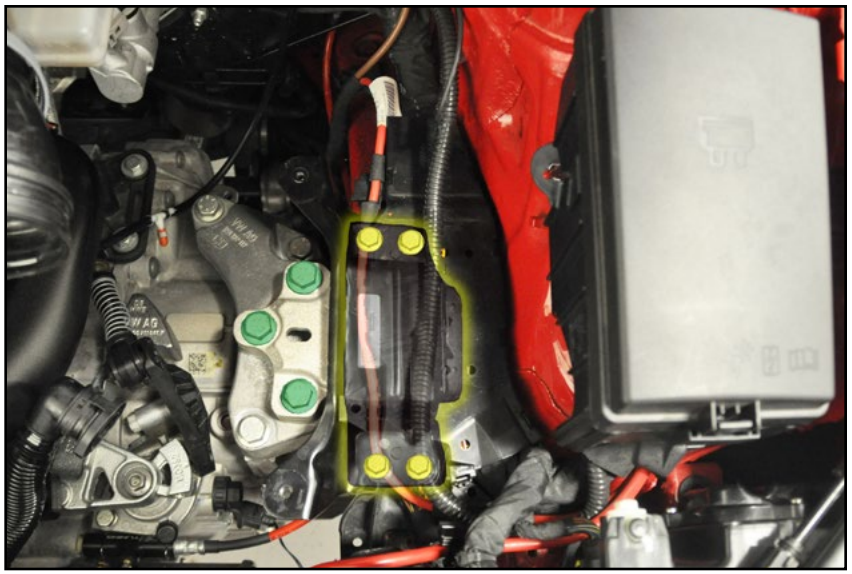
Remove the two nuts, then remove the PCM mounting bracket from the car.



INSTALLING THE TRANSMISSION MOUNT

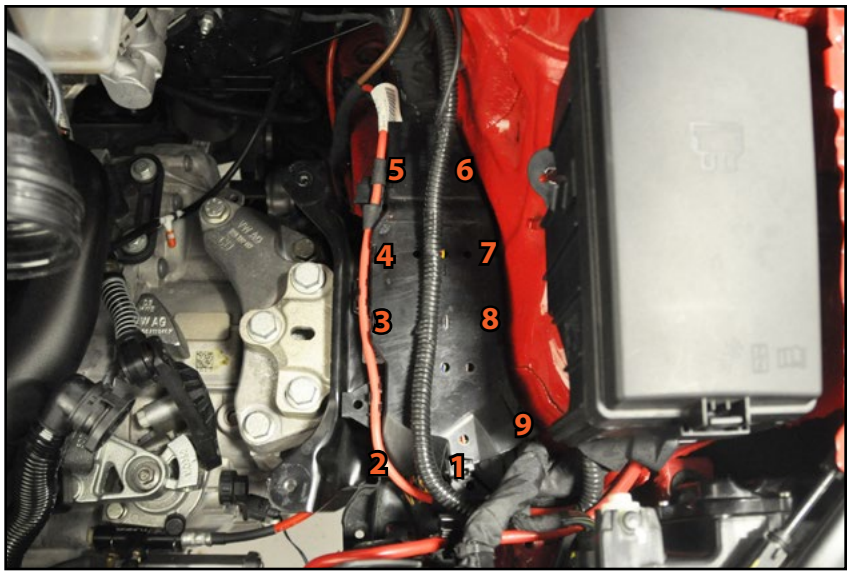
Step 13:

You can already access the three transmission mount to transmission bracket bolts (highlighted in **GREEN**) but the four trans mount to body bolts (highlighted in **YELLOW**) are hidden underneath the wiring harness channel.



Step 14: Small Angled Pick

Remove the plastic cover on top of the wiring harness channel. It is secured on by nine tabs which can be released easily using an angled pick.



INSTALLING THE TRANSMISSION MOUNT

Step 15:

Pull up gently on the wiring harness channel to release it from the body, then move it side to side and look underneath to locate the four trans mount to body bolts identified in step 13.

Step 16:

Now that you have access to the trans mount bolts, you're almost ready to remove the mount, but first, support the transmission underneath using a floor jack. Be sure to use a piece of wood between the transmission and the jack pad.

CAUTION: Do not lift the transmission or use excessive force with the jack. Its only purpose is to support the weight of the transmission while the trans mount is removed.

NOTE

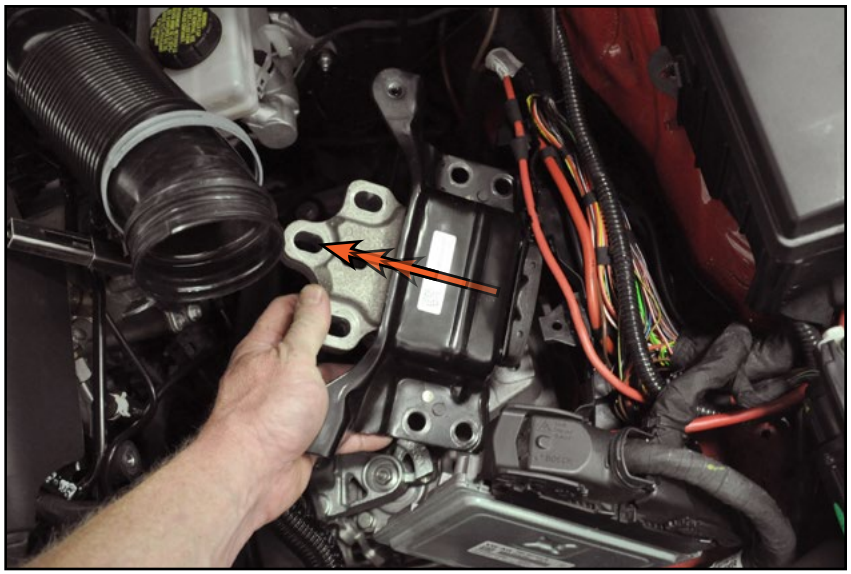
If you have one installed, you may have to remove your skid plate or insulation panel to access the transmission.

INSTALLING THE TRANSMISSION MOUNT

Step 17: 16mm & 18mm Sockets, Ratchet

Remove the three trans mount to trans bracket bolts, then carefully move the wiring harness channel as required and remove the four trans mount to body bolts.

With all bolts removed, lift the original trans mount out of the car.

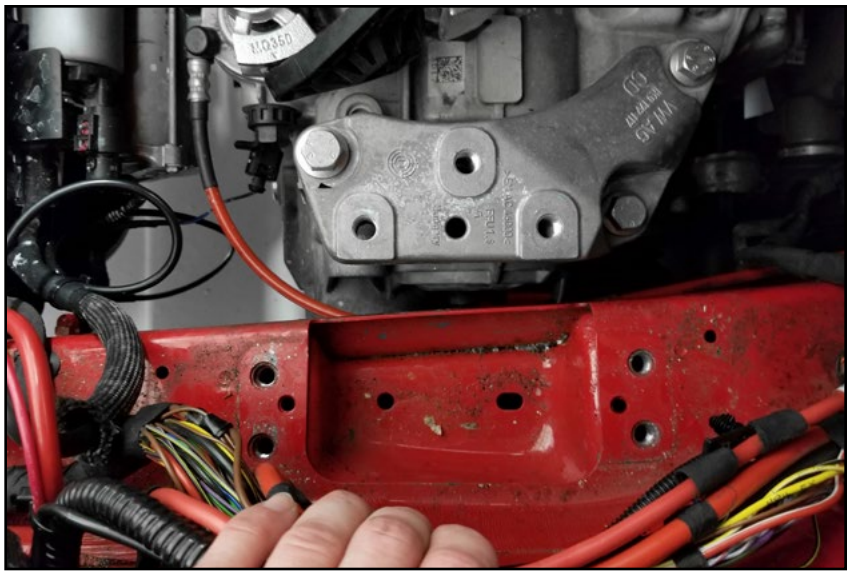


TECH TIP

If the bolts do not unthread easily, the mount is on a bind. Raise or lower the jack as needed so they thread out easily.

Step 18:

Now we're ready to install the new ECS performance transmission mount, but first we must take some time to look at the adjustment procedure as specified by VW/Audi. Please reference the ***"Adjusting the New ECS Mounts"*** section which starts on Page 25 **BEFORE** installing your new transmission mount.



INSTALLING THE TRANSMISSION MOUNT

Step 19:

Align the battery tray support bracket onto the transmission mount. The holes in the bracket will line up with the holes in the mount.

Step 20: 16mm & 18mm Sockets, Torque Wrench

Install the new trans mount into place with the battery tray support bracket. Install the new bolts included with the kit and thread them in until they are fully seated and hand tight.

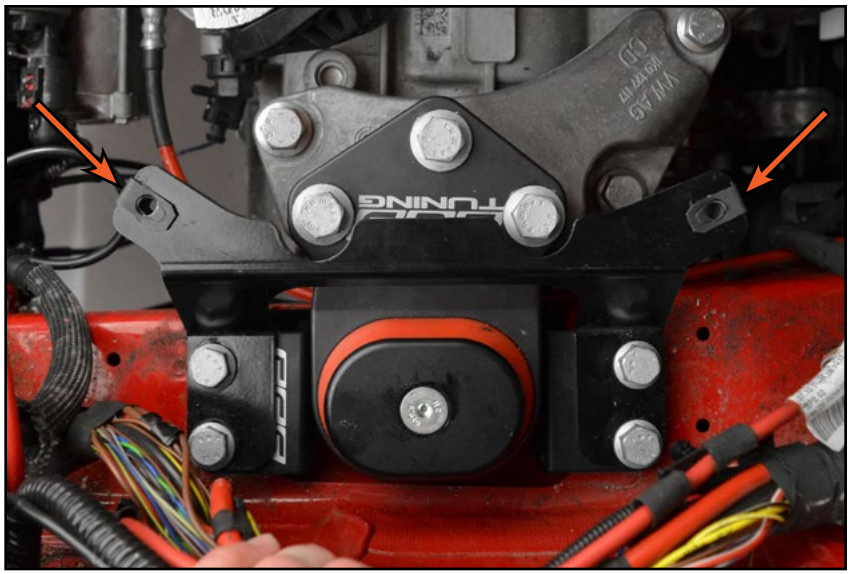
Torque the trans mount to body M10 bolts to 50 Nm (37 Ft-lbs) + 90°.

Torque the trans mount to trans bracket M12 bolts to 60 Nm (44 ft-lbs) + 90°.

Install the two clip nuts onto the battery tray support, making sure the threaded part of the clips are located on the bottom.

TECH TIP

Raise or lower the jack as required so the bolts thread in easily and do not bind the mount during installation.

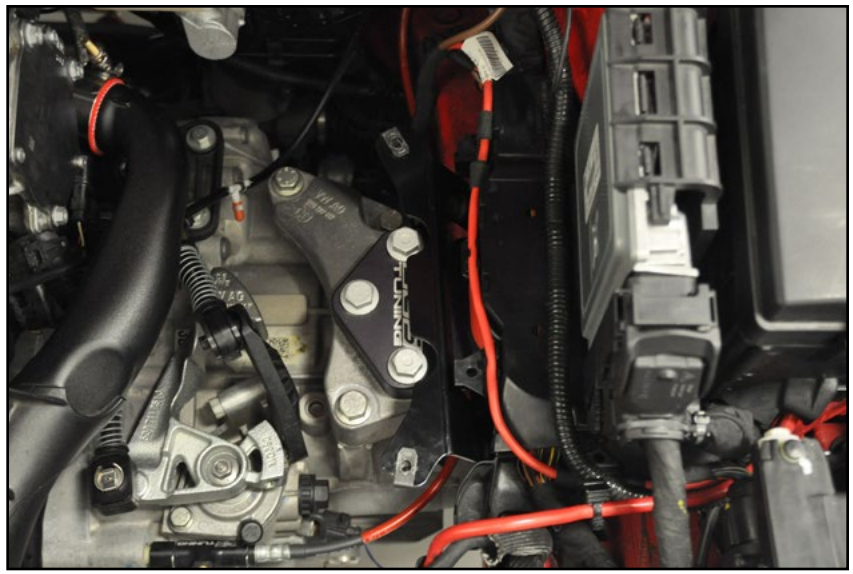


INSTALLING THE TRANSMISSION MOUNT

Step 21:

Reinstall the wiring harness channel so its retaining clips are properly seated, then reinstall the plastic cover.

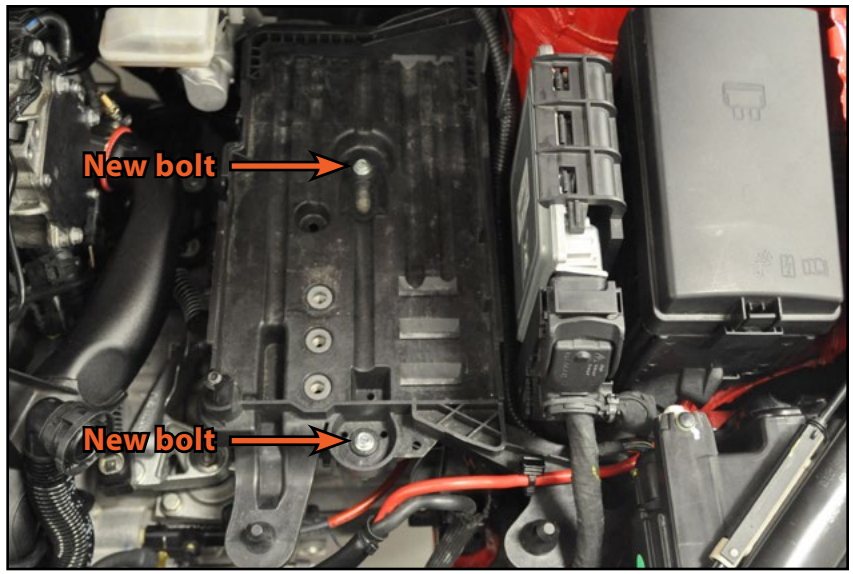
- Reinstall the PCM mounting bracket and mount the PCM in place.



Step 22:

Reinstall the battery tray, using the two M6x40mm bolts included with the kit in place of the original bolts in the locations shown.

- Reconnect the wiring harnesses and cables to the battery tray.
- Reinstall and connect the battery, positive first, negative last.
- Install the air box.



Your transmission mount installation is complete!

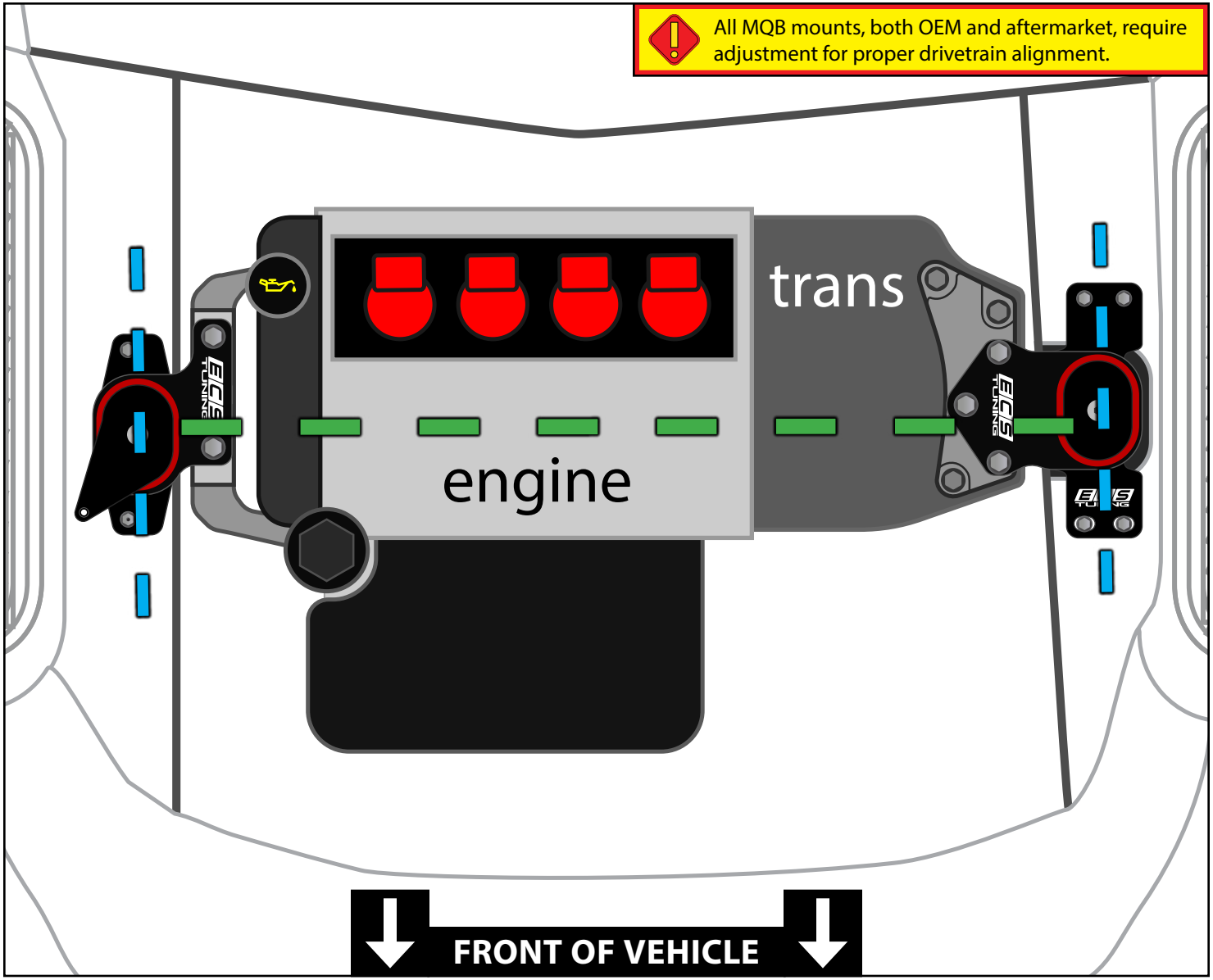
ADJUSTING THE NEW ECS MOUNTS

In this section we will begin by reviewing how adjusting the engine and transmission mounts will affect drivetrain alignment, then we will review the adjustment procedure for both mounts in detail.

Let's begin by taking a close look at the illustration on the right which represents a properly aligned drivetrain.

Notice how the engine and transmission mounts are completely perpendicular to the front of the vehicle (represented with **BLUE** dashed lines), also notice that the engine and transmission are parallel to the front of the vehicle as well (represented with a **GREEN** dashed line). This is what we are looking to achieve when adjusting the mounts.

Continue to the next page to see what improper drivetrain alignment looks like.

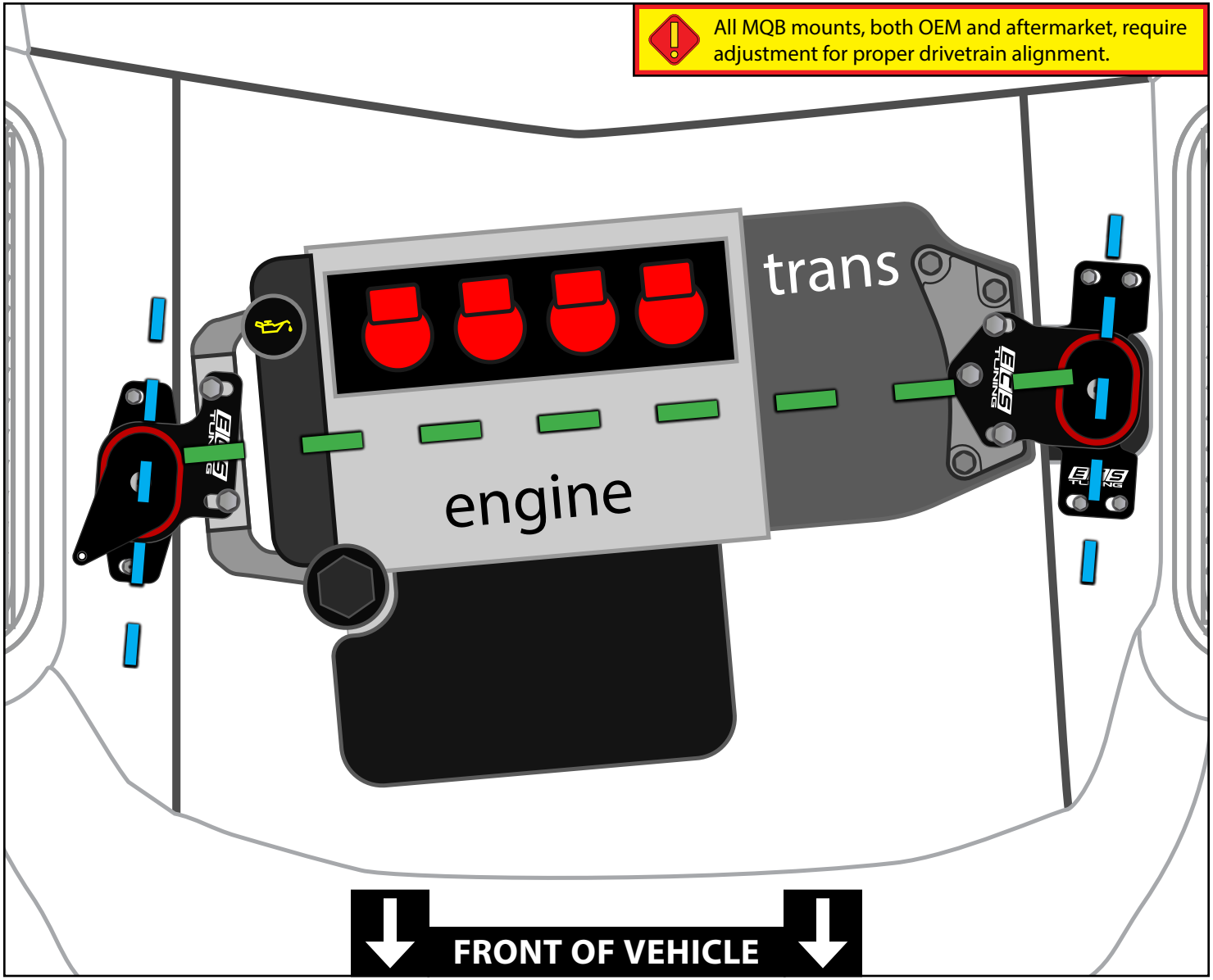


ADJUSTING THE NEW ECS MOUNTS

This illustration represents an improperly aligned drivetrain, exaggerated for descriptive purposes. It's easy to see the contrast from the illustration on the previous page.

Notice how the engine and transmission mounts are both rotated slightly clockwise, since they are no longer sitting perpendicular to the front of the vehicle (represented with **BLUE** dashed lines) the engine and transmission are no longer parallel to the front of the vehicle (represented with a **GREEN** dashed line). Improper adjustment like this can cause the entire drivetrain to bind up under load, driveline shuddering, or even premature mount wear.

Continue to the next page for detailed instruction on adjusting the new ECS mounts.



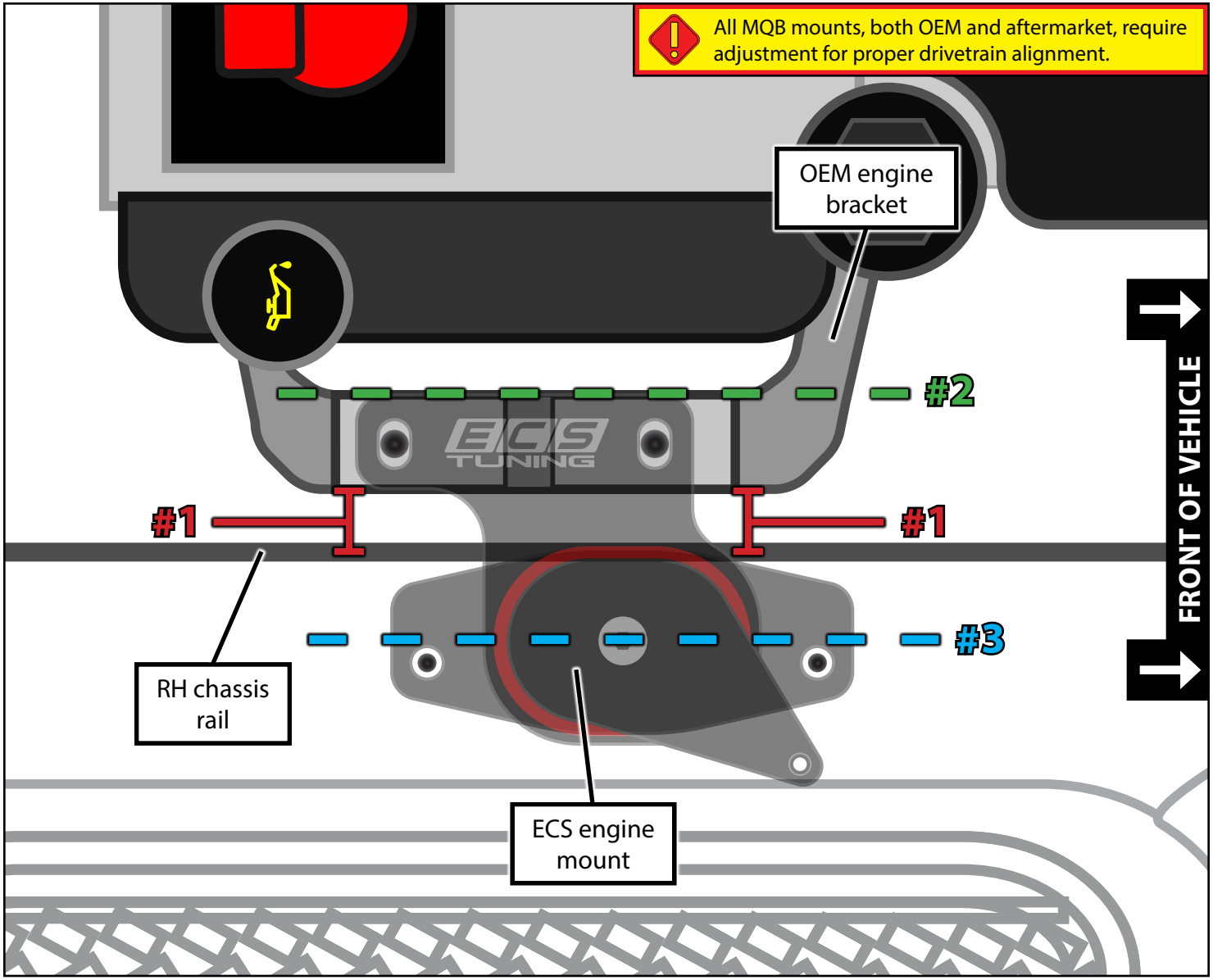
ADJUSTING THE NEW ECS MOUNTS

Before adjusting the engine mount, the engine needs to be supported at the proper installation height, and the bolts need to be threaded into the mount until they make contact, then backed off approximately ¼ turn. To adjust, rock the engine slightly or use a pry bar to against the engine bracket until:

#1: The distance between the OEM engine bracket and the RH chassis rail is equal front and rear (represented by **RED** brackets), this means the engine is parallel to the RH chassis rail.

#2: The inside edge of the engine mount is parallel with the engine mount bracket (represented by a **GREEN** dashed line).

#3: The engine mount body is parallel with the engine mount bracket (represented by a **BLUE** dashed line).

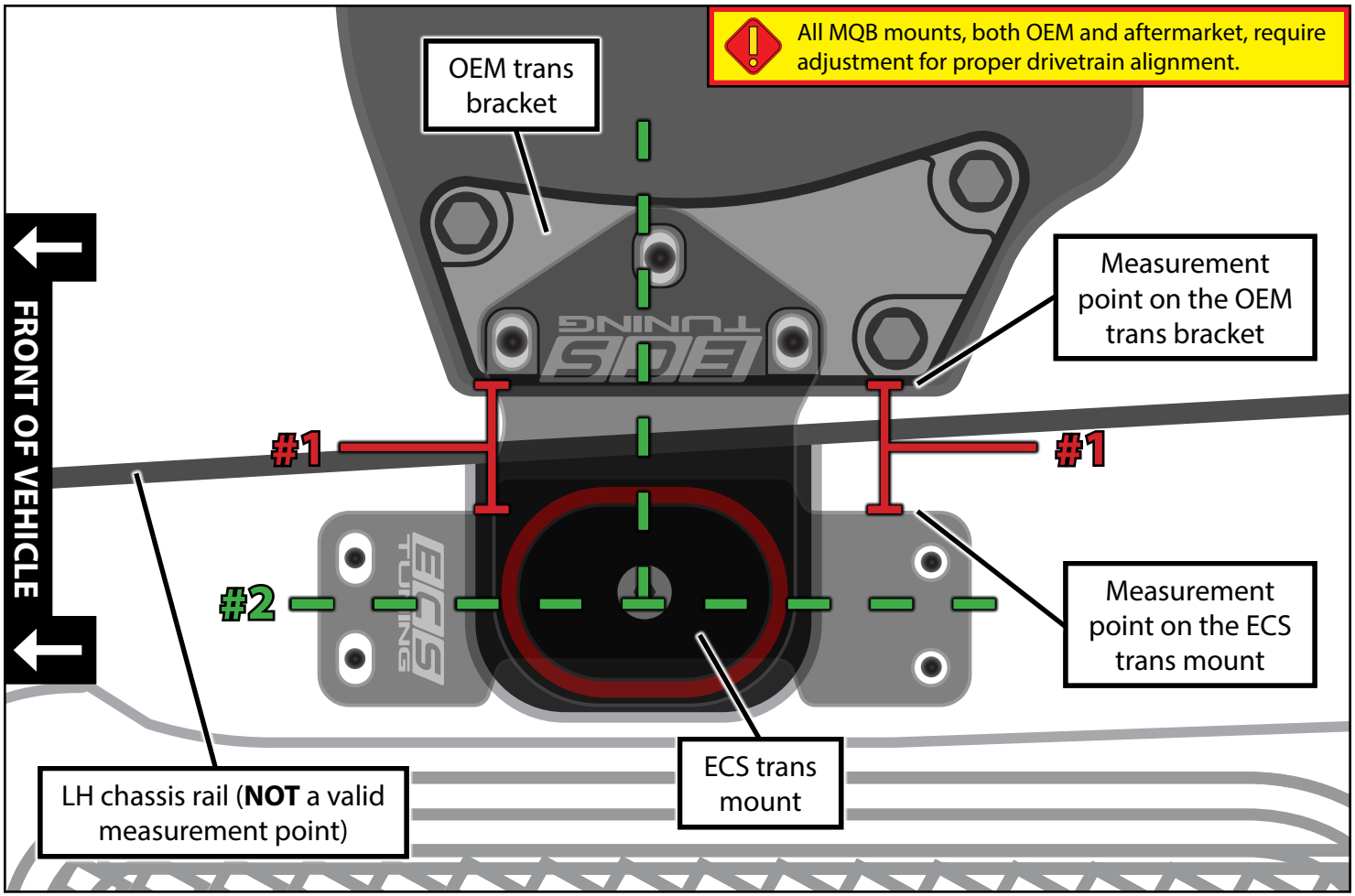


ADJUSTING THE NEW ECS MOUNTS

Before adjusting the trans mount, the trans needs to be supported at the proper installation height, and the bolts need to be threaded into the mount until they make contact, then backed off approximately ¼ turn. To adjust, rock the trans slightly or use a pry bar to against the OEM trans bracket until:

#1: The distance between the OEM trans bracket and the inside edge of the ECS trans mount is equal front and rear (represented by **RED** brackets).

#2: The ECS trans mount is perpendicular to the front of the vehicle, and parallel with the entire drivetrain (represented by **GREEN** dashed lines).



NOTE

The LH chassis rail is **NOT** a valid measurement point. This is because the LH chassis rail is not perpendicular to the front of the vehicle.

Click HERE to return to the Engine Mount Installation Instructions.

Click HERE to return to the Transmission Mount Installation Instructions.

TORQUING TIPS

Torque to Yield or "Stretch" Bolts

Many bolts will have a torque specification listed in the format - xx Nm (xx Ft-lbs) + xx degrees. These bolts are torque to yield bolts, commonly referred to as "stretch" bolts. The correct procedure for torquing these bolts is:

Stage One - Torque the bolt(s) to the initial Nm or Ft-lb specification. If there is more than one, be sure to torque them in the correct sequence.
Stage Two - Tighten or "stretch" the bolt(s) the additional specified number of degrees. If there is more than one, be sure to follow the correct sequence.

Note - Some bolts may have two or more stages of torquing before the final stage of "stretching" the bolts.

When tightening more than one bolt in a specified sequence, be sure to mark each fastener with paint ***immediately*** after performing the final stage or "stretching" of the bolts. This will ensure that you keep track of which bolts have already been "stretched".

All Torque to Yield bolts should only be used once and should be replaced each time they are removed. If they are reused, they will not be able to achieve the proper clamping force with the specified torque.

Lubrication

Torque specifications are always listed for a dry fastener (***no*** lubrication) unless specified otherwise.

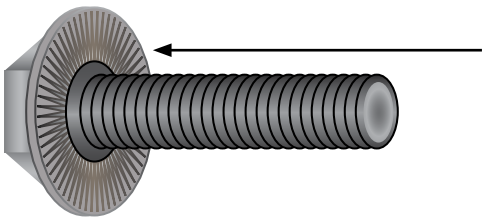
Some fasteners require lubrication on the threads -or- on the contact surface while torquing. These fasteners will be listed with the specific location and type of lubrication required. Always follow manufacturers recommendations exactly.

Lubricating a fastener that is intended to be installed dry and then torquing it to factory specifications will increase the clamping force and stress on the fastener and components, which can result in damage or failure.

Do not lubricate the threads of any fastener unless it is specifically recommended by the manufacturer.

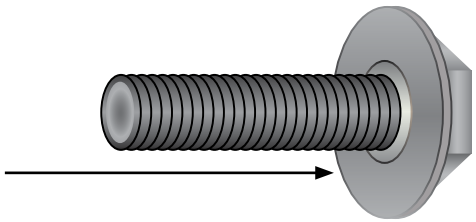
Ribbed vs. Non-Ribbed Bolts

Ribbed and Non-Ribbed bolts in the same location generally require a different torque specification.



A ribbed bolt is identified by the ribs on the contact surface

A non-ribbed bolt is identified by the smooth contact surface



TORQUE SPECIFICATIONS

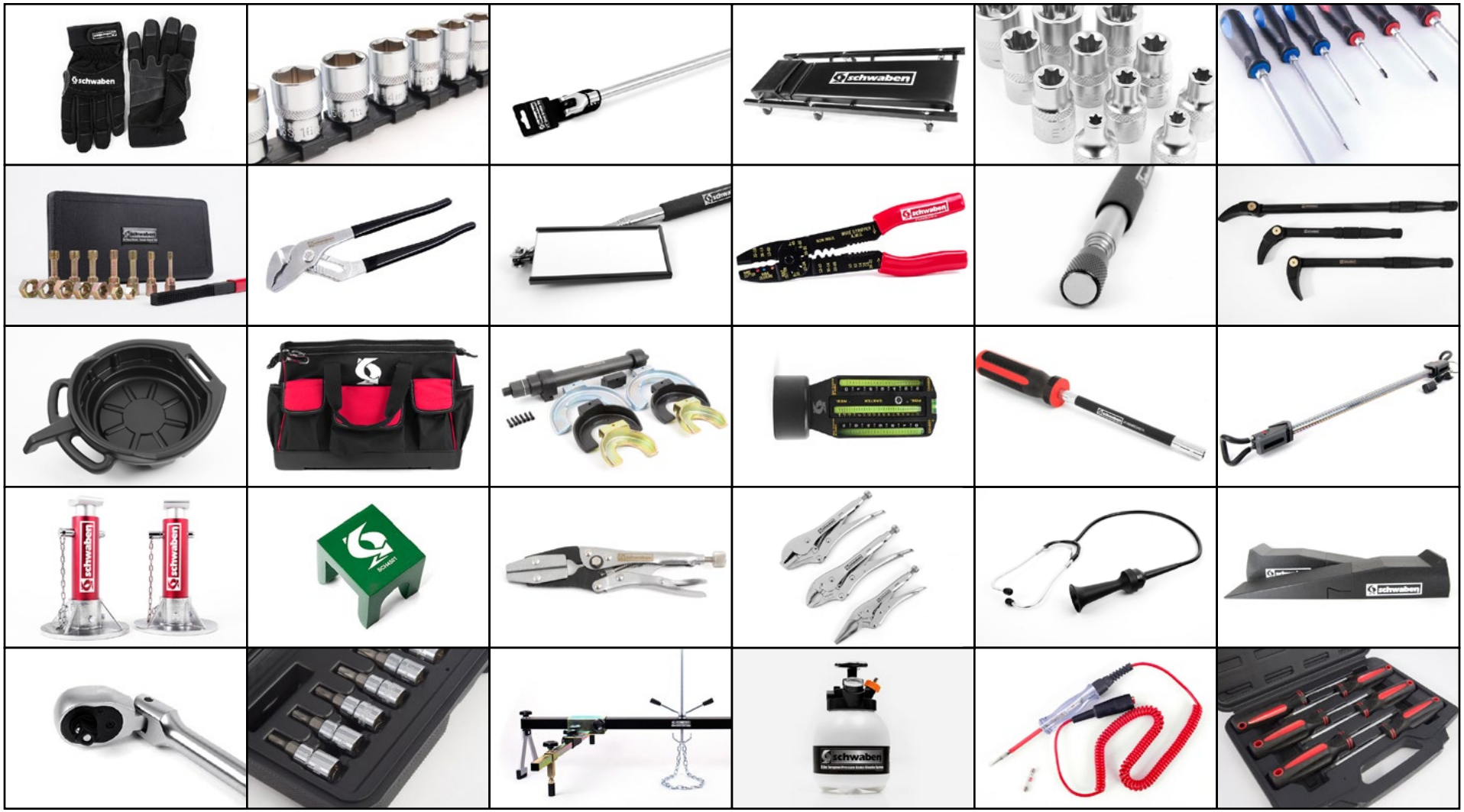
Engine Mount to Body M10 ..... 40 Nm (30 Ft-lbs) + 90°

Engine Mount to Engine Bracket M12 ..... 60 Nm (44 Ft-lbs) + 90°

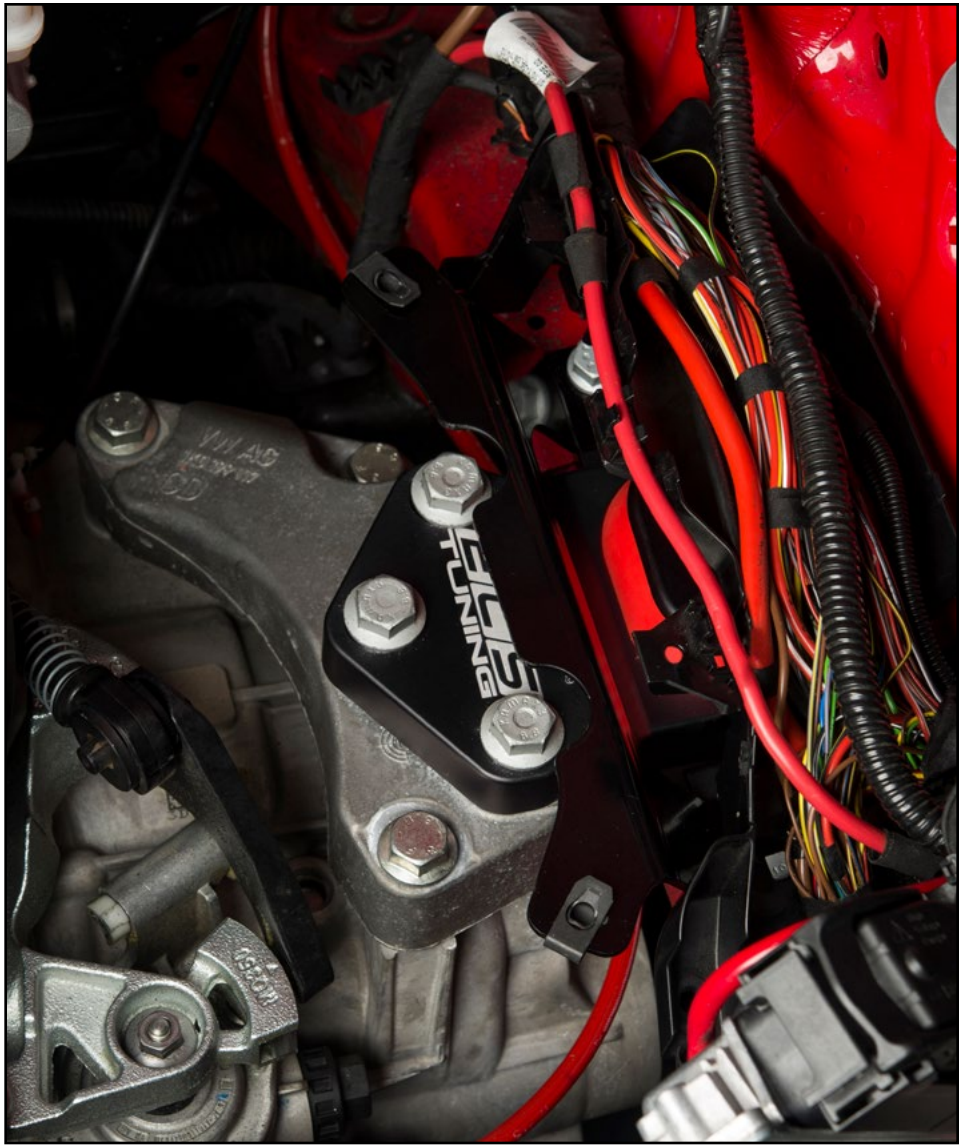
Transmission Mount to Body M10 ..... 50 Nm (37 Ft-lbs) + 90°

Transmission Mount to Transmission Bracket M12 ..... 60 Nm (44 Ft-lbs) + 90°

At ECS Tuning, we carry a line of high quality Schwaben Tools and Equipment to help you build your ultimate tool collection. Never before has affordability and quality been so closely related. Our entire Schwaben line is subjected to strict in house testing for strength and durability. See what we have to offer and equip your garage without breaking the bank.



Your Performance Engine and Transmission Mount 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.