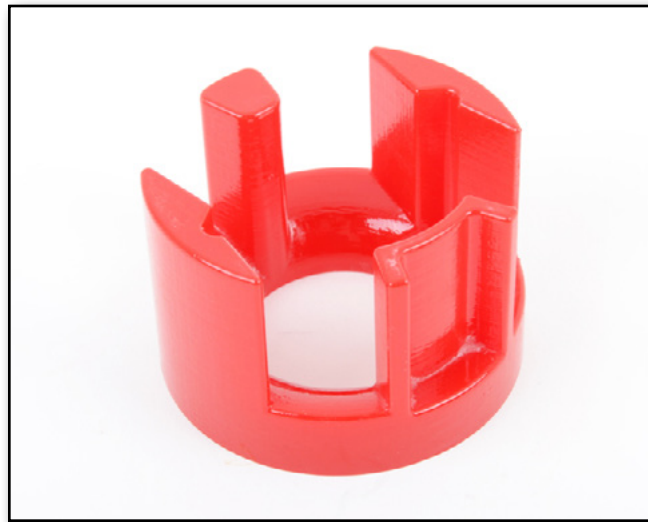
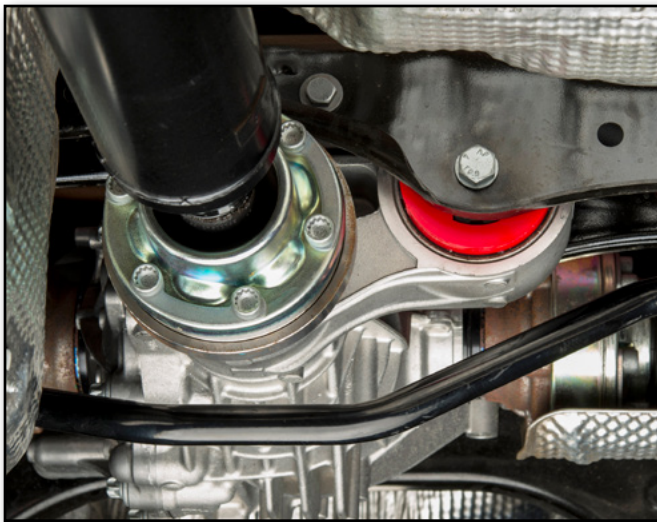




Audi B9 A4 Rear Diff Bushing Insert Kit Installation Instructions



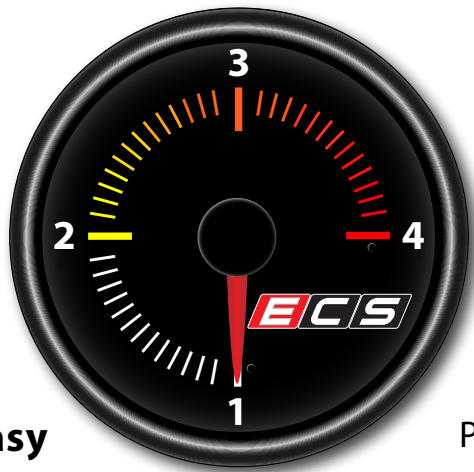
Proper service and repair procedures are vital to the safe, reliable operation of all motor vehicles as well as the personal safety of those performing the repairs. Standard safety procedures and precautions (including use of safety goggles and proper tools and equipment) should be followed at all times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

INTRODUCTION

Audi B9 Rear Diff Bushing Insert Kit

When you put the pedal to the metal, you want the vehicle to respond. We're not talking slow, mushy, eventually get there with RPM response, we're talking crisp, immediate, horsepower to the wheels, rubber on the ground, put you back in the seat, instant response, you know what we mean. What's one of the biggest things to steal this response time right out from underneath you? Your drivetrain mounts. The stock soft, cushy, original rubber mounts will absorb the power that you're putting out and keep it from where you want it - on the asphalt. At ECS Tuning, we've engineered the perfect solution with our rear diff bushing inserts for your Audi B9 A4.

ECS Difficulty Gauge



1 - Easy

2 - Moderate

Pro - 4

Advanced - 3

Take your time and enjoy the project, it'll only take you a couple of hours or less. Read these instructions completely first, and with the project overview under your belt, you'll breeze right through it. Just to make sure you have everything you need, reference the required tool list on [Page 5](#) before you begin. Thank you for looking to ECS Tuning for all your performance and repair needs, we appreciate your business!

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KIT CONTENTS

Poly Pinion Insert (1)



Pinion Insert Grease (1)

M10 x 120mm Bolt (1)
(Poly Pinion Insert)M10 Nut (1)
(Poly Pinion Insert)

Billet Diff Mount Inserts (2)

M12 x 110mm Bolts (2)
(Billet Diff Mount Inserts)M8 x 35mm Bolts (4)
(Sway Bar Brackets)M12 x 145mm Bolts (2)
(Rear-most Subframe Bushings)

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 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

- **Triple Square Socket Set** [ES#9011](#)

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.
- If using an automotive lift, be sure and utilize the factory specified lift points. Lifting a vehicle in an incorrect location can cause damage to the suspension/running gear.
- When lifting a vehicle using a jack, always 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.

PROJECT OVERVIEW

Let's take a moment and look at what we'll be doing in order to install the new rear diff bushing inserts:

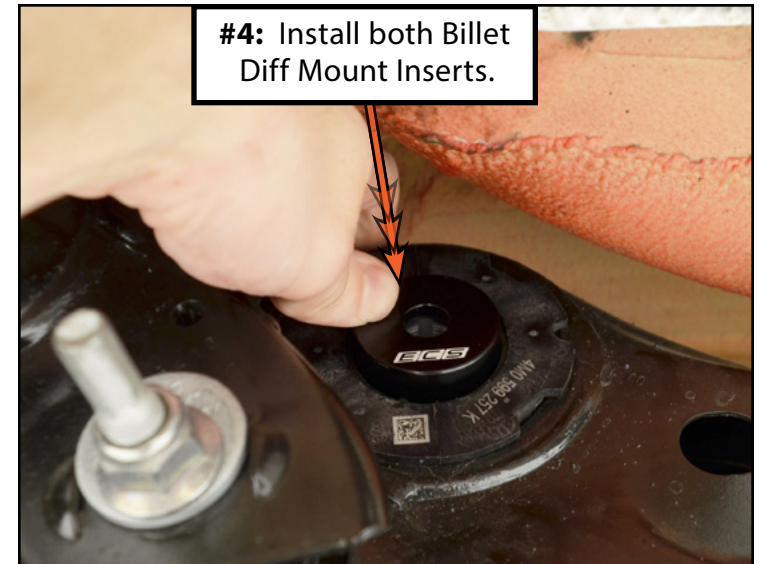
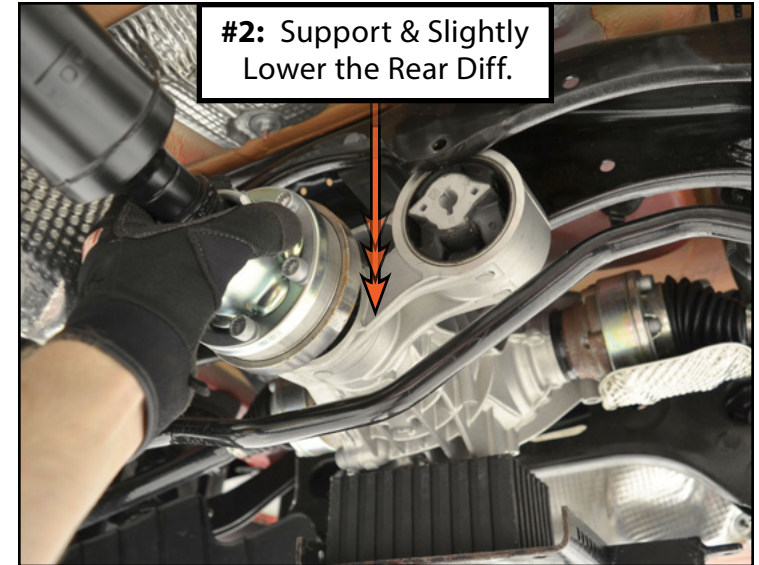
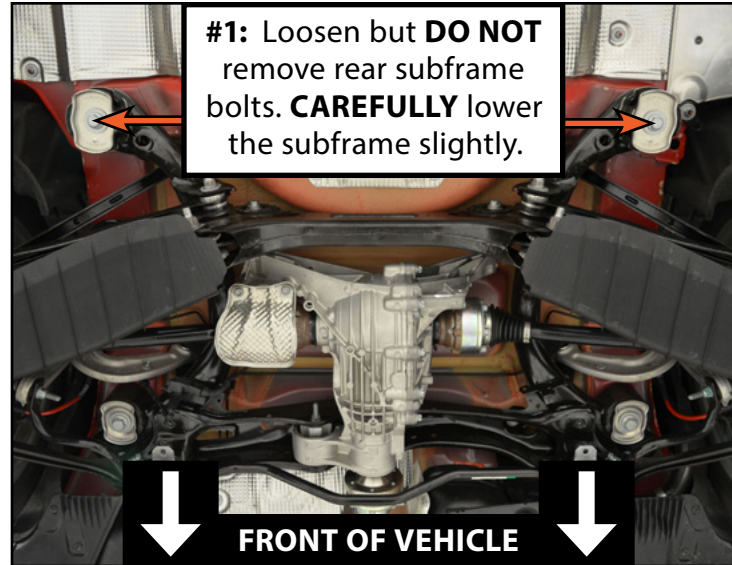
#1: With the vehicle safely supported in the air, loosen but **NOT REMOVE** the rearmost rear subframe bolts, then lower the rear of the subframe to access the diff bolts.

#2: Unbolt the rear diff, support it with a jack and slightly lower it enough to access the pinion mount.

#3: Lubricate and install the Poly Pinion Insert.

#4: Install both Billet Diff Mount Inserts. Reinstall in reverse order using the supplied hardware, and torque all of the fasteners to specification.

Now let's get to it!



INSTALLING THE DIFF BUSHING INSERTS

Step 1:

Safely lift and support the vehicle so you've got enough room to work, a lift works best for this.



Step 2: 13mm Socket & Ratchet

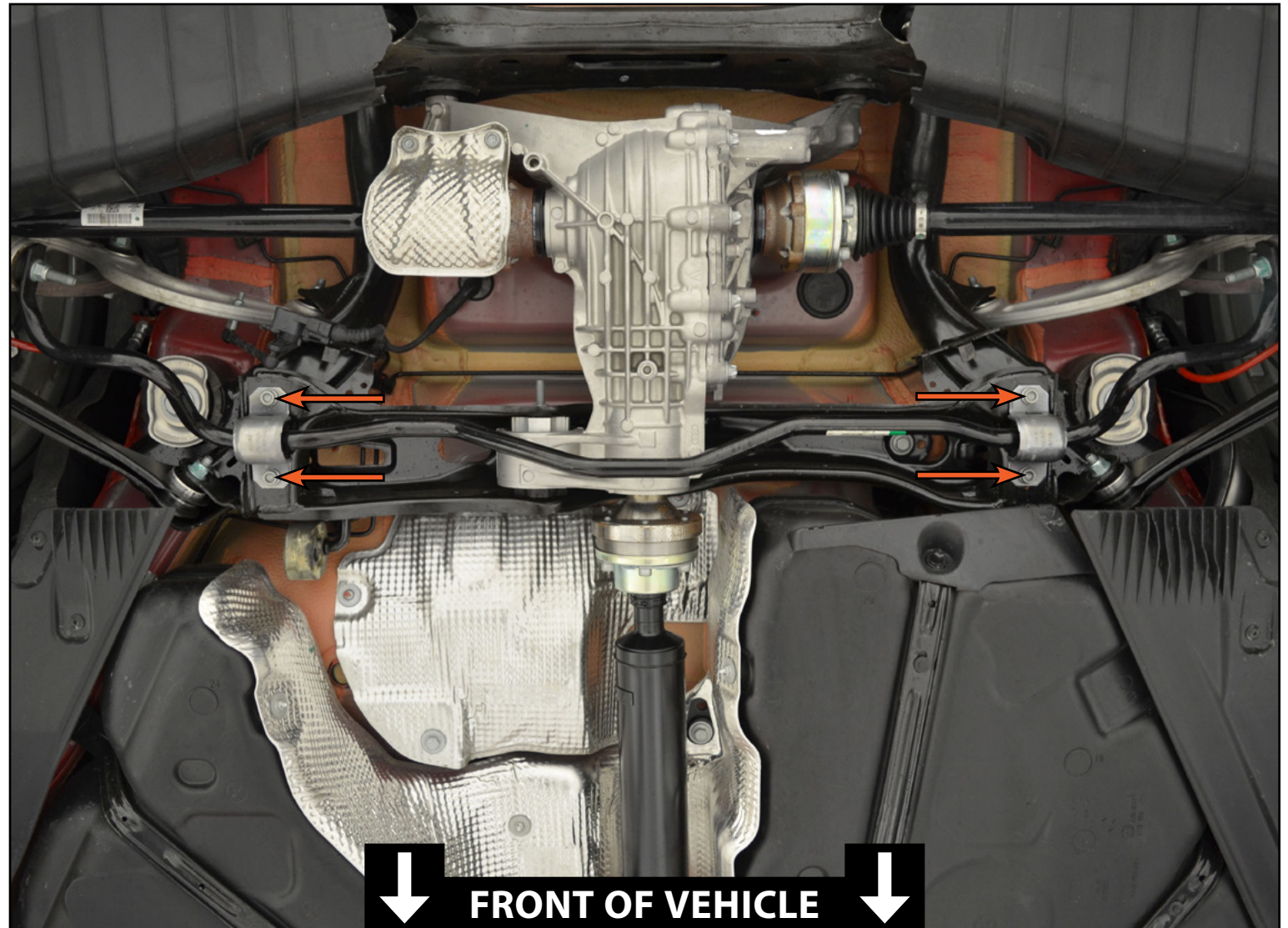
While it might be possible to perform this install with the exhaust system in place, it is best to remove it entirely for better access (which we've already done here). It's just a few bolts and hangers.



INSTALLING THE DIFF BUSHING INSERTS

Step 3: M10 Triple Square Socket, Breaker Bar

Loosen and remove the four bolts which secure the rear sway bar to the chassis, then allow it to hang down out of the way. Discard the original bolts, they are "Torque To Yield" fasteners which cannot be reused, so we have included all of the necessary replacement hardware in the kit.

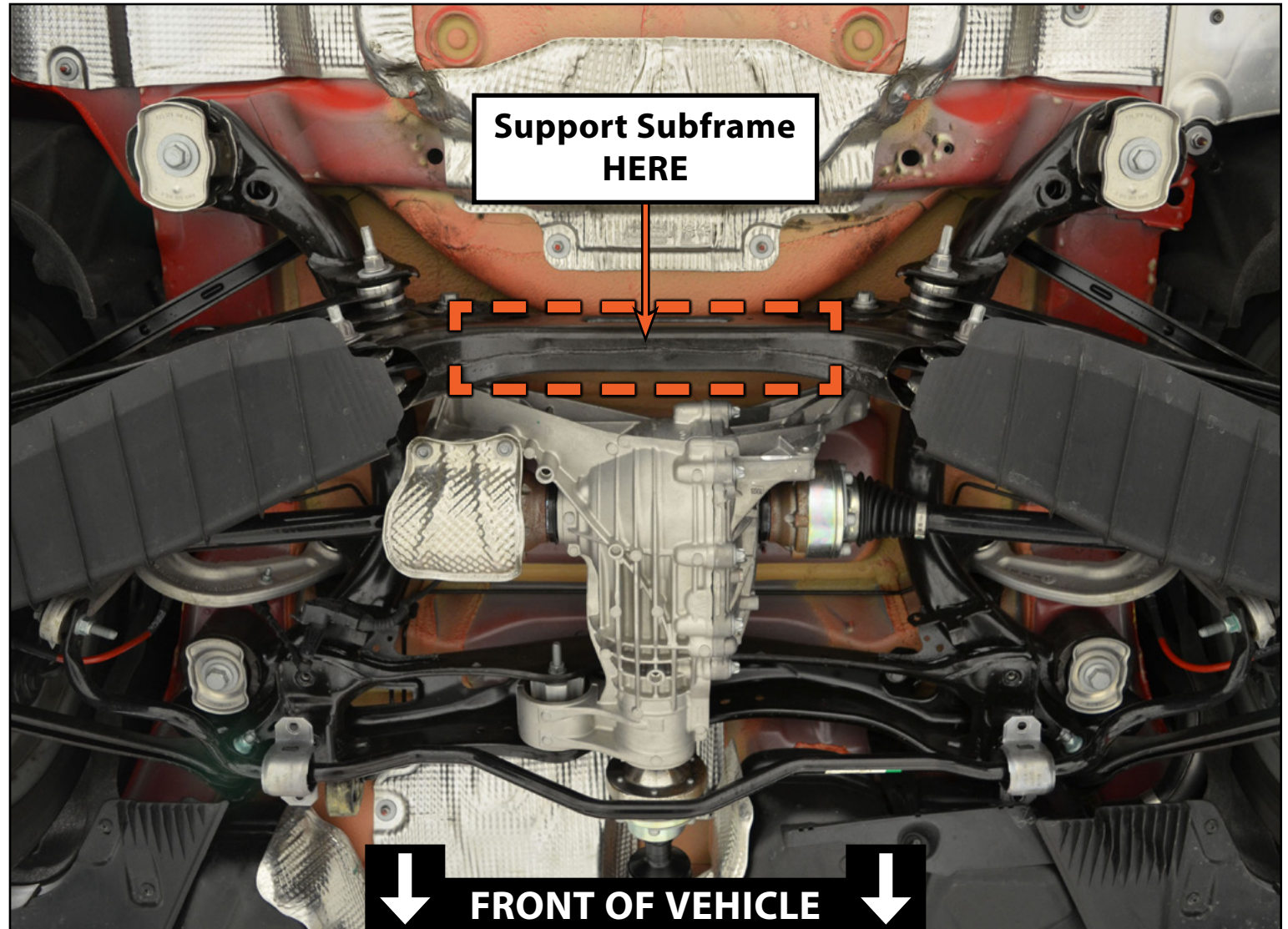


INSTALLING THE DIFF BUSHING INSERTS

Step 4:

Now we've arrived at a critical step, we need to lower the rear subframe in order to access some of the diff mount bolts. To do this we need to safely support the rear subframe during the next few steps. The best place to support the subframe from is highlighted in the photo on the right.

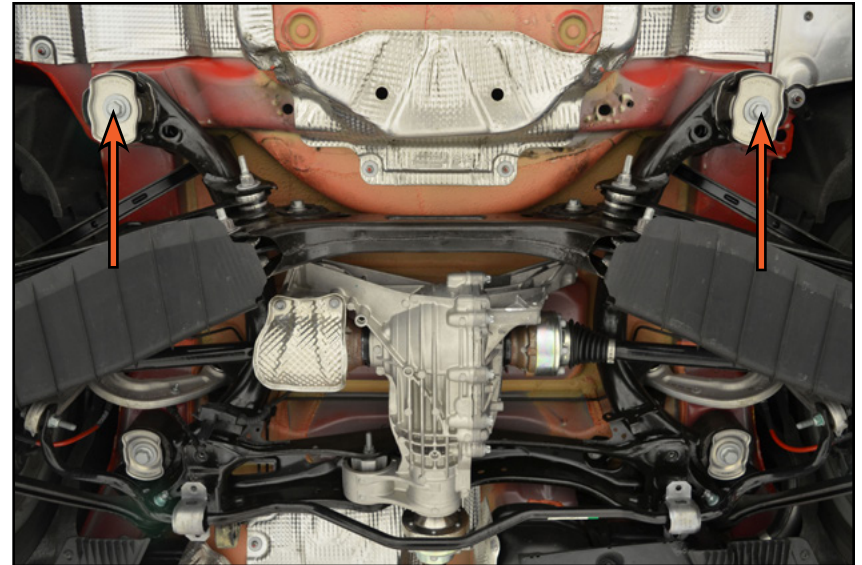
Use a jack to support the subframe with a block of wood to distribute the load, ensuring that your support jack is holding the subframe in a stable, safe manner.



INSTALLING THE DIFF BUSHING INSERTS

Step 5: 18mm Socket & Breaker Bar

With the subframe safely supported from beneath, locate the two rearmost subframe mount bolts. Loosen these bolts with a breaker bar but **DO NOT** completely remove them yet.



Step 6:

Remove **ONE** of the rear subframe mount bolts and discard it. This is a "Torque To Yield" fastener which cannot be reused, so we have included all of the necessary replacement hardware in the kit. Thread one of the new M12 x 145mm bolts through the mount and into the chassis a full **FOUR-TO-FIVE** turns (LH photo). Repeat this process with the other rear subframe mount bolt, then **CAREFULLY** lower the subframe until it is resting on both of the bolts (RH photo). Remove the support jack from under the subframe.



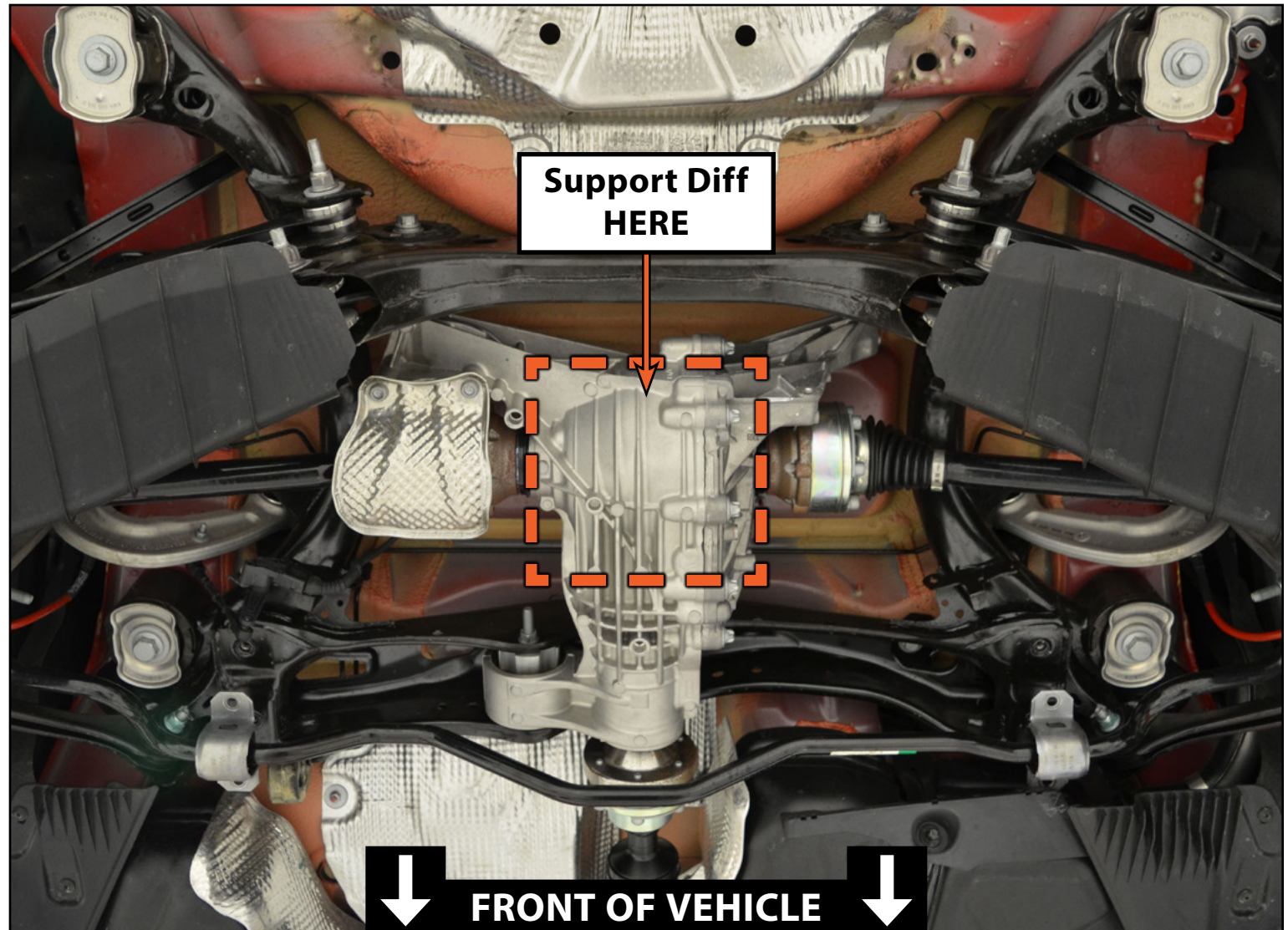
We are threading these bolts back into place to ensure that the subframe can be lowered enough to access the diff mount bolts, while still being secure enough to support the subframe once we remove the support jack.



INSTALLING THE DIFF BUSHING INSERTS

Step 7:

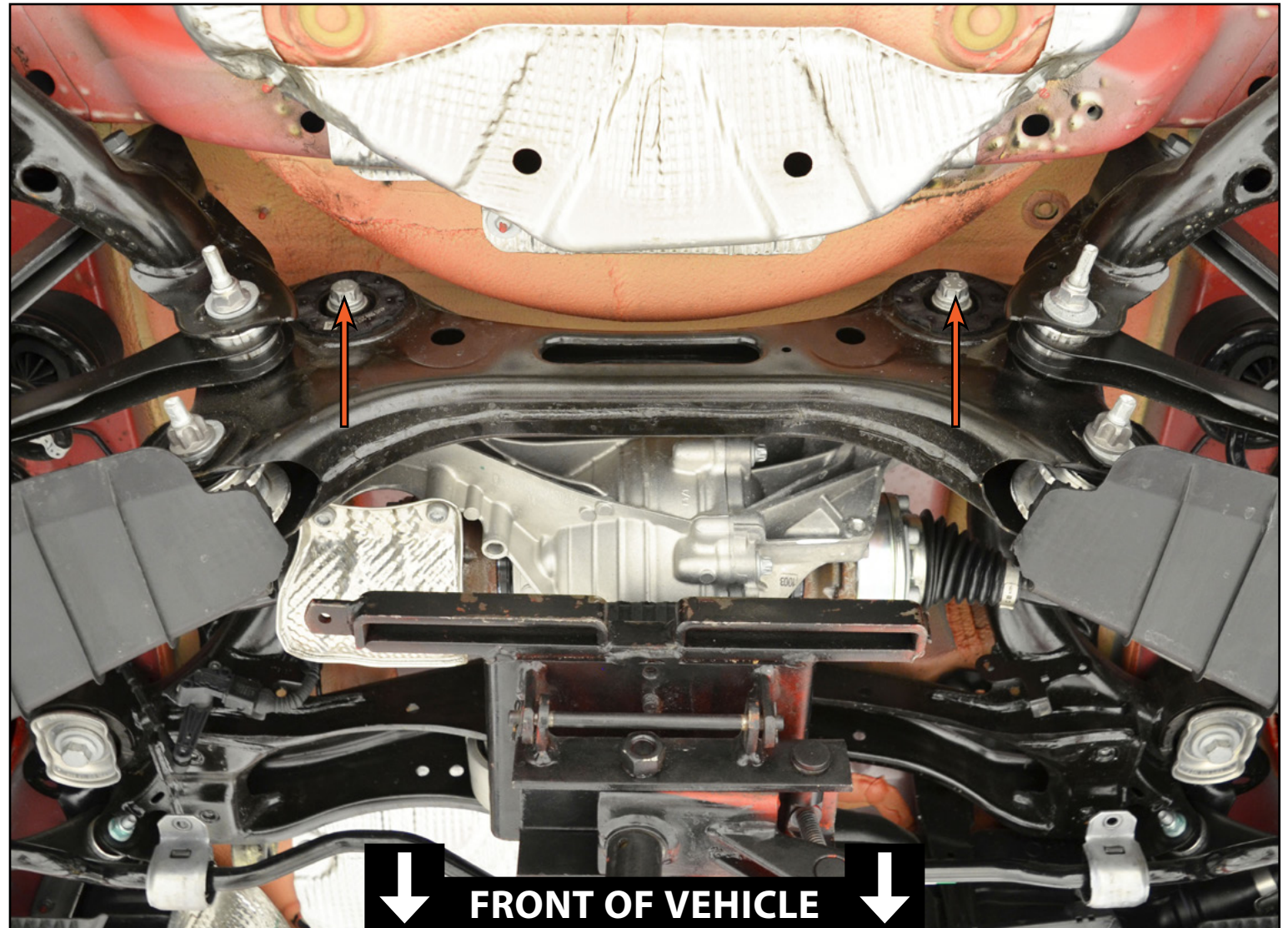
Now we need to safely support the rear diff from below while we remove the bolts which secure it to the rear subframe. Do this by placing the support jack directly under the diff case in the highlighted area shown in the photo on the right. Once again, be sure to use a block of wood between the support jack and the diff to distribute the load across the case. Ensure that your support jack is holding the diff in a stable, safe manner, it may be necessary to secure the diff to the jack using straps or chains.



INSTALLING THE DIFF BUSHING INSERTS

Step 8: 18mm Socket, Breaker Bar

With the diff safely supported from beneath, locate the two rear diff mount bushings in the subframe behind the rear diff. Loosen the bolt in the center of each mount bushing with a breaker bar, but **DO NOT** completely remove them yet.



INSTALLING THE DIFF BUSHING INSERTS

Step 9:

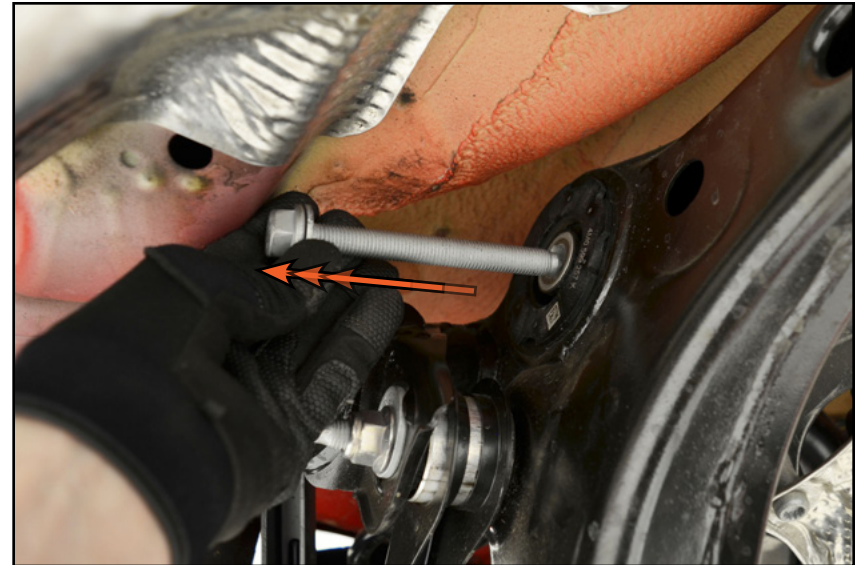
Remove and discard the bolt, it is a "Torque To Yield" fastener which cannot be reused, so we have included all of the necessary replacement hardware in the kit.



With the subframe lowered slightly there should be plenty of room to slide the bolt out between the subframe and the body.

Step 10: Air Nozzle

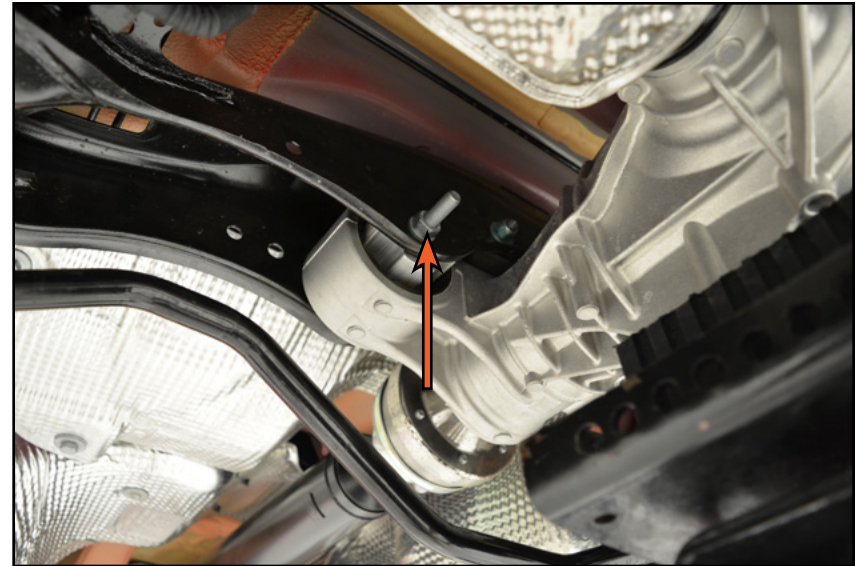
Carefully remove or blow out any dirt or debris from the inside of the bushing. Any dirt left in the bushing will make it difficult to install the new insert and will cause premature wear of the bushing. Repeat steps 9 & 10 on the other rear diff mount bolt.



INSTALLING THE DIFF BUSHING INSERTS

Step 11: 16mm Wrench, 16mm Socket & Breaker Bar

Leave the two rear diff mount bolts out for now and move on to the pinion mount which is located on the front side of the rear diff. Remove the nut which secures the mount to the subframe and discard it. This nut is a "Torque To Yield" fastener which cannot be reused, so we have included all of the necessary replacement hardware in the kit.



Step 12:

Remove and discard the bolt from the pinion mount, it is also a "Torque To Yield" fastener which cannot be reused, so we have included all of the necessary replacement hardware in the kit.



There should be plenty of room to slide the bolt out between the subframe and the body.

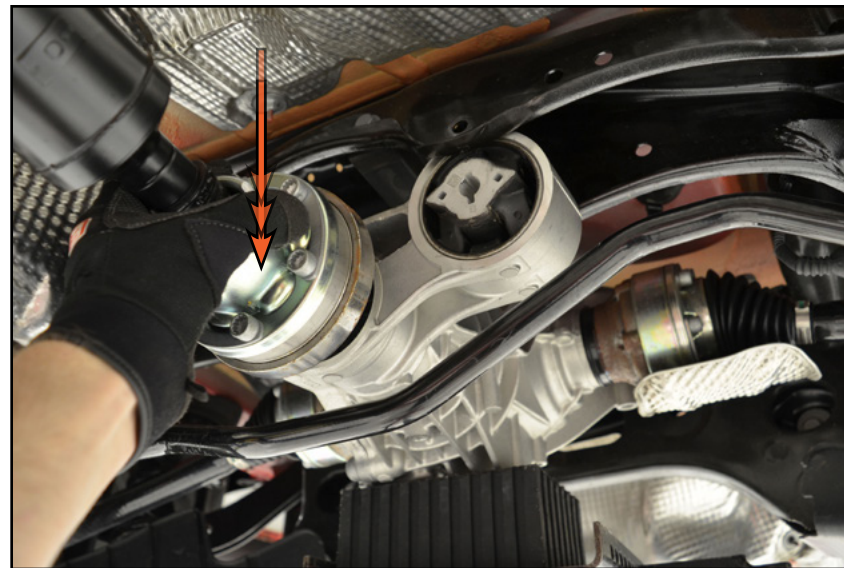
INSTALLING THE DIFF BUSHING INSERTS

Step 13:

CAREFULLY lower the diff until the pinion mount can be accessed as shown in the photo on the right. Ensure that the support jack is still holding the diff in a safe, stable manner, and leave it in place as you proceed to the next steps.



Carefully remove or blow out any dirt or debris from the inside of the bushing just as we did in step 10 on [Page 15](#). Any dirt left in the bushing will make it difficult to install the new insert and will cause premature wear of the bushing.

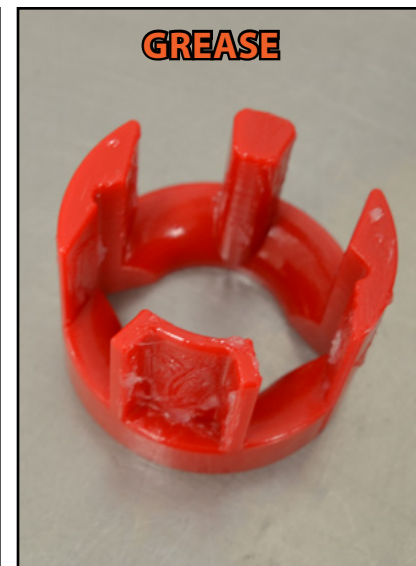
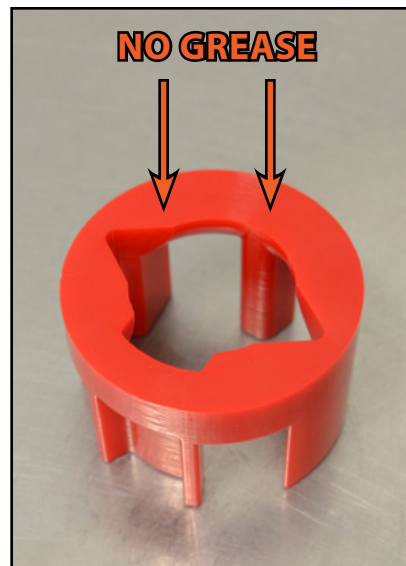


Step 14:

Apply a thin coat of the pinion insert grease which is included with the kit to the inside surfaces and fingers of the poly pinion insert.



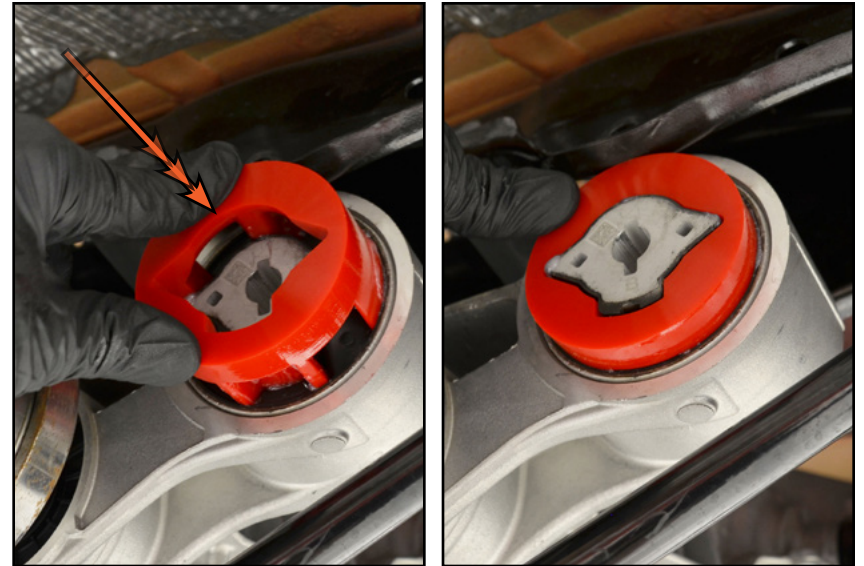
CAUTION: Do not apply grease to the outside (flat round part) of the bushing.



INSTALLING THE DIFF BUSHING INSERTS

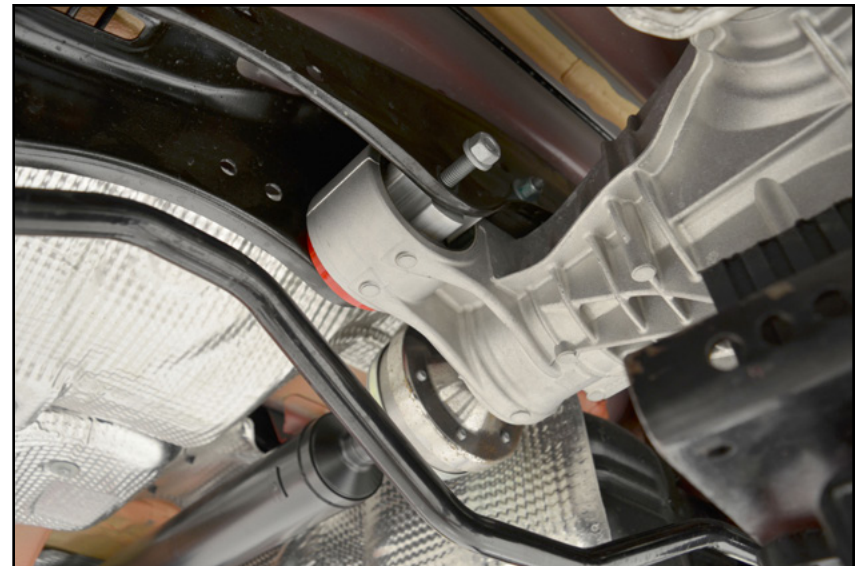
Step 15:

Align the fingers of the poly pinion insert with the grooves in the original bushing and slide the insert in by hand until it bottoms out.



Step 16:

Lift the front of the diff back into position inside the subframe, then install the new M10 x 120mm bolt through the pinion mount and thread the new M10 nut onto the bolt a few turns. We will come back and tighten this nut at a later step.



INSTALLING THE DIFF BUSHING INSERTS

Step 17:

Now let's move back to the two rear diff mount bushings in the subframe. Align the fingers of the billet diff mount insert with the grooves in the original bushing and slide the insert in by hand until it bottoms out. When installed correctly the ECS Logo should be **FACE UP** as shown on the right. Repeat this process for the other billet diff mount insert.



Step 18:

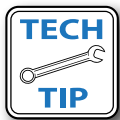
Lift or lower the rear diff as required in order to line up and thread the new M12 x 110mm bolt in **BY HAND**. Repeat this process to install the other diff mount bolt. Once the bolts have been installed in the pinion mount and the rear diff mounts, tighten the bolts down until they are hand tight and move the support jack out from under the diff.



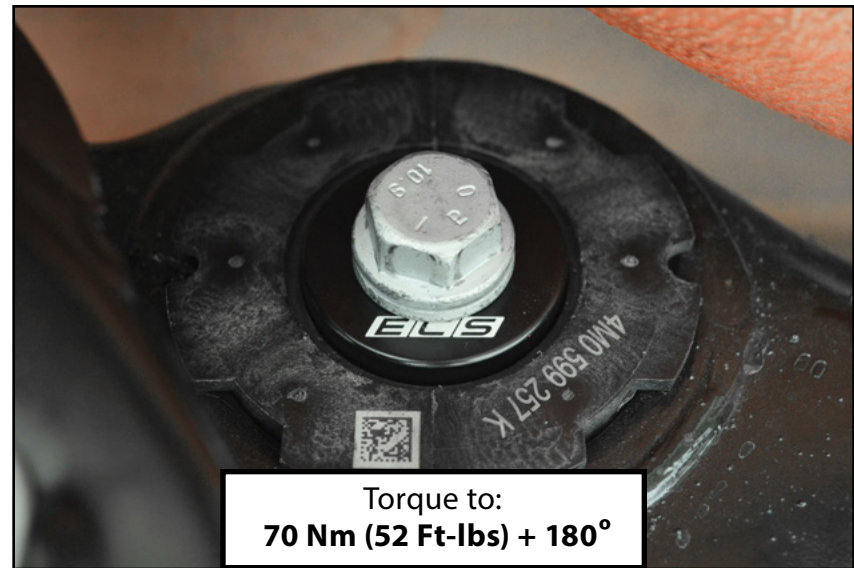
INSTALLING THE DIFF BUSHING INSERTS

Step 19: 18mm Socket & Torque Wrench, Breaker Bar

Torque the two rear diff mount bolts to 70 Nm (52 Ft-lbs), then turn them an additional 180° with a breaker bar.



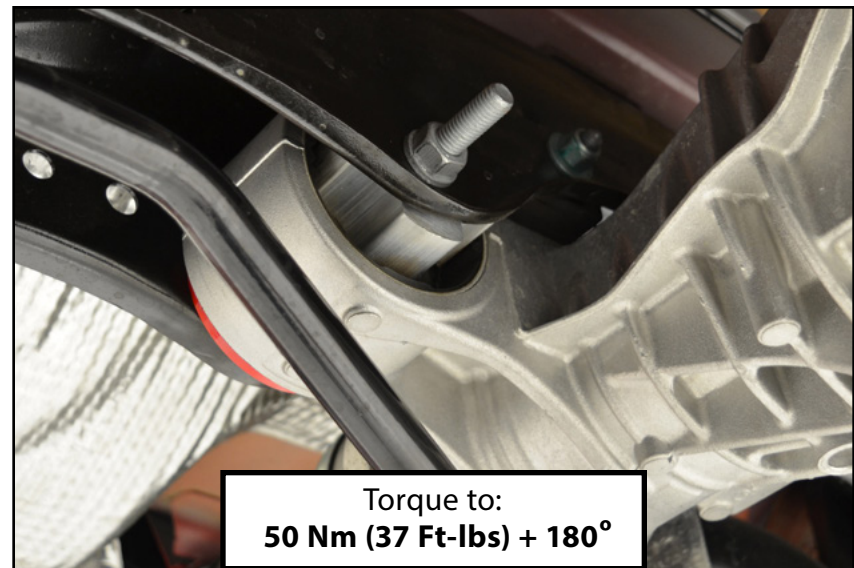
It may be necessary to lower the rear subframe even further in order to access these bolts with a torque wrench. If this is the case, place the support jack under the rear subframe exactly as we did on [Page 11](#), then carefully lower the subframe until you can reach the bolts.



Torque to:
70 Nm (52 Ft-lbs) + 180°

Step 20: 16mm Wrench, 16mm Socket & Torque Wrench, Breaker Bar

Hold the pinion mount bolt in place with a wrench while you torque the nut to 50 Nm (37 Ft-lbs), then turn it an additional 180° with a breaker bar.



Torque to:
50 Nm (37 Ft-lbs) + 180°

INSTALLING THE DIFF BUSHING INSERTS

Step 21:

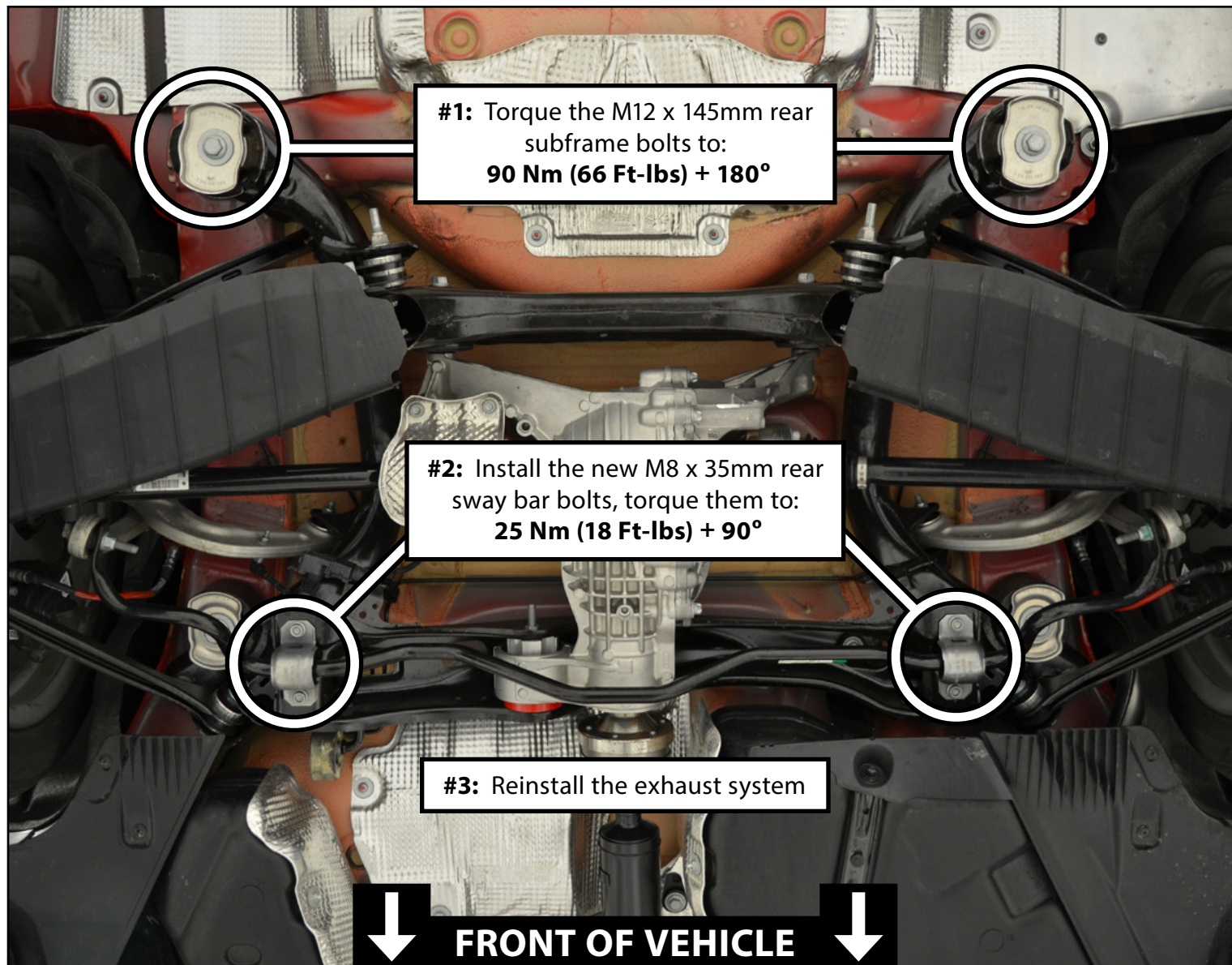
Now it's time to wrap things up.

#1. Lift the rear subframe back into position, torque the two bolts to 90 Nm (66 Ft-lbs), then turn them an additional 180° with a breaker bar.

#2. Push the rear sway bar back into position by hand while you thread in the new M8 x 35mm bolts **BY HAND**. Once all four bolts have been started, torque them to 25 Nm (18 Ft-lbs), then turn them an additional 90° with a breaker bar.

#3. Reinstall the exhaust system.

Your installation is now complete!



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.

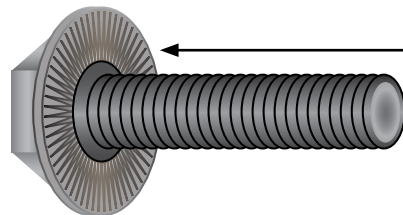
Some fasteners require lubrication on the threads -or- on the contact surface while torquing. These fasteners will be listed with the specific location and type of lubrication required. Always follow manufacturers recommendations exactly.

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.

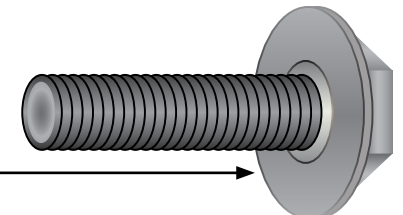
Ribbed vs. Non-Ribbed Bolts

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



Your Rear Diff Bushing Insert Kit 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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