



Audi B8

Performance Rear Differential Bushing 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

When you put the pedal to the metal, you're looking for one thing to happen: Response. We're not talking slow, mushy, eventually get there with RPM's 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. Soft, cushy, original 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 for your Audi B8.

ECS Difficulty Gauge



1 - Easy Pro - 4
2 - Moderate Advanced - 3

Drivetrain analysis pointed to the weak spot, the differential mounts, and our engineers took over from there. Billet 6061-T6 aluminum, black anodized bushing inserts were designed for leading spot, quickly turning the front mount into a sturdy, durable design that can handle all the punishment you put it through.

On to the rear mounts, we designed polyurethane bushing inserts for quick installation, then tuned them for a firm, immediate response, while retaining a comfortable ride.

Our engineers have given you the best of everything. Excellent performance, unmatched ride quality, and simple, easy installation. Even if you're a novice, this is nothing more than a short afternoon project, requiring only basic hand tools. If you've been around a wrench or two, you'll undoubtedly be done in 30-45 minutes. Thank you for looking to ECS Tuning for all your performance and repair needs. We appreciate your business!

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Symbols:

The following symbols may be used throughout these instructions indicating special attention:



FORK IN THE ROAD: When there are different options within any given kit, we will direct you to the proper page and step to continue.



YIELD: Pause for a moment to double check component installation before you continue. Ignoring this can cost you time later during the installation.



CAUTION: Pay close attention to these warnings and instructions. Difficult installation, personal injury or component damage may occur if ignored.

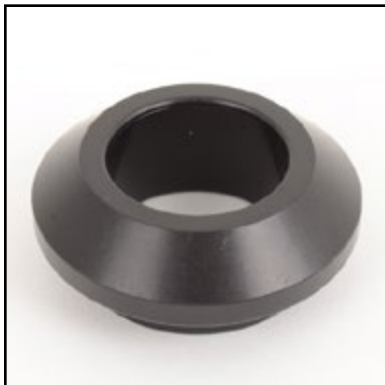


STOP: The upcoming steps require specific preparation and/or assistance in the interest of safety. Please read ahead in the instructions and prepare before continuing.

FRONT MOUNT



Front Mount Lower Bushing Insert



Front Mount Upper Bushing Insert

Our B8 Performance Rear Differential Bushing Inserts are available in three different kits:

Front Mount only:

ES2992519

Rear Mounts only:

ES2992520

Front and Rear Mounts:

ES2992521

REAR MOUNT KIT



Rear Mount Washer (2)



Rear Mount Assembly Grease



Rear Mount Bushing Insert (2)



Rear Mount Hex Bolt (2)

REQUIRED TOOLS

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

Standard Automotive Tools

Required For This Install

Available On Our Website

- 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#240941](#)
- 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](#)
- **Air Nozzle/Blow Gun**
- Bench Mounted Vise
- Crows Foot Wrenches
- Hook and Pick Tool Set..... [ES#2778980](#)

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

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. Always make sure that the vehicle is securely supported on jack stands.

PROJECT OVERVIEW

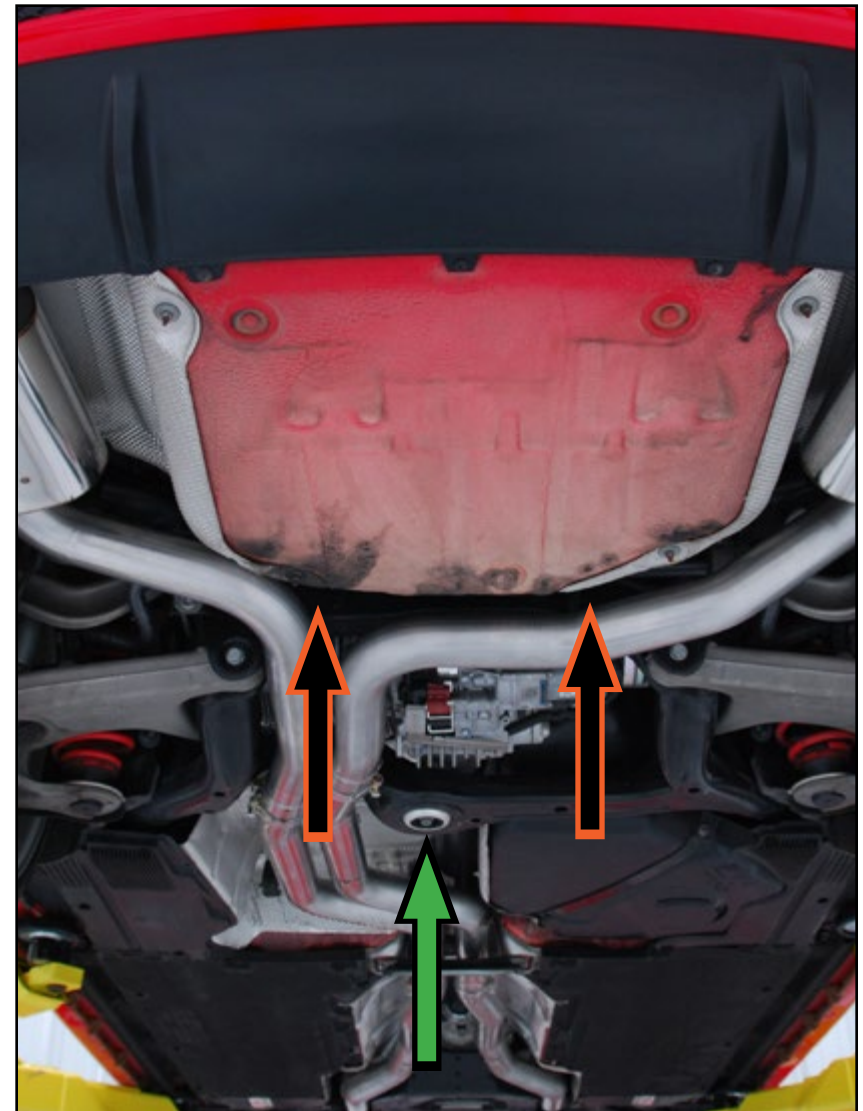
Here's a quick run-down on the main points of the job:

- 1.** You're going to need to lift the car to gain access to the rear differential. We're using an automotive lift here, but safely supporting it on jack stands will give you plenty of room.
- 2.** The front bushing (green arrow) is the easiest to get to and if you're doing all three, it will be replaced first.
- 3.** The rear bushings (orange arrows) are easier than they look. You can't see them here because of the exhaust, but when you look at your car, you'll see there is actually plenty of room to work. If you have a single exit exhaust, it's even easier!
- 4.** The front bushing requires a 16mm socket, the rear 18mm. A shallow socket and flex head ratchet is best for the rear, but a wrench works well too. Finally, an air nozzle works great for cleaning. That's it! Let's get started!



If you are installing the front bushing insert only or the complete kit, begin on [Page 9](#).

If you are installing the rear bushing inserts only, begin on [Page 13](#).



INSTALLING THE FRONT BUSHING INSERTS

Step 1:

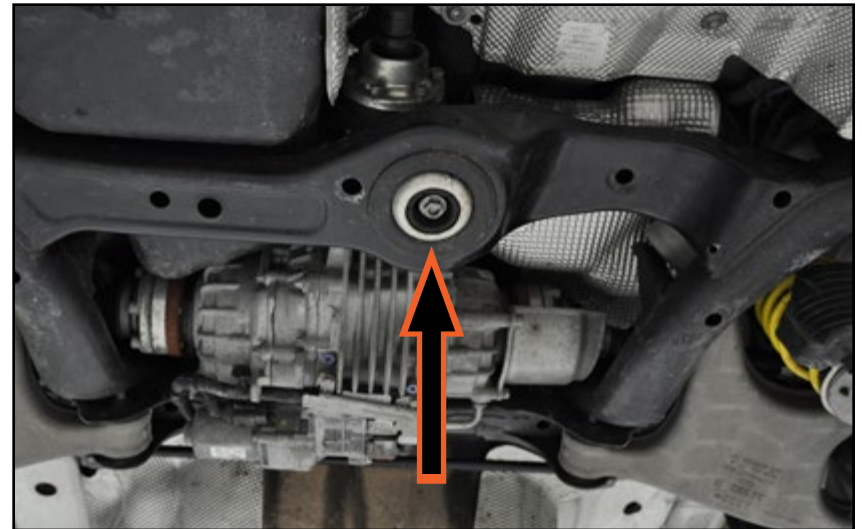
Safely raise and support the vehicle and locate the rear differential front mount bushing.

NOTE

For clarity of the photographs, we have removed the exhaust from this vehicle, however you will not need to remove it for this installation.

Step 2: 16mm Socket, Ratchet

Remove the center bolt from the front mount bushing.



INSTALLING THE FRONT BUSHING INSERTS

Step 3:

Push upward on the driveshaft and the front of the differential will lift off easily from the crossmember.

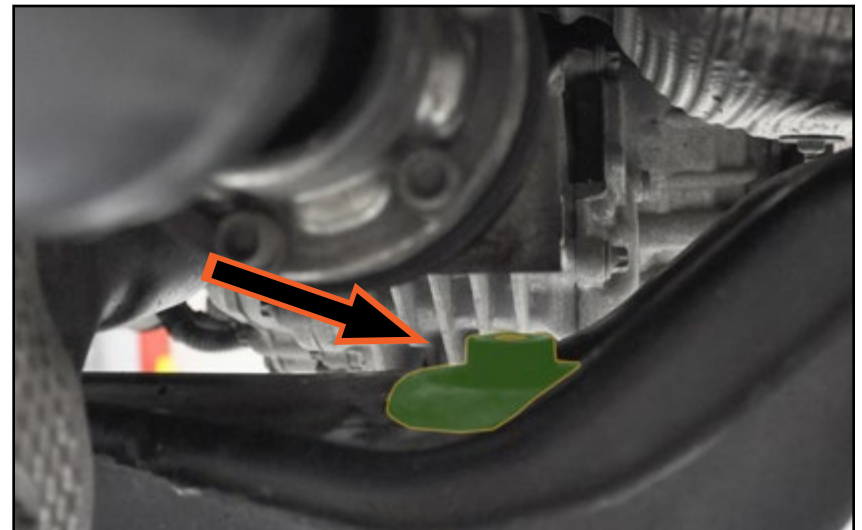
TECH TIP

Although the differential is easy to lift, if you prefer you may use a jack post or jack underneath to raise it up.



Step 4: Air Nozzle

Look closely between the differential and the crossmember. You will see the top of the front bushing, with the bushing sleeve protruding. Wipe or blow away any dirt or debris from the top of this bushing. The front mount Upper Bushing Insert will slip over this sleeve, and it must be clean for proper installation.



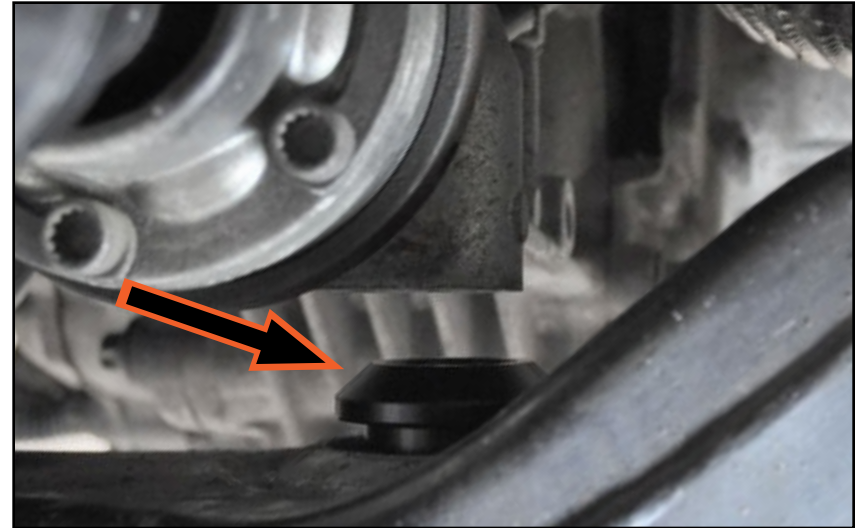
INSTALLING THE FRONT BUSHING INSERTS

Step 5:

With the tapered side of the Upper Bushing Insert facing **UP**, slip the bushing insert over the sleeve as shown in the picture.

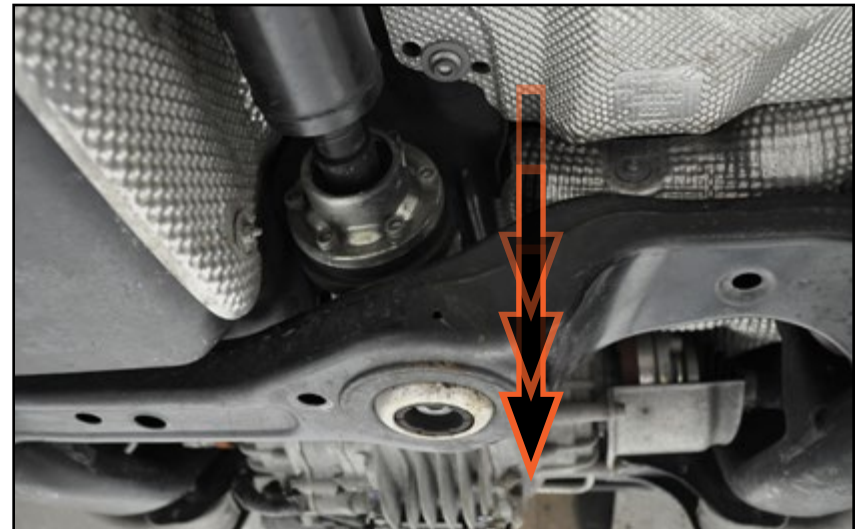


Make sure the tapered side is facing up.



Step 6:

Lower the differential back down so it rests on top of the new Upper Bushing Insert.



INSTALLING THE FRONT BUSHING INSERTS

Step 7:

Slide the front mount Lower Bushing Insert onto the original bolt so the head of the bolt is seated in the recess of the insert.



Step 8: 16mm Socket, Torque Wrench

Thread the bolt back into place and torque it to 55 Nm (40 Ft-lbs). Reference "Torquing Tips" on [Page 18](#) for additional information.



Be sure the bolt threads in easily. Move the differential slightly to either side until the bolt is lined up perfectly or you may cause damage to the threads in the differential housing.



INSTALLING THE REAR BUSHING INSERTS

Step 1:

Safely raise and support the vehicle and locate the two rear differential mount bushings, located in the crossmember behind the rear differential.



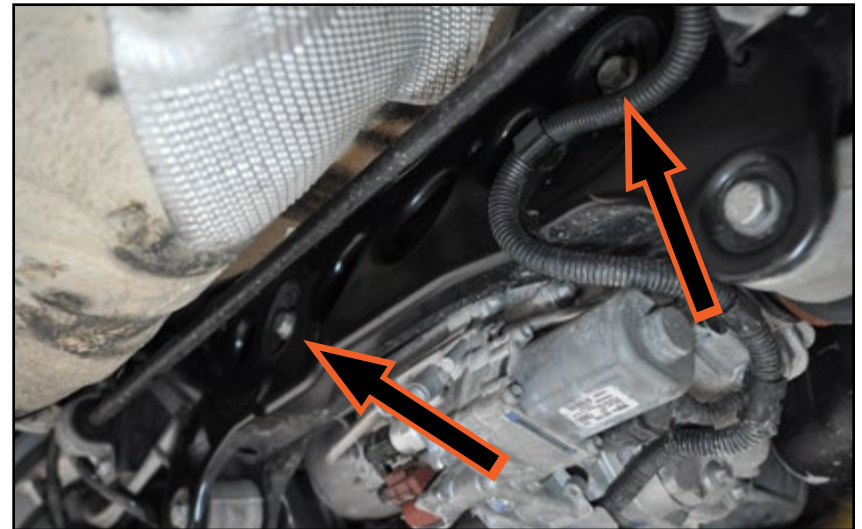
If you are installing the complete kit and you have not already installed the front inserts, please begin on [Page 9](#) and install the front inserts first.

NOTE

For clarity of the photographs, we have removed the exhaust from this vehicle, however you will not need to remove it for this installation.

Step 2:

The insert installation is the same on both sides, however on the RH side, there is a wiring harness that runs nearby. Although not entirely necessary, it is easier to release the retainer clip (arrow) and position the harness off to the side.



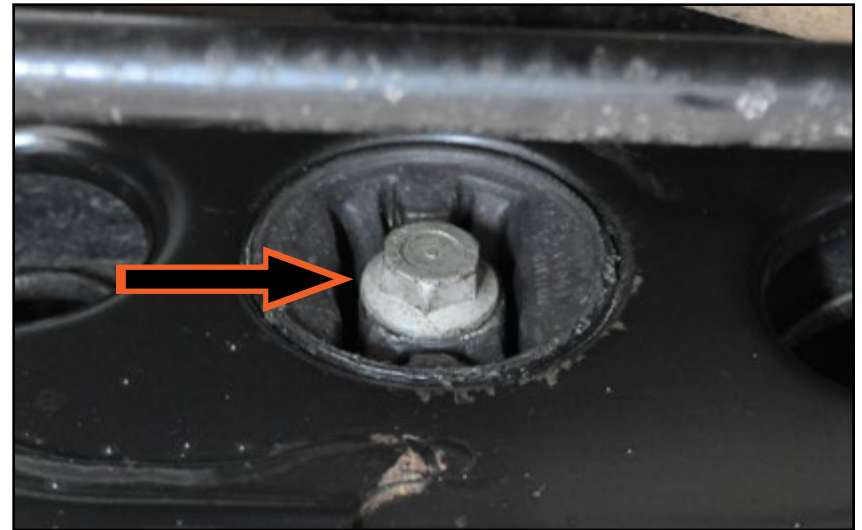
INSTALLING THE REAR BUSHING INSERTS

Step 3: 18mm Socket, Ratchet, 18mm Wrench

Install one side at a time so the differential remains in place. Decide which one you want to start with, and loosen the bolt in the center of the mount bushing.

Step 4:

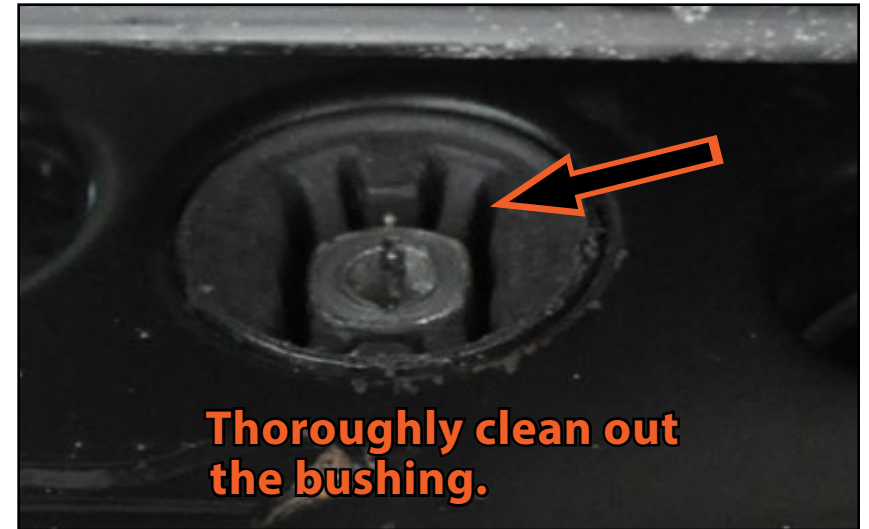
Remove the bolt. There is plenty of room to slide it out between the body and sway bar.



INSTALLING THE REAR BUSHING INSERTS

Step 5: 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.

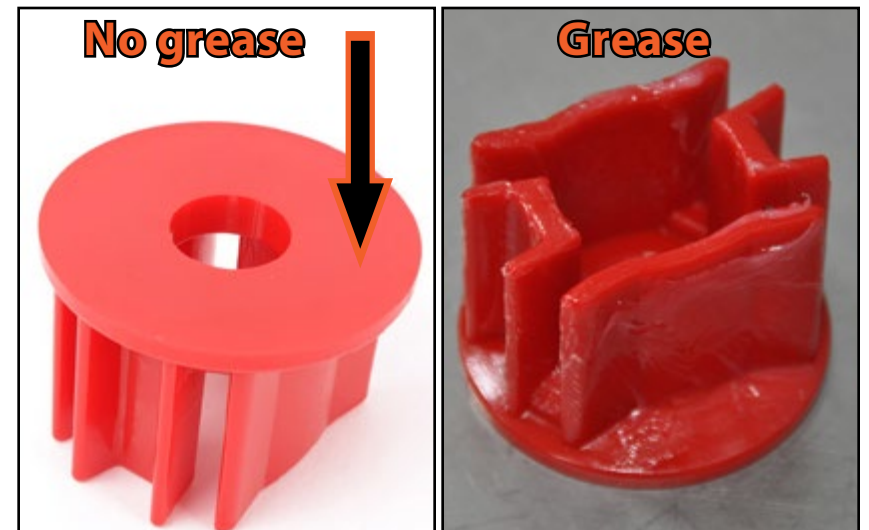


Step 6:

Apply a thin coat of the grease included with the kit to the inside surfaces and fingers of the new bushing insert.



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



INSTALLING THE REAR BUSHING INSERTS

Step 7:

Align the fingers of the bushing insert with the grooves in the original bushing and slide the insert in as far as possible by hand. It will slide in about half way.



Step 8:

Slide the Rear Mount Washer onto the new Rear Mount Hex Bolt so the flat side with the ECS Tuning logo is facing the head of the bolt.



Be sure to use the new bolts. They are longer than the original ones.



INSTALLING THE REAR BUSHING INSERTS

Step 9:

Install the new Hex Bolt and Rear Mount Washer into the bushing insert and thread the bolt into the rear differential housing. The housing usually remains in place, if the bolt does not start easily, slightly lift the housing until you are able to start the bolt.



Step 10: 18mm Socket, Ratchet, Torque Wrench

Thread the bolt in until it is fully seated, completely drawing the new bushing insert into place. Torque the bolt to 95 Nm (70 Ft-lbs). Reference "Torquing Tips" on [Page 18](#) for additional information.

Repeat the installation for the other side.

Be sure to reinstall the wiring harness on the RH side into its clip.

Enjoy the performance of your new rear differential bushing inserts!



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.

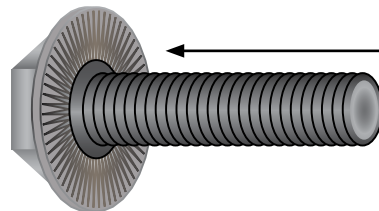
Some fasteners require lubrication on the threads -or- on the contact surface while torquing. These fasteners will be listed with the specific location and type of lubrication required. Always follow manufacturers recommendations exactly.

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.

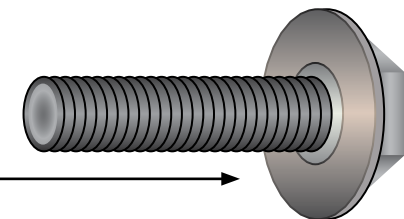
Ribbed vs. Non-Ribbed Bolts

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



SCHWABEN - BUILD THE ULTIMATE TOOL COLLECTION

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 B8 Rear Differential Mount Bushing Insert 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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