Audi B5 S4 Center Differential Delete Installation Instructions - Click HERE to Shop

Skill Level
2 - Moderate

Some Experience Recommended

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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#2834951
- **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

- **Transmission Fluid Fill Tool** ..... ES#2774836

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.

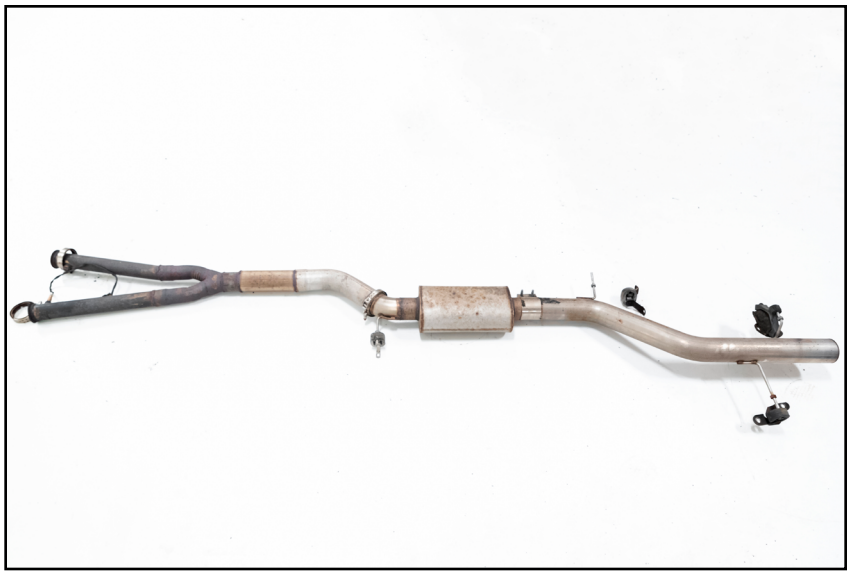
- Park your car in a safe, well lit, level area.
- Shut the engine off and remove the key from the ignition switch.
- Make sure any remote start devices are properly disabled.
- **ALWAYS** wear safety glasses.
- Make sure the parking brake is applied until the vehicle is safely lifted and supported.
- 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.

REMOVING THE STOCK DIFFERENTIAL

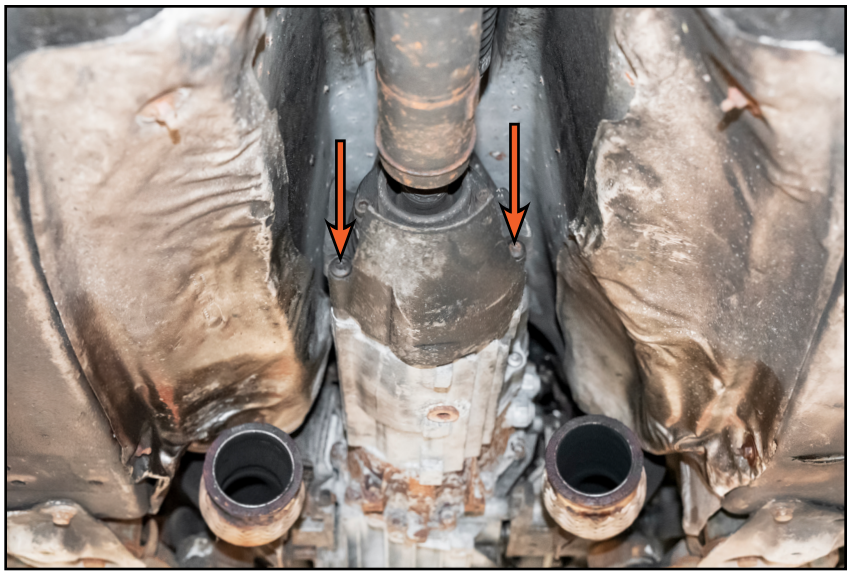
Step 1:

Safely lift and support the vehicle, and remove the exhaust system from the downpipes as shown.



Step 2: T45 Torx Socket & Ratchet

Remove the two bolts (arrows) which secure the driveshaft shield to the back of the tail housing.



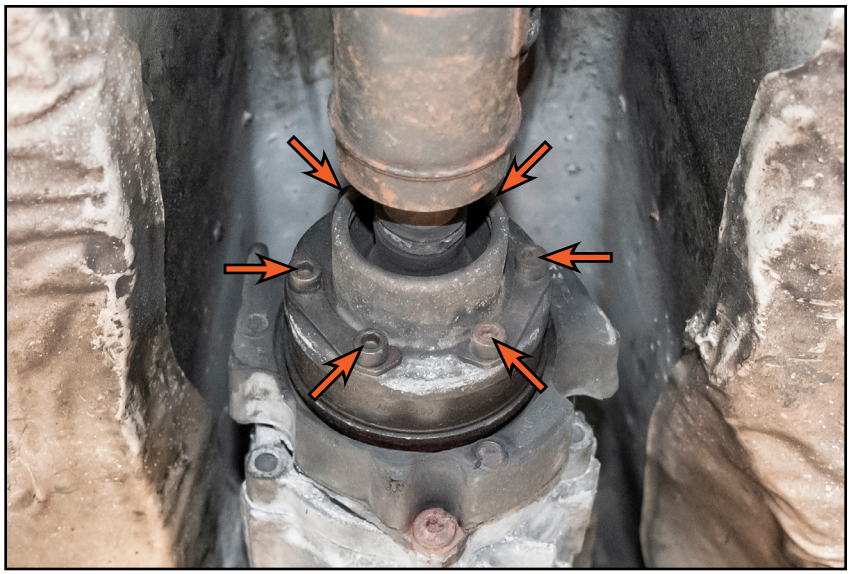
TECH TIP

Spray all the tail housing and driveshaft bolts with penetrating oil and allow the oil to soak in before attempting to remove them.

REMOVING THE STOCK DIFFERENTIAL

Step 3: 6mm Hex (Allen) Socket & Ratchet

Counterhold the driveshaft while you remove the six bolts (arrows) which secure the front driveshaft flange to the transmission.

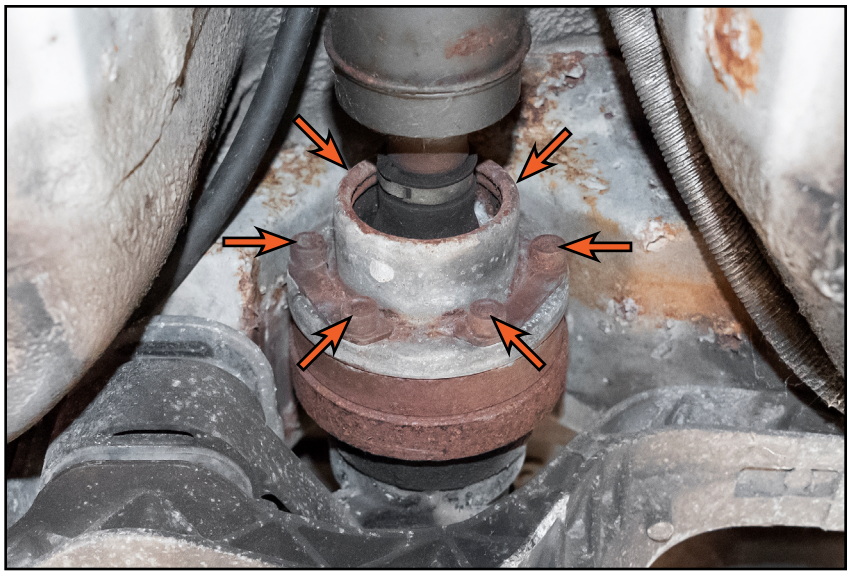


TECH TIP

Use a paint pen to mark the driveshaft and transmission/differential flanges on either end to ensure the driveshaft in reinstalled in the same orientation as before.

Step 4: 6mm Hex (Allen) Socket & Ratchet

Counterhold the driveshaft while you remove the six bolts (arrows) which secure the rear driveshaft flange to the rear differential.



REMOVING THE STOCK DIFFERENTIAL

Step 5:

Remove the two bolts (arrows) which secure the center support bearing carrier to the vehicle. Carefully remove the driveshaft and set it aside.

TECH TIP

Closely inspect the center support bearing for signs of damage or wear, now would the ideal time to replace it. During our install we opted to replace it with our ECS CSB brace (available HERE).

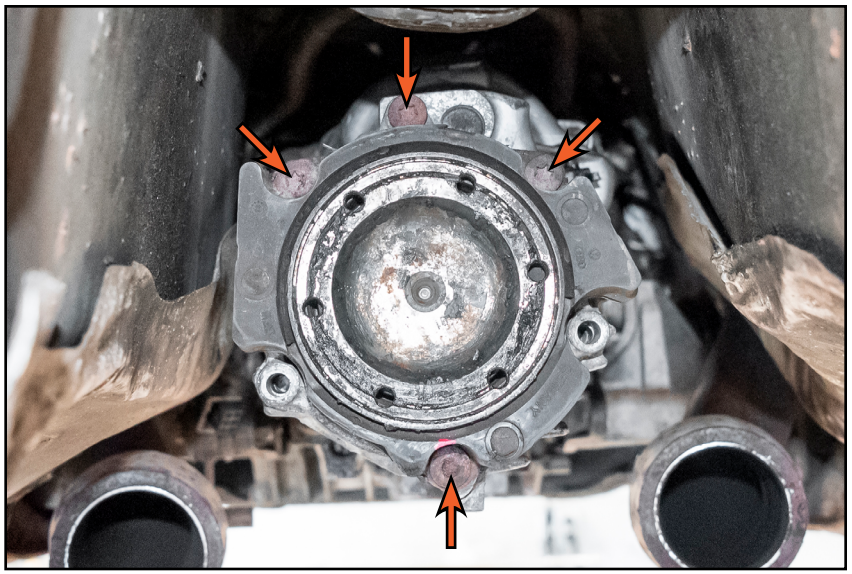
Step 6: 10mm Hex (Allen) Socket & Ratchet

Place a drip tray below the tail housing, remove the drain bolt (circled in **RED**), and drain the transmission fluid.

REMOVING THE STOCK DIFFERENTIAL

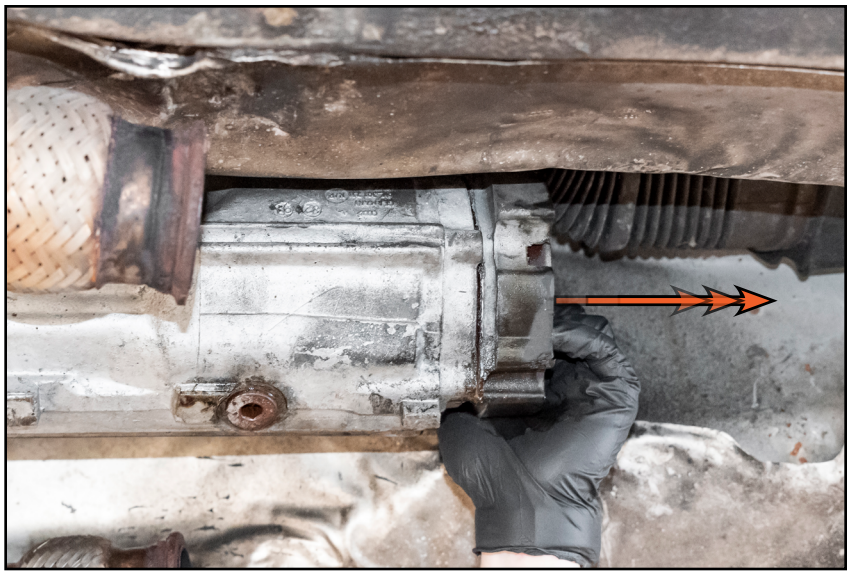
Step 7: T45 Torx Socket & Ratchet

Remove the four remaining tail housing cover bolts (arrows).



Step 8:

Carefully pull the tail housing cover out of the tail housing as shown.



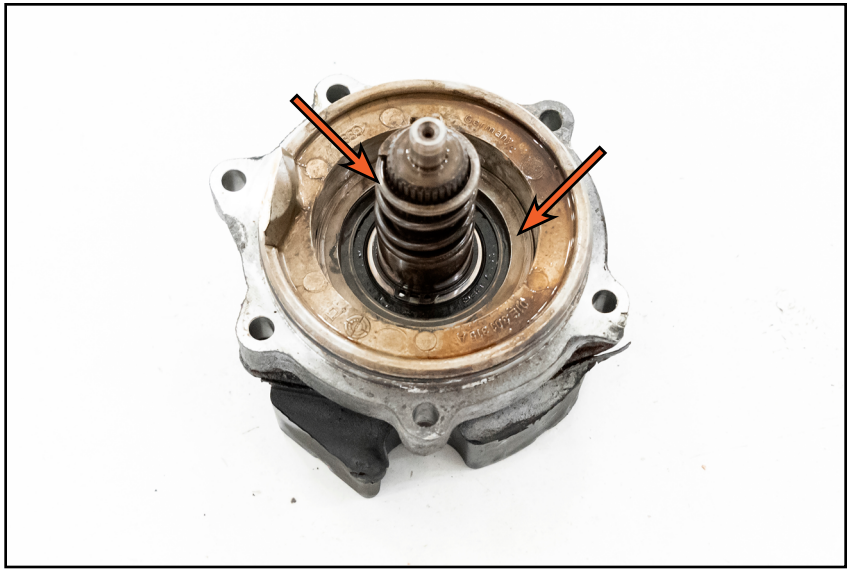
TECH TIP

On particularly stubborn tail housing covers, you can ***gently*** pry using a non-marring pry tool to free it from the tail housing.

REMOVING THE STOCK DIFFERENTIAL

Step 9:

Set the cover aside, ensuring the spring and washers (arrows) remain in their installed position as shown. Inspect the o-ring for signs of damage and replace if needed.



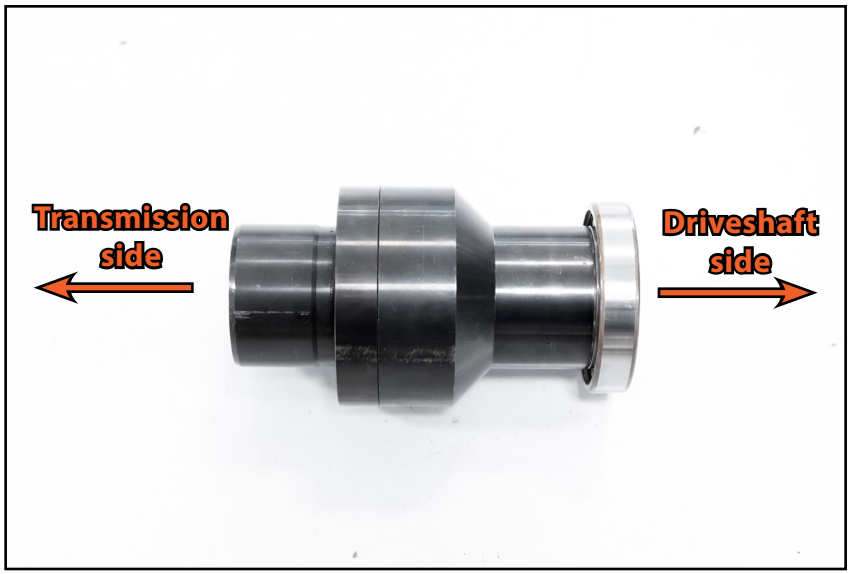
Step 10:

Slide the center differential out of the tail housing as shown.

INSTALLING THE DIFFERENTIAL DELETE

Step 1:

Reference the photo on the right for proper install orientation of the differential delete.



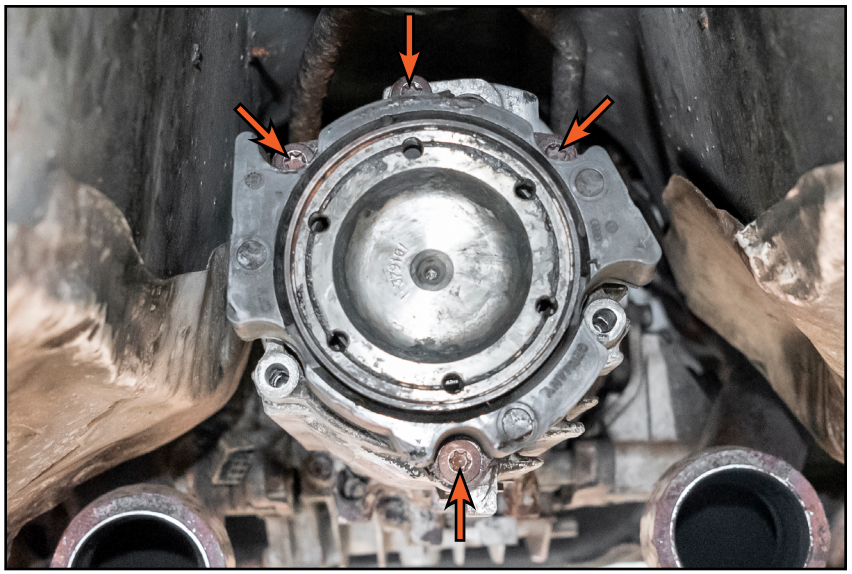
Step 2:

Slide the differential into place, rotating as needed to align the splines on the output shaft with the splines on the delete. Ensure the bearing surface is flush with the rear face of the tail housing. Clean the mating surface on the back of the tail housing to ensure it is clean and free of debris.

INSTALLING THE DIFFERENTIAL DELETE

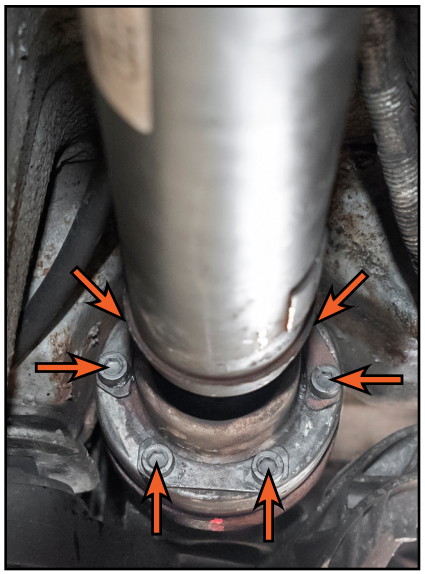
Step 3: T45 Torx Socket & Torque Wrench

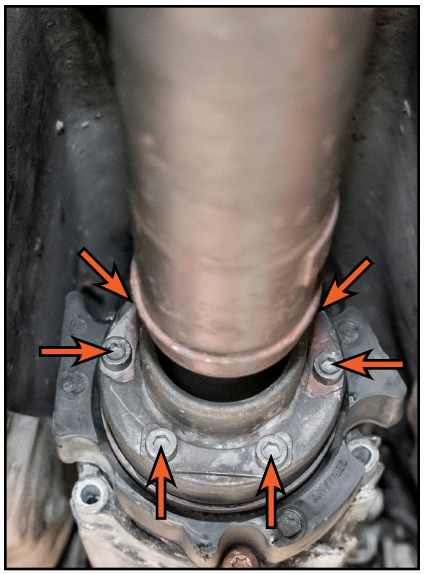
Reinstall the tail housing cover rotating as needed to align the splines on the driveshaft flange with the splines on the delete. Then reinstall the four bolts (arrows), torquing them 25 Nm (18 Ft-lbs).



Step 4: 6mm Hex (Allen) Socket & Ratchet

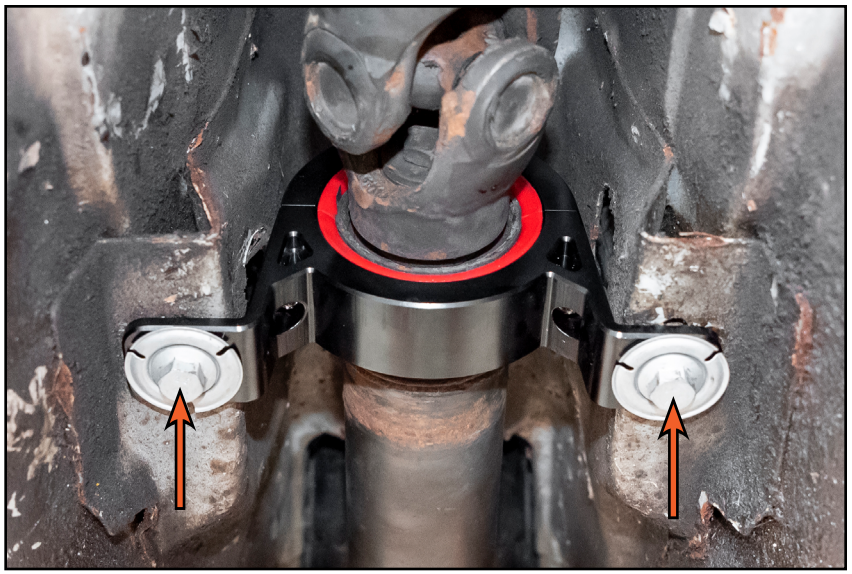
Lift the driveshaft back into place, aligning it with the flanges on either end, then replace the bolts (arrows), torquing them to 55 Nm (41 Ft-lbs).





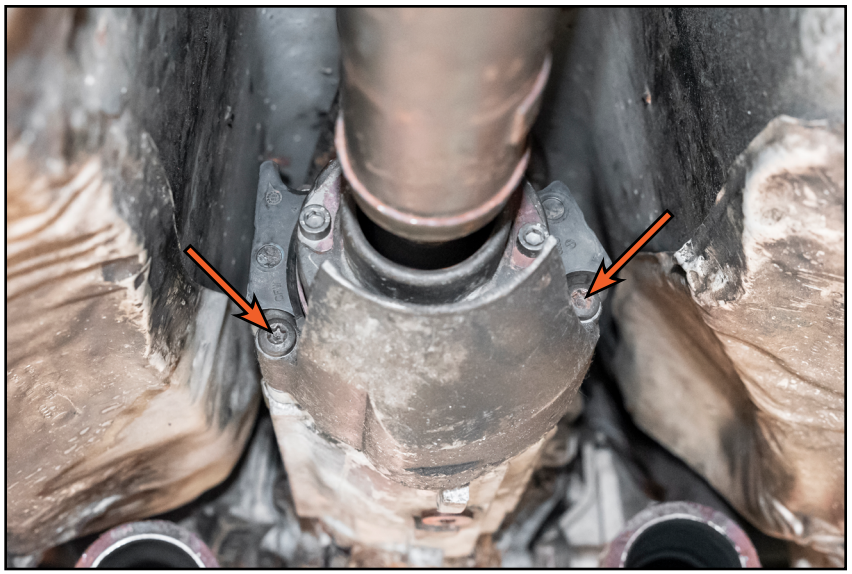
13mm Socket & Torque Wrench

Replace the two bolts (arrows) which secure the CSB carrier to the vehicle, torquing them 23 Nm (17 Ft-lbs).



T45 Torx Socket & Ratchet

Reinstall the driveshaft shield, replace the bolts (arrows) and torque them to 25 Nm (18 Ft-lbs).



- [ ] Reinstall the exhaust system
- [ ] Refill the transmission with fluid, check level
- [ ] Take the vehicle for a test drive, then re-check torque specs and fluid level

Congratulations, your installation is 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.

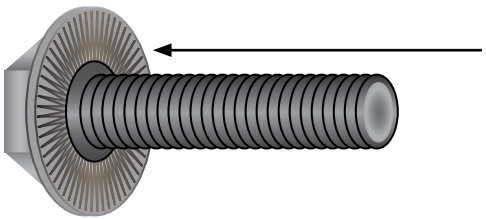
Some fasteners require lubrication on the threads -or- on the contact surface while torquing. These fasteners will be listed with the specific location and type of lubrication required. Always follow manufacturers recommendations exactly.

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.

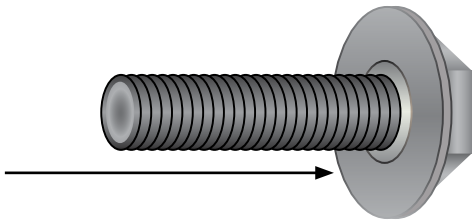
Ribbed vs. Non-Ribbed Bolts

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



TORQUE SPECIFICATIONS

Tail Housing Cover Bolts	25 Nm (18 Ft-lbs)	(Page 11)
Driveshaft Flange Bolts	55 Nm (41 Ft-lbs)	(Page 11)
Center Support Bearing Housing Bolts	23 Nm (17 Ft-lbs)	(Page 12)
Driveshaft Shield Bolts	25 Nm (18 Ft-lbs)	(Page 12)

Your Center Differential Delete 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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