



**BMW F9x X3M/X4M
Bulletproof Differential Mount Kit
Installation Instructions**



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

Turner Motorsport 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.

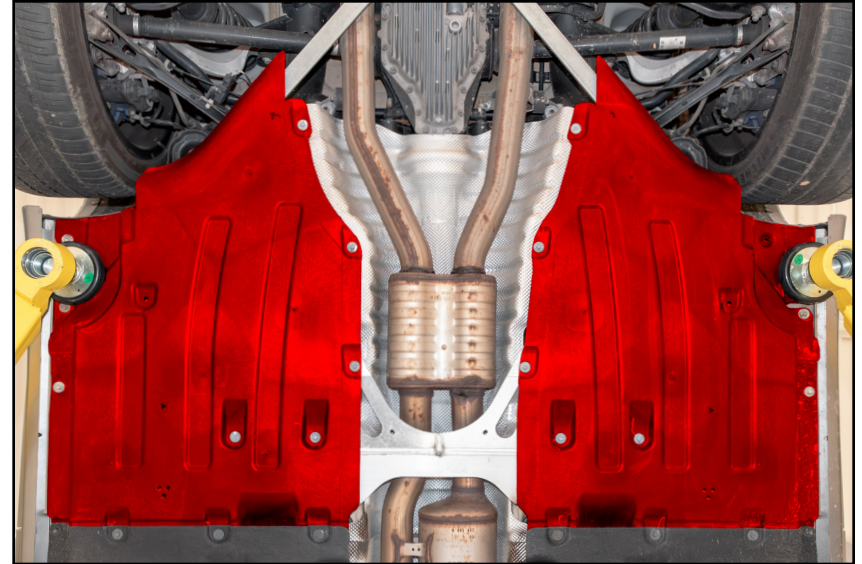


NEVER get underneath a vehicle that is supported only by a jack, and **ALWAYS** make sure that the vehicle is securely supported on jack stands.

REPLACING THE REAR DIFFERENTIAL BUSHINGS

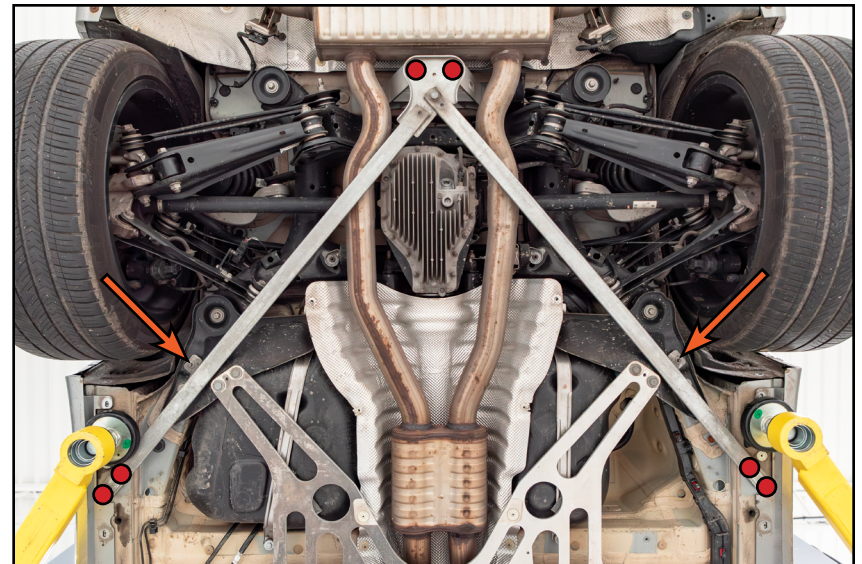
Step 1: 8mm, 10mm Socket & Ratchet

Remove the fasteners and remove the two rear plastic underbody panels (highlighted in **RED**).



Step 2: 13mm, 16mm Socket & Ratchet

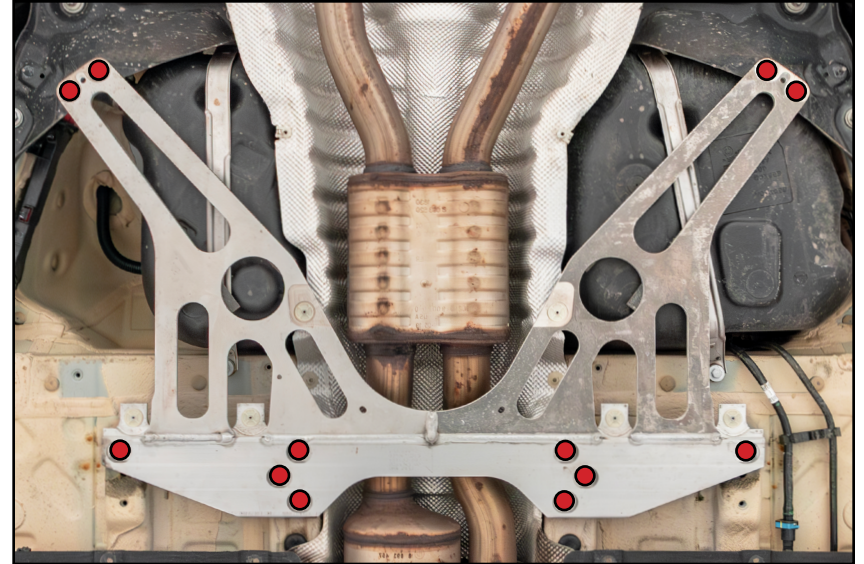
If equipped, remove the six screws (**RED** circles) and two nuts (arrows), then remove the rear diagonal brace from the underside of the vehicle.



REPLACING THE REAR DIFFERENTIAL BUSHINGS

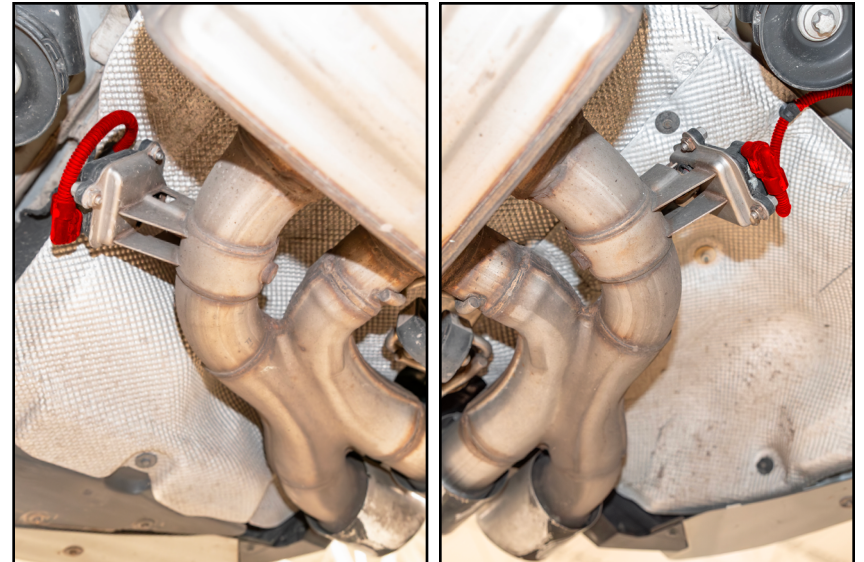
Step 3: 16mm Socket & Ratchet

Remove the 12 screws (**RED** circles) and remove the chassis cross brace from the underside of the vehicle.



Step 4:

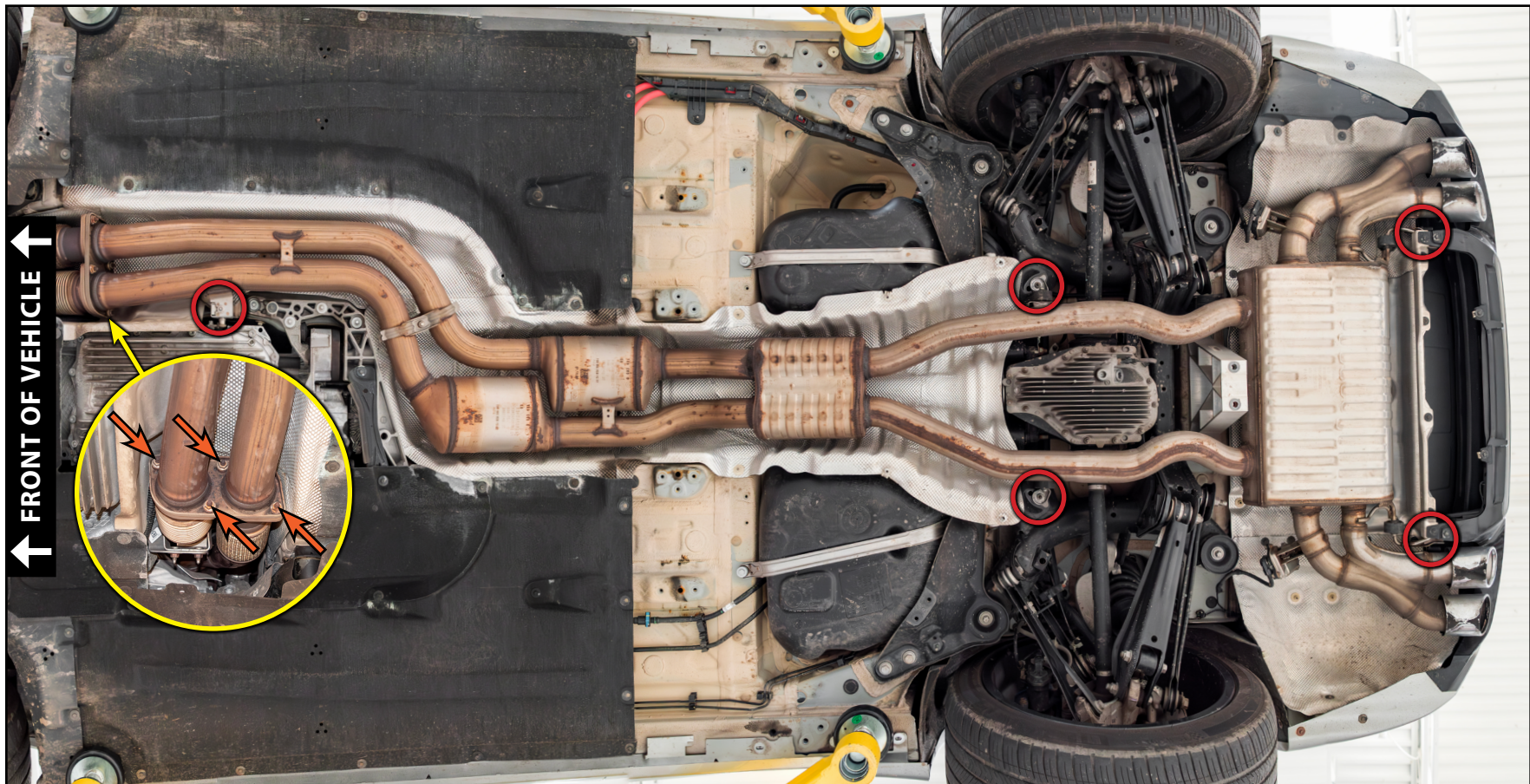
Disconnect the connectors (highlighted in **RED**) from each exhaust valve controller and secure the connectors up out of the way.



REPLACING THE REAR DIFFERENTIAL BUSHINGS

Step 5: 13mm Socket & Ratchet

Support the exhaust system from below, remove the nuts (arrows in inset photo) that secure the exhaust system to the downpipes, then disconnect the hangers (circled in **RED**) from the vehicle and carefully remove the exhaust system.



REPLACING THE REAR DIFFERENTIAL BUSHINGS

Step 6: 16mm Socket & Ratchet

Remove the four screws (RED circles) and remove the rear diagonal brace mounting bracket



Step 7: Pole Jack

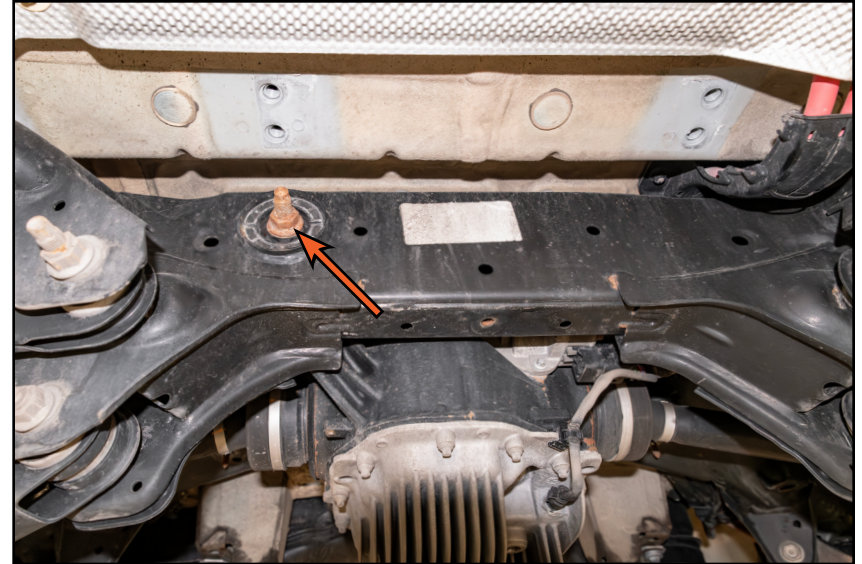
Support the differential from below and raise it slightly to remove any tension from the bushings.



REPLACING THE REAR DIFFERENTIAL BUSHINGS

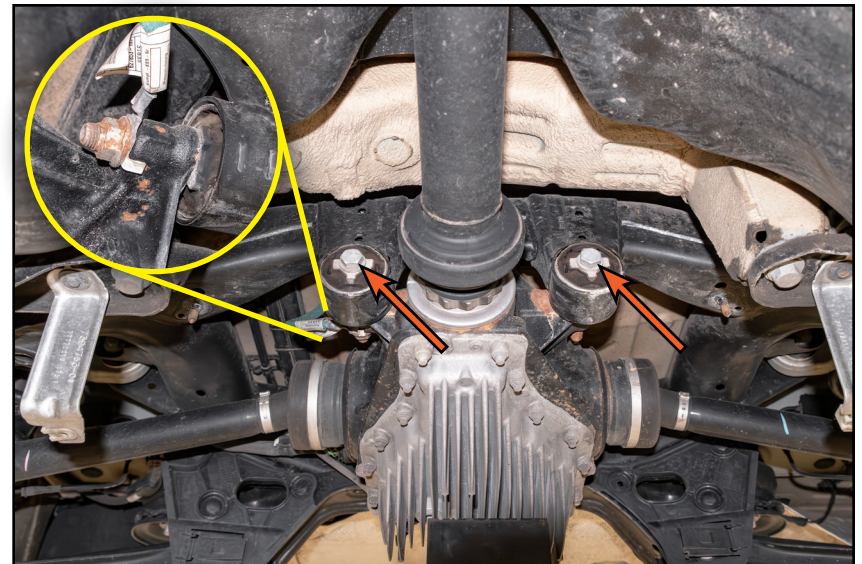
Step 8: 21mm Socket & Ratchet

Remove the nut (arrow) then remove the rear differential bolt.



Step 9: 16mm Socket & Ratchet

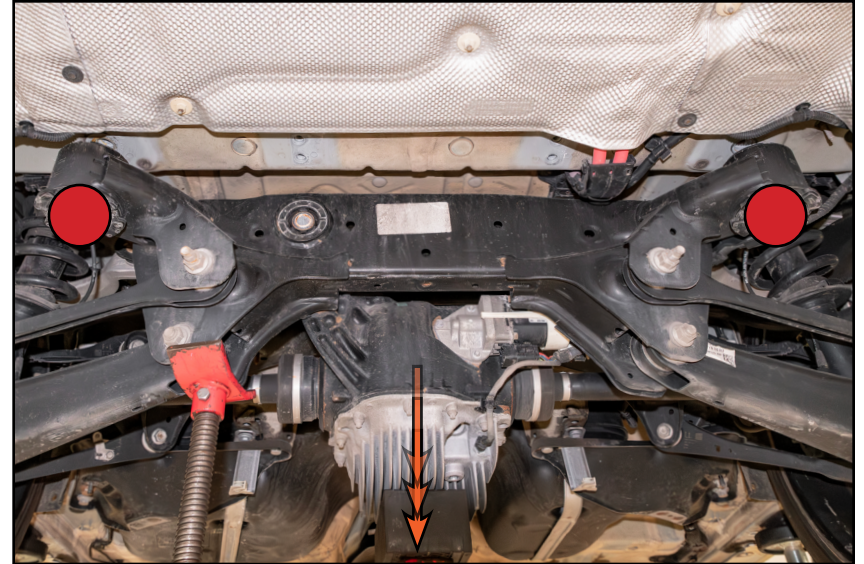
Remove the nut and ground strap (inset photo), then remove the front differential bolts (arrows).



REPLACING THE REAR DIFFERENTIAL BUSHINGS

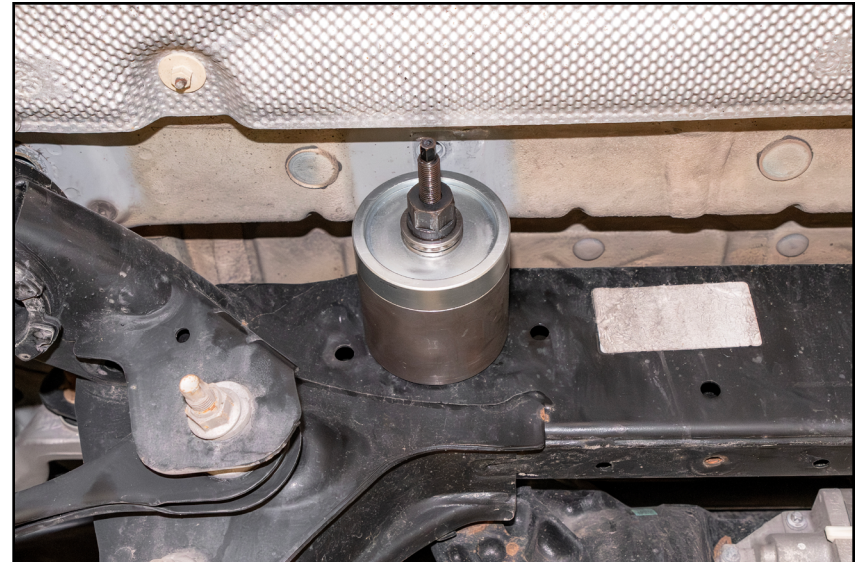
Step 10: E18 Torx Socket & Ratchet

Lower the differential until it is clear of the rear bushing bore as shown. Support the subframe, remove the two rearmost screws (RED circles) and lower the rear of the subframe until the bushing bore clears the body of the vehicle.



Step 11: Bushing Press Tool

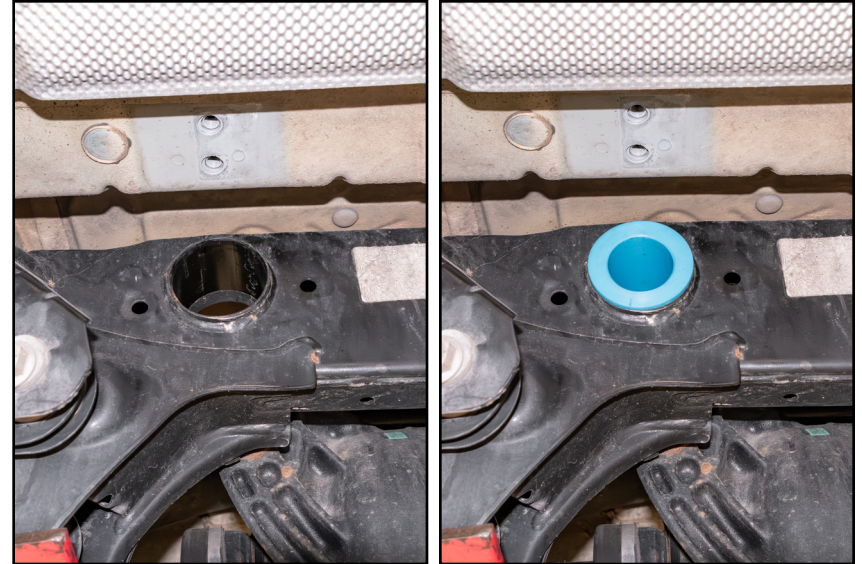
Using a large bushing press tool, press the old bushings out of the rear subframe as shown.



REPLACING THE REAR DIFFERENTIAL BUSHINGS

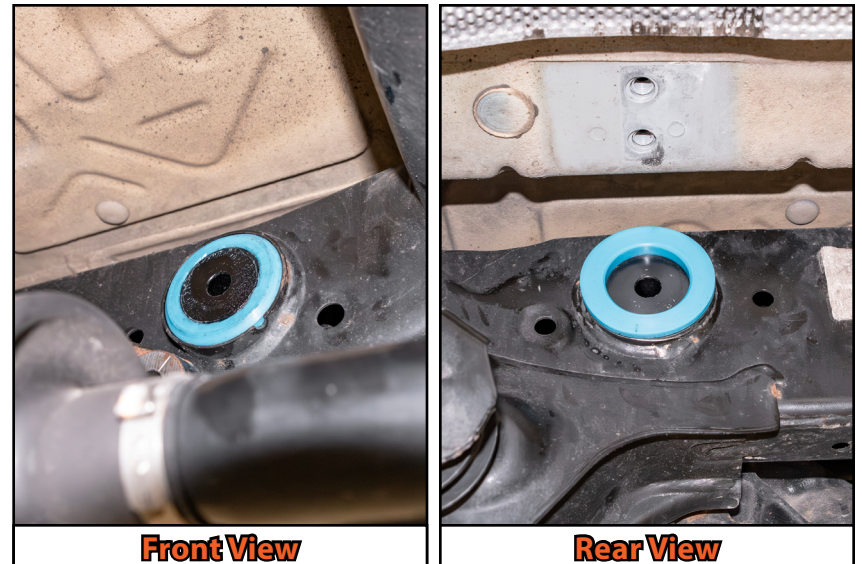
Step 12:

Clean the bushing bore to remove any debris or remaining bushing material. Press the new poly bushing into the subframe from back-to-front as shown.



Step 13:

Apply the included poly lubricant to the new inner bushing sleeve, then press it into the new bushing from back-to-front, until it is flush with the front face of the bushing, as shown.



REPLACING THE REAR DIFFERENTIAL BUSHINGS

Step 14:

Apply the included poly lubricant to the new outer bushing sleeve, then press it into the new bushing from back-to-front, as shown.



Step 15: E18 Torx Socket & Torque Wrench

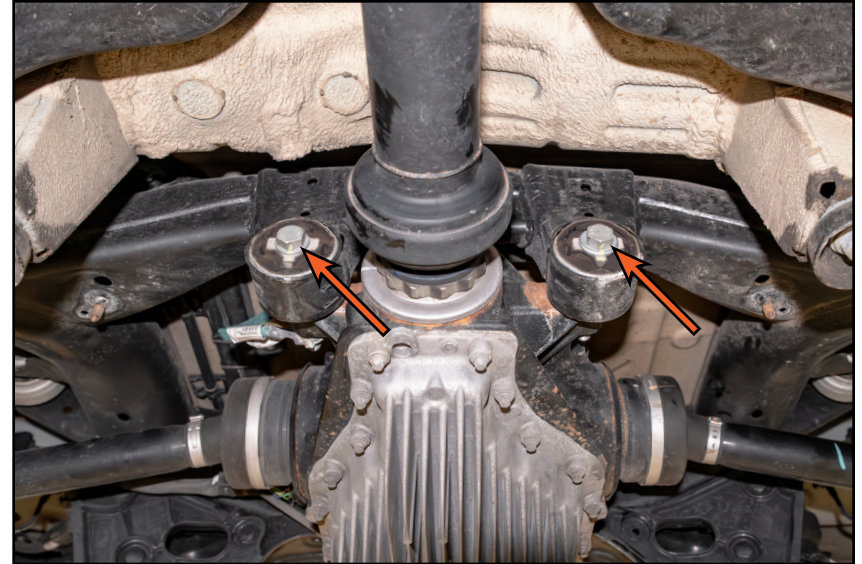
Lift the subframe back into place, replace the subframe bolts (arrows) and torque them to 100 Nm (74 Ft-lbs) + 90 degrees.



REPLACING THE REAR DIFFERENTIAL BUSHINGS

Step 16: 16mm Socket & Torque Wrench

Lift the differential back into place, then replace the front differential bolts (arrows), torquing them to 100 Nm (74 Ft-lbs) + 90 degrees. Reconnect the ground strap and replace the nut.



Step 17: 21mm Wrench, 21mm Socket & Torque Wrench

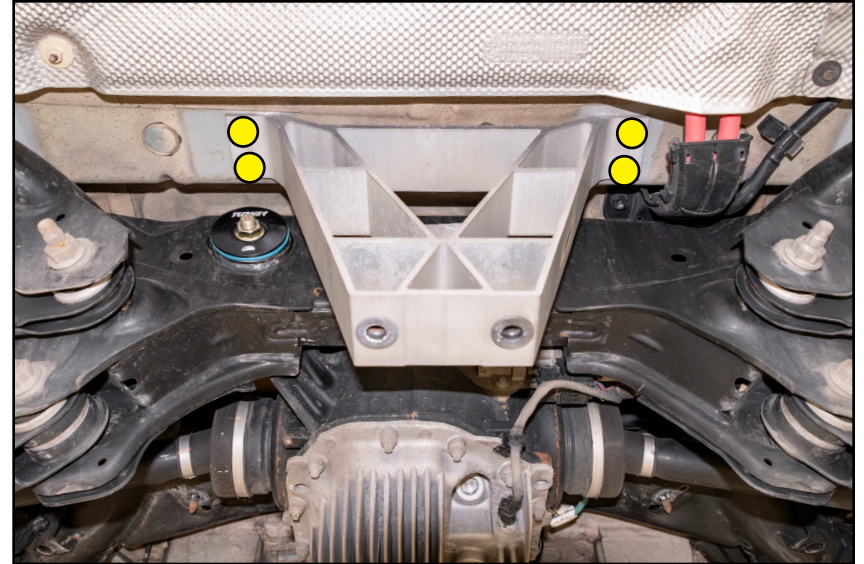
Replace the rear differential bolt and nut (arrow), torquing it to 165 Nm (122 Ft-lbs) + 90 degrees.



REPLACING THE REAR DIFFERENTIAL BUSHINGS

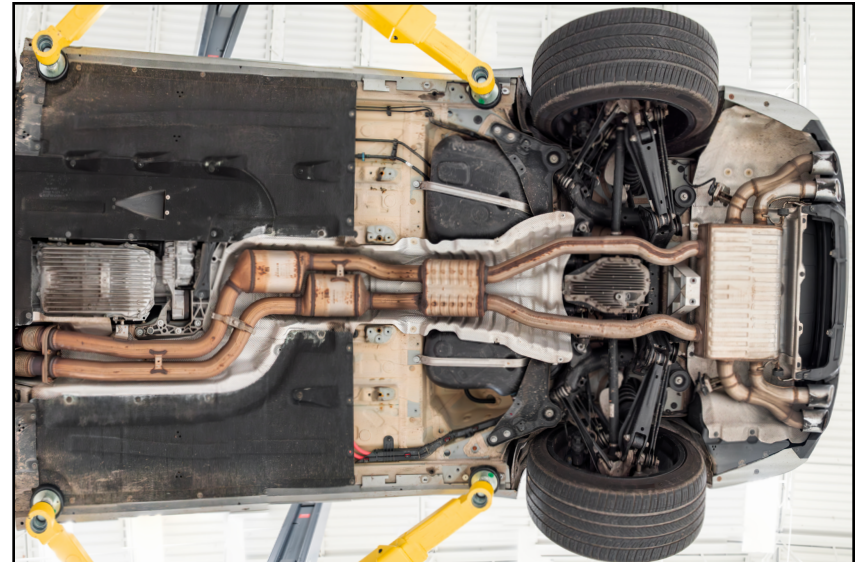
Step 18: 16mm Socket & Torque Wrench

Reinstall the rear diagonal brace mounting bracket and install the four screws (**YELLOW** circles), torquing them to 100 Nm (74 Ft-lbs).



Step 19: 13mm Socket & Torque Wrench

Replace the exhaust gaskets, then reinstall the exhaust system, reconnecting the hangers and exhaust valve controller connectors. Replace the nuts that secure the exhaust system to the downpipes, torquing them to 24 Nm (18 Ft-lbs).

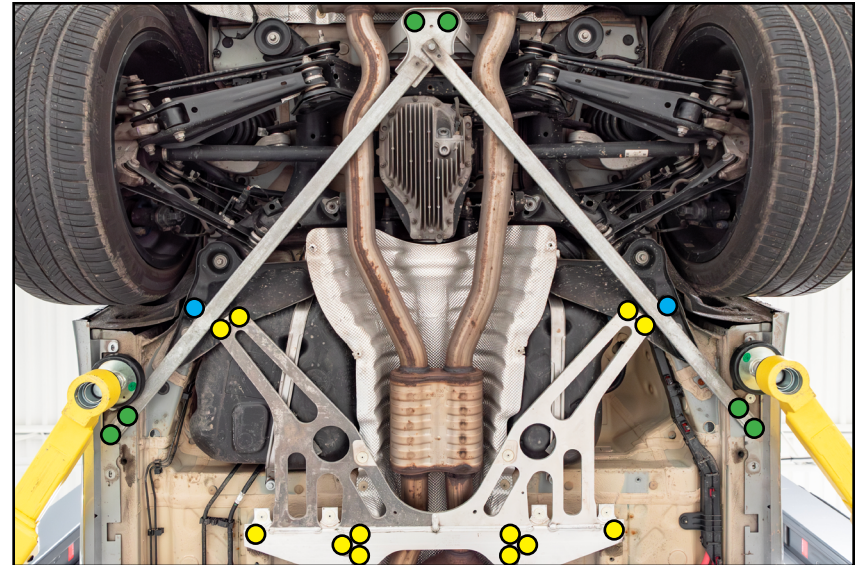


REPLACING THE REAR DIFFERENTIAL BUSHINGS

Step 20: 13, 16mm Socket & Torque Wrench

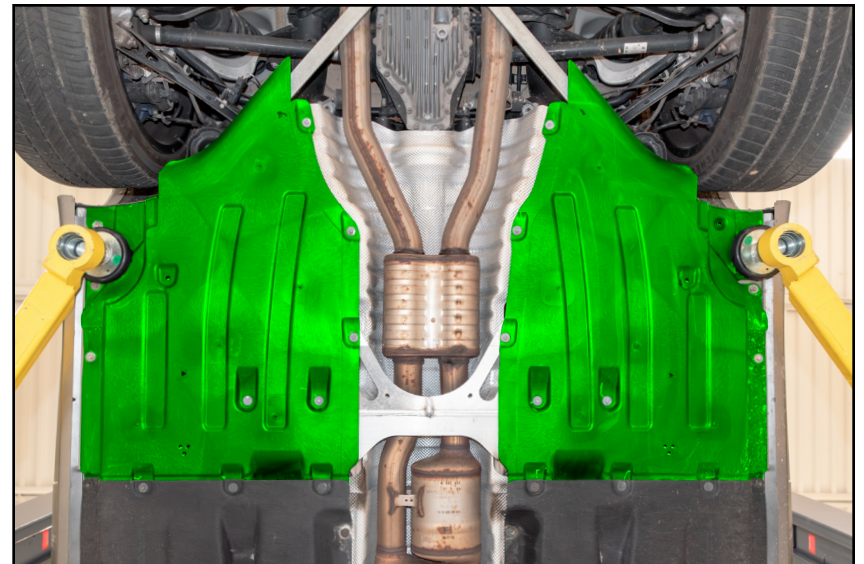
Reinstall braces, torquing the hardware according to the chart below:

- 35 Nm (26 Ft-lbs)
- 100 Nm (74 Ft-lbs)
- 27 Nm (20 Ft-lbs)



Step 21: 8mm, 10mm Socket & Ratchet

Reinstall the two rear plastic underbody panels (highlighted in **GREEN**), tightening the fasteners until snug.



Your Bulletproof Differential Mount Kit installation is complete!



These instructions are provided as a courtesy by Turner Motorsport

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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