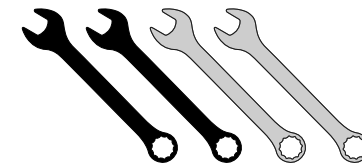




BMW M3/M4 S55 Catted Downpipe Set Installation Instructions



Skill Level
2 - Moderate
Some Experience
Recommended



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

Turner Motorsport S55 Catted Downpipe Set

Our S55 Catted Downpipe Set offers the following features:

- OE-style fitment
- Less restriction than OE downpipes
- Lower boost threshold and improved turbo response
- TIG welded 304 stainless steel construction
- Brushed finish
- 200 cell 4.3" OD metallic high flow catalytic converters

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KIT CONTENTS



Front Downpipe: Cylinders 1-3 **(QTY 1)**



Rear Downpipe: Cylinders 4-6 **(QTY 1)**



Long Downpipe Flange **(QTY 1)**



O2 Sensor Port Plug **(QTY 4)**



Installation Hardware

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.

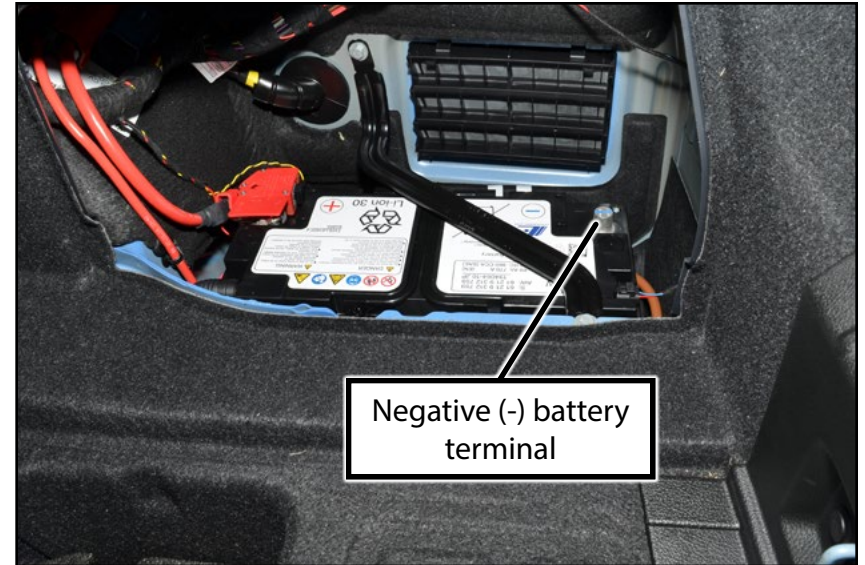


NEVER get underneath a vehicle that is supported only by a jack, and **ALWAYS** make sure that the vehicle is securely supported on jack stands.

REMOVING THE STOCK DOWNPIPES

Step 1: 10mm Socket & Ratchet

Remove the battery cover in the trunk, then disconnect the negative (-) battery cable.



Step 2:

Grasp the engine cover and pull it upwards to release it from its mounting grommets.

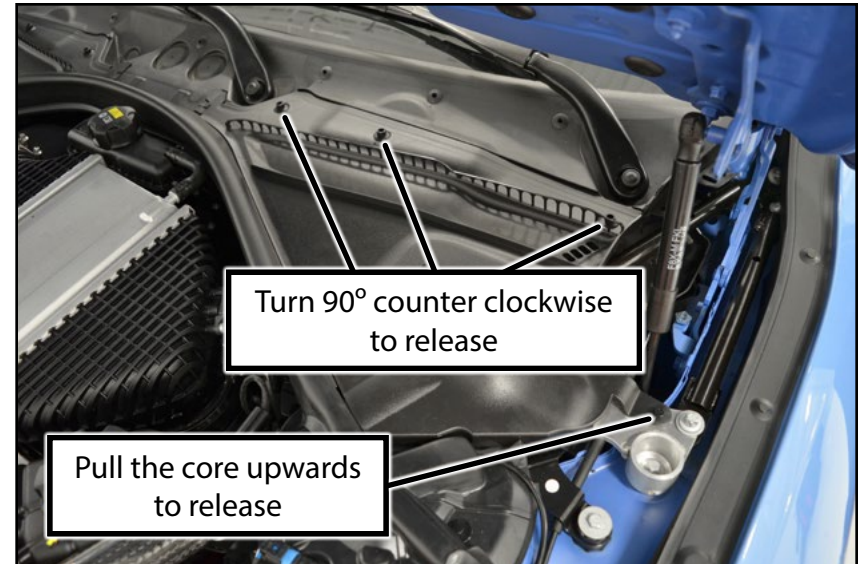


REMOVING THE STOCK DOWNPIPES

Step 3: 10mm Socket & Ratchet

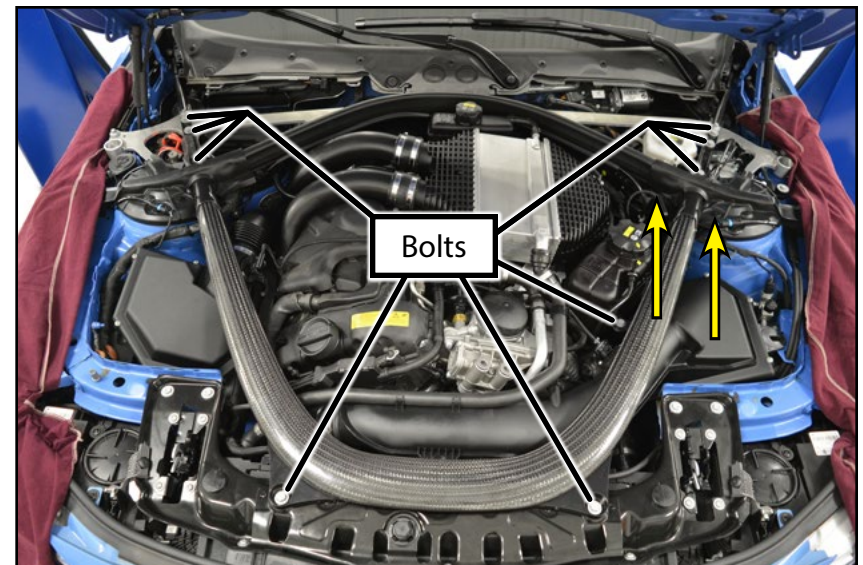
Turn the three 10mm plastic nuts 90° counter clockwise to release them. Pull the core upwards out of the plastic expansion rivet to release it. Lift the rain tray cover out of the vehicle (LH rain tray cover show in the photo).

Repeat this process to remove the other rain tray cover.



Step 4: 10mm & 13mm Sockets, Ratchet

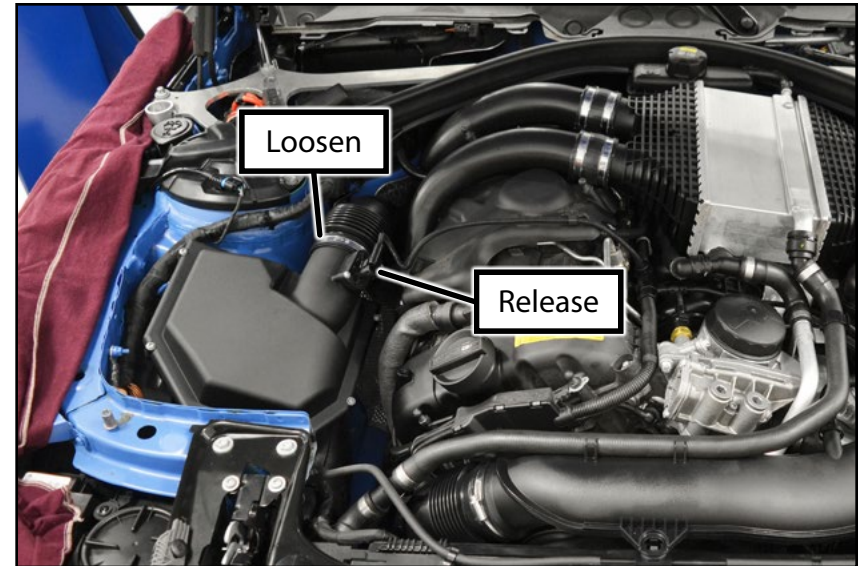
Remove all of the bolts from the carbon fiber strut brace. Release the plastic expansion rivets which secure the rubber weather strip from the LH strut tower (**YELLOW** arrows). Carefully lift the carbon fiber strut brace out of the engine compartment and set it aside where it won't be damaged.



REMOVING THE STOCK DOWNPIPES

Step 5:

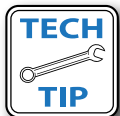
Loosen the hose clamp on the RH air box, then release the MAF sensor connector. Lift the air box straight upward to release it from its mounting grommets.



Step 6:

Remove the bolt which secures the rear turbo inlet pipe to the turbocharger, then lift it straight upward to release it from the turbocharger and remove it from the vehicle.

Place a clean shop towel over the turbocharger inlet to prevent any debris from falling in.



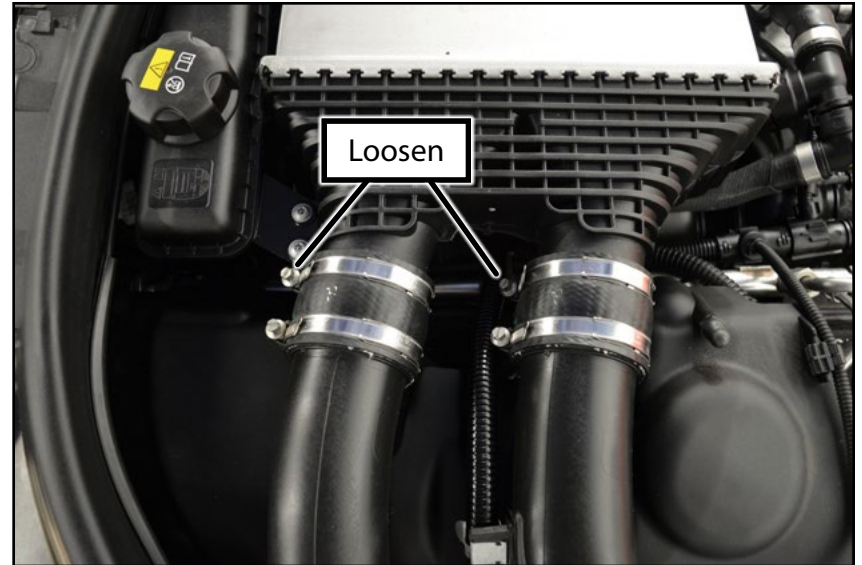
Securing the towel over the turbocharger inlet with a zip tie can be helpful to keep it in place.



REMOVING THE STOCK DOWNPIPES

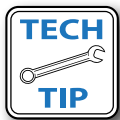
Step 7:

Loosen the hose clamps between the two charge pipes and the charge air cooler.



Step 8:

Pull the charge pipes off of the intercooler, then lift them straight upwards to release them from the turbochargers. Use clean shop towels to prevent any debris from falling into the turbocharger outlets.



Securing the towels over the turbocharger outlets with a zip tie can be helpful to keep them in place.

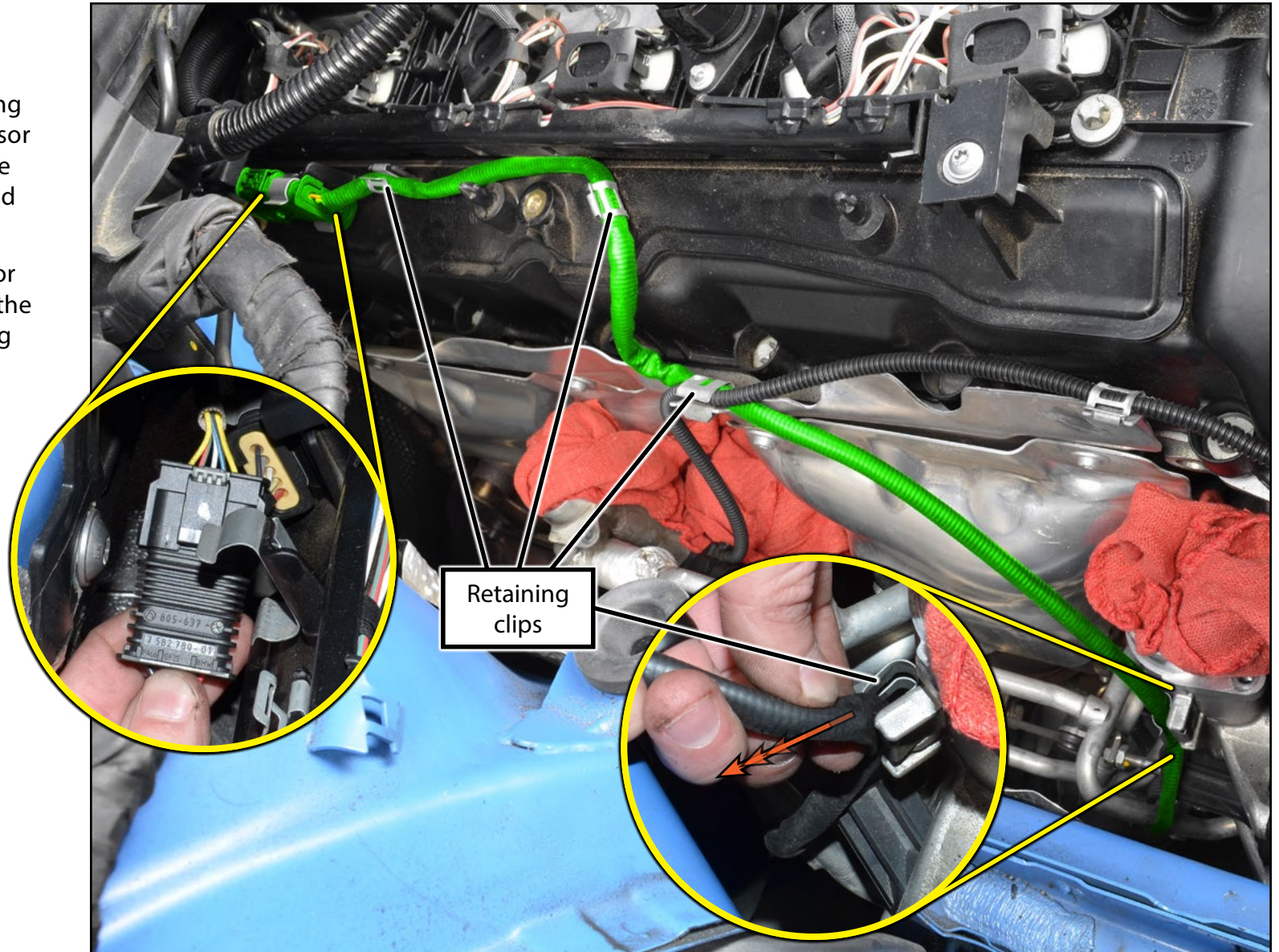


REMOVING THE STOCK DOWNPIPES

Step 9:

Familiarize yourself with the wiring harness routing for the upstream O2 sensor on the **FRONT** downpipe (cylinders 1-3, highlighted in **GREEN**).

Disconnect this O2 sensor connector, then release the harness from all retaining clips.

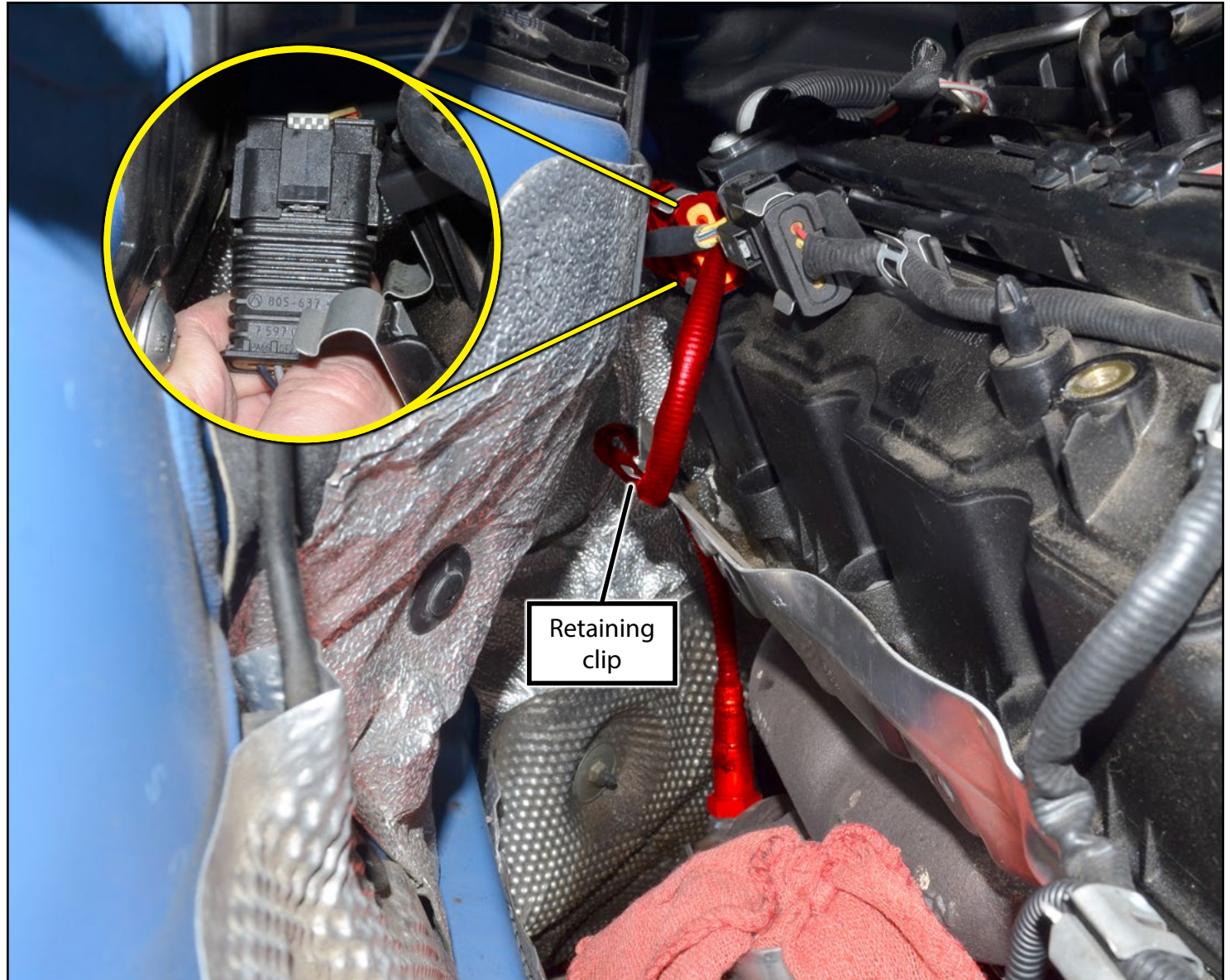


REMOVING THE STOCK DOWNPIPES

Step 10:

Familiarize yourself with the wiring harness routing for the upstream O2 sensor on the **REAR** downpipe (cylinders 4-6, highlighted in **RED**).

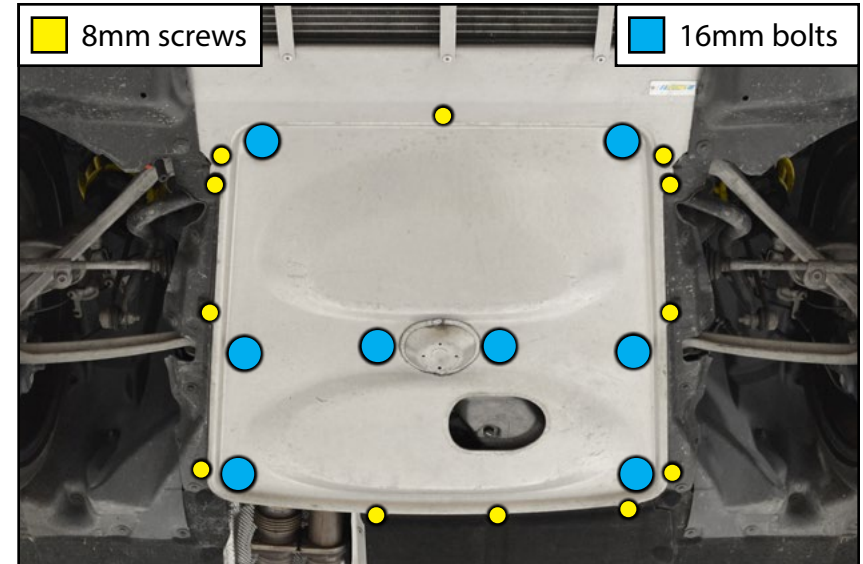
Disconnect this O2 sensor connector, then release the harness from all retaining clips.



REMOVING THE STOCK DOWNPIPES

Step 11: 8mm & 16mm Sockets, Ratchet

Safely lift and support the vehicle in the air. Remove the steel reinforcement plate.



Step 12:

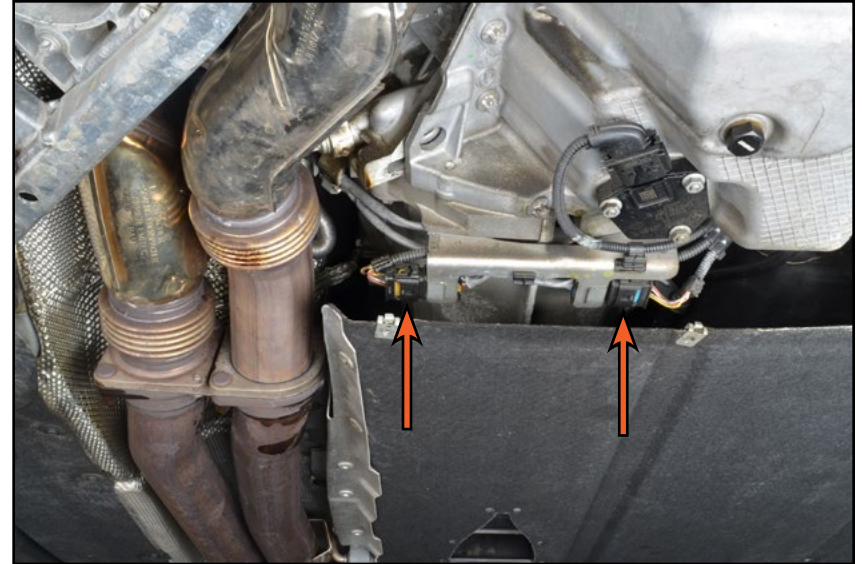
Soak all of the downpipe nuts with penetrating oil. We highly recommend letting the oil soak in for at least one hour before attempting to remove them. This will further reduce the risk of breaking or rounding them off.



REMOVING THE STOCK DOWNPIPES

Step 13:

Locate the electrical connectors for the downstream O2 sensor wiring harnesses. They are held by spring clips beneath where the engine and transmission meet.



Step 14:

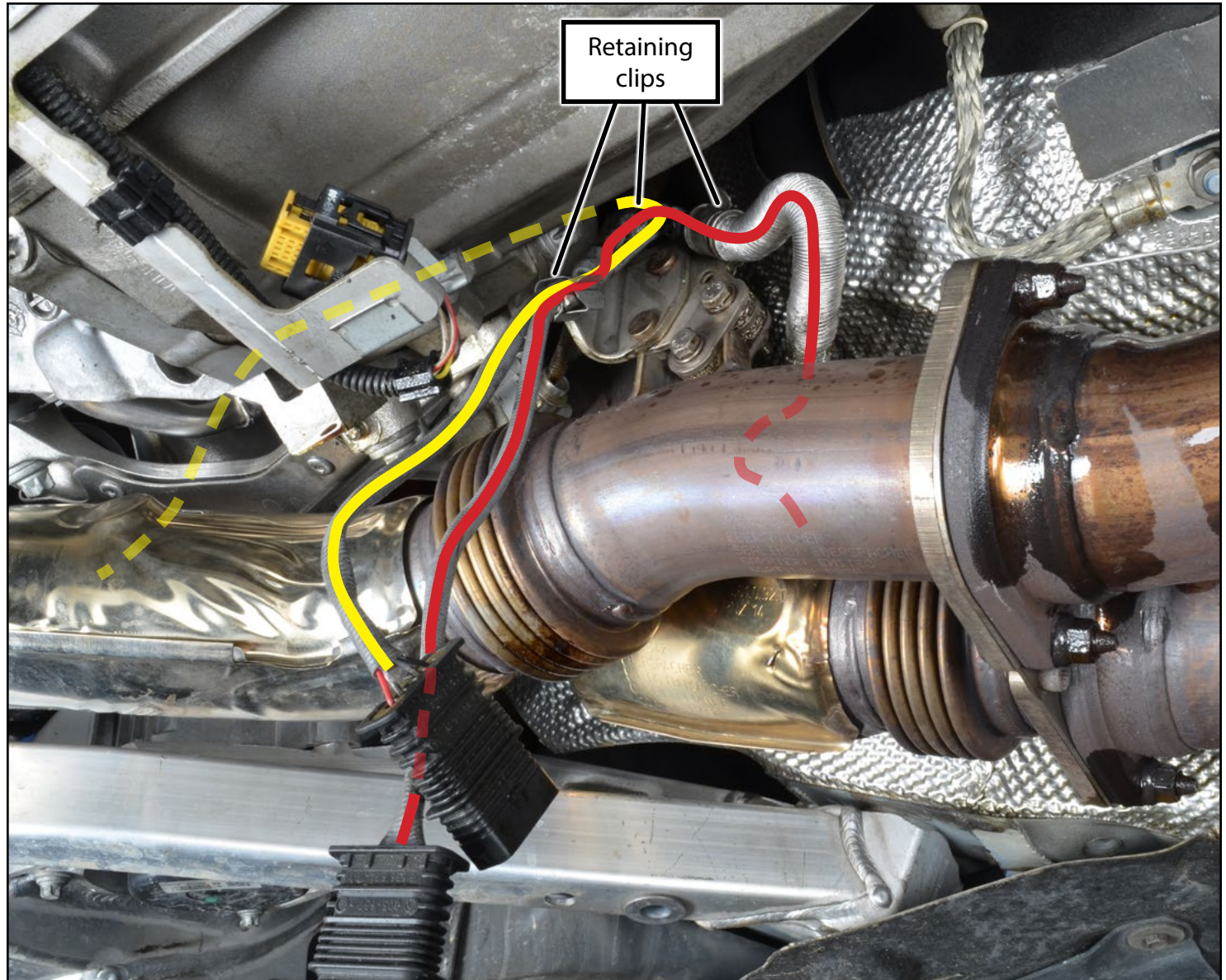
Disconnect the downstream O2 sensor connectors.



REMOVING THE STOCK DOWNPIPES

Step 15:

Familiarize yourself with the wiring harness routing for the downstream O2 sensors on the downpipes (**FRONT** downpipe downstream sensor harness shown in **YELLOW**, **REAR** downpipe downstream sensor harness shown in **RED**).



REMOVING THE STOCK DOWNPIPES

Step 16:

Disconnect both downstream O2 sensor connectors, then release the harnesses from all retaining clips. Let the harnesses hang down for now.



Step 17: 12mm Socket & Ratchet

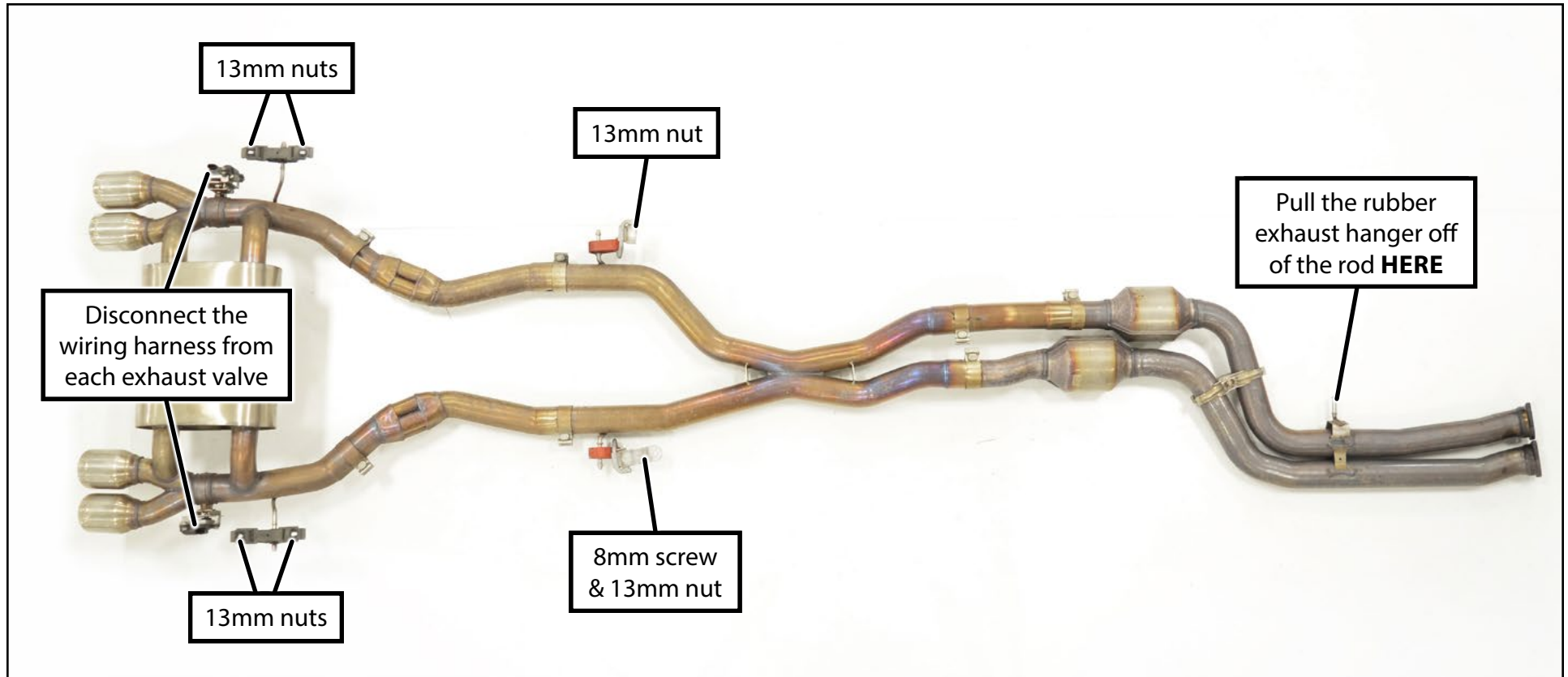
Remove the downpipe nuts.



REMOVING THE STOCK DOWNPIPES

Step 18:

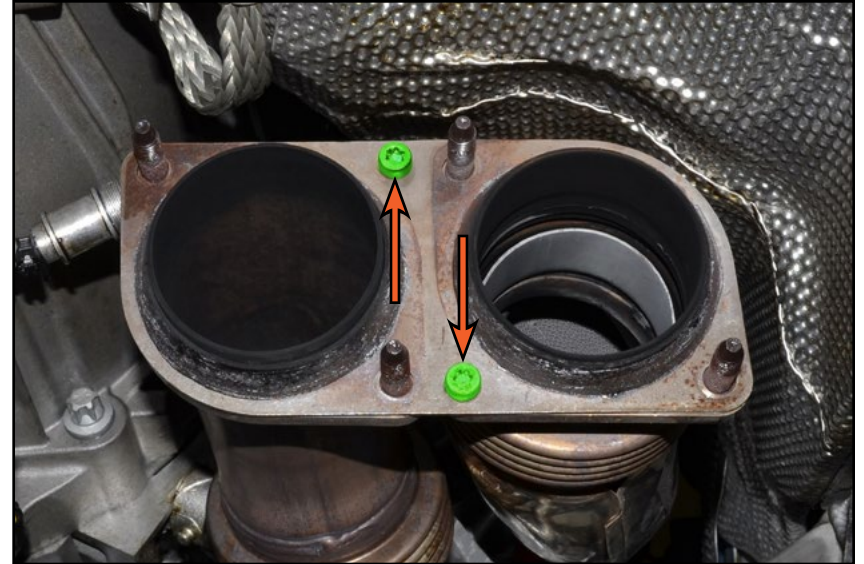
At this point you have a choice to make. This install can be done with the exhaust system still on the vehicle, but it severely limits your space to work. The entire exhaust system can be removed with very minimal effort by removing the hangers and hardware as noted in the photo below.



REMOVING THE STOCK DOWNPIPES

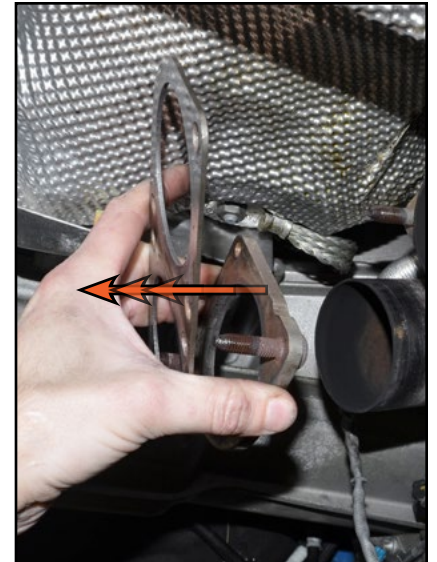
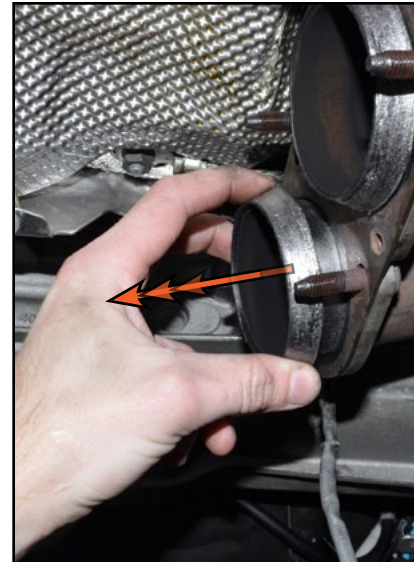
Step 19: T30 Torx

Remove the two remaining bolts (highlighted in **GREEN** in the photo) from the downpipe flange assembly.



Step 20:

Remove the downpipe gaskets and the remaining pieces from the downpipe flange assembly.



REMOVING THE STOCK DOWNPIPES

Step 21: O2 Sensor Wrench - or - Socket & Ratchet

Loosen the downstream O2 sensor on the **FRONT** downpipe (cylinders 1-3).



Step 22: O2 Sensor Wrench - or - Socket & Ratchet

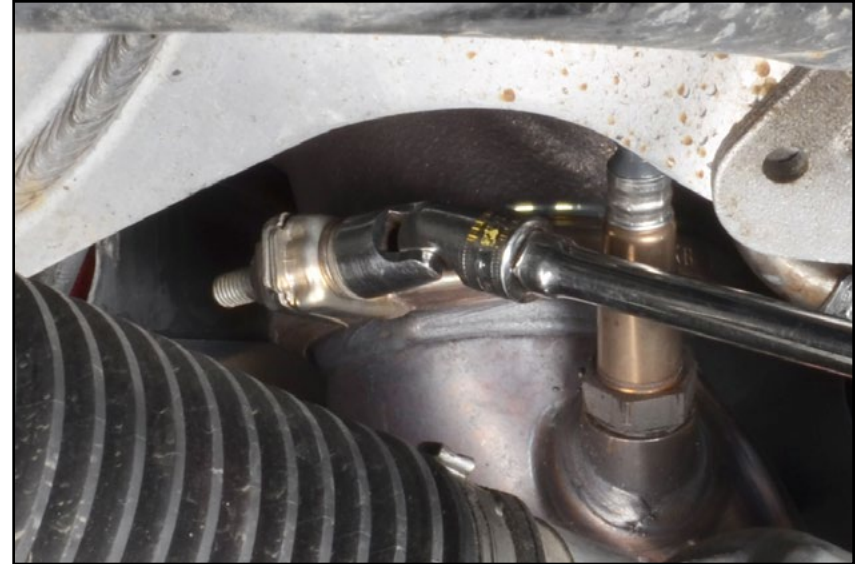
Loosen the upstream O2 sensor on the **FRONT** downpipe (cylinders 1-3).



REMOVING THE STOCK DOWNPIPES

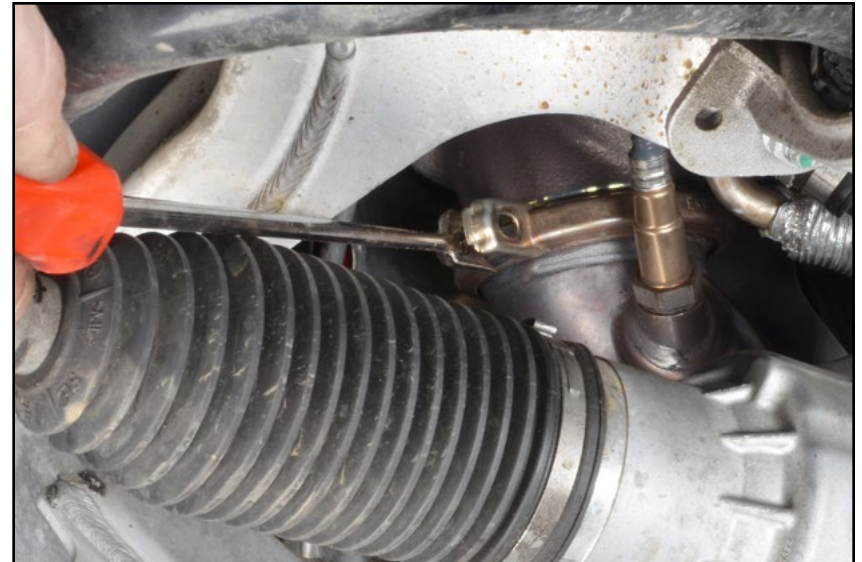
Step 23: 13mm Socket, Swivel Joint & Ratchet

Completely remove the bolt from the V-band clamp on the **FRONT** downpipe (cylinders 1-3).



Step 24: Flat Blade Screwdriver

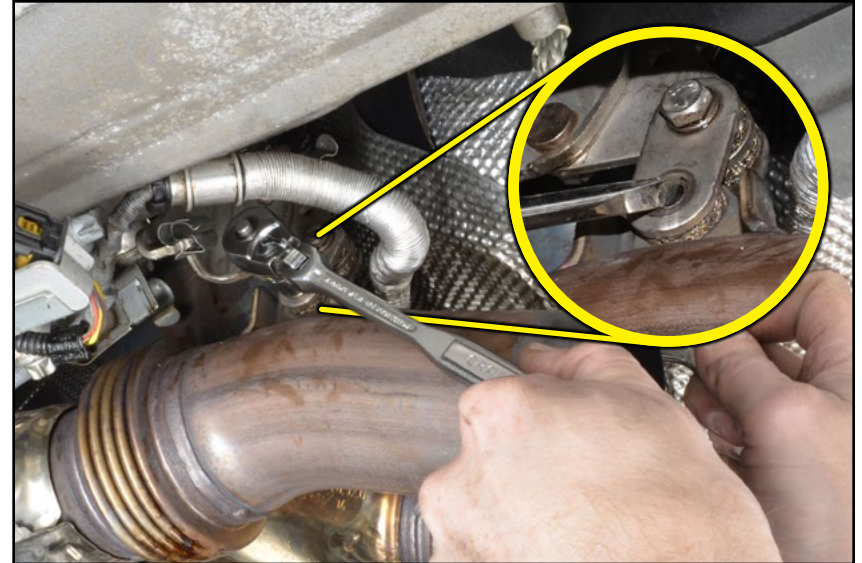
Release the V-band clamp from the **FRONT** downpipe (cylinders 1-3) by gently prying the ears apart with a screwdriver as shown.



REMOVING THE STOCK DOWNPIPES

Step 25: 10mm Socket & Ratchet

Release the **FRONT** downpipe (cylinders 1-3) from the rear hanger.



Step 26:

Completely remove the upstream O2 sensor from the **FRONT** downpipe (cylinders 1-3).



REMOVING THE STOCK DOWNPIPES

Step 27:

Remove the **FRONT** downpipe (cylinders 1-3) from the vehicle.



REMOVING THE STOCK DOWNPIPES

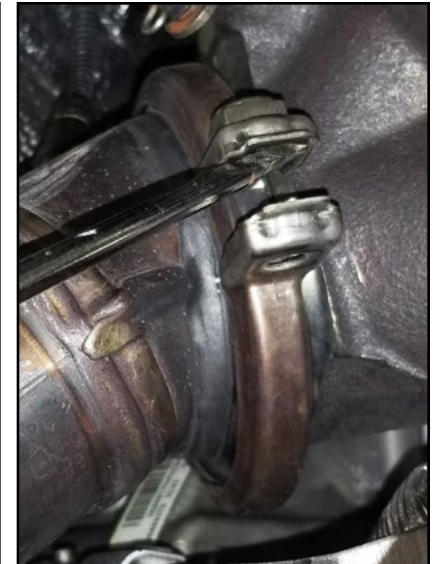
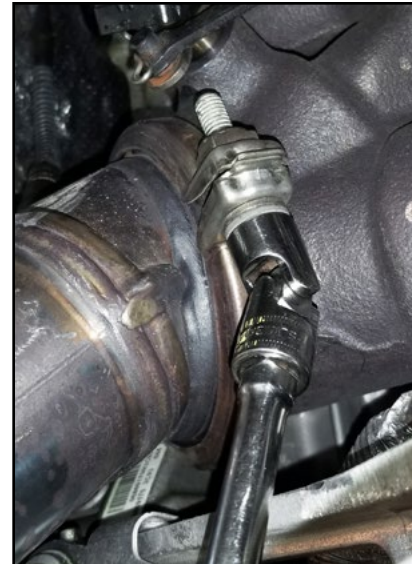
Step 28: O2 Sensor Wrench - or - Socket & Ratchet

Completely remove the downstream O2 sensor on the **REAR** downpipe (cylinders 4-6).



Step 29: 13mm Socket, Swivel Joint & Ratchet

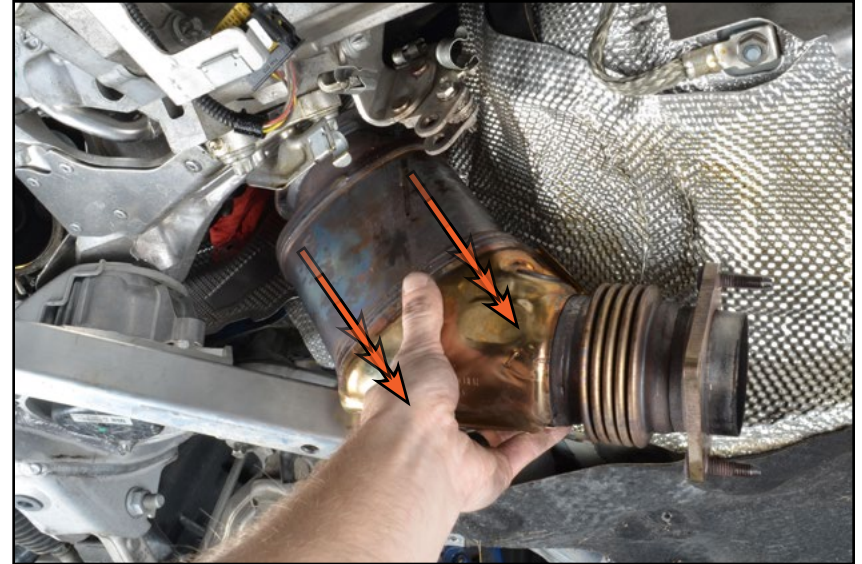
Completely remove the bolt from the V-band clamp on the **FRONT** downpipe (cylinders 1-3). Release the V-band clamp by gently prying the ears apart with a screwdriver as shown.



REMOVING THE STOCK DOWNPIPES

Step 30:

Remove the **REAR** downpipe (cylinders 4-6) from the vehicle.



Step 31:

Inspect the downpipe gasket inside each turbocharger housing for any signs of wear, damage, or leaks. Replace as needed.



INSTALLING THE NEW TURNER CATTED DOWNPIPES

Step 1: O2 Sensor Wrench - or - Socket & Ratchet

Transfer the downstream O2 sensor from the stock **FRONT** (cylinders 1-3) downpipe to the new downpipe. There is not enough room to install this downpipe into position with the upstream O2 sensor in place, so we will install this sensor later on.

Transfer both O2 sensors from the stock **REAR** (cylinders 4-6) downpipe to the new downpipe.

Torque all three of these O2 sensors to 50 Nm (37 Ft-lbs).



INSTALLING THE NEW TURNER CATTED DOWNPIPES

Step 2:

Guide the **REAR** downpipe (cylinders 4-6) into position from below.



Step 3: 13mm Socket & Ratchet

Loosely install the V-band clamp onto the **REAR** downpipe (cylinders 4-6).

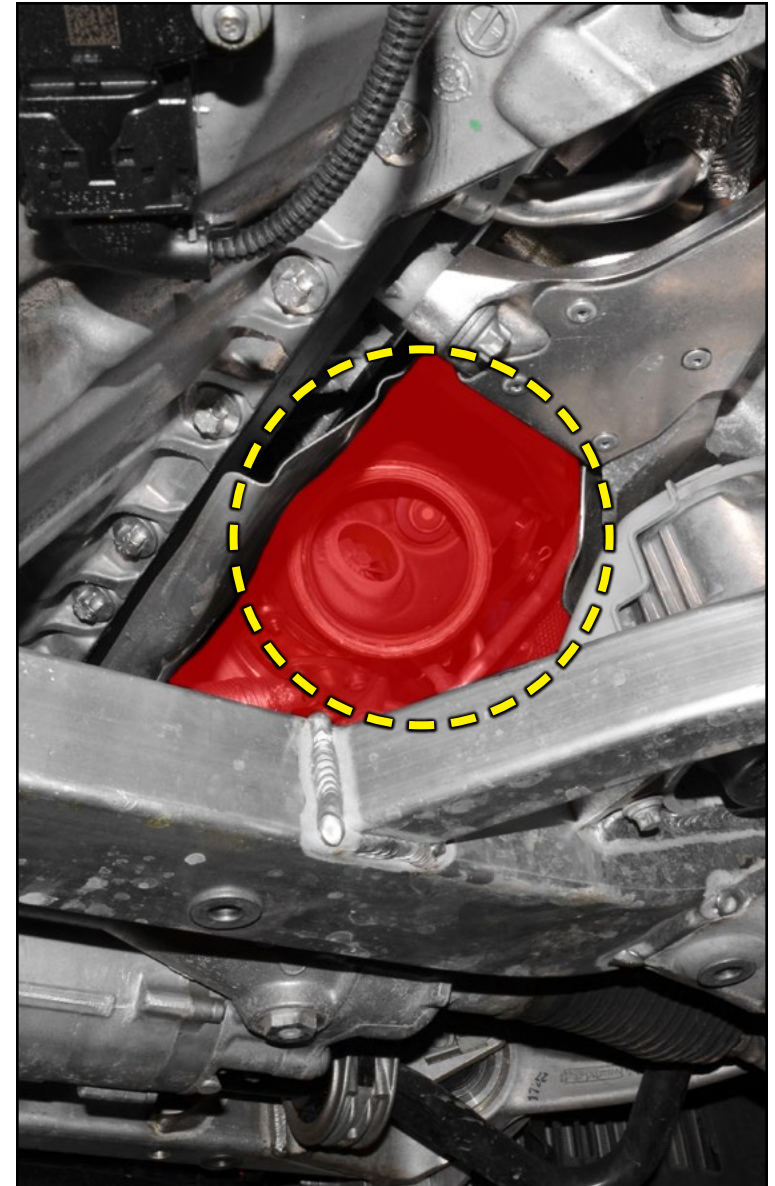
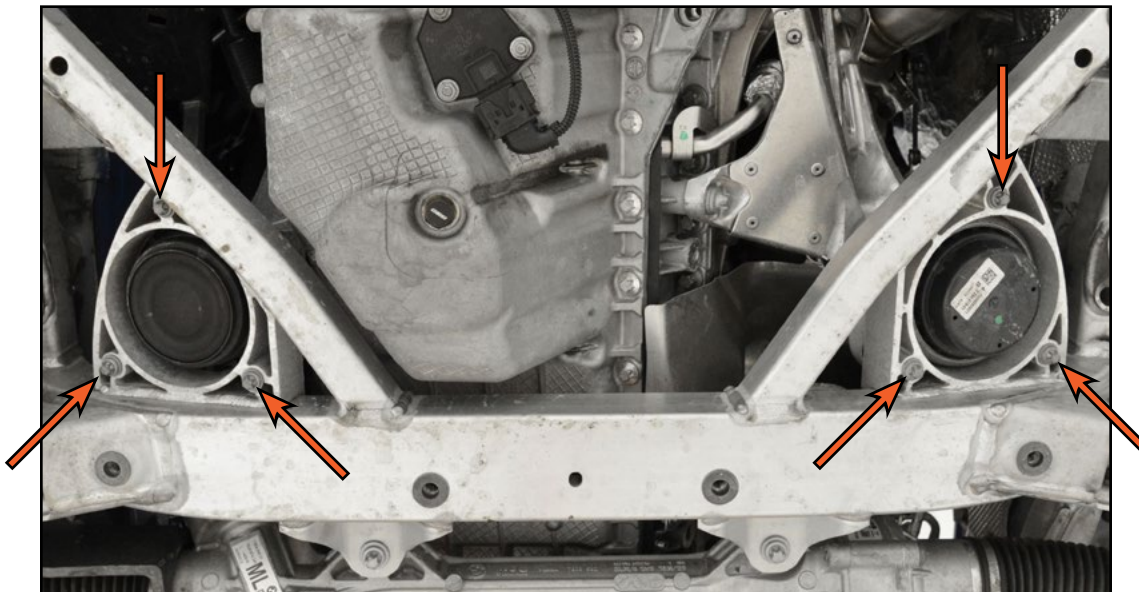


INSTALLING THE NEW TURNER CATTED DOWNPIPES

Step 4:

Due to the shape and diameter of the catalytic converter on the **FRONT** downpipe, there isn't enough room to fit it between the engine and the subframe. This is shown in the RH photo; The area shaded in **RED** represents the space the downpipe needs to fit through, the **YELLOW** circle represents the actual size of the converter.

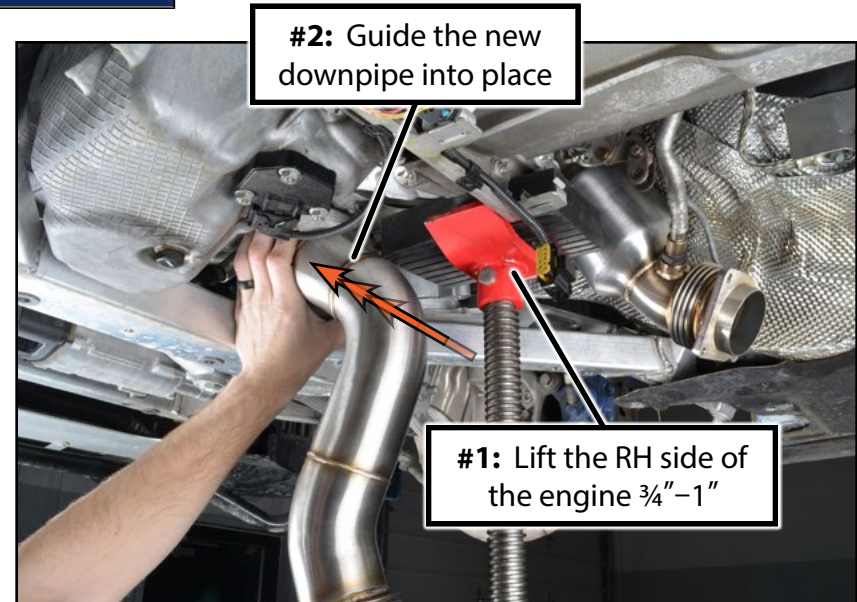
This is easily remedied by removing the lower engine mount bolts (arrows in the photo below) and lifting the RH side of the engine approximately $\frac{3}{4}$ " - 1". We don't want to lift much more than this to avoid putting stress onto the wiring harnesses and hoses. It is important to note that we're removing the bolts from both engine mounts, but we only want to lift on the RH side of the **engine**. **Once you've removed the engine mount bolts, proceed to Step 5 on the next page for more information.**



INSTALLING THE NEW TURNER CATTED DOWNPIPES

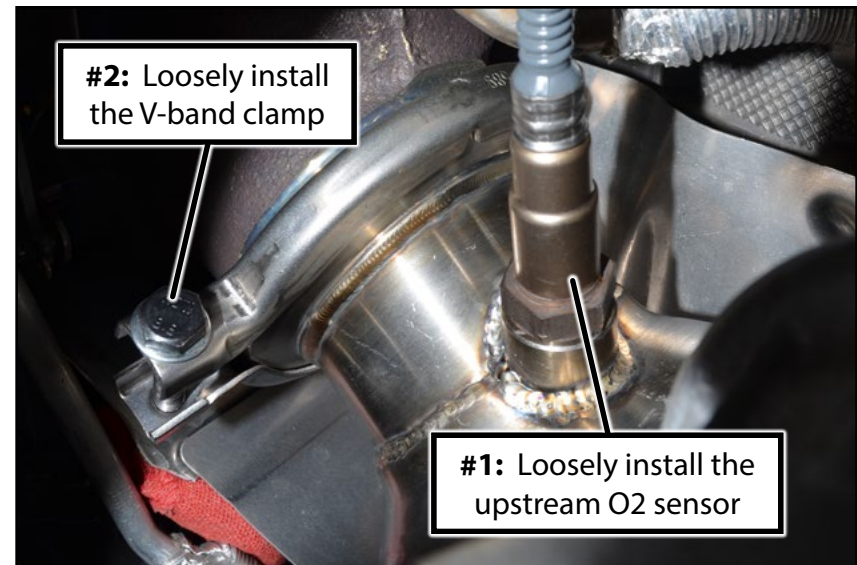
Step 5:

Carefully lift the RH side of the engine upward $\frac{3}{4}$ "–1", then guide the **FRONT** downpipe (cylinders 1-3) into position.



Step 6: 13mm Socket & Ratchet, O2 Sensor Wrench

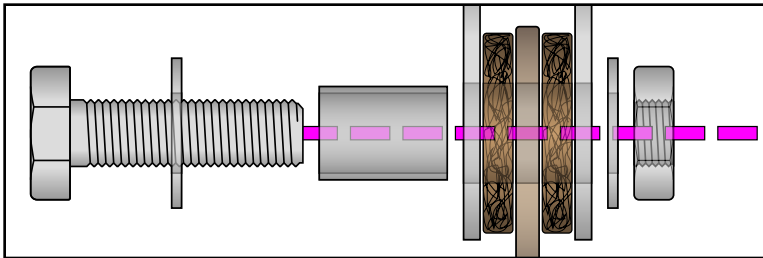
Loosely install the V-band clamp onto the **FRONT** downpipe (cylinders 1-3). Loosely install the upstream O2 sensor.



INSTALLING THE NEW TURNER CATTED DOWNPIPES

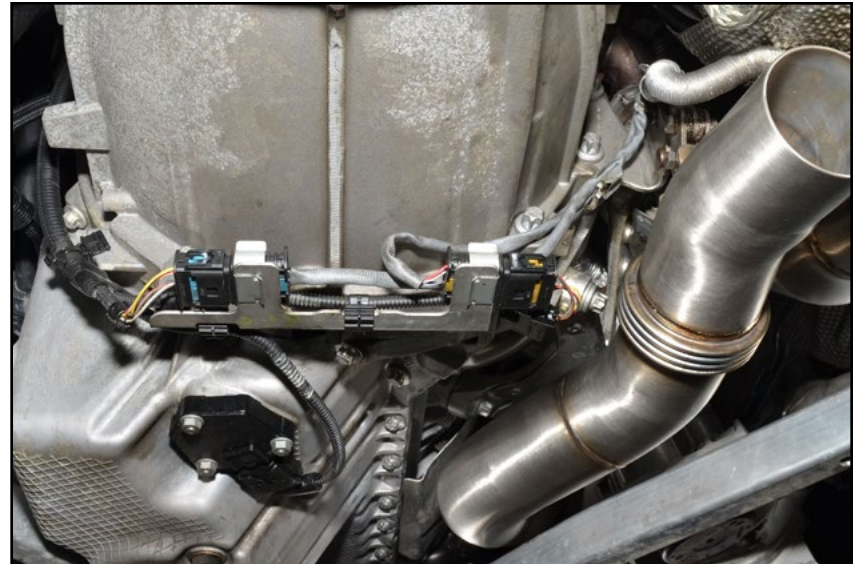
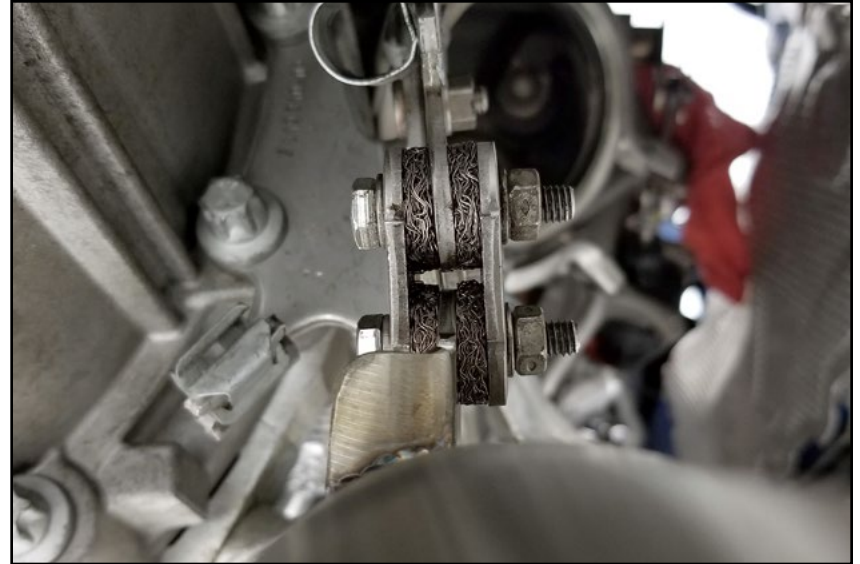
Step 7: 10mm Socket & Ratchet

Loosely reinstall the rear hanger into the new downpipe. Please note the assembly order as shown in the diagram below.



Step 8:

Reconnect and re-secure the downstream O2 sensor harnesses.



INSTALLING THE NEW TURNER CATTED DOWNPIPES

Step 9:

Install the flange assembly and the downpipe gaskets onto the new downpipes.



Step 10:

Reinstall or reconnect the exhaust system.

- Twist the downpipes as needed to align them with the exhaust.

Torque the downpipe bolts/nuts to 19 Nm (14 Ft-lbs).

Torque the V-band clamp bolts to 13 Nm (10 Ft-lbs).

Torque the upstream O2 sensor on the **FRONT** downpipe to 50 Nm (37 Ft-lbs).

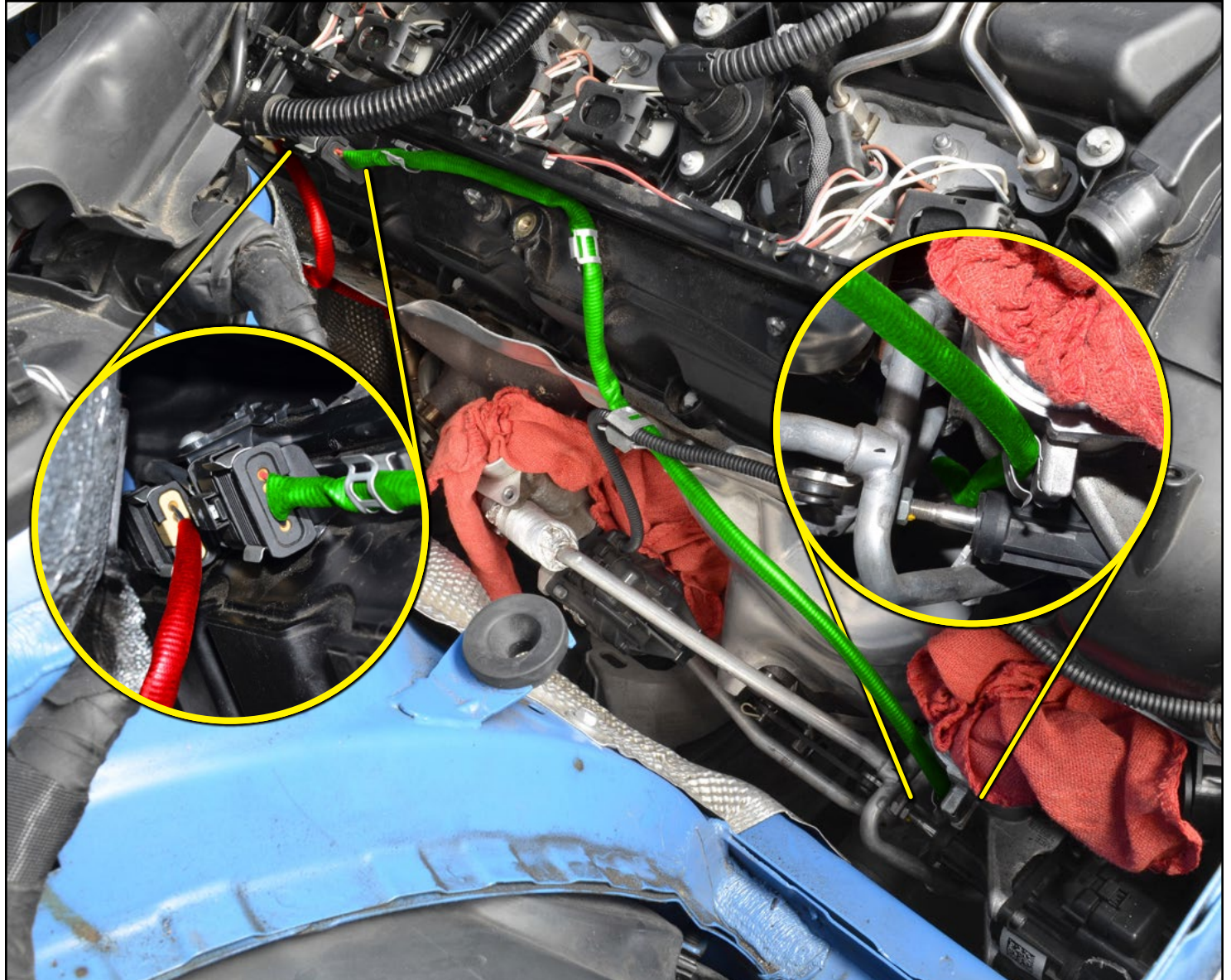
Reconnect the negative (-) battery terminal.



INSTALLING THE NEW TURNER CATTED DOWNPIPES

Step 11:

Reconnect and re-secure the upstream O2 sensor harnesses.



Your Turner Catted Downpipe Set 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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