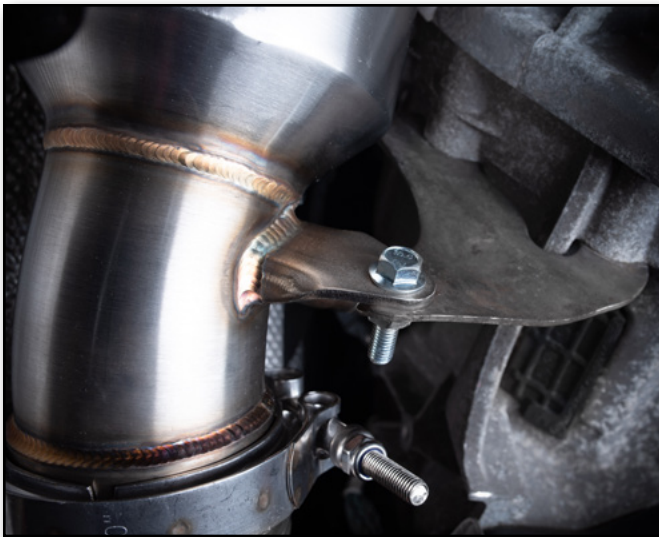




BMW F2x/F3x N20 Downpipe with High Flow Cat Installation Instructions



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.

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KIT CONTENTS



Downpipe and Adapter



Downpipe to Adapter Clamp



Gasket Ring



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.

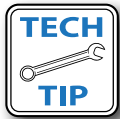


NEVER get underneath a vehicle that is supported only by a jack, and **ALWAYS** make sure that the vehicle is securely supported on jack stands.

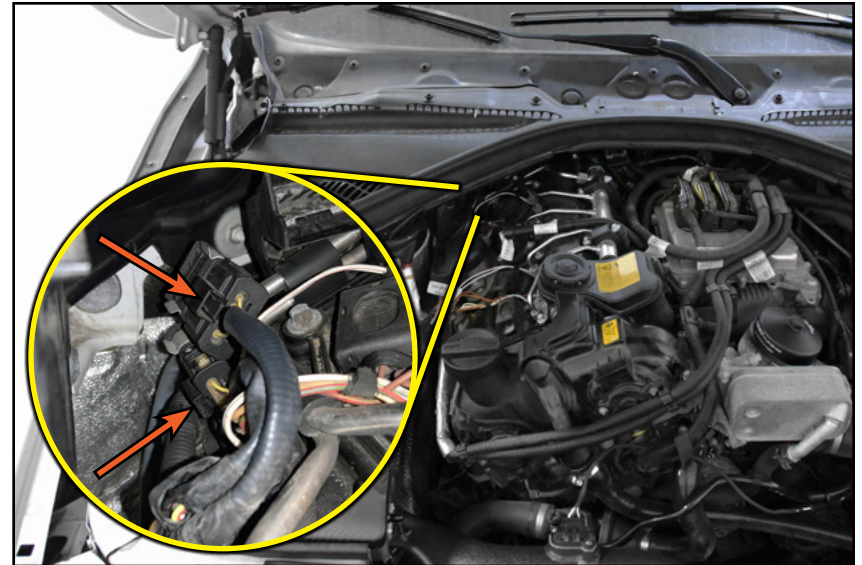
REMOVING THE STOCK DOWNPIPE

Step 1:

Remove the engine cover and pull back on the release tabs to disconnect the oxygen sensor connectors from the wires (as shown in the inset photo).



These connectors are specific to each oxygen sensor wire, so it may be helpful to mark them with a piece of masking tape to avoid accidentally mixing them up during reassembly.



Step 2: 8mm Socket, 10mm Socket, 13mm Socket & Ratchet

Remove all the underbody protection panels from beneath the vehicle to access the downpipe.



REMOVING THE STOCK DOWNPIPE

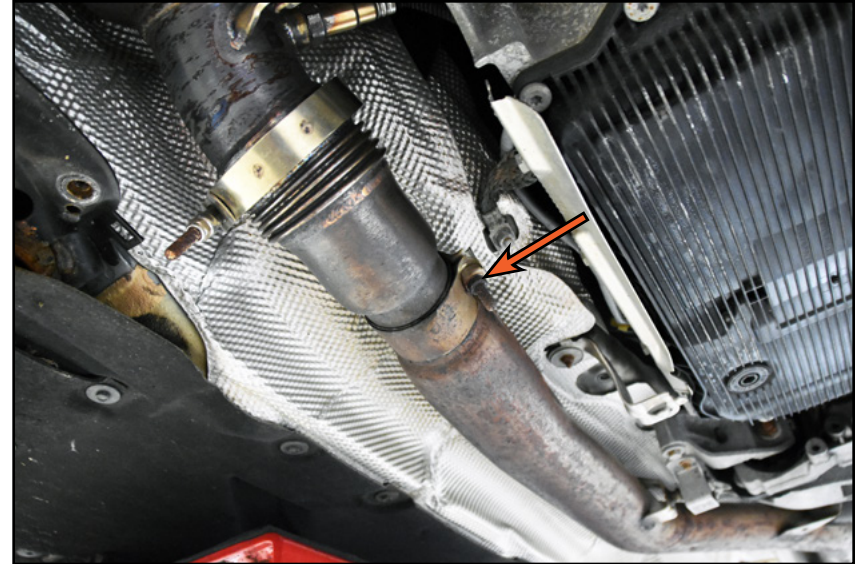
Step 3: 13mm Socket & Ratchet

Feed the oxygen sensor wires down to the underside of the vehicle, disconnecting them from any mounting clips as you go.

Loosen the nut (arrow) on the clamp which secures the downpipe to the rest of the exhaust.



We are conducting this install on a vehicle which already has our prototype downpipe installed. Your downpipe may look different, but the removal process will be exactly the same.

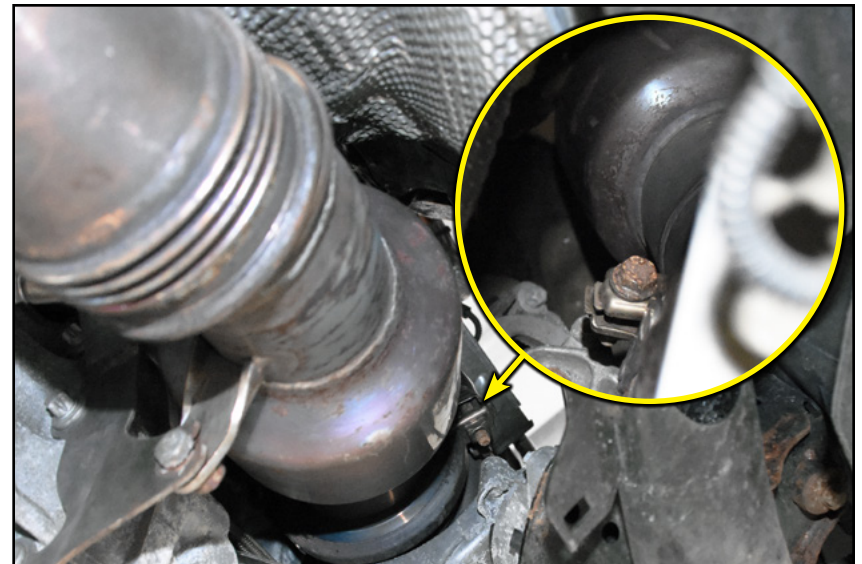


Step 4: 13mm Socket & Ratchet

On the upper end of the downpipe, loosen the bolt on the clamp which secures the downpipe to the turbo.



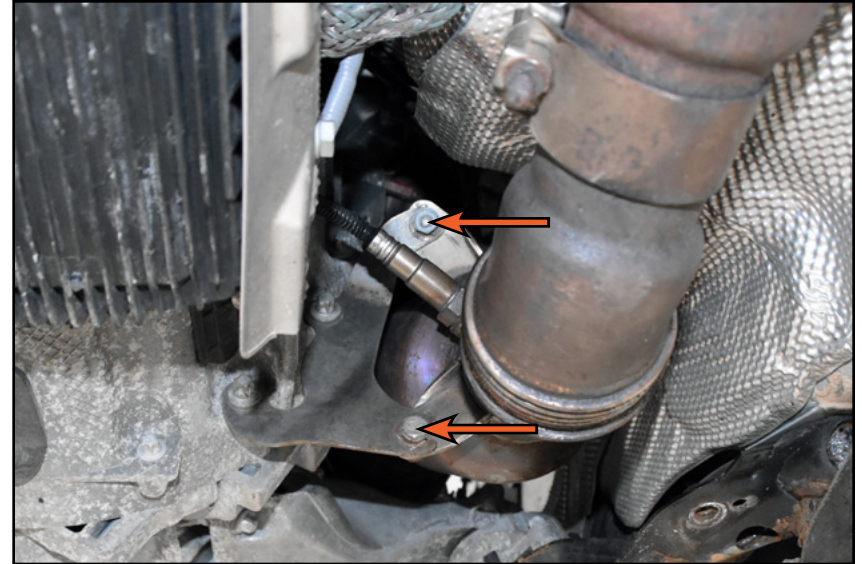
On our vehicle we found it was easier to access the bolt from above. Looking down the right side of the engine we could clearly see the head of the bolt (as shown in inset photo), and remove it using a ratchet and long extension.



REMOVING THE STOCK DOWNPIPE

Step 5: 13mm Wrench, 13mm Socket & Ratchet

Loosen and remove the two nuts (arrows) which secure the downpipe to the mounting bracket.



Step 6:

Rotate the downpipe free from the clamps and carefully lower it from the vehicle, making sure that the oxygen sensor wires don't get snagged on their way out.



REMOVING THE STOCK DOWNPIPE

Step 7: Angled Pick

Remove the old gasket ring from the groove in the turbo as shown.



Step 8: Oxygen Sensor Wrench

Remove the oxygen sensors from the stock downpipe and set them aside, being sure not to get them mixed up in the process.



INSTALLING THE NEW DOWNPIPE

Step 1: Oxygen Sensor Wrench

Transfer the oxygen sensors from the stock downpipe over to the new downpipe and tighten them to 50 Nm (37 Ft-lbs).



Step 2:

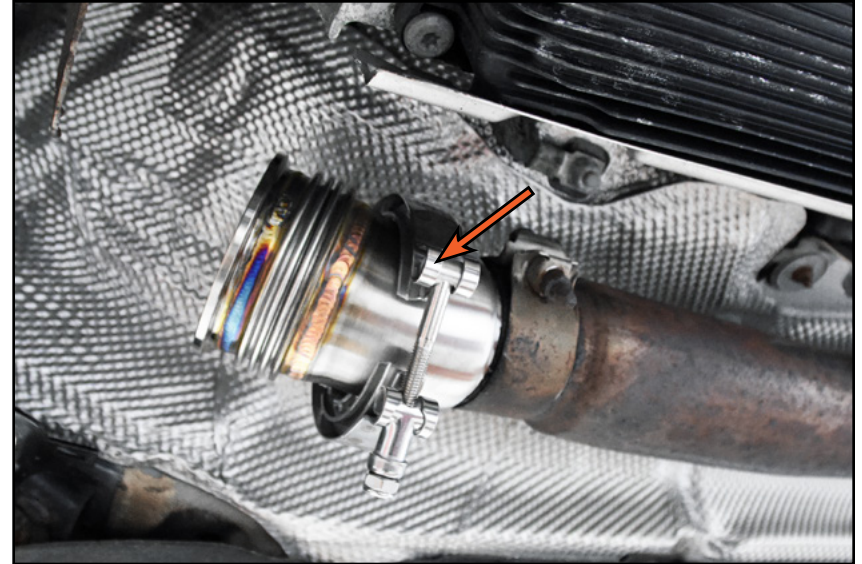
Replace the gasket ring (arrow) it with the new one provided in the kit.



INSTALLING THE NEW DOWNPIPE

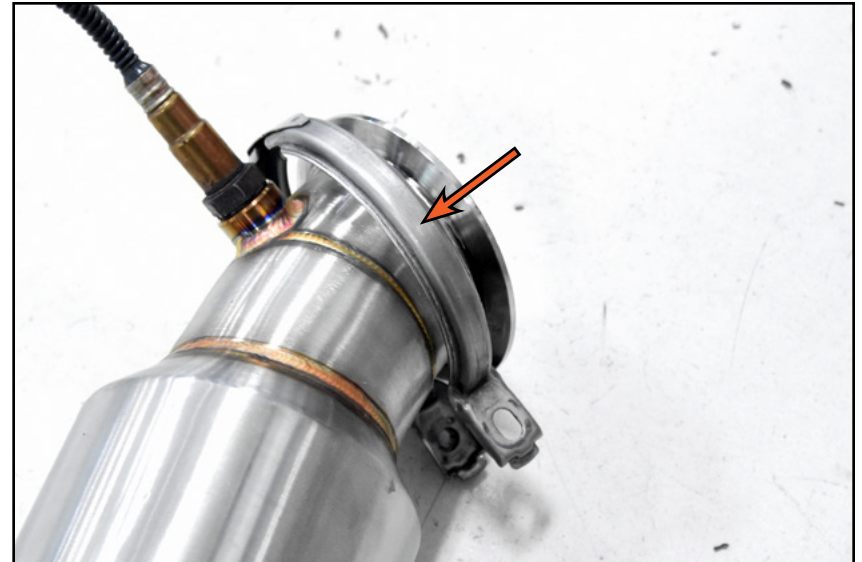
Step 3:

Slide the provided clamp (arrow) over the downpipe adapter, then slide it into the stock exhaust as shown, leaving the exhaust clamp loose for now.



Step 4:

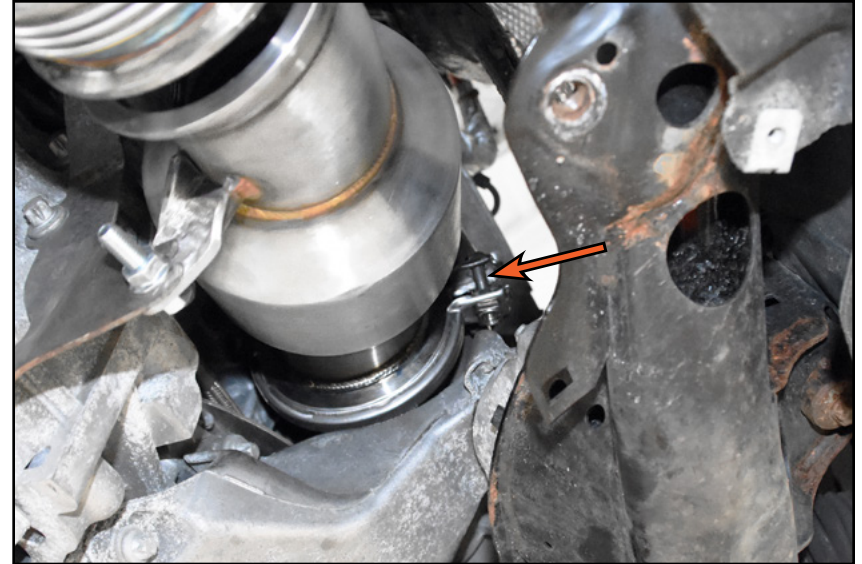
Remove the bolt from the provided turbo clamp and slide it over the larger flange on the downpipe as shown.



INSTALLING THE NEW DOWNPIPE

Step 5:

Lift the new downpipe into place and slide the clamp over the downpipe and turbo flanges, sandwiching them together. Install the bolt (arrow) through the clamp to hold the downpipe in place, but leave it loose enough to allow for adjustment.



Step 6: 13mm Wrench, 13mm Socket & Torque Wrench

Install the provided bolts and nuts through the mounting tab and into the downpipe as shown, rotating the downpipe as needed, then tighten the nuts to 19 Nm (14 Ft-lbs). Go back and tighten the clamp on the turbo to 32 Nm (24 Ft-lbs).



INSTALLING THE NEW DOWNPIPE

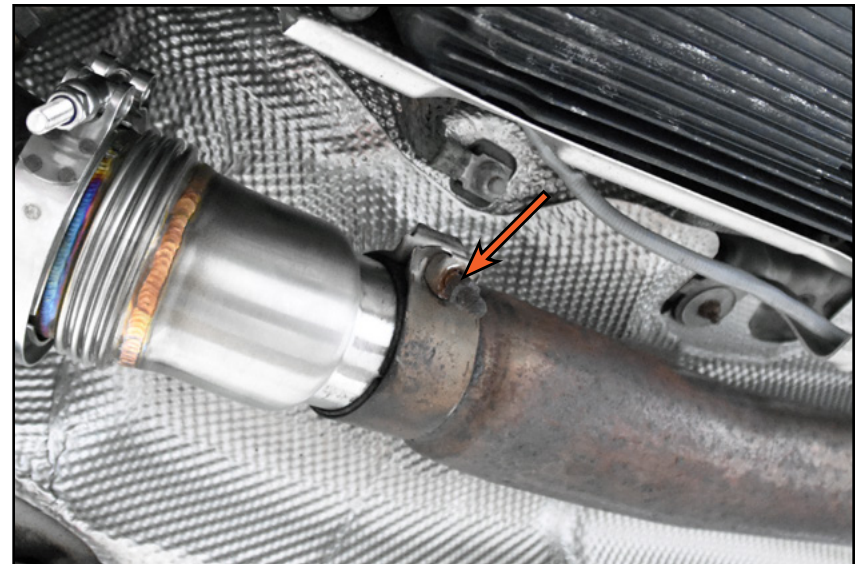
Step 7: 13mm Socket & Torque Wrench

Slide out and rotate the downpipe adapter until the flange on the adapter matches the flange on the downpipe, then slide the clamp (arrow) over the flanges, and tighten the nut to 32 Nm (24 Ft-lbs).



Step 8: 13mm Socket & Torque Wrench

Tighten the clamp (arrow) which secures the adapter to the rest of the exhaust to 22 Nm (16 Ft-lbs).



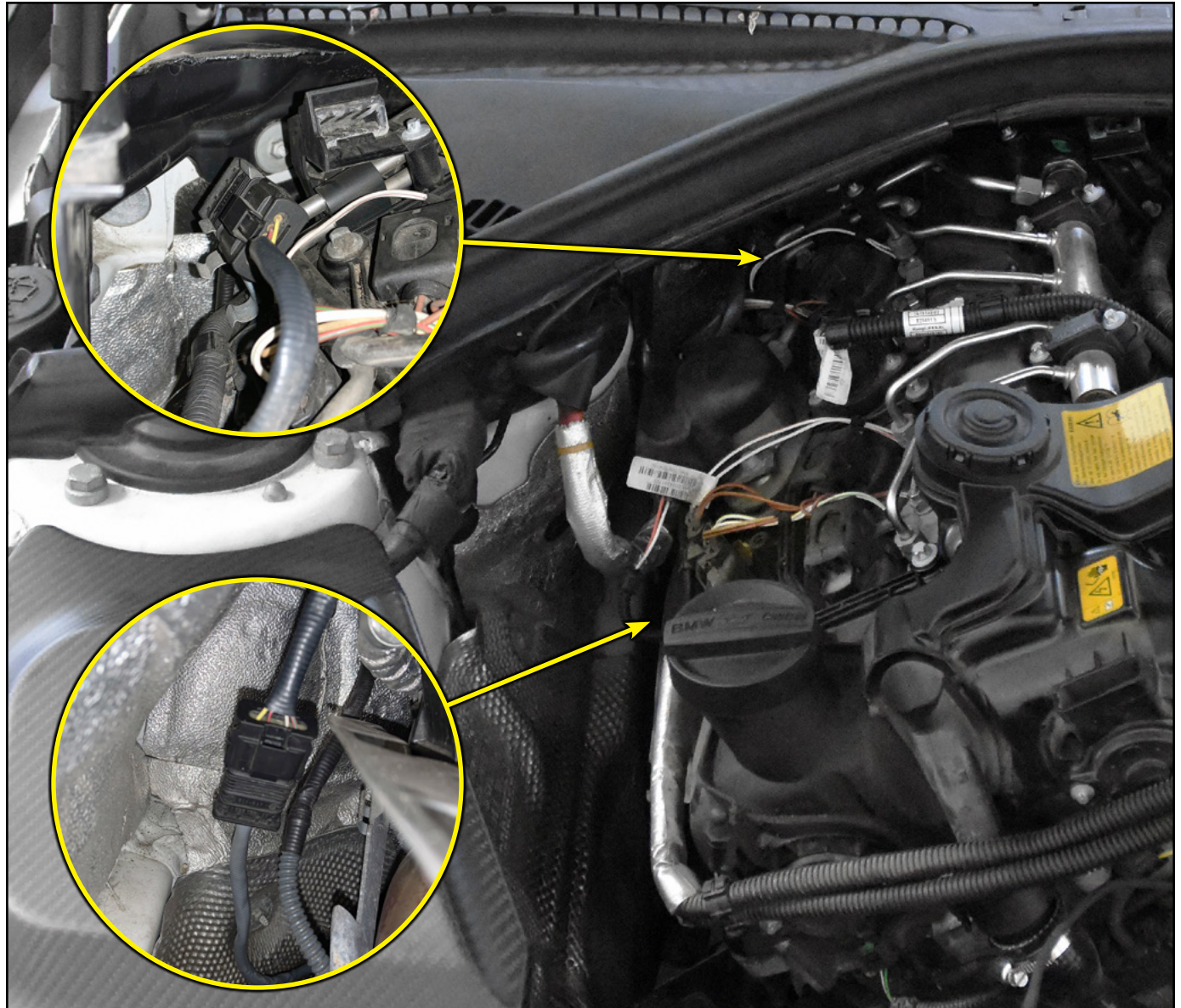
INSTALLING THE NEW DOWNPIPE

Step 9:

Route the oxygen sensor wires back up to the engine bay and reconnect them to their corresponding connectors.



The wire for the downstream oxygen sensor will likely not be long enough to reach the top of the engine. It will likely be necessary to pop the connector free from its clip, route it down to the wire, and connect it (as shown in the inset photo on the bottom). The upstream sensor should be able to be connected exactly as it was before (as shown in the inset photo on the top).



INSTALLING THE NEW DOWNPIPE

Step 10:

Reinstall the engine cover.



Step 11: 8mm Socket, 10mm Socket, 13mm Socket & Ratchet

Start the vehicle and check for leaks, then reinstall the underbody protection panels.

Congratulations, your installation is complete!



Your Downpipe installation is complete!



These instructions are provided as a courtesy by Turner Motorsport

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