Volkswagen MK7 GTI
Milltek Exhaust System
Installation Instructions

INTRODUCTION

Volkswagen MK7 GTI Milltek Exhaust Systems

Milltek exhaust systems for the Volkswagen MK7 GTI offer the following features and benefits:

Click here for a complete listing of MK7 GTI Milltek Exhaust Systems

- 3” diameter pipes
- 304 stainless steel construction
- Available in resonated or non resonated designs
- Available in downpipe, turbo back or cat back systems
- Complete with all mounting hardware
- Your choice between three different finishes of 4 inch “GT100” style exhaust tips
- High flow catalytic converter with downpipe or turbo back systems
- Superior fit for an easy “bolt on” installation

ECS Difficulty Gauge

1 - Easy Pro - 4

2 - Moderate Advanced - 3

Installing a Milltek exhaust system on your MK7 GTI is a weekend project that you will be able to complete with relative ease. The consistent quality standards that are built into every Milltek system will provide you with a smooth, trouble free installation. Please be sure to read these instructions and make sure you have all tools on hand before beginning.
Thank you for purchasing a Milltek exhaust system from ECS Tuning.
We appreciate your business!

TABLE OF CONTENTS

NOTE

These instructions will cover the installation of a downpipe only, a cat-back system only, or the complete turbo-back system. For all three installations, begin on page 9, "Removing the original exhaust system". Look for the traffic light and you will be directed to the necessary steps as required.

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.

VOLKSWAGEN MK7 GTI MILLTEK EXHAUST SYSTEM COMPONENTS

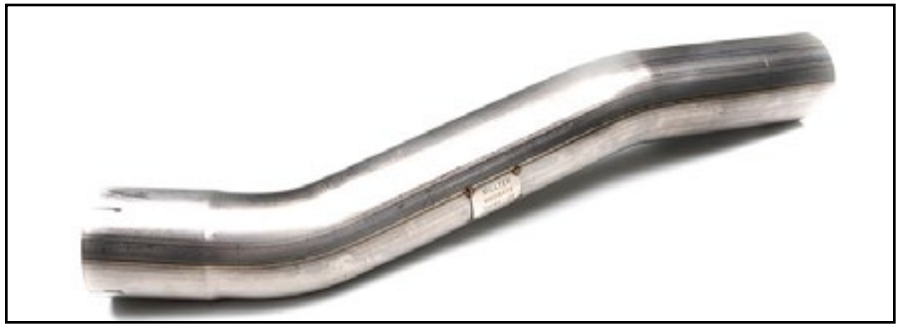
High flow catalytic converter (only with downpipe or turbo back systems)

Muffler

Resonated center pipe (resonated systems only)

Non resonated center pipe (non resonated systems only)

Tailpipe section

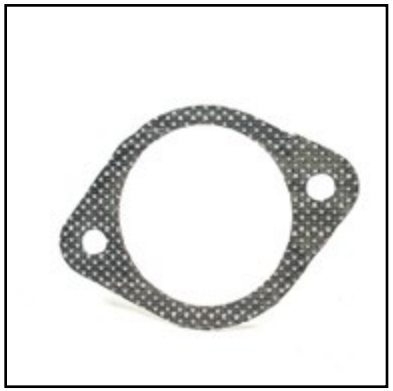


Downpipe extension (only with downpipe or turbo back systems)

VOLKSWAGEN MK7 GTI MILLTEK EXHAUST SYSTEM COMPONENTS

Tail Pipe Hardware

Rubber Exhaust Hanger



Exhaust Gasket

Exhaust adapter (only with cat back systems)

Matte Black “GT100” Exhaust Tips

Polished “GT100” Exhaust Tips

Titanium “GT100” Exhaust Tips

Exhaust clamps (number will vary depending on your system)

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
- 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

Required For This Install

- 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

Available On Our Website

Specialty Tools

- O2 Sensor Wrench ..... ES#240942
- Exhaust Hanger Pliers ..... ES#2784927

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.

REMOVING THE ORIGINAL EXHAUST SYSTEM

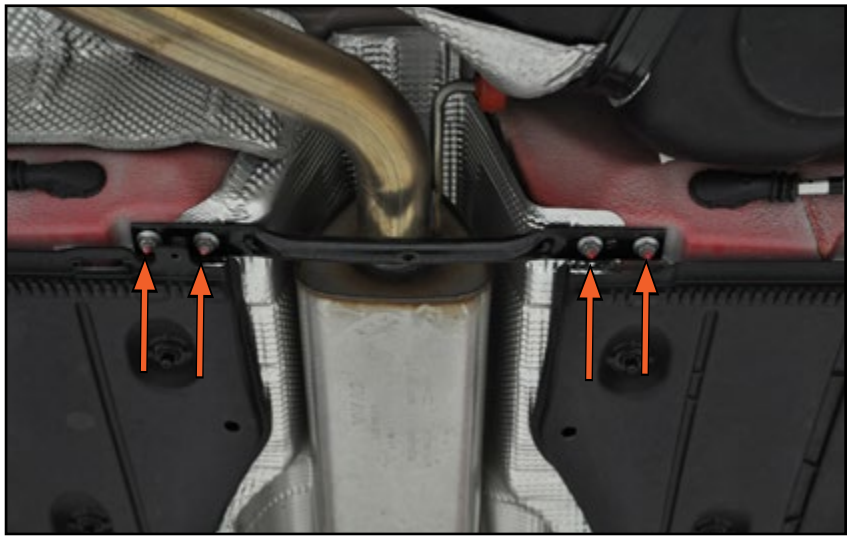
Step 1:

Safely raise and support the vehicle, giving yourself as much working room as possible to perform the installation.

If you are installing a downpipe only, skip to step 3 on page 10. For all others continue with the next step.

Step 2: 13mm Socket, 3/8" Ratchet

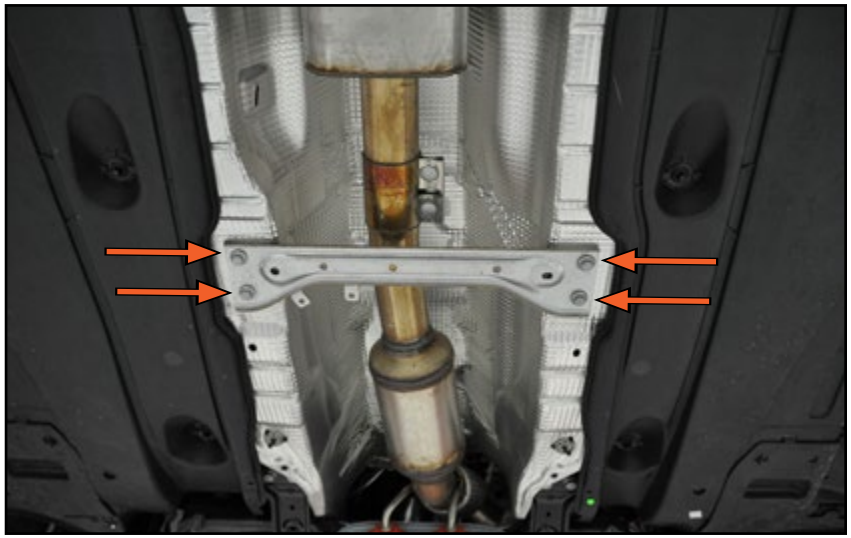
Remove the four nuts (arrows) and remove the rear body cross brace.



REMOVING THE ORIGINAL EXHAUST SYSTEM

Step 3: 13mm Socket, 3/8" Ratchet

Remove the four bolts and remove the front body cross brace.



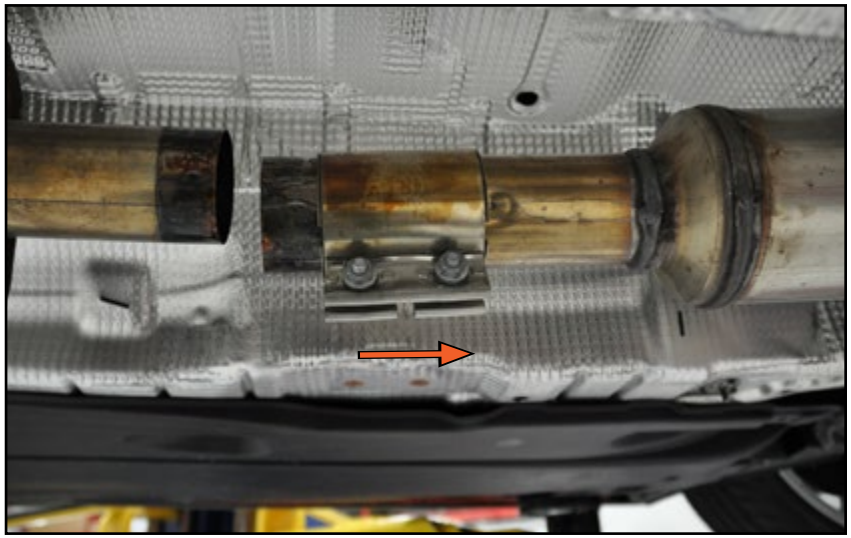
Step 4: 13mm Deep Socket, 3/8" Ratchet

Loosen the exhaust sleeve between the downpipe and the rear of the exhaust system.

REMOVING THE ORIGINAL EXHAUST SYSTEM

Step 5:

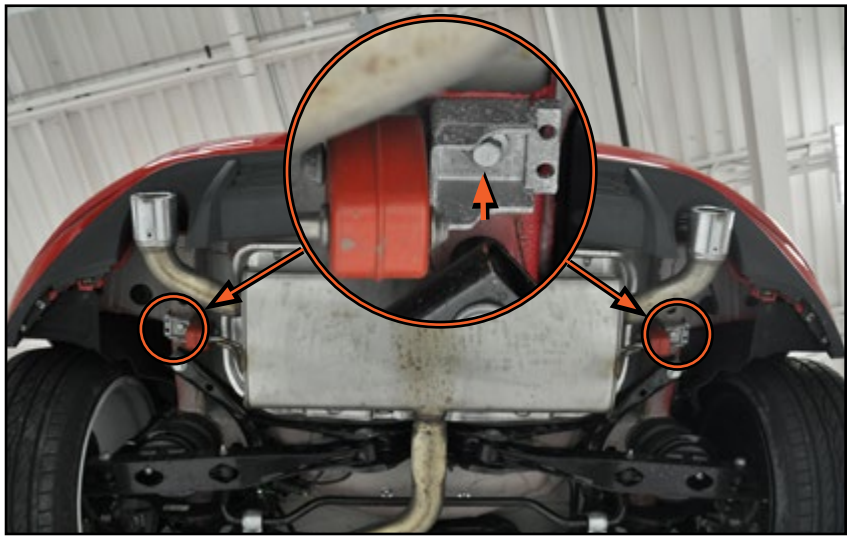
Slide the exhaust sleeve forward onto the downpipe.



If you are installing a downpipe only, skip to step 11 on page 14. For all others continue with step 6.

Step 6: 13mm Socket, 3/8" Ratchet, Extension

Loosen, but do not remove, the two rear muffler hanger bolts.



CAUTION

We recommend that you enlist the help of a couple friends before proceeding. The exhaust system is very heavy and you will need help to lower it from the car.

REMOVING THE ORIGINAL EXHAUST SYSTEM

Step 7:

Support the front and rear of the exhaust system. You can use jack stands here, but it's better have a couple friends help you with this.

Step 8: Exhaust Hanger Pliers

Remove the center exhaust hanger from the bracket on the resonator.

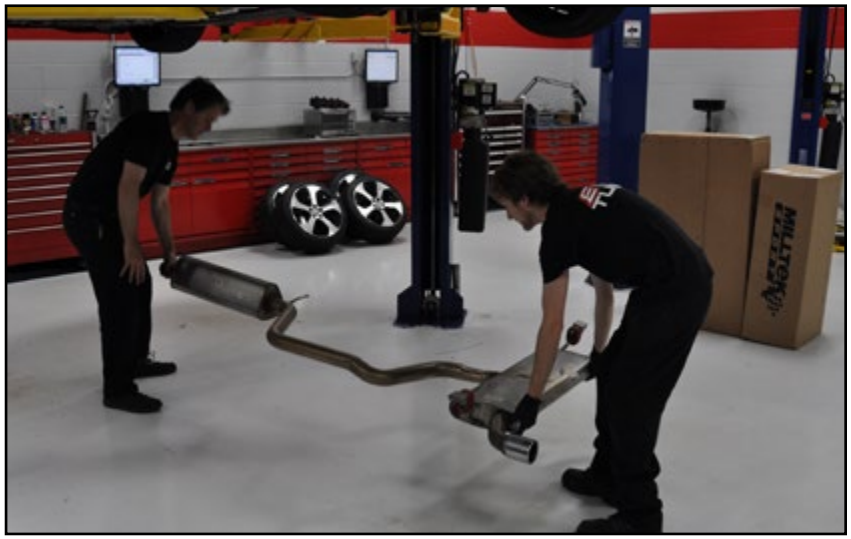
REMOVING THE ORIGINAL EXHAUST SYSTEM

Step 9: 13mm Socket, 3/8" Ratchet, Extension

Completely remove the bolt on each rear exhaust hanger.

Step 10:

Carefully lower the exhaust system to the ground.



If you are installing a turbo-back system, continue with step 11 on the next page.

If you are installing a cat-back system, skip to step 1 on page 19.

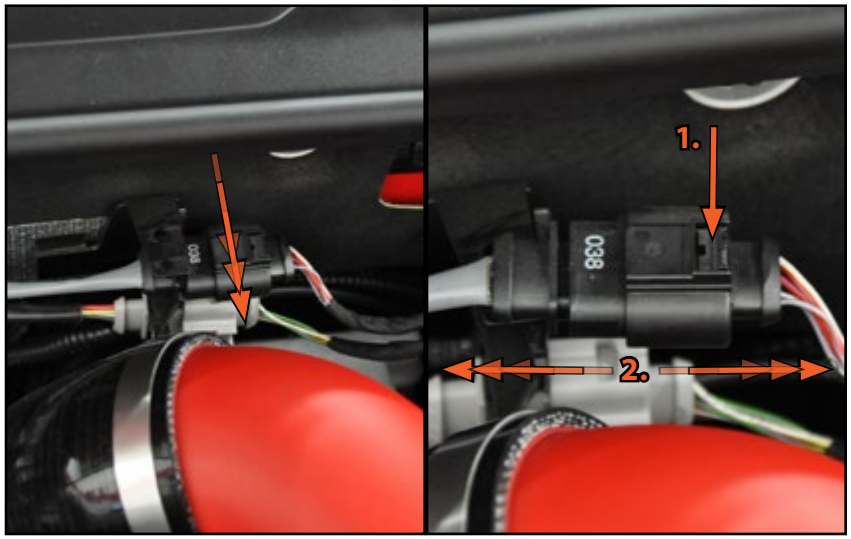
REMOVING THE ORIGINAL EXHAUST SYSTEM

Step 11:

Working from above, locate the oxygen sensor connector on the firewall.

Step 12:

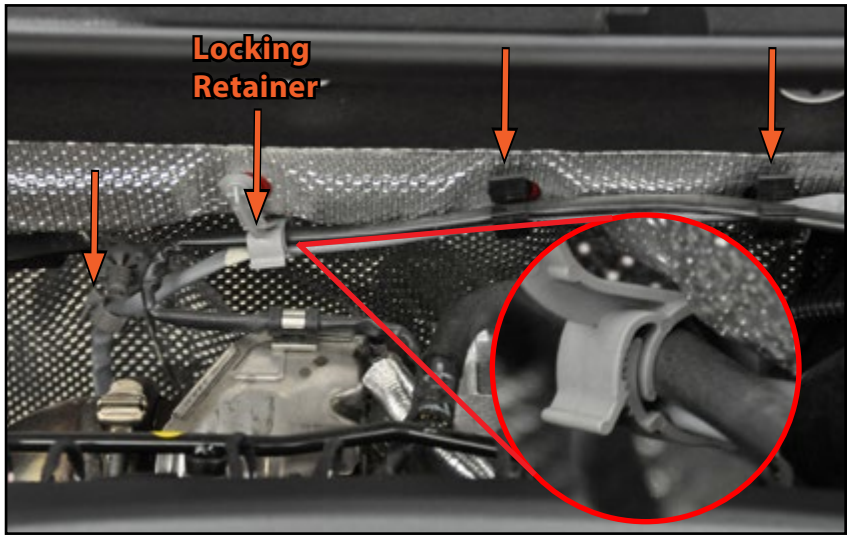
Slide the connector out of the bracket on the firewall, then depress the locking tab and separate the connector.



REMOVING THE ORIGINAL EXHAUST SYSTEM

Step 13:

Pull the oxygen sensor harness out of the four retainers on the firewall.



NOTE

You will have to pull out on the tab of the locking retainer to release the teeth and open it so the oxygen sensor harness can be removed.

Step 14:

Route the harness down between the catalytic converter and the firewall so you can reach it from underneath in a later step.

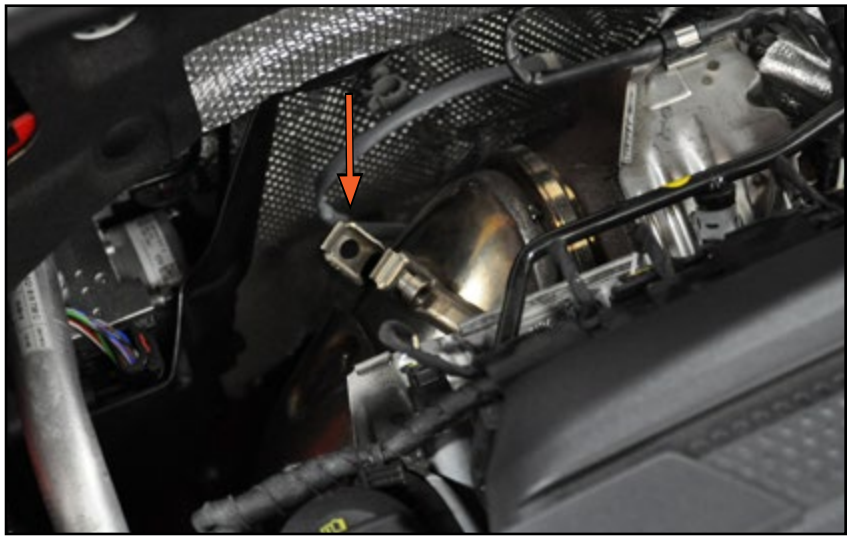
REMOVING THE ORIGINAL EXHAUST SYSTEM

Step 15: 6mm Hex Bit (Allen) Socket, Ratchet

Remove the bolt on the clamp securing the downpipe/converter to the turbo outlet.

Step 16:

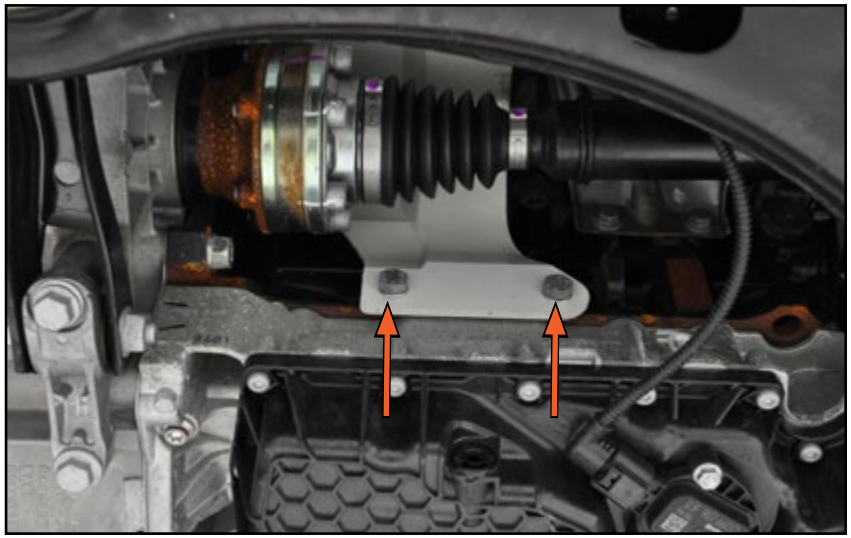
If necessary, pry the clamp open at the top so it releases from the turbo and converter flanges, then slide it down onto the converter.



REMOVING THE ORIGINAL EXHAUST SYSTEM

Step 17: 16mm Boxed End Wrench

Remove the two bolts for the RH inner CV boot heat shield, then rotate the shield around the CV joint and remove it.

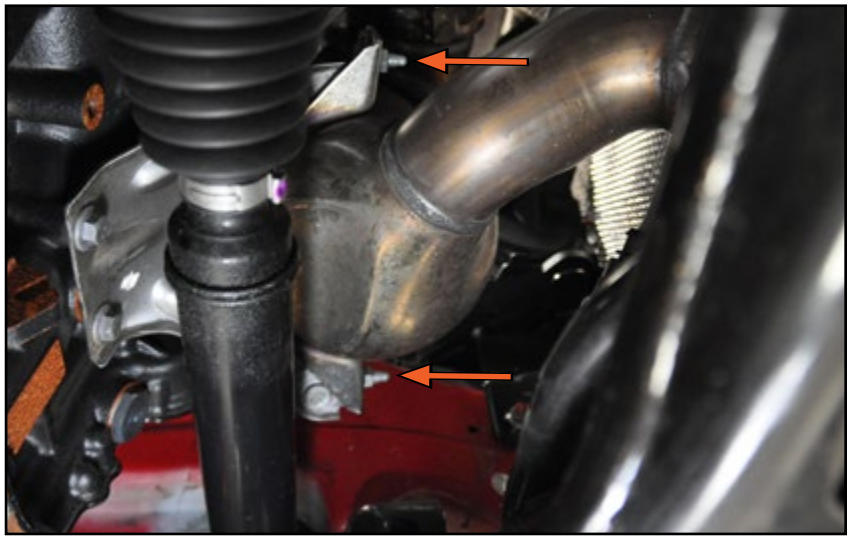


NOTE

We are removing this shield simply for better access to the catalytic converter bracket nuts.

Step 18: 13mm Socket, Ratchet

Remove one of the two nuts holding the catalytic converter to the converter bracket. Loosen the second nut but do not completely remove it at this time. Loosen it to the point where you will be able to easily remove it by hand.



REMOVING THE ORIGINAL EXHAUST SYSTEM

Step 19: 13mm Socket, Ratchet

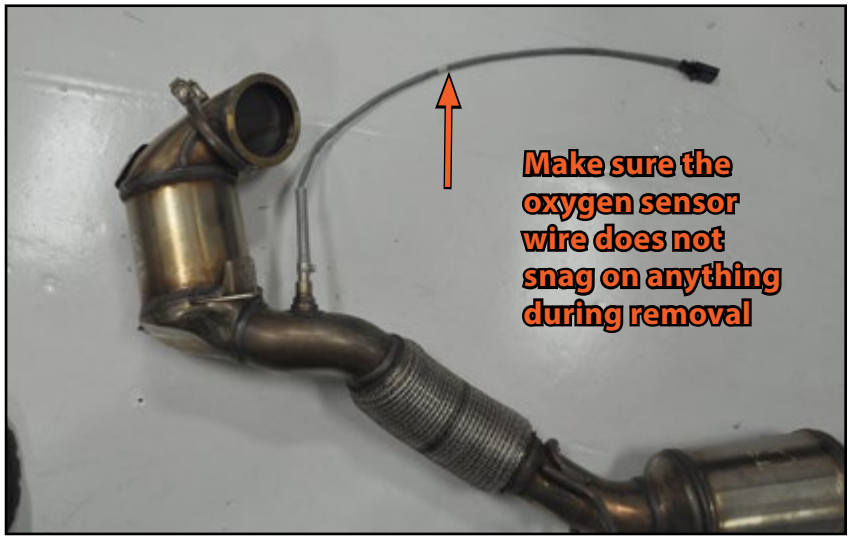
Remove the sleeve from the converter/downpipe (step 5), then remove the two front exhaust hanger bolts and hold the rear of the converter/downpipe so it does not drop down.

NOTE

Always support the converter/downpipe assembly during removal so you do not over extend and damage the flexible section.

Step 20:

While still holding the rear of the converter/downpipe, remove the remaining nut holding the converter to the converter bracket, then lower the converter/downpipe assembly from the car. You will have to rotate the assembly upside down as you remove it. Be sure that the oxygen sensor wire does not get stuck on anything as you go.

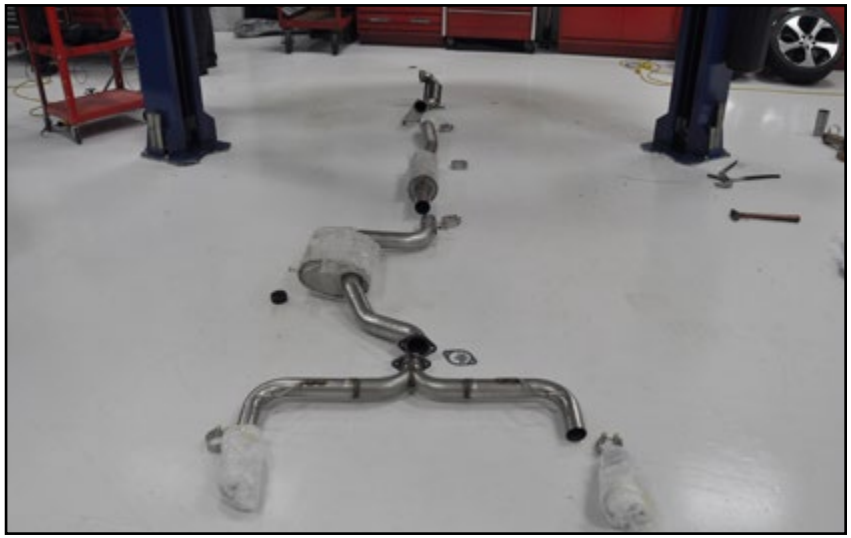


If you are installing a downpipe only, skip to step 3 on page 20. If you are installing a turbo-back system, continue on the next page.

INSTALLING THE NEW MILLTEK EXHAUST SYSTEM

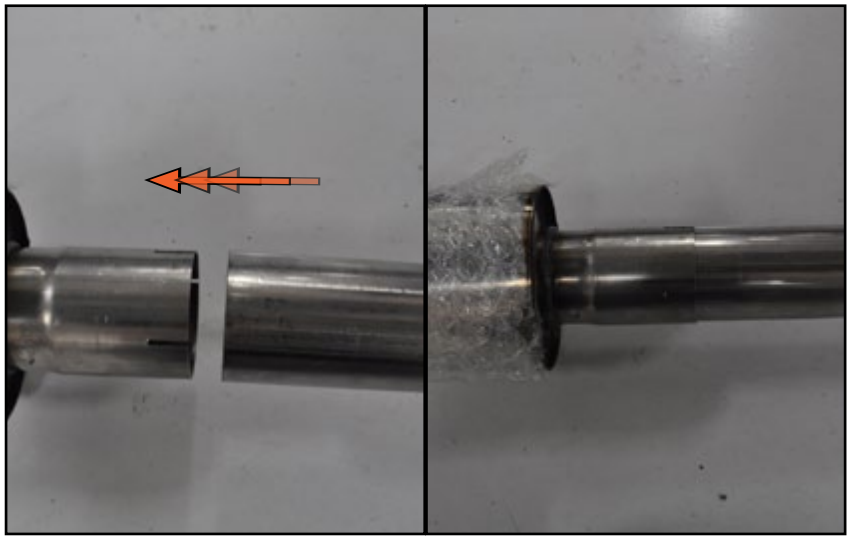
Step 1:

Carefully unpack your new Milltek exhaust system and lay it out on the floor, with all components in the order in which they will be installed. Leave the protective packing installed so you do not scratch the mufflers or tips.



Step 2:

At each of the slip connections, fit the pipes together to make sure they slide together easily. If they do not slide together easily, inspect the ends of the pipes for any slight distortion or bending (this is sometimes impossible to avoid during shipping). Using a ball peen hammer, gently tap on the ends of the pipes to straighten them and recheck fit. Once all connections slide together easily, proceed with the next step.



If you are installing a cat-back system only, skip to step 18 on page 27. For all others continue on the next page.

INSTALLING THE NEW MILLTEK EXHAUST SYSTEM

Step 3:

Check the turbo outlet flange to make sure it is clean and that the seal is still intact in the groove.

Step 4: Exhaust Hanger Pliers

Remove the forward exhaust hanger from the original converter/ downpipe assembly.

INSTALLING THE NEW MILLTEK EXHAUST SYSTEM

Step 5:

Install the hanger into place on the new converter/downpipe assembly. Make sure the completely flat side of the hanger is located on the bottom as shown in the picture.

TECH TIP

It may be helpful to spray silicone lubricant onto the exhaust hangers to get them to easily slip into place.

Step 6: Oxygen Sensor Wrench

Remove the oxygen sensor from the original converter/downpipe and install it into the new one.

INSTALLING THE NEW MILLTEK EXHAUST SYSTEM

Step 7:

Remove the band clamp from the original downpipe/converter assembly and drape it over the front of the new one as shown.

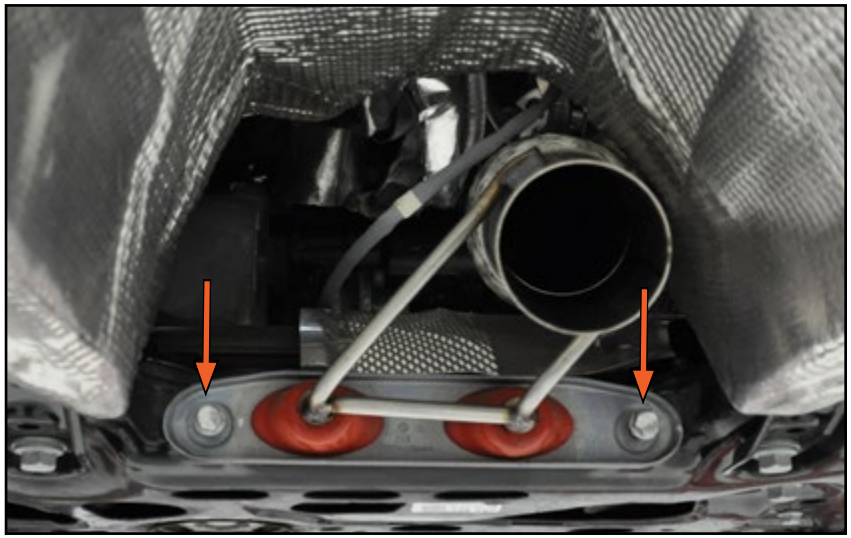
Step 8:

Install the new downpipe/converter assembly into place on the car, again using caution not to damage the oxygen sensor wire as you guide the converter up between the subframe and body.

INSTALLING THE NEW MILLTEK EXHAUST SYSTEM

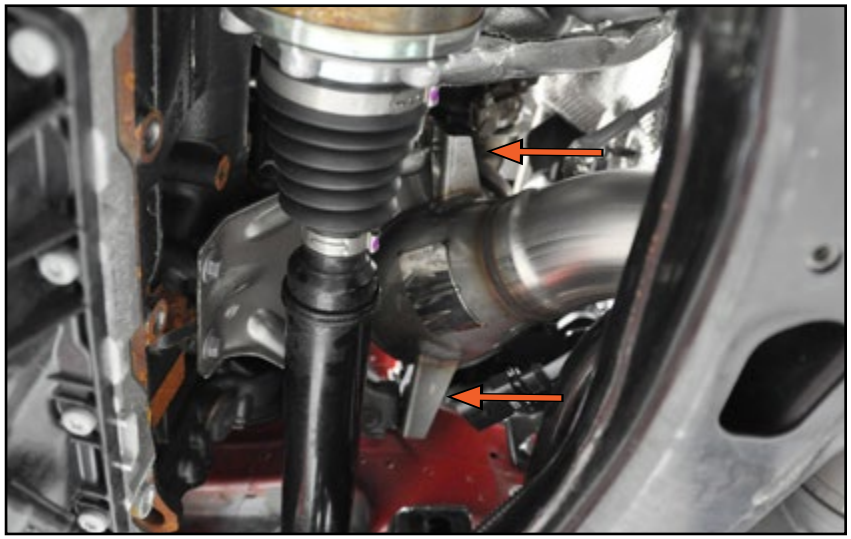
Step 9:

With the new downpipe/converter in place, loosely install the two forward hanger bolts but do not tighten them at this time.



Step 10:

Make sure the mounting ears of the converter are positioned over the studs on the converter bracket, then loosely install the two nuts. Do not tighten them at this time.



INSTALLING THE NEW MILLTEK EXHAUST SYSTEM

Step 11:

Make sure the flange of the new converter/downpipe assembly is seated flush against the turbo outlet. You may have to push it in to place as shown.

Step 12:

Position the clamp over the turbo outlet and downpipe flanges, then squeeze it together until you are able to thread the bolt in place, but do not tighten it at this time.

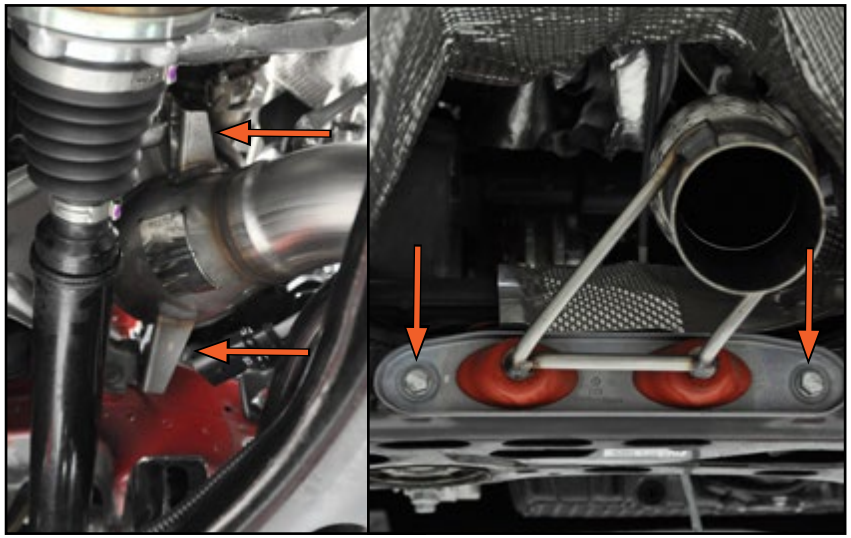
CAUTION

Do not force the clamp into place. Rotate it back and forth as necessary until it seats on the flanges and easily closes allowing bolt installation.

INSTALLING THE NEW MILLTEK EXHAUST SYSTEM

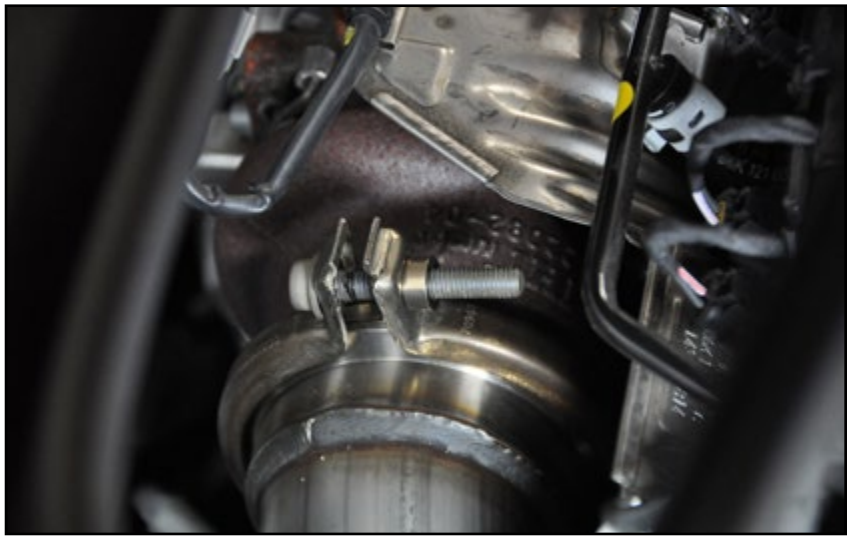
Step 13: 13mm Socket, Torque Wrench

First tighten the nuts holding the converter to the bracket, then torque the bolts for the forward exhaust hanger to 20 Nm (15 Ft-lbs).



Step 14: 6mm Hex Bit (Allen) Socket, Torque Wrench

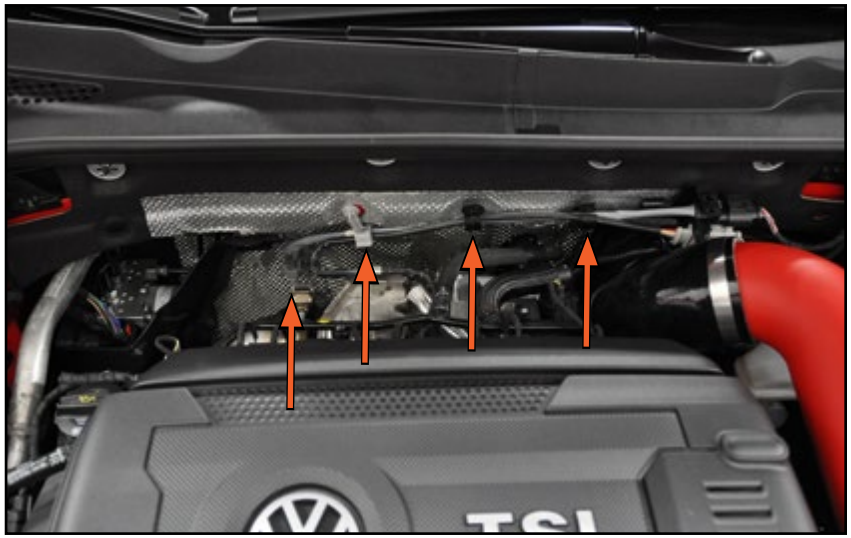
Torque the bolt for the turbo outlet/downpipe flange clamp to 15 Nm (11 Ft-lbs).



INSTALLING THE NEW MILLTEK EXHAUST SYSTEM

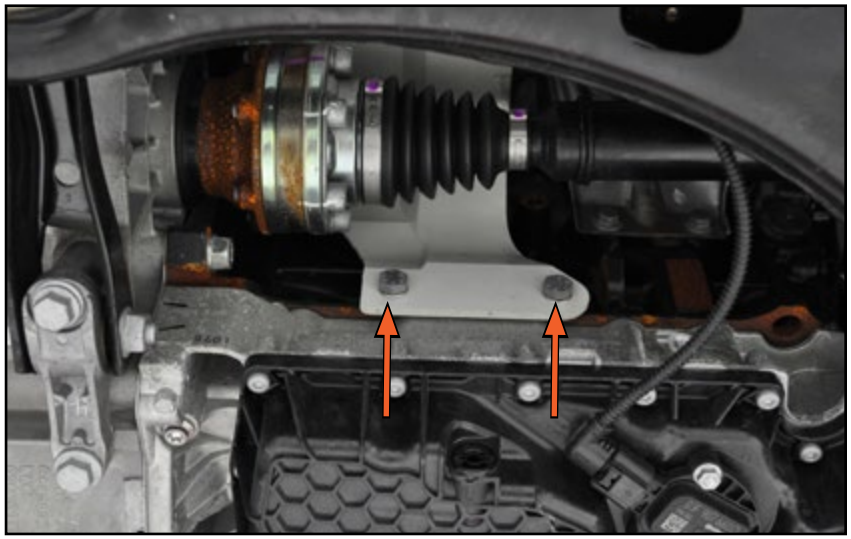
Step 15:

Route the oxygen sensor harness in the clips along the firewall and reconnect it.



Step 16: 16mm Boxed End Wrench

Reinstall the RH CV boot heat shield.



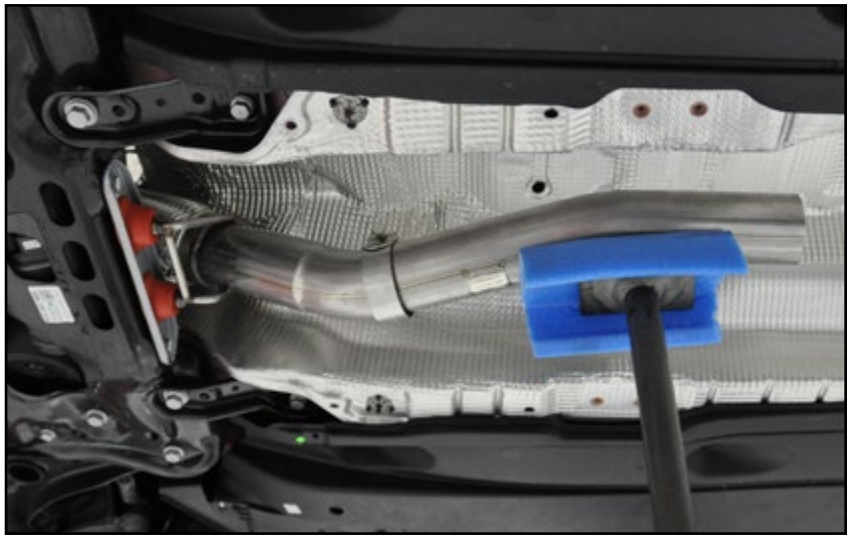
INSTALLING THE NEW MILLTEK EXHAUST SYSTEM

Step 17:

Slide a clamp over the downpipe extension, then slide the downpipe extension onto the end of the converter. Place a jack post (or similar equipment) underneath to hold the pipe in place. Do not tighten the clamp at this time.

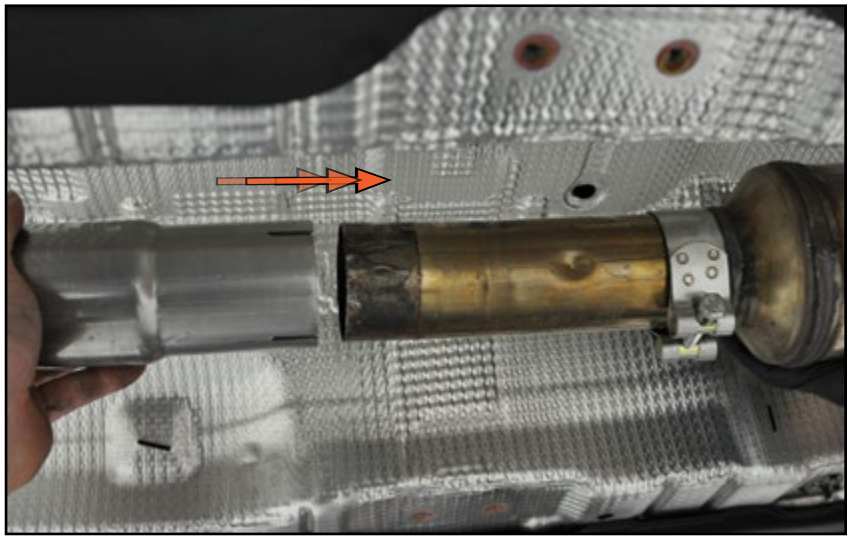
If you are installing a downpipe only, install the sleeve between the downpipe extension and original exhaust system, tighten the sleeve and clamp and your installation is complete.

If you are installing a turbo back system, skip to step 19.



Step 18:

If you are installing a cat-back system, slide a clamp and the exhaust adapter in place on the end of the original downpipe. Do not tighten the clamp at this time.



INSTALLING THE NEW MILLTEK EXHAUST SYSTEM

Step 19:

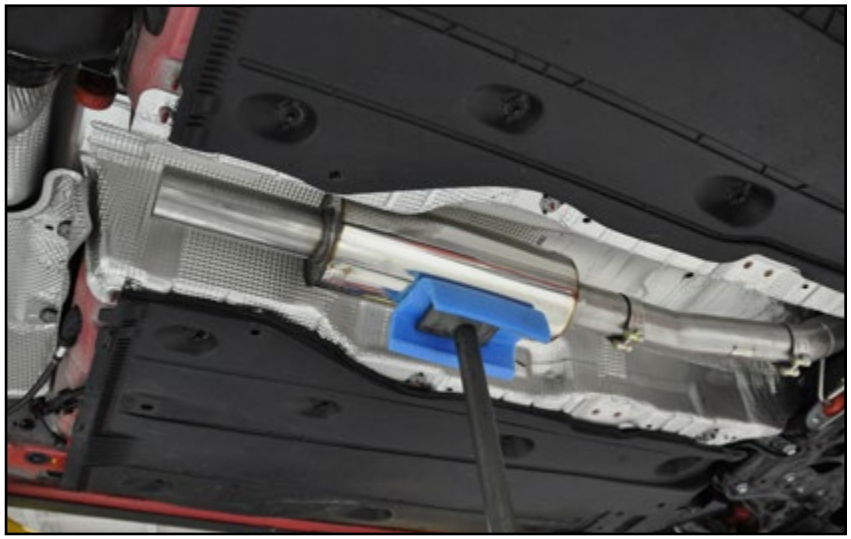
With the first clamp and all remaining clamps on the system, always consider the installation position. Make sure that they are positioned so when they are tightened, you will be able to access the bolt and that it will not interfere with surrounding components. For a nice appearance, when possible we prefer to position all clamps with the bolt on the same side.

TECH TIP

Be sure to check all clamps and make sure you have them all in the correct location. The clamps are sized differently for pipes and tips.

Step 20:

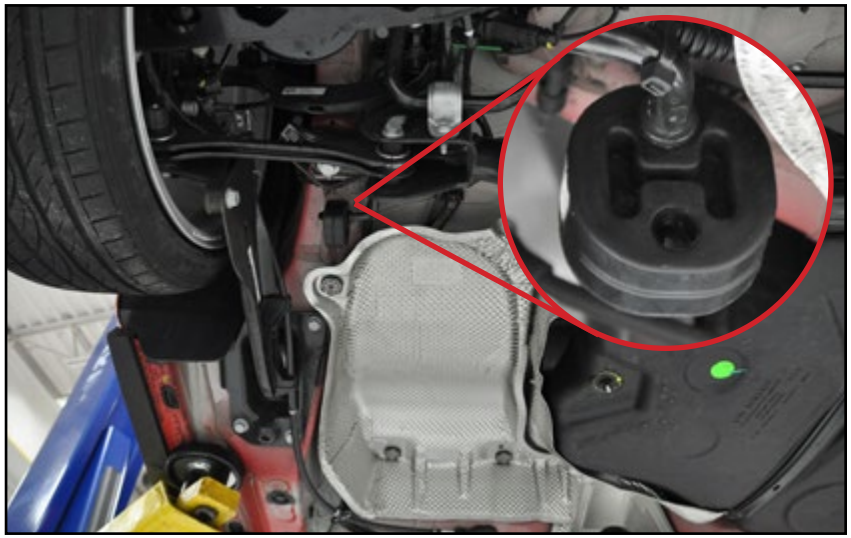
Slide a clamp over the end of the downpipe extension (or the exhaust adapter for a cat-back installation), then remove the packing and slide the center pipe (resonated center pipe shown) into place and move the jack post underneath for support.



INSTALLING THE NEW MILLTEK EXHAUST SYSTEM

Step 21:

Install the new exhaust hanger included with the kit onto the previously unused original hanger mount, located on the LH side of the car where the new muffler will be installed.



Step 22:

Lubricate the lower hole of both muffler hangers with silicone spray.

INSTALLING THE NEW MILLTEK EXHAUST SYSTEM

Step 23:

Slide a clamp over the end of the center pipe.

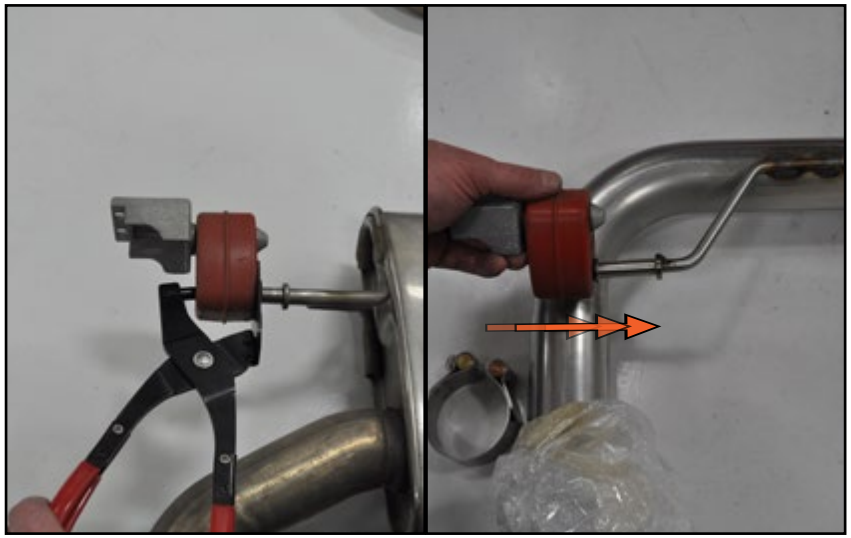
Step 24:

Remove the packing, then slide the muffler onto the center pipe and install both muffler hangers. You can now remove the jack post.

INSTALLING THE NEW MILLTEK EXHAUST SYSTEM

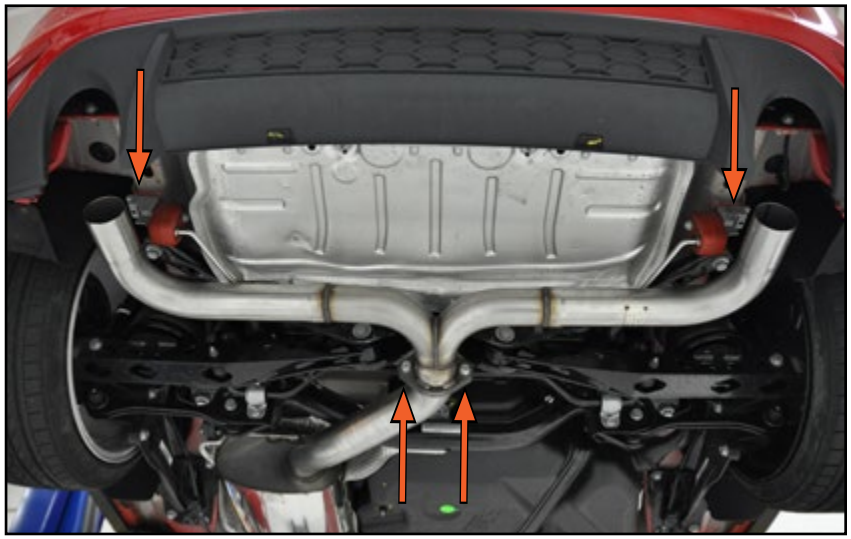
Step 25: Exhaust Hanger Pliers

Remove the exhaust hangers from the original muffler and install them onto the new tailpipe assembly.



Step 26:

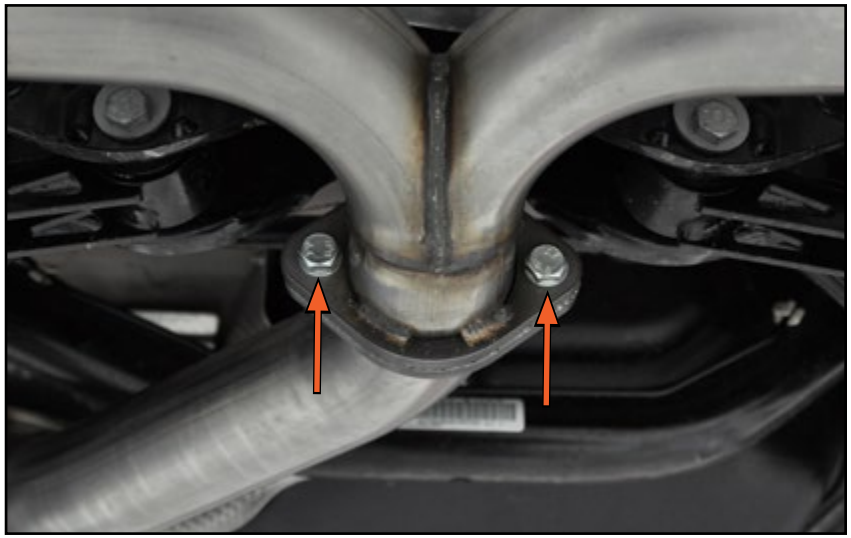
Install the tailpipe onto the car, first installing both hanger bolts loosely, then installing the flange bolts loosely, making sure to install the gasket between the tailpipe and muffler flanges.



INSTALLING THE NEW MILLTEK EXHAUST SYSTEM

Step 27: 13mm Socket, Ratchet, 13mm Wrench

Hold the flanges on the tailpipe and muffler so they are lined up, then tighten the tailpipe bolts.



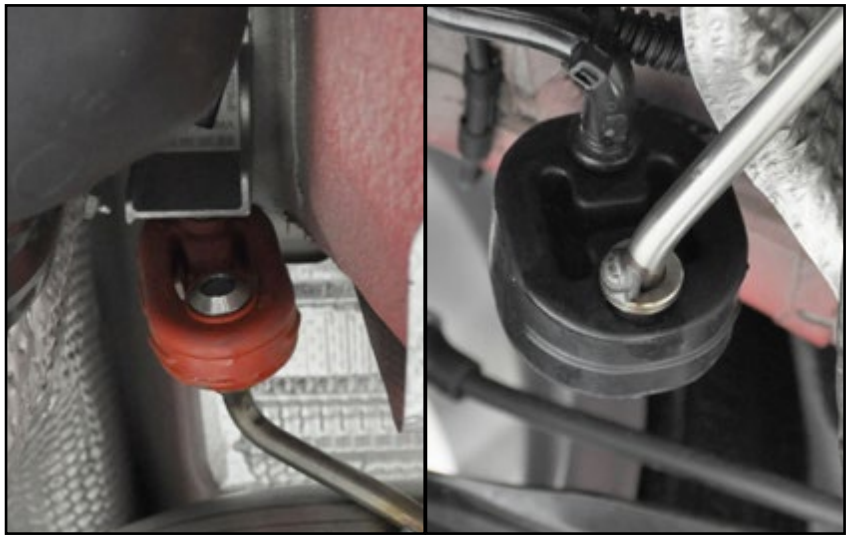
Step 28: 13mm Socket, Ratchet, Extension

Make sure the tailpipe is centered, then tighten the tailpipe hangers.

INSTALLING THE NEW MILLTEK EXHAUST SYSTEM

Step 29:

Push the entire system forward until all of the hangers are angled slightly forward as shown. The bottom of each hanger should be closer to the front of the car.



NOTE

It is important for the rubber hangers to be in this position when the system is installed because as it heats up, it will expand and move towards the rear of the vehicle.

Step 30:

Align the exhaust system. Check the entire length of the system for clearance, making sure it does not contact the body or suspension at any point.

NOTE

You may have to bend the heat shield slightly around the muffler for clearance.

INSTALLING THE NEW MILLTEK EXHAUST SYSTEM

Step 31: 13mm Socket, Ratchet

With the system aligned, tighten all of the exhaust clamps. **DO NOT USE AN IMPACT WRENCH**.

Step 32:

Remove the packing, then slide the clamps and the exhaust tips onto each tailpipe.

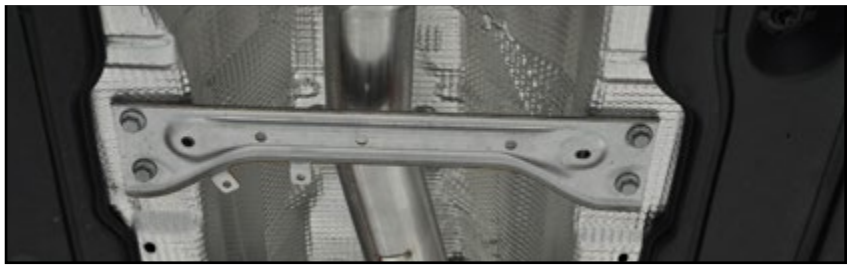
INSTALLING THE NEW MILLTEK EXHAUST SYSTEM

Step 33:

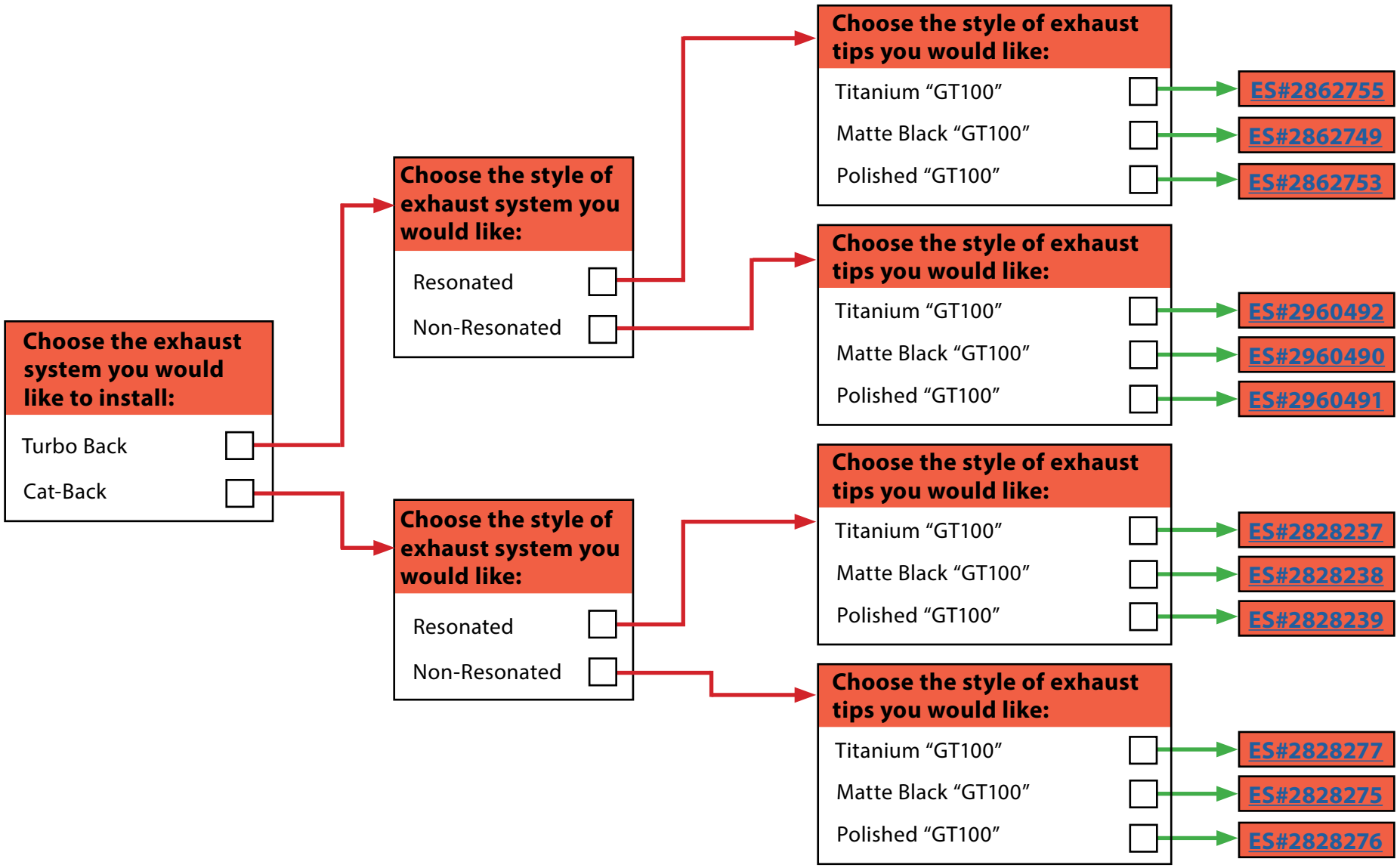
Rotate the exhaust tips and slide them in and out as desired, making sure they are both positioned the same, then tighten the clamps.

Step 34: 13mm Socket, Ratchet

Reinstall the front and rear body cross braces.



Your Milltek exhaust installation is complete!


Choose the exhaust system you would like to install:
Turbo Back
Cat-Back
Choose the style of exhaust system you would like:
Resonated
Non-Resonated
Choose the style of exhaust system you would like:
Resonated
Non-Resonated
Choose the style of exhaust tips you would like:
Titanium "GT100"
Matte Black "GT100"
Polished "GT100"
ES#2862755
ES#2862749
ES#2862753
Choose the style of exhaust tips you would like:
Titanium "GT100"
Matte Black "GT100"
Polished "GT100"
ES#2960492
ES#2960490
ES#2960491
Choose the style of exhaust tips you would like:
Titanium "GT100"
Matte Black "GT100"
Polished "GT100"
ES#2828237
ES#2828238
ES#2828239
Choose the style of exhaust tips you would like:
Titanium "GT100"
Matte Black "GT100"
Polished "GT100"
ES#2828277
ES#2828275
ES#2828276

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Your Volkswagen MK7 GTI Milltek Exhaust Installation is complete!

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