Audi RS5 Milltek Cat-Back Exhaust System Installation Instructions

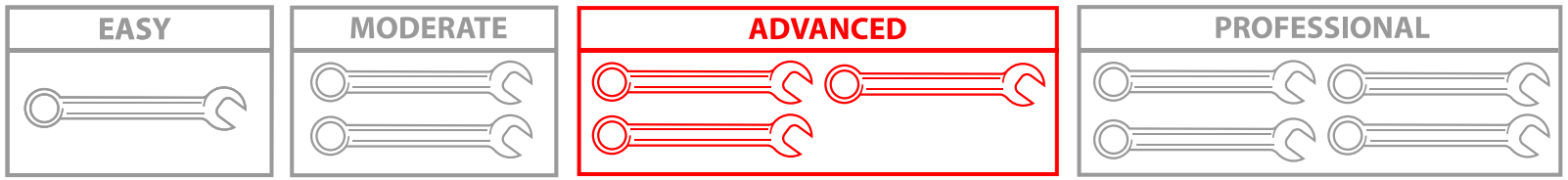
Proper service and repair procedures are vital to the safe, reliable operation of all motor vehicles as well as the personal safety of those performing the repairs. Standard safety procedures and precautions (including use of safety goggles and proper tools and equipment) should be followed at all times to eliminate the possibility of personal injury or improper service which could damage the vehicle or compromise its safety.

INTRODUCTION

Audi RS5 Milltek Cat-Back Exhaust System ES#2827453 & ES#2827393

The Milltek Cat-Back Exhaust System for your Audi RS5 offers the following features:
- High quality type-304 aircraft grade stainless steel
- Available in "Resonated" and "Non-Resonated" designs
- Built-in "Active Exhaust Valve" which utilizes the OE vacuum hoses in the rear of the vehicle
- 2.37" piping from the catalytic converter to the mufflers

There are **SPECIALTY TOOLS** which are **REQUIRED** for this installation. Please see the Required Tools section on page 5 **BEFORE** beginning any work on your vehicle to prevent delays.



Upgrading the exhaust on your Audi RS5 is a very rewarding project that an experienced technician will be able to complete in a weekend. Plan accordingly based on your experience level. The Milltek cat-back exhaust system will fit like the stock system, but will completely change the character of your car. This system allows you to control the volume of the exhaust just like the stock system would, simply by selecting a different "Car Mode" on the center console. Before you begin, read and familiarize yourself with these instructions and make sure you have all the required tools on hand. Thank you for purchasing your new Milltek Cat-Back Exhaust System from ECS Tuning, we appreciate your business!

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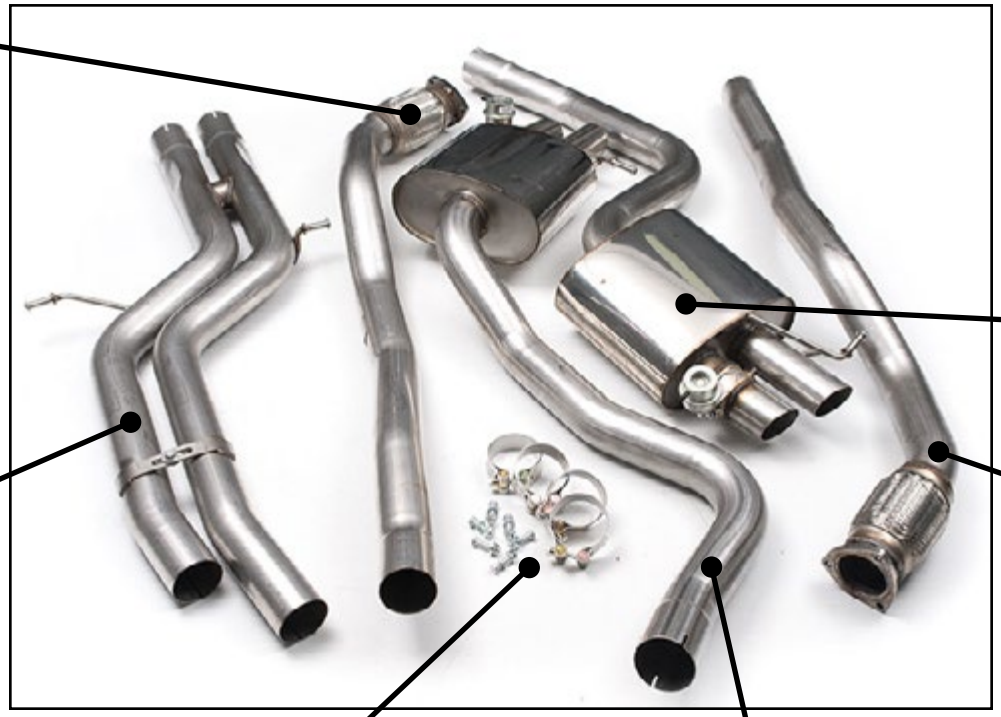
KIT CONTENTS

Left Downpipe



Left Muffler Assembly

Center Section
ES#2827453: Non-Resonated
ES#2827393: Resonated

Clamps and Hardware

Right Muffler Assembly

Right Downpipe

REQUIRED TOOLS

Note: The tools required for each step will be listed by the step number throughout these instructions.

We recommend that you have a complete selection of tools and equipment necessary for automotive repair. Below is a list of the tools we used to install the Milltek Cat-Back Exhaust System. Additional tools may be required for any issues that arise during installation such as rust, corrosion, or broken and stripped fasteners.

- 1/4" Drive Ratchet ..... Available at ecstuning.com ..... ES#2093757
- 3/8" Drive Ratchet ..... Available at ecstuning.com ..... ES#2765902
- 1/2" Breaker Bar ..... Available at ecstuning.com ..... ES#2776653
- Flat and Phillips Blade Screwdriver(s) ..... Available at ecstuning.com ..... ES#2225921
- Torx Bit Sockets: T25 & T30 ..... Available at ecstuning.com ..... ES#11418
- 3/8" Sockets: 13mm ..... Available at ecstuning.com ..... ES#2763772
- Combination Wrench: 13mm ..... Available at ecstuning.com ..... ES#2765907
- Exhaust Hanger Remover Pliers ..... Available at ecstuning.com ..... ES#2784927
- Trim Removal Tool ..... Available at ecstuning.com ..... ES#2500877
- 3/8" Drive Torque Adapters: 12mm & 13mm
- 3/8" Sockets: M8 Triple Square
- 3/8" Drive Extensions, Universal Swivel Joint
- 1/2" Drive Extensions
- 1/2" Drive Sockets: 16mm

Please note that the tools which are highlighted in **RED** are specialty tools which are **REQUIRED** on page 11 and page 18. Please be sure to obtain these tools **BEFORE** beginning the installation of this exhaust to prevent any delays in completing the job and getting your vehicle back on the road.

SHOP SUPPLIES AND MATERIALS

- Hand Cleaner/Degreaser ..... Available at ecstuning.com ..... ES#2167336
- Aerosol Brake Cleaner ..... Available at your local auto parts store
- Shop Rags ..... Available at your local auto parts store
- Aerosol Spray Lubricant/Penetrating Oil ..... Available at your local auto parts store

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.

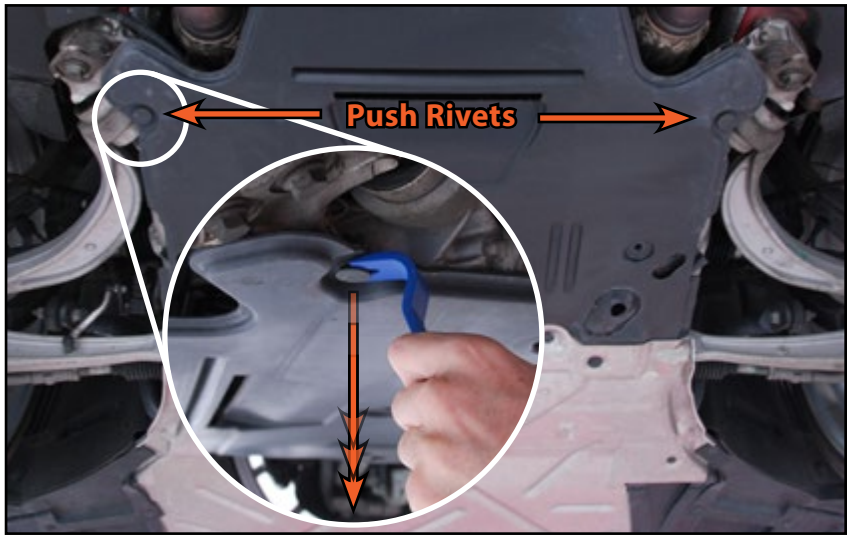
- Park your car in a safe, well lit, level area.
- Shut the engine off and remove the key from the ignition switch.
- Make sure any remote start devices are properly disabled.
- Always wear safety glasses.
- Make sure the parking brake is applied until the vehicle is safely lifted and supported.
- If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

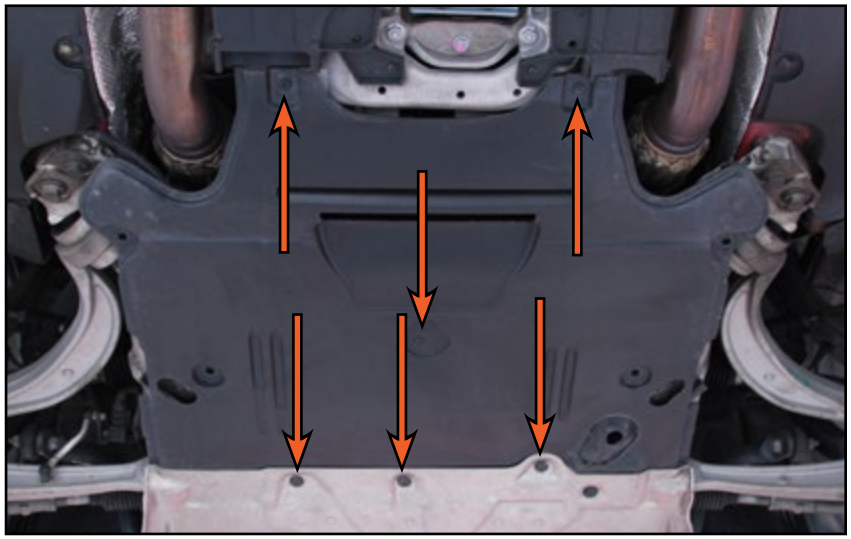
Step 1: Trim Removal Tool or Flat Blade Screwdriver

Safely lift and support the vehicle. Gently pry the push rivets out of the rear belly pan as shown in the photo.



Step 2: 1/4" & 3/8" Ratchet, T25 Torx Socket, M8 Triple Square Socket

Remove the six mounting screws, then remove the rear belly pan.



REMOVING THE STOCK EXHAUST

Step 3: Trim Removal Tool or Flat Blade Screwdriver

Gently remove the push rivet which holds the front belly pan to the chassis.

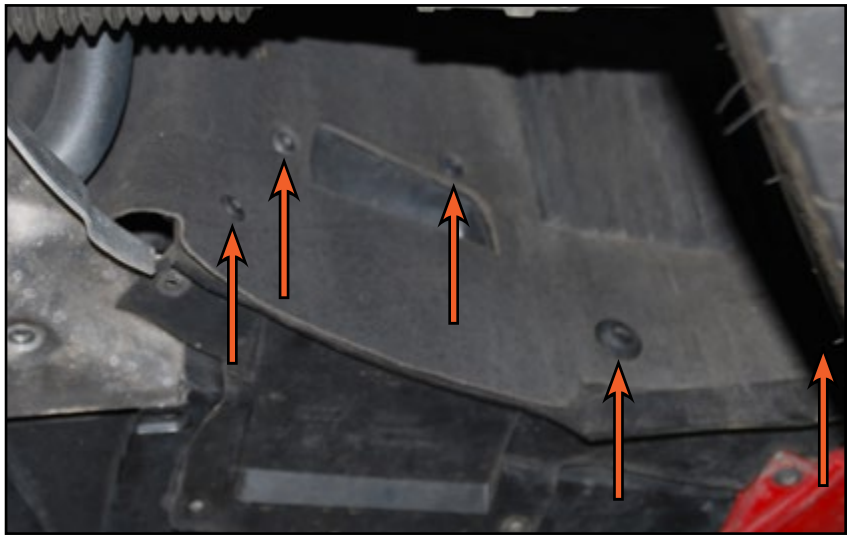
Step 4: 1/4" Ratchet, T25 Torx Bit Socket, Philips Screwdriver

Remove all of the mounting screws securing the front belly pan to the fender liners and the front brake ducts (highlighted in yellow in the photo).

REMOVING THE STOCK EXHAUST

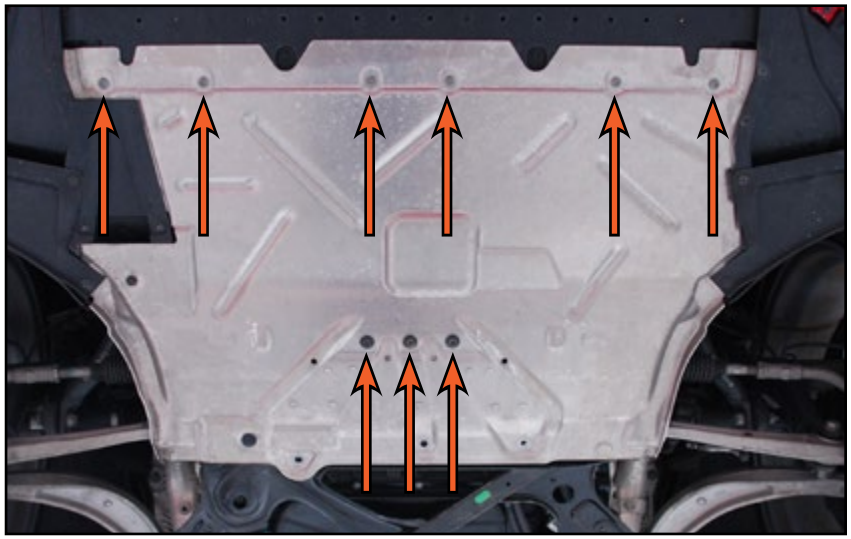
Step 5: 1/4" Ratchet, T25 Torx Bit Socket, Flat Blade Screwdriver

Remove all of the mounting screws in each fender liner which secure the front brake ducts, then remove the brake ducts from the vehicle.



Step 6: 3/8" Ratchet, T30 Torx Bit Socket, M8 Triple Square Socket

Remove all of the remaining screws on the front belly pan, then remove the belly pan from the vehicle.



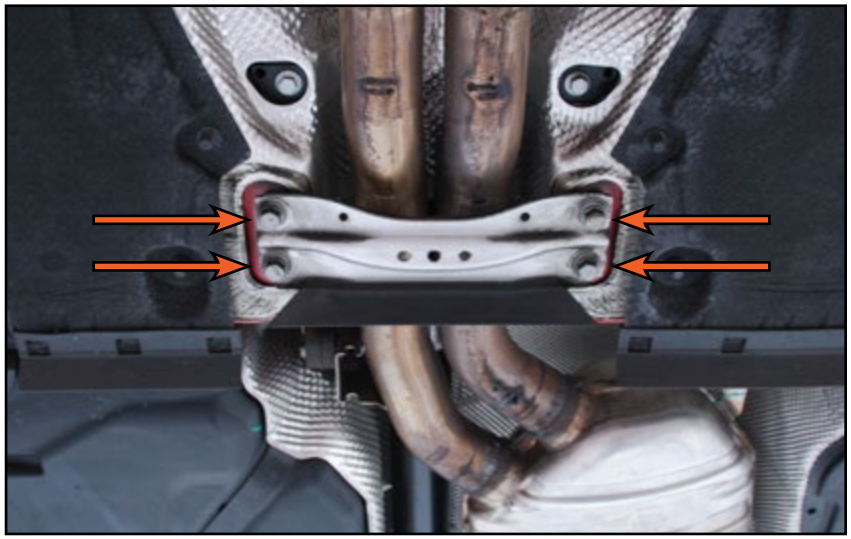
REMOVING THE STOCK EXHAUST

Step 7: Penetrating Oil

Soak all of the fasteners on the exhaust system with penetrating oil, especially the downpipe nuts. We highly recommend letting the oil soak in for at least one hour before attempting to remove them to further reduce the risk of breaking the studs or rounding off the nuts.

Step 8: 1/2" Breaker Bar, 16mm Socket

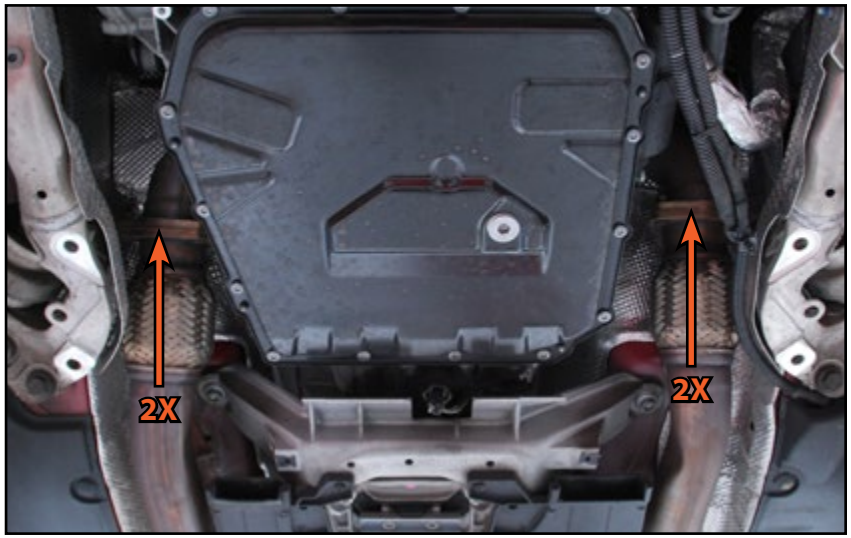
Remove the four bolts on the body cross brace and remove it from the vehicle.



REMOVING THE STOCK EXHAUST

Step 9: 3/8" Ratchet, 12mm Socket

Support the front and rear of the exhaust from below with jack stands, then remove the bottom two nuts which secure each of the downpipes to the converters.

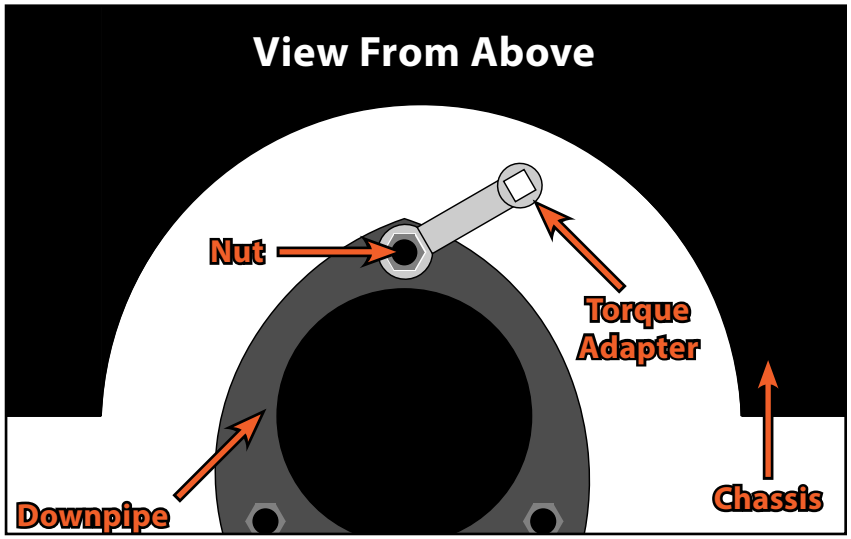


NOTE

You may notice that we have removed the "X" brace underneath the transmission. We did this to get better visibility for our photos, but removing this brace is not a necessary step for this installation.

Step 10: 3/8" Ratchet, 3/8" Extensions, 12mm Torque Adapter

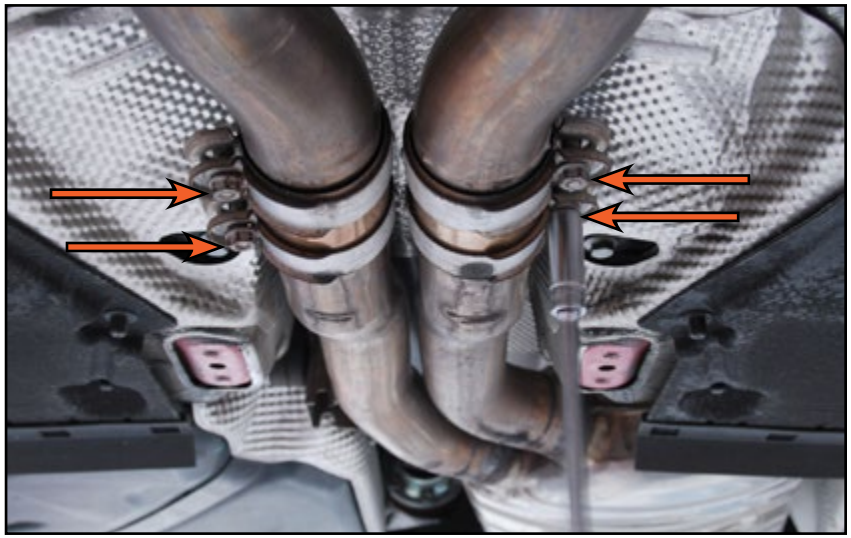
Remove the top nut securing each downpipe to the converter with a "Torque Adapter". As you can see in the photo, there is very limited space to access the nuts. Working from **BELOW** the vehicle, slide the torque adapter on to the nut, attach a long extension to the adapter, and use a ratchet to loosen the nut. This **CANNOT** be done from above due to the converter placement and lack of space.



REMOVING THE STOCK EXHAUST

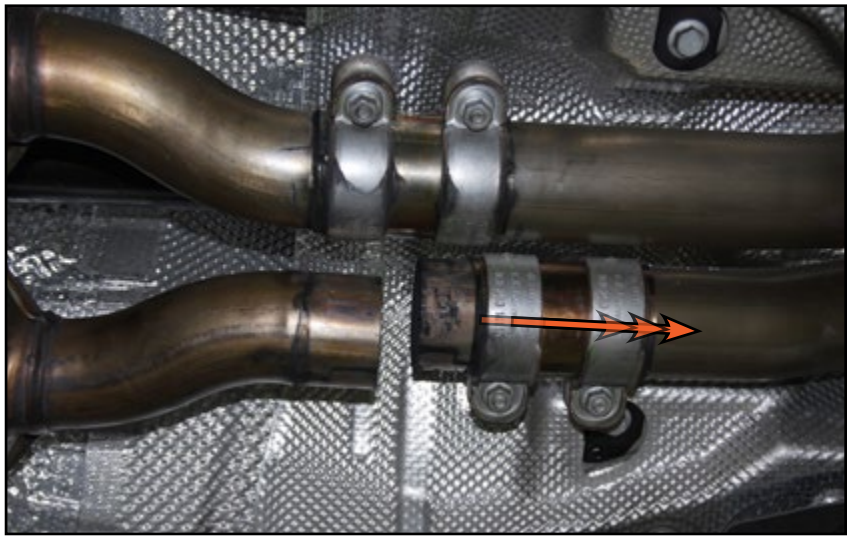
Step 11: 3/8" Ratchet, 13mm Socket

Loosen the nuts (arrows) on the exhaust sleeves at the end of the downpipes. It is not necessary to remove the nuts completely, but loosen them enough that the sleeves slide easily. Leave the sleeves in place to support the end of each downpipe, then continue to the next step.



Step 12:

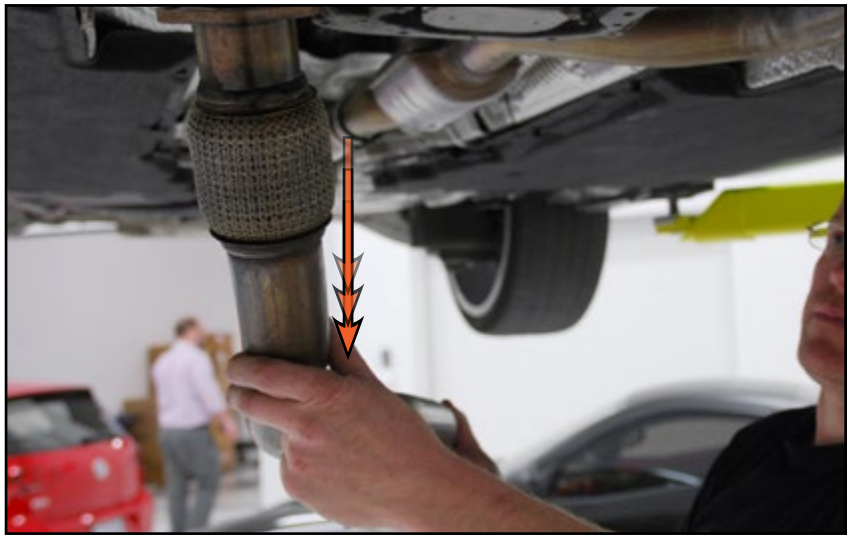
Holding the downpipe from below, slide the sleeve rearward on the center section, then lower the downpipe.



REMOVING THE STOCK EXHAUST

Step 13:

Remove the downpipe from the vehicle, then repeat steps 9-12 to remove the other downpipe.



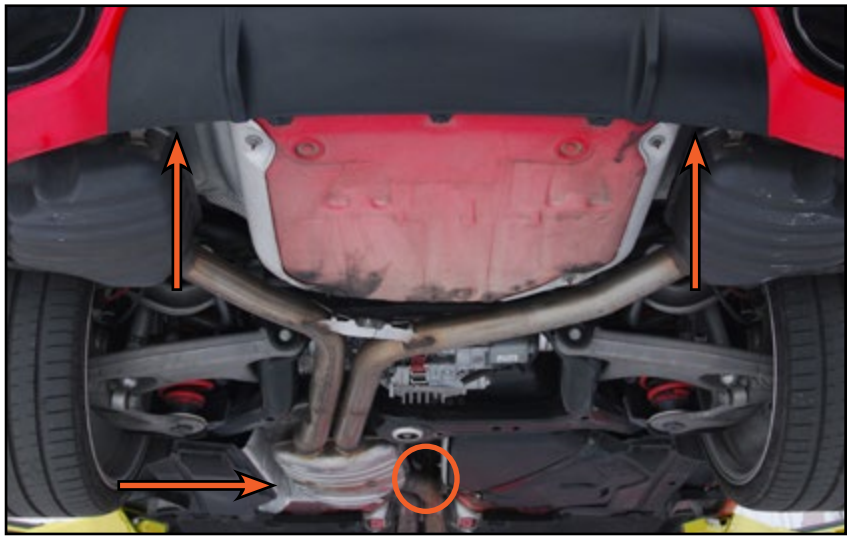
CAUTION

The stock exhaust system is very heavy. Before proceeding with the final removal steps, we recommend you enlist the help of a friend, or even two, to lower the system.

Step 14:

Locate the four remaining exhaust hangers (**ARROWS**). One is located on the LH side of the center section held on by two bolts, and one more located on the corner of each rear muffler, held on by one nut each.

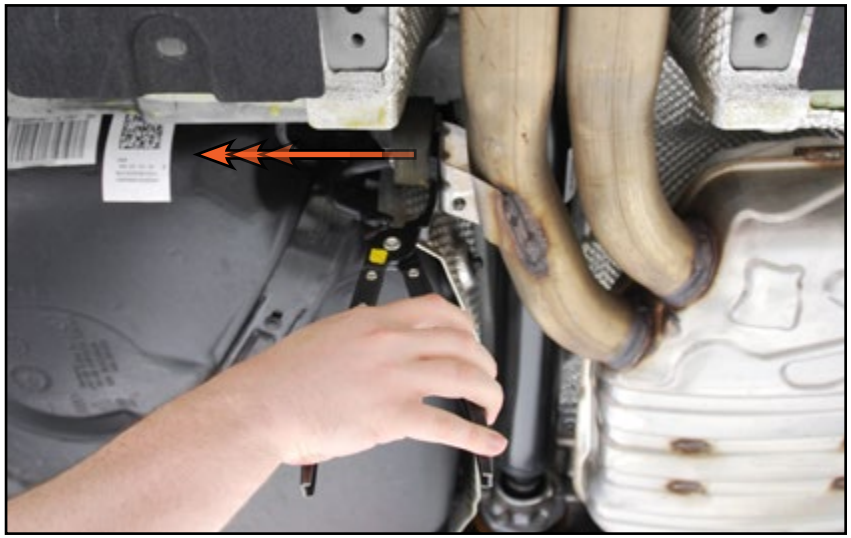
Please note that there is a fourth hanger is located on the RH side of the center section and has a **CIRCLE** around it in the photo, this hanger is also used to support the fuel tank so we will be disconnecting it from the exhaust without unbolting it for this installation.



REMOVING THE STOCK EXHAUST

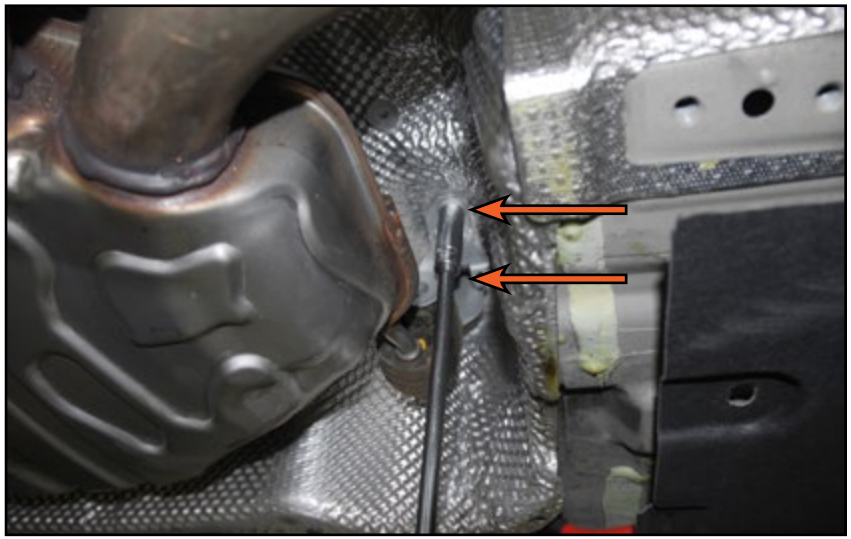
Step 15: Exhaust Hanger Remover Pliers

Remove the RH exhaust hanger from the center section as shown in the photo.



Step 16: 3/8" Ratchet, 13mm Socket

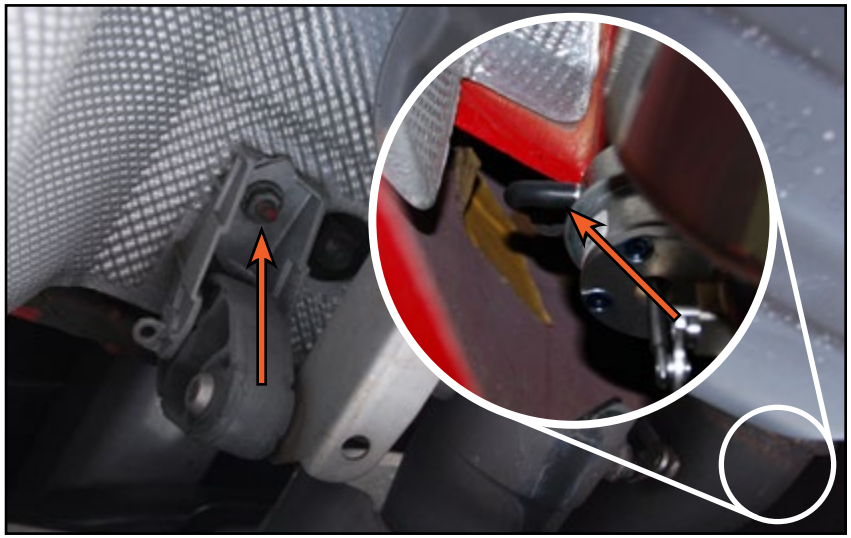
Remove one of the bolts for the LH exhaust hanger on the center muffler then loosen, but **DO NOT REMOVE**, the second bolt. Make sure it is loose enough that it can easily be removed by hand.



REMOVING THE STOCK EXHAUST

Step 19: 3/8" Ratchet, 13mm Socket

Loosen, but **DO NOT REMOVE**, the exhaust hanger on each rear muffler. Make sure the nuts are loose enough so they can easily be removed by hand. Then remove the vacuum hose from each Active Exhaust Valve.



Step 20: 3/8" Ratchet, 13mm Socket

With one person at each rear muffler and one supporting the center muffler, remove the last bolt on the center exhaust hanger and lower the system down at the front.

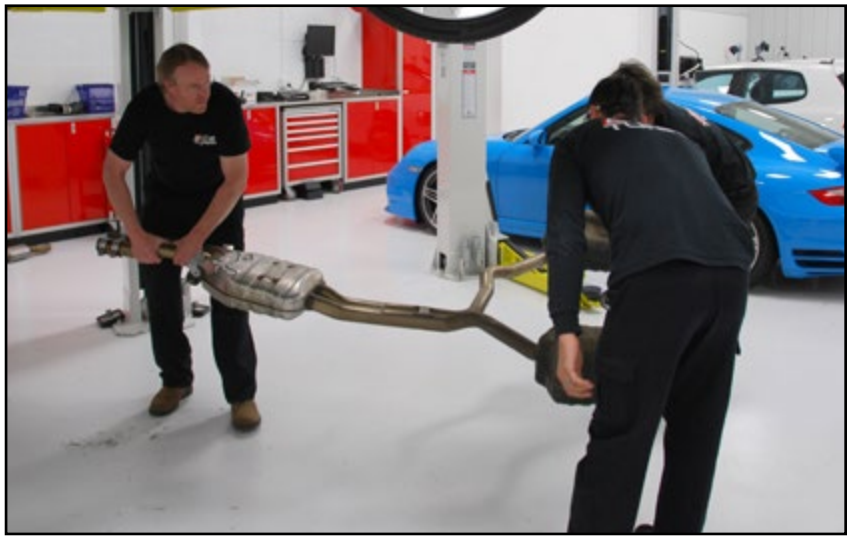
REMOVING THE STOCK EXHAUST

Step 21: 13mm Socket, Ratchet

Remove the nuts on both rear exhaust hangers, then slide the entire system forward so the tailpipes clear the rear valance.

Step 22:

Carefully lower the entire system to the ground.

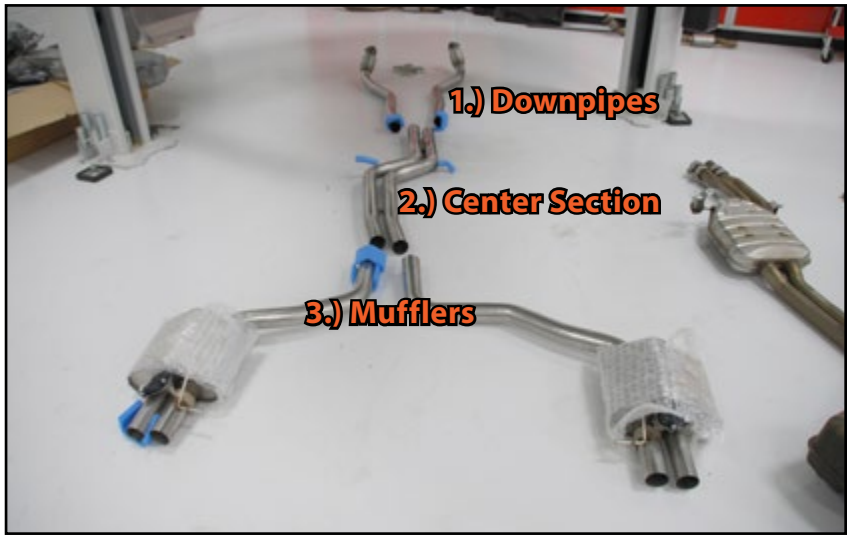


INSTALLING THE NEW EXHAUST

Step 1:

Please note that during this installation, you will be installing the exhaust from front to back ***WITHOUT*** tightening any of the clamps, hangers, bolts, or nuts. Once the system is installed, we will then show you how to position the system properly and you will tighten the clamps, hangers, bolts, and nuts ***AFTER*** that is complete.

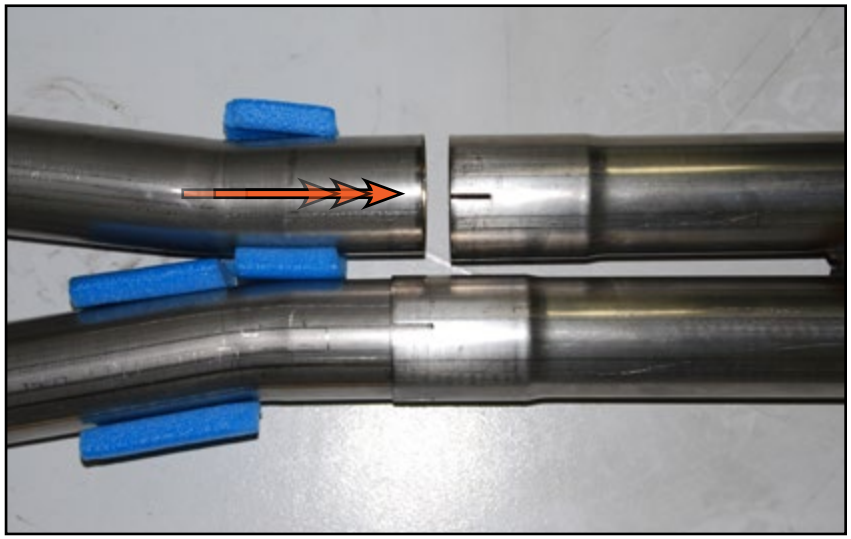
It is also ***EXTREMELY*** important that you support the exhaust components from below as you are installing the system. This can be easily achieved with jackstands, or you can have an assistant hold the system in place.



Step 2:

Carefully unpack your new exhaust system and lay it out on the floor, locating everything in it's installation position. Leave the protective coverings installed so you do not scratch the mufflers or pipes.

At each of the four 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 straigten them and recheck fit. Once all four connections slide together easily, proceed with the next step.



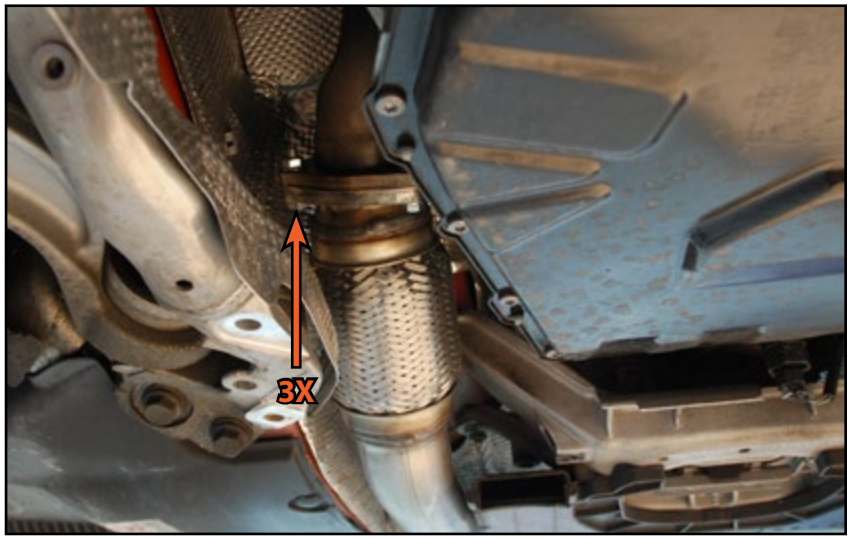
INSTALLING THE NEW EXHAUST

Step 3:

Clean the ends of the catalytic converter flanges and the downpipe gaskets. These are metal gaskets which are reuseable and generally in good condition. If you find any cracks or damage, replace these gaskets before you proceed.

Step 4: 3/8" Ratchet, Extensions, 13mm Torque Adapter, 13mm Wrench

Install the new RH side downpipe on the vehicle with the supplied hardware, then fully tighten the bolts. Repeat this step to install the new LH side downpipe.



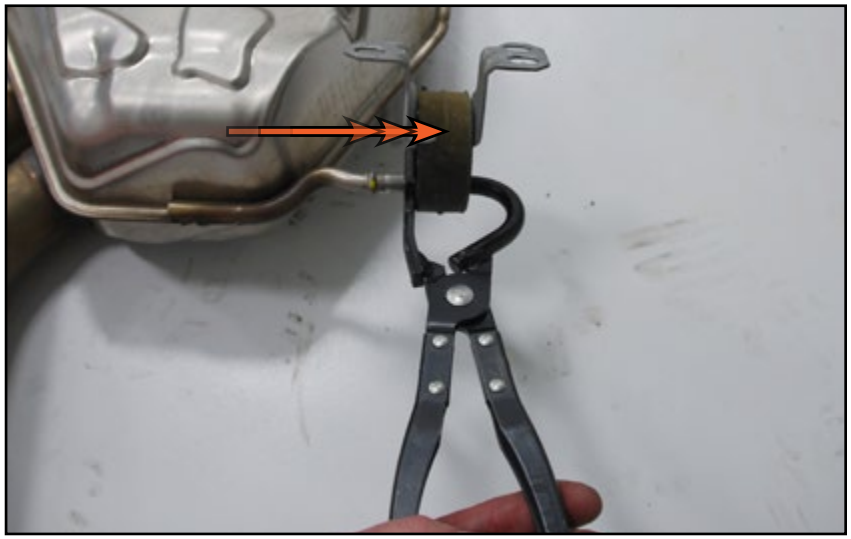
INSTALLING THE NEW EXHAUST

Step 5:

Slide two of the new exhaust clamps over the downpipes as shown in the photo. You may have to loosen the clamp body bolts slightly in order to slide them on. Orient the clamps as shown in the photo, with the clamp bolt heads facing each other.

Step 6: Exhaust Hanger Remover Pliers

Transfer the center exhaust hanger from the stock exhaust system to the new center section, be sure to orient it exactly as it was on the stock system.



TECH TIP

Spray silicone lubricant onto the exhaust hangers to make them easier to slide onto the new system.

INSTALLING THE NEW EXHAUST

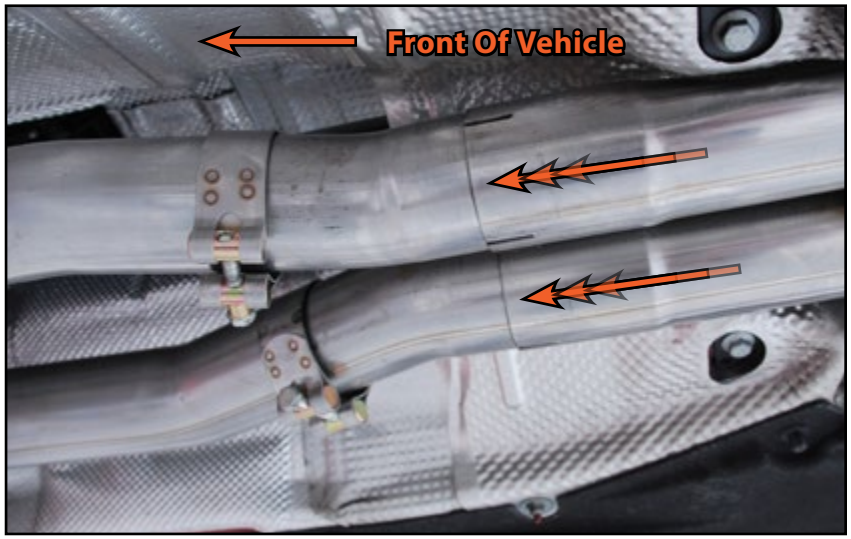
Step 7:

Spray the RH exhaust hanger with an aerosol spray lubricant such as silicone, this will make the hanger much easier to slide onto the center section in step 9.

Step 8:

Slide the center section over the downpipes, twist the pipes if necessary to allow them to slide together.

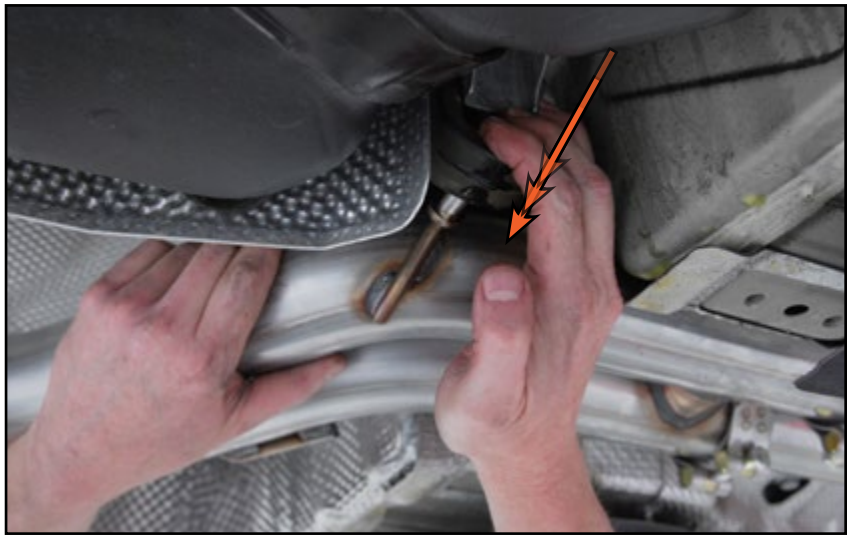
DO NOT TIGHTEN the exhaust clamps at this time.



INSTALLING THE NEW EXHAUST

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

Slide the RH exhaust hanger over the center section, then install the two exhaust hanger bolts into the LH exhaust hanger.



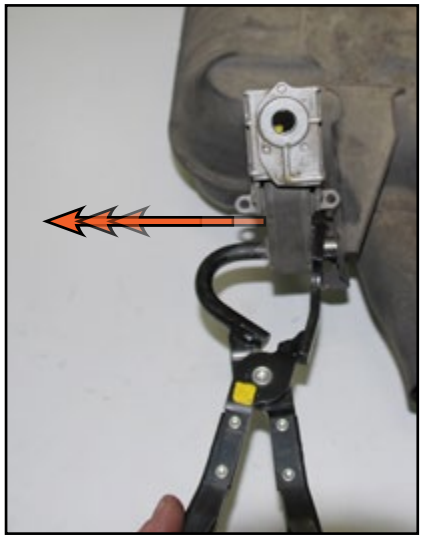
Step 10: Exhaust Hanger Remover Pliers

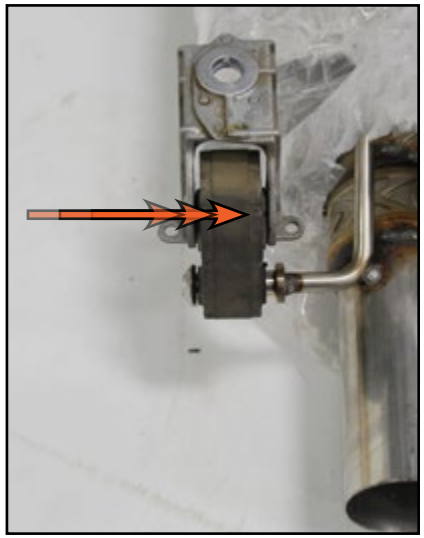
Slide the new exhaust clamps over the center section as shown in the photo. Orient the clamps as shown in the photo, with the clamp bolt heads facing each other.

INSTALLING THE NEW EXHAUST

Step 11:

Transfer the exhaust hangers from the stock mufflers to the new mufflers. It is best to transfer one at a time, making sure to keep them in the same locations with the same orientation.





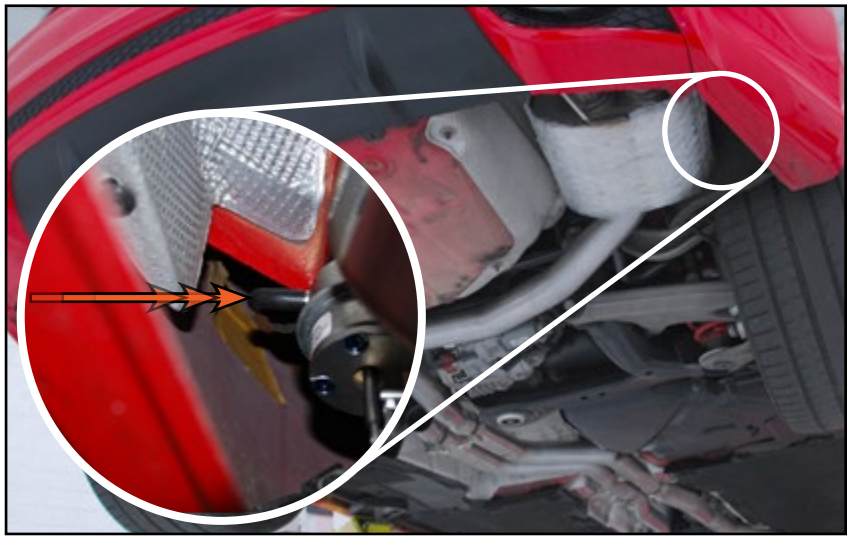
TECH TIP

Spray silicone lubricant onto the exhaust hangers to make them easier to slide onto the new system.

Step 12: 3/8" Ratchet, 13mm Socket

First, lift the RH side muffler into the vehicle with the tailpipe end first, then slide the muffler into place on the center section. Install the muffler hanger to the vehicle to support the rear of the exhaust, then attach the vacuum line to the Active Exhaust Valve.

DO NOT TIGHTEN the exhaust clamps at this time.



TECH TIP

We left the bubble wrap on our mufflers during our installation to protect them from getting scratched, but be sure to remove the wrap before starting the engine to prevent it from melting to the exhaust.

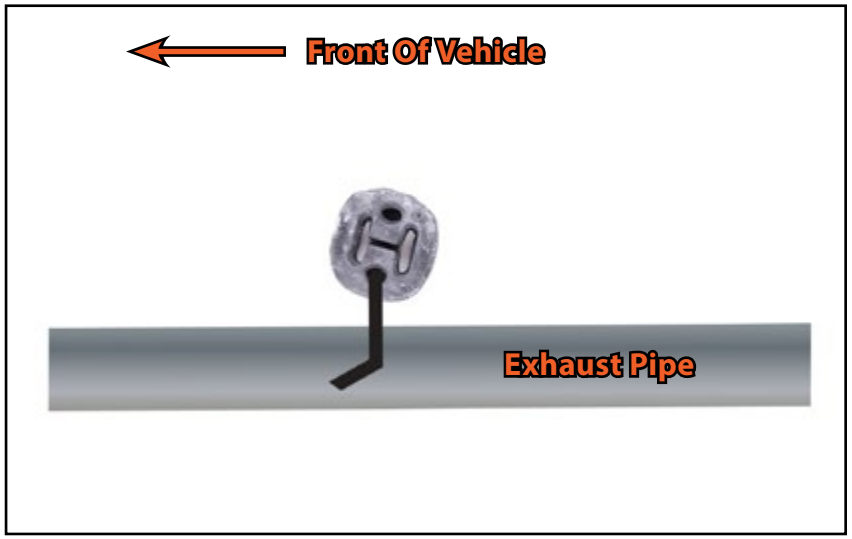
3/8" Ratchet, 13mm Socket

Lift the LH side muffler into the vehicle with the tailpipe end first, then slide the muffler into place on the center section. Install the muffler hanger to the vehicle to support the rear of the exhaust, then attach the vacuum line to the Active Exhaust Valve.

DO NOT TIGHTEN the exhaust clamps at this time.

- [ ] Tighten the exhaust hanger bolts and nuts.
- [ ] Reinstall the body cross brace.

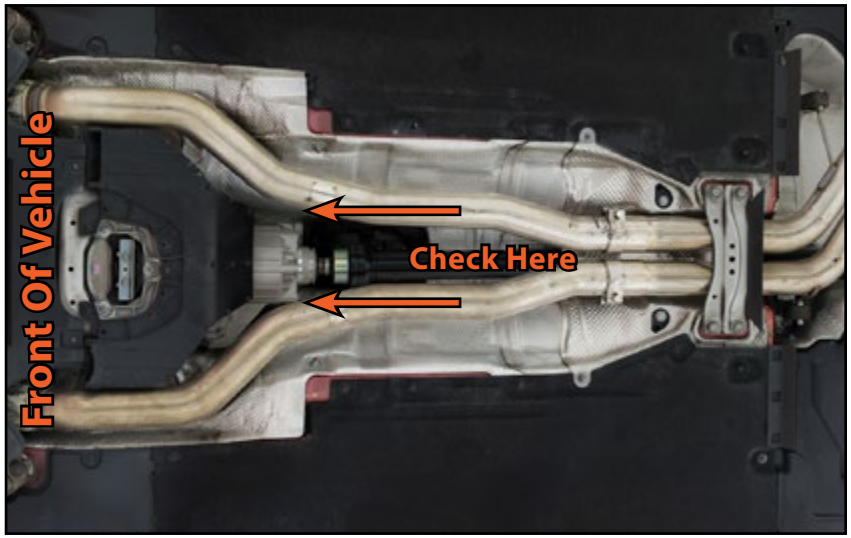
The most important part of these next few steps is patience. Begin here by orienting all of the exhaust hangers as shown in the photo. Milltek recommends that the exhaust hangers should be inclined toward the front of the vehicle by 10-15mm, the hangers will then move back into their correct position after the sustem is hot and expands.



INSTALLING THE NEW EXHAUST

Step 15:

Closely inspect the front of the exhaust system and check for clearances between the downpipes and the chassis and drivetrain components. Pay close attention to where the downpipes wrap around the transmission.



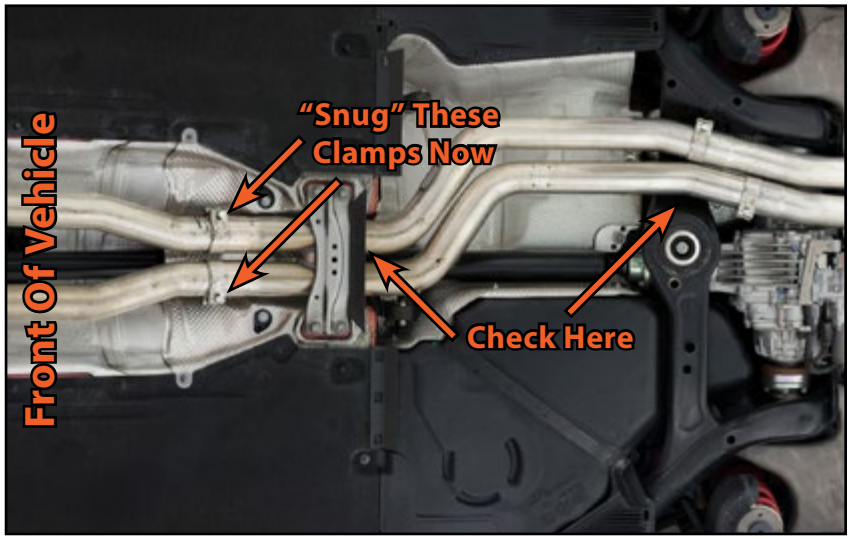
Step 16:

You can now tighten the forward exhaust clamps by hand until they are "snug", but **DO NOT USE AN IMPACT WRENCH** and do not fully tighten them at this time.

Next, inspect the middle of the exhaust system and check for clearances between the center section and the chassis, and drivetrain/suspension components. Pay close attention to where the center section travels between the chassis and the body cross brace.

TECH TIP

Partially tightnening the exhaust clamps here will keep the system from freely moving around and it will allow you to make precise adjustments before you fully tighten the clamps.



INSTALLING THE NEW EXHAUST

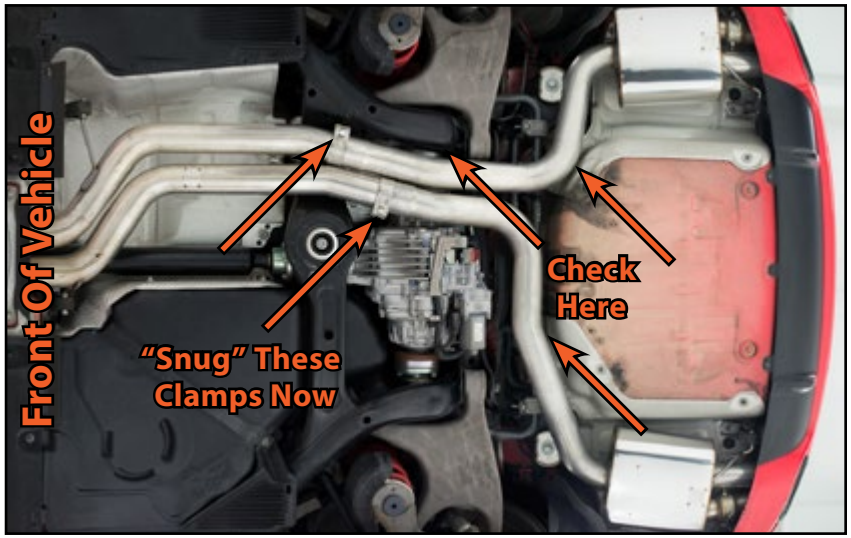
Step 17:

You can now tighten the rear exhaust clamps by hand until they are “snug”, but **DO NOT USE AN IMPACT WRENCH** and do not fully tighten them at this time.

Finally, inspect the rear of the exhaust system and check for clearances between the mufflers and the chassis, and drivetrain/suspension components. Pay close attention to where the rear pipes travel around the spare tire well and the rear crossmember.

TECH TIP

Partially tightnening the exhaust clamps here will keep the system from freely moving around and it will allow you to make precise adjustments before you fully tighten the clamps.

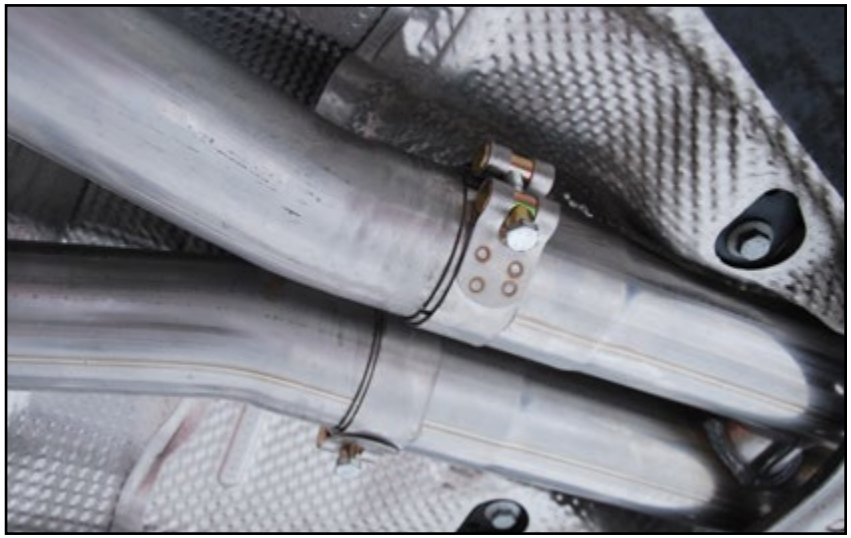


Step 18:

Adjust the position of both rear mufflers by looking through the rear valance to make sure the tailpipes are properly aligned. Rotate the pipes as necessary to make sure they are centered.

3/8" Ratchet, 13mm Socket

Once all of your adjustments are complete you can tighten both of the exhaust clamps between the downpipes and the center section.

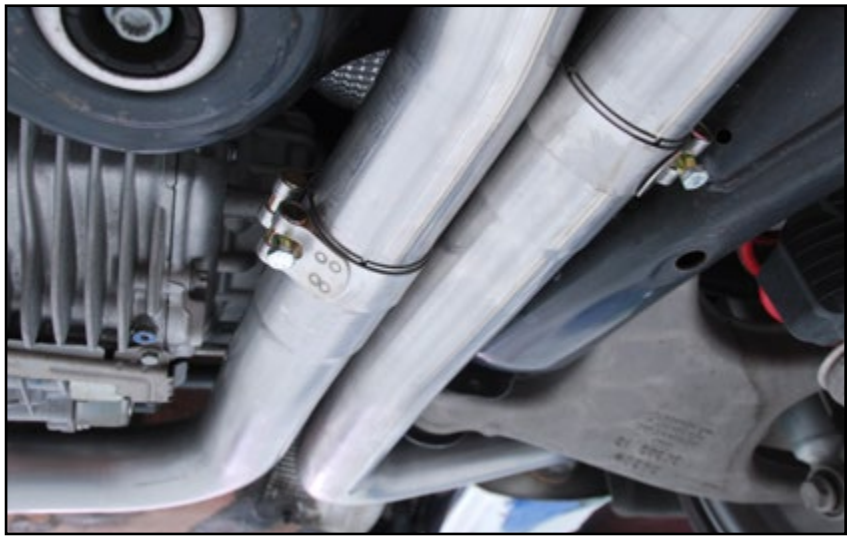


NOTE

Make sure the clamps are positioned as shown in the photo, and also ensure they will not hit anything in the chassis.

3/8" Ratchet, 13mm Socket

Tighten both of the exhaust clamps between the center section and the mufflers.

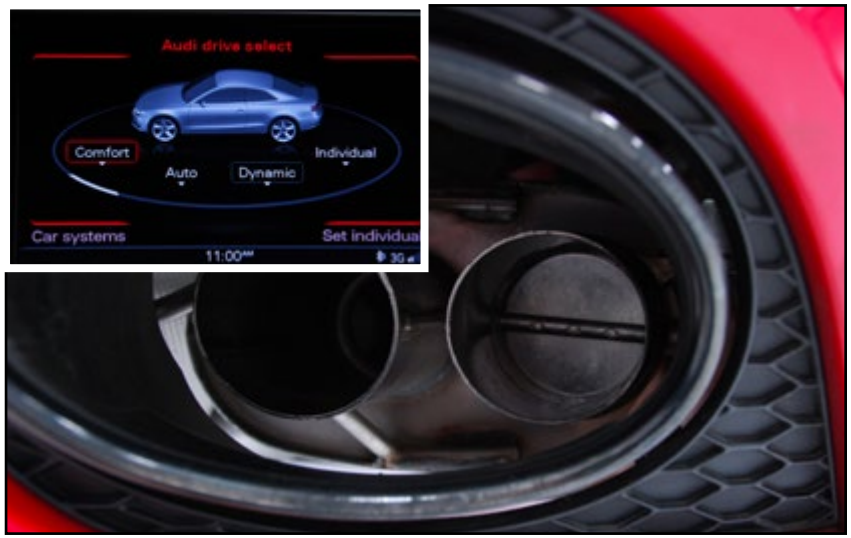


- [ ] Reinstall the front brake ducts and the front belly pan.
- [ ] Reinstall the rear belly pan.
- [ ] Wipe any oil, grease, or fingerprints from the exhaust system.

OPERATION OF ACTIVE EXHAUST VALVES

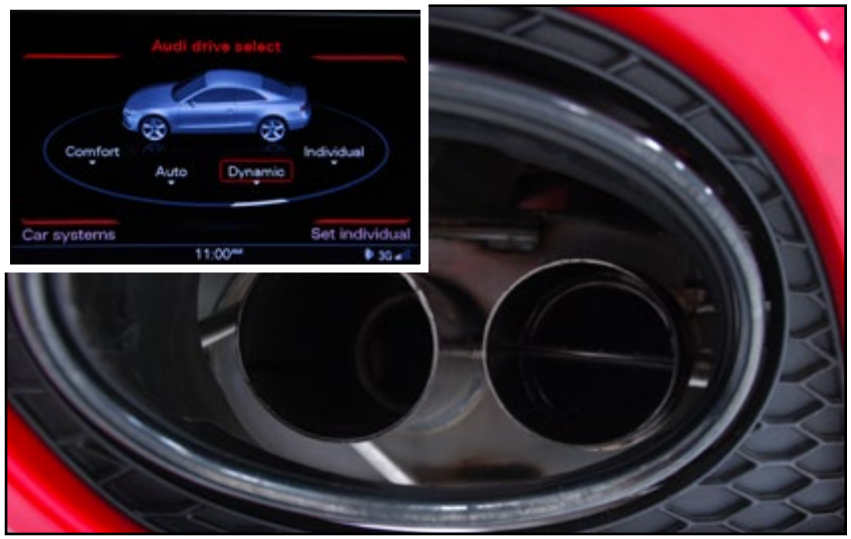
Step 1:

This is the perfect time to confirm that both Active Exhaust Valves are functioning. Simply start the engine and select “Comfort” in the Car Menu, and as you can see in the photo, the valve is closed in this mode. This gives you the ability to “tame” your exhaust note if so desired.



Step 2:

With the engine still on, switch from “Comfort” to “Dynamic” in the Car Menu. Notice that the valve is now open in the photo, and you will hear an audible change in the tone and volume of the exhaust note. If one of the valves does not open or close when changing modes, confirm that the vacuum hose is attached to the valve and re-test.



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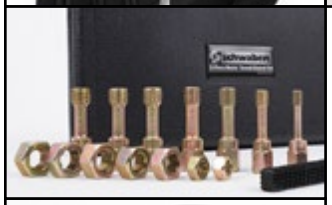




Breaker Bar
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Wheel Bolt Pattern Gauge
Ball Joint Separator
Vanos Solenoid Socket

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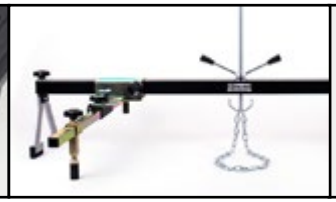
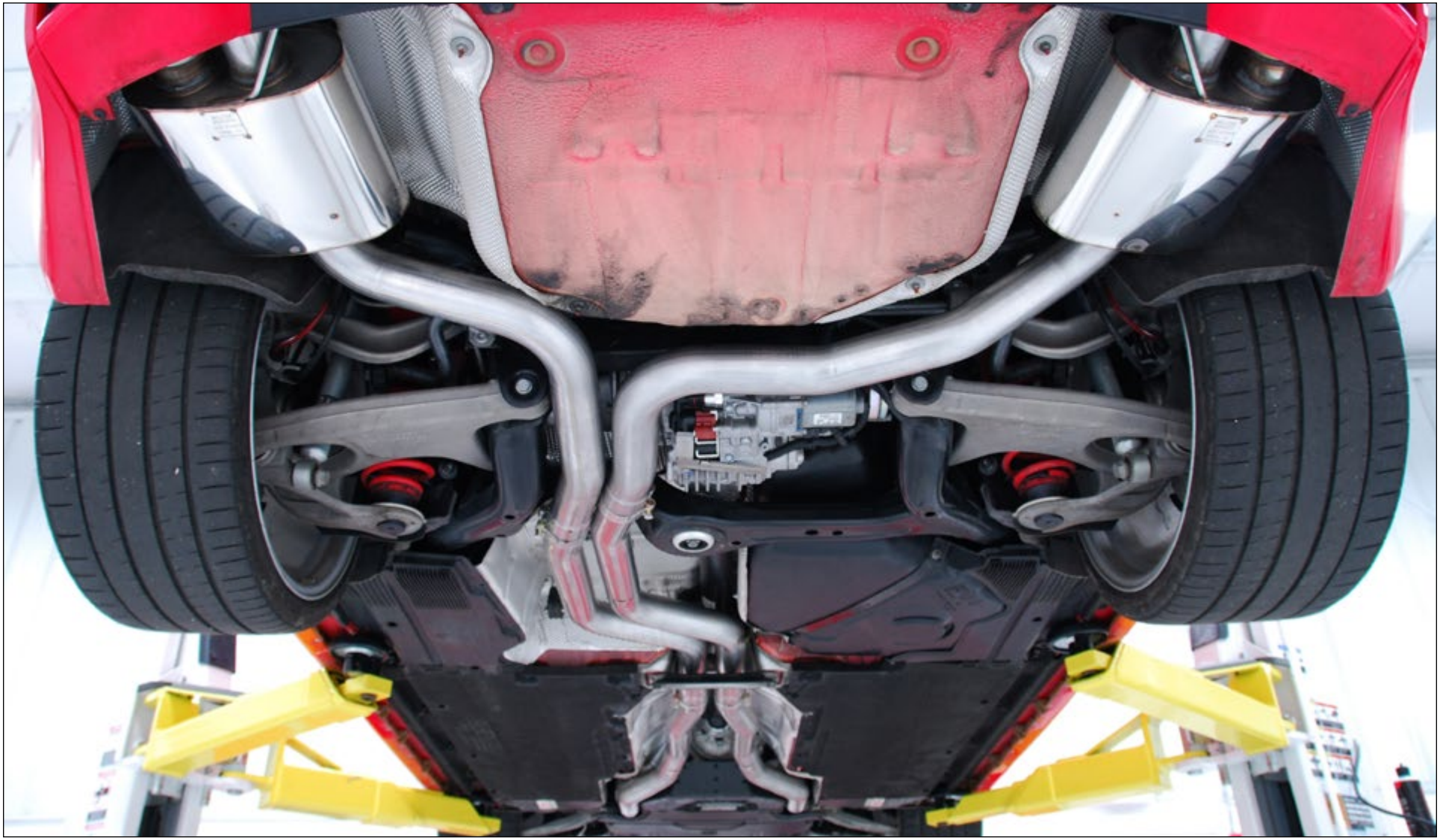
Tie Rod Tools
Brake Fluid Catch Bottle
Tubing Cutter
Booster Cables
Oil Filter Tools
Service Carts
Battery Charger
Stethoscope
Battery Terminal Brush
Wheel Chocks
Torx Sockets

Sockets
E-Drive Sockets
Car Ramps
Torx Drivers
Jack Stands
Circuit Tester
Ratchets
Exhaust Hanger Pliers
Bubble Flaring Tool
Thread Chaser
Drain Pans
Wrenches
Impact Sockets
Torque Wrenches






Your RS5 Cat-Back Exhaust System 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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