

ECS TUNING

Audi RS7

Milltek Catback Exhaust System

Installation Instructions

MILLTEK
SPORT



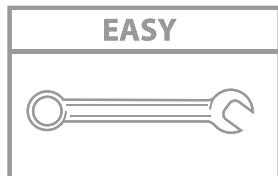
Proper service and repair procedures are vital to the safe, reliable operation of all motor vehicles as well as the personal safety of those performing the repairs. Standard safety procedures and precautions (including use of safety goggles and proper tools and equipment) should be followed at all times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

INTRODUCTION

Audi RS7 Milltek Cat-Back Exhaust System ES#2827482

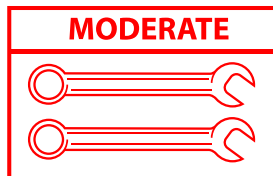
The Milltek Cat-Back Exhaust System for your Audi RS7 offers the following features:

- 2.75" T304 Stainless Steel construction
- Valvesonic system utilizes factory wiring harnesses, no modification required
- Precision fit
- Available in either Resonated or Non-Resonated design
- Complete with everything you need for installation
- "Plug and play" installation - no coding required



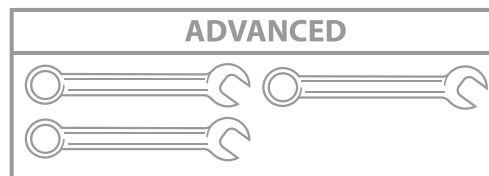
EASY

**BASIC SKILLS
REQUIRED**



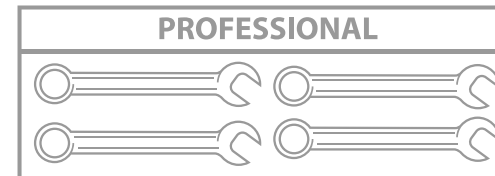
MODERATE

**SOME EXPERIENCE
RECOMMENDED**



ADVANCED

**ADVANCED SKILLS &
EXPERIENCE REQUIRED**



PROFESSIONAL

**PROFESSIONAL SKILLS &
SPECIALTY TOOLS REQUIRED**

Installing the Milltek Cat-Back Exhaust System on your Audi RS7 is an afternoon project that can be completed in about four to five hours. Reward yourself with the superior performance and durability of one of the finest exhaust systems available. It's best to plan a full day so you can take your time, ensure proper fit, and achieve a smooth, trouble free installation. Plan your time accordingly based on your experience level. 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 a Milltek exhaust system from ECS Tuning. We appreciate your business!

TABLE OF CONTENTS

Kit Contents.....	pg.4
Required Tools and Equipment.....	pg.5
Shop Supplies and Materials.....	pg.5
Installation Notes.....	pg.6
Preparation and Safety.....	pg.6
Removing the Stock Exhaust System.....	pg.7
Installing the New Milltek Exhaust System.....	pg.19
Operation of Active Exhaust Valves.....	pg.31
Schwaben Tools.....	pg.32

NOTE

We recommend the use of an automotive lift for this procedure. Although it is not absolutely necessary, you will need a lot of room to maneuver the new exhaust into place and you will find alignment much easier if you have ample space.

CAUTION

We strongly recommend enlisting the help of a couple friends to remove the original exhaust system. It is very heavy and will require three people to safely lower it from the vehicle.

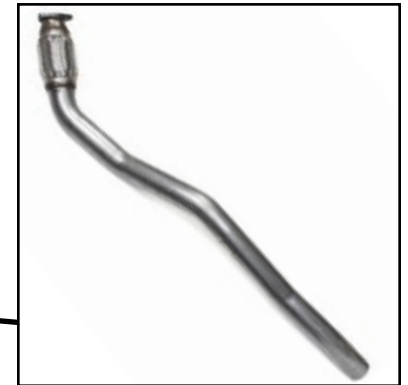
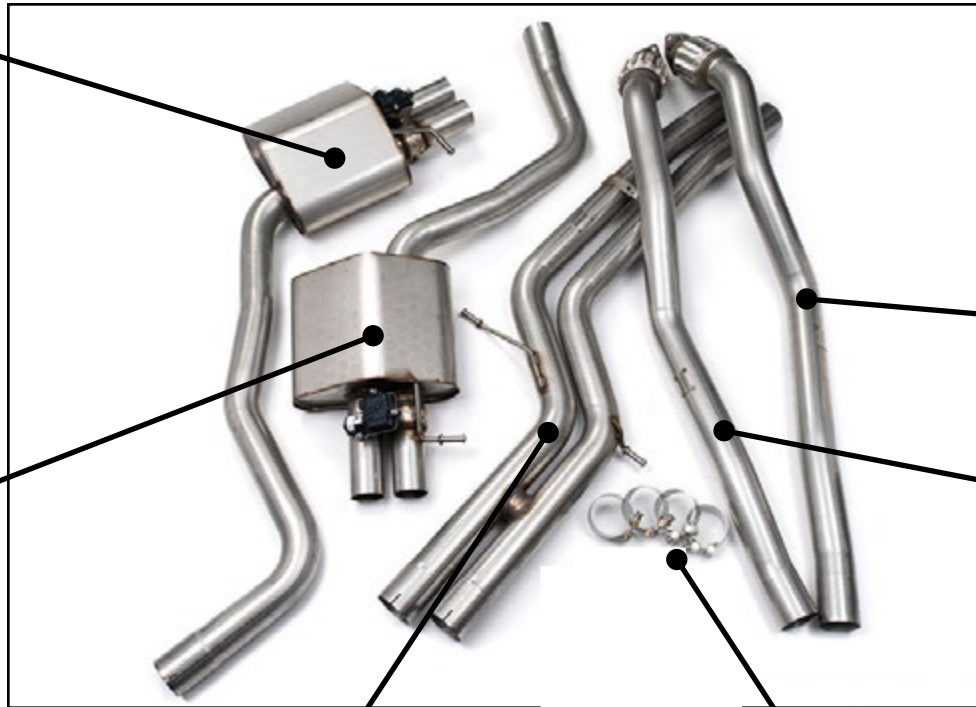
AUDI RS7 MILLTEK EXHAUST SYSTEM KIT CONTENTS



RH Valvesonic Muffler



LH Valvesonic Muffler



Right Downpipe



Left Downpipe



Center Section (Non-Resonated shown)



(4) Clamps

[Table of Contents](#)

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 Audi RS7 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.

- 3/8" Drive Sockets: 13mm, Available at ecstuning.com [ES#2763772](#)
- 3/8" Drive Torque Wrench Available at ecstuning.com [ES#2221245](#)
- 1/2" Drive Torque Wrench Available at ecstuning.com [ES#2221244](#)
- Flat Blade Screwdriver(s) Available at ecstuning.com [ES#2225921](#)
- 3/8" Drive Ratchet, Extensions..... Available at ecstuning.com [ES#2765902](#)
- Torx Drivers: T25, T30 Available at ecstuning.com [ES#11417](#)
- 1/2" Breaker Bar..... Available at ecstuning.com [ES#2776653](#)
- Exhaust Hanger Pliers..... Available at ecstuning.com [ES#2784927](#)
- Triple Square Sockets: M10, M12..... Available at ecstuning.com [ES#1910125](#)
- 1/4" Drive Sockets: 10mm
- 1/4" Drive Ratchet, Extensions
- 3/8" Drive Swivel Sockets: 12mm
- 1/2" Drive Sockets: 16mm
- 1/2" Drive Ratchet, Extensions
- Jack Post or similar equipment
- Stubby wrenches: 12mm

SHOP SUPPLIES AND MATERIALS

- Hand Cleaner/Degreaser..... Available at ecstuning.com..... [ES#2167336](#)
- Silicone Spray Lubricant..... 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.

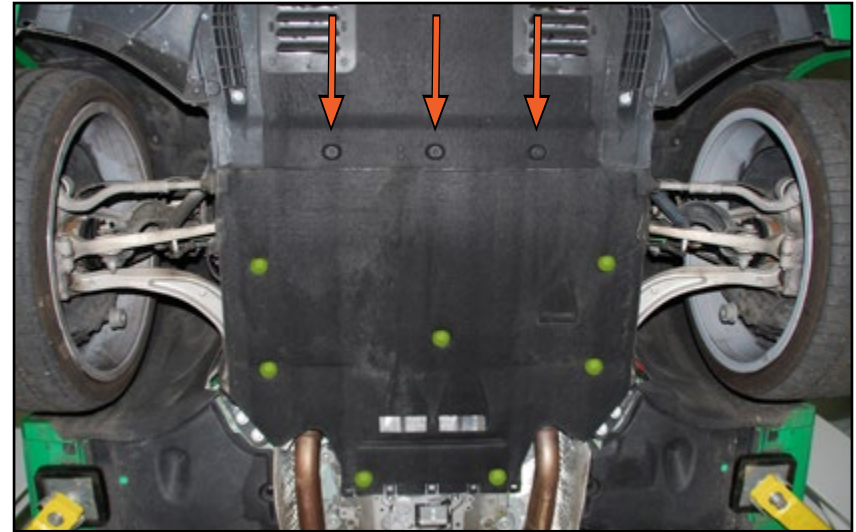
REMOVING THE STOCK EXHAUST SYSTEM

Step 1: Flat Blade Screwdriver, T30 Torx Driver

Safely raise and support the vehicle at a comfortable working height with as much room underneath as possible.

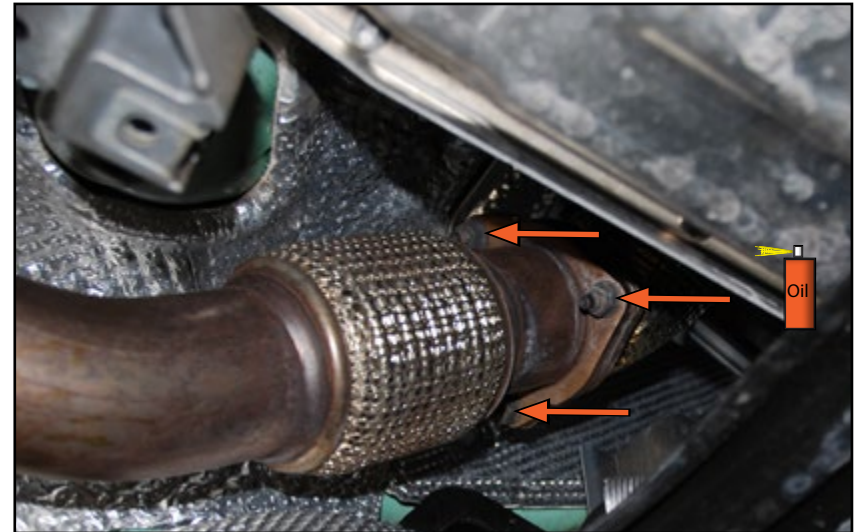
First, underneath the front, remove the three insulation panel Torx screws (arrows).

Next remove the seven quarter-turn fasteners (highlighted) holding the lower insulation panel in place, and remove the panel. These fasteners are released by turning them one quarter turn counter clockwise.



Step 2:

Spray the three downpipe nuts on each side with penetrating oil so they can soak while you remove the rest of the system.

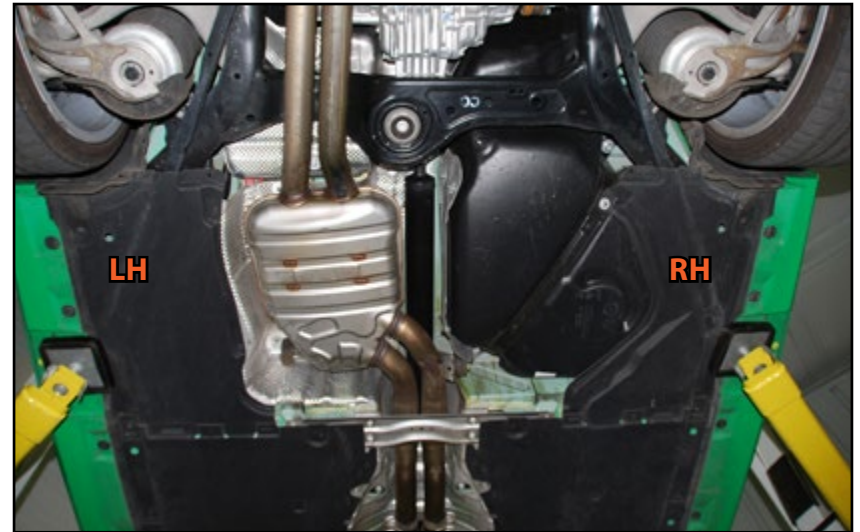


[Table of Contents](#)

REMOVING THE STOCK EXHAUST SYSTEM

Step 3:

Locate the LH and RH rearward side insulation panels.



Step 4: 10mm Socket, T25 Torx Driver

The RH (passenger) side is held on by two torx screws (1) and two nuts (2). Remove them and remove the panel.

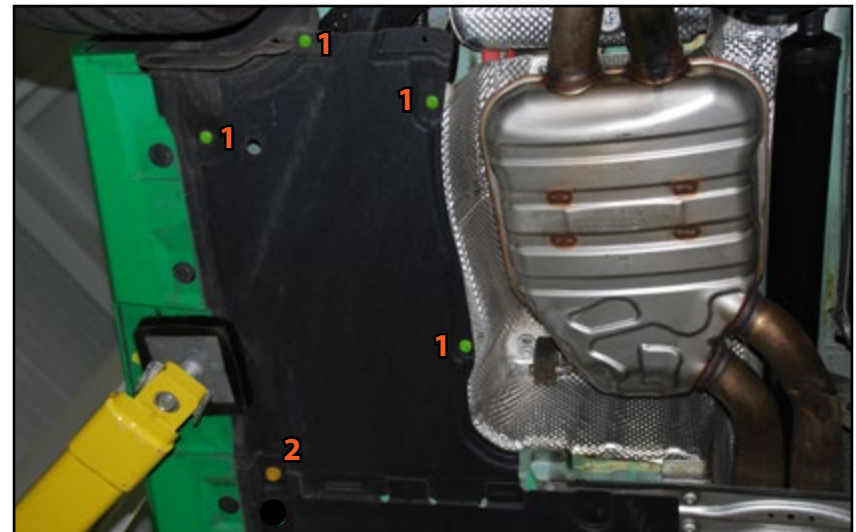


[Table of Contents](#)

REMOVING THE STOCK EXHAUST SYSTEM

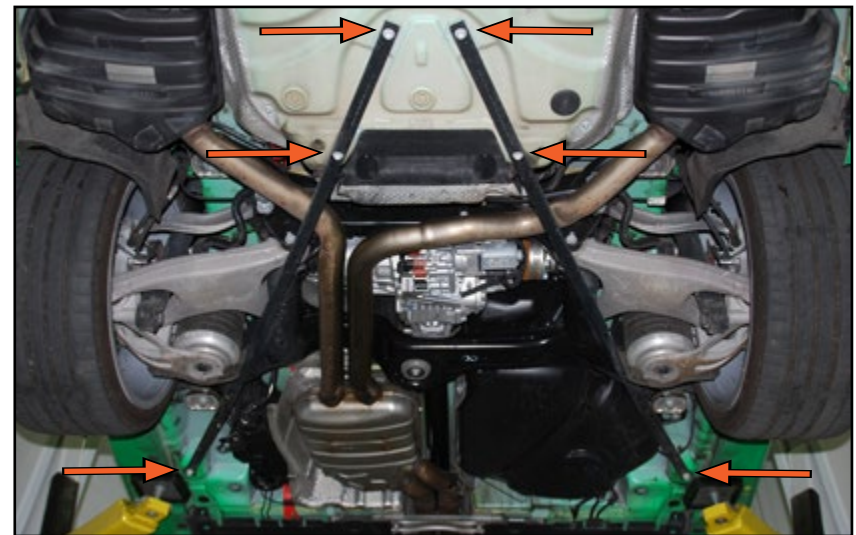
Step 5: 10mm Socket, T25 Torx Driver

The LH (Driver's) side is held on by four torx screws (1) and one nut (2). Remove them and remove the panel.



Step 6: 16mm Socket or M12 Triple Square, Ratchet

Each of the two rear braces is held on by three bolts. You can use either a socket or triple square for removal, but sometimes the triple square is easier because the socket wall may be too thick and prevent you from fully engaging the head of the bolt. Remove the brace on each side and place them on the LH and RH sides of the car respectively so they will be reinstalled in the correct positions.

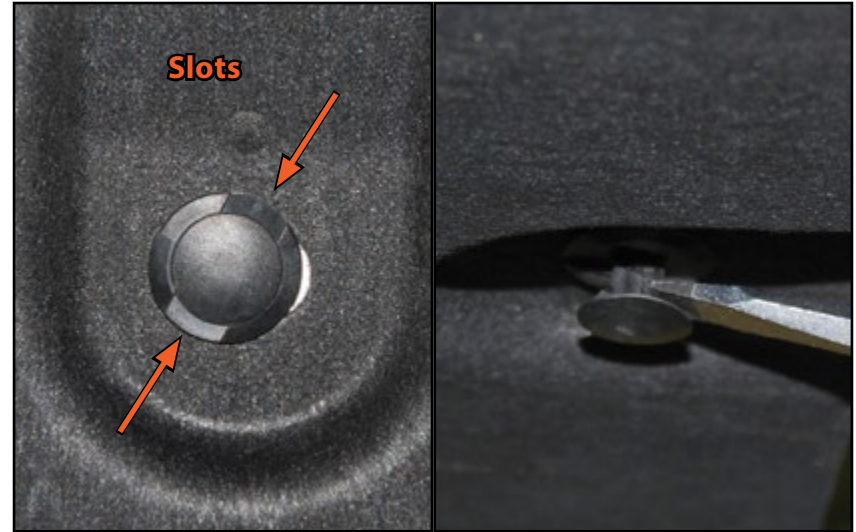


[Table of Contents](#)

REMOVING THE STOCK EXHAUST SYSTEM

Step 7:

In the following two steps you will be removing some retaining rivets on the underbody panels. Study the pictures on the right. You will see that the rivets have two flat spots on them. The center pin of each can be removed easily by inserting a flat blade screwdriver along the flat spot between the rivet and center pin, then gently twisting. Work back and forth between the slots and the center pin of the rivet will begin to slide out. Once it is out far enough to grip, pull it the rest of the way out, then you can remove the rivet.



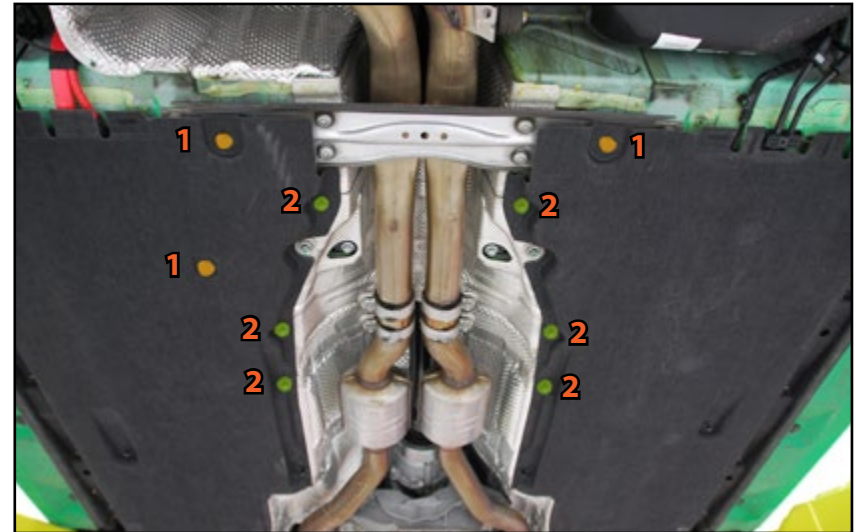
Step 8: 10mm Socket, Flat Blade Screwdriver

On the LH main underbody panel, remove two rivets (1) and unthread three nuts (2).

On the RH main underbody panel, remove one rivet (1) and unthread three nuts (2).

NOTE

The plastic nuts are "trapped" nuts. When fully removed from the stud, they nuts will remain in place in the underbody panels.



[Table of Contents](#)

REMOVING THE STOCK EXHAUST SYSTEM

Step 9:

You should now be able to pull the end of the underbody panels down as shown to access the bolts for the cross brace underneath.

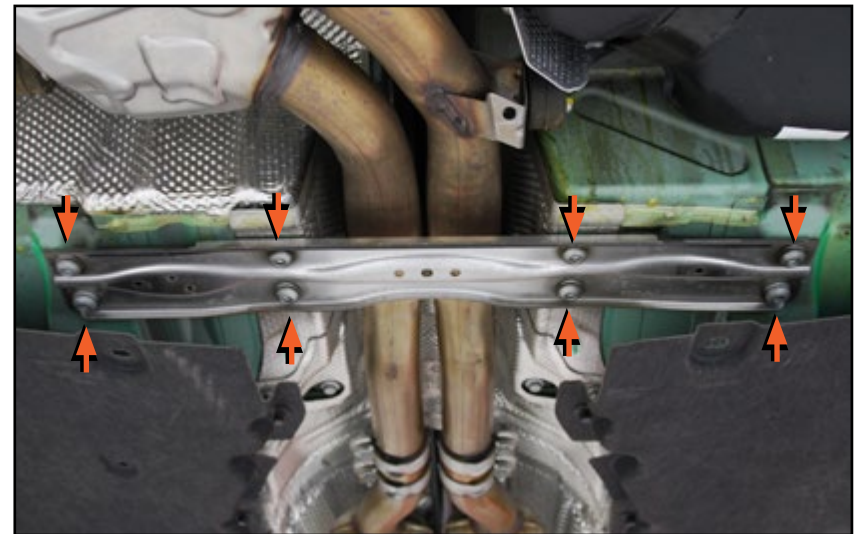
NOTE

We will be using a short M10 Triple Square Socket on these bolts. If you do not have a short M10 Triple Square, remove additional fasteners on the underbody panels to gain clearance as needed so you do not risk kinking them.



Step 10: M10 Triple Square Socket, Ratchet

Remove the eight bolts and remove the cross brace from the underbody.



[Table of Contents](#)

REMOVING THE STOCK EXHAUST SYSTEM

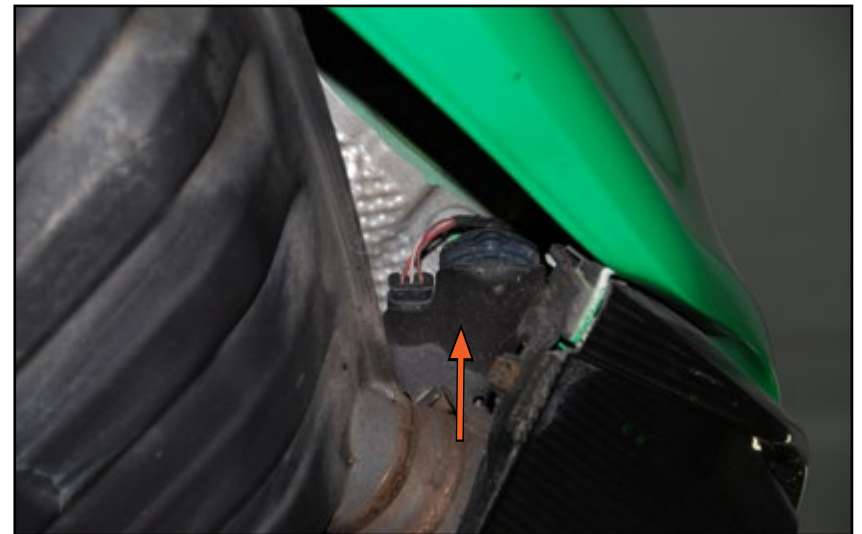
Step 11:

Locate the two rear exhaust Valvetronic actuators, located on the tailpipes near the rear valance panel. There is one on each side.



Step 12:

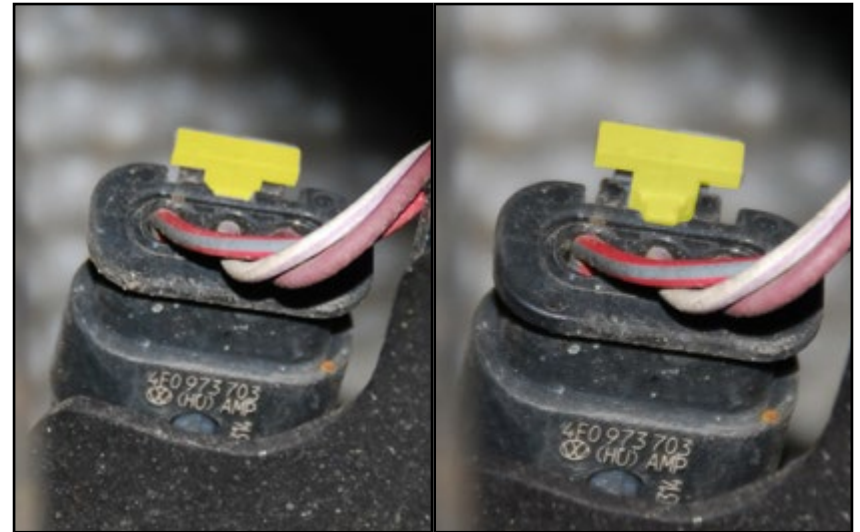
As shown on the LH side here, you can see the actuators between the edge of each rear quarter panel and the muffler.



REMOVING THE STOCK EXHAUST SYSTEM

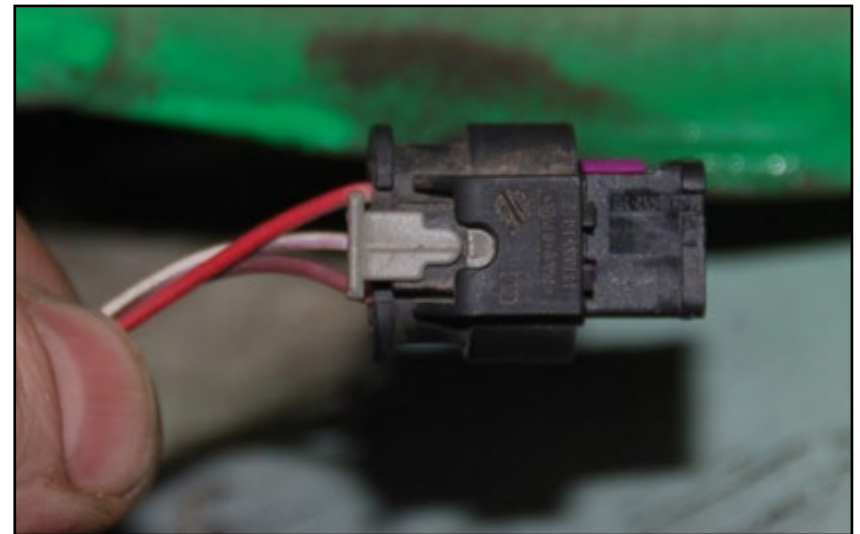
Step 13:

Each Valvetronic connector will have a gray clip on the upper edge (highlighted here in yellow for clarity). Pull each clip out with your finger.



Step 14:

Once the gray clip is pulled out on each connector, pinch the connector with your thumb on the bottom and your finger on the gray clip on top. This will release the connector lock and allow you to pull it off. Remove both in this manner. This close up of the connector shows you the top side with the gray clip pulled out.

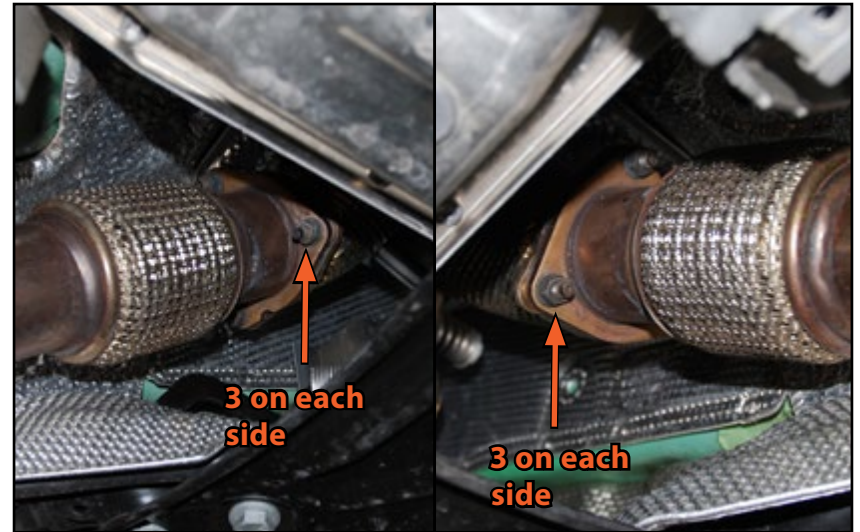


[Table of Contents](#)

REMOVING THE STOCK EXHAUST SYSTEM

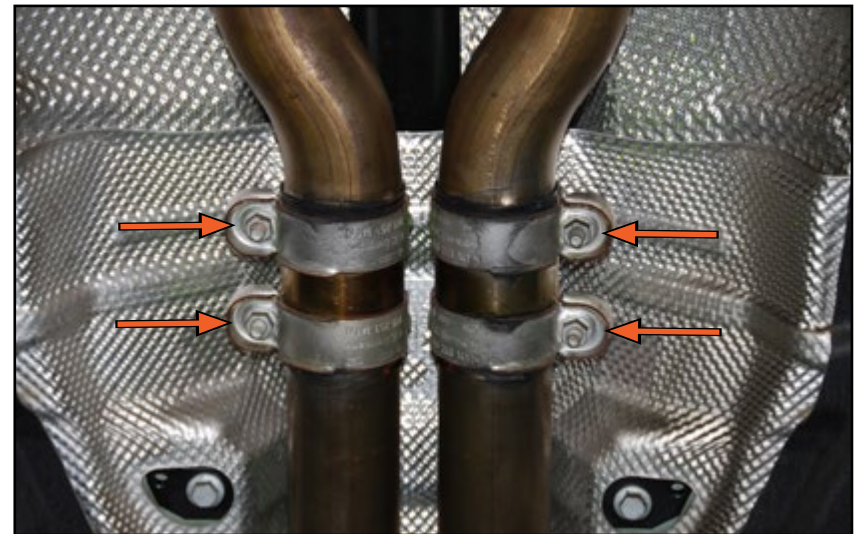
Step 15: 12mm Swivel Socket, Ratchet, Extension

First remove two of the downpipe nuts on each side, then loosen the third nut on each side but leave it threaded on a few turns. Make sure that they are loose and that you can unthread them easily by hand.



Step 16: 13mm Socket, Ratchet

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



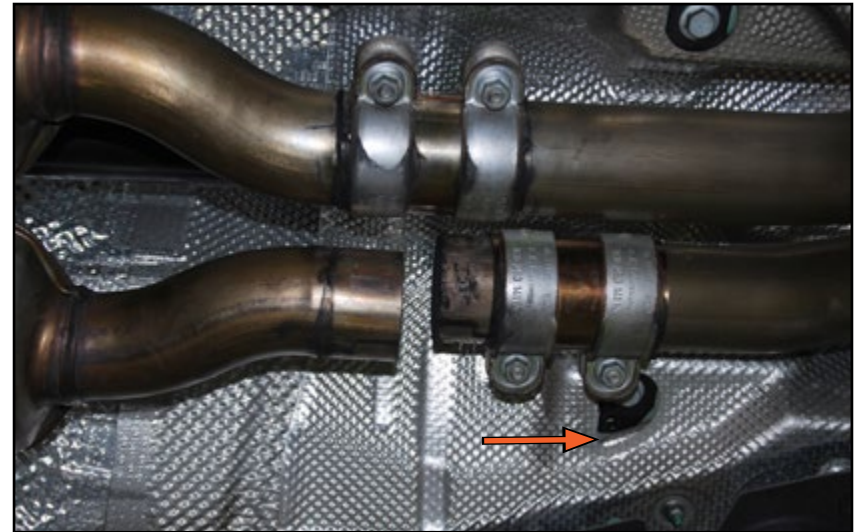
[Table of Contents](#)

REMOVING THE STOCK EXHAUST SYSTEM

Step 17:

Remove both downpipes in the following manner:

1. Support the downpipe with one hand.
2. Slide the exhaust sleeve rearward onto the rear exhaust.
3. Remove the last nut on the downpipe flange, then lower it and remove it from the car.



Step 18: Exhaust Hanger Pliers

Remove the center exhaust hanger from the muffler on the RH side.

NOTE

Do not unbolt this hanger from the body since this hanger bracket also supports the gas tank strap.

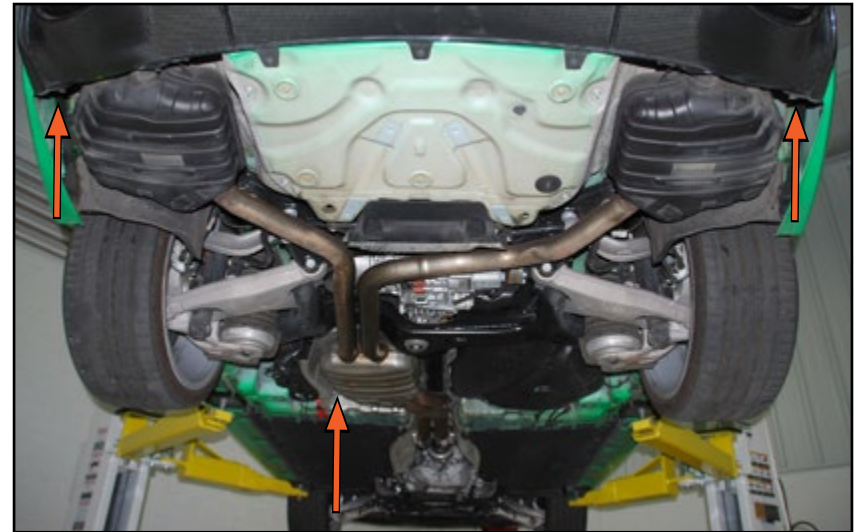


[Table of Contents](#)

REMOVING THE STOCK EXHAUST SYSTEM

Step 19:

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



Step 20: 13mm Socket, Ratchet

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 so it can easily be removed by hand.



REMOVING THE STOCK EXHAUST SYSTEM

Step 21: 13mm Socket, Ratchet

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.

CAUTION

Enlist the help of a couple friends before lowering the system. It is very heavy and will require three people to safely remove it.

Step 22:

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 SYSTEM

Step 23:

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



Step 24:

Carefully lower the entire system to the ground.

You are now ready to install your new Milltek exhaust system!

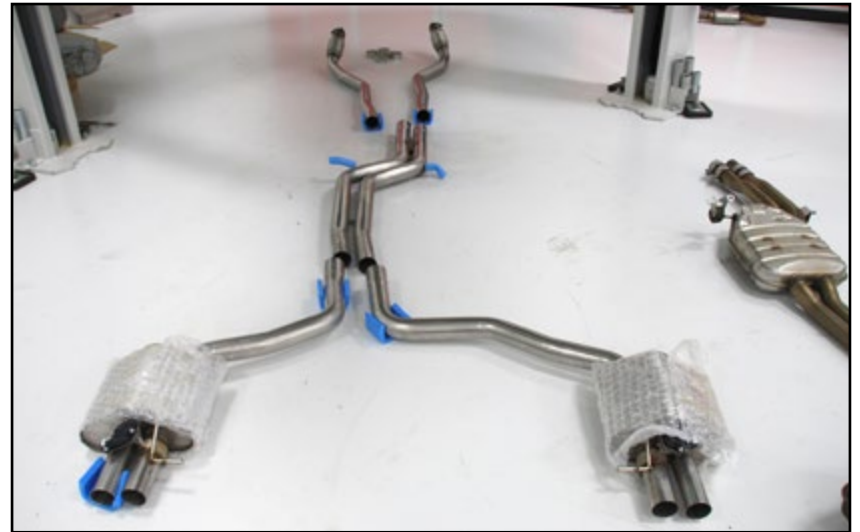


[Table of Contents](#)

INSTALLING THE NEW MILLTEK EXHAUST SYSTEM

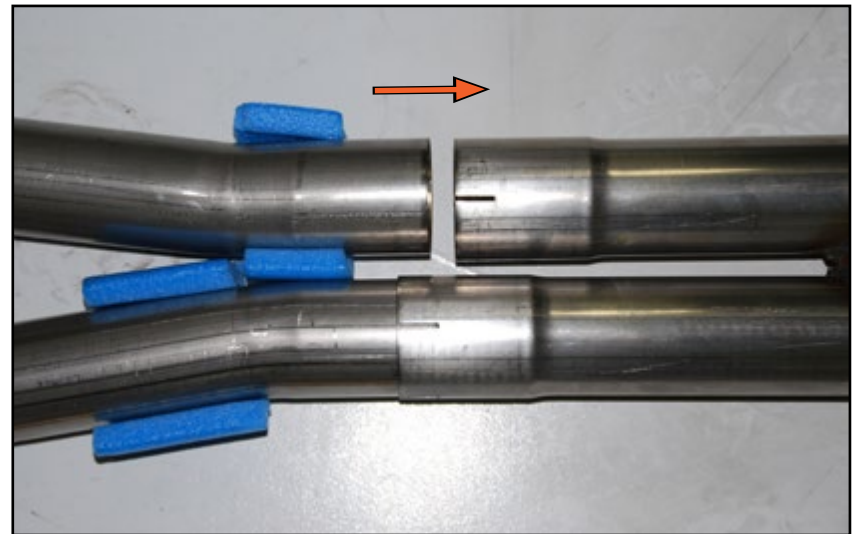
Step 1:

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



Step 2:

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 straighten them and recheck fit. Once all four connections slide together easily, proceed with the next step.



[Table of Contents](#)

INSTALLING THE NEW MILLTEK EXHAUST SYSTEM

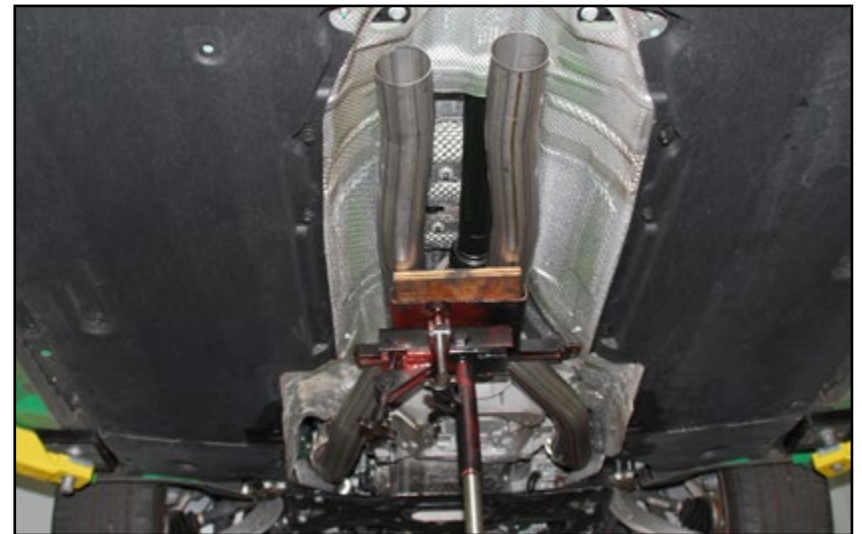
Step 3:

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



Step 4: Jack Post

Position a jack post or similar piece of equipment near the center of the vehicle. Making sure the downpipe gaskets are in place over the studs on the catalytic converter flanges, install the downpipes onto the flanges, start one nut on each one to hold it in place, then rest the ends of each on the jack post.



[Table of Contents](#)

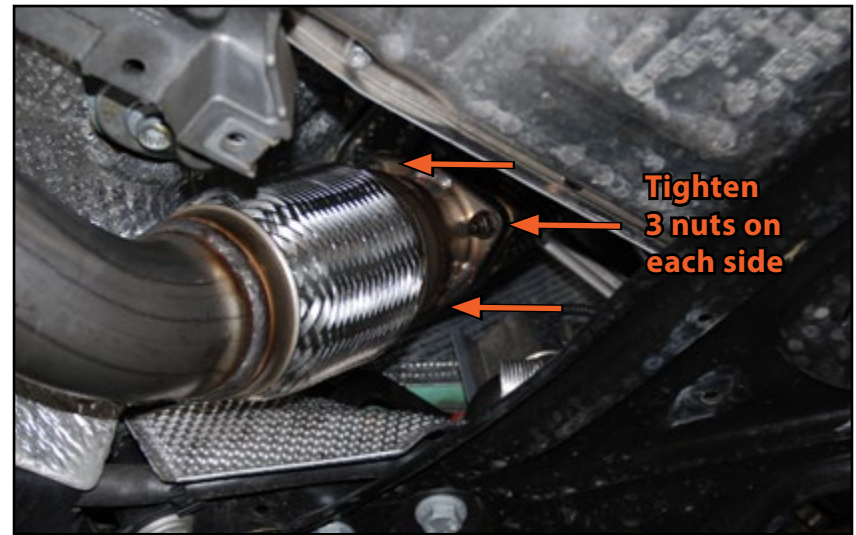
INSTALLING THE NEW MILLTEK EXHAUST SYSTEM

Step 5: 12mm Swivel Socket, Ratchet, 12mm Stubby Wrench

Install the remaining two nuts on each downpipe flange, then fully tighten them.

NOTE

The new downpipes are slightly larger, requiring a stubby wrench to tighten some of the flange nuts.

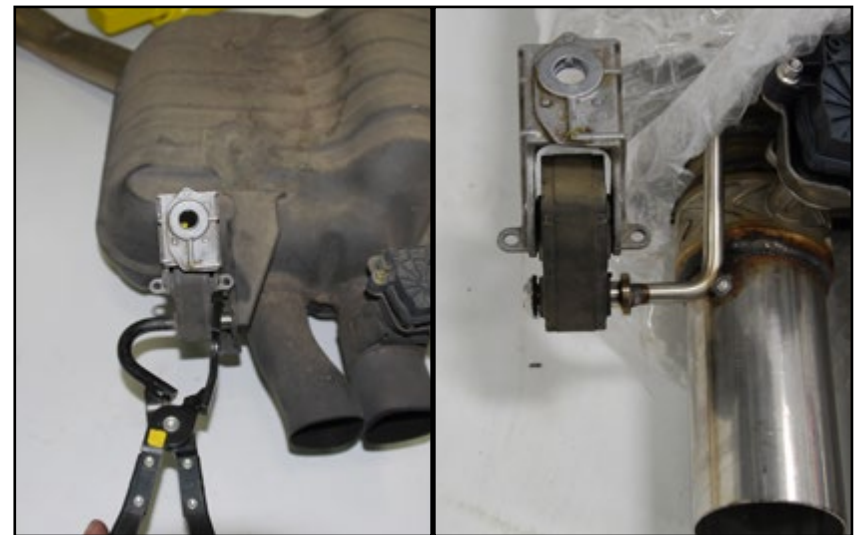


Step 6: Exhaust Hanger Pliers

Transfer the three exhaust hangers on the original system over to the new Milltek exhaust. Do 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 easily slide onto the new system.



[Table of Contents](#)

INSTALLING THE NEW MILLTEK EXHAUST SYSTEM

Step 7:

Slide two of the exhaust clamps onto the front of the center section. You may have to loosen the clamp bolts slightly in order to slide them on. Orient the clamps in the manner shown in the picture, with the clamp bolt located on the outside of each center section pipe.

NOTE

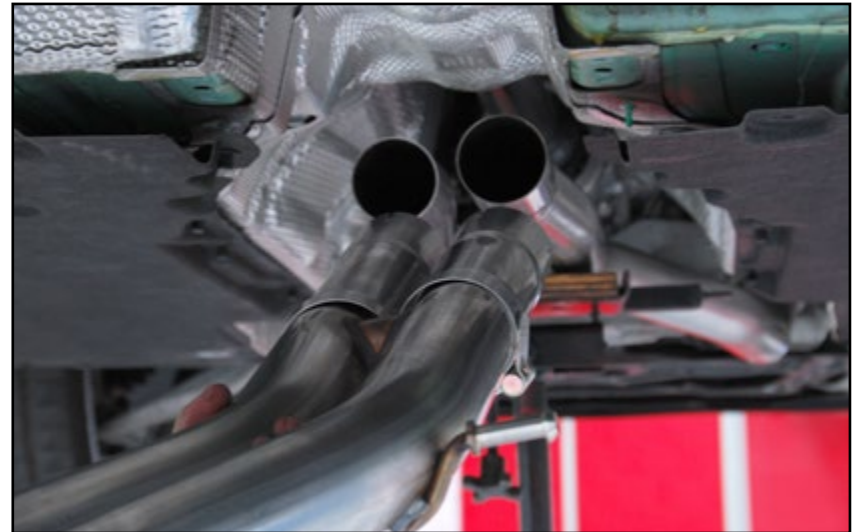
We are installing a Non-Resonated center section. The installation steps for a Resonated center section are the same.



Step 8:

Slide the center section onto the downpipes.

DO NOT TIGHTEN the exhaust clamps at this time.



[Table of Contents](#)

INSTALLING THE NEW MILLTEK EXHAUST SYSTEM

Step 9:

Allow the ends of the center section to hang down slightly with the jackpost supporting the weight of the system. Do not install the hangers at this time.



Step 10:

Slide the remaining two exhaust clamps over the muffler inlet pipes, again being sure to orient them with the clamp bolts located toward the outside of each pipe.



[Table of Contents](#)

INSTALLING THE NEW MILLTEK EXHAUST SYSTEM

Step 11:

Install the LH (drivers) side muffler into place by guiding it up into the rear valance and into position. Locate the muffler hanger bracket onto the body stud and partially thread the nut on to hold it in place.

NOTE

Pay close attention as you install the muffler so you do not damage the Valvesonic actuator or the wiring harness.



Step 12:

Pull down slightly on the center section and muffler inlet pipe to align them, then slide them together.

DO NOT TIGHTEN the exhaust clamps at this time.



[Table of Contents](#)

INSTALLING THE NEW MILLTEK EXHAUST SYSTEM

Step 13:

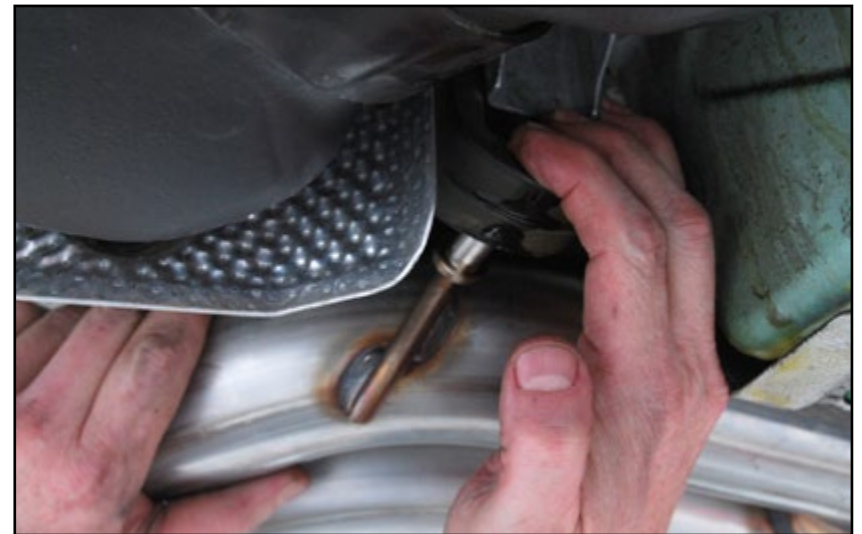
Install the RH (passenger) side muffler in the same manner: Guide it up into the rear valance and into position, partially thread on the hanger nut, pull down slightly on the center section to align it and slide on the muffler inlet pipe.

DO NOT TIGHTEN the exhaust clamps at this time.



Step 14:

Lubricate the RH center exhaust hanger with silicone spray and push it onto the center section.

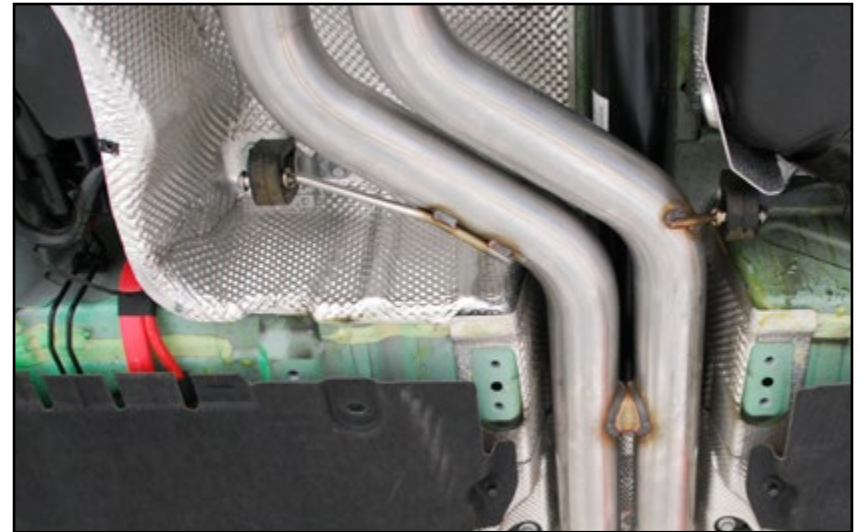


[Table of Contents](#)

INSTALLING THE NEW MILLTEK EXHAUST SYSTEM

Step 15: 13mm Socket, Ratchet, Extension

Thread the two bolts into place for the LH center exhaust hanger and tighten them.



Step 16: M10 Triple Square Socket, Ratchet

Remove the bubble wrap from the mufflers, then reinstall the body cross brace.



[Table of Contents](#)

INSTALLING THE NEW MILLTEK EXHAUST SYSTEM

Step 17:

The most important part of these next few steps is patience. Begin here by removing the jack post, then by making sure all of the pipe connections are pushed together. Rotate the pipes and mufflers as necessary to make sure they are aligned and that they are not hitting anything.



Step 18: 13mm Socket, Ratchet, Extension

Tighten both rear muffler hangers. Adjust the exhaust system again, sliding the pipes in or out as necessary so all of the exhaust hangers are angled with the bottom of each slightly toward the front of the vehicle as shown.

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.



[Table of Contents](#)

INSTALLING THE NEW MILLTEK EXHAUST SYSTEM

Step 19: 13mm Socket, Ratchet, Extension

Orient each of the exhaust clamps so they do not contact the underbody of the car, then tighten them by hand just until they are "snug". **DO NOT USE AN IMPACT WRENCH** and do not fully tighten them at this time.

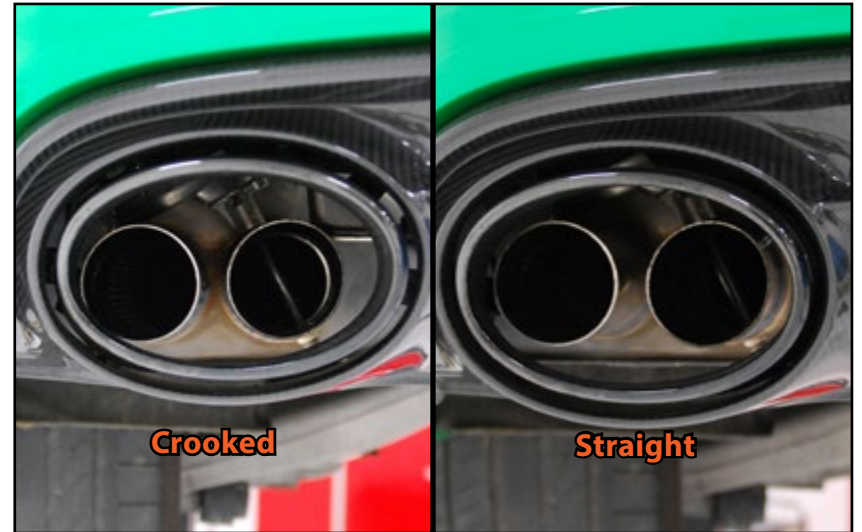
TECH TIP

Partially tightening 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 20:

Adjust the position of both rear mufflers by looking through the rear valance to make sure the tailpipes are properly aligned.



[Table of Contents](#)

INSTALLING THE NEW MILLTEK EXHAUST SYSTEM

Step 21:

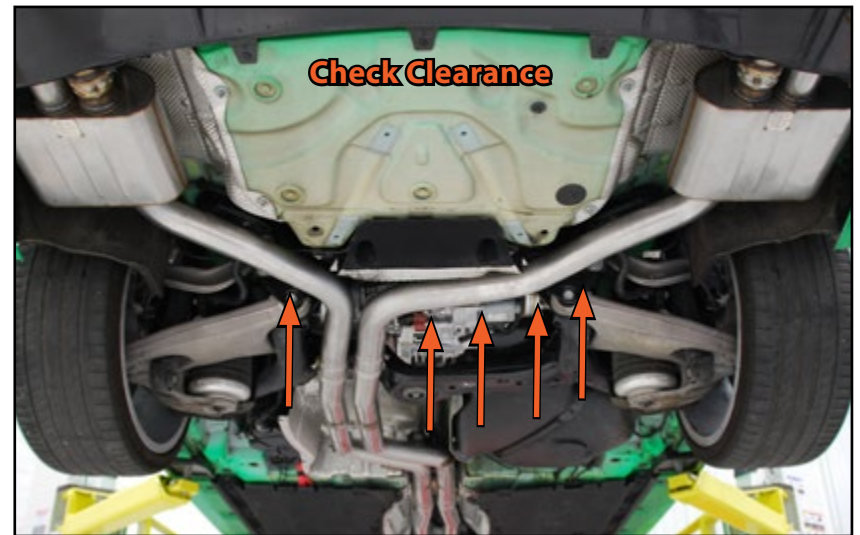
Carefully look at the entire system again. Look down the underside of the vehicle and make sure the system is level and straight. Double check the clearance between the center section and cross brace.



Step 22:

Run your hands along the entire length of the system and visually inspect it at the same time to make sure it is not hitting anywhere. Pay close attention to the tighter areas around the differential and suspension. Adjust the system as necessary until alignment is correct.

Once the system alignment is finalized, fully tighten all four exhaust clamps.



[Table of Contents](#)

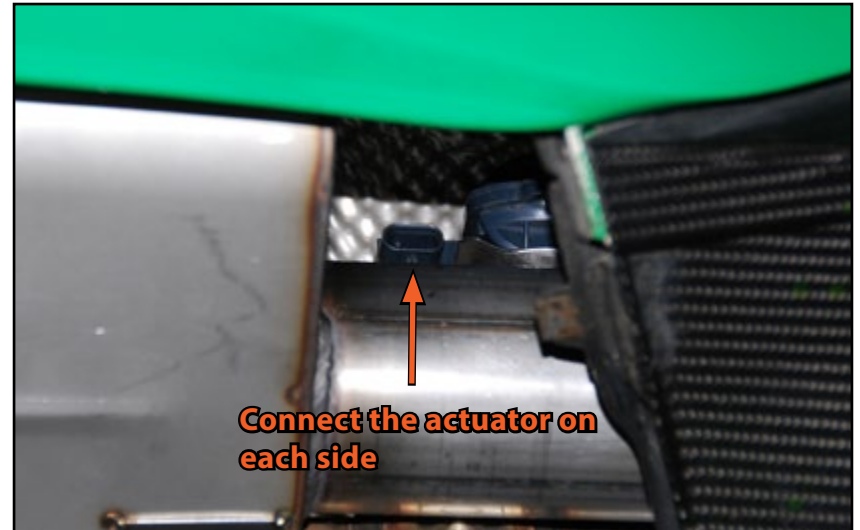
INSTALLING THE NEW MILLTEK EXHAUST SYSTEM

Step 23:

Connect the Valvesonic actuators.

TECH TIP

If the connectors are difficult to plug in, cover the terminals and spray a small amount of silicone lube on the seal.



Final Assembly

Install the main underbody panels.

Install the two rear braces.

Install the LH and RH rearward side insulation panels.

Install the forward insulation panel.

OPERATION OF ACTIVE EXHAUST VALVES

Step 1:

This is the perfect time to confirm that both the 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.


















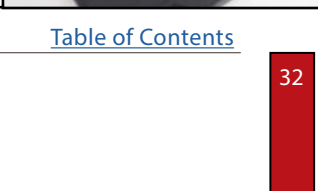

Step 2:

With the engine still running, 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 Valvesonic actuator is properly connected.



SCHWABEN - BUILD THE ULTIMATE TOOL COLLECTION

At ECS Tuning, we carry a line of high quality Schwaben Tools and Equipment to help you build your ultimate tool collection. Never before has affordability and quality been so closely related. Our entire Schwaben line is subjected to strict in house testing for strength and durability. See what we have to offer and equip your garage without breaking the bank.

					
	Breaker Bar	Scraper, Hook, & Pick Set	Sockets		
	Creepers	Camshaft Tools	E-Drive Sockets		
	Gloves	Fan Clutch Wrenches	Car Ramps		
	Engine Bars	Tie Rod Tools	Torx Drivers		
	Screwdrivers	Brake Fluid Catch Bottle	Jack Stands		
	Pressure Bleeders	Tubing Cutter	Circuit Tester		
	Lighting	Booster Cables	Ratchets		
	Pry Bars	Oil Filter Tools	Exhaust Hanger Pliers		
	Coil Spring Compressors	Service Carts	Bubble Flaring Tool		
	Camber Gauge	Battery Charger	Thread Chaser		
	Hose Pinch Pliers	Stethoscope	Drain Pans		
	Wheel Bolt Pattern Gauge	Battery Terminal Brush	Wrenches		
	Ball Joint Separator	Wheel Chocks	Impact Sockets		
	Vanos Solenoid Socket	Torx Sockets	Torque Wrenches		

[Table of Contents](#)

Your RS7 Milltek 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.

Although this material has been prepared with the intent to provide reliable information, no warranty (express or implied) is made as to its accuracy or completeness. Neither is any liability assumed for loss or damage resulting from reliance on this material. SPECIFICALLY, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER WARRANTY IS MADE OR TO BE IMPLIED WITH RESPECT TO THIS MATERIAL.. In no event will ECS Tuning, Incorporated or its affiliates be liable for any damages, direct or indirect, consequential or compensatory, arising out of the use of this material.