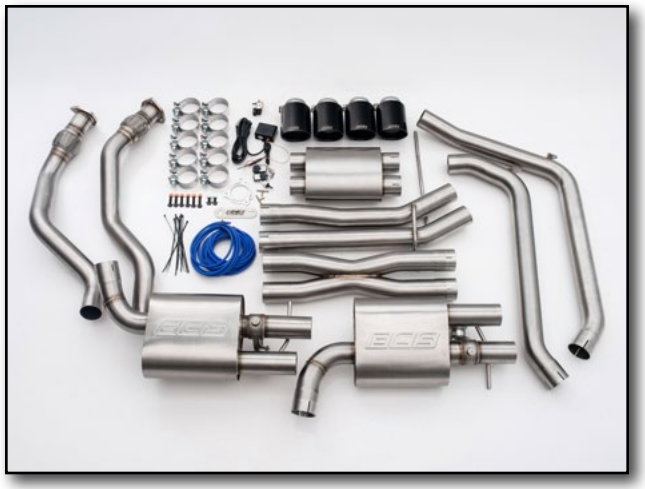
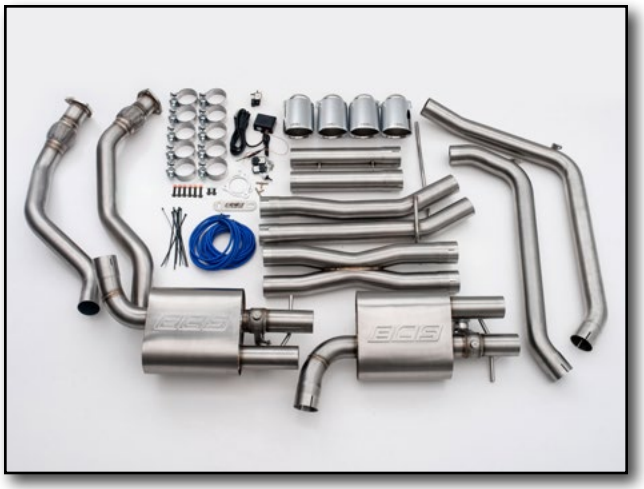
Audi B8 S4 ECS Valved Exhaust System Installation Instructions - Click HERE to shop

Skill Level
2 - Moderate

Some Experience Recommended





INTRODUCTION

Upgrading the exhaust on your Audi B8 S4 is a very rewarding project that an experienced technician will be able to complete in a single day, plan accordingly based on your experience level. The ECS valved 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 with a key fob remote which is included in the kit. This gives you the ability to start the car quietly in the morning (without angering your neighbors), then open the valves on the highway and let it ***RIP!***

Before you begin, read and familiarize yourself with these instructions and make sure you have all the required tools on hand. Thank you for looking to ECS Tuning for all your performance and repair needs, we appreciate your business!

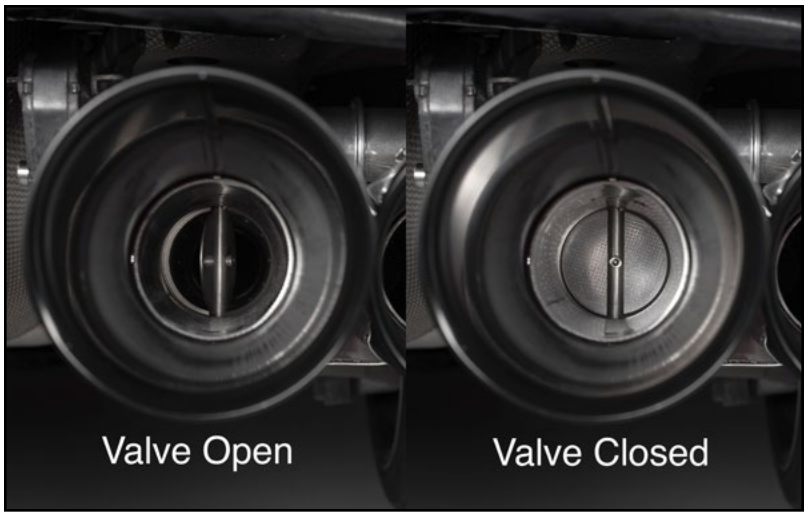
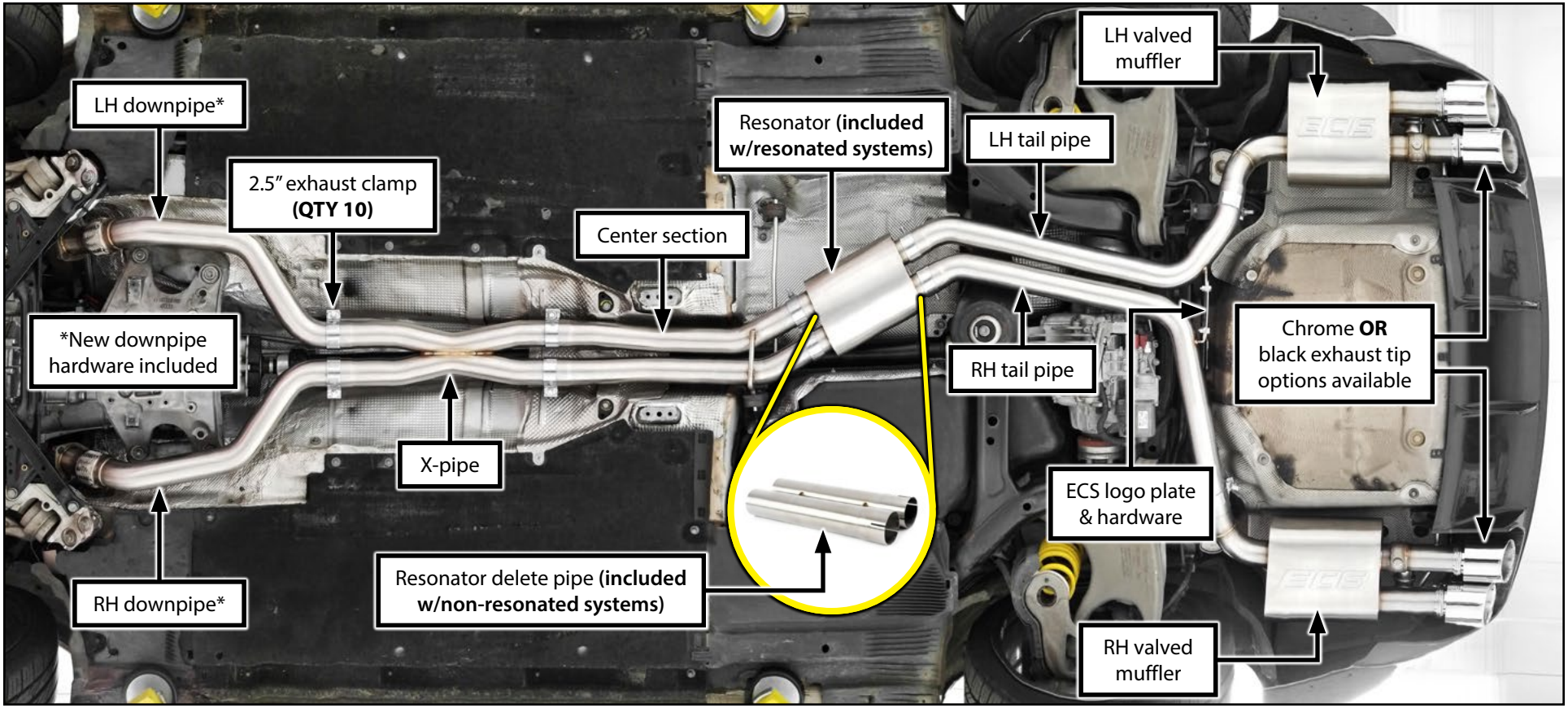


TABLE OF CONTENTS

KIT CONTENTS



Kits are available resonated or non-resonated, with chrome or black tips. Resonated systems utilize a resonator mounted in the center of the center of the system to reduce resonant frequencies from entering the cabin (commonly referred to as "drone"). Our ECS exhaust tips feature swivel adjustment to fine tuning their fit.

See Page 20 for the remote exhaust valve controller kit contents.

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
- **⅜" Drive Ratchet** ..... ES#2765902
- **⅜" Drive Torque Wrench** ..... ES#2221245
- **⅜" Drive Deep and Shallow Sockets** ..... ES#2763772
- **⅜" Drive Extensions** ..... ES#2804822
- **Hydraulic Floor Jack** ..... ES#2834951
- **Torx Drivers and Sockets** ..... ES#11417/8
- ½" Drive Deep and Shallow Sockets ..... ES#2839106
- ½" Drive Ratchet
- ½" Drive Extensions
- ½" Drive Torque Wrench ..... ES#2221244
- ½" Drive Breaker Bar ..... ES#2776653
- Bench Mounted Vise
- Crows Foot Wrenches
- Hook and Pick Tool Set ..... ES#2778980

Required For This Install

- **¼" Drive Ratchet** ..... ES#2823235
- **¼" Drive Deep and Shallow Sockets** ..... ES#2823235
- **¼" 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

- **Exhaust Hanger Removal 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.

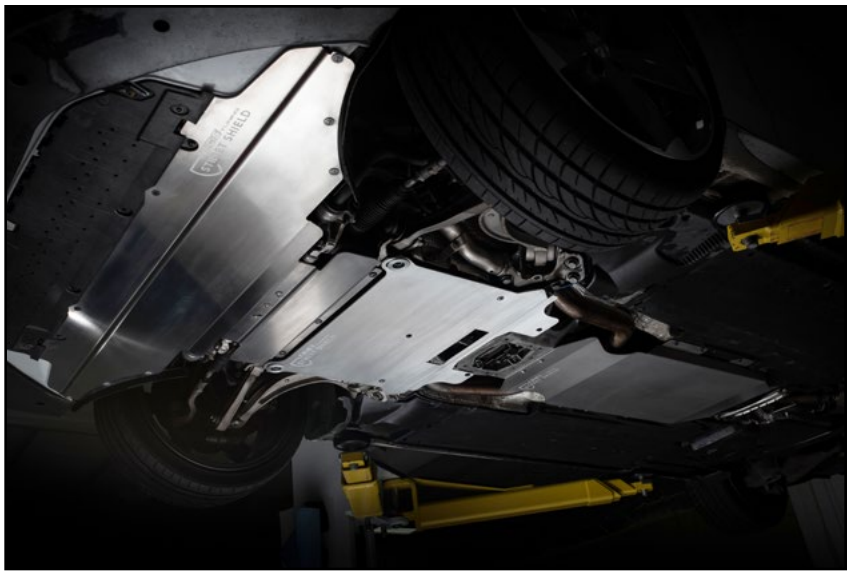
- Park your car in a safe, well lit, level area.
- Shut the engine off and remove the key from the ignition switch.
- Make sure any remote start devices are properly disabled.
- **ALWAYS** wear safety glasses.
- Make sure the parking brake is applied until the vehicle is safely lifted and supported.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

Step 1:

Safely lift and support the vehicle. Remove the belly pans from below.



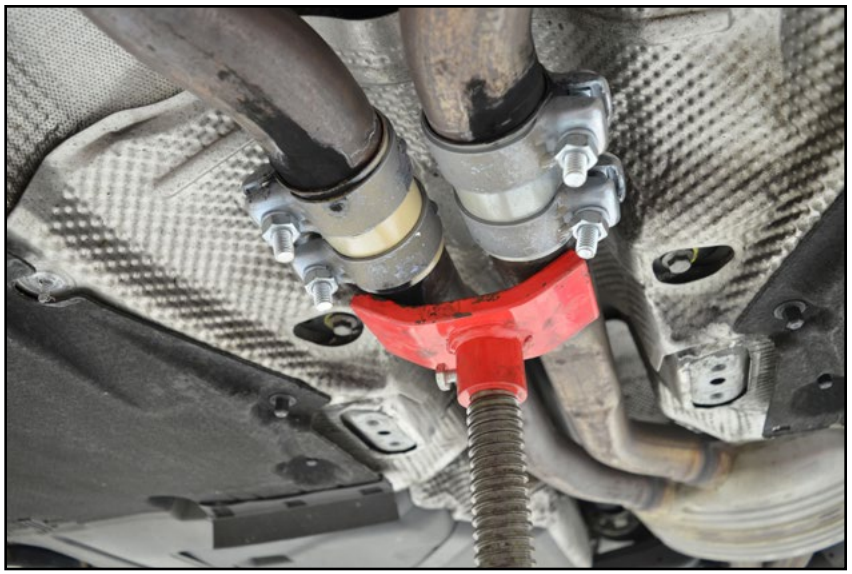
Step 2: 16mm Socket & Ratchet

Remove the four bolts which secure the body cross brace to the chassis. Remove the brace and set it aside.

REMOVING THE STOCK EXHAUST SYSTEM

Step 3:

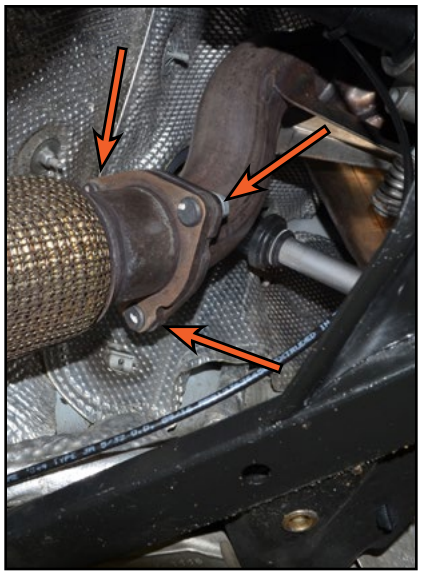
Support the center of the exhaust system from below.

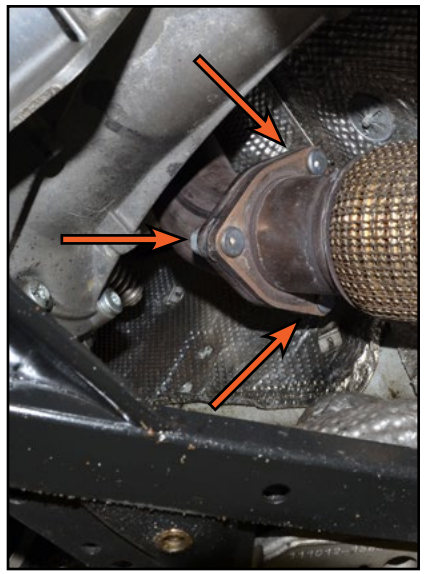


Step 4: 13mm Wrench

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. This will further reduce the risk of breaking or rounding them off.

Once you're ready, remove and discard the downpipe nuts. The upper nuts can be a little tricky to reach, a stubby 13mm wrench or a 13mm torque adapter will work nicely for this tight spot.



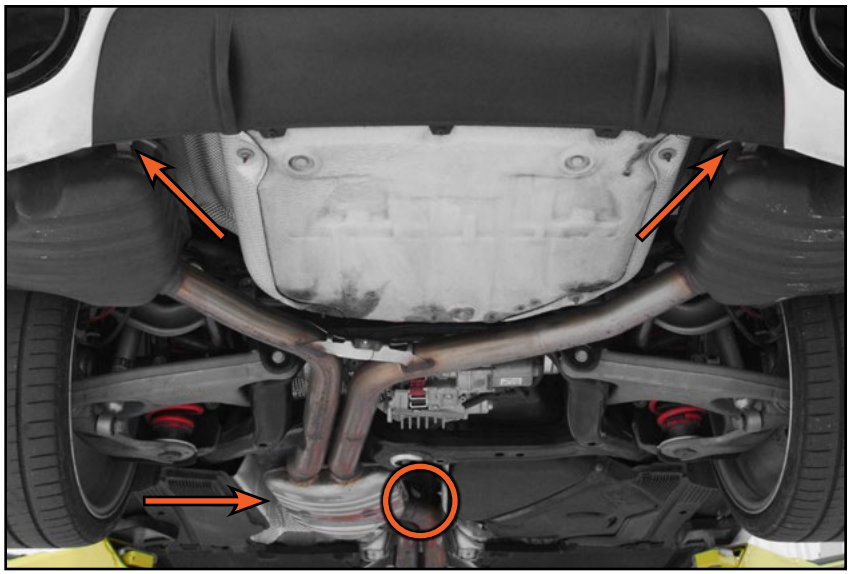


REMOVING THE STOCK EXHAUST SYSTEM

Step 5:

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

Please note that there is a fourth hanger which is located on the RH side of the center resonator (**CIRCLE** around it in the photo), this hanger is also used to support the fuel tank so it's best to disconnect it from the exhaust ***without*** unbolting it for this installation.



Step 6: Exhaust Hanger Removal Pliers, 13mm Socket & Ratchet

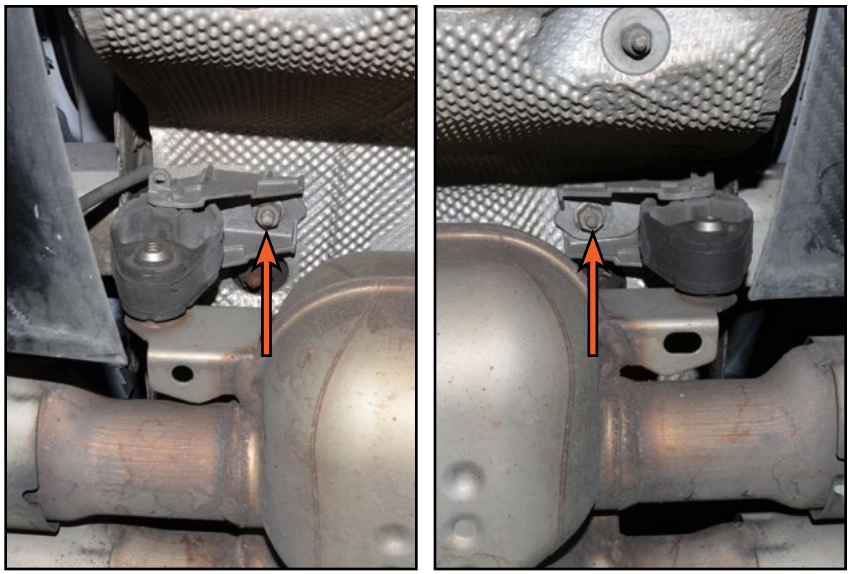
Remove the RH exhaust hanger from the center resonator (shown in the LH photo).

Remove one of the bolts for the LH exhaust hanger on the center resonator 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 SYSTEM

Step 7: 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.



Step 8: 13mm Wrench

Support the exhaust system from below while you remove the nuts from the exhaust hangers by hand. Carefully lower the entire system to the ground, you will also need to pull it slightly rearward in order to clear the subframe.

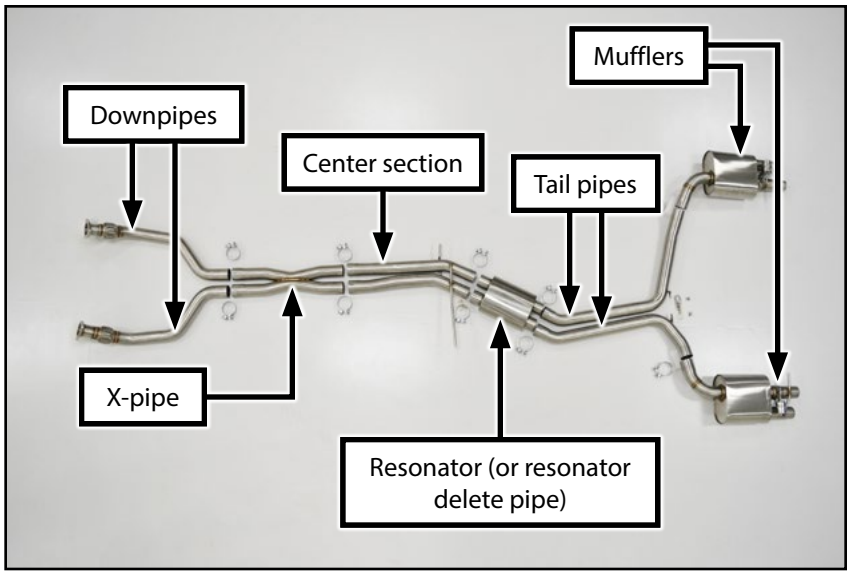
CAUTION: The stock exhaust system is very heavy. We strongly recommend you enlist the help of a friend (or even two) to help you with lowering the system.

INSTALLING THE NEW VALVED EXHAUST SYSTEM

Step 1:

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

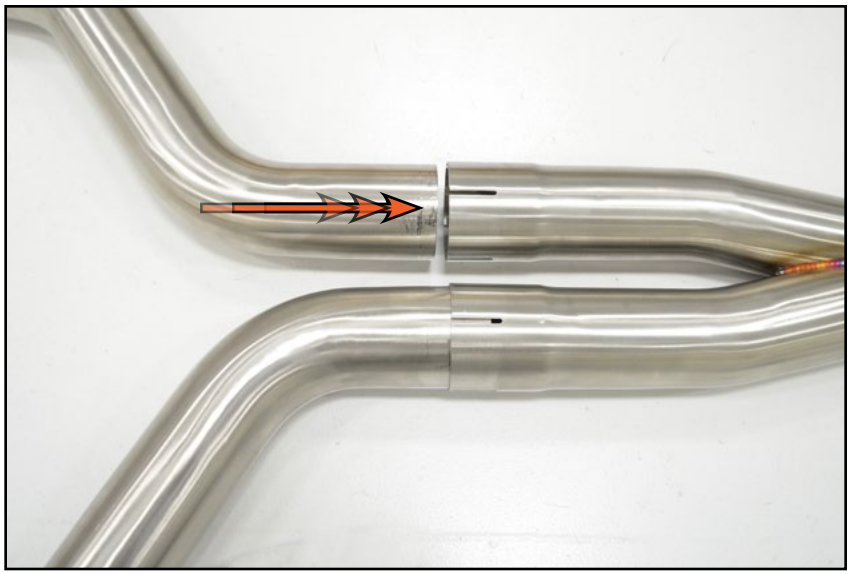
It is also ***EXTREMELY*** important that you support the exhaust from below as you are installing the system. This can be easily achieved with jack stands, or you can have an assistant hold them in place.



Step 2: Ball Peen Hammer

Carefully unpack your new exhaust system and lay it out on the floor.

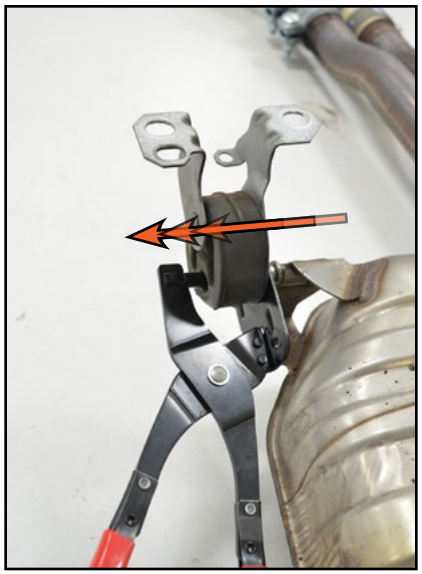
Test fit the pipes together at every slip joint to make sure they slide together easily. If they do not slide together easily, inspect the ends of the pipes for any slight distortion or bending (this is sometimes impossible to avoid during shipping). Using a ball peen hammer, gently tap on the ends of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

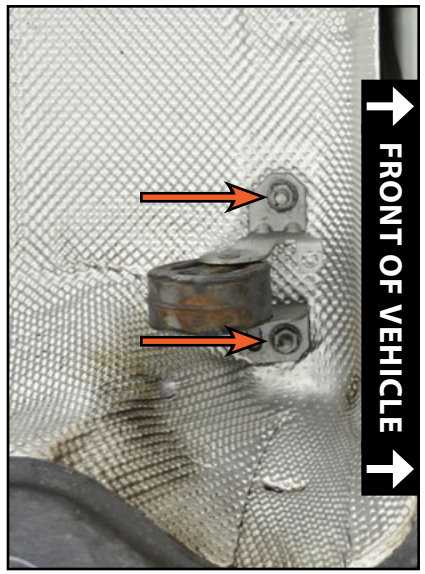


INSTALLING THE NEW VALVED EXHAUST SYSTEM

Step 3: Exhaust Hanger Removal Pliers, 13mm Socket & Ratchet

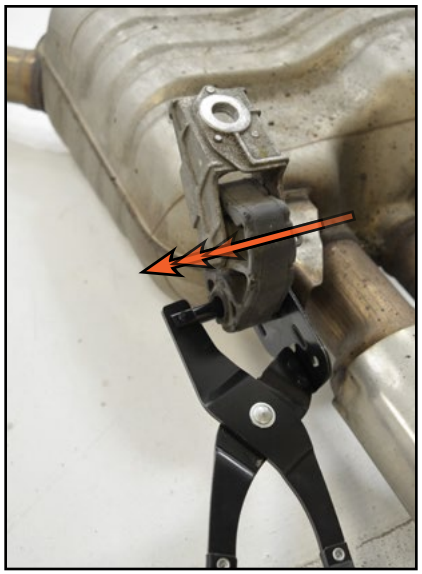
Remove the remaining exhaust hanger from the stock resonator (the other hanger should have been left on the vehicle earlier) and reinstall it back into the vehicle. Be sure to orient it exactly as it was before.

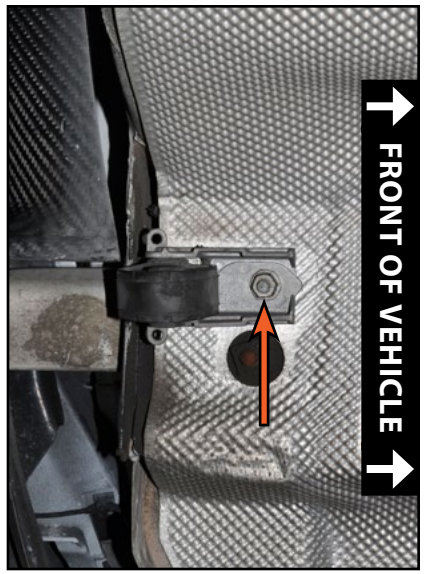




Step 4: Exhaust Hanger Removal Pliers, 13mm Socket & Ratchet

Remove the exhaust hangers from each of the stock mufflers, then reinstall them back into the vehicle. Be sure to orient them exactly as they were before.





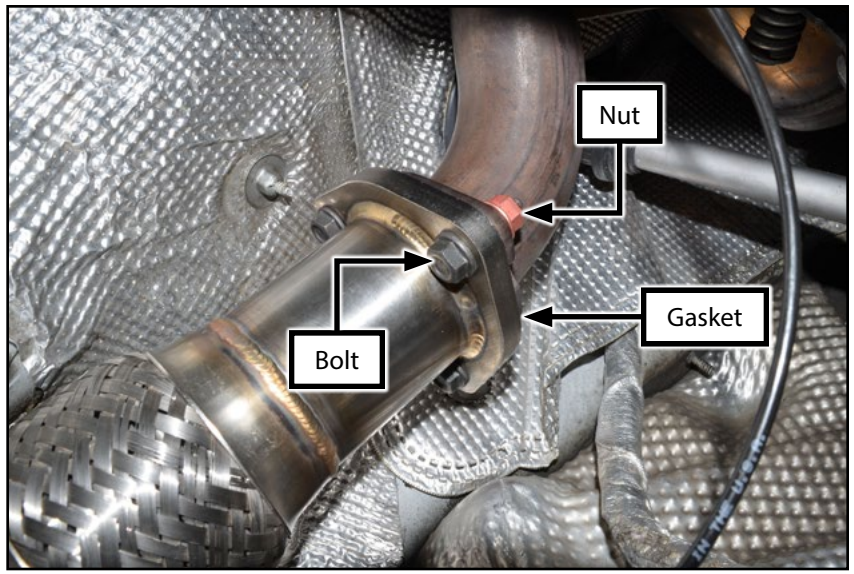
INSTALLING THE NEW VALVED EXHAUST SYSTEM

Step 5:

Clean the ends of the catalytic converter flanges with a suitable degreaser or brake cleaner.

Step 6: 12mm Wrench, 13mm Socket & Ratchet

Install the new downpipes onto the catalytic converters with the supplied hardware. You can tighten the bolts by hand until they are “snug”, but **DO NOT USE AN IMPACT WRENCH** and do not fully tighten them at this time.



NOTE

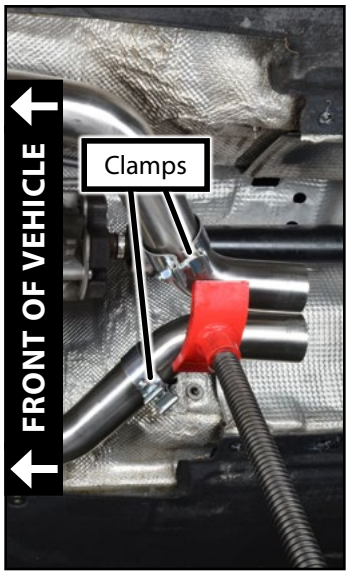
Don’t forget to install the new gasket between the downpipe and the catalytic converter.

INSTALLING THE NEW VALVED EXHAUST SYSTEM

Step 7:

Support the downpipes from below and slide exhaust clamps onto the ends (shown in the LH photo). Be mindful of which direction the clamps are facing, when we tighten these down later on we want the bolt head to be clear of all surrounding components.

Slide the X-pipe onto the downpipes as far as you can by hand (shown in the RH photo).



Step 8:

Slide exhaust clamps onto the ends of the X-pipe. Be mindful of which direction the clamps are facing, when we tighten these down later on we want the bolt head to be clear of all surrounding components.

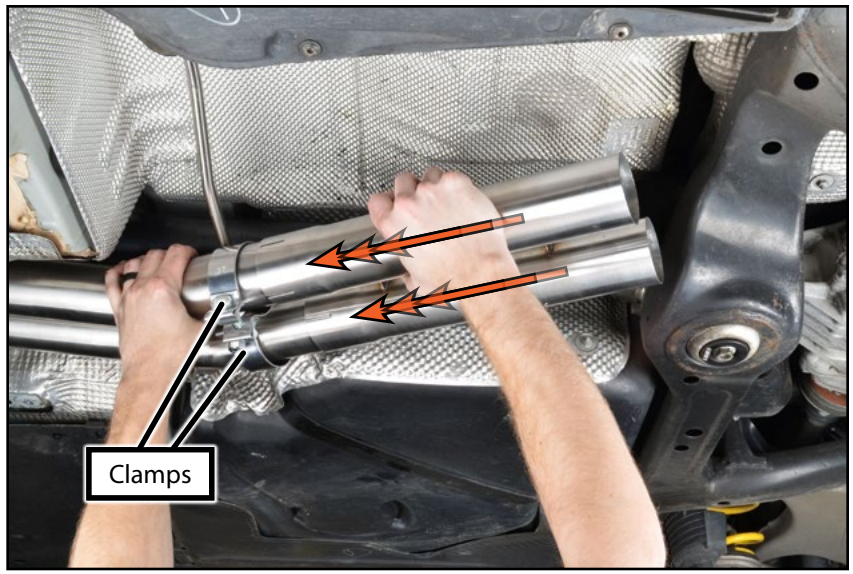
Slide the center section onto the X-pipe as far as you can by hand.

INSTALLING THE NEW VALVED EXHAUST SYSTEM

Step 9:

Slide exhaust clamps onto the ends of the center section. Be mindful of which direction the clamps are facing, when we tighten these down later on we want the bolt head to be clear of all surrounding components.

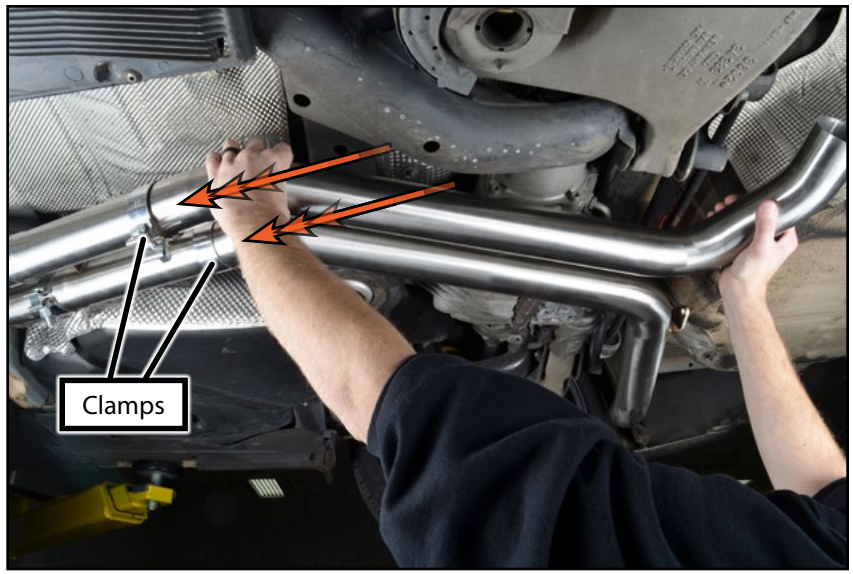
Slide the resonator (or resonator delete pipe) onto the center section as far as you can by hand.



Step 10:

Slide exhaust clamps onto the ends of the resonator (or resonator delete pipe). Be mindful of which direction the clamps are facing, when we tighten these down later on we want the bolt head to be clear of all surrounding components.

Slide the RH tail pipe onto the resonator (or resonator delete pipe) as far as you can by hand, then repeat this process on the LH tail pipe.

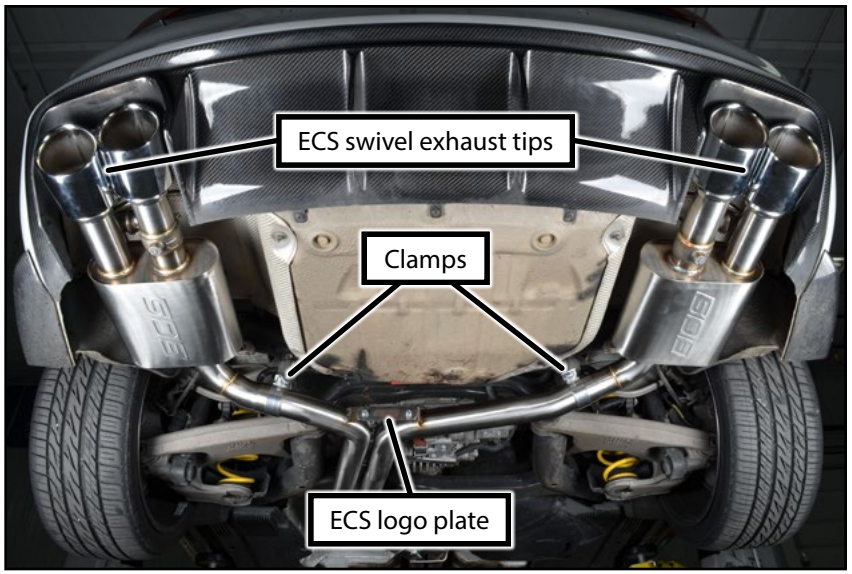


INSTALLING THE NEW VALVED EXHAUST SYSTEM

Step 11:

Slide an exhaust clamp onto the end of each tail pipe. Be mindful of which direction the clamps are facing, when we tighten these down later on we want the bolt head to be clear of all surrounding components.

Slide the mufflers onto the tail pipes as far as you can by hand, then loosely install the ECS logo plate and the exhaust tips.

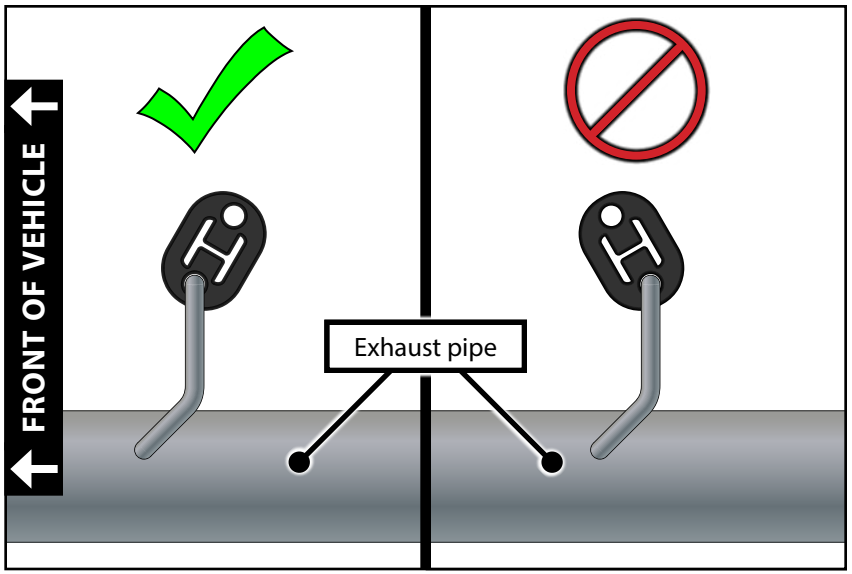


Step 12:

The most important part of these next few steps is patience. One of our goals will be to orient all of the exhaust hangers forward as shown in the illustrations on the right. The exhaust hangers should be inclined toward the front of the vehicle so that lower hole is approximately 10-15mm forward of the upper hole, this will allow the hangers to pivot backwards as the system heats up and expands.

NOTE

Due to differences in manufacturing, as well as variations from one car to another, you might not be able to get all of your hangers to pitch forward. This is acceptable as long as they are at least close to vertical. We definitely don't want the hangers to be pitched rearward and stretching ***BEFORE*** the system heats up and expands.

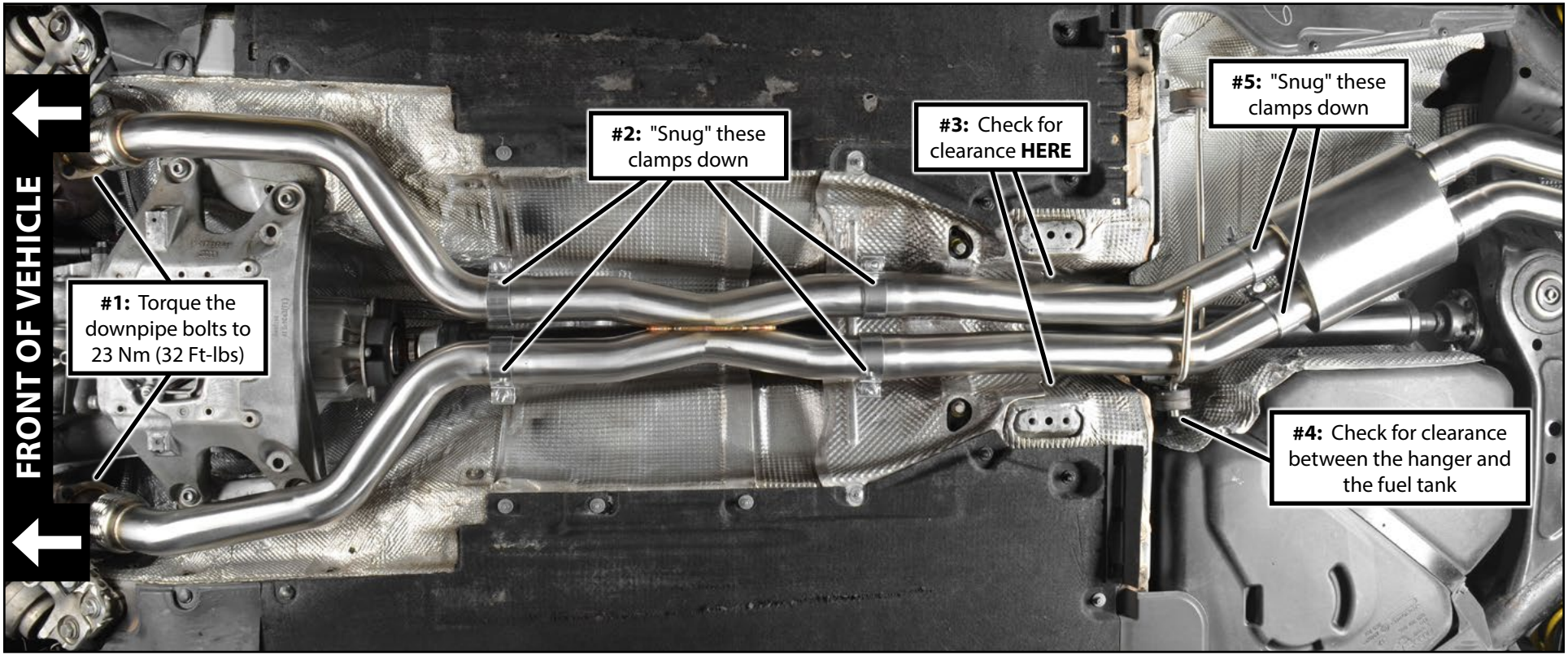


INSTALLING THE NEW VALVED EXHAUST SYSTEM

Step 13: 12mm Wrench, 13mm Socket & Torque Wrench, 15mm Socket & Ratchet

Closely inspect the front of the exhaust system, we need to check for clearance between the pipes and the chassis and drivetrain components. Proceed to the next page once you are satisfied with the steps outlined in the photo below.

CAUTION: When you tighten the exhaust clamps be sure to do it by hand until they are "snug", **DO NOT USE AN IMPACT WRENCH** and do not fully tighten them at this time.

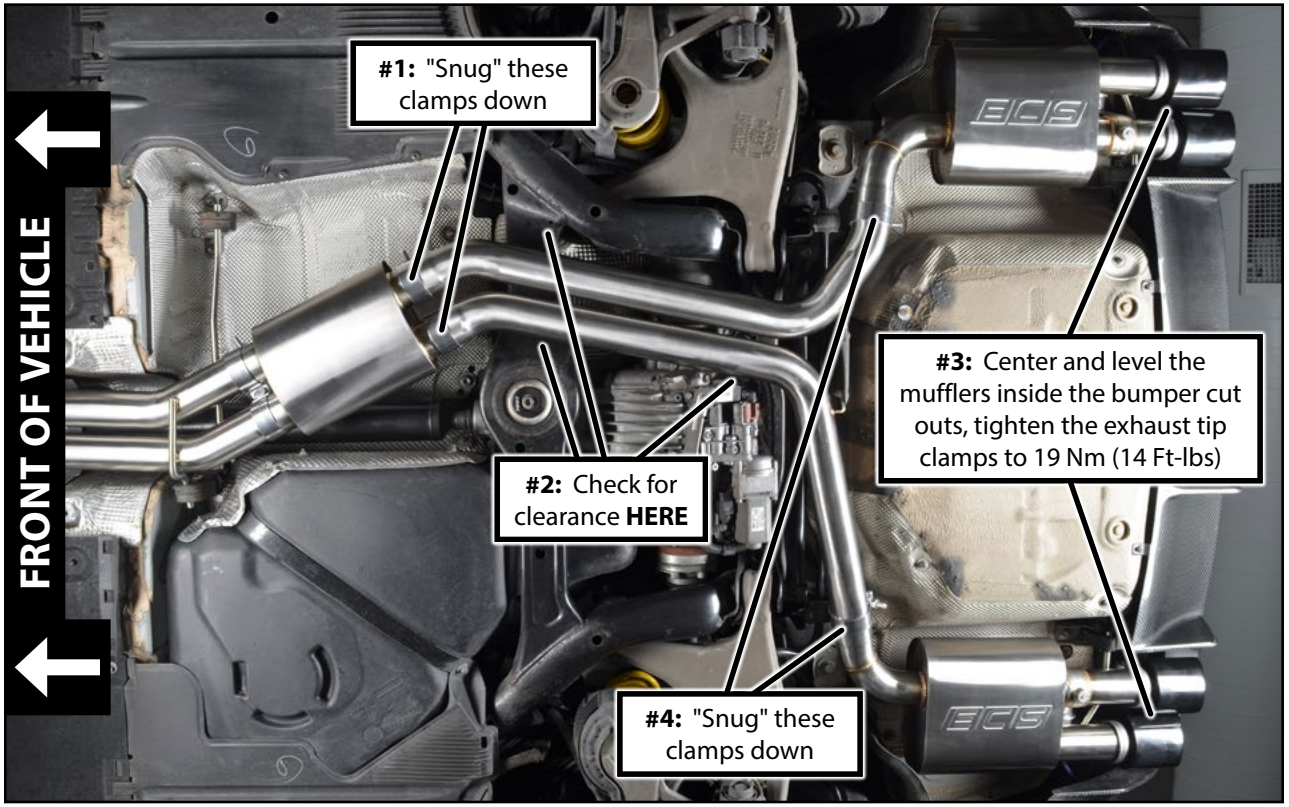


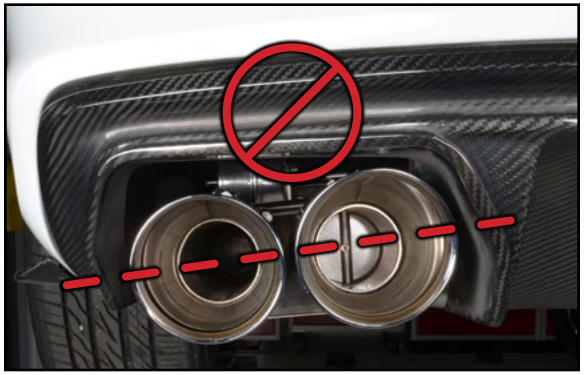
INSTALLING THE NEW VALVED EXHAUST SYSTEM

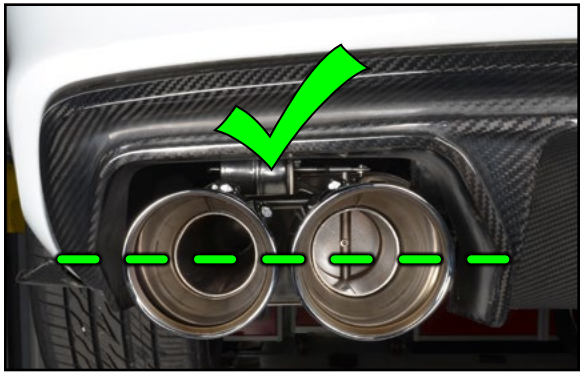
Step 14: 15mm Socket & Ratchet

Closely inspect the rear of the exhaust system, we need to check for clearance between the pipes and the chassis and drivetrain components. Proceed to the next page once you are satisfied with the steps outlined in the photo below.

CAUTION: When you tighten the exhaust clamps be sure to do it by hand until they are "snug", **DO NOT USE AN IMPACT WRENCH** and do not fully tighten them at this time.





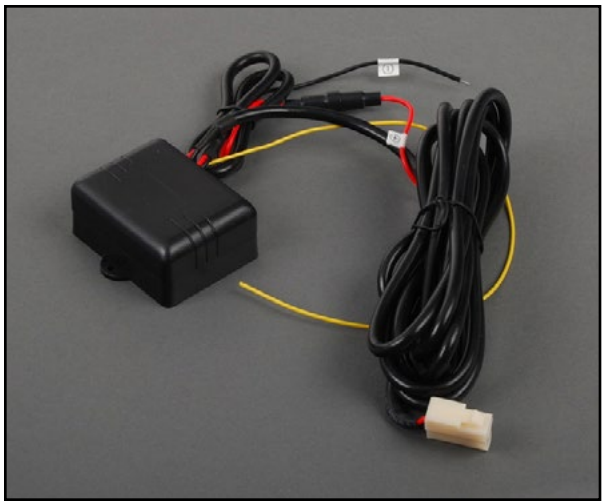


13mm Wrench, 13mm Socket & Ratchet

- [ ] Fully tighten down all of the exhaust clamps.
- [ ] Install the ECS logo plate, tighten the bolts until snug.
- [ ] Wipe any oil, grease, or fingerprints from the exhaust system.
- [ ] Reinstall the rear body cross brace.
- [ ] Reinstall the belly pans.
- [ ] Recheck all fasteners after the vehicle has been driven 500 miles.

Your exhaust system installation is now complete, please continue to Page 20 to install the Remote Exhaust Valve Controller.

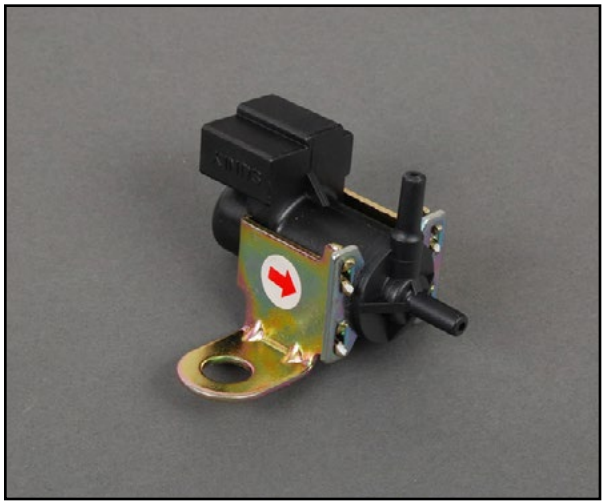
REMOVE EXHAUST VALVE CONTROLLER KIT CONTENTS



Control Module with Wiring Harness **(QTY 1)**

Vacuum Hose **(1x long, 1x short)**

Remote Controllers **(QTY 2)**

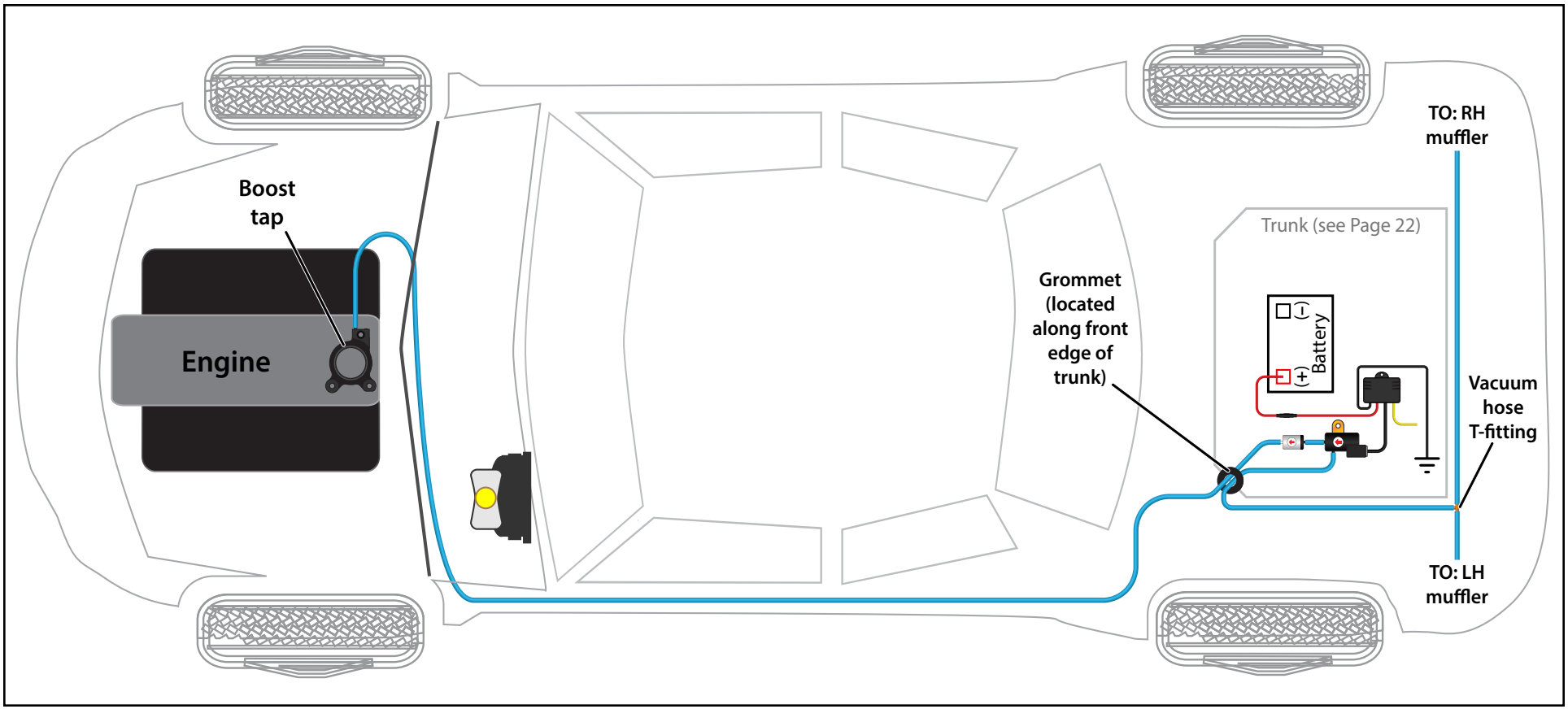


Solenoid Vacuum Valve **(QTY 1)**

Check Valve **(QTY 1)**

Vacuum Hose T-Fitting **(QTY 2)**

REMOVE EXHAUST VALVE CONTROLLER SYSTEM DIAGRAM

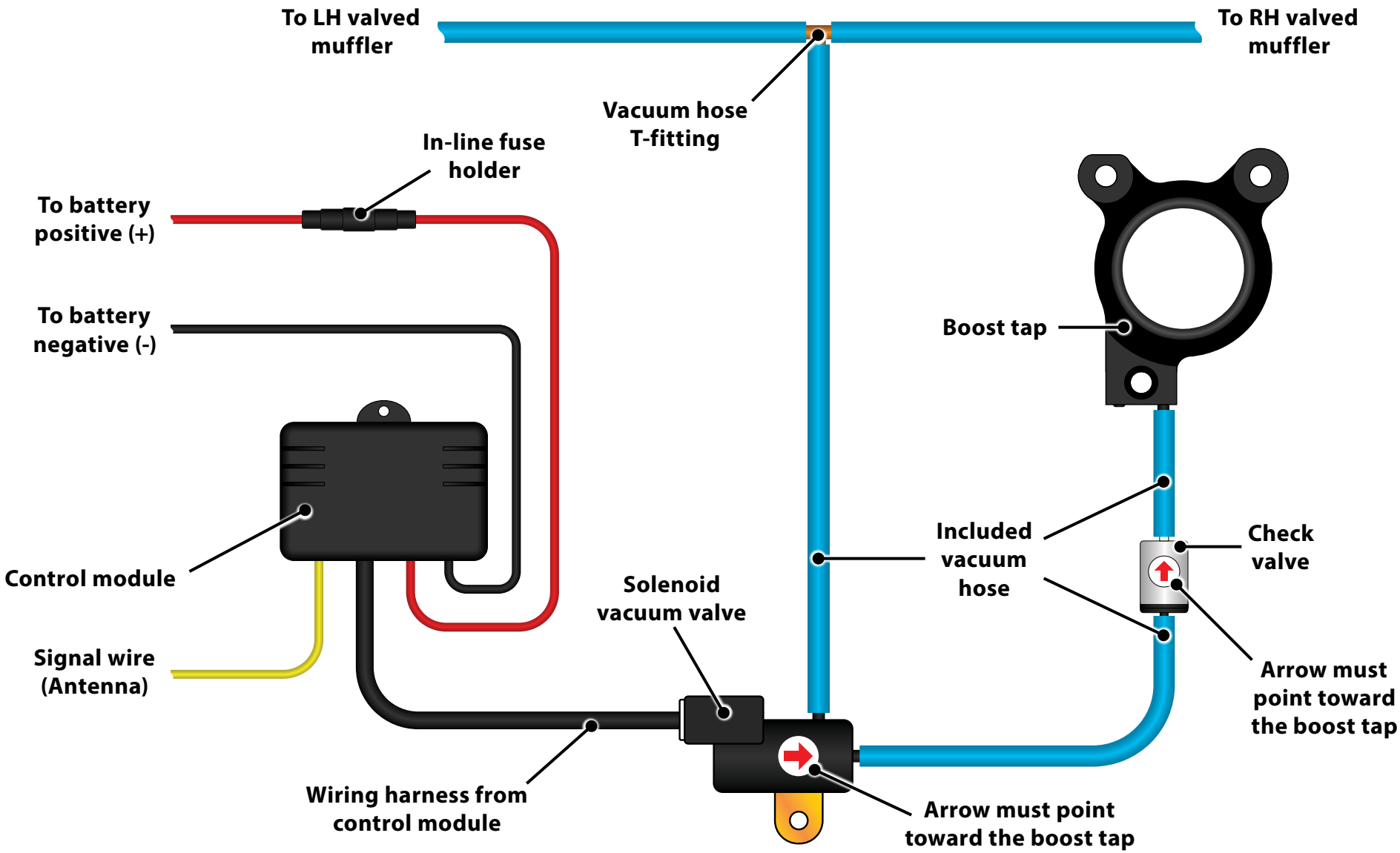


We decided to install our control module and solenoid inside the trunk next to the battery. The remote exhaust valve controller system can be installed almost anywhere on the vehicle, if you want to install the components somewhere else that is absolutely OK.

We routed the vacuum hose from the boost tap, down along the underbelly and into the trunk through a rubber grommet. We wired the control module power wire directly to the battery, and the ground wire to a nearby chassis ground. We then routed the vacuum hose from the solenoid back out through the grommet and toward the rear bumper. We installed a vacuum T-fitting onto the hose to split it into two, then we ran hoses to the valves on each muffler.

Proceed to the Page 22 for a detailed diagram of the entire valve controller system.

REMOVE EXHAUST VALVE CONTROLLER SYSTEM DIAGRAM

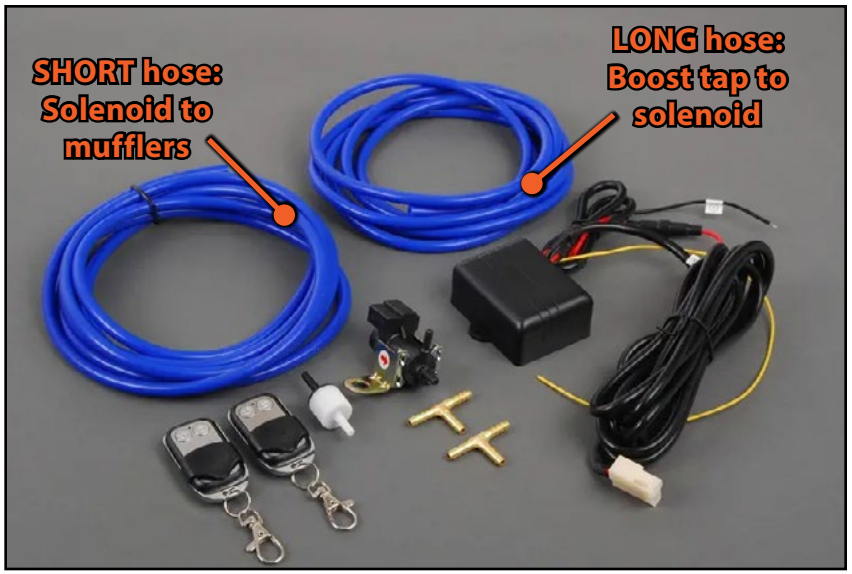


INSTALLING THE REMOTE EXHAUST VALVE CONTROLLER

Step 1:

The Remote Exhaust Valve Controller allows the user to open and close the exhaust valves with the push of a button. It utilizes a vacuum valve which uses the vehicles vacuum system, and is activated by the included remote control switch.

Please familiarize yourself with the Kit Contents on Page 20, and the System Diagrams on Page 21 & 22 before proceeding to the next step.



Step 2:

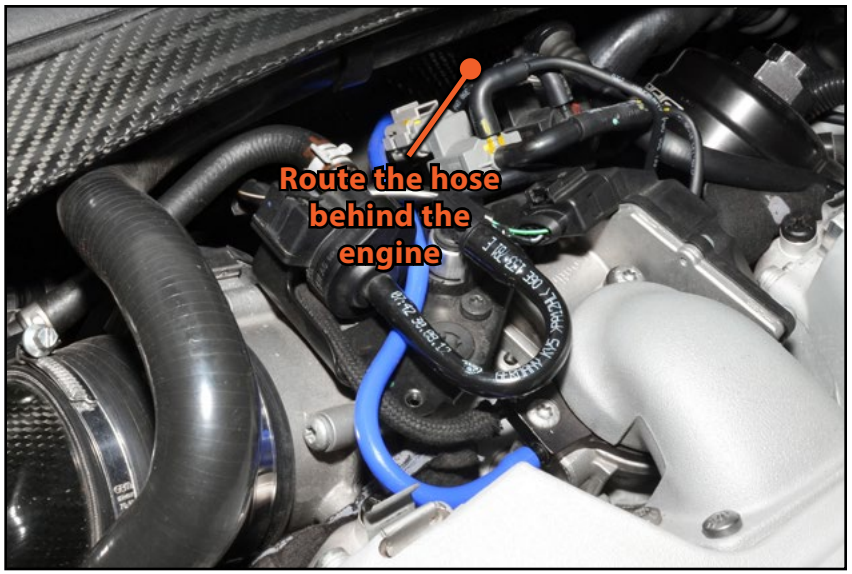
In order to install this vacuum control valve you **MUST** already have a boost tap installed on the vehicle (or some other appropriate vacuum source). If you do not currently have a boost tap installed on your engine, the ECS Tuning 3.0T boost tap can be found on ecstuning.com: ES#2710239.

If you already have a boost tap installed, connect the **LONG** vacuum hose to one of the vacuum ports. This hose needs to route all the way back to the trunk, so **DO NOT** cut it to length yet!

INSTALLING THE REMOTE EXHAUST VALVE CONTROLLER

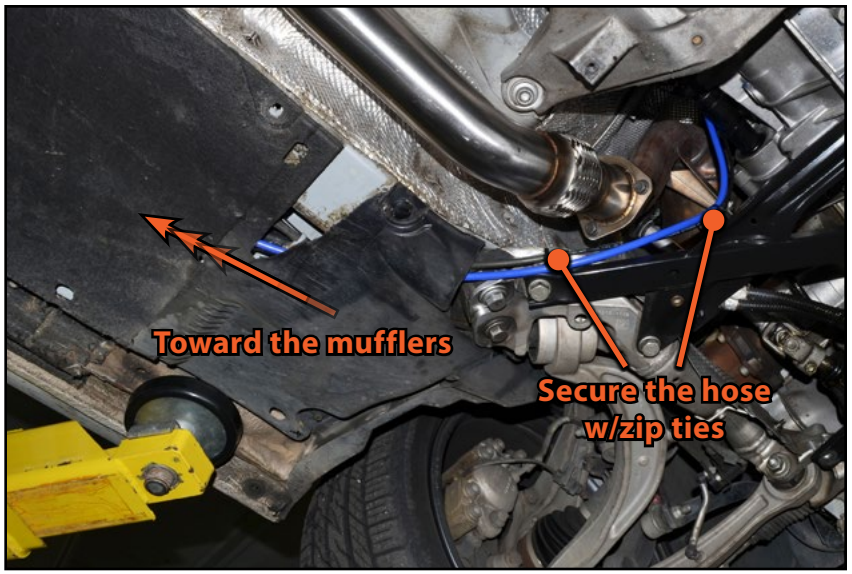
Step 3:

Route the hose down away from any moving or hot components and out through the bottom of the vehicle.



Step 4:

Pull the vacuum hose down past the subframe as shown in the photo, ensuring that the hose is clear of any moving or hot parts, including suspension, engine and exhaust components.



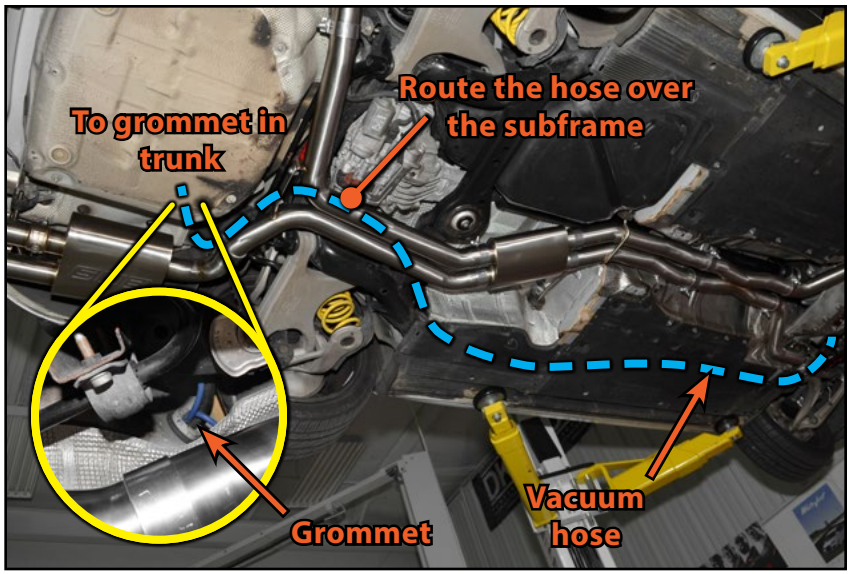
NOTE

We secured the vacuum hose to the clutch slave cylinder, but you may select another routing method or location.

INSTALLING THE REMOTE EXHAUST VALVE CONTROLLER

Step 5: 10mm Socket & Ratchet

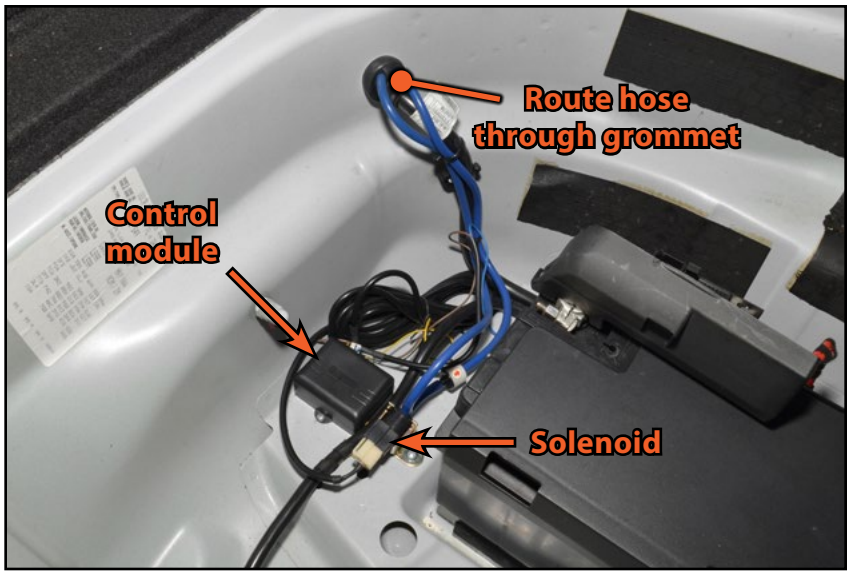
Remove the fasteners on the left underbody panels and swing them downward to gain access. Route the vacuum hose over the panels as shown with the dotted line in the photo, securing it with zip ties as required. Reinstall the panels after the hose has been routed.



Step 6:

For this installation we chose to install inside the trunk next to the battery. We used self-tapping screws to secure the control module and the solenoid to the trunk floor.

If you choose to mount the control module or the solenoid somewhere else on the vehicle, you **MUST** ensure that it is protected from the elements, as well as any nearby moving/hot components.

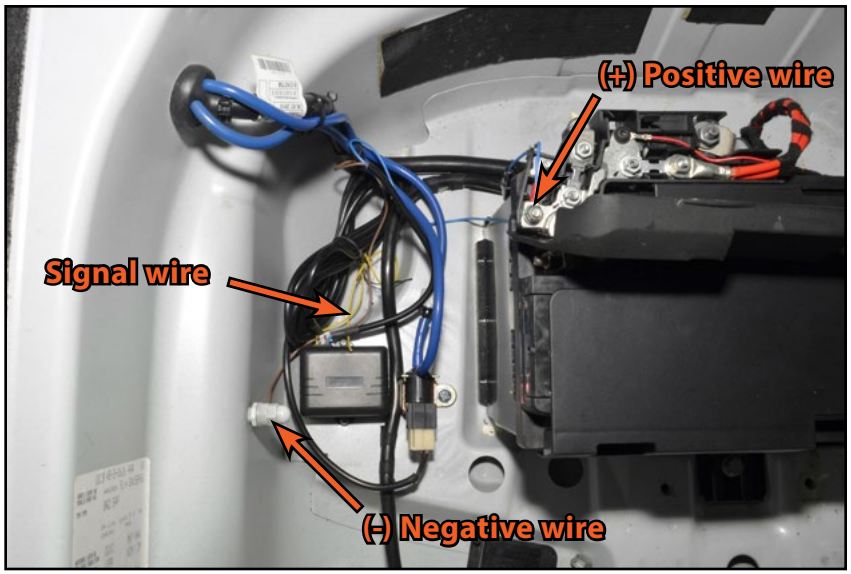


INSTALLING THE REMOTE EXHAUST VALVE CONTROLLER

Step 7:

We wired our control module directly to the positive (+) battery post and the nearby chassis ground. To do so simply route the positive wire toward the battery post, then attach the wire using crimp-style ring connectors. Repeat this process to install the negative (-) wire onto the chassis ground.

Be sure to plug the end of the wiring harness from the control module into the solenoid vacuum valve. Secure any extra wiring with zip ties as needed.

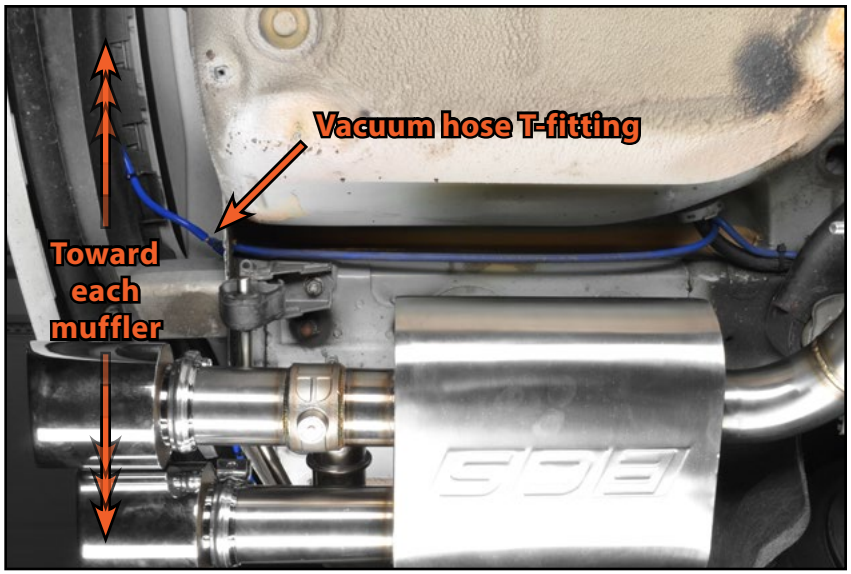


NOTE

The yellow signal wire acts as the antenna for the remote controller, and remains unattached.

Step 8:

Connect the **SHORT** vacuum hose the vacuum port on the solenoid, then route the hose back through the grommet inside the trunk. This hose needs to go toward the mufflers, the photo on the right shows the route we chose on our vehicle. Be sure to add the vacuum hose T-fitting to split the hose between the two mufflers.



NOTE

This photo was taken with the heat shields removed from the vehicle for better visibility of hose routing.

INSTALLING THE REMOTE EXHAUST VALVE CONTROLLER

Step 9:

Route the two ends of the vacuum hose behind the bumper cover and over the heat shields until they reach the vacuum port on each exhaust valve. Secure the hose away from the exhaust with zip ties as needed.

NOTE

This photo was taken with the heat shields removed from the vehicle for better visibility of hose routing.

Step 10:

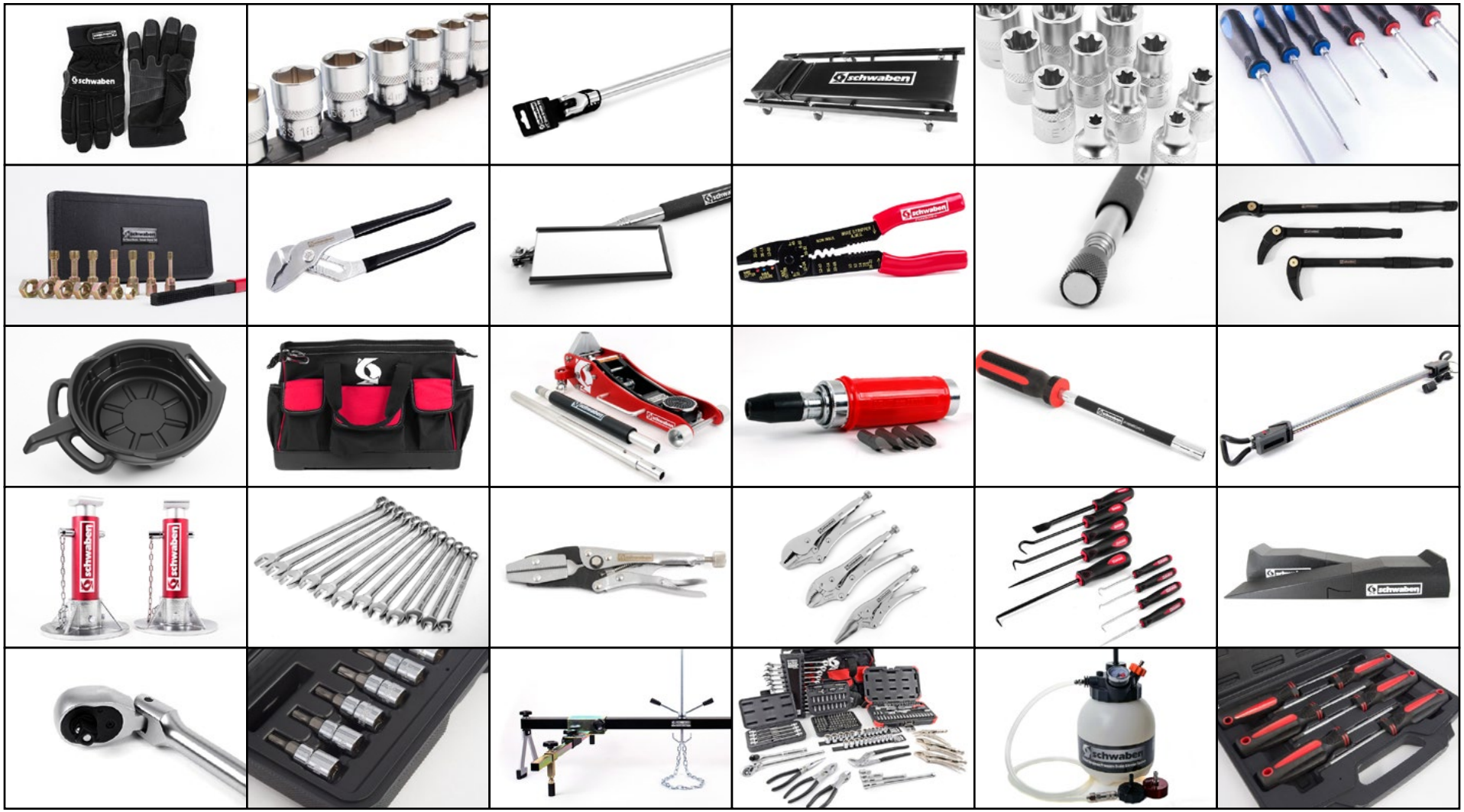
Finally, perform a system check by starting the engine, then press the “unlock” button on the remote to open the valve, and press the “lock” button to close the valve. You should be able to hear a difference in both exhaust tone and volume when the valve is opened or closed.

NOTE

We have found that in some cases while the engine is making boost there won't be enough vacuum present in the system to operate the exhaust valves. This system will operate best when you are off throttle.

Your ECS Tuning Valved Exhaust installation is complete!

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.



Your ECS Valved 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.