VW MK6 Kohlefaser Luft-Technik Intake 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

The Project:

Our ECS Tuning Kohlefaser Luft-Technik Intake Systems feature durable CNC bent aluminum pipes and are available in sleek polished or wrinkle black powder coat finishes. Intake Pipes are also available in gorgeous hand-laid carbon fiber. All of our kits have been meticulously designed in-house to provide superior fitment and performance. The kit comes with an attractive carbon fiber air box and a high flow cotton air filter. Each kit comes with all the clamps, silicone couplers, and hardware needed to make installation quick and easy.

ECS Difficulty Gauge

1 - Easy

2 - Moderate

Advanced - 3

Pro - 4

Installing an ECS Tuning Kohlefaser Luft-Technik Induction System on your MK6 Volkswagen is an enjoyable project that you can complete in just a short couple of hours. There is no easier way to give your engine a boost and to make you eager to pop your hood and show off the looks of your new induction system. Before you begin, read and familiarize yourself with these instructions and make sure you have all the required tools on hand. Thank you for making ECS Tuning your choice for performance parts and accessories, we appreciate your business!

TABLE OF CONTENTS

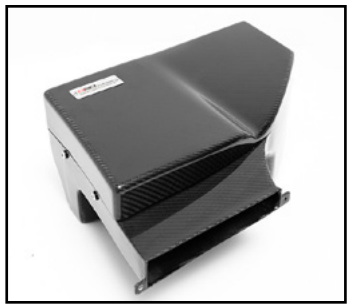
AVAILABLE FINISHES

Polished Aluminum

Wrinkle Black

Carbon Fiber

KIT CONTENTS



Carbon Fiber Air Box
(**QTY 1**)

High Flow Air Filter
(**QTY 1**)

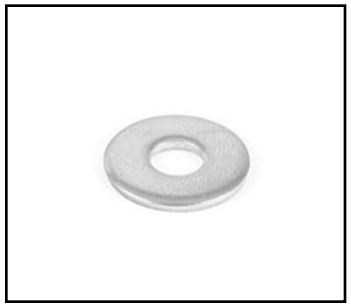
Rubber Accordion Coupler
(**QTY 1**)

Silicone Straight Coupler
(**QTY 1**)

Turbo Inlet Silicone Coupler
(**QTY 1**)

60-80mm Hose Clamp
(**QTY 1**)

70-70mm Hose Clamp
(**QTY 5**)



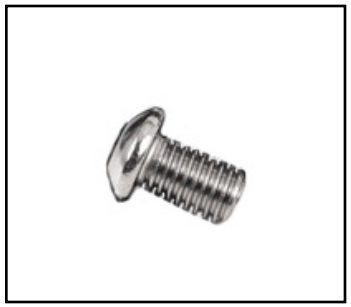
M6 Steel Washer
(**QTY 1**)

M6x16 screw
(**QTY 1**)

Grommet
(**QTY 2**)

Heat Shield Screw
(**QTY 2**)

Turbo Inlet Pipe Bolt
(**QTY 1**)



M6x10 Screw
(**QTY 5**)

M6 Nylon Washer
(**QTY 5**)

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#240941
- **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

- **Spring Clamp Pliers** ES#2702616
- **VAG Connector Release Tool** ES#2628676

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.

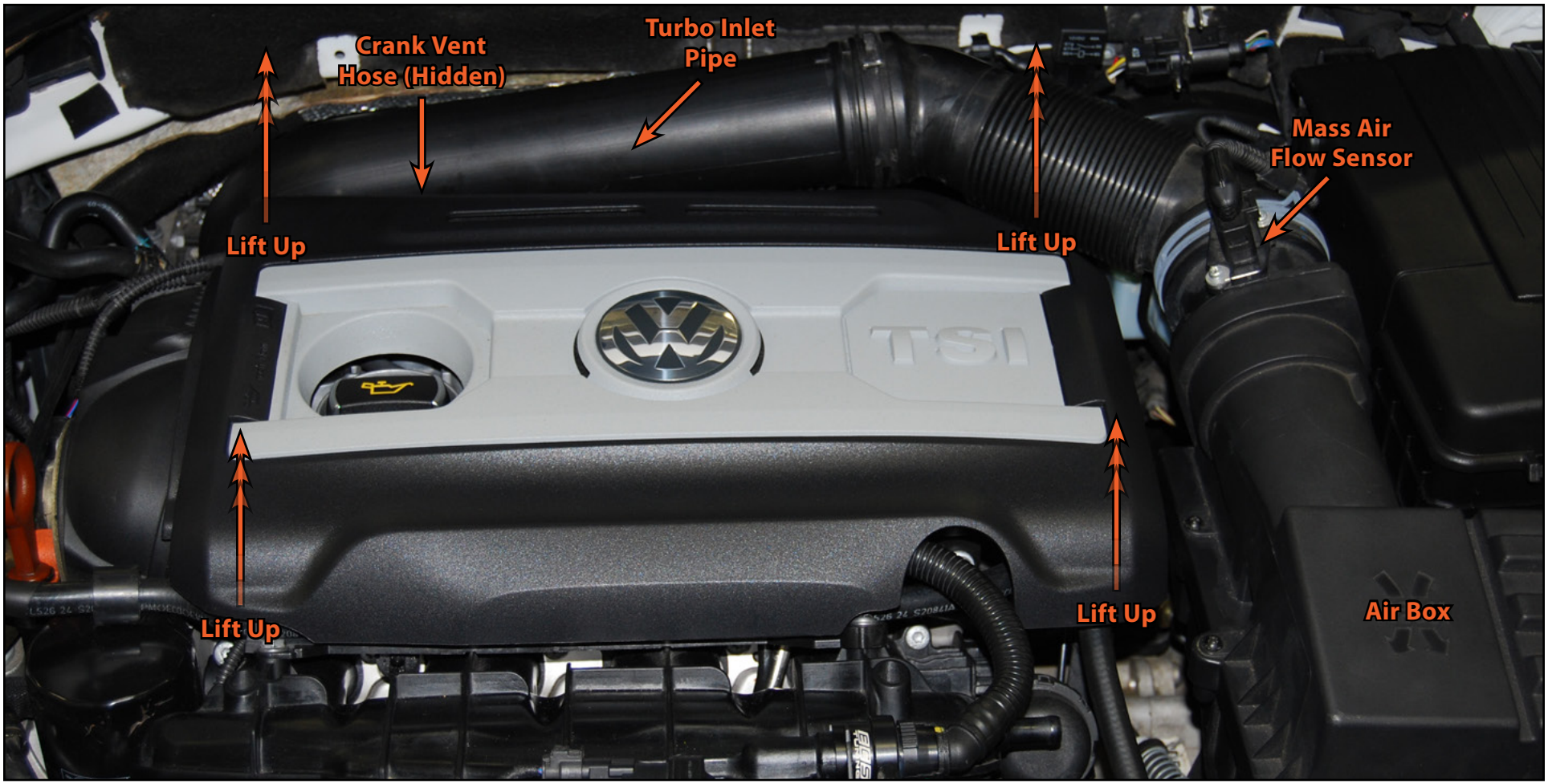
- Park your car in a safe, well lit, level area.
- Shut the engine off and remove the key from the ignition switch.
- Make sure any remote start devices are properly disabled.
- **ALWAYS** wear safety glasses.
- Make sure the parking brake is applied until the vehicle is safely lifted and supported.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

PROJECT OVERVIEW

Before we begin we must remove the engine cover by pulling up on the four corners of the cover to release the grommets and remove it from the car. In the following pages, we will be removing the original air box, mass air flow sensor, and turbo inlet pipe. Before we start, take some time to familiarize yourself with these components and their locations.

Now let's get to it!



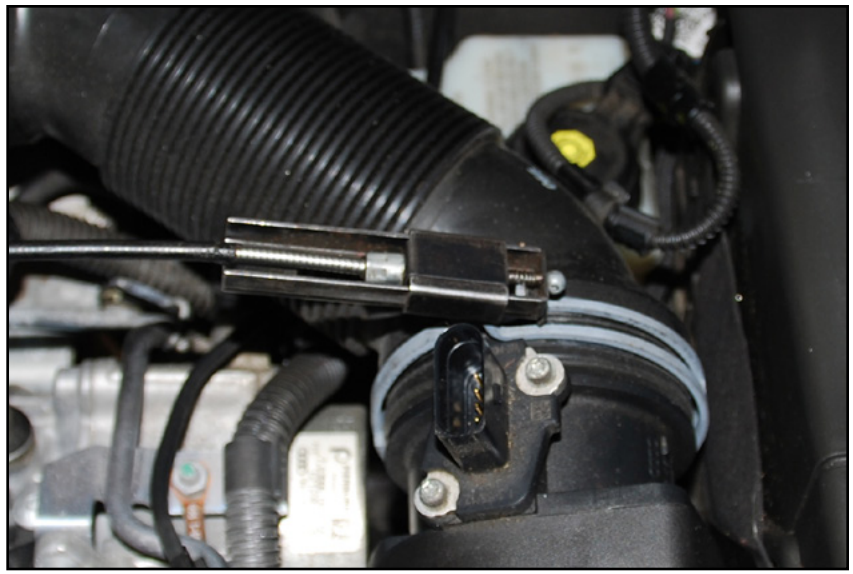
REMOVING THE ORIGINAL COMPONENTS

Step 1: VAG Connector Release Tool

Disconnect the Mass Air Flow sensor electrical connector using our Schwaben Connector Release or other suitable tool. The trick to removing these "push and pull" style of connectors is to first push and hold the connector down, which will release the tension between the locking tab and the catch on the sensor, then insert the tool and pull up. This will raise the locking tab in the connector just far enough to clear the catch on the sensor and it will slide off with ease.

Step 2: Spring Clamp Pliers

Release the tension on the spring clamp that secures the flexible intake tube to the Mass Air Flow sensor.



REMOVING THE ORIGINAL COMPONENTS

Step 3: Spring Clamp Pliers

Pull the flexible intake tube off of the Mass Air Flow sensor, then remove the spring clamp.

Step 4:

Pull the air box inlet tube off of the front air scoop.

NOTE

Note the location of the coolant air bleed hose (indicated by ////////). This will be relevant later.

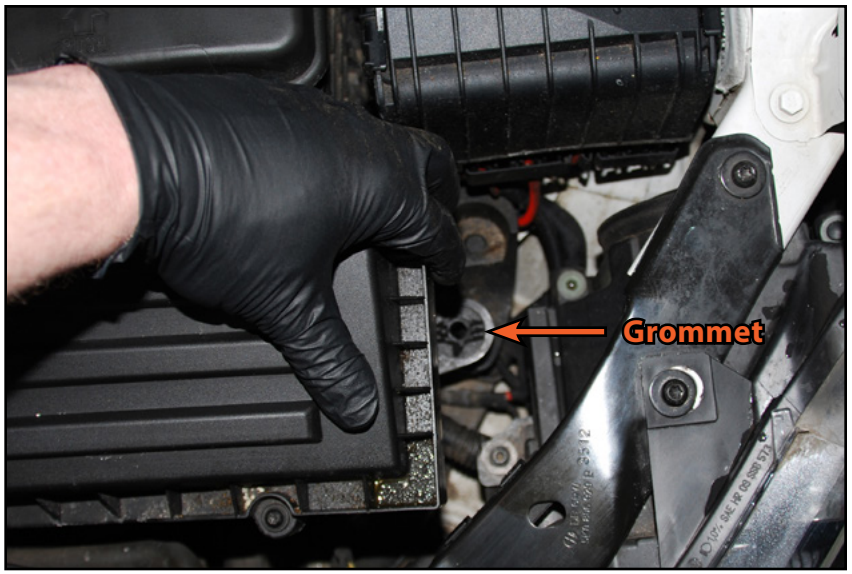
REMOVING THE ORIGINAL COMPONENTS

Step 5: 5mm Hex Bit Socket, 1/4" Ratchet, Extension

Loosen the hold down screw for the original air box. This is a "trapped" screw and will remain in place in the air box after it is loosened.

Step 6:

There are two rubber hold down grommets on the air box. First, pull up on the LH (driver's) side of the air box to release the grommet on the end, then using one hand on the front and one on the back, pull up on the center of the air box to release the grommet on the bottom side.



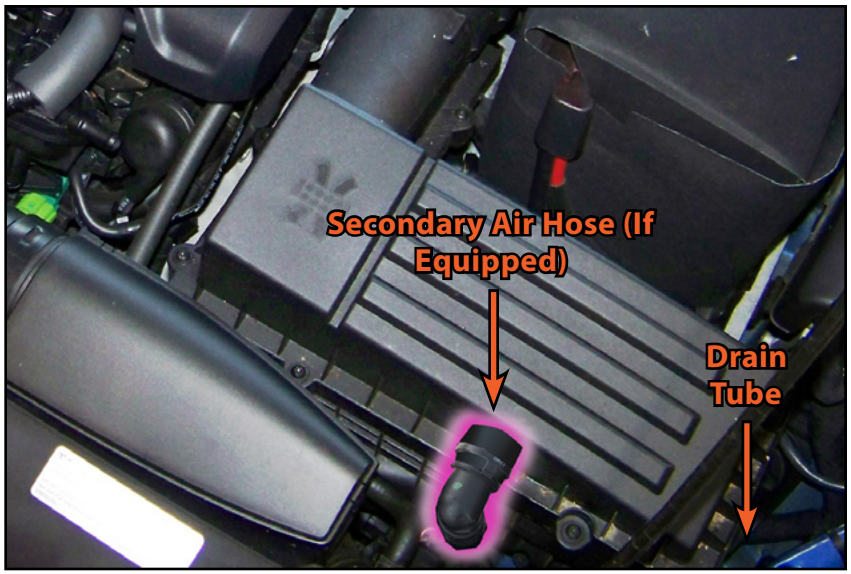
NOTE

Pull up on the air box *just enough* to release the grommets but do not attempt to completely remove it at this time.

REMOVING THE ORIGINAL COMPONENTS

Step 7:

Look down between the air box and the fender and you will see where there is a drain tube attached to the bottom. It is very difficult to release the retaining clip, but by patiently following the next two steps, the air box can be removed without disconnecting this drain tube.

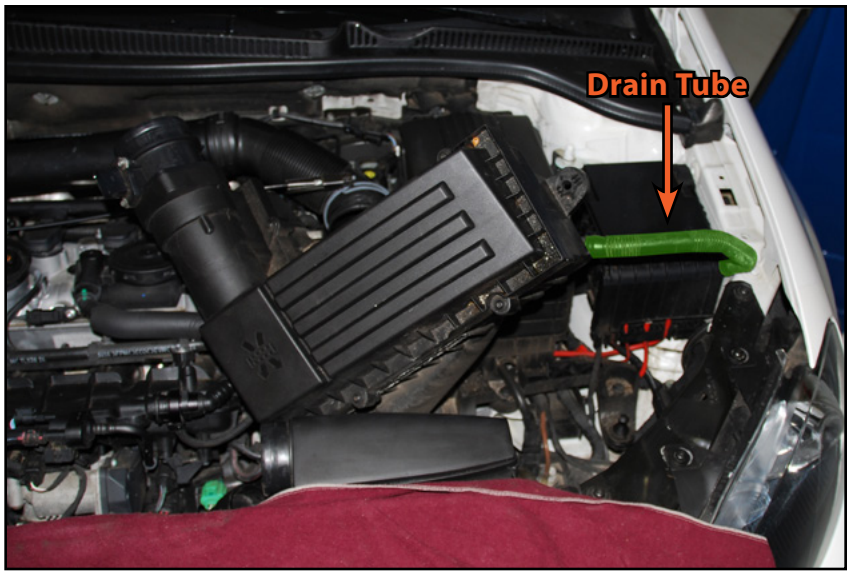


NOTE

Some vehicles may also have a secondary air tube connected to the front of the air box lid. If you are not sure, carefully inspect your air box and remove this tube if equipped.

Step 8:

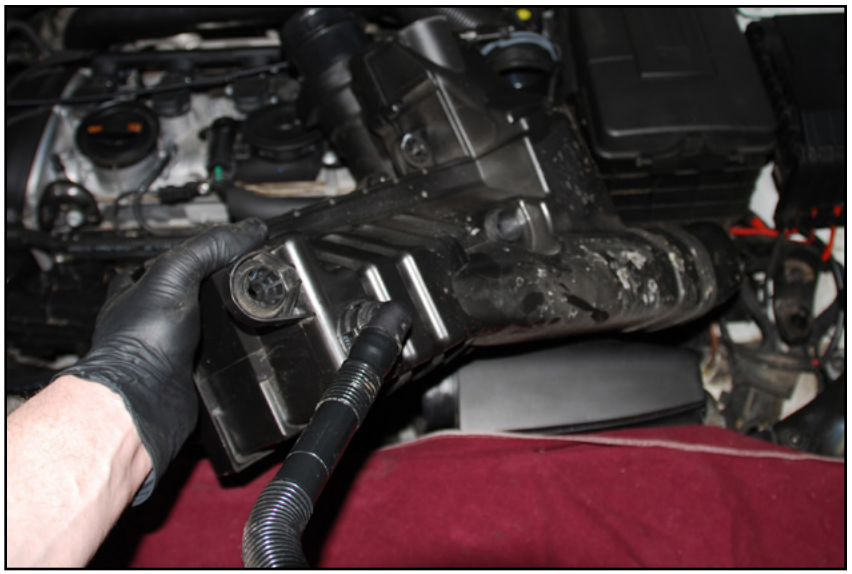
Lift the air box up slowly on the LH side and carefully guide the drain tube out.



REMOVING THE ORIGINAL COMPONENTS

Step 9:

Rotate the air box upside down so the curved inlet tube can be pivoted around the small coolant air bleed tube we identified earlier. You will now be able to lift the entire air box assembly out of the vehicle.



Step 10: T25 Torx Bit Socket, 1/4" Ratchet, Extension

Remove the front air scoop by removing the two securing screws (arrows) and pulling it rearwards off of the core support.

REMOVING THE ORIGINAL COMPONENTS

Step 11: T30 Torx Socket, 3/8" Ratchet, Extension

Remove the bolt securing the turbo inlet pipe to the heat shield, behind the rear of the cylinder head (shown here with the flexible intake tube removed for clarity).

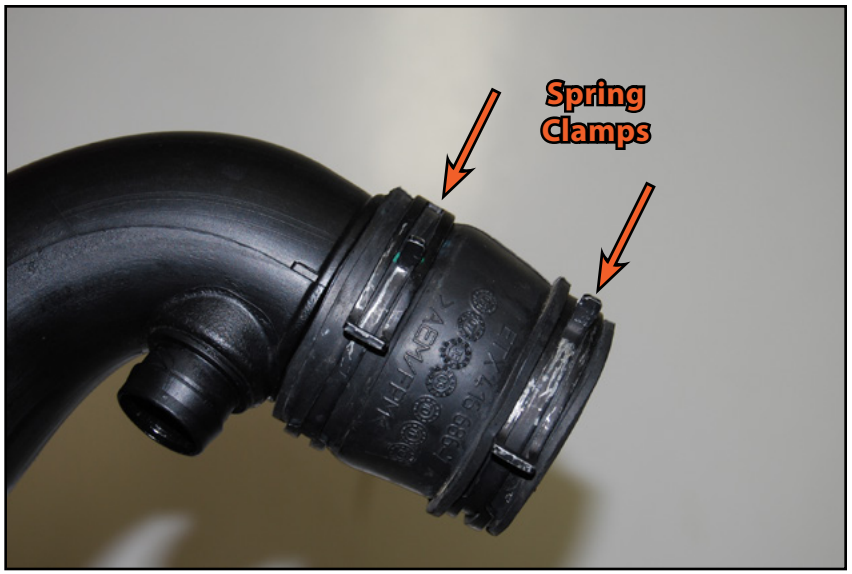
Step 12:

Remove the crank vent hose from the turbo inlet pipe by pinching the retaining tabs together, then pulling it back off the pipe.

REMOVING THE ORIGINAL COMPONENTS

Step 13:

Inspect the picture on the right of the turbo inlet pipe removed and the pipe to turbo coupler on the end. There are two spring clamps on the coupler which are difficult to see. You will need to release the tension on the lower clamp in order to remove the turbo inlet pipe.



Step 14: Spring Clamp Pliers

Release the tension on the lower clamp for the turbo inlet pipe coupler and then pull the turbo inlet pipe and coupler off and set them aside.

INSTALLING THE NEW INTAKE SYSTEM

Step 1:

Our Kohlefaser Luft-Technik induction system includes a silicone coupler (reference the photo on the right) to connect the upper pipe to the turbo inlet, and the crankcase breather hose.

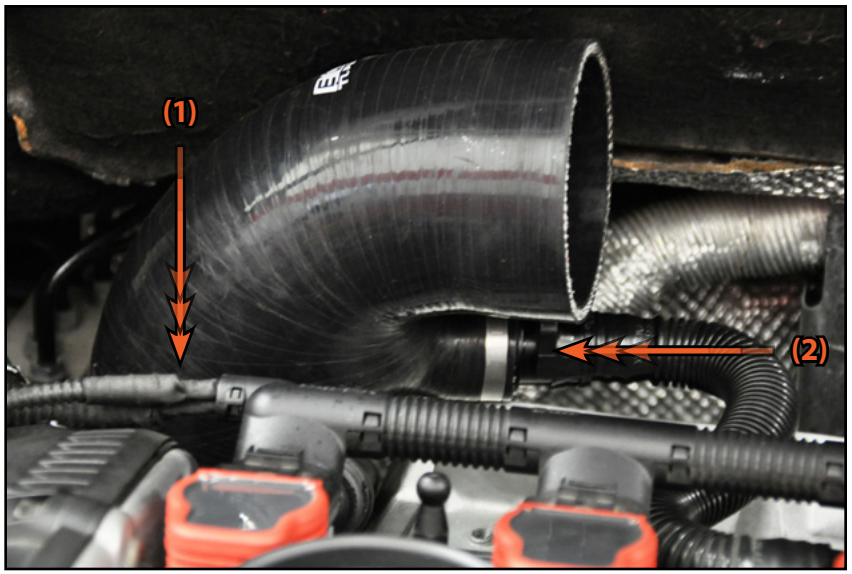
Step 2:

Place the 60-80mm hose clamp (must be loosened for this step) over the turbo inlet as shown. Make sure the head of the clamp screw is positioned as shown in the picture so it so that it does not interfere with the coolant pipes on the back of the cylinder head, and that it is accessible when we tighten it in a later step.

INSTALLING THE NEW INTAKE SYSTEM

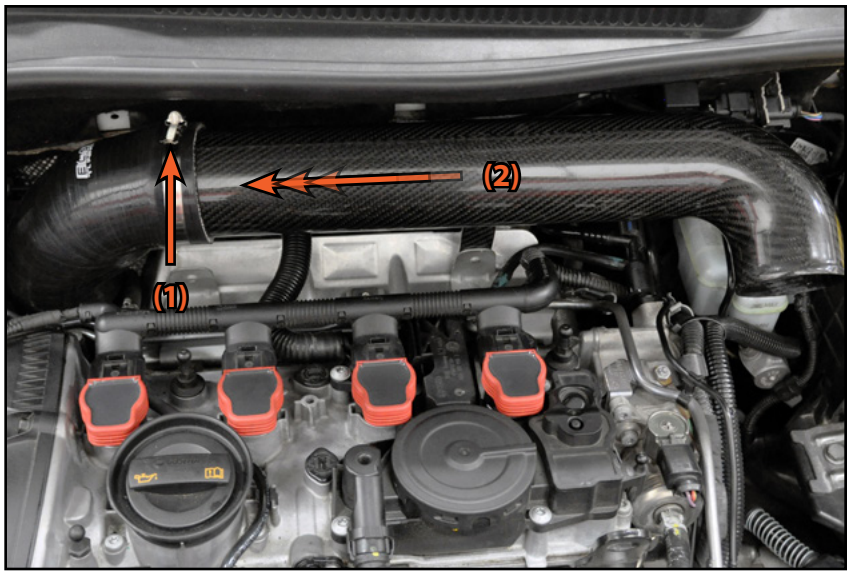
Step 3:

Push the turbo inlet coupler onto the turbo inlet (1), then attach the crankcase breather hose by pushing the connector onto the integrated receiver and snapping it into place (2).



Step 4:

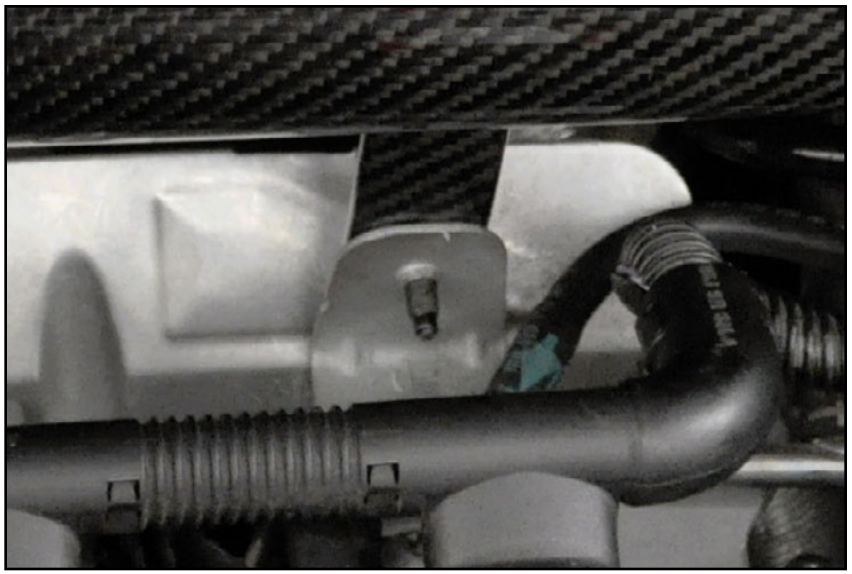
Place one of the 70-90mm hose clamps (must be loosened for this step) over the turbo inlet coupler as shown (1), then insert the straight end of the turbo inlet pipe into the end of the coupler (2). Make sure that the head of the clamp screw is positioned as shown in the picture so it so that it is accessible when we tighten it in a later step.



INSTALLING THE NEW INTAKE SYSTEM

Step 5: T30 Torx Bit Socket, 3/8" Ratchet

Position the bracket tab on the turbo inlet pipe *behind* the bracket tab on the exhaust heat shield, then insert the mounting bolt through the brackets as shown and tighten the bolt.



NOTE

GLI customers may need to bend the steel tab which is attached to the engine (arrow) by approximately 20 degrees in order to achieve superior fitment. We do not recommend bending the tab on the aluminum pipe due to the risk of damaging the pipe.

Step 6: Flat Blade Screwdriver - or - 7mm Socket, 1/4" Ratchet

Tighten the clamps until they are snug.

Be careful not to over tighten any clamps. Over tightening a clamp can crack the carbon fiber.

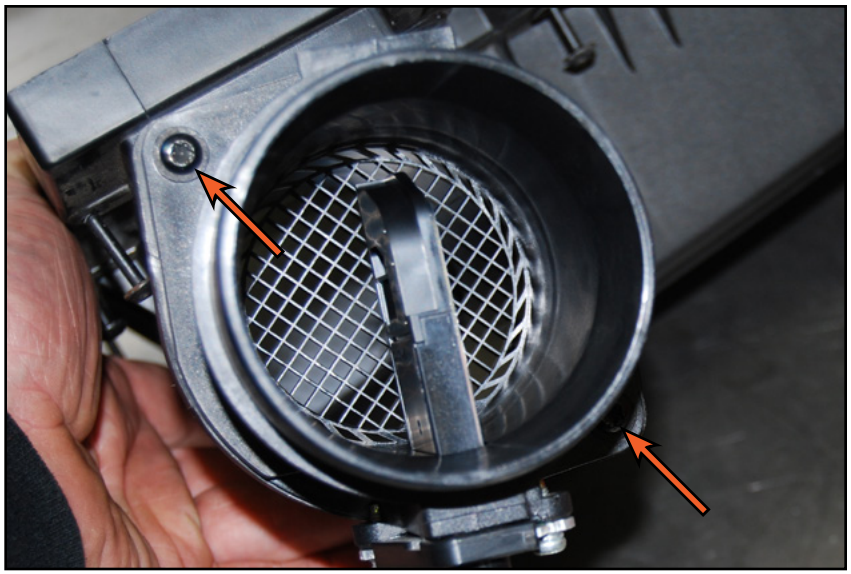
INSTALLING THE NEW INTAKE SYSTEM

Step 7:

Remove the battery cover in order to gain better access to the surrounding area. Place a clamp onto the accordion coupler, then place the coupler over the end of the turbo inlet pipe, but do not tighten the clamp at this time.

Step 8: T25 Torx Bit Socket, 1/4" Ratchet

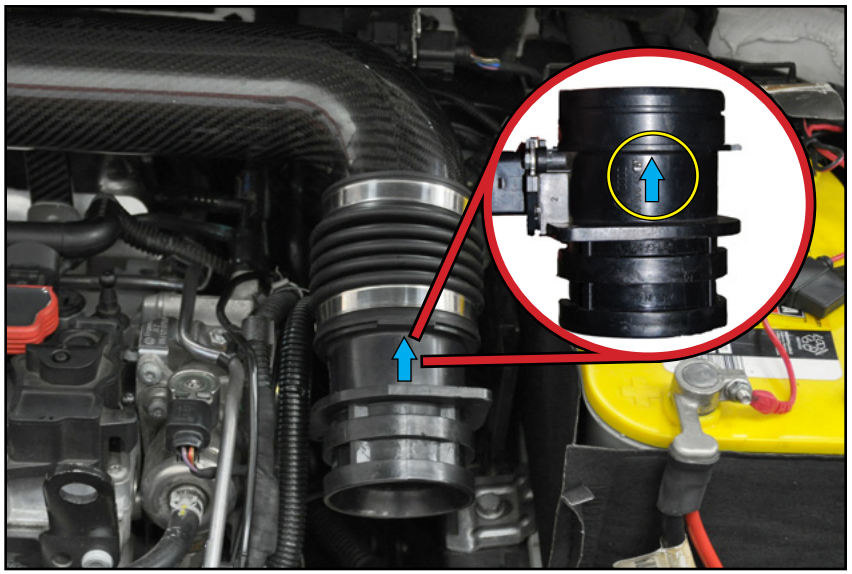
Remove the two screws and separate the MAF sensor from the original air box.



INSTALLING THE NEW INTAKE SYSTEM

Step 9: Flat Blade Screwdriver - or - 7mm Socket, 1/4" Ratchet

Place a clamp onto the accordion coupler, then insert the MAF sensor into the coupler, but do not tighten the clamp at this time. Plug the electrical connector into the MAF sensor.



NOTE

The MAF sensor has an arrow on the side (circled, as shown in the inset photo) to indicate direction of air flow. The MAF Sensor has also been installed with the connector facing down for a cleaner look.

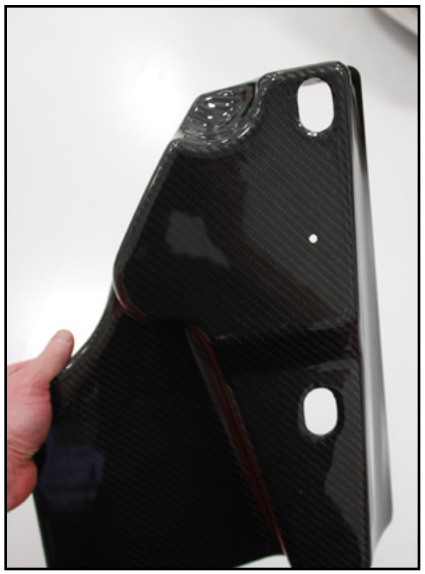
Step 10:

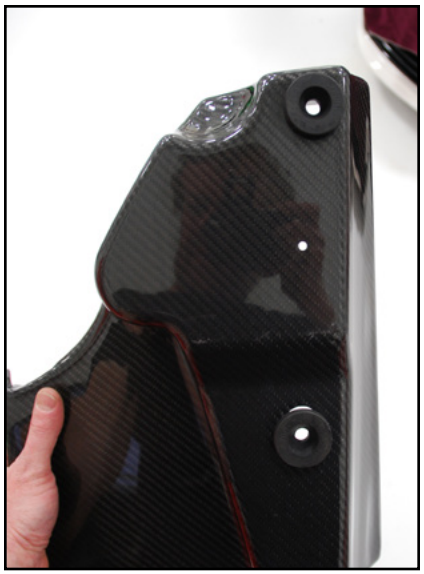
Slide the straight coupler onto the other end of the mass air flow sensor as shown.

INSTALLING THE NEW INTAKE SYSTEM

Step 11:

Push the two air box mounting grommets into the carbon fiber air box base with the larger end on the bottom as shown.

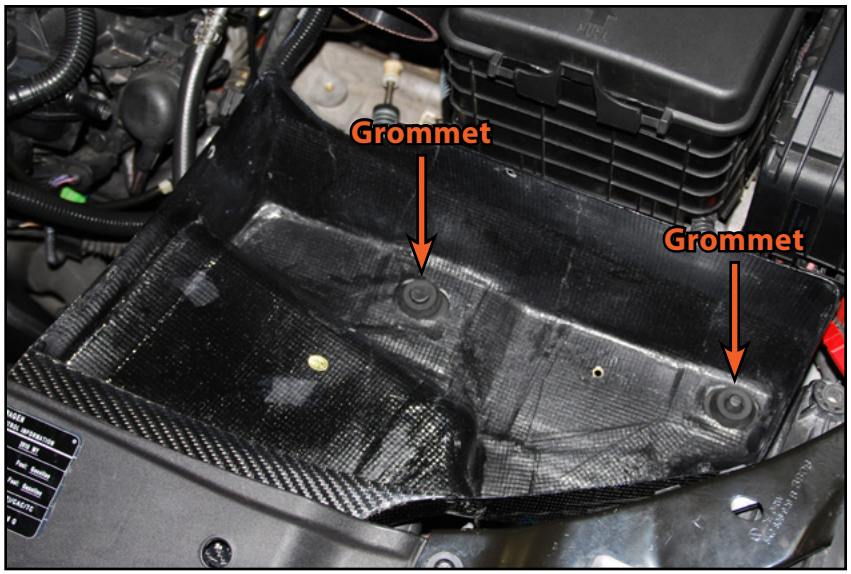




If your car is equipped with Secondary Air Injection, you **MUST** follow the instructions beginning on Page 30 to install the Secondary Air Intake Filter before you proceed.

Step 12:

Install the carbon fiber air box base into position by locating the air inlet underneath the radiator core support, then pushing the grommets into place on the air box mounting studs.



INSTALLING THE NEW INTAKE SYSTEM

Step 13: T25 Torx Bit Socket, 1/4" Ratchet

Install and tighten the two air box inlet mount screws into the radiator core support.

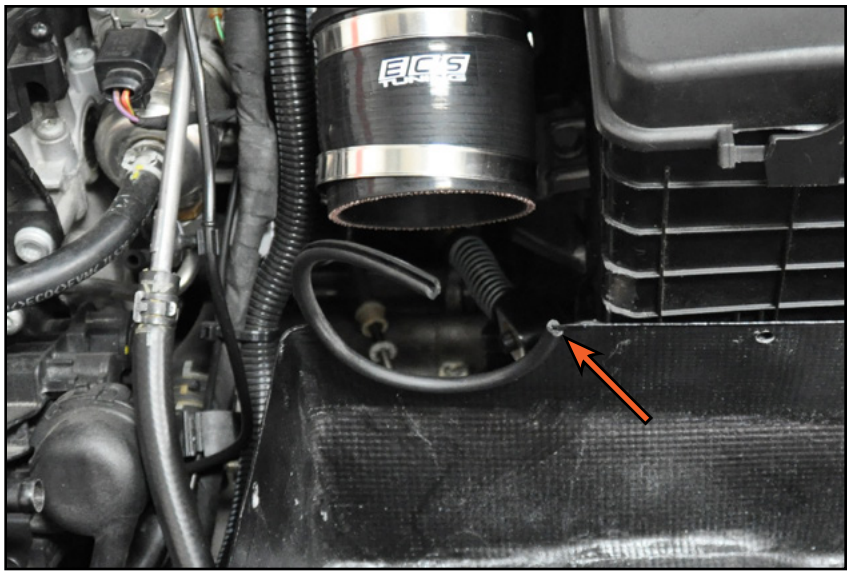
Step 14:

Loosely install the two remaining 70-90mm hose clamps over the straight coupler.

INSTALLING THE NEW INTAKE SYSTEM

Step 15:

Install the air box to filter pipe seal into the lower half of the air box as shown. Make sure that one end of the seal is flush with the edge of the lower air box (arrow) and leave the upper half extended out, it will be installed in a later step when we install the upper air box.



Step 16:

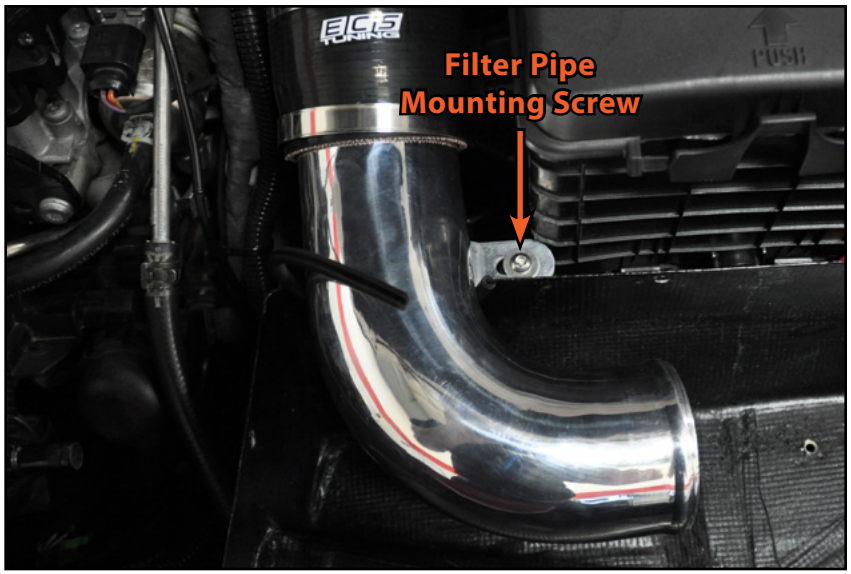
Push the air filter pipe into the straight coupler, then rotate it so it is positioned in the air box as shown and the mounting ear is resting on the original air box mounting post (arrow). Make sure the filter pipe seal remains in place.

INSTALLING THE NEW INTAKE SYSTEM

Step 17: 4mm Allen Wrench - or - 4mm Allen Bit Socket, 1/4" Ratchet

Install and tighten the air filter pipe mounting screw and washer until they are snug.

Be careful not to over tighten the screw. Over tightening can crack the carbon fiber.

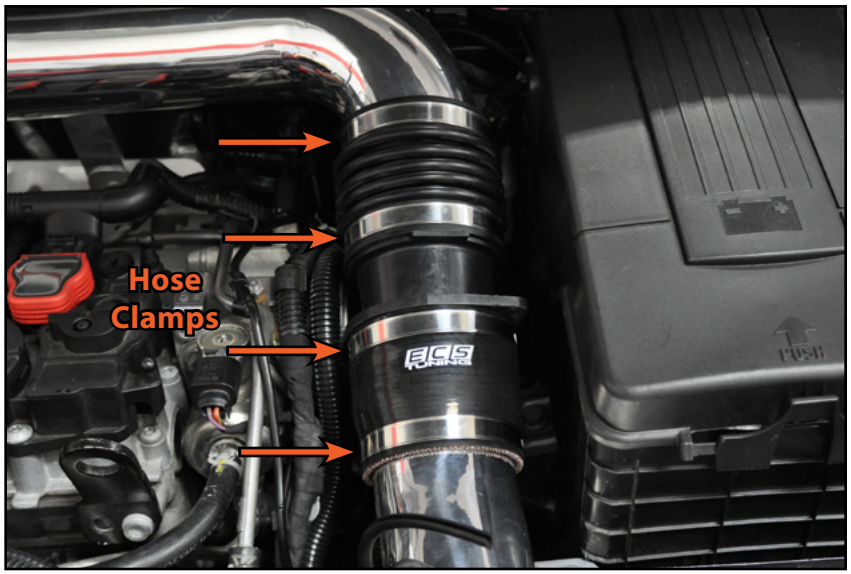


Step 18: Flat Blade Screwdriver - or - 7mm Socket, 1/4" Ratchet

Adjust the straight coupler, mass air flow sensor, and accordion coupler as necessary for proper alignment, allowing the accordion coupler to flex as needed during engine operation. Tighten all four hose clamps until they are snug.

NOTE

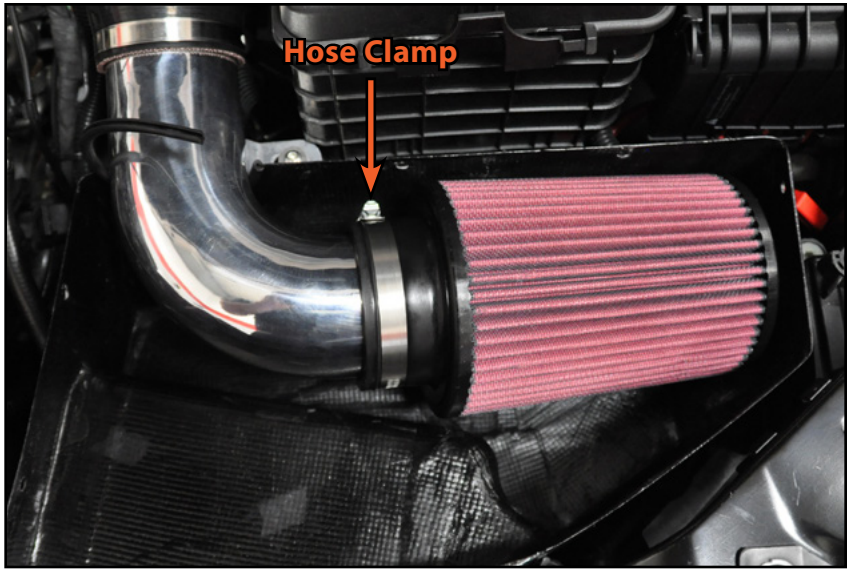
For a clean appearance, we have rotated each clamp so that the screw face downward.



INSTALLING THE NEW INTAKE SYSTEM

Step 19: Flat Blade Screwdriver - or - 7mm Socket, 1/4" Ratchet

Push the air filter over the end of the air filter pipe and tighten the clamp until it is snug.



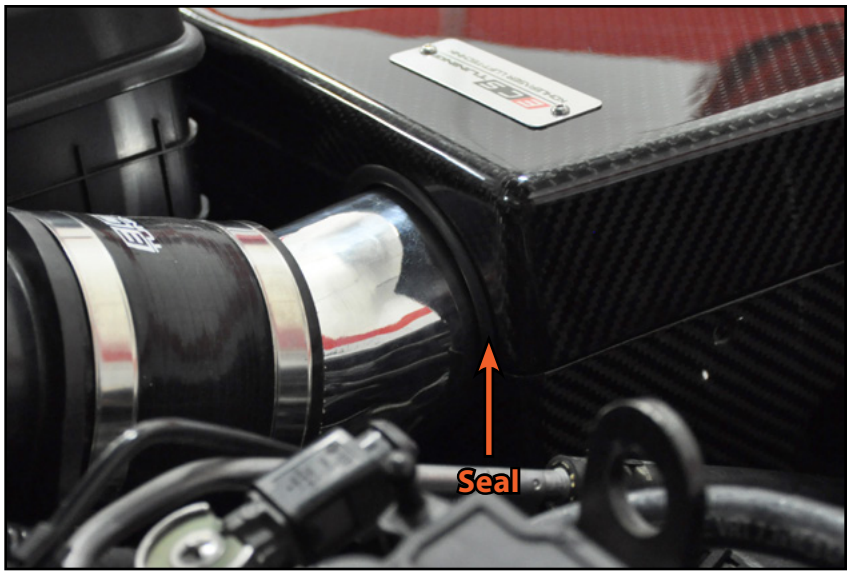
Step 20:

Install the air box lid into place, making sure to guide the groove of the filter pipe seal onto the lid of the air box.

INSTALLING THE NEW INTAKE SYSTEM

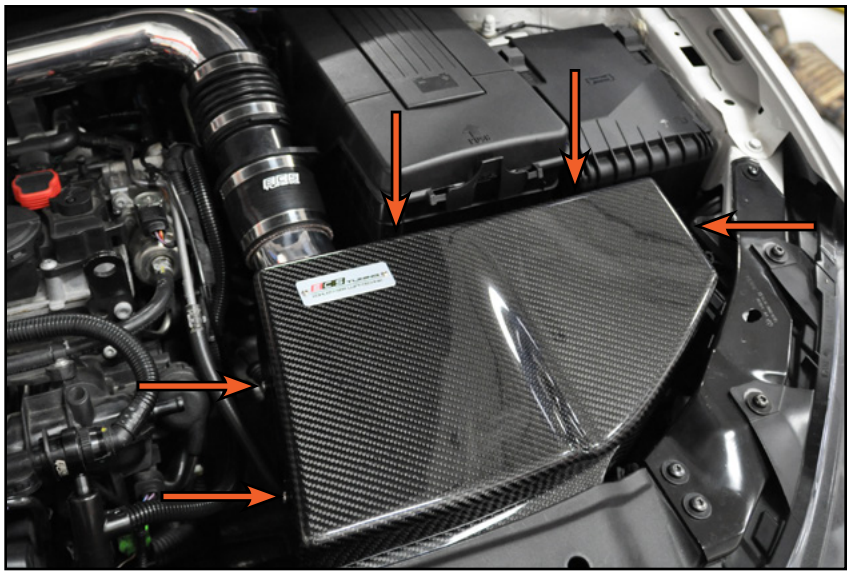
Step 21:

Look at the rear of the air box where the filter pipe passes through and make sure the seal is properly installed. If necessary, lift up the air box lid and adjust the position of the seal until it is properly seated.



Step 22: 4mm Allen Wrench - or - 4mm Allen Bit Socket, 1/4" Ratchet

Install all five mounting screws and washers around the perimeter of the air box lid by threading them by hand. Tighten the screws by hand until they are snug, DO NOT use excessive force to tighten these screws. Reinstall your battery cover and engine cover.



Congratulations your installation is complete!

SECONDARY AIR FILTER KIT CONTENTS

These components are available for purchase separately if your vehicle is equipped with Secondary Air Injection. They can be found on our website as ES#2864860.

Secondary Air Intake Filter Mounting Bracket

Secondary Air Intake Filter and Clamp

Secondary Air Intake Filter Adapter

Mounting Grommet

INSTALLING THE SECONDARY AIR FILTER KIT

Step 1: Flat Blade Screwdriver - or - 7mm Socket, 1/4" Ratchet

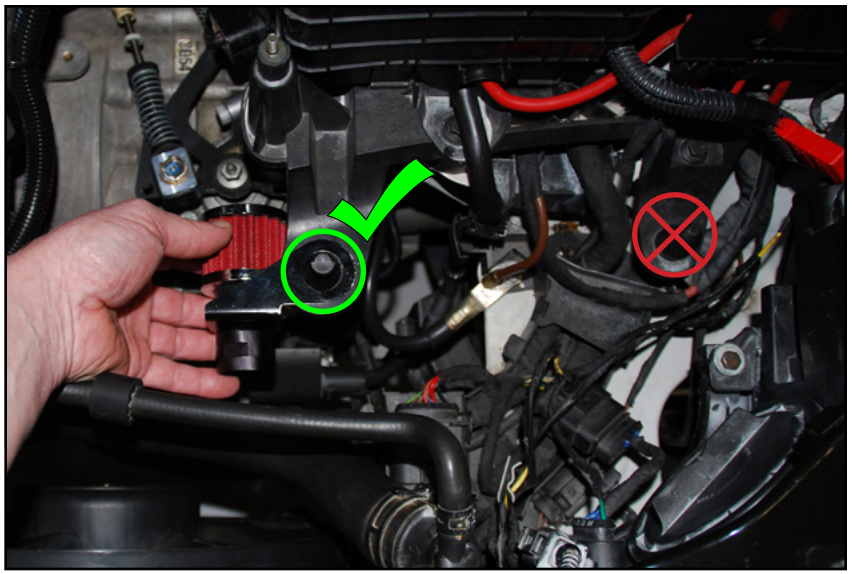
Remove from the secondary air injection kit from its packaging, and tighten the hose clamp which secures the filter until it is snug.

NOTE

Vehicles equipped with a DSG transmission must install the mounting bracket so that it faces the opposite direction as shown in the photo on the right.

Step 2:

Place the secondary air intake assembly onto the innermost air box mounting stud (the stud which is nearest to the engine) so the filter and adapter hang down below the mounting stud.



INSTALLING THE SECONDARY AIR FILTER KIT

Step 3:

Route the original secondary air intake tube over to the adapter and connect the two together. Rotate the filter assembly as necessary so the secondary air intake tube does not kink or bind.

NOTE

Vehicles equipped with a DSG transmission must install the filter assembly so that it faces upward as shown in the photo on the right.

Step 4:

Allow the assembly to hang in place for now, when you install the carbon fiber air box the innermost air box mounting grommet will hold the secondary air intake securely in place. As you can see in the photo, the secondary air intake is almost completely hidden underneath the carbon fiber air box.

Return to Page 24 to continue with the installation of your Kohlefaser Luft-Technik Intake System.

CARBON FIBER CLEANING AND CARE

ECS Tuning Carbon Fiber Intakes are clear coated for excellent finish durability and UV resistance right out of the box.

Carbon fiber can be washed with any gentle cleanser or soap. If it is safe for the paint on your car, it will be safe for the carbon fiber.

Be extra careful not to nick or deeply scratch the clear coat on the carbon fiber. This can lead to water intrusion into the carbon fiber which will damage the finish and the integrity of the intake.

If the clear coat does get nicked or deeply scratched to expose the carbon fiber, seal the damaged area thoroughly with a clear coat touch up or clear nail polish.

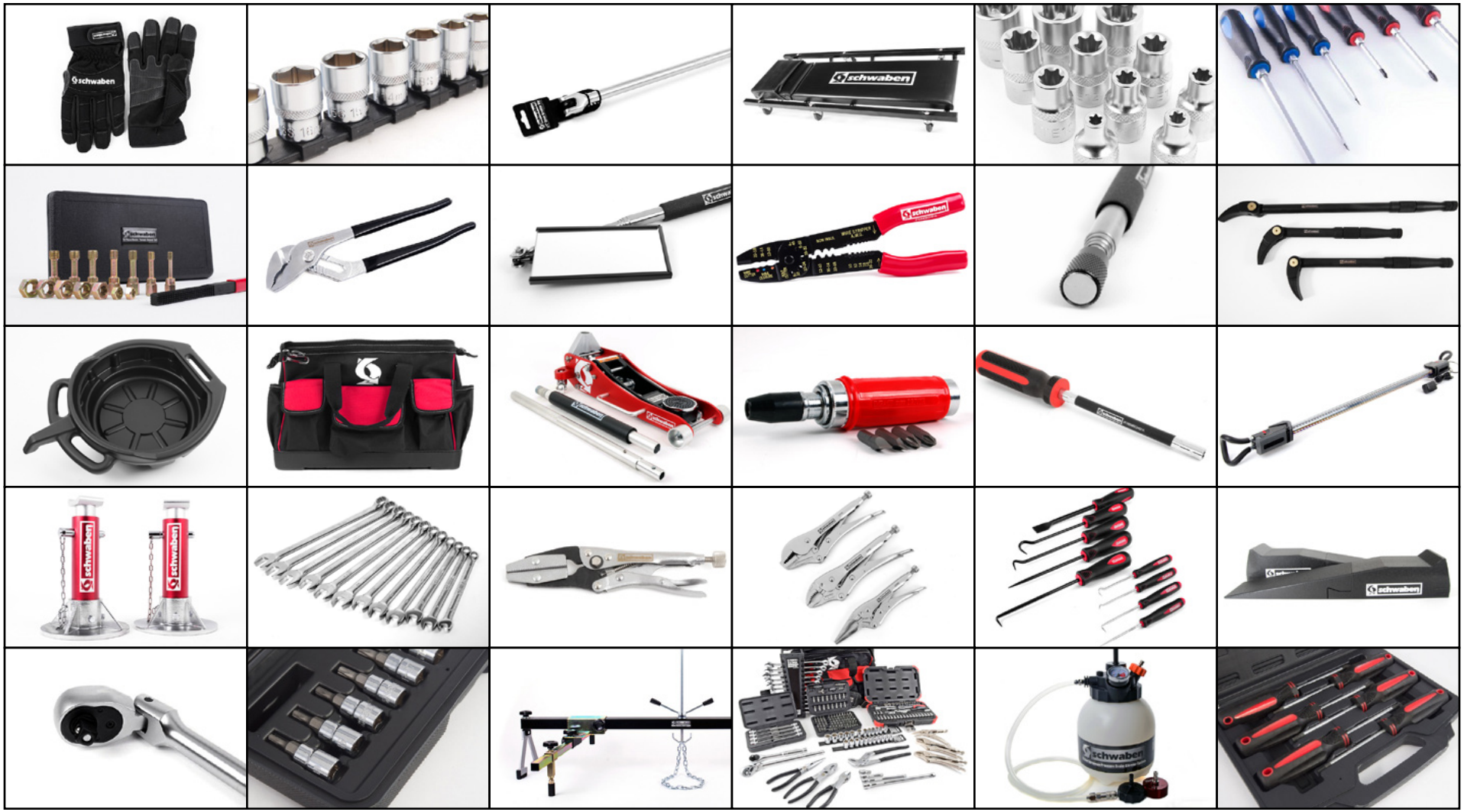
To retain UV resistance and protect the finish, we recommend regular waxing with a high quality caranuba wax.

Small surface scratches and light oxidation can be buffed out using the same methods and cautions you would use on the vehicle paint.

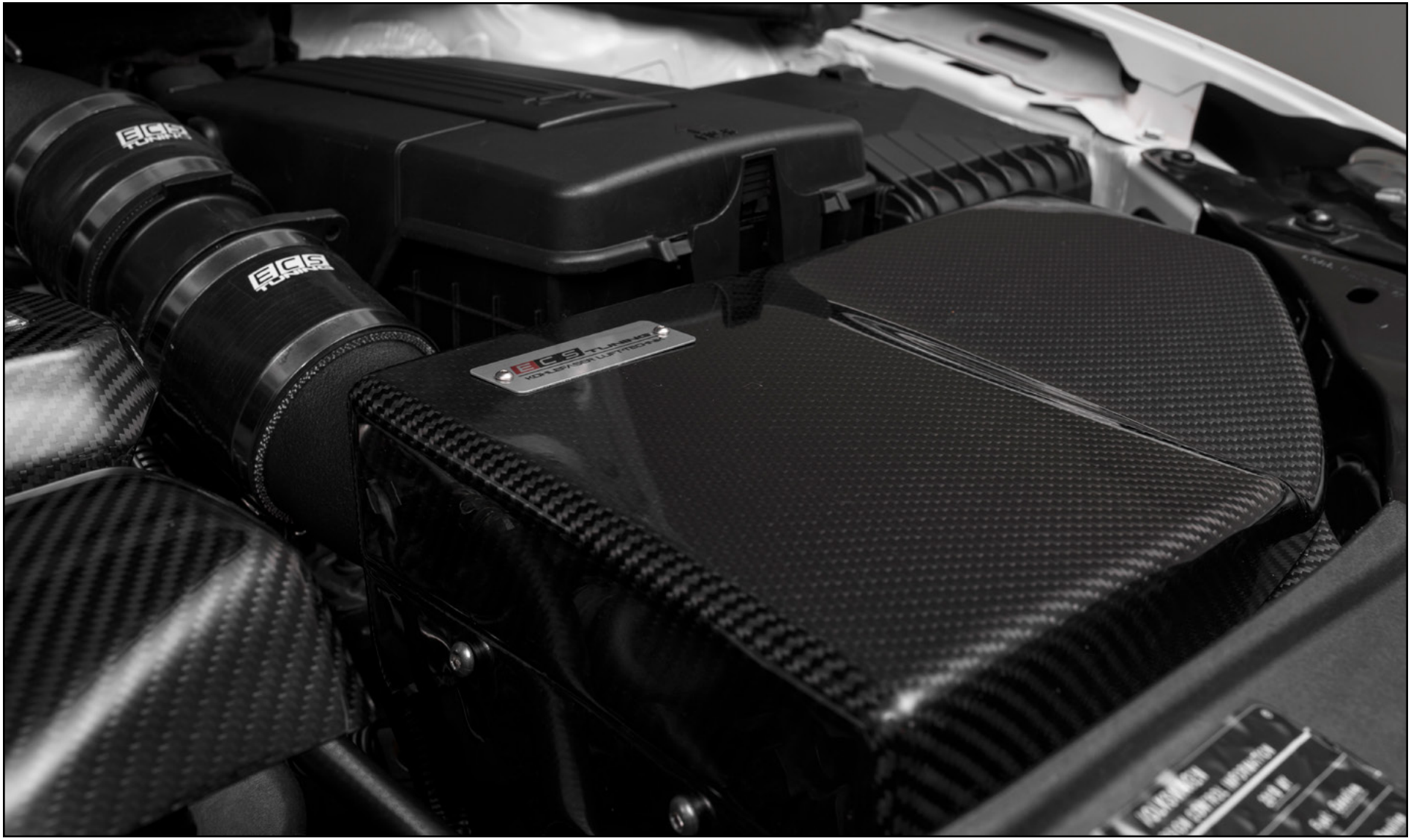
Carbon Fiber Cleaning and Care Kit, available at ecstuning.com.

ES#2914954

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 Kohlefaser Luft-Technik Intake 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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