



 **RENNLINE**

*Porsche 997.1 Turbo
Carbon Fiber Intake System
Installation Instructions*

INTRODUCTION

The Project:

Today we'll be installing our Carbon Fiber Intake System into our Porsche 997. This intake system is not just a fancy carbon fiber lid for your air box, it has been totally re-engineered for more air volume and better flow from the filter to the MAF sensors, and it utilizes the air filter cartridge from the 997.2 for easy maintenance down the road.

EASY	MODERATE	ADVANCED	PROFESSIONAL
			
BASIC SKILLS REQUIRED	SOME EXPERIENCE RECOMMENDED	ADVANCED SKILLS & EXPERIENCE REQUIRED	PROFESSIONAL SKILLS & SPECIALTY TOOLS REQUIRED

Basic skills and experience are recommended for this job, but we're going to lay it out for you step by step, so even if you don't have much "wrench" time under your belt, these instructions will make it easy for you. Only basic tools are required, but don't forget to check out the tool list on [Page 5](#), and make sure you have everything you need on hand before you begin. If you have any previous experience with a similar install, you could probably knock this out in an hour or two, but if you have less experience you should set aside an afternoon for the project just in case.

A couple of final points - you won't need to lift the car off of the wheels at all for this install, everything you need is accessible from the top. Reading these instructions completely before you begin will help you plan out the job and manage your time better. Thank you for looking to Rennline for all of your performance and repair needs, we appreciate your business!

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KIT CONTENTS



Carbon Fiber Air Box Lid



Carbon Fiber Air Box



MAF Sensor O-Ring (2)



Air Box Lower Grommet (2)



997.2 Air Filter Cartridge w/Seal



Air Box Lid Lower Grommet (2)



Air Box Upper Grommet (2)



Air Filter Cartridge and MAF Sensor Housing Screws (8)

REQUIRED TOOLS

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

Standard Tool Recommendations: We recommend that you have a standard automotive repair tool set before beginning this installation. The following list outlines the basic tools and sets that will be used during this installation as well as most automotive service procedures.

- 1/4" Drive Ratchet
- 1/4" Drive Deep and Shallow Sockets
- 1/4" Drive Extensions
- 3/8" Drive Ratchet
- 3/8" Drive Torque Wrench
- 3/8" Drive Deep and Shallow Sockets
- 3/8" Drive Extensions
- Open/Boxed End Wrench Set
- Plier and Cutter Set
- Hex Bit (Allen) Wrenches and Sockets
- Torx Bit Sockets
- Torx Drivers
- Punch and Chisel Set
- Thread Repair Tools
- Wheel Chocks
- Flat and Phillips Screwdrivers

Specialty Tool Requirements: The following specialty tools are not considered part of a standard tool set and are required specifically for the installation of the Carbon Fiber Intake System.

- Trim Removal Tool Kit
- 3mm Allen Wrench or Allen Bit Socket

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.

- Hand Cleaner/Degreaser
- Pig Mats - for protecting your garage floor and work area from spills and stains
- Spray detailer - for rapid cleaning of anything that comes into contact with your paint such as brake fluid
- Micro Fiber Towels - for cleaning the paint on your car
- Latex Gloves - for the extra oily and dirty jobs
- Medium and High Strength Loctite Thread lock compound - to prevent bolts from backing out
- Anti-Seize Compound - to prevent seizing, galling, and corrosion of fasteners
- 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

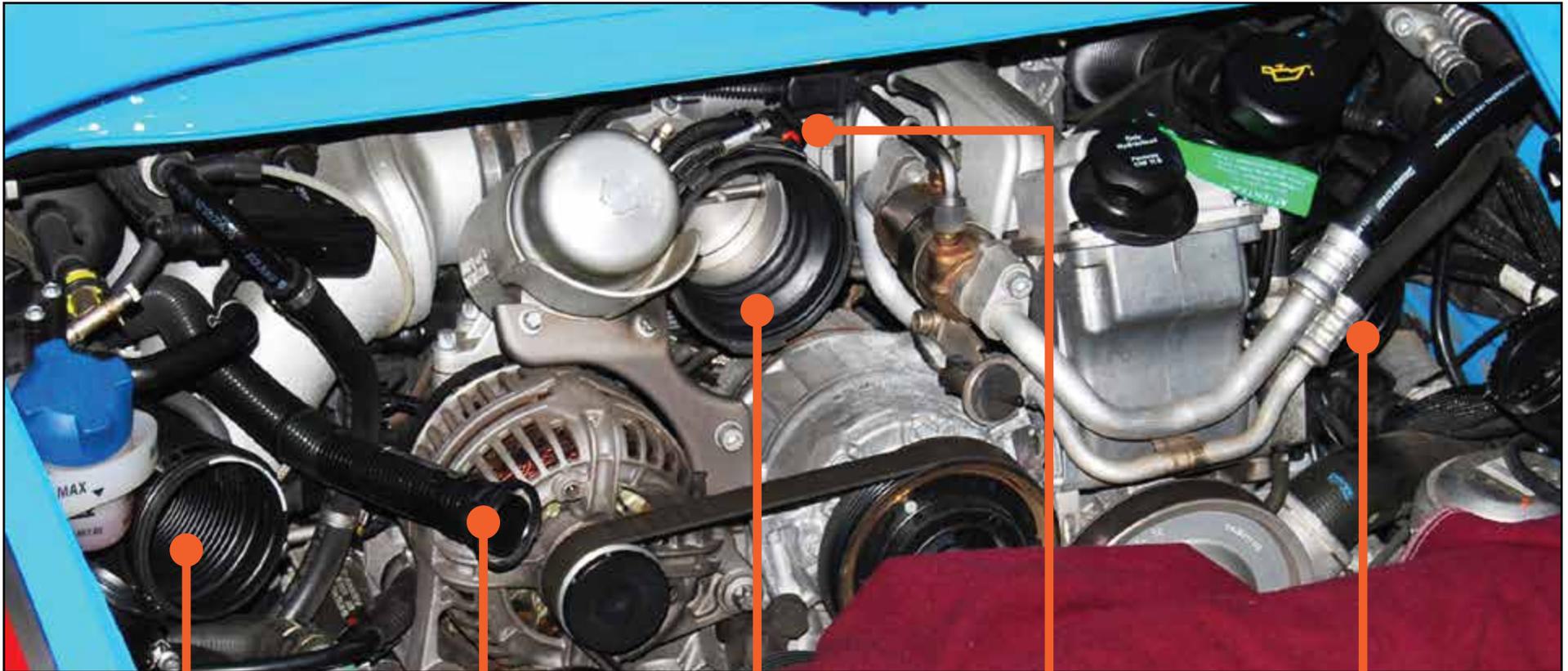
Rennline cares about your health and safety. Please read the following safety information. This information pertains to automotive service in general, and while it may not pertain to every job you do, please remember and share these important safety tips.

- 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.

PART LOCATION OVERVIEW



Left Turbo Inlet Hose

PCV Hose

Throttle Body Coupler

Boost Pressure Sensor

Right Turbo Inlet Hose

PART LOCATION OVERVIEW



Left Boost
Hose

Air Cleaner
Cartridge

Air Box

Y-Pipe

Air Box Lid

Right Boost
Hose

REMOVING THE FACTORY AIR INTAKE

Step 1:

Begin by covering the bumper, quarter panels, and the tail lights with a soft protective cloth or a fender cover.

Step 2:

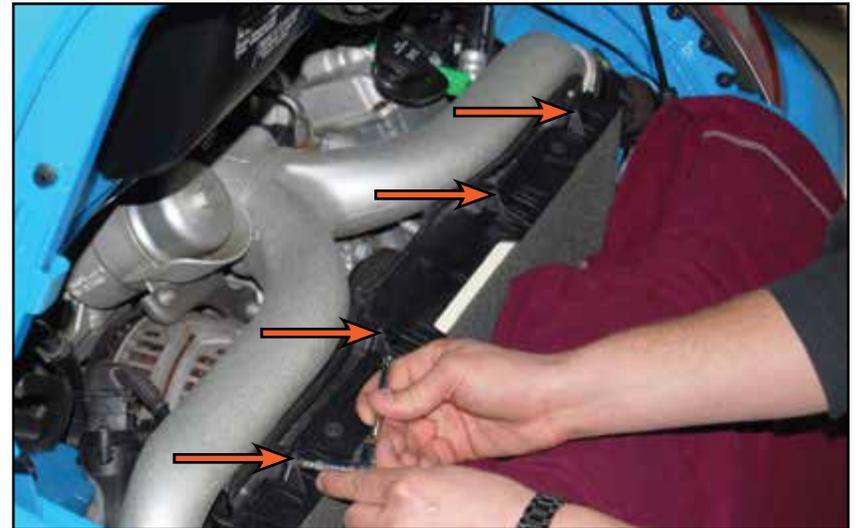
There are four rubber grommets which secure the air box lid in place (two secure the lid to the top of the air cleaner cartridge, and two secure the lid to the air box). Gently lift upwards on the air box lid and pull it towards you to remove it from the vehicle.



REMOVING THE FACTORY AIR INTAKE

Step 3: T25 Torx Socket, Ratchet

Remove the four screws which secure the air cleaner cartridge to the air box.



Step 4:

After the last screw has been removed from the air cleaner cartridge, carefully pull the cartridge towards you from the top - this will release the five plastic tabs which secure the cartridge to the air box. Once the cartridge has been released from the air box, simply lift it upwards and remove it from the vehicle.



REMOVING THE FACTORY AIR INTAKE

Step 5: 6mm Socket, Ratchet - OR - Flat Blade Screwdriver

Loosen the hose clamp which secures the left boost hose to the Y-pipe.

TECH TIP

A flat blade screwdriver will work to loosen a hose clamp, but a 6mm socket and a ratchet will make removal much easier.

Step 6: 6mm Socket, Ratchet - OR - Flat Blade Screwdriver

Loosen the hose clamp which secures the right boost hose to the Y-pipe.



REMOVING THE FACTORY AIR INTAKE

Step 7: 6mm Socket, Ratchet - OR - Flat Blade Screwdriver

Loosen the hose clamp which secures the throttle body coupler to the Y-pipe.



Step 8:

Disconnect the boost pressure sensor electrical connector and swing the harness out of the way.



REMOVING THE FACTORY AIR INTAKE

Step 9: Trim Removal Tool

Gently pry between the boost hoses and the Y-pipe while simultaneously pulling upwards on the Y-pipe until it is pulled free from the boost hoses.

CAUTION

The Y-pipe is secured to the air box with two rubber grommets. Take caution not to damage the grommets or the Y-pipe during removal.

Step 10:

Gently pry between the Y-pipe and the throttle body coupler while pulling the Y-pipe gently towards you until it is pulled free from the coupler and can be removed from the vehicle.



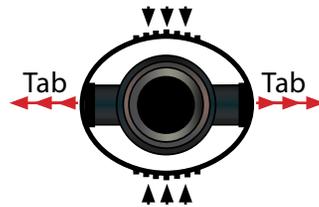
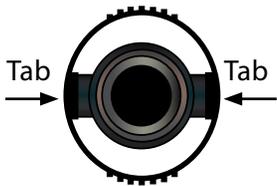
REMOVING THE FACTORY AIR INTAKE

Step 11:

Detach the PCV hose from the air box by squeezing in on the release tabs and pulling the hose off of the air box.

Normal state: The tabs keep the hose "locked" onto the air box.

Released: Squeeze the top and bottom of the locking ring together and the tabs will expand and release the hose from the air box.



Step 12:

Disconnect the left MAF sensor electrical connector and swing the harness out of the way.



REMOVING THE FACTORY AIR INTAKE

Step 13: 6mm Socket, Ratchet - OR - Flat Blade Screwdriver

Loosen the hose clamp which secures the left MAF sensor housing to the left turbo inlet hose.



Step 14:

Disconnect the right MAF sensor electrical connector and swing the harness out of the way.



REMOVING THE FACTORY AIR INTAKE

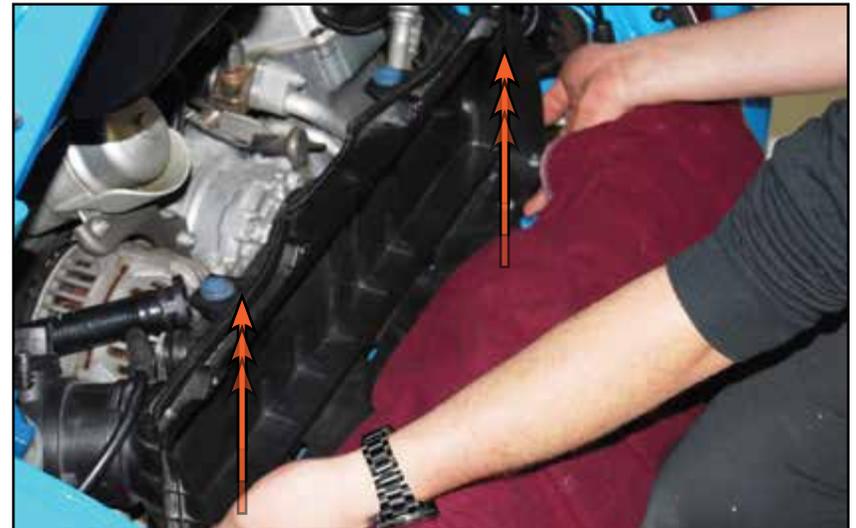
Step 15: 6mm Socket, Ratchet - OR - Flat Blade Screwdriver

Loosen the hose clamp which secures the right MAF sensor housing to the right turbo inlet hose.



Step 16:

There are two rubber grommets which secure the bottom of the air box to the chassis. Very carefully lift the air box upwards and out of the grommets, while simultaneously ensuring that the MAF sensor housings are free from their respective turbo inlet hoses.



INSTALLING THE NEW CARBON FIBER INTAKE

Step 1:

Place the original air box and the new carbon fiber air box side-by-side on a clean work surface. We need to transfer the MAF sensors from the original air box to the new carbon fiber air box, and we also need to install the new upper and lower grommets into the new air box before we can install it in the vehicle. Make sure the air boxes are facing the same way when laying side-by-side, this should prevent the risk of accidentally installing the MAF sensors upside down in the new air box.

CAUTION

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.

Step 2: T25 Torx Socket, Ratchet

Remove the two screws which secure the right MAF sensor housing to the original air box.



INSTALLING THE NEW CARBON FIBER INTAKE

Step 3:

Install the new o-ring seal (included in the kit) into the new carbon fiber air box, and insert the right MAF sensor housing into place.



Step 4: 3mm Allen Socket, Ratchet - OR - 3mm Allen Wrench

Install the two new screws into the right MAF sensor housing, then tighten them only until they are snug.

Repeat steps 2 & 4 to install the left MAF sensor housing and the new o-ring seal into the new carbon fiber air box.



CAUTION

Be careful not to over tighten the screws. Over tightening can crack the housing.

INSTALLING THE NEW CARBON FIBER INTAKE

Step 5:

CAREFULLY install the new air box upper grommets into the upper tabs in the carbon fiber air box.

CARBON FIBER CAUTION

Take extra care not to bend or break the securing tabs when installing the grommets.



Step 6:

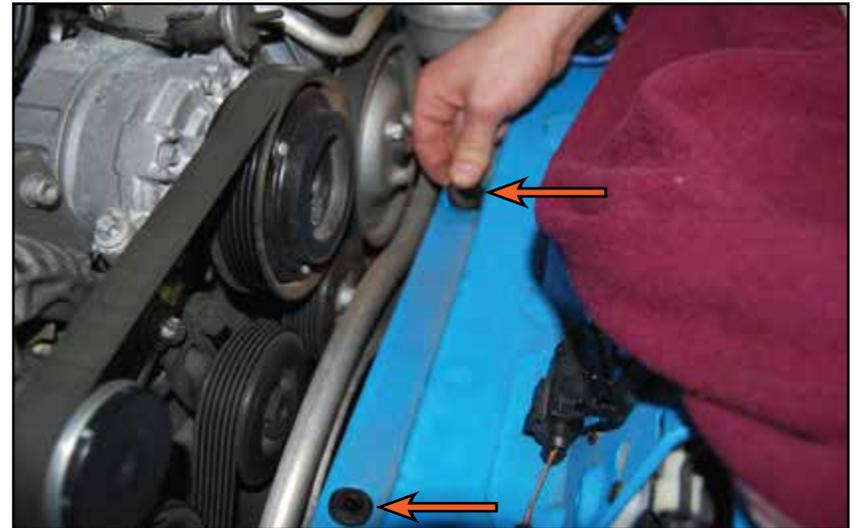
CAREFULLY install the new air box lid lower grommets into the bottom tabs in the carbon fiber air box in the same manner as the upper air box grommets we installed in step 5.



INSTALLING THE NEW CARBON FIBER INTAKE

Step 7:

Remove and replace the two original air box lower grommets in the vehicle chassis as shown in the photo.



Step 8:

Make sure the turbo inlet hoses are properly positioned for reinstallation onto the MAF sensor housings, and make sure that all electrical connectors and harnesses are accessible. Carefully align the posts on the bottom of the carbon fiber air box to the grommets in the chassis.



INSTALLING THE NEW CARBON FIBER INTAKE

Step 9:

Push down on the air box until it is fully seated in the lower grommets.



Step 10:

Slip the left and right turbo inlet hoses onto their respective MAF sensor housings.



INSTALLING THE NEW CARBON FIBER INTAKE

Step 11: 6mm Socket, Ratchet - OR - Flat Blade Screwdriver

Make sure that both of the turbo inlet hoses are completely seated onto the MAF sensor housings, then tighten down the hose clamps until they are snug.

CAUTION

Be careful not to over tighten the clamps. Over tightening can crack the housings.



Step 12:

Reconnect the MAF sensor electrical connector to the right MAF sensor housing.



INSTALLING THE NEW CARBON FIBER INTAKE

Step 13:

Install the PCV hose onto the new carbon fiber air box.



Step 14:

Reconnect the MAF sensor electrical connector to the left MAF sensor housing.



INSTALLING THE NEW CARBON FIBER INTAKE

Step 15:

Reinstall the Y-pipe into the throttle body coupler, then line up the Y-pipe mounting studs to the grommets in the new carbon fiber air box, and install the Y-pipe into the left and right boost hoses.

CARBON FIBER CAUTION

Be mindful of the Y-pipe mounting posts in relation to the carbon fiber air box grommets, if these are not lined up properly you risk damaging or breaking the carbon fiber securing tab which holds the grommets in the air box.



Step 16:

Ensure that the Y-pipe is fully seated into the throttle body coupler and the left and right boost hoses, then align the hose clamps so that they are accessible.



INSTALLING THE NEW CARBON FIBER INTAKE

Step 17: 6mm Socket, Ratchet - OR - Flat Blade Screwdriver

Tighten the hose clamp on the right boost hose until it is snug.



Step 18: 6mm Socket, Ratchet - OR - Flat Blade Screwdriver

Tighten the hose clamp on the left boost hose until it is snug.



INSTALLING THE NEW CARBON FIBER INTAKE

Step 19: 6mm Socket, Ratchet - OR - Flat Blade Screwdriver

Tighten the hose clamp on the throttle body coupler until it is snug.



Step 20:

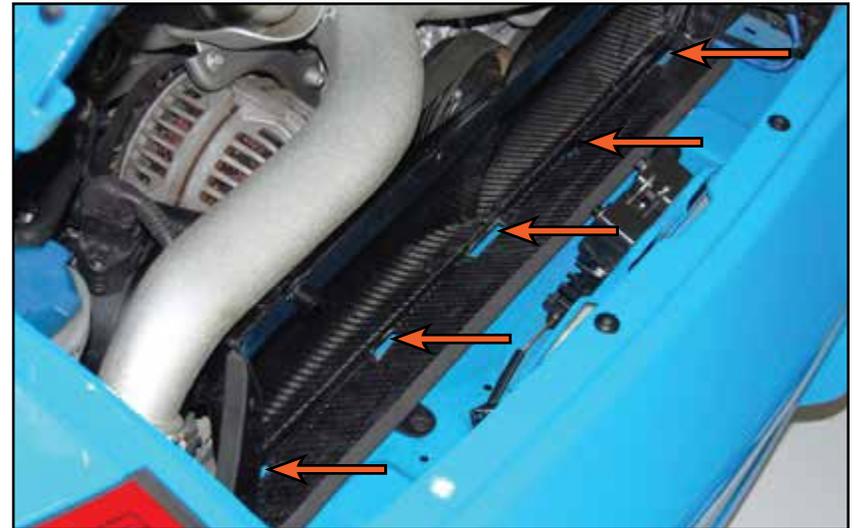
Reconnect the electrical connector to the boost pressure sensor on the Y-pipe.



INSTALLING THE NEW CARBON FIBER INTAKE

Step 21:

Please note the location of the five slots in the carbon fiber air box, these slots match the retaining tabs in the new air cleaner cartridge.



Step 22:

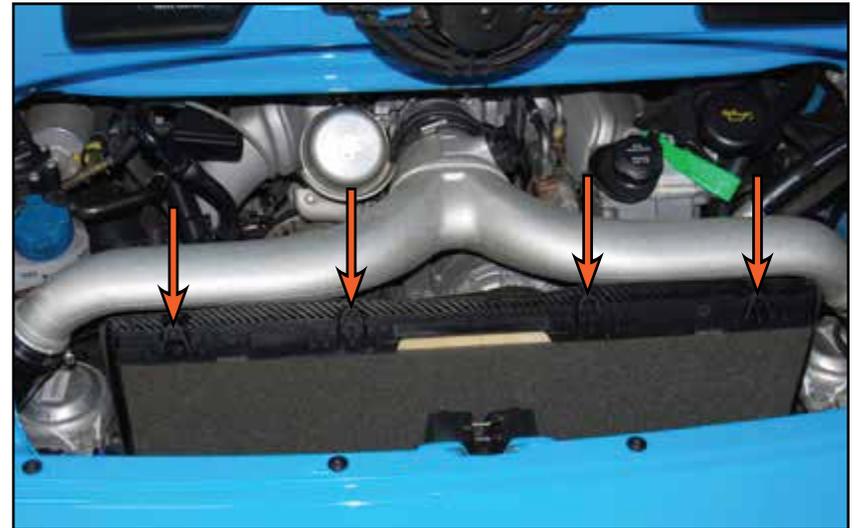
Make sure the seal is fully seated into the included 997.2 air cleaner cartridge, then lower the cartridge into position while aligning the plastic retaining tabs to their respective slots in the carbon fiber air box. Ensure that each tab is lined up and that the cartridge is fully seated into position.



INSTALLING THE NEW CARBON FIBER INTAKE

Step 23:

Ensure that all four of the mounting holes along the top edge of the cartridge line up with the mounting holes in the carbon fiber air box.



Step 24: 3mm Allen Socket, Ratchet - OR - 3mm Allen Wrench

Install the four new screws through the cartridge and into the air box, then tighten them only until they are snug.



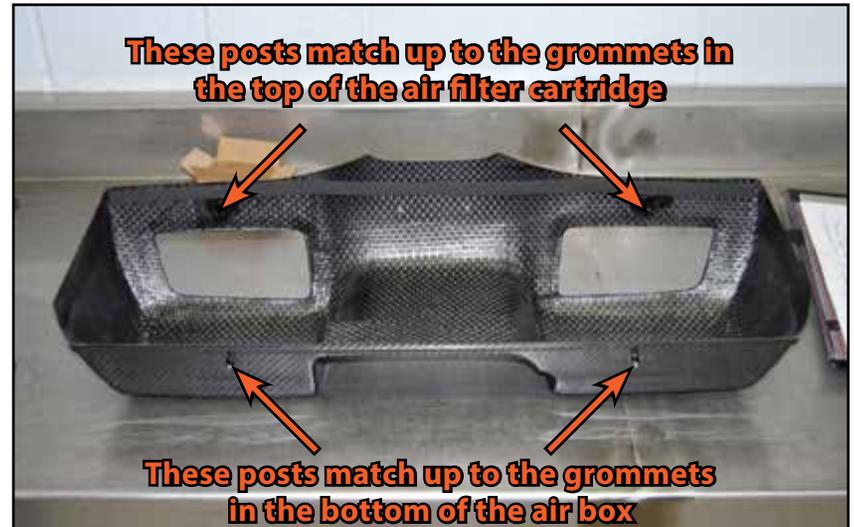
CARBON FIBER CAUTION

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

INSTALLING THE NEW CARBON FIBER INTAKE

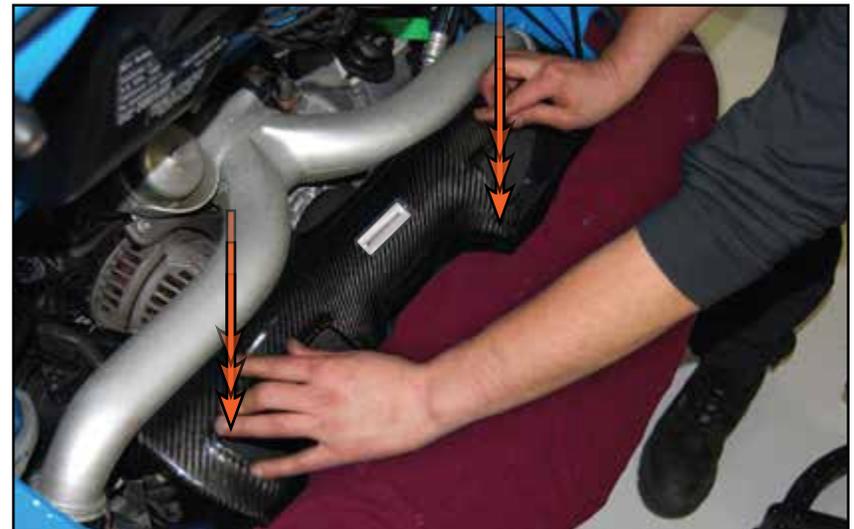
Step 25:

Please note the location of the four mounting posts on the bottom of the carbon fiber air box lid, these posts will be inserted into the rubber grommets in the air box and the air filter cartridge to secure the lid in place.



Step 26:

Install the carbon fiber air box lid into place by lining up the four mounting posts with their respective rubber grommets and pressing downwards until the lid is fully seated.



Installation is now complete!