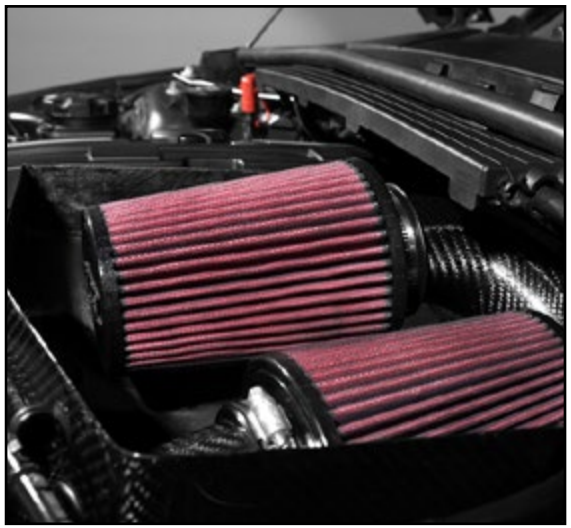
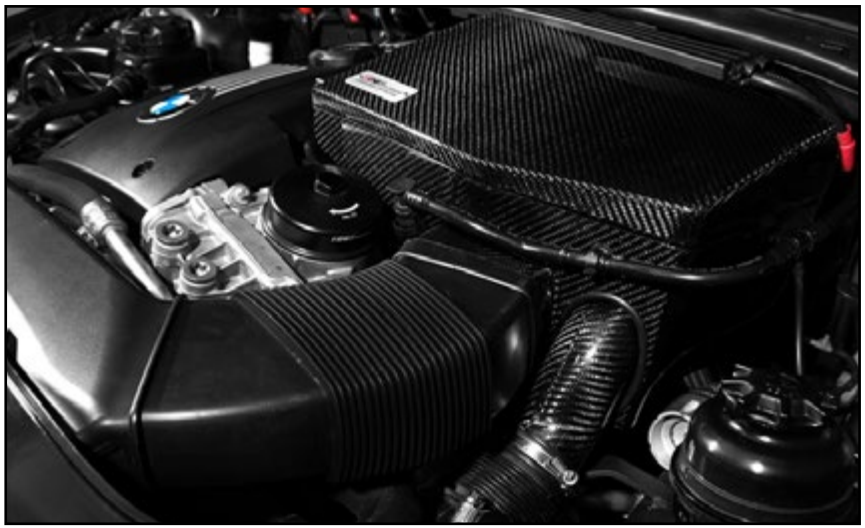
BMW N54 Kohlefaser Luft-Technik Intake Installation



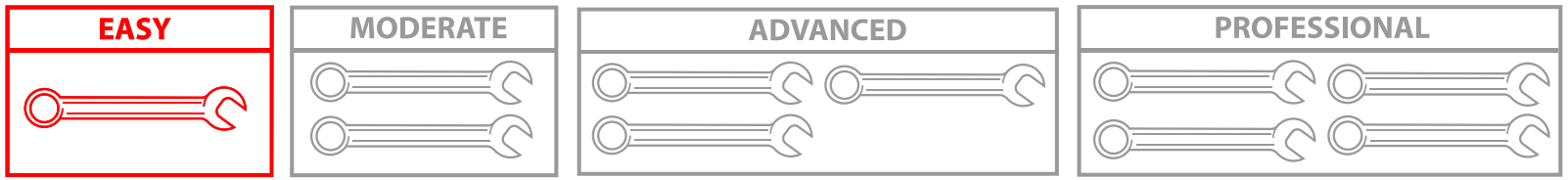


INTRODUCTION

BMW N54 Carbon Fiber Intake System ES#2713282

The ECS Tuning N54 Carbon Fiber Intake System offers the following features and benefits:

- Fully enclosed, sealed air box and intake tubes with carbon fiber exterior and fiberglass insulated interior
- Large, reusable high flow air filters
- Stainless steel hardware
- Broader and smoother torque curve
- Easy installation, integrates seamlessly with stock intake ductwork



BASIC SKILLS REQUIRED

SOME EXPERIENCE RECOMMENDED

ADVANCED SKILLS & EXPERIENCE REQUIRED

PROFESSIONAL SKILLS & SPECIALTY TOOLS REQUIRED

Installing the ECS Tuning N54 Carbon Fiber Intake System is a rewarding project than an experienced technician will be able to complete in a few hours, plan accordingly based on your experience level. Before you begin, read and familiarize yourself with these instructions and make sure you have all of the required tools on hand. Thank you for purchasing our ECS Tuning Carbon Fiber Intake System, we appreciate your business!

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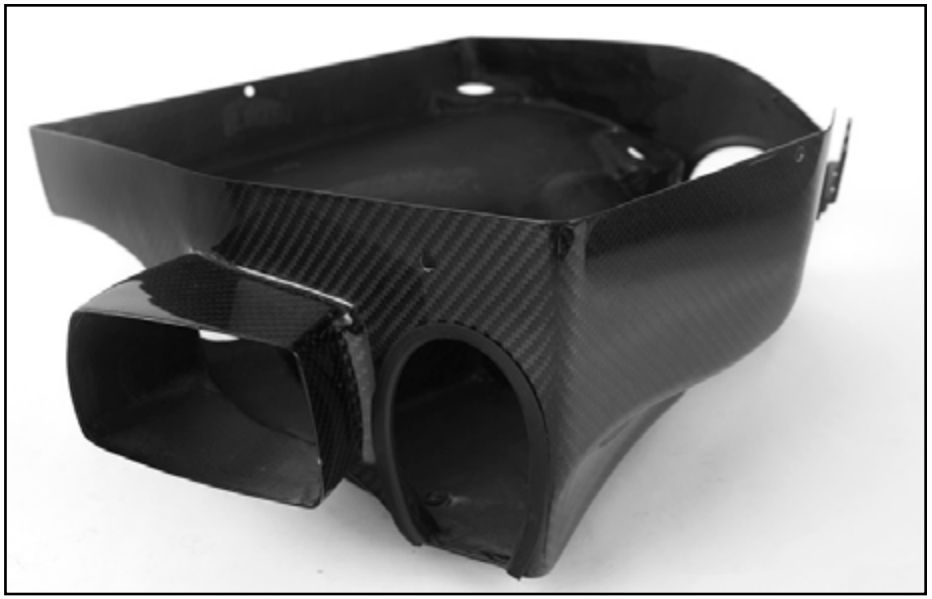
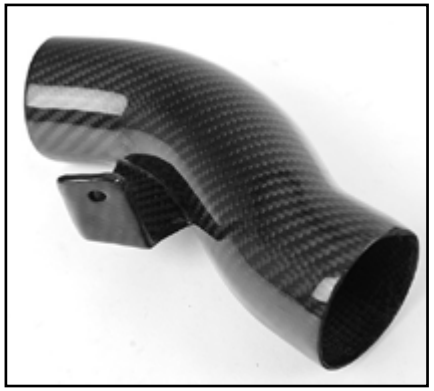
N54 CARBON FIBER INTAKE KIT CONTENTS

Carbon Fiber Intake Box Lid



Carbon Fiber Lower Intake Box

Carbon Fiber Rear Filter Pipe



Carbon Fiber Front Filter Pipe

Two Air Filters w/ Clamps

Hardware and Vacuum Line Clip

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REQUIRED TOOLS

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

Below is a list of the tools we used to install the N54 Carbon Fiber Intake System. Be sure you have all tools on hand before beginning.

- Flat Blade Screwdriver(s) ..... Available at ecstuning.com ..... ES#2225921
- Torx Drivers: T20 ..... Available at ecstuning.com ..... ES#11417
- Safety Glasses
- Small Angled Pick or Hook Tool
- Nut Drivers: 6mm, 8mm
- Allen wrench: 4mm
- 1/4" Ratchet, Extensions

SHOP SUPPLIES AND MATERIALS

- Hand Cleaner/Degreaser ..... Available at ecstuning.com ..... ES#2167336
- Shop Rags ..... Available at your local auto parts store

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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.

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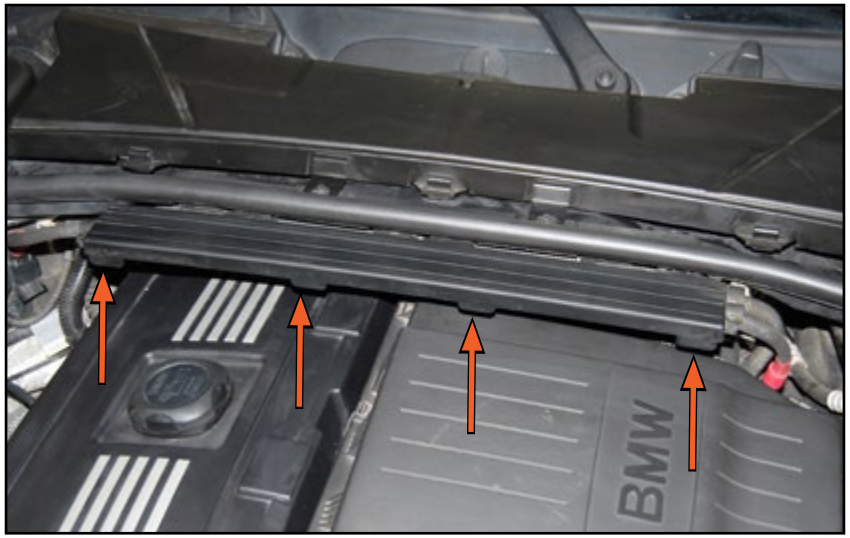
REMOVING THE ORIGINAL AIRBOX

Step 1:

Remove the upper wiring harness channel cover by pulling out each of the four tabs (arrows) to release them, then lifting the cover upwards and unhooking it at the rear.



Step 2:

Pull the battery cable and corrugated wiring harness out of their retaining clips in the wiring harness channel.

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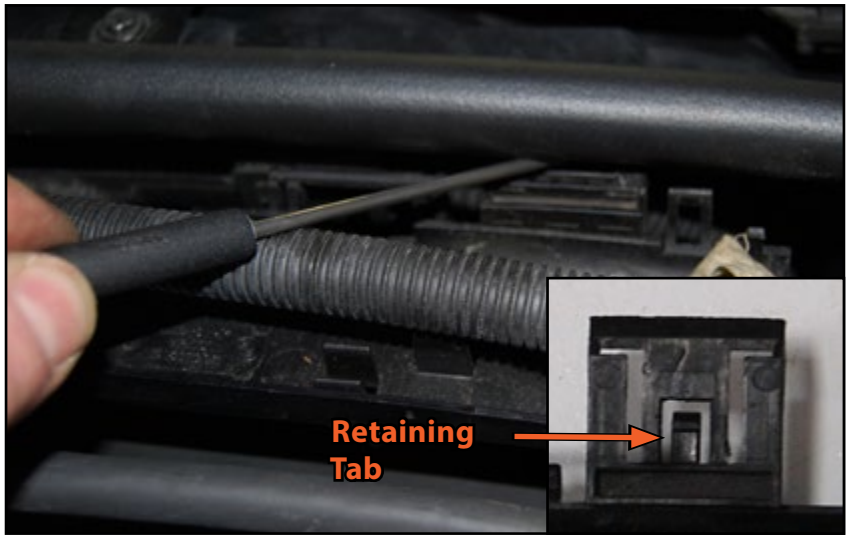
REMOVING THE ORIGINAL AIRBOX

Step 3: Small Pick

Carefully release the three retainers for the wiring harness channel by pushing down on each retaining tab. As you release each one, pull out slightly on the channel to prevent the tabs from locking back in place. The inset picture shows a close up view of a retaining tab.



NOTE

These tabs and the cowl panel mounts are very fragile and can be easily broken, use caution during removal.

Step 4:

Pull the wiring harness channel forward and remove it from the cowl panel.

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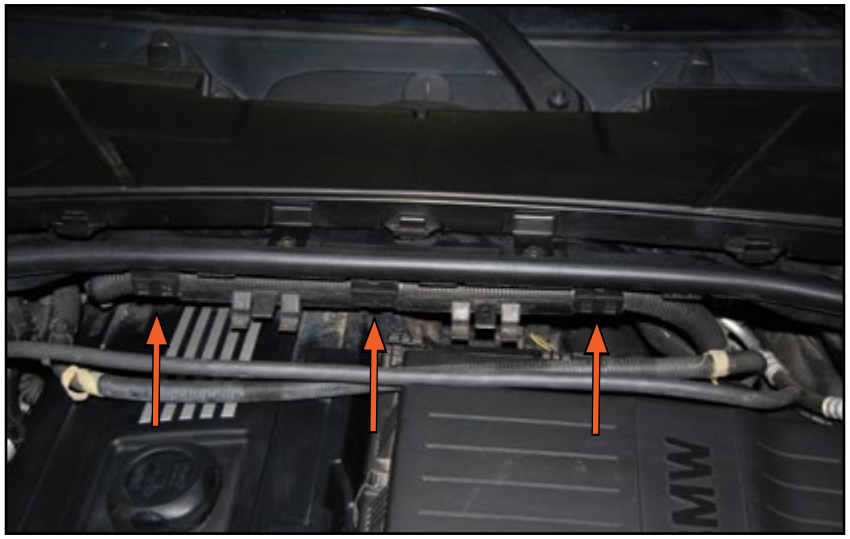
REMOVING THE ORIGINAL AIRBOX

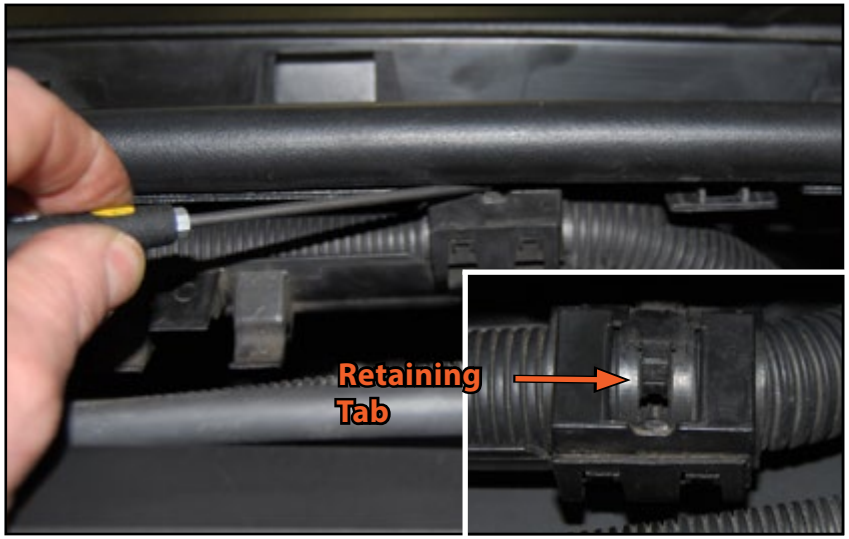
Step 5:

The large corrugated wiring harness mounts to the cowl panel at three different locations (refer to photo on right).



Step 6: Small Pick

Carefully release the three retainers for the large wiring harness by pushing down on each retaining tab. As you release each tab, pull out on the harness to prevent the tabs from locking back in place. The inset picture shows a close up view of a retaining tab.



NOTE

These tabs are very fragile and can be easily broken, use caution during removal.

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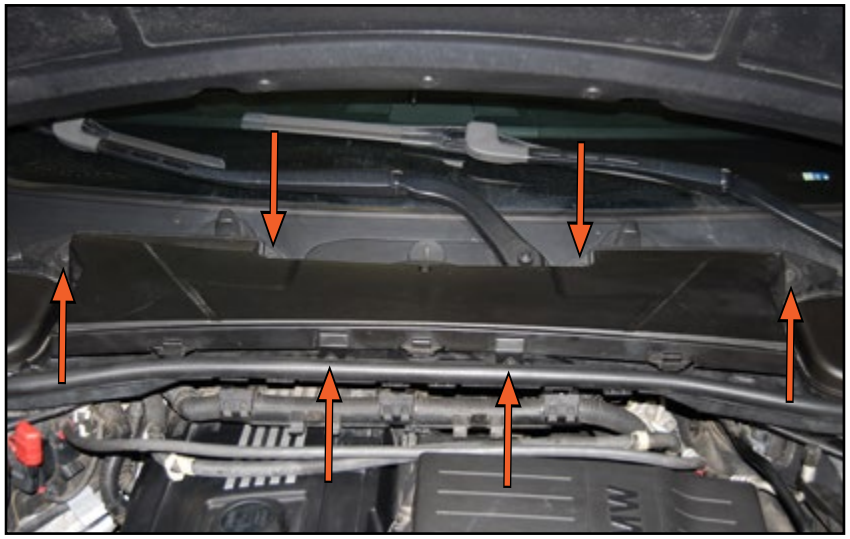
REMOVING THE ORIGINAL AIRBOX

Step 7: 8mm Nut Driver / 8mm Socket and Ratchet

Remove the six self threading screws holding the cabin air filter housing to the cowl panel.



Step 8:

Gently lift up on the cabin air filter housing and remove it from the cowl panel

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REMOVING THE ORIGINAL AIRBOX

Step 9:

Remove the brake master cylinder cover by sliding out the rubber seal retainer and releasing the front and rear retaining tabs. Lift the cover up and remove it.

Step 10:

Moving to the passenger side of the vehicle, disconnect the air temperature sensor by pushing in on the connector release tab and pulling the connector off of the sensor.

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REMOVING THE ORIGINAL AIRBOX

Step 11:

Remove the air temperature sensor wiring harness retention clips from the cowl tabs by pulling up on them. These clips have small “teeth” that grip the cowl tabs as they are pushed into place, if they are difficult to release by hand a small flat blade screwdriver can be used to pry them off. Lay the harness to the side after clips have been removed.

Step 12:

Remove the passenger side cowl cover by sliding out the rubber seal retainer and releasing the front and rear retaining tabs. Lift the cover up and remove it.

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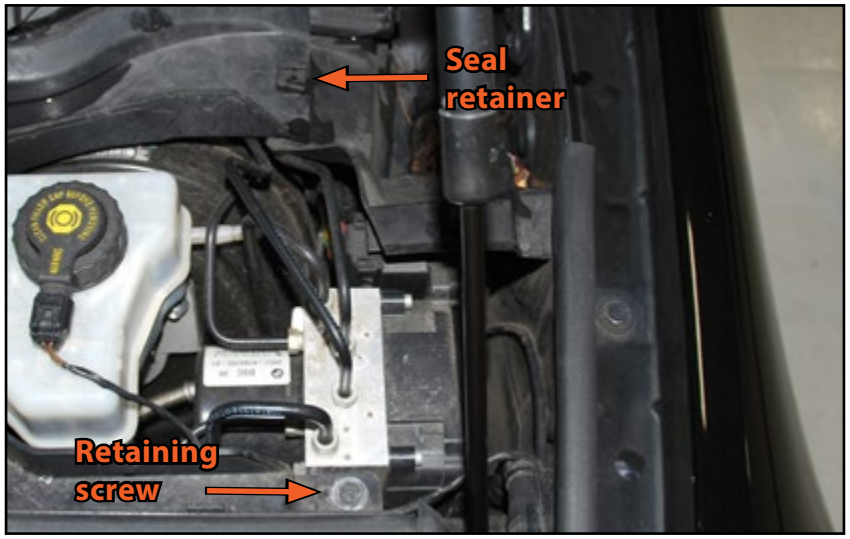
REMOVING THE ORIGINAL AIRBOX

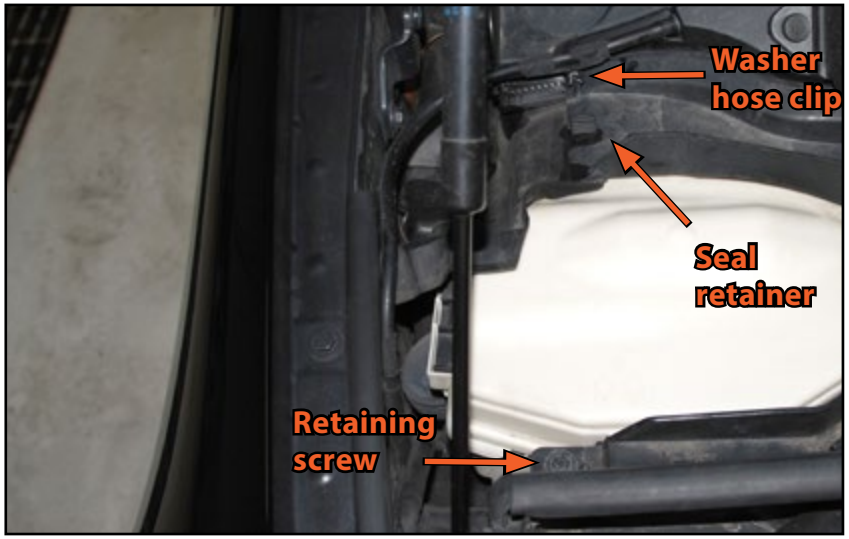
Step 13: 8mm Nut Driver / 8mm Socket and Ratchet

Slide the driver side cowl seal retainer out of the slot in the cowl panel, and remove the screw holding the cowl panel to the body of the car.



Step 14: 8mm Nut Driver / 8mm Socket and Ratchet

Slide the passenger side cowl seal retainer out of the slot in the cowl panel, remove the washer hose retaining clip from the cowl tab. This clip has small "teeth" that grip the cowl tab as the clip is pushed into place. Remove the screw holding the cowl panel to the body of the car.



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REMOVING THE ORIGINAL AIRBOX

Step 15:

Tilt the cowl panel up at the front, then lift and pull it forward to remove it from the vehicle.

NOTE

There are 5 tabs that hold the cowl panel tightly to the seal at the rear of the panel. These can be easily broken, use caution during removal.

Step 16:

Disconnect the brake booster vacuum line by squeezing the two retaining tabs together and pulling up on the line. Pull the line out of the retaining clip on the side of the original air box.

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REMOVING THE ORIGINAL AIRBOX

Step 17: 6mm Nut Driver or Flat Blade Screwdriver

Loosen the clamps holding the front and rear turbo inlet tubes to the air original box. (front clamp shown)

Step 18: T20 Torx Drive

Remove the 2 screws holding the intake air duct to the radiator core support.

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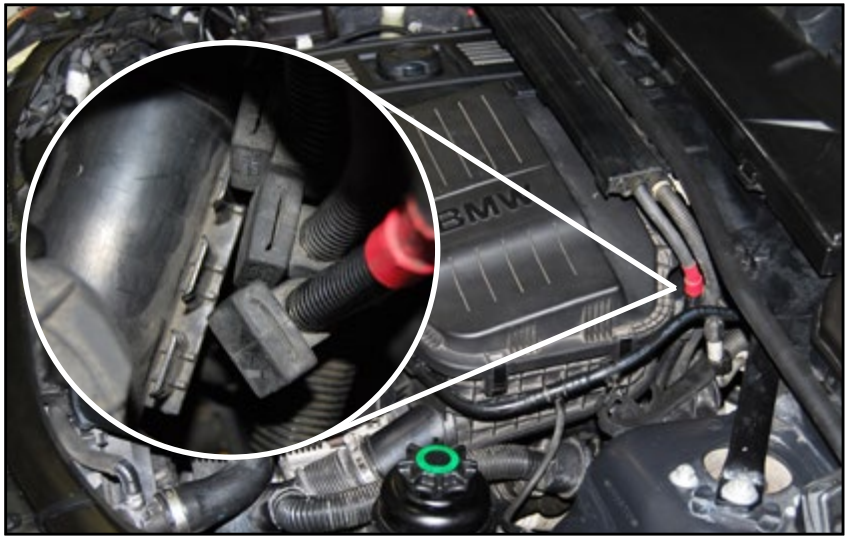
REMOVING THE ORIGINAL AIRBOX

Step 19: Flat Blade Screwdriver

Release the intake air duct from the tabs on the original air box, pull the intake air duct off of the original air box and remove the duct from the vehicle.

Step 20:

Pull all 3 wiring harness retainers off of the retainer bracket on the side of the original air box



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REMOVING THE ORIGINAL AIRBOX

Step 21:

Remove the front and rear turbo inlet tubes from the original air box.

Step 22:

Lift up on the air box and remove it from the vehicle. Be careful to make sure all hoses and wires are clear while removing the air box.

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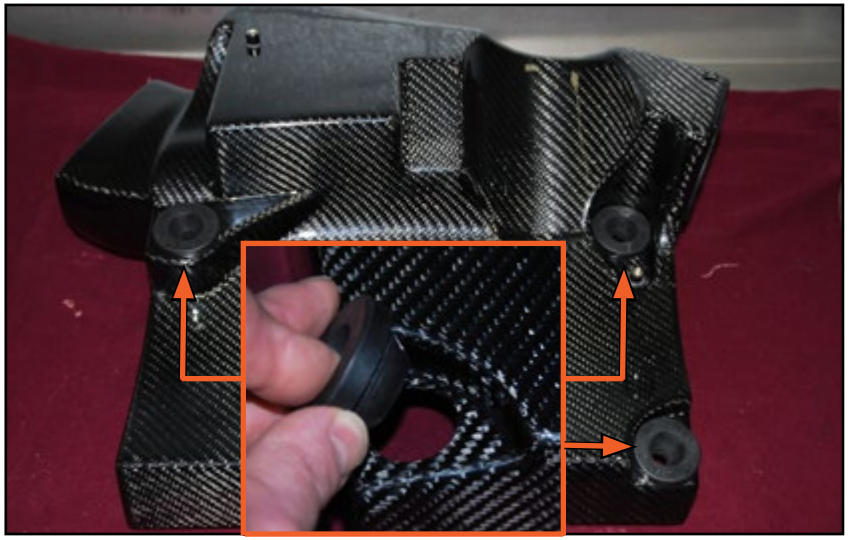
INSTALLING THE NEW CARBON FIBER INTAKE

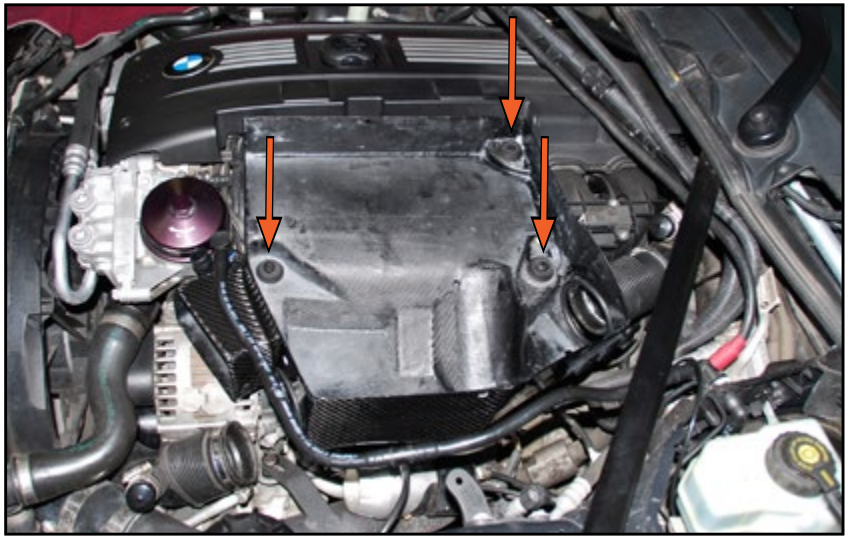
Step 1:

The original air box has three rubber mounting grommets in the bottom. Pull them out and install them into the new carbon fiber lower intake box by pushing them in until they are fully seated.



Step 2:

Position the new lower intake box so the grommets line up with the mounting studs, then evenly push it down into place until the grommets are fully seated on the studs (arrows).



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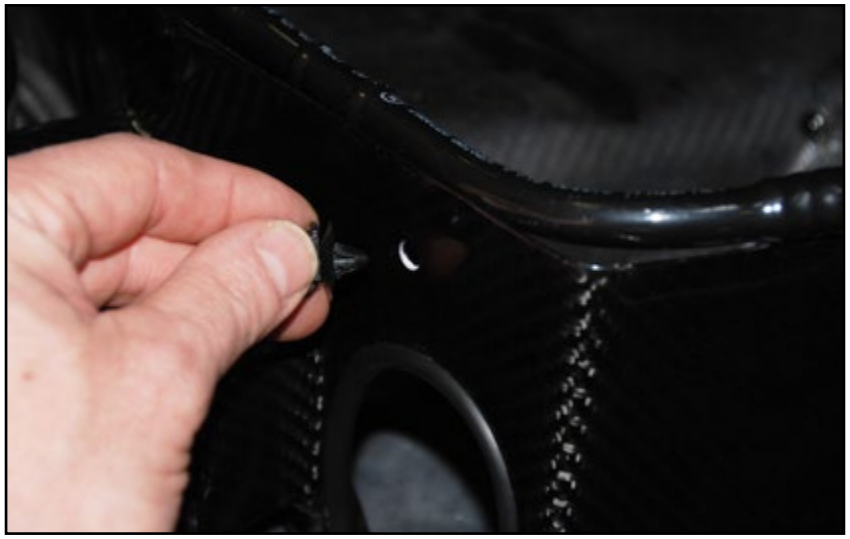
INSTALLING THE NEW CARBON FIBER INTAKE

Step 3:

Push the brake booster line mounting clip into place in the side of the lower intake box.



Step 4:

Reconnect the brake booster vacuum line and make sure it is secured in it's mounting clip.

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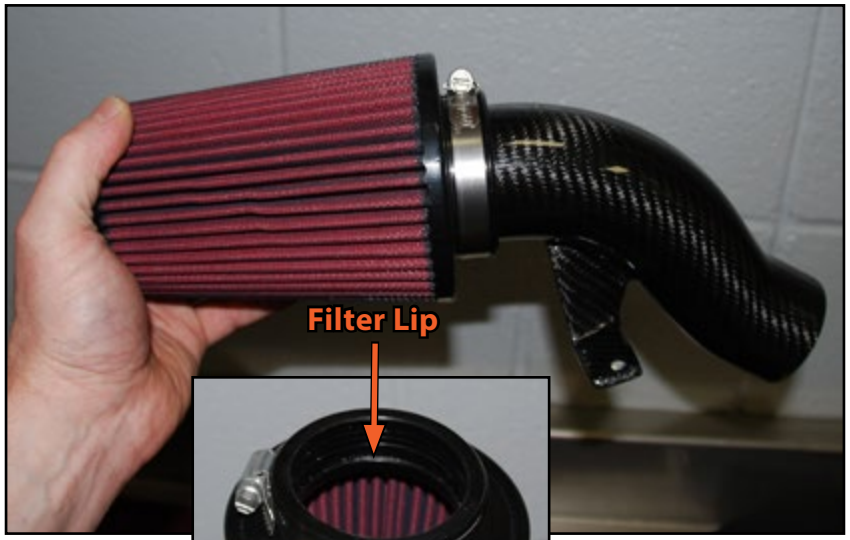
INSTALLING THE NEW CARBON FIBER INTAKE

Step 5: Flat blade screwdriver

Install one of the air filters (both are the same) onto the front filter pipe. Make sure it is fully seated against the lip on the inside of the filter, then tighten the clamp. Use the picture for reference to make sure you install the filter on the correct end.

CAUTION

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



Step 6: Flat blade screwdriver

Install the remaining air filter onto the rear filter pipe. Make sure it is fully seated against the lip on the inside of the filter, then tighten the clamp. Use the picture for reference to make sure you install the filter on the correct end.

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INSTALLING THE NEW CARBON FIBER INTAKE

Step 7:

Insert the front filter pipe into the lower intake box, through the opening in the front of the box, and into the front turbo inlet tube. Do not secure it at this time.

Step 8:

Insert the rear filter pipe into the lower intake box, through the opening in the rear of the box, and into the rear turbo inlet tube.

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INSTALLING THE NEW CARBON FIBER INTAKE

Step 9: 4mm hex bit socket (allen wrench)

Install and tighten the two M6 x 20mm screws included with the kit into the front and rear filter pipe mounting ears.

Step 10: Flat blade screwdriver

Tighten the clamps on the front and rear turbo inlet tubes.

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INSTALLING THE NEW CARBON FIBER INTAKE

Step 11: 4mm hex bit (allen wrench)

Install the new carbon fiber intake box lid, then install and tighten the two M6 x 10mm screws included with the kit. Be sure to place one of the nylon washers on each screw.

Step 12:

Secure each of the three wiring harnesses onto the harness bracket on the side of the new carbon fiber intake box.

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Use the following step by step checklist for final reassembly.

- [ ] Install the front intake air duct in place then install the two screws securing it to the radiator core support.
- [ ] Carefully install the cowl panel into place.
- [ ] On the RH side, install the cowl hold down screw, the seal retainer tab, and the washer hose clip.
- [ ] On the LH side, install the cowl hold down screw and the seal retainer tab.
- [ ] Install the RH cowl side cover and slide the seal retainer into the cover.
- [ ] Install the air temperature sensor clips and connect the sensor.
- [ ] Install the master cylinder cover and seal retainer.
- [ ] Install the cabin filter housing and the six hold down screws.
- [ ] Install the lower wiring harness into place on the cowl panel.
- [ ] Install the wiring harness channel.
- [ ] Install the battery cable and upper harness in place in the harness channel.
- [ ] Install the upper wiring harness channel cover.

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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 knick 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 knicked 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.

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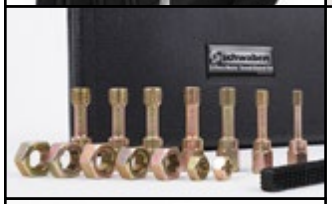
SCHWABEN - BUILD THE ULTIMATE TOOL COLLECTION

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.









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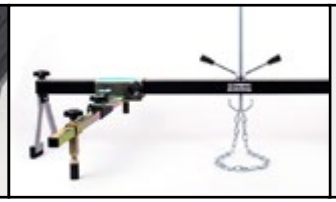
[Scraper, Hook, & Pick Set](), [Camshaft Tools](), [Fan Clutch Wrenches](), [Tie Rod Tools](), [Brake Fluid Catch Bottle](), [Tubing Cutter](), [Booster Cables](), [Oil Filter Tools](), [Service Carts](), [Battery Charger](), [Stethoscope](), [Battery Terminal Brush](), [Wheel Chocks](), [Torx Sockets]()

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



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Your N54 Kohlefaser Luft-Technik Intake 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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