

Audi B7 2.0T Luft-Technik Intake System Installation Instructions

















INTRODUCTION

The Project:

Today we're going to install our Luft-Technik Intake System on a 2.0T equipped Audi B7 A4. We'll walk you through step by step how to remove the original airbox and install our new system.

The "ECS Difficulty Gauge" below shows this installation is rated as a "1 - Easy", this means that only basic tools and experience are required, so take your time and enjoy the project.

ECS Difficulty Gauge



Read these instructions completely before you begin, and with the project overview under your belt you'll breeze right through the install. Just to make sure you have everything you need, reference the required tool list on Page 6 before you begin. Thank you for looking to ECS Tuning for all your performance and repair needs. We appreciate your business!





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Symbols:

The following symbols may be used throughout these instructions indicating special attention:



FORK IN THE ROAD: When there are different options within any given kit, we will direct you to the proper page and step to continue.



YIELD: Pause for a moment to double check component installation before you continue. Ignoring this can cost you time later during the installation.



CAUTION: Pay close attention to these warnings and instructions. Difficult installation, personal injury or component damage may occur if ignored.



STOP: The upcoming steps require specific preparation and/or assistance in the interest of safety. Please read ahead in the instructions and prepare before continuing.



TECH TIP: Tips and tricks to make the job go much easier.



NOTE: Additional information that may be useful to the installation depending on your application.



KIT CONTENTS



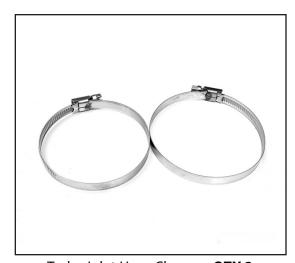
Main Heat Shield Assembly - QTY 1



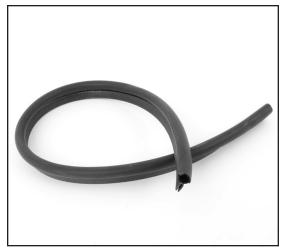
Air Scoop - QTY 1



Silicone Turbo Inlet Hose - QTY 1



Turbo Inlet Hose Clamps - QTY 2



5/8" Bulb Seal - **QTY 1**



High Flow Air Filter w/Clamp - QTY 1



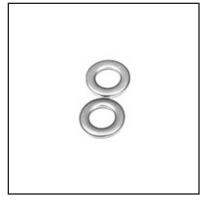
KIT CONTENTS



0.562" OD Washers - **QTY 2**



0.75" OD Washers - **QTY 4**



M6 SS Washers - QTY 2



M6 Locking Nuts - QTY 4



M6x16mm Screws - QTY 4



M6x20mm Screws - QTY 2



Clip On Nuts - QTY 2



Heat Shield Foot Adapters - QTY 2



REQUIRED TOOLS

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

Standard Automotive Tools

Required For This Install

Available On Our Website

| Protecta-Sockets (for lug nuts) | . <u>ES#2221243</u> |
|---|---------------------|
| • 3/8" Drive Ratchet | ES#2765902 |
| • 3/8" Drive Torque Wrench | ES#2221245 |
| • 3/8" Drive Deep and Shallow Sockets | ES#2763772 |
| • 3/8" Drive Extensions | ES#2804822 |
| Hydraulic Floor Jack | ES#240941 |
| Torx Drivers and Sockets | . <u>ES#11417/8</u> |
| • 1/2" Drive Deep and Shallow Sockets | ES#2839106 |
| • 1/2" Drive Ratchet | |
| • 1/2" Drive Extensions | |
| • 1/2" Drive Torque Wrench | ES#2221244 |
| • 1/2" Drive Breaker Bar | ES#2776653 |
| Hook and Pick Tool Set | |
| VAG Connector Removal Tool | ES#2628676 |
| Locking Hose Clamp Pliers | ES#2702616 |
| • | |

| • 1/4" Drive Ratchet | <u>ES#2823235</u> |
|---|-------------------|
| • 1/4" Drive Deep and Shallow Sockets | <u>ES#2823235</u> |
| • 1/4" Drive Extensions | <u>ES#2823235</u> |
| Plier and Cutter Set | <u>ES#2804496</u> |
| Flat and Phillips Screwdrivers | <u>ES#2225921</u> |
| Jack Stands | <u>ES#2763355</u> |
| Ball Pein Hammers | |
| • Pry Bar Set | <u>ES#1899378</u> |
| Electric/Cordless Drill | |
| Wire Strippers/Crimpers | |
| • Razor Blade | |
| Punch and Chisel Set | |
| Hex Bit (Allen) Wrenches and Sockets | <u>ES#11420</u> |
| Thread Repair Tools | <u>ES#1306824</u> |
| Open/Boxed End Wrench Set | FS#2765907 |



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.
- 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, and ALWAYS make sure that the vehicle is securely supported on jack stands.



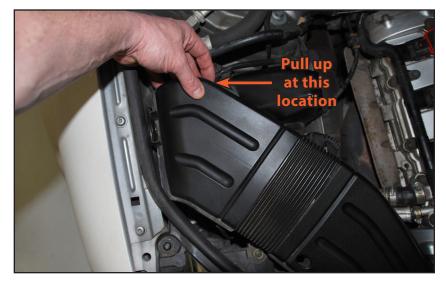
T20 Torx Driver, Phillips Screwdriver Step 1:

Locate the two air scoop mounting screws and remove them. Depending on production date will you find that you may have either torx or Phillips head fasteners.



Step 2:

Pull up on the intake duct at the location shown to separate it from the airbox. Then pull it rearward to pull the air scoop out of the front core support and remove it from the car.

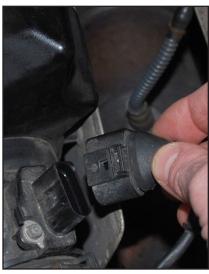




Schwaben Connector Release Tool Step 3:

Disconnect the Mass Air Flow Sensor. We are using our Schwaben Connector Release Tool to make this easier. The trick to releasing these "push and pull" style of connectors is to first push the connector down, which will release the tension between the locking tab and the catch on the sensor, then insert the release 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 incredible ease.





Locking Hose Clamp Pliers Step 4:

Loosen the spring clamps where the original turbo inlet tube attaches to the Mass Air Flow sensor and the turbo inlet. Pull the hose off both ends and remove it.



NOTE: There is a large lip on the inlet of the turbo and you will have to pull hard on the base of the turbo inlet tube in order to remove it.



TECH TIP: If you don't have locking hose clamp pliers, channel lock pliers can be used, but **BE CAREFUL!** The clamps can easily spring off and cause personal injury or damage to the vehicle. Wear Safety Glasses!

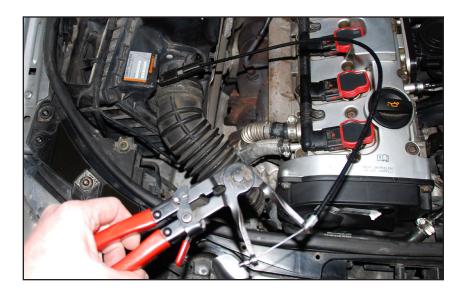
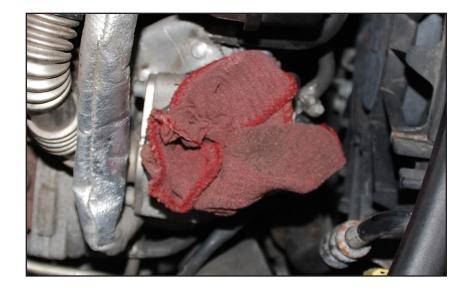


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Step 5:

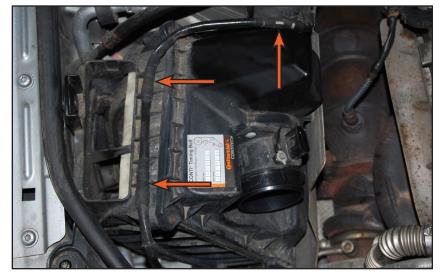
Place a clean rag into the turbocharger inlet to prevent anything from falling into it.



Step 6:

Pull the wiring harness off the airbox at the three locations indicated in the picture and position it to the side.

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Step 7:

Pull up on the air box assembly to pull the lower mounting grommets out of the frame rails and remove it from the car.



NOTE: You may need to grab the air box near the base and pull firmly upwards in order to unseat the lower mounting grommets



Step 8:

It is common for the airbox mounting grommets to stick in the subframe. Check underneath the airbox and remove the grommet(s) if they have stuck in their holes.

You are now ready to install your new intake system!





Step 1:

Lay the Main Heat Shield Assembly onto a soft, clean work surface.

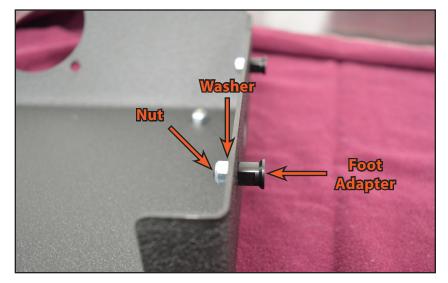


8mm Open End Wrench, 10mm Wrench or Socket Step 2:

Install the foot adapters into the slotted holts located on the bottom of the Main Heat Shield Assembly, then secure each of them with an M6 locking nut and a 0.562" OD washer, tightening them until they are snug.



Try centering the foot adapters inside the slotted holes when tightening them, and utilize the slotted holes if the heat shield fitment is not satisfactory.





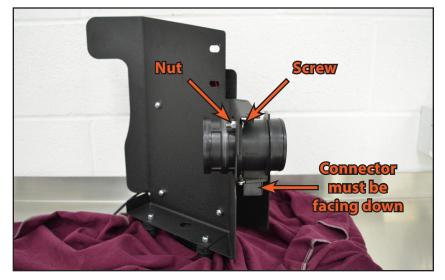
Step 3: **Phillips Screwdriver**

Remove the two mounting screws and pull the Mass Air Flow Sensor off of the original air box.



4mm Allen, 10mm Wrench or Socket Step 4:

Install the Mass Air Flow Sensor into the Main Heat Shield Assembly using two of the M6x16mm screws and two of the M6 locking nuts. Inspect the picture on the right and install the sensor so the electrical connector is located on the opposite side as the original installation position. Install both screws and nuts loosely at first, then tighten them both until they are snug. The nuts should be located on the inside of the Main Heat Shield Assembly.





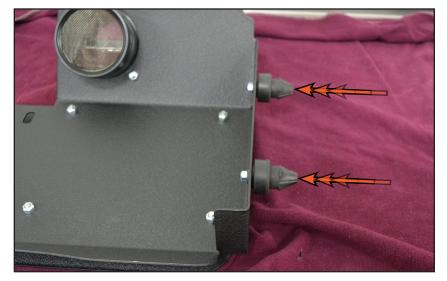
Step 5:

Pull both of the original mounting grommets off of the airbox or pull them out of the subframe if they stuck there during removal.



Step 6:

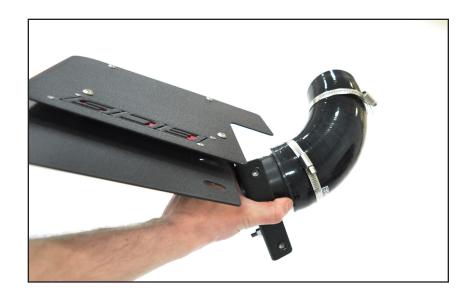
Push the two grommets onto the foot adapters on the bottom of the Main Heat Shield Assembly.





Step 7:

Place the turbo inlet hose clamps over the silicone turbo inlet hose, noting that the larger hose end and clamp will be located on the Mass Air Flow Sensor and the smaller end and clamp will be located on the turbo. Then, push the Silicone Turbo Inlet Hose onto the Mass Air Flow Sensor.



Step 8:

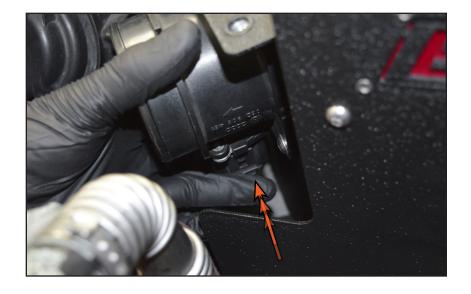
Place the Main Heat Shield Assembly into the engine compartment as shown, then proceed to Step 9 for the process plugging in the Mass Air Flow Sensor, and lining up and installing the turbo inlet hose and the shield.





Step 9:

Plug the electrical connector back into the Mass Air Flow Sensor.



Step 10:

Remove the rag in the turbo inlet, then push the silicone turbo inlet tube over the turbo Inlet, then install the heat shield by aligning and pushing the rubber grommets down into the subframe.







Flat Blade Screwdriver Step 11:

Make sure the Turbo Inlet Hose is completely installed on both ends, then tighten both clamps until they are snug.



Step 12:

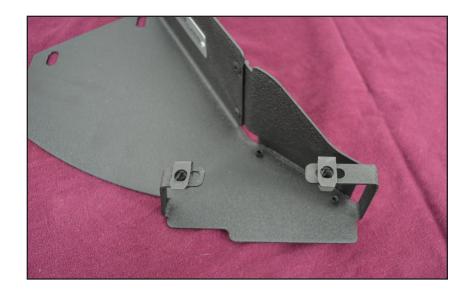
This is a good time to double check that the wiring harnesses are routed through the cut out in the Main Heat Shield Assembly, this cut out has been placed there for exactly this purpose (YELLOW circle in the photo).





Step 13:

Install the two M6 Clip On Nuts onto the Air Scoop as shown in the photo on the right.



Step 14:

Install the Air Scoop into the vehicle by first sliding it into the core support, then pivoting it down so that it lays on top of the Main Heat Shield Assembly as shown in the photo.



You may need to **GENTLY** squeeze the tabs on the Air Scoop in order to insert it into the core support, but use caution as these tabs will bend easily. Only light pressure should be required.





4mm Allen Step 15:

Loosely install the four M6x16mm screws the 0.75" OD washers through the Air Scoop and into the Main Heat Shield Assembly by hand. Be sure to leave the bolts loose enough that the Heat Shield and the Air Scoop can still be adjusted by hand, we will tighten the bolts in a later step.

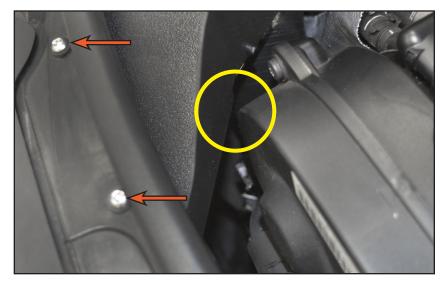


NOTE: You may need to push the Heat Shield towards the engine slightly by hand in order to get the bolts to line up, this is due to the rigidity of the Silicone Turbo Inlet Hose. If the Air Scoop mounting holes absolutely won't line up with the Main Heat Shield Assembly, please click **HERE** before proceeding to Step 16.



Loosely install the two M6x20mm screws and the two M6 SS washers through the core support and into the Air Scoop (ARROWS in the photo). Check for clearance between the Air Scoop and the timing cover (YELLOW) circle in the photo). If the Air Scoop is making contact with the timing cover, push the air scoop away from the timing cover, then snug the bolts in the core support.







4mm Allen, Flat Blade Screwdriver Step 17:

Tighten the four M6x16mm screws through the Air Scoop and into the Main Heat Shield Assembly until they are snug. Then, install the air filter onto the MAF housing and tighten the hose clamp until it is snug.



Step 18:

Install the 5/8" Bulb Seal onto the Air Scoop and the Main Heat Shield Assembly by pressing it into place as shown in the photo. Be sure to start the seal as far forward on the Air Scoop as possible, and press it down until it is completely seated in place.





Razor Blade Step 19:

Once the bulb seal is run along the entire length of the Air Scoop and the Main Heat Shield Assembly, cut off the excess seal along the YELLOW line in the photo.



Step 20:

We recommend securing the wiring harness away from the Air Filter with a zip tie as shown in the photo.

Your Luft-Technik Intake System installation is complete!





TURBO INLET HOSE MODIFICATION

Step 1:

Due to manufacturing tolerances, there is a possibility that the Air Scoop mounting holes won't line up with the Main Heat Shield Assembly as shown in the photo. This can be caused by the Silicone Turbo Inlet Hose being approximately $\frac{1}{8}$ too long on the MAF sensor side. To correct this, please proceed to step 2.



Razor Blade Step 2:

Use the hose clamp to mark 1/8" from the end of the hose, then use a new razor blade to cut the excess hose off of the end. You should not need to remove more than $\frac{1}{8}$ "- $\frac{1}{4}$ " from the hose, and this must **ONLY** be done on the MAF sensor side of the hose. **DO NOT** cut off more than 1/8" at a time, and test fit the intake system after each cut.



To return to the Intake System Installation Instructions, simply click **HERE**.



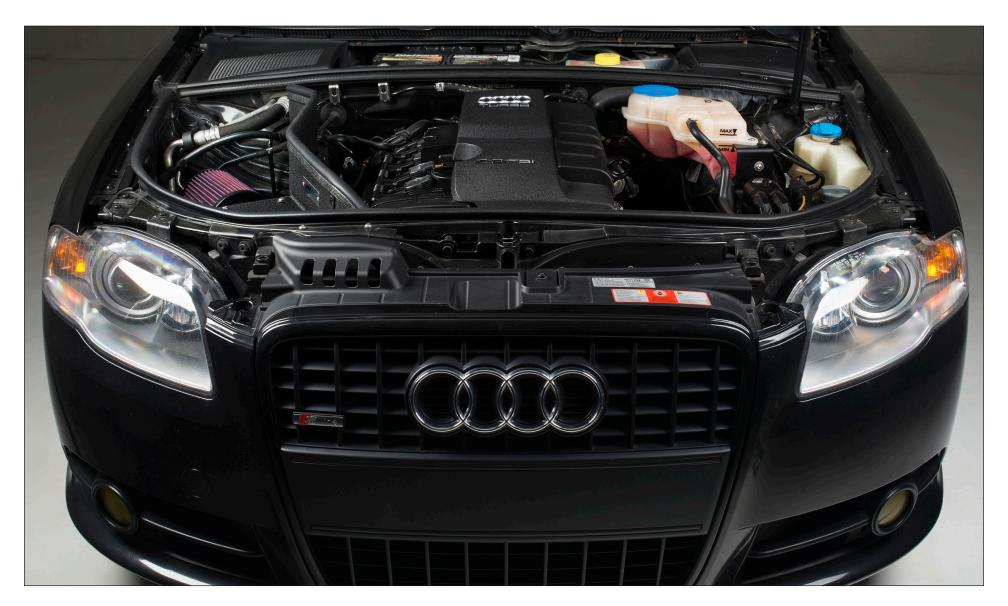


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At ECS Tuning, we carry a line of high quality Schwaben Tools and Equipment to help you build your ultimate tool collection. Never before has affordability and quality been so closely related. Our entire Schwaben line is subjected to strict in house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



Your 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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