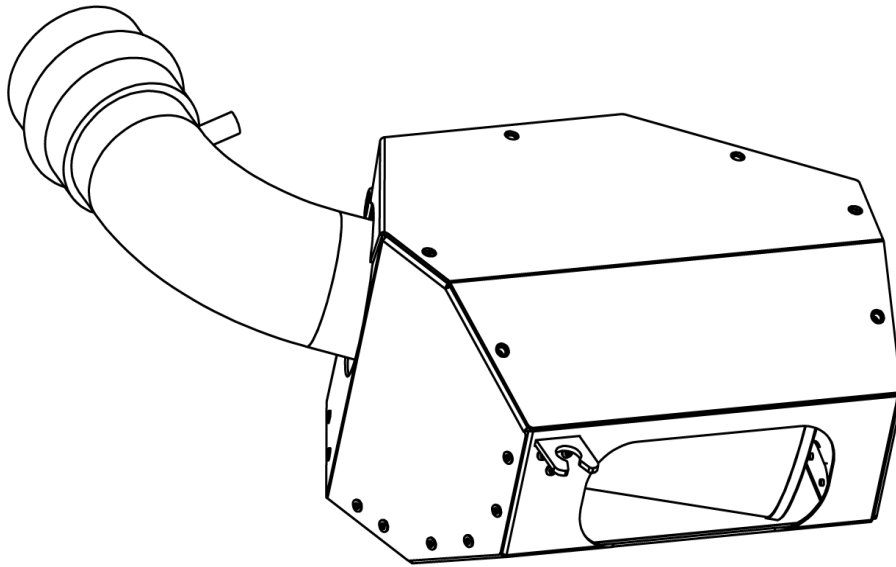




GrimmSpeed Install Guide Series
Installing the GrimmSpeed BRZ/FR-S Intake
Updated 11/3/14



Introduction: This guide will illustrate the installation of the GrimmSpeed BRZ/FR-S Intake system. The difficulty here is **medium**, so take your time and enjoy the job! Expect to spend **30-60min**, depending on level of experience.

Tools: The tools listed below are suggested for this task. Optional tools are noted.

- Flathead and phillips screwdrivers
- Pliers
- 10mm socket and accompanying extensions/ratchet
- 3mm allen wrench
- 4 mm allen wrench

Tips: Take care to follow the installation instructions very carefully when installing the filter onto the intake tube. This measurement is quite important and will ensure that the MAF sensor reads accurately!

Procedure:

1. Begin by collecting your tools and popping your hood.
2. First, follow the factory sound generator tube to the firewall, use a pliers to loosen the clamp and then pull it loose. At the same time, release any other clips holding the hose to the car. From inside the passenger footwell, use the included cap to seal the passenger compartment from the engine bay (figure 0).



Figure 0: Install the sound generator delete cap into the rubber coupler found below the passenger side dash.

3. Next, remove the two 10mm bolts securing the sound generator to the engine (figure 1).

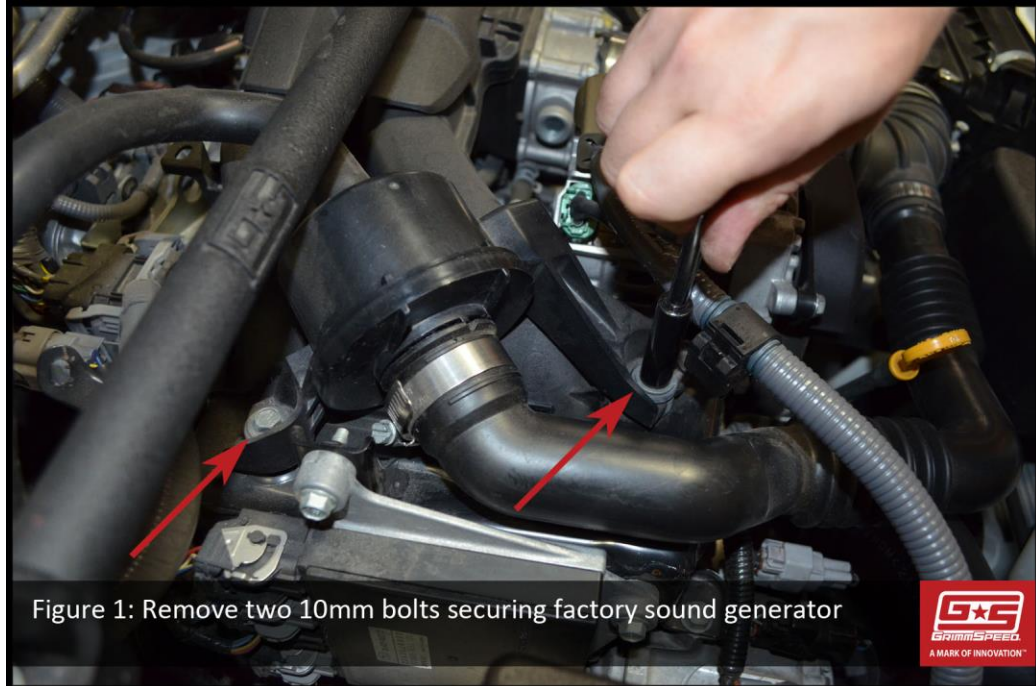


Figure 1: Remove two 10mm bolts securing factory sound generator

4. Remove the three 10mm bolts securing the factory airbox to the chassis (figure 2). Keep track of these, as we'll reuse two of them during installation of the GrimmSpeed air box.

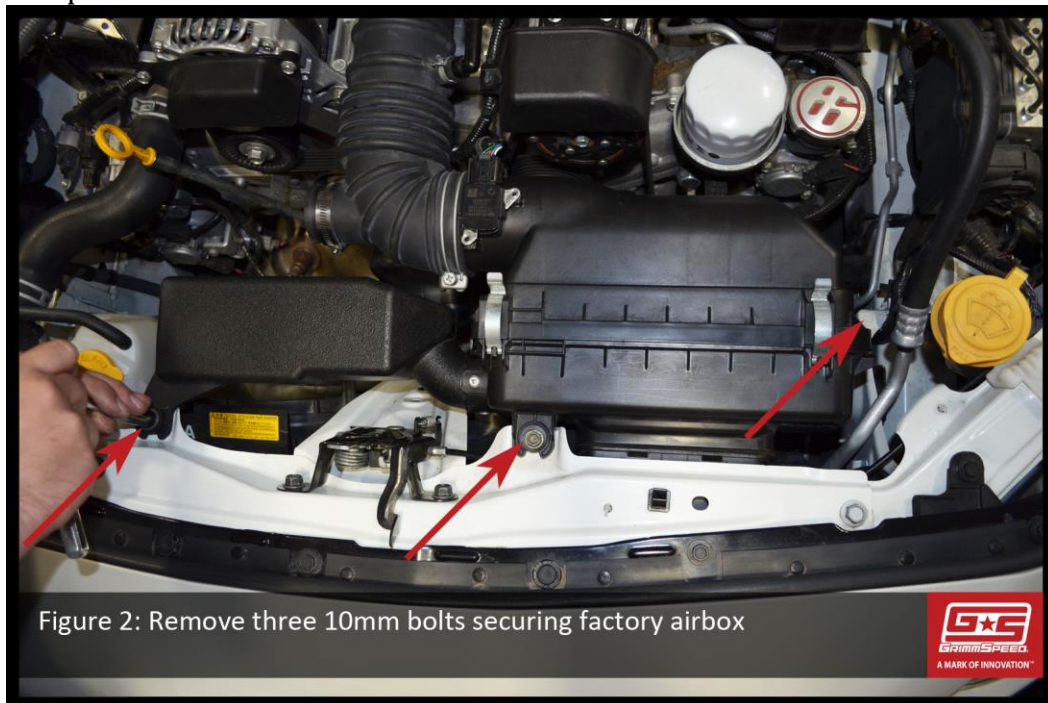


Figure 2: Remove three 10mm bolts securing factory airbox

5. Release the MAF sensor harness from the MAF sensor (figure 3). Also release the small clip securing the harness wire to the airbox (figure 4).



Figure 3: Release the MAF harness from the MAS sensor



Figure 4: Release the clip holding the MAF wire to the stock airbox



6. Use a pair of pliers to remove the clamp holding the PCV fitting to the stock intake tube (figure 5). Keep track of the clamp, as you'll be reusing it.

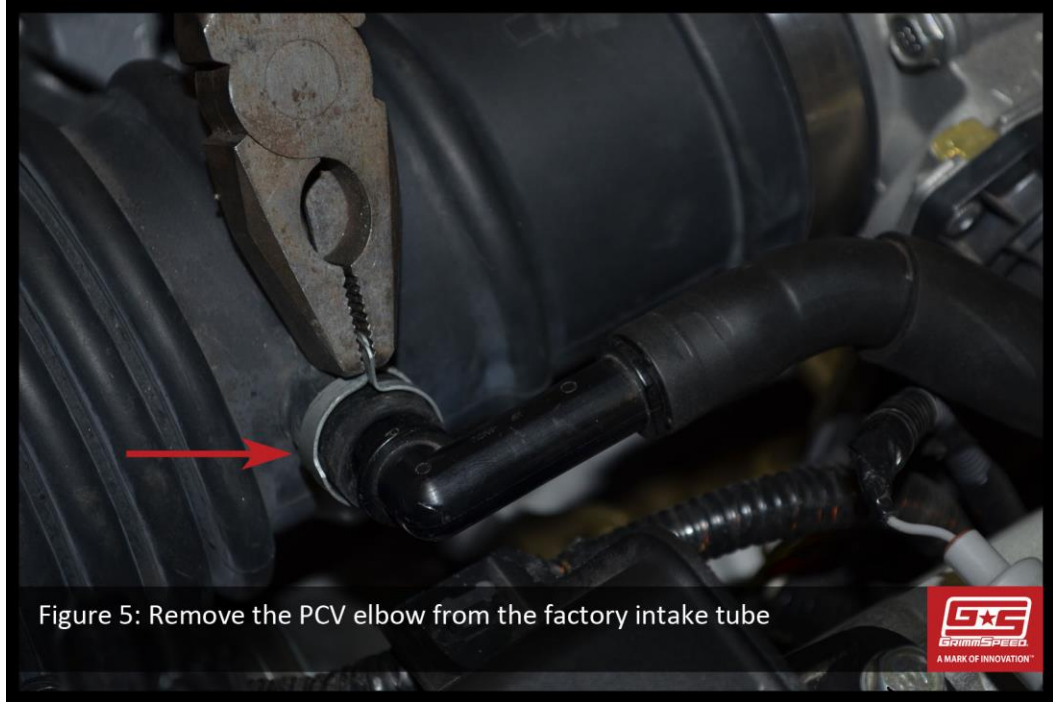


Figure 5: Remove the PCV elbow from the factory intake tube

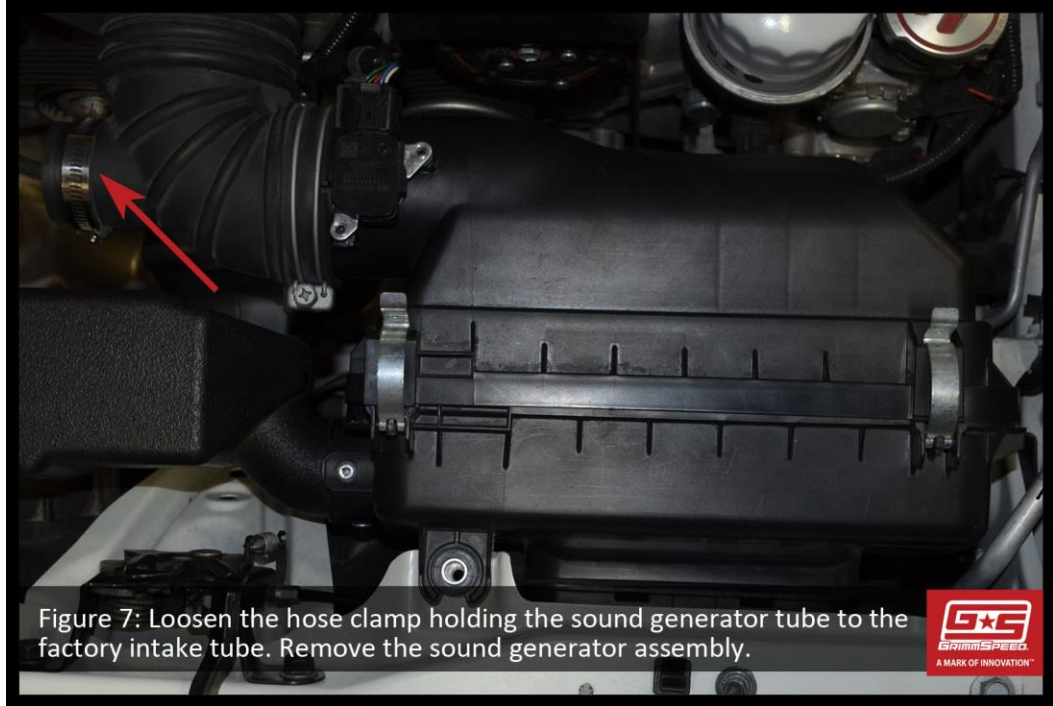


7. Next, use your flathead screwdriver to loosen the hose clamp securing the stock intake to the throttle body (figure 6). Also loosen the hose clamp securing the sound generator to the factory intake tube (figure 7). Now, you should be free to remove the stock intake system completely, including the sound generator assembly.



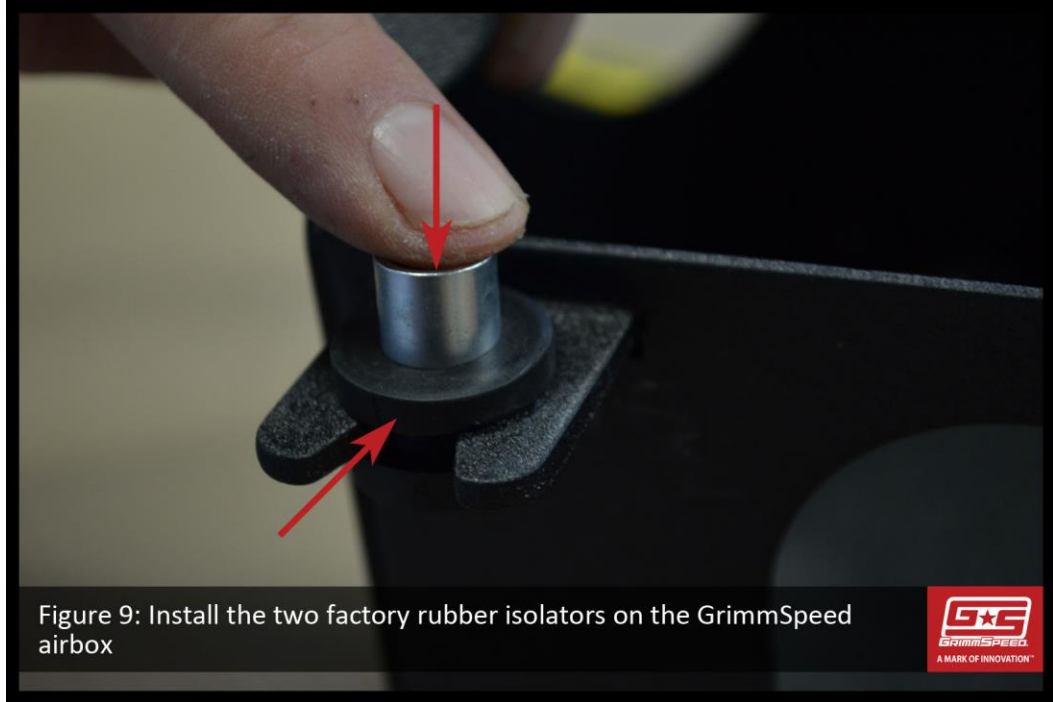
Figure 6: Loosen the hose clamp holding the factory intake tube to the throttle body



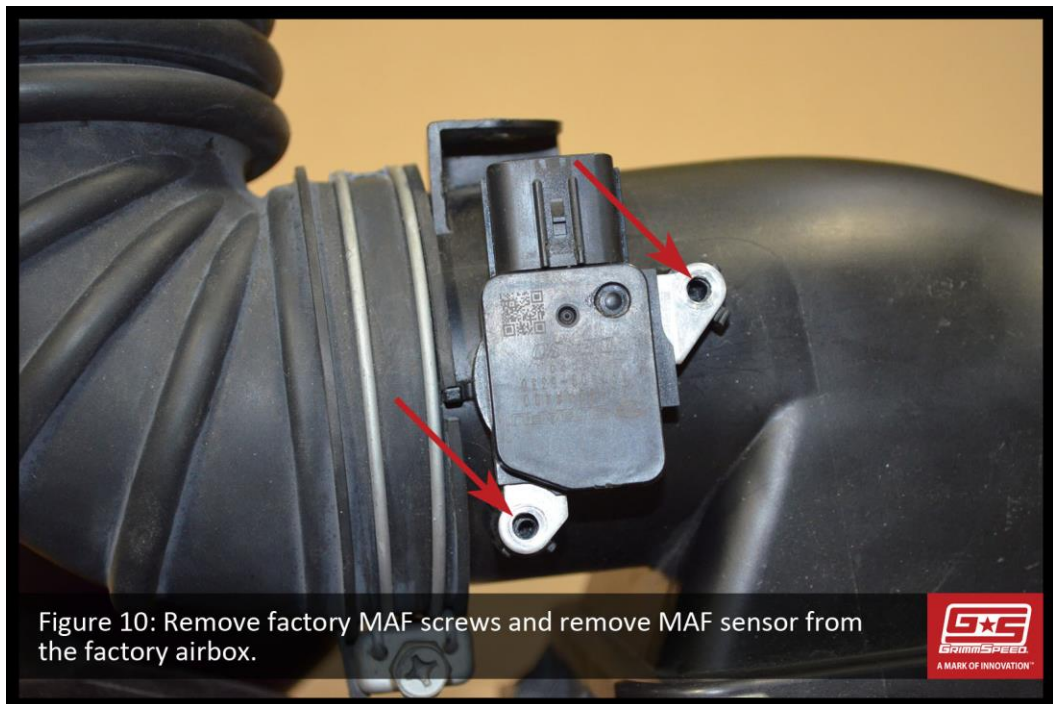


8. Remove the rubber isolator grommets from the stock intake. To do this, push the metal sleeve out of the rubber grommet and then slide the grommet off of the tab (figure 8). The GrimmSpeed intake system reuses these, so go ahead and install them on the grimmSpeed airbox (figure 9). Using a bit of o-ring lube or soapy water will help the metal insert slip in nicely.





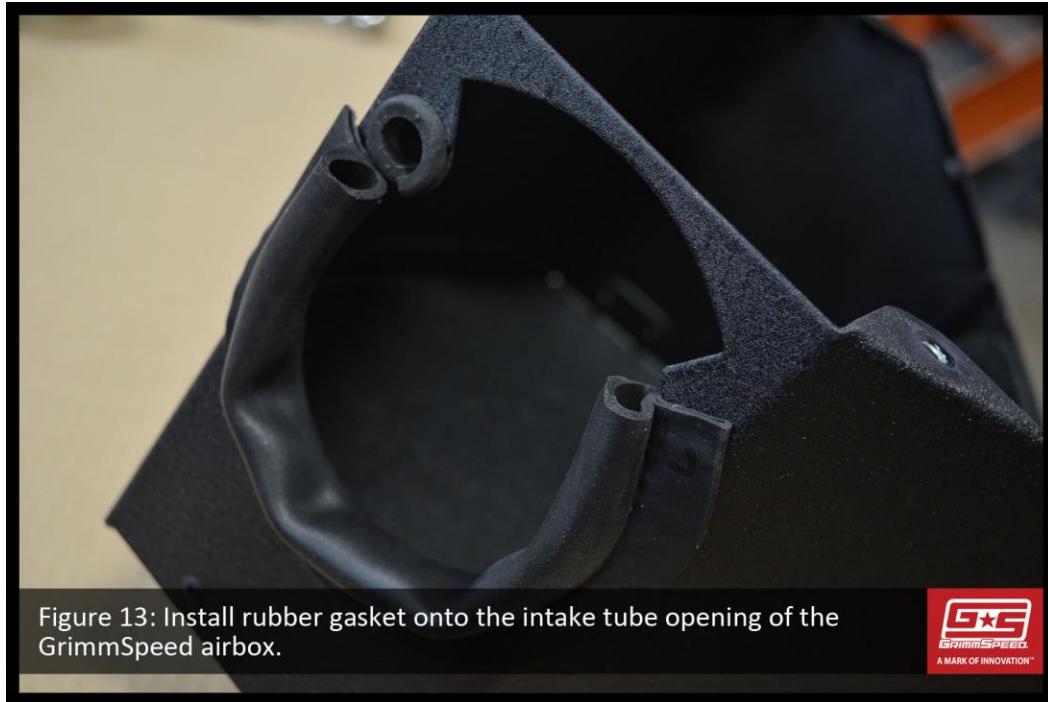
9. Using a phillips screwdriver, remove the MAF sensor from the stock intake (figure 10). You'll want to reinstall the stock screws into the stock MAF housing, in case you need them in the future. Using the included machine screws and a 3mm allen wrench, install the MAF into the GrimmSpeed intake tube (figure 11). Lubricate the o-ring before installation. A little bit of water/soap/oil/saliva will do. Tighten until snug.



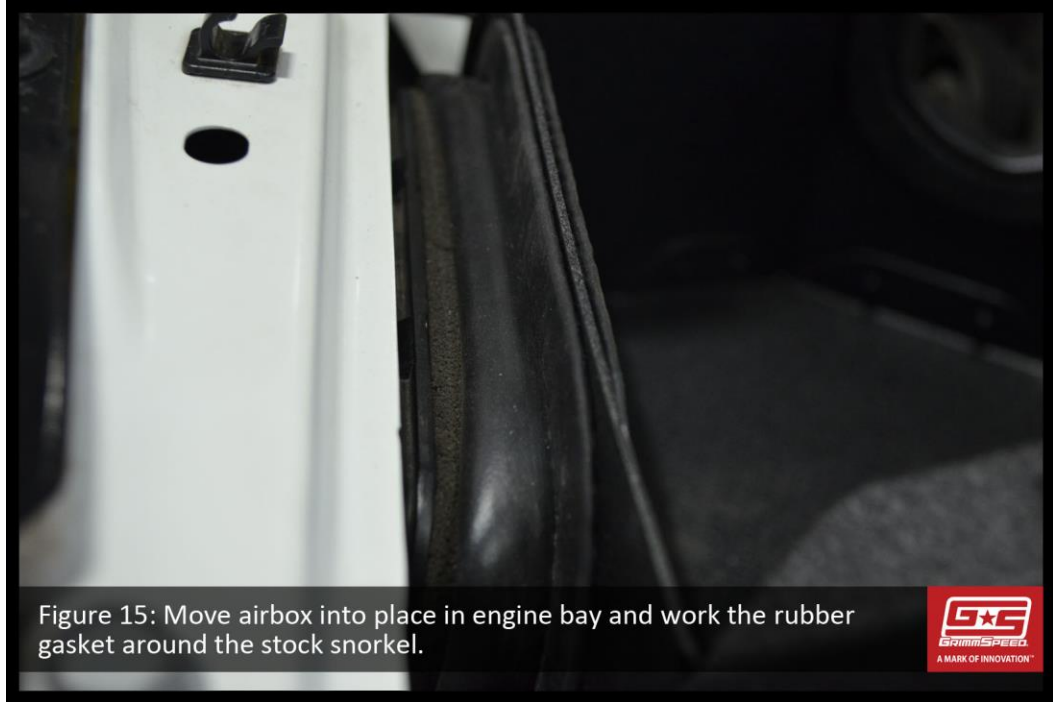


10. Install the included rubber gasket pieces onto the airbox and lid as shown in figures 12, 13 and 14. Note that the rubber gasket tends to 'favor' one side. It's easiest if you keep that side to the outside of the box.

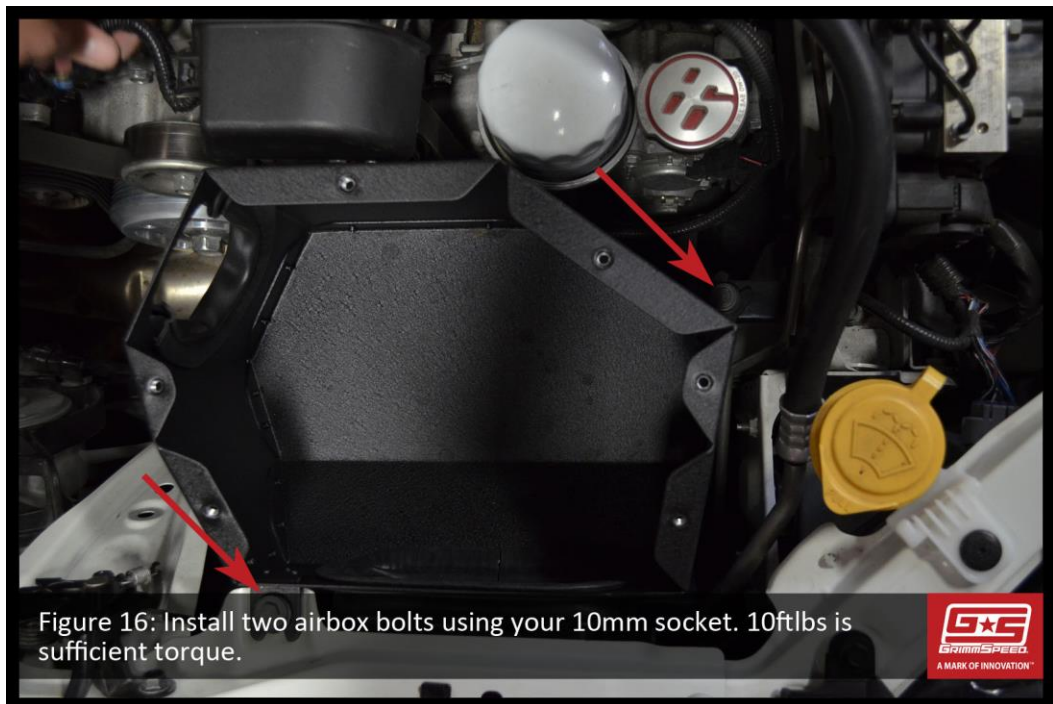




11. Set the airbox into place and seat the stock intake snorkel into the front gasket. This may take some finesse, but should fit like a glove with a little bit of effort (figure 15).



12. Using the two bolts that secured the factory airbox, bolt the GrimmSpeed airbox into the car (figure 16). Torquing to 10ftlbs is plenty.



13. Next, install the hump hose coupler onto the throttle body. Tighten the hose clamp holding the coupler to the throttle body (figure 17). Snug will do.



Figure 17: Install hose coupler onto throttle body and tighten clamp until snug.



14. Using a scissors, cut the included grommet so that it can be slipped around the MAF harness wire. Slip the wire/grommet into the round recess on the airbox (figure 18). It will fit nicely with the rubber gasket. The MAF connector should now be inside of the airbox.



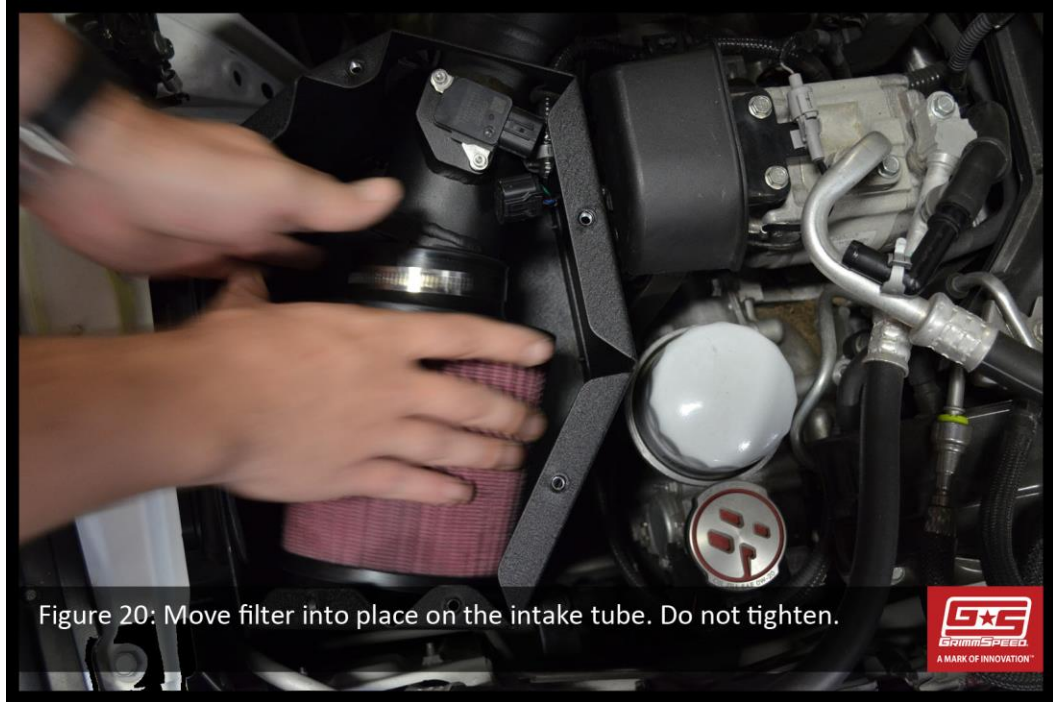
Figure 18: Cut rubber grommet, slip MAF wire into grommet and press grommet into place in the airbox.



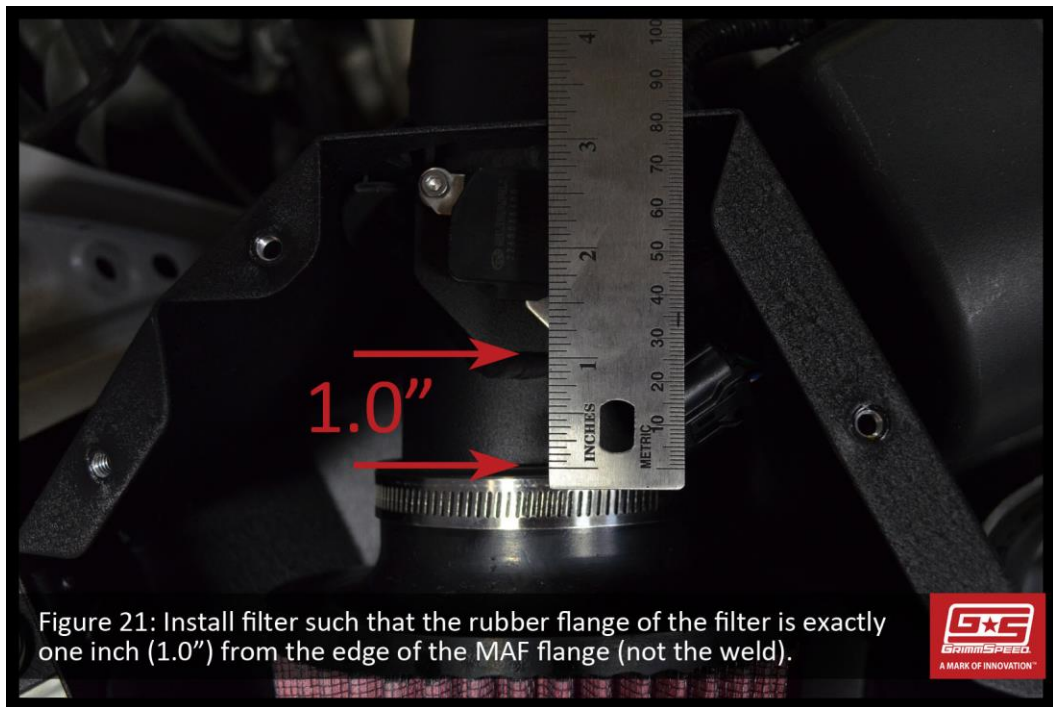
15. Grab your intake tube and holding the end of the tube with the MAF flange, slide the other end through the hole from the inside of the box, toward the throttle body (figure 19). Slide the tube into the throttle body coupler but do not tighten.



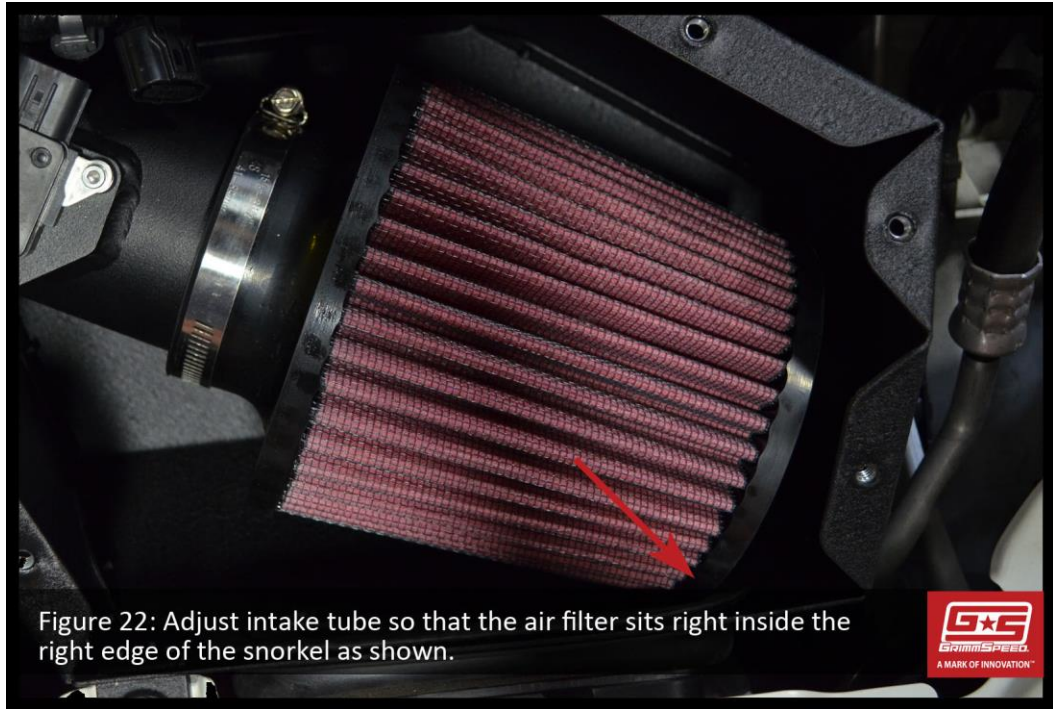
16. Take the filter and its clamp out of their packaging and slip the filter into the airbox (figure 20). There will be just enough room to get the filter onto the intake tube. **DO NOT TIGHTEN THE CLAMP YET.**



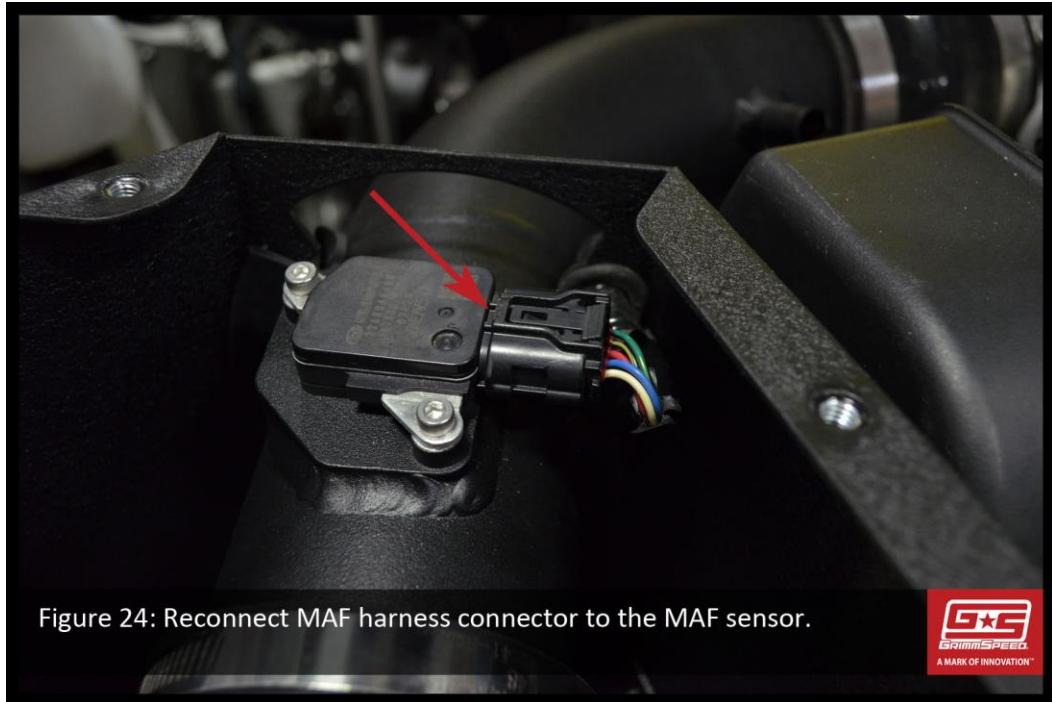
17. This step is critically important, so proceed with caution! The air filter features an internal radius that is very effective in speeding up the intake air as it passes the MAF sensor and can affect AFRs greatly. The base of the filter should sit 1 inch from the flat face of the MAF flange (figure 21). Tighten the hose clamp until the filter is securely mounted to the intake tube.



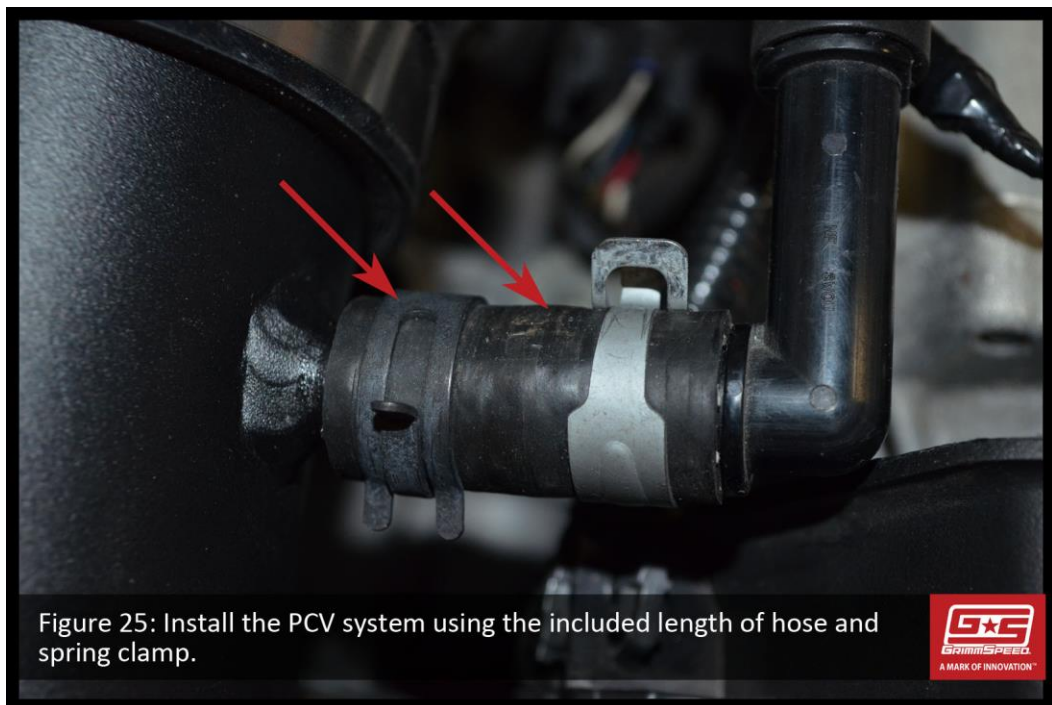
18. Getting close! Now adjust the intake tube so that the air filter end cap rests right in the rounded edge on far side of the snorkel gasket (figure 22). This is the location that tested best in our CFD modeling and evenly distributes the incoming airflow around the entire surface of the filter (this is key!). Now, tighten that hose clamp until snug as well (figure 23).



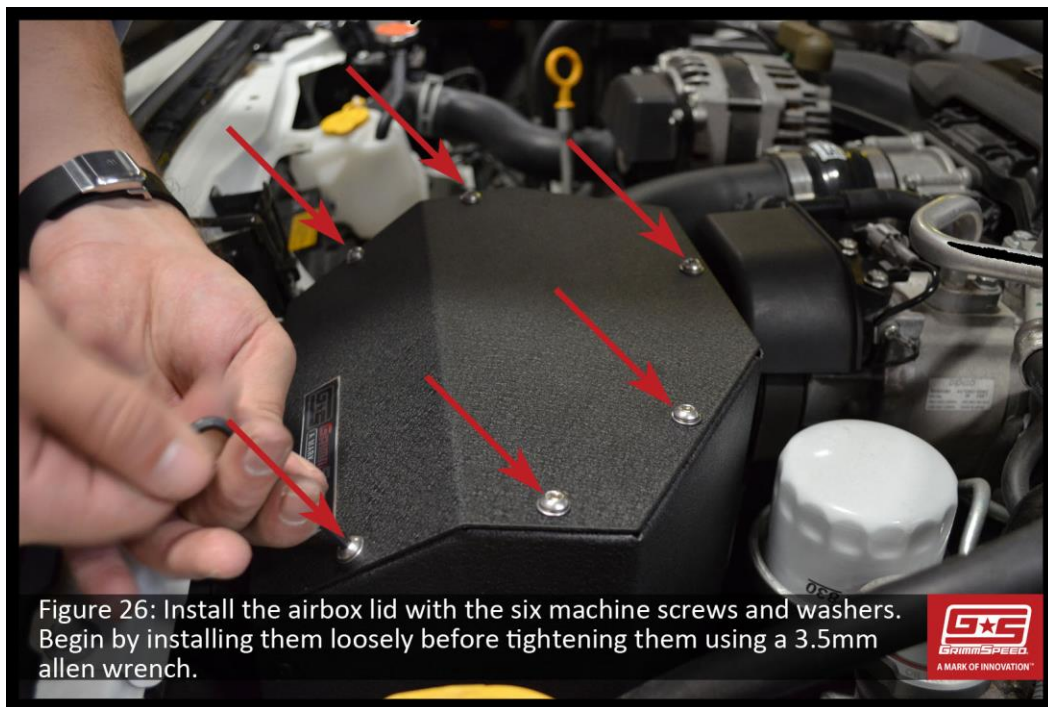
19. Connect the MAF harness connector to the MAF sensor (figure 24).



20. All clamps should now be tightened. Next, we'll reinstall the PCV system as shown using the included hose and clamp (figure 25).



21. We'll be installing the lid next, so now is a good time to double check everything and ensure that the MAF wire isn't at risk of touching your accessory belt. The stock clip should keep it safe. If you happen to have the GrimmSpeed pulley cover, you may need to use a zip tie to secure the wire farther forward and prevent it from chaffing on the cover.
22. Lastly, use the six machine screws and washers to install the lid. Install them all loosely before going back to tighten them using your 4mm allen wrench (figure 26). Depending on the order in which you install them, you may need to push on the box a bit for a perfect fit. Just use care not to cross-thread any of the bolts and you'll be just fine!



23. If you'd like, you can reset the ECU by disconnecting the battery, hitting the brake pedal and then reconnecting. Before restarting the car, turn the key to the 'on' position and fully press and release the gas pedal 5 times. Turn the car off and then back to the 'on' position. Press and release the pedal 5 more times. Turn the car off and then start the car. This will help reduce the amount of time you need to wait until your throttle response returns to normal.
24. Now go and enjoy your new intake (figure 27)!



Figure 27: Installation complete!

That's it! You should be all set to go. Check the assembly periodically to make sure everything is still snug. This intake works very well with no tuning, but to extract its full potential, tuning is always a great option.

Don't hesitate to contact us directly with any questions!
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