

# **PERRIN**

## **2017+ BRZ/86 Automatic Cold Air Intake**

Thank you for purchasing this PERRIN product for your car! Installation of this product should only be performed by persons experienced with installation of aftermarket performance parts and proper operation of high performance vehicles. If vehicle needs to be raised off the ground for installation, the installer must use proper jacks, jack-stands and/or a professional vehicle hoist for safety of the installer and to protect property. If the vehicle is lifted improperly, serious injury or death may occur! Please read through all instructions before performing any portion of installation. If you have any questions, please contact our tech department prior to starting installation.

### **GENERAL MODIFICATION NOTE**

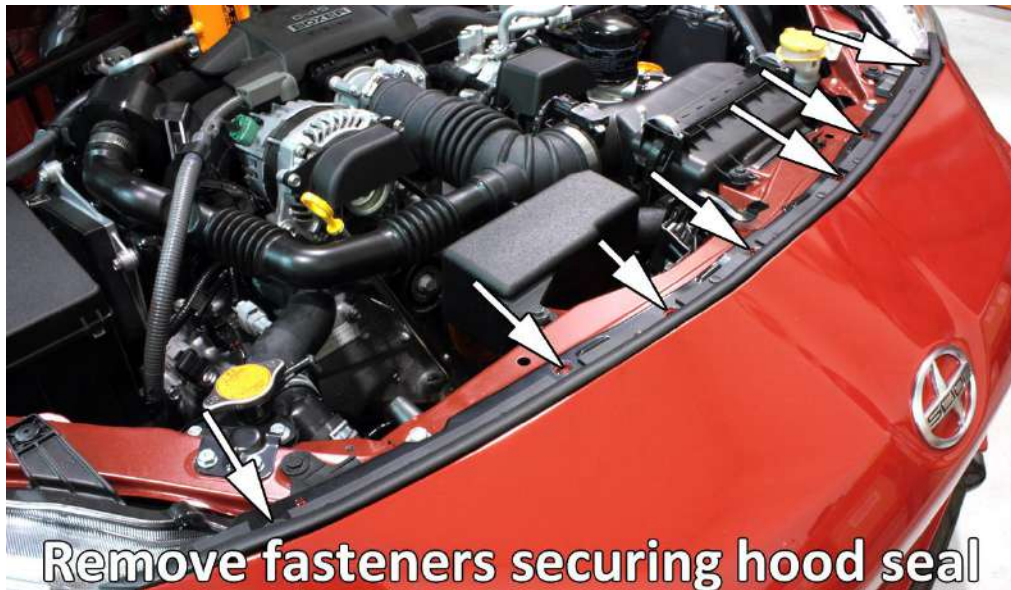
Modifications to any vehicle can change the handling and performance. As with any vehicle extreme care must be used to prevent loss of control or roll-over during sharp turns or abrupt maneuvers. Always wear seat belts, and drive safely, recognizing that reduced speeds and specialized driving techniques may be required. Failure to drive a vehicle safely may result in serious injury or death. Do not drive a vehicle unless you are familiar with its unique handling characteristics and are confident of your ability to maintain control under all driving conditions. Some modifications (and combinations of modifications) are not recommended and may not be permitted in your state or country. Consult the owner's manual, service manual, instructions accompanying these products, and local laws before purchasing and installing these modifications. You are responsible for the legality and safety of the vehicle you modify using these components.

### **SPECIAL NOTES:**

- The use of a factory service manual is highly recommended. This can be very useful while removing the front bumper cover, which will need to be done once a year. Following our below instructions will make this a very simple 10 minute process in the future.
- The service interval for your filter is 10,000 miles or every year. Because the filter is located in a protected area, you may find longer intervals are ok. Removal of bumper is necessary for cleaning the filter.
- Do not remove intake air diverter, this is vital to the proper operation of the PERRIN Cold Air Intake system!
- Mop up any extra oil found on outside of filter before installing. While a rare problem, this helps reduce any potential for contamination of MAF sensor from oil getting onto it.
- Having a set of push pin pliers can make this job go faster. These are tools meant to aid in removing the plastic fasteners located under the car and in the engine bay. These can be found online or in most auto parts stores.

### **Parts Included with the PERRIN Cold Air Intake System:**

<b>(1) 2.75" Intake Tube</b>	<b>X-PSP-INT-330BK or RD</b>
<b>(1) 3.0"ID Filter</b>	<b>X-PSP-INT-332</b>
<b>(2) Diverter Brackets</b>	<b>X-PSP-INT-334</b>
<b>(1) Worm Drive Clamp</b>	<b>X-CLAMP-048</b>
<b>(2) M4x10 Philip Pan Screws</b>	<b>X-BLT-M4X0.7X10</b>
<b>(1) M6 Flat Washers</b>	<b>X-BLT-M6WF-SS</b>
<b>(1) M6 Fender Washers</b>	<b>X-BLT-M618WF-SS</b>
<b>(1) M6x20 Hex Bolt</b>	<b>X-BLT-M6X20CH10.9-Z</b>
<b>(1) PERRIN BRZ/FR-S Inlet Hose</b>	
<b>(2) Size 48 Hose Clamps</b>	
<b>(1) 5/8" Vacuum Cap</b>	

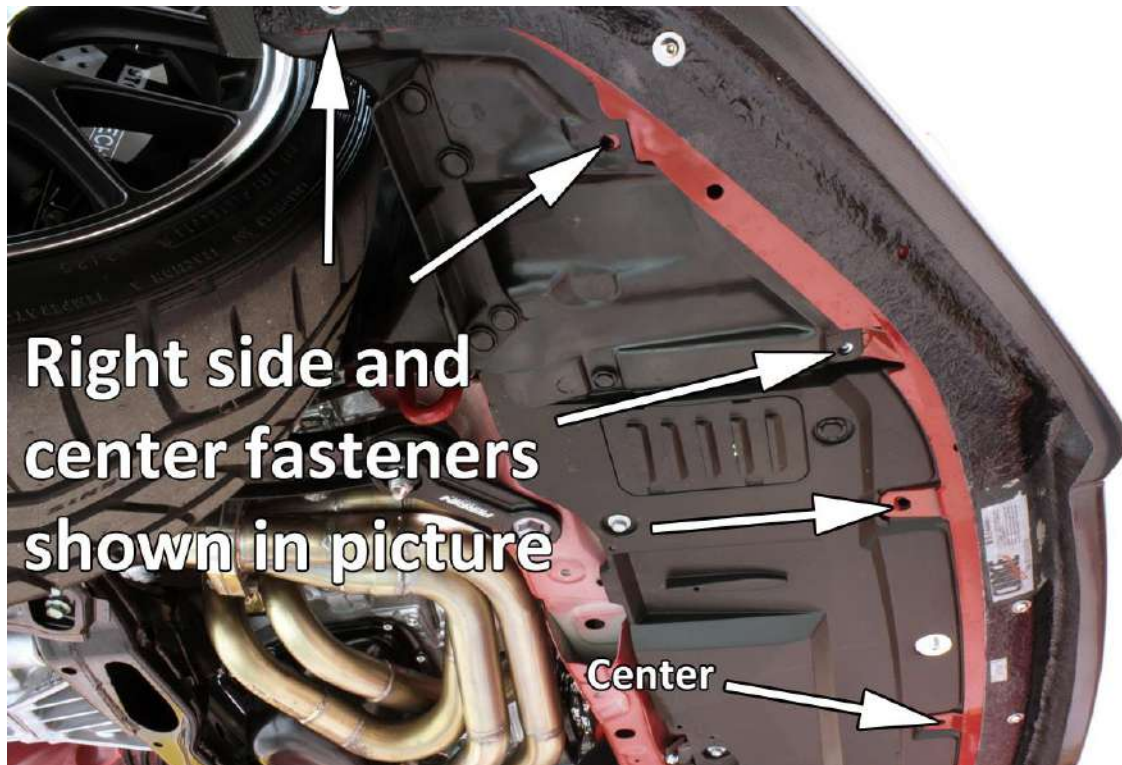


## Installation

1. Raise front of vehicle off ground using proper jack and jack stands. Never work under a car solely supported by jack, death or injury may occur.
2. Remove Front Bumper Skin from Vehicle
  - a. Open hood and locate black steel hood seal support bracket. Remove (2) plastic fasteners and (5) 10mm bolts. Remove hood seal bracket from car.
  - b. Starting in each fender well, locate and remove (4) plastic fasteners holding fender liner to bumper skin.



- c. Under car, locate and remove (2) 10mm bolts, and (6) plastic fasteners holding lower portion of bumper skin to car.



- d. Locate left and right side marker lights and pull from the top to unsnap from car. With side markers free of car, remove light bulb harness from back by twisting roughly 45 degrees. **NOTE: During removal of side markers, there are small clips that can become dislodged. Take note to not loose these small clips.**



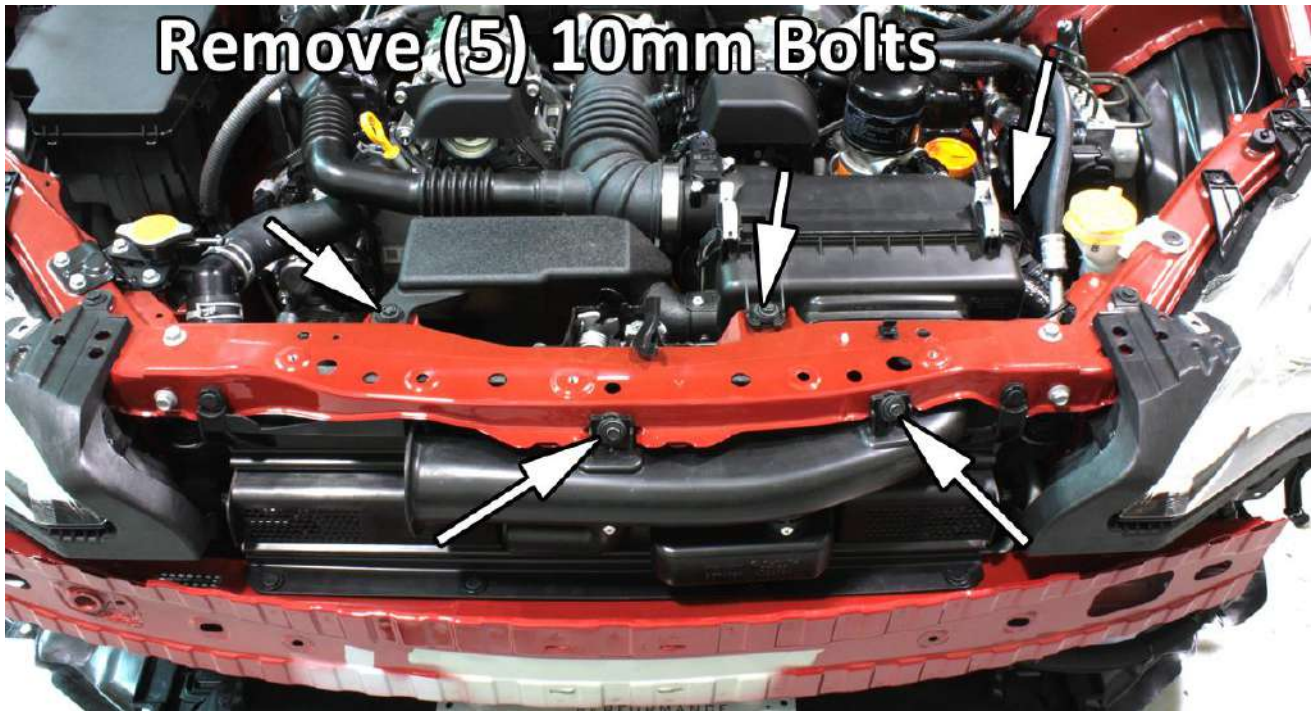
- e. Behind each side marker is a single plastic fastener that needs to be removed. This fastener is a little tricky and may require a pick tool and or a bent awl.



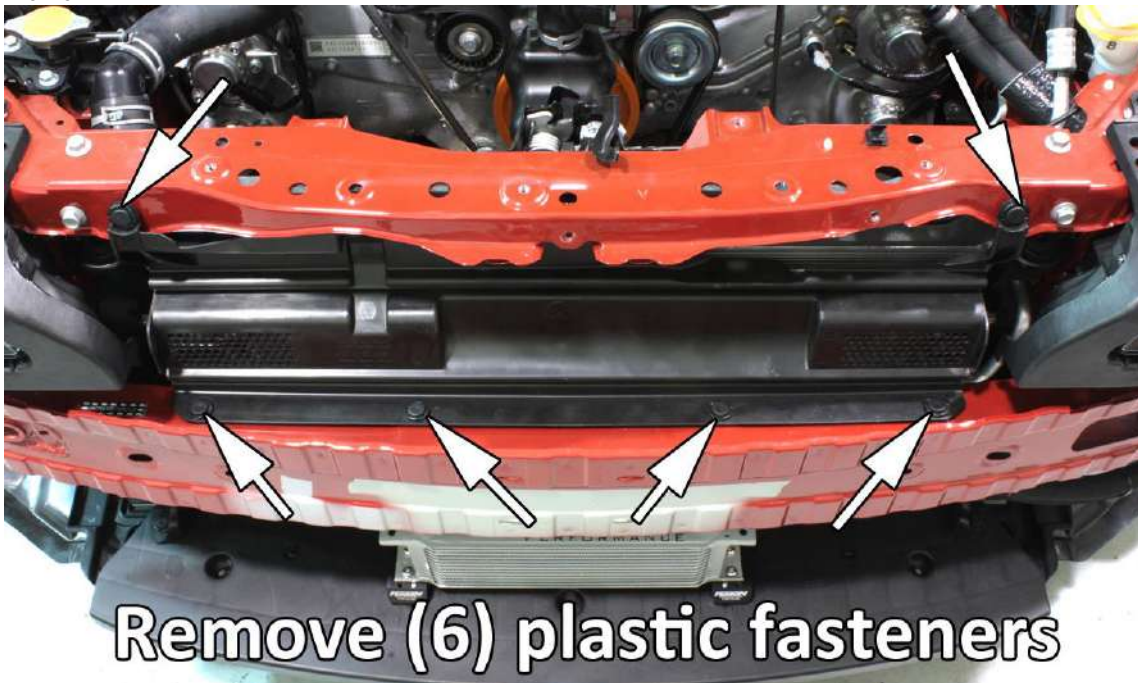
- f. Reach behind fender liner and disconnect both left and right fog light harnesses. **NOTE: These can be tricky and will require a flat head screwdriver to help release clip.**
- g. Starting at corners where side marker lights were installed, pull bumper straight out away from car to unsnap from chassis. Do this to one side then the other before proceeding to next step.



- h. Continue with unsnapping bumper from chassis working from each side marker light toward front of car. During this step the bumper will become fully dislodged from chassis to be prepared to catch. **NOTE: Having a friend help with this step is a good idea to help catch bumper from hitting the ground.**
3. Locate and remove (2) small screws securing MAF sensor to air box and remove MAF sensor. Unclip wire harness from air box.
4. Locate and remove (2) 10mm bolts holding fresh air tube to chassis, and remove from car.
5. Locate and remove (3) 10mm bolts holding air box to chassis. Loosen hose clamp at air box and remove OEM intake box from car.



6. Remove (6) plastic fasteners holding intake air diverter to bumper beam and radiator support. Leave intake air diverter resting on top of bumper beam for now.



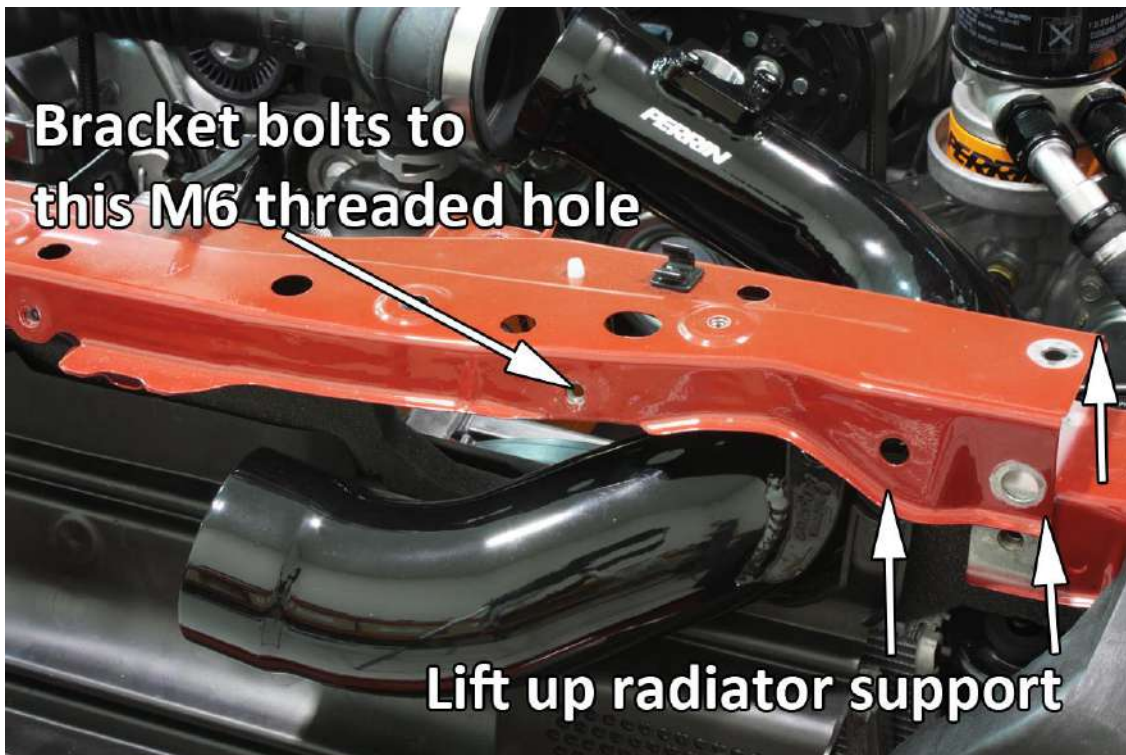
7. Locate then remove (4) 12mm bolts holding radiator support to chassis. This step is done to allow PERRIN Intake tube to fit under radiator support in next step.

Remove these (4) 12mm bolts



- Lift up on left side of radiator support (leaving intake air diverter in place) and place PERRIN intake tube under support as shown below. Make sure that tab on PERRIN intake is in front of radiator support and closely lines up to threaded M6 hole shown below. Carefully set radiator support back down and reinstall (4) 12mm bolts removed earlier.

Bracket bolts to  
this M6 threaded hole



Lift up radiator support

- Using supplied M6 hardware, install M6 flat washer, then M6 fender washer to M6 bolt. Install this through bracket on PERRIN intake tube and into threaded hole on chassis. Leave loose at this time. **NOTE: Reference last install picture for more info.**
- Loosen hose clamp securing rubber intake hose to throttle body and rotate hose roughly 15 degrees to line up with PERRIN intake tube. Slide rubber intake hose over PERRIN intake tube and secure using supplied hose clamp. Tighten hose clamp at throttle body.



11. Using plastic fasteners removed in earlier step, secure upper (2) mounts of intake air diverter to radiator support.
12. Using supplied brackets and remaining (4) plastic fasteners removed in earlier step, secure outer (2) mounting holes of air intake air diverter to bumper beam as shown. **NOTE: Take notice that fasteners on air diverter are installed upside down on purpose.**



13. Install supplied PERRIN air filter to end of PERRIN intake tube and tighten hose clamp to secure.
  - a. **NOTE 1: It's important to wipe off excess oil found on inside of filter where it clamps to intake system. Failure to remove oil could result in filter falling off intake tube.**
  - b. **NOTE 2: Over tightening the clamps can cut the rubber filter base, only tighten with a screwdriver or nut driver until filter is snug DO NOT overtighten outer filter "sock" clamp. This will cut the filter!**
14. With intake tube lined up, tighten M6 bolt and washer holding intake bracket to radiator support. **NOTE: You may end up realigning rubber intake tube with throttle body after this step is complete. This is completely normal and to be expected.**



15. Install MAF sensor to PERRIN intake tube with supplied M4 screws. Threaded holes in flange are designed to accurately line up MAF sensor and will be tight to holes in flange. Make sure and leave both screws loose when installing. **NOTE: Using a small amount of grease on MAF sensor o-ring can aid in installation.**
16. Check clearance of MAF sensor harness with pulley. These should naturally rest in a position that is roughly .500" away from any moving parts. Alternatively you can place the MAF harness between crank case vent hose on Inlet hose. This will keep harness out of way pulley.
17. Start car and make sure engine runs smoothly and has no check engine lights. If engine runs ok, proceed with next step. If engine runs rough, check MAF sensor connection and check for any vacuum leaks.
18. Re-install bumper back to car following previous steps in reverse order. **NOTE: We suggest leaving out small plastic fastener found behind side marker lights. This makes for much easier future removals of bumper.**
19. Start car and take for a test drive. If car runs normal, installation is complete. If car isn't running as before, check for vacuum leaks and or electrical connections that may have been missed.

### Tuner Info for Custom ECU Calibrations

- MAF Scaling we have used to create custom calibrations for the ECU are available to professional tuners upon request. This MAF scaling can be used by your tuner to allow them to easily recalibrate the ECU to run properly with custom tunes. Recalibrating the ECU for this intake is NOT necessary for a stock car with a stock tune, this is only for cars with custom tunes or other aftermarket parts installed.