

# PERRIN

## Turbo Support Bracket Kit for 2015+ WRX

2020-08-04

PSP-EXT-235

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. We can be reached in any of the following methods:

Email [Tech@PERRIN.com](mailto:Tech@PERRIN.com)

Instant Chat off the main page of [www.PERRIN.com](http://www.PERRIN.com)

Or simply call our tech team at 503-693-1702

### 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.



**WARNING:** This product can expose you to chemicals including Lead which is known to the State of California to cause cancer birth defects or other reproductive harm. For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

### SPECIAL NOTES:

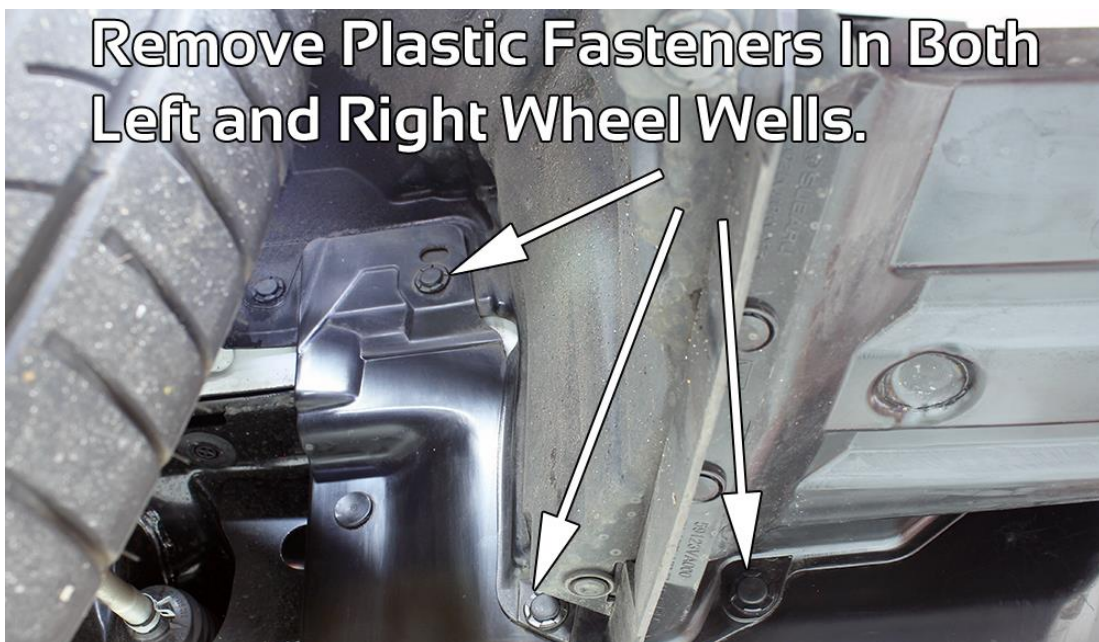
- The factory service manual says to remove entire turbo/manifold assembly to remove the turbo support bracket from car. This is very time consuming and requires additional gaskets to purchased. Because of this, we do not recommend following the service manual for installation of the PERRIN Turbo Support Bracket Kit.
- We highly recommend replacing all gaskets with new Subaru brand gaskets, not aftermarket gaskets. These can be too thick and compress too much causing flanges to warp when tightened.
- The use of a penetrating oil will greatly reduce the chances of galling threads on bolts as they are removed. Take extreme care while removing all nuts as they are a locking nut, which naturally wants to bind with studs on turbo. Liberal use of penetrating oil and slow removal of nuts will reduce the chances of studs failing, or stripping.
- We highly recommend the use of anti-seize on threads of all bolts when reassembling.

### Parts Included with the PERRIN Turbo Support Bracket Kit:

- (1) Front Turbo Support Bracket
- (1) Rear Turbo Support Bracket

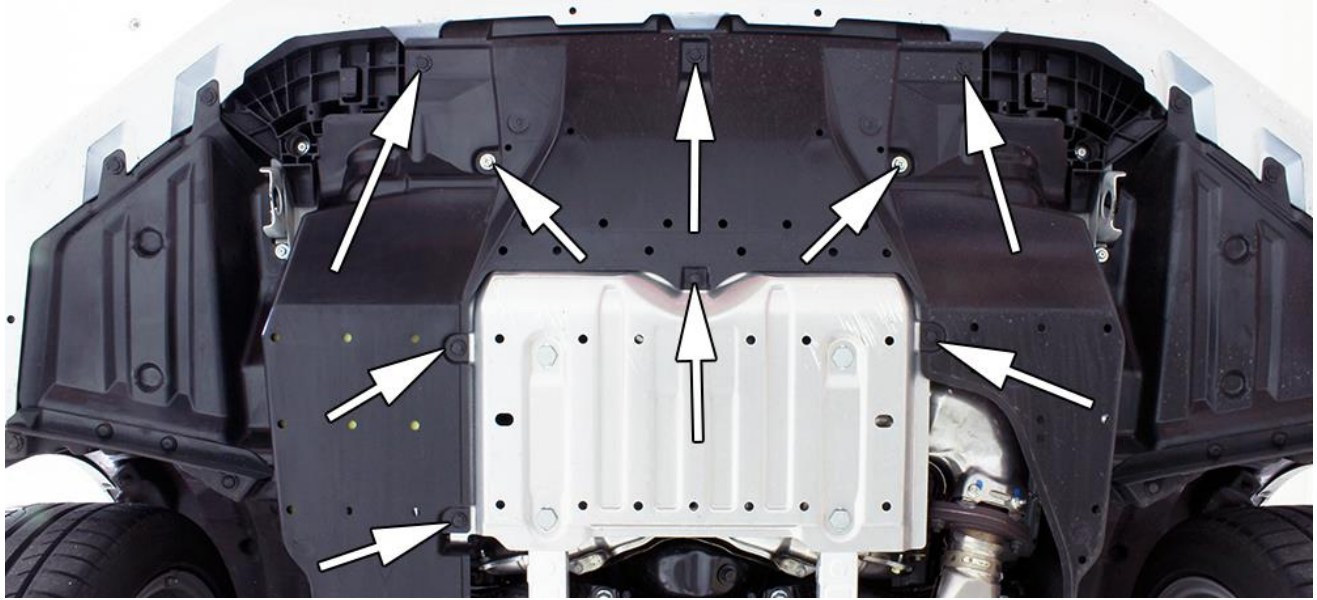
### Removal of Splash Guard and Skid Plate

1. Raise vehicle off ground using vehicle hoist or proper jack and jack stands. Never support vehicle with jack as death or injury may occur.
2. Using proper panel removal tool or flat head screwdriver, locate and remove (3) plastic fasteners in each left and right wheel well. See picture below.

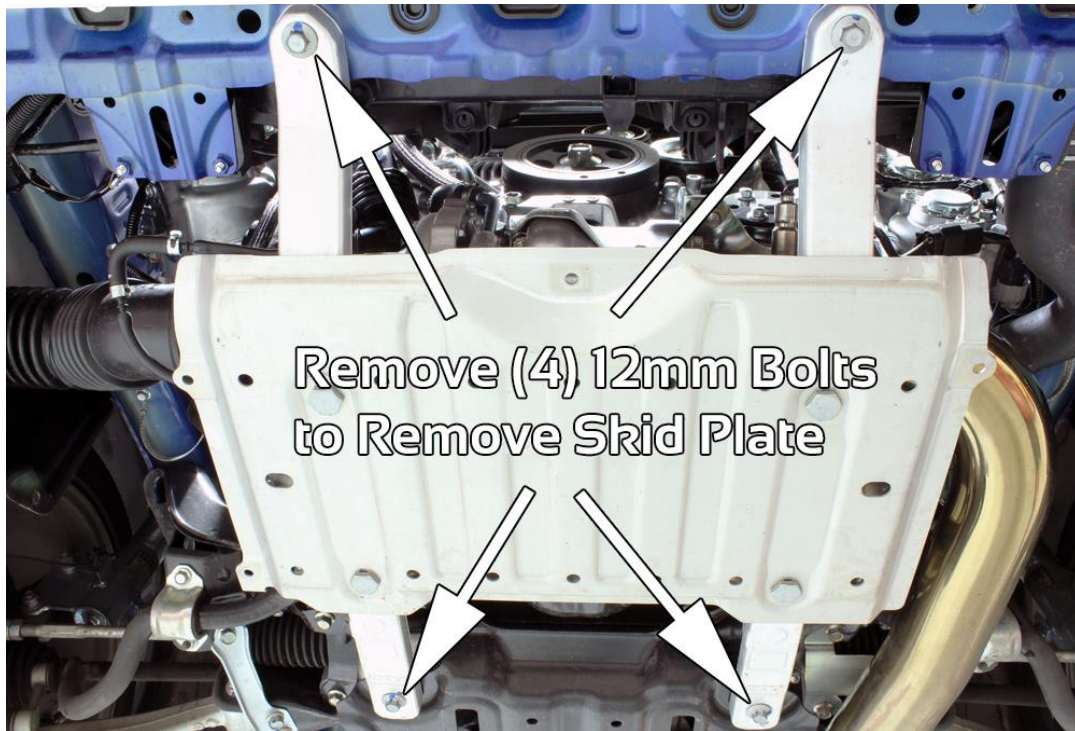


- Using proper panel removal tool or flat head screwdriver, locate and remove (7) plastic fasteners and (2) 12mm headed bolts from lower portion of splash guard. See picture below.

## Remove (7) Plastic Fasteners and (2) Bolts



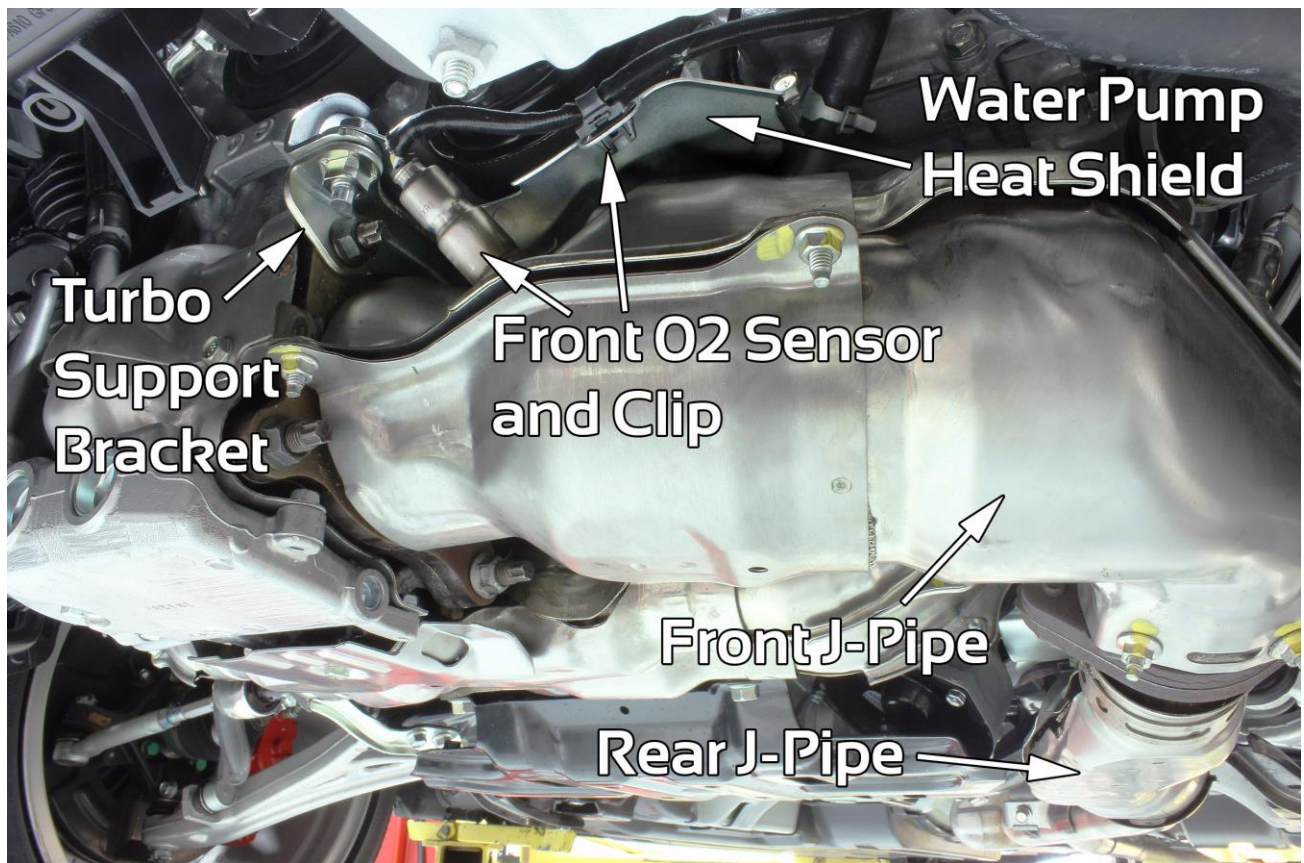
- Remove splash guard from car and move off to the side.
- Remove (4) 12mm bolts holding skid plate to chassis and set skid plate aside.



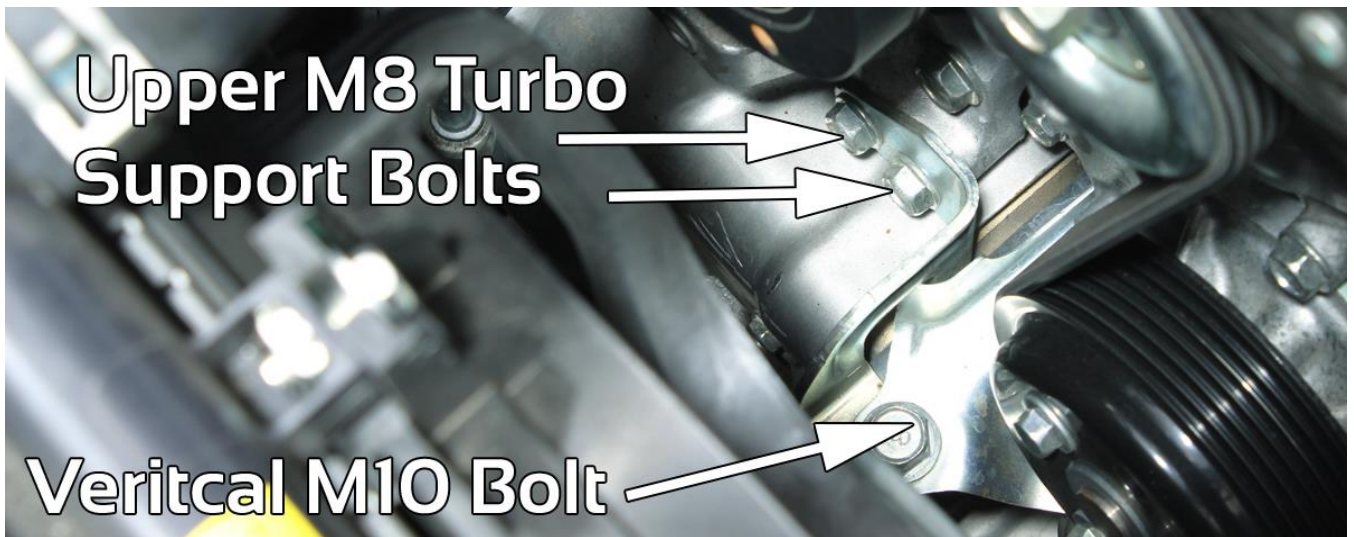
## Removal of OEM Turbo Support Bracket w/OEM J-pipe

The below instructions describe how to remove the OEM J-pipe front section to be able to access the OEM turbo support bracket. Some steps may seem unnecessary but are done to ensure parts do not get damaged and that a single person is required for removal and installation. If an aftermarket J-Pipe is installed, skip to section labeled Removal of OEM Turbo Support Bracket w/Aftermarket J-pipe.

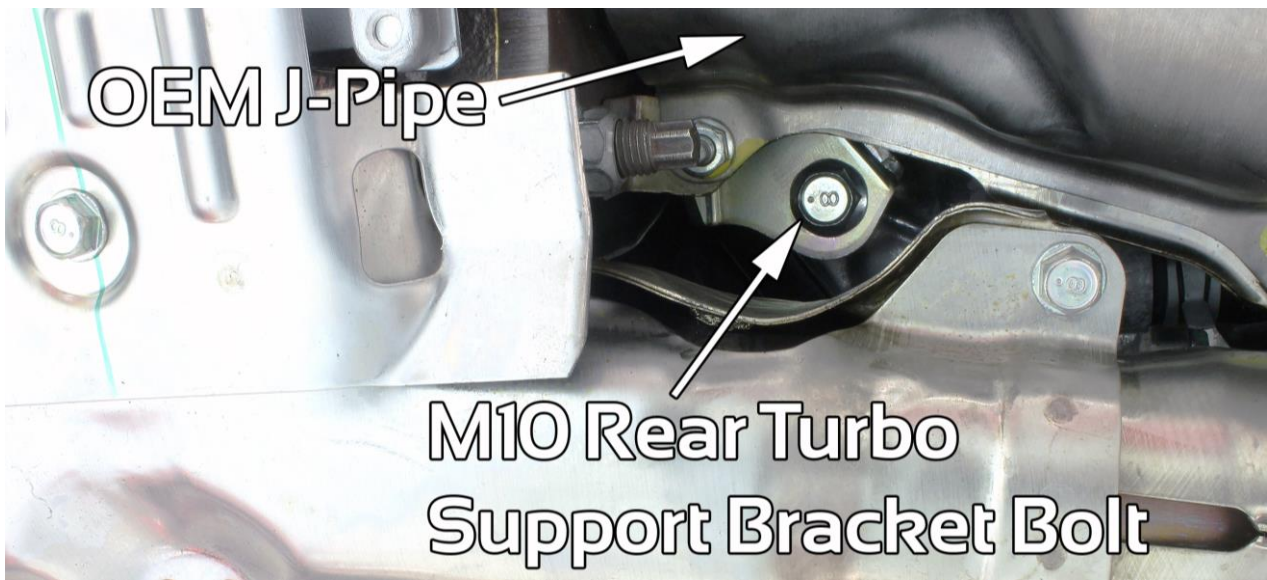
- Remove hardware securing rear section of J-pipe to cat-back exhaust system.
- Remove (1) 14mm bolt securing rear section of J-Pipe to transmission support bracket.
- Remove (2) bolts securing rear section of J-pipe to front section, then remove rear section from car.
- Disconnect rear O2 sensor from the engine harness, then remove using proper O2 sensor wrench.
- Remove ground bolt from J-pipe.



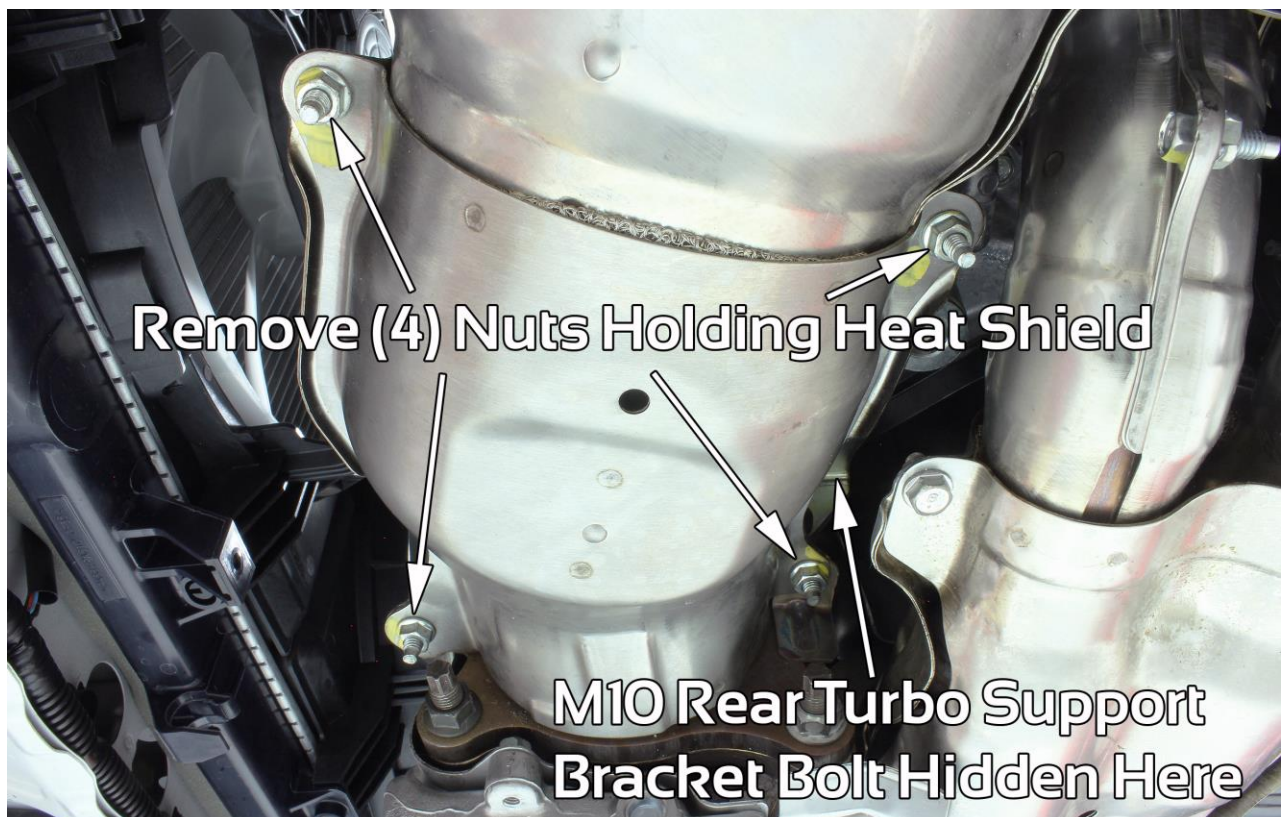
6. Using pliers, remove clip securing front O2 Sensor harness to water pump heat shield, then remove sensor using O2 sensor wrench.
7. Using picture below taken from the engine bay looking down, remove M10 Bolt, and loosen (2) M8 bolts.



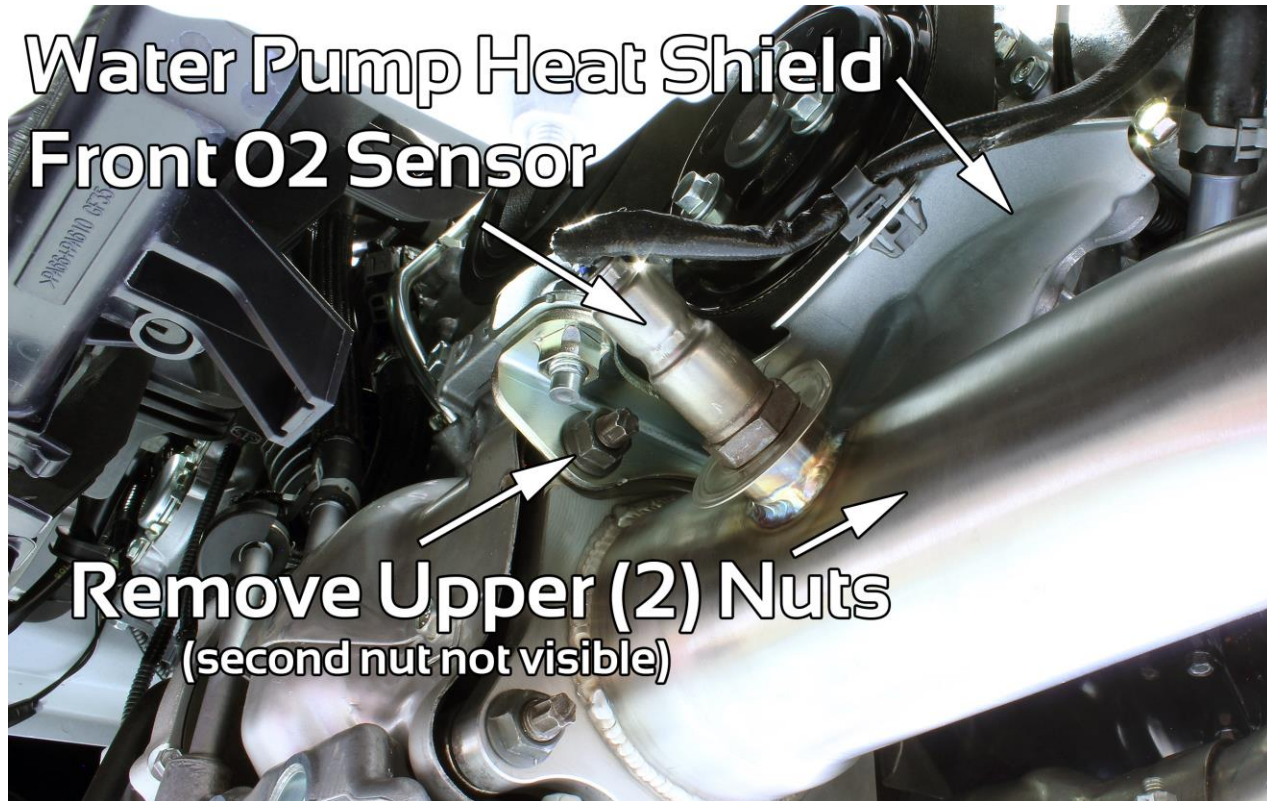
8. Using picture after step 5, locate and remove (1) M8 bolt securing water pump heat shield to engine and remove shield from car.
9. Using picture below, locate and remove M10 bolt securing rear portion of turbo support bracket to engine (located behind J-Pipe below car).



10. Remove (4) M10 nuts securing J-Pipe to turbo.
  - a. A high-quality penetrating oil should be sprayed on all nuts and left to sit for a minimum of 30 minutes. This will reduce the potential for breaking and stripping studs.
  - b. Have a selection of extensions and a universal joint to remove the upper, rear nut. This can be best accessed with a long extension reaching from the fender area.
  - c. Break nuts free then re-spray nuts and studs with penetrating oil. Tighten then loosen nuts a small amount to work oil into threads and let sit for a few minutes.
  - d. Remove all (4) nuts from J-pipe.
  
11. Remove turbo support bracket from J-pipe. This step can be done a couple of different ways both involving a pry-bar. This step is very difficult to find the perfect spot to remove the bracket as clearances are very tight (around the water pump). Take time with small movements of bracket and pulling J-Pipe from turbo to remove. Patience will pay off here!
  - a. Option#1, remove J-Pipe heat shield to access bracket. Remove (4) nuts securing upper and lower shields. Using a combination of a pry-bar, bending upper shield, and pulling J-pipe from turbo slightly, remove upper shield from J-pipe.
  - b. Option#2, slide bracket off turbo studs, then slide J-Pipe off turbo slightly. Use a pry bar to bend bracket slightly into heat shields, then pry bracket away from turbo. You should be able to slide J-Pipe further off turbo and slide turbo support bracket around water pump. If bracket does not slide around water pump, carefully pry on bracket/J-Pipe then J-pipe to turbo to free bracket from engine.



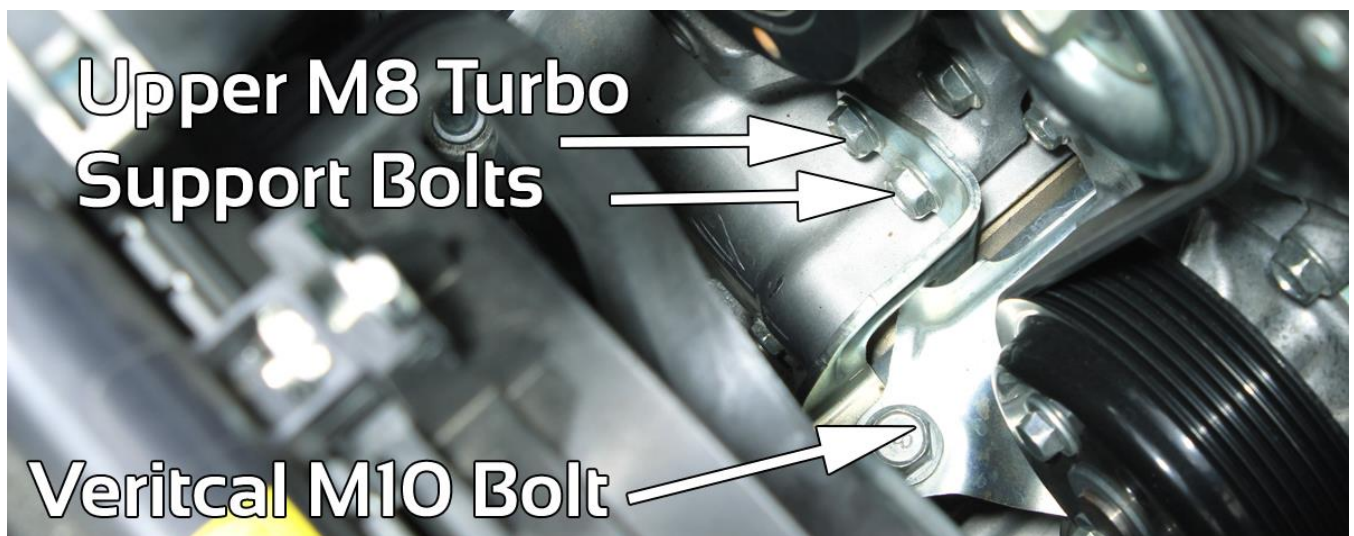
12. With turbo support bracket removed, remove J-pipe from car.
13. Replace any turbo studs and nuts that were damaged during removal.
14. Install new gasket to turbo and slide J-pipe back onto studs on turbo.
15. Install lower (2) M10 nuts securing J-pipe to turbo. Tighten to 31ft-lbs.
16. Reinstall J-Pipe heatshield if removed in previous steps.
17. Install a Reinstall rear J-pipe section to front J-Pipe and transmission hanger. Tighten nuts and bolt to 30t-lbs. **NOTE: A new gasket is recommend but not required as these can typically be re-used. If gasket is rusty or already shows signs of leaking, it is best to replace.**
18. Reinstall rear J-pipe to cat-back exhaust using hardware removed in previous steps.
19. Reinstall rear O2 sensor and ground strap to J-pipe. Then plug in rear O2 sensor to harness.
20. Skip to section labeled **INSTALLATION OF PERRIN TURBO SUPPORT BRACKET KIT.**



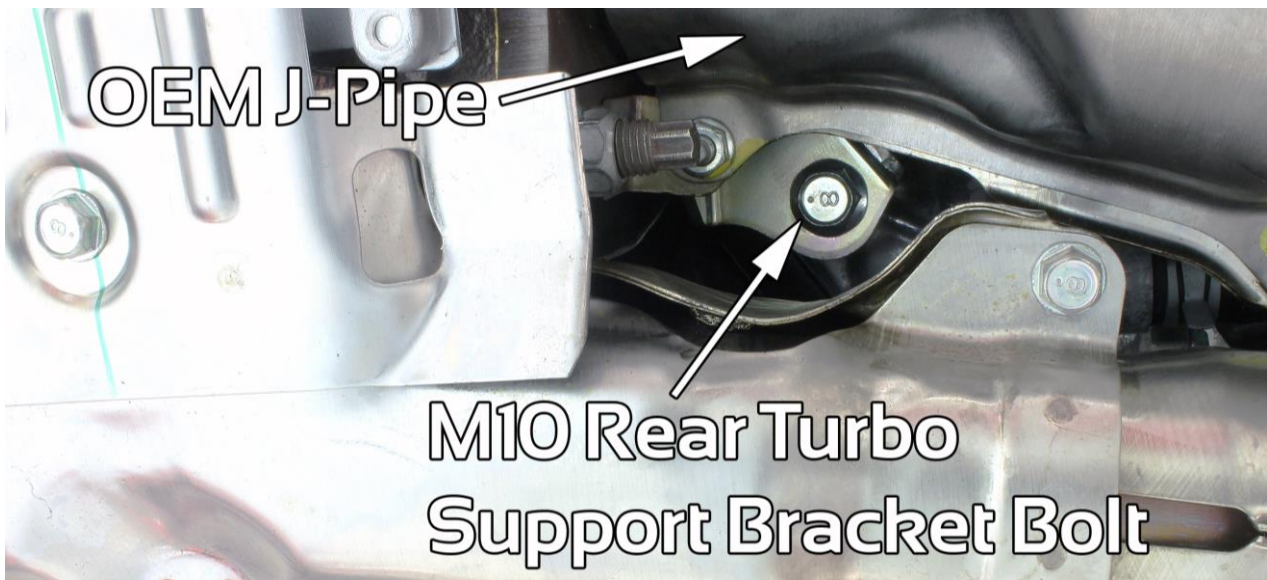
### Removal of OEM of Turbo Support Bracket w/Aftermarket J-pipe

Some steps below may not be necessary but are done to ensure no damage to the front O2 sensor will occur.

1. Using pliers, remove clip securing front O2 Sensor harness to water pump heat shield, then remove sensor using O2 sensor wrench.
2. Using picture below taken from the engine bay looking down, remove M10 Bolt, and loosen (2) M8 bolts.



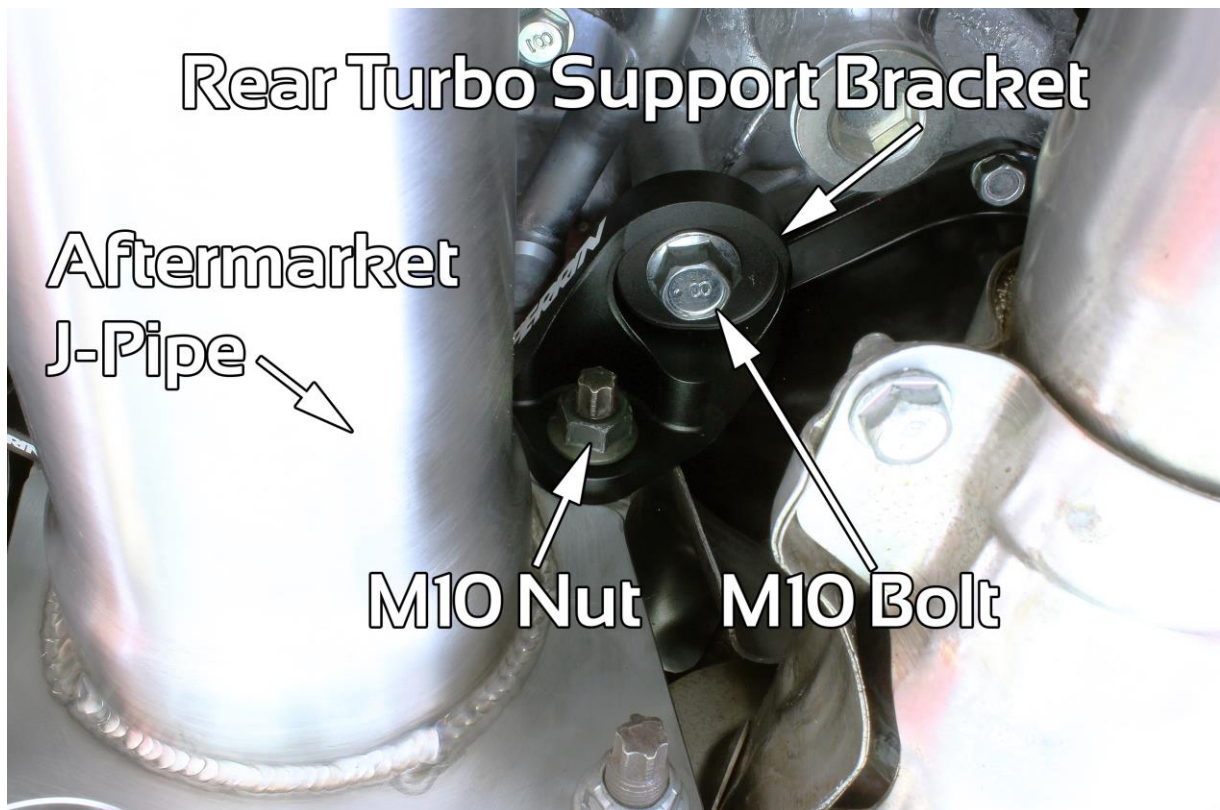
3. Locate and remove (1) M8 bolt securing water pump heat shield to engine and remove shield from car.
4. Using picture below, remove M10 bolt securing rear portion of turbo support bracket to engine (located behind J-Pipe below car).



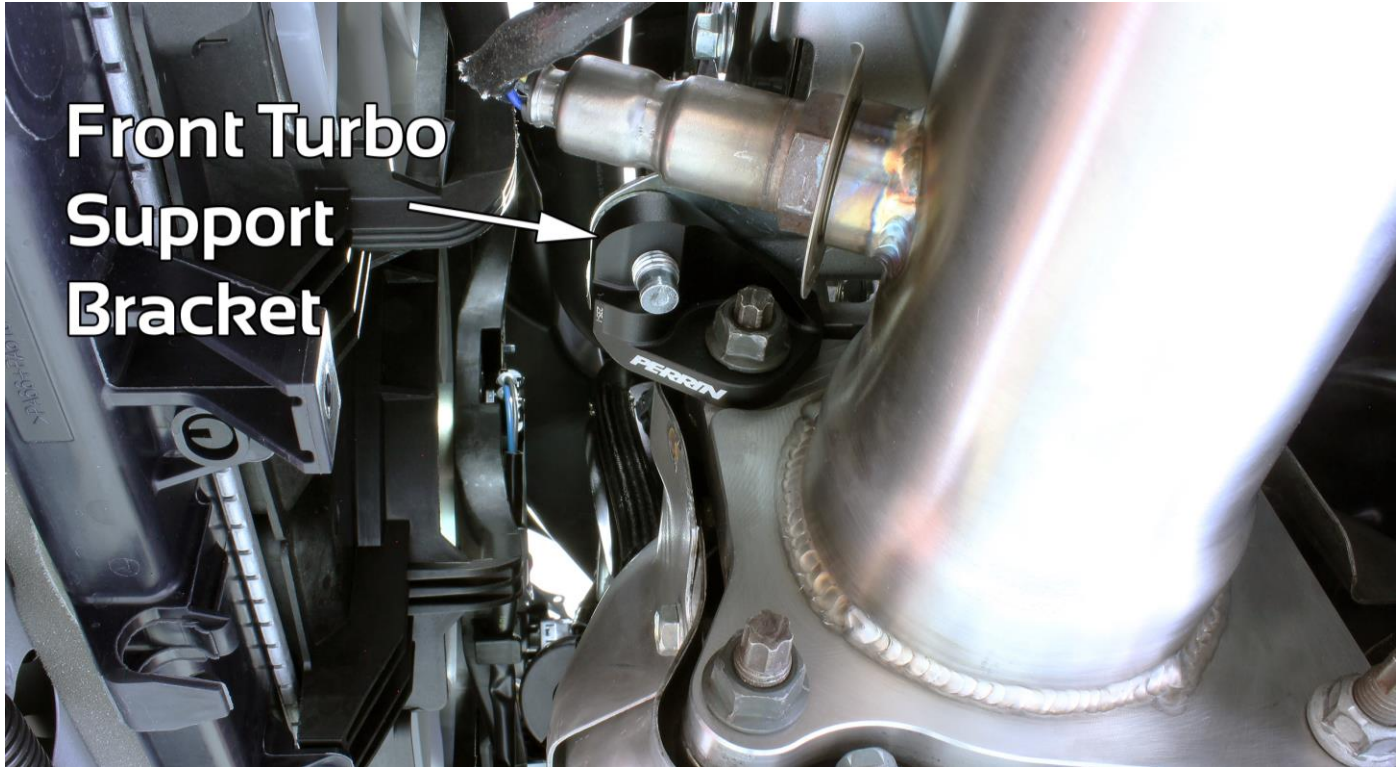
5. Remove (2) upper M10 nuts securing J-Pipe to turbo.
  - a. A high-quality penetrating oil should be sprayed on all nuts and left to sit for a minimum of 30 minutes. This will reduce the potential for breaking and stripping studs.
  - b. Have a selection of extensions and a universal joint to remove the upper, rear nut. This can be best accessed with a long extension reaching from the fender area.
  - c. Break nuts free then re-spray nuts and studs with penetrating oil. Tighten then loosen nuts a small amount to work oil into threads and let sit for a few minutes.
  - d. Remove upper (2) nuts from J-pipe.
6. Remove turbo support bracket from J-pipe. This step should be very simple with aftermarket J-Pipes, but if this difficult to do, follow the steps above to remove OEM turbo bracket with OEM J-pipe.
7. Replace any turbo studs and nuts that were damaged during removal before continuing to next steps.

### Installation of PERRIN Turbo Support Bracket Kit

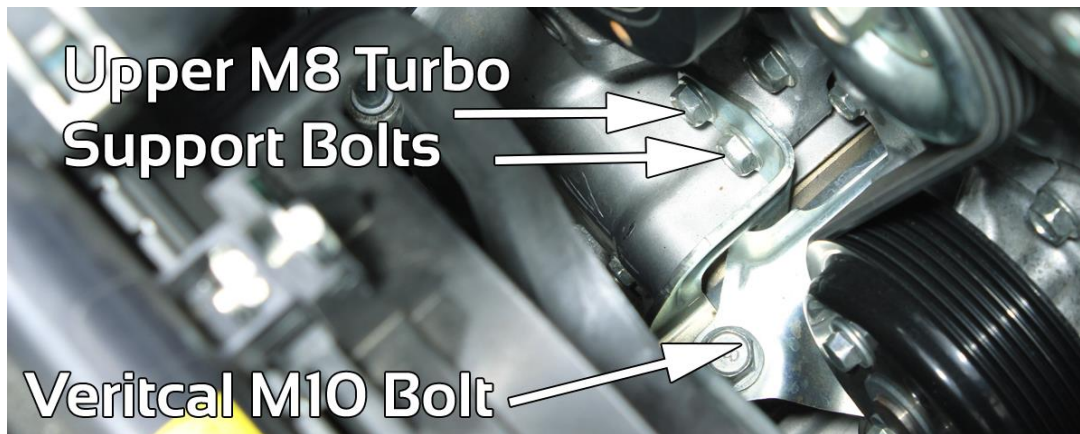
1. Install PERRIN Rear Turbo Support Bracket over rear upper turbo stud and loosely install nut removed in previous step.
2. Rotate PERRIN Rear Turbo Support until it is flush with engine block and loosely install M10 bolt through bracket into the engine block. Finger-tighten both nut and bolt, then tighten nut to 5-10ft-lbs. Tighten M10 rear bolt to 5-10 ft-lbs. Tighten nut to 31ft-lbs, then loosen then tighten M10 bolt to 31ft-lbs. This order ensures there is no added stress to the header and to ensure J-pipe seals to turbo.



3. Install water pump heatshield to engine using (1) M8 bolt removed in previous step. Leave bolt loose for now.
4. Install PERRIN Front Turbo Support Bracket over front upper turbo stud and loosely install nut removed in previous step.
5. Rotate PERRIN Front Turbo Support Bracket up to front turbo support bracket and loosely install M10 bolt through water pump heat shield and brackets.



6. Hand tighten M10 nut on J-pipe, then hand tighten M10 bolt. Torque nut to 31-ft-lbs.



7. Referencing picture above, tighten (1) M10 Bolt to 31ft-lbs and (2) M8 bolts securing upper turbo support bracket at engine to 15ft-lbs.
8. Tighten (1) M8 bolt securing water pump heat shield to engine to 15-ft-lbs.
9. Reinstall front O2 sensor to J-pipe making sure to clip wire harness into water pump heat shield.
10. Install front O2 sensor, making sure to snap plastic fastener on harness into water pump shield, then plug into engine harness.
11. Before proceeding, start car and listen for exhaust leaks and watch for any evidence of leaking fluid (evidence of an exhaust leak). Fix any issues before proceeding.
12. Reinstall OEM skid plate and tighten bolts to 15ft-lbs.
13. Reinstall plastic splash guard.
14. After 5 hours of drivetime, re-check all hardware for tightness.

Questions, Comments and Suggestions Contact: [Tech@PERRIN.com](mailto:Tech@PERRIN.com)  
 Visit Our Website for Instant Chat Options at [www.PERRIN.com](http://www.PERRIN.com)