

PERRIN

2022+ WRX Diverter Valve

2023-03-15

PSP-TAC-616

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

Instant Chat off the main page of 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

SPECIAL NOTES:

- T30 Torx driver is required to remove OEM part. This is not a typical tool that most DIY'ers would have.

Parts Included with the PERRIN Diverter Valve:

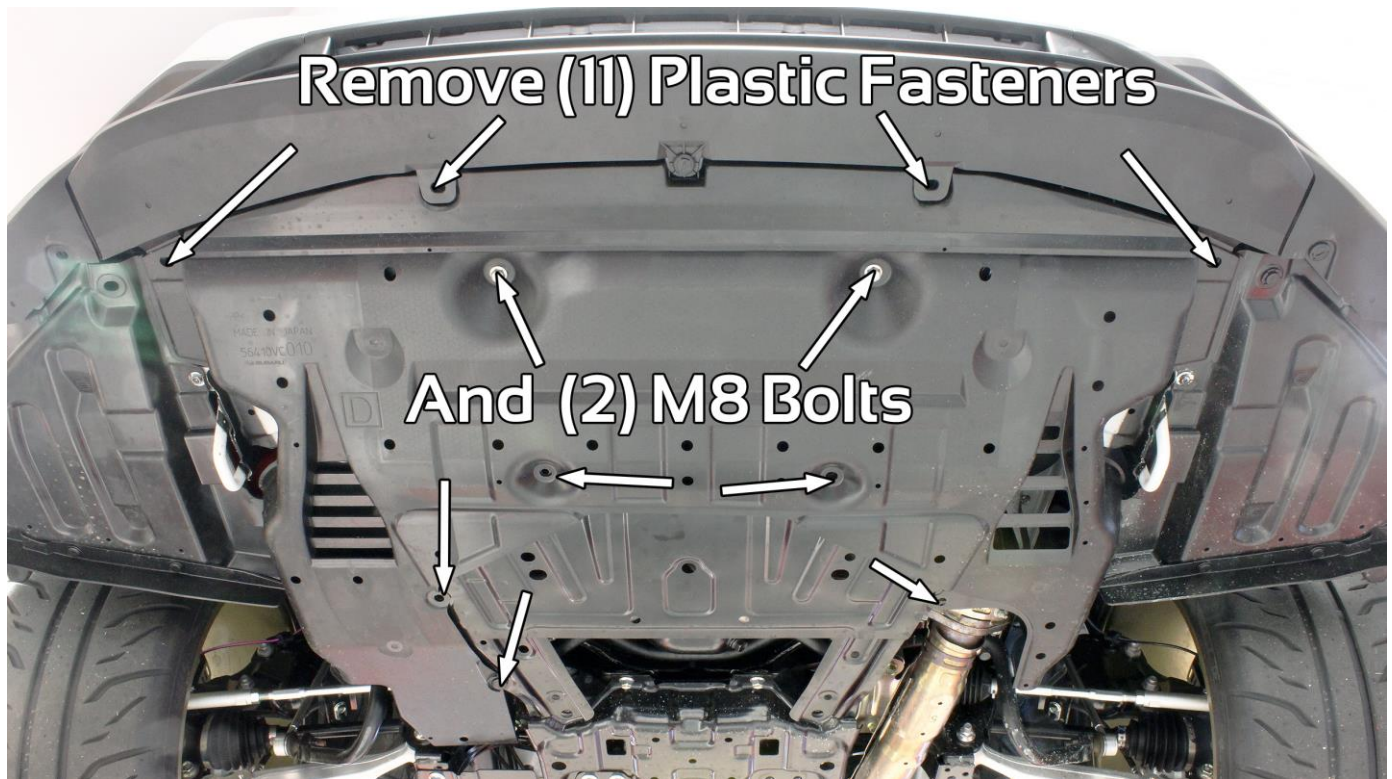
1	X-PSP-TAC-616-1RD	Diverter Valve Housing for 22 WRX Red
1	X-AMP-TAC-108	Spring for Diverter Valve (Medium Rate)
1	X-ASM-INR-144	Spring for Diverter Valve (High Rate)
1	BWTS-179XXXX	Diaphragm/Piston for Diverter Valve
1	X-AMP-TAC-106	Resistor Pack for E Diverter Valve
4	X-HOS-126	7/32"ID Vacuum Hose (27043)
1	X-CON-063	Plastic 1/2" to 1/4" Reduction Tee
3	X-BLT-M6X14CSB-SS	M6 x 14mm Button Head Socket cap screw SS

Installation

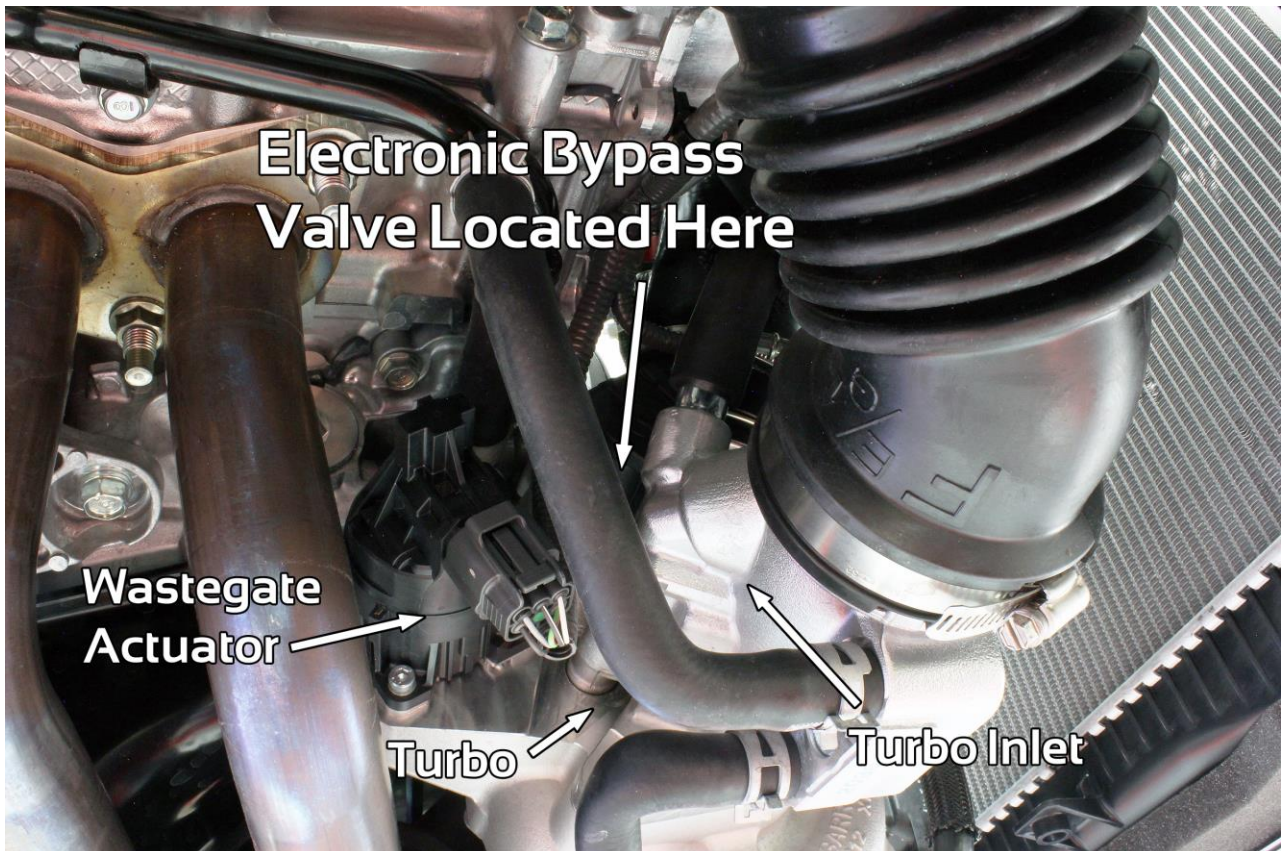
1. Raise vehicle off ground using vehicle hoist or proper jack and jack stands. Never support vehicle with jack as death or injury may occur.
2. Disconnect battery.
3. Using proper panel removal tool or flat head screwdriver, locate and remove (3) plastic fasteners in each left and right wheel well.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



4. Using proper panel removal tool or flat head screwdriver, locate and remove (11) plastic fasteners and (2) M8 bolts from lower portion of splash guard, then remove from car. See picture below.

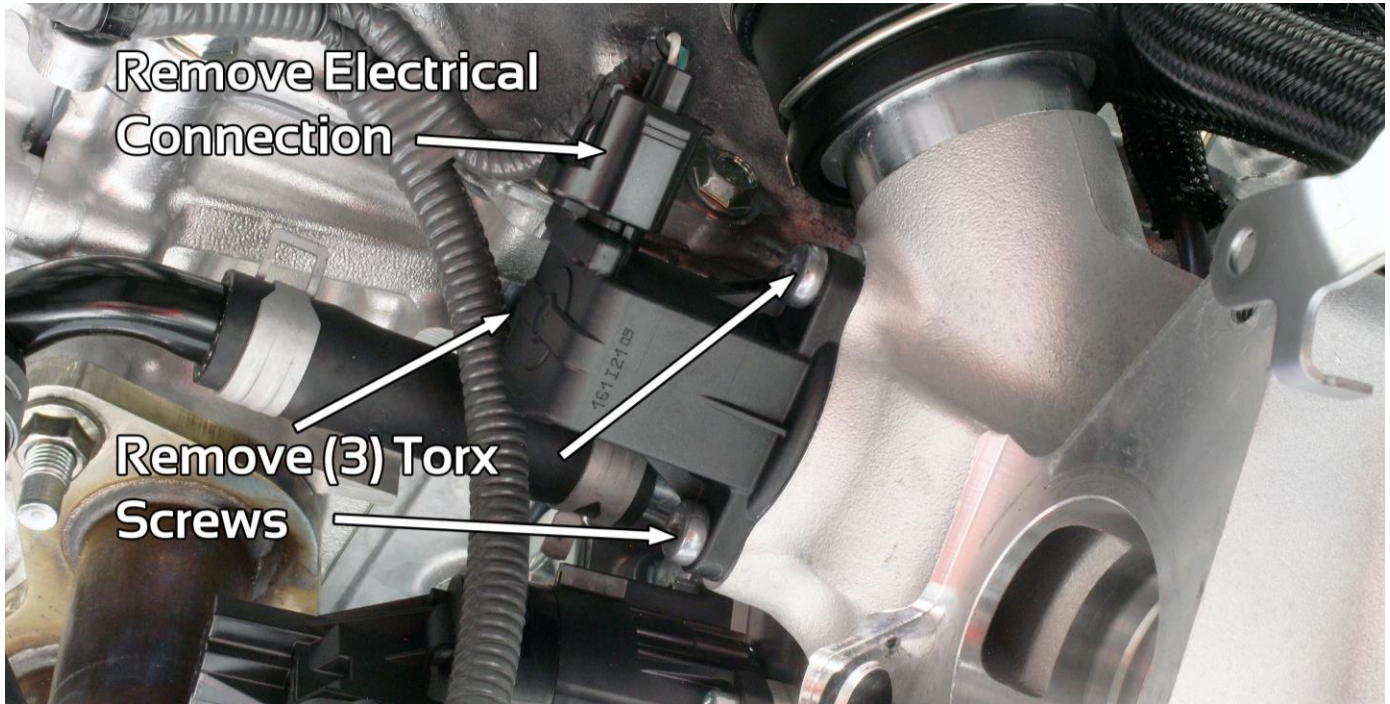


5. Remove (4) M8 bolts holding skid plate (black metal part shown above) to chassis and set skid plate aside.
6. Locate electronic bypass valve on turbocharger as shown below. While it is not necessary to remove the rubber intake hose and aluminum inlet hose from turbo, it may be necessary if you do not have an assortment of extensions to reach the (3) Torx screws holding the OEM bypass valve on. If you decide to remove these parts, follow the factory service manual to do so. The next few pictures show this removed for illustration purposes only.

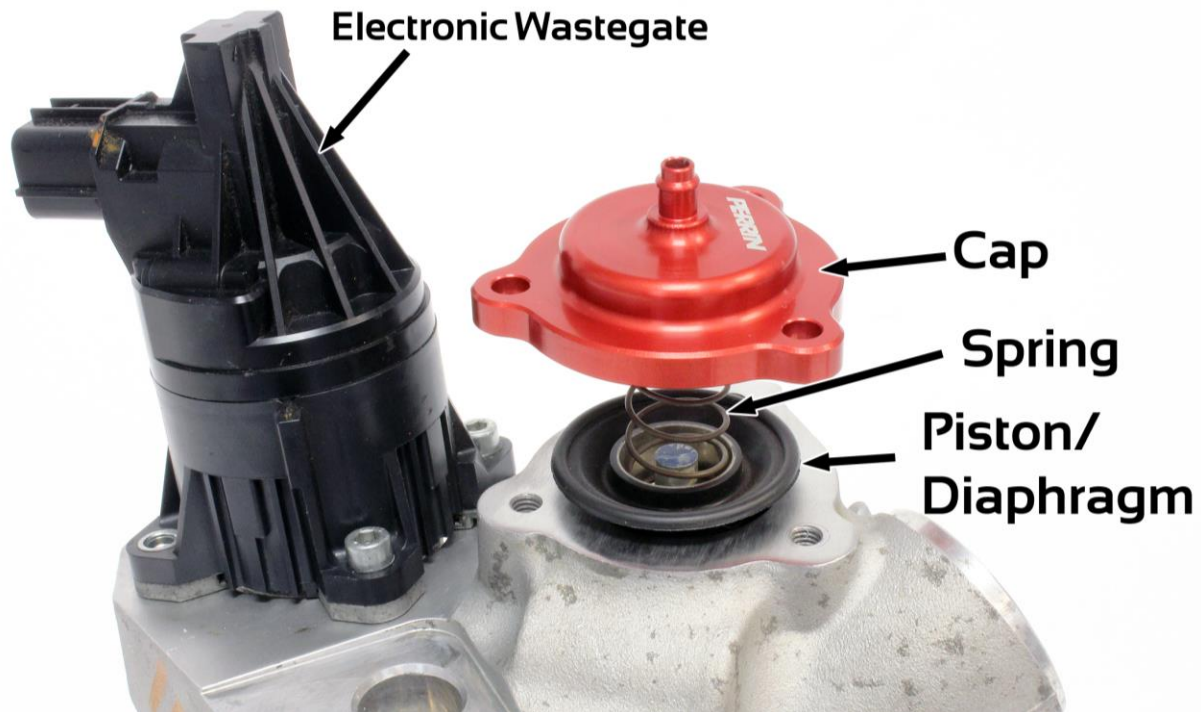


7. Unplug electrical connection on wastegate actuator and move harness out of the way. This is done to gain access to bolts.

- Remove (3) torx screws holding OEM bypass valve to turbo, then remove electrical connection from bypass valve. Remove bypass valve from turbo and make sure to remove o-ring from turbo if it was left behind. This part will NOT be reused.



- Decide which spring you would like to use for your setup. Keep in mind that either spring will hold unlimited amounts of boost. The difference in the springs has to do with how the car feels when transitioning from boost to vacuum (shifter gears or just backing off the throttle).
 - Use the shorter softer spring if you plan on running stock or off the shelf ecu tunes.
 - Use the longer stiffer spring if you plan on running custom ecu tunes that run higher boost levels.
- Using picture below install parts as shown starting by putting the piston/diaphragm into the turbo, then spring, then cap. Push cap up to turbo and make sure that the piston/diaphragm are center on the cap, then rotate cap until PERRIN logo is on the top side toward the engine (the bolt pattern on cap is NOT symmetrical), then install supplied M6 bolts roughly 1 full turn each. **NOTE: The bolt pattern of the cap is not symmetrical. Install it so the PERRIN logo is on the top side toward the engine.**



- With cap sitting slightly away from the turbo, double check that all things appear to be lined up.
- Connect supplied vacuum hose to nipple on cap. Connect end of hose to a vacuum pump (or suction from your mouth) and apply vacuum to piston. If all parts are aligned properly, this should collapse piston and vacuum will be maintained in hose. With vacuum still on hose, push cap up to turbo and tighten the (3) screws in an even manner until hand tight. Then tighten each screw to roughly 5-8 ft-lbs.

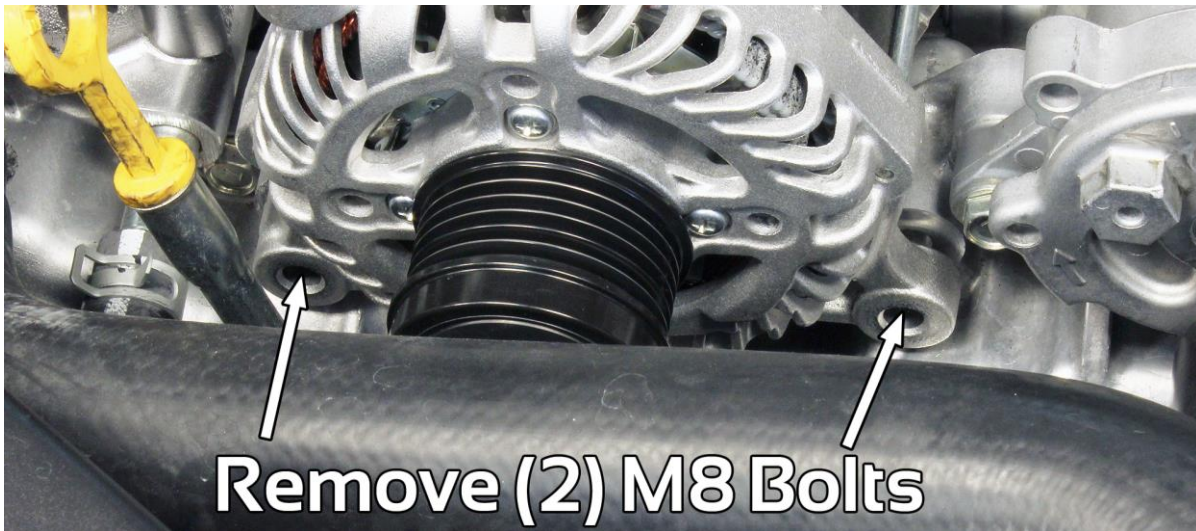
13. Install supplied resistor pack into female pin on harness (that OEM bypass valve was plugged into) as shown below. Then secure with wrapping electrical tape around resistor and body of plug.



14. Route vacuum hose up the side of the engine making sure to keep it away from any moving parts or exhaust components.
15. Re-connect electronic wastegate connection that was removed previously. NOTE: If any other parts were removed previously, reinstall them at this time.
16. Locate and remove M6 bolt securing belt cover to engine, then remove belt cover.
17. Using supplied hex wrench and 19mm socket, pull automatic belt tensioner until holes line up where wrench can be installed.



18. Remove serpentine belt from alternator and set off to side toward the battery (it does not need to be completely removed)
19. Locate and remove (2) M8 bolts securing alternator to engine.
20. Wiggle alternator front to back a few times to loosen it from engine and then slide up and out of the way. Set alternator next to AC compressor for now (electrical connections do not need to be removed but can be).



21. Using picture below locate vacuum hose coming off bottom of intake manifold. Cut and remove roughly 1/2" of hose in the location shown below, then install supplied T fitting. **NOTE: The fitting must be installed between manifold and plastic check valve or bypass valve will not function correctly. The barbs on the fittings are designed so clamps are not needed. Applying a small amount of oil to fittings before installation can aid in getting fittings into hoses.**
22. Route vacuum hose from PERRIN cap to small leg of T (trim hose as necessary), making sure that hose is not pinched after it is connected.



23. Reinstall alternator making sure that vacuum hose is not pinched after it is installed. Tighten (2) M8 bolts to 12ft.-lbs.
24. Reinstall serpentine belt to alternator, then relieve the tension on the automatic tensioner. Check that belt lines up with the grooves on all pulleys. If you find the belt is off a groove loosen belt and adjust before continuing.
25. Reconnect battery, start car and check for leaks and check engine lights. If car runs erratically, check for leaks around PERRIN Bypass Valve and if any are found, re-seat valve and test again. If a check engine light occurs read what code it is to help determine the issue. If check engine light is relating to bypass valve, check that resistor pack is installed into the female pins and making an electrical connection. Clear any check engine lights and restart engine. If check engine lights persist, please call tech support.
26. If car runs normally, continue with reinstalling skid plate and plastic splash guard that was removed earlier.

Questions, Comments and Suggestions Contact: Tech@PERRIN.com
Visit Our Website for Instant Chat Options at www.PERRIN.com
Call Our Tech Team at 503-693-1702