



Pro R Paragon-54 400 Turbo Upgrade System

SKU(s):604FP0088

NOTE: Expect 24–48-hour turnaround from the time we receive your ECU for unlock. Please send your ECU to EVP WI headquarters. Create your Maptuner/CodeShooter account before starting the project. Email us at givememorepower@evopowersports.com

This is a high-performance upgrade! Although we have gone through great lengths to build safety into the upgrade turbo system, the fact is installing any upgrade / turbo system requires care in both operation and installation. Poor fuel, improper setup or any number of things that are done incorrectly can damage your engine!

- You have likely voided the sound and exhaust emission standards of your country if applicable.
- This upgrade is intended for OFFROAD and RACING use only.
- This is a performance upgrade which will VOID your engine warranty especially if installed incorrectly or operated without regard to your instruments.
- The fuel requirements must be adhered to. Poor fuel can destroy an engine in seconds.
- Evolution Powersports bears no responsibility for damage caused to your vehicle by the installation of EVP products. The warranty on big turbo kits is 30 days from the date of purchase. Evolution Powersports, at its discretion will determine whether a part meets the warranty requirements. In no case is there any warranty from EVP for your vehicle or vehicles drivetrain. Although we have been careful to supply you with the highest quality parts possible, we assume no liability for damage to the vehicle or personal injury from installing or using any of our products.
- The installation of this kit is technical and mechanical in nature with many opportunities to make mistakes – mistakes that can be very costly. If you are not qualified to install this kit, bring your vehicle to one of our qualified installation centers to do the installation.
- This kit will make your vehicle faster, climb higher and accelerate more quickly and take a longer distance to brake than a stock tuned vehicle. If you are not capable of controlling the vehicle with the added performance, do not install the kit.
- High boost is hard on spark plugs – they must be changed frequently. If you experience misfire issues – Gap and replace the spark plugs.
- A full exhaust and clutching are required for this kit and can be purchased separately.
- Do not ever allow a child or an unqualified driver to operate this vehicle.



Parts Included in Paragon 54-400 Turbo Upgrade System

604FP0075	Pro R Paragon 54/68 Black Turbocharger Assembly
604FP0076	Pro R Paragon Installation Kit
100FP0186	Pro R Triple Fan Kaizen Intercooler Assembly
953RU0485	Pro R Triple Fan Intercooler Hardware Kit
100RP0154	Pro R Charge Tube Kit, Black
953RU0421	Pro R Turbocharger Charge Tube Hardware Kit
203FP0110	Pro R Turbocharger Air Intake Kit
804FP0259	Pro R OEM Coolant Tank Relocation Kit
953RU0486	Pro R Turbocharger Boost Control Kit
803FU0011	Pro R Catch Can Kit
100FP0187	Pro R Blow Off Valve 2.0 (BOV) Kit
300FP0374	Pro R Turbocharger Header/Exhaust System
604FP0078	Pro R Turbocharger Hardware Installation Kit
004FP0361	Pro R Turbo Bench Power Flash, CAN Unlock
502FU0018	1300cc Injector, ID1300-XDS Usicar, 34mm Length, 14mm top, 14mm lower, set of 4
603FP0005	Pro R External Wastegate Assembly
705RP0024	Polaris CodeShooter Cable 2017+, CS-POL-2
705RU0029	3 Bar MAP Sensor
708FU0016	CodeShooter ECU Flashing Device
925FP0184	Pro R Exhaust Facia Trim Plate
102FP0007	Pro R Intercooler Mount

Level	Tunes	Max Boost (psi)	Spark Plug Gap	Spring	Operating RPM	Engine HP
P54-330	91	6-7 psi	.016 - .018	Pink (7)	8200-8450	330CHP, 271WHP
P54-400	110	12-13psi	.016 - .018	Pink (7)	8200-8450	400CHP, 328WHP

Required Parts (Sold Separately)

- EVP calibrated Tapp primary clutch
- EVP calibrated STM secondary clutch
- AFR Module
- Oil Change Kit (Recommended)
- Engine Coolant
- Compressed air and parts cleaner
- P90X primary clutch puller

Pro R Disassembly

Step 1: Remove the (4) bed screws using a T-40. Remove the bed.

Step 2: Remove the passenger and driver seat, if a 4-seater remove the rear seats.

Step 3: Remove both firewall panels, (6) 1/4-turn fasteners.

Step 4: Cut all zip-ties holding the taillight harness and rear-view camera. DO NOT remove the clips from the panels, this way you can reuse all OEM clips and supplied zip-ties in the hardware kit.



Figure 1

Step 5: Unplug both rear taillights and camera.

Step 6: Remove the lower rear valance around the muffler tips. Use a T-50 socket.



Figure 2

Step 7: Remove the upper rear valance with taillights. (4) T-40 screws and (6) push darts. (2) push darts are tucked underneath the rear fenders.

Step 8: Remove the cold air intake tube (bed to airbox tube) and intake tube (airbox to throttle body). Remove the crankcase breather tube from the intake tube. (4) worm drive clamps total.



Figure 3



Figure 4

Step 9: Remove the engine belly pan using a 10mm socket. (8) screws and oversized washers.

Step 10: Remove the coolant reservoir cap. Locate the water pump housing (above the oil filter) and remove the 4mm Allen plug. Place a catch pan underneath the vehicle. (figure 5).



Figure 5

Step 11: Remove the (2) 10mm screws holding the airbox in place. Two tabs will be located underneath the airbox.

Step 12: Remove (2) T-40 screws holding the coolant reservoir in place. Remove all hoses from the coolant reservoir.



Figure 6



Figure 7

Step 13: Remove the bed frame hardware (4) 13mm bolts and (1) T-40 for the CVT boot support bracket.



Figure 8

Step 14: Remove (2) 14mm bolts holding the muffler and header pipe together. Remove the muffler by sliding it out of (3) rubber gromets (towards the left side of the vehicle). Gromets shown below.



Figure 9

Step 15: Remove the airbox and bed frame. Cut all zip-ties holding the engine harness to the bed frame.

Step 16: Remove the header heat shield. (4) 10mm screws.



Figure 10

Step 17: Remove (9) 6mm Allen screws holding the header to the engine block. Unplug the O2 sensor from the engine harness. Remove the header.

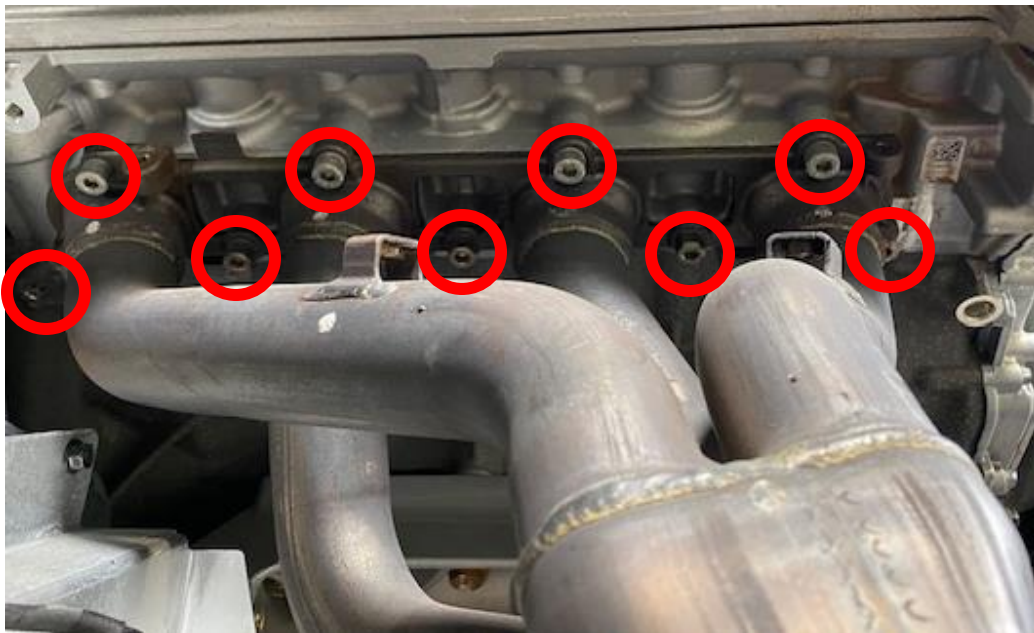


Figure 11

Step 18: Remove the alternator belt cover. (7) 10mm screws.

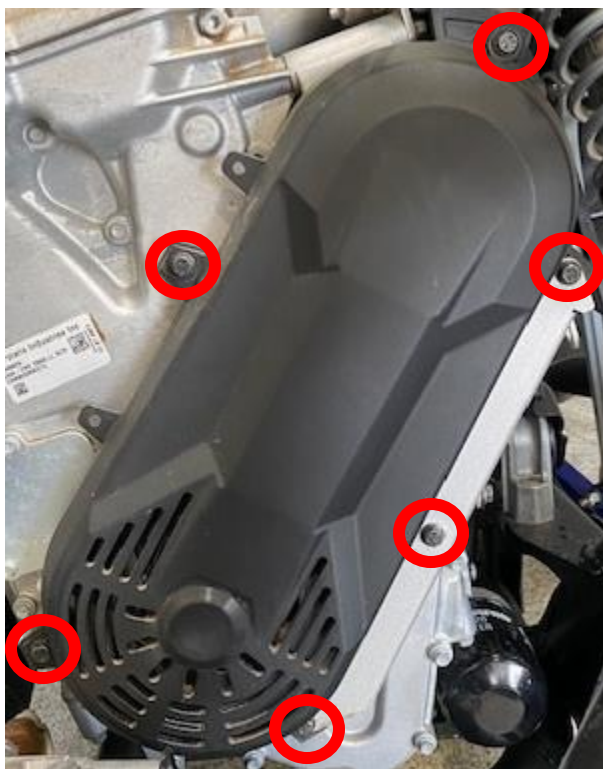


Figure 12

Step 19: Remove the CVT box breather. (1) worm drive clamp.



Figure 13

Step 20: Remove the chain tensioner access panel from the timing chain cover, using an 8mm socket.



Figure 14

Pro R Reassembly

Step 1: Install supplied EVP chain tensioner cover. Torque the OEM hardware to **80 in-lbs.**
Reinstall the alternator belt cover.



Figure 15

Pro R Intercooler

Step 1: Remove (6) T-40 screws on the back cargo area. See photo below.



Figure 16

Step 2: Install the intercooler cage onto the vehicle. Hand tighten a few T40 screws to hold it secure. With a silver sharpie, outline both circles onto the plastic. Remove the cage. With a 3.50" whole saw or Dremel with a carbide bit, cut out both holes. Use fine grit sandpaper and a heat gun to clean up the burs.

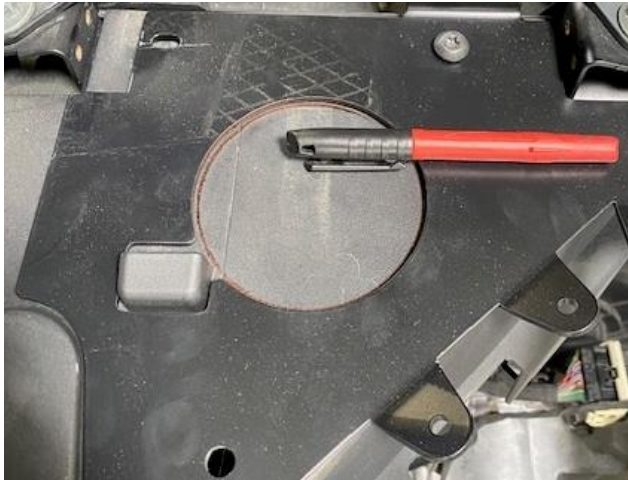


Figure 17



Figure 18

Step 3: Install the intercooler onto the mount. Use supplied M8-16mm flanged screws with spring washers. A total of (6). Make sure the fan harnesses go inside the mount. (photo taken on work bench).



Figure 19



Figure 20

Step 4: Install the intercooler and cage onto the vehicle. Use OEM hardware to secure the intercooler cage to the vehicle. Use (2) M8x35mm button head, (2) oversized washers and nyloc nuts to secure the rear of the intercooler cage.



Figure 21

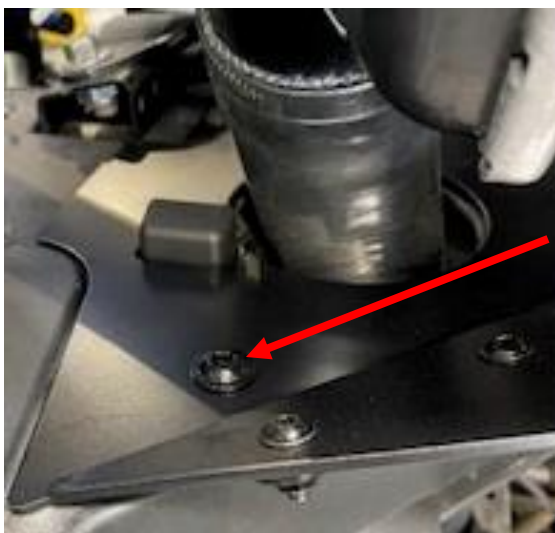


Figure 22

M8x35mm
with
oversized
washers'
underneath

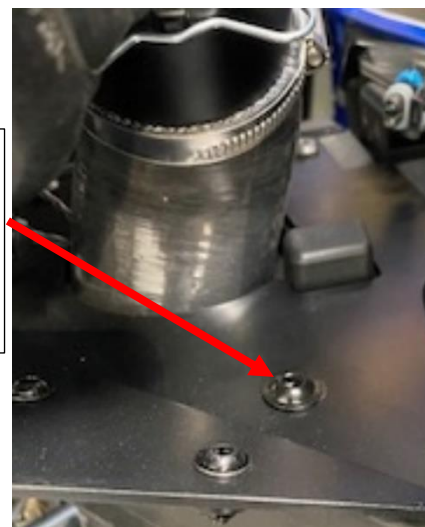


Figure 23

Pro R Header

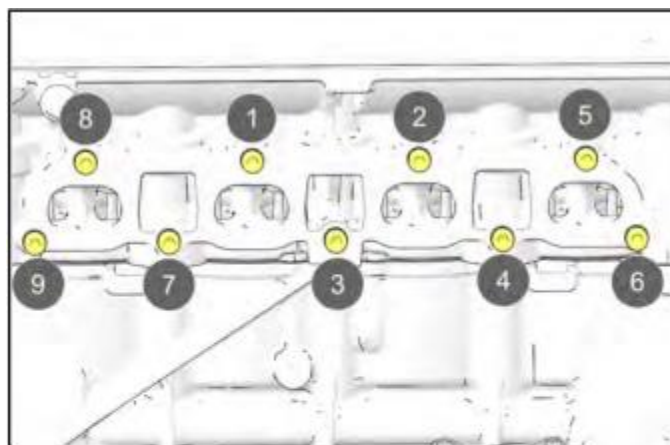
Step 1: Make sure all debris is off exhaust ports on the cylinder head, install supplied header gasket, header pipe, (9) M8x30mm screws with (9) conical washers. Torque to the sequence below.



Figure 24



Figure 25



NOTICE

Exhaust manifold hidden for image clarity

TORQUE

Exhaust Manifold Fasteners:
Step 1: 60 in-lbs (7 Nm) Step 2: 22 ft-lbs (30 Nm)

Figure 26

Step 2: Install the 41mm OD stainless steel sleeve into the intake cylinder on the wastegate. Install onto the header with a 204221 clamp. Apply anti seize on threads of the clamp. Keep clamp loose for now.



Figure 27



Figure 28

Step 3: Install turbocharger to the header using a 215221 clamp. Apply anti seize on threads of the clamp. Keep clamp loose for now.



Figure 29



Figure 30

Step 4: Install the mid-pipe to the turbocharger and wastegate dump. Apply anti seize on the threads. Leave clamps loose for now. Wastegate dump to mid-pipe will use clamp 105212. The turbocharger to mid-pipe will use clamp XXXXX.



Figure 31

Step 5: Leave the mid-pipe hanging for now, you will connect the muffler later when the bed frame gets reinstalled.

Turbocharger Oil Lines

Step 1: Locate the oil filter, remove the 5mm plug out of the oil filter housing.



Figure 32

Step 2: Locate the 60" oil feed line. Install supplied fire sleeve onto the oil feed line. Install supplied banjo bolt and washers on the straight fitting. Install it onto the oil filter housing. DO NOT OVER-TIGHTEN.



Figure 33



Figure 34

Step 3: Route the 90-degree fitting to the oil feed on the turbocharger.



Figure 35

Step 4: See oil feed line routing below, use supplied 5/16" & 1/2" P-clamps to hold the oil line around the timing chain cover.



Figure 33



Figure 34

Pro R Charge Tube

Step 1: Locate the airbox to turbocharger charge tube. Install the 1/2" plug into the crankcase vent port. Fasten with a 24.1mm pinch clamp. (Figure 88). Turbocharger to intercooler charge tube will need a BOV plug installed with a 34.6mm pinch clamp. (Figure 89)



Figure 38



Figure 39

Step 2: Install the O-rings into the billet charge tube connectors. Apply dielectric grease to the O-rings. The O-rings are directional, install as shown below.



Figure 40



Figure 41

Step 3: Locate the intercooler to throttle body charge tube. The blow off valve will be mounted in the port shown below.



Figure 42

Step 4: Install the turbocharger to intercooler charge tube. Once you have fit the silicone through the plastic, install the billet connector. Use dielectric grease if needed. Fasten down with a 60-80mm worm drive clamp. Fastened the turbocharger side with a 50-70mm worm drive.



Figure 43

Step 5: Install the throttle body to intercooler charge tube. Once you have fit the silicone through the plastic, install the billet connector. Use dielectric grease if needed. Fastened down with a 60-80mm worm drive. Fastened down the throttle body side with a 70-90mm worm drive.



Figure 44



Figure 45

Step 6: Install the billet connectors to the intercooler. Use (3) cotter pins per each side.



Figure 46



Figure 47

Pro R Coolant Tank/ECU Removal

Step 1: Located behind the passenger seat (if a 4 seater the rear passenger seat), remove the (4) push darts holding the sound dampener in.

Step 2: Located behind is the ECU. Remove the black clip. Remove the (4) T15 screws holding the ECU in place. Unclip the ECU connectors, left before the right.



Figure 48



Figure 49

Step 3: Remove the bed to CVT ducting, (2) worm drive clamps.

Step 4: Freely hold up the coolant reservoir bracket, keeping the flat lip on the right side of the tank inline with the plastic edge. (Figure 68).

Step 5: Mark the (4) holes out with a sharpie. Cut the holes out with a 1/4" drill bit. Install the mounting hardware with the nuts on the bracket side.



Figure 50



Figure 51

Step 6: Cut the pinch clamp holding the valve cover water fitting on, remove the OEM hose from the valve cover fitting. Install the supplied 18" of 5/16" hose to the valve cover fitting. Use 15.7mm pinch clamp to secure.



Figure 52

Step 7: Install the OEM valve cover hose to the TOP barb on the coolant tank. Install the 8" piece of 5/16" hose on the BOTTOM barb for the radiator overflow. Install a 5/16 adapter to the end of the 8" piece of hose. Use 15.7mm pinch clamps.

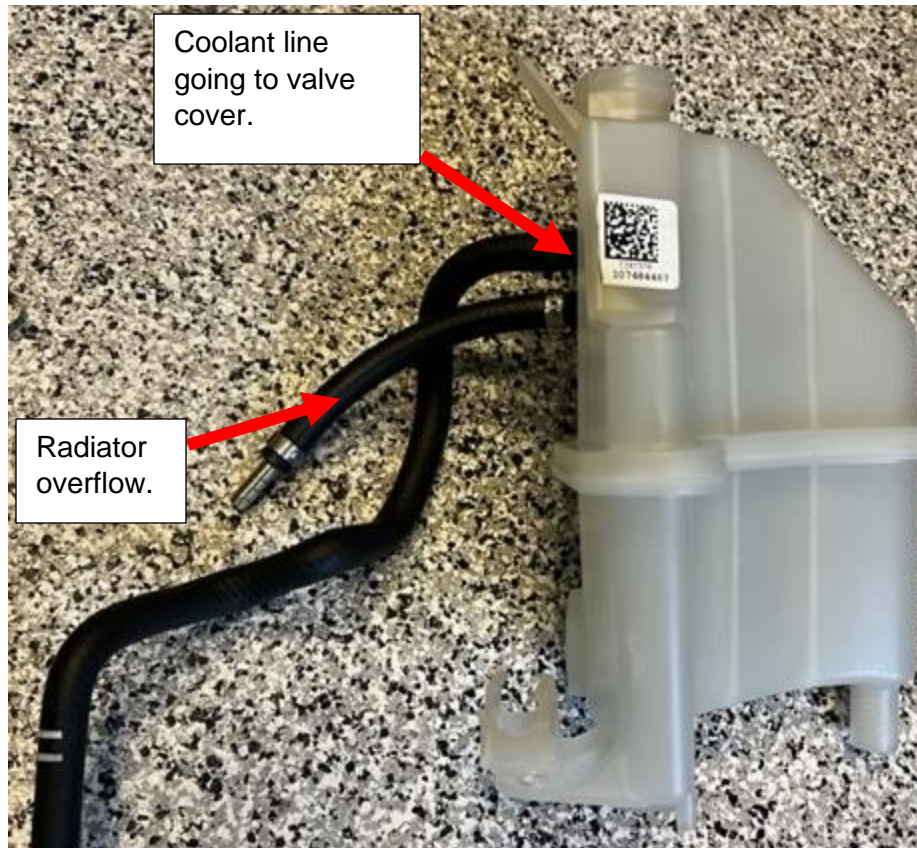


Figure 53

Step 8: On the valve cover water hose, the part that was connected to the fitting, cut 1.0" or the 45-degree bend off.

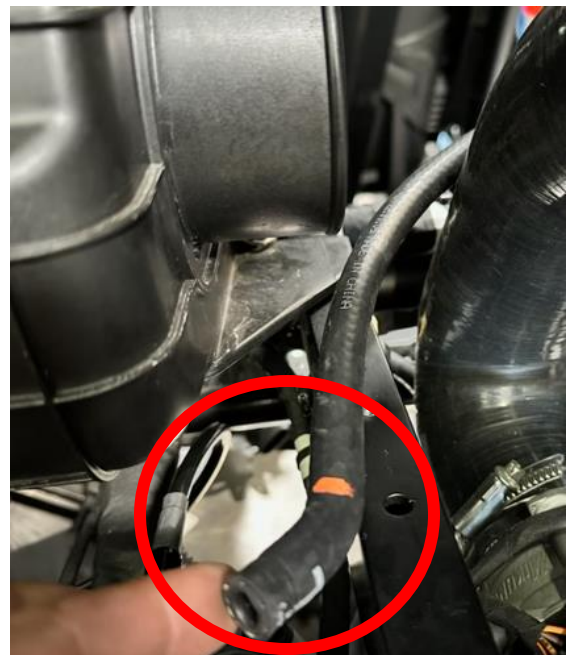


Figure 54

Step 9: Insert a 5/16" adaptor into the valve cover hose and connect it to the 18" of hose coming from the valve cover. Use 15.7mm pinch clamps.



Figure 55



Figure 56

Step 10: Install the supplied hose from the large barb on the coolant tank to the thermostat block. Reuse (2) self-tightening OEM clamps.



Figure 57

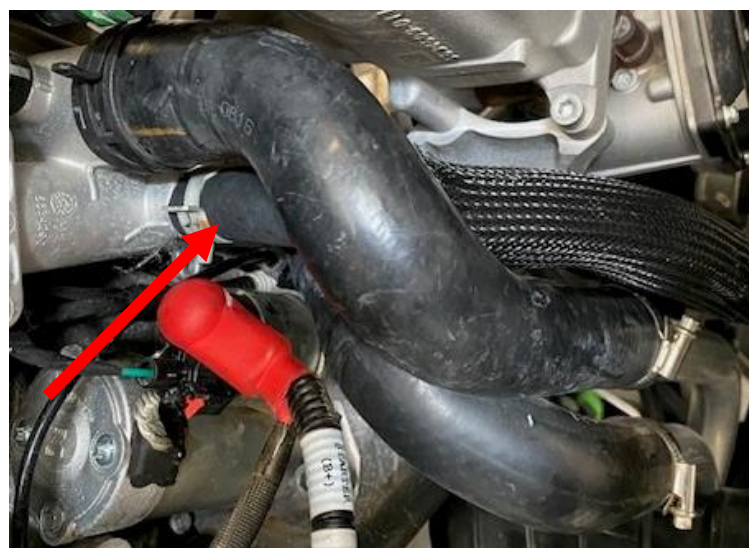


Figure 58

Injector/MAP Sensor Installation

Step 1: NOTE: clean intake plenum with compressed air, especially around the injector ports. Remove (4) injector connectors, cut the zip-ties holding the injector harness to the intake plenum and remove from the fuel rail. Remove the blue clip and fuel hose connector from the fuel rail.

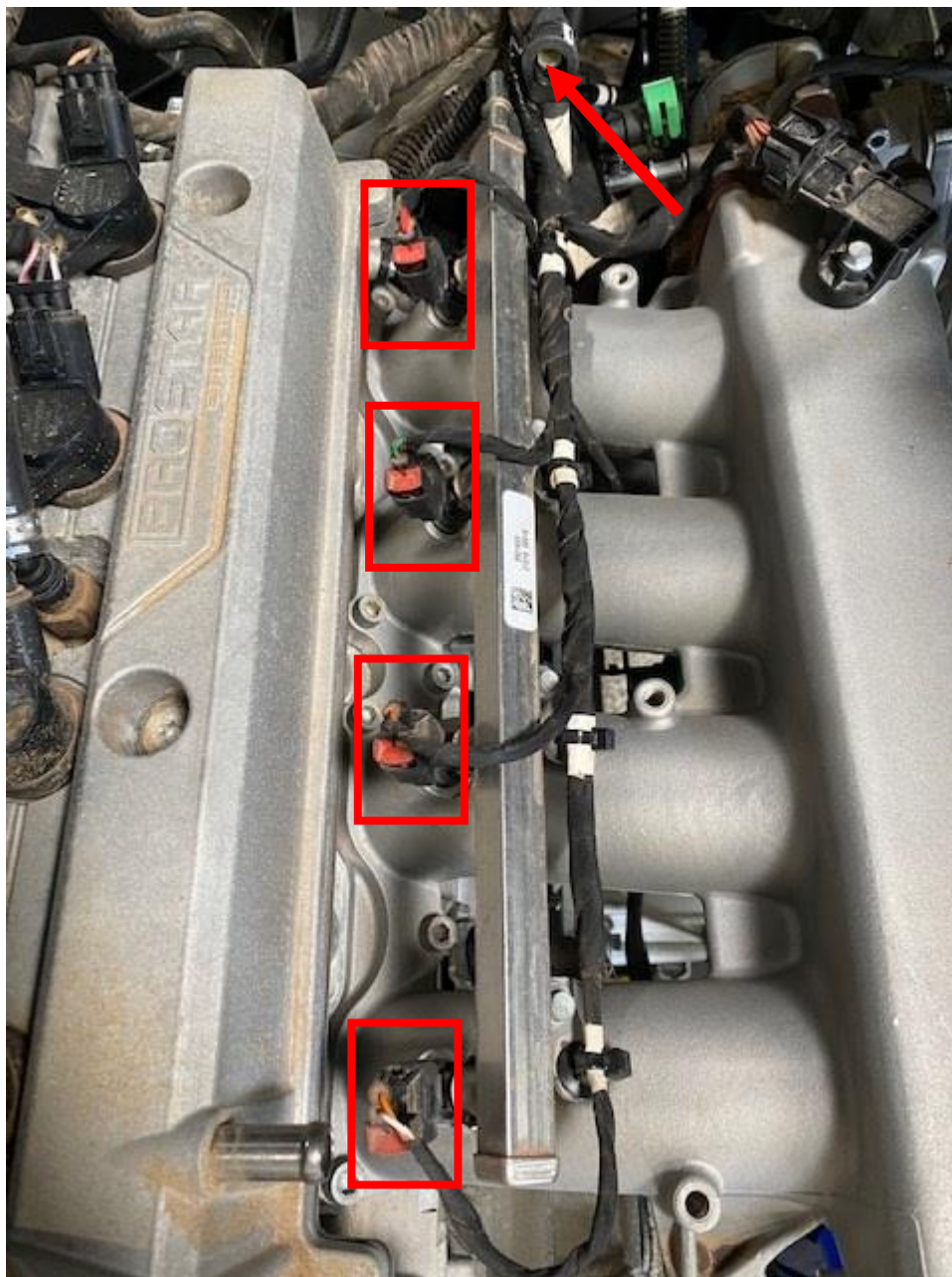


Figure 59

Step 2: Remove the (4) 8mm screws holding the fuel rail to the plenum. Remove the fuel rail.

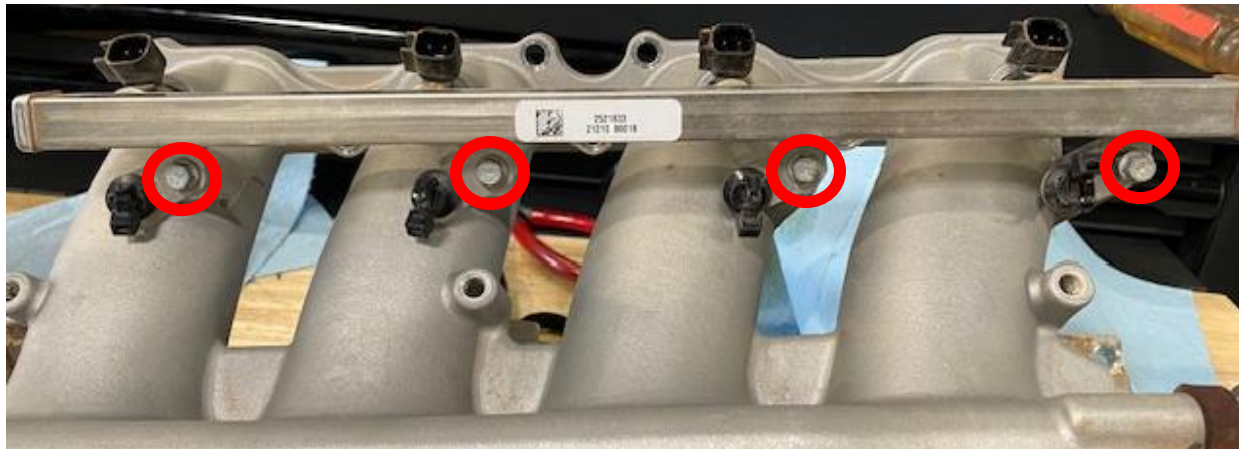


Figure 60

Step 3: Remove the injector clips, remove the injectors. Blow out the fuel rail with all injectors removed.



Injector "C" clip.

Figure 61

Step 4: Install the supplied (4) injectors. Apply dielectric grease to the O-ring on the injector. Reinstall the injector clip. Make sure the injector is properly seated. Torque fuel rail to 7 ft-lbs.

Step 5: Remove the MAP sensor plug. Do NOT use a screwdriver. Remove OEM MAP sensor using a 8mm socket. Install the supplied MAP sensor, apply dielectric grease on the O-ring before installing.



Figure 62

Step 6: Remove the brass barb fitting on the bottom side of the intake plenum. Install the supplied M12 x 1/4" barb fitting.



Figure 63

Step 7: Reinstall the fuel line to the fuel rail (blue clip). Reinstall the OEM harness and injector connectors.

Step 8: Install new zip-ties onto the plenum to hold the factory harness.



Figure 64

Step 9: Re-gap the OEM (NGK-ZMR7A-10) spark plugs to 0.018". Install the spark plugs back into the cylinder head. **Torque to 9 ft-lbs.**

Step 10: Reinstall ignition coils and **torque to 80 in-lbs.** Reconnect all (4) ignition coils to the harness.

Pro R Airbox

Step 1: Locate the air filter adaptor template. Install it onto the outside of the airbox. Once aligned properly mark the (4) holes with a silver sharpie.

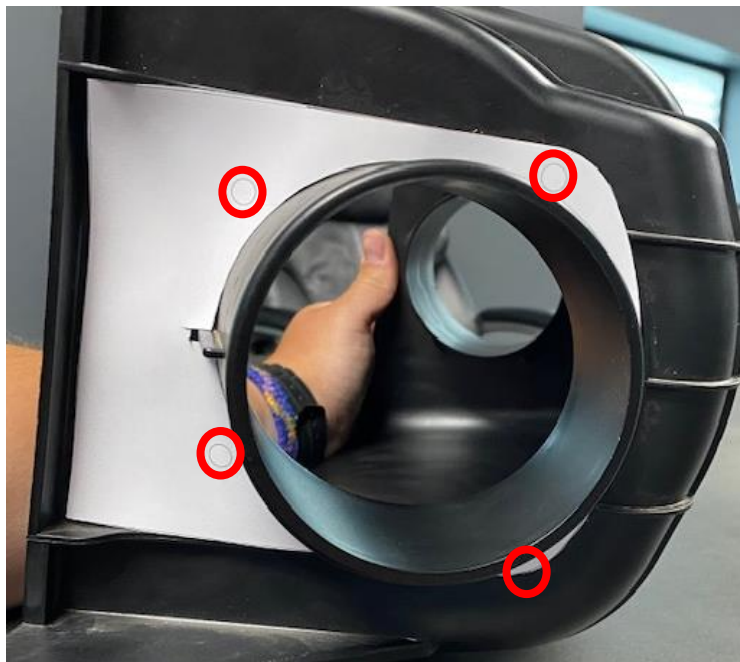


Figure 65

Step 2: Use a 1/4" drill bit and drill out (4) holes. Fasten the bracket down with supplied (4) M6x16mm flanged head screws into the Nutzerts.



Figure 66/67



INSTALLATION INSTRUCTIONS

Step 3: Reinstall the airbox (loosely) into the vehicle.

Step 4: Reinstall the bed frame with OEM hardware.

Step 5: Reinstall airbox hardware and engine harness clips. Use supplied zip-ties.

Step 6: Install supplied air filter and pre filter into the airbox.

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Pro R Boost Control

Step 1: Locate the 4-Port boost control solenoid with bracket. Install the bracket onto the bed frame. Fasten down with (2) M6x16 flanged head screws. See below.



Figure 68

Step 2: Install both 12" fire sleeve pieces onto the 21" lines. Install the 30" boost line between the top right "T" on the boost control solenoid to the turbocharger boost reference port. Install one 21" boost line between the bottom left single port on the boost control solenoid to the bottom port on the wastegate. Install the other 21" boost line between the bottom right "T" on the boost control solenoid to the top port on the wastegate. Fasten all fittings down with Teflon. (See diagram below).

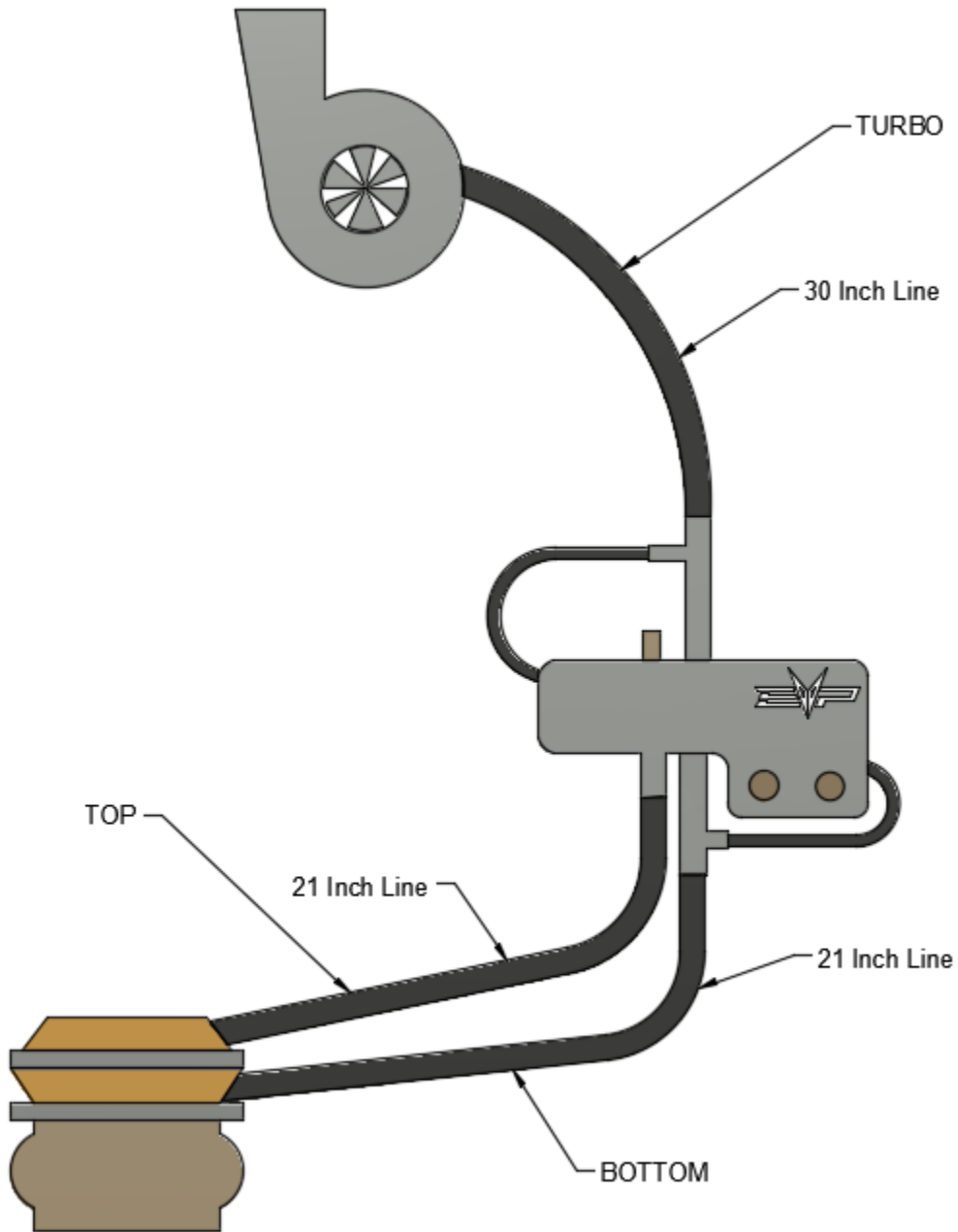


Figure 69

Pro R Kaizen Relay Harness

Step 1: Locate the storage compartment on top of the dash. Remove the insert. With the insert removed you will find the electrical BUS bar. You will need (2) ports. Remove (2) blanks from the bus bar. Install (2) plugs into the bus bar from the Kaizen relay harness.

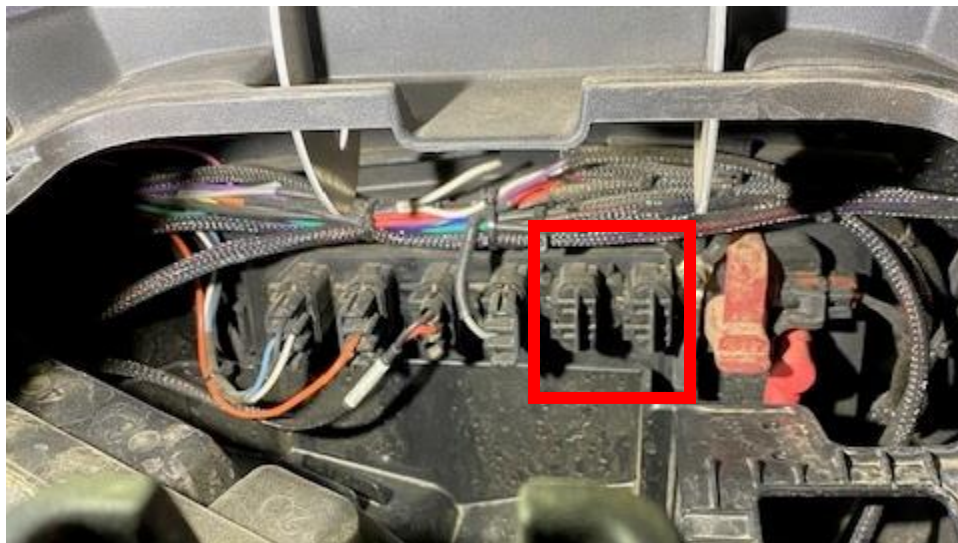


Figure 70

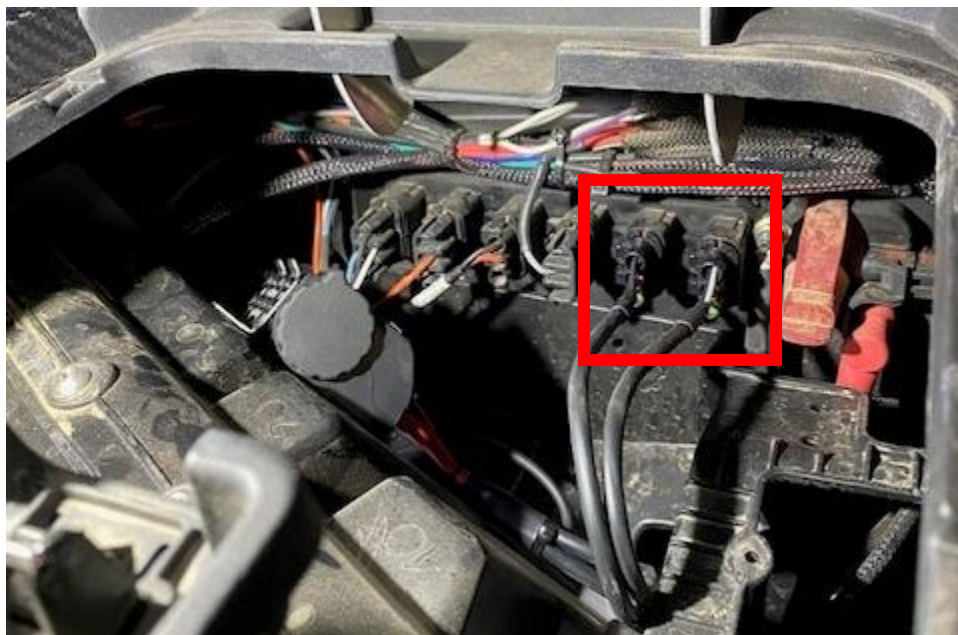


Figure 71

Step 2: Run the diagnostic port “Y harness” under the dash and over to the diagnostic port located under the steering wheel. Remove the OEM diagnostic port from the blank and connect it to the male connector off the “Y harness”. Install the female end back into the blank.

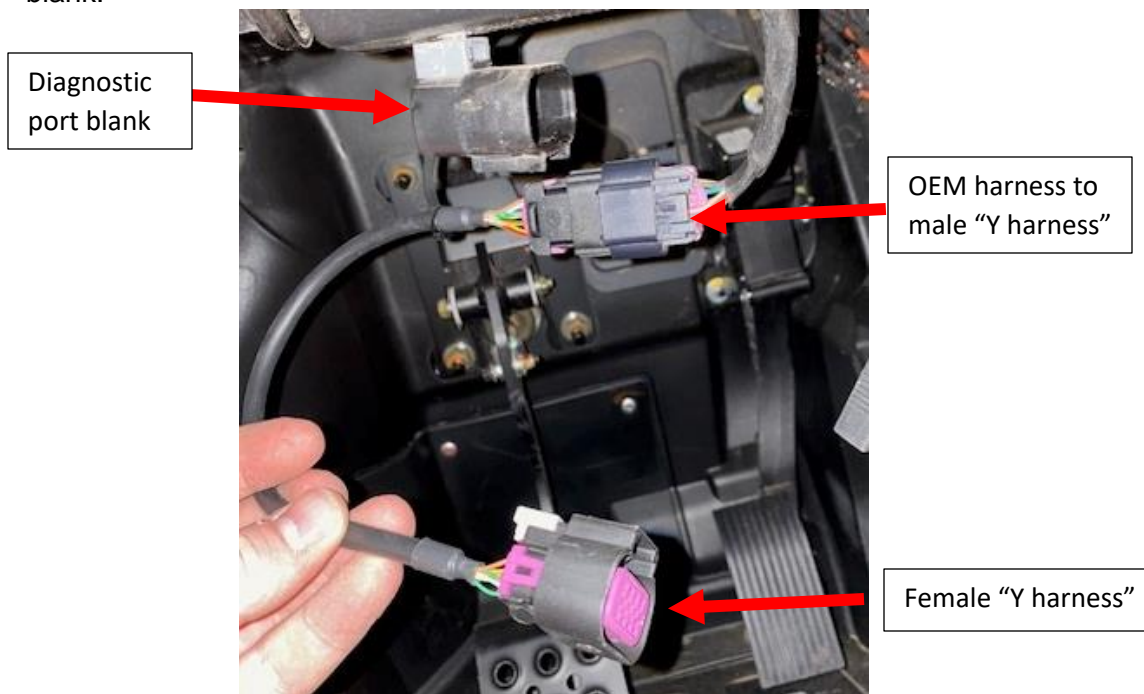


Figure 72

Step 3: Route the 4-pin connector under the dash and through the center tunnel, by the shifter and cup holders. (If a 4-seater run it through the rear tunnel). Run the harness back to the firewall.



Figure 73

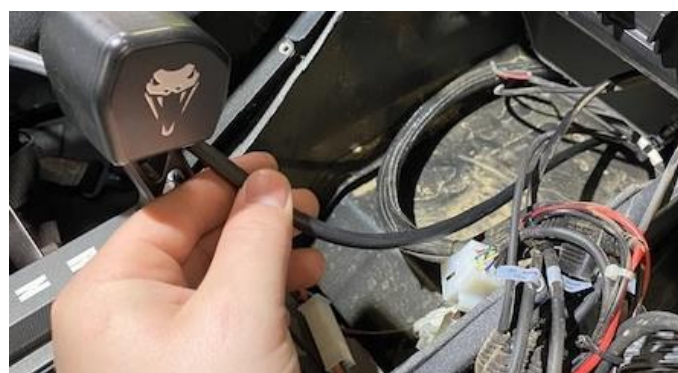


Figure 74

Step 4: With the 4-pin connector back at the firewall, install the intercooler triple fan harness. Run the triple fan harness back to the intercooler fans (on the inside of the cage). Also attached to the triple fan harness is a 2-pin connector. Connect the 2-pin connector to the 4-port boost control solenoid.



Figure 75



Figure 76

Step 5: Use (2) supplied 5/16" P-clamps to secure the (3) fan harnesses to the intercooler cage. Remove a M6 screw to fasten the clamp down with.

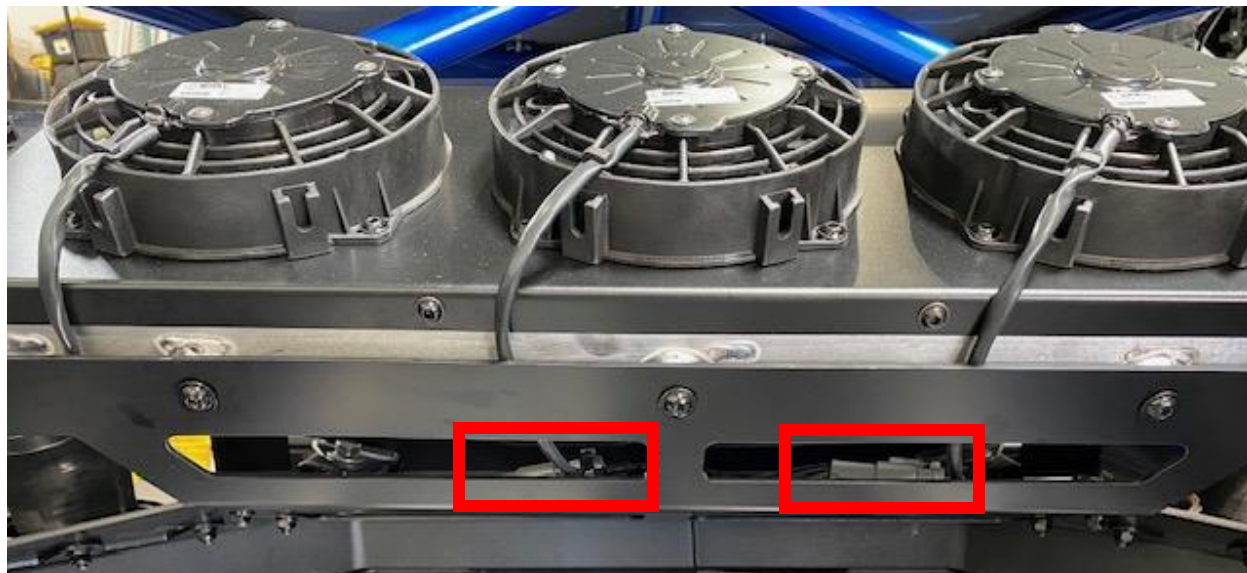


Figure 77

Step 6: Use supplied zip-ties to secure all wire harness to the frame, up to the front compartment.

Pro R Catch Can

Step 1: Install the catch can on the left-rear frame. Tighten down the clamp around the tube frame. The port on the cap will face the engine bay. Install the 1/4" rubber hose to the barb located on the bottom of the catch can. Run it down into the belly pan.



Figure 78



Figure 79

Step 2: Locate the engine breather hose going to the plenum (which is currently removed). Remove the hose from the engine. Remove the longer piece of hose. Keep the small piece with the connector and one-way-ball valve. Reconnect the small piece to the engine.



Figure 80

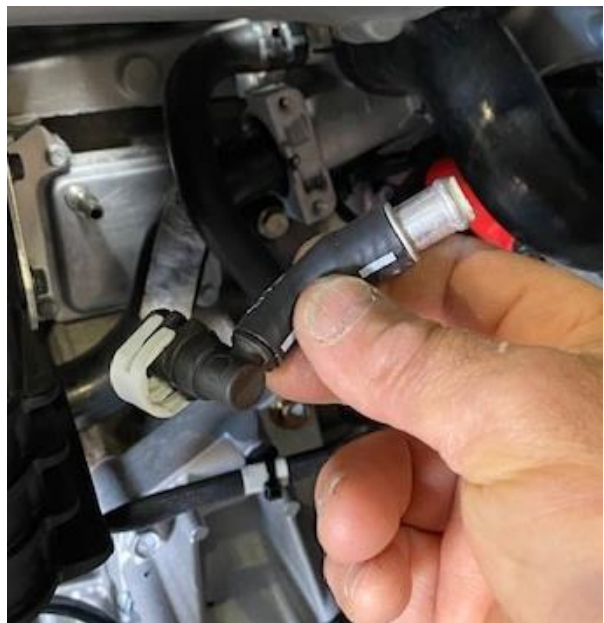


Figure 81

Step 3: Install the catch can hose. The “Y” portion of the hose will go to the small connector on the engine and the valve cover.



Figure 82



Figure 83



Figure 84

Pro R Blow Off Valve (BOV)

Step 1: Install the pre-filter onto the BOV and use supplied zip-tie around the base of the BOV to hold the prefilter on.

Step 2: Install the BOV into the charge tube between the intercooler and throttle body. Use supplied 25-40mm worm drive to fasten down.



Figure 85

Step 3: Install the vacuum line to the BOV and plenum barb, that was installed earlier. Use pinch clamps to secure.



Figure 86

Step 4: Install the V-flow from the turbocharger to airbox. Use supplied 70-90mm and 90-110 worm drive clamps.



Figure 87

Pro R Turbocharger Exhaust

Step 1: Remove the lower exhaust isolator from the frame. Use a 13mm socket.



Figure 88

Step 2: Install the exhaust clamp onto the muffler pipe. Install the muffler to the vehicle, re-use both top isolators. Install the bottom isolator onto the muffler and frame. Reinstall hardware.



Figure 89

Step 3: Remove the O2 sensor out of the OEM header using a 7/8" or 19mm wrench. Use anti seize on the threads and install onto the new down pipe. Reconnect the electrical connector to the harness.



Figure 90

Step 4: Tighten all clamps on the turbocharger, wastegate, mid-pipe, muffler, and muffler tips. Use anti seize on all threads. DO NOT overtighten the V-band clamps.

Polaris Pro R Rear Facia

Step 1: Open the new Pro R rear Facia box. Place the raw aluminum backer plate onto the rear facia trim. Use the M4 hardware and install. Keep the head of the screws on the outside.



Figure 91

Step 2: With a T50 socket remove the (2) screws holding the rear fascia to the frame. Keep the plastic step washers.



Figure 92

Step 3: Place the EVP fascia trim piece onto the vehicle. Reuse the OEM plastic step washer and bolt. Start securing but leave somewhat loose.



Figure 93

Step 4: Install the remaining hardware through the OEM plastic tabs. Place a washer on the head and nut side. Fasten down. Also finish fastening the T50 screws.



Figure 94

Pro R Turbocharger Clutching

Step 1: Remove the (5) CVT cover bolts using a 10mm socket. Loosen the 1/4 twist latches around the CVT cover. Remove the cover.

Step 2: Remove the belt.

Step 3: Remove the primary bolt using a breaker bar and T60 socket.

Step 4: Use a P90X primary clutch puller to remove the primary clutch from the crankshaft.

Step 5: Remove the secondary bolt using a 13mm socket.

Step 6: Using a clutch compression tool, loosen (3) helix bolts using a 13mm socket.

Step 7: Remove the OEM secondary spring and install supplied orange/blue spring. Put the secondary clutch back together.

Step 8: Reinstall the secondary clutch and torque the bolt to **55 ft-lbs.**

Step 9: Install the TAPP primary clutch. Install supplied spacer on the OEM bolt and torque to **90 ft-lbs.**

Step 10: Reinstall the CVT belt in the correct orientation.

Step 11: Spin the secondary a total of 5 rotations to set belt deflection.

Step 12: Reinstall the CVT cover and hardware.

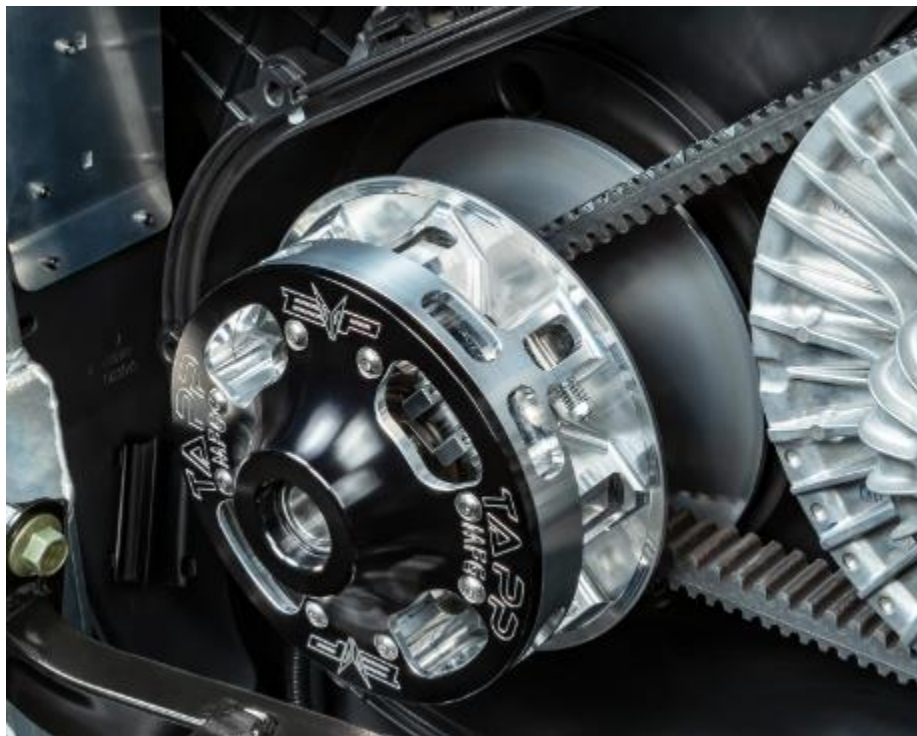


Figure 95



Finishing Up

Step 1: Change engine oil and oil filter.

Step 2: Add coolant to the reservoir.

Step 3: Drain the fuel tank and add correct fuel for your tune.

Step 4: Reinstall your ECU.

Step 5: Start the vehicle and let it idle for a few minutes, keep an eye on the coolant level. Add if necessary. Look for any leaking. Once the coolant level is correct, shut the vehicle off.

Step 6: Reinstall all body panels, bed, skid plate, interior, etc.

Thank you for choosing Evolution Powersports products. If you require further assistance, please call our Tech Support @ (715) 247-3862

***Note:** This product is exempt from the emission standards and related requirements of 40 C.F.R. § 1051 as provided by 40 C.F.R. § 1051.620, and California law [e.g., vehicle code §§ 27156 and 38391]. This product is sold only for use in connection with EPA certified, purpose-built, nonroad vehicles used solely for closed course, nonroad competition/racing and not used for any recreational purpose or on public highways or right of ways maintained by and open to the public. This product is sold only in connection with machines that do not fall under state and/or federal noise or emission standards/regulations. Purchasers who/that purchase this product represent and warrant that the product is purchased only in connection with EPA -certified, emission-regulations-exempt and noise-regulations-exempt competition/racing vehicles as interpreted under applicable state and/or federal law. Questions: Call Evolution Powersports at (715) 247-3862.*