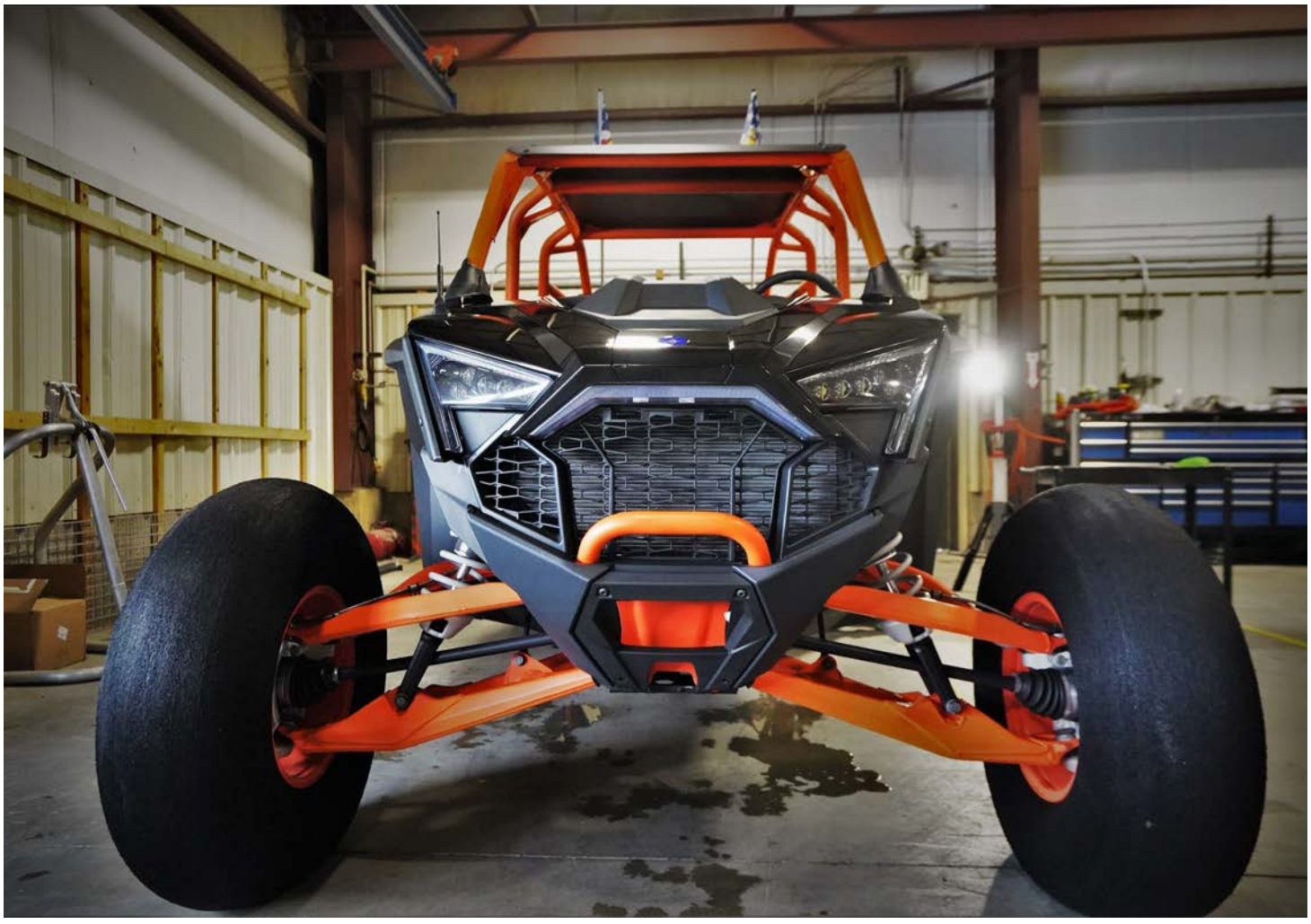
Thank You for Buying BoonDocker

Made in the USA

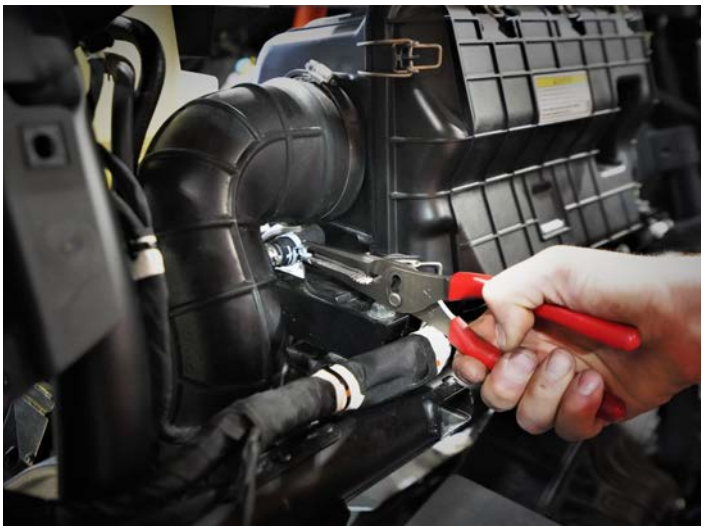


RAGE Turbo Kit Installation

Remove factory header and heat shield from the vehicle. (Optional, remove muffler from vehicle for better access to oil system later)

Drill out 8 rivets holding factory heat shield to the frame. Then remove the heat shield. (Boondocker recommends covering exhaust ports to prevent foreign debris from falling into the engine)

Remove valve cover breather from the intake duct then loosen hose clamps and remove from both the airbox and throttle body. (Boondocker recommends covering throttle body to prevent foreign debris from entering during following steps)



Remove two T40 bolts holding coolant bottle in place.

Just behind the factory coolant bottle location, measure 1 ½" from the rearmost edge of the plastic and 1" up from the bottom edge and mark as shown.

Mark out the rough shape to cut then drill corners with ½" drill bit as shown to create smooth corners.

Finish cutting out the rectangle with an air saw or similar and debur as necessary

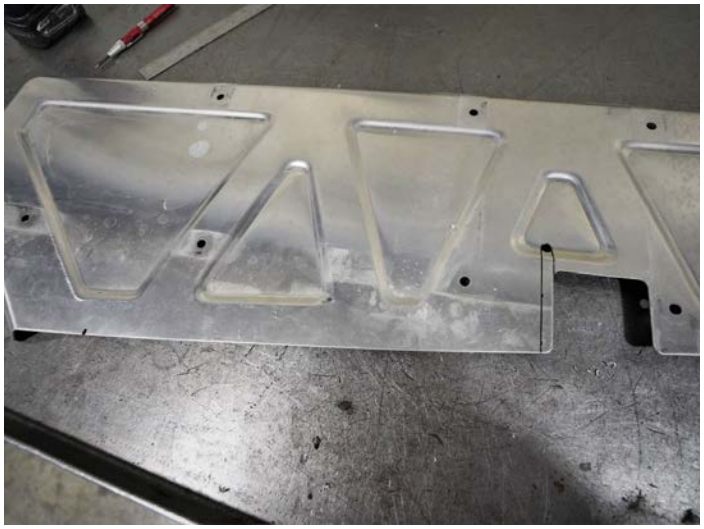
Move coolant bottle back and remove both small coolant lines from the top of the bottle.

Install coolant line extension included in your turbo kit with a brass barb onto lower coolant line with red clamp and secure with provided hose clamp. Reconnect extended line to coolant bottle with provided clamp

Cut off approx 6" from top coolant hose (just after 4th bend) then reinstall using factory clamp

Clean off Header mounting surface with a razor blade, ensure all gasket material is removed to ensure a proper seal.

Locate previously removed heat shield and prepare to modify for turbo clearance



Measure 14" from the edge of the factory cutout and mark with fine point sharpie

Square off against the top of the heat shield and draw cut line from the 14" mark

Measure 1" below the step and mark your first turn.

Using your square measure 3" to the left and mark your second corner then straight up to the top of the heat shield.

Your heat shield should now be marked as shown.

Using a ½" drill bit, drill the one inside corner to provide a nice rounded edge.

Using an air saw or similar, cut out the heat shield along the lines as shown.

Use a die grinder and sanding wheel to round the edges and debur as necessary

Reinstall heat shield in chassis using provided 8mm self tapping bolts.

Install Boondocker turbo header using the provided gasket and factory hardware. Finger tight for now.

Tighten header bolts in sequence in the following steps

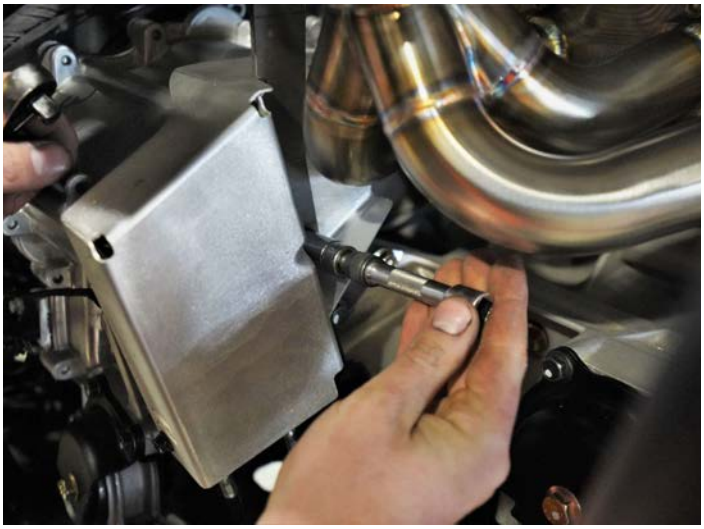
1) Snug
2) 10 ft lbs
3) 22 ft lbs
4) 22 ft lbs

REPEAT TORQUE SEQUENCE AFTER INITIAL HEAT CYCLE WHEN INSTALLATION IS COMPLETE. FAILURE TO DO SO CAN CAUSE A BOOST LEAK AND POOR RUNABILITY

Set turbocharger in place and install V-band clamp loosely

Using a square, line up the exhaust housing outlet 90 degrees from the valve cover as shown; then tighten down V-band clamp

Remove 15mm bolt from transmission and install turbo bracket as shown.



Install and tighten upper turbo bracket bolts to intake housing as shown.

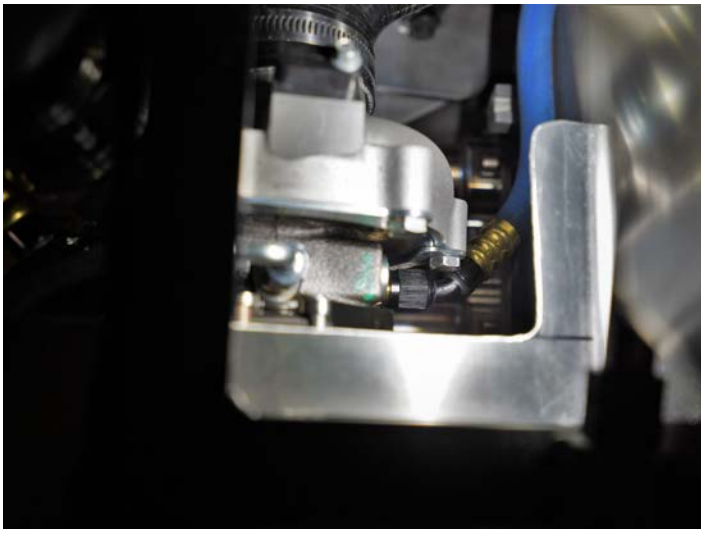
Install downpipe through from the rear of the vehicle as shown.

Using factory hardware, start the bolts into the muffler then install and tighten the v-band clamp on the turbo side then tighten the muffler bolts.

Reinstall factory 02 sensor into downpipe.

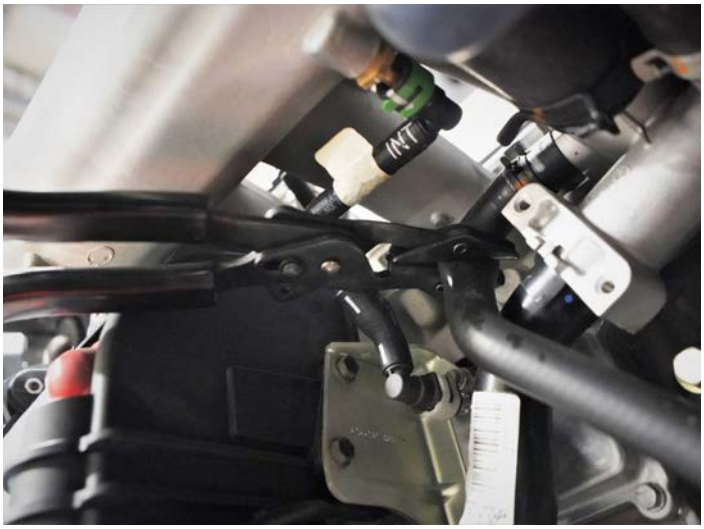
Install the first water line onto turbocharger as shown.

Install the second water line onto the backside of turbocharger as shown.



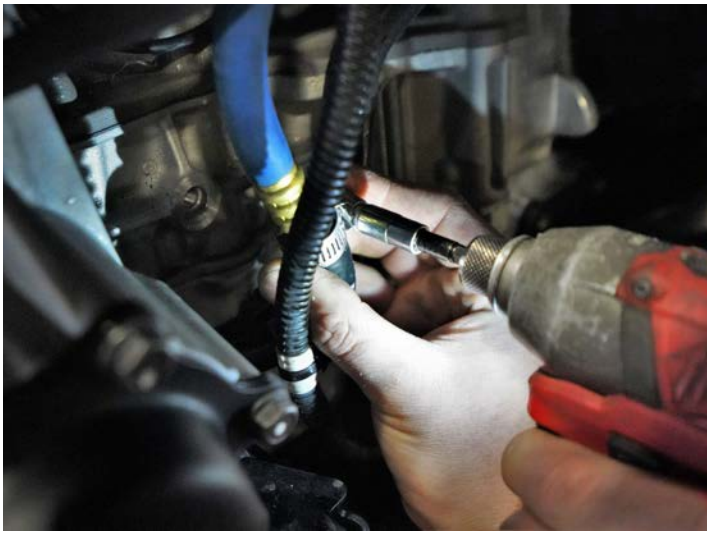
Route blue lines along the front of the engine above the clutch cover and secure as necessary. Make sure to avoid sharp edges and abrasive surfaces when securing these lines.

Pinch off oil cooler feed hose at both ends.



Cut out straight center section of the factory hose.

Install turbocharger coolant lines in place of the removed section. It does not matter which hose connects to each side.



Secure as shown.

Install the boondocker cold air intake tube between the airbox and turbocharger. No need to clamp down at this time.

Mark the frame where the center of the cold air intake tube runs over the chassis. Remove the cold air intake tube.

At previously marked location, drill ¼" Hole in chassis and install provided rubber bumper as shown.

Reinstall cold air intake tube permanently and tighten clamps

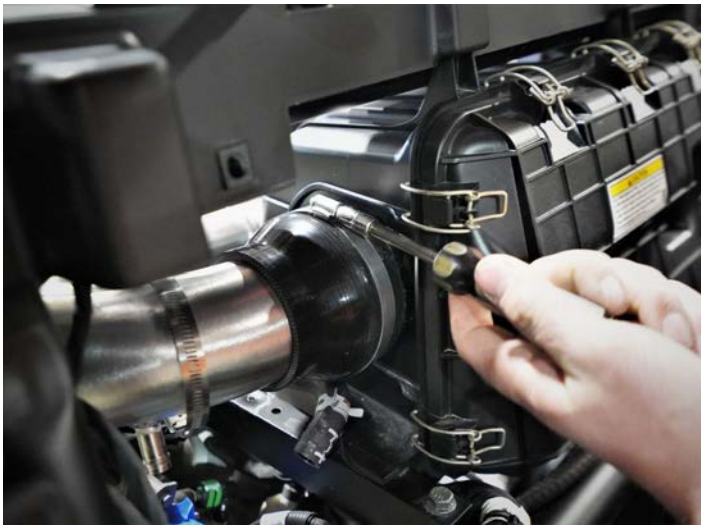


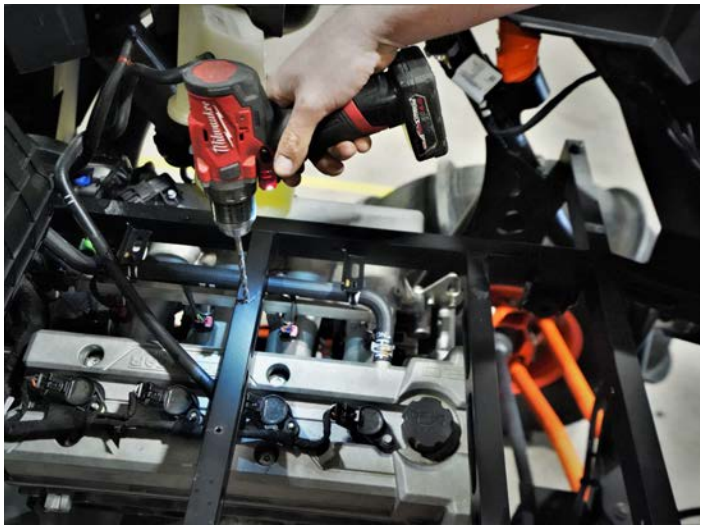
Image shows rubber bumper installed for clarity

Remove 2 T40 Torx screws from above airbox.

Set intercooler in place and reinstall T40 Torx screws, snug down.

Reach behind boondocker plate and mark two additional intercooler mounting holes with a marker then remove intercooler.

Center punch and drill out previously marked holes on cross bar with ¼" drill bit.



Reinstall intercooler and secure with 2 T40 Torx screws and 2 6mm bolts, nuts and washers provided with the RAGE turbo kit.

Secure coolant bottle to intercooler using provided 6mm bolt, washers and nut.

Set the lower coolant bottle bracket in place and center punch the hole into the chassis

Using a 3/16" Drill bit, drill a mounting hole into the chassis

Rivet into place using supplied large head 3/16" Rivet

Secure bottle to bracket using the last 6mm bolt, washers and nut

Install intercooler fan using provided allen head bolts. (Note: Wiring lays towards left side of vehicle)

Lay fan wiring harness alongside factory harness above heat shield as shown.

Unplug factory tail light connector on the drivers side and plug fan harness into both the tail light and the factory connector you just removed.

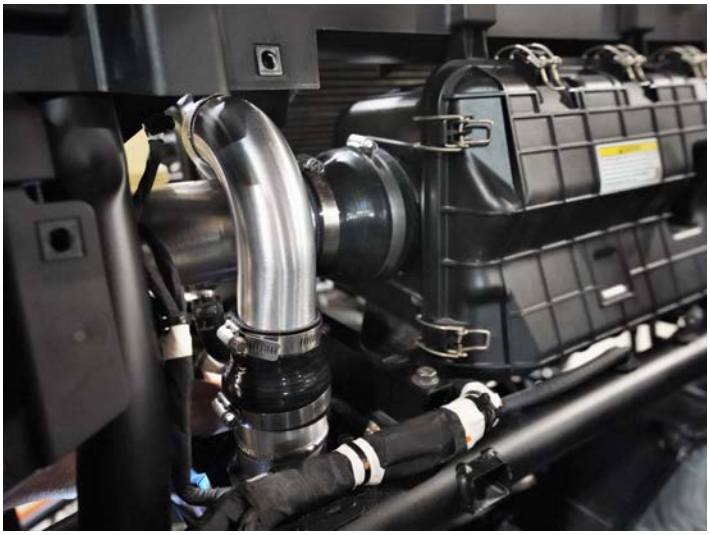
The positive side of the fan harness follows the factory harness down in front of the turbo towards the starter solenoid.

Attach positive wire from the fan harness to the upper side of the starter solenoid for 12V constant power.

The negative side of the fan harness follows the factory harness across the front of the engine towards the passenger side of the vehicle to the chassis ground.

Attach ground wire to chassis ground bolt then secure harness with zip ties as necessary. Make sure to avoid sharp edges and abrasive surfaces when securing the harness.

Install the 2 piece charge tube between throttle body and intercooler outlet. (Note: The V shaped aluminum tube has 2 different angles on it, the 90 degree angle faces down)



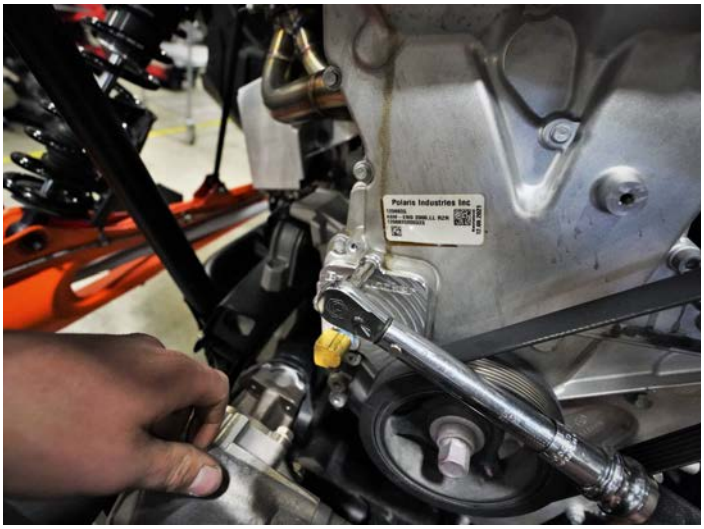
Install the hot side charge tube between the turbo and intercooler (Note: Short leg faces towards the turbo)

Position the charge tube carefully to ensure clearance between the chassis and the factory air intake, then tighten down clamps.

Remove the alternator belt shroud to gain access.

Remove factory timing chain tensioner cover (Note: Lower inside bolt does not need to be removed, only loose)

Install billet timing chain tensioner cover with oil drain installed and torque to specification 80 in-lbs

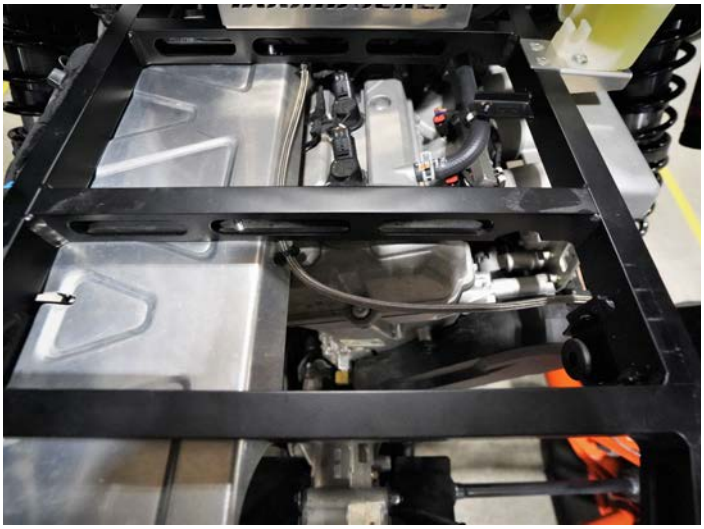


Place oil pan under vehicle then remove 8mm allen head bolt for oil feed line. (Located on the back of the engine below the pulley)

Loosely assemble oil line as shown and install into engine in place of previously removed plug.

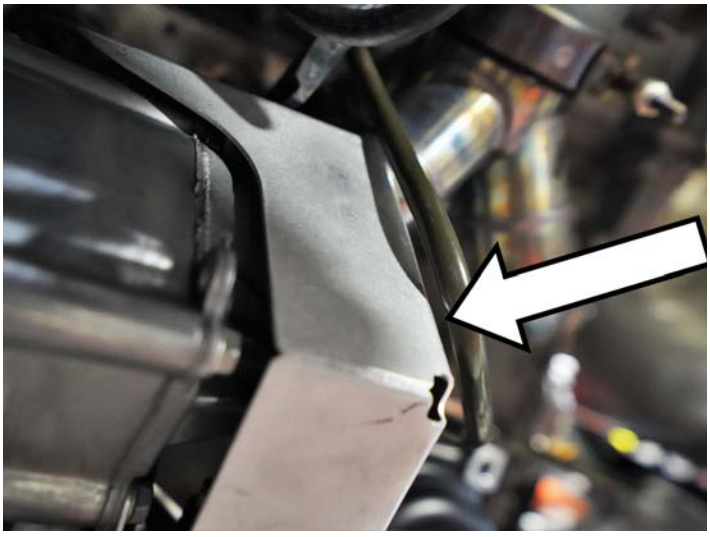
Reinstall alternator belt shroud and route oil feed line as shown using supplied isolator clamps and 2 6mm bolts with washers.

Route oil feed line up to turbo along the top edge of the heat shield. Secure with supplied darts and zip ties as shown. (¼" drill bit to install darts)



Tighten all connections on oil feed line.

Install oil drain as shown, make sure there is sufficient clearance as shown in following photo



Install lower isolator clamp using factory bolt.

Install upper isolator clamp as show using provided self tapping screw and 5/16" nut as a spacer between the clamp and the heat shield.

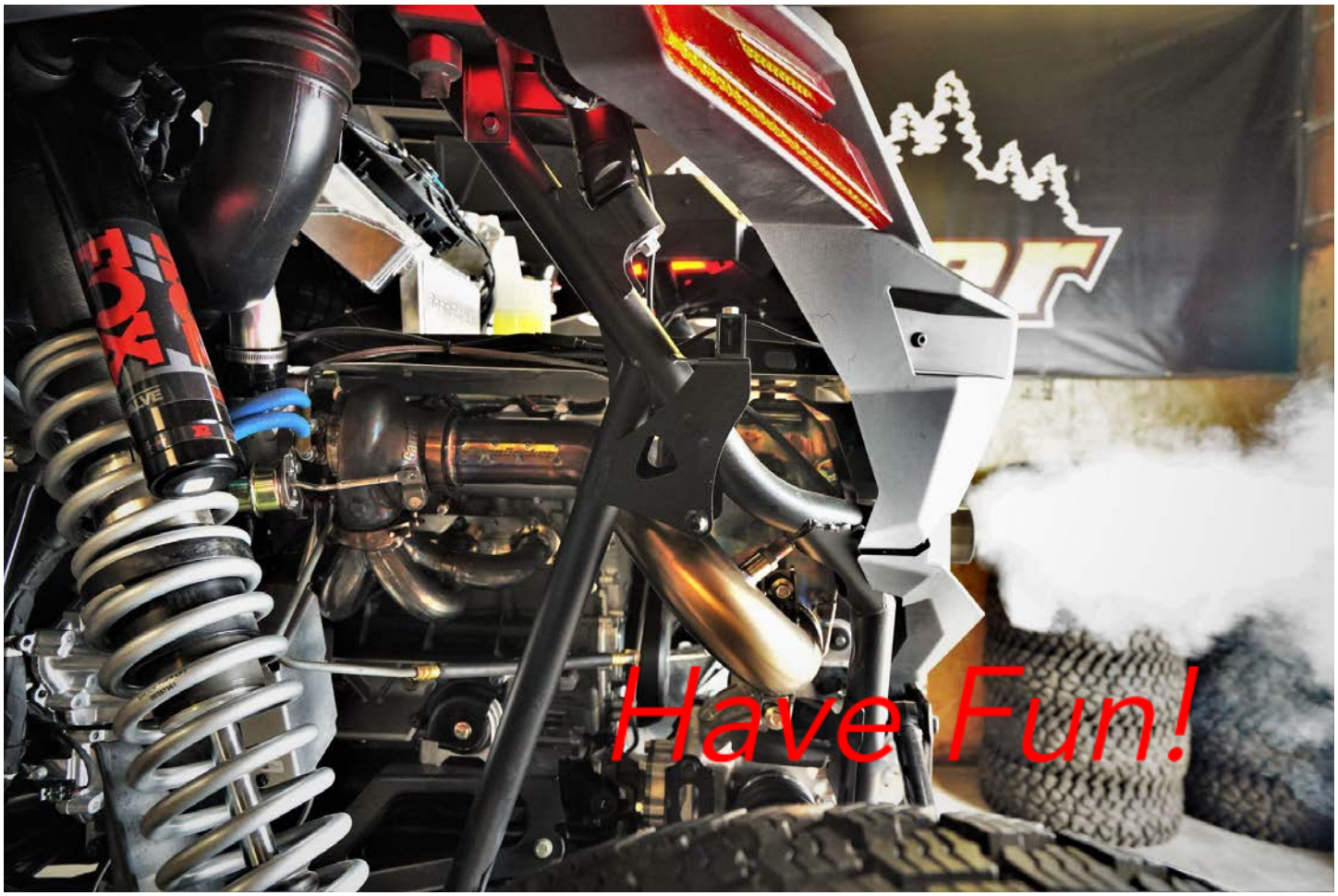
Install wastegate actuator on turbo bracket and tighten down nuts. Adjust the extension rod until it slides on the wastegate arm freely then go two full turns tighter. Install actuator E clip.

Connect boost reference line from the turbo compressor housing to the wastegate actuator and secure with zip tie.

CHECK FLUIDS AND TOP OFF BEFORE OPERATING THE VEHICLE SOME COOLANT AND OIL LOSS IS UNAVOIDABLE DURING INSTALLATION

REPEAT HEADER TORQUE SEQUENCE AFTER INITIAL HEAT CYCLE WHEN INSTALLATION IS COMPLETE. FAILURE TO DO SO CAN CAUSE A BOOST LEAK AND POOR RUNNABILITY

RECHECK ALL CONNECTIONS AFTER INITIAL OPERATION OF THE VEHICLE, HOSE CLAMPS, ZIP TIES, OIL LINES, ETC.



- Performing this installation is at your own risk. These instructions act as a general guideline, and may not include some steps.
- If you do not feel comfortable with installation please reach out to your boondocker dealer or call us directly and we would be happy to complete the installation for you.
- As the installer, YOU take responsibility for the entirety of the installation.
- YOU must ensure proper routing, fitment, shielding, etc. to prevent melted parts, chaffed wires, poor performance, etc.
- Improper installation, of any type, is not covered as a defect under any warranty, implied or written.