

BoonDocker

PERFORMANCE

Pump Gas Instructions for Polaris 600 700 And 800 Models



Important Information before Installing This System:

Before you begin your turbo install, read through these instructions to determine if you are comfortable installing this system. If not please take it to an experienced mechanic for your install. It is also a good idea to check the kit contents to verify all parts were provided in the kit before getting started. This install requires time and patience. Do not rush the installation, if you have any questions on your installation please contact Boondocker tech support at 1-877-522-7805.

- **Improper installation could result in engine damage or personal injury.**
- **For the 2007 Dragon 700 we strongly suggest upgrading from the stock pistons please call for details.**
- **It is highly recommended to run the factory reeds or the reeds recommended by Boondocker. Some aftermarket reeds can break and cause engine damage.**

Step 1- Disassembling your sled:

Tools Needed:

Basic Tool Set

A. Remove side panels

B. Remove the electrical cover (plastic) from the clutch cover.

C. Remove the sensor from the exhaust pipe, then remove the pipe and exhaust muffler. Be sure to keep all of the exhaust springs, you will need these later in the install.

D. Remove The Air Box. Disconnect the connector from the TBAP sensor and remove the clamp that holds the fuel lines to the air box. The 08-09 Polaris' have a locking pin to hold the air box in place. This is located on the clutch side of the air box (See picture). You can remove it with a long flat head screw driver or give the air box a good pull and the plastic pin will break. You will not need the pin or air box for the installation of this turbo kit.



E. Remove the TBAP sensor from the air box, Reconnect it to the factory connector and find a new place to mount it. We chose to zip-tie it to the wiring harness on the clutch cover.



F. Remove seat and gas tank. **This is only necessary for the 07 models only but does make the install easier on all models if removed.** You will need a special quick release tool to remove the fuel lines from your gas tank (see picture). This tool can be found at your local automotive store.



G. Remove the throttle Bodies.

Disconnect the throttle cable and the TPS sensor connector. Remove the coolant lines from the throttle bodies. You can use a pair of clamps to kink the lines or you can insert a bolt to plug off the lines and keep them from leaking.

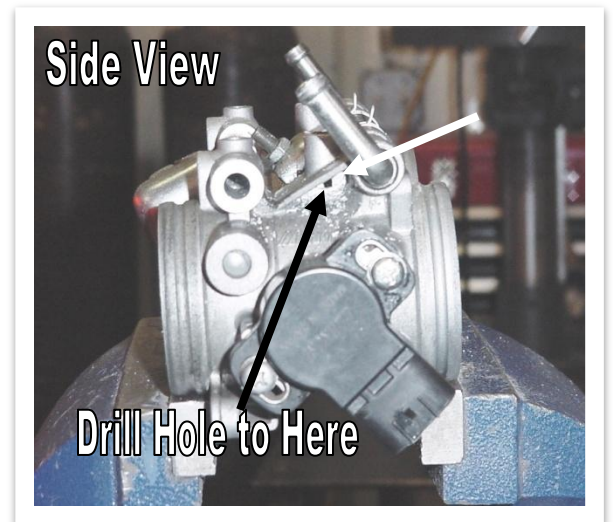
Step 2- Modifying the throttle bodies

Tools Needed:

Basic tool set
Drill
Tap Lubricant
13/64" Drill bit
Thread sealant
¼ -20 Tap
Loc-tite

Important: It is highly recommended to run the factory reeds or the reeds recommended by Boondocker. Some aftermarket reeds can break and cause engine damage.

A. Drilling the holes for fastening the air box. Using a 13/64" Drill bit, carefully drill the 2 holes as shown below. You can periodically shine a flashlight on the side of the throttle bodies, when you can see the light shine through the hole you have drilled far enough. **Important: Do not drill all the way into the throat of the throttle bodies.**



B. Use a ¼-20 tap to thread these holes, be sure to use a tapping lubricant.

C. Remove the 10 bolts securing the rubber throttle body adaptor boot to the engine and reinstall with the BD reinforcement plate. It will install on top of the stock throttle body boot.



Step 3 - Installing the Air Box or Intercooler

Tools Needed:

Basic Tool Set
Rivet Gun
Assembly Lubricant
Drill
3/16" Drill Bit
Thread sealant

Parts Needed:

Boondocker Air Box with o-rings
4- rivets
1 ¼" rubber bumper with 5/16 studs
2- ¼-20 x 1/2" bolts with lock washers
Air Temperature Sensor
2- Self drilling screws for the air temp sensor Silicone

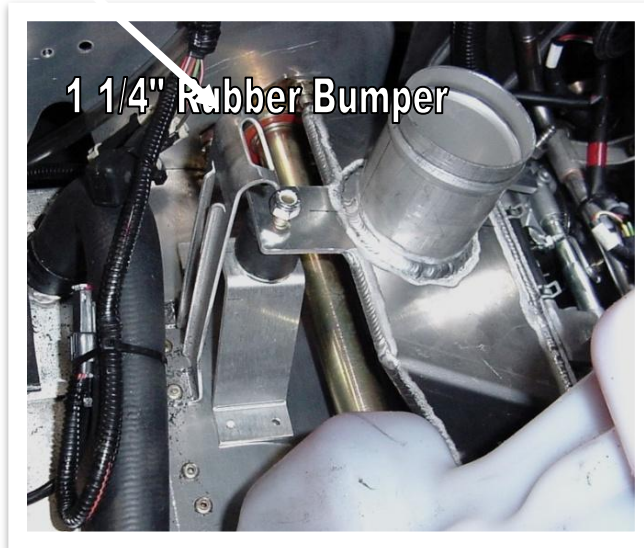
A. Lubricate the o-rings on the inside of the air box. Insert the air box onto the throttle bodies. Be sure the tabs of the air box are flush with the newly drilled fastener holes in the throttle bodies. You may have to tap the tabs with a hammer to bend them flat against the throttle bodies. (See picture).

B. Fasten the air box in place using the two ¼-20 x 1/2" bolts with lock washers.

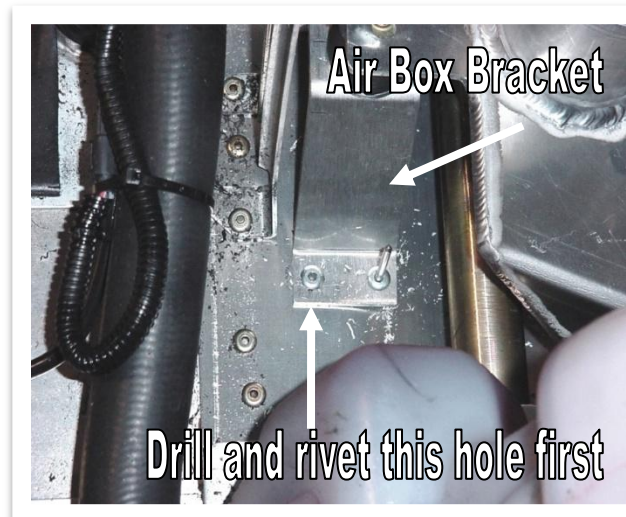


Air box Bracket Instructions

A. Locate the air box bracket, two- 5/16 lock nuts and the 1 1/4" rubber bumper. Install the rubber bumper to the bottom of the air box bracket and fasten with a 5/16 lock nut. Slide the air box bracket into place as shown. Install the 2nd 5/16 lock nut, but leave it loose for now.



B. Make sure the air box and throttle bodies are slid all the way in place. Using a 3/16" drill bit, drill the 2 holes towards the rear of the sled first (this will keep the bracket from moving while riveting the front holes). Fasten the bracket with the supplied rivets. Now drill and rivet the front holes.



C. After riveting the bracket in place tighten the 5/16 lock nut on top of the air box bracket.

Step 4- Installing the Exhaust Outlet

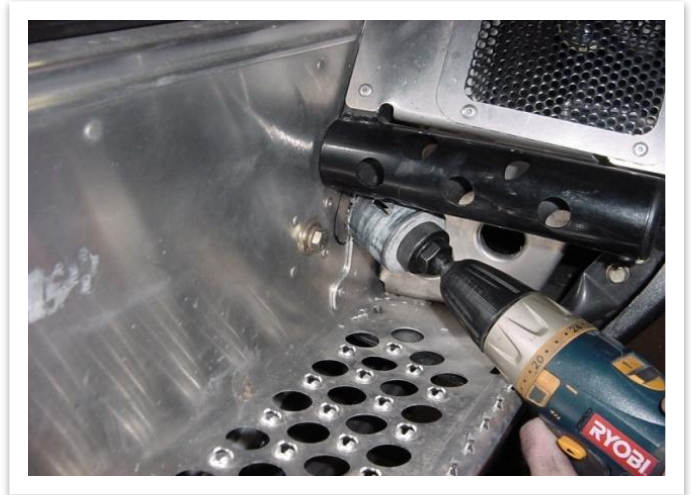
Tools Needed:

Drill
2 ¼" Hole saw
Air saw or de-burring tool
Basic Tool Set
Vacuum

Parts Needed:

Exhaust Outlet
Five 8mm x 25mm bolts
Cut out template for exhaust outlet
Cut out template for footrest

A. Locate the exhaust outlet template. Place the template on to the tunnel. Line up the holes on the template with the bolts and rivets on the sled, trace the center outlet hole.



B. Using a 2 ¼" hole saw. Drill the center of the newly traced outlet hole.

C. You may now finish cutting the hole with an air saw or a de-burring tool.



D. Before cutting the foot rest, it is a good idea to cover the inlet and outlet holes on the turbo to keep shaving from entering the turbo.

E. Locate the foot rest template and place it over the foot rest. Trace this template and trim as needed using an air saw. Important: Make sure the exhaust outlet clears all obstacles, if the pipe rests on the foot rest or the tunnel it will vibrate.



F. Vacuum all shavings from sled and remove the covers from the turbo charger. It is a good idea to double check the turbo for any debris that may have entered the turbo. Vacuum if necessary.

G. Set the exhaust outlet in place and fasten it to the turbo using the five 8mm x 25mm bolts.

H. Install spring tab to existing hole and attach spring.

I. Tighten bolts on turbine housing of turbocharger.

J. Now you will want to adjust your waste gate. You will want to tighten the rod so that the waste gate is tight against the housing, but not too tight. This adjustment will affect your minimum boost setting. You will want to have the rod just tight enough that you can not spin the wastegate against the housing. This will set you at minimum boost. If you are not using a boost controller you will use this adjustment to vary your boost setting by tightening the rod. The tigher the rod the higher your boost will be.



Step 5- Installing the Turbo/Oil Tank Assembly

Parts Needed

Turbo/Oil Tanks Assembly Kit

Tools Needed

Basic Tools
Drill
3/16" Drill Bit
5/16" Drill Bit
Hammer



A. For the 800 model bend the tab on the factory exhaust muffler bracket toward the engine flush with a hammer and then trim the outside of the exhaust bracket to remove spring tabs as shown in picture.

B. For the 600 and 700 models you will have to bend the tabs toward the engine on the factory exhaust muffler bracket to allow the BoonDocker Oil tank to sit flush and trim off the front outer spring tab.

C. Line up the new oil tank with bulk head. The oil tank should be tight to the bulkhead and slid all the way forward. Install backing plate below resonator bracket with F to the front of the sled and tighten using supplied hardware.



Step 9- Installing the Oil Pump

A. The oil tank has the oil lines, oil filter, and oil pump preinstalled. Install the open end of the hose with the 4an 90 degree fitting to the 4an fitting on top of the turbo.

B. Fasten the oil pump down with the provided piece of Velcro or zip ties.

C. The electrical plug in for the pump will route to the accessory plug up by the handle bars, be sure to route the wires away from any heat source and sharp or abrasive objects.



Step 7 Install coolant lines for turbocharger

- A. Locate the longer water hose and a #4 hose clamp. This hose will mount on the outside of the turbo and route under the oil tank up to the coolant reservoir and fasten to the barb as shown. Be careful when removing and installing the hose on the reservoir, it is only plastic and can break. Fasten this connection with a #4 hose clamp.



- B. Locate the shorter water hose. This hose will mount on the inside of the turbo and route to the right side of the throttle bodies. Be sure to keep this hose away from any sharp or abrasive objects and any heat sources. Fasten this connection with a #4 hose clamp. You can zip tie the 2 water lines together to help secure them in place and it makes for a cleaner install (see picture). **Important: Make sure not to kink the hose(s), mount them to, or lay them on any abrasive surface.**



Step 10- Modifying the Exhaust Pipe

Tools Needed:

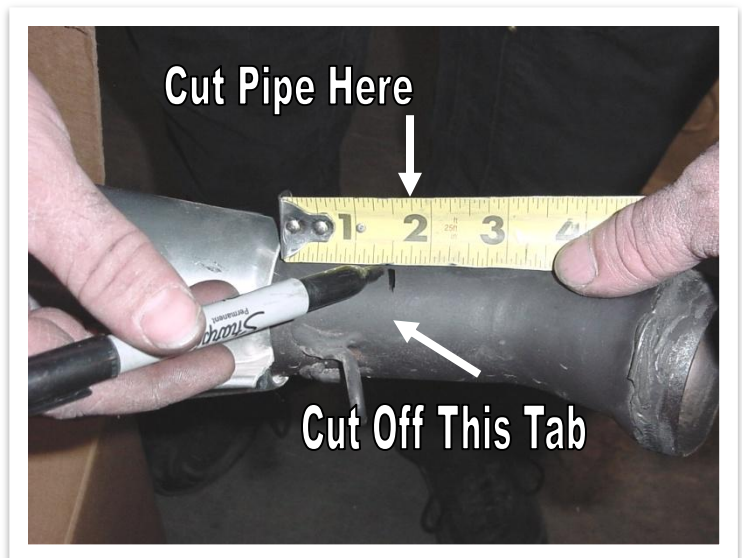
Basic Tool Set
Measuring Tape
Sander/sand paper or Grinder
Welder for 600 and 800 Dragon models
Saw or cutting tool

Parts Needed:

Stock Exhaust Pipe
Exhaust inlet pipe

Important: Boondocker highly recommends using the stock pipe for this application, aftermarket pipes can break at the seams under the increased pressure.

- A. **Polaris 700.** (Note: The 700 is the only model where you do not have to weld on the inlet). You will need to cut the pipe about 1 ½" from the shroud. You will also have to grind off the spring mounting tab. If you choose to weld on the inlet lightly sand the finish on the pipe to expose the raw metal (see picture). See step 10 for installation and fitting the pipe.



- B. **Polaris 600.** The Polaris 600's inlet will have to be welded on, cut the exhaust pipe about 1 ½" from the shroud and grind off the spring tab as shown in picture. Now lightly sand off the painted surface to expose raw metal for welding. **Important: You will also have to weld the entire seam of the pipe to keep it from splitting under pressure.** First remove the shroud and trim off the extra metal where the pipe is held together, cut as close to the pipe as possible without separating the 2 halves. Lightly sand the painted surface where you will be welding. Weld the entire seam. See step 10 for installation and fitting the pipe.



- C. **Polaris 800.** To modify the exhaust pipe for the 800 you will have to cut 1" inch of material off the shroud. Make sure you do not cut the exhaust pipe while trimming the shroud. Next you will have to cut the exhaust pipe just far enough to slip the Boondocker inlet pipe inside the exhaust pipe. Lightly sand the exhaust pipes surface where you will be welding them together. You can also bend over the edges of the shroud with a hammer to eliminate the sharp edge. **See step 10 for installation and fitting the pipe.**



- D. Set the modified stock pipe (see step 9) in place on the sled. For the Polaris 600 and 700 you will triple the springs on the "Y" pipe connection. For the 800 you will only have to double the spring count. (See picture).
- E. Position the inlet pipe onto the exhaust pipe. You may have to trim the inlet for a proper fit. Then using two of the four 5/16 bolts and the 4 hole gasket, loosely mount the inlet to the turbo. Make sure that the exhaust pipe is square with the doughnut on the "Y" pipe, and make sure the inlet is flush with the turbo before marking it for welding (see picture).
- F. Once you verify that exhaust pipe is placed properly, mark the inlet and exhaust pipe for welding. Remove the pipe and inlet from the sled and weld this connection. **Important Do not weld anything while it is on the sled unless you unplug the ECU, this can fry the ECU.**

Step 11- Installing the Exhaust Pipe

Tools Needed:

Spring tool
Welder
Basic tool set
Saw
Anti-seize (optional)

Parts Needed:

Modified Exhaust Pipe (see step 9)
Inlet pipe for turbo
2" exhaust clamp
4- 5/16 x 1" bolts w/ lock nuts
4 Hole flange gasket (located in turbo box)
Exhaust springs

D. Now you may reinstall the exhaust pipe. Tighten all bolts and be sure to double or triple your springs as needed. You can use high temp spray paint to achieve a clean, finished look.

Step 8- Installing the Charge Tube

Tools Needed:

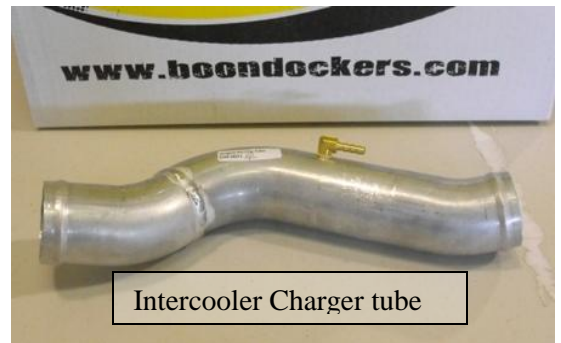
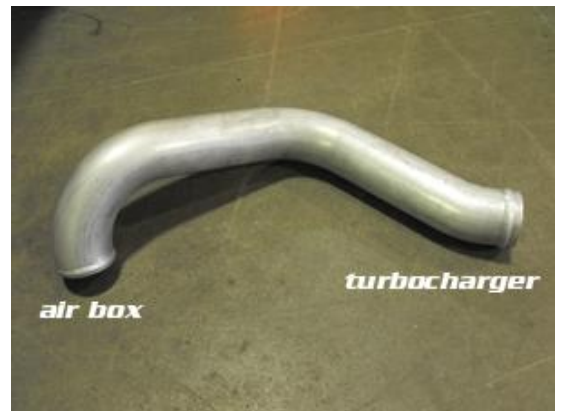
Basic Tool Set
Assembly Lubricant

Parts Needed:

Charge Tube with 3/16" barbed fitting installed
2- Size 32 hose clamps
2" pieces of black silicone hose

A. Slide the 2" x 3" piece of silicone onto the turbo charger and fasten this connection with a size 32 hose clamp. Then insert the remaining size 32 clamp on the other end of the silicone hose.

B. Slide the charge tube in place as shown and tighten the remaining size 32 hose clamp on the silicone tubing. Then attach the charge tube to the air box using the 2" silicone hose and two additional size 32 hose clamps.



Step 12- Installing the Control Box

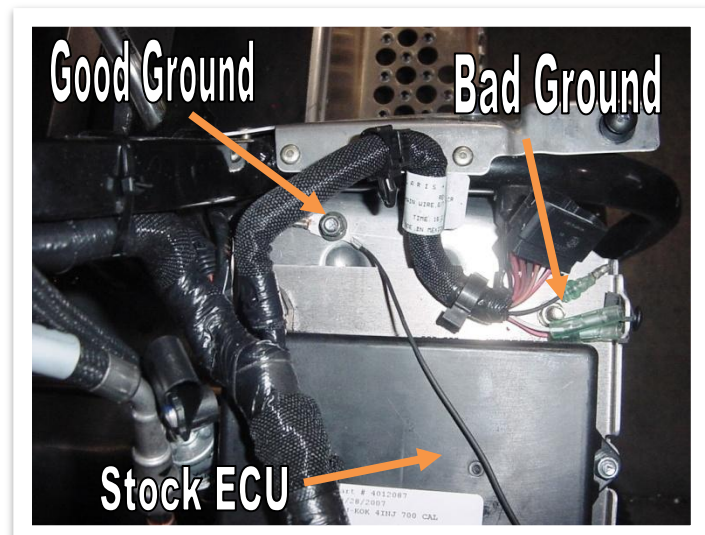
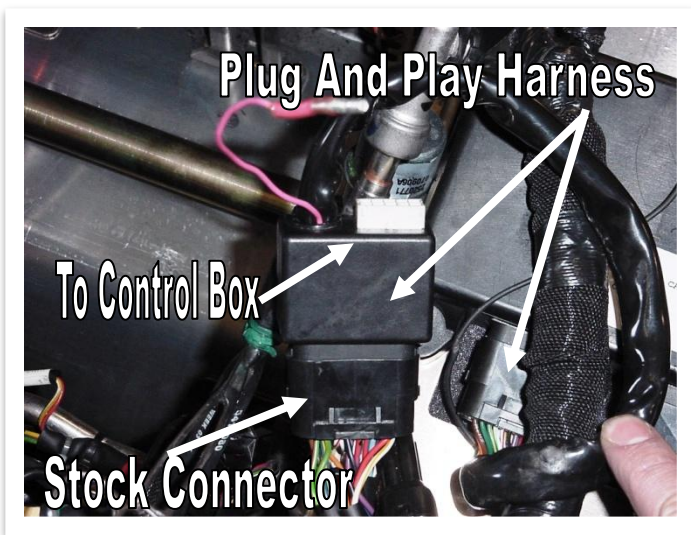
Tools Needed:

Air Saw
Basic Tool Set

Parts Needed:

Boondocker control box w/ Plug N play harness
Transducer harness
Zip-ties

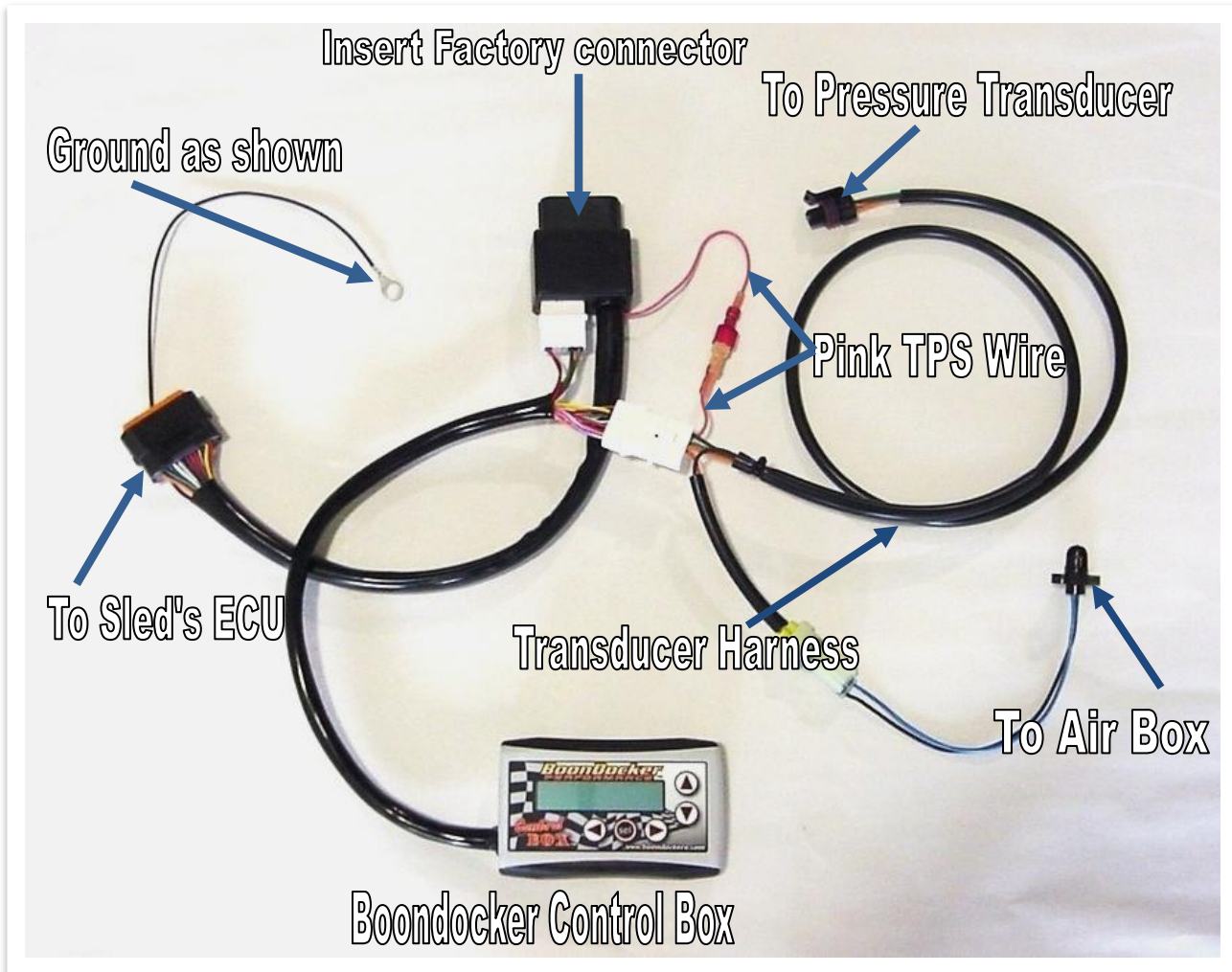
A. Remove the stock connector from motor side of the ECU and plug in the Boondocker Plug and Play harness. Then reconnect the stock connector into the open end of the Boondocker Plug and Play harness. (See picture)



B. Ground the eyelet from the Plug and Play harness to the bolt that is shown above. There are 2 locations to choose from be sure to use the one as shown. The other bolt is not a good ground source. Tip: The good ground will already have a factory eyelet grounded to it. (See picture).

C. Locate the Transducer harness from the control box package. The 3 position connector with the purple seal will connect to the Pressure Transducer installed later is Step 13. Route the end with the 10 position white connector near the Plug and Play Harness this will later mount to the Boondocker control box. Plug in the pink TPS wire from the Plug and Play to the pink TPS wire on the Transducer harness (see picture on next page).

Layout of the Electrical Components:



- C. To mount the control box find a suitable location with easy visibility and access, you will be using the Boondocker Control Box for tuning and for visual references. Set the control box in place with the provided Velcro. Note: the temperature must be above 68 degrees for the glue to properly adhere. Route the wires down through the steering column but make sure it does not affect the steering.



Installing the resistor for Air Density Advantage

- 1) Find the TBAP sensor, which was removed from the air box. This sensor has four wires:
 - Black with blue stripe (signal ground)
 - Dark Blue (temperature signal)
 - Red/White (5V to pressure sensor)
 - Dark Green (pressure signal)
- 2) Cut the black wire with the blue stripe and the dark blue wire. (Leave at least 2" working room on each side. Strip away the harness sheath as needed.)
- 3) Strip the wires ¼". Strip the black wire on the supplied resistor assembly ¼".
- 4) Twist together the black wire from the resistor assembly and the black/blue wire from the TBAP connector, insert into one end of the red butt-splice, and crimp.
- 5) Insert the black/blue wire from the stock harness into the other end of the red butt-splice and crimp.
- 6) Crimp the female quick-connect terminal onto the dark blue wire from the TBAP connector. (This will be used to restore your temperature sensor to stock configuration if you remove the control box and install the bypass jumper. This can be used for testing or for emergencies.)
- 7) Crimp the male quick connect terminal to the dark blue wire from the stock harness.
- 8) Plug this male connector into the resistor assembly.
- 9) Plug in the TBAP sensor.
- 10) Use zip ties to secure all wires away from heat and moving parts.

Finishing Touches

- A. You will have to trim the plastic cover for the electrical components to allow the new wiring to route out of the cover (see picture).
- B. Zip-tie the Transducer Harness and the Plug and Play harness away from any heat source, moving objects and abrasive surfaces.



Step 13- Installing the Exhaust Block off Plate

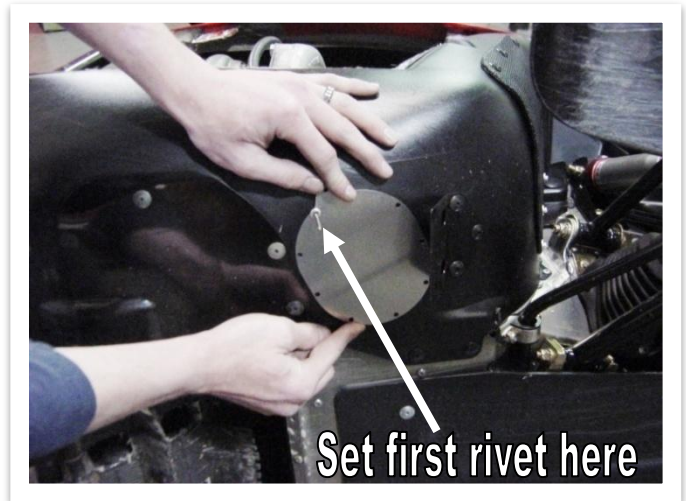
Tools Needed:

Rivet Gun
Drill
10 Rivet Washers
3/16" Drill Bit

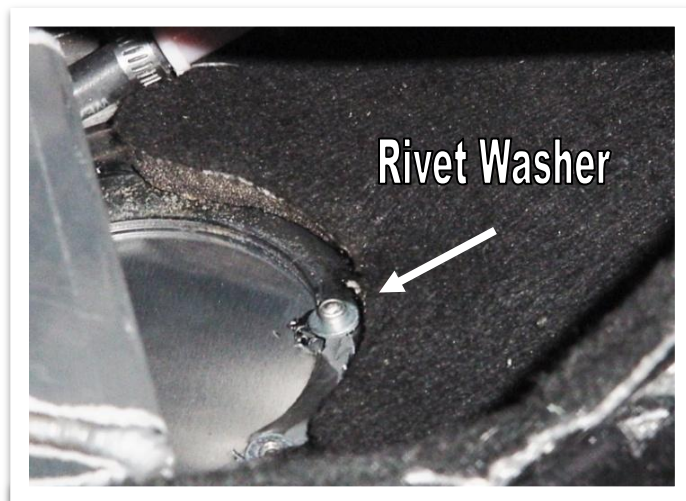
Parts Needed:

(6) 3/16" rivets

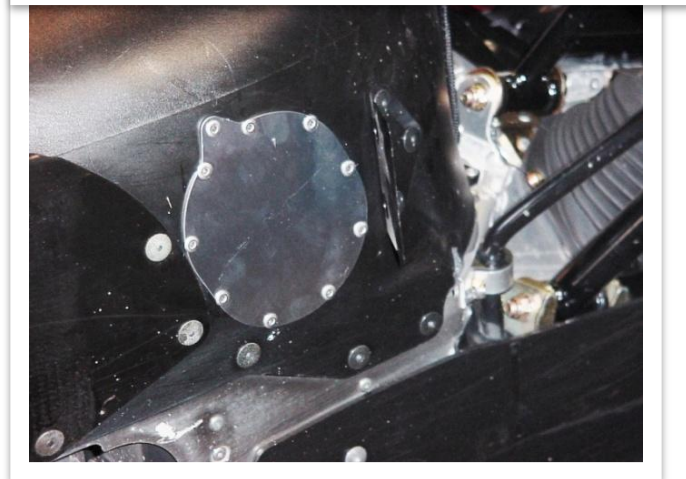
A. Tip the sled on its side and remove the existing rubber grommet from the factory exhaust outlet hole.



B. Place the block off plate over the outlet hole. Set your first rivet in the existing hole as shown. Be sure to place a rivet washer on the back side of the rivet and then rivet in place. Note: you can also use silicone for a more water proof seal.



C. Drill the remaining 6 holes with a 3/16" drill bit.



D. Rivet the remaining 9 holes but be sure to set rivet washers on the opposite side of every rivet.

Step 14- Important Final Touches

Tools Needed:

Basic Tool Set
two size 52 clamps

Parts Needed:

Boondocker air filter w/ pre-filter

Installing Air Filter

A. Fasten the air filter in place with the provided size 52 clamps. Note you may have to trim the provided rubber coupler.

Filling Oil Tank

A. We recommend using Polaris VES Gold 2 cycle oil for your turbo. Fill the Boondocker Oil tank to the full line on the dipstick. There are two lines, a full line and an add line. Fill with approximately 16 oz of oil to reach full line.

Important: Before running your sled you must make sure the oil pump is working properly see next page for details.

Check the oil pump to make sure it is pumping

A. Fill the Boondocker oil tank with Polaris VES Gold 2 cycle oil.

B. Remove the oil inlet fitting from the turbo. Have the quart or a container ready to catch the oil after starting the sled.

C. Have someone hold the oil line over the container and hold the fins on the inside of the turbo so they won't spin **(Do not rev up the sled while holding the fins)**. Start the sled. It might take 10-20 seconds for the oil to fill the lines. If the pump does not work go back and make sure you have oil in the machine and then check to make sure you are getting power to the pump.



D. After verifying the pump is working, re-install the oil inlet to the turbo.

Boondocker Recommends Changing The Stock Spark Plugs To NKG Iridium IX BR9EIX.

