

# **BoonDocker** PERFORMANCE

## M 1000 Race Gas Installation instructions



### **Step 1: Tear Down**

#### **Parts Needed:**

None

#### **Tools Needed:**

Basic Tool Set  
Air Saw

A. Remove hood and side panels.



B. Remove pipe.



C. Remove can (remove the stock rubber mount from the exhaust can, we will need this later).



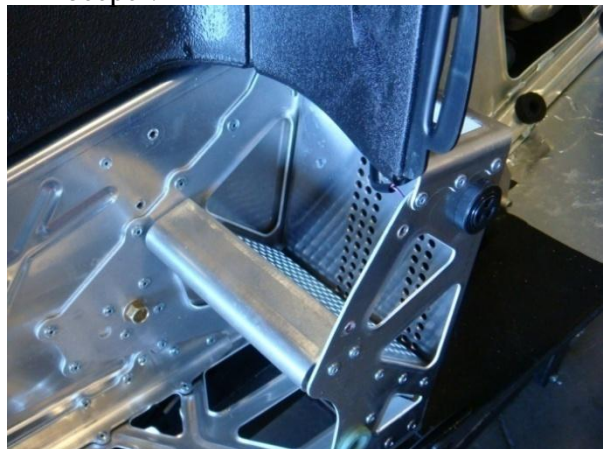
D. Remove "Y" pipe and heat shield.



E. Remove air box and ECU.



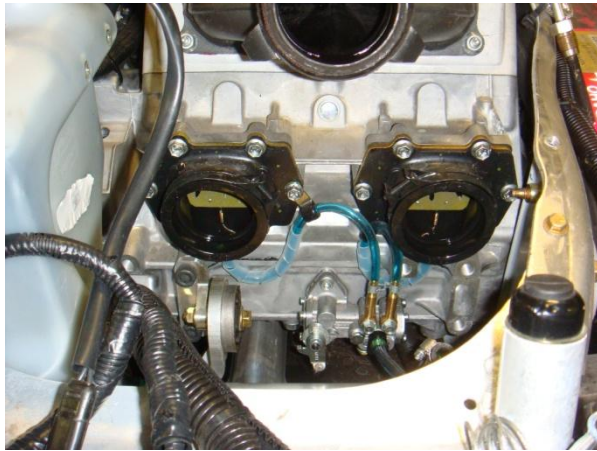
F. Remove right hand step panel and reverse beeper.





## **Step 1: (continued) Tear Down**

G. Remove throttle bodies.



H. Cut and remove this portion of the bulk-head.



## **Step 2: Throttle bodies**

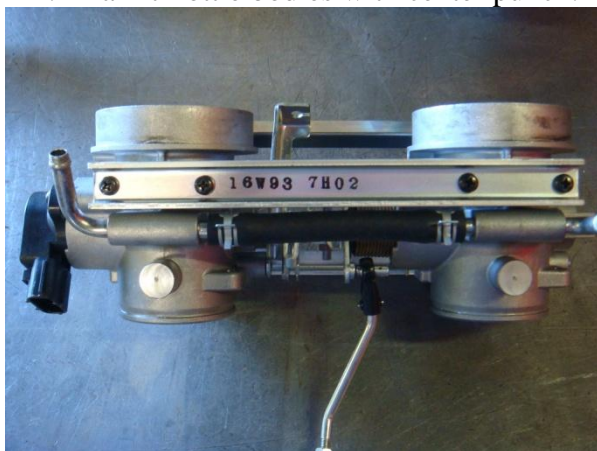
### **Parts Needed:**

- 2- 10/32 x 3/16" barbed 90
- 3/16" Brass T
- 2- 2.5" pieces of 3/16" hose
- 30" piece of 3/16" hose
- 6- 4" zip ties
- 5/8 hex bracket

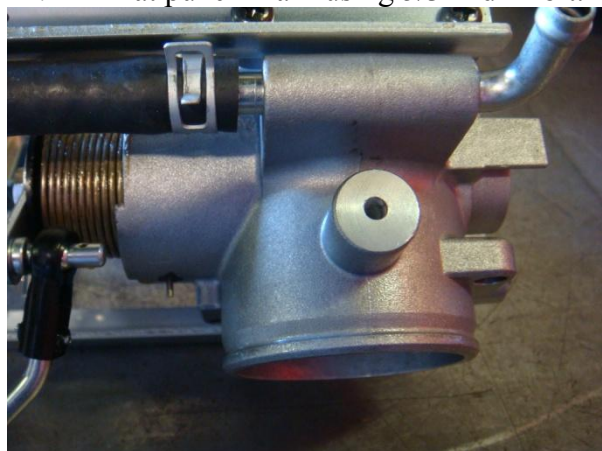
### **Tools Needed:**

- Basic Tool Set
- Lock tite
- 10/32 tap
- Drill

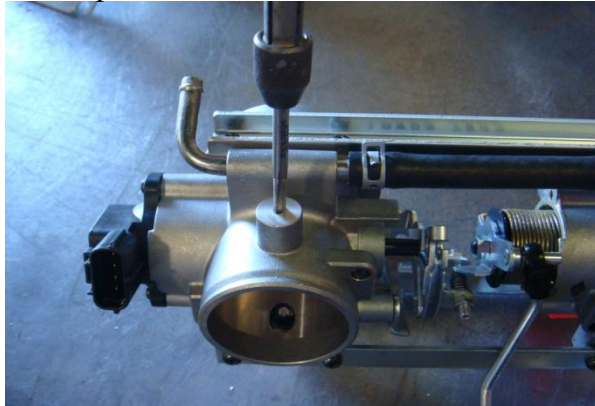
A. Mark throttle bodies with center punch.



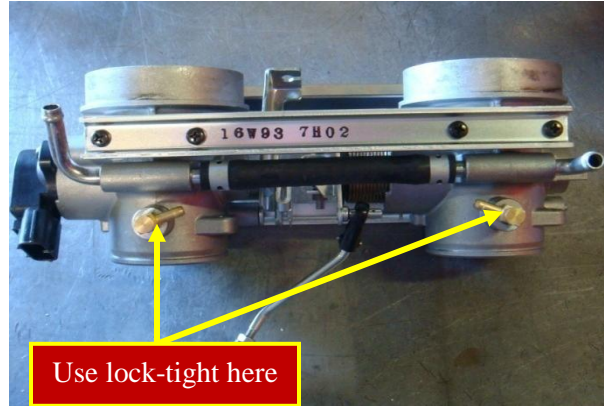
B. Drill at punch mark using 5/32" drill bit.



Tap hole in throttle bodies using a 10-32 tap.

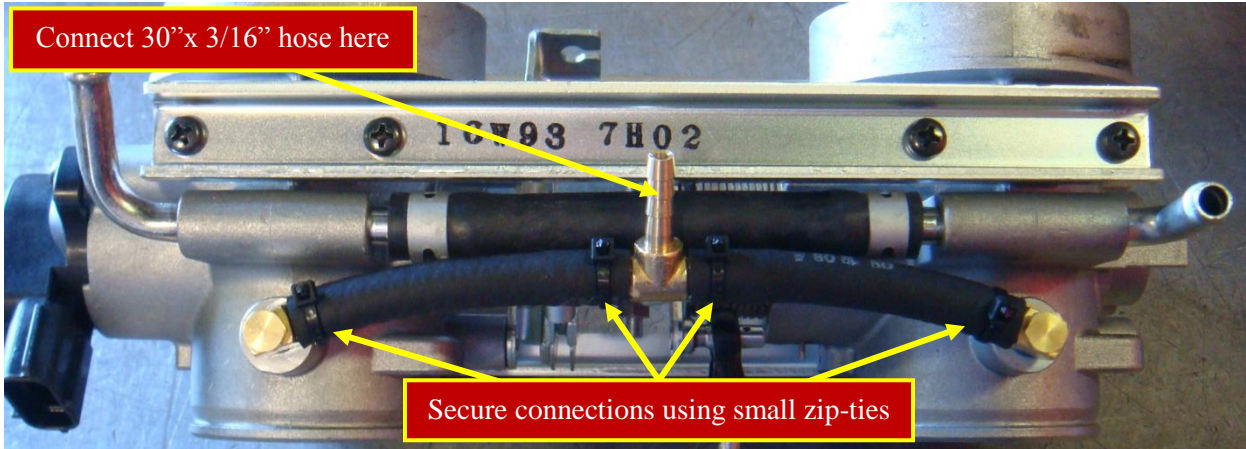


C. Install 10-32 x 3/16" 90° fittings, position as shown.



## Step 2: (continued) Throttle bodies

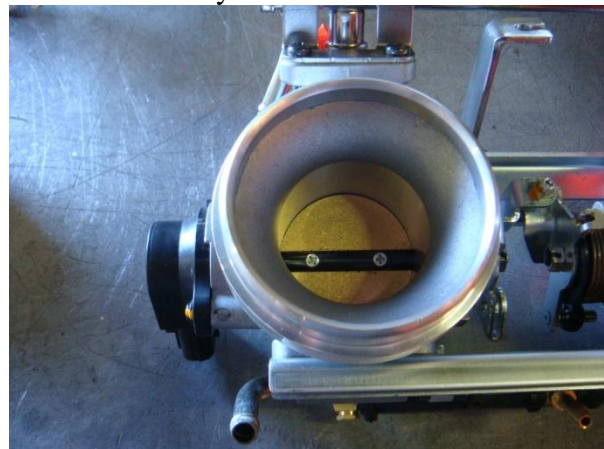
D. Install two 2 1/2"x 3/16", one 30"x 3/16" rubber boost hose, and one 3/16" brass tee.



E. Install air box mount to air box.

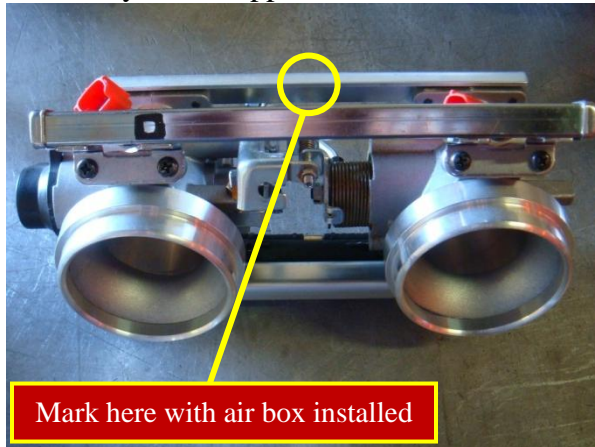


F. Temporarily install throttle body machined rings and turbo air box to throttle body.

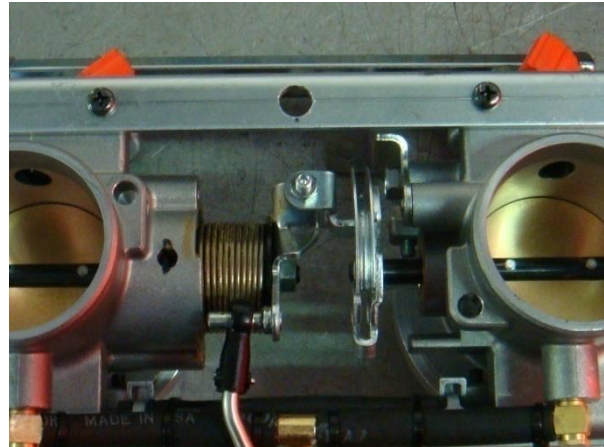




G. With the Airbox installed mark where the mounting bracket hits the throttle body cross-support.



H. Drill cross-support at mark using 3/8" drill bit.



### **Step 3: Air Box**

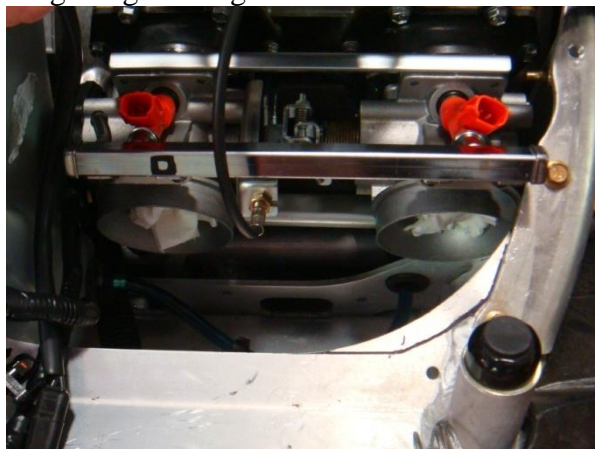
#### **Parts Needed:**

- Airbox
- 5/16 x 1" bolt
- 5/16" lock washer
- 2-Machined rings with o-rings

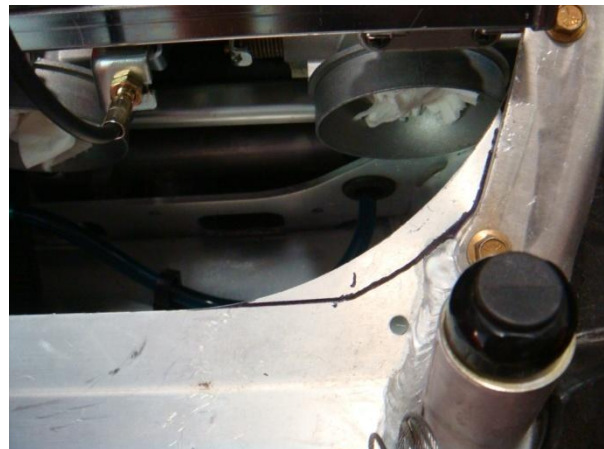
#### **Tools Needed:**

- Air saw
- Assembly lube

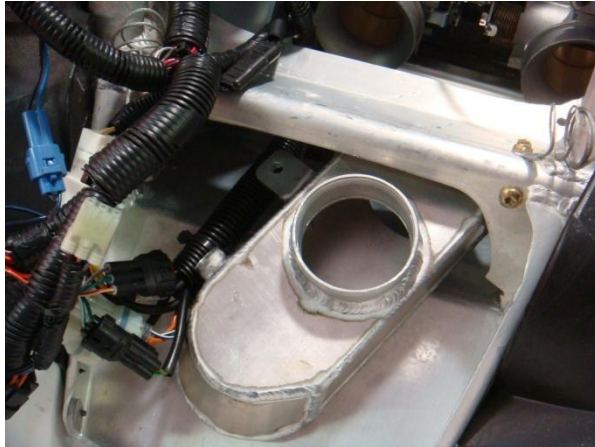
B. Reinstall the throttle bodies. Cover the holes on the throttle bodies to keep from getting shavings into the throttle bodies.



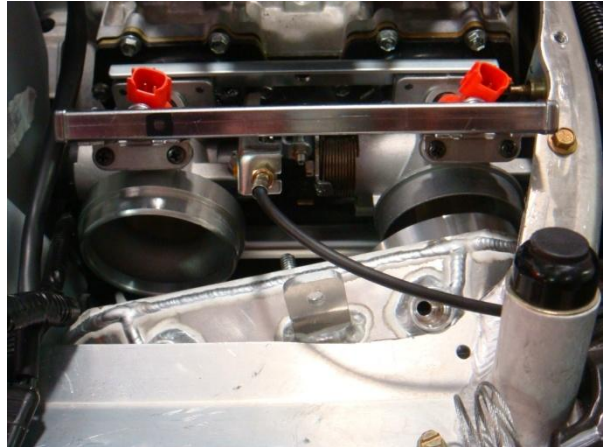
C. Mark bulk head as shown, and trim.



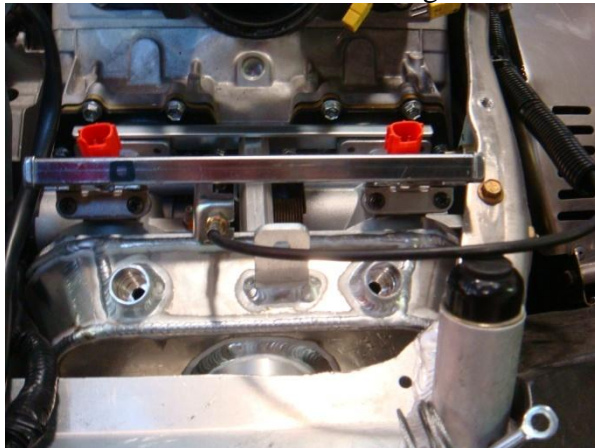
A. **Lubricate the o-rings in the Airbox,**  
Slide air box into place.



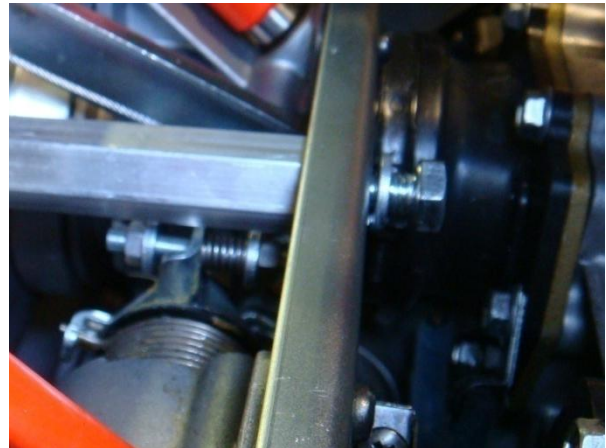
B. **Lubricate the o-rings on the machined rings before installing.** Install machined rings to throttle bodies.



E. **Install air box to machined rings**



F. **Fasten air box in place using 5/16"x 1" bolt and lock washer.**



## Step 4: Installing the Control Box

### Parts Needed:

Control Box w/instructions

### Tools Needed:

Basic tool set

A. SEE CONTROL BOX INSTRUCTIONS FOR INSTALLATION.

## Step 5: Oil Tank/Turbo Assembly Bracket

### Parts Needed:

2-8mm x 20mm bolts

2- lock washers

3 hole drain gasket (packaged in turbo box)

Oil drain

Rubber grommet from stock muffler

2- rubber boot seals

2- 5/16 x 1/2" bolts

Turbocharger

Oil tank assembly bracket

### Tools Needed:

Basic tool set

Assembly lube

- A. Install the stock rubber grommet (removed from the stock muffler in step 1) and install it to the oil tank assembly bracket as shown in picture. Install the 2 rubber boot seals as shown in picture. **Important: DO NOT LUBRICATE THESE BOOTS.**



- B. Loosen the 6 exhaust housing bolts on the turbo.

- C. Loosen the 4 bolts on the intake or compressor housing of turbo.



D. Locate the 2- 8mm x 20mm bolts, lock washers, oil drain and oil drain gasket. Now LOOSLEY bolt to turbocharger as shown, this will make it easier to install the turbo to the oil tank assembly bracket.

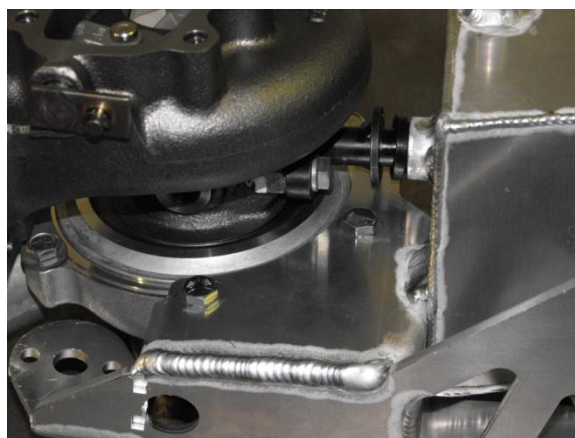


E. The center cartridge should rotate freely, rotate the center cartridge so that the oil drain is on the opposite of the exhaust inlet as shown in picture.

F. Using assembly grease, liberally lubricate the oil drain before installing the turbo into the oil tank boot.



G. Insert the turbo onto the oil tank, align the remaining 2 holes on the turbo housing with the 2 holes in the turbo mounting bracket as shown in picture. Use the 2 provided 5/16 x 1/2" bolts and tighten these first.



H. Tighten the remaining 4 bolts on the turbo housing.

I. Tighten the 2 oil drain bolts, snug 1 bolt on exhaust side of turbo housing.



## Step 6: Muffler

### Parts Needed:

Muffler  
5- 8mm x 25mm Allen head bolts  
Spring tab  
1/4" x 1/2" bolt with lock nut  
Muffler support with rubber bumper  
2- Aluminum rivets  
4- Gold exhaust springs  
Turbo oil tank assembly  
12" of heat tape

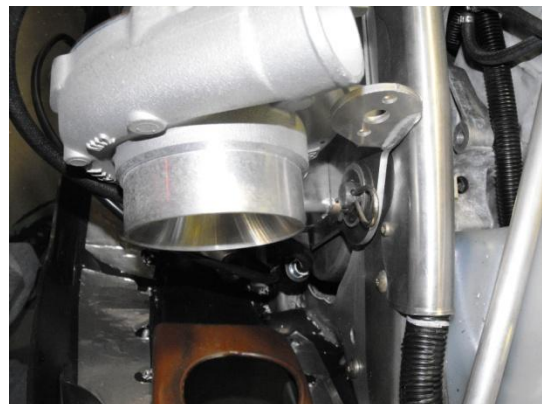
### Tools Needed:

Basic tool set  
3" hole saw  
Die grinder  
2 1/4" hole saw

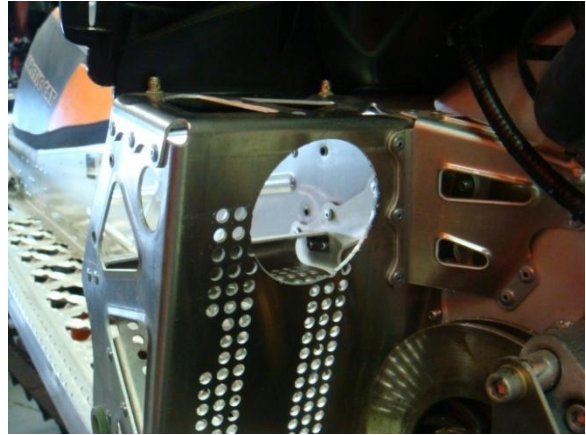
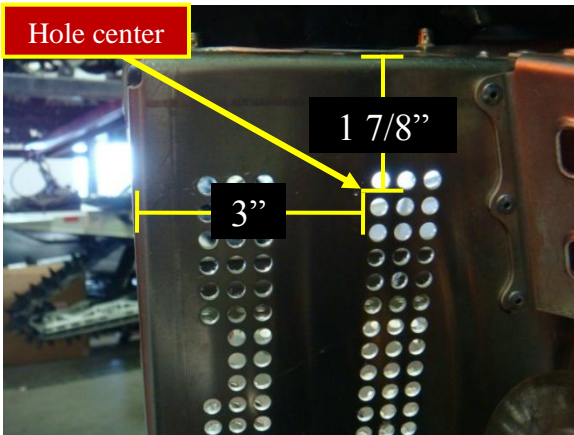
- A. Using the provided 12" piece of heat tape.  
Wrap the plastic wire loom on the coolant line  
as shown in picture.



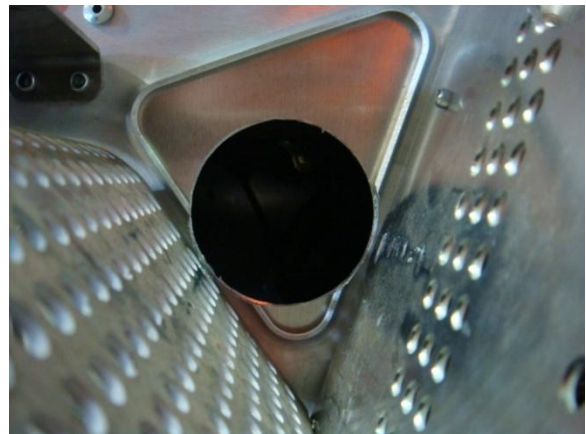
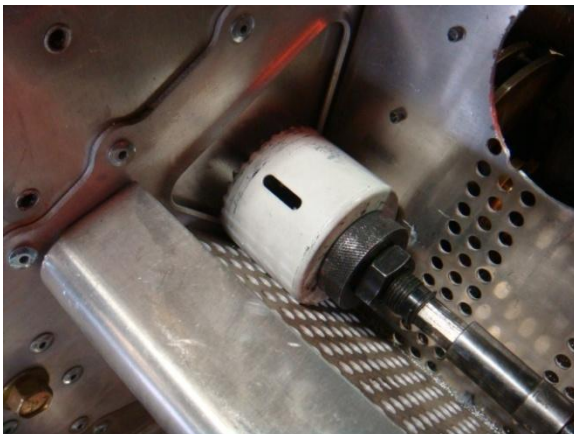
- B. Mount the oil tank/ turbo assembly to the sled using the stock exhaust can mounts as  
shown in picture



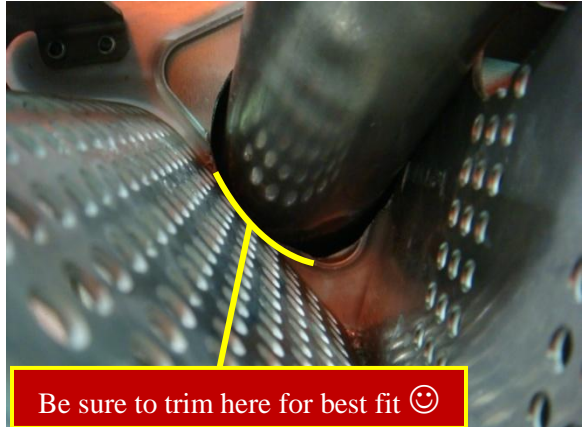
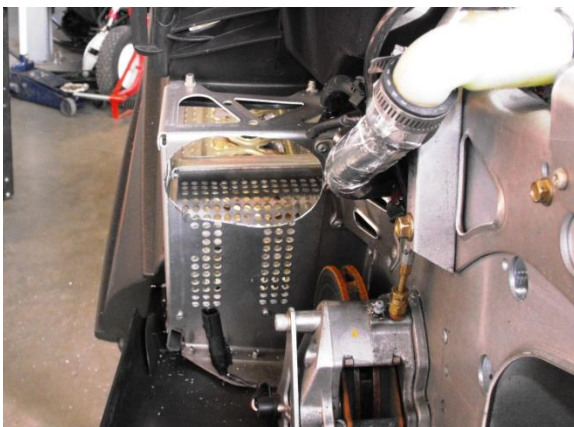
C. Using a 3" hole saw make this first cut as shown in picture.



D. Using a 2 1/4" hole saw make this first cut as shown

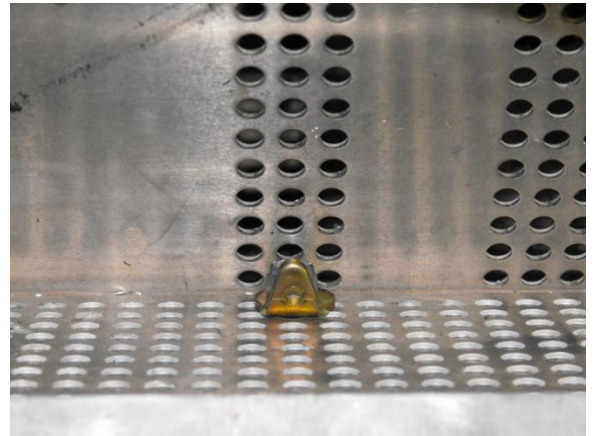


E. **NOTE: You will have to do additional trimming in the holes to get the muffler to fit, use a die grinder for this step (see below).** You can now fit the muffler inside the foot rest.

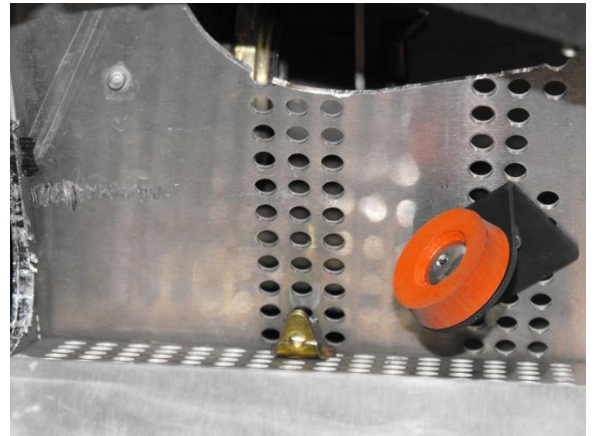




F. From the inside of the footrest, find the center row in the vertical hole pattern and the hole in the very bottom of the horizontal pattern. Install the spring tab here using the 1/4" x 1/2" bolt with lock nut as shown in picture.



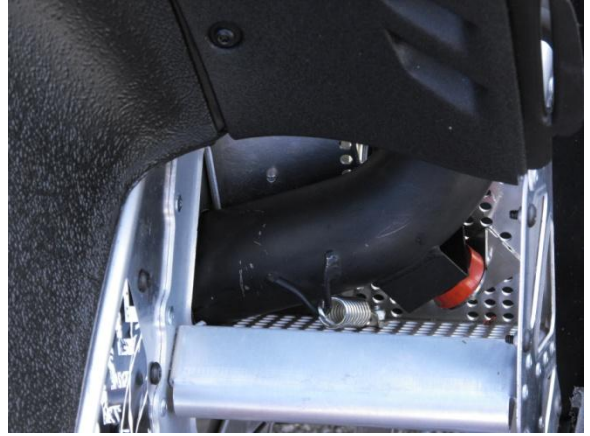
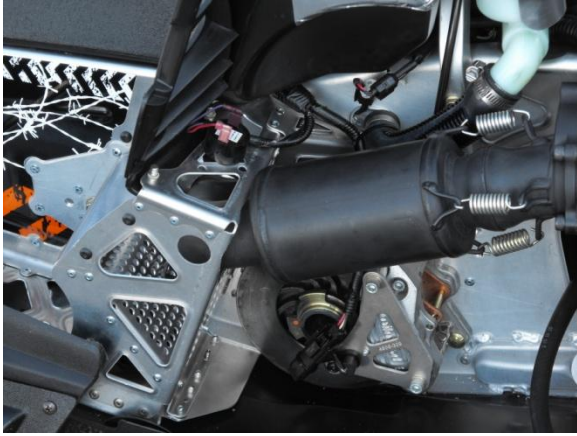
G. Using the hole pattern on the front of the foot rest count 6 holes up on the middle vertical hole pattern and 5 holes up on the right vertical hole pattern. Fasten the muffler support bumper here using the 2 aluminum rivets as shown in picture.



H. Trim 3 rounded spots on the foot rest as shown and mount the reverse beeper.



- I. Install the 5 hole muffler flange to the turbo exhaust housing using the 5- 8mm x25mm Allen heat bolts. Install the 4 gold springs as shown.



## **Step: 7 Fuel System**

### **Parts Needed:**

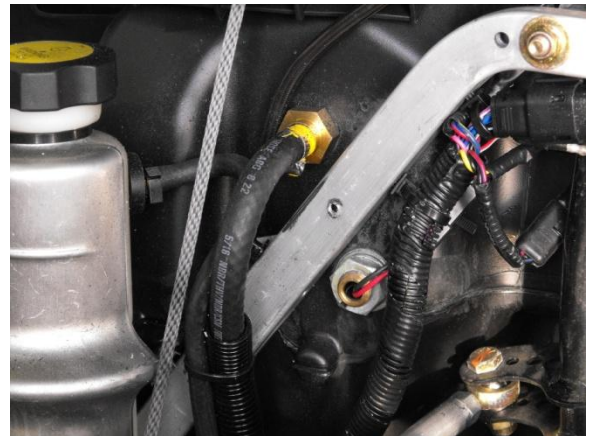
- Fuel regulator fitting (Copper)
- 1/8" NPT x 1/8" PTC 90
- 1/4 " flat washer
- Bulkhead fitting with 1/8" push to connect
- 5/16 nylon lock nut
- 4- 8" cable zip ties

### **Tools Needed:**

- Basic tool set
- Vise
- Drill w/ 5/16" drill bit
- Nut driver

**Note: The 2008 and older sleds will need a replacement pump provided by Boondocker.**

- A. Disconnect and remove the electrical connector for fuel pump, fuel line, brass fitting and the nut shown in picture, then remove the factory fuel pump from the gas tank.

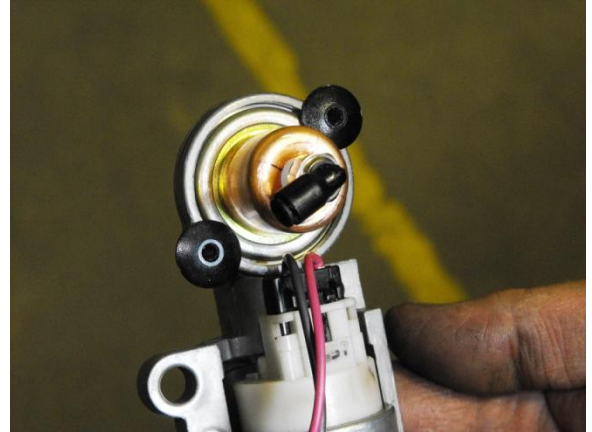




B. Locate the brass fuel regulator fitting and using a 9/16" socket press the fitting on the stock fuel regulator using a vise as shown in picture.



C. Thread the 1/8 push to connect 90 into the copper cap as shown in picture



D. Reinstall the fuel pump in gas tank.

E. Find a flat surface on the fuel tank to mount the bulkhead fitting. Drill a 5/16" hole and install the bulkhead union in gas tank. Fasten the bulkhead fitting using the provided 5/16 lock nut and 1/4" washer tighten using a nut driver. **IMPORTANT: Do not over tighten this fitting it will break.**



## Step: 8 Fuel Rail installation

### Parts Needed:

|                              |                            |
|------------------------------|----------------------------|
| 2- Auxiliary fuel injectors  | 10- 4" zip ties            |
| 5- Size 4 hose clamps        | 10- 8" zip ties            |
| 1/4" pipe plug               | 5/16 x 3/4" bolt           |
| 1/4 npt x 5/16" hose barb 90 | 5/16 lock washer           |
| 5 way rubber molded splitter | Fuel rail                  |
| 5/16 Brass T                 | 20" of EFI fuel line       |
| 4- #4 hose clamps            | Auxiliary injector harness |

A. Locate the 1/4 pipe plug, 1/4" 90, 2 injectors and fuel rail, assemble as shown in picture. **Be sure to use assembly lubricant on the injector o-rings and pipe sealant on the brass fittings.**

B. Install the fuel injector assembly to the Boondocker air box and fasten using the 5/16 x 3/4" bolt and lock washer, **Again Be sure to lubricate the injector o-rings with assembly lubricant.**

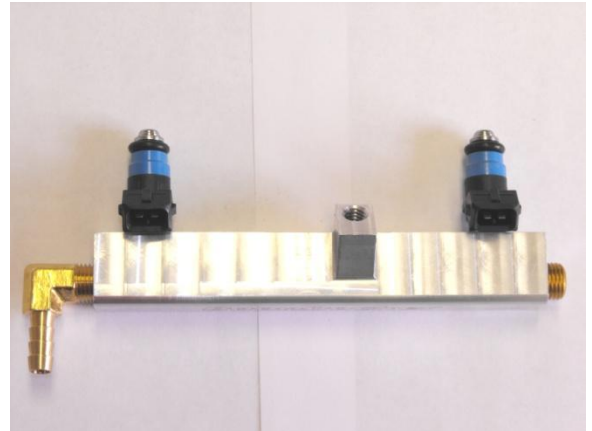
C. Install the 5/16" Brass T as shown in picture. Fasten with the 2 #4 hose clamps.

D. Using the provided 5/16" fuel line, connect the newly installed T Boondocker fuel rail. Fasten this connection with the remaining 2 #4 hose clamps.

E. Install the Boondocker auxiliary injector harness to the Boondocker injectors and route the harness to the Boondocker control box.

### Tools Needed:

Basic Tool Set  
Thread sealant  
Assembly grease





## Step: 9 Intercooler

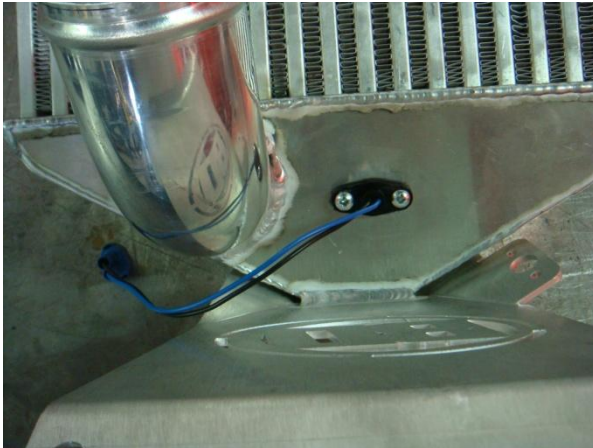
### Parts Needed:

Intercooler  
Rubber bumper with 5/16 studs w/ lock nuts  
Intercooler mounting bracket  
2.5" x 3" charge tube  
5" of 2.5" silicone  
1 2.5"x 3" silicone hump hoses  
4- #40 hose clamps  
30" of 3/16 hose  
Factory air temp sensor  
Blow off valve

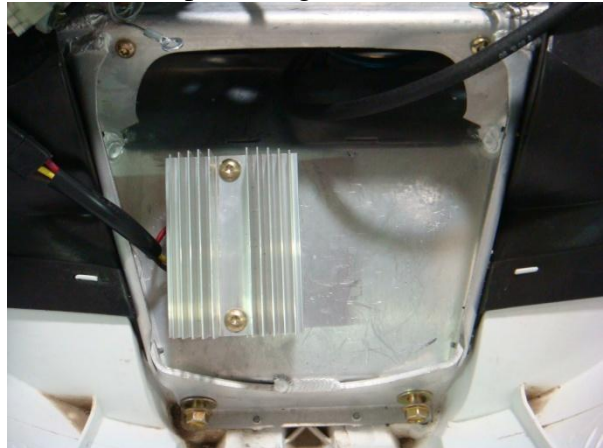
### Tools Needed:

Basic tool set

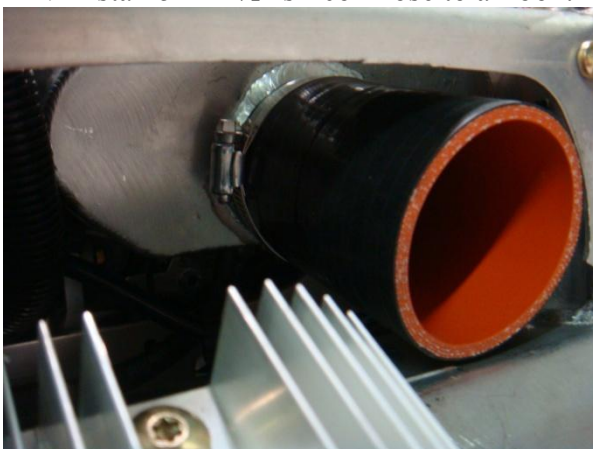
A. Mount ADA temp sensor.  
(see control box instructions)



B. Relocate power regulator/CCU as shown.



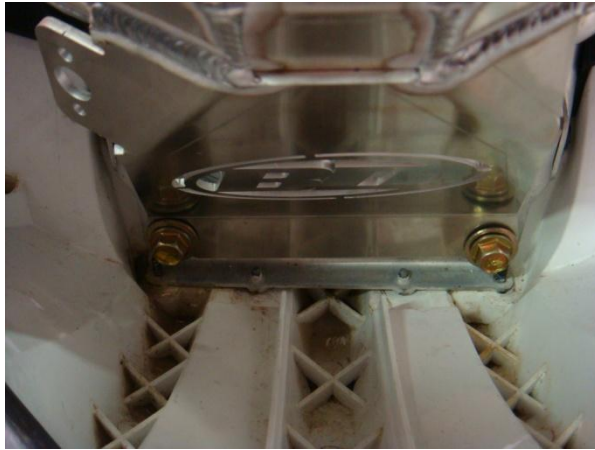
A. Install 5"x 2 1/2" silicon hose to air box.



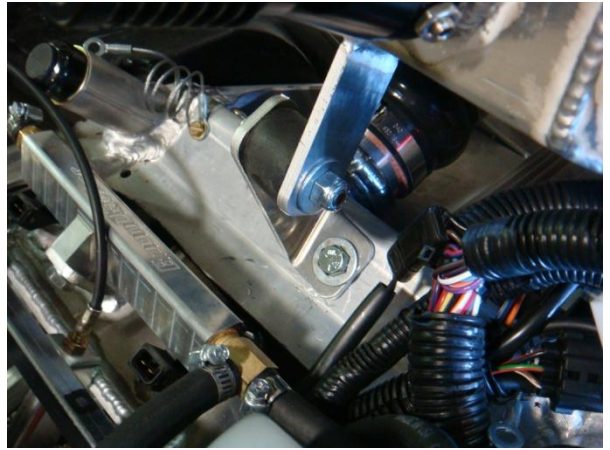
B. Install 3"x 2 1/2" charge tube and 2 1/2" hump hose to air box.



C. Install intercooler, and bolt to control arm bolts.



D. Install rubber mount with 5/16" studs to inter cooler, drill and bolt lower bracket to bulkhead.



E. Install blow off valve to intercooler.



F. Connect 30"x 3/16" hose from throttle bodies to blow off valve. Fasten with 4" zip tie.





## **Step 10: Oil System**

### **Parts Needed:**

Power adapter harness for oil pump  
4- 4” zip ties

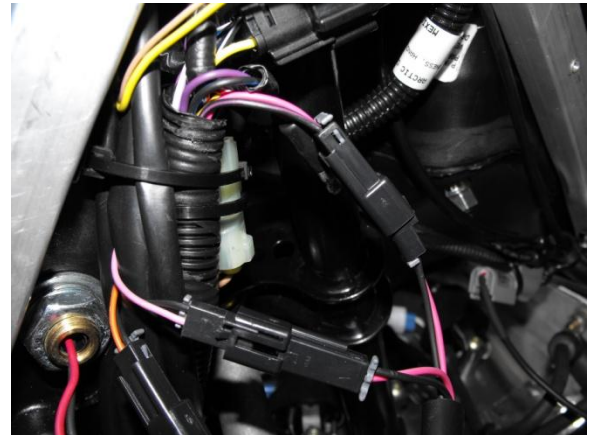
### **Tools Needed:**

None

A. Disconnect the factory fuel pump harness and plug in the Boondocker adaptor harness.

B. Route the oil pump harness to the newly installed molded connector.

C. Route the oil pump harness from the oil pump to the newly installed power adaptor. Zip tie away from any sharp or moving objects.



## **Step 11: Exhaust Pipe**

### **Parts Needed:**

4- 8mm non Nylon lock nuts  
Stock pipe  
Boondocker turbo inlet  
4- 8mm x 25mm bolts  
4- High tension exhaust springs

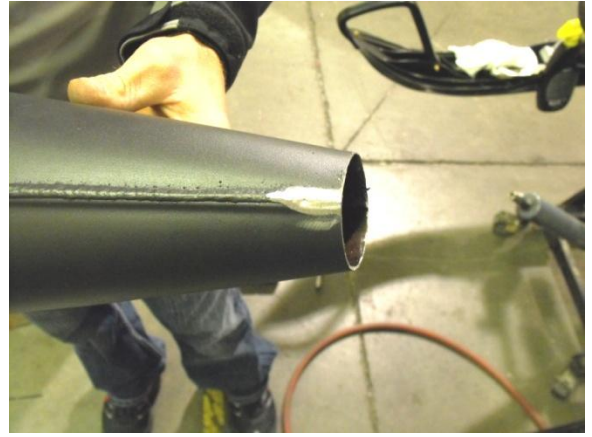
### **Tools Needed:**

Air saw or band saw  
Welder  
Basic tool kit  
Grinder or sand paper

A. Remove stock heat shield from pipe.

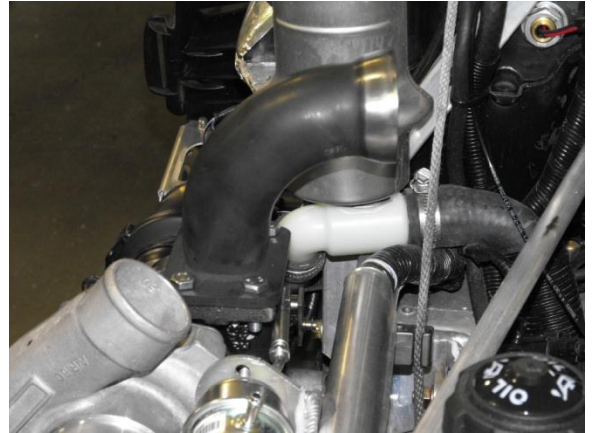


B. Cut the exhaust pipe right after the weld on the inlet side as shown in picture. You will also need to grind about 1.5” inches off the factory weld of the pipe as shown in picture.

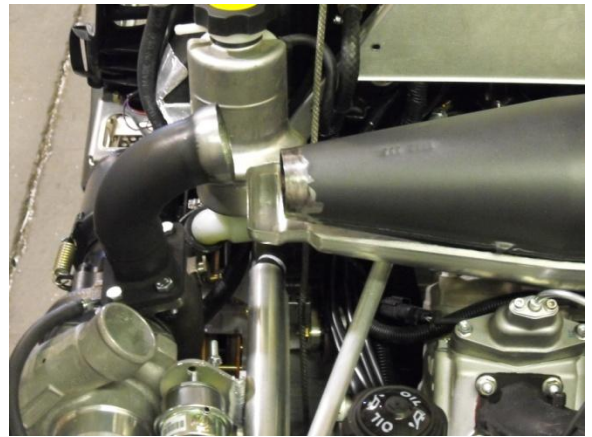


C. Sand the end of the pipe and inlet for a clean weld on the pipe.

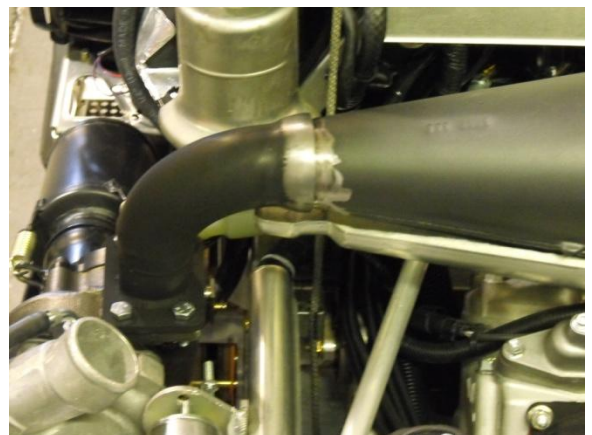
D. Using the provided 8mm bolts and nuts, bolt the turbo inlet to the exhaust housing on the turbo as shown Note: the exhaust housing side of the turbo should still be loose, this will allow you to rotate the housing as needed to fit the exhaust pipe.



E. Reinstall the bottom heat shield on the pipe and install the exhaust pipe as shown in picture. Be sure to spring the pipe in place to ensure proper placement (use factory springs).



F. Rotate the inlet to the exhaust pipe for a proper fit and tighten at least 2 bolts on the exhaust housing side of the turbo to fasten the turbo in place.



G. We are now ready to weld the inlet to the exhaust pipe. Either mark the inlet and pipe with a permanent marker and remove pipe to tack and weld, or If you plan on tacking the inlet to the pipe on the sled, be sure to disconnect the ECU. **Failure to follow this step will result in damage to your ECU.** Remove pipe and finish the weld.

**NOTE: Do not reinstall the exhaust pipe until step 13.**



## **Step 12: Installing Water Lines And Actuator**

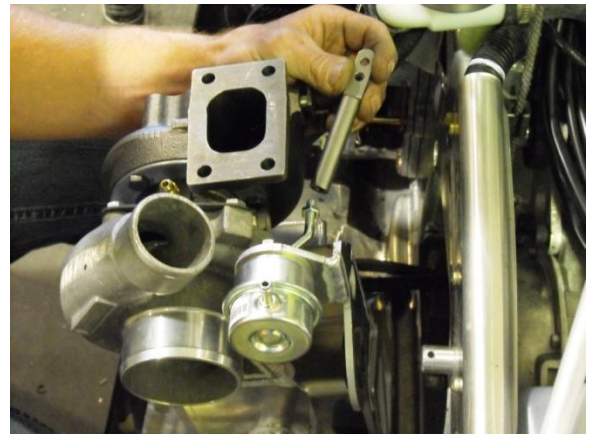
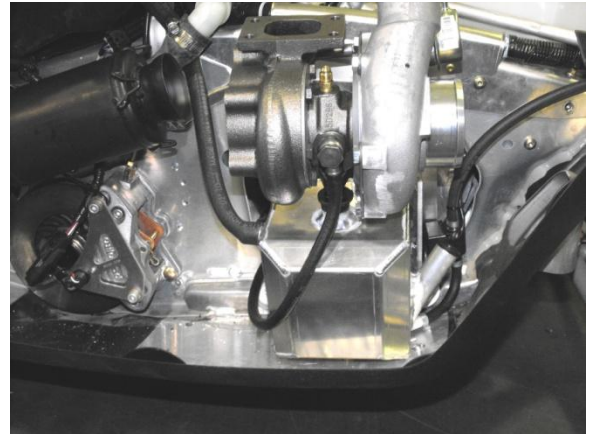
### **Parts Needed:**

2-Banjo style water fittings 1 @ 17" 1 @ 19"  
2- Bolts for Banjo fittings  
4- Copper washers  
1-1/4" x 1/4" barbed fitting  
Actuator  
Actuator extension rod  
2 nuts for actuator  
E-clip for waste gate  
2- #4 hose clamps  
Heat deflector plate

### **Tools Needed:**

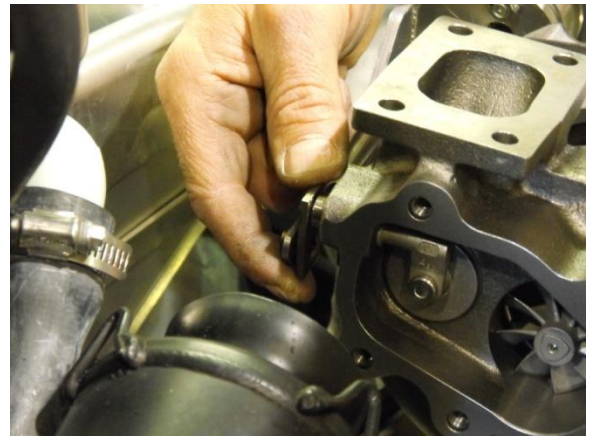
Basic tool set  
T20 torx head bit  
High temp silicone

- A. Before reinstalling the exhaust pipe. Remove the 5 hole muffler exhaust flange from the turbo, and remove the fastener pin that holds the turbo/oil tank assembly to the sled. This will allow you to pull the turbo/oil tank away from the sled to give you better access to the back side of the turbo.
- B. Tighten the remaining bolts on the exhaust housing side of the turbo. It is a good idea to double check all bolts on the turbo to make sure they are tight.
- C. Install the 19" water line to the inside of the turbo, and the 17" water line to the outside of the turbo as shown in picture. Be sure to use 1 copper washer on each side of the banjo fitting to ensure a proper seal.



D. While the turbo/oil tank assembly is loose bolt on the turbo actuator with the barb facing up as shown.

E. Install the actuator rod to the actuator. **Important:** Pay close attention when setting your actuator tension. Adjust the actuator rod just enough to where it easily slips on the waste gate arm and does not rattle. Note: you should not have to pull the rod to get it to fit, when properly installed the waste gate arm should have no play.

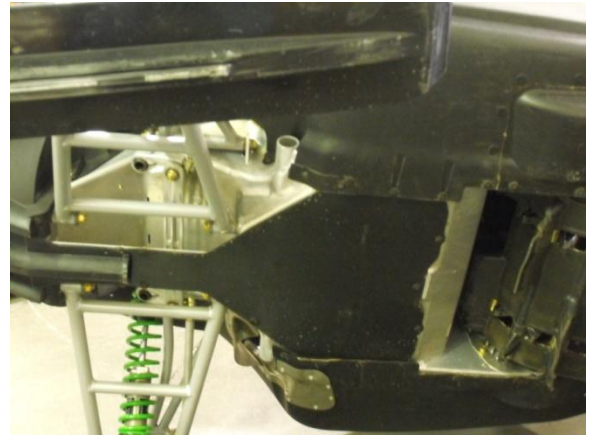


F. Tighten the lock nut on the actuator and fasten the actuator rod to the turbo waste gate arm using the E-clip. Reinstall the turbo/oil tank assembly to the factory exhaust can mount.



G. Place a bead of high temp silicone around the muffler flange as shown in picture, reinstall to turbo.

H. Reinstall the 4 gold exhaust springs to the muffler.



I. To route the water lines, tilt the sled on its side and remove the belly plate using a T20 torx head bit.

J. Locate the factory water line that runs from the throttle bodies to the back of the motor. Pinch the factory water line with a pair of vise grips or other clamping pliers and remove the factory clamp Note: you may have to rotate the clamp to gain access to the worm drive fastener on the hose clamp.

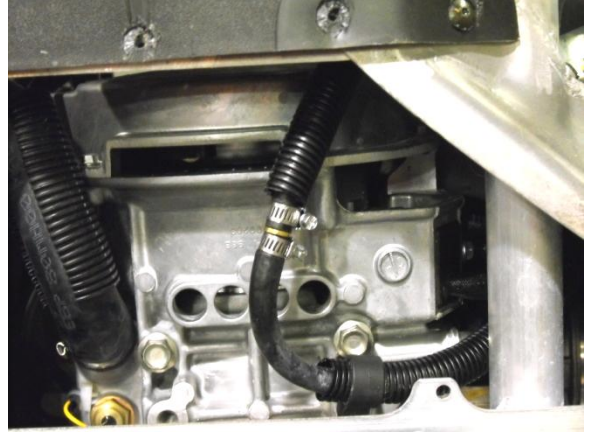


K. Connect the 19" water line on the turbo charger to the back of the motor and fasten with the factory clamp

L. Trim the protective plastic cover right before the clamp. We will use this later.



M. Route the 17" water line from the turbo to the stock water line that you just pinched off. Trim the factory water line to proper length and connect the factory water line to the 17" turbo water line using the supplied 1/4" barb and fasten with the 2 #4 hose clamps provided in the kit, as shown in picture.



N. Install the piece of trimmed plastic sleeving on the upper side of the water line, this will keep the hose from rubbing on any sharp edges (see picture).



O. While the sled is on its side, install the heat deflector plate as shown in picture. Fasten using the factory bolts.

## **Step 13: Exhaust Pipe Final Install**

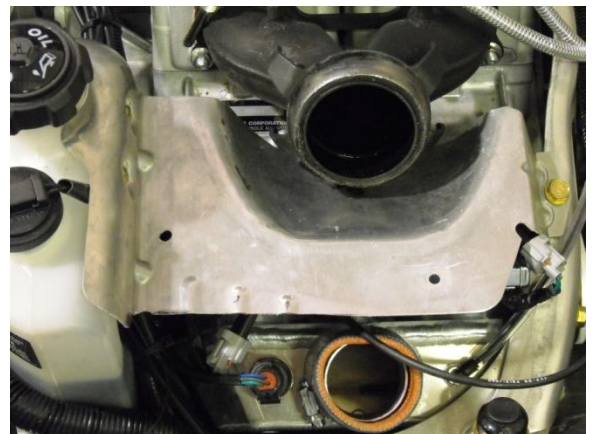
### **Parts Needed:**

- 4- High tension exhaust spring
- 4- 8mm x 25mm bolts
- 4- 8mm top lock nuts
- 4 Hole exhaust gasket (packaged in turbo box)
- Exhaust Pipe with heat shield
- Factory heat shield

### **Tools Needed:**

- Air saw or band saw
- Basic tool kit
- Spring tool
- Black high temp spray paint

- A. For a cleaner look, paint the welded inlet on the exhaust pipe with a black high temp spray paint.
- B. Reinstall the factory heat shield on exhaust pipe.



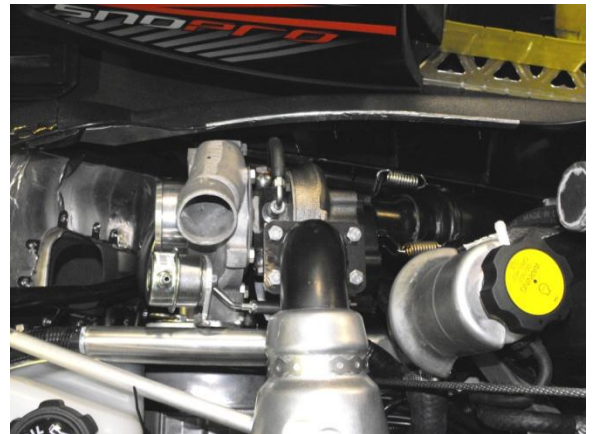
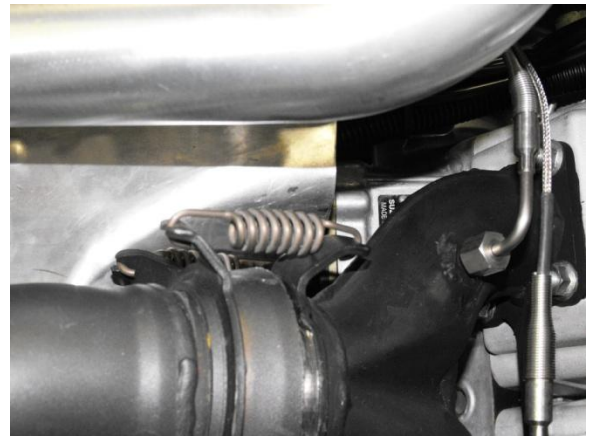
C. Using an air saw or band saw, trim the exhaust heat shield as shown in picture

D. Reinstall the heat shield to the sled.

E. To save you a headache, install the 2 high tension exhaust springs on the right side of the pipe first. This allows you to use the exhaust pipe to torque the springs instead of a spring puller. Be sure to install the short hook onto the pipe side and the long side of the spring to the Y pipe.

F. Be sure to add the 4-hole gasket on the turbo side of the pipe. Fasten this connection using the provided 8mm bolts with lock nuts.

G. Install the remaining high tension exhaust springs



## **Step 14: Oil Catch Can**

### **Parts Needed:**

Oil catch can  
19" of 1/2" hose  
1/4 x 1" bolt  
1/4" nylon lock nut  
1/4" flat washer

### **Tools Needed:**

Basic tool set  
Drill with 1/4" drill bit

A. Set the oil catch can in place and mark, then drill the mounting hole using a 1/4" drill bit.

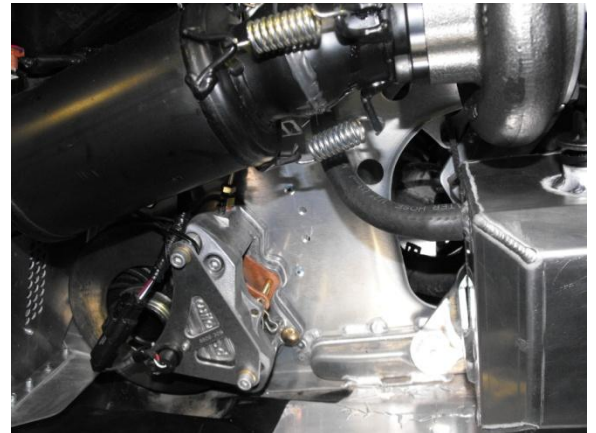




- B. Using the provided ¼ nut bolt and washer.  
Fasten the oil catch can as shown in picture



- C. Run the 19” piece of ½” hose from the  
catch can to the oil tank, no clamps are  
needed for this connection.



## **Step: 15 Charge Tube**

### **Parts Needed:**

Charge tube  
2.5” x 2” rubber reducer  
2.5” x 3” hump hose  
3- #40 hose clamps  
#32 hose clamps  
40” of Poly line  
40” of 3/16 clear tubing  
6 zip ties  
1/8 npt x 1/8 PTC 90

### **Tools Needed:**

Basic tool set

- A. Install the charge tube from the intercooler to the turbo as shown in picture.



- F. B. Locate the black poly line, insert the line in the plastic push to connect fitting on the bulkhead fitting (installed in step 7E) and connect it to the push to connect fitting on the copper cap we installed in part 7C.
- G. Install the push to connect 90 on the charge tube in the form drilled hole closest to the rear of the sled.
- H. Route the black poly line from the bulkhead fitting to the charge tube, you can use the provided 3/16" clear tubing to cover the poly line, this will help protect the poly line.
- I. Zip tie the poly line away from any sharp or moving objects.

## **Step 16: Final Touches**

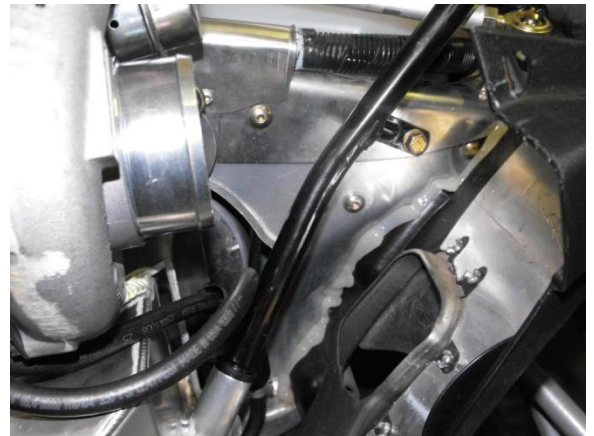
### **Parts Needed:**

Snorkel filter  
Oil tube w/dipstick

### **Tools Needed:**

Basic tool set  
Assembly lube

- A. Using assembly lubrication, thoroughly coat the oil tube, and insert it into the oil tank.





- B. Fasten the oil tube to the bulkhead using the factory bolt as shown.

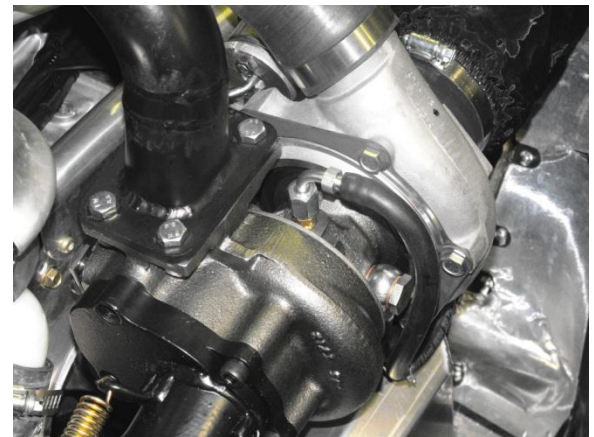


- C. Using the provided size 48 hose clamps, fasten the snorkel filter to the turbo inlet as shown.

- A. Fill oil tank with 16oz of synthetic 2 stroke engine oil. **IMPORTANT:** start the sled to make sure the oil pump is working before installing it to the turbo.



- B. Install the oil hose to the top of the turbo as shown



- C. Clean up and zip-tie all hoses.

- D. Well you did it, good job. Replace the hood and side panels, oh yeah, and don't forget to hold on!!! Thanks for choosing Boondocker Performance Products.