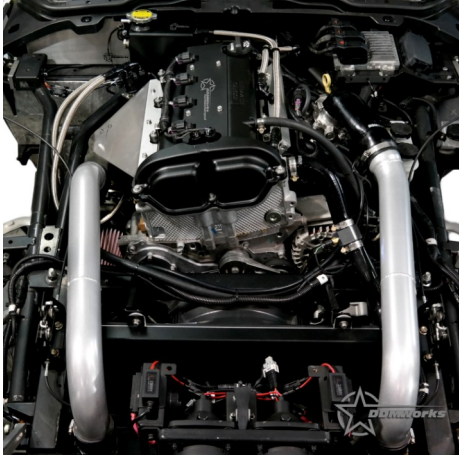




## Polaris Slingshot Turbo Kit by DDMWorks



The Stage 1 turbo kit is a bolt on turbo kit with intercooler that creates more power for your Polaris Slingshot.

Installation time of the turbo kit depends on you and your mechanical skills. It is suggested that you read through the directions a few times to familiarize yourself with the components of the kit, and your car.

If you are pretty handy with tools the turbo kit can be installed in under 8 hours, however we suggest that you schedule at least a full weekend for the installation. If you have any questions during the install you can call or text us at (864) 907-6004 or email us at Tech@ddmworks.com.

**Before we start installing the kit, you will need to do the following:**

1. Disconnect the negative terminal from the battery.
2. **Look through all of the tubes you will be installing to make sure they are free from any debris, loose powder coating, etc.**
3. You will need dielectric grease and some Vaseline.
4. Also make sure that you have been running premium gas (91 octane or better) for the last 2 tanks. **This kit is tuned for premium 91 octane or higher fuel only.**

**Note:**

**Some photos used in these instructions may look different than your slingshot as the photos taken are of a test and development vehicle. All sizes and locations will be the same.**



119-A Hwy 183

Piedmont, SC 29673

**Office:** 864-438-4949

**Tech Support (call or text)**

(864) 907-6004

**Email:** Tech@DDMWorks.com

**\*\*\* IMPORTANT \*\*\***

**Before you start install:**

**Remove your ECM & ship with provided form.**

Your ECM must be re-programmed before running your engine with the turbo kit installed. Damage to your engine will result if you run the engine without your ECM reprogrammed.

*The cost of the tune itself is included in the price of your kit, however, shipping to and from OBD Diagnostics is the full responsibility of the customer. DDMWorks recommends shipping your package with signature required and insurance value of \$600.00 to OBD tuning and \$900.00 value for flashed ECM return.*

**\*\*\* IMPORTANT \*\*\***

The tune for the turbo requires 91 or better octane ran at all times. DO NOT run less than 91 octane gasoline with the turbo installed

## Polaris Slingshot Turbo Kit Installation Notes

Although every effort has been made to make this kit a plug and play kit, tolerances from vehicle to vehicle do exist that may require some modification for fitment. We have designed this kit to not need any gauges, however to absolutely make sure your turbo kit is running perfect after install, you should also have the following gauges available to properly check the finished installation and monitor your vehicle's performance:

- Manifold Boost Pressure Gauge • Fuel Pressure Gauge • Wide Band Oxygen Sensor and Gauge

Gauges should be able to be read safely from the cockpit of the Slingshot while performing a wide-open throttle road test. In order to obtain usable readings, the gauges should measure pressure at the intake manifold and fuel rail. If your Slingshot fuel pressure does not maintain 58psi (+/- 2psi) of fuel pressure, decrease throttle immediately. While full throttle your wideband air/fuel ratio should be less than 12.5, if while full throttle your air/fuel ratio is higher than that, decrease throttle immediately and consult DDMWorks.

The engine you are installing the DDMWorks turbo on should retain the factory compression ratio. If your engine has been modified internally in any way (2.5" exhaust, header and fuel rail and other external engine changes are acceptable changes), please contact DDMWorks before proceeding with the installation. If you have any questions on what acceptable changes are, contact DDMWorks before installation. Our slingshot turbo kit is designed for use on only a stock, strong, well-maintained engine and transmission, if you are unsure about the health of your engine, contact us before proceeding. Installation of the kit on a worn or troublesome engine/transmission should not be attempted, consult us if you have any questions. DDMWorks will not be held responsible for any damage to a vehicles powertrain after the installation of our turbo kit. DDMWorks is not responsible for ECM tuning on non-stock vehicles, the tune developed for the turbo kit is for a stock slingshot engine only as redelivered from Polaris only. DDMWorks highly recommends verifying that your Slingshot has the most up to date updates from Polaris before installation of the turbo kit and ECM flash.

For best performance and reliability, premium grade (91 octane or higher) must be used at all times after installation of the kit. This turbo kit has been designed carefully and tested so you should not have any issue with a properly installed turbo system, however OEM factory-shipped engine and parts inconsistencies are possible on any vehicle that could lead to a engine failure. By continuing with the installation of the turbo kit you understand and accept that the risk of engine/driveline failure is rare but is a possibility.

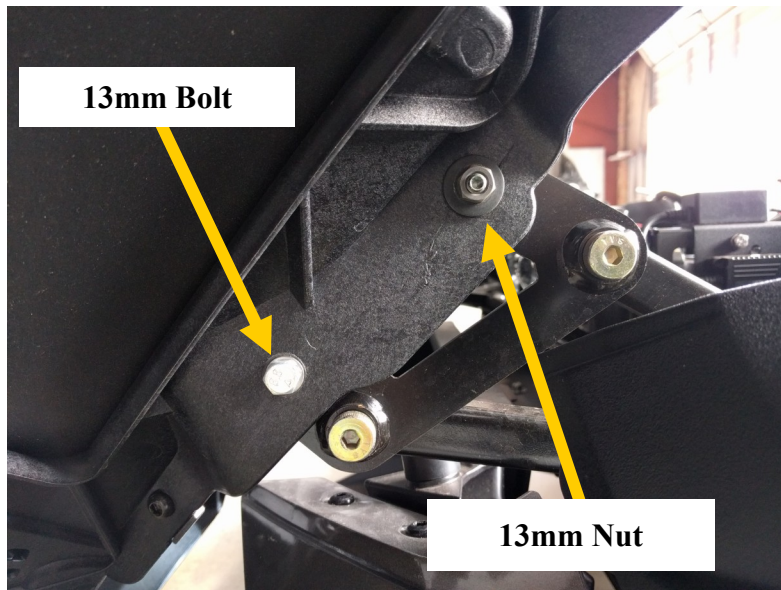
All rights reserved. DDMWorks hereby grants permission to use and reproduce these instructions for personal use, provided that all copyright information is retained. Reproduction of these instructions for unauthorized commercial use is strictly prohibited.

## Removal of the Hood

During the installation of the Turbo kit you will be working around the engine bay extensively. Removing the hood will allow you better access to the engine bay and make the install much easier.

Removing the hood consists of removing only 2 bolts and 2 nuts, with the help of a friend it is very easy.

1. Open the hood and looking towards the front of the hood, you will see the hinges. There is a single bolt and nut on each side. Both the Bolts and Nuts are 13mm hex head so you will need your 13mm socket wrench. Using a wrench or socket remove the nut first.
2. Once the nut is removed on both sides, make sure the hood is supported before removing the bolts. Once the bolts are removed, the hood will want to swing down toward the engine, make sure you have it supported.
3. After both sides of the hood are free you can carefully level the hood out close to the engine, pivoting on the studs that the nuts came off of. With the hood tilted down toward the engine, still being supported on both sides, one person needs to reach into the hood hinge and push it slightly inward to push the stud out of the hole in the hood. Once the stud is out on one side of the slingshot the hood can be slid off the stud on the opposite side and carefully set out of the way.

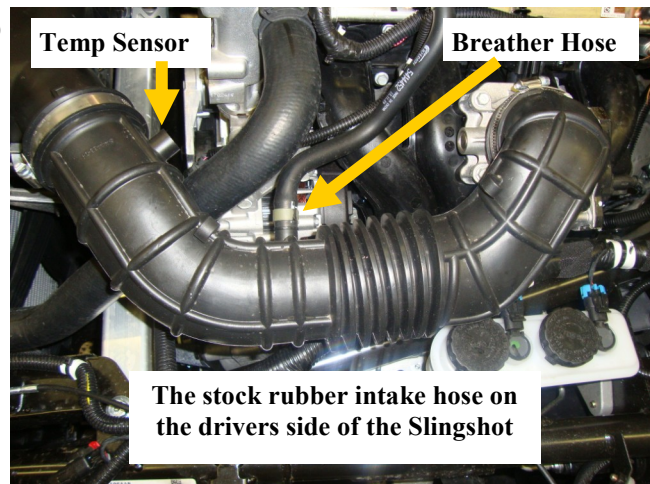




## Removing the stock intake

1. **Make sure your Slingshot engine is cool to the touch, transmission is in neutral and the parking brake set before continuing installation.**

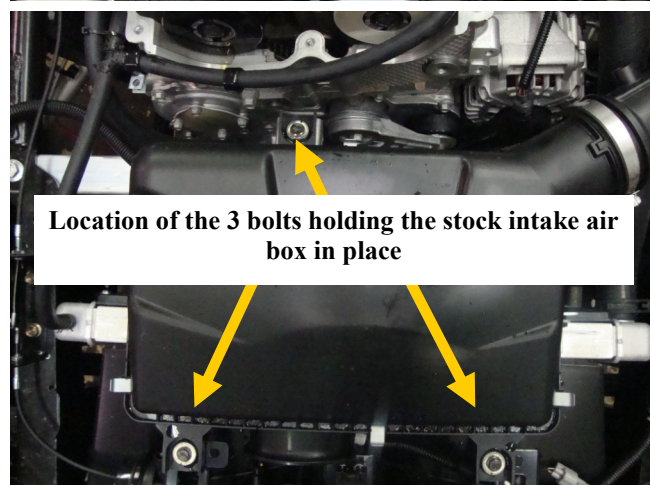
2. To remove the entire intake, the first thing to remove is the rubber hose going from the throttle body to the stock intake air filter box. On the drivers side of the engine bay you will see a rubber hose like the picture to the right. That hose is held in place with 2 hose clamps, one hose clamp at each end. Use a blade screwdriver to loosen both hose clamps.



3. Before pulling the rubber hose off, you will need to disconnect the breather line going to the valve cover and also the intake air temperature sensor. You want to remove the intake air temperature sensor first. The sensor is the only thing you will see in the rubber hose that has a wire going to it. That sensor simply pulls out of the stock rubber hose. Remove by pulling and wiggling gently on the sensor and it will come out of the stock rubber tube.



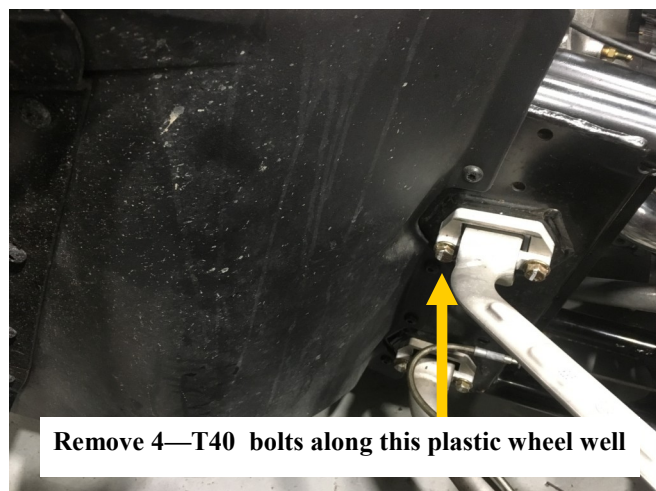
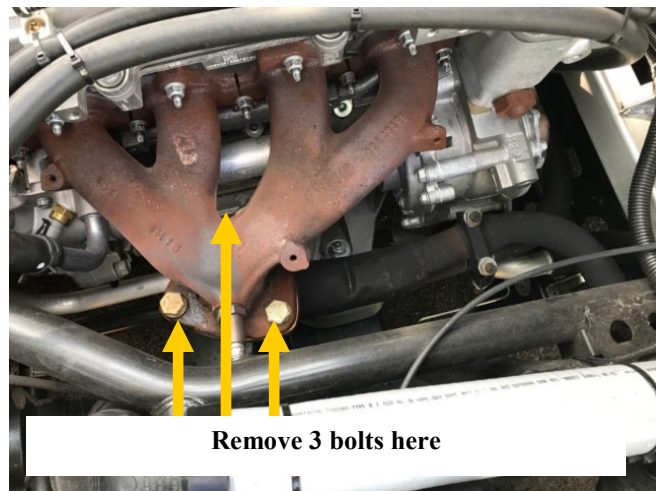
4. The breather line is a rubber hose that goes from the intake tube to the front of the valve cover. It is held in place with a hose clamp that is typically a light green color. To release the hose clamp, use a pair of pliers and squeeze the small tabs on the hose clamp together, then you will be able to slide the hose clamp up the breather hose about an inch. Once the hose clamp is slid up the hose toward the valve cover about an inch, you will then be able to pull the hose off of the plastic nipple that it is hooked to on the stock rubber intake tube.



5. With the breather line removed and the intake air temperature sensor removed, go ahead and remove the stock rubber intake hose from the Slingshot.
6. The stock intake air box is held to the Slingshot chassis with 3 bolts that all have 10mm heads on them. The picture above shows the location of the 3 bolts.
7. Remove all 3 bolts and the stock intake air box can be removed from the Slingshot.

## Removing the stock exhaust

1. The exhaust is the next thing to be removed, once again make sure the entire exhaust is cool before proceeding
2. The picture to the right shows the Slingshot exhaust. The Slingshot in the picture has all of the panels removed so you can see the location of the springs holding the Muffler in place.
3. To start removing the exhaust, first there are 3 bolts holding the exhaust/catalytic converter to the exhaust manifold. On the passenger side of the engine you will see the exhaust manifold (see picture to the right). Spray the bolts with some penetrating oil and use a 15mm socket to remove the 3 bolts.
4. With the 3 bolts removed, the exhaust will be loose, but still held in place with springs holding the exhaust to the chassis.
5. Next using a T40 Socket you will need to remove the 4 T40 bolts along the plastic wheel well and also one on top of the wheel well next to the hood release.
6. Using a screwdriver or other prying device you will need to get the springs off that hold the catalytic converter to the muffler. The first spring is the most difficult to remove. Once one spring is off, you can get the others off easier.
7. Once the catalytic converter is removed from the muffler, remove it from the Slingshot
8. Now find the springs holding the muffler to the chassis and using the same technique as before, remove the springs.
9. Once the exhaust is loose, you can carefully pull back on the plastic wheel well and sneak the exhaust out of the Slingshot.

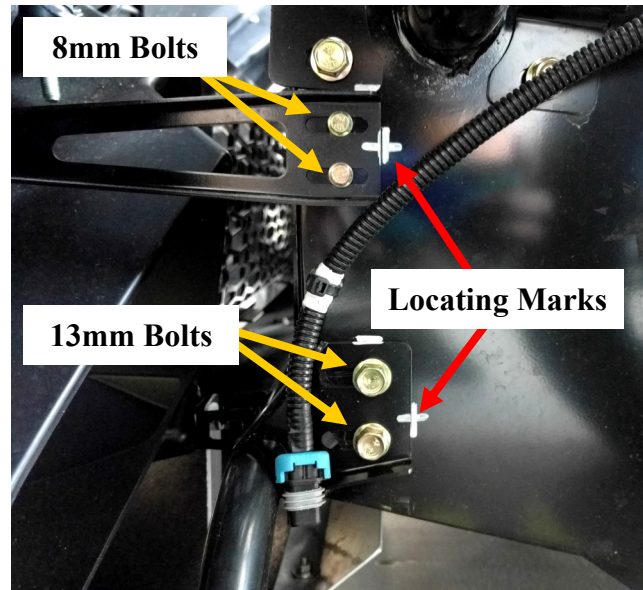




## Removing the nose of the Slingshot

Next, to gain more access, you will remove the nose piece from the slingshot.

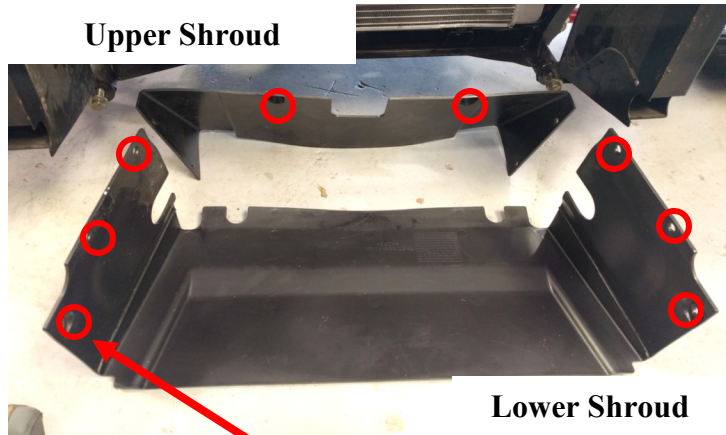
1. There are 8 bolts holding the front nose on the Slingshot. (2017 and newer Slingshots only have 6 bolts) Before removing the bolts be sure to mark the location of the brackets on the frame so you can line it back up easier later when reinstalling. We use a silver sharpie marker to mark the brackets.
2. Once you have made the marks, use a 13mm socket to remove the larger lower bolts, leaving one in each side that is just held in by a couple threads.
3. Then remove the 2 smaller bolts on each side using a 8mm socket. Be careful as after those smaller bolts are removed, the nose will want to tilt forward. Make sure the hose is supported.
4. Once all the small bolts are removed, remove the last 2 larger bolts and the nose will slide forward off of the Slingshot. This can be accomplished by yourself, but a helper makes this much easier.
5. After completing the installation, you will be able to use some rubbing alcohol to remove the marks.



## Removing the stock radiator shroud

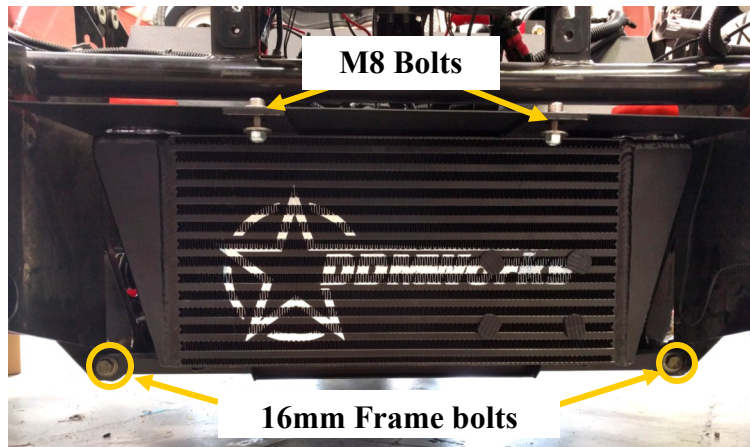
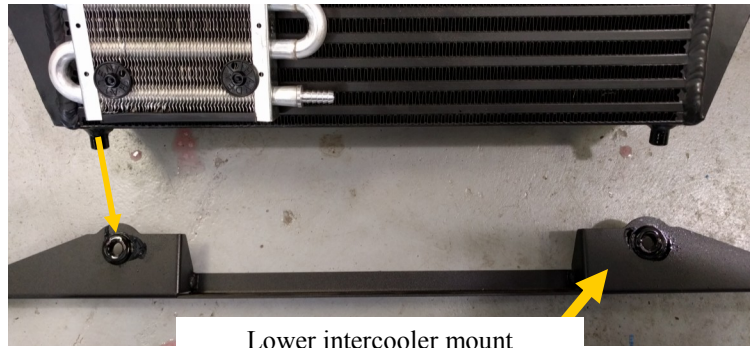
To get ready to install the intercooler, the stock plastic shrouding will need to be removed.

1. To remove the stock plastic radiator shrouding. There are a total of 8 plastic push pins holding the shroud in.
2. **It may be necessary to jack up the front of your slingshot to gain access underneath and remove the shrouding. If needed make sure you are on a level surface with the emergency brake on, and the slingshot is fully supported by jack stands.**
3. Using a flat head screw driver or a small pair of side cutters gently pry the push pin out of its base and remove the to pieces of the push pin from the Slingshot.
4. You can also use a small pair of needle nose pliers to help remove the push pins. After removing the first one, you will get the hang of it.
5. After you have removed all the push pins the shrouding will come out of the slingshot in two parts. The upper and the Lower sections.



## Intercooler Mounting (Pack FI-IC & FI-ICSM)

1. With the front plastic shrouding out of the way, we will install the intercooler.
2. Take a look at the bottom of the intercooler, you will see 2 posts welded to it. Now find the lower intercooler mount (see picture to the right)
3. The lower intercooler mount has 2 rubber bushings in it that should line up with the posts on the intercooler. Verify that the bushings line up with the posts on the intercooler and lubricate the bushings with a little vasoline and test fit onto the bottom of the intercooler. It helps to hold the back of the bushings with your finger while pushing onto the intercooler. With a little practice you will be able to push it on easily.

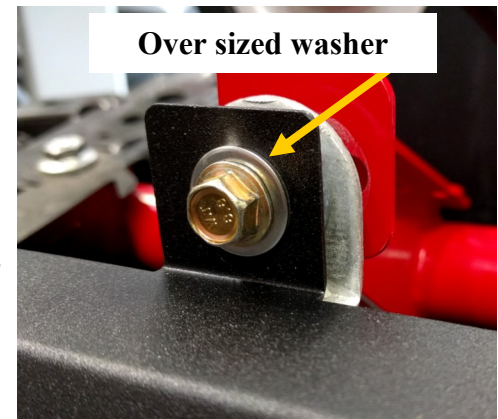
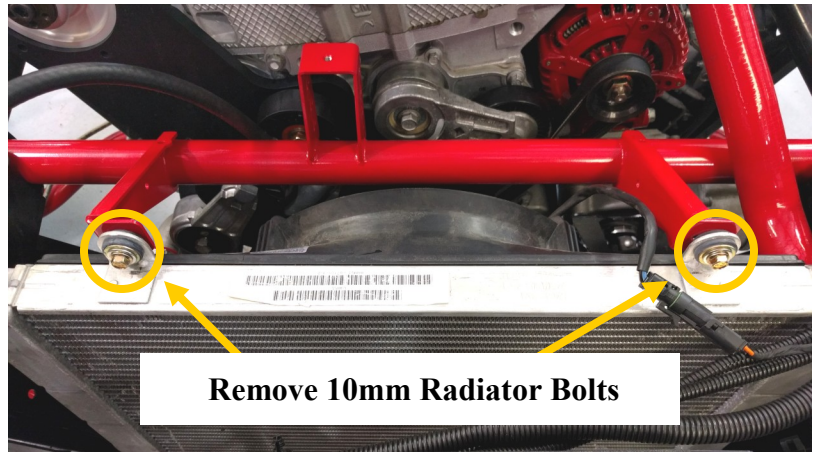


4. Using a 16mm socket remove the two bolts on the front of the bottom frame tubes. Using the same bolts, mount the lower intercooler mount in that location with the rubber bushings facing up.
5. With the lower mount in place, lift the intercooler up with the tabs on the intercooler facing forward. You will be able to lift the intercooler up at a slight angle and then set it down into place. Make sure that the posts on the bottom of the intercooler line up with the bushings in the lower mount again.
6. Next the upper intercooler shroud will get installed.



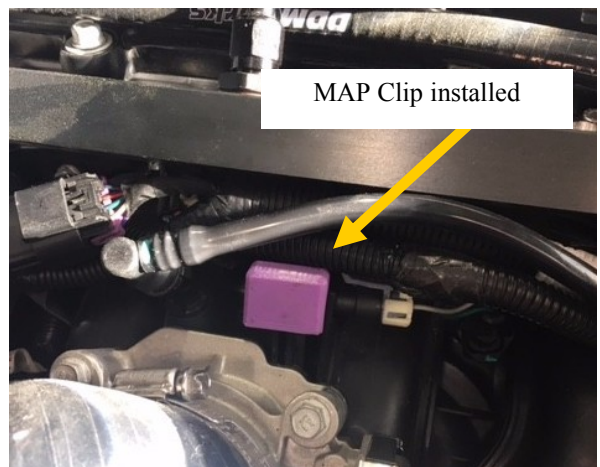
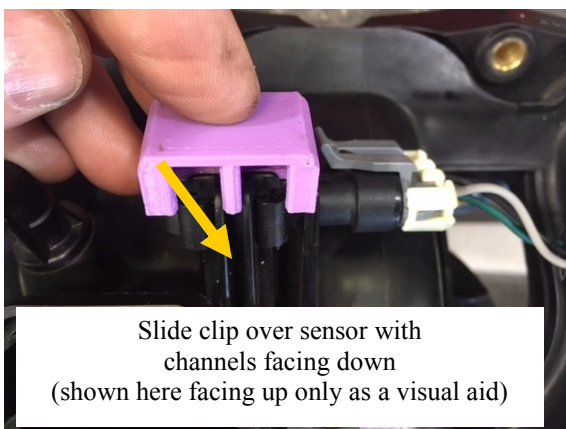
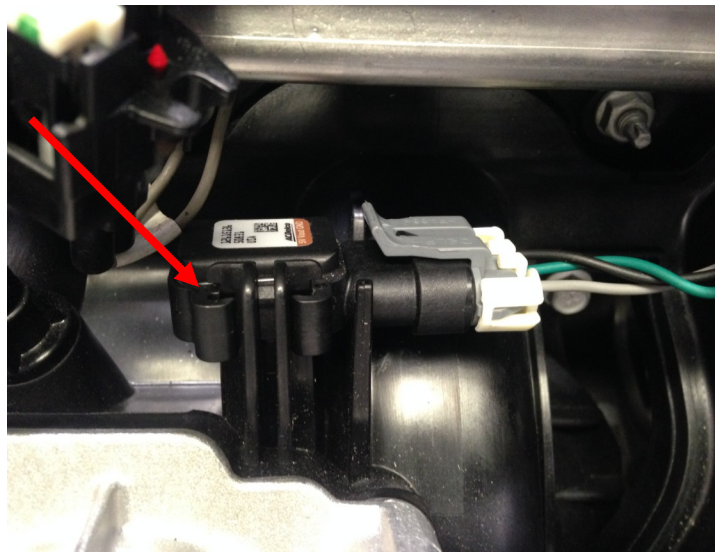
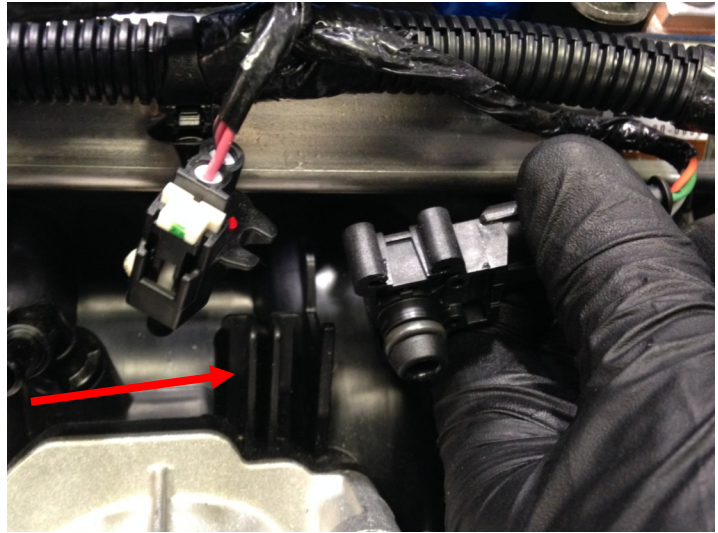
## Upper intercooler shroud mounting (Pack FI-ICSS)

1. To install the upper shroud you must first remove the two M6 10mm hex head bolts that hold the radiator in place.
2. With the 2 bolts removed, you can slide the upper shroud in from the front. Tilt the intercooler as far forward as you can and slide the shroud just above the intercooler. It will eventually slide through and the tabs on the upper shroud will line up with the bolt locations you just removed.
3. With the shroud in place, find the M8 bolts in the bag that came with the upper shroud. Get those bolts started going through the upper shroud and the tabs on the intercooler. The bolt head goes on top of the shroud, then a washer on both sides, with the nut on the bottom. Do not tighten these yet.
4. Now get the longer M6 bolts in the bag and put them through the location you removed the bolts at the top of the radiator. Once you get the bolts through with a washer on both sides and nut to secure, go ahead and tighten it down.
5. With those upper bolts tight, go ahead and tighten the 2 bolts on the front of the shroud that hook to the tabs on the intercooler.
6. That securely mounts the intercooler and upper shroud in place.



## Replacing the MAP Sensor (Pack FI-EFA)

1. Now we are going to replace the stock MAP sensor with a 2 bar pressure sensor. The MAP sensor is located just above the throttle body that is attached to the intake manifold. It has an electrical connection going to it with 3 wires.
2. First squeeze the plastic clip that is holding the electrical plug onto the MAP sensor and disconnect the sensor from the wiring harness.
3. Now squeeze the plastic that secures the map sensor to the intake manifold and pull up on the sensor, it will pull out of the intake manifold.
4. Install the new MAP sensor in the same place the stock one was located.
5. Push the sensor down to lock it in place and reconnect the electrical connection, the new sensor has an adapter harness attached to it already.
6. Now is the time to also install the provided MAP clip, see pics below
7. Plug the fuel injectors back into the wiring harness.





## Changing the Spark Plugs (Pack FI-EFA)

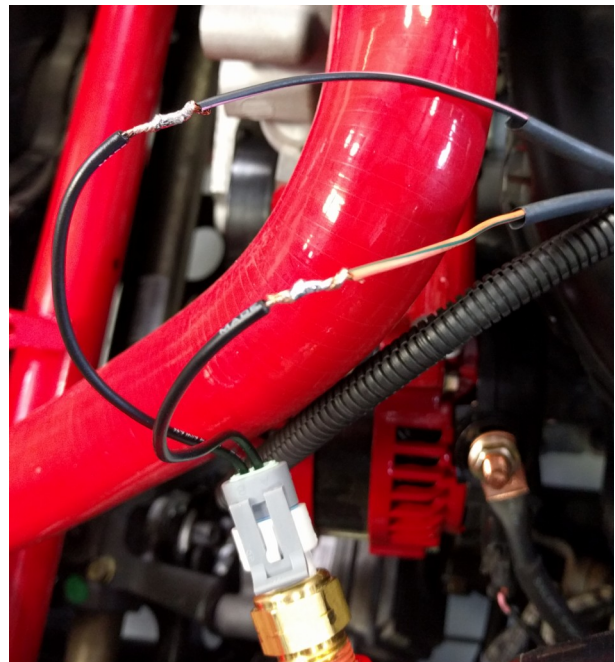
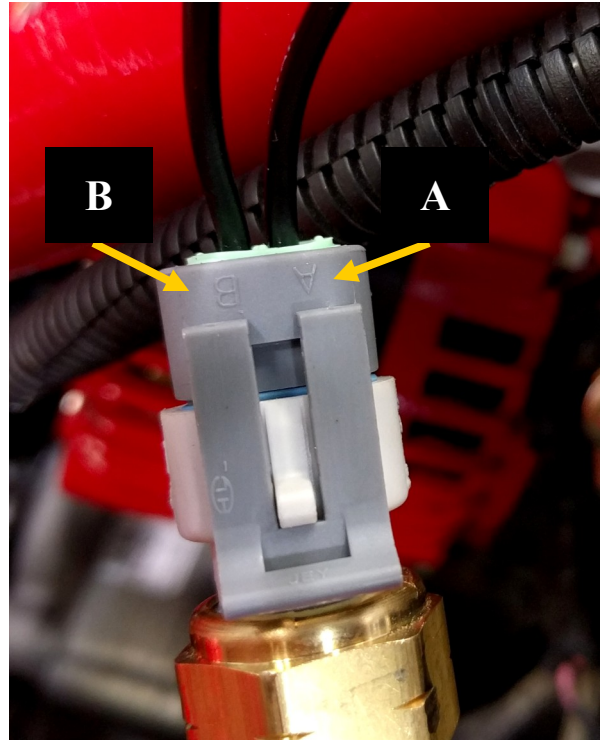
1. To change out the spark plugs for the upgraded plugs included in the turbo kit you must first unplug all four coil packs.
2. Next you will remove the 10mm hex head bolt holding each coil down to the cylinder head and simply pull the coil packs up and out of the engine.
3. With all 4 coils removed use a spark plug socket and extension to remove the stock spark plugs.
4. After all four stock spark plugs are removed locate the new spark plugs and remove them from the box. Using a small dab of anti seize on the threads of each new spark plug, carefully thread them into each cylinder.
5. With all four spark plugs replaced torque all of the spark plugs to 14ft/lbs each.
6. The coil packs can now be reinstalled and the 10mm bolts torqued down to 10nm or 7ft lbs.
7. Be sure to plug all four coil packs back in to the wiring harness and this step is complete.



## Air Intake Temp Sensor (Pack FI-EFB)

The new air intake Temperature sensor has to be wired in place of the stock unit.

1. Unpack the Intake air temp sensor (IAT sensor) Next you will see the new Plug with 2 black wires sticking out of it. The two wires are labeled on the plug. Wire A and Wire B.
2. On the sling shot you will have to remove some electrical tape and wire loom to expose the factory wires for the slingshot air intake temp sensor.
3. There will be two wires, one is Black with a Pink stripe and the other is Orange with a Green stripe.
4. Using a pair of wire cutters, cut the two wires for the factory slingshot temp sensor about 2 inches behind the factory grey electrical connector. Then using wire strippers, strip back about one inch on each of the factory wires.
5. With the new A/B wiring plug plugged into the new temp sensor on the charge tube you can over lap the new wires and stock wires to see if any needs trimmed off.
6. Once you have the correct length set you can strip back the new A/B wires about 1 inch.
7. Wire B connects to the Black factory slingshot wire and Wire A connects to the Orange factory slingshot wire.
8. It is recommended you solder the connections to make sure it is connected well and never comes apart.
9. Then using heat shrink tubing cover the bare sections of the wires.

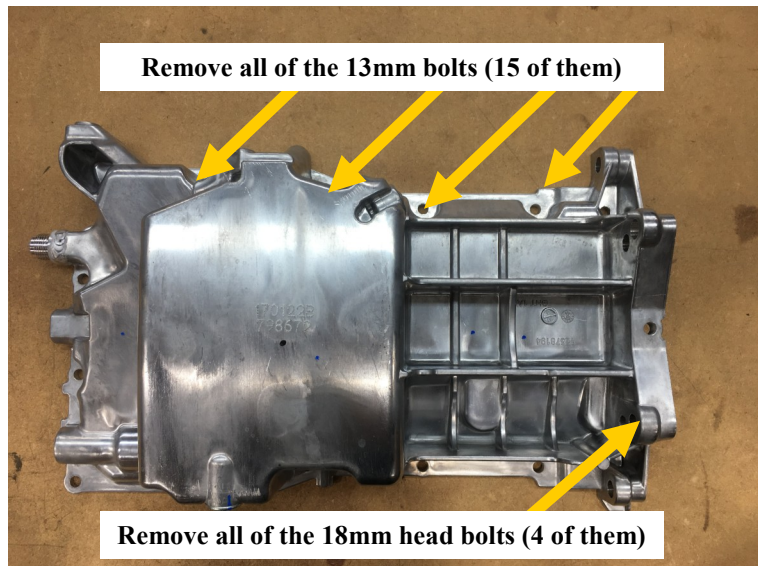


## Stock oil pan removal

1. The oil pan is the next thing to get swapped out. To do the install you will need to have the car on a lift or up on Jack stands. Make sure that if you are on jack stands, you are on level ground and the rear tire is secured to prevent the Slingshot from shifting.
2. Looking under the engine you will see the oil pan on the bottom of the engine, the first thing to do is drain the oil from the oil pan. Remove the oil drain plug and catch the old oil and dispose of properly.
3. Once the oil is drained, you will need a 13mm socket to remove all of the bolts holding the oil pan to the bottom of the engine. There are a total of 15 of the bolts.

4. There are 4 more bolts holding the oil pan to the transmission. These are bolts with 18mm heads on them. A ratheting wrench works best to remove these 4 bolts.

5. With all of the bolts removed, the pan can now be loosened from the engine. The pan will still be held to the engine with gray RTV, so you will need to find an edge and use a pry tool to get the pan to start to separate from the engine. Pry carefully, if it feels like the pan does not want to come off, look around again

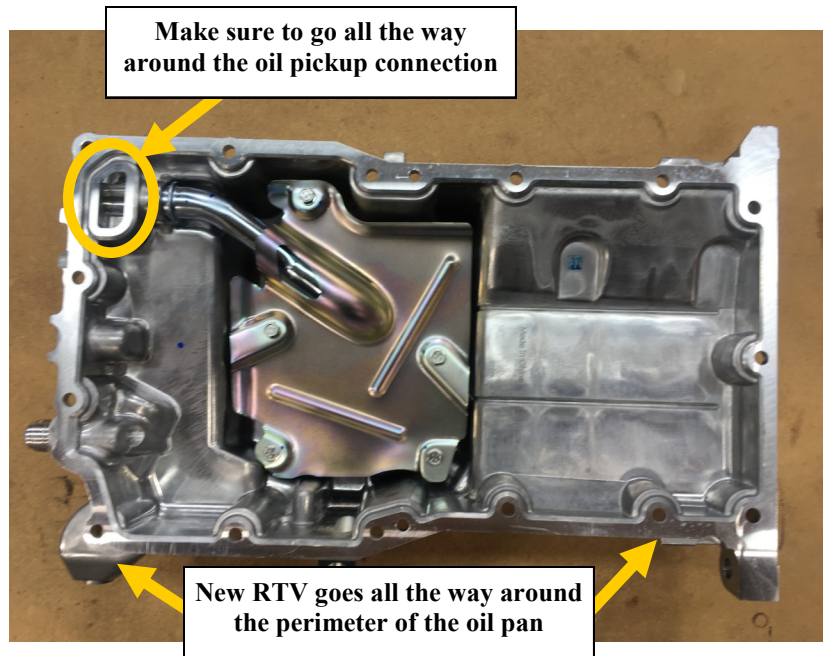


- and make sure you have all of the bolts removed. A good place to start to pry is on the drivers side, close to the starter, that is our usually starting point.
6. Once you get the pan loose, it will drop down a little bit, but you will not be able to get it out yet. Find the 2—15mm nuts on the bottom of the motor mounts. You will need to remove the nut on both motor mounts, this will allow you to jack the engine up.
7. To make it a little easier, it is recommended that you remove the 2 bolts on top that are holding the coolant tank located in the back of the engine bay. This will allow the tank to float a little bit and allows the engine to go up a little easier. Also, please make sure that your oxygen sensor is removed from whatever header you are using, before attempting to jack up the engine.
8. With the tank loose, the motor mount nuts off and all the bolts out of the pan, slowly start to jack up at the transmission. You should see the studs from the motor mounts start to go up through the frame. Once the studs get almost out of the chassis, you should not be able to jack any further without lifiting the entire Slingshot.
9. Now you will be able to slide the oil pan all the way forward up to the radiator fan, then drop the back of the pan down through the opening in the frame and out the bottom of the Slingshot. Don't get discouraged if the pan doesn't just fall out, it can be a little tricky to get the angle just right sometimes. Take your time and it will come out once the angle is right.



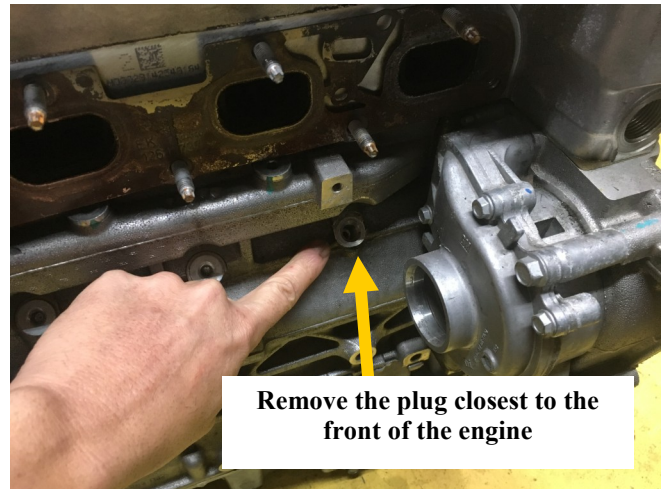
## New oil pan installation (Pack 7)

1. The new oil pan will be installed in basically the reverse order of removing the old one.
2. Start by cleaning up the bottom of the engine, there will be remnants of the RTV on the bottom of the engine. Very carefully you will need to remove all of the RTV on the bottom of the engine using a scraper. Make sure to get between the transmission and engine in the back, it is tight in that area. It is very important to make sure all of the RTV is removed so that the new pan seals correctly to the engine and is leak free, so take your time to do it right the first time here.
3. Once the engine is free of RTV, you will need to clean the mating surface with alcohol to make sure all grease and oil is removed.
4. If you are using a DDMWorks oil pan gasket for your installation, you will need to drill the 4 holes in the back of the oil pan, where the transmission bolts go through, to 9/16". If you received a new oil pan from us, we have already pre-drilled them for you.
5. When ready to install the new pan, you will need to place new gray RTV on all of the mating surfaces. You can look at the old pan to see where the RTV will go, but basically all around the parameter of the new pan. Once place that may not be obvious is the oil pickup connection to the engine, which is noted in the picture to the right. If you are using a DDMWorks oil pan gasket, apply a thin coat of RTV to both sides of the gasket.
6. With the RTV applied, you want to carefully put the pan back up through the opening in the bottom of the frame, sliding it toward the fan, then lift the back of the pan up and slide it into position. While doing this you want to be careful not to have the top of the pan touch anything and wipe against the wet RTV. Take your time and be careful.
7. Once you get the pan roughly back into the position it goes into, lower the jack holding the transmission and slowly lower the engine and transmission back down, making sure that the oil pan is still roughly in the correct position.
8. Once the engine and transmission are lowered back down, hold the oil pan up into position and start to install the 13mm head bolts. Get all of the bolts started and follow the instructions on the RTV for wait time before torquing the oil pan bolts.
9. Once all of the 13mm head bolts are torque to 18 ft/lbs of torque, you can install the 4 18mm head bolts, then tighten down the nuts for the motor mounts. With all of the bolts back installed and tightened down, the oil pan swap is done



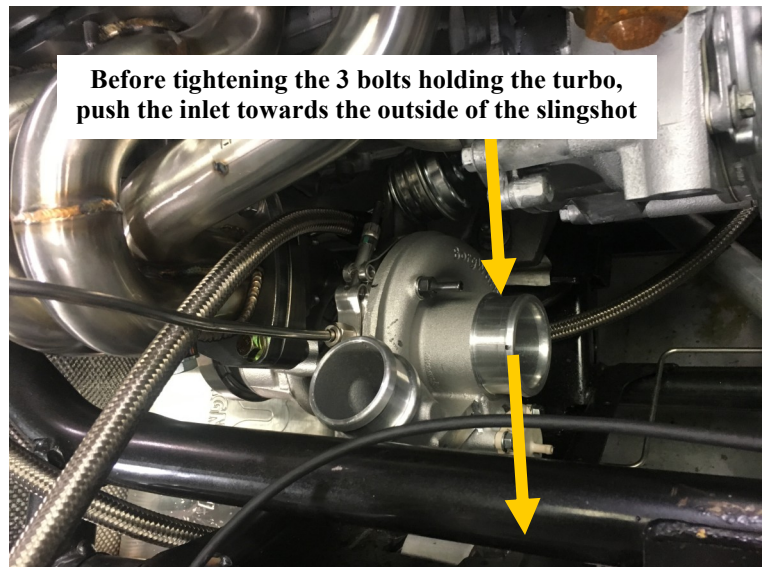
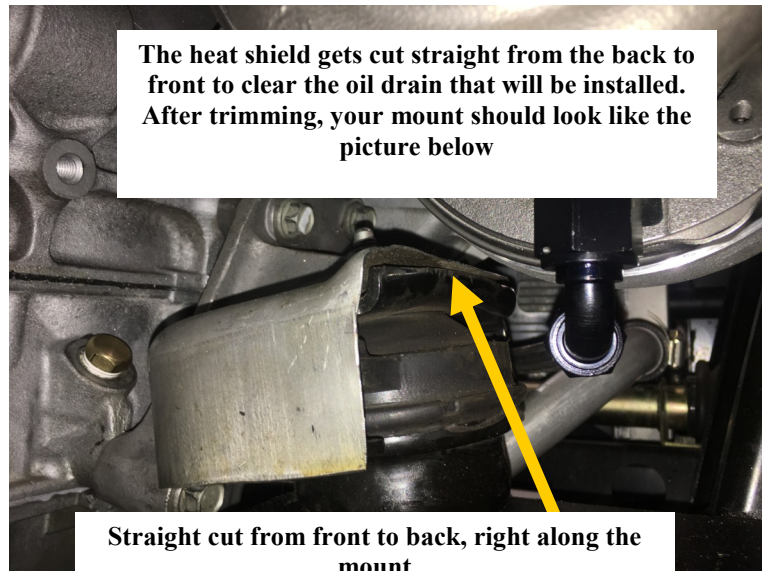
## Turbo Oil feed installation (Pack 5)

1. The turbo requires an oil feed to be ran off of the engine and supply the turbo with lubrication. On the passenger side of the engine there are 3 plugs that run horizontally under the exhaust manifold.
2. You want to find the plug that is furthest toward the front of the engine. To remove the plug you will need a 6mm Allen key. The plugs can be a little hard to get off, so a 6mm Allen key socket works well here if you have one.
3. Once the plug is removed, there is an adapter included in the kit that will thread into the place you removed the plug. Before installing the fitting, there is a 1/8" NPT to -4AN adapter that will screw into the brass fitting that goes into the engine. Go ahead and screw that fitting into the brass adapter that will go into the engine now. You can use a little Teflon tape on that fitting to help it seal.
4. Once you have the adapter screwed into the brass adapter, go ahead and install the brass adapter into the engine. Make sure to put the copper crush washer between the brass adapter and the engine and snug the brass adapter up in place.



## Turbo installation ( (Pack 1/2)

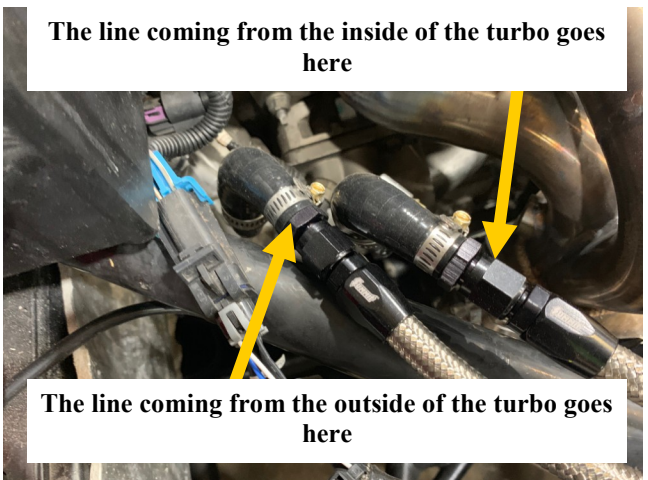
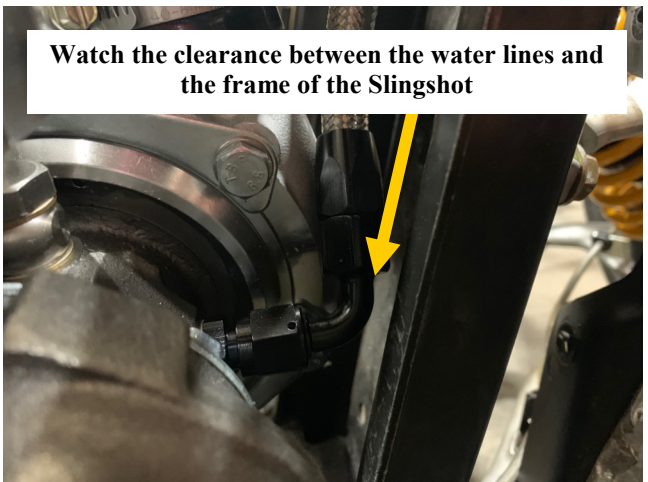
1. The turbo we ship with the kit is prepped as much as we can before shipping to make the actual install of the turbo as easy as possible for you.
2. Before installing the turbo there is a heat shield on the motor mount on the passenger side that needs to be trimmed or removed. You can loosen the upper nut on the passenger side motor mount, jack the engine up so it is off of the motor mount and remove the entire shield. The other option is to trim the heat shield. The picture to the right shows the heat shield on the motor mount trimmed. The heat shield needs to be trimmed to clear the oil drain we will be installing after the turbo.
3. With the heat shield trimmed, the turbo can be set in place. Bring the assembled turbo into the engine bay through the opening you took the stock exhaust out. You will notice that the stainless steel adapter on the top of the turbo has the same 3 bolt locations as the exhaust that you removed. Those 3 bolt locations will line up with the exhaust manifold. Be careful positioning the turbo in place. There is a plastic nipple on the front of the turbo for the bypass valve, you want to make sure to keep that away from anything while fitting the turbo in place.
4. Have the new bolts supplied for mounting the turbo handy, that way once the turbo is positioned, you can get the bolts started.
5. Once you have the turbo in place and get the bolts started, check for clearance all the way around the turbo. With the bolts still loose a little, you want to rotate the turbo so that the intake of the turbo is pointing towards the center of the Slingshot as much as possible, then tighten the 3 bolts on the turbo adapter to the exhaust manifold to secure the turbo in place.





## Water Line installation (Pack 3 & 11)

1. The turbo is supplied with a water supply from the engine to help keep it cool and improve longevity.
2. On the back side of the engine on the passenger side you will see an upside down "U" shape hose. Remove both clamps and remove this hose from the engine. Be prepared to catch some coolant as it will leak out when that hose is removed.
3. There are 2 water lines for the turbo, one is longer than the other. The longer of the 2 hoses goes on the fitting closest to the engine, the shorter goes on the fitting that points towards the outside of the Slingshot. There are also 2 black silicone 90 degree adapters that will install where you removed the "U" shaped hose.
4. Start by installing the longer hose on the inside fitting of the turbo first, then install the shorter hose on the fitting towards the outside of the turbo. When installing the hoses, you will want the hoses pointing forward as much as possible to create clearance between the water line and frame of the Slingshot. To tighten the hose fittings you will need a 11/16" wrench.
5. Once you get both lines installed, feed the lines through the opening in the frame, guide them towards the back of the engine where you removed the upside down "U" and installed the 90 degree black silicone pieces. Push the barb ends into the 90 degree black silicone connectors and tighten with the supplied hose clamps.



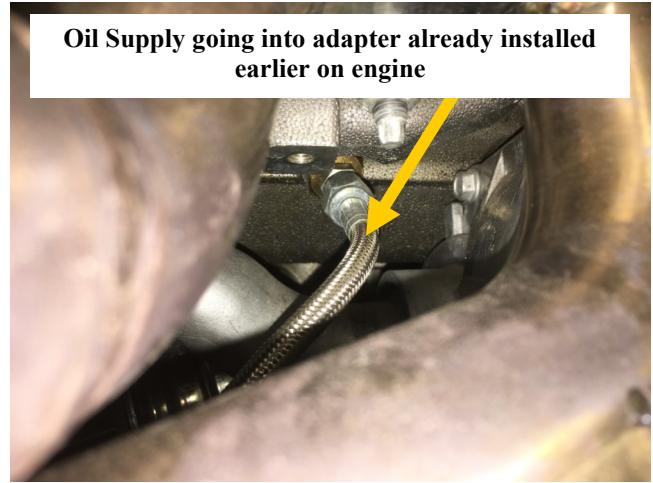


## Oil Supply Line install (Pack 5)

Things are going to start getting a little tight in the area of the turbo, just 2 more things to hook up though.

1. The supplied turbo oil supply line is a small diameter line with a 90 end and a straight end on the other side. It is braided stainless steel. Once you find the line, you will feed it down to the adapter you installed earlier in the engine. The straight side goes toward the engine.
2. Once you have it down at the adapter on the engine, get the threads to start, but do not tighten it down yet.
3. Next get the threads started on the 90 degree end that goes to the top of the turbo. Only once both ends are started should you start to tighten them down. While tightening the hose, make sure to keep the hose as far away from the exhaust manifold as possible. You will need a 9/16" wrench to tighten the fitting on both ends of the oil line.
4. Keep checking the routing of the line until it is completely tight, you may have to loosen and reposition the line a couple times until it lines up in a position away from the exhaust manifold.

**Oil Supply going into adapter already installed earlier on engine**



**Oil Supply goes to the top of the turbo**



## Oil Drain Line install

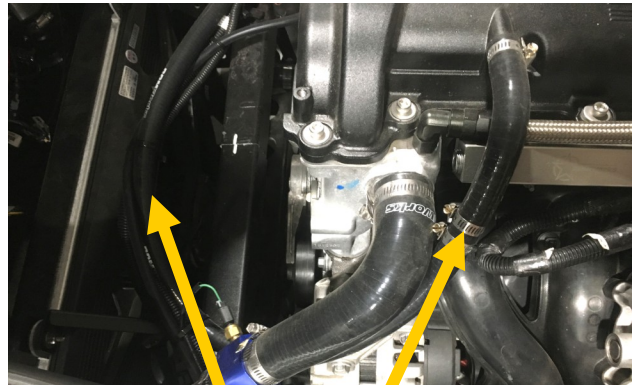
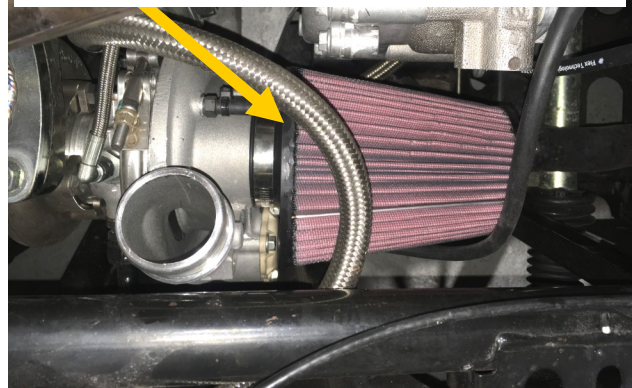
1. The oil drain is the last line to hook up on the turbo. The line is supplied with the kit and is a braided stainless hose. It will attach to the bottom of the turbo and connect to the front of the oil pan you installed earlier.
2. Find the line in your kit. Both ends of the line have a 90 degree fitting on them and so the line can be installed either way. The line should be started on the threads of the turbo first.
3. After starting the line on the bottom of the turbo, the line routes above the hard line for the coolant, then a gentle slope all the way to the nipple on the front of the new oil pan.
4. Loosely start the threads on the front of the oil pan. Once both ends of the oil drain line are attached and started, snug up both ends.



## Installation of Air filter and breather line

1. The air filter is a very easy installation. The filter is a direct fit onto the inlet of the turbo. Remove the filter from the box and plastic and it will slide directly onto the front of the turbo. Before installing you will need to drill a 3/8" hole in the top of the filter. After drilling the hole in the center of the top of the filter, make sure the inside of the filter is blown out.
2. Install the filter onto the turbo. There is a brass 90 degree fitting that will fit in the 3/8" hole you drilled in the top of the filter, install the brass fitting now and tighten the clamp on the filter, securing it to the turbo. Make sure the filter is away from the little tab that sticks out on the side of the engine, about half way up the air filter. Reposition and tighten the hose clamp for the filter as necessary until there is clearance.
3. With the turbo in place, the breather line needs to be ran from the top of the valve cover to the brass fitting in the filter. There is 1/2" hose supplied with the kit, slide one end over the nipple on the valve cover and route the hose along the front of the engine on top of the silver aluminum bar going across the engine bay.
4. Once you route the breather line to the turbo side of the engine, you will connect it to the brass fitting on the top of the filter.
5. You can secure the breather line to the electrical wires also going across the silver aluminum bar going across the engine bay.
6. The vacuum line you ran earlier can also be grouped into this bundle, just make sure that there is not too much pressure on the vacuum line or any kinks.

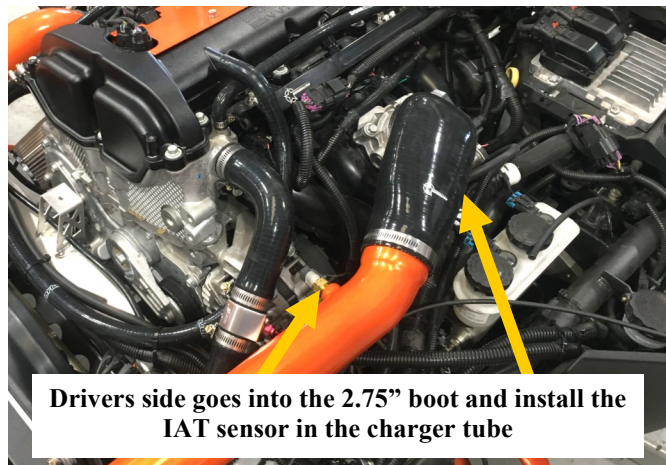
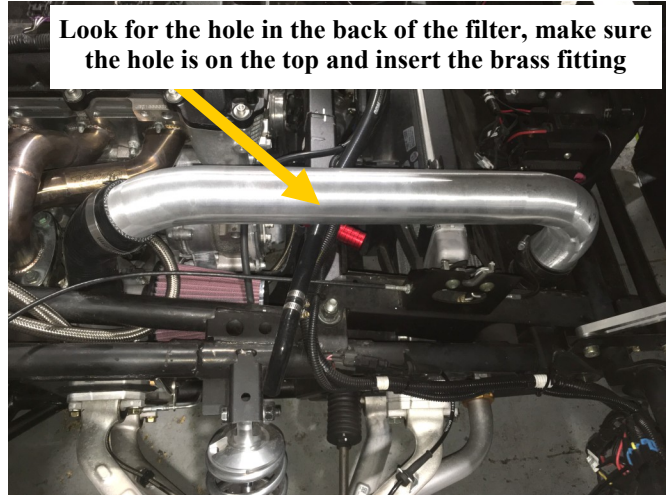
**Look for the hole in the back of the filter, make sure the hole is on the top and insert the brass fitting**



**The breather line comes off of the front of the valve cover and goes across in front of the engine**

## Charge Tube installation (Pack 9)

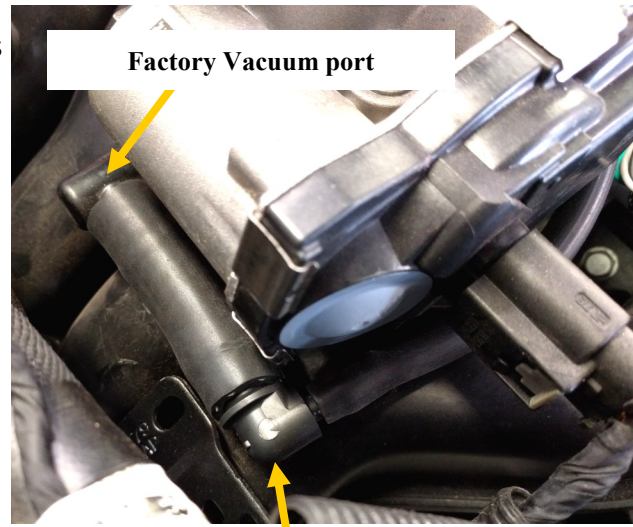
1. The passenger side charge tube will get installed first. There is a 2" to 2.5" silicone couple that makes a 45 degree bend in the kit. The 2" end fits over the turbo outlet, go ahead and slide that on.
2. When you slide that on, the silicone should be 1/8" to 1/4" away from the frame rail. If it is touching the frame rail, reposition the silicone until it is that measurement off the frame rail.
3. If you can not reposition the silicone, there is a single hose clamp that holds the compressor housing. Look at the back of the compressor housing and you will see a clamo that goes all the way around the back of the compressor housing and there is a single 10mm nut that holds it tight. If you loosen that 10mm nut you can then rotate the compressor housing if needed, just make sure to tighten the nut back down.
4. On the intercooler side there are 2.5" straight connectors that fit over the intercooler inlet and outlet, go ahead and install both of those now.
5. You can now install the passenger side charge tube (the passenger side is 2.5" all the way through the full length) into the silicone and use the provided hose clamps to tighten it down.
6. On the drivers side you will need to find the silicone boot that is 2.75" inlet and outlet. That boot will fit over the throttle body, keep it loose for right now.
7. Install the drivers side charge tube between the silicone on the intercooler and the boot on the throttle body.
8. With both charge tubes installed, make sure all of the hose clamps holding them are secured, give a good pull on both tubes to make sure they are secure.
9. You can install the IAT sensor you soldered earlier into the drivers side charge tube now also.



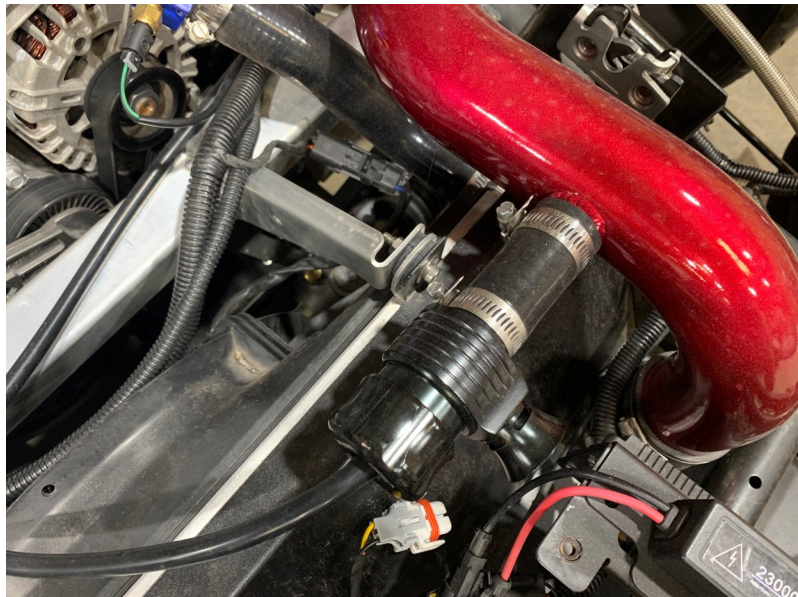


## Vacuum lines (Pack 10 & 11)

1. The first part to install for the vacuum lines is the adapter on the intake manifold. Just below the throttle body on the drivers side of the engine, you will see a plastic "L" coming off of the factory vacuum port. This "L" should have a rubber cap on it, remove the cap.
2. Once the cap is removed, you will find a 1/2" inside diameter tube that will slide over that nipple the rubber cap was on. The other end will get the 1/2" to 1/4" plastic adapter installed, like the picture to the right.
3. There is a blow off valve that will get installed on the drivers side charge tube. The blow off valve is held to the charge tube with a short straight black silicone connector. Slide the silicone connector over the charge tube, then install the blow off valve. Secure with the hose clamps provided.
4. Use the vacuum line supplied to run from the plastic adapter you just installed to the top of the blow off valve.
5. **DO NOT ADJUST THE BLOW OFF VALVE.** The blow off valve comes pre-adjusted from us and does not need adjustment. The blow off valve does not affect your boost level, adjusting it will not increase or decrease your boost pressure.
6. Make sure the vacuum line is secure on the plastic fitting, it just pushes onto the top of the blow off valve.
7. You can use zip ties on all of the vacuum connections to help secure them even more.



1/2" to 1/4" plastic adapter



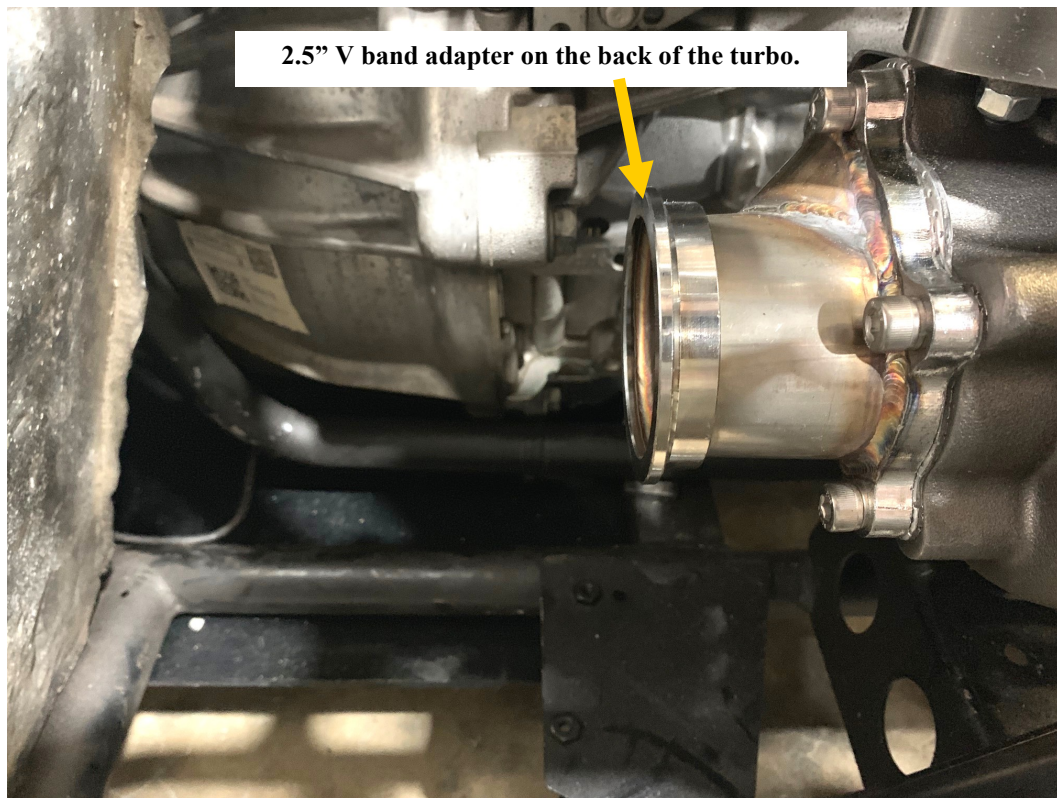
## Checking charge tube Clearance

Before running the new turbo kit too much, you will want to check the charge tubes to make sure that they are clear of the hood.

- Passenger side charge tube - Close the hood and you can look in from the side, there is a small opening between the hood and the frame rail that you can access from the wheel well. Use a flashlight and look through that opening at the charge tube. Check to make sure it is not touching the hood or anything else in the engine bay.
- Drivers side charge tube - you can loosen the hose clamp around the silicone connector going into the throttle body and the hose clamp going to the charge tube, close the hood and check the position of the charge tube. If you feel it touching anything, with the silicone loose, you can move around the charge tube slightly until you have the most clearance. Once you are happy with the fitment, then open the hood and tighten everything in place. On the drivers side charge tube you can put a little Vaseline or grease where the hood is rubbing on the silicone, then close the hood. When you open the hood again you will be able to see where the hood is rubbing and remove material for clearance also.

## Exhaust installation (Pack 4)

1. There are several exhaust options for the DDMWorks turbo kit, however they all hook to the turbo at the V band adapter on the back of the turbo.
2. There is a 2.5" V band adapter on the back of the turbo. If you are installing the DDMworks shorty exhaust, the exhaust will line up with this fitting. Secure with the V Band clamp included with the kit.
3. If you are using the Welter turbo rear exhaust, the end of the Welter exhaust will line up with the 2.5" V band adapter on the back of the turbo and will also be secured with the V band clamp included.





## First fire up

### It is now time to fire up the car for the first time!

1. Did you check all the fluids? Did you fill the engine back with oil after replacing the pan? Did you check the coolant level after some drained out with the install?
2. Make sure you have re-installed your re-programmed ECM and everything is clear, making sure that all rubber hoses are clear of the belts, etc. If possible have a friend watching the engine while you turn the car over.
3. It is best to prime the engine before starting. To do this, unplug the connector going to the MAP sensor and fuel injectors. Then turn the key and push the button to start the engine. The engine will not start, this is normal. Repeat this cycle 3 times and that will prime the new turbo with oil. Also you can check for oil leaks at that point. If everything looks good, plug the connector back in and you can start the engine. There will be a check engine light present for 3 drive cycles if you do the prime technique described above, this is normal.
4. Once the engine starts, check to make sure everything looks good, there is nothing hitting anything, etc. check for fluid leaks, etc.
5. Listen for any possible vacuum leaks and tighten any hose clamps that may need it.
6. Once the engine is idling well, let it warm up fully and take it down the street and back without doing any full throttle runs.
7. Come back and shut off the engine and check again for any coolant or oil leaks or rubbing,, also retighten **ALL** hose clamps at this point.
8. Check the oil level and check the coolant level in the reservoir through the site glass or looking at the level, do not remove the cap if the engine is still hot.
9. The ECM will continue to adapt to the new turbo kit over the next 500 miles, during this time a slight idle droop may be noticeable. This will get better as the ECM continues to learn.
10. If you have a boost gauge, it would be good to watch it on the first couple runs, you should see around 6psi peak boost measured at the intake manifold. If you see more than that, please contact us before driving more
11. If everything looks good now, put the hood back on and go enjoy the new power!

If you have any questions feel free to give us a call at 864-907-6004. You can also email us at [Tech@ddmworks.com](mailto:Tech@ddmworks.com).



This Product is Jake the  
Super dog approved!





119-A Hwy 183  
Piedmont, SC 29673  
Tech Support(864) 907-6004 (call or text)  
Email: Tech@DDMWorks.com

## ECM Removal

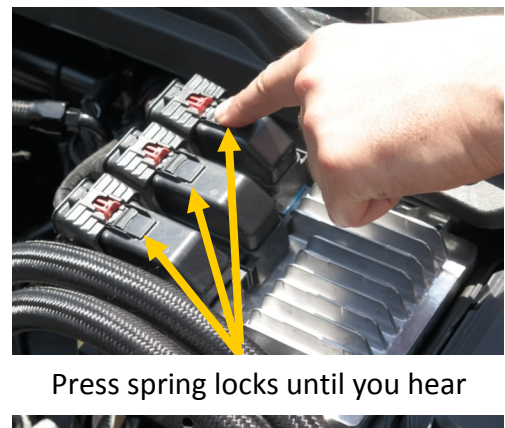
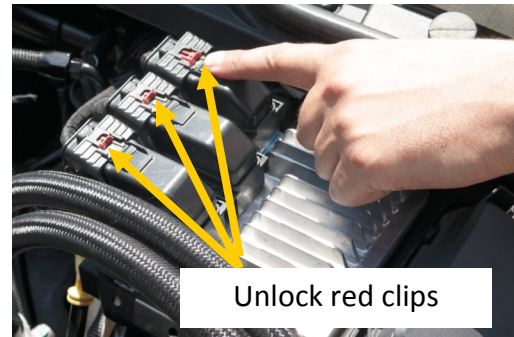
### BEFORE YOU BEGIN:

1. Your vehicle WILL NOT RUN without the ECM. Make sure your vehicle is parked in a safe and secure location while your ECM is out for it's tune flash.
2. It's always a good idea to disconnect the negative terminal from the battery before you begin work on your vehicle.
3. Make sure that the car engine is cool to the touch and you are in a well ventilated area away from open flames.

### TOOLS NEEDED

10 mm socket wrench

1. Unlock the 3 RED clips by pulling them towards you.
2. Press down on each spring lock, they will "click" when unlocked.





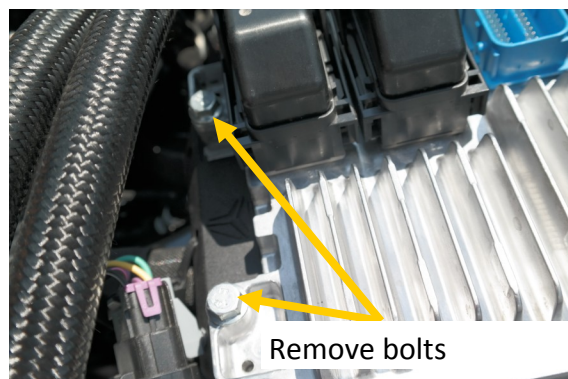
## ECM Removal, continued

3. Raise each locking lever, then pull the connector straight up to fully disengage.



Raise all 3 locking levers to partially disen-

4. With a 10mm socket wrench, remove the two bolts securing ECM to vehicle.



Congratulations! You have successfully removed your ECM!  
Fill out the form included with the kit and ship to MefiBurn to have it flashed.



119-A Hwy 183  
Piedmont, SC 29673  
**Office:** 864-438-4949  
**Tech Support (call or text)**  
(864) 907-6004  
**Email:** Tech@DDMWorks.com