



Performance Spoken Fluently

Instruction Manual

SDS
Supercharger Drive System



3.8Liter V6 GEN-2 Intercooled
Supercharger Drive System



Jeep Wrangler JK
Automatic and Manual Transmission

INSTALLER: Read and understand entire instruction manual before starting installation of system.

Take note of the following before proceeding:

1. Proper installation of this supercharger kit requires general automotive mechanic knowledge and experience. Please browse through each step of this instruction manual prior to beginning the installation to determine if you should refer the job to a professional installer/technician. Please contact your RIPP or Vortech dealer for possible installers in your area.
2. This product was designed for use on stock (un-modified, OEM) vehicles. The PCM (computer), engine, transmission, drive axle ratios and tire O.D. must be stock (unless kits have been designed otherwise such as Jeep Wrangler kits). If the vehicle or engine has been modified in any way, check with RIPP or Vortech prior to installation and use of this product.
3. **Use only premium grade fuel with a minimum of 91octane (R+M/2).**
4. Always listen for any sign of detonation (knocking/pinging) and discontinue hard use (no boost) until the problem is resolved.
5. RIPP is not responsible for any clutch, transmission and/or drive-line/engine damage.

Exclusions from RIPP/Vortech warranty coverage consideration includes, but not limited to:

1. Neglect, abuse, lack of maintenance, abnormal operation or improper installation.
2. Continued operation with an impaired vehicle or sub-system.
3. The combined use of RIPP components with other modifications such as, but not limited to, exhaust headers, aftermarket camshafts, nitrous oxide, third party PCM programming or other such changes.

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Transmission (Auto/6spd)

- **6SPD:** Extreme care must be taken when driving a supercharged vehicle with the stock clutch. If clutch slippage is detected, discontinue hard use. RIPP recommends replacing the stock clutch with a higher capacity unit if slippage occurs.
- **Automatic transmission:** Auto transmissions may not up shift at full throttle when driving in "D" (drive) mode, THIS IS a Direct product of OEM programming and not the provided tuning. In order to shift at full throttle, end users may either "lift to shift" by raising the accelerator slightly (partially). RIPP makes no claims as to the reliability of the transmission with the supercharger installed.

Cruise Control:

Please take note - the factory Cruise Control cannot be programmed with any custom mapping. It is a normal condition to feel a slight surge during some CC functions. It's best to manually clear and reset when this happens.

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Introduction:

Congratulations on your investment into the RIPP *Supercharger Drive System* (SDS) designed for the 2007-2011 JEEP Wrangler equipped with the 3.8L V6 engine. With proper installation, use and maintenance you will enjoy many happy trouble-free miles. The following instructions will include steps for both six speed manual and automatic Jeeps.

RIPP Supercharger Systems are a simple but effective way of increase your engine's total output, without compromising its integrity. Intended for **off road use only**, but designed to be daily driven, its superior ingenuity is what makes it all worth it. These instructions are a necessary guide to the proper installation and maintenance of your RIPP Supercharger system.

The SDS is intended to be installed by a professional technician and should not be attempted by the hobbyist. We feel its best to source out a local performance oriented shop before attempting to install your system. Without proper knowledge of fuel and ignition mapping, permanent damage can and will occur.

Whenever adding more power to any vehicle, the steering, braking and handling of the vehicle will differ from standard passenger vehicle's and trucks. Avoid unnecessary abrupt maneuvers, sudden stops, or over sharp turns. If larger tires are installed your speedometer will read lower than the vehicles actual speed, we highly recommend a speedometer calibrator (included in some kits)

*BE LAWFUL, TREAD-LIGHTLY, DRIVE WITH CARE,
REDUCE SPEED AND WEAR SEAT BELTS AT ALL TIMES.*

INSTALLER: Read and understand entire instruction manual before starting installation of system.



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RIPP Supercharger kits feature products from these manufactures; we also recommend using them for routine service there after.



The following is a list of tools recommended by RIPP Modifications for proper installation of your.

- Air or electric impact tools
- Air saw or metal saw
- Basic mechanics tools (Metric tools will be required)

Recommendations:

- It is essential to start with a cold vehicle.
- Secure any radio or alarm codes before hand.
- Disconnect any large audio systems until AFTER fuel/ignition computers have calibrated.
- Confirm the end user's oil grade and type (synthetic or conventional) and change oil and filter at this time. We recommend  Castrol GTX and a premium oil filter.
- New oil filter
- Spark plugs should be changed to  brand plugs, one heat range colder than stock and gapped to .030-.032" (some kits come supplied with proper plugs, however they are not gapped see instructions for gapping).

INSTALLER: Read and understand entire instruction manual before starting installation of system.

Reverse out any and all performance tuners FROM Vehicle before disconnecting battery. Including speedometer correction deviser, gear correction or performance tuners.



Step: 1 Disconnect battery.

Disconnect the power and ground from battery to avoid any electrical shock during install:

- Using a 10mm open end loosen and take battery leads off from battery



Step 2: Remove air filter box from vehicle

- Pull air temp sensor from factory air tube.

Note: pull slowly and straight as it will break coming out



Step 3: Install Spark plugs

This kit comes with NGK Spark Plugs in a one step colder configuration they will need to be gapped down.

Attention: When pulling spark plug wires off, they will be sealed and in some cases glued in place. The integrity of the wire should be checked prior to re-installing

- Remove old spark plugs (clean area of dirt and grim before removal)
- Gap new plugs to .032" with spark plug gapping tool
- Apply anti-seize to new spark plugs
- Reinstall new plugs

Note: *Inspect spark plug well first, if there is excessive dirt or sand clean before removing spark plugs to avoid dirt or sand falling into the engine.*



Step (4A): Fluids and hoses

Draining the coolant is needed in removing and modifying the upper heater hose.

- Drain coolant via coolant drain plug located in the lower side of radiator

Note one half gallon should do.

Step (4B): Heater hose modifications

- Upper heater hose will need to be cut approximately three inches (3") from the tip to make room for bracket, cut and reinstall.
- Route hose above oil filler cap (see pictures below).



- You can then reinstall and route the hose as imaged
- Remove the hose holder to make room for later steps
- **The lower Heater hose circled in the above image will remain in the stock location**



Step: (5) Remove Intake Manifold

Removal of the factory upper Intake Plenum is necessary for proper installation of the supplied fuel injectors.

Note: there is a locking clip that will need to be pulled back before it actually unplugs



- Unplug MAP sensor located at rear of intake manifold.
- Twist Map sensor counter clockwise (towards the firewall) and set aside, this will be replaced is later steps with supplied unit.



- Unclip both main breather hoses in the intake plenum (Hoses Have Later Steps)



- Unscrew the EGR tube following the sequences above & below (1-4)

Note: You can also gently bend the EGR tube out of the way and slip the intake plenum out to avoid having to take the EGR tube off. CAREFULLY



- View through passenger side fender well
- Note: Inner fender well cover will need to be bent back to access this (PIC 4)



- Unplug TPS sensor to remove intake manifold in one piece.
- Unscrew eight 10mm bolts holding the upper intake plenum to the lower casting.
- Before totally removing the intake from the vehicle be sure to remove Brake Booster hose located at rear of plenum.

Hint: Intake can also be flipped over to the driver's side for this step, leaving Brake Booster Line in place.

Step: (6A) Removing Factory Injectors

Once the Plenum is out it exposes the fuel rail and six primary injectors

NOTE: Tape lower plenum to avoid contamination or lost bolts



- Push Red locking clip out to unplug injectors
- Unplug all injectors keeping a keen eye on injector plug location, mark if needed.
- Unscrew four 10mm bolts holding



- Pull fuel rail and injectors out





- Use a flat-head screwdriver to pull back injector's locking clip
- Remove injector and set aside, you will replace these in a later step

NOTE: The locking clip will unexpectedly launch itself, be prepared to keep an eye on it. This is less likely to happen if you pry the clip slowly and with control.

- The factory injector seal will likely remain in the rail; use a small screwdriver to remove it. The supplied injectors have new seals.

Step: (6B) Installing supplied Injectors



- Install supplied injectors into factory fuel rail by applying a small amount of grease or oil on the injector seal to help it slip in.
- Press firmly into place until you are sure they have hit bottom
- Reinstall locking clips removed from old injectors
- Reinstall rail with newly installed injectors back into lower intake manifold using all the previously removed hardware.



Step: (6C) Reinstall Intake Plenum

At this point you will reinstall the upper intake plenum, reversing the removal procedures. Two changes will be made once securely installed.

NOTE: Be sure the Brake Booster Line is reinstalled or otherwise uninterrupted in any way to avoid possible harm to you or others.

- Install supplied MAP sensor in place of the factory unit previously removed using supplied Phillips-head screws. Plug in and press in locking clip.
- Plug in TPS sensor and press in locking clip
- Reinstall EGR Tube; **Start by placing the lowest most part of the tube in place first. Use a small amount of anti-seize, grease or oil to help the lower (rusty) hardware rethread.**



Check the integrity of the EGR Gasket; this has been a sneaky place for a vacuum leak

Step (7): Installing 30psi PCV Valve (Attention Critical Step)

- The PCV valve is a ONE WAY check valve and is critical to the proper running of your kit. It stops boost from entering the crank-case, but allows vacuum to travel back in for proper crank-case ventilation.



Note: this valve can be installed anywhere in this line

- The supplied PCV valve installs in the crank case hose located behind the throttle body and slip in place.
- Simply cut the hose as shown
- Install the supplied PCV Valve with arrow pointing towards the intake manifold (in the line. The Valve should open in vacuum and close in boost. This valve stops boost from entering the crank case via the valve cover. Simply blowing through it will help you determine the direction as well (boost should not go in the valve cover/crank case)

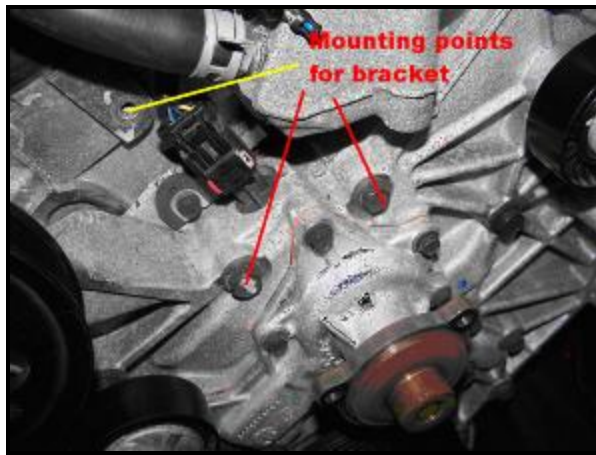


STEP (8A): Installing Supercharger bracket

- Installing the supercharger bracket requires you to remove the factory water pump pulley.
- To do so use a 3/8th ratchet and insert it into the tensioner adjustment slot.
- Pull up with the ratchet to create more tension to stop pulleys from moving.
- Using a 13mm box wrench, loosen bolts on water pump pulley.



- Next press down on the tensioner and remove the factory belt and set aside.



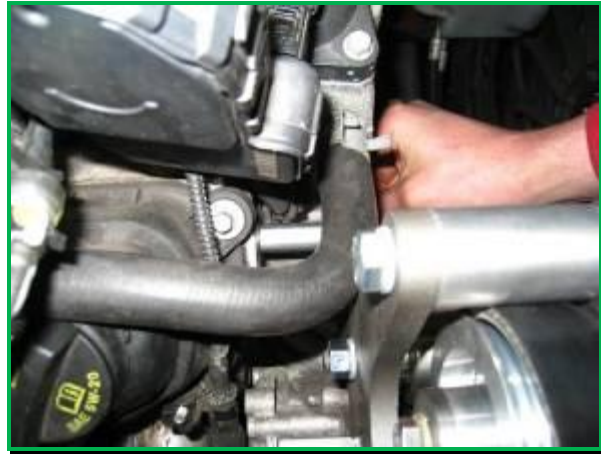
- Note holes where bracket will be mounted, clean thread prior to installing bracket

STEP (8B): Installing Supercharger bracket



- Pulley side faces engine block, air intake faces radiator
- **DO THIS NOW** - To save a step you can pre-install the Cast Aluminum air filter housing (Step11). However be careful not to rest the assembly on the sensor located on the passenger side of the radiator.

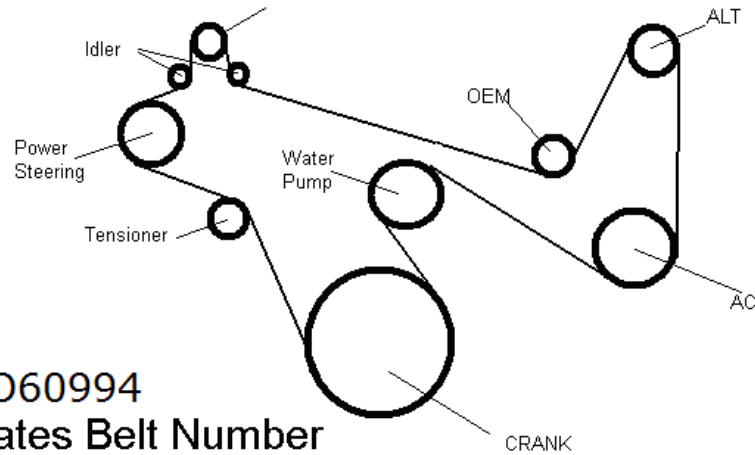




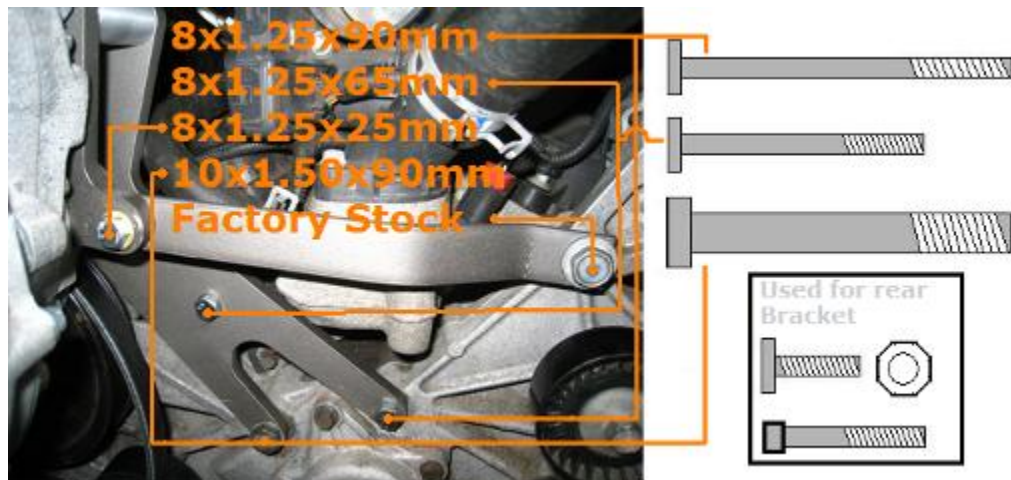
- Install main SDS bracket using supplied bolts
- Be sure to align supplied shim hole

Attention Critical Step: For your convenience the supercharger belt comes pre-installed on the SDS. When mounting SDS to the engine block, be sure both left and right sides of the belt - with slotted side facing the power steering pulley. See Belt Routing Diagram in next page.

3.8l Jeep Wrangler Belt Dio



KO60994
Gates Belt Number



- BOLT DIO - Be sure to use Wave Washers on all bolts -



- Install support bracket as pictured using supplied bolts



- Install rear support bracket as pictured using supplied bolts and spacer



- Use a screw driver to help lock up the bolts on the water pump pulley
- **Secure Braided Oil Drain line to chassis using Zip-Ties**

Note: This line will need to be accessible for draining oil from supercharger. Vortech requires this oil change every 7000 miles. **DO NOT OVER FILL BLOWER EVER!** Do not kink the line it will leak causing irreversible damage to your supercharger (a \$2500.00 item)



Step: (9A) Air To Air Intercooler Preparation

Installing the Front Mounted Air to Air Intercooler (FMIC) will cool the boosted air produced by the supercharger. This intercooler has been specially designed to both cool the air passing through it and be as little as a restriction as possible to the cooling system.

- Remove factory radiator grill via the locking clips
- Once all clips are out pull firmly on the grill, there are a series of press is clips located along the bottom of the grill, they should all come loose easily.
- Once grill is removed locate the soft plastic flaps located on either side of the radiator.



- Using a clip tool or a flathead screwdriver pry the push tabs loose



- Use an Razor Knife or Razor Blade to cut the plastic as shown in the above picture



- Using supplied template - align the two corresponding holes **(LAST PAGE)**
- Use an air saw or dermal-tool to open area and make room for piping to pass
- For a cleaner look use a file to clean sharp edges or plastic



Step: (9B) Air To Air Intercooler Installation

- Rotate the Lower coolant hose clamp counter clockwise towards radiator to make room for piping.



- Mount intercooler as close to center (Left to right) as possible in open radiator space



- Using the supplied “L” brackets and hardware, simply rest intercooler on lower radiator support and bolt into place as pictured.
- A properly installed intercooler should have a half inch+/- between the intercooler and condenser.

TIP: For a neater look you can paint these brackets black to make them more esthetically pleasing

NOTE: Some vehicles are equipped with outside air temp sensors located on the driver's side lower radiator support. Simply lift out of way when working in this area.

NOTE: Please make sure the intercooler is not interfering in any way with the condenser or radiator behind it. It will wear a hole and render the condenser useless.

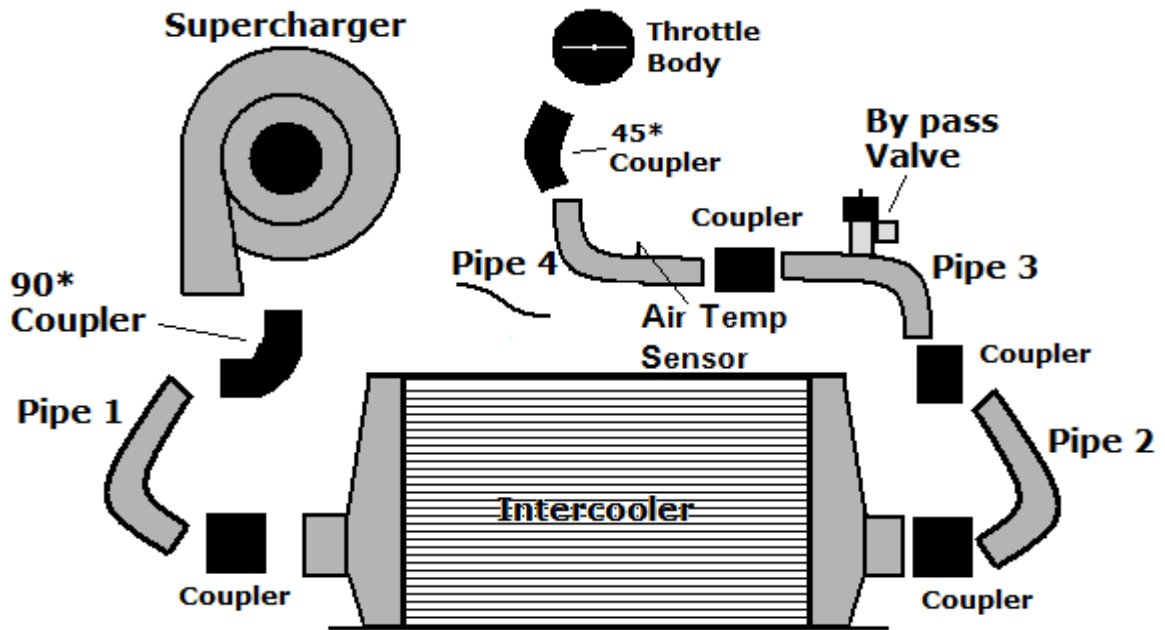


• Step: (9C) Air To Air Intercooler Installation Piping



- Loosen 10mm bolt holding Power Steering Reservoir in place and set aside

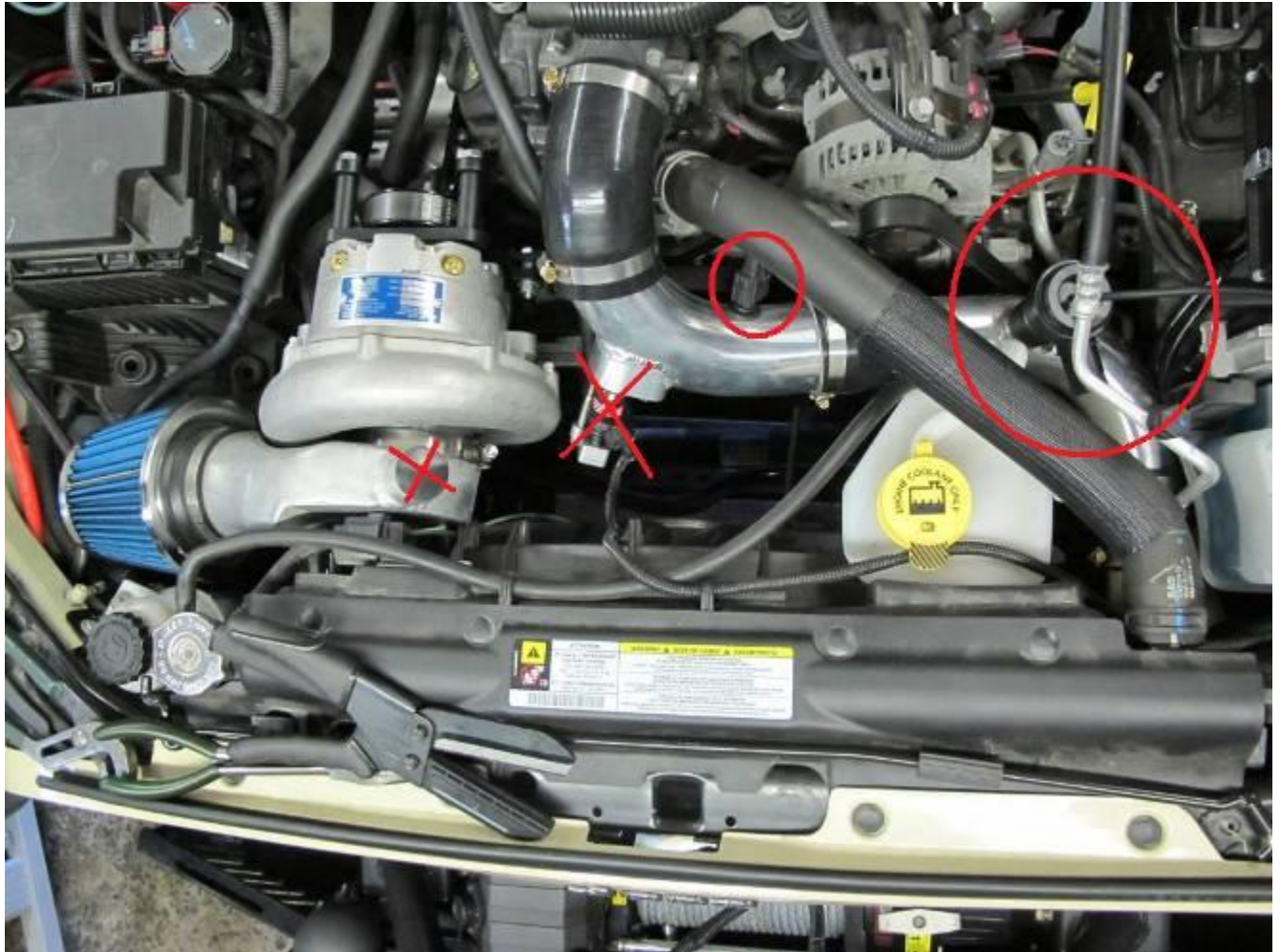
**2007 2011 3.8 Jeep
Wrangler JK Intercooler Piping Diagram**



1. Install 90° 2.75-2.50" Coupler facing the front of the vehicle towards previously cut hole
2. Install Pipe-1 starting from Superchargers outlet into FMIC using 2.5 straight coupler
3. Install 2.5" Straight Coupler and Pipe-2 on the outlet side of the FMIC

Continue next page





1. Install Pipe-3 to Pipe-2 using straight 2.5" coupler
2. Install Pipe-4 with Blow Off Valve Attached into Pipe-3 and 45* Throttle-body coupler
3. Run the 5/32" x 8" vacuum line to the open nipple teeing in from the 5/16TH 20" hose running from the intake manifold to the EVAP, this line is outlined in green in an earlier step and in the vacuum diagram on page .
4. Make sure to reinstall the air temp sensor previously removed and plug it in



- Install supplied clamps
- Align all piping, once you are certain the pipes are not interfering start tightening the clamps.

NOTE: For a cleaner look, install all the clamps in the same direction

NOTE: Please make sure the intercooler is not interfering in any way with the condenser or radiator behind it. It will wear a hole and render the condenser useless.



Step: (10) Vacuum Line (Attention Critical Step)

- Locate main vacuum line leading to EVAP valve behind throttle body.
- Cut as pictured below
- Use supplied Tee fittings and line
- Route vacuum line to By Pass Valve as pictured
- Zip-Tie line to upper coolant hose to avoid interference with drive belt



Step (11): Installing Air Filter



- Locate Cast Aluminum Air Filter Plenum with clamp pre-installed

Note: a small amount of lubricant can be applied to either supercharger's inlet tube or the Cast Plenums inner surface to help this slip over. **Be careful not to rest the assembly on the sensor located on the passenger side of the radiator.**

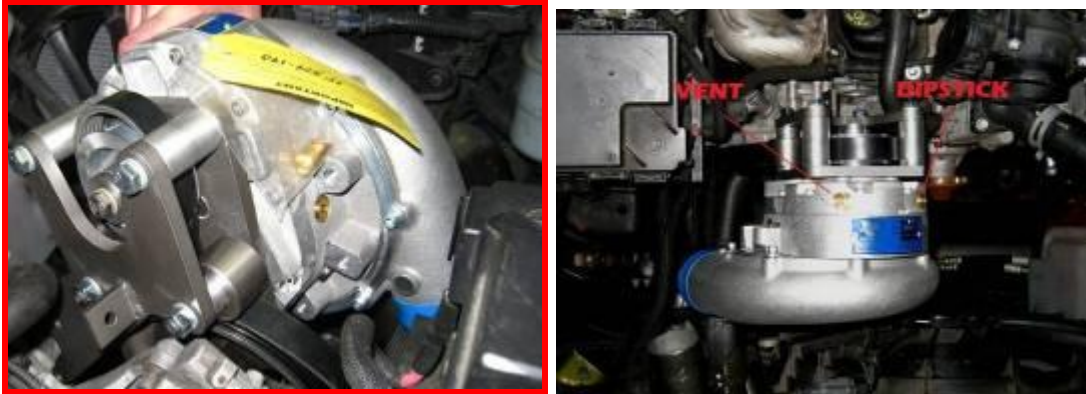
- Squeeze Plenum in-between radiator and Supercharger until centered with air inlet
- Wiggle and/or turn it into place (This is tight) **be sure to leave clamp accessible for future service**
- **Leave facing up**
- **Install air filter - be sure to leave clamp accessible for future service**
- **Locate hose coming from passenger side valve cover and connect to hose coming from center of supplied air filter.**



Step (12): Install Supplied Supercharger Gear Case Vent:

- The supercharger came with a tag and fitting attached to it
- This is the Gear-Case Vent, Remove shipping plug and save for future service or sale.

NOTE: If this is not installed you will blow the seals out of the blower, leaking oil and causing irreversible damage to the unit. Vortech will instantly know this wrong and void any warranties expressed or implied.



Step (13): Wrapping it up (Attention Critical Step)

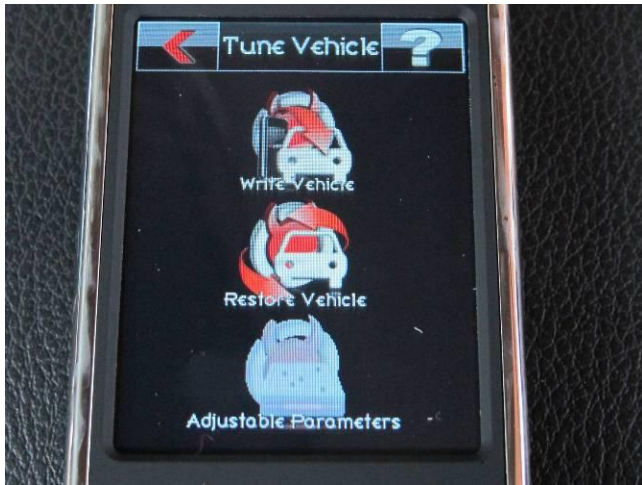
- Going over all your bolts, clamps, hoses, tie wraps, and fluids **twice** (Don't skip this step).
- Refill your engine oil with fresh oil and filter
- **Make sure you followed the oil breather instructions for self contained blowers**
- **Check oil level in self contained units before starting the vehicle**
- Refill your coolant (as per the factory guide lines)
- Make sure all plug connections are solid and no wires are exposed
- Go over vacuum line and make sure all lines are attached
- Make sure all hoses are tight
- Make sure all ignition wires are tight and clicked in

Step (14): Diablo Sport Predator Instruction Steps

- 2007-2011 JK Diablo's are Pre- Programmed

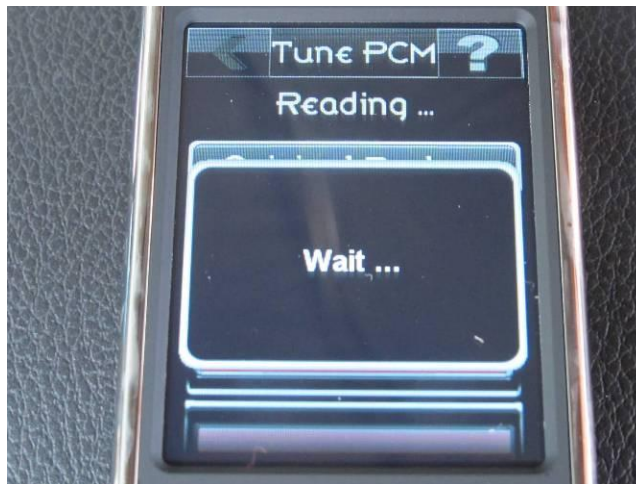
During the file writing process your dash board will flash and ring several times.
Please follow the tools steps, using this pictorial as a guideline





- 2007-2011 JK Diablo's are Pre- Programmed
- ripptuning@gmail.com tuning related issues NOT tech@rippmods.com





- 2007-2010 JK Diablo's are Pre- Programmed
- 2011 JK Will need to contact ripptuning@gmail.com for a tune



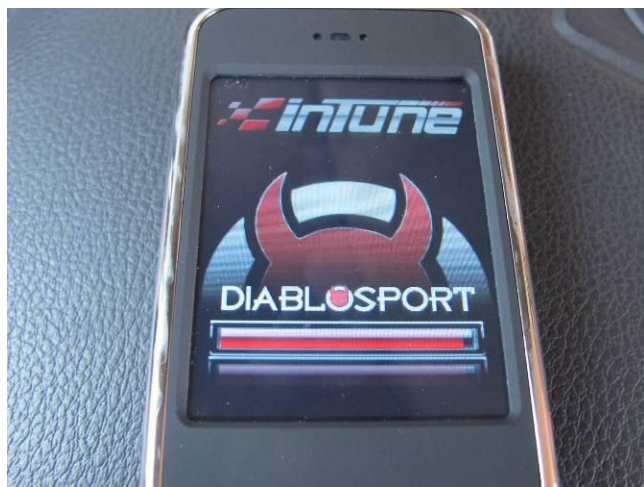
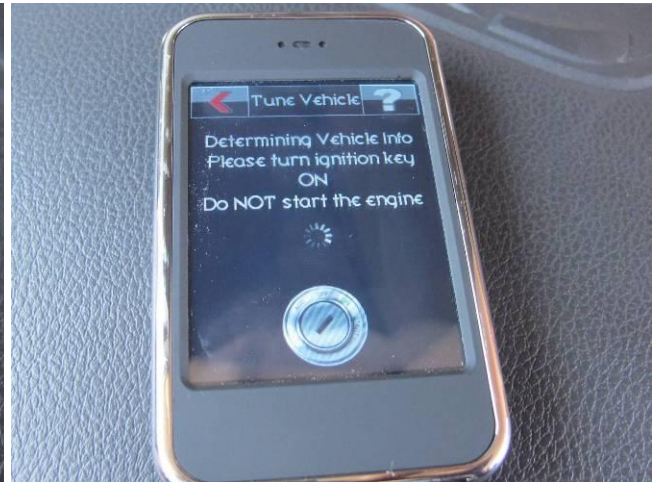
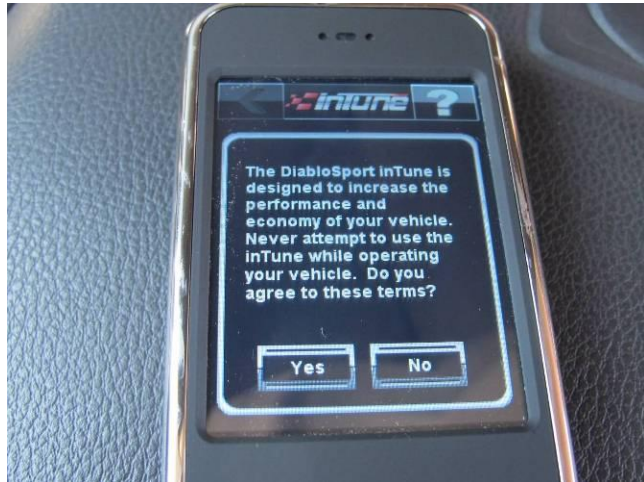


Select the appropriate tune for your set up -

- RIPP SC Tune is for the SC at any elevation using 89-93 fuel
- RIPP SC Header Tune is for the RIPP Long Tube Header and SC combination; at any elevation and 89-93 Octane fuel **THIS TUNE is for RIPP long tube headers NOT short tube headers.**

DO NOT USE 87-88 Octane fuels ever
In some states your 89 fuel is weaker than others and you may be subjected to using high test.





Step (15): Starting the vehicle and dialing it in for the first time:

- Start the vehicle and bring to idle.
- **Check for leaks**
- Fuel leaks
- Oil leak feed (if so optioned)
- Oil Leak return (if so optioned)
- Blow off valve surge setting
- Vacuum leaks
- No misfires (running on five or not starting at all)
- No immediate engine lights (**Attention Critical Step**)
- If anything is lose shut it down and repair.
- If everything seems in order, let it run for 30-60 seconds, then shut down and let the vehicle sit for a minute. Recheck the oil level on the dipstick. (CHECK the entire oil feed and return system for oil leaks- if so optioned).

CAUTION!!! Make sure there are no fuel leaks upon initial start up. Proper inspection of all fuel connection must be assessed before starting the vehicle. If there are fuel leaks, shut the vehicle down and repair.



Maintenance

The RIPP Supercharger *systems require minimal maintenance, beyond normal vehicles regularly scheduled maintenance. Use guidelines listed below and you will receive many years and miles of enjoyment from your system.*

Normal Maintenance Guidelines

Supercharger Lubrication Oil maintenance:

1. The self contained Vortech Supercharger comes with 3 bottles of spare oil. The first bottle is already pre-installed in the compressor from RIPP. The second bottle is to be used after 500 -1000 miles of break-in driving. The third bottle and from that point on oil should be changed every 8000-10000(Maximum) miles depending on the level of abuse. **DO NOT OVER FILL BLOWER UNDER ANY CIRCUMSTANCE DOING SO WILL OVER HEAT THE BLOWER AND CAUSE IRREVERSIBLE DAMAGE.** Additionally running the blower dry would damage the blower beyond repair and will not be covered under warranty. This will keep the charger sounding new and in tune. When cold, remove the oil inlet fitting at the supercharger and the oil drain plug located at the end on the stainless steel braided line and drain. **DO NOT OVER-TIGHTEN FITTINGS.** Use only Vortech lubricant - If you're using a V2 oil feed blower do not use engine oil additives as they may contain solid partials, which can clog the superchargers oil-feed line.
2. For V3 Self-Contained blowers there is an oil case vent installed, it's important to keep that clean. If it is not clean the blower will build too much pressure in the oil case. Vortech designed the V3 to purge pressure via sprung seal behind the impeller. In some cases it's normal to see some minimal oil traces there. Make sure you check your oil level frequently to assure proper compressor operation. We recommend you check fluid level every 3000 miles, add accordingly.

Rock Climbing & Extreme Conditions

- a. Check blower oil levels more often running it dry will cause irreversible damage and will not be covered under warranty.
- b. If you operate your vehicle in extreme cold weather follow the heavy duty/severe usage maintenance schedule in your vehicles owners' manual. Use the manufactures engine oil and filter recommendations. We strongly recommend oil changes from 3000 to 5000 miles to maintain integrity.

Ignition

1. Spark plug/ignition system guidelines should be tuned up regularly. The entire ignition system should be checked bi-annually and fresh plugs installed during the first install. We recommend installing NGK Brand TYPE R Copper or Iridium core plugs in place of the stock ones. We do not recommend any platinum plug at any time. These should be changed once every two years and checked more frequently in race conditions.
2. Every 15000 miles, check to ensure the spark plug wires are within factory specified resistance. Replace whenever beyond specification or every 30,000 miles or whichever comes first.

Fuel

1. RIPP has programmed its vehicle to run on higher octane fuels, in some cases 89oct fuel can be used, but only for commuting and not for full throttle operation or towing. Under all heavy throttle full boost and towing situations we would recommend 91 or higher fuels. Fuel additives will not substitute this.
2. The use of an injector cleaner can be used yearly to help keep older injection system efficient.
3. Under race-only conditions high octane/race gas (100octane or above) can be used, but only a small amount should be used. In a quarter tank, condition (3.5 gallons) use only one gallon of race gas. More will burn up oxygen sensor and catalytic converters.

Mechanical

1. Inspect serpentine belt on every service interval for wear and aging, and replace if there is any sign of premature wear. If there is, abnormal wear that is reoccurring, there may be an alignment issue. Inspect pulley alignment or have a professional assess the problem.
2. Under boosted condition and with increased under hood temperatures, its normal for clamps to come loose. Inspect all clamps regularly.
3. The high flow air filter that is supplied with your kit can be cleaned with a mild detergent, or the use of an air filter cleaning and oiling kit.
4. Biannually check O2 resistance as per the technical guide in the trouble-shooting guide.
5. If you frequently submerge your vehicle in water, inspect all idlers including OEM units to keep belt alignment straight. It is normal to hear some belt squeak in this set up. We designed our belt to fit very tightly around the idlers and supercharger to avoid belt slip.



Trouble Shooting Guide:

This is a reference guide to help you tech any issues you may encounter during or after the installation. The following are the most common teched and resolved.

No start (Includes long crank-no start):

- Check fuses; if there is a no start situation it could be a blown fuse. If a fuse is blown it could have happened during installation and went unnoticed. If it blows again there is a direct short somewhere, trace your steps.

Running rough and Check Engine lights:

- Make sure the RIPP Provided MAP sensor is installed and plugged in
- Make sure the air temp sensor is plugged in.
- Make sure Vacuum lines are hooked up correctly
- Make sure all vacuums are sound
- Make sure PCV valve is correctly installed, if backwards you will pump boost directly into the crank case. This will blow every seal out, examples being valve cover gasket.
- Make sure your spark plug wires are snug
- Do not use ANY other electronic power mapping such as the high octane setting in a Hypertech Max Energy Programmer. This will conflict with the RIPP mapping and cause run faults.

Tire size calibration: Use only the Diablo Sport Predator to calibrate tire size. RIPP does not endorse any other brand. This step is essential, just because your tire advertises to be XX size doesn't mean the tire is actually that size. Many tires that claim to be 35" high will in actuality be 33.5-34" by way of equation. Please make sure this step is properly administered. Run faults will occur.

Boost Gauge:

A boost gauge is a good gauge to have to visually drive the added power; it helps to have a gauge so you can easily find the power when it's needed. RIPP sells a wide variety of boost gauges, from digital to analog, when shopping for a gauge purchase one that references both boost and vacuum.



Note: A boost gauge should be installed in the vacuum line feeding the BOV. The vacuum/Boost reference should only come from the intake manifold after the throttle body.

RIPP GAUGE Pods for JK's and other vehicles.

The JK is limited to space for on board instrumentation, we sourced out these gauge pods and think this is the easiest and best solution to the problem. These are very high quality units and are easy to install. **Product Code: ATI-GK-EPOD-52**



Wrangler JK GEN2 Supercharger AEV Snorkel Kit: RIPP offers this rugged filter combination to mate to the AEV Snorkel System to our Supercharger System. If water crossings are in your future its best to be safe and add this option to your system. **Product Code: JKGEN2-SNRKL-AEV**



RIPP Long Tube Headers provide additional rear wheel HP and Torque as well as lower cylinder head temperatures. If you add this option your Diablo tool is preprogrammed for this option. This item is not CARB Legal. **Product Code: 072010JK38-LTHDR**



Replace your stock 195deg thermostat with this drop in 180deg Thermostat - This will keep the engine much cooler on the road, towing or on those long days on the trails. Simple drop in install, no modifications required.

Product Code: 072011-38-180DEG



The transmission in JK's run hot stock, when you add larger tires and weight it works harder and gets hotter. The factory trans cooler just doesn't cut it, it's riddled with flaws. Our unit works, it keeps the basics in mind dissipate heat...period! Copper is the best material for conducting the heat out of the fluid while aluminum is ideal for transferring and dissipating that heat Protected from possible damage during installation by plastic fin guards and powder coat finish.

Product Code: 07-13-3638-TRANS



State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER D-705

Relating to Exemptions Under Section 27156
of the California Vehicle Code

RAND Solutions, Inc.
RIPP Supercharger Gen-2 Stage 2

Pursuant to the authority vested in the Air Resources Board by Section 27156 of the Vehicle Code; and

Pursuant to the authority vested in the undersigned by Section 39515 and Section 39516 of the Health and Safety Code and Executive Order G-02-003;

IT IS ORDERED AND RESOLVED: That the installation of the RIPP Supercharger Gen-2 Stage 2, manufactured and marketed by RAND Solutions, Inc., 148 Lynhurst Ave., Staten Island, NY 10305, has been found not to reduce the effectiveness of the applicable vehicle pollution control systems and, therefore, is exempt from the prohibitions of Section 27156 of the Vehicle Code for 2007 to 2011 model year Jeep vehicles with a 3.8L engine.

The RIPP Supercharger Gen-2 Stage 2 consists of the following main components: Vortech V3-SCI centrifugal supercharger with a 3.5 inch diameter pulley and a stock 6.0 inch diameter crankshaft pulley, intercooler, supercharger by-pass valve, air intake tubing, open element air filter, ECU upgrade without user adjustments, mass air flow sensor housing, MAP sensor, replacement fuel injectors, and new spark plugs. The stock radiator thermostat is retained and no changes are made to any fuel hose. The PCV breather hose may be replaced or modified with an SAE30R9 rated hose or a Chrysler replacement equivalent. **Maximum boost is 8 psi.**

This Executive Order is valid provided that the installation instructions for the RIPP Supercharger Gen-2 Stage 2 will not recommend tuning the vehicle to specifications different from those of the kit manufacturer.

Changes made to the design or operating conditions of the RIPP Supercharger Gen-2 Stage 2, as exempt by the Air Resources Board, which adversely affect the performance of the vehicle's pollution control system shall invalidate this Executive Order.

This Executive Order is granted based on submitted emission test data generated on one test vehicle modified with the RIPP Supercharger Gen-2 Stage 2. Test results showed that emission levels, with the supercharger kit installed, met the applicable emission standards when tested using the Cold-Start CVS-75 Federal Test Procedure (FTP) test cycle and the Supplemental Federal Test Procedure (SFTP US06/SC03) test cycle. Examination of the OBD II system showed that the supercharger kit did not affect OBD II system operation.



2.

Results from emissions testing conducted at Automotive Testing and Development Services, Inc., located in Ontario, California, are shown below (in grams per mile with deterioration factors applied).

2010 model year Jeep Wrangler	CVS-75 FTP			
	NMOG	CO	NOx	HCHO
Standards, 50k	0.040	1.7	0.05	0.008
Device Test w/df	0.037	1.3	0.01	0.000

	US06/SC03	
	NMHC+NOx	CO
Standards 4k	0.25/0.27	10.5/3.5
Device	0.09/0.12	2.0/1.2

The Air Resources Board reserves the right in the future to review this Executive Order and the exemption provided herein to assure that the exempted add-on or modified part continues to meet the standards and procedures of Title 13, California Code of Regulations, Section 2222, et seq.

THIS EXECUTIVE ORDER DOES NOT CONSTITUTE A CERTIFICATION, ACCREDITATION, APPROVAL, OR ANY OTHER TYPE OF ENDORSEMENT BY THE AIR RESOURCES BOARD OF ANY CLAIMS OF THE APPLICANT CONCERNING ANTI-POLLUTION BENEFITS OR ANY ALLEGED BENEFITS OF THE RIPP SUPERCHARGER GEN-2 STAGE 2.

This Executive Order shall not apply to any RIPP Supercharger Gen-2 Stage 2 advertised, offered for sale, sold with, or installed on a new motor vehicle prior to or concurrent with transfer to an ultimate purchaser.

Marketing of the RIPP Supercharger Gen-2 Stage 2 using any identification other than that shown in this Executive Order or marketing of the RIPP Supercharger Gen-2 Stage 2 for an application other than those listed in this Executive Order shall be prohibited unless prior approval is obtained from the Air Resources Board.

No claim of any kind, such as "Approved by the Air Resources Board", may be made with respect to the action taken herein in any advertising or other oral or written communication.

Violation of any of the above conditions shall be grounds for revocation of this order. The order may be revoked only after a ten-day written notice of intention to revoke the order, in which period the holder of the order may request in writing a hearing to contest the proposed revocation. If a hearing is requested, it shall be held within ten days of receipt of the request and the order may not be revoked until a determination is made after the hearing that grounds for revocation exist.

Executed at El Monte, California, this _____ day of March 2013.

Annette Hebert, Chief
Mobile Source Operations Division

RAND SOLUTIONS, INC.–RIPP SUPERCHARGER GEN-2 STAGE 2–D-705



JK Intercooler Ratiator Cut-out

Line up with existing holes
Reverse Template for opposite side

