



928 Motorsports Supercharger Installation

Copyright 2007, 928 Motorsports, LLC All Rights Reserved

Ferrari 32v 308, 328 Supercharger Installation





928 Motorsports Supercharger Installation

Copyright 2007, 928 Motorsports, LLC All Rights Reserved

Toll-Free Tech Hot Line:

877-FOR-928M

877-367-9286

Please do not copy this manual and give copies to your friends. Our ability to bring you this supercharger kit at this price relies on our customers coming to us for our knowledge and experience in supercharging these cars. Much of this information is hard fought and the product of multiple trials and errors. Please do not give any section of this manual to your friends, but rather, encourage them to contact 928 Motorsports, LLC for their own kit. THANK YOU!

Thank you for your purchase. We have included an entire set of silicone vacuum hoses at no charge for you.



928 Motorsports Supercharger Installation

Copyright 2007, 928 Motorsports, LLC All Rights Reserved

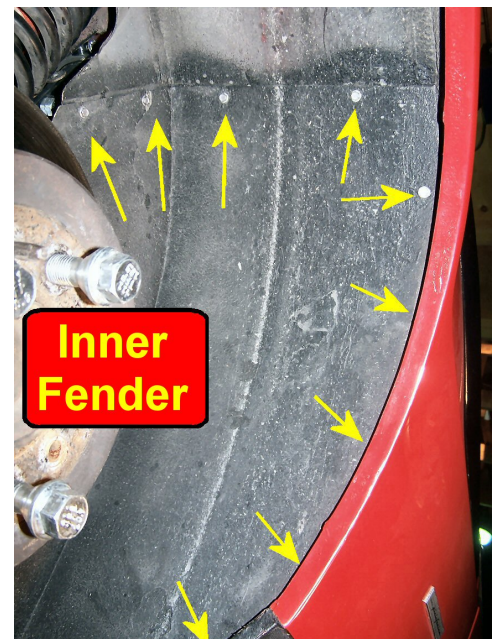
For 32v KE-Jetronic Ferrari Motors

NOTE: “Left” and “Right” are used in this manual frequently. Left and Right are always as seen from the driver’s seat-as you sit in the car. Because the engine in the Ferrari is transverse, “Left” and “Right” for the engine will be as the engine is viewed from the front of the motor.

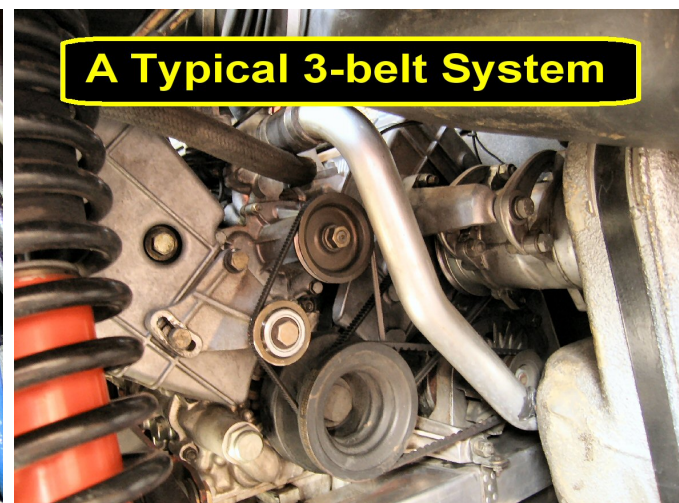
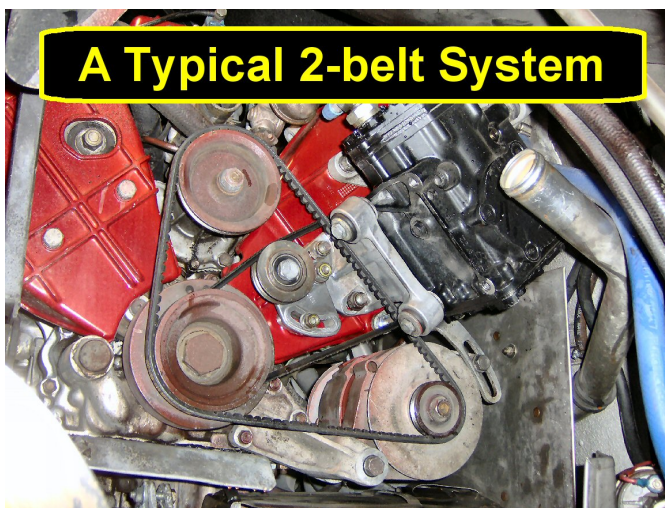
Phase 1: Preparation of your Motor

We recommend that you steam clean or power wash your motor before beginning the supercharger installation. It's more fun to work on a clean motor than a greasy one.

Put the rear of the car up on jack stands and remove the Right Rear wheel, and the RR inner fender liner.



Identify whether you have a 2-belt system or a 3-belt system for the alternator, water pump, and air conditioner. (Pictures “2belt” and “3belt”). This will become important later, so identify yours now.



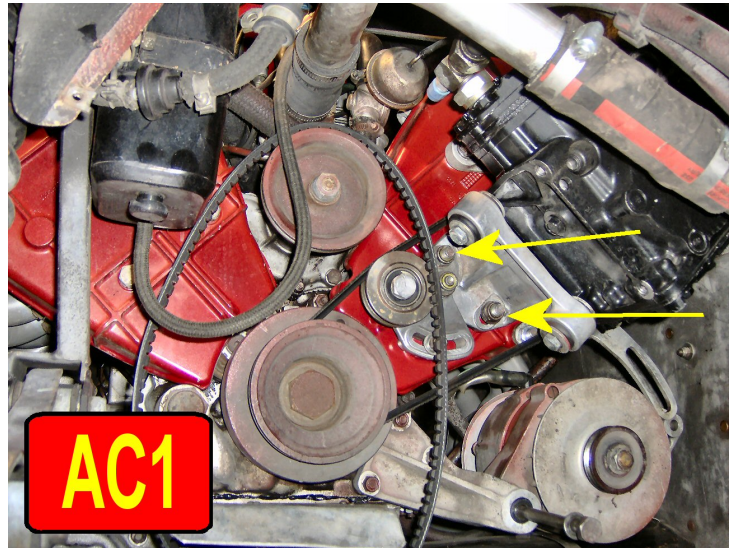


928 Motorsports Supercharger Installation

Copyright 2007, 928 Motorsports, LLC All Rights Reserved

Belt Removal

Loosen and remove the alternator, water pump, and air conditioner belts. The water pump and alternator belts are self-explanatory, but the AC belt is not. For the AC belt, you loosen the slide screws shown in picture AC1 and then lower the air conditioning compressor by backing out the screws located on top of the compressor.



Crankshaft Pulley Removal

Now confirm that the vehicle is in Neutral. Hold the flywheel still by inserting a straight-bladed screwdriver into the edge of the clutch pressure plate through the inspection slot as shown in picture CP1 and have an Assistant break torque on the Crank shaft pulley bolt. You'll need a 36mm socket and a breaker bar.

Slide the crankshaft harmonic damper/pulley assembly off of the nose of the crankshaft. Box it up, insure it, and ship it to us for modification. Take care not to lose the key, it should stay in the crankshaft, but check it anyway.



We will be putting two keyholes in it to precisely align with the pins that you see if you look at the supercharger drive pulley that is in your kit. Picture CP3.



Ship it to:

928 Motorsports, LLC
604 E Maple Street
Horicon, WI 53032



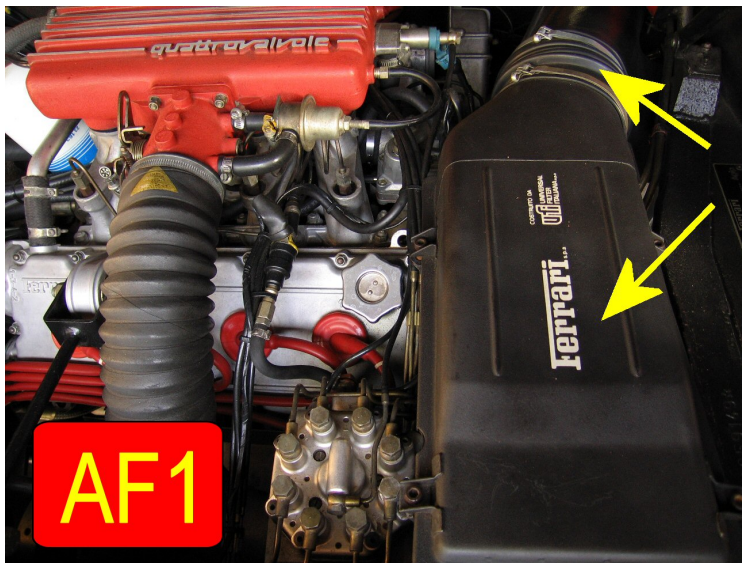
928 Motorsports Supercharger Installation

Copyright 2007, 928 Motorsports, LLC All Rights Reserved

While the harmonic balancer travels, we can keep going....

Air Filter Box Removal

Remove air filter box and cold air intake as shown in Pictures AF1. Save the clamp that holds the air filter box around the CIS air inlet as we will be using that again shortly. Take care not to allow anything to drop into the CIS assembly - in fact, it's always a good idea to cover the CIS intake with a towel anytime it is uncovered. Picture AB2.



Keep track of the small hose you disconnect from the bottom of the air filter cover as in AF4. We will be looking for that hose again to re-attach it to the new cold air intake.

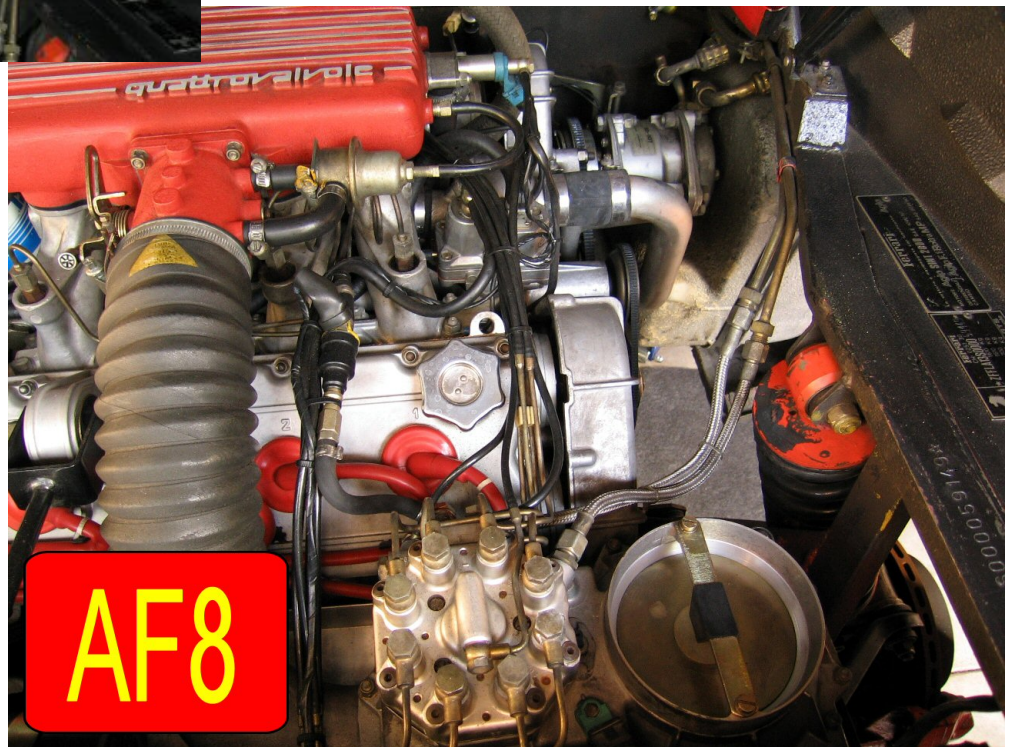


928 Motorsports Supercharger Installation

Copyright 2007, 928 Motorsports, LLC All Rights Reserved



After the Air Box and Cold Air Intake is removed, your engine bay should look like Picture AF8.

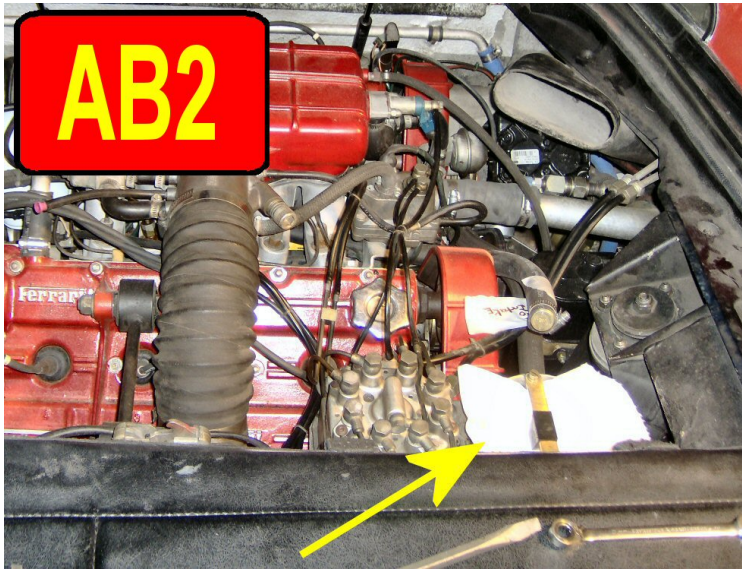




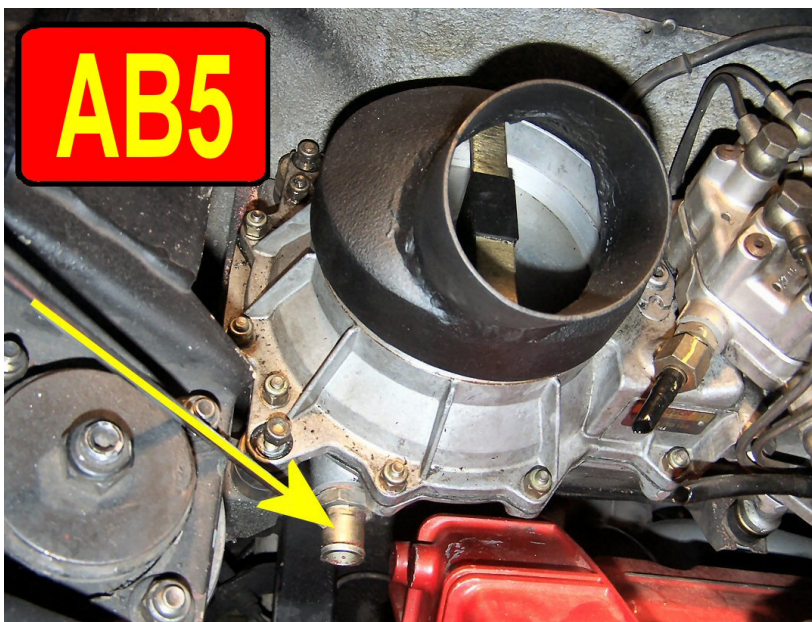
928 Motorsports Supercharger Installation

Copyright 2007, 928 Motorsports, LLC All Rights Reserved

Cover the open CIS air intake with a towel to prevent debris from falling in to it while we work on the motor, as I AB2.



If your CIS body has a nipple on it as shown in Photo AB5, you may take a nipple and clamp as shown in AB4 and block it off.





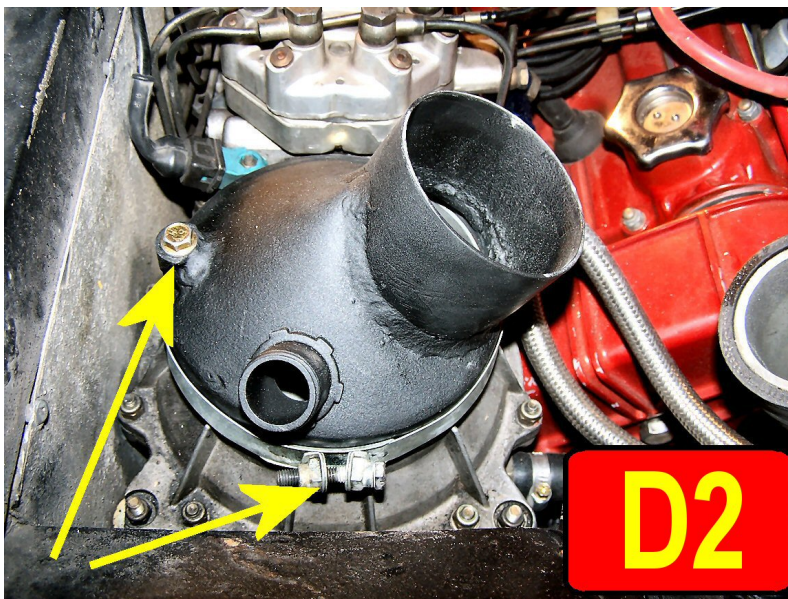
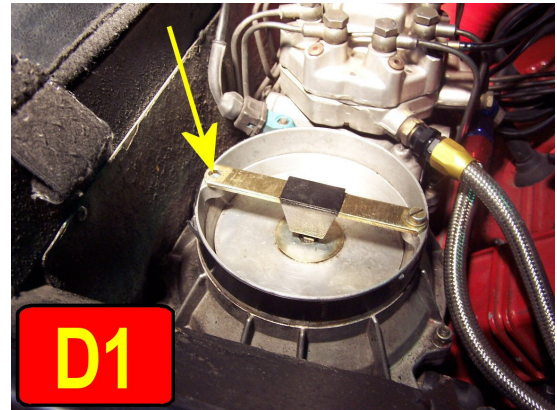
928 Motorsports Supercharger Installation

Copyright 2007, 928 Motorsports, LLC All Rights Reserved

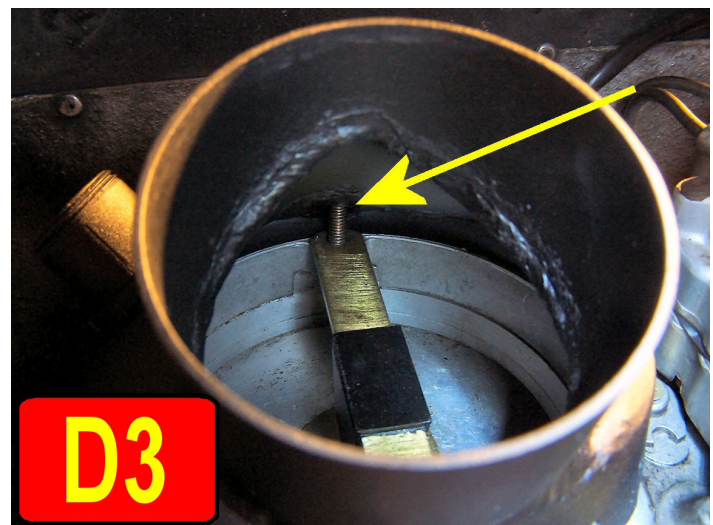
Air Diffuser and Blow-Off Valve Installation

Now remove the rear-most mounting screw for the bump-stop inside the CIS assembly as shown in Picture D1. Clean the CIS paddle and surrounding volute with carb spray to remove old dirt and oil deposits, if any.

Mount the CIS diffuser from your kit and secure it in place with the screw and outer clamp as shown in Picture D2. Re-use the same clamp you removed from the air box.



If you look down the intake tube as shown in Picture D3, it's much easier to get the bolt started into the hole.





928 Motorsports Supercharger Installation

Copyright 2007, 928 Motorsports, LLC All Rights Reserved

Don't be surprised that the Diffuser is a snug fit on the CIS intake. That is by design. You may need to sand off a little of the paint on the inside of the Diffuser and apply a light coat of grease to help you press it in place. Use a rubber mallet to knock it down gently. Then tighten the thru-bolt and finally the band clamp around the bottom.



Locate the blow-off valve assembly, the pre-molded $\frac{3}{4}$ " hose and two clamps as shown in Picture D4 and D5, and mount them to the Diffuser you just installed. The BOV and the breather fit under the intake elbow as shown so the bonnet will close correctly.





928 Motorsports Supercharger Installation

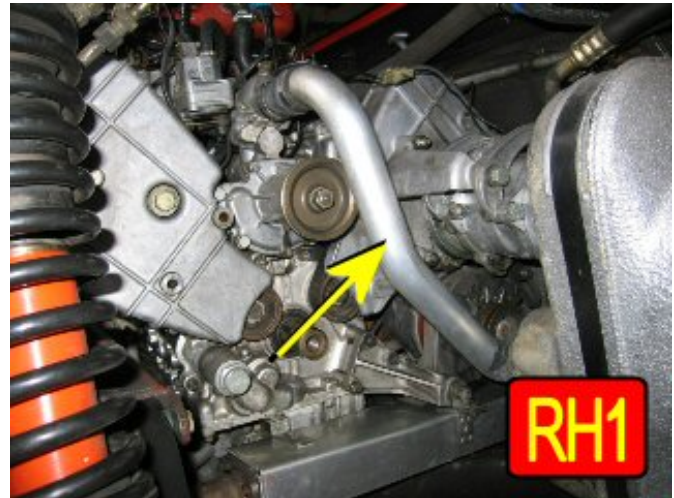
Copyright 2007, 928 Motorsports, LLC All Rights Reserved

Upper Radiator Hose

Now we are going to replace the upper radiator hose to make some room for our Supercharger.

Get a pan beneath the car to catch the coolant, and remove the stock metal radiator hose shown in RH1. Remove the complete hose and the rubber collars on each end.

Assemble the two radiator hoses provided in your kit as shown in RH2 and RH3.





928 Motorsports Supercharger Installation

Copyright 2007, 928 Motorsports, LLC All Rights Reserved

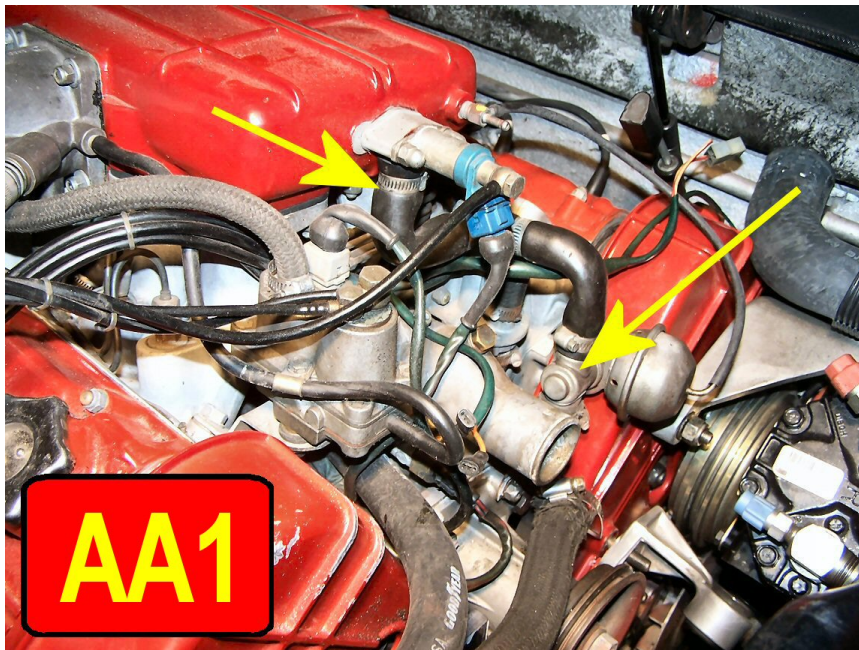
Place the abrasion-resistant cover where the radiator hose runs over the top of the air conditioning compressor, and secure it in place with two cable ties as shown in Picture RH5. Pour the coolant back into the coolant reservoir until it's full, and keep the rest for when we restart the engine.





928 Motorsports Supercharger Installation

Copyright 2007, 928 Motorsports, LLC All Rights Reserved



Auxiliary Air Valve

Remove the aux air valve assembly. See Pictures on this page and instructions on the next page.

Picture AA2 shows the complete Aux Air assembly for a 2V motor, the 4v motor will be slightly different.

If you are curious, you can read about what this device used to do for you in the last section of this installation guide under "Driving your Supercharged Ferrari". We don't need it anymore, and they often fail and cause trouble as they get older, anyway.



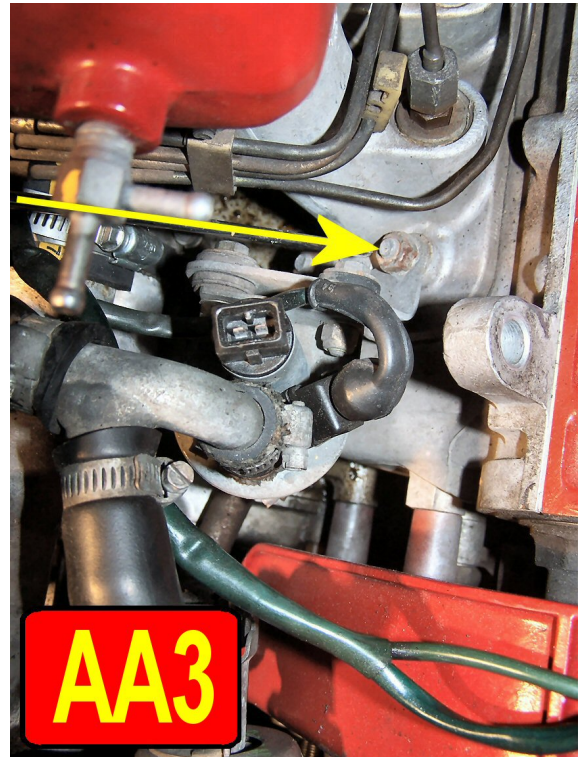
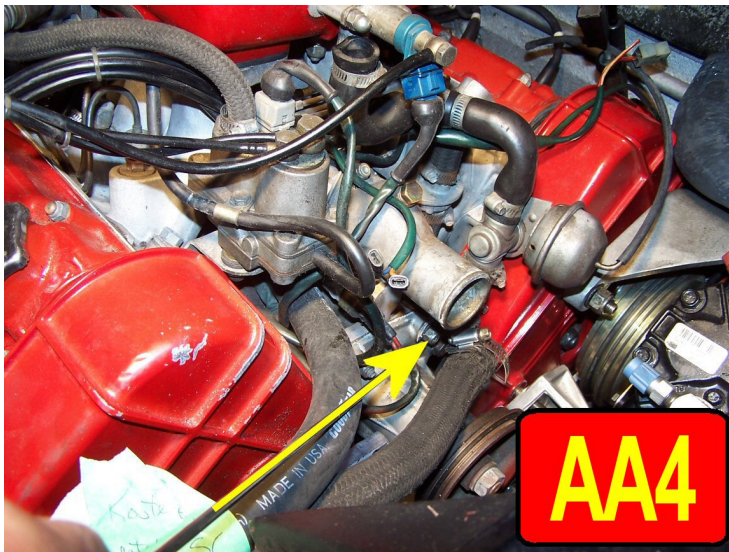


928 Motorsports Supercharger Installation

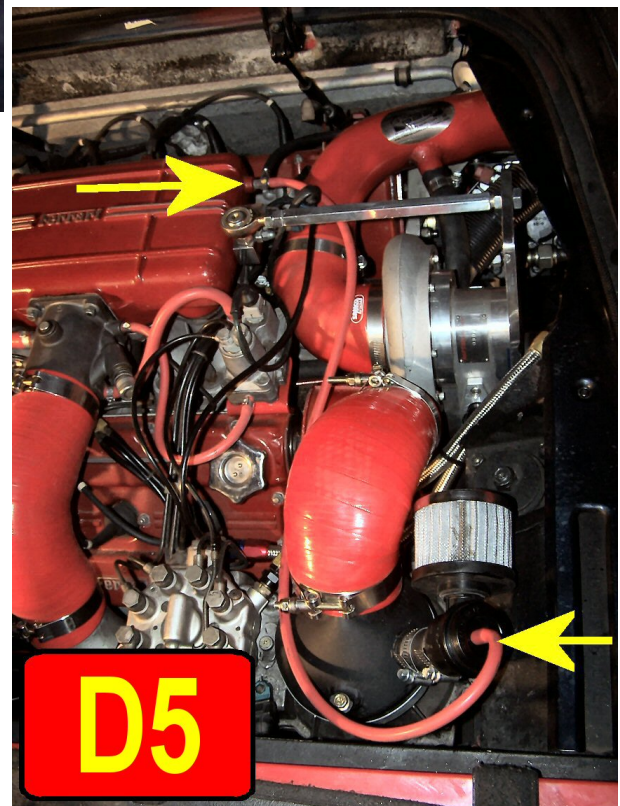
Copyright 2007, 928 Motorsports, LLC All Rights Reserved

Remove the two 13 mm nuts hold the Aux Air Valve down to the right front intake runner where the intake meets the engine block as shown in Picture AA3.

There is also a nut to remove where shown in Picture AA4. Put the nuts back on that you just removed and torque them down. Take a cable tie from your kit and tie down the wires that used to run to the aux air valve.



You'll find that removing the Aux Air valve opens up a vacuum nipple on the central intake plenum – this is where you hook up the vacuum hose to the blow-off valve as shown in picture D5.





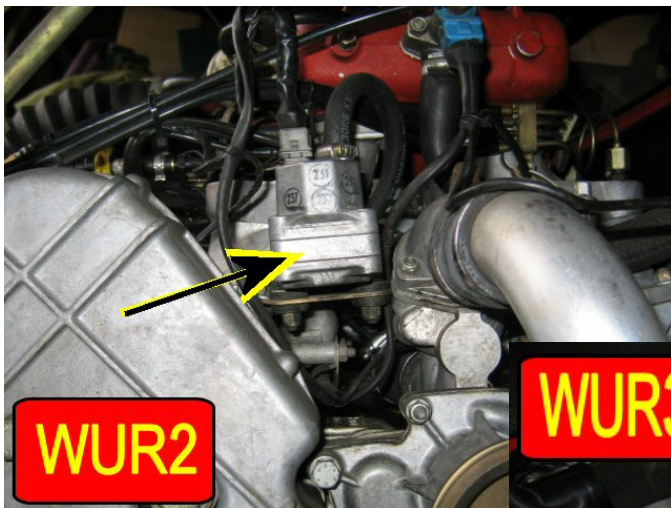
928 Motorsports Supercharger Installation

Copyright 2007, 928 Motorsports, LLC All Rights Reserved

Warm-Up Regulator



We need to re-position the Warm-Up Regulator – the item shown in Pictures WUR1 and WUR2. We will be relocating it over by the radiator coolant tank as shown in Picture WUR3 and mounting it there with the custom mounting bracket provided as shown in Picture WUR4.





928 Motorsports Supercharger Installation

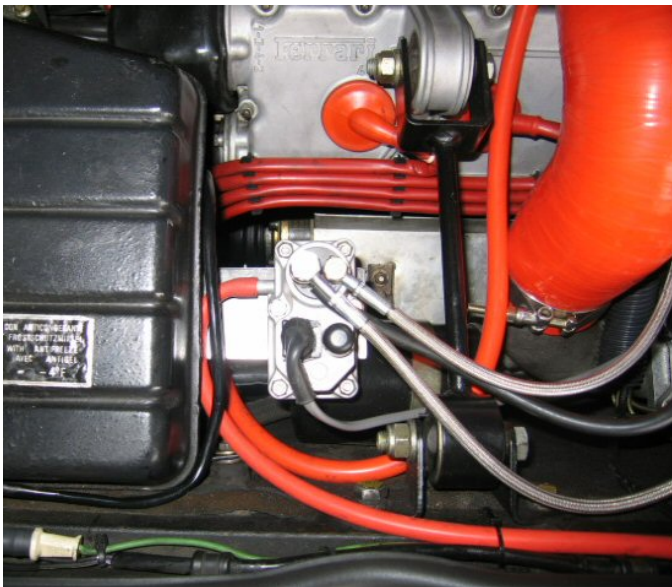
Copyright 2007, 928 Motorsports, LLC All Rights Reserved

First, loosen the fuel lines (but do not remove them) from the top of the WUR.

Then remove the 13 mm nuts that hold it down to the intake runner where the intake meets the engine block as in Picture WUR5.

Remove the two 10mm nuts that hold the WUR down to its mounting bracket, and using the bolts and Nylock nuts provided in your kit, mount the WUR to the new mounting bracket.

The mounting bracket with WUR attached now mounts under the coolant reservoir tank with the bolts already on the car in that location .



Once mounted, route the fuel lines so there are no kinks in them, and re-tighten the fuel line fitting on top of the WUR.

Electrical: Use a voltmeter, and determine which of the two wires going to the WUR is positive and which is negative (These very, you have to check.) In your kit, you will find a 24" extension cord for this, splice in the extension provided to bring power over to the WUR, keeping polarity the same as it was before.

Put the 2 nuts back on the intake manifold where you removed the WUR bracket.

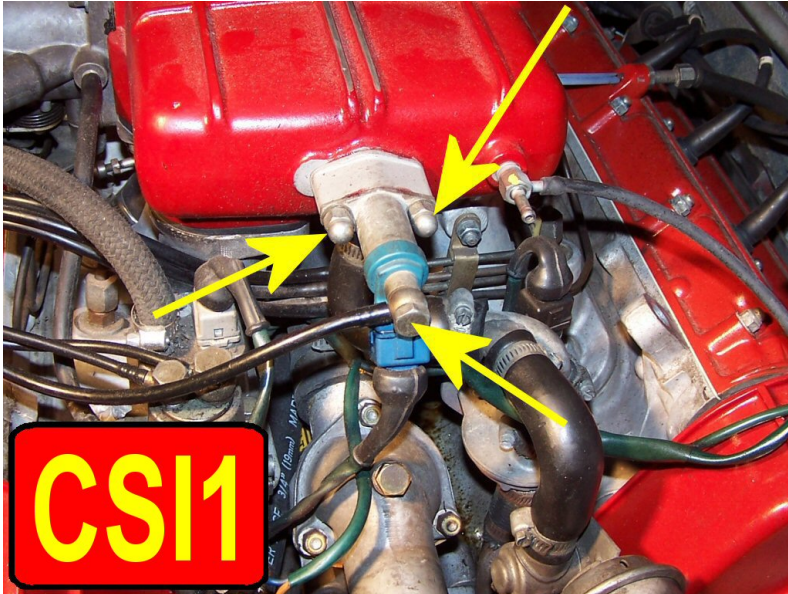


928 Motorsports Supercharger Installation

Copyright 2007, 928 Motorsports, LLC All Rights Reserved

Cold Start Injector

Refer to Picture CSI1. Unplug the electrical connector from the Cold Start Injector. Loosen (you do not have to remove) the banjo bolt at the end that captures the fuel line.



Then remove the two 10mm nuts the hold the CSI to the intake manifold center plenum as shown.

Remove the adapter plate underneath the injector too – that used to have a hose from the aux air valve go to it and we do not need it anymore. Clean the mounting surfaces on the intake manifold and the CSI now.

Locate the Cold Start Injector adapter bracket from your kit as shown in picture CSI2. Note that one side is flat, the other has a chamfered hole as shown. The flat side goes against the intake manifold, the side with chamfer faces out toward the cold start injector.

The large threaded hole should be on the left when you look at the engine from the RR fender.



Coat the sealing surface of the intake manifold with a film of silicone gasket make and slide the adapter bracket on to the mounting studs.

It should look like Picture CSI3.



928 Motorsports Supercharger Installation

Copyright 2007, 928 Motorsports, LLC All Rights Reserved



Put a ring of the same silicone around the base of the CSI where the o-ring is, and slide it onto the studs **WITH THE ELECTRICAL CONNECTION FACING UP**. Install the two mounting nuts and tighten. Refer to pictures CSI 4, 5, and 6. Finish by attaching the electrical connector and tightening the fuel line banjo bolt.



Pictures CSI5 and CSI6 show the Tracking Turnbuckle attached to this CSI mount. Do not install the Tracking Turnbuckle at this time, we will do that after the supercharger is mounted.

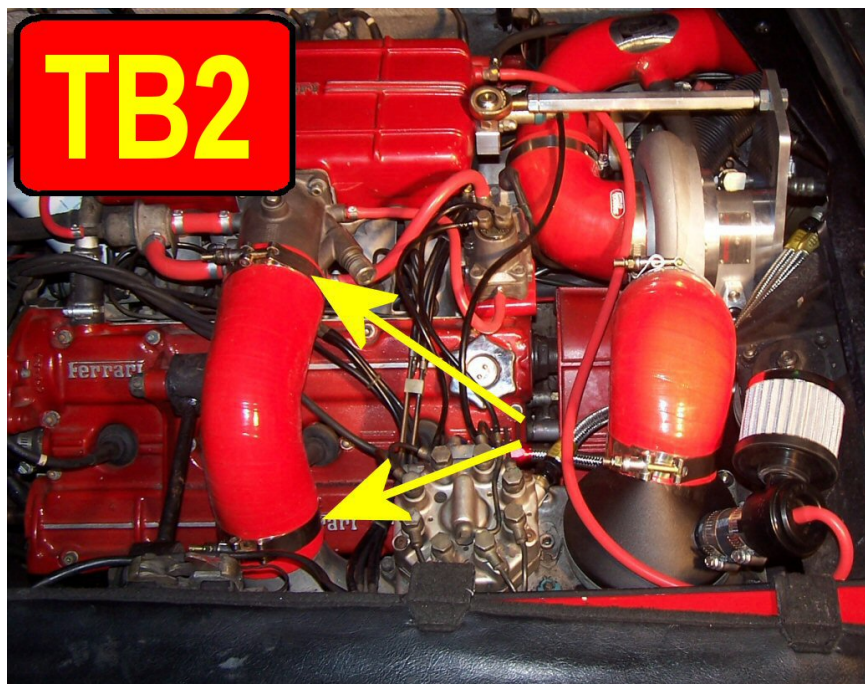
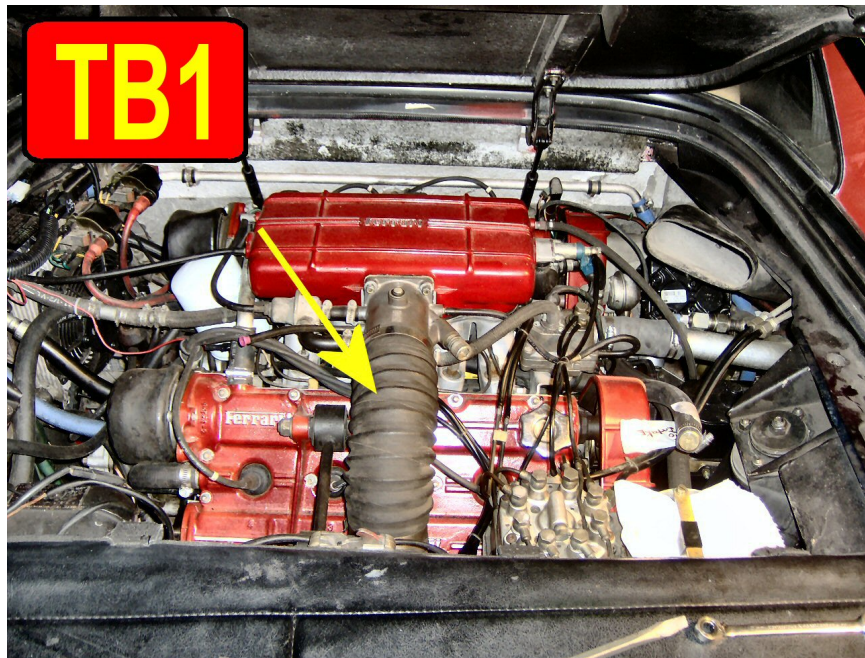


928 Motorsports Supercharger Installation

Copyright 2007, 928 Motorsports, LLC All Rights Reserved

Throttle Body Intake Hose

Remove the black flex-hose that goes from the CIS assembly to throttle body as shown in picture TB1 and replace it with a new silicone hose and 2 T-bolt clamps from your kit as in picture TB2. The hose will elongate slightly as you force it into place, this is normal.



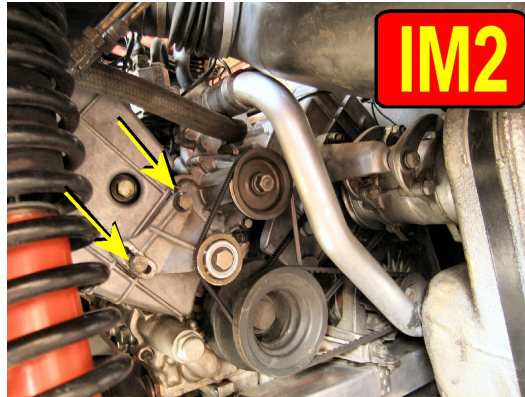
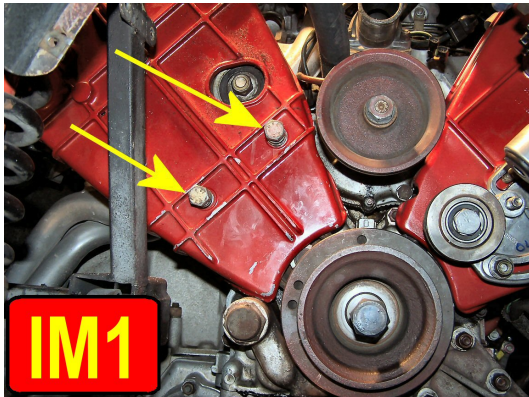


928 Motorsports Supercharger Installation

Copyright 2007, 928 Motorsports, LLC All Rights Reserved

Supercharger Inner Mount

As you look at the front of the motor, remove the two bolts that hold on the left timing belt cover as shown in Picture IM1. They *might* be running through a belt tensioner assembly for the water pump belt as shown in Picture IM2. If so, remove that belt tensioner with the two bolts. There is a 3rd timing belt cover bolt at the top, that one does not have to be removed.

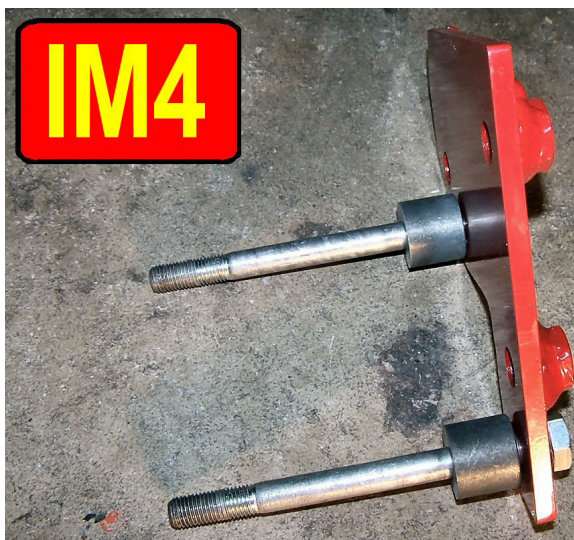


We can now install the steel inner supercharger mount. Locate the inner supercharger mount, spacers, and the two long metric mounting bolts from your kit (Picture IM3) and mount them according to the belt system you have on your vehicle as follows:



Instructions for vehicles with a 2-belt system:

Refer to Picture IM3 and IM4 and slide the mounting bolts through the inner mount and slip the 20mm tall spacers onto the bolts. Place a drop of Loctite Blue onto the threads of each bolt and mount to the motor as shown in Picture IM5. You can put a final torque on those bolts now.



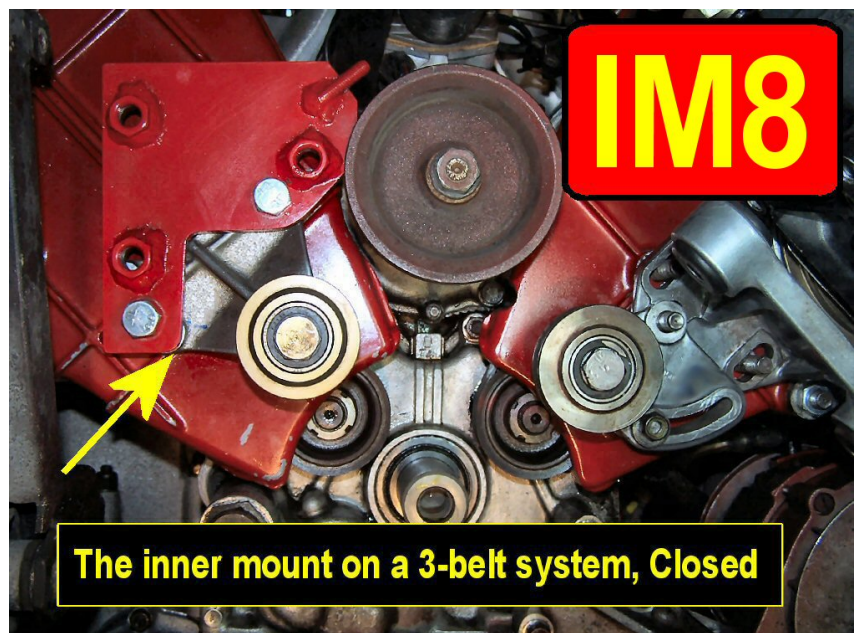
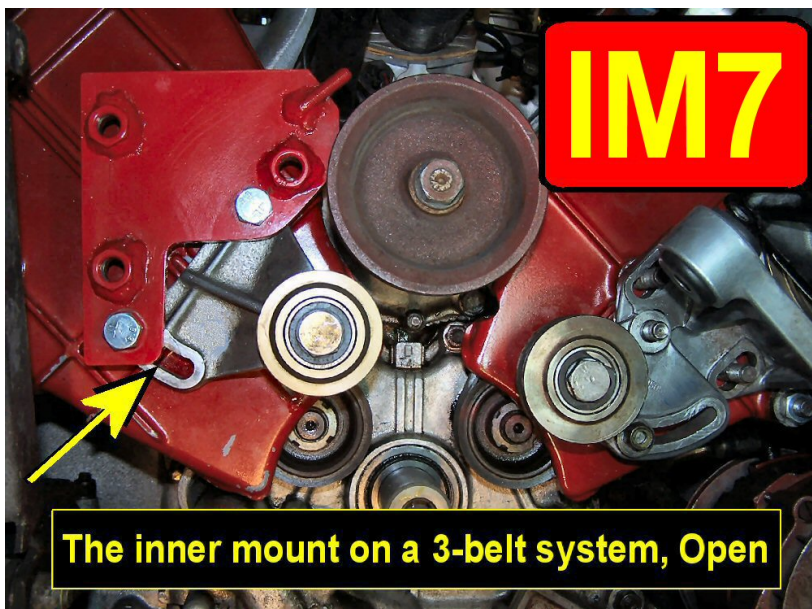


928 Motorsports Supercharger Installation

Copyright 2007, 928 Motorsports, LLC All Rights Reserved

Instructions for vehicles with a 3-belt system:

Refer to Picture IM6 and slide the mounting bolts through the inner mount, through the belt tensioner for the water pump belt as shown, and then slip the 6mm tall spacers from your kit onto the bolts. Put some Loctite blue on the threads and mount it to the motor, but do not apply a final torque to those bolts at this time. Check operation of the belt tensioner as shown in Pictures IM7 and IM8. We will not be putting a final torque on these bolts until after the drive belt is installed.





928 Motorsports Supercharger Installation

Copyright 2007, 928 Motorsports, LLC All Rights Reserved

After the modified Harmonic Damper has arrived:

When your harmonic damper comes back from us, it will have two key holes as shown in Picture CP2. Clean the nose of crankshaft and coat it with a thin film of light oil. Make sure that the Woodruff key is in place. Locate the large crankshaft pulley bolt and washer from your kit and have it ready at the front of the motor. Put a couple drops of Loctite Blue on the threads of the bolt now. Also get a 27mm socket (or 1 1/16") and a 6-inch extension handy.



Place your modified harmonic balancer upright on the floor, and seat your new 928 Motorsports supercharger pulley into it. Refer to Picture CP3. You may have to push down slightly as it is a snug fit. Now slide this assembly back onto the nose of the crankshaft, and over the crankshaft key. Secure it in place with the long M18 bolt and hardened washer as shown in Picture CP4. **DO NOT LET GO** of the supercharger pulley until the bolt has been started into the crankshaft.



Have your assistant lock the engine again with the screwdriver in the clutch inspection slot as before, (Picture CP1) and tighten the crankshaft pulley bolt to 218 ft lbs of torque.



928 Motorsports Supercharger Installation

Copyright 2007, 928 Motorsports, LLC All Rights Reserved

Mounting the Raptor Supercharger

We recommend you read this complete section before beginning.



It is ready to install as shown in picture R1.

Overview: the supercharger has an INNER mounting bracket that is steel, and an OUTER mounting bracket that is aluminum.

We will be mounting the inner bracket to the motor directly, then the outer bracket onto it with bolts and spacers.

In pictures R2 and R3 we show the supercharger mounts with the supercharger missing so you can see how the outer mount is held in position by the bolts and spacers.

For your convenience, we have already mounted your Raptor supercharger to the mounting bracket, and attached the belt tensioner assembly.





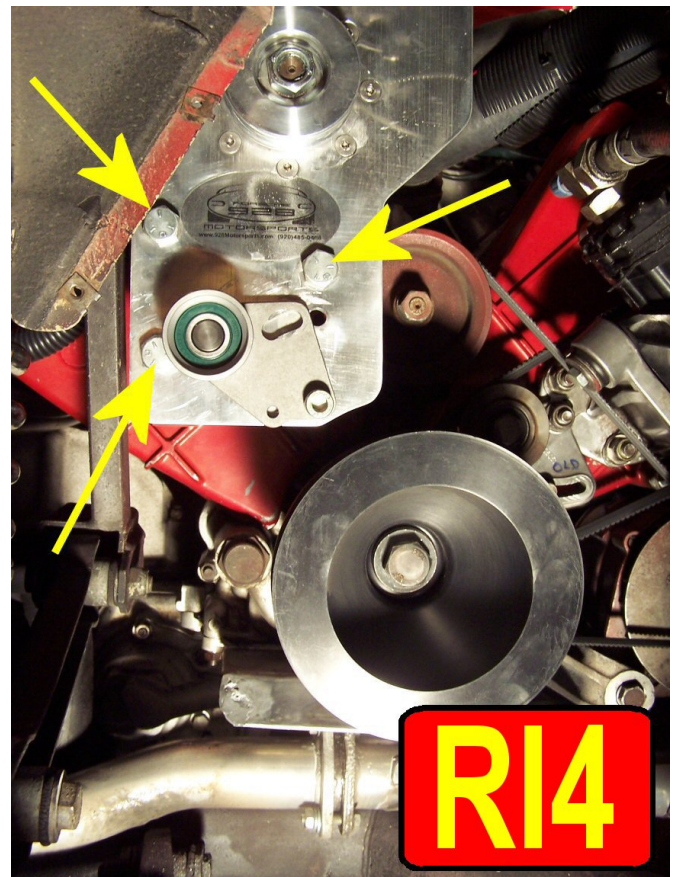
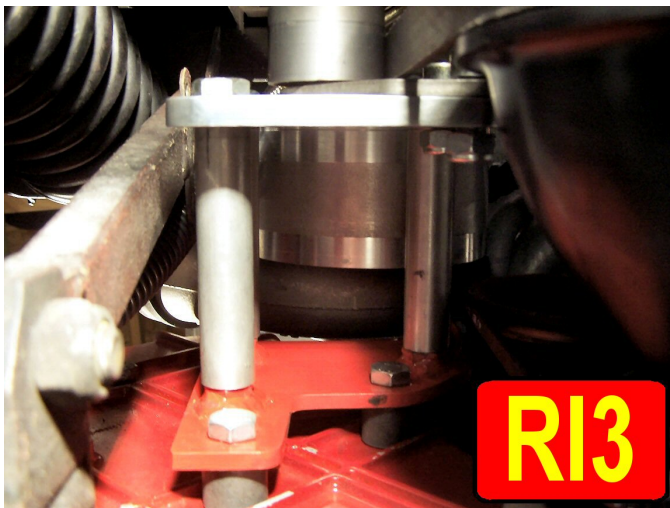
928 Motorsports Supercharger Installation

Copyright 2007, 928 Motorsports, LLC All Rights Reserved

Locate the three 5" long bolts with 98mm long spacers as shown in picture R11. Slide the bolts through the supercharger mounting plate and place the spacers on the other side as shown in Picture R12. Place a drop of Loc-tite blue on the threads of each of these bolts now.



Mount this assembly to the inner supercharger bracket now. It is easiest to pass this assembly up into position from the bottom, but you may find it helpful to have an assistant hold the assembly from the top to take the weight off of it a bit while you start the mounting bolts in their holes. When assembled, it looks like Pictures R13 and R14. You can put a final torque on these mounting bolts now.





928 Motorsports Supercharger Installation

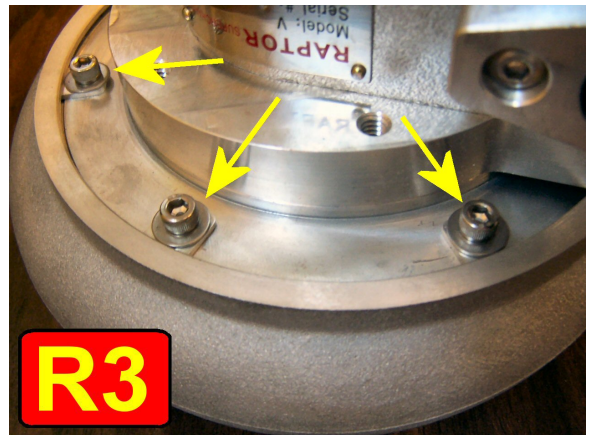
Copyright 2007, 928 Motorsports, LLC All Rights Reserved

Locate a 3" 90 degree elbow and two T-clamps from your kit now, and the short section of black rubber hose provided. Slide the short reinforced rubber hose over the outlet of the supercharger as shown in Picture DH2.

Install the 90 degree Silicone elbow from the supercharger over the Blow Off Valve and to the CIS intake you previously installed on the CIS intake, and the two T-Bolt clamps provided as in Picture DH3. Before tightening the clamps, check to be sure that you have the hose on far enough that you are able to close the engine compartment lid as shown in Picture DH5.



We "clocked" the outlet of the supercharger for you in what should be the right location. If you should find that the outlet needs to be rotated a little bit, loosen the allen-head screws around the supercharger as shown in R3. Rotate the output housing as needed and re-tighten



When properly installed, this hose will just touch the body panel/grille shown in DH5, but will not exert any upward pressure on it. Then you can go ahead and put the final torque on those T-bolt clamps to hold it in place, and also tighten the small allen-head bolts on the Raptor to keep it in position.



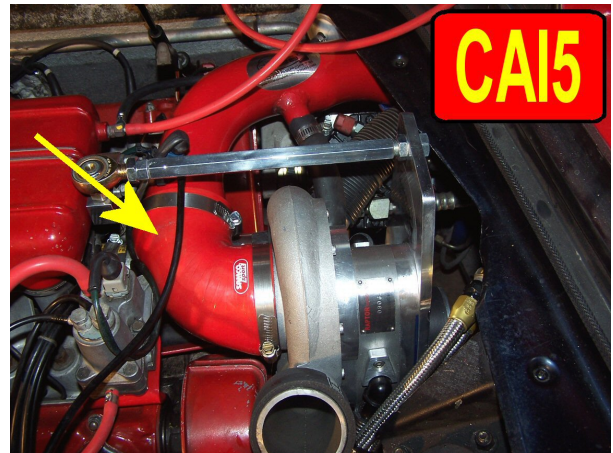
928 Motorsports Supercharger Installation

Copyright 2007, 928 Motorsports, LLC All Rights Reserved

Cold Air Intake and Filter

Now it is time to install the short 90 degree silicone hose onto the supercharger inlet. Note that one leg of the 90 degree hose is shorter than the other - this is the leg that attaches to the Raptor inlet. Secure it with the #56 hose clamps as shown in Picture CAI5.

TIP: You can wet your finger with “Dawn” blue dishwashing liquid (do not use any other brand) and wipe it around the edge of the hose. This will help the hose slide over the supercharger. “Dawn” is chemically different than other soaps, and evaporates over time. It is also compatible with rubbers with no detrimental effects.



Now locate the cold-air intake tube as shown in Picture CAI1 from your kit. One end slides into the silicone elbow you just installed onto the supercharger, and the other end snakes around the air conditioning compressor and over to the cold air intake in the bodywork as shown in CAI2.

Install the tube so that the welded hose nipple points towards the engine.





928 Motorsports Supercharger Installation

Copyright 2007, 928 Motorsports, LLC All Rights Reserved

Attach the crankcase ventilation hose to the welded nipple on this tube and secure it with a #12 hose clamp provided. This is the PCV hose you disconnected when you removed the air box, as shown in Picture AF4.

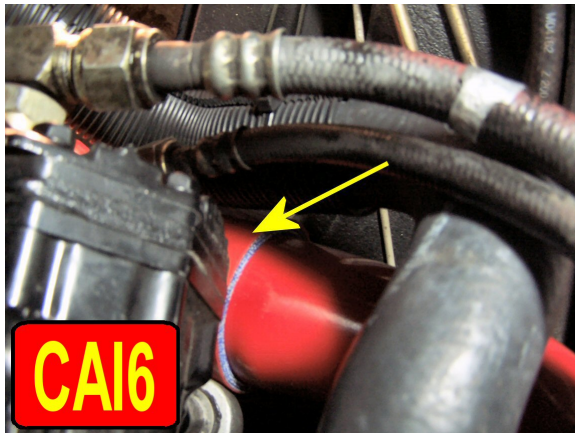


Now locate the 3" long straight section of 3" hose in your kit, swab it with the Dawn dishwashing liquid on the inside, and slip it onto the cold air tube from the air filter end and

up until it rests on top of the air

conditioner. This is just to provide a cushion around the cold-air tube at this point so it does not rattle. It is not necessary to clamp this hose down.

See Picture CAI6.



Install the air filter onto the end of the cold air intake as shown in CAI3

Using the large worm-gear hose clamps provided, now tighten all the connections.



928 Motorsports Supercharger Installation

Copyright 2007, 928 Motorsports, LLC All Rights Reserved

Tracking Turnbuckle

The last part of the Raptor Supercharger mount is the Tracking Turnbuckle. Refer back to the Cold Start Injector work we did previously, and install the Tracking Turnbuckle as shown in Pictures CSI3 and CSI6 below. Install as shown. Leave the turnbuckle in place, but un-tightened at this time.



The function of the tracking turnbuckle is two-fold. First, it triangulates the supercharger mount so it can not flex.

Second, it allows us to adjust the belt tracking so that we are certain to have the belt running straight and true.





928 Motorsports Supercharger Installation

Copyright 2007, 928 Motorsports, LLC All Rights Reserved

Cooling the Raptor

The cooling fan assembly blows air across the bearings inside the supercharger to help them stay cool and last a long time.

Locate the cooling fan assembly in your Kit as shown in Picture RC2. The 1" flexible hose pushes into the hole provided as shown in Picture RC3. Strip the ends off the 2-conductor wire provided in your kit and attach one end of the wire to the terminal block on the cooling fan assembly now.



Mount the Raptor Cooling Unit in the engine compartment as shown in RC4 and RC5





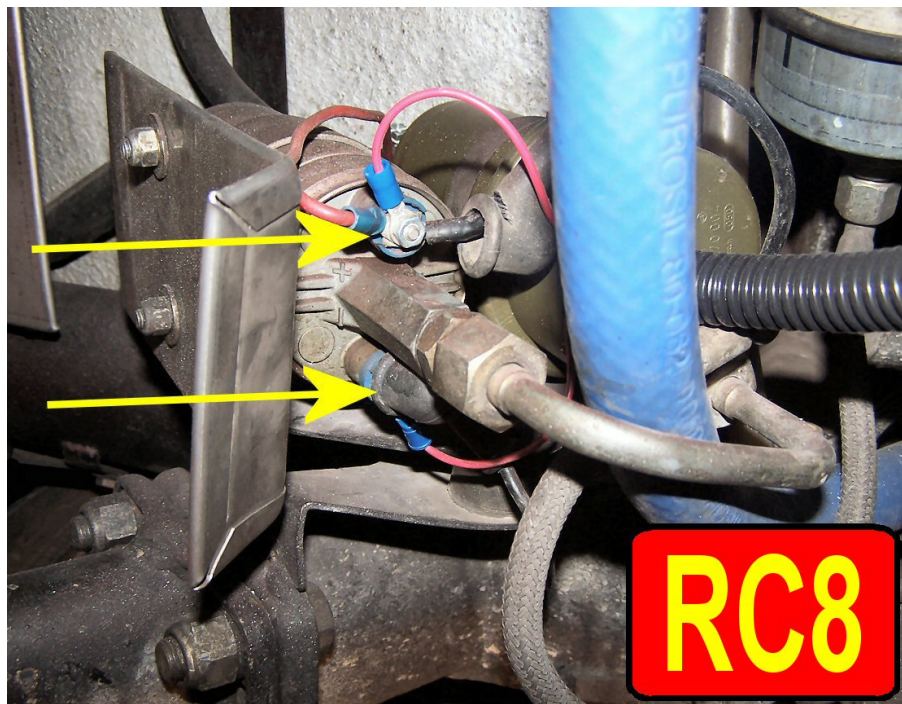
928 Motorsports Supercharger Installation

Copyright 2007, 928 Motorsports, LLC All Rights Reserved

Route the 1" flexible cooling hose across the front of the engine compartment as shown in RC5 and attach it to one of the two black barbed nipples on the Raptor supercharger. You may use whichever nipple is easiest to get the hose to. One will be the inlet, and the other becomes the outlet of the cooling breeze this forced air system will provide.

No clamp is necessary. You will need to cut the hose to length – there is more hose provided than you need. Make sure that you leave enough slack in the hose to allow for engine movement. Secure the fan assembly to the sub frame with cable ties as shown in RC4, and also confirm that the 1" air hose does not interfere with any moving parts along its routing.

Now route the 2-conductor wire from the cooling fan over the engine bay along the same route the hose took and down to the electric fuel pump. Cut it to length, and attach one of each lead to the terminals on the fuel pump as shown in Picture RC8. The cooling fan will run whenever the fuel pump is running. It draws less than 1 amp.





928 Motorsports Supercharger Installation

Copyright 2007, 928 Motorsports, LLC All Rights Reserved

Putting on the Supercharger Belt

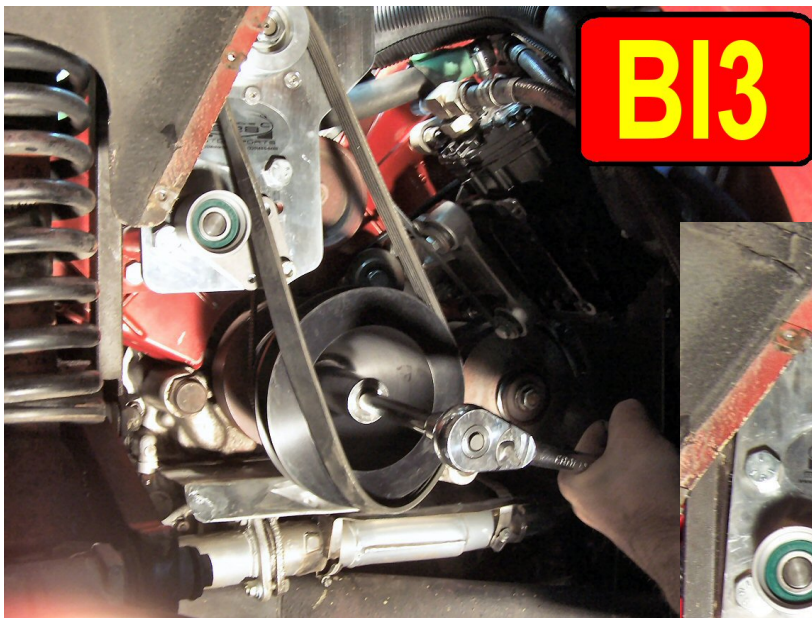
Confirm that the tracking turnbuckle is loose before installing the belt.

Remove the belt tensioner from your outer bracket at this time.

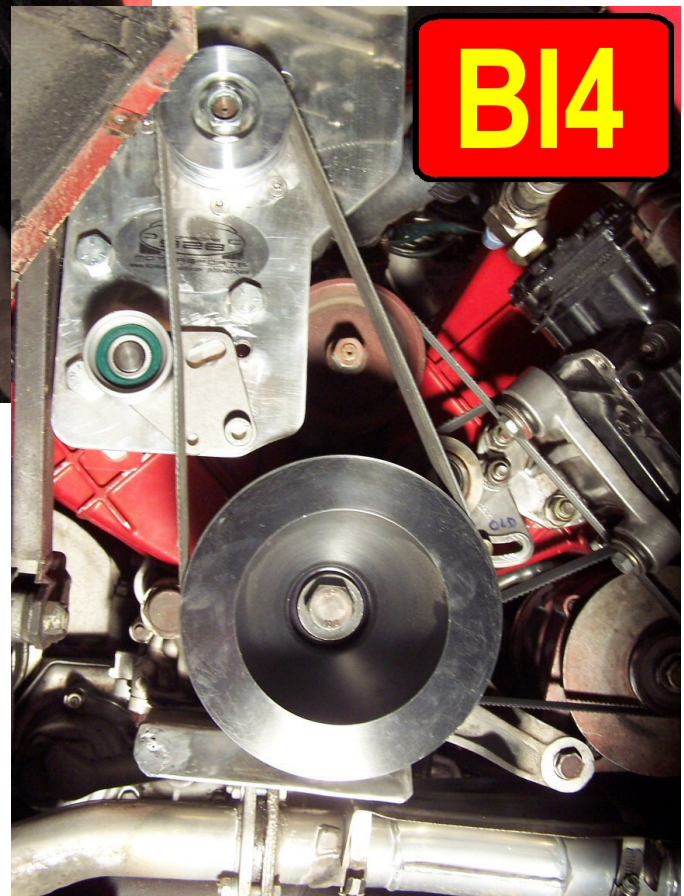
Confirm that the vehicle is in Neutral and the Ignition is off.

Re-install the AC belt, and the alternator and water pump belts. Tension them, and tighten down all the fasteners, including the inner mounting bolts you may have left loose back on pictures IM7 and IM8.

Install the belt over the Supercharger pulley and 2/3rds around the crankshaft pulley.



Rotate the engine clockwise with a 27mm socket on the crankshaft pulley bolt to get the belt on the rest of the way as shown in Picture BI3. Installed, it looks like Picture BI4.





928 Motorsports Supercharger Installation

Copyright 2007, 928 Motorsports, LLC All Rights Reserved

Our supercharger kit is designed to provide you a lot of tuning options.

If we use a smaller pulley, we can bring the boost in sooner, but we will have to educate the driver where to shift before the system runs out of gas at the top end.

If we use a larger pulley, we can fuel right to redline, but the boost will not come in until later in the rpm band.



So, the pulley sizes are adjusted to the driver (where he likes to shift) and the fueling capability of the car. To begin with, we have set your kit up with a large pulley as it is the safest for the motor.

Your supercharger system has 4 different ways to mount the belt tensioner pulley, so that you may tune with any size pulley you would like in the future.

You are encouraged to use "whatever works" depending on which pulley and belt you have.



Hold your belt tensioner up to your supercharger mounting bracket and find the best setup for your car.



928 Motorsports Supercharger Installation

Copyright 2007, 928 Motorsports, LLC All Rights Reserved

There are several ways to force the tensioner into the belt to tighten it while you tighten the bolt and nuts to lock it there.... We use a $\frac{3}{4}$ " crow-foot wrench as shown in Picture B15, B16, and B17. You will have to loosen the $\frac{3}{4}$ " bolt a little before putting the crow-foot wrench on it. Then rotate the crow-foot wrench to the right, and it will tighten the belt tensioner idler pulley and keep it there while you tighten the bolts as shown. Remove the crow-foot wrench, and re-tighten that $\frac{3}{4}$ " mounting bolt.



There is also a pin provided in your belt tensioner bracket so that you may insert a screwdriver between the swing-bolt and the pin and pry to tension the belt.

However you decide to do it, tighten the belt now and snug up the fasteners.



928 Motorsports Supercharger Installation

Copyright 2007, 928 Motorsports, LLC All Rights Reserved

The finished install looks like B18 from the fender well.

Things to note in this picture: the installer has removed the pin from the belt tensioner bracket to keep it from rubbing on the belt. Depending on the installation, this may be necessary.

You can also see the location of the air filter, the radiator hose, and the Raptor cooling hose in this picture.

Finally, look at the solid fuel line just above our pulley. Make sure that is not pinched or chafing on the bracket in any way.

Splitting a rubber hose and laying it over that solid fuel line for a little added protection is a good idea, too.





928 Motorsports Supercharger Installation

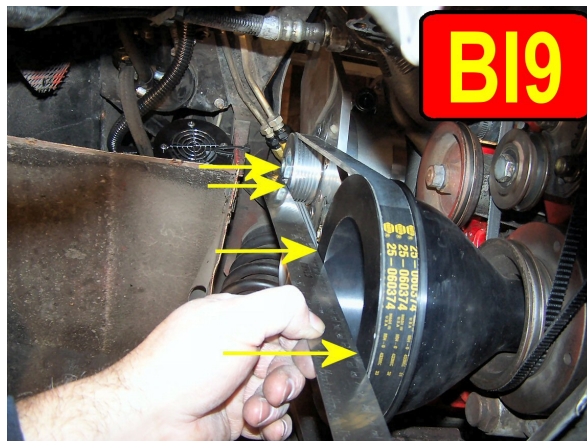
Copyright 2007, 928 Motorsports, LLC All Rights Reserved

Adjusting the Tracking of your SC belt

We adjust the tracking of the belt to ensure that the supercharger pulley is directly above the crankshaft pulley. This provides the longest service life for the belt, avoids slippage, and prevents the belt from being thrown at high speeds.

From beneath the vehicle, use a straightedge across the front of the crankshaft pulley as shown in Picture B19. When the tracking is adjusted correctly, the straightedge will touch the supercharger pulley front surface and the crankshaft pulley front surface in 4 places as shown.

Use a wrench to turn the tracking turnbuckle as shown in Picture B18, and re-check the alignment with your straightedge. When you have it adjusted correctly, lock the turnbuckle in place with the jam nuts.



Start the engine with the RR tire off and gear selector in Neutral.

Check that:

- 1) The supercharger belt and pulley are running smoothly and true.
- 2) There are no cooling leaks at your radiator hose fittings. Add coolant as needed.
- 3) There are no fuel leaks at your fuel line fittings.
- 4) The Raptor cooling fan is running.

If 1-4 are ok, shut off the engine and re-install the inner fender liner and mount the wheel.



928 Motorsports Supercharger Installation

Copyright 2007, 928 Motorsports, LLC All Rights Reserved

Replacing old Vacuum Lines

Your kit came with a set of silicone hoses from us without charge. Check over your vacuum lines now and replace any that look suspicious. The rubber in the factory vacuum lines has been under attack by heat and ozone and they may be cracked and brittle.

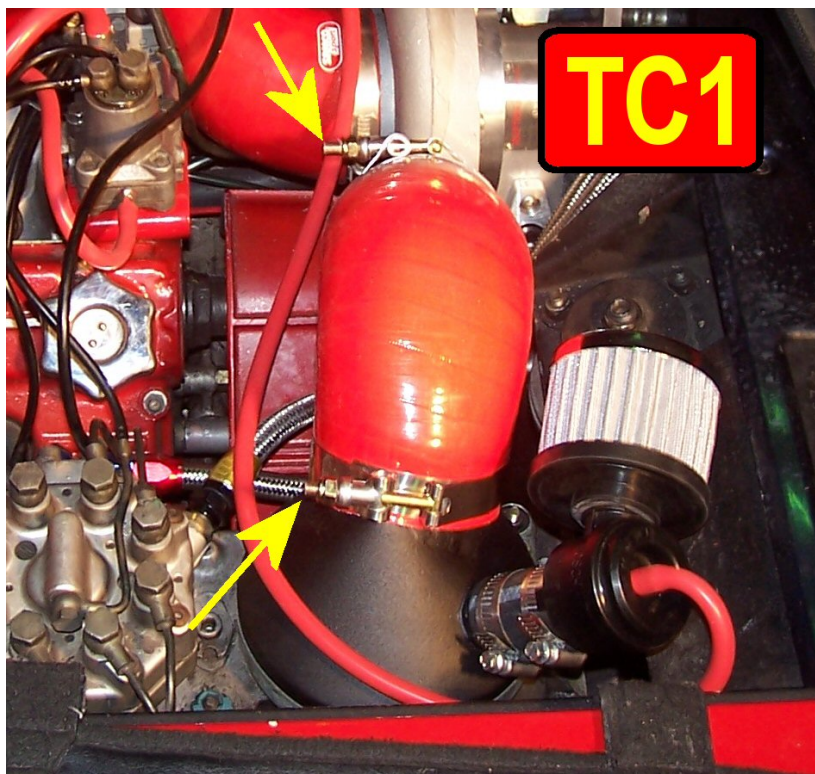
The key is to remove only one vacuum hose at a time, compare it to a hose from the kit and cut a length to match. Put the new hose back on to the car, and repeat. Do only one vacuum hose at a time and you will not have any errors.

Do not use silicone hose for fuel or fuel vapor. Gasoline dissolves silicone. Use silicone hoses for vacuum and small water lines only. The silicone is very durable and will never harden or crack.

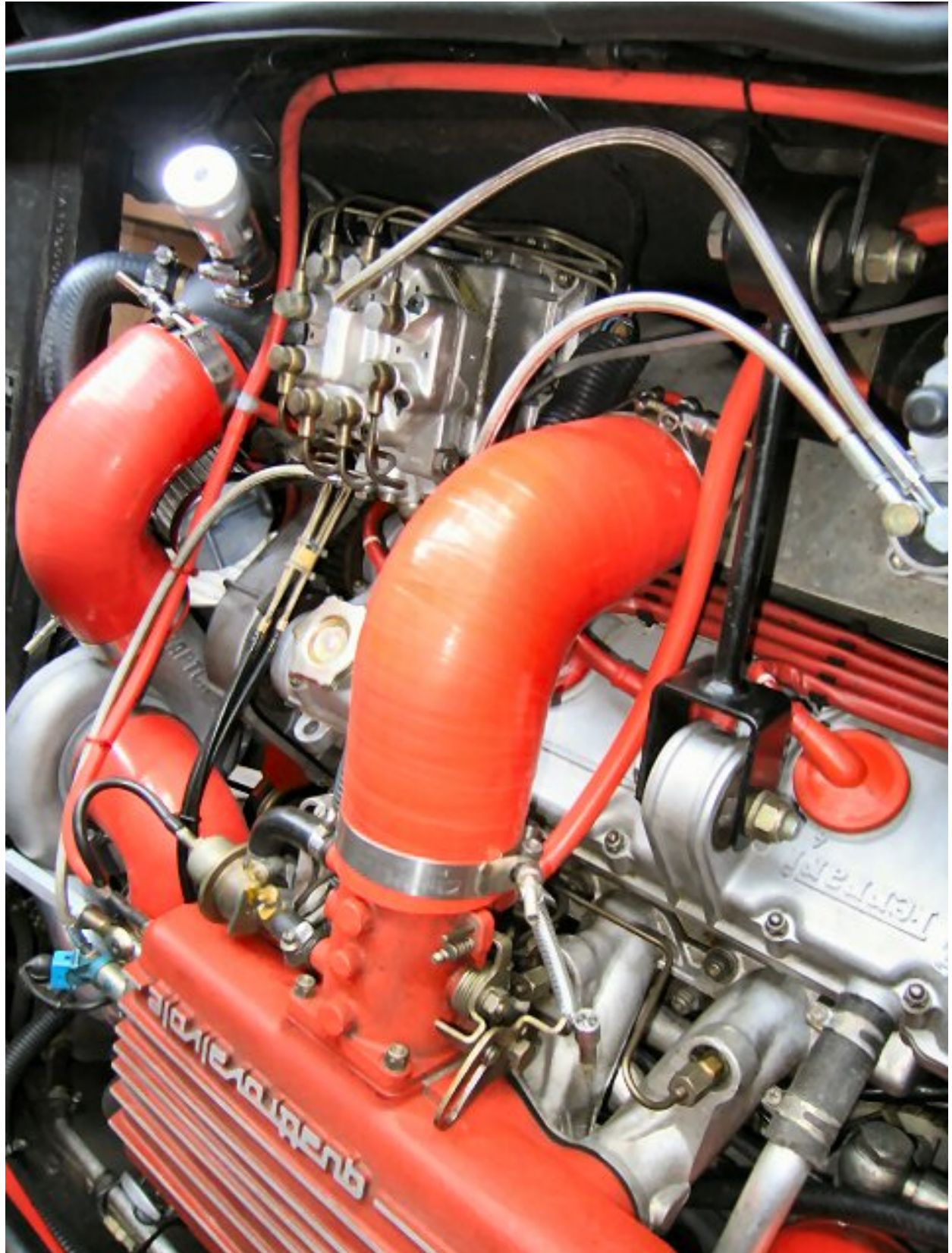
Trimming T-Bolt Clamps (optional)

You have installed 4 T-bolt clamps during this build, two on the Diffuser intake and two on the Throttle Body Intake. After these clamps were tightened, you will have long threaded ends sticking out. It is safe to trim these back a bit to improve the appearance of the installation, as shown in Picture TC1.

Place a shop towel or two beneath the bolts and use an air-powered cut-off tool, a hacksaw, or even a bolt cutters to lop off an inch or so. Do not remove too much – you want to be able to remove and re-install these clamps again in the future. Finish the ends of the bolts with a file to remove the burrs.



Finished.





928 Motorsports Supercharger Installation

Copyright 2007, 928 Motorsports, LLC All Rights Reserved

Driving your Supercharged Ferrari

A few final notes:

Gasoline: Use Premium gasoline now, 91 Octane or better. Avoid Ethanol mixes if you can as the actual octane rating received before additives is lower.

Octane Booster: Add octane Booster if you are going to go auto crossing or racing just to be safe. A bottle of "Octane Performance Booster" by Solder Seal is about \$1.50 and treats a tank of 20 gallons. It raises 91 octane gas to 110 octane and is cheap insurance.

Accelerator: Roll into the throttle, don't stomp on it. Especially in corners.

Watch the Redline: Pay attention to your dyno results or the dyno charts of others with cars just like yours. Observe where the air/fuel ratio rose above 13.0 to one – and remember to shift at that point for the safety of your motor. If you want a higher shift point contact us – we make pulleys for your kit in several sizes just so we can adjust your shift point to where you want it to be.

Oil Level: Check your oil level more frequently. There is more air passing through your crankcase than before, and more oil is consumed as oil vapor. This is common with supercharged cars. Check your oil level more often.

Oil Type: Change to Synthetic Oil if your motor is all broken in (> 7,000 miles on it). The reason: we are employing positive crankcase ventilation on this supercharger kit, and actively evacuating the crankcase pressure by sucking it back into the intake.

So, some oil/crankcase vapor is being ingested by the motor (as it was before the SC kit was installed) Synthetic motor oils do not lower the octane rating of the air/fuel mixture much at all, however traditional motor oils do. That's why switching to synthetic can be another good safety factor to help prevent detonation in your engine.

Cold Starts: Your Ferrari used to have an Auxiliary Air Valve – now that has been removed. The Aux Air valve had two functions on the Ke-Jetronic fuel system: 1) to bleed a little air past the throttle body when you suddenly close the throttle so the engine does not stumble; and 2) to increase the idle speed and engine response when the motor is cold.

Now that your system is under boost, problem number (1) above is being taken care of by the addition of the supercharger. And if you warm up the motor a little bit before you drive it, we can be rid of the whole Aux Air Valve and its problems.

Just remember to warm up your motor for a minute or two before pulling into traffic, and you will be fine.



928 Motorsports Supercharger Installation

Copyright 2007, 928 Motorsports, LLC All Rights Reserved

Gas Odor: Depending on where you have the heat/vent settings in your car and whether your windows are open; you may smell some gasoline odor in the cockpit immediately following a hard, redline acceleration. This is normal and very short-lived, usually the odor will pass in less than 2 seconds. It is just from the venting of the gas tank under boost.

Belt Inspection: You can easily inspect your supercharger through the gap provided as shown in Picture "Belt Inspection". With the engine off, you are looking for heat cracks or glazing that would indicate that the belt is slipping. With the engine idling, you are looking to see that it is tracking correctly.

Enjoy your new car!

