

INSTALLATION INSTRUCTIONS (02/2025)



1. GETTING STARTED

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 A&A Corvette if you need assistance.

Keep in mind that many of these steps do not necessarily need to be completed in the order they are shown in this manual. For instance, you can do a lot of the work from the top before putting it up on stands.

You will need basic hand tools to complete the job.

The car will need to be raised on a lift or jackstands.

The balancer bolt is VERY tight. We've found that a strong ½" impact gun works best. You may have to rent or borrow one.

Some silicone spray or soapy water will be helpful when installing some of the silicone hoses.

A HOSE HOOK is a must-have. It will make installation of the inlet duct (airbridge), in particular, very easy. Without it, you will be very frustrated. It will also help with any of the silicone hose connection.



HOSE HOOK (GET ONE!)

We recommend cleaning the intake manifold area before starting, to stop debris falling into the manifold when the injectors are replaced.

NOTE: The car will require PCM reprogramming after the installation. The car may be driven AT LIGHT THROTTLE ONLY with stock injectors, prior to tuning, in order to check for leaks, belt alignment or even to drive it to a tuning shop. Any application of too much throttle will throw the car into “reduced power” mode. You can clear it with a scanner, on the fly, or pull over, shut the car off for 10 seconds and restart to proceed.

I suggest you drive it and try to make it go into reduced power so you will know how much throttle you can get away with. This way it won't surprise you at an inopportune moment. We can provide a base tune that will make the car drivable, with the new injectors, but we still recommend professional tuning to verify the settings so you can get the most out of your car.

(Contact us for CARB approved tuning instructions)

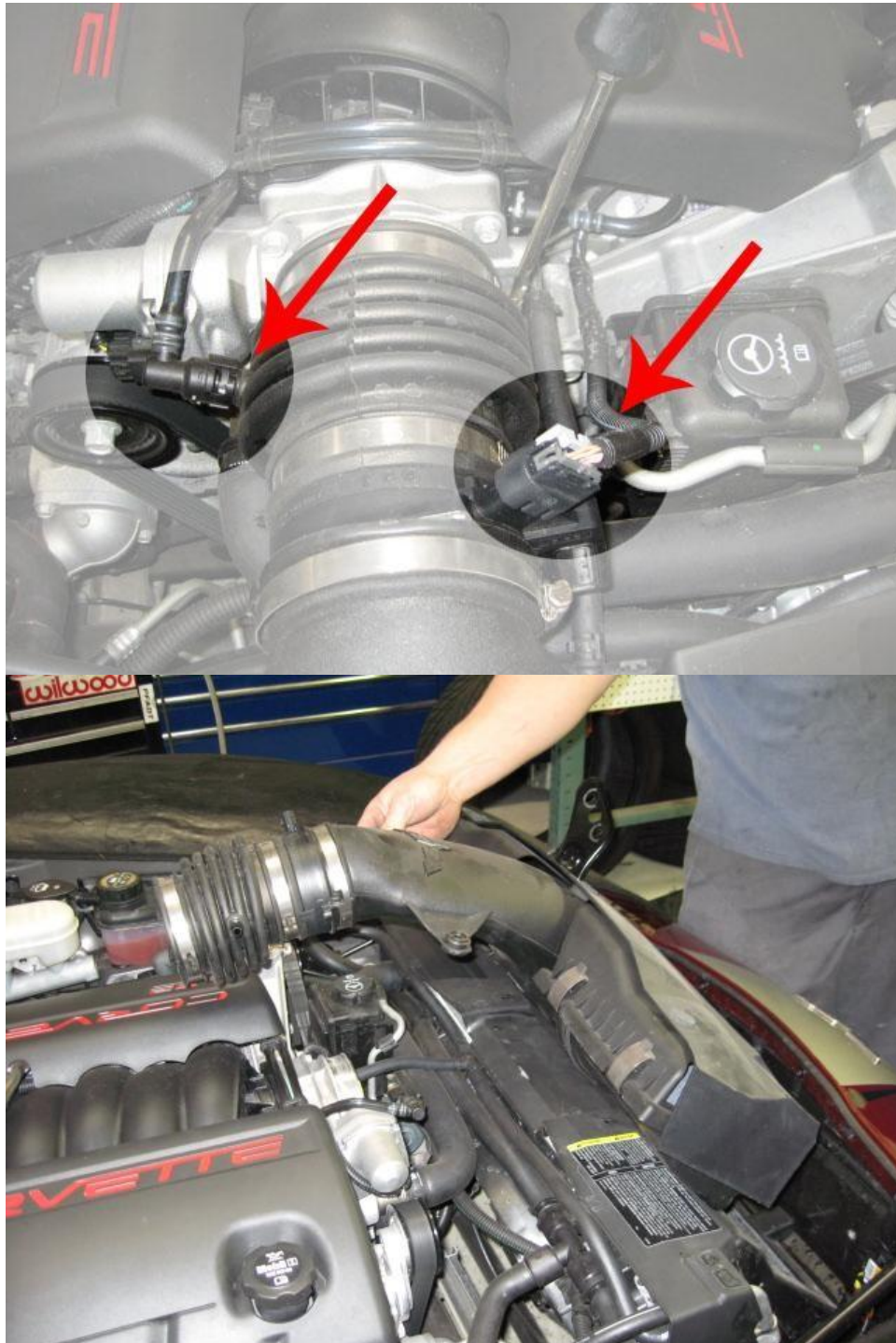
Raise the car on a suitable lift or jack stands. While not completely necessary, it will be easier with the wheels removed.

Disconnect the battery. You should pull the fuel pump relay as well. This way if someone hooks the battery up to install a tune, you won't have a dangerous fuel spill.

Remove plastic ignition coil covers

Remove factory spark plugs. Gap the provided TR6 plugs to .035” and install with anti-seize on the threads. (This can be done at any time)

Loosen the hose clamp at the throttle body to intake tube. Disconnect the Mass Air Flow Sensor (MAF) connector by removing gray lock , push tab in and pull gently. Remove the valve cover breather hose by using a flat screwdriver and pushing the gray tab into the connector. Pry up on the tabs located on the air bridge until released. Remove the air filter assembly.



VALVE COVER BREATHER HOSE, MAF CONNECTOR AND AIR FILTER ASSY REMOVED

Remove 4 (10mm) bolts holding plastic upper radiator hold down.



TOP RADIATOR COVER REMOVAL

Remove the large plastic radiator shroud that seals the radiator and AC condenser area in front of the radiator. This panel slopes down at an angle from the top of the radiator down to the bottom of the bumper.

REMOVE THE RADIATOR AND FAN ASSEMBLY

Removing the fan and radiator early in the installation process will give you more room to work on the front of the engine.

You will be modifying the fan housing as well as the top of the radiator (stock radiators only) to allow clearance for the inlet duct (air bridge). Drain the coolant through the petcock at the bottom of the radiator. Remove any hoses or lines attached to the radiator. Disconnect the wire harness going to the fan control box.

Remove the two 10MM bolts holding the fan assembly in its clips. There is one at the lower left and one at the upper right. Lift the fan out of the clips, and out of the car.

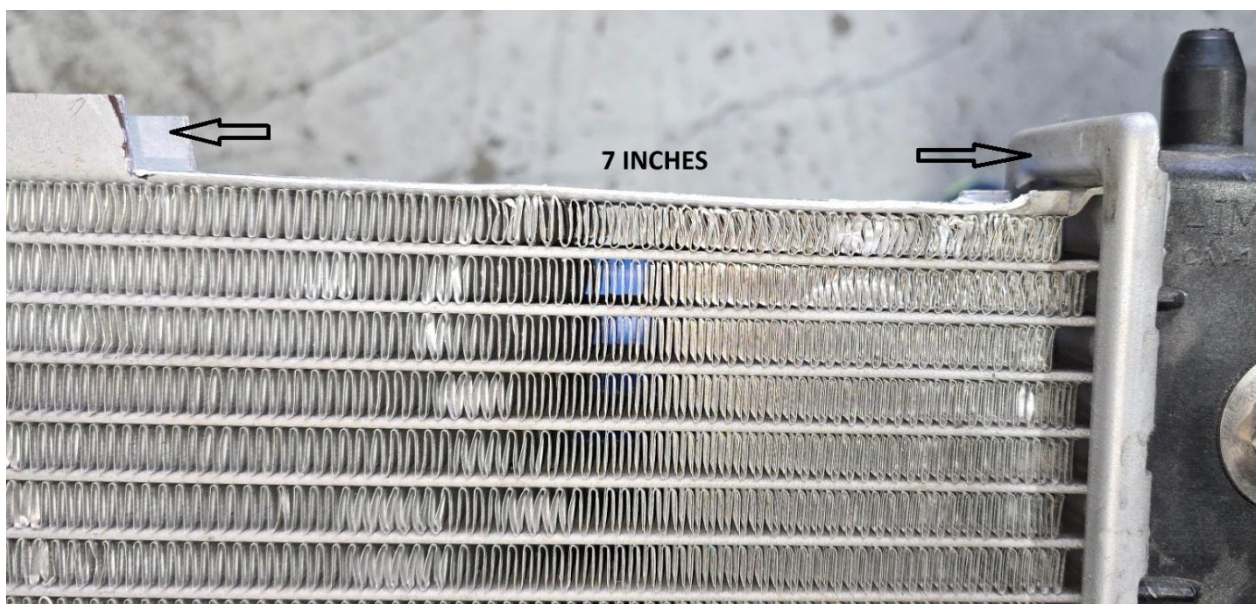
Lift the AC condenser out of its radiator clips, move it slightly forward and lift the radiator out.

PREPARE THE RADIATOR AND FAN ASSEMBLY

With the fan assembly and radiator out of the car, trim the upper vertical radiator fins as shown. **(This is NOT necessary on A&A Radiators or DeWitt's Radiators.)** Make a cut at a slight angle 7" from the passenger side radiator tank. We find that cutting the fins at an angle with a good pair of dykes works best. Once the vertical cuts are made, take a razor knife and score along the inside of the fins a few times. Then you can bend the pieces back and forth until they snap out.



CUT VERTICAL FINS WITH A PAIR OF DYKES- 7" FROM THE TANK



SCORE THE INSIDE OF THE FINS AND SNAP THEM OFF

There is another cutout needed for the MAF tube. That should be centered 12" from the edge of the same tank. About 3 ½" wide should suffice. Do the same thing. Make angled cuts with a pair of dykes, score along the edges of the fins with a razor knife and snap the pieces out. Mount the fan housing in its slots and turn the assembly so that you are looking at it from the radiator side. Mark the top edge of the fan where it protrudes into the areas of the radiator you just trimmed. Trim those areas of the fan housing away. You need this area to be flush with the top of the radiator. (stock radiators) Mark a vertical line 4" from the radiator tank. This will be the centerline of the air bridge.

The airbridge can now be placed in the radiator slot and over the fan housing. Make sure the airbridge is centered on the 4" line and sitting flat on the top of the radiator. It helps to put a

mark at the bottom of the airbridge. Trace around the airbridge with a silver marker. It should look like the pictures below.

Trim that area out and smooth with sandpaper or a file. Make sure the airbridge fits in the opening with enough clearance for the silicone coupler and clamp.

There are a few different fan housings, but the trimming process is basically the same.



MARK THE FAN HOUSING- USING THE AIRBRIDGE AS A TEMPLATE- CENTER IT ON THE VERTICAL LINE YOU MADE EARLIER.



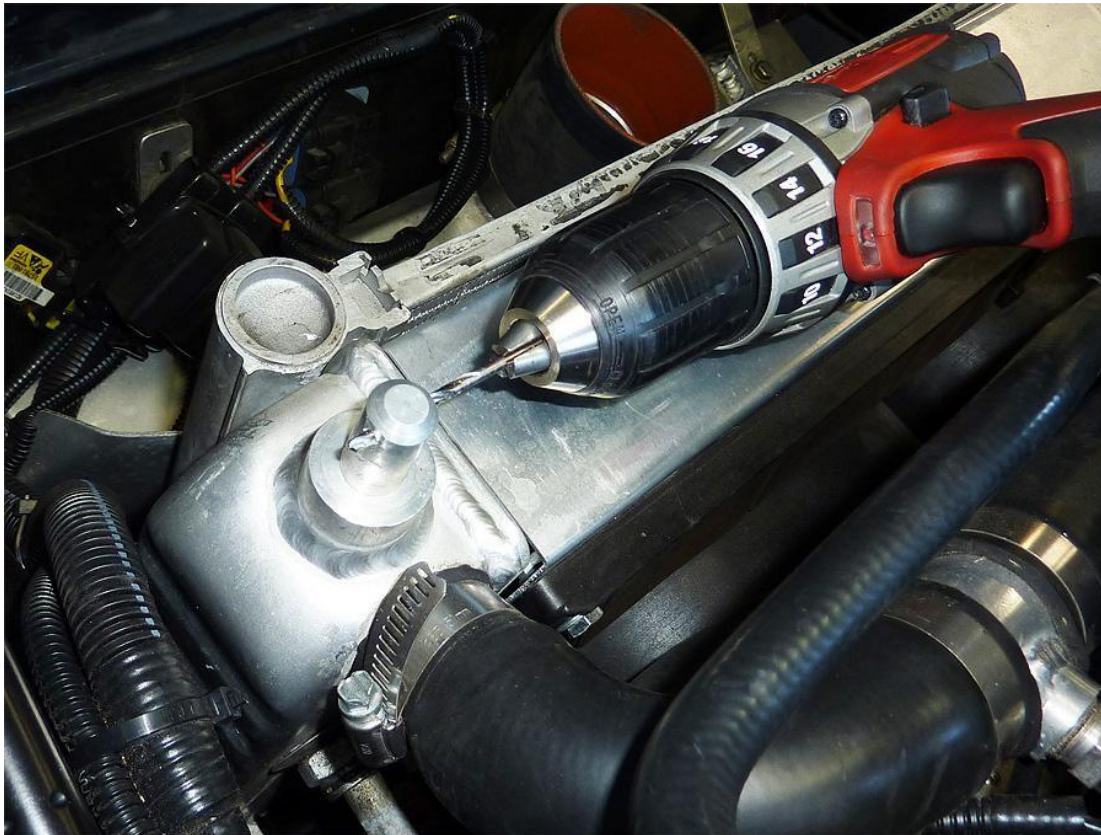
FAN HOUSING AFTER TRIMMING

One style has a square boss sticking up right next to where you are making the cutout. Cut or grind it off as it may interfere later. I'd even go so far as sealing the hole up with some black duct tape. You'd be shocked to see how much air the fan will suck through any openings.



TRIM THIS SQUARE BOSS OFF- IT MAY HIT THE BLOWER

The radiator will be located by the black aluminum top shroud later in the installation. In preparation for this, find the original rubber bushings that went over the radiator top pins. Cut or grind about $\frac{1}{4}$ " off the bottom of the bushings. Lube the bushings and slip them over the radiator pins. Drill a $\frac{1}{8}$ " hole horizontally through each pin at the top of the bushing. You will be installing stainless pins to hold the top shroud down at the end of the installation.



DRILL 1/8" HOLE THROUGH POST

2 REMOVE THE FRONT FASCIA (The installation may be performed without removing the fascia, but it is MUCH easier to remove it)

Remove (4) 7mm screws from the top of the fascia.



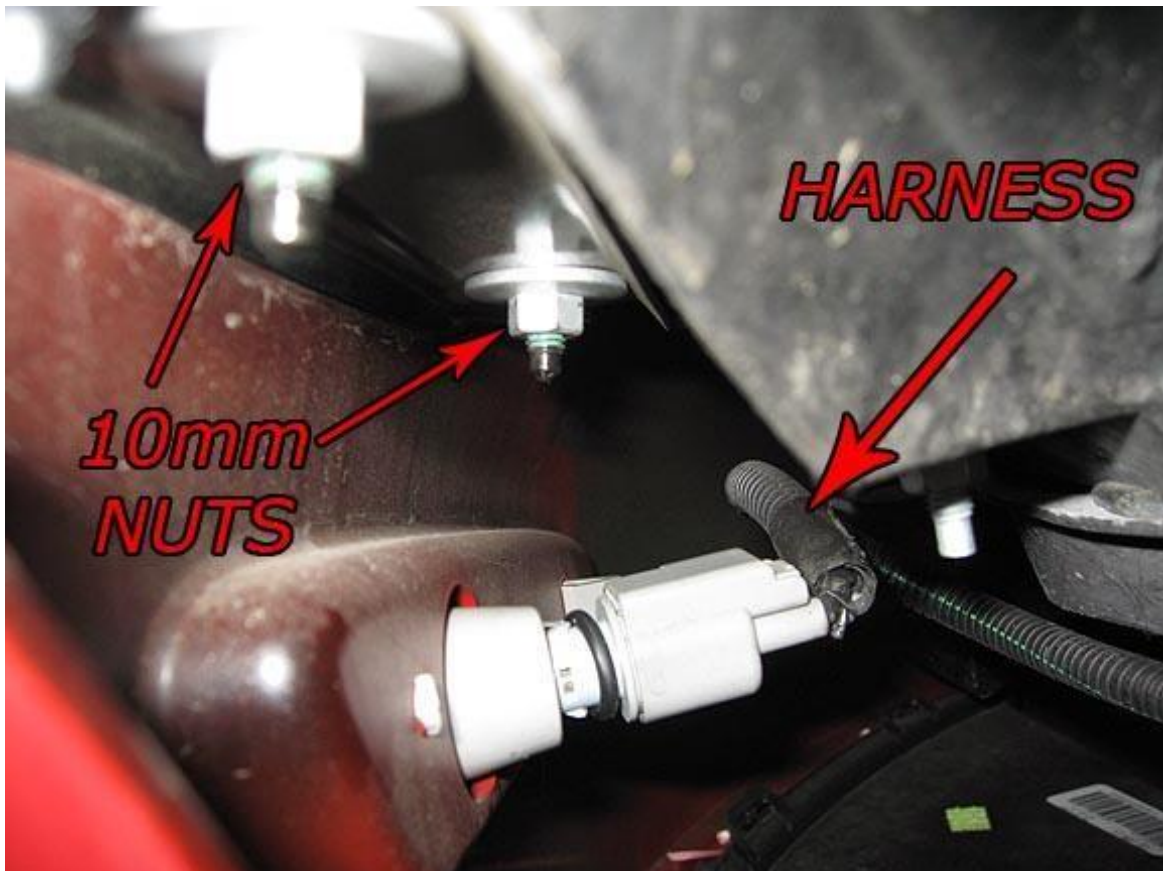
REMOVE THESE FOUR 7mm SCREWS

Remove FIVE T-15 screws on the wheel well (some models use (5) plastic push pins).



REMOVE THESE 5 SCREWS OR PLASTIC PUSH PINS

Pull back wheel well and unplug side marker light by twisting and pulling the harness. Remove the (2) 10mm nuts.



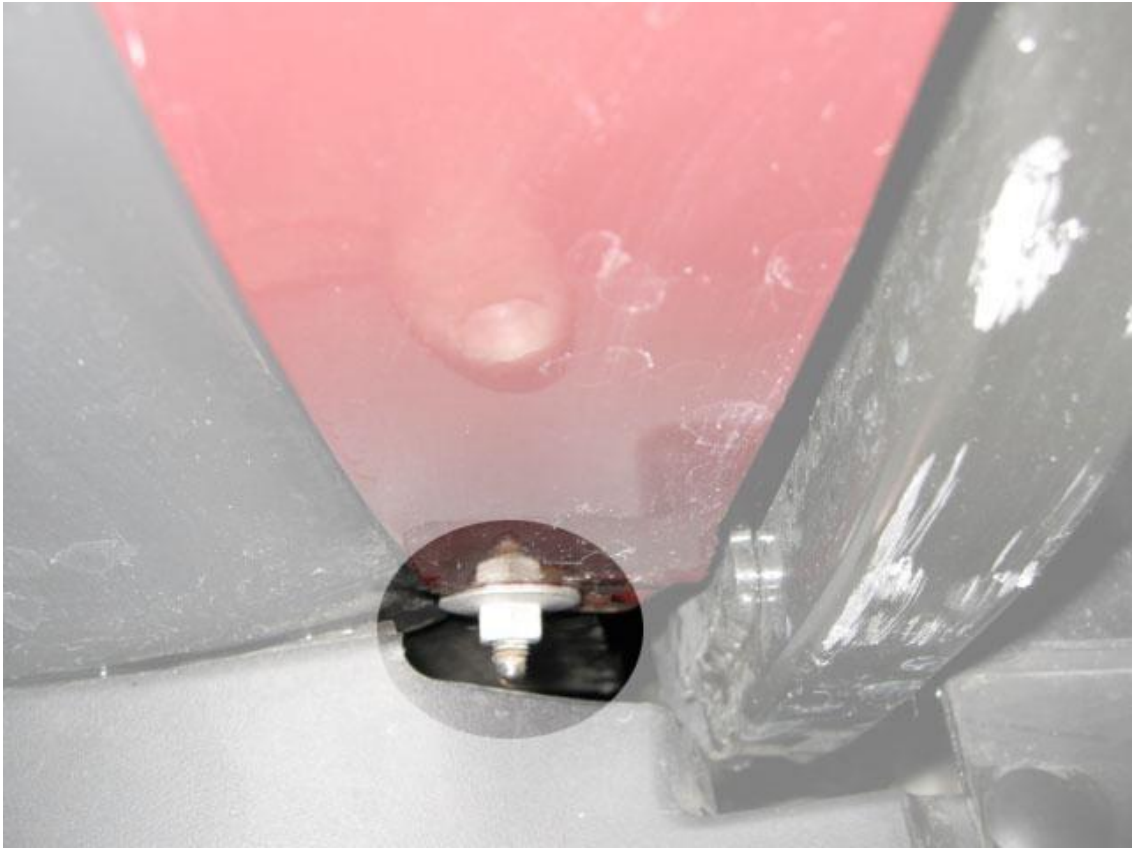
UNDO SIDE MARKER HARNESS AND REMOVE TWO 10mm BOLTS

Unplug the fog light harness by pulling up on the tab and pulling the harness down.



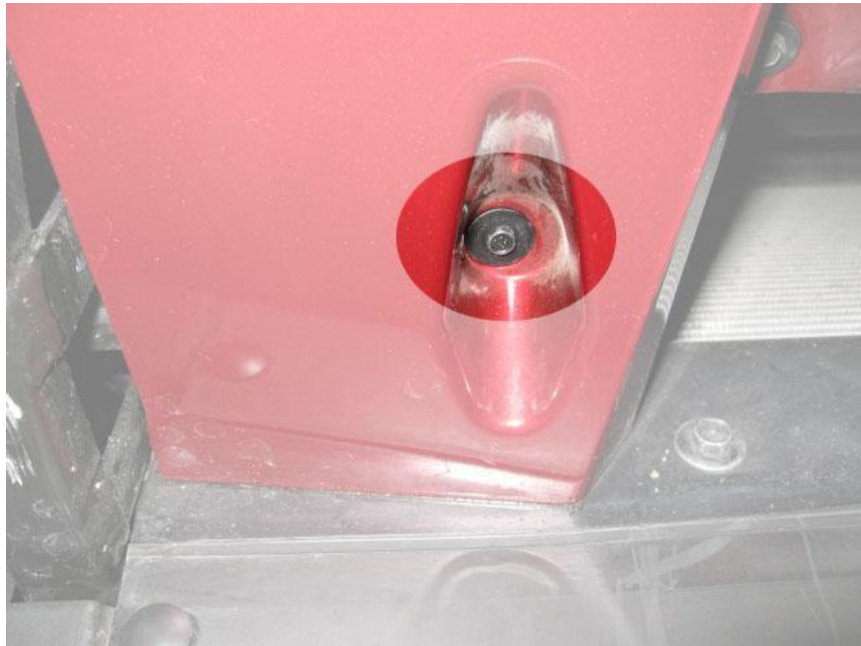
UNDO FOG LIGHT HARESS

Remove (2) 10mm nuts and (5) 7mm screws from under the front fascia.



(ONE OF TWO 10mm BOLTS)





7mm SCREWS IN BOTTOM OF FASCIA

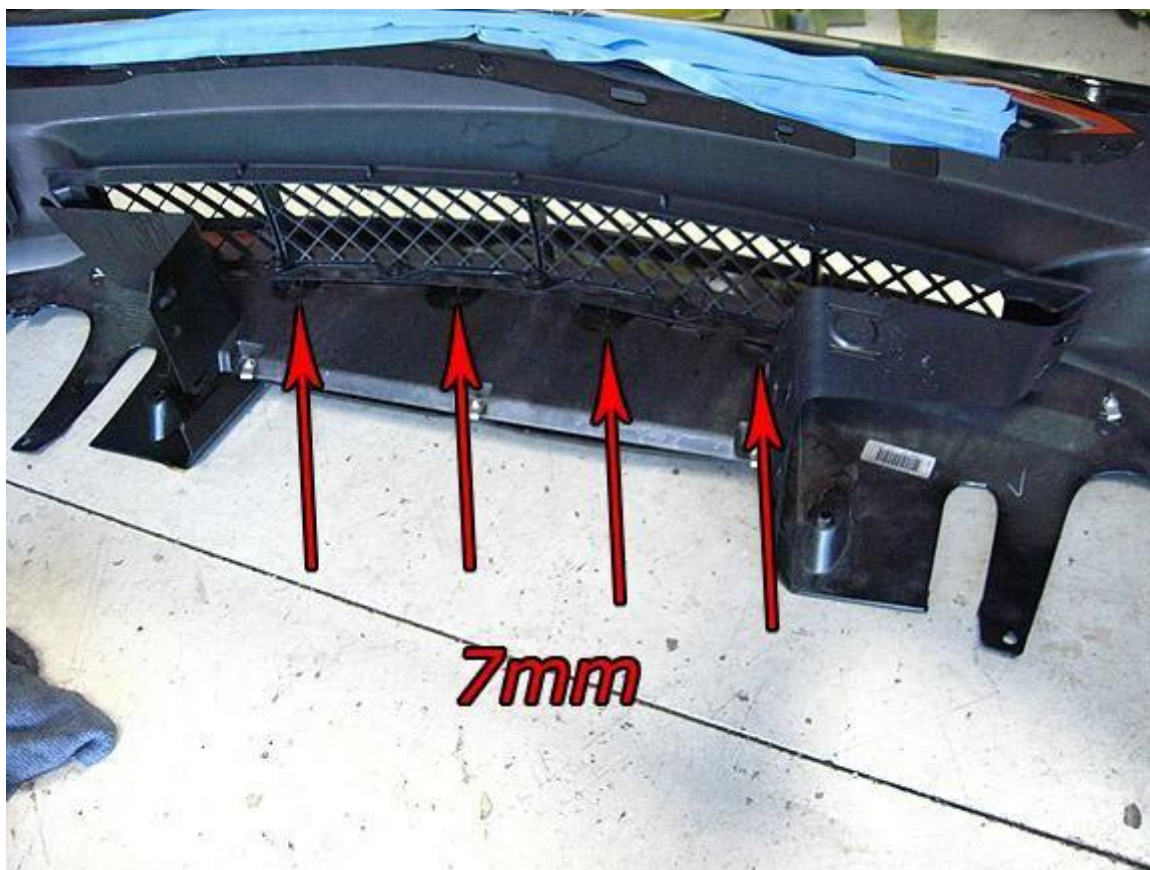
If you leave the hood on, use masking tape on the front nose of the hood and adjacent fascia while you are removing the front fascia from the car.

Pull straight up on corners of the front fascia until the clip “pops.” Remove fascia from vehicle and set aside.



PULL STRAIGHT UP UNTIL THE FASCIA POPS OUT

Lay the fascia on a bench or floor and remove the four 7mm bolts holding this inner panel to the front fascia. Remove the panel from the fascia, it will not be reused. Trim off bolt tabs so they don't interfere with the intercooler duckbill when reinstalling the fascia. See picture on next page.



(REMOVE 7mm SCREWS)



TRIM OFF TABS CIRCLED IN RED

3 REMOVE FACTORY BELT DRIVE

Remove accessory drive belt and the two bolts holding the tensioner to the water pump. Keep these bolts handy as they will be used to mount part of the rear supercharger bracket. Remove the 15mm bolt holding the evaporation solenoid bracket and remove the solenoid from the bracket. (The bracket will not be reused)

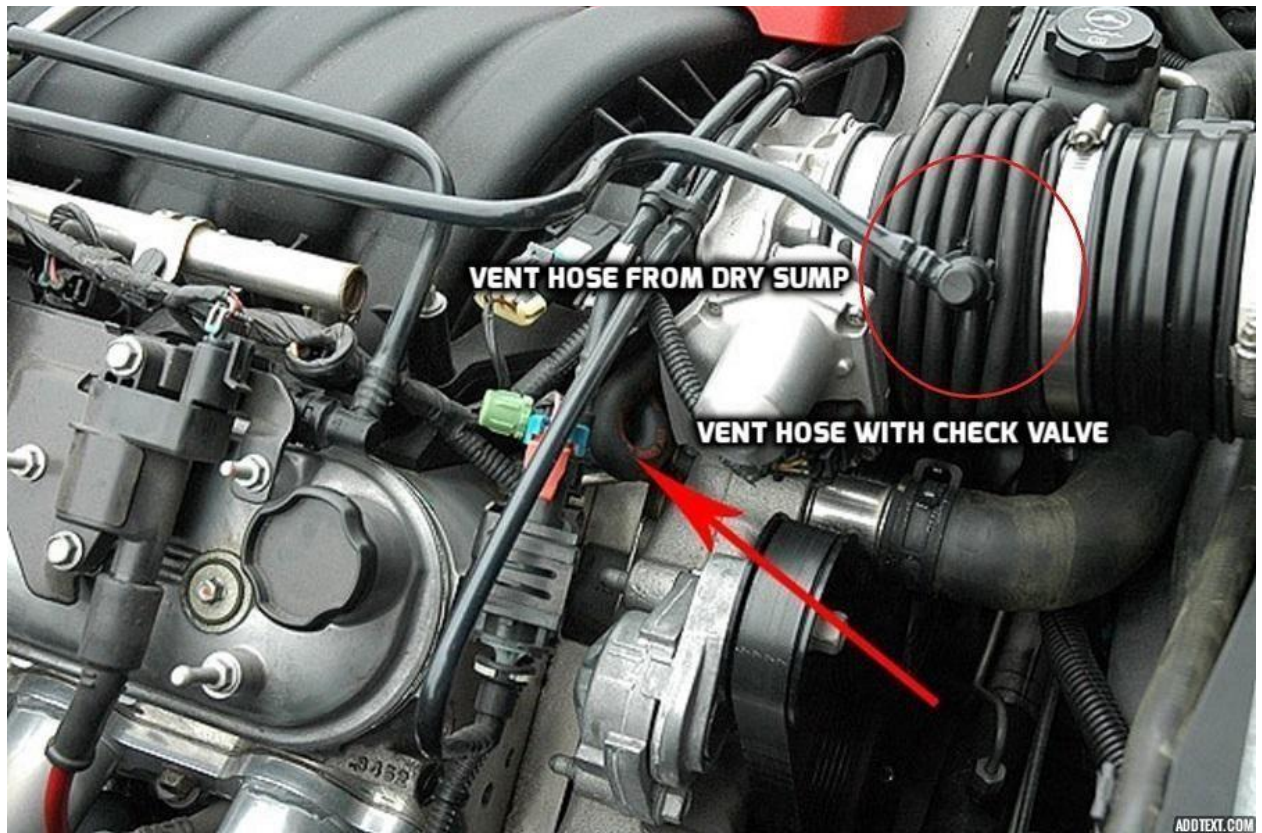


TOP: EVAP. BRACKET – BOTTOM: TENSIONER

4 CRANKCASE VENTILATION HOSES

Locate the small, U-shaped PCV hose going from the intake manifold to the engine valley cover located under the manifold. Remove this hose and replace it with the supplied hose containing the small plastic check valve. Orient the valve so that airflow is allowed to flow from the engine cover TOWARDS the intake manifold and is blocked from traveling the other way.

The vent hose shown below going to the dry sump tank is for Z06 and LS3 dry sump cars only. The factory hose is removed completely. On the dry sump tank itself, slip the short piece (1") of hose over the empty nipple to act as a sleeve. Slip the supplied 5/8 hose over the sleeve and clamp. This hose will go directly to the new air filter in front of the radiator later.



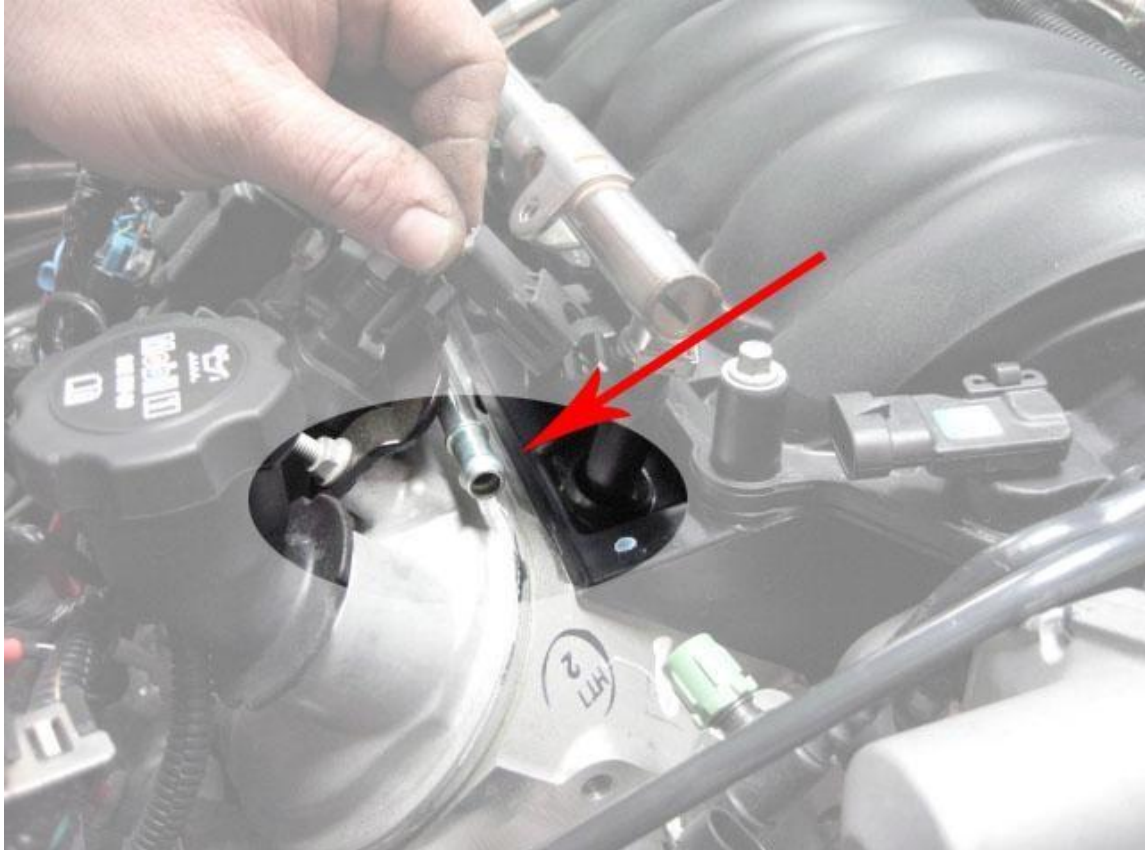
VENT TUBES- DRY SUMP SHOWN



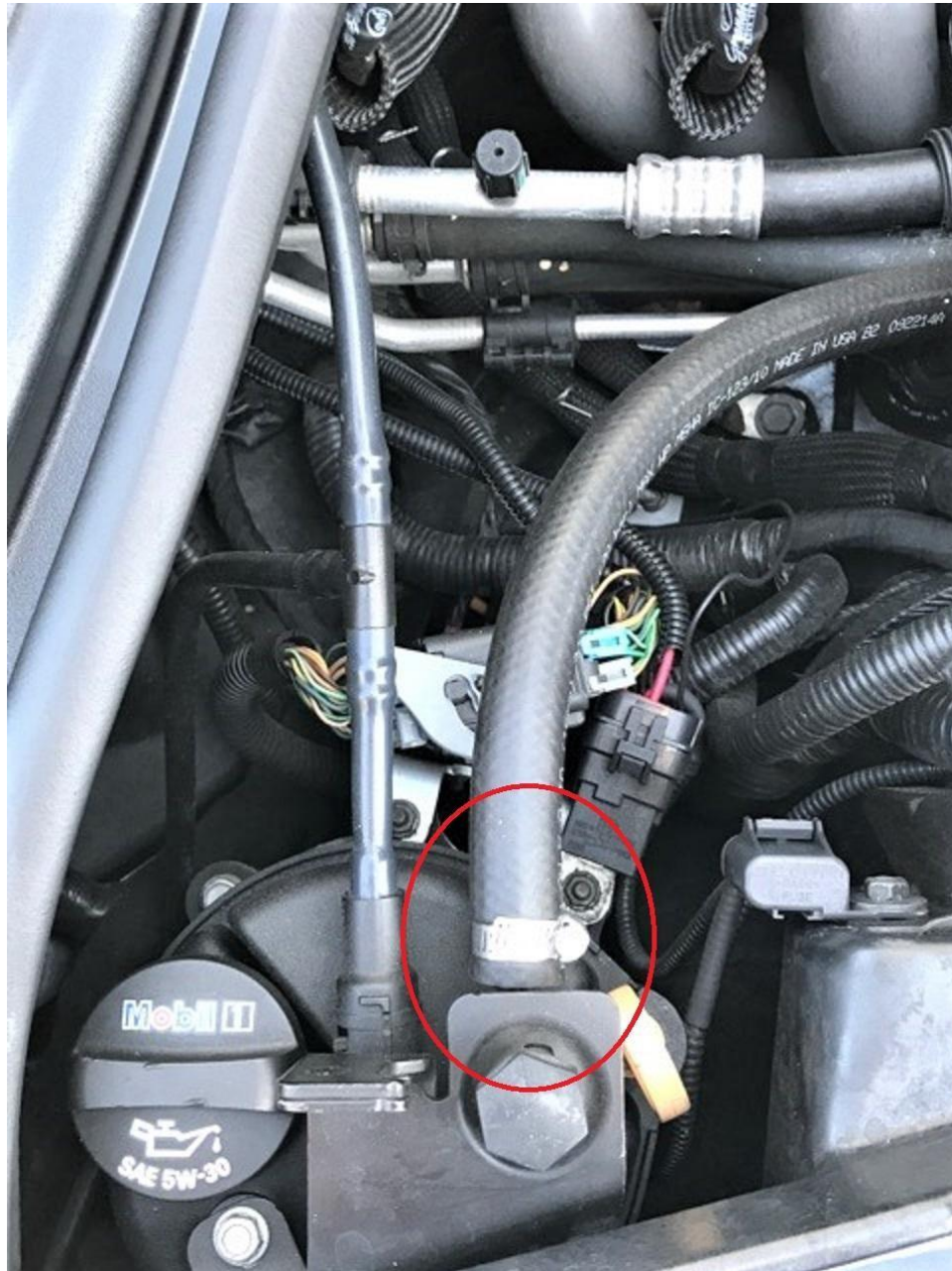
(CHECK VALVE INSTALLED IN PCV TUBE)

PCV TUBE WITH CHECK VALVE INSTALLED, AIRFLOW DIRECTION INDICATED

On standard C6, use the supplied rubber cap to block the nipple on the passenger side valve cover that originally had the vent hose running from the inlet coupler. We also supply an oil fill cap that is already tapped and has a 5/8" 90° fitting installed. The supplied 5/8" hose will run directly from the cap to the air filter fitting. Venting from the cap raises the fitting above most of the oil spraying around and eliminates the need for a catch can.



(ATTACH SUPPLIED RUBBER VACUUM CAP TO NIPPLE)



VENT HOSE ON Z06 DRY SUMP

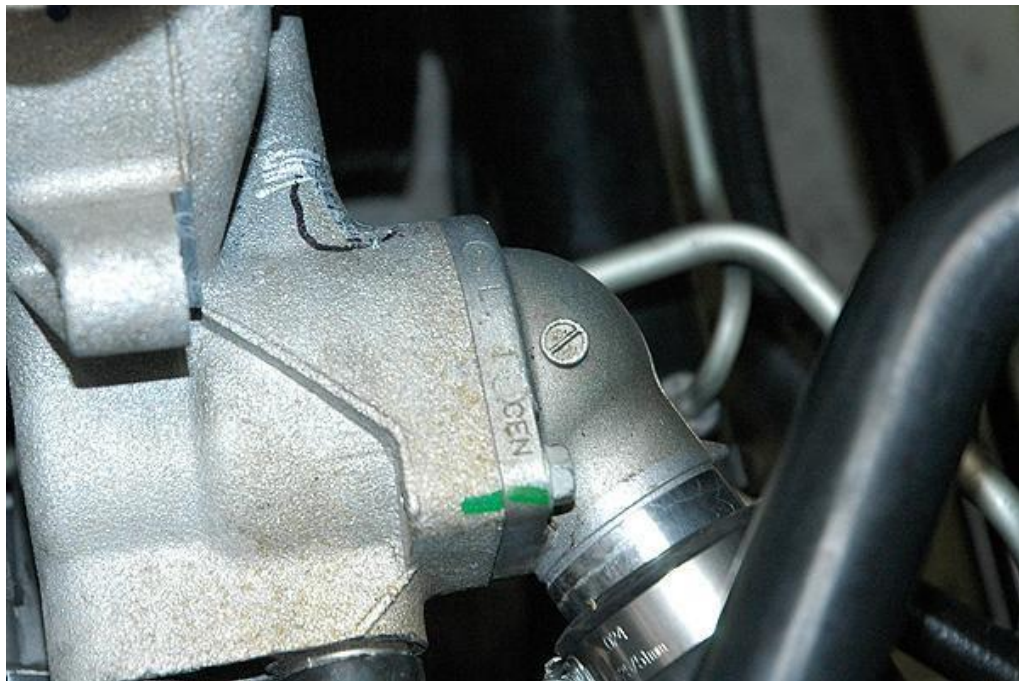
5 WATER PUMP PREPARATION

You can do the following modifications (if necessary for your application) with the pump still in the car. However, we find it easier to take it out.

The water pump **MAY** need to be ground down near the thermostat. This is for added belt clearance. Some pumps do not require this at all. Mark a spot like the one shown and use a grinder to take off material. Only a small amount is removed. Look at the 2nd picture for guidance. You're just squaring off that inside corner.

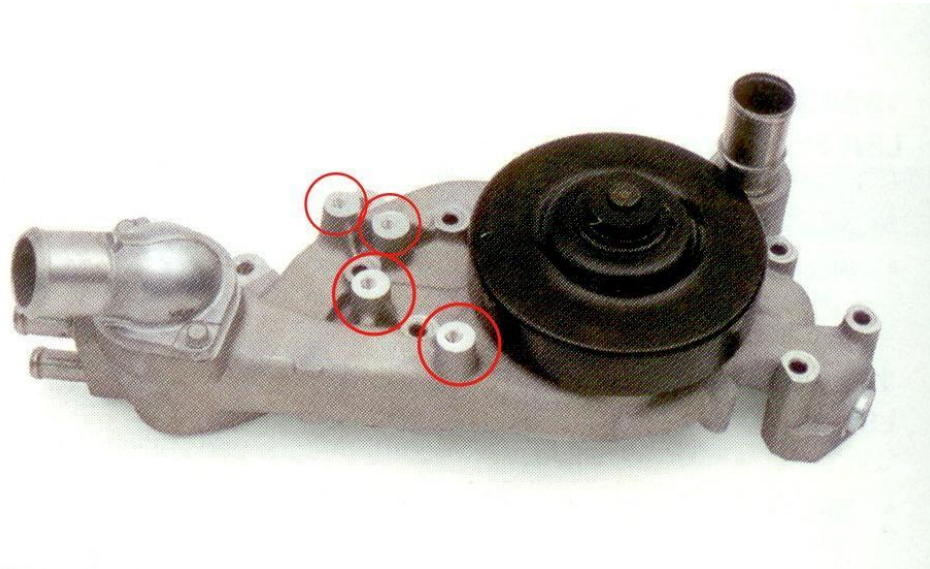


WATER PUMP/ THERMOSTAT AREA BEFORE GRINDING

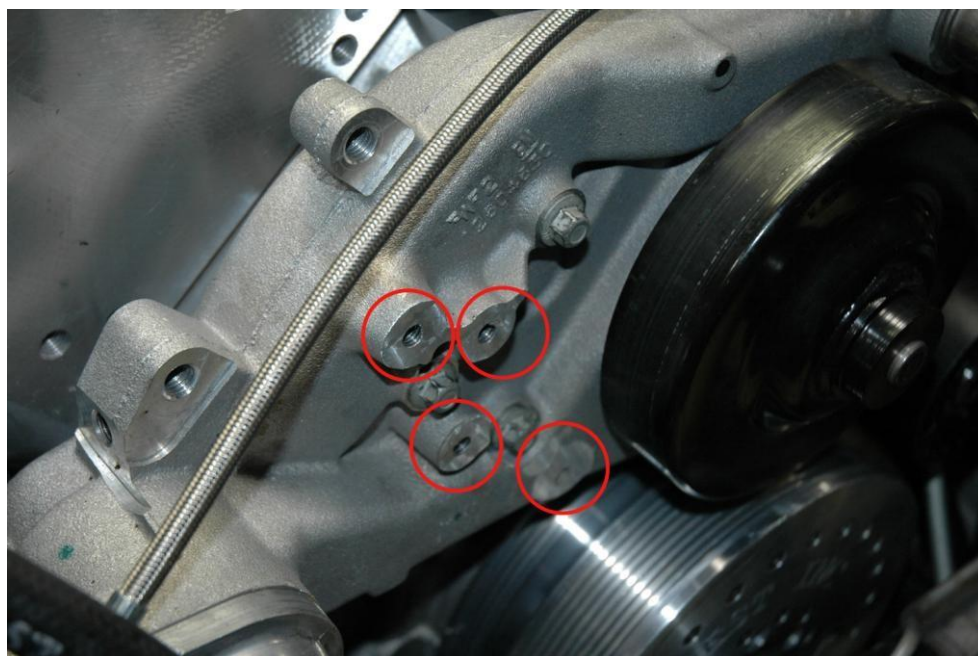


WATER PUMP/THERMOSTAT AREA AFTER GRINDING

On 2009+ vehicles, the water pump will need to be modified further. There are four aluminum bosses that will need to be milled or ground down. (The water pump is shared with the ZR-1 and these are not used on the LS3/LS7 cars) You will want to make sure they are even or just below the raised part on the bottom of the pump.



2009+ WATER PUMP



(2009+ WATER PUMP AFTER REMOVING BOSSES)

6 PINNING THE BALANCER

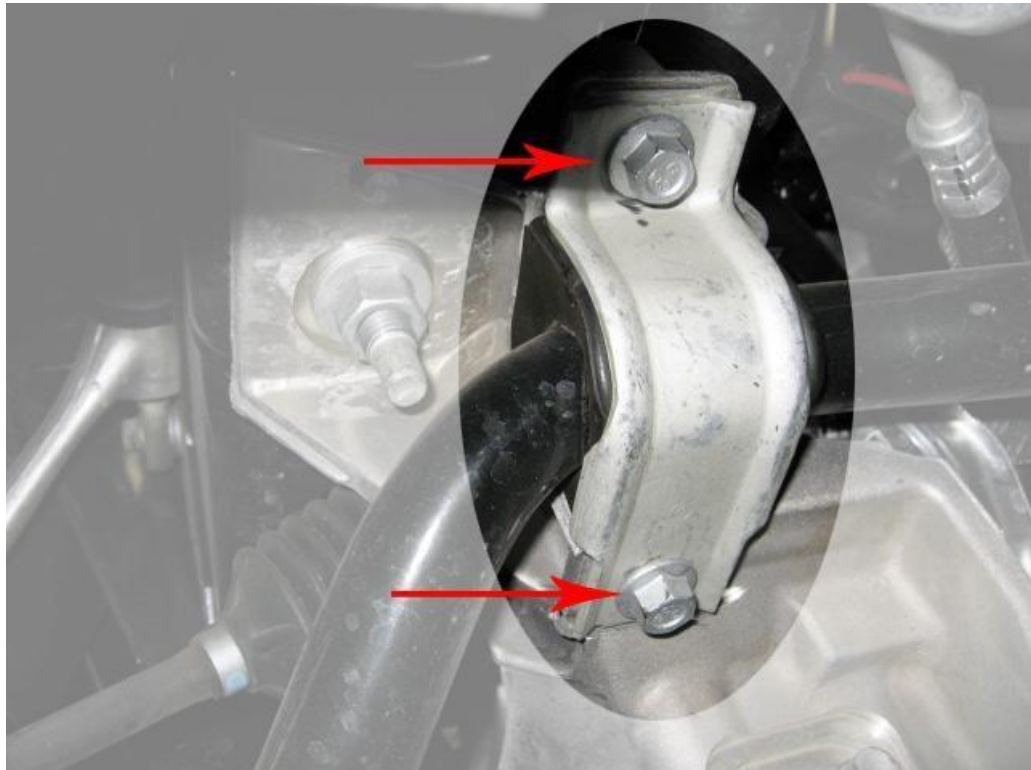
Pinning the balancer and crankshaft is **ASOLUTELY NECESSARY**. GM, in their infinite wisdom, decided not to put a keyway in the LS crankshafts and pulleys. Every engine before and after the LS Series has a keyway. Without a keyway or a pin, the balancer **WILL** slip or even spin on the crankshaft.

(And, yes, I know it is actually a damper, rather than a balancer, but that's the term most customers use. So there it is.)

CONTRARY TO WHAT THE INTERNET SAYS, THE STEERING RACK DOES NOT NEED TO BE REMOVED IN ORDER TO PIN THE BALANCER

The front sway bar needs to be dropped out of the way. The fan assembly and power steering cooler (if equipped) will have to be removed in order to “pin” the crank pulley to the crankshaft.

Remove the four (13mm) sway bar bolts at the sub frame and let the bar drop down out of the way.



PASSENGER SIDE SWAY BAR BOLTS

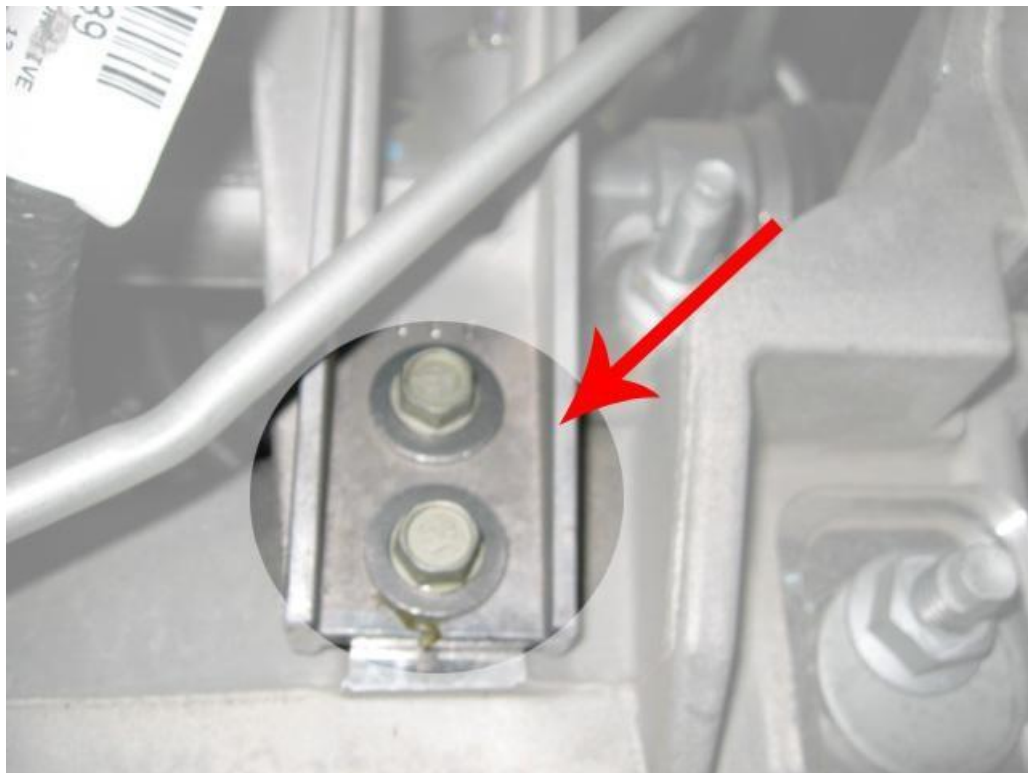
Disconnect the 4-pin connector coming out of the fan control module. Remove the two (10mm) bolts that hold the fan assembly to the radiator. These are located on the driver's side bottom and passenger side top. Push the fan up and over the plastic brackets attached to the radiator and drop it down to remove it from the vehicle.

If the vehicle isn't equipped with a power steering cooler, skip this step. Remove the fluid from the power steering reservoir with a turkey baster or something similar. Remove the factory clamps from the power steering hose at the cooler inlet and outlet lines. The factory clamps are removed by inserting a small blade screwdriver into the opening and prying them open. Remove the cooler and splice the two hose ends together with the supplied 3/8" barbed splice and clamps. You should probably have some shop rags and a small container handy.



POWER STEERING COOLER AND HOSES

The ABS module will need to be moved temporarily but not disconnected. Remove the two 13mm bolts holding the bracket to the frame. Remove the two 13mm nuts holding the module to the bracket. The bracket can now be removed from the bottom. Be careful not to lose the two studs that held the module into the bracket. They are supported in rubber bushings and may fall out. (Take note of the two flats machined into the threaded parts. These flat sides must be oriented vertically in order to slide into the bracket.) The module may now be pushed upwards to gain access to the steering rack.



(ABS MOUNTING BRACKET)



(ABS MODULE – MOUNTING STUDS)



ABS MODULE MOUNTING STUD

Remove the two long 18 MM bolts that hold the steering rack to the frame. There are 18MM nuts on the back side, so you'll need to hold them with a wrench to remove the bolts. Pry the rack up

and over to the passenger side to release it from its mounts. An inch or two will suffice. Remove the two 18MM engine mount nuts facing downwards through the cradle.

Using a suitable jack, lift the engine under the rear of the oil pan using a piece of 2 X 8 wood to spread the load. There is now ample clearance for a socket and impact gun above the rack. Some racks have a hard line attached to the top side. For those applications, disconnect one end of the line and bend it up slightly. Have something handy to cap the line and catch any leaked fluid.

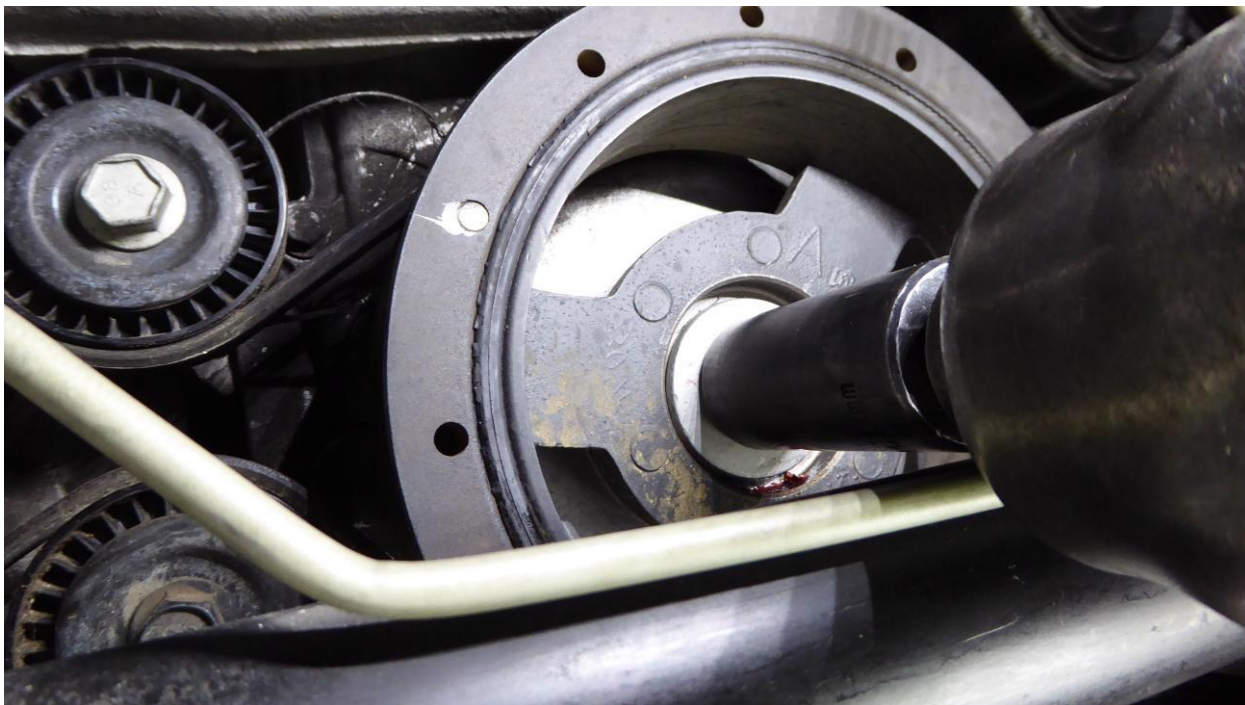
Remove the factory balancer bolt with a 24MM socket. A POWERFUL impact gun works best. Try not to use any extensions or adapters. They will absorb some of the force you are trying to exert on the crank bolt.

Insert the provided 24MM bolt through the pinning fixture and bolt it on in place of the factory bolt. Tighten it enough to ensure it won't move around when drilling through it. Measure the provided pin and make sure you drill to a depth just slightly deeper than the length of the pin. Use a 1/4" drill bit and drill through the fixture, using the small hole in the fixture as a guide. Notice that the crankshaft is actually recessed into the balancer by about 1/4". (Longer on aftermarket 8 rib balancer) You do not have to have the pin absolutely flush with the end of the crankshaft but you do want it to be pretty close. It's the flat face on the balancer that is of concern. The bolt will not seat and will get damaged if the pin sticks out beyond the lip of the balancer.

Remove the fixture, blow out any shavings and insert the pin in the hole you have just drilled. (Double check your depth first) If the pin feels loose, it helps to put a SMALL dab of silicone on the pin to stop it moving around. Once the engine is run under boost, the balancer will move slightly and tighten up against the pin.



PIN FIXTURE WITH BOLT AND PIN

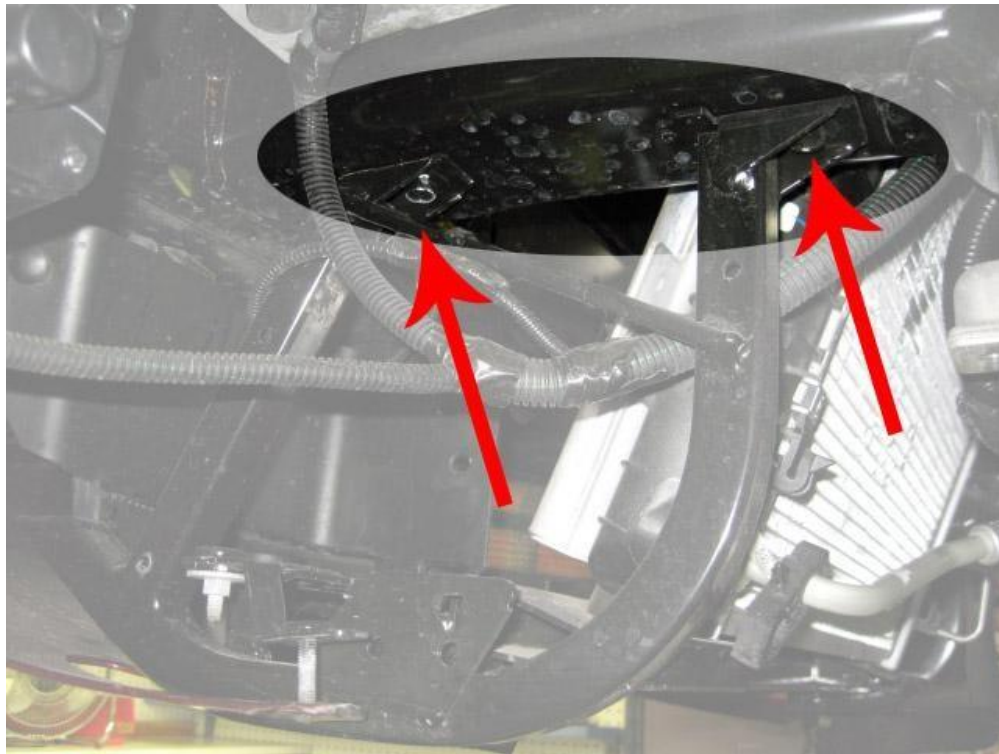


PIN INSTALLED IN CRANKSHAFT AND BALANCER

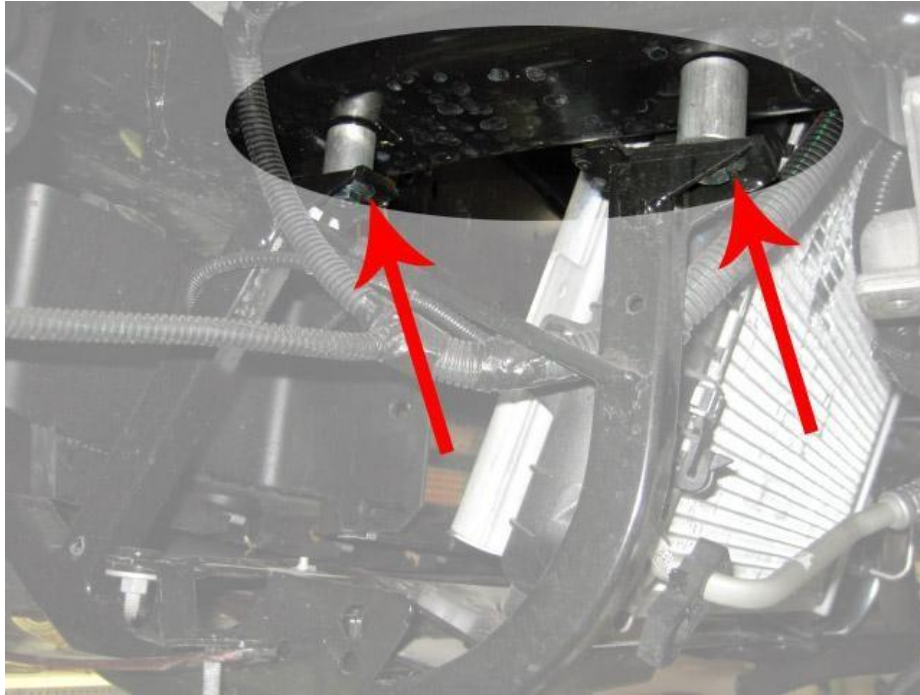
Take the NEW provided factory balancer bolt, heat the threaded area with a hair dryer or heat gun, put a SMALL bead of red Loctite on the first 1/2" of threads and insert it in the crank. Tighten it to manufacturers' specs. If using an impact gun, heating it up expands the bolt slightly and helps with its retention once it cools down. It's important to only use a small amount of Loctite. If it were to ooze out and get between the balancer and crank snout, it would make it very hard to remove later.

7 RELOCATING THE LOWER RADIATOR SUPPORT/ SKIDBAR ASSEMBLY AND HORNS

Remove the nuts attaching the front fascia to the skid bar assembly. Locate the skid bar spacers and bolts in the hardware kit. Remove the 13mm bolts that hold the skid bar to the frame on one side but just loosen them on the opposite side. Insert the short spacer between the assembly and the frame at the front attachment point and insert the 8 x 50mm bolt. Insert the long spacer at the rear attachment point with the 8 x 50mm bolt. Leave the bolts loose for now. Do the same on the opposite side. Remove the horn assembly. You will have to remove the horns and switch mounting holes so the horns will be facing the opposite direction. If there are any 90 degree mounting tabs on the horn bracket, they will need to be flattened. You will need to open up the mounting hole on the horn bracket to fit the #8 bolt. Then put the horn bracket on the front bolt of the radiator support between the supplied spacer and the frame of the car. Tighten all 4 radiator support bolts.



(RADIATOR SUPPORT MOUNTING POINTS)



(RADIATOR SUPPORT WITH SPACERS INSTALLED)



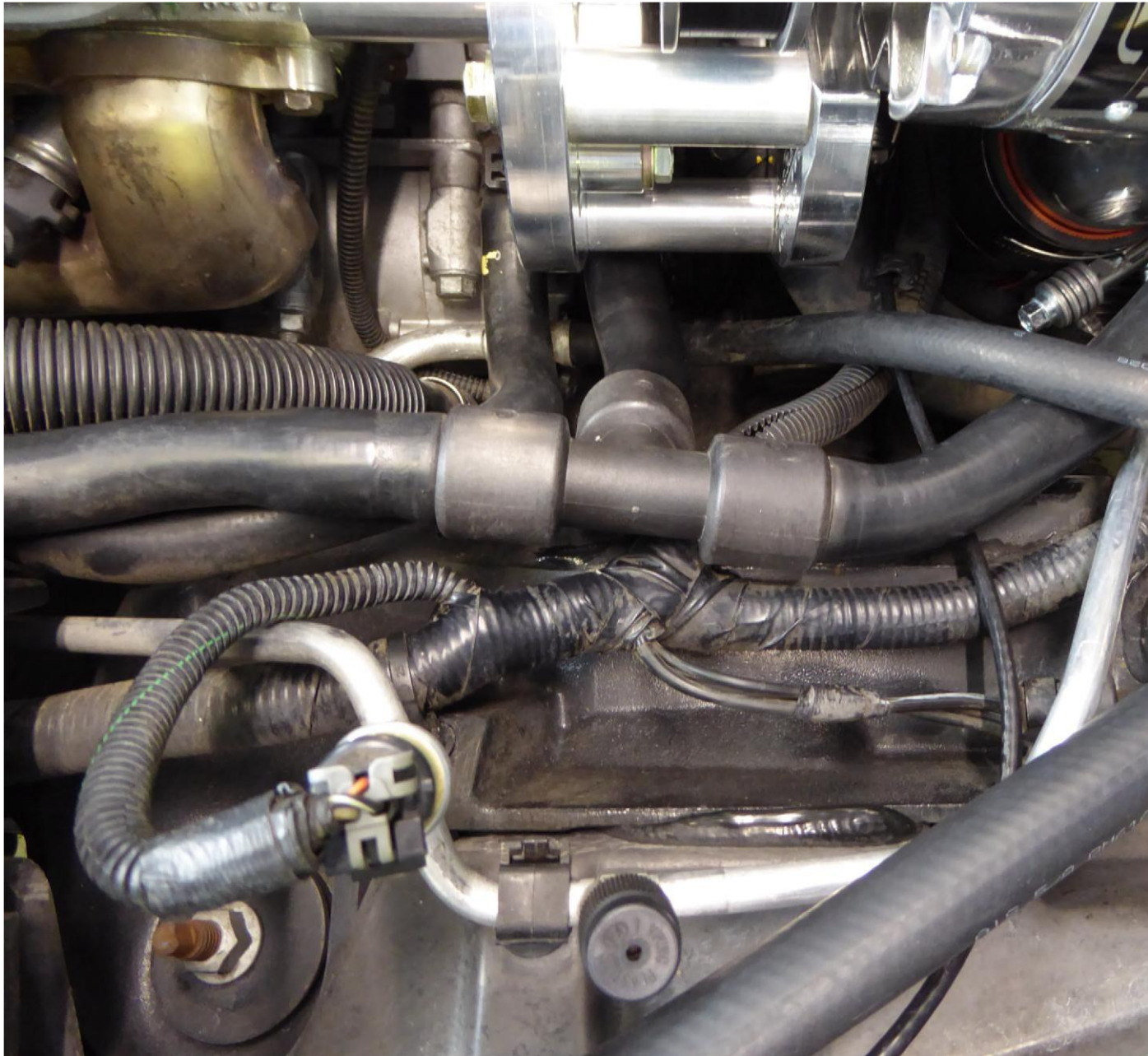
(HORN ASSEMBLY INSTALLED ON PASSENGER SIDE)

Reconnect the outside air temperature probe to its connector and zip tie it to one of the side blinker light wire looms, or drill a ¼" hole in the vertical radiator support brace and use the factory push pin connector to secure it to the brace.

8 MODIFY COOLANT HOSE

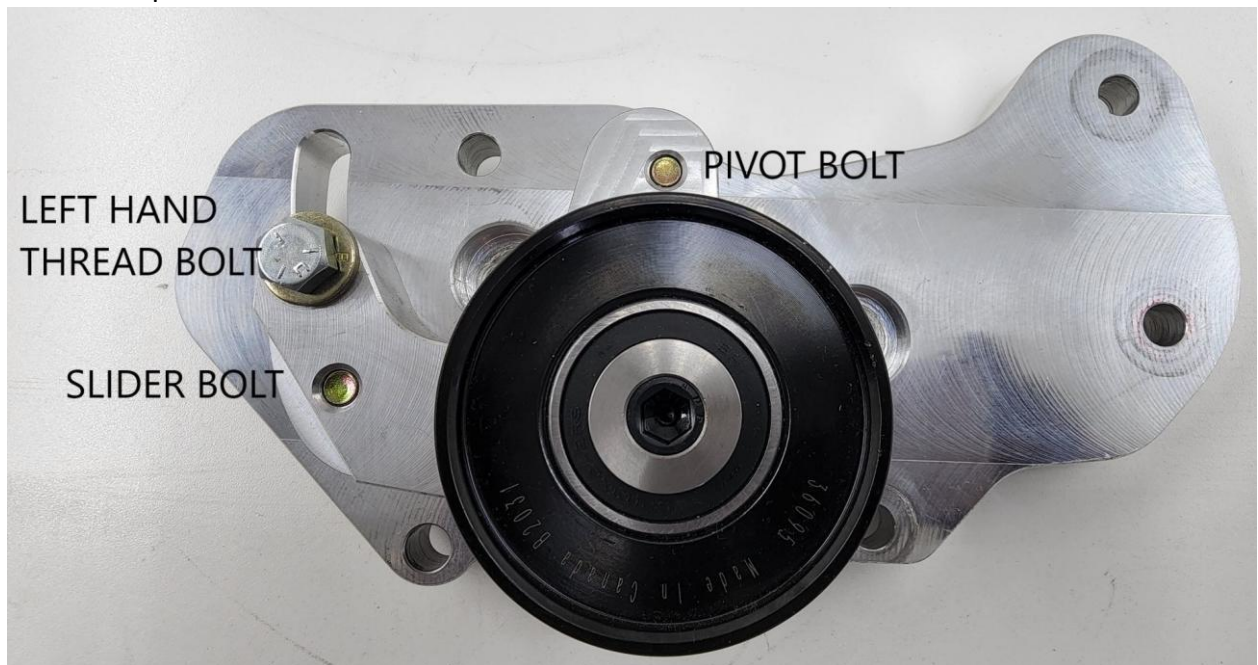
C6 Heater Hose Extension Kit is used to relocate the "T" fitting toward the passenger side frame rail away from the supercharger inlet. This modification will allow for easier supercharger installation and removal. This heater hose has 3 connections. One near the firewall, one at the water pump and one at the reservoir. You will need to trim some hose at each one of these locations. We will also be adding some hose at the reservoir end Drain the coolant. Remove clamps and remove the hose.

Mark hose 12" from the firewall end of hose. Mark hose 6.75" from the water pump end of hose. Mark hose 11" from reservoir end of hose. Lay it out for a visual reference and cut in those locations. . We can now add the 21" extension at the reservoir end. Use the provided hose coupler and heat-shrink clamps. The clamps will shrink and seal by using a heat gun or mini torch. (carefully so as not to burn the clamp))
Use the provided SAE#16 hose clamps at the reservoir and firewall locations. Reuse factory spring clamp at water pump location.



9 MOUNT THE REAR SUPERCHARGER BRACKET

The rear bracket comes with the adjustable idler attached. This makes it much easier for the installer to understand how the bracket assembly works. However, the idler must be removed for now. You will reinstall the idler after the main supercharger bracket is installed. The left-hand threaded bolt is for adjustment only. Do not try to take it out. The pivot and slider bolts come in from behind the head bracket.



REMOVE THE SLIDING IDLER BRACKET FOR NOW

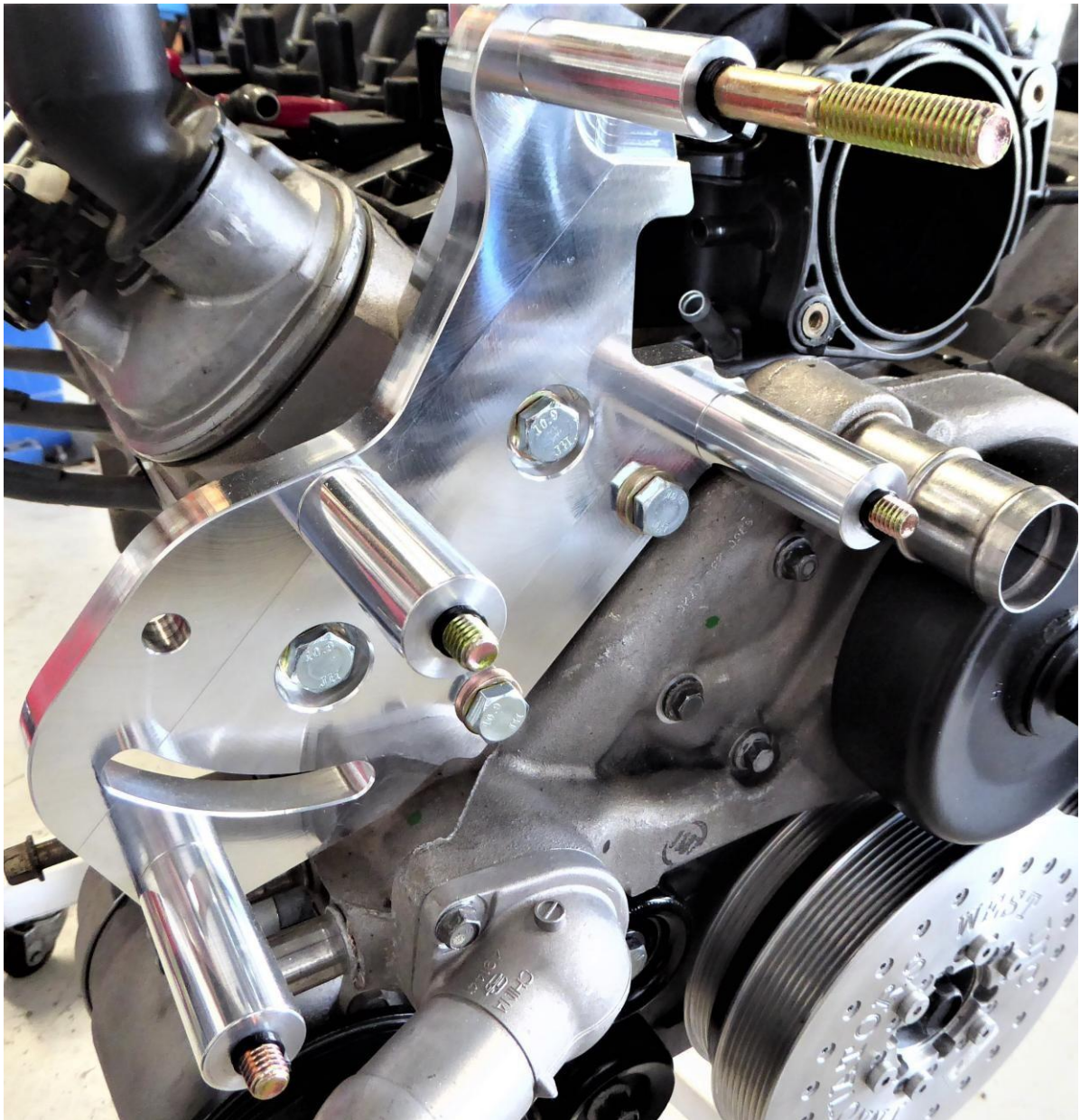
EVERYTHING INDEXES OFF THE WATER PUMP MOUNTING PADS. If you have an aftermarket Water pump, you may run into alignment issues. The rear bracket MUST be parallel to the cylinder head face after everything is bolted together. You must check this before going any further.

Put only the two 15mm bolts (original tensioner bolts) through the rear bracket and tighten it to the water pump. Test fit the rear spacer and triangular brace between the bracket and cylinder head. They should fit with little resistance. If they fall in, with a substantial gap, they will pull the top of the bracket towards the head when tightened down. This will, in turn, pull the top of the main blower bracket assembly toward the engine and push the bottom away when installed. Now you are out of parallel.

Conversely, if they are so tight you can't get them in, the top of the bracket will be pushed out and the bottom will be pulled in. Now you are out of parallel the other way. Both scenarios are bad.

Either scenario is usually caused by an aftermarket water pump or gaskets. You WILL have belt problems if you don't fix it. It's a lot easier to address it now than after it's all together. Once you are sure you are parallel, continue as follows.

The rear bracket bolts to the water pump, using the stock tensioner bolts and holes. It also bolts to the cylinder head with M10 X 90mm bolts. 2.285" spacer and thick angle brace. It's important to install all but the lower outside bolt that attaches the supercharger main bracket to the rear bracket before bolting it to the engine. The intake manifold and cylinder head may not allow them to be installed afterwards. The smallest diameter spacer (3/4") and longest bolt go in the hole nearest the throttle body.



REAR BRACKET WITH SPACERS - ATTACHED TO ENGINE

10 ASSEMBLE AND INSTALL THE SUPERCHARGER AND MAIN BRACKET

**THE FOLLOWING INSTRUCTIONS ARE FOR ALL V3 SELF-CONTAINED SUPERCHARGER UNITS
THERE WILL BE A SEPARATE SECTION AT THE END FOR V1, V2, AND V7 OIL FED UNITS.**

The bracket assembly comes partially assembled. The main bracket comes with the tensioner and idler attached. This makes it much easier for the installer to understand how the bracket assembly works.

Locate the 1.160" aluminum spacers with the flat sides. These will space the supercharger from the main bracket. Place the spacers on the supercharger with the flat sides facing the supercharger body and bolt the bracket to the supercharger with the 2 ½" bolts and spacers in the recessed holes. Install a long bolt through the last hole just to keep the spacer in place. (Marked in the photo below) The spacer should stay there once the other bolts are tightened. Remove the long bolt. The threaded hole does not get a spacer.

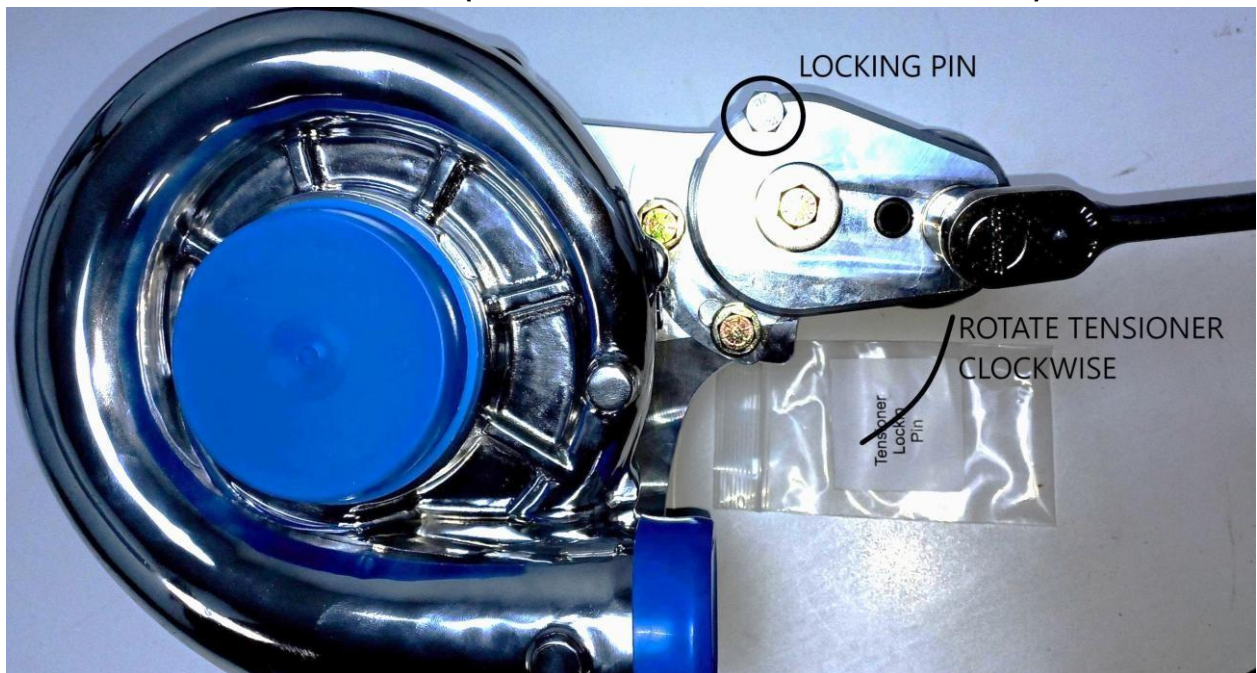


MAIN BRACKET



MAIN BRACKET BOLTED TO SUPERCHARGER **LOCK THE TENSIONER IN THE OPEN (SLACK) POSITION**

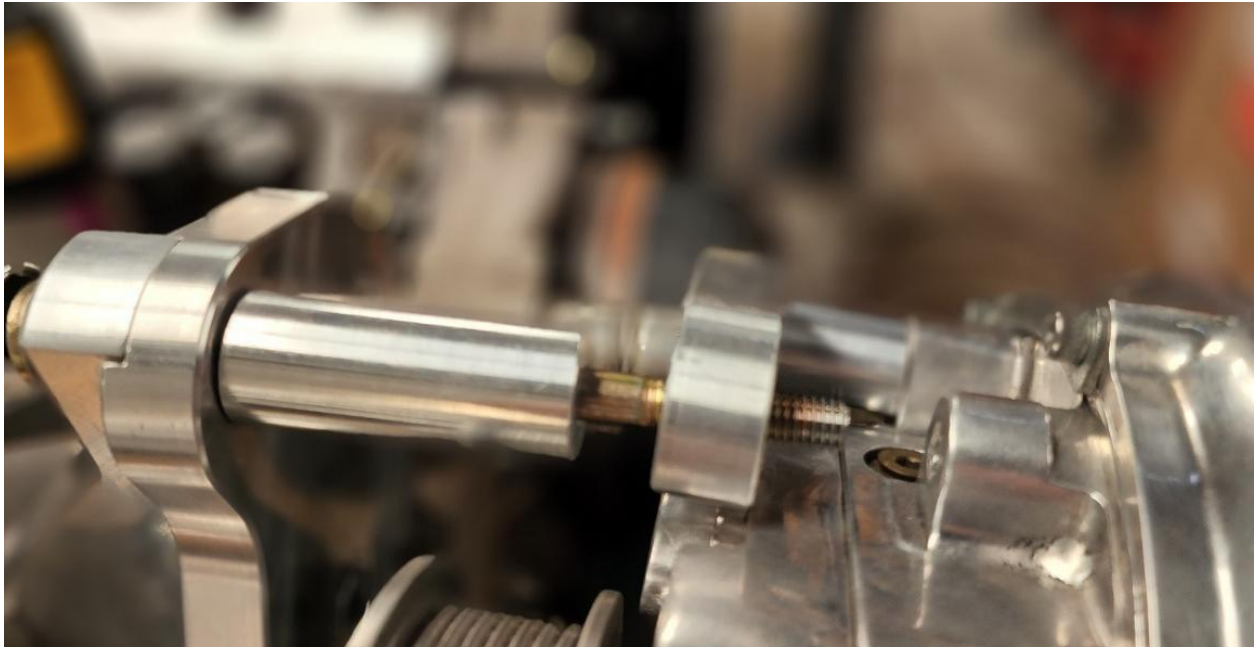
The billet tensioner has an open 5/16" hole on the front. While having someone hold the bracket assembly, rotate the tensioner clockwise, using a 3/4" socket, until you can push the lock pin (5/16" bolt) all the way in the hole. This locks the tensioner open and ready for belt installation. **(NEVER take out the black socket head bolt)**



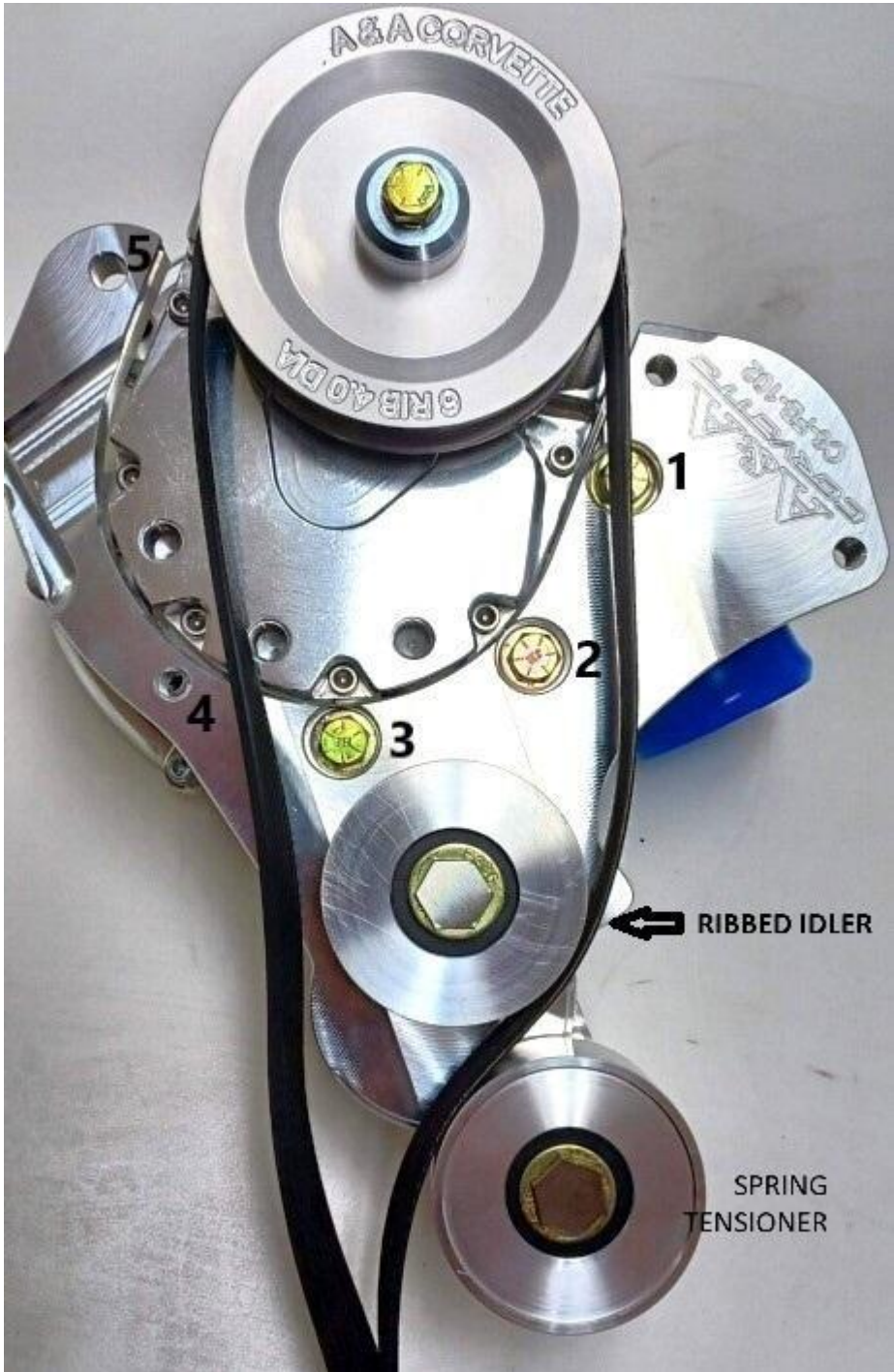
Install the drive belt in the vehicle. Wrap the belt around the crank pulley, up and over the idler near the power steering pulley, down to the power steering pump and up to the alternator. This

will leave you with a large loop on the passenger side. **(Refer to the picture and belt routing diagram below)** Lower the blower assembly into the car. You can push the long top bolt through the bracket to let it hang and take the weight. Thread this bolt into the supercharger a few turns to stabilize everything. You can also thread in one or two of the other bolts to stabilize it further. This will make it much easier to install the belt. Fish the belt around the tensioner, idler and blower pulleys. It's very tight around the thermostat housing area, With the blower loose, slide it forward for more clearance.

Watch this tech video. It will help you understand how to install and adjust the bracket and tensioner:
<https://fb.watch/eHVi-zPeBD/>



HANG THE BLOWER ASSEMBLY ON THE TOP BOLT TO TAKE THE WEIGHT



BELT SHOULD BE ROUTED LIKE THIS ON THE SUPERCHARGER BRACKET ASSEMBLY

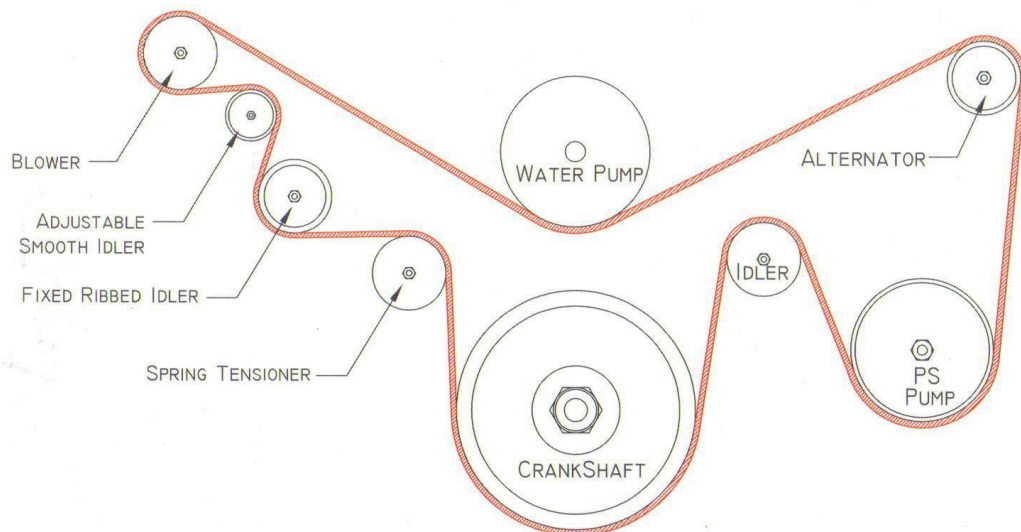


PROPER BELT ROUTING AROUND THE BALANCER AND TENSIONER

Double check the belt as it comes off the spring tensioner. It should go down and under the balancer. If the belt is routed correctly, try to align the front and rear brackets and get the remainder of the 3/8" bolts started. Once all 4 bolts are in, just snug them up to make sure the blower is close to its final position. You can now pop the belt over the alternator pulley.

SETTING THE CORRECT BELT TENSION

You're actually going to remove the outside spacer and bolt temporarily for this next step. Reinstall the sliding "J" shaped idler bracket on the head bracket as it was when the unit was shipped. Reinstall the spacer and bolt as well. (This is why you temporarily removed the outer spacer) Push the idler bracket down and over to the inboard side with a 9/16 wrench on the exposed bolt. This is a left-handed thread so you will not loosen the bolt while pulling down. The belt does not need to be extremely tight. The ideal tension is when you can barely twist the locking pin in the spring tensioner by hand. Remember that the spring tensioner is still locked in the open position. Push down on the wrench and then tighten the two bolts on the idler bracket. Reinstall the outboard spacer and bolt that you just removed. Tighten all 4 bolts going to the supercharger bracket. Now you can go to the spring tensioner and remove the lock pin. You'll need to rotate the tensioner slightly to take the load off the pin. The spring tensioner will now properly tension the belt.



SCALE: 1/1	NEXT ASSY: N/A	NAME: BELT ROUTING DIAGRAM
DRAWN BY: AG	USED ON: N/A	
DATE: 11/21/05	UNIT: UNIT	PROJECTION:
MAT'L: NOTED		
TOL: .XXs	REV: -	DRAWING NUMBER: 09-001
ANGLEs: N/A		
A&A CORVETTE PERFORMANCE ONHARD, CA. 95036		

(BELT ROUTING DIAGRAM)

15 INTERCOOLER INSTALLATION

The side air panels need to be installed before the intercooler is installed. **The radiator needs to be installed and situated in the correct position before proceeding.** The best way to do this is to test fit the top shroud and inlet airbridge.

The radiator will naturally want to rest too close to the supercharger. You will need to move the top of the radiator forward to install the airbridge. Also make sure the radiator is all the way down on the bottom bushings. There will be resistance from the AC lines, transmission lines, and hoses. You may have to carefully bend them to allow the radiator to rest in the correct spot. Sometimes the lower radiator hose may hold the radiator up slightly. You may have to twist it or push it further onto the radiator inlet and pull it off the water pump outlet a bit to let the radiator down.

The front to back position of the radiator will be determined by the top cover (shroud) You will temporarily install the top shroud to make sure the radiator is in the correct position.

Take note of the two tabs on the front of the top shroud. There are two black screws holding the fascia screws that will line up with those tabs. Lube the inside of the bushings and push the cover onto the radiator. The front of the shroud should be very close to the front fascia. Beware of a small stud sticking out just below the center of the fascia. Make sure the top shroud goes over it, not under. If it looks like you can easily start the black screws through the top cover, the radiator is in the correct spot. If not, you will need to adjust it before proceeding. Once the radiator is in the correct spot, test fit the airbridge, without a silicone coupler, to make sure the radiator is low enough. If everything looks good, install the side panels as instructed below.

The panel with the circular cut out will go on the passenger side. There are already holes on both sides of the radiator cradle that will be used to attach the panels. You'll use these holes to guide the drill from the outside. Line up the aluminum panel with the radiator cradle. Holding the panel in place, drill a hole through the panel using a ¼" drill bit, using the existing hole as a guide.

Bolt the panel in place using one of the two aluminum washers between the panel and the frame and the ¼" hardware as shown. Repeat for the opposite side. Make sure the panel is oriented so it's not going to rub on the AC condenser tubes. Note that you may need to trim the top of the factory air dam near the corners.



SIDE PANEL IN PLACE

The intercooler will go in next. You'll need to hold it in place to mark where the mounting holes need to be drilled. Make sure the intercooler is horizontal and centered, with the exit tube lined up with the throttle body. (Leave the black top shroud in place for now so you can see if the intercooler is centered) The weld between the top tank and the core should fit tight against the bottom of the frame. The inlet will go IN FRONT of the upright skid bar support. Once the intercooler is positioned, mark the frame, remove the intercooler, drill a small pilot hole and run in the supplied self-tapping screws. You can also use the screws to drill the holes with an impact gun. Take the screws back out, reinstall the intercooler and screw it in place. Once the intercooler is centered and mounted, you can take the top shroud back off for now.



(INTERCOOLER ATTACHED)

MOUNT THE DUCKBILL TO THE RAM AIR INTERCOOLER

Mount the duck bill to the front of the intercooler with the 4 stainless button head bolts, nuts and washers provided. Be sure to use anti-seize on these so they do not lock up. Mount it as shown so the duckbill is slightly tipped down. (This can be done now or before installing the intercooler.)



DUCKBILL INSTALLED

16 SILICONE CHARGE HOSES

The following is a picture of the charge hose layout from the supercharger outlet to the intercooler inlet. Use this for a visual reference when installing your hoses.



CHARGE HOSE OVERVIEW

Clamp hose # C6-2 going up and over the skid bar to the intercooler. Attach the blowoff valve (BOV) and 2" silicone coupler to the BOV TUBE then connect the BOV tube to the previously installed #C6-2 hose. Generally, the BOV is aligned so that the hose is horizontal, and the filter is facing up, as shown below. There are different BOV options and vehicle options with and without brake ducts. You may need to angle the BOV differently for your application. If there is a plastic brake duct (Z51 and Z06) you may have to heat it with a heat gun or mini torch to make a dimple in it for clearance.



FRONT VIEW OF HOSE C6-2 AND BOV ASSEMBLY INSTALLED

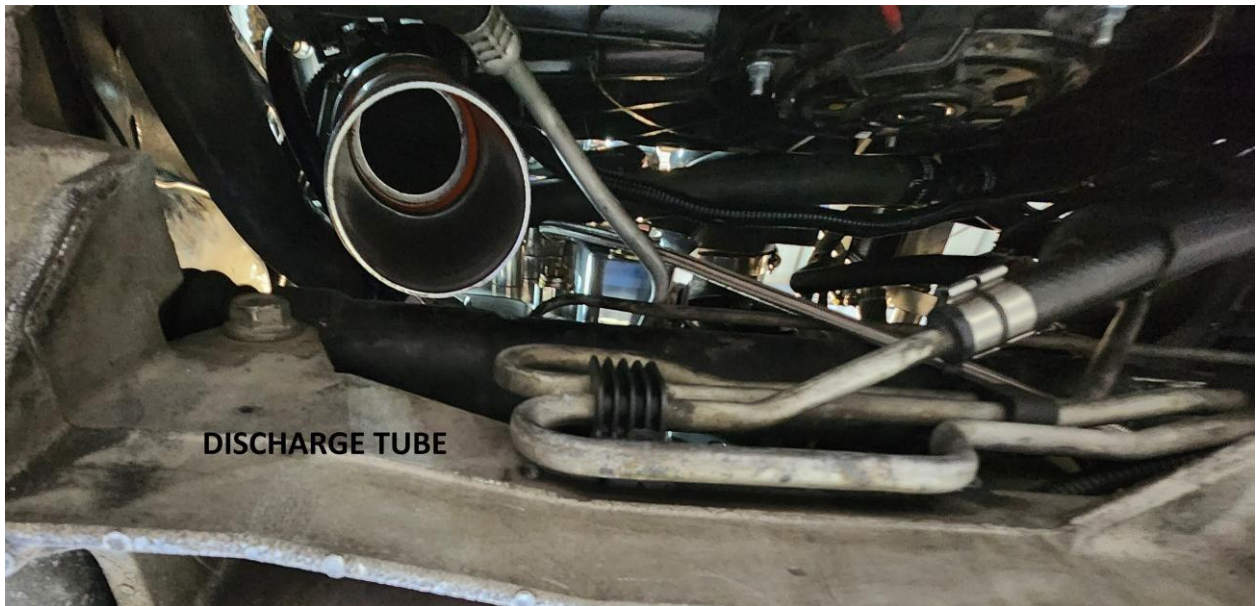
Now you are going to work backwards a little bit. Clamp the discharge coupler/ reducer (2.75 to 3" on Si and Ti units, and a straight 3" coupler on YSi units) to the remaining 6" X 3" aluminum tube.

Orient the clamps as shown in the picture below. Leave the top clamp loose, tighten the bottom clamp, then push the assembly onto the discharge opening of the blower, from the bottom.

With the top clamp facing forward and the bottom clamp pointing towards the frame, tighten the top clamp from the top. A long ¼" extension, wobble socket, and a 3/8" or 10MM socket works best.



DISCHARGE TUBE CLAMP ORIENTATION



DISCHARGE TUBE INSTALLED-MAKE SURE NO LINES ARE RUBBING

Silicone hose # C5-6-1 is the last hose between the blower and intercooler. It will clamp to the BOV tube you previously installed in the right front fender and the discharge tube you just installed. The hose goes behind the sway bar.

(If you have a power steering cooler, remove it and install the provided barb fitting to loop the hoses. The cooler is located right in the hot airstream from the fan and does not help in any way. Anyone who uses a PS cooler for road racing relocates it anyway)

The hose will be pinched somewhat, particularly with large sway bars, but it won't hurt anything. We've never seen one wear through or cause any HP loss. You will need to push it fairly far up onto the tube to make sure the hose doesn't hang down below the aluminum engine cradle. A little soapy water or silicone spray may help with this. Also push it onto the BOV tube as far as possible. This will give you more tire clearance with wider tires. You may need to tweak the transmission cooler or AC lines for clearance.

This completes the charge hose connections from supercharger to intercooler.



REAR VIEW OF BOV INSTALLED WITH HOSE C5-6-3 CONNECTED

Attach the long vacuum hose to the BOV and run it up between the spacers added to the radiator support bracket, up and over the fan shroud and over to the power brake booster area. It will be “teed” into the power brake booster hose in a later step. The actual routing is not important, just make sure the hose is tied up and away from any moving parts.

17 REINSTALL THE FRONT FASCIA

Reinstall the front fascia in the reverse order used in step 1. The following picture shows how the duckbill is meant to interface with the front fascia. **The grill is not installed for clarity. The grill is left in the fascia during actual installation.**

When reinstalling the fender well trim panel in front of the tire, make sure the screw tips do not contact the blowoff valve. They can scratch it badly. You can snip them with a good pair of dykes, if necessary.

You will also need to trim the lower left corner of the panel so the hose can go through



**INTERCOOLER DUCKBILL SHOWN INTERFACING WITH FRONT FASCIA
(GRILL IS NOT INSTALLED FOR CLARITY ONLY)**

You will have to trim the bottom of the fascia and two of the mounting locations will no longer be used due to the intercooler's interference.



(TRIMMED DRIVER SIDE)



(TRIMMED PASSENGER SIDE)

18 INSTALLING THE MAF TUBE AND HOSES

(LS2) Install the 3 ½" to 4" angled silicone reducer on the intercooler outlet as shown. The 60° mandrel bent tube, a silicone coupler, the MAF and then another silicone coupler to complete the connection between the intercooler and throttle body. The diameters of the couplers are slightly different so watch for that.

(LS7 and LS3) Install the 3 ½" to 4" angled silicone reducer over the intercooler outlet as shown. The 60° mandrel bent MAF tube, and the remaining silicone coupler will complete the connection between the intercooler and throttle body. You may have to play with the depth the tube is pushed into each coupler to get the proper clearances over the radiator.

ANGLED COUPLER BETWEEN INTERCOOLER AND MAF TUBE





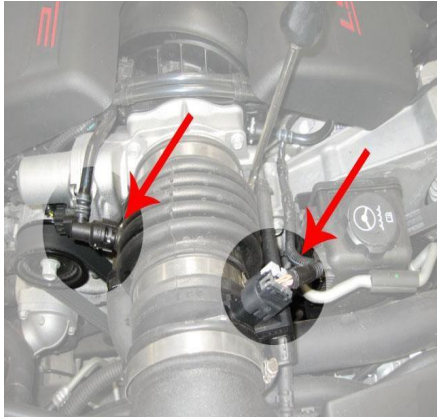
(INLET TRACT ASSEMBLED LS7 AND LS3)

19 SUPERCHARGER INTAKE AIR BRIDGE

Test fit the airbridge without a silicone coupler attached. Check the area around the fan housing where you trimmed earlier to make sure enough material was removed.

Clamp the supplied air filter onto the plastic air bridge. The 5/8" nipple is to be on the outboard side. (If the nipple is not already installed, it's easier to install it now.) Connect the 5/8" vent hose to the nipple. This will be connected to the oil cap later.

Clamp the small end of the silicone reducer onto the supercharger inlet. It may be necessary to shorten the coupler slightly when using an oversized radiator. Slip the air bridge into the coupler. Install the clamp and tighten. **(Again, you will really benefit from the use of a hose hook in this extremely tight area. It will be EXTREMELY difficult without one.)**



HOSE HOOK

Watch this quick video to see how easy it is with a hose hook.

<https://www.youtube.com/watch?v=zlz8PP6POI>



AIR BRIDGE INSTALLED OVER RADIATOR (aftermarket oversized radiator shown- stock radiator fitment is the same)

20 ALUMINUM TOP SHROUD

Assemble the top cover by attaching both side panels with the black 7mm screws. Notice the two tabs in the front of the panel. They will line up with two of the front bumper attachment screws. Remove those screws. Install the cover assembly over the inlet piping and radiator. (HINT: You may find it easier to tip the passenger side down first and install it that way.)



(TOP COVER INSTALLATION)

Slide the cotter pins through the holes previously drilled.



(LEFT AND RIGHT COTTER PINS INSTALLED)

INSTALL THE VACUUM “T” IN THE BRAKE BOOSTER HOSE

Find the power brake booster vacuum hose and cut it in the middle. This is where the provided vacuum “T” will be installed. You can connect the vacuum hose from the BOV directly into the T. Run it over the brake booster to keep it away from the exhaust heat, as shown below.

If you will be running a boost gauge, fuel pump booster, one of our Secondary Fuel Systems or any other vacuum operated accessory, cut the BOV vacuum hose at a point past the brake booster, down in the fender well area and add a vacuum “Y” there to get your vacuum fittings away from the heat. It’s OK to add more than 1 “Y” fitting. We have provided a couple of nylon “Y” fittings to hook up your accessories.



(VACUUM "T" INSTALLED IN BRAKE BOOSTER HOSE)
(Note vacuum hose routed over the booster, away from the heat)

22 REPLACE THE INJECTORS

To change the injectors: Bleed any remaining fuel pressure into a suitable container by depressing the Schrader valve at the end of the fuel rail. Make sure you catch and clean up any fuel that may escape. Blow compressed air on the manifold around the fuel injectors to clean out any debris that may fall in the ports when the old injectors are removed. Remove safety lock on fuel line at fuel rail side and remove fuel feed line at the fuel rail side using a disconnect tool. (Place a rag under fuel line to help absorb leaking gas.) Disconnect the injector harnesses by pushing "in" the release tabs and pulling on the connector. There is a positive wire going to the alternator that goes over the driver side fuel rail. Lift this wire by pulling up on the plastic connectors. Remove the four 10mm bolts holding the fuel rail and gently pull up on the fuel rail and remove from the vehicle. Some cars have a bracket at the back of the intake manifold that will also need to be removed. Remove the injector retaining clips from the top of the injectors and remove injectors. Lightly grease the O rings on the new injectors and replace them in the reverse order as they were removed. Reinstall the clips. Reinstall the fuel rail. Make sure they fit snugly into the intake manifold.

Slip the evap. solenoid assembly over the oil spout as shown.



EVAP ASSEMBLY RELOCATED

The passenger side coil cover will need to be trimmed to clear part of the supercharger mounting bracket. Trim as shown in photos and then reinstall both plastic coil covers.



PASSENGER SIDE COVER TRIMMED



COVER INSTALLED

Install the provided oil cap (wet sump), install the modified coil cover, and plug the 5/8" vent hose from the air filter onto the cap fitting.
(On dry sump cars, the hose goes directly from the oil tank to the fitting on the air filter.) Trim hose as needed.



WET SUMP OIL CAP AND VENT LINE INSTALLED

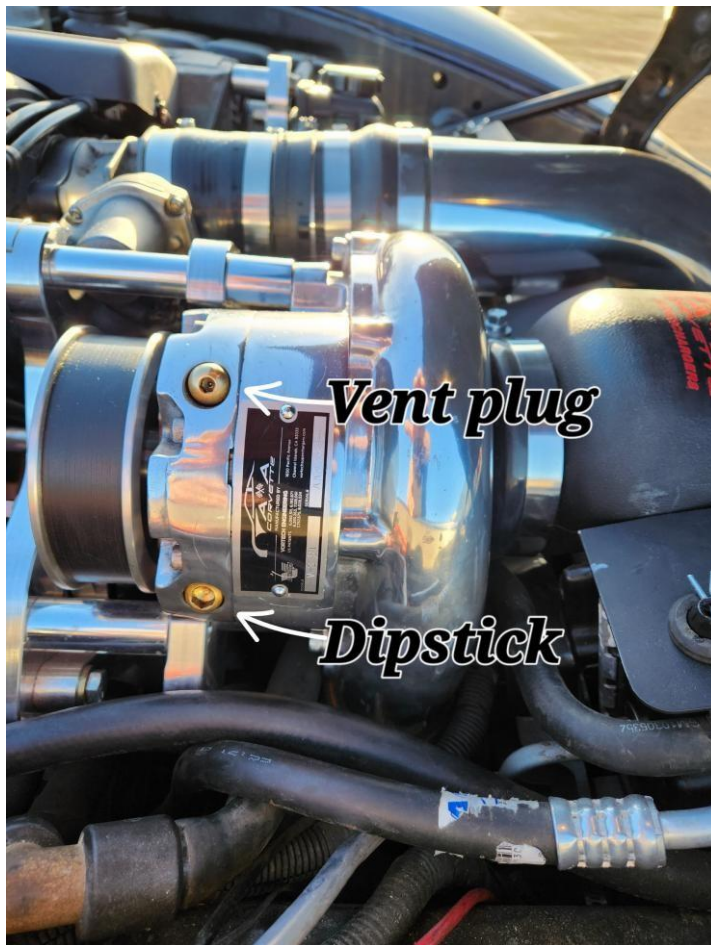
FINAL ASSEMBLY AND CHECK

V3 SELF-CONTAINED HEAD UNITS ARE SHIPPED WITHOUT OIL. YOU MUST FILL THE UNIT WITH ONE FULL BOTTLE OF VORTECH OIL (4 OZ.)

Remove the shipping plug from the head unit (upper plug) and remove the dipstick (lower plug) to let air escape. Squeeze one bottle (4oz.) into either hole and install the vent plug in place of the shipping plug. Don't overtighten it. They are brass and can stick or strip out. Save the shipping plug in case you need to send the head unit in for service or a trade-in.

Any unit to be considered for warranty repair MUST INCLUDE THE OIL to be analyzed.

Note: The dipsticks are notoriously hard to read with the thin oil used. We have modified them by sanding one end and putting a "full" mark on it. It's ugly but much easier to read this way. That being said, it's best to drain the blower fully when changing the oil and add one full 4 oz. bottle of Vortech oil. No matter what the dipstick says, this is the correct amount of oil.



If previously drained, refill the engine with fresh factory specified oil.

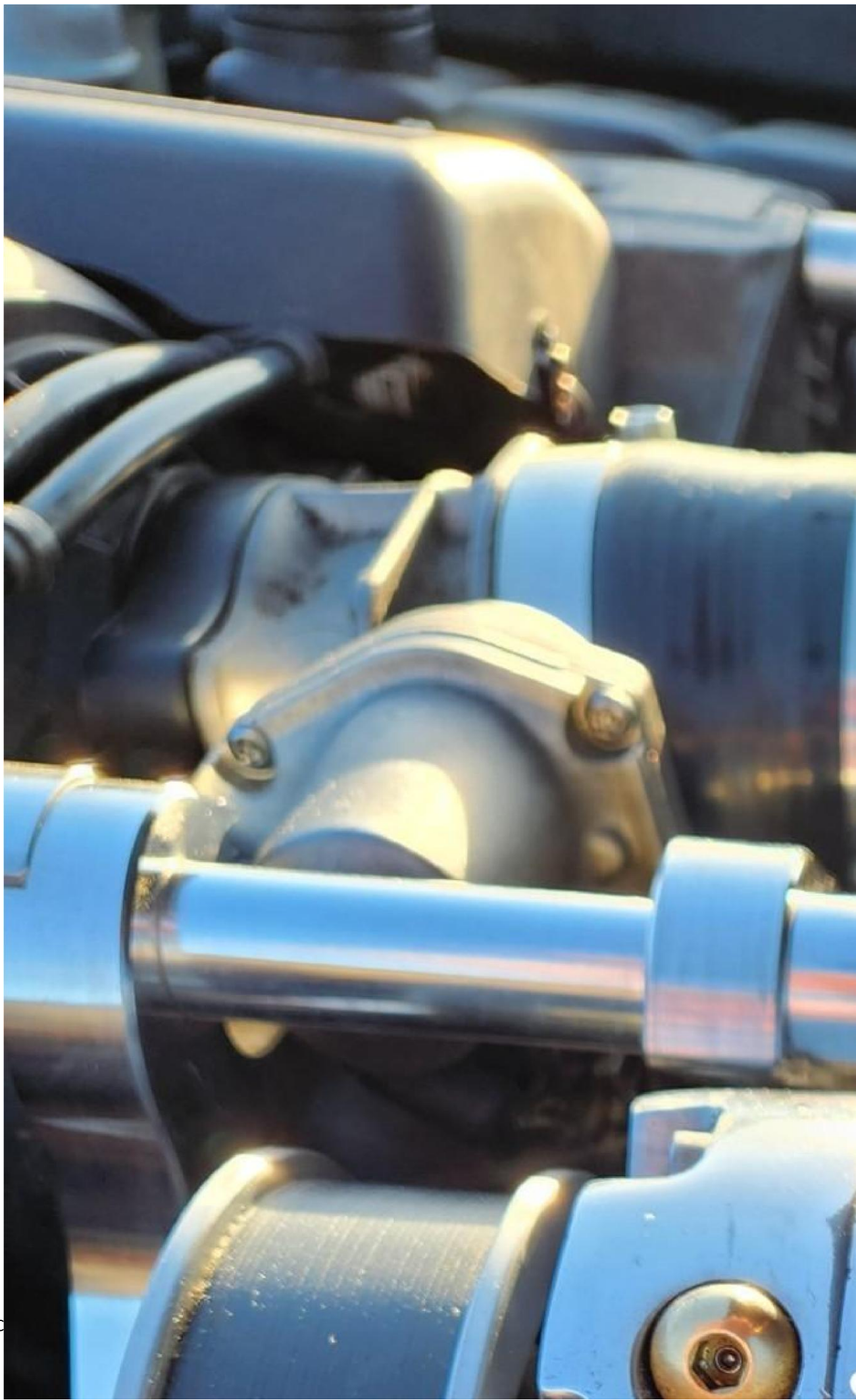
Check all fittings, nuts, bolts and clamps for tightness.

Reconnect the battery.

Push start button on and off a couple of times without touching the brake or clutch pedals. (DO NOT START), to cycle the fuel pump. Check for obvious leaks at the fuel rail and injectors.

Start vehicle and immediately re-check for fuel leaks.

Recheck all fluid levels and verify that no hoses, wires, etc. are near exhaust headers or moving parts and that there is no fluid leakage.



VENT PLUG INSTALLED IN PLACE OF SHIPPING PLUG

BELT SIZE REFERENCE CHART

PULLEY AND BELT SIZE CHART 6-RIB

	K060900	K060905	K060910	K060915
3.40"	x			
3.60"		x		
3.80"			x	
4.00"				x

PULLEY AND BELT SIZE CHART 8-RIB & 8" BALANCER

	K080903	K080910	K080922	K080939
3.125"		x		
3.33"			x	
3.47"			x	
3.60"			x	
3.80"			x	
4.00"				x

x= best fit

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ADDENDUM FOR OIL FED HEAD UNITS- V1, V2 AND V7

Follow the instructions for the standard V3- Self Contained units but read this section in reference to the oil feed and return lines before mounting the supercharger and bracket assembly.

When using an engine oiled unit (V1, V2 or V7) the oil drain line must be installed before the bracket is bolted to the head unit. We use a stainless AN line and it is very tight in this area. The line must be oriented as shown in the picture below to clear the billet tensioner. Double check that the line has adequate clearance after the blower is installed. You'll see that it goes behind the steering rack and down to the oil pan fitting. **It is VERY IMPORTANT that the hose slopes down all the way to the fitting. It cannot slope down and then back up, forming a sort of "belly" in the line. This can impede the oil flow and cause it to back up in the blower housing.**



OIL-FED BLOWER DRAIN LINE ATTACHED

We supply you with a Rota Broach to cut a clean hole in the oil pan. After cutting, use a 3/8" NPT tap to cut threads in the pan. Put grease on the flutes, turn the tap about 1 turn, clean the

tap, add more grease and repeat. Make sure the AN fitting can go in about 3 or 4 turns for a good seal. Clean the threads with a solvent, add a dab of silicone to the fitting threads and install it in the pan. The following picture shows the proper location for a wet sump pan.



WET SUMP OIL PAN FITTING

Dry sump pans will be drilled on the driver side of the pan as shown in the following picture.



DRY SUMP OIL PAN FITTING

