



## M-6066-A50/A51/A52 1986-1993 Mustang Supercharger INSTALLATION INSTRUCTIONS

NO PART OF THIS DOCUMENT MAY BE REPRODUCED WITHOUT PRIOR AGREEMENT AND WRITTEN PERMISSION OF FORD RACING PERFORMANCE PARTS.

Please visit [www.fordracingparts.com](http://www.fordracingparts.com) for the most current instruction information

**!!! PLEASE READ ALL OF THE FOLLOWING INSTRUCTIONS CAREFULLY PRIOR TO INSTALLATION.  
AT ANY TIME YOU DO NOT UNDERSTAND THE INSTRUCTIONS, PLEASE CALL THE FORD RACING  
TECHLINE AT 1-800-367-3788 !!!**

### **INTRODUCTION:**

Ford Racing engineers developed this supercharger kit for 5.0L Mustangs. The Ford Racing supercharger is a sealed, oil free, cooler running, and quieter unit than other superchargers on the market. This kit does not require engine oil to be plumbed to the blower. The Ford Racing 6 lb. supercharger also meets the 50-states legal requirements (E.O. #D-334).

### **OVERVIEW:**

This kit will fit 5.0L Mustangs with A/C and any type of transmission. The Supercharger will require premium unleaded fuel be used at all times. The installation of this kit is not difficult, and can be easily installed if the installation instructions are carefully followed. It is recommended that the entire instructions be read completely prior to attempting the installation.

**Note: Mustangs not equipped with a mass air flow meter must be converted to mass air flow with Ford Racing Kit M-9000-A5 or M-9000-B50**

### **FUEL PUMPS:**

Ford Racing engineers recommend the fuel pump be upgraded to part number M-9407-C50 (190 liters per hour) to assure adequate fuel supply for supercharger use.

### **IGNITION TIMING:**

Supercharged EFI engines require premium unleaded fuel and careful attention to setting the ignition timing.  
**The recommended timing is 6° BTDC.**

**!!! CAUTION: TIMING MAY BE GRADUALLY ADVANCED IF NO DETONATION IS DETECTED. HOWEVER,  
UNDER NO CONDITIONS SHOULD DETONATION BE ALLOWED TO OCCUR OR THE ENGINE MAY BE  
SEVERELY DAMAGED !!!**

Factory Ford shop manuals are available from Helm Publications, 1-800-782-4356



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### **PARTS IN KIT:**

Installation instructions	Crankshaft pulley Assy.
Air inlet tube Assy.	Crankshaft pulley mounting kit
Air discharge tube Assy.	Alternator to smog pump bracket
Supercharger w/ pulley	Aluminum cast mounting bracket
Supercharger belt	Aluminum mounting plate
Supercharger belt tensioner	Mounting kit (nuts, bolts, ties, etc.)
Fuel regulator Assy.	Plastic air cleaner box
Fuel regulator vacuum hose & ties	Air cleaner element
Radiator hose kit	Air cleaner element attaching kit
Crankcase vent hose	

Pictures of the parts required will be shown with the appropriate installation step.

### **TOOLS REQUIRED:**

Assorted wrenches/sockets	1/8" & 5/16" Drill bits & drill
Pliers	Blue Loctite®
Razor knife or hacksaw	Long pry bar
Assorted allen wrenches	Ford fuel line tool
Assorted screw drivers	Straight edge

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### **BOLT TORQUES:**

When installing items in this kit, the tabled torques should be used. Bolts requiring Loctite® should use lubricated torques for installation.

#### **TIGHTENING DRY**

	GRADE 5	GRADE 6,7	GRADE 8
3/8" - 16	30 ft./lbs.	40 ft./lbs.	45 ft./lbs.
7/16" - 14	50 ft./lbs.	60 ft./lbs.	70 ft./lbs.

#### **TIGHTENING LUBRICATED**

	GRADE 5	GRADE 6,7	GRADE 8
3/8" - 16	23 ft./lbs.	30 ft./lbs.	35 ft./lbs.
7/16" - 14	35 ft./lbs.	45 ft./lbs.	55 ft./lbs.

### **INSTALLATION:**

- STEP 1:** Disconnect the Negative and Positive Battery Cables. Remove battery hold down and remove the battery from the vehicle.
- STEP 2:** Remove the gas cap slowly to release fuel pressure in the fuel system.
- STEP 3:** Loosen and remove the upper air intake tube from between the throttle body and the air meter.
- STEP 4:** Disconnect the mass air meter harness connector from the mass air meter. Loosen and remove the mass air meter, "hump" hose, air cleaner and air cleaner housing.
- STEP 5:** Drain the radiator. While the radiator is draining, remove the fan and fan shroud attachments. Leave coolant overflow bottle attached to the shroud, but remove the bottle cap and sensor and lay on fender as an assembly. Remove fan and shroud at the same time. Removal of the radiator is not necessary to perform the installation, but will provide additional room for working on the accessory drive revisions.

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- STEP 6:** Remove the serpentine drive belt by rotating the tensioner to release belt tension. Loosen and remove the belt tensioner.
- STEP 7:** Disconnect the electrical connections on the alternator. Remove alternator.
- STEP 8:** Remove the smog pump hoses. Remove the smog pump.
- STEP 9:** Remove the brace extending from the smog pump to the front of the engine.
- STEP 10:** Remove the cast aluminum smog pump mounting bracket.
- STEP 11:** Remove the production crankshaft pulley and clean the mounting surfaces of the pulley.
- STEP 12:** Locate parts in the kit to reinstall the crankshaft and supercharger pulleys.



- STEP 13:** Reinstall the crankshaft pulley with the supplied spacer and supercharger drive pulley. **See Figure 1.** Secure with four 3/8"-16 x 2.75" hex head bolts supplied in the kit. **Check to ensure that the spacer and pulleys are properly seated on the pilot to avoid excessive runout.** Torque the bolts to 45 ft./lbs., using a crisscross pattern.

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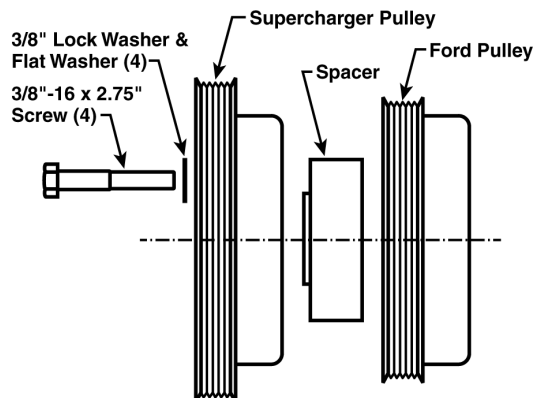


FIGURE 1. CRANK PULLEY SPACER

**STEP 14:** Loosen and remove A/C relay from the original position on the RH inner fender skirt. Relocate the relay 7" lower on the fender skirt using the relay as a pattern to mark the mounting holes.

**Note:** Turn steering to a full right turn to ensure the front tire is away from the drilling location

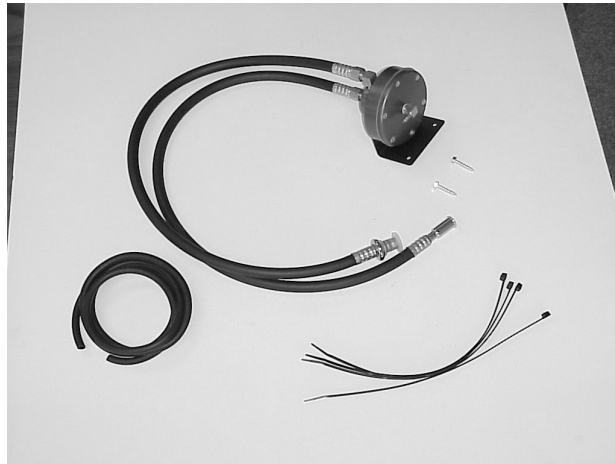
**STEP 15:** Drill a 1/8" diameter hole for the mounting screw and a 5/16" hole for the mounting tab. Mount the relay in the new location as shown below.



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**STEP 16:** Parts needed for the Ford Racing Fuel management unit installation are shown below. It will be located in the old A/C relay mounting area.



**STEP 17:** Using the pressure regulator as a guide, mark the mounting holes and drill using a 1/8" drill bit. Mount the regulator as shown below using two (2) #10 hex head sheet metal screws.

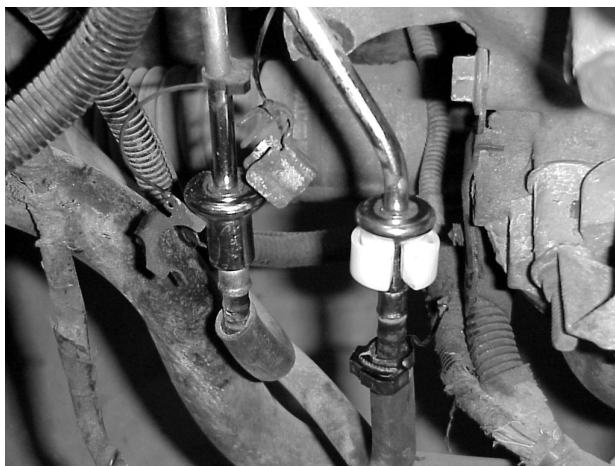


**!!! CAUTION: FUEL MANAGEMENT UNIT IS CALIBRATED FOR 19 LB. FUEL INJECTORS. IF YOU ARE USING A DIFFERENT SIZE INJECTOR, CALL THE FORD RACING TECH LINE (800) 367-3788 !!!**

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- STEP 18:** Disconnect the **fuel return line** at the rubber hose connection on the lower right front side of the engine using the special Ford Fuel Line Tool.



- STEP 19:** Connect the new supplied fuel hose with the male Ford fitting to the female end of the disconnect line. Connect the fuel hose with the female Ford fitting to the disconnected fuel line with the male fitting. The fuel hose connected to the upper fitting of the disconnected fuel line (on the line from the factory pressure regulator) goes to the fitting on the side of the auxiliary fuel pressure regulator. **See Figure 2.**

**!!! THE AUXILIARY FUEL PRESSURE REGULATOR MUST BE CONNECTED CORRECTLY OR THE SUPERCHARGER WILL NOT WORK CORRECTLY AND MAY CAUSE DAMAGE TO THE ENGINE !!!**

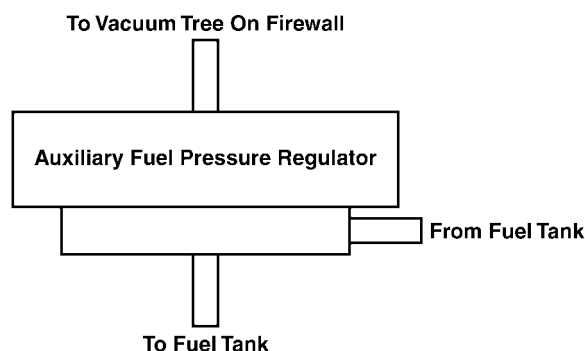


FIGURE 2. FUEL PRESSURE REGULATOR CONNECTION

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- STEP 20:** Connect the other end of the fuel hoses to the bottom of the auxiliary fuel pressure regulator as shown. Retain the fuel lines securely, away from the exhaust header with the supplied tie-wraps.
- STEP 21:** Install 5/32" diameter vacuum hose to the small barb fitting on the top of the auxiliary fuel pressure regulator. Install the other end of the vacuum line to the unused port on the vacuum tree, located on the driver's side of the firewall. Retain the vacuum line securely, away from the exhaust header with the supplied tie-wraps.
- STEP 22:** The parts needed to rework the upper radiator hose are shown below. Note that the radiator hose ends have been reworked.



- STEP 23:** Loosen and remove the upper radiator hose. Measure and remove the required amount off both ends of the radiator hose. **See Figure 3.** Insert the stainless steel tube (supplied) into the modified hoses and clamp hose ends with the supplied clamps.

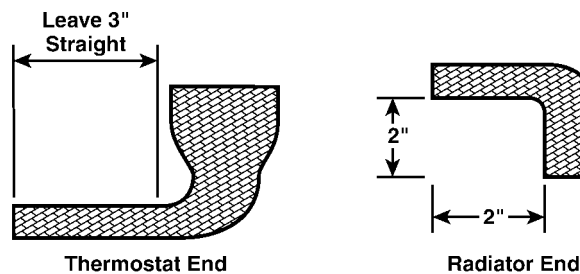


FIGURE 3. RADIATOR HOSE

- STEP 24:** Loosen and remove the short hose from the air control valve and install this short hose on the diverter valve (closest to the firewall) and clamp in place. Connect the air control valve to the end of the short hose.

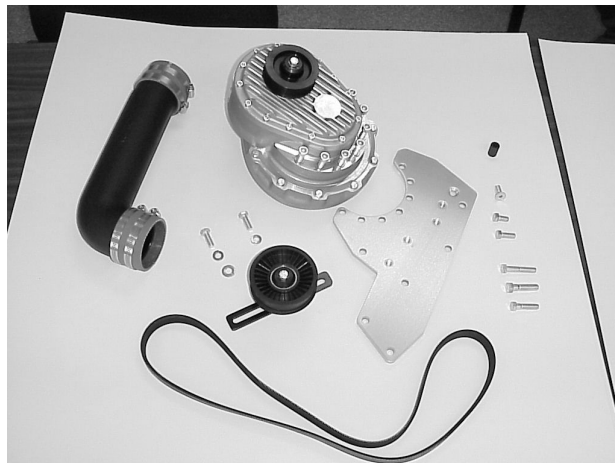
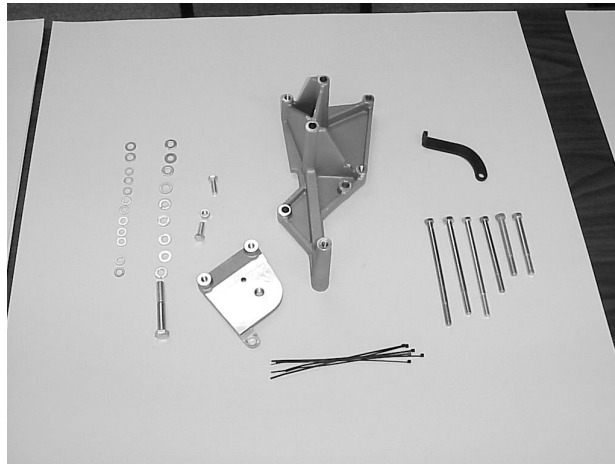


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**STEP 25:** Remove 1-1/2" off of the longer straight portion of the bent hose, and install this hose to the air control valve. The other end will be connected to the smog pump.

**STEP 26:** The following parts will be required to mount the supercharger and front engine dress.



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**STEP 27:** Install the steel supercharger mounting plate to the main cast aluminum mounting bracket. Install one (1) 3/8"-16 x 1" flat head screw (A) through the mounting plate and into the cast aluminum bracket. **See Figure 4.**

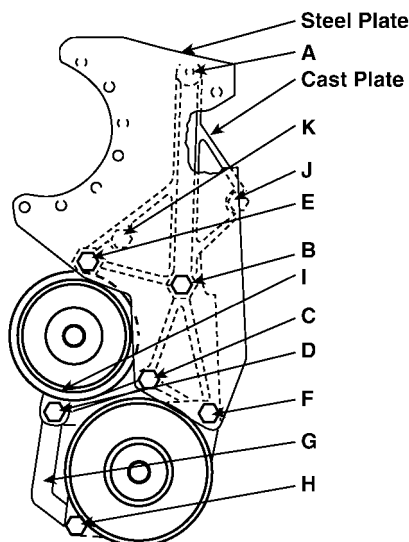
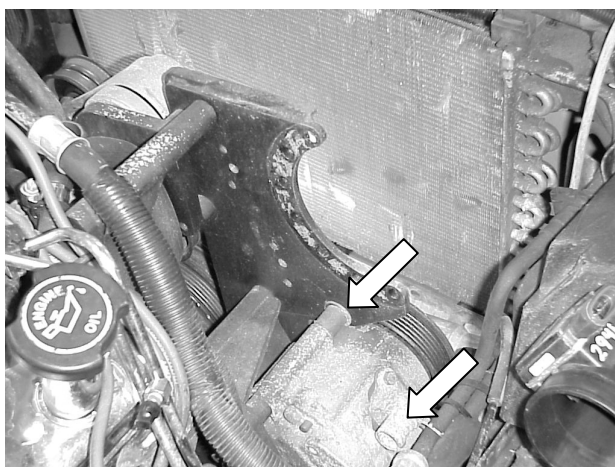


FIGURE 4. MOUNTING PLATE

**STEP 28:** Place the 3/8"-16 x 6-1/2" (B) and the 3/8"-16 x 7" (C) hex head screws through the steel plate and the cast bracket as locators. Install the steel plate on the cast bracket. **Tighten only the flat head screw finger tight.**

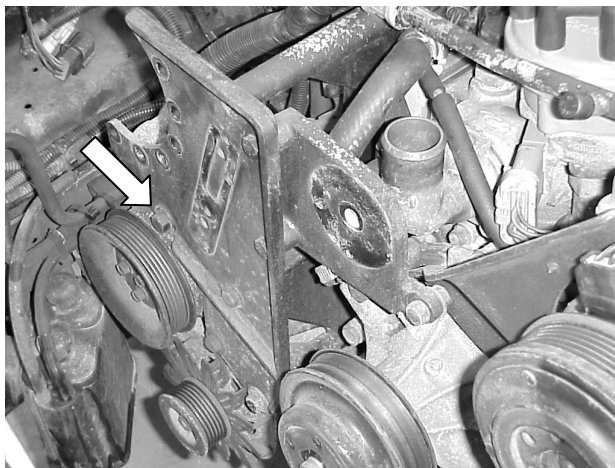
**STEP 29:** Install the smog pump between the steel mounting plate and the cast bracket. The hose fitting on the pump must be pointing toward the top of the car and facing toward the rear of the car as shown below. **Use blue Loctite® or equivalent on all bolt threads prior to installation.**



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- STEP 30:** Install 3/8"-16 x 2" hex head bolt (D) (**Figure 4**) from the rear of the cast bracket into the smog pump. Install a 3/8"-16 x 5" hex head bolt (E) through the steel plate, through the .92" spacer tube, the smog pump, and screw it into the cast bracket.

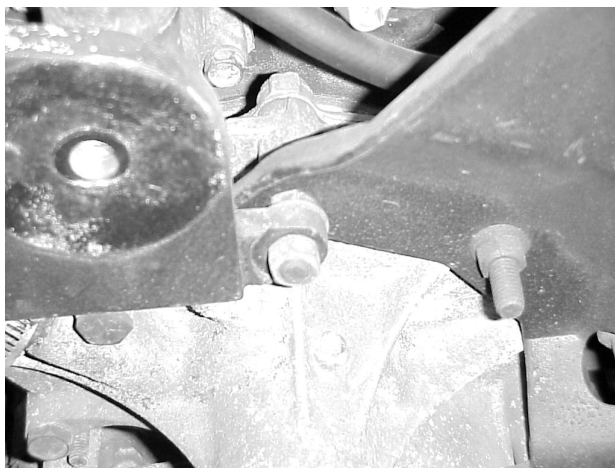


- STEP 31:** If the alternator mounting hole is 3/8" diameter, leave the reducer bushing in the bottom hole of the steel supercharger mounting plate. If the alternator hole is 7/16" diameter, remove the reducer bushing.
- STEP 32:** Mount the alternator between the steel mounting plate and the cast bracket. Install the correct size bolt, and **finger-tighten**.
- STEP 33:** Install the alternator stay (G) (**Figure 4**) between the smog pump and the alternator. Use 3/8"-16 x 1" (H) and 3/8"-16 x 3/4" (I) bolts and AN washers to retain the stay.
- STEP 34:** Tighten all of the bolts securing the steel plate to the cast bracket. Install the two long bolts (C ) and (D), with an AN washer on each bolt, through the plate and the bracket. Locate the bracket/plate assembly on the front of the engine and **finger-tighten** the two long bolts.
- STEP 35:** Install one (1) AN washer and a 3/8"-16 x 1-1/2" hex head bolt (J) and a 7/16"-14 x 1-3/4" hex head bolt (K) through the cast bracket into the cylinder block. **Blue Loctite® the bolt threads before installation.**
- STEP 36:** Carefully route the wires to the back of the alternator. Re-connect the wires to their appropriate location.
- STEP 37:** Connect the hose from the air control valve to the smog pump.

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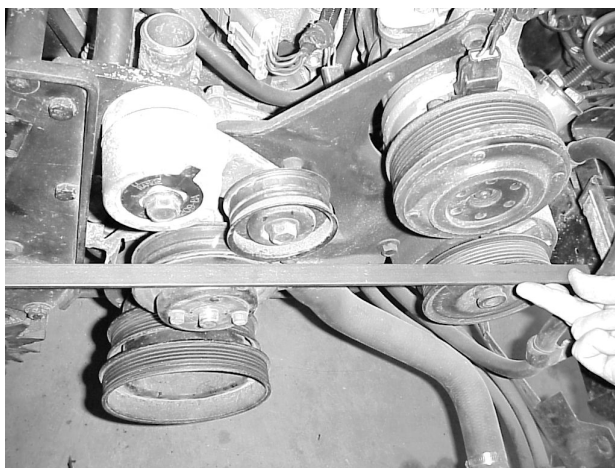
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- STEP 38:** Loosen and remove the factory cone nut from the long stud on the front of the water pump at the A/C compressor bracket. Replace with a 3/8"-16 hex nut. Install the cast aluminum idler mounting plate to the steel supercharger mounting plate using (2) two 3/8"-16 x 1" hex head bolts and washers. The ear on the casting goes over the long stud on the water pump.



- STEP 39:** Install the accessory idler to the cast bracket using the 1/2"-13 x 3-1/4" grade 8 hex head bolt(s). **Loctite® the threads before installation.**

- STEP 40:** Install water pump pulley with 2 bolts and check the alignment of the accessory idler with the other pulleys, using a long metal straight edge. **The pulleys must line up with each other.** Use 3/8" flat washers as shims under the two idler mounting plate bolts and the water pump stud.



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**STEP 41:** Loosen water pump pulley bolts leaving one loosely installed and install the accessory drive belt. If the pulleys are aligned, tighten the two bolts and install the factory cone nut on the stud (water pump).

**STEP 42:** The following parts will be needed to install the air cleaner and inlet hose.



**STEP 43:** Install the mass air flow sensor inside of the molded plastic air cleaner cover and install the air cleaner. Carefully tighten the hose clamp that secures the air cleaner to the mass air meter and both parts to the plastic cover.

**STEP 44:** Install the air cleaner/meter against the inner fender well behind the right (passenger side) headlight. The air cleaner cover must be as far forward as possible against the radiator.

**STEP 45:** Use the cover as a guide and drill two 1/8" diameter holes for the mounting screws. Install (2) two #10 x 1" sheet metal screws to retain the air cleaner and mass air flow meter assembly in place.

**STEP 46:** Reconnect the harness connector to the mass air flow meter. Rotate the air meter until the connector/sensor is facing away from the supercharger.

**STEP 47:** Carefully install the supercharger to the mounting plate. Retain the supercharger with 3/8"-16 x 3/4" socket head screws. Check pulley alignment with metal straight edge and adjust using washers. **Loctite® the bolt threads before installation.**

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- STEP 48:** Install the supercharger drive belt over the crank pulley and the supercharger pulley. Mount the supercharger idler pulley to the steel mounting plate with (2) two 3/8"-16 x 1" hex head bolts and AN washers. Mount the idler in the set of tapped mounting holes closer to the centerline of the engine. **Loctite® the bolt threads before installation.**

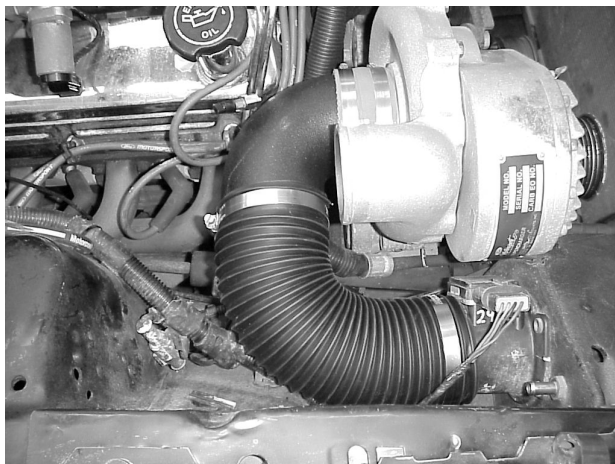


- STEP 49:** Use a large pry bar to adjust the idler pulley to supercharger belt tension. **There should be no more than 1" of flex on the lower side of the belt.** Tighten the idler bolts.
- STEP 50:** Install the 3" diameter x 1" long silicone hose over the exposed end of the mass air flow meter. Install the end of the flex hose over the spacer and secure with hose clamp. **Do NOT over-tighten the hose clamp.**

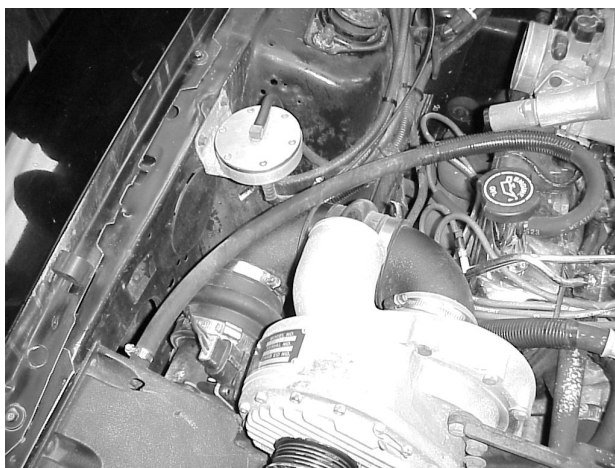
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- STEP 51:** Install the 90° plastic elbow on the supercharger inlet with a 3-1/2" diameter hose and hose clamp. Connect the other end of the flex hose to the 90° elbow with a hose clamp. **Do NOT over-tighten the hose clamps.**



- STEP 52:** Install the 3/8" vacuum hose from the oil fill neck to the 3/8" barb fitting on the air cleaner cover. Retain the vent line to the A/C line with tie-wraps.



- STEP 53:** Install a 3/8" cap over the throttle body fitting, where the vent hose originally attached. Install a rubber sleeve over both ends of the plastic air discharge tube. Install the plastic air discharge tube to the supercharger outlet and the throttle body. Retain the tube sleeves with hose clamps. **Do NOT over-tighten the hose clamps.**

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**STEP 54:** Reinstall the fan and fan shroud. Install the radiator and lower radiator hose, if removed. Remount coolant overflow bottle.

**STEP 55:** Reinstall the upper radiator hose (as reworked) and refill the radiator. Check for coolant leaks.



**STEP 56:** With the key in the “OFF” position, install the battery, hold down, positive and negative battery cables. Cycle the ignition key between the “on” and “off” position, checking for fuel leaks.

**STEP 57:** Start engine and run at idle for five (5) minutes. Check continuously for fuel and coolant leakage. Turn off the engine and correct any leak conditions. Also check coolant level and refill if necessary.

**STEP 58:** Drive car easily for 20-30 miles to break-in the supercharger.