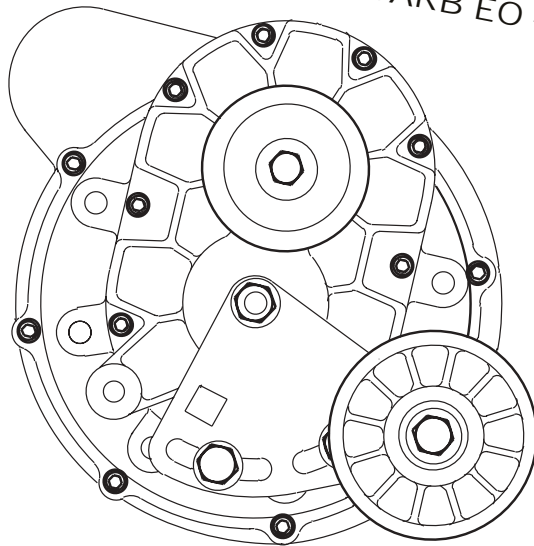


GM 5.0 and 5.7 T.P.I. F-Body Supercharger System Installation Instructions

1988-1992 Model Years
50 State Smog Legal per CARB EO #D-213-17



ENGINEERING, LLC

1650 PACIFIC AVENUE • CHANNEL ISLANDS, CA 93033-9901 • (805) 247-0226
FAX (805) 247-0669 • www.vortechsuperchargers.com • M-F 8:00 AM - 4:30 PM PST

FOREWORD

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 call Vortech Engineering for installers in your area.

© 2001 VORTECH ENGINEERING, LLC

All rights reserved. No part of this publication may be reproduced, transmitted, transcribed, or translated into another language in any form, by any means without written permission of Vortech Engineering, LLC.

Table Of Contents

FOREWORD	ii
TABLE OF CONTENTS	iii
NOTICE	iv
TOOL & SUPPLY REQUIREMENTS.....	v
MSD IGNITION SYSTEM.....	vi
PARTS LIST 1988-1992 5.0/5.7 F-BODY	vii
PONTIAC SUPPLEMENTAL INSTRUCTIONS	ix
1. COMPONENT REMOVAL	1
2. CRANKSHAFT PULLEY INSTALLATION	1
3. OIL DRAIN LINE	2
4. OIL FEED LINE	3
5. AUXILLIARY PUMP.....	4
6. FUEL MANAGEMENT UNIT INSTALLATION	5
7. MAIN BRACKET AND POWER STEERING PUMP	6
8. SUPERCHARGER MOUNTING.....	7
9. CANISTER RELOCATION	8
10. ALTERNATOR WIRE EXTENSION	8
11. AIR FILTER, INLET DUCT AND DISCHARGE PLENUM.....	9
12. WINDSHIELD WASHER RESERVOIR	10
13. IGNITION/BOOST CONTROL INSTALLATION.....	10
14. IGNITION/BOOST CONTROL UNIT OPERATION	11
15. FINAL ASSEMBLY AND CHECK OVER	12

NOTICE

This product is protected by state common law, copyright and/or patent. All legal rights therein are reserved. The design, layout, dimensions, geometry, and engineering features shown in this product are the exclusive property of Vortech Engineering, LLC. This product may not be copied or duplicated in whole or part, abstractly or fundamentally, intentionally or fortuitously, nor shall any design, dimension, or other information be incorporated into any product or apparatus without prior written consent of Vortech Engineering, LLC.

1988 - 1992
GM 5.0 AND 5.7 F-BODY
Installation Instructions

50 State Smog Legal, as per CARB EO #D-213-17

Congratulations on selecting the best performing and best backed automotive supercharger available today... the VORTECH® V-2® supercharger!

Before beginning this installation, please read through this entire instruction booklet and the Street Supercharger System Owner's Manual which includes the Limited Warranty Program and the Warranty Registration form and return envelope.

Vortech supercharger systems are performance improving devices. In most cases, increases in torque between 30-35% and horsepower between 35-45% can be expected with the boost levels specified by Vortech Engineering. This product is intended for use on healthy, well maintained engines. Installation on a worn-out or damaged engine is not recommended and may result in failure of the engine as well as the supercharger. **Vortech Engineering is not responsible for engine damage.**

Installation on new vehicles will not harm or adversely affect the break-in period so long as factory break-in procedures are followed.

For best performance and continued durability, please take note of the following key points:

1. Use only premium grade fuel 92 octane or higher (R+M/2).
2. The engine must have stock compression ratio.
3. If the engine has been modified in any way, check with Vortech prior to using this product.
4. Always listen for any sign of detonation (pinging) and discontinue hard use (no boost) until problem is resolved.
5. Perform an oil and filter change upon completion of this installation and prior to test driving your vehicle. Thereafter, always use a high grade SF rated engine oil or a high quality synthetic, and change the oil and filter at least every 3,000 miles. **Never attempt to extend the oil change interval beyond 3,000 miles, regardless of oil manufacturer's claims as potential damage to the supercharger may result.**
6. Before beginning installation, replace all spark plugs that are older than 1 year or 10,000 miles with original heat range plugs as specified by the manufacturer and reset timing to factory specifications (follow the procedures indicated within the factory repair manual and/or as indicated on the factory underhood emissions tag). **Do not use platinum spark plugs unless they are original equipment.** Change spark plugs at least every 15,000 miles and spark plug wires every 50,000 miles.

TOOL & SUPPLY REQUIREMENTS

- Factory Repair Manual
- 3/8" socket and drive set: SAE & metric
- 1/2" breaker bar and 4" extension
- Flat #2 screwdriver
- Phillips #2 screwdriver
- Large screwdriver or pry bar
- Adjustable wrench
- Open end wrenches:
3/8", 7/16", 9/16", 5/8", 3/4", 7/8" and
a "Slimline" 19mm-Snap-On #LTAM1719
- 7/32" allen wrench
- Power steering pump pulley puller and installer
- Snap-On puller #CJ117B2 and installer #CJ113B
- Timing light
- Drill motor
- 21/64", 3/32" drill bits
- 3/8" NPT tap & handle
- Center punch
- 3/4" drift punch
- Silicone sealer
- Heavy grease
- Oil filter wrench
- Oil filter
- SF rated quality (or synthetic) engine oil

Note: *If your vehicle has in excess of 10,000 miles since its last spark plug change, then you will need:*

- Spark plug socket
- 8 new OE heat range spark plugs

SPECIAL NOTICE CONCERNING THE

MSD IGNITION SYSTEM

The MSD Boost Timing Master, manufactured by Autotronic Controls Corporation, included in this kit is serviced exclusively by the manufacturer. Autotronic Controls Corporation warrants this product to be free from defects in material and workmanship under normal use and if properly installed for a period of one year from the date of purchase. In case of malfunction, this unit will be repaired free of charge according to the terms of the warranty. If found to be defective as mentioned above, it will be repaired or replaced if returned prepaid along with proof of date of purchase. This shall constitute the sole remedy of the purchaser and the sole liability of Autotronic Controls Corporation and/or Vortech Engineering, Inc. To the extent permitted by law, the foregoing is exclusive and in lieu of all other warranties or representations whether expressed or implied, including any implied warranty of merchantability or fitness. In no event shall Autotronic Controls Corporation and/or Vortech Engineering, Inc. be liable for labor charges, special or consequential damages.

When returning this unit for service, proof of purchase must be supplied for warranty verification. After the warranty period has expired, repair service is charged between a minimum and maximum charge. In either case, please send the unit pre-paid with proof of purchase to the attention of:

**Autotronic Controls Corporation
Customer Service Department
12120 Esther Lama
Suite #114
El Paso, Texas, 79936
Phone: (915) 855-7123
Fax: (915) 857-3344
www.msdition.com**

The repaired unit will be returned as soon as possible after receipt, COD for any charges. Be sure you include a detailed account of any problems experienced, the type of vehicle and any modifications.

Should you have any technical or installation questions regarding this unit, contact Vortech Engineering, Inc. directly at (805) 247-0226, M-F 8:00AM-4:30PM (PST).



1988-1992 5.0 and 5.7 F-Body

Part No. 4GF218-060SQ

PARTS LIST

IMPORTANT: Before beginning installation, verify that all parts are included in the kit. Report any shortages or damaged parts immediately.

Part Number	Description	Quantity	Part Number	Description	Quantity
2E228-060	V-2 SU GER ASSEMBLY	1	4GF130-036	OIL DRAIN ASSEMBLY	1
4GF111-021	MOUNTING BRACKET ASSEMBLY	1	7U030-036	1/2" x 30" oil drain hose	1
4GF011-021	Mounting bracket	1	7R001-008	#8 stainless hose clamps	2
4GF111-021	Mounting plate	1	7P375-017	3/8" NPT x 1/2" straight hose barb	1
4GF017-041	.875 x 4.305 spacer C	1	7P375-033	3/8" NPT x 3/8" NPT street elbow	1
4GF017-051	.875 x 2.305 spacer D	1			
4GF017-011	Idler spacer	1	4GF155-010	WASHER RESERVOIR ASSEMBLY	1
7A375-525	3/8-16 x 5- 1/4" bolts	2	4GF055-010	Washer reservoir	1
7A375-300	3/8-16 x 3" bolt	1	7U030-046	5/32" x 32" vacuum line	1
7A375-100	3/8-16 x 1" bolts	7	7U100-055	6" nylon tie wraps	4
7C010-030	M10-1.5 x 30mm bolt	1	7R003-020	1-1/4" adel clamp	1
7K375-040	3/8" AN960 flat washers	10	7E010-050	#12 x 1/2" sheet metal screw	1
7J375-044	3/8" SAE washers	5			
7L375-075	3/8" lock washer	1	4FA111-032	BELT TENSIONER ASSEMBLY	1
7A375-550	3/8-16 x 5-1/2" bolts	2	7J012-092	12mm flat washers	3
7A375-17A	3/8-16 X 1-3/4" flat allen bolt	1	4FA011-032	Belt tensioner	1
4GF016-160	Idler ribbed pulley	1	7C012-050	12mm x 1.75 x 50mm bolt	1
7C012-050	12mm x 1.75 x 50mm bolt	1	4FA016-150	Smooth pulley tensioner	1
7G010-175	12mm x 1.75 nut	1	2A017-010	Idler pulley spacer	1
			7C012-020	12mm x 1.75 x 20mm bolts	2
4GF112-010	AIR INTAKE ASSEMBLY	1	7C012-022	12mm x 1.75 x 22mm thin head bolt	1
4FA012-012	90° intake elbow	2	7G010-175	12mm x 1.75 nut	1
4GF012-022	Intake elbow	1			
7S350-300	3-1/2" x 3 sleeve	1	4GF101-002	FUEL PUMP ASSEMBLY	1
7S350-200	3-1/2" x 2" sleeve	1	8F001-002	155 inline fuel pump	1
7U035-000	3-1/2" x 14" flex hose	1	7R003-008	1/2" adel clamp	1
8H040-030	Air filter	1	7R003-024	1-1/2" adel clamp	1
7R001-008	#8 stainless hose clamps	4	7P375-050	3/8" hose mender	1
7U030-036	1/2" x 24" oil drain hose	1	7R001-004	#4 hose clamps	4
7P375-017	3/8" NPT x 1/2" straight hose barb	1	7U100-055	6" nylon tie wraps	6
7J250-150	1/4" fender washer	1	5W001-011	16-14GA eyelet	1
7A250-074	1/4-20 x 3/4" bolt	1	5W001-010	16-14GA female slides	3
7R002-056	#56 hose clamps	4	5W118-021	18GA 10" standard black wire	1
7R002-052	#52 hose clamps	4	5W118-034	18GA 156" standard red wire	1
7U375-052	3/8" vacuum cap	1	5W001-002	Fuse tap	1
7S300-100	3" x 1" sleeves	1	7E010-050	#12 x 1/2" sheet metal screws	2
5W001-007	3/16" x 8" shrink tube	1	7E010-046	#8 x 3/4" sheet metal screw	1
5W118-025	18GA 18" standard black wire	1	7U031-018	5/16 x 6" fuel hose	1
5W118-032	18GA 18" standard red wire	1			
5W118-075	18GA 18" standard orange wire	1	4GF160-015	EVAPORATOR CANNISTER KIT	1
5W118-085	18GA 18" standard green wire	1	7U030-016	1/4" x 15" fuel hose	1
7P500-001	PVC hose mender	1	7U030-046	5/32" x 24" vacuum line	1
			5W122-061	22GA 12" standard blue wire	1
4GF112-020	AIR DISCHARGE ASSEMBLY	1	5W122-251	22GA 12" standard white/black wire	1
4GF012-020	Discharge tube	1	5W001-037	3/16" x 3" shrink tube	1
7S275-200	2-3/4" x 2 sleeve	1	5W001-012	22GA red solderless connectors	4
7S400-200	4" x 2" sleeve	1			
7R002-044	#44 hose clamps	2	4GF150-012	ALTERNATOR WIRE KIT	1
7R002-064	#64 hose clamps	2	5W122-161	22GA 16" standard brown wire	1
			5W122-231	22GA 16" standard green wire	1
4GF116-010	CRANK PULLEY ASSEMBLY	1	5W001-067	3/16" x 6" shrink tube	1
4GF016-011	Crank pulley	1	5W001-012	22GA red solderless connectors	4
4GB017-041	Crank pulley spacer	1			
7B437-400	7/16-20 x 4" bolt	1	4GF238-068	FMU (with lines)	1
7J375-044	3/8" SAE washers	3	6Z110-114	8:1 black fuel management unit	1
7L375-075	3/8" lock washers	3	4GF145-156	12" fuel line assembly	1
2A046-988	Belt	1	4GF146-166	14" fuel line assembly	1
2A046-605	Belt	1	7U030-046	5/32" x 60" vacuum line	1
7B375-275	3/8-24 x 2-3/4" bolts	3	7E010-046	#8 x 3/4" sheet metal screws	2
			7U100-055	6" nylon tie wraps	2
4GF130-026	OIL FEED ASSEMBLY	1	7R001-004	#4 hose clamps	2
7U030-026	1/4" x 37" oil feed hose	1			
7P525-067	.500 crimp ferrules	2	5A001-001	STAND ALONE IGNITION RETARD	1
7P250-066	#4 swivel x 1/4" hose barb fitting	2			
7P250-036	#4 flare to 1/4" NPT	1			
7P250-122	1/4" AN917 pipe thread tee	1			
7P250-123	1/4" NPT x 1/2" nipple	1			
7P250-075	1/4" NPT 45° street elbow	1			
7P125-026	90° 1/8" NPT x #4 fitting	1			

PONTIAC
SUPPLEMENTAL INSTRUCTIONS

1. RELOCATE BATTERY

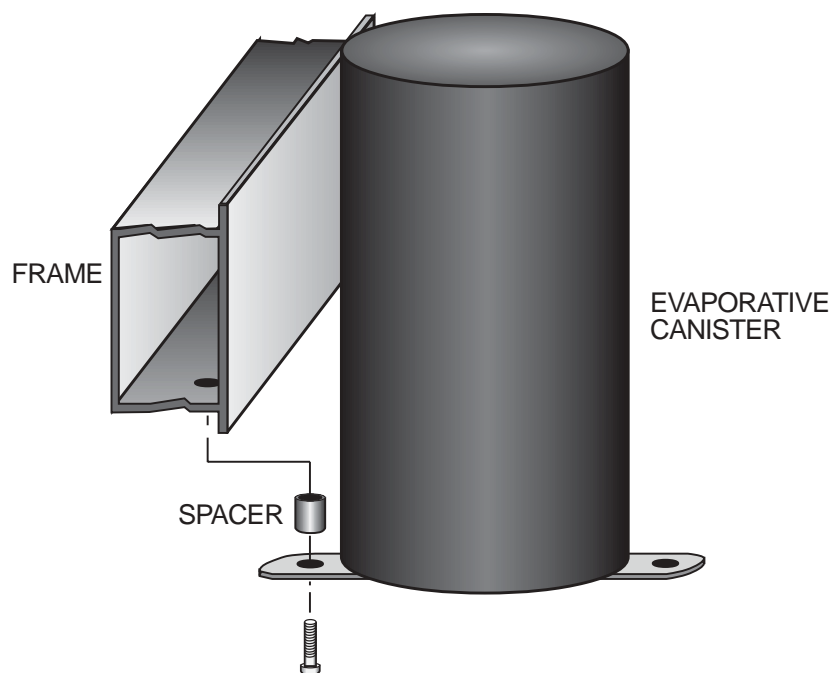
- A. Remove the evaporative canister from the right front inner fender. Set aside for now.
- B. Remove the battery from its stock location at left front inner fender. Relocate battery to the right inner fender utilizing the existing factory hardware to resecure it.
- C. Coil and secure the excess length of positive battery cable with wire ties provided.
- D. Clip and extend the 8 gauge alternator wire connector with wire provided.

2. MOUNT THE VORTECH SUPPLIED WASHER RESERVOIR

- A. Locate the new washer fluid reservoir inward of the battery on the right side of the engine bay.

3. RELOCATE THE EVAPORATIVE CANISTER

- A. The evaporative canister must be relocated to the right front behind the splash panel in front of the right wheel.
- B. For specific details locate item in section 9. (CANISTER RELOCATION) this instruction manual and follow the operations listed applying them to the right side of the vehicle.

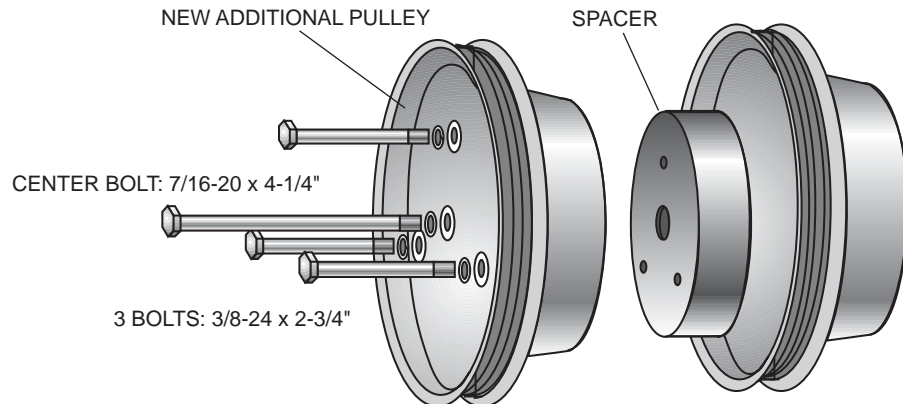


1. COMPONENT REMOVAL

- A. Disconnect the battery (negative lead).
- B. Remove and set aside the following components:
 - Air inlet bellows
 - Air filter cover assembly and elements and the panel below filter
 - Windshield washer reservoir
 - Accessory drive belt
 - Crankshaft pulley
 - Alternator (disconnect wiring)
 - Power steering pump pulley (use puller)
 - Power steering pump and bracket (DO NOT disconnect lines)
 - Power steering bracket

2. CRANKSHAFT PULLEY INSTALLATION

- A. Remove the crankshaft pulley from the engine if not already done.
- B. Place the Vortech provided crank pulley spacer and crank pulley inside the stock pulley.
- C. Line up bolt holes and, if necessary, press pieces together.
- D. Reinstall the pulleys as a unit onto the crankshaft balancer assembly using three 3/8-16 x 2 3/4" bolts and one 7/16-20 x 4" center bolt.

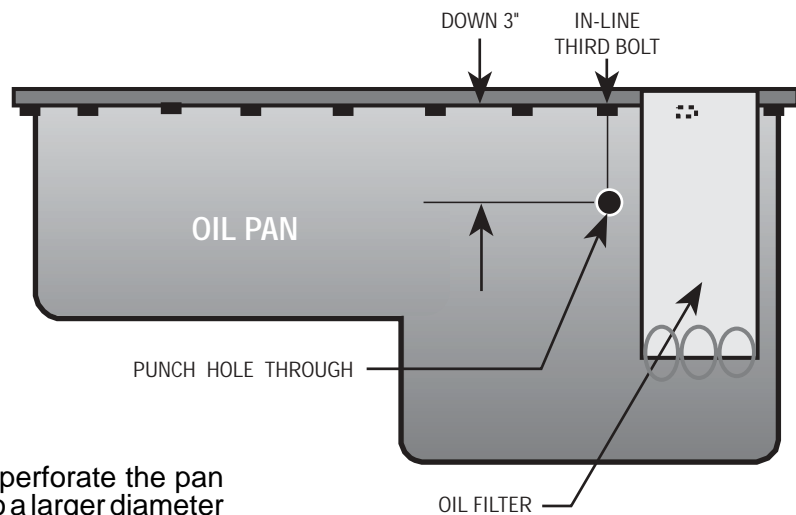


3. OIL DRAIN LINE

- A. Raise the front of the vehicle and support with appropriate jack stands.
- B. To provide an oil drain for the supercharger, it is necessary to make a hole in the oil pan. It is best to punch the hole rather than drill. Remove paint around the hole area so that it does not flake into the pan.
- C. Make a mark on the oil pan on the driver's side ahead of the oil filter. The mark should be 3" below the third bolt from the rear of the pan.
- D. Use a small center punch to perforate the pan and expand the hole. Switch to a larger diameter punch and expand the hole further to approximately 9/16" diameter. Most punches are made from hexagon material and may be placed in a socket with an extension to make this procedure easier.
- E. Tap the hole with a 3/8" NPT tap approximately 1/4" deep. Pack the flutes of the tap with heavy grease to catch and hold the chips. Once the tap is removed, it must be cleaned and repacked before tapping is resumed. Use a small magnet to check for any stray chips after tapping procedure.
- F. Thoroughly clean the threaded area with acetone or other solvent. Apply a small amount of silicone sealer to the new threads. Apply more sealer to the threads of the 3/8" NPT 90° fitting and secure it in the hole with the hose fitting pointing forward and slightly upward. Make

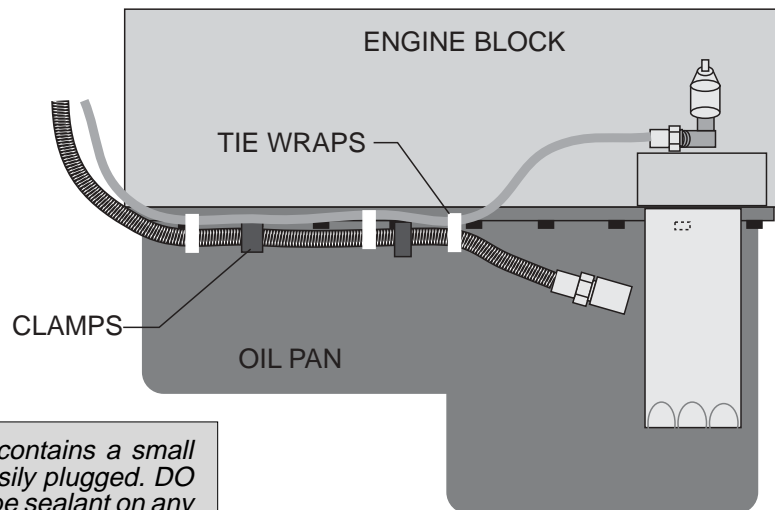
NOTE: *This method of rolling over the lip of the hole and tapping it works well if CAREFULLY done and should cause no problems.*

- G. Route the line forward along the top rail of the oil pan and secure to pan bolts with the clamps provided. Temporarily cover end of hose and secure out of the way.
- H. Drain and replace engine oil and change filter.



4. OIL FEED LINE

- A. The supercharger uses engine oil for lubrication and must have an oil feed line connected to a filtered oil access on the engine and an oil return or drain. The return is a gravity drain and should be routed so a gradual drop is provided and connected to the oil pan above oil level and away from suspension components or exhaust headers or pipes.

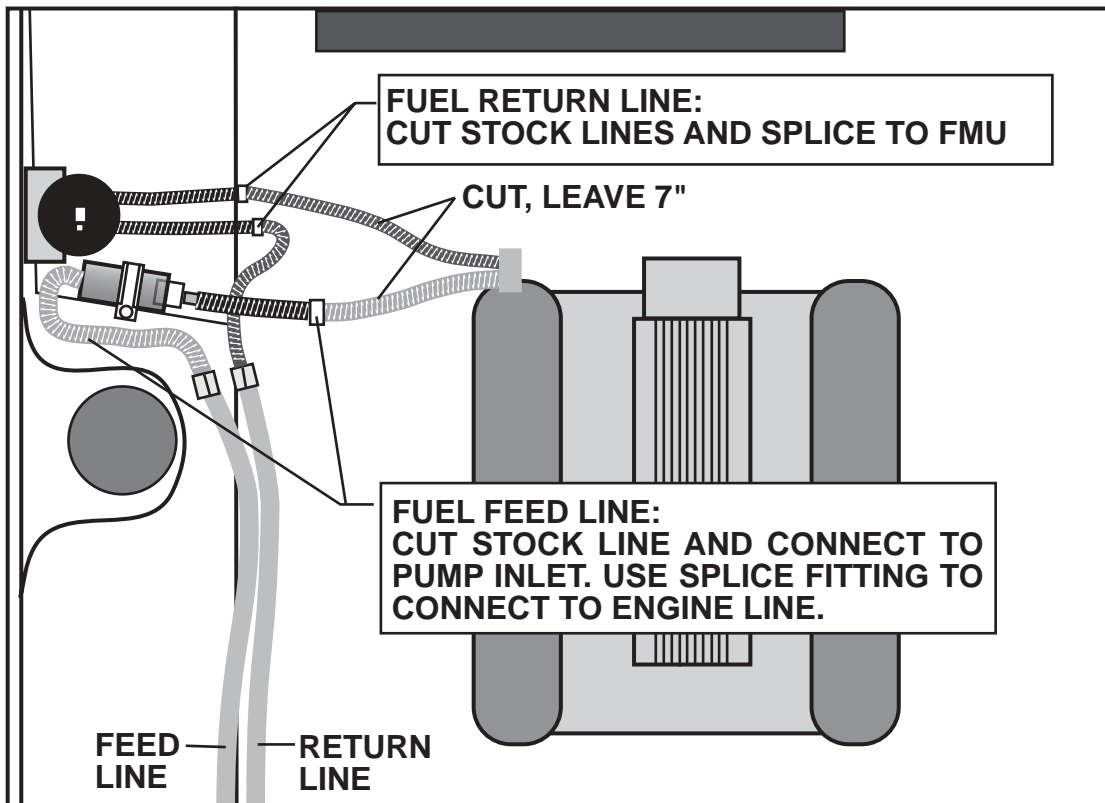


WARNING: *The oil system contains a small orifice that is easily plugged. DO NOT use any type sealant on any of the threads. Instead use clean engine oil. Disassemble and blow out entire line if you have any doubts.*

- B. Remove the oil pressure sending unit located on the engine block just above the oil filter. Fit the 1/4" NPT tee fitting with the 1/4" NPT to flare adapter fitting provided. Refit the sending unit into the 45° fitting on the end.
- C. Connect the 1/4" oil feed line to the 1/4" NPT to adapter fitting. Route the line forward along the top rail of the oil pan next to the drain line and then upward, towards the supercharger future location. Secure to the drain line with the tie wraps provided.
- D. Temporarily cover the end of the hose and protect it from dirt until connecting to the supercharger.

5. AUXILIARY FUEL PUMP

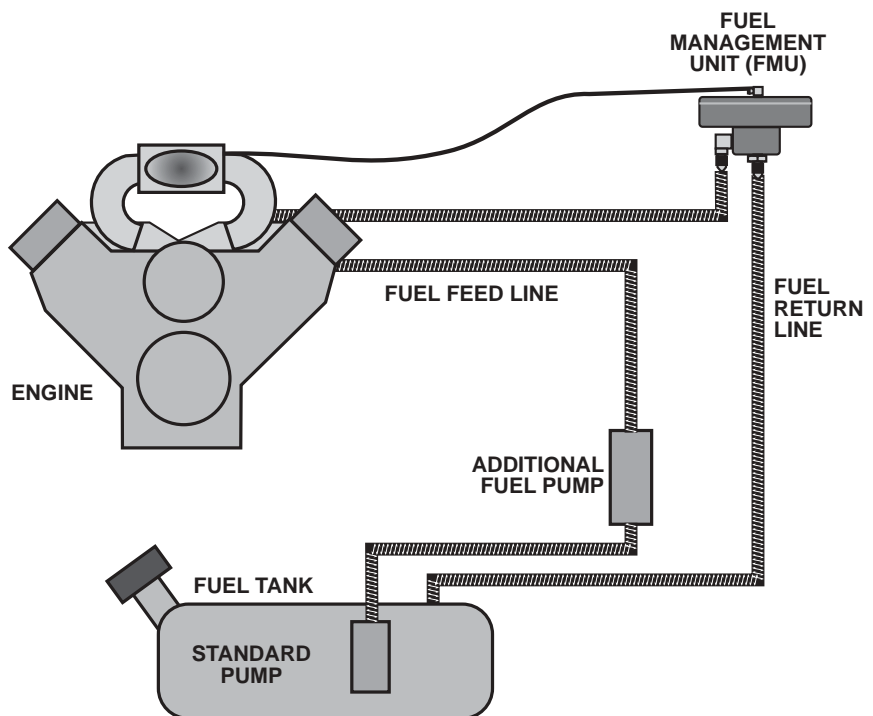
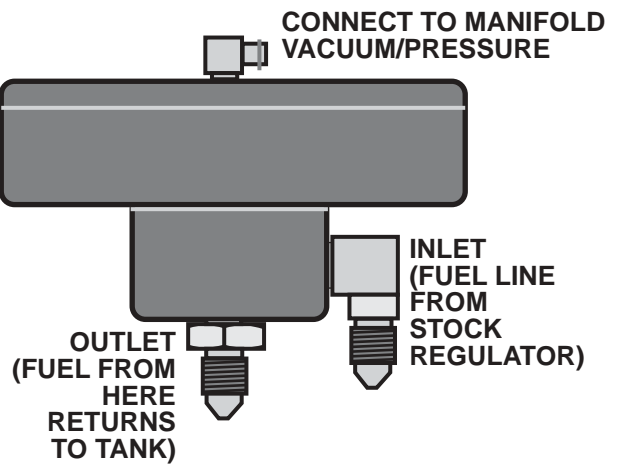
- A. Open the fuel fill cap briefly to vent any pressure. Find the stock 3/8" fuel feed line near the front of the engine's left valve cover.
- B. Cut the stock hose approximately 7" from the fitting nearer the engine and fit the new hose with the "splice fitting" into the engine end and secure with a clamp.
- C. Place the other end of the new hose on the pump outlet fitting (brass fitting) and secure with a clamp.
- D. Place the fuel pump inlet into the end of the remaining portion of hose (coming from the tank) and secure with the provided clamp.
- E. Mount the fuel pump to the flat surface ahead of the inner fender with the hold-down clamp provided as shown in the graphic.
- F. Connect the black wire to the fuel pump and then to a clean ground and secure.
- G. Connect the positive wire first to the pump and then to the +12V terminal at the fuse box using the adapter provided. It is important that the source is turned on with the key and remains on during cranking mode. A BLANK fuse will usually work for this purpose.
- H. Make sure the wires are carefully and properly secured.



6. FUEL MANAGEMENT UNIT INSTALLATION

- A. Mount the fuel management unit (FMU) to the inner fender on the driver's side. Placement should be on the vertical flat area near the top of the fender above and just rearward of the horn assemblies. Using the FMU mounting bracket as a template, mark and drill two 3/32" holes. Use the sheet metal screws in the kit to secure.
- B. It is necessary to plumb the FMU into the fuel return line. Start by cutting the fuel return line 7" from the end at the engine.
- C. Using the hose splice connect the 14" fuel line supplied to the 7" length of stock hose and connect to the FMU inlet.
- D. With the second hose splice connect the 12" fuel line provided to the other end of the cut fuel line. Connect the other end to the outlet fitting on the FMU.
- E. Connect the 5/32" vacuum line from the FMU to the intake manifold fitting and secure.

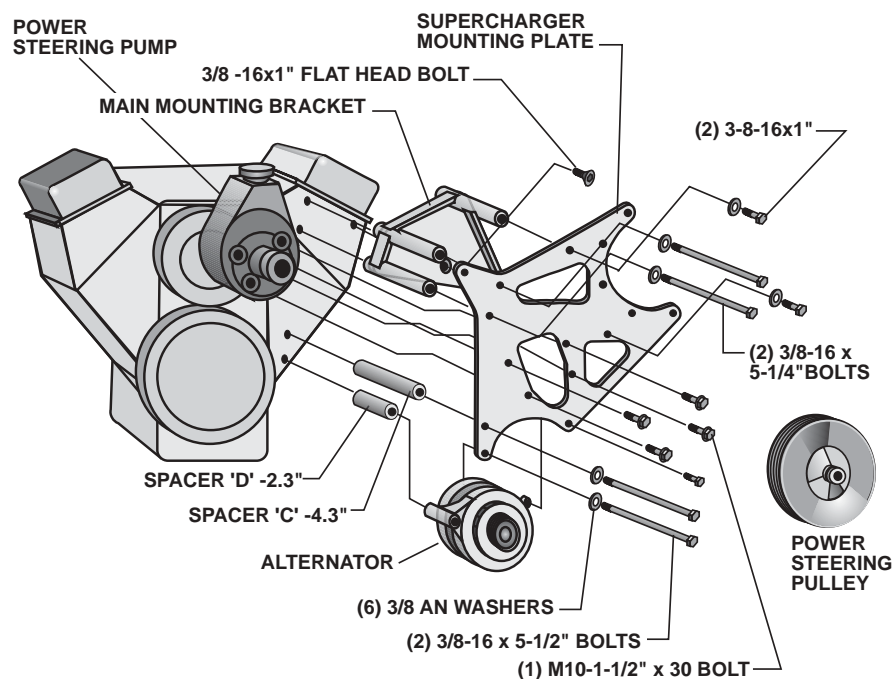
NOTE: Make sure you have routed all fuel lines away from all moving parts, sharp edges, exhaust pipes and manifold. Secure the fuel lines with the tie wraps.



7. MAIN BRACKET AND POWER STEERING PUMP

- A. Temporarily install the main bracket on the engine using two of the 3/8-16 x 5 1/2" bolts as pilots to position the bracket to the cylinder head. Remove the fuel line bracket and carefully bend the fuel lines as necessary to permit bracket installation.
- B. Install the flat head socket bolt in the chamfered hole and secure to 32 ft/lb torque.
- C. Using the three original fasteners and the one fastener provided in the kit, secure the power steering pump to the mounting plate.
- D. Loosely attach the supercharger mounting plate to the new main mounting bracket as shown. It will be necessary to carefully bend the power steering pump lines at both the pump and the steering box to achieve a proper fit so that no rubbing occurs when the engine moves.
- E. Install the alternator between the plate and 2.3" spacer tube as shown.
- F. Fasten the smaller alternator mounting lug to the supercharger mounting plate with the original fastener.
- G. Tighten all mounting fasteners.
- H. Reinstall the power steering pump pulley to the pump using an installation tool.

NOTE: The pulley must be placed on so that the end of the shaft is flush with the outer edge pulley boss to assure belt alignment.

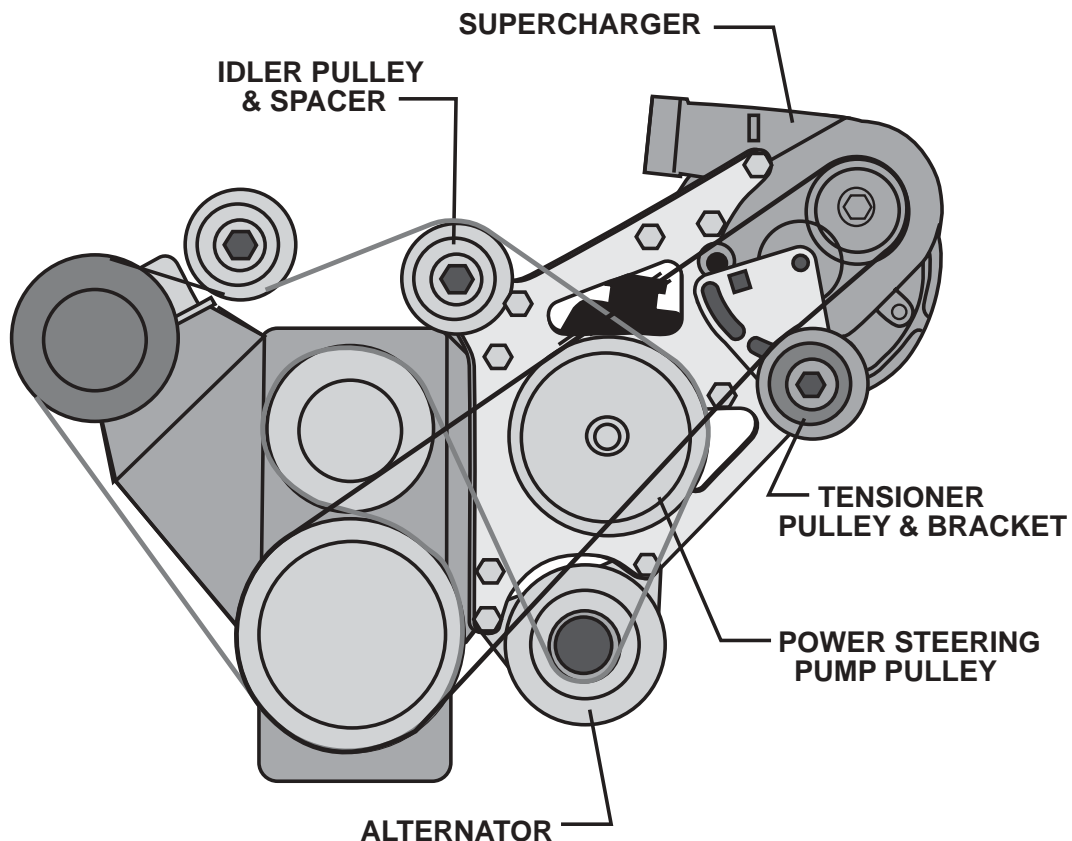


NOTE: BOLTS NOT SPECIFIED ARE ORIGINAL STOCK BOLTS

8. SUPERCHARGER MOUNTING

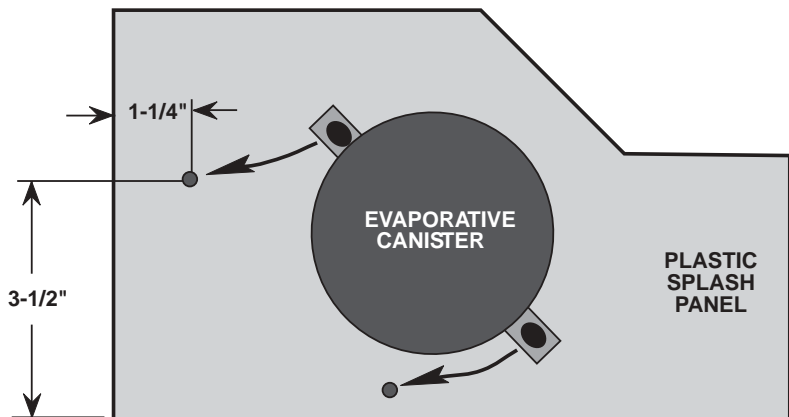
- A. Attach the supercharger drain hose to the fitting on the bottom of the supercharger and secure with the clamp provided. Make sure the clamp is rotated so that it will not interfere with the mounting plate when installed.
- B. Mount the supercharger to the mounting plate with the five 3/8-16 x 1" bolts and washers as shown and tighten to 24 ft./lb.
- C. Attach the oil feed line and secure. Use only oil and no sealants.
- D. Install the new accessory drive belt as per the original diagram except over the added idler.
- E. Loosely attach the tensioner bracket to the supercharger and fit the supercharger drive belt as shown in the diagram below. Adjust belt tension by rotating the adjuster plate and secure. Be careful not to overtighten the fasteners.

WARNING: *The oil system contains a small orifice that is easily plugged. DO NOT use any type sealant on any of the threads. Instead, use clean engine oil. Disassemble and blow out entire line if you have any doubts.*



9. CANISTER RELOCATION

- A. Remove the plastic splash panel in front of the left front tire (panel is secured by two bolts and two snaps).
- B. Remove hose from between evaporative canister and 'Y' fitting. Replace with 15" long hose.
- C. Remove the hose between the evaporative canister and the throttlebody. Replace with 23" long hose.
- D. Disconnect the solenoid wire from the canister and extend it 12" with the wire provided.



- E. On the plastic panel, lay out the rear hole location as per diagram and mark. Place canister on top of panel (fittings facing the front of the car) and using the canister as a template, mark the second hole 1/2" from edge.
- F. Drill the marked holes with a 21/64" bit.
- G. Attach the canister to the plastic panel with the fasteners.
- H. Reinstall the panel with the canister, hoses and wire by first routing the hoses and wire through the opening near the rear of the headlights. Reconnect the hoses and wire and secure with tie wraps.

10. ALTERNATOR WIRE EXTENSION

- A. Find the large RED CHARGE WIRE and separate from the harness to the engine's right side. Reroute the wire from the right side of the engine to the relocated alternator by following the oil cooler tubes in front of the oil pan.
- B. Reattach the charge wire to the alternator and secure to the cooler tubes.
- C. The wires to the alternator connector must be extended 12". Cut the wires 3" from the plug and strip insulation on all cut ends.
- D. Extend the wires by splicing in the 12" lengths provided. It is best to solder the connections and cover with the shrink tube insulation provided. Crimp-type butt connectors are also provided and may be used; however, they are less desirable.

11. AIR FILTER, INLET DUCT AND DISCHARGE PLENUM

- A. Locate the new air filter on the flat area to the rear of the left headlight and secure through the end of the filter to the panel floor with the bolt and washer provided.
- B. Use the three plastic elbows, wide blue sleeves and 3 1/2" flex tube to connect the air filter to the supercharger inlet as shown in the photo in section 14 and secure with the hose clamps provided. Do not overtighten the clamps.

NOTE: *Position the elbows and sleeves as low and as close to the supercharger as possible. CHECK for HOOD CLEARANCE and reposition ducts as necessary.*

- C. If the vehicle is not equipped with a mass air flow (MAF) sensor, disregard this point.
 - 1. Slide the two narrow blue sleeves onto the inlet and outlet of the MAF sensor.
 - 2. Splice the MAF into the center of the 3 1/2" flex hose. Extra clamps are provided.
 - 3. The wires from the sensor must be extended 18". Cut the wires 3" from the plug and strip insulation on all cut ends. Extend the wires by splicing in the four lengths provided. It is best to solder the connections and cover with the shrink tube insulation provided. Crimp-type connectors may be used; however, they are less desirable.
- D. Place the discharge duct with the blue sleeves between the throttle body and the supercharger and secure with clamps as shown.
- E. Disconnect the crankcase vent hose from the side of the throttle body and place the rubber cap on the tube and secure. Route the 1/2" hose from the brass fitting, located on the upper inlet elbow at the supercharger, under the discharge plenum and connect to the crankcase vent hose with the connector tube and clamps provided.

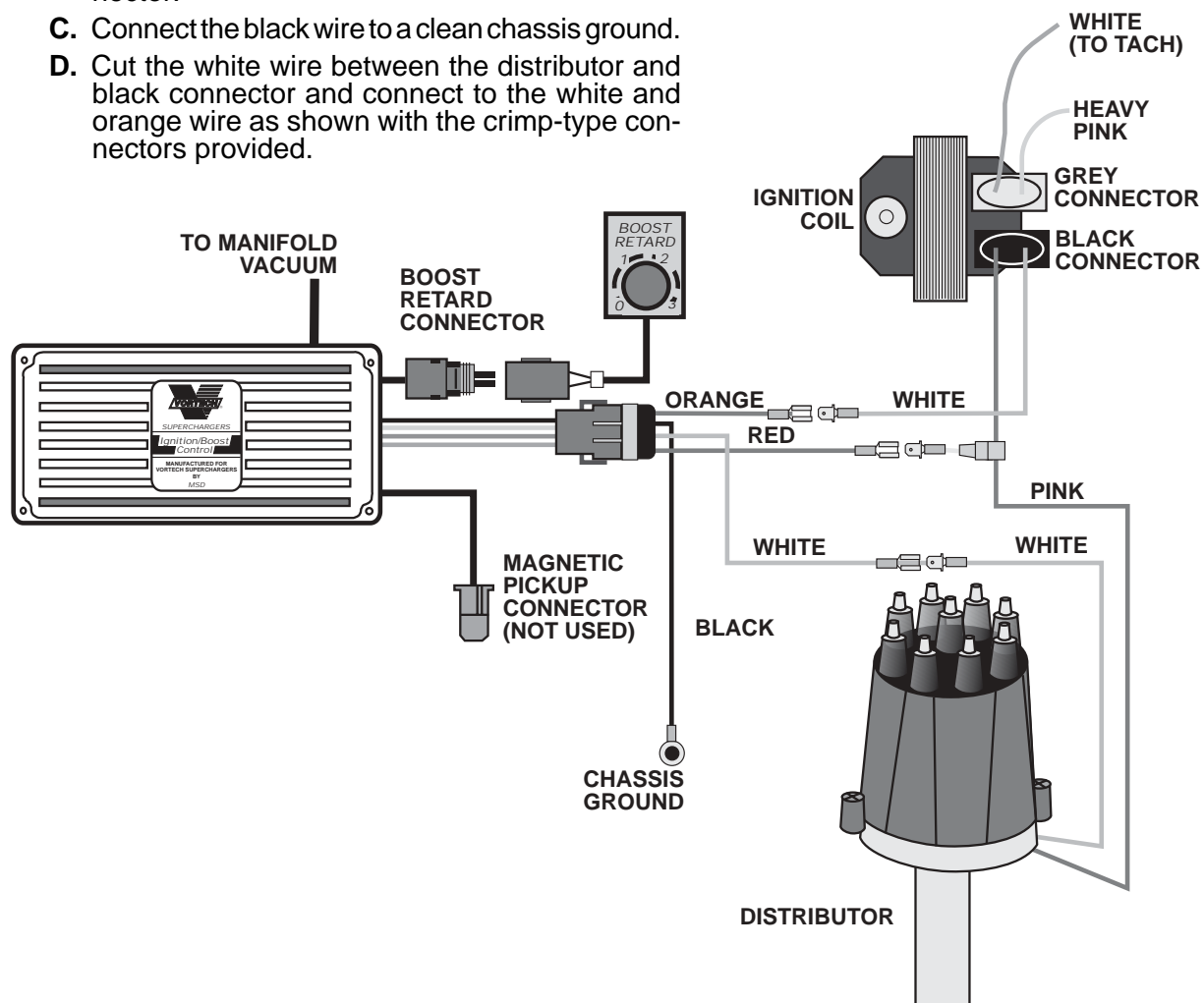
NOTE: *Some vehicles vent the left valve cover; in which case, the breather hose would go directly there and may require trimming.*

12. WINDSHIELD WASHER RESERVOIR

- A. Fit the supplied washer reservoir in the area behind the grill on the radiator core support (inward of the driver's side headlight). Use the hardware in the kit to secure the reservoir in place.
- B. Secure the washer pump with the Adel clamp provided to the flat area next to the new fuel pump.
- C. Extend the inlet hose from the pump to the reservoir outlet and fill the reservoir with fluid.

13. IGNITION/BOOST CONTROL INSTALLATION

- A. Mount the Ignition/Boost Control unit within the engine compartment. The location should be as cool as possible, away from moving parts and within reach of the wire harness.
- B. Plug the harness connector into the box connector.
- C. Connect the black wire to a clean chassis ground.
- D. Cut the white wire between the distributor and black connector and connect to the white and orange wire as shown with the crimp-type connectors provided.



13. IGNITION/BOOST CONTROL INSTALLATION, cont'd.

- E. Using the wire splice connector provided, connect the red wire to the pink wire located between the distributor and coil. Use the short extension wire provided.
- F. Connect the vent to manifold pressure.
- G. Route the Ignition/Boost Control wires through the firewall from the interior side. Mount the knob in an easily accessible place.
- H. Connect the wires to their plastic oval wiring connector on the Ignition/Boost Control unit using the snap-on connector supplied in the Ignition/Boost Control kit.

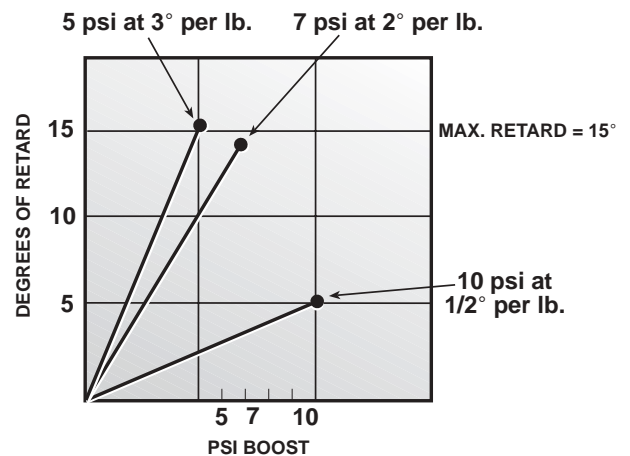
NOTE: The wiring to the Boost/Control knob can be matched to either of the corresponding wires in the boost retard connector.

14. IGNITION/BOOST CONTROL UNIT OPERATION

- A. The Ignition/Boost Control unit is designed to retard ignition in relation to boost.
- B. The unit is adjustable from 0° of ignition retard to 3° of ignition retard for each pound of boost, up to a maximum of 15°.
- C. Using the 1° per pound position as a starting point, adjust the ignition retard knob until just beyond the point of detonation. Use third gear for testing in a safe area or road. Adjust the retard according to changes in altitude and fuel quality.

CAUTION: It is extremely important that the boost retard never be turned to 0°. It is recommended that in stock street applications, the knob be at no less than 1° lb.

Example of Ignition Retard vs. Boost:



15. FINAL ASSEMBLY AND CHECK OVER

- A. Reconnect the battery.
- B. If your vehicle has gone over 10,000 miles since its last spark plug change, you will need to change the spark plugs now before test driving the vehicle.
- C. Check all fittings, nuts, bolts and clamps for tightness. Pay particular attention to oil and fuel lines around moving parts, sharp edges and exhaust system parts. Make sure all wires and lines are properly secured with clamps or tie wraps.
- D. Check all fluid levels, making sure that your tank(s) is/are filled with 92 octane or higher fuel before commencing test drive.
- E. Start engine and allow to idle a few minutes, then shut off.
- F. Recheck to be sure that no hoses, wires, etc. are near exhaust headers or moving parts and for signs of any fluid leakage. Check ignition timing to make sure it is set to stock specifications before commencing test drive.
- G. **PLEASE TAKE SPECIAL NOTE:** Operating the vehicle without ALL the subassemblies completely and properly installed may cause **FAILURE OF MAJOR COMPONENTS.**
- H. Test drive the vehicle.
- I. The supercharger drive belt stretches initially and will require adjustment between 250 and 400 miles.
- J. Read the **STREET SUPERCHARGER SYSTEM OWNER'S MANUAL AND RETURN THE WARRANTY REGISTRATION FORM** within thirty (30) days of purchasing your supercharger system to qualify for the 3 year limited warranty.



WARNING: Do not attempt to operate the vehicle until ALL components are installed and ALL operations are completed including final check.



ENGINEERING, LLC

1650 PACIFIC AVENUE • CHANNEL ISLANDS, CA 93033-9901 • (805) 247-0226
FAX (805) 247-0669 • www.vortechsuperchargers.com • M-F 8:00 AM - 4:30 PM PST