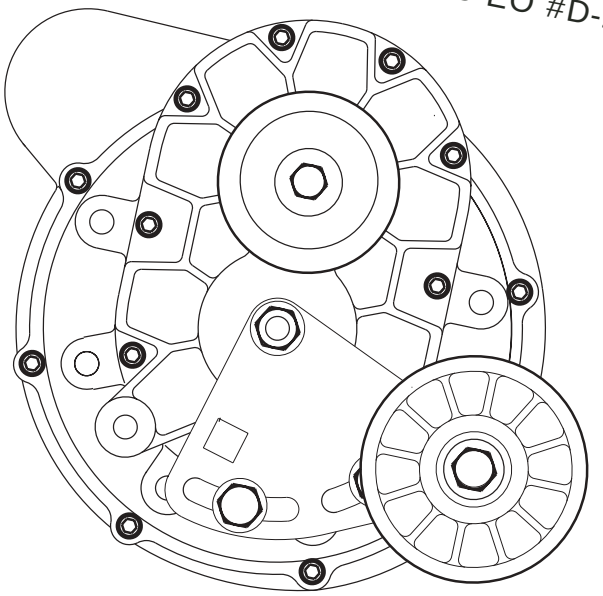
GM 7.4 Light Truck

Supercharger System Installation Instructions

1988-1995 Model Years
50 State Smog Legal per CARB EO #D-213-17



VORTECH®

ENGINEERING, LLC

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P/N: 4GC020-010

15SEP01 V1.1 *(88-95 GM Lt Trk(4GC))*

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.

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15SEP01 V1.1 *(88-95 GM Lt Trk(4GC))*

NOTICE

P/N: 4GC020-010

15SEP01 V1.1 *(88-95 GM Lt Trk(4GC))*

1988 - 1995
GM 7.4 LIGHT TRUCK
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 of 30 to 35% and horsepower of 35 to 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.**

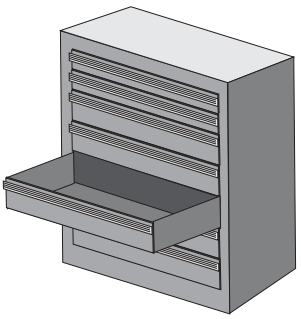
Installation on new vehicles will not harm or adversely affect the break-in period so long as factory break-in procedures are followed.

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 every 3,000 miles or less. **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 every 15,000 miles and spark plug wires at least every 50,000 miles.

TOOL & SUPPLY REQUIREMENTS

- Factory Repair Manual
- Timing Light
- 3/8" socket and drive set: SAE and Metric
- Drill motor, 3/32" and .046" drill bits
- 1/2" breaker bar and 4" extension
- Large screwdriver or pry bar
- 3/8" NPT tap and handle or socket
- Flat #2 screwdriver
- Phillips #2 screwdriver
- Center punch and 3/4" drift punch
- Open end wrenches: 3/8", 7/16", 1/2, 9/16", 5/8", 3/4", 7/8", 10, 13 & 15mm
  a "Slimline" 19mm - Snap-On part # LTAM1719
- Power Steering Pulley Puller & Installer (1994 models only)
  Snap-On Puller #CJ117B2
  Snap-On Installer #CJ113B
- Hammer
- Adjustable wrench
- Oil Filter Wrench
- Oil Filter
- SF Rated Quality (or synthetic) Engine oil
- Heavy grease Silicone sealer



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

- Spark plug socket
- NEW spark plugs

VORTECH® ENGINEERING, LLC

1988-1993 7.4 Truck

Part No. 4GC218-090SQ

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
2E228-090	**V-2SQ SUPERCHARGER ASSEMBLY**	**1**
4GC111-021	**MOUNTING BRACKET ASSEMBLY**	**1**
4GC010-034	Mounting Plate	1
4GC010-043	Attachment Plate	1
4GC010-054	Stiffener plate	1
4GC011-021	Mounting Bracket	1
4GC017-011	.125 Mounting Plate Spacer	1
7A375-550	3/8-16 x 5-1/2" Bolt	1
7F375-016	3/8-16 Nuts	3
7K375-040	3/8" AN960 Flat Washers	5
7J375-044	3/8" SAE Washers	8
7A375-100	3/8-16 x 1" Bolts	10
7C010-025	M10-1.5 x 25mm Bolts	2
7A312-100	5/16-18 x 1" Bolts	4
7J312-000	5/16" SAE Flat Washers	8
4GC010-010	Mounting Bracket Support	1
7A375-208	3/8-16 x 2" Bolt	1
7A375-276	3/8-16 x 2-3/4" Bolt	1
7F312-018	5/16-18 Nuts	4
4GB017-011	1" Throttle Spacer	1
7A375-124	3/8-16 x 1-1/4" Bolts	2
4GC116-010	**CRANK PULLEY ASSEMBLY**	**1**
4GB016-011	Crank Pulley	1
4GC017-041	Crank Pulley Spacer	1
7B375-400	3/8-24 x 4" Bolts	3
7J375-044	3/8" SAE Washers	3
7L375-075	3/8" Lock Washers	3
4GC017-010	Spacer Fan	1
7C080-055	M8 1.25 x 55 Studs	4
2A046-598	Belt	1
7B500-400	1/2-20 x 4" Bolt	1
4GC130-026	**OIL FEED LINE ASSEMBLY**	**1**
7U030-026	1/4" x 16" Oil Feed hose	1
7P525-067	.500 Crimp Ferrules	2
7P250-066	#4 Swivel x 1/4" Hose Barb Fittings	2
7P250-036	#4 Flare to 1/4" NPT	1
7P125-026	1/8" NPT 90° Fitting	1
7P250-034	1/4" NPT x 1/4" NPT Straight Tee	1
7U100-055	6" Nylon Tie Wraps	3
4GC130-036	**OIL DRAIN ASSEMBLY**	**1**
7R001-008	#8 Stainless Hose Clamps	2
7U030-036	1/2" x 36" Oil Drain Hose	1
7P375-033	3/8" NPT x 3/8" NPT Street Elbow	1
7P375-017	3/8" NPT x 1/2" Straight Hose Barb	1
7U100-055	6" Nylon Tie Wraps	4
5A001-004	**FUEL INJECTION COMPUTER**	**1**

Part Number	Description	Quantity
4GC112-010	**AIR INTAKE ASSEMBLY**	**1**
4GB012-010	Air Filter Cover	1
4GC012-012	Air Inlet Tube	1
4FA012-012	90° Intake Elbow	1
7P375-017	3/8" NPT x 1/2" Straight Hose Barb	1
7S350-200	3-1/2" x 2" Sleeve	1
7R002-056	#56 Hose Clamps	2
7R002-052	#52 Hose Clamps	4
7E010-046	#8 x 3/4" Sheet Metal Screws	2
7U035-000	3-1/2" x 10" Flex Hose	1
8H040-040	Air Filter	1
7U030-005	1/2" x 5" Oil Drain Hose	1
7U035-000	3-1/2" x 12" Flex Hose	1
7R001-008	#8 Stainless Hose Clamps	2
4GC112-020	**AIR DISCHARGE ASSEMBLY**	**1**
4GB040-060	Air/plenum Gasket	1
4GC012-020	Steel Discharge Tube	1
4GC050-011	Intake Plenum	1
7A312-050	5/16-18 x 1/2" Bolts	2
7J312-000	5/16" SAE Flat Washers	2
7P125-025	1/8" NPT to 5/32" Barb	1
7R002-044	#44 Hose Clamps	4
7S275-200	2-3/4" x 2" Sleeves	2
7P750-102	3/4" NPT x 1" 90° Hose Fitting	1
7P750-100	3/4" NPT x 1" Straight Hose Fitting	1
7R002-016	#16 Hose Clamps	4
8D001-001	Bypass Valve	1
7U030-046	5/32" x 24" Vacuum Line	1
7P156-082	5/32" Tee	1
7U034-016	1" x 3" Heater Hose	1
7U034-016	1" x 8.5" Heater hose	1
8H040-075	1" Filter	1
4FA111-032	**BELT TENSIONER ASSEMBLY**	**1**
7J012-092	12mm Flat Washers	3
4FA011-032	Belt Tensioner Plate	1
7C012-050	12mm x 1.75 x 50mm Bolt	1
4FA016-150	Smooth Pulley Tensioner	1
2A017-010	Idler Pulley Spacer	1
7C012-020	12mm x 1.75 x 20mm Bolts	2
7C012-022	12mm x 1.75 x 22mm Thin Head Bolt	1
7G010-175	12mm x 1.75 Nut	1
4GC160-010	**FUEL CONTROL ASSEMBLY**	**1**
4GC152-011	Spacer Block Assembly	1
4GB112-022	Plenum Rod Assembly	1
4GB101-002	**FUEL PUMP ASSEMBLY**	**1**
8F001-002	155 Inline Fuel Pump	1
7R003-024	1-1/2" Adel Clamp	1
5W001-011	16-14 GA Eyelet	1
5W001-001	Wire Tap	1
5W001-010	16-14 GA insulated Female Slides	6
5W001-014	Fuse Holder	1
5W001-015	Blade type 20A Fuse	1
5W001-017	Large Ring Terminal	1
8F101-200	T-Rex® Wiring Assembly	1
5W001-002	Fuse Tap	1
7R001-008	#8 Hose Clamps	2
7P625-001	Fuel Adapter Fitting	1
7U030-050	12mm x 8" PCV Hose	1
7J010-001	#10 Flat Washers	4
7F010-032	10-32 Nylock Nut	2
7U100-055	6" Nylon Tie Wraps	4
7C011-075	10/32" x 3/4" Cap Screw	1

VORTECH® ENGINEERING, LLC

1994-1995 7.4 Truck

Part No. 4GG218-090SQ

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
2E228-090	**V-2 SQ SUPERCHARGER ASSEMBLY**	**1**
4GG111-021	**MOUNTING BRACKET ASSEMBLY**	**1**
7A437-600	7/16-14 x 6" Bolt	1
7J438-081	7/16" SAE Washer	1
7A375-300	3/8-16 x 3" Bolt	1
7F375-016	3/8-16 Nut	2
7K375-040	3/8" AN960 Flat Washers	7
4GG017-021	1.895 Spacer A	1
4GG017-031	1.083 Spacer B	1
4GG010-034	Mounting Plate	1
4GG011-021	Mounting Bracket	1
4GG010-044	Attachment Plate	1
4GG017-041	.220 Spacer C	1
7J375-044	3/8" SAE Washers	3
7A375-100	3/8-16 x 1" bolts	5
4GC010-010	Mounting Bracket Support	1
7A375-208	3/8-16 x 2" Bolt	1
7A375-276	3/8-16 x 2-3/4" Bolt	1
4GB017-011	1" Throttle Spacer	1
4GG017-043	1/2" Spacer	2
7K312-001	8mm Washers	2
7C080-025	8mm x 1.25 x 25mm	2
4GC112-010	**AIR INTAKE ASSEMBLY**	**1**
4GB012-010	Air Filter Cover	1
4GC012-012	Air Inlet Tube	1
4FA012-012	90° Intake elbow	1
7P375-017	3/8" NPT x 1/2" straight hose barb	1
7S350-200	3-1/2" x 2" Sleeve	1
7R002-056	#56 Hose Clamps	2
7R002-052	#52 Hose Clamps	4
7E010-046	#8 x 3/4" Sheet Metal Screws	2
7U035-000	3-1/2" x 10" Flex Hose	1
8H040-040	Air Filter	1
7U030-005	1/2" x 5" Oil Drain Hose	1
7U035-000	3-1/2" x 12" Flex Hose	1
7R001-008	#8 Stainless Hose Clamps	2
4GC130-026	**OIL FEED LINE ASSEMBLY**	**1**
7U030-026	1/4" x 16" Oil Feed Hose	1
7P500-067	.500 Crimp Ferrules	2
7P250-066	#4 Swivel x 1/4" Hose Barb Fittings	2
7P250-036	#4 Flare to 1/4" NPT	1
7P125-026	90°1/8" NPT x #4 Fitting	1
7P250-034	1/4" NPT x 1/4" NPT Straight Tee	1
7U100-055	6" Nylon Tie Wraps	3
4GC130-036	**OIL DRAIN ASSEMBLY**	**1**
7R001-008	#8 Stainless Hose Clamps	2
7U030-036	1/2" x 36" Oil Drain Hose	1
7P375-033	3/8" NPT x 3/8" NPT Street Elbow	1
7P375-017	3/8" NPT x 1/2" Straight Hose Barb	1
7U100-055	6" Nylon Tie Wraps	4

Part Number	Description	Quantity
5A001-004	**FUEL INJECTION COMPUTER**	**1**
4FA111-032	**BELT TENSIONER ASSEMBLY**	**1**
7J012-092	12mm Flat Washers	3
4FA011-032	Belt Tensioner Plate	1
7C012-050	12mm x 1.75 x 50mm Bolt	1
4FA016-150	Smooth Pulley Tensioner	1
2A017-010	Idler Pulley Spacer	1
7C012-020	12mm x 1.75 x 20mm Bolts	2
7C012-022	12mm x 1.75 x 22mm Thin Head Bolts	1
7G010-175	12mm x 1.75 Nut	1
4GC160-010	**FUEL CONTROL ASSEMBLY**	**1**
4GC152-011	Spacer Block Assembly	1
4GB112-022	Plenum Rod Assembly	1
4GB101-002	**FUEL PUMP ASSEMBLY**	**1**
8F001-002	155 Inline Fuel Pump	1
7R003-024	1-1/2" Adel Clamp	1
5W001-011	16-14 GA eyelet	1
5W001-001	Wire Tap	1
5W001-010	16-14 GA Insulated Female Slides	6
5W001-014	Fuse Holder	1
5W001-015	Blade type 20A Fuse	1
5W001-017	Large Ring Terminal	1
8F101-200	T-Rex® Wiring Assembly	1
5W001-002	Fuse Tap	1
7R001-008	#8 hose Clamps	2
7P625-001	Fuel Adapter Fitting	1
7U030-050	12mm x 8" PCV Hose	1
7J010-001	#10 Flat Washers	4
7F010-032	10-32 Nylock Nut	2
7U100-055	6" Nylon Tie Wraps	4
7C011-075	10/32" x 3/4" Cap Screw	1
5W001-024	Mini Fuse Tap	2
4GG116-010	**CRANK PULLEY ASSEMBLY**	**1**
4GB016-011	Crank Pulley	1
7B375-400	3/8-24 x 4" Bolts	3
7J375-044	3/8" SAE Washers	3
7L375-075	3/8" Lock Washers	3
4GC017-010	Spacer Fan	1
2A046-598	Belt	1
4GG017-042	Crank Pulley Spacer	1
7C080-055	M8 1.25 x 55 Studs	4
7B500-400	1/2-20 x 4" Bolt	1
4GG112-020	**AIR DISCHARGE ASSEMBLY**	**1**
4GC012-020	Steel Discharge Tube	1
4GB050-010	Intake Plenum	1
7R002-044	#44 Hose Clamps	4
7S275-200	2-3/4" x 2" Sleeves	2
4GB040-060	Air/Plenum Gasket	1
7J312-000	5/16" SAE Flat Washers	2
7A312-100	5/16-18 x 1" Bolts	2
7P125-105	1/8" NPT to 5/32" Barb	1
4CB017-011	1/2" Spacers	2
7P750-102	3/4" NPT x 1" 90° Hose Fitting	1
7P750-100	3/4" NPT x 1" Straight Hose Fitting	1
7R002-016	#16 Hose Clamps	4
8D001-001	Bypass Valve	1
7U030-046	5/32" x 24" Vacuum Line	1
7P156-082	5/32" Tee	1
7U034-016	1" x 3" Heater Hose	1
7U034-016	1" x 8.5" Heater hose	1
8H040-075	1" Filter	1

1. COMPONENT REMOVAL

A. Disconnect the battery (negative lead).

B. Remove and set aside the following components:

- The top portion of the fan shroud
- The accessory drive belt
- The cooling fan assembly
- The crankshaft pulley
- The air filter canister assembly and hose
- The intake air resonator (detach from inner fender)
- The power steering pump pulley (1994 models only)

NOTE: *If the vehicle is a 1993 model year or later, it will be necessary to purchase the stock air inlet resonator. The Chevrolet part number is 25097949*

2. CRANKSHAFT PULLEY INSTALLATION

A. Remove the crankshaft pulley from the engine if not already done.

B. Place the Vortech provided crank pulley and spacer inside the stock pulley. (See *Fig. 2-a*.)

C. Line up bolt holes and, if necessary, press pieces together or pull them together by gradually tightening the bolts.

D. Reinstall the pulleys as a unit onto the crankshaft balancer assembly using three 3/8-24 x 4" bolts and supplied 1/2-20 x 4" center bolt. (See *Fig. 2-a*.)

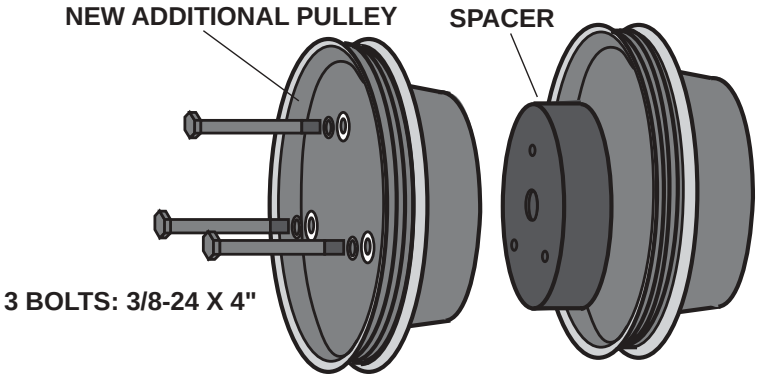


Fig. 2-a

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 bolt flange and rearward of the fourth bolt 7/8". (See *Fig. 3-a*.) You may choose a different place, if necessary; however, take care not to damage any internal parts. The drain hose should gradually drop with no dips or kinks and should be above the oil level.

D. Use a small center punch to perforate the pan and expand 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 resumes. Use a small magnet to check for any stray chips in the threads after completing the tapping procedure.

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

F. Thoroughly clean the threaded area with acetone or other solvent. Apply a small amount of silicone sealer to the new threads. Apply a small amount of silicone sealer to the threads of the 3/8" NPT hose fitting and secure in hole. Make sure a seal is formed all around the fitting. Allow sealer to cure completely.

G. Route the line forward along the top rail of the oil pan and secure to the oil cooler line with the tie wraps provided. Temporarily cover end of hose and secure out of the way. The return is a gravity drain and should be routed to provide a gradual drop.

H. Drain and replace engine oil and change filter.

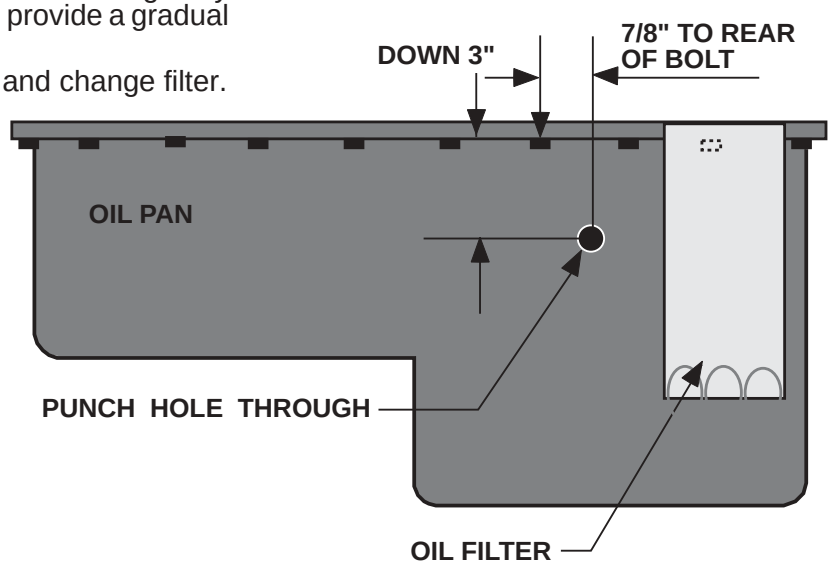


Fig. 3-a

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. (See *Fig. 4-a*.) Connection to the oil pan must be above the oil level.

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

B. Disconnect the wire connector and remove the oil pressure sending unit. The sender is found on the left side at the front of the engine block. Install the TEE provided in the port with the branch pointing forward. Place the pressure sender in front branch of the TEE, secure and reconnect the wire. Place the flare fitting in the remaining port and secure.

C. Connect the hose to the flare fitting and secure with tie wraps. Take care that the feed line will not rub on the sheet metal inner fender.

D. Temporarily cover the end of the hose and protect it from dirt until connecting to the supercharger.

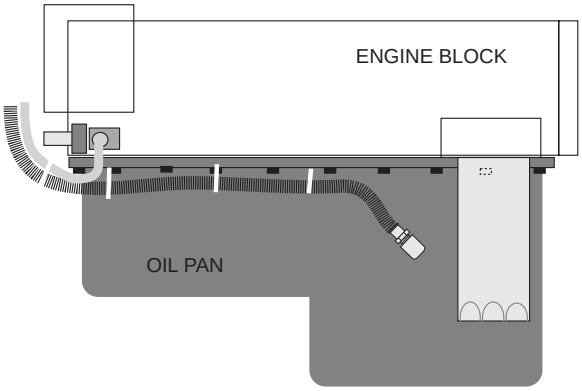


Fig. 4-a

5. SUPPLEMENTARY FUEL INJECTION COMPUTER AND RELATED SYSTEM

A. Remove the TBI unit from the manifold. (See *Fig. 5-a*.) Remove old gaskets and clean the gasket surfaces.

B. To prevent pressurized fuel and air leakage around the throttle shaft, it is necessary to normalize the pressure. To accomplish this, modify the throttle body by drilling two small holes from the base surface to the throttle shafts. You may “layout” the location by following the template on page 6 or transfer it directly from the gasket provided. Use a small center drill to start, then a #56 or 3/64" diameter drill bit and drill through the base of the throttle body until the bit firmly contacts the shafts.

C. Assemble the throttle body, the new injector spacer block and gaskets. Place the gasket with the small vent holes on top of the spacer. Place the gasket without holes on the bottom. On some models dowel pins have been provided for alignment. Use the two special threaded rods, nuts and one longer bolt to secure the throttle body and the Vortech spacer to the manifold.

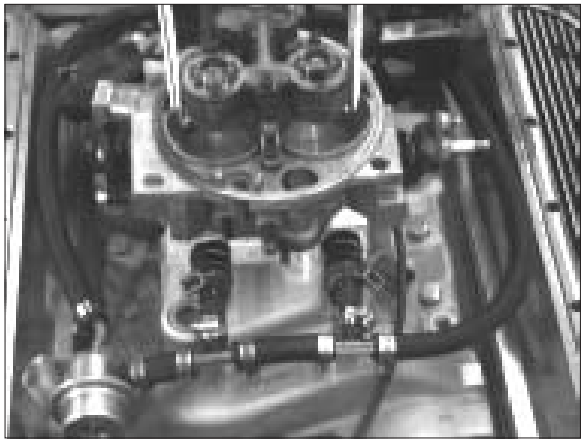


Fig. 5-a

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5. SUPPLEMENTARY FUEL INJECTION COMPUTER AND RELATED SYSTEM - Cont'd.

NOTE: Make sure all small holes are aligned and not plugged with gasket sealer when installed.

D. Mount the additional fuel pump to the inner side of the frame rail beneath the driver's side floor. Use the shorter hose provided to help locate the pump the correct distance from the filter. This hose has an adapter fitting on the filter end. Secure the pump to the frame and hose with the clamp and fastener provided. (See *Fig. 5-a*.)

E. Mark and drill a 3/16" hole in the frame near the fuel pump to mount relay and wiring harness. Mount relay with supplied #10 hardware.

F. From relay terminal #85, tap the yellow wire into the solid gray wire in the harness running along the driver's side frame member. Use the supplied scotchlock.

G. Connect the short red wire from relay terminal #87 to the (+) terminal on the fuel pump.

H. Connect the longer black wire from the (-) terminal at the fuel pump to a clean ground.

I. Connect the short black wire from relay terminal #86 to a clean ground (relay screw mount works well).

J. Connect the long red wire from relay terminal #30 to a (+) battery lug located in the engine compartment.

K. Plumb the pump to the supplementary injectors as per the schematic on page 5. Much of this assembly has been done by Vortech.

L. Plumb the new pressure regulator and outlet, routing the regulator to the throttle body inlet using the adapter fitting and O-ring.

M. Route the Vortech SFIC wiring harness and vacuum line through the firewall. Mount the SFIC unit inside the vehicle beneath the steering column using the Velcro® strips provided.

N. Connect the wires for the Vortech SFIC. Attach the black wire to ground. Connect the red to the "4WD" fuse location in the stock fuse block (this location is also found on 2WD trucks) with the special adapter provided (on 1995 models, the fuse box containing the "4WD" fuse is located inside the vehicle on the left hand side of the dashboard). Connect the brown wire to the negative side of the ignition coil tach pickup (loose male connection located on coil harness).

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5. SUPPLEMENTARY FUEL INJECTION COMPUTER AND RELATED SYSTEM - Cont'd.

NOTE: *Factory fuel return line must be attached to original fitting on TBI unit.*

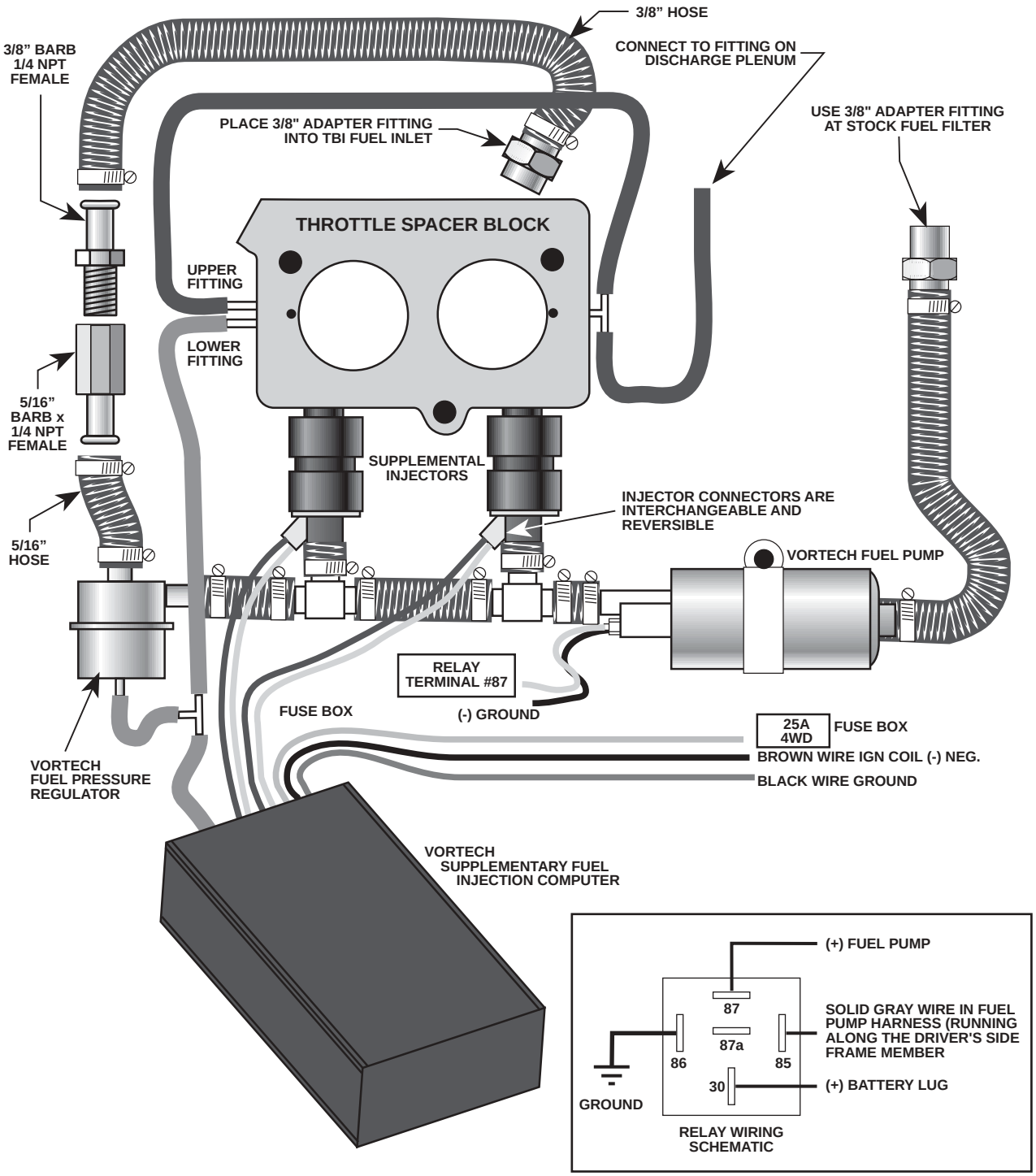


Fig. 5-a

TEMPLATE
THROTTLE BODY

DRILL TWO HOLES THROUGH BOTTOM OF THROTTLE BODY
UNTIL POSITIVE THROTTLE SHAFT CONTACT
USE 3/64" OR #56 (.046) DIAMETER

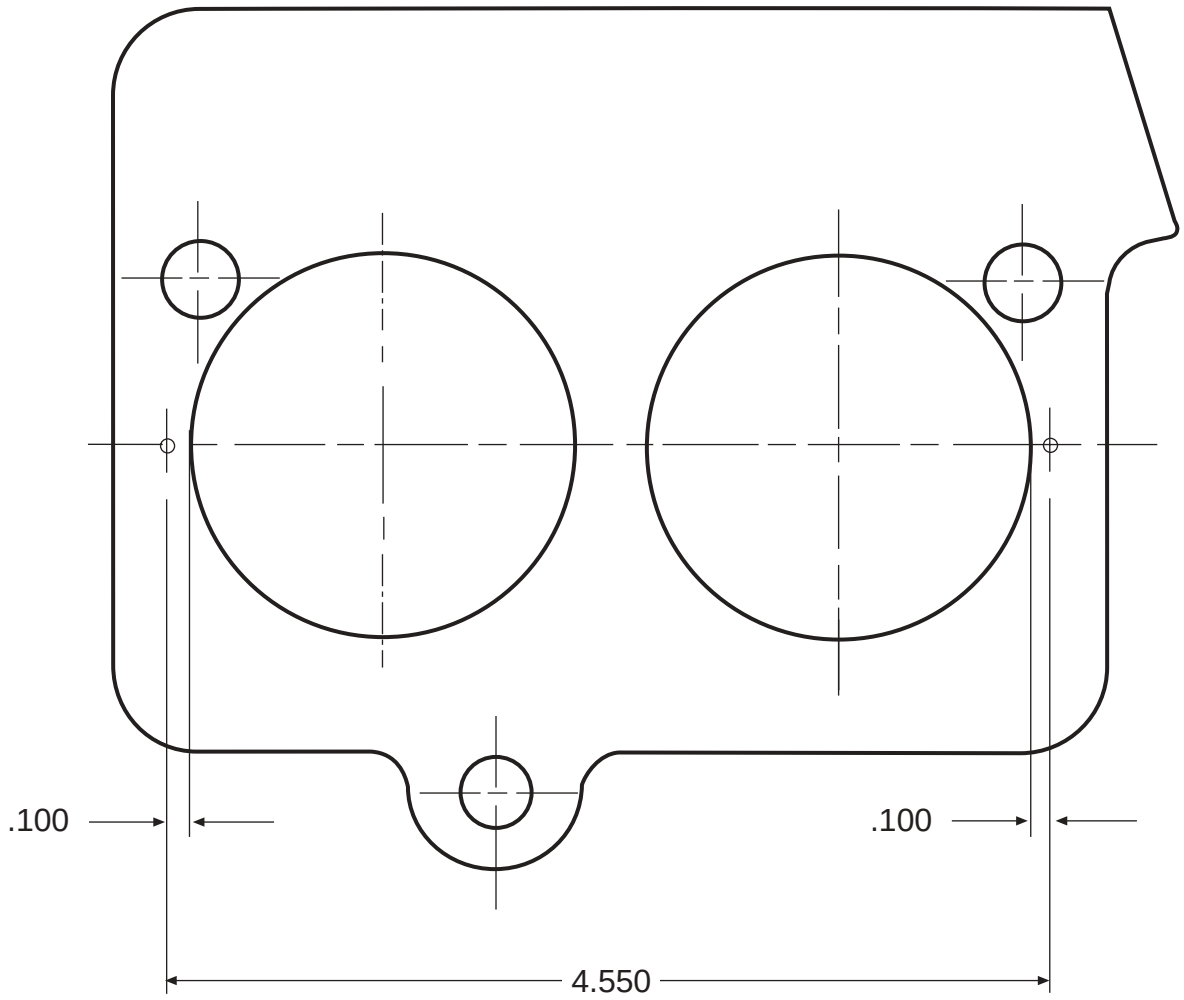


Fig. 6A-a

6A. MAIN BRACKET AND POWER STEERING PUMP - 1988-1993 MODELS

A. Install the connector bracket to the front of the stock bracket at the power steering pump with the two longer metric fasteners provided. Some vehicles use metric and others use standard SAE threads. Check the threads on the fasteners you have just removed against the ones supplied prior to installation. Both metric and standard fasteners have been provided for your convenience. Leave the fasteners slightly loose until all fasteners are started.

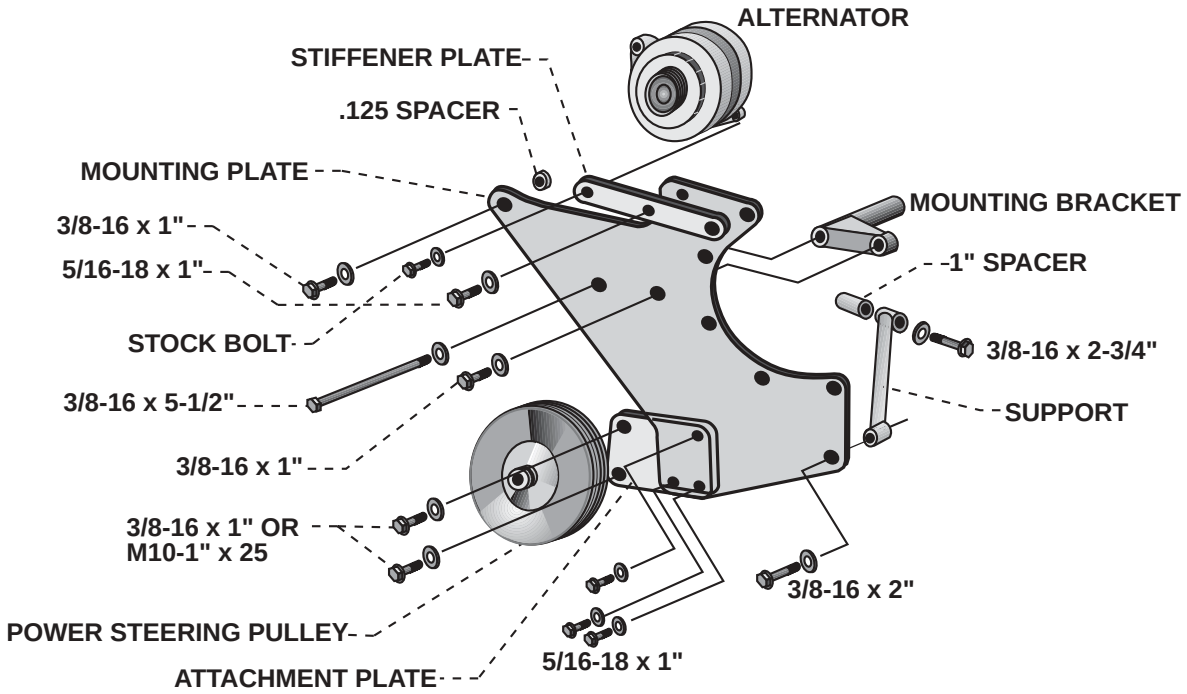
B. Position the main supercharger mounting plate and install the fasteners as shown in the graphic. Make sure not to forget the 1/8" long tube spacer behind the plate on the inward bolt.

C. Remove the fastener securing the stock bracket to the cylinder head on the outward side. Install the cast aluminum mounting bracket behind the new mounting plate and on top of the tab on the stock bracket (where you just removed the fastener). Place the 3/8-16 x 5-1/2" bolt through the plate and into the head, passing through the tab on the stock bracket.

D. Remove the smaller alternator fastener and install the upper stiffener plate as shown. Do not secure the stiffener until the supercharger is installed.

E. Attach the stiffener rod between the cylinder head and mounting plate. A one inch spacer is used at the cylinder head as shown in Fig. 6A-a.

F. Secure all other bracket fasteners at this time.



FOR 1988-1993 MODELS

Fig. 6A-a

6B. MAIN BRACKET AND POWER STEERING PUMP 1994 - 1995 MODELS ONLY

A. Disconnect all electrical connections at the alternator.

B. Remove the alternator from the vehicle and set aside.

C. Loosen the main cast iron accessory mounting bracket.

D. Remove the power steering pump fasteners and set pump aside temporarily. Remove mounting bracket.

E. Locate the power steering pump into the supplied mounting bracket. Install the two right side bolts finger tight.

F. Fasten the new mounting bracket to the engine leaving the bolts loose.

G. Attach the Vortech mounting plate by sandwiching the lower left mounting plate hole in between the mounting bracket and power steering pump. Use spacer 'C' (0.22") in between the plate and the power steering pump mounting boss. Use the original bolt to secure the assembly.

H. Slide spacer 'B' (1.083) in between the mounting bracket and the back of the supercharger plate as shown in *Fig 6B-a*. Thread the supplied 7/16-14 x 5-3/4" bolt into the bracket. Do not tighten.

I. Reinstall the alternator and all electrical connections.

J. Install the attachment plate onto the back of the alternator mount using the original bolt. Place spacer 'A' (1.895) in between the attachment plate and the back of the supercharger mounting plate using a 3/8-16 x 3" bolt, 3/8" nut and washers.

K. Connect the support rod between the cylinder head and the rear of the mounting plate. Use the 3/8-16 x 2-1/4" stainless steel bolt and a 3/8-16 x 1-1/2" bolt, nut and washers for attachment. A 1" spacer is used at the cylinder head as shown in *Fig 6B-a*. Tighten all bracket fasteners at this time.

L. Reinstall the power steering pump pulley.

M. 1995 models use a new style ABS control unit that must be adjusted slightly to provide supercharger clearance. Remove the front two of the four 8mm bolts fastening the ABS mounting plate to the vehicle. Pry the front of the ABS mounting plate up approximately 1/2" to 5/8". Install the supplied 1/2" spacers underneath the mounting plate and secure with the supplied 8mm bolts and washers.

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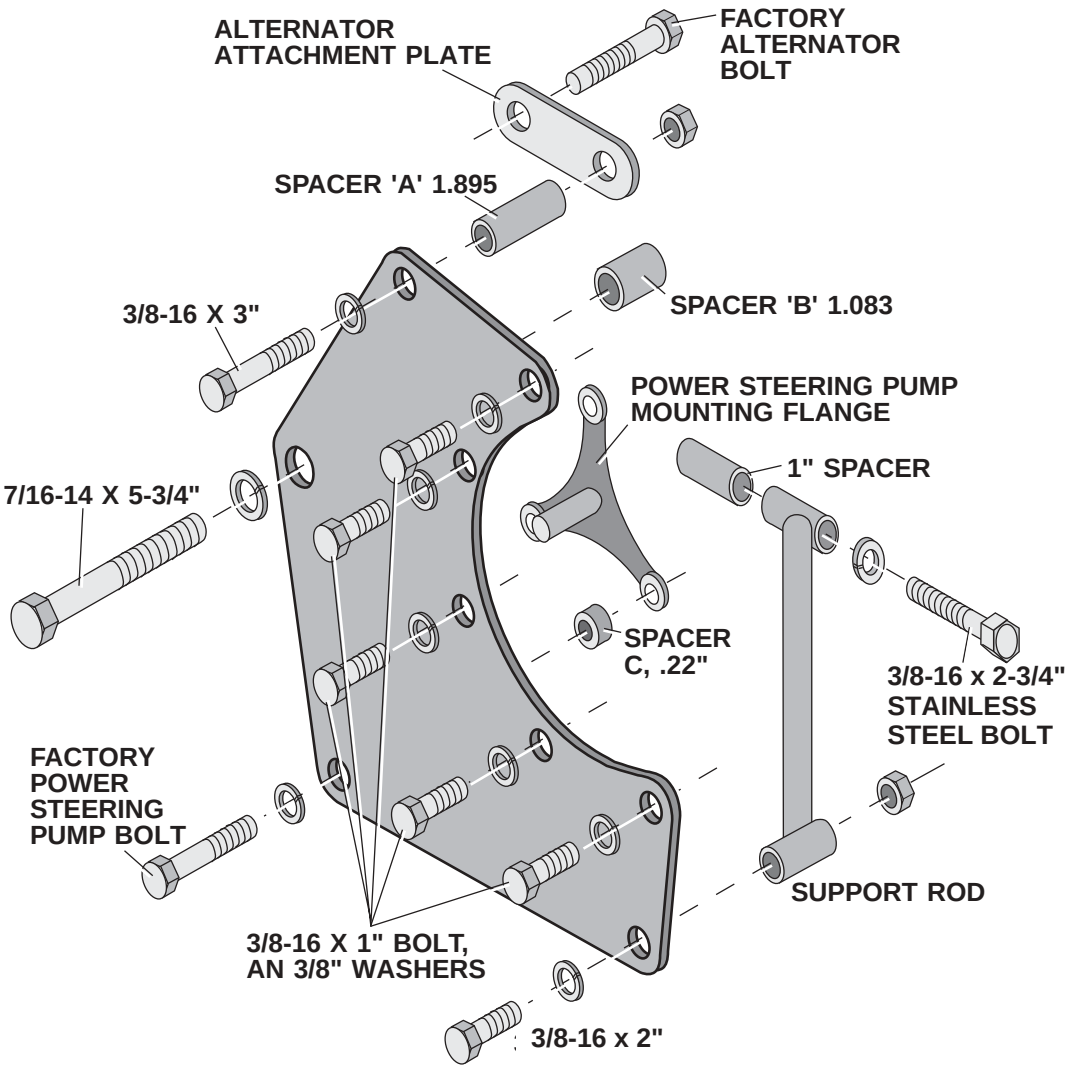
6B. MAIN BRACKET AND POWER STEERING PUMP 1994 - 1995 MODELS ONLY, Cont'd.



FOR 1994-1995 MODELS ONLY

Fig. 6B-a

7. COOLING FAN SPACER

A. Thread the four M8-1-1/4" X 55 threaded studs into the holes on the water pump to the shoulder. Loctite® thread locking compound is recommended on threads.

B. Place the 5/8" fan spacer over the studs and onto the pilot.

C. Place the cooling fan assembly onto the spacer and secure with the nuts and washers provided.

D. Reinstall the fan shroud upper half.

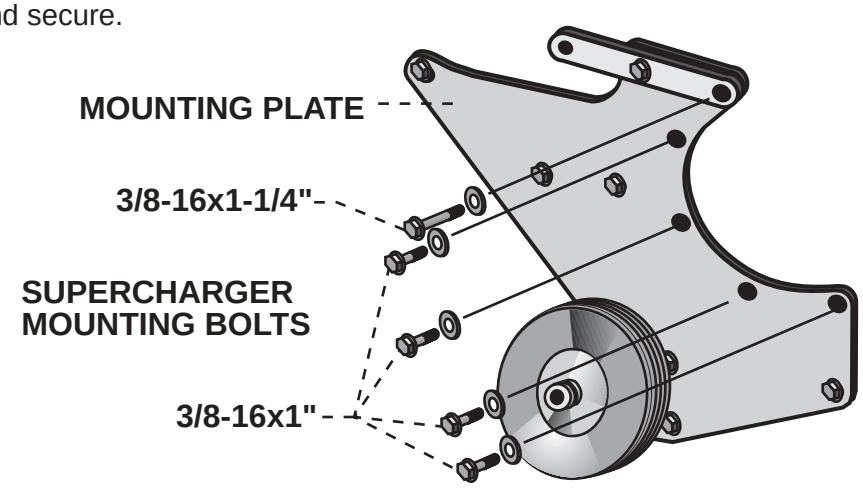
8. SUPERCHARGER MOUNTING

A. Attach the supercharger drain hose to the fitting on the bottom of the supercharger and secure with the clamp provided. Make sure to rotate the clamp so it does not interfere with the mounting plate.

B. Mount the supercharger to the mounting plate with the four 3/8 16 x 1" bolts and washers and one 3/8-16 x 1-1/4" bolt and washer for the plate stiffener (See *Fig. 8-a*.) (For 1994-95 models, the supercharger is mounted with five 3/8-16 x 1" bolts and washers only. The stiffener is not used.)

C. Attach the oil feed line and secure.

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.*



FOR 1988-1993 MODELS ONLY

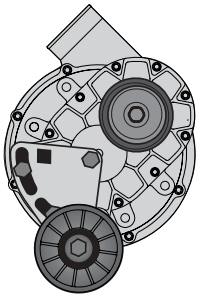
Fig. 8-a

9. FACTORY ACCESSORY DRIVE BELT AND SUPERCHARGER DRIVE BELT

A. Using the stock accessory drive belt, install as originally installed.

B. Loosely attach the tensioner bracket to the supercharger with the fasteners provided. (See *Figs. 9-a, 9-b*.) Make sure to use the washers on all locations.

C. Adjust belt tension by rotating the adjuster plate with a 1/2" drive socket and extension and secure.



MOUNT TENSIONER WITH SUPPLIED FASTENERS. NOTE: WASHERS MUST BE USED ON ALL LOCATIONS.

Fig. 9-a

NOTE: *It will be necessary to reset the belt tension after approximately 250 miles.*

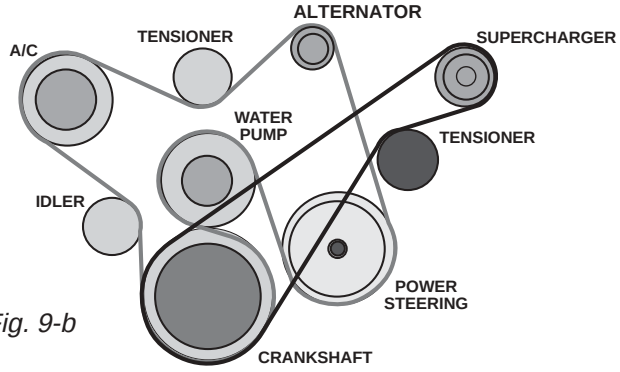


Fig. 9-b

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10. DISCHARGE PLENUM

A. Thread the supplied 90° plastic fitting into the 3/4 NPT bung located on the discharge plenum. (The fitting should be screwed in until snug, pointing down & to the right at approximately a 45° angle.)

B. Attach the discharge tube between the plenum and supercharger with blue sleeves; secure with clamps as shown.

C. Install the short 1" hose piece onto the 90° fitting with hose clamps. Attach the supercharger bypass valve (vacuum pointing toward the outside of vehicle) to the short hose.

D. The discharge of the bypass may either be routed to atmosphere by using the supplied 1" K&N® filter (This installation will produce some air noise on deceleration), or back to the supercharger air inlet tube by using the supplied 1" x 10" hose and 3/4" NPT x 1" plastic fitting. If routing the air bypass back to the supercharger inlet:

- Mock-up the steel supercharger inlet tube into its approximate final location.
- Center punch and drill a 59/64" hole into the inlet tube and thread with a 3/4" NPT tap. (See *Fig. 10-a* for hole position.)
- Thread with the supplied 3/4" NPT x 1" plastic hose barb into the air inlet tube. Connect the long length of 1" hose from the bypass to the air inlet.

E. Connect a vacuum hose to the bypass valve and a vacuum source.

F. Connect the 5/32" vacuum hose between the small fitting on the side of the discharge plenum and the TEE that feeds the pressure normalizing holes in the spacer block (see Fig. 5-a on page 5).

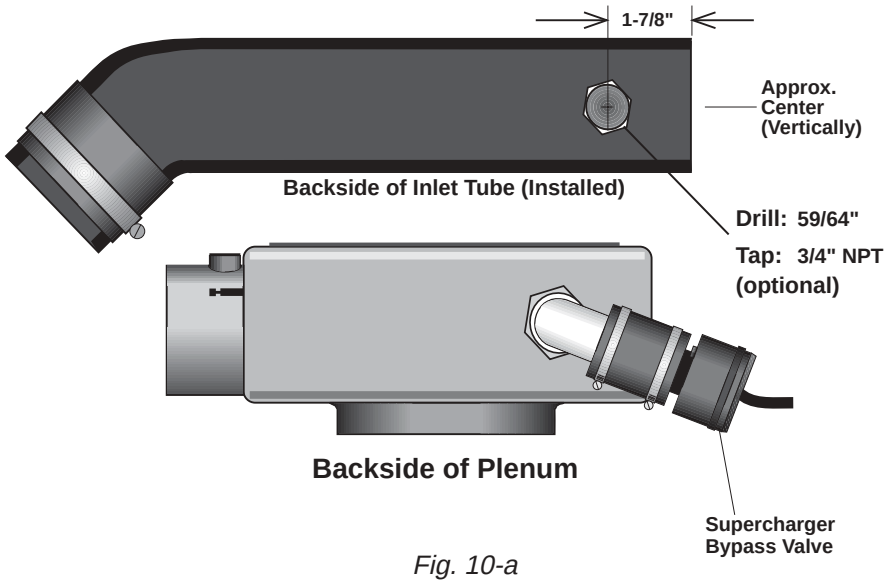

Fig. 10-a

11. AIR FILTER, INLET DUCT AND PLENUM

> ***NOTE:*** *On model years 1993 and later, it will be necessary to replace the resonator unit with the earlier type prior to modifying. The Chevrolet part number is 25097949.*

A. Modify the stock resonator chamber by cutting off the end at the point where the radius stops. (See *Fig. 11-a*.)

B. Remove the internal baffle tube and deburr the cut edge.

C. Fit the new end cover, with the air filter element provided, over the end of the modified resonator. Secure the cover end by drilling two 3/32" holes (transfer the location from the cover) and fasten with the self-tapping screws provided.

D. Peel off the protective adhesive cover and place the plenum gasket on the throttle body adhesive side down. Lower the discharge plenum on top of the throttle body and secure with the two acorn nuts and washers provided.

> ***NOTE:*** *Do not overtighten nuts or the plenum will be damaged.*

E. Secure the inlet tube to the two bosses on the front of the plenum with the two 5/16" x 3/4" fasteners. On some models, the dashpot assembly interferes with the tube. Two spacers have been provided to correctly position the inlet.

F. Connect the inlet elbow to the supercharger inlet using the blue sleeve and clamps provided.

G. Connect the inlet tube and elbow together with the 3-1/2" diameter flex tube and clamps.

H. Connect the new air filter end cover to the inlet tube with the 3-1/2" diameter flex tube and clamps.

I. Attach the crankcase vent from the right valve cover to the fitting on the inlet tube. Slight trimming of the plastic vent may be necessary.

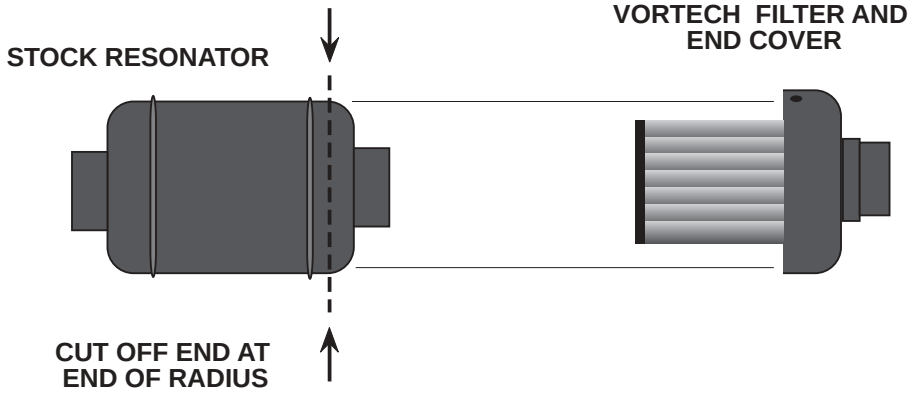

Fig. 11-a

12. FINAL REASSEMBLY & CHECK

A. Refit the upper fan shroud.

B. Reconnect the battery.

C. 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.

D. 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.

E. Check all fluid levels, making sure that your tank(s) is filled with 92 octane or higher fuel before commencing test drive.

F. Start engine and allow to idle a few minutes, then shut off.

G. 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.

H. PLEASE TAKE SPECIAL NOTE: Operating the vehicle without the **Supplementary Fuel Injection Computer** or any other subassemblies completely and properly installed and working may cause **FAILURE OF MAJOR ENGINE COMPONENTS.**

I. Test drive the vehicle.

J. The supercharger drive belt stretches initially and will require adjustment between 250 and 400 miles.

K. Read the **STREET SUPERCHARGER SYSTEM OWNER'S MANUAL AND WARRANTY REGISTRATION FORM** within thirty (30) days of purchasing your supercharger system to qualify.

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

Fig. 12-a

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