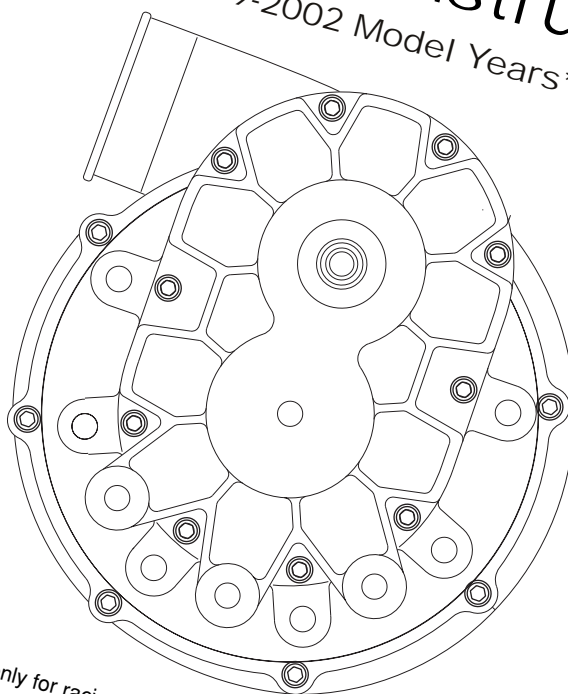


GM 4.8/5.3/6.0L Light Truck Supercharger System Installation Instructions

1999-2002 Model Years*



*Legal in California only for racing vehicles which may never be used upon a highway.



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.

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1999-2002 GM 4.8/5.3/6.0 Light Truck IMPORTANT NOTES

This kit requires ECM programming. The hand-held ECM programmer is not included in the kit box and must be ordered directly from Vortech by the installing customer (the charge for this unit has been included in the purchase price).

Included in this kit is a credit tag for one hand-held programmer. The programmers are made specifically for each individual vehicle with respect to the factory ECM calibration and VIN. Simply follow the instructions on the hand-held programmer credit tag.

Your ECM hand-held programmer comes with a twelve month limited warranty from the original date of purchase of your supercharger system (see the Owner's Manual for details).

Vortech Engineering is not responsible for engine or ECM damage due to an improperly installed/mishandled ECM module or ECM.

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.

GM 1999-2002 4.8/5.3/6.0 Light Truck

Installation Instructions

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 Automotive Limited Warranties Program and the Warranty Registration form.

Vortech supercharger systems are performance improving devices. In most cases, increases in torque of 30-35% and horsepower of 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 91 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 at least 15,000 miles and spark plug wires at least every 50,000 miles.

TOOL & SUPPLY REQUIREMENTS:

- Factory Repair Manual
- 3/8" Socket and Drive Set: SAE & Metric
- 1/2" Socket and Drive Set: SAE & Metric
- 3/8" NPT Tap and Handle
- Adjustable Wrench
- Open End Wrenches: 3/8", 7/16", 1/2", 9/16"
- Center Punch and a 5/8" Tapered Punch
- Springlock 3/8" and 5/8" Fuel Fitting Disconnect Tool
- 5 Quarts SH/CF Rated Quality Engine Oil
- Oil Filter and Wrench
- Flat #2 Screwdriver
- Phillips #2 Screwdriver
- Heavy Grease
- Silicone Sealer
- Drill Motor
- 1/8", 3/16", 27/64" Drill Bits
- 1/2" Tube Bender
- 3/16" Allen Wrench
- Wire Strippers and Crimpers
- Utility Knife
- Power Steering Pulley/Puller & Installer

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

- Spark Plug Socket
- NEW Spark Plugs



ENGINEERING, LLC

1999 GM 4.8/5.3/6.0L Truck

Part No. 4GL218-030/038SQ

PARTS LIST

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

PART NO.	DESCRIPTION	QTY	PART NO.	DESCRIPTION	QTY
2E228-300	V2SQ SC TRIM, GM TRUCK	1	4GL112-020	DISCH. ASSY GM TRUCK	1
2A036-333	S/C PULLEY	1	4GL012-020	DUCT, GM TRUCK DISCHARGE	1
2A046-113	BELT, K061130-GATES	1	4GL012-030	ELBOW, GM TRUCK 3.88-3" 90°	1
2A046-140	BELT K061140 GATES	1	7R002-044	#44 GOLDSEAL HOSE CLAMP	2
7C012-050	12mmx 1.75 x 50mm HXHD BOLT	1	7R002-048	#48 GOLDSEAL HOSE CLAMP	1
4FA016-171	DUST COVER (IDLER PULLEY)	1	7R002-064	#64 GOLDSEAL HOSE CLAMP	1
4FH016-150	IDLER PULLEY, 6-RIB 3" FLANGED	1	7S275-200	2-3/4 x 2 SLEEVE	1
2A017-462	SPACER, IDLER SMOOTH 6-RIB	1	4GL114-010	ASSY, WATER TUBE, GM TRUCK	1
7A375-224	3/8-16 x 2.25 GR5 HX	5	4GL014-010	WATER TUBE, GM TRUCK	1
7J375-044	3/8 SAE WASHER, PLTD	5	7A250-050	1/4-20 x 1/2 SHCS ZINC PLTD	1
4GL011-021	MTG BRKT GM TRUCK	1	7J006-093	6mm WASHER, PLATED	1
4GL130-026	OIL FEED LINE ASSY	1	7R002-024	#24 GOLDSEAL HOSE CLAMP	2
7P125-026	-4 TO 1/8 NPT 90° MALE	2	7R003-022	ADEL CLAMP, 1-3/8"	2
7P525-067	.500 CRIMP FERRULES	2	7U133-125	HOSE, 90° LONG LEG	1
7P250-066	#4 SWIVEL x 1/4" HOSE BARB	2	4GL020-020	ECM CHIP PACKAGE GM TRUCK	1
7U030-026	1/4" OIL FEED HOSE	3.17'	7T560-001	CUTTER, 9/16 ROTOBROACH	1
7U100-055	TIE WRAP, 6" NYLON	2	7T560-002	ARBOR, ROTOBROACH	1
7C060-050	6mm x 1.0 x 50mm HXHD ZINC PLT	2	8F060-001	FUEL INJECTOR	8
7J006-093	6mm WASHER, PLATED	2			
4GL010-020	ADAPTER, ESCALADE OIL FEED	1			
4GL010-030	GASKET, ESCALADE OIL ADAPTER	1			
4GL010-040	GASKET, 5.3 OIL ADAPTER	1			
4GL130-036	OIL DRAIN ASSY	1			
7P375-017	3/8 NPT x 1/2 BEADED HOSE BAR	1			
7P375-040	3/8" FEMALE ELBOW	1			
7P375-041	3/8 NPT HEX NIPPLE	1			
7R001-008	#8 STNLS HOSE CLAMP	2			
7R003-016	ADEL CLAMP, 7/8	1			
7U030-036	1/2" OIL DRAIN HOSE	2.75'			
4GL112-010	AIR INTAKE ASSY	1			
4FG112-022	PLASTIC INLET DUCT 180°	1			
4GL012-010	DUCT, GM TRUCK AIR INLET	1			
4GL010-011	INLET DUCT BRKT, DS	1			
4GL010-012	INLET DUCT BRKT, PS	1			
7A250-050	1/4-20 X 1/2 SHCS ZINC PLT	2			
7J006-093	6MM WASHER, PLT	2			
7P156-082	5/32 TEE	1			
7P250-045	1/4 MALE NPT x 3/8 MALE BARB	1			
7R002-016	#16 HOSE CLAMP	4			
7R002-052	#52 GOLDSEAL HOSE CLAMP	2			
7R002-056	#56 GOLDSEAL HOSE CLAMP	3			
7S350-200	3-1/2 x 2 SLEEVE	1			
7U030-046	5/32" VACUUM LINE	1.5'			
7U030-056	3/8 PCV HOSE	2.5'			
7U034-016	1" GS HOSE	0.25'			
7U034-016	1" GS HOSE	1.5'			
7U035-001	3-1/2" FLEX HOSE	0.75'			
7U375-052	3/8" VACUUM CAP	1			
8D001-001	BYPASS VALVE	1			
7P375-050	3/8" HOSEMENDER	1			



2000-2002 GM 4.8/5.3/6.0L Truck

Part No. 4GL218-010/018SQ

PARTS LIST

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

PART NO.	DESCRIPTION	QTY	PART NO.	DESCRIPTION	QTY
2E228-300	V2SQ SC TRIM, GM TRUCK	1	5W001-017	3/8" RING TERMINAL 12 GA.	1
2A036-333	S/C PULLEY	1	5W001-042	12-10 GA 3/16" RING TERMINAL	1
2A046-113	BELT, K061130-GATES	1	5W001-005	3/8" PLASTIC WIRE LOOM	2
2A046-140	BELT K061140 GATES	1	5W001-019	SOLDERLESS CONNECTOR 10-12 GA	1
7C012-050	12mmx 1.75 x 50mm HXHD BOLT	1	5W001-044	TIE WRAP, 4" NYLON	8
4FA016-171	DUST COVER (IDLER PULLEY)	1	7P375-050	3/8" HOSEMENDER	1
4FH016-150	IDLER PULLEY, 6-RIB 3" FLANGED	1			
2A017-462	SPACER, IDLER SMOOTH 6-RIB	1	4GL112-010	AIR INTAKE ASSY	1
7A375-224	3/8-16 x 2.25 GR5 HX	5	4FG112-022	PLASTIC INLET DUCT 180°	1
7J375-044	3/8 SAE WASHER, PLTD	5	4GL012-010	DUCT, GM TRUCK AIR INLET	1
			4GL010-011	INLET DUCT BRKT, DS	1
			4GL010-012	INLET DUCT BRKT, PS	1
4GL011-021	MTG BRKT GM TRUCK	1	7A250-050	1/4-20 X 1/2 SHCS ZINC PLT	2
			7J006-093	6MM WASHER, PLT	2
4GL130-026	OIL FEED LINE ASSY	1	7P156-082	5/32 TEE	1
7P125-026	-4 TO 1/8 NPT 90° MALE	2	7P250-045	1/4 MALE NPT x 3/8 MALE BARB	1
7P525-067	.500 CRIMP FERRULES	2	7R002-016	#16 HOSE CLAMP	4
7P250-066	#4 SWIVEL x 1/4" HOSE BARB	2	7R002-052	#52 GOLDSEAL HOSE CLAMP	2
7U030-026	1/4" OIL FEED HOSE	3.17'	7R002-056	#56 GOLDSEAL HOSE CLAMP	3
7U100-055	TIE WRAP, 6" NYLON	2	7S350-200	3-1/2 x 2 SLEEVE	1
7C060-050	6mm x 1.0 x 50mm HXHD ZINC PLT	2	7U030-046	5/32" VACUUM LINE	1.5'
7J006-093	6mm WASHER, PLATED	2	7U030-056	3/8 PCV HOSE	2.5'
4GL010-020	ADAPTER, ESCALADE OIL FEED	1	7U034-016	1" GS HOSE	0.25'
4GL010-030	GASKET, ESCALADE OIL ADAPTER	1	7U034-016	1" GS HOSE	1.5'
4GL010-040	GASKET, 5.3 OIL ADAPTER	1	7U035-001	3-1/2" FLEX HOSE	0.75'
			7U375-052	3/8" VACUUM CAP	1
4GL130-036	OIL DRAIN ASSY	1	8D001-001	BYPASS VALVE	1
7P375-017	3/8 NPT x 1/2 BEADED HOSE BAR	1	7P375-050	3/8" HOSEMENDER	1
7P375-040	3/8" FEMALE ELBOW	1			
7P375-041	3/8 NPT HEX NIPPLE	1	4GL112-020	DISCH. ASSY GM TRUCK	1
7R001-008	#8 STNLS HOSE CLAMP	2	4GL012-020	DUCT, GM TRUCK DISCHARGE	1
7R003-016	ADEL CLAMP, 7/8	1	4GL012-030	ELBOW, GM TRUCK 3.88-3" 90°	1
7U030-036	1/2" OIL DRAIN HOSE	2.75'	7R002-044	#44 GOLDSEAL HOSE CLAMP	2
			7R002-048	#48 GOLDSEAL HOSE CLAMP	1
4GL238-078	FMU ASSY 10:1, w/LINES	1	7R002-064	#64 GOLDSEAL HOSE CLAMP	1
7U030-046	5/32" x 12" VACUUM LINE	1	7S275-200	2-3/4 x 2 SLEEVE	1
7P156-082	5/32" TEE	1			
6Z050-191	FMU WASHER, 8:1	1	4GL114-010	ASSY, WATER TUBE, GM TRUCK	1
6Z070-030	FMU 8:1 RING SPACER	1	4GL014-010	WATER TUBE, GM TRUCK	1
6Z050-171	FMU WASHER, 12:1	1	7A250-050	1/4-20 x 1/2 SHCS ZINC PLTD	1
			7J006-093	6mm WASHER, PLATED	1
4GL101-002	FUEL SYSTEM ASSY	1	7R002-024	#24 GOLDSEAL HOSE CLAMP	2
7E010-075	#12 x 3/4" SHEET METAL SCREW	2	7R003-022	ADEL CLAMP, 1-3/8"	2
7P625-030	FTG, GM TRUCK FUEL PUMP	1	7U133-070	FILLER HOSE	1
7P625-031	FTG, GM TRUCK FILTER	1	7U133-125	HOSE, 90° LONG LEG	1
7R003-027	ADEL CLAMP, 1-11/16"	2			
7U030-050	12mm FUEL HOSE	1MTR	4GL020-020	ECM CHIP PACKAGE GM TRUCK	1
7R001-008	#8 STNLS HOSE CLAMP	2	7T560-001	CUTTER, 9/16 ROTOBROACH	1
8F001-002	155 INLINE FUEL PUMP	1	7T560-002	ARBOR, ROTOBROACH	1
7C010-050	10-24 x 1/2 SOC HD CAP, ZINC PL	1			
7F010-024	10-24 NYLOCK NUT	1			
7J010-001	#10 FLAT WASHER	2			
8F101-320	FUEL PMP RELAY ASSY, GM TRUCK	1			
7U100-045	O-RING, .301	1			
5W001-014	FUSE HOLDER 10 GA WIRE	1			
5W001-011	16-14 GA EYELET .25" HOLE	1			
5W001-025	FEMALE SLIDE, INSULATED, MINI	1			
5W001-024	MINI ATC FUSE TAP	1			
5W001-015	FUSE, BLADE TYPE 20 AMP	1			

1. COMPONENT REMOVAL

- A. Drain sufficient coolant to remove the upper radiator hose and clamps.
- B. Disconnect the negative battery cable at the battery.
- C. Remove all ducting between the MAF meter and the throttle body.
- D. Remove the upper fan shroud and the radiator hose.
- E. Remove the accessory drive belt. (Keep in vehicle as a spare.)

NOTE: *The supercharger can be bypassed by installing the factory accessory drive belt in its original configuration.*

- F. Remove the two bolts holding the alternator fusible link junction box and set aside.
- G. Remove the idler from the cast bracket and set aside for later use.
- H. If the vehicle is equipped with an engine cover that extends over the valve covers (Cadillac Escalade), the driver side section may either be removed completely or left in place and trimmed in order to clear the supercharger componentry.
- I. Remove the power steering pulley from the pump.
- J. Remove the three bolts securing the front of the power steering pump. Loosen the bolt securing the back of the pump to the engine block.
- K. Remove the alternator, bushings and bolts and set aside for later use. The alternator bushings can be removed by tapping the small end through the bracket with an appropriately sized socket.
- L. Remove the alternator and power steering pump mounting bracket by removing the three bolts securing it to the head and the bottom bolt securing it to the engine block.
- M. Remove the valve cover breather hose from the passenger's side of the throttle body and cap off the throttle body nipple with supplied 3/8" vacuum cap.

2. SUPERCHARGER MOUNTING BRACKET

- A. Install the original alternator bushings into the supercharger mounting bracket with the flanged portion pointed back. (See *Figs. 2-a, 2-b.*)
- B. Clean front of driver's side head of debris.
- C. Bolt the supplied Vortech supercharger mounting bracket to the head and block using the original mounting bolts. Make sure the mounting bracket is seated directly on a machined surface on the head and that no wires are pinched.
- D. Tighten the four mounting bolts to 37 ft-lbs (50 N-m).
- E. Install the two original bolts holding the alternator fusible link junction box in the supercharger mounting bracket so that it is in the stock location.
- F. Attach the power steering pump to the Vortech bracket using the original mounting hardware. Tighten the four power steering pump bolts to 37 ft-lbs (50 N-m). (One bolt is still loosely inserted in the engine block.)
- G. Reinstall the power steering pump pulley. Make sure that it is seated flush with the end of the power steering pump shaft.
- H. Reinstall the alternator using the original hardware. (See *Fig. 2-c.*)
- I. Install the factory idler pulley at the location shown in *Fig. 3-b*. Spin the idler to verify that the rotating portion does not contact the alternator bolt.

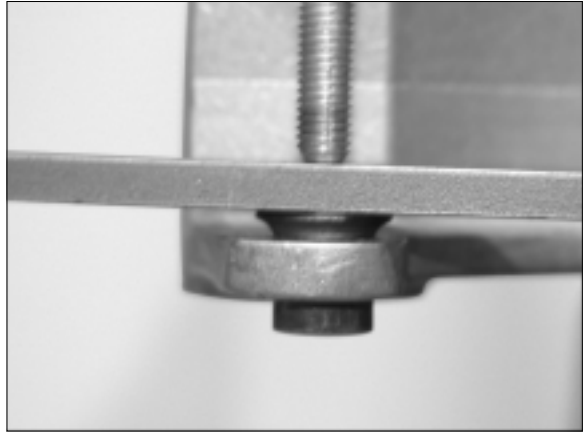


Fig. 2-a

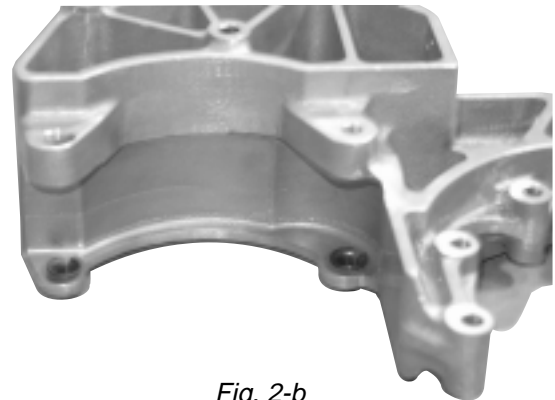


Fig. 2-b



Fig. 2-c

3. SUPERCHARGER INSTALLATION

- A. Attach the oil drain hose to the supercharger and tighten the clamp.
- B. Loosely install the supercharger onto the Vortech bracket. Start all five 3/8-16 x 2-1/4" supercharger mounting screws with washers.
- C. Tighten the supercharger mounting screws in a rotating pattern to 18 ft-lbs (25 N-m).
- D. Install the Vortech supplied M12 x 50mm bolt, dust cover, idler pulley and spacer onto the supercharger cover as shown in *Figs. 3-a, 3-b*.
- E. Install the supplied supercharger/accessory drive belt per *Fig. 3-b*.

NOTE: Vehicles equipped with heavy-duty (130 amp) alternators require the #2A046-140 (114") belt. All others must use #2A046-113 (113") belt. Both belts are supplied in the kit.

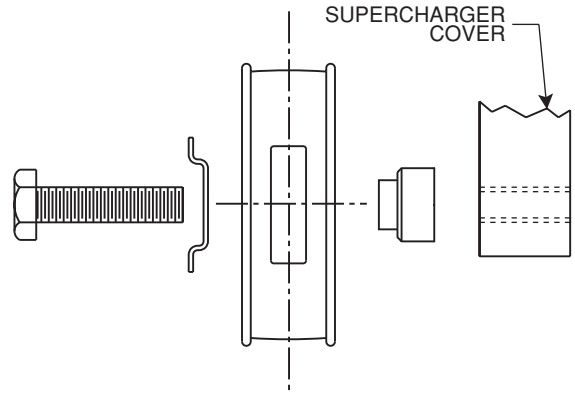


Fig. 3-a

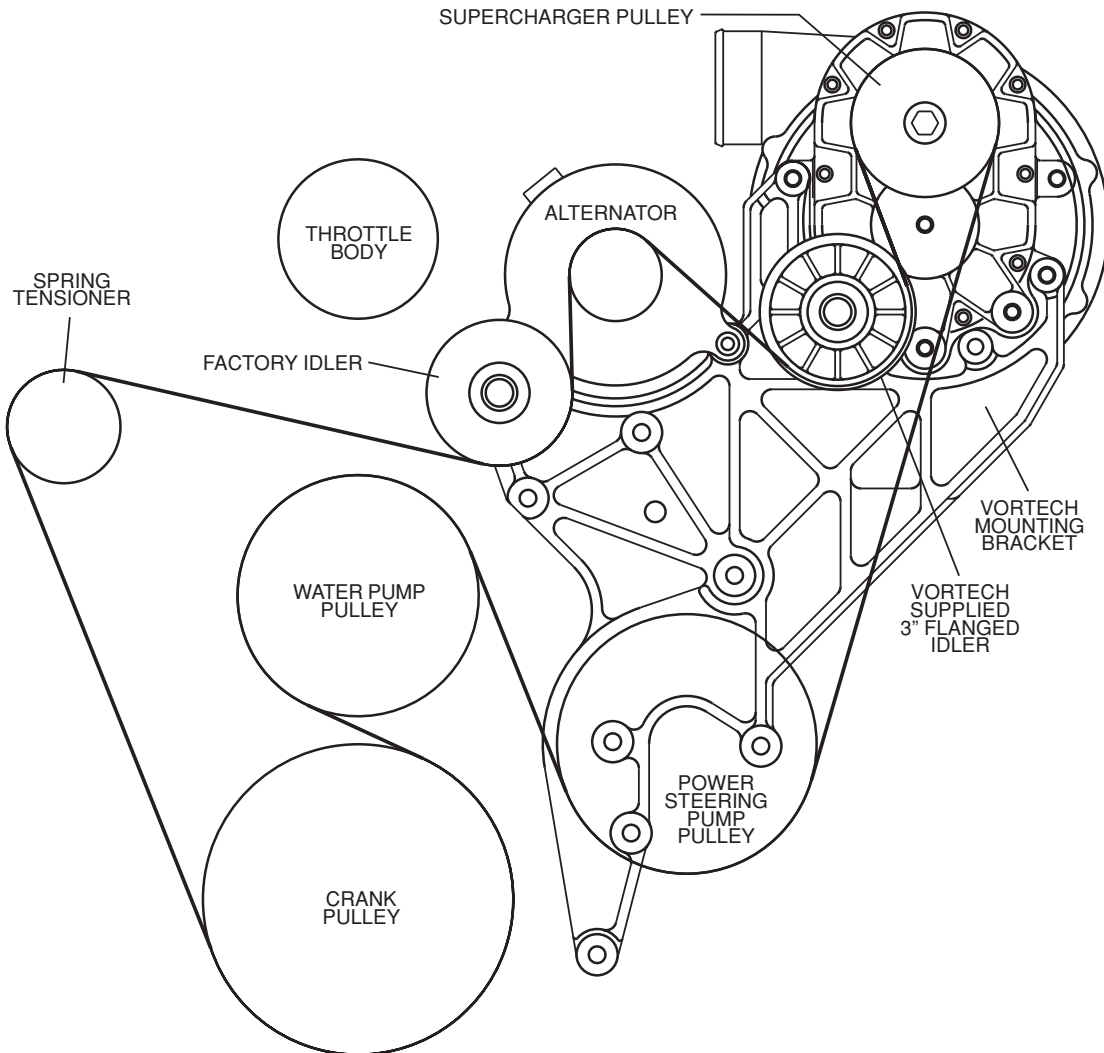


Fig. 3-b

4. OIL DRAIN LINE

- A. To provide an oil drain for the supercharger, it is necessary to make a hole in the oil pan. Locate and centerpunch the hole per *Fig. 4-a*. Drill a 1/8" pilot hole at center location.
- B. Use the supplied 9/16" rotobroach to drill the hole in the oil pan. Take care to break through the pan gently and remove the cut out.
- C. Pack the flutes of a 3/8 NPT tap with grease. Tap the hole until the fitting can be started.
- D. Thoroughly clean the threaded area. Reach inside the oil pan and retrieve any stray chips. Apply a small amount of sealer to the new threads. Apply more sealer to the supplied 3/8" NPT hex nipple and secure in the hole. Make sure the seal is formed all around the fitting. Install the supplied 90° elbow and 3/8 NPT x 1/2" barb fitting pointing forward and slightly up.
- E. Route the oil drain hose from the supercharger to the barb fitting, attach and tighten the hose clamp. (See *Fig. 4-a*.)

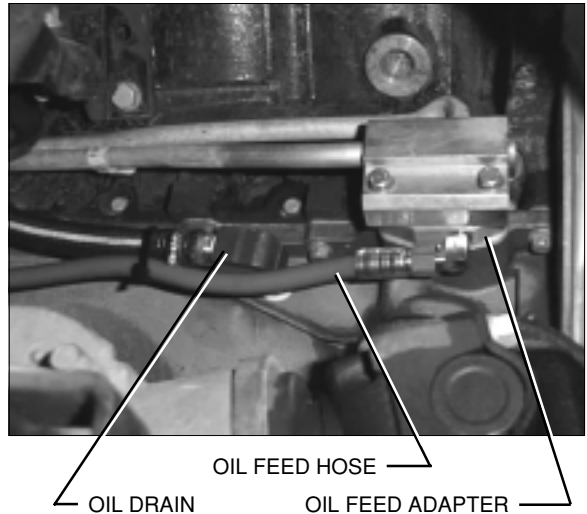


Fig. 4-a

IMPORTANT! *Oil in the supercharger is gravity drained to the oil pan. Trim the supplied oil drain hose as necessary so that it is continuously sloping down towards the oil pan. Avoid dips, kinks etc.*

5. OIL FEED LINE

- A. Remove the two screws holding the small casting or oil cooler block located directly above the oil filter.
- B. Using engine oil on the threads, install 1/8" NPT to #4 90° fitting into the supplied oil feed adapter.
- C. Using the adapter, the appropriate supplied gasket and the supplied longer 6mm screws, assemble the components as shown in *Fig. 4-a*.
- D. Install a 1/8" NPT to #4 90° fitting into the supercharger oil feed filter. Use a small amount of engine oil on the pipe threads. Pipe sealant should not be used as it can clog the filter and damage the supercharger.
- E. Route the oil feed line from the supercharger to the installed fitting. Use an adel clamp on the side of the oil pan and tie wraps to secure the oil feed and oil drain lines and protect them from kinking, abrasion and high heat areas. (See *Fig. 4-a*.)
- F. Drain the engine oil, install a new filter and refill the engine with fresh oil.

6. FUEL INJECTOR REPLACEMENT (1999 Models Only, 2000-2002 models Go To Step 7)

- A. Relieve the fuel system pressure.
- B. Disconnect the eight fuel injector wiring clips and retainers from the injectors.
- C. Remove the four 10mm bolts holding down the fuel rail on the intake manifold. Lift up on the rails evenly, removing all eight injectors.
- D. Using a small amount of clean motor oil, lightly lubricate the O-rings on both ends on the Vortech supplied fuel injectors.
- E. Install the new injectors into the fuel rails with the terminals facing outward.
- F. Carefully lower the fuel rail/injector assembly down onto the intake manifold. Check to see that each injector has been seated properly into the manifold.
- G. Tighten down the fuel rail assembly with the original bolts and attach the wiring clips to the injector terminals.

7. FUEL MANAGEMENT UNIT (FMU) INSTALLATION (2000-2002 Models Only, 1999 Models Go To Step 9)

- A. Mount the supplied FMU as shown in *Fig. 7-a* using the existing studs on the firewall as follows:
 1. Remove the nuts securing the factory ground straps.
 2. Install the FMU over the studs.

NOTE: Not all vehicles have the studs in the same location. Drill an additional 1/4" hole in the FMU bracket as required. See *Fig. 7-a*.

3. Loosely reinstall the nuts on top of the FMU bracket.
- B. Disconnect the fuel return line from the fuel rail and connect the respective lines to their snap connectors on the end of the FMU lines. (See *Fig. 7-c*.)

NOTE: The fuel tank return line extends from the fuel regulator to the tank. It is smaller than the fuel rail supply line.

- C. Using the supplied 5/32" vacuum line and TEE, connect the 90° fitting on top of the FMU to the manifold vacuum line connected to the fuel regulator. (See *Fig. 7-c*.)



Fig. 7-a



Fig. 7-b

7. FUEL MANAGEMENT UNIT (FMU) INSTALLATION (2000-2002 Models Only), cont'd.

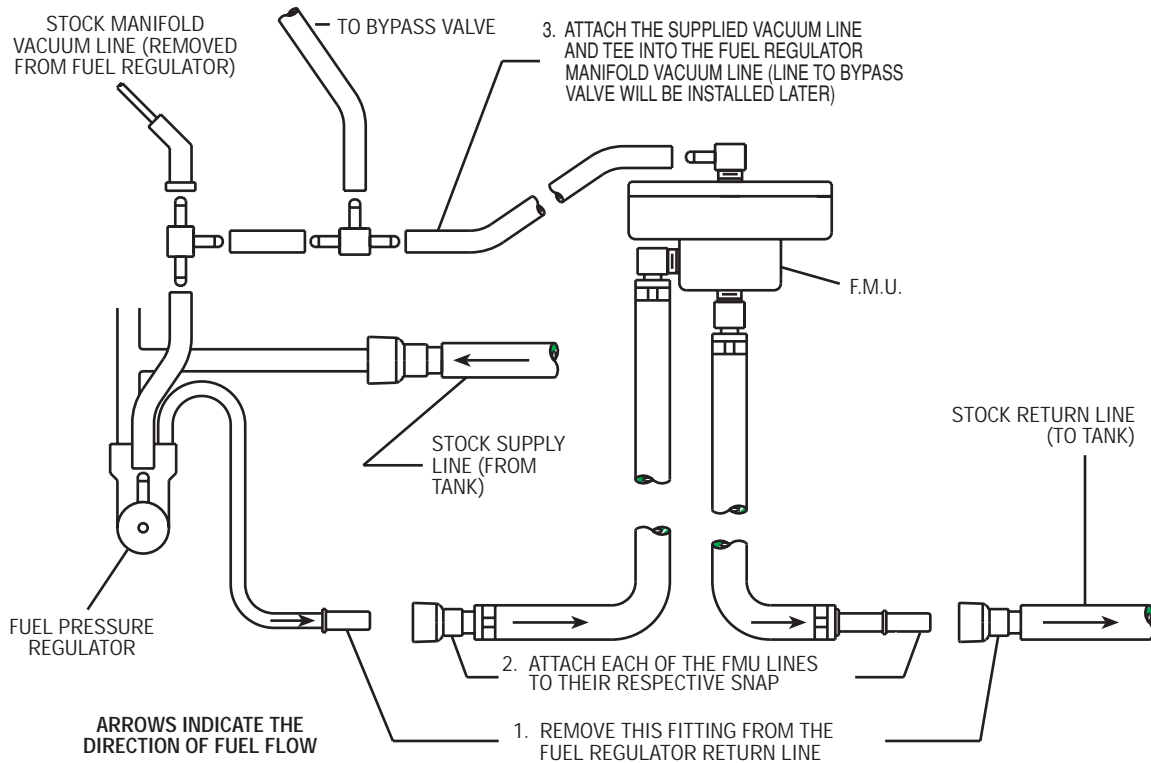


Fig. 7-c

7.1 FUEL MANAGEMENT UNIT RECALIBRATION (2000 Models, 2002 4.8L Only)

NOTE: For 2000 model year 5.3 & 6.0L and 2002 4.8L vehicles, complete section 7 (previous step), perform this step and then proceed with section 8 in the instruction manual.

- A.** Remove the six allen head screws on top of the fuel management unit (FMU). (See Fig. 7.1-a.)

WARNING: Do not remove the four screws holding the valve body. Once taken apart the valve would have to be replaced.

- B.** Remove the diaphragm and 10:1 disk (2.47" O.D.) and ring from inside of the FMU.

- C1. For 2000 5.3L and 2002 4.8L trucks:** Install the replacement 8:1 ring (with notched part facing down) around the four screws inside the FMU. (The 8:1 components are smaller in diameter than their 10:1 counterparts.) Place the 8:1 disk (2.22" O.D.) inside the ring on top of the piston.

- C2. For 2000 6.0L trucks:** install the replacement 12:1 disk (2.72" O.D.) into the FMU.

- D.** Install the new diaphragm and carefully line up the holes to the body.

- E.** Reinstall the FMU cover with the six allen head screws. *Do not over-tighten the screws. The correct torque is 24 in/lb (2 ft/lb).*

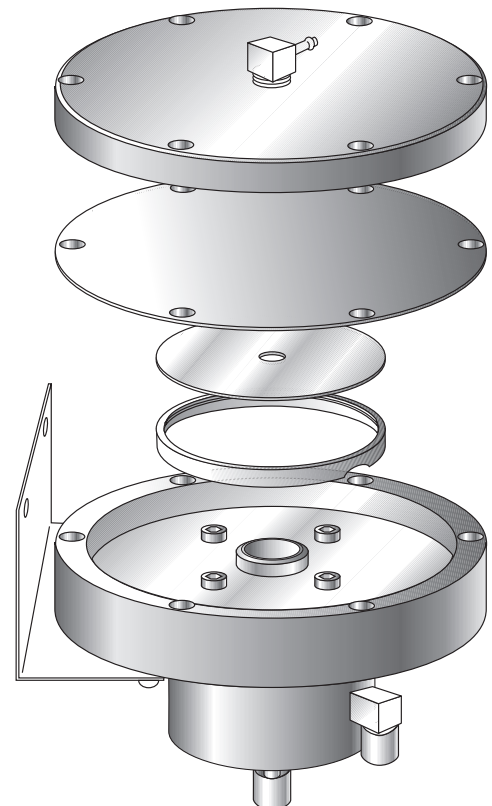


Fig. 7.1-a

8. FUEL PUMP WIRING AND INSTALLATION (2000-2002 Models Only)

- A. Mount the supplied fuel pump relay onto the FMU bracket as shown in *Fig. 8-a*.
- B. Connect the red 12-gauge wire from terminal #30 to the supplied fuse holder using the supplied butt connector. Install a yellow ring terminal on the other end of the fuse holder and bolt to the fuse box power supply terminal as shown in *Fig. 8-b*. In order to reach the terminals, the fuse box cover must be unsnapped from the base and raised for access. (See *Fig. 8-b*.)
- C. Feed the yellow wire from relay terminal #85 to the fuse box (electrical center) on the driver's side of the engine bay. Route the wire to the stock fuel pump relay and connect using the supplied fuse tap. Bend the fuse tap as shown in *Fig. 8-c*.
- D. Run the black wire from terminal #86 on the fuel pump relay to ground.
- E. With the long red 12-gauge wire connected to the fuel pump relay terminal #87, route the free end down to the area near the fuel filter on the driver's side inner frame rail under the door. Secure as necessary to avoid heat and sharp edges.

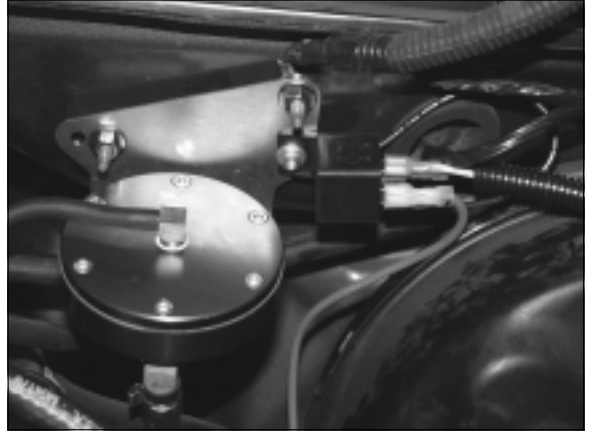
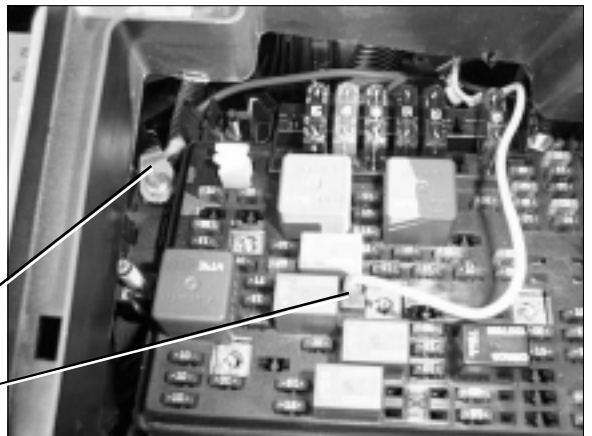


Fig. 8-a



RED WIRE FROM VORTECH SUPPLIED RELAY TERMINAL #30 ATTACHES HERE

YELLOW WIRE FROM VORTECH SUPPLIED RELAY TERMINAL #85 ATTACHES HERE

Fig. 8-b

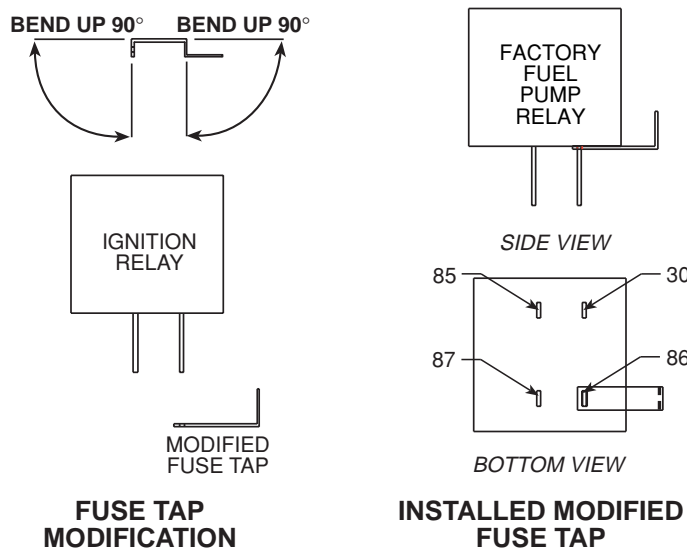


Fig. 8-c

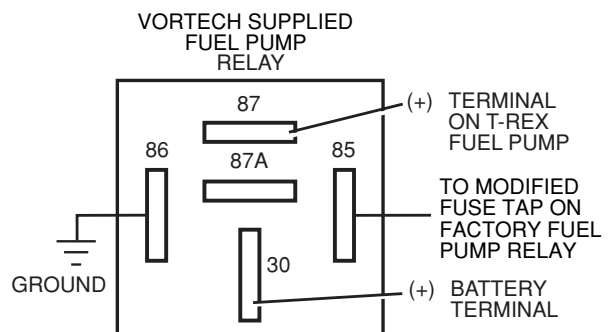


Fig. 8-d

8. FUEL PUMP WIRING AND INSTALLATION (2000-2002 Models Only), cont'd.

- F. Remove the fuel line from the outlet (front) of the fuel filter. Remove the tube from the plastic retainer holding it so that it can be rotated freely. Some models may vary from the photo slightly. Follow the same procedure, taking care to mount the pump so that the hard line is not stressed.
- G. Making sure the O-ring is seated on the threaded end of the supplied fitting, install into the outlet (front) of the fuel filter and tighten.
- H. Making sure the O-ring is seated on the tube end of the fuel line (removed from the filter) thread the bump tube into the fitting installed on the outlet of the fuel pump and tighten.
- I. Route the free end of the hose connected to the fuel pump inlet to the fitting previously installed on the fuel filter outlet. Use the supplied hose clamp to secure the hose on the barb fitting. Try to make the bends as large as possible, so as to avoid kinking the hose. Secure the hose using the wraps and tighten all of the hose clamps.
- J. Install the supplied adel clamps onto the fuel pump and mark holes to be drilled for #12 sheet metal screws. Drill an 11/64" hole at each location. Using the supplied black 12-gauge wire with yellow ring terminal connectors, install one end under the sheet metal screw nearest the electrical terminal side of the fuel pump. Attach the other end of the ground wire to the (-) terminal of the fuel pump. Secure to the frame as shown in *Fig. 8-e*. Tighten both adel clamps.
- K. Attach the previously routed red wire to the positive terminal of the fuel pump using the yellow ring terminal connector.



Fig. 8-e

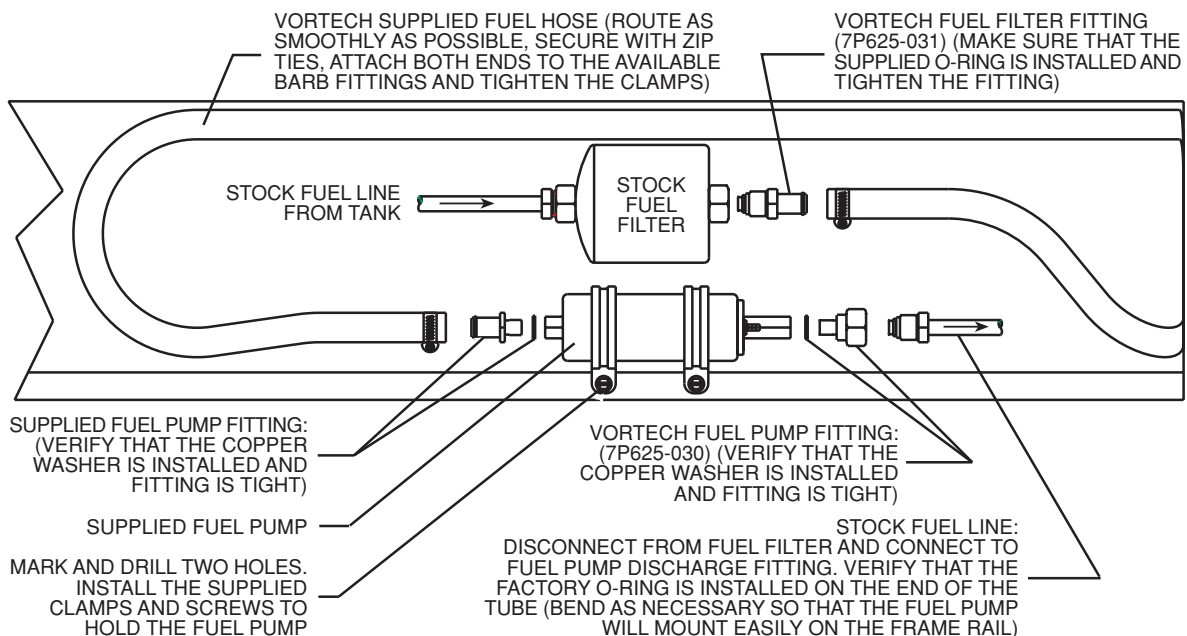


Fig. 8-g

9. INLET DUCT INSTALLATION

- A. Install the supplied 3-1/2" x 3" sleeve onto the MAF sensor outlet.
- B. Reinstall the upper fan shroud with the exception of the top two bolts.
- C. Remove any plastic clips that are no longer used to secure the radiator hose.
- D. Slide the entry of the large plastic inlet duct (see Fig. 9-d) into the sleeve installed on the MAF. Lower the inlet duct onto the top of the radiator shroud. Reinstall the factory radiator shroud bolts through the two supplied inlet duct mounting tabs and into their original bolt holes.
- E. Insert the supplied 1/4-20 x 1/2" screws through the bracket and into each side of the inlet duct using the supplied washers. Tighten the screws. (See Fig. 9-a.)
- F. Install the supplied 180° inlet duct onto the inlet of the supercharger after the supercharger is installed. Orient the duct so that the inlet is at the same level as the outlet of the large duct just installed. Tighten the #56 hose clamp on the aluminum ring around the supercharger inlet.
- G. Install the supplied #52 hose clamps and 3-1/2" x 9" long flex hose between the two ducts just installed. (See Fig. 9-b.)
- H. Using the supplied 3/8" hose mender, connect the supplied 3/8" hose from the back of the inlet duct to the passenger side valve cover breather hose. Secure the hose so that it cannot interfere with the throttle arm or cable. (See Fig. 9-c.)
- I. Install and tighten the hose clamps on each connection. (See Fig. 9-d.)

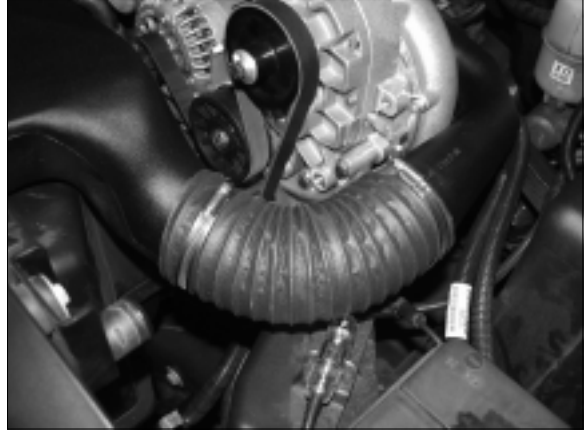


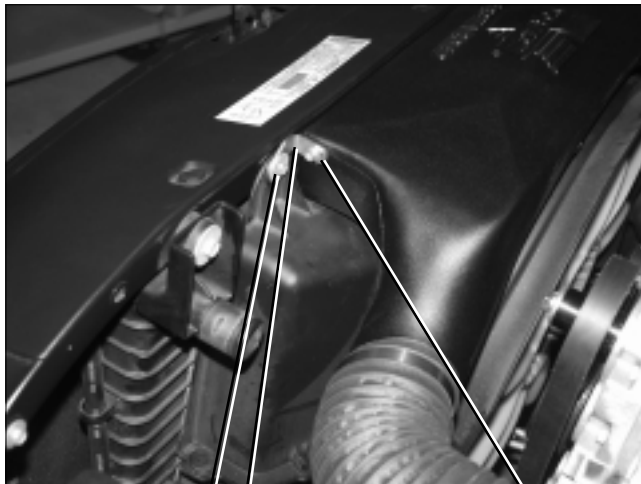
Fig. 9-b



SUPPLIED 3/8"
RUBBER CAP

SUPPLIED
3/8" HOSE

Fig. 9-c



FACTORY
SHROUD BOLT
SUPPLIED DUCT
MOUNTING TABS
(LEFT & RIGHT)

SUPPLIED 1/4-20
HARDWARE

Fig. 9-a



Fig. 9-d

10. RADIATOR TUBE INSTALLATION

- A. Cut the supplied hose as shown in *Fig. 10-a*.
- B. Using the two original clamps and the two supplied #24 hose clamps, attach the previously trimmed hose pieces to each end of the supplied radiator tube, radiator and water pump. (See *Figs. 10-a, 10-b.*)
- C. Orient the radiator tube and hoses for best fit and tighten all clamps.
- D. Use the supplied adel clamp and 1/4-20 x 1/2" screw and washer to secure the radiator tube to the insert on the large plastic inlet duct. (See *Fig. 10-b.*)
- E. Refill the coolant reservoir.

TO SUPPLIED RADIATOR TUBE
(TRIM FOR BEST FIT)

TO WATER PUMP



Fig. 10-a

2" PIECE TRIMMED FROM
SUPPLIED HOSE



Fig. 10-b

11. DISCHARGE DUCT INSTALLATION

- A. Install the supplied 2-3/4" sleeve and rubber elbow onto the cast discharge duct. Put the discharge duct into position and slide the sleeves onto the supercharger and the throttle body.
- B. Install and tighten the #64, #48 and the two #44 hose clamps.



Fig. 11-a

12. SUPERCHARGER BYPASS VALVE INSTALLATION

- A. Connect a 3" length of 1" hose from the barb on the supercharger inlet duct to the outlet of the bypass valve.
- B. Using the supplied #16 hose clamps, connect the barb on the aluminum discharge duct to the inlet of the bypass valve using the supplied 1" hose. (See Fig. 12-a.)

NOTE: Some vehicles may require trimming of the engine cover to clear various components. If necessary, trim the cover to clear the bypass valve hose.

- C. Install and tighten hose clamps on each connection.
- D. Using the supplied 5/32" vacuum line and TEE fitting, connect the bypass valve pressure port to the manifold vacuum hose that is connected to the fuel pressure regulator. (See Fig. 7-c.)

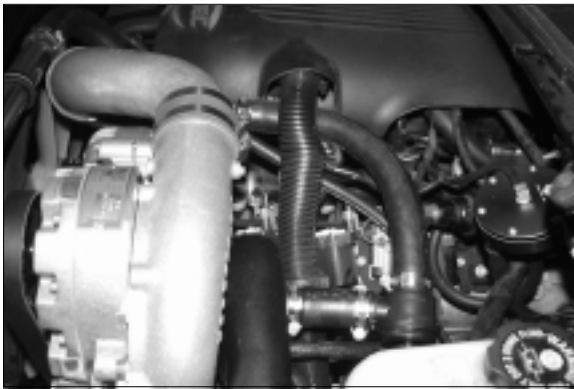


Fig. 12-a

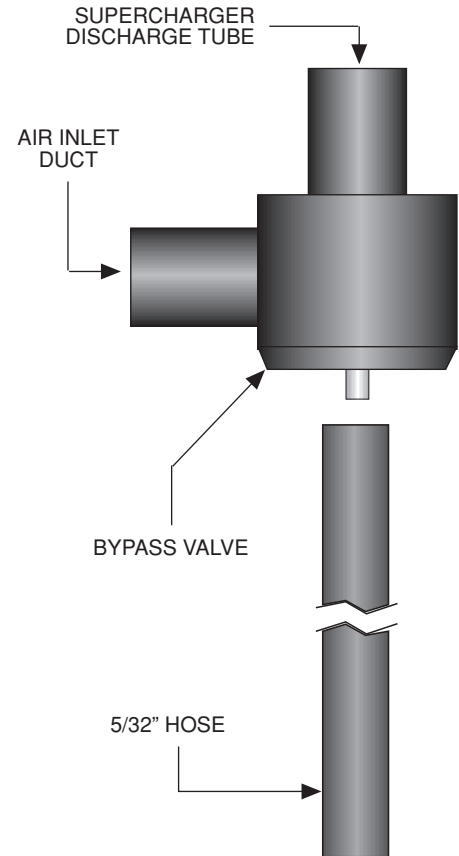


Fig. 12-b

13. REFLASH COMPUTER

"MICRO TUNER 2001" VEHICLE PROGRAMMING INSTRUCTIONS

IMPORTANT! To ensure trouble-free programming of your vehicle's computer:

- Make sure the vehicle's battery is sufficiently charged.
- Turn off all accessories and close doors to prevent unnecessary drain on the battery.
- Do not attempt to program your vehicle while a battery charger is connected.
- Improper battery voltage will result in failure of the programming process.
- Do not disconnect the cable or turn off the ignition during programming.

- A. Reconnect the battery.
- B. Connect the supplied cable to the 9-pin connector at the top of the hand-held unit. If present use the thumbscrews to secure the cable to the connector.
- C. Connect the other end to your ALDL connector located under the dash near the steering column. Make sure this connection is seated all the way in and that it is secure. You do not want this cable coming out of the connector during programming.
- D. Turn the ignition key to the "on" or "run" position but **do not start** the vehicle.
- E. To begin programming your vehicle, you may either press the YES button or the A button. If you press the YES button on the hand-held

NOTE: Vehicles equipped with "On-Star", please refer to the "On-Star" notice on page 13.

13. REFLASH COMPUTER, cont'd.

unit, this will download the Superchips performance program already stored in the hand-held unit. If you press "A", you can alter some pre-defined options to suit your needs. These options are not permanently stored in the hand-held unit. When power is removed from the unit, the changes you made will be lost.

- F. You only need to press the YES button once to start the programming cycle. The programming process takes 1 minute and 15 seconds to complete.

NOTE: *Do not disturb the cable, or turn the ignition off during this time. If the programming is disrupted, the computer will not start or run your vehicle!*

- G. The hand-held unit will inform you that the programming process has completed and to turn the ignition off and disconnect the cable. Only at this time should the ignition be turned off and the cable removed.
- H. Programming is now completed. Start the vehicle to ensure proper operation.

14. FINAL ASSEMBLY AND CHECK

- 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. (See Fig. 14-1.)
- D. Check all fluid levels, making sure that your tank(s) is/are filled with 91 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 no hoses, wires, etc. are near exhaust headers or moving parts and check for any sign of fluid leakage. Recheck all fluid levels.
- 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. 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.



Fig. 14-a

“ON-STAR” NOTICE

Regarding all GM vehicles with “ON-STAR” and Microtuner 2001. It has come to our attention that GM vehicles equipped with “ON-STAR” communications may have trouble being programmed with a Superchips Microtuner 2001. It appears the “ON-STAR” system interrupts communications between the Microtuner 2001 unit and the vehicle’s PCM. In most cases this results in the following message being displayed on the Microtuner 2001 “No response from PCM...” and after cycling the ignition the vehicle can be started right back up.

Superchips is reviewing this and to temporarily correct for this situation, it is recommended that any vehicle to be programmed that has “ON-STAR” should follow these additional steps FIRST.

1. Ensure the vehicle is off and keys are out of the ignition.
2. Locate “interior” fuse panel and remove QTY 2 SEO labeled fuses.
3. Locate “exterior” fuse panel and remove QTY 1 SEO labeled fuse.
4. Follow the instructions that came with the Microtuner.

Once programming is completed, ensure the vehicle is off and the keys are out of the ignition and install the fuses in the correct locations.

On GMC trucks, the interior fuse panel should be located to the left of the instrument panel/dash board. If the panel faces the door, open the door to gain full access.

On GMC trucks, the exterior fuse panel should be located under the hood on the right hand side of the vehicle. It will be labeled Fuse Panel or similar.



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