

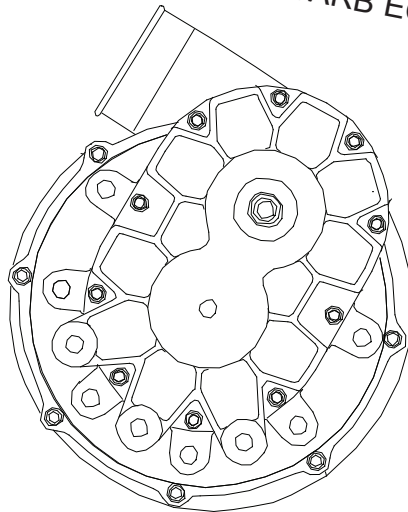
GM 5.3L&6.2L Light Truck/SUV

2007-2008 Model Years

Supercharger System

Installation Instructions

50 State Smog Legal per CARB EO #D-213-27



ENGINEERING, LLC

1650 Pacific Avenue, Channel Islands CA 93033-9901 • Phone: 805 247-0226
Fax: 805 247-0669 • www.vortechsuperchargers.com • M-F 8:00AM - 4:30PM (PST)

FOREWORD

This manual provides information on the installation, maintenance and service of the Vortech supercharger kit expressly designed for this vehicle. All information, illustrations and specifications contained herein are based on the latest product information available at the time of this publication. Changes to the manual may be made at any time without notice. Contact Vortech Engineering for any additional information regarding this kit and any of these modifications at (805) 247-0226 8:00am-4:30pm PST.



Take note of the following before proceeding:

1. Proper installation of this supercharger kit requires general automotive mechanic knowledge and experience. Please browse through each step of this instruction manual prior to beginning the installation to determine if you should refer the job to a professional installer/technician. Please contact your dealer or Vortech Engineering for possible installers in your area.
2. **This product was designed for use on stock (*un-modified, OEM*) vehicles.** The PCM (*computer*), engine, transmission, drive axle ratios and tire O.D. must be stock. If the vehicle or engine has been modified in any way, check with Vortech prior to installation and use of this product.
3. Use only premium grade fuel with a minimum of 91 octane (*R+M/2*).
4. Always listen for any sign of detonation (*knocking/pinging*) and discontinue hard use (*no boost*) until the problem is resolved.
5. Vortech is not responsible for any clutch, transmission, drive-line or engine damage.

Exclusions from Vortech warranty coverage considerations include, but not limited to:

1. Neglect, abuse, lack of maintenance, abnormal operation or improper installation.
2. Continued operation with an impaired vehicle or sub-system.
3. The combined use of Vortech components with other modifications such as, but not limited to, exhaust headers, aftermarket camshafts, nitrous oxide, third party PCM programming or other such changes.

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IMPORTANT NOTE

This kit requires ECM programming. The hand-held ECM programmer is included in the kit box.

The hand-held ECM 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.

Vehicles equipped with On-star that have aftermarket stereos will experience problems with the ability to re-program the vehicle's ECM. It is necessary to disconnect the aftermarket stereo from the wiring harness before continuing with the programming procedure.

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. 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.

2007-2008 GM Light Trucks

50 State Legal Per CARB EO D-213-27

Congratulations on selecting the best performing and best backed automotive supercharger available today... the VORTECH® 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 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:

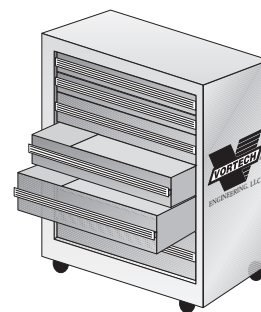
1. Use only premium grade fuel 91 octane or higher (R+M/2).
2. The engine must have stock compression ratio.
3. If the engine has been modified in any way, check with Vortech prior to using this product.
4. Always listen for any sign of detonation (pinging) and discontinue hard use (no boost) until problem 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 at least every 15,000 miles and spark plug wires at least every 50,000 miles.

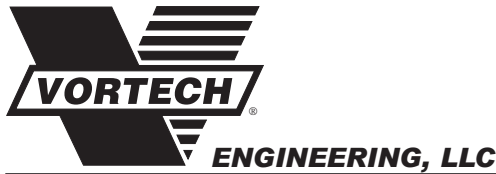
TOOL & SUPPLY REQUIREMENTS

- 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"
- Springlock 3/8" and 5/8" Fuel Fitting Disconnect Tool
- Flat #2 Screwdriver
- Phillips #2 Screwdriver
- Silicone Sealer
- Drill Motor
- 1/8", 3/16", 27/64" Drill Bits
- 3/8" Tube Bender
- 3/16" Allen Wrench
- Wire Strippers and Crimpers
- Utility Knife
- Power Steering Pulley/Puller & Installer
- Pliers
- Power steering pulley installer/puller

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

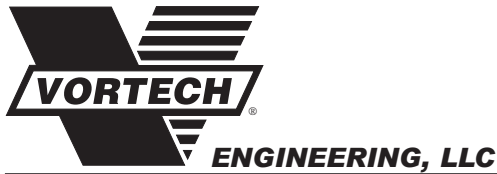




2008 6.2L Escalade Part No. 4GL218-350L/358L PARTS LIST

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
008341	VORTECH CHARGE COOLER DECAL	1	5A003-040	DIABLO PRED, 06-07 LS2/LS7 C6	1
008447	1 YR S/C STRT INFO PKG ASY VOR	1	8F060-047	FUEL INJ 47LB, DELPHI MULTEC 3	8
009035	S/C LUBE, BOTTLED, VORT 3-PACK	1	8N105-200	WATER TANK ASSY, 07 GM TRUCK	1
2F328-040	V3 SI-TRIM, 01-08 GM LS TR 3.33	1	2A017-875-08	SPACER, .875 OD X .290 LONG	2
2A046-113	BELT, 6 RIB X 112.89 EFFECT. L	1	7A250-050	1/4-20 X .50 SHCS ZINC PLTD	4
2A046-140	BELT, 6 RIB X 114.00 EFFECT. L	1	7J250-001	1/4 WASHER, SAE, PLTD	4
4GL011-021	MOUNTING BRACKET-MACH	1	7P375-075	3/4" HOSE BARB UNION, BRASS	2
4GL020-018	INSTALL MANUAL, GM TRK 07/08	1	7P500-026	1/2NPT X 3/4 BARB 90° BRASS	3
4GL110-120	HINGE, ASY, 07 GM TRK HOOD	1	7P500-078	1/2NPT X 3/4 HOSE FIT STRT	1
4GL010-120	HINGE, 07 GM TRK HOOD, LEFT	1	7R007-001	NYLON RATCHET CLAMP 1-1/8"	12
4GL010-130	HINGE, 07 GM TRK HOOD, RIGHT	1	7U030-065	HOSE, 3/4 X 90° RUBBER, SHORT	1
4FB017-041	LOWER SPACER, ALT. BRACKET	2	7U038-000	3/4" HEATER HOSE	19
4GL112-050	AIR INTAKE ASSY, 04 5.3L GM TR	1	7U038-012	HOSE, 3/4"DIA 90°, 4X12 LEGS	1
4GL010-011	BRKT,D SIDE GM TRK AIR INLET	1	7U038-150	HOSE, 3/4"X150° MOLDED HOSE	1
4GL010-012	BRKT,P SIDE GM TRK AIR INLET	1	7U100-055	TIE WRAP, 7.5" NYLON	6
4GL012-010	DUCT, INLET, LONG GM SUV/TRK	1	8N010-250	BRKT, SURGE TANK, 07 GM TRK	1
4PGL012-017	DUCT, S/C INLET, 03 ESCALADE	1	8N010-260	BRKT, COOLANT RES 07 GM TRK	1
7A250-050	1/4-20 X .50 SHCS ZINC PLTD	2	8N055-030	TANK, WATER, TRIANGLE SHAPE	1
7C060-025	M6 X 1.0 X 25MM HX	2	8N055-050	PLASTIC CAP, SURGE TANK	1
7J006-093	6MM WASHER, PLATED	2	8N056-060	SURGE TANK, PLASTIC	1
7J250-001	1/4 WASHER, SAE, PLTD	2	8N106-140	WATR COOLR ASY, 07 ESCALADE	1
7P156-082	5/32 TEE	1	7A250-050	1/4-20 X .50 SHCS ZINC PLTD	4
7P250-045	1/4 MALE NPT X 3/8 MALE BARB	1	7E010-075	#12 X 3/4" SHT METL SCRW HEX	4
7P375-050	3/8" HOSE UNION, BRASS	1	7J250-001	1/4 WASHER, SAE, PLTD	8
7P375-113	PCV VALVE, VIPER, 3/8"-1/2" BA	1	7R003-016	ADEL CLAMP, 1.0"	1
7R002-016	#16 SAE TYPE F SS HOSE CLAMP	4	7U038-012	HOSE, 3/4"DIA 90°, 4X12 LEGS	1
7R002-052	#52 SAE TYPE F SS HOSE CLAMP	2	8N006-020	WATER COOLR, FLDYN DUAL PASS	1
7R002-056	#56 SAE TYPE F SS HOSE CLAMP	3	8N010-320	FLDYN BKT, 07 ESCALADE DRVR	1
7R002-060	#60 SAE TYPE F SS HOSE CLAMPS	1	8N010-330	FLDYN BKT, 07 ESCALADE PASS	1
7S350-200	SLEEVE, 3-1/2 X 2, BLUE	1	8N107-050	WATER PMP ASSY, GMT LS1 H.O.	1
7S350-300	SLEEVE, 3-1/2 X 3, BLUE	1	5W001-005	3/8" PLASTIC WIRE LOOM	5
7S366-350	SLEEVE, REDUCER 3.66 - 3.50	1	5W001-009	16-14GA MALE SLIDE INSULATED	1
7U030-046	5/32" VACUUM LINE	2.5	5W001-013	14-16 GA BUTT CONN BLU INSUL	4
7U030-056	3/8 PCV/VAC RUBBER HOSE	3.5	5W001-014	FUSE HOLDER 10 GA WIRE	1
7U033-000	5/8" PCV HOSE	0.16	5W001-015	FUSE, BLADE TYPE 20 AMP	1
7U034-016	1" GS HEATER HOSE	0.25	5W001-019	10-12 GA BUTT CONN INSULATED	2
7U035-001	3-1/2" FLEX HOSE	0.75	5W001-022	T-TAP CONN, 14-16 AWG	1
7U133-045	RUBBR ELBO, 1"DIA X 45 DEG	1	5W001-024	MINI ATC FUSE TAP	1
7U375-052	3/8" VACUUM CAP	1	5W001-041	12-10GA MALE SLIDE INSULATED	2
8D001-001	STD COMPRESS BYPASS VALVE	1	5W001-043	12-10GA X 1/4" RING TERMINAL	3
4GL114-010	WATER TUBE ASSY, GM TRUCK	1	7A250-050	1/4-20 X .50 SHCS ZINC PLTD	2
4GL014-018	WATER TUBE, GM TRUCK, POLISHED	1	7F250-021	1/4-20 NYLOCK NUT ZINC PLATED	1
7A250-050	1/4-20 X .50 SHCS ZINC PLTD	1	7R003-027	ADEL CLAMP, 1-11/16"	1
7J006-093	6MM WASHER, PLATED	1	7U100-044	TIE WRAP, 4" NYLON	4
7R002-024	#24 SAE TYPE F SS HOSE CLAMP	2	7U100-055	TIE WRAP, 7.5" NYLON	6
7R003-022	ADEL CLAMP 1 3/8"	1	8F001-402	PUMP, WATER, PIERBURG	1
7U133-125	HOSE, 1.25DIA 90° LONG LEG	1	8F101-320	FUEL PUMP RELAY ASSY, LS1 TRK	1
5W001-085	SLEEVE, FLEX BRD Ø1.5" NOM.	0.5	5W001-002	FUSE TAP	1
4PGL112-070	DISCH ASSY, 07 ESCALADE	1	7E010-075	#12 X 3/4" SHT METL SCRW HEX	2
4GL012-030	ELBOW, 3.88"-3.0" X 90° GM TRK	1	8N201-360	CAC ASY, 07 GM TRUCK	1
4GL012-040	DISCH TUBE A, 6.0 COOLER, CAST	1	2A017-875-13	SPACER, .875 OD X .895 LONG	1
4GL012-070	DISCH TUBE B, 07 ESCALADE SAT	1	4GL010-110	BRKT, CAC SUPPRT 07 GM TRK	1
7R002-044	#44 SAE TYPE F SS HOSE CLAMP	5	7C010-040	M10 X 1.5 X 40 HXHD CL8.8 ZN	1
7R002-048	#48 SAE TYPE F SS HOSE CLAMP	2	7J010-002	10MM WASHER, ZINC PLATED	1
7R002-064	#64 SAE TYPE F SS HOSE CLAMP	1	7P500-026	1/2NPT X 3/4 BARB 90° BRASS	1
7S275-200	SLEEVE, Ø2.75" X 2.00"L, BLUE	2	7P500-078	1/2NPT X 3/4 HOSE FIT STRT	1
7S300-275	REDUCER, 3.00-2.75	1	7U250-200	TAPE, FOAM, 1/4" X 2" X 50'	12
			8N101-330	WELDED CORE ASSY, 2007 GM TRK	1



2007-2008 GM 5.3L Truck

Part No. 4GL218-360L/368L

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
4GL011-021	MOUNTING BRACKET	1	4GL110-010	ASSY, COMPUTER RELOC '03 LS1 TR	1
8F060-047	FUEL INJECTOR, GM 8.1 DELPHI	8	2A017-752-02	SPACER, .750"OD x .894" LONG	2
5A003-040	04-07 GM PREDATOR	1	9AL6061-750	Ø.750" 6061 ALUMINUM ROD	1
4GL020-018	INSTALLATION MANUAL	1	7C060-050	M6 x 1.0" 50 HXHD ZINC PLATE	2
009035	S/C LUBE, BOTTLED, 3-PACK	1	7F006-093	6mm NYLOCK NUT	2
4PGL112-020	DISCH ASSY LS1 H.O. TRUCK	1	7J006-093	6mm WASHER, PLATED	4
4GL012-030	ELBOW, 3.88"-3.0" X 90° GM TRK	1	8N201-360	CAC ASY, 2007 GMTRUCK 5.3L	1
4GL012-040	DISCH TUBE A, 6.0 COOLER, CAST	1	2A017-875-13	SPACER, .875 OD X .895 LONG	1
4GL012-051	DISCH TUBE B, 6.0 COOLER	1	9AL6061-0875	7/8" DIA. 6061 ALUMINUM ROD	1.16129
7R002-044	#44 SAE TYPE F SS HOSE CLAMP	5	4GL010-110	BRKT, CAC SUPPRT 07 GM TRK	1
7R002-048	#48 SAE TYPE F SS HOSE CLAMP	2	7C010-040	M10 X 1.5 X 40 HXHD CL8.8 ZN	1
7R002-064	#64 SAE TYPE F SS HOSE CLAMP	1	7J010-002	10MM WASHER, ZINC PLATED	1
7S275-200	SLEEVE, Ø2.75" X 2.00"L, BLUE	2	7P500-026	1/2NPT X 3/4 BARB 90° BRASS	1
7S300-275	REDUCER, 3.00-2.75	1	7P500-078	1/2NPT X 3/4 HOSE FIT STRT	1
4GL112-050	AIR INTAKE ASSY, 04 5.3L GM TR	1	7U250-200	TAPE, FOAM-1/4" X 2" X 50'	12
4GL010-011	BRKT,D SIDE GM TRK AIR INLET	1	8N101-330	WELDED CORE ASSY, 2007 GM TRK	1
4GL010-012	BRKT,P SIDE GM TRK AIR INLET	1	8N101-001	WELDED CORE ASSY W/ENDS ONLY	1
4GL012-010	DUCT, INLET, LONG GM SUV/TRK	1	8N002-011	COOLER TANK A, MACHINED	1
7A250-050	1/4-20 X .50 SHCS ZINC PLTD	2	8N002-010	COOLER TANK A, CASTING	1
7J006-093	6MM WASHER, PLATED	2	8N002-021	COOLER TANK B, MACH, STD PAT	1
7P156-082	5/32 TEE	1	8N002-020	COOLER TANK B, CAST W/HOLES	1
7P250-045	1/4 MALE NPT X 3/8 MALE BARB	1	7P062-188	1/16 NPT PIPE PLUG	4
7P375-050	3/8" HOSE UNION, BRASS	1	8N003-070	DUCT.COOLER.OUTLET.LS1.FBODY	2
7R002-016	#16 SAE TYPE F SS HOSE CLAMP	4	8N003-070R	DUCT.COOLER.OUTLET.LS1.FBODY	1
7R002-052	#52 SAE TYPE F SS HOSE CLAMP	2	8N105-200	WATER TANK ASSY, 2007 GMTRUCK	1
7R002-056	#56 SAE TYPE F SS HOSE CLAMP	3	8N010-250	BRKT, SURGE TANK, 07 GM TRK	1
7S350-300	SLEEVE, 3-1/2 X 3, BLUE	1	8N010-260	BRKT, COOLANT RES 07 GM TRK	1
7U030-046	5/32" VACUUM LINE	2.5	7A250-050	1/4-20 X .50 SHCS ZINC PLTD	4
7U030-056	3/8 PCV/VAC RUBBER HOSE	3.5	7J250-001	1/4 WASHER, SAE, PLTD	4
7J250-001	1/4 WASHER, SAE, PLATED	2	7P375-075	3/4" HOSE BARB UNION, BRASS	3
7U034-016	1" GS HEATER HOSE	0.25	7P500-026	1/2NPT X 3/4 BARB 90° BRASS	3
7U035-001	3-1/2" FLEX HOSE	0.75	7P500-078	1/2NPT X 3/4 HOSE FIT STRT	3
7U375-052	3/8" VACUUM CAP	1	7R007-001	NYLON RATCHET CLAMP 1-1/8"	12
8D001-001	STD COMPRESS BYPASS VALVE	1	7U030-065	3/4"X90° RUBBER HOSE, SHORT	1
7U133-045	RUBBR ELBO, 1"DIA X 45 DEG	1	7U038-000	3/4" HEATER HOSE	19
7U033-000	5/8" PCV HOSE	0.16	7U038-012	HOSE, 3/4"DIA 90°, 4X12 LEGS	1
7P375-113	PCV VALVE, VIPER, 3/8"-1/2" BA	1	7U038-150	HOSE, 3/4"X150° MOLDED HOSE	1
4PGL012-017	DUCT, S/C INLET, 03 ESCALADE	1	7U100-055	TIE WRAP, 7.5" NYLON	6
7S350-200	SLEEVE, 3-1/2 X 2, BLUE	1	8N055-030	TANK, WATER, TRIANGLE SHAPE	1
7R002-060	#60 SAE TYPE F SS HOSE CLAMPS	1	8N055-050	PLASTIC CAP, SURGE TANK	1
7C060-025	M6 X 1.0 X 25MM HX	2	8N056-060	SURGE TANK, PLASTIC	1
4GL114-010	WATER TUBE ASSY, GM TRUCK	1	2A017-875-08	SPACER, .875 OD X .290 LONG	2
4GL014-018	WATER TUBE, GM TRUCK POLISHED	1	8N106-160	WATER COOLER ASSY, 2007 GM TRK	1
7A250-050	1/4-20 x .50" SHCS ZINC PLTD	1	8N010-270	BRKT "A", HEAT EXCHGR 07 GMT	1
7J006-093	6mm WASHER, PLATED	1	8N010-280	BRKT "B", HEAT EXCHGR 07 GMT	1
7R002-024	#24 SAE TYPE "F" SS HOSE CLAMP	2	7A250-075	1/4-20 X .75 SHCS PLTD	8
7R003-022	ADEL CLAMP 1-3/8"	1	7F250-021	1/4-20 NYLOCK NUT ZINC PLATED	8
7U133-125	HOSE, Ø1.25" 90° LONG LEG	1	7J250-001	1/4 WASHER, SAE, PLTD	16
2F338-010	V-3 SC TRIM LS1 TRUCK	1	7R003-016	ADEL CLAMP, 3/4"ID, 1/4"EYE	1
2A036-312	S/C PULLEY 3.125" 6-GRV	1	7U038-012	HOSE, 3/4"DIA 90°, 4X12 LEGS	1
7U100-070	KEY, 3/16" SQUARE x 7/8" LONG	1	7P500-026	1/2NPT X 3/4 BARB 90° BRASS	2
2A040-011	PULLEY RETAINER S/C	1	8N006-010	WATER COOLR, SETRAB SINGLE PAS	1
7B375-110	3/8-24 x 1" GRADE 8 HXHD	1	8N107-050	WATER PMP ASSY, GMT LS1 H.O.	1
7K375-040	3/8"AN960 FLAT WASHER PLATED	1	5W001-005	3/8" PLASTIC WIRE LOOM	5
2A046-113	BELT, K061130-GATES	1	5W001-009	16-14GA MALE SLIDE INSULATED	1
7A375-224	3/8-16 x 2.25" GR5 HX	5	5W001-013	14-16 GA BUTT CONN BLU INSUL	4
7J375-044	3/8" SAE WASHER, PLTD	5	5W001-014	FUSE HOLDER 10 GA WIRE	1
7C012-050	M12 x 1.75" x 50mm HXHD BOLT	1	5W001-015	FUSE, BLADE TYPE 20 AMP	1
4FA016-171	DUST COVER (IDLER PULLEY)	1	5W001-019	10-12 GA BUTT CONN INSULATED	2
4FH016-150	IDLER PULLEY, 6-RIB 3" FLANGED	1	5W001-022	T-TAP CONN, 14-16 AWG	1
2A017-462	SPACER, IDLER SMOOTH 6-RIB	1	5W001-024	MINI ATC FUSE TAP	1
2A046-140	BELT, GATES K061140	1	5W001-041	12-10GA MALE SLIDE INSULATED	2
			5W001-043	12-10GA X 1/4" RING TERMINAL	3
			7A250-050	1/4-20 X .50 SHCS ZINC PLTD	2
			7F250-021	1/4-20 NYLOCK NUT ZINC PLATED	1
			7R003-027	ADEL CLAMP, 1-11/16"	1
			7U100-044	TIE WRAP, 4" NYLON	4



ENGINEERING, LLC

2007-2008 GM 5.3L Truck, cont'd

Part No. 4GL218-360L/368L

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
7U100-055	TIE WRAP, 7.5" NYLON	6
8F001-402	PUMP, WATER, PIERBURG	1
8F101-320	FUEL PUMP RELAY ASSY, LS1 TRK	1
5W001-010	16-14GA FEMALE SLIDE INSULATED	2
5W001-016	RELAY,BOSCH	1
5W001-040	12-10GA FEMALE SLIDE INSULATED	2
5W001-042	12-10GA X 3/16" RING TERMINAL	2
5W012-000	12 GA,STRD WIRE, RED	9.5
5W012-000	12 GA,STRD WIRE, RED	1.5
5W012-010	12 GA WIRE BLACK	0.5
5W014-030	14GA STRD WIRE BLACK	0.5
5W016-010	16GA STRD WIRE YELLOW	2.5
5W001-002	FUSE TAP	1
7E010-046	#8 X 3/4 SHEET METAL	2



2007-08 GM 5.3L Truck, Flex Fuel

Part No. 4GL218-370L/378L

PARTS LIST

ENGINEERING, LLC

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
4GL011-021	MOUNTING BRACKET	1	4GL110-010	ASSY, COMPUTER RELOC '03 LS1 TR	1
8F060-008	FUEL INJECTOR, FLEX	8	2A017-752-02	SPACER, .750"OD x .894" LONG	2
5A003-040	04-07 GM PREDATOR	1	9AL6061-750	Ø.750" 6061 ALUMINUM ROD	1
4GL020-018	INSTALLATION MANUAL	1	7C060-050	M6 x 1.0" 50 HXHD ZINC PLATE	2
009035	S/C LUBE, BOTTLED, 3-PACK	1	7F006-093	6mm NYLOCK NUT	2
4PGL112-020	DISCH ASSY LS1 H.O. TRUCK	1	7J006-093	6mm WASHER, PLATED	4
4GL012-030	ELBOW, 3.88"-3.0" X 90° GM TRK	1	8N201-360	CAC ASY, 2007 GMTRUCK 5.3L	1
4GL012-040	DISCH TUBE A, 6.0 COOLER, CAST	1	2A017-875-13	SPACER, .875 OD X .895 LONG	1
4GL012-051	DISCH TUBE B, 6.0 COOLER	1	9AL6061-0875	7/8" DIA. 6061 ALUMINUM ROD	1.16129
7R002-044	#44 SAE TYPE F SS HOSE CLAMP	5	4GL010-110	BRKT, CAC SUPPRT 07 GM TRK	1
7R002-048	#48 SAE TYPE F SS HOSE CLAMP	2	7C010-040	M10 X 1.5 X 40 HXHD CL8.8 ZN	1
7R002-064	#64 SAE TYPE F SS HOSE CLAMP	1	7J010-002	10MM WASHER, ZINC PLATED	1
7S275-200	SLEEVE, Ø2.75" X 2.00"L, BLUE	2	7P500-026	1/2NPT X 3/4 BARB 90° BRASS	1
7S300-275	REDUCER, 3.00-2.75	1	7P500-078	1/2NPT X 3/4 HOSE FIT STRT	1
4GL112-050	AIR INTAKE ASSY, 04 5.3L GM TR	1	7U250-200	TAPE, FOAM-1/4" X 2" X 50'	12
4GL010-011	BRKT,D SIDE GM TRK AIR INLET	1	8N101-330	WELDED CORE ASSY, 2007 GM TRK	1
4GL010-012	BRKT,P SIDE GM TRK AIR INLET	1	8N101-001	WELDED CORE ASSY W/ENDS ONLY	1
4GL012-010	DUCT, INLET, LONG GM SUV/TRK	1	8N002-011	COOLER TANK A, MACHINED	1
7A250-050	1/4-20 X .50 SHCS ZINC PLTD	2	8N002-010	COOLER TANK A, CASTING	1
7J006-093	6MM WASHER, PLATED	2	8N002-021	COOLER TANK B, MACH, STD PAT	1
7P156-082	5/32 TEE	1	8N002-020	COOLER TANK B, CAST W/HOLES	1
7P250-045	1/4 MALE NPT X 3/8 MALE BARB	1	7P062-188	1/16 NPT PIPE PLUG	4
7P375-050	3/8" HOSE UNION, BRASS	1	8N003-070	DUCT.COOLER.OUTLET.LS1.FBODY	2
7R002-016	#16 SAE TYPE F SS HOSE CLAMP	4	8N003-070R	DUCT.COOLER.OUTLET.LS1.FBODY	1
7R002-052	#52 SAE TYPE F SS HOSE CLAMP	2	8N105-200	WATER TANK ASSY, 2007 GMTRUCK	1
7R002-056	#56 SAE TYPE F SS HOSE CLAMP	3	8N010-250	BRKT, SURGE TANK, 07 GM TRK	1
7S350-300	SLEEVE, 3-1/2 X 3, BLUE	1	8N010-260	BRKT, COOLANT RES 07 GM TRK	1
7U030-046	5/32" VACUUM LINE	2.5	7A250-050	1/4-20 X .50 SHCS ZINC PLTD	4
7U030-056	3/8 PCV/VAC RUBBER HOSE	3.5	7J250-001	1/4 WASHER, SAE, PLTD	4
7J250-001	1/4 WASHER, SAE, PLATED	2	7P375-075	3/4" HOSE BARB UNION, BRASS	3
7U034-016	1" GS HEATER HOSE	0.25	7P500-026	1/2NPT X 3/4 BARB 90° BRASS	3
7U035-001	3-1/2" FLEX HOSE	0.75	7P500-078	1/2NPT X 3/4 HOSE FIT STRT	3
7U375-052	3/8" VACUUM CAP	1	7R007-001	NYLON RATCHET CLAMP 1-1/8"	12
8D001-001	STD COMPRESS BYPASS VALVE	1	7U030-065	3/4"X90° RUBBER HOSE, SHORT	1
7U133-045	RUBBR ELBO, 1"DIA X 45 DEG	1	7U038-000	3/4" HEATER HOSE	19
7U033-000	5/8" PCV HOSE	0.16	7U038-012	HOSE, 3/4"DIA 90°, 4X12 LEGS	1
7P375-113	PCV VALVE, VIPER, 3/8"-1/2" BA	1	7U038-150	HOSE, 3/4"X150° MOLDED HOSE	1
4PGL012-017	DUCT, S/C INLET, 03 ESCALADE	1	7U100-055	TIE WRAP, 7.5" NYLON	6
7S350-200	SLEEVE, 3-1/2 X 2, BLUE	1	8N055-030	TANK, WATER, TRIANGLE SHAPE	1
7R002-060	#60 SAE TYPE F SS HOSE CLAMPS	1	8N055-050	PLASTIC CAP, SURGE TANK	1
7C060-025	M6 X 1.0 X 25MM HX	2	8N056-060	SURGE TANK, PLASTIC	1
4GL114-010	WATER TUBE ASSY, GM TRUCK	1	2A017-875-08	SPACER, .875 OD X .290 LONG	2
4GL014-018	WATER TUBE, GM TRUCK POLISHED	1	8N106-160	WATER COOLER ASY, 2007 GM TRK	1
7A250-050	1/4-20 x .50" SHCS ZINC PLTD	1	8N010-270	BRKT "A", HEAT EXCHGR 07 GMT	1
7J006-093	6mm WASHER, PLATED	1	8N010-280	BRKT "B", HEAT EXCHGR 07 GMT	1
7R002-024	#24 SAE TYPE "F" SS HOSE CLAMP	2	7A250-075	1/4-20 X .75 SHCS PLTD	8
7R003-022	ADEL CLAMP 1-3/8"	1	7F250-021	1/4-20 NYLOCK NUT ZINC PLATED	8
7U133-125	HOSE, Ø1.25" 90° LONG LEG	1	7J250-001	1/4 WASHER, SAE, PLTD	16
2F338-010	V-3 SC TRIM LS1 TRUCK	1	7R003-016	ADEL CLAMP, 3/4"ID, 1/4"EYE	1
2A036-312	S/C PULLEY 3.125" 6-GRV	1	7U038-012	HOSE, 3/4"DIA 90°, 4X12 LEGS	1
7U100-070	KEY, 3/16" SQUARE x 7/8" LONG	1	7P500-026	1/2NPT X 3/4 BARB 90° BRASS	2
2A040-011	PULLEY RETAINER S/C	1	8N006-010	WATER COOLR, SETRAB SINGLE PAS	1
7B375-110	3/8-24 x 1" GRADE 8 HXHD	1	8N107-050	WATER PMP ASSY, GMT LS1 H.O.	1
7K375-040	3/8"AN960 FLAT WASHER PLATED	1	5W001-005	3/8" PLASTIC WIRE LOOM	5
2A046-113	BELT, K061130-GATES	1	5W001-009	16-14GA MALE SLIDE INSULATED	1
7A375-224	3/8-16 x 2.25" GR5 HX	5	5W001-013	14-16 GA BUTT CONN BLU INSUL	4
7J375-044	3/8" SAE WASHER, PLTD	5	5W001-014	FUSE HOLDER 10 GA WIRE	1
7C012-050	M12 x 1.75" x 50mm HXHD BOLT	1	5W001-015	FUSE, BLADE TYPE 20 AMP	1
4FA016-171	DUST COVER (IDLER PULLEY)	1	5W001-019	10-12 GA BUTT CONN INSULATED	2
4FH016-150	IDLER PULLEY, 6-RIB 3" FLANGED	1	5W001-022	T-TAP CONN, 14-16 AWG	1
2A017-462	SPACER, IDLER SMOOTH 6-RIB	1	5W001-024	MINI ATC FUSE TAP	1
2A046-140	BELT, GATES K061140	1	5W001-041	12-10GA MALE SLIDE INSULATED	2
			5W001-043	12-10GA X 1/4" RING TERMINAL	3
			7A250-050	1/4-20 X .50 SHCS ZINC PLTD	2
			7F250-021	1/4-20 NYLOCK NUT ZINC PLATED	1
			7R003-027	ADEL CLAMP, 1-11/16"	1
			7U100-044	TIE WRAP, 4" NYLON	4



07-08 GM 5.3L Truck, Flex Fuel, cont'd

Part No. 4GL218-370L/378L

PARTS LIST

ENGINEERING, LLC

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

PART NO.	DESCRIPTION	QTY
7U100-055	TIE WRAP, 7.5" NYLON	6
8F001-402	PUMP, WATER, PIERBURG	1
8F101-320	FUEL PUMP RELAY ASSY, LS1 TRK	1
5W001-010	16-14GA FEMALE SLIDE INSULATED	2
5W001-016	RELAY,BOSCH	1
5W001-040	12-10GA FEMALE SLIDE INSULATED	2
5W001-042	12-10GA X 3/16" RING TERMINAL	2
5W012-000	12 GA,STRD WIRE, RED	9.5
5W012-000	12 GA,STRD WIRE, RED	1.5
5W012-010	12 GA WIRE BLACK	0.5
5W014-030	14GA STRD WIRE BLACK	0.5
5W016-010	16GA STRD WIRE YELLOW	2.5
5W001-002	FUSE TAP	1
7E010-046	#8 X 3/4 SHEET METAL	2

1. COMPONENT REMOVAL

- A. Drain a sufficient amount of coolant to allow for removal of the upper radiator hose and clamps.
- B. Disconnect the negative battery cable.
- C. Remove all ducting between the MAF meter and the throttle body.
- D. Remove the upper radiator hose and set it aside for modification in a future step.
- E. Remove the accessory drive belt. (Keep in the vehicle as a spare.)
- F. Remove the idler from the cast bracket and set aside for later use.
- G. The plastic engine covers that extend over the valve covers (if equipped) will need to be removed. The upper manifold cover section may either be removed completely or left in place and trimmed in order to clear super-charger componentry.
- H. Remove the power steering pump pulley with a pulley puller. Remove the three bolts securing the front of the power steering pump.
- I. 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.
- J. 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.
- K. Remove the oil filler neck and cap from the passengers side valve cover. Do this by twisting in a counter-clockwise motion. Re-install the cap directly into the valve corner.
- L. Remove retaining clips securing the plastic cover between the grill and radiator support.
- M. Remove the grill by depressing the retaining clip securing it to the radiator core support.

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. 4-b. Spin the idler to verify that the rotating portion does not contact the alternator bolt.

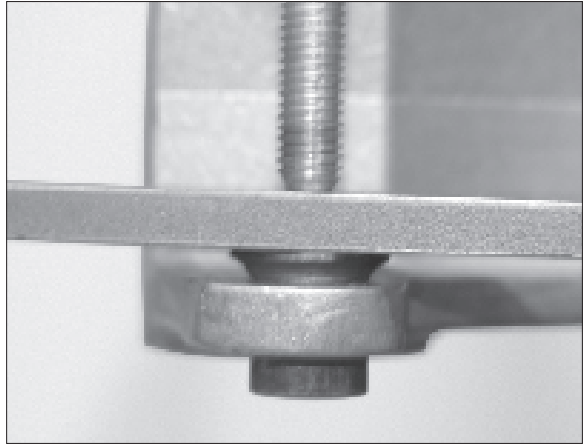


Fig. 2-a

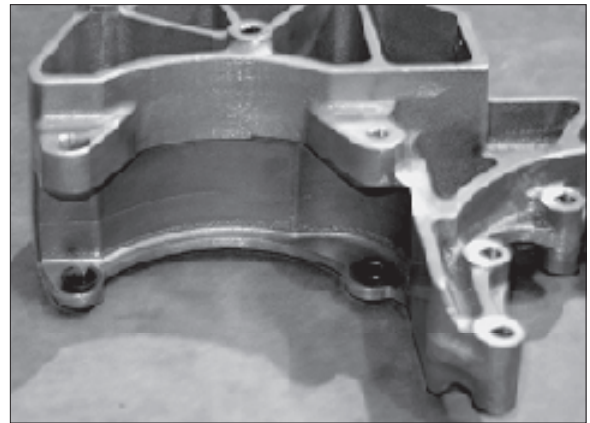


Fig. 2-b



Fig. 2-c

3. FUEL INJECTOR REPLACEMENT

NOTE: Complete removal of the fuel rail will aid in injector replacement. Separate the fuel rail supply line from the rail using springlock disconnect tool.

- 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 of 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.

4. SUPERCHARGER INSTALLATION

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

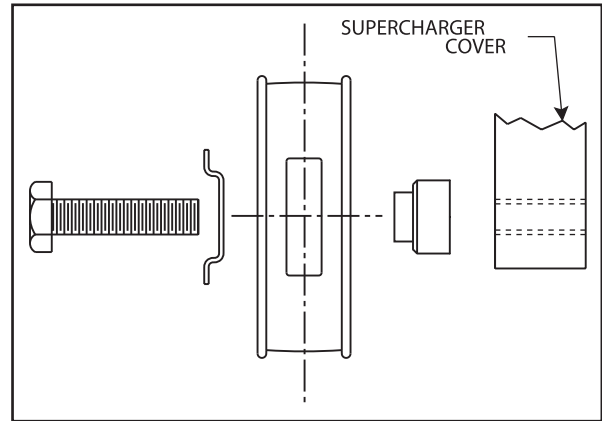


Fig. 4-a

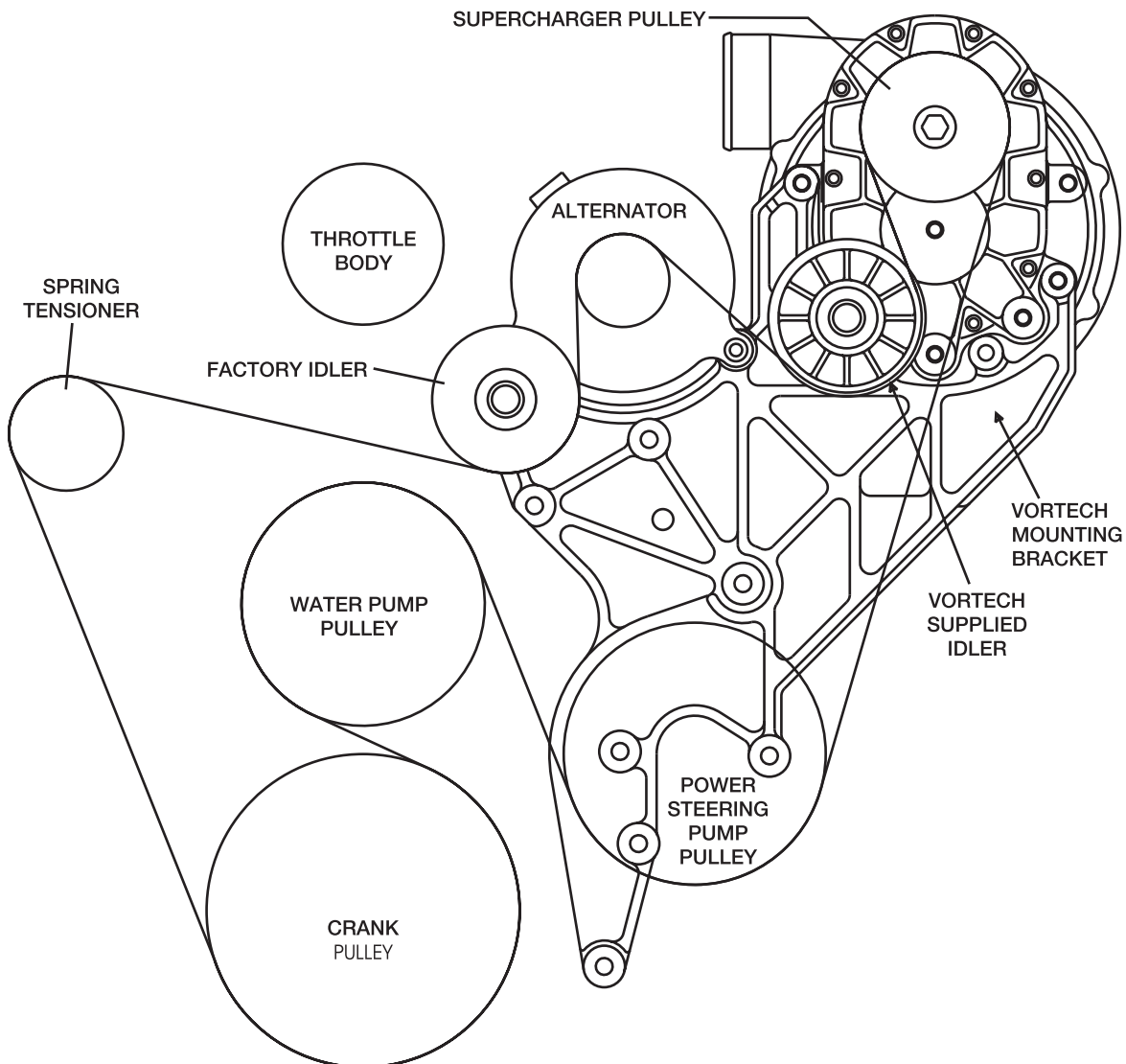


Fig. 4-b

5. FAN SHROUD MODIFICATION

- A. Locate the large supplied air inlet duct that will run across the radiator.
- B. The fan shroud will need to be modified to allow access for mounting of the air inlet duct.
- C. Remove the two 13 mm headed bolts retaining the fan shroud (See Fig 5-a).
- D. Using the duct as a template, mark the fan shroud (See Fig 5-b).
- E. Lift up on the fan shroud releasing it from the lower retaining clips.
- F. Using an abrasive cut off wheel remove the lip on the shroud (See Fig 5-b). Reinstall fan shroud.
- G. Reinstall the 13 mm bolts removed earlier.
- H. Locate the small angled brackets that will be attached to the air inlet duct. Using the supplied hardware, attach the brackets to the duct (See Fig 5-c).
- I. Using the supplied M6 bolts and washers, temporarily attach the duct to the core support using the factory weld nuts (See Fig 5-b, c).
- J. Trim the fan shroud for the electric fans to gain access to the screw locations (See Fig 5-c).
- K. Remove the air inlet duct temporarily.



Fig. 5-a

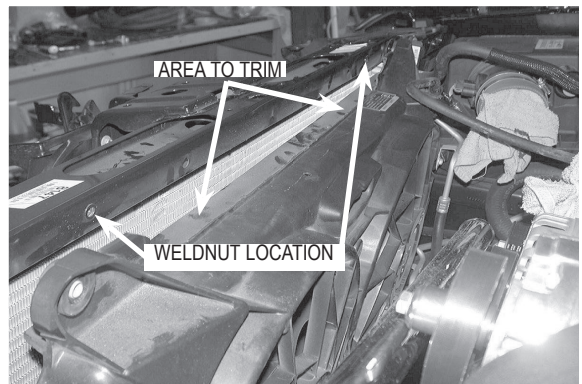


Fig. 5-b

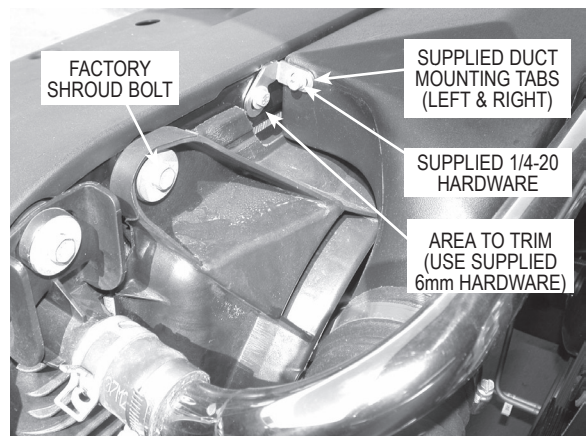


Fig. 5-c

6. INLET DUCT INSTALLATION

- A. Install the supplied 3.7"x3.5" reducer sleeve onto the MAF outlet, and the 3-1/2" x 2" sleeve on the inlet of the supercharger.
- B. Remove any plastic clips that are no longer used to secure the OEM radiator hose.
- C. Slide the entry of the large plastic inlet duct into the sleeve installed on the MAF (See Fig. 6-a). Lower the inlet duct onto the top of the radiator shroud.

NOTE: The end of the plastic inlet duct that fits into the MAF sleeve may require trimming on some applications.

- D. 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 6-a.)
- E. Using Fig. 6-b, drill a 9/16" hole in the shown location. Use a 3/8"NPT tap and install the supplied 3/8" NPT x 3/8" hose barb.
- F. Install the supplied 180° inlet duct onto the inlet of the supercharger after the supercharger is installed. Orient the duct so that it "swoops" over the side of the supercharger with the end pointing at the crossover duct. (See Fig 6-d.)
- G. Install the supplied #52 hose clamps and 3-1/2" x 7" long flex hose between the two ducts previously installed. Trim hose if needed.
- H. Use the supplied 3/8" hose from the 3/8" fitting on 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 6-c.)
- I. Install and tighten the hose clamps on each connection. (See Fig. 6-a.)

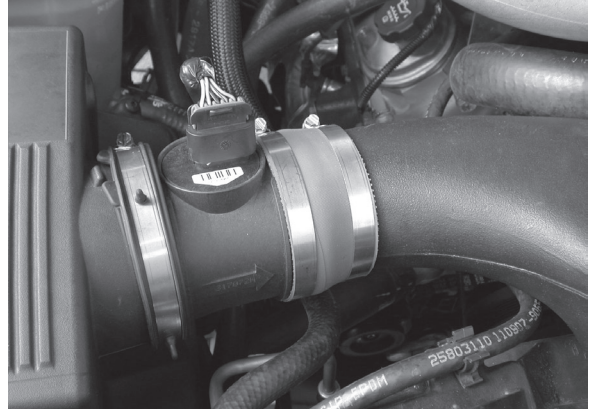


Fig. 6-a

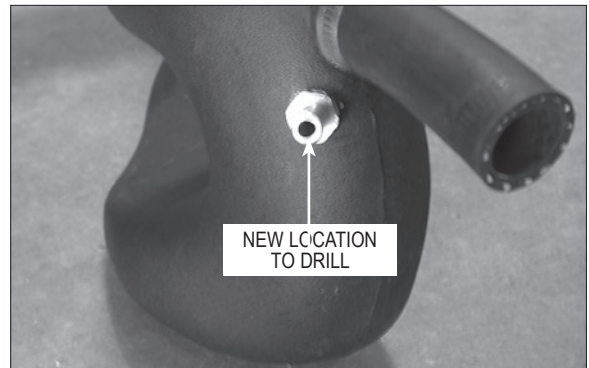


Fig. 6-b

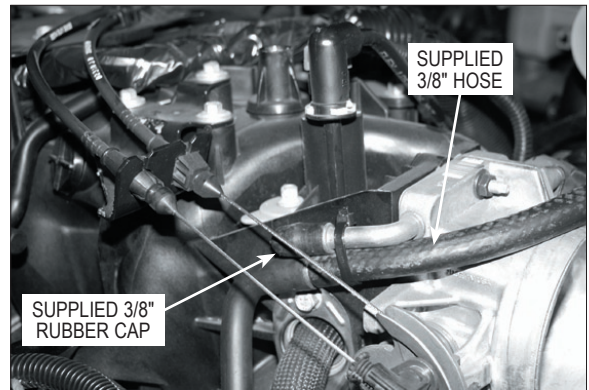


Fig. 6-c

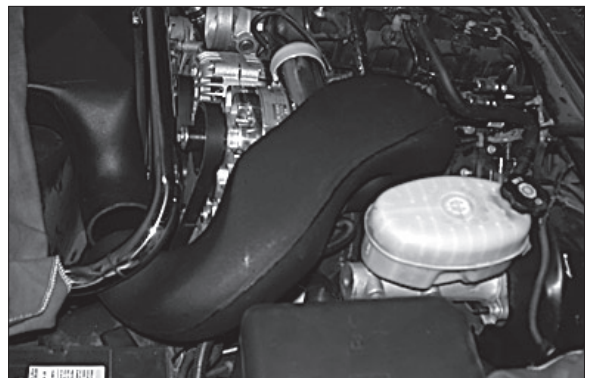


Fig. 6-d

7A. 5.3L RADIATOR TUBE INSTALLATION (5.3L ENGINES ONLY - ALL OTHERS SKIP TO SECTION 7B)

- A. Locate the factory upper radiator hose removed in an earlier step of the installation.
- B. Modify the hose by trimmiing the areas noted. (See Fig.7-a)
- C. Using a 2-3" long straight section of the portion of one of the hoses to be discarded, attach it to the outlet of the radiator and secure using the factory clamp.
- D. Locate the supplied radiator cross-over tube and attach it to the short hose with the supplied #24 clamp.
- E. 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. 7-c, 7-d.)
- F. Slide the length of hose protection sleeve over the radiator hose in the location shown (See Fig. 7-d).
- G. Attach the modified factory hose to the cross over tube with a supplied clamp and secure the other end to the water pump inlet using the factory clamp (See fig 7-b).
- H. Refill the coolant reservoir.

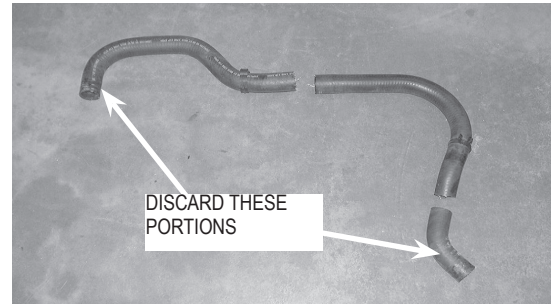


Fig. 7-a

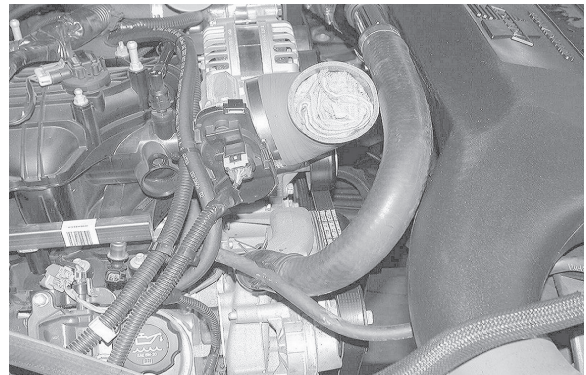


Fig. 7-b

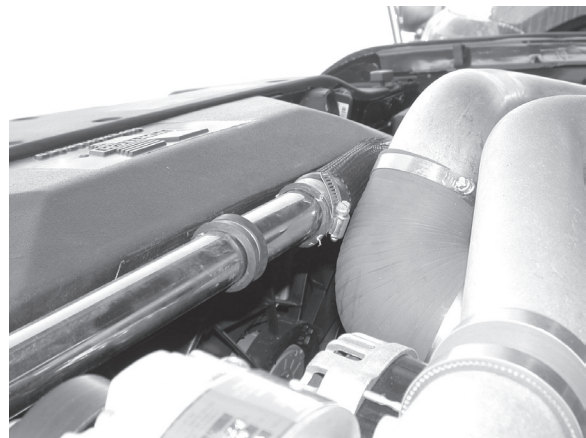


Fig. 7-c

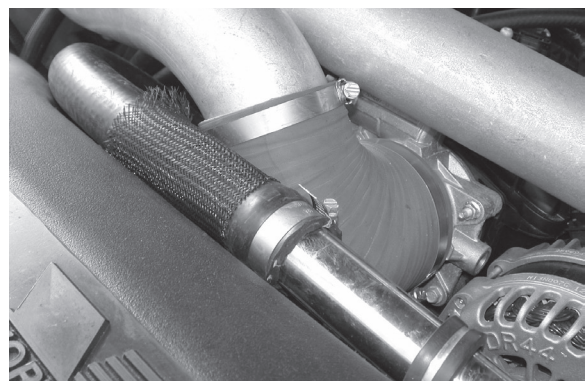


Fig. 7-d

7B. 6.2L RADIATOR TUBE INSTALLATION (6.2L ENGINES ONLY - ALL OTHERS SKIP TO SECTION 8)

- A. Locate the factory upper radiator hose removed in an earlier step of the installation.
- B. Modify the hose by trimming the areas noted. (See Fig.7-a)
- C. Using a 3" long straight section of the portion of one of the hoses to be discarded, attach it to the outlet of the radiator and secure using the factory clamp.
- D. Locate the supplied radiator cross-over tube and attach the bent end to the short hose with the supplied #24 clamp.
- E. 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. 7-e)
- F. Cut another 3 inch long straight section from the factory radiator hose and attach to long end of the radiator cross over tube.
- G. Using the supplied 45 deg hose bend, insert into the other end of the 3 inch straight piece installed in the previous step. Connect the modified factory hose between the opposite end of 45° elbow and water pump fitting. Secure with 2 clamps. (See Figure 7-f)
- H. Be sure that hose transition is smooth and free from kinks.
- I. Trim radiator hose as required to allow for a kink free transition of the coolant hose as shown in figure 7-f.
- J. Refill the coolant reservoir.

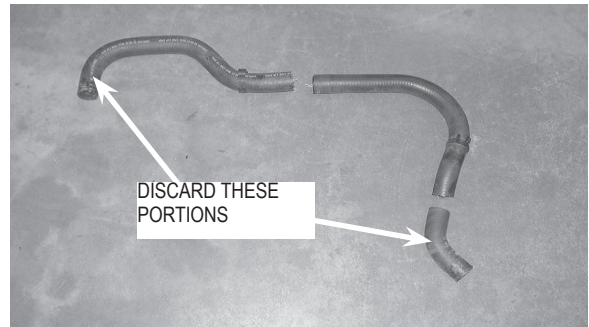


Fig. 7-a

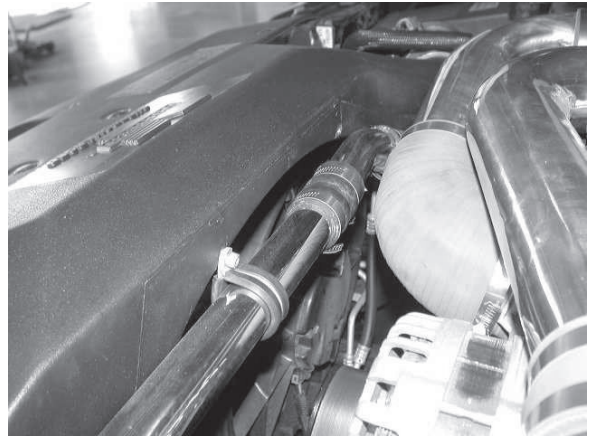


Fig. 7-e

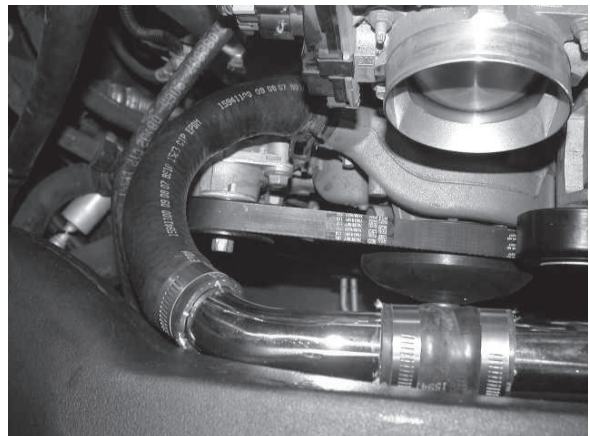


Fig. 7-f

8. CHARGE COOLER INSTALLATION

- A. Remove the screw from the front of the passenger side head. Remove the 10mm nut located between the middle coil packs on the passenger side valve cover, below the white electrical connector. (See Figs. 8-a, 8-b.)
- B. Install the charge air cooler support bracket using the fasteners supplied. (See Figs. 8-a, 8-b.) Apply adhesive foam to the top of the support bracket where the charge air cooler rests. Make sure all hoses and wires are clear from the bracket edges.

NOTE: On later model trucks there will be no EGR assembly. Use the supplied 10mm x 1.5" screw, washer and .975" spacer in its place. (See Fig. 8-a.)

- C. Slightly bend both the transmission and engine oil dipsticks up and away to give clearance for the charge air cooler.
- D. Install the nickel plated 1/2"NPT x 3/4 90° and straight brass fittings into the charge air cooler using thread sealant on the threads. (See Fig. 8-d.)
- E. Install a 20-inch piece of 3/4 hose to the 90° fitting and secure with a nylon clamp.
- F. Attach the long 90° formed hose to the straight barbed fitting on the charge cooler. (See Fig 8-c).
- G. Set the charge air cooler on the support with the 90° brass fitting in the upper left corner facing toward the passenger's side. Using the 2-3/4" sleeves and #44 hose clamps, connect discharge tube "A" to the discharge of the supercharger and to the inlet of the charge air cooler (See Fig 8-e).

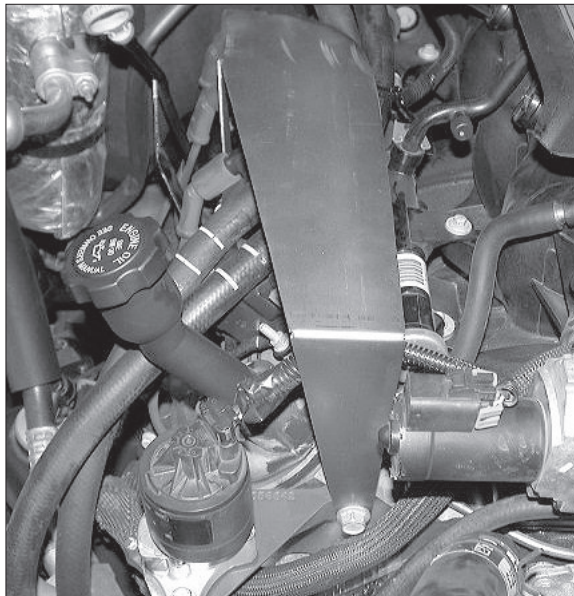


Fig. 8-a

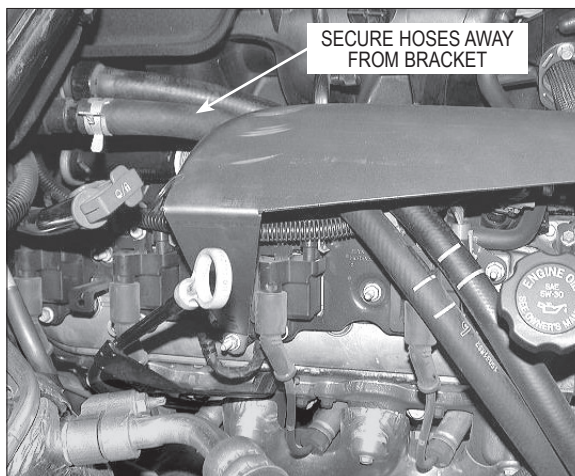


Fig. 8-b

8. CHARGE COOLER INSTALLATION, cont'd.

- H. Slide the 90° silicone elbow sleeve onto the throttle body. Slide the 2-3/4" end of the reducer sleeve onto the outlet side of the cooler. Using the #48 hose clamps install discharge tube "B" from the 3" end of the 90° sleeve to the 3" end of the reducer sleeve on the cooler. Use the #64 hose clamp to secure the 90° sleeve to the throttle body. Tighten all clamps. (See Fig. 8-c)

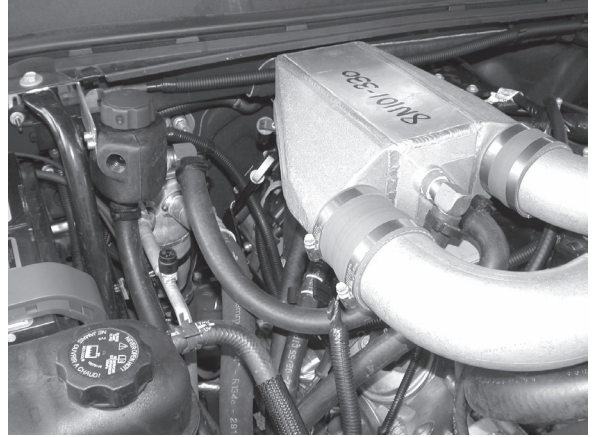


Fig. 8-c

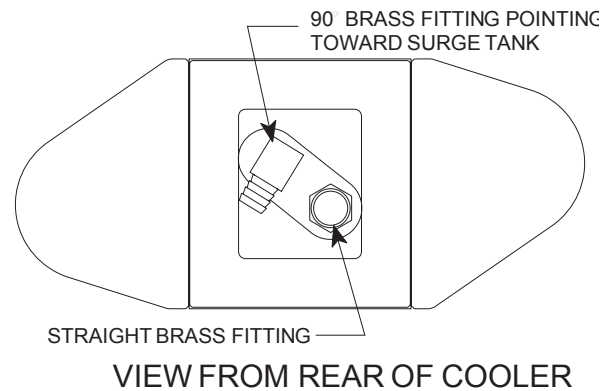


Fig. 8-d

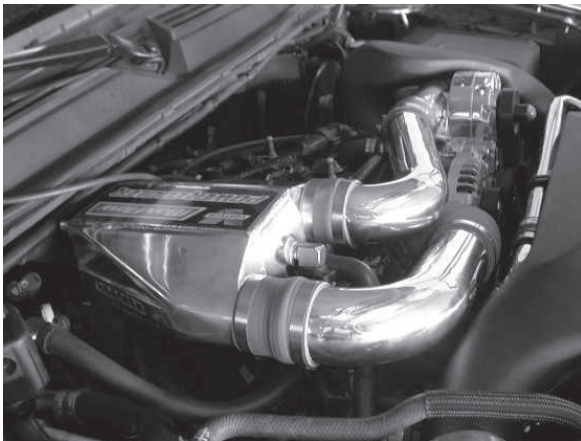


Fig. 8-f (6.2L Shown)

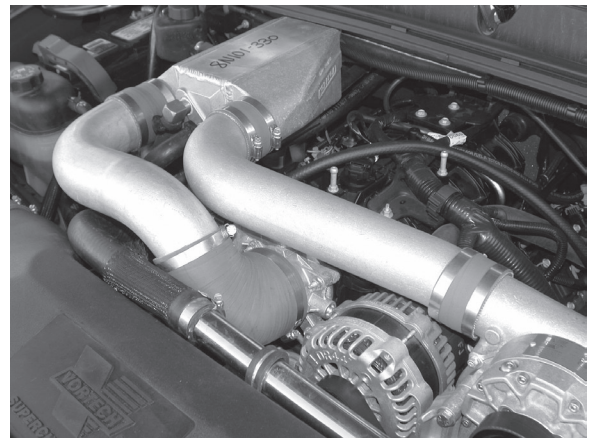


Fig. 8-e (5.3L Shown)

9. SUPERCHARGER BYPASS INSTALLATION

- A. Connect the 4" length of Ø1" hose from the barb on the supercharger inlet duct to the outlet of the bypass valve.
- B. Cut the supplied molded hose as shown in Fig. 9-a.
- C. Using the supplied #16 hose clamps, connect the barb on the discharge duct to the inlet of the bypass valve using the previously cut Ø1" molded hose. (See Fig. 9-b.)

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.

- D. Install and tighten hose clamps on each connection.

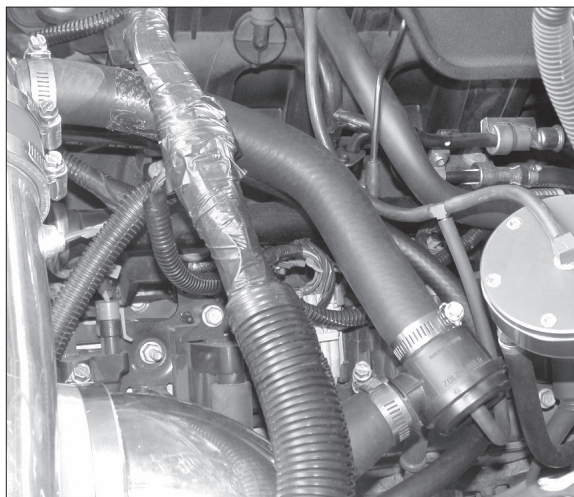


Fig. 9-b

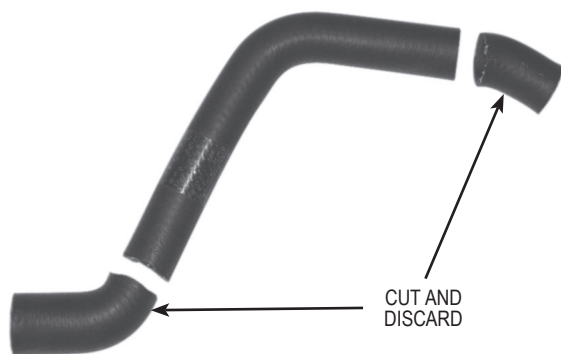


Fig. 9-a

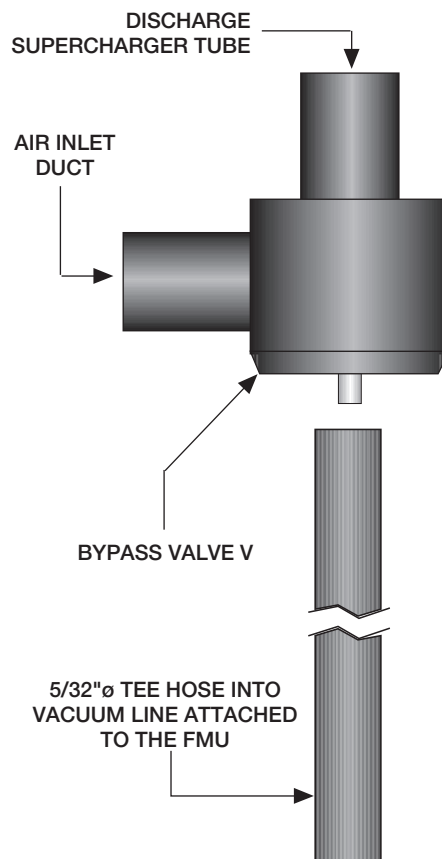


Fig. 9-c

9. SUPERCHARGER BYPASS INSTALLATION, cont'd.

- E. Locate the capped-off manifold vacuum port on the passenger's side of the intake manifold. Using a file, hacksaw or standard screwdriver with hammer, remove the tip of the capped-off section. Using the supplied 5/32" vacuum line, connect the bypass valve pressure port to the modified pressure port. (See Fig. 9-d.)
- F. Locate the hard plastic line running to the drivers side rear of the engine. Remove the hard line from the rubber hose.
- G. Install the supplied 90° PCV valve into the rubber hose on the engine.
- H. Cut the hard plastic line to reach the PCV valve and connect them with the supplied length of 3/8" hose. (See Fig. 9-e.)

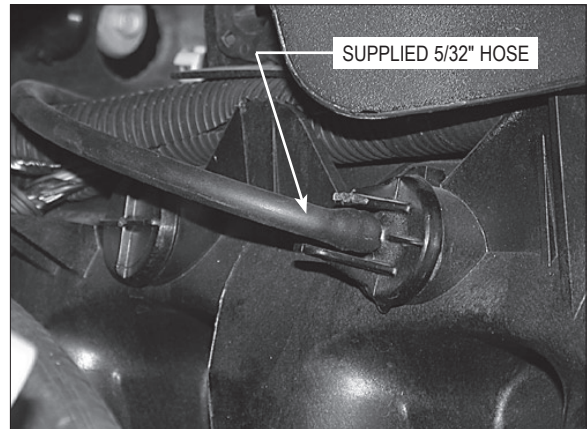


Fig. 9-d

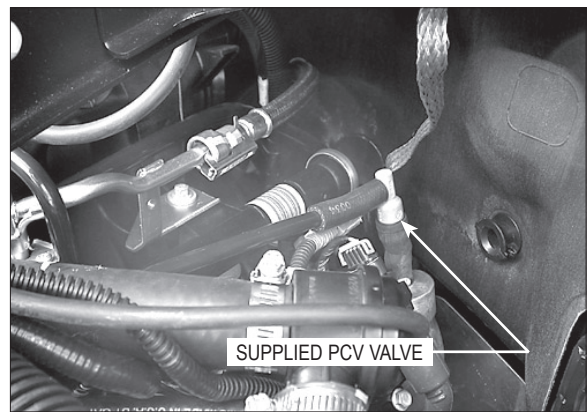


Fig. 9-e

10. SURGE TANK AND RESERVOIR TANK INSTALLATION

- A. Locate the supplied surge tank, P/N 8N056-060 and the supplied mounting bracket. Attach the bracket to the surge tank with the supplied 1/4-20 x .50 bolts and washers. Install one nickel plated straight 1/2NPT x 3/4 barbed fitting into the bottom and one 1/2" NPT x 3/4" barb in the side. (See Fig 10-a)

NOTE: Vortech suggests using pipe paste/sealant/tape on all NPT threads for the cooling system.

- B. Locate the hood hinge brace on the passenger side of the engine compartment. Remove the two 13mm headed bolts securing the bracket. (See Fig 10-b)
- C. Place the surge tank bracket between the brace and the cowl reinstall the two bolts previously removed. (See Fig 10-c)
- D. Install two 1/2 X 3/4" 90° barbed fittings into the top and bottom of the supplied "triangle shaped" coolant reservoir.
- E. Attach the water pump to the reservoir using the supplied Adel clamp and 1/4-20x.50 screw with washer. (See Fig 10-d)
- F. Install the supplied reservoir-mounting bracket to the reservoir with the hardware provided.
- G. Using the bracket and the reservoir as a template, mark the mounting location on the frame rail behind the front bumper cover and just in front of the round bar that the skid pan mounts to. (See Fig 10-d)
- H. After marking the location for the mounting bracket, drill two 1/8" size holes. Install the reservoir and the bracket using the self tapping sheet metal screws provided.
- I. Install the small 90° hose between the water pump and the 90° barbed fitting installed in an earlier step. Secure with two nylon ratchet clamps. (See Fig 10-d)
- J. **(GM Pickup Truck Only)** Attach the 150°-formed hose to the outlet of the water pump leave the nylon clamp loose for proper adjustment at a later stage of the installation. (See Fig 10-d)

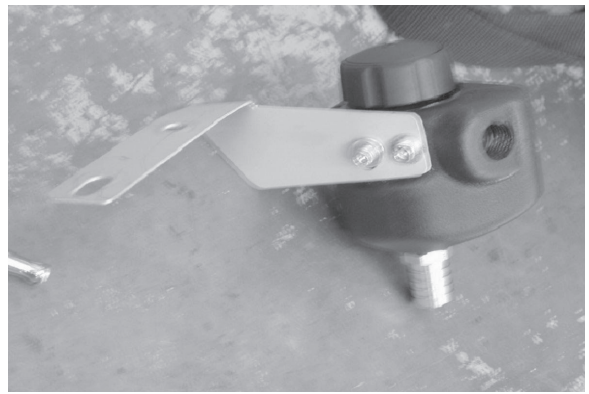


Fig. 10-a (90 ° fitting not shown)

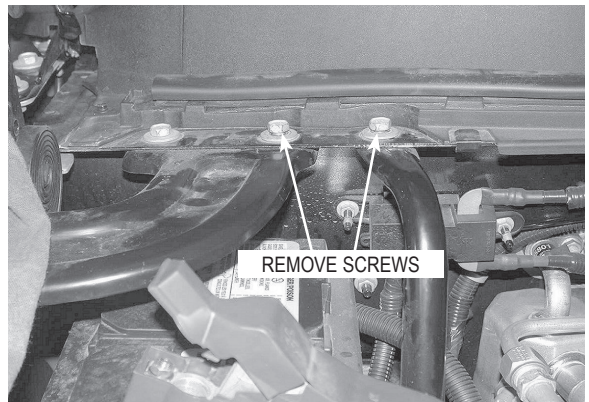


Fig. 10-b

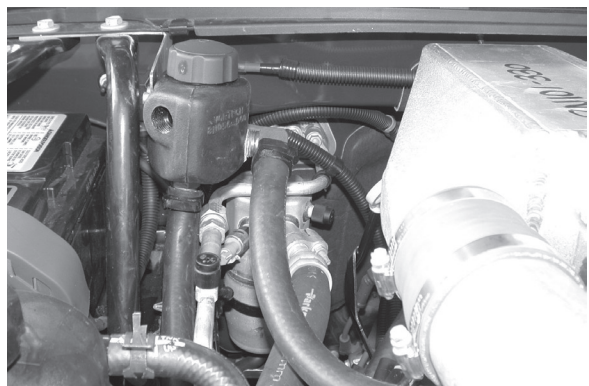


Fig. 10-c

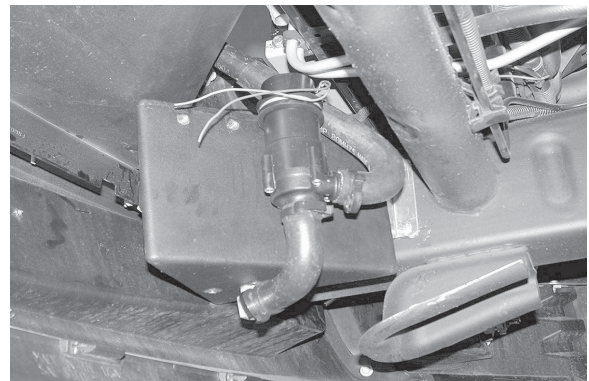


Fig. 10-d

10. SURGE TANK AND RESERVOIR TANK INSTALLATION, cont'd

- K. Install the supplied 3/4 X 90° formed hose to the 1/2 x 3/4 barbed fitting on the top of the reservoir. (See Fig 10-e)
- L. Install a supplied 3/4 hose union into the formed 90° hose and secure with a nylon clamp. (See Fig 10-f)
- M. Attach a length of 3/4 hose approximately 48" in length to the opposite end of the hose union and secure with a nylon clamp.
- N. Route the length of hose through the radiator core support. Secure the hose to one of the factory holes in the grille support bracket, using an Adel clamp and the fasteners. (See Fig 10-g)
- O. Route the hose free of kinks and away from sharp or hot areas to the bottom of the fill reservoir installed in an earlier step (See Fig 12-a).

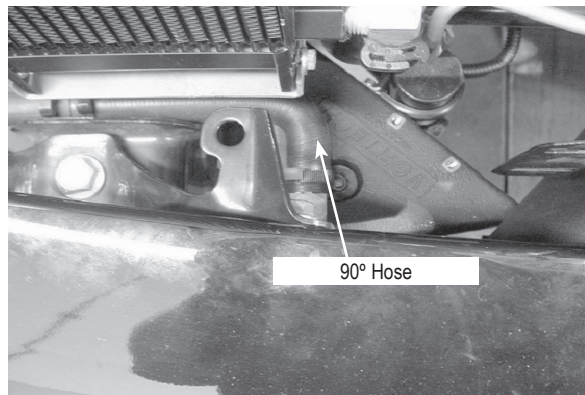


Fig. 10-e

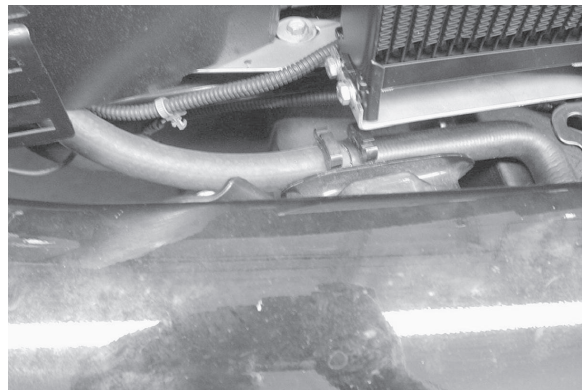


Fig. 10-f

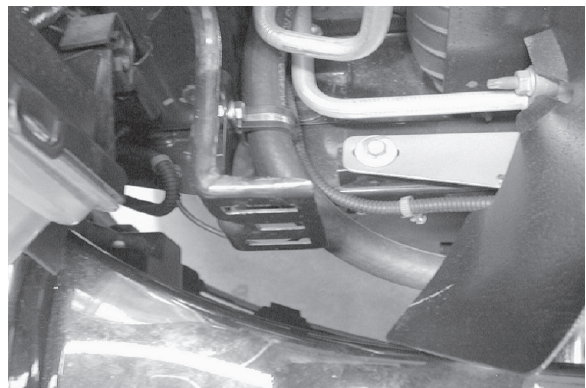


Fig. 10-g

11A. GM PICKUP TRUCK WATER COOLER INSTALLATION (GM PICKUP TRUCK ONLY - ALL OTHERS SKIP TO SECTION 11B)

- A. Locate the water cooler assembly, P/N 8N106-160
- B. Install two 1/2 x 3/4 x 90° barbed fittings into heat exchanger. Orient the fittings so that one faces down and slightly back towards the radiator core support. The remaining fitting should face back towards the radiator core support. (See Fig 11-d)
- C. Assemble the heat exchanger to the lower mounting bracket using the provided 1/4-20 bolts, washers and nuts.
- D. Locate the nylon-retaining clip securing the plastic flap to the upper radiator core support. Remove the clip and move the plastic flap to the side. (See Fig 11-a)
- E. Trim radiator core support as shown in Fig. 11-c.
- F. Attach the lower cooler mounting bracket to the two 10 mm headed bolts located on the passenger side of the radiator core support. (See Fig 11-b).
- G. Attach the upper heat exchanger mount to the A/C condensor mount. Secure with the factory fastener. Secure the heat exchanger support bracket to the heat exchanger with the supplied bolts, nuts and washers. (See Fig 11-d)
- H. Install the 90° formed hose from the outlet (upper fitting) of the heat exchanger and route the hose behind the heat exchanger.
- I. Install a hose union to the 90° hose and secure with a nylon clamp.
- J. Attach a length of 3/4 hose to the opposite end of the hose mender and secure with a clamp.
- K. Route the hose thru the radiator core support and under the air filter enclosure to the charge cooler.
- L. It will be necessary to trim the plastic flap for clearance. (See Fig 11-e)



Fig. 11-a

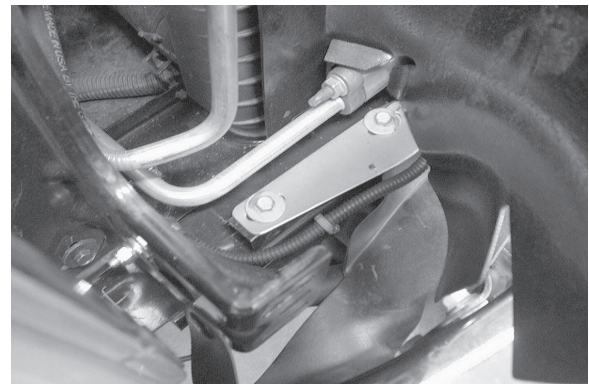


Fig. 11-b

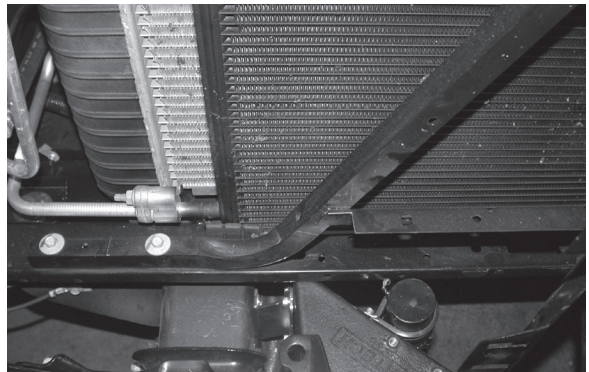


Fig. 11-c

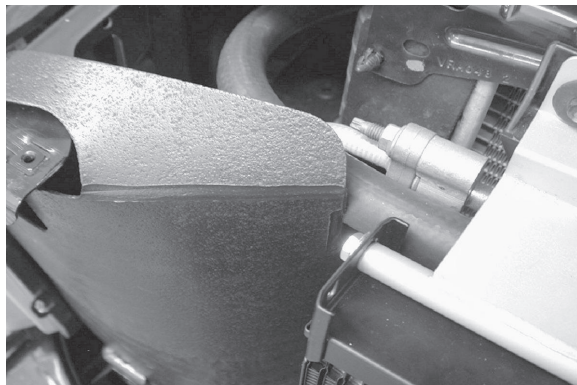


Fig. 11-e

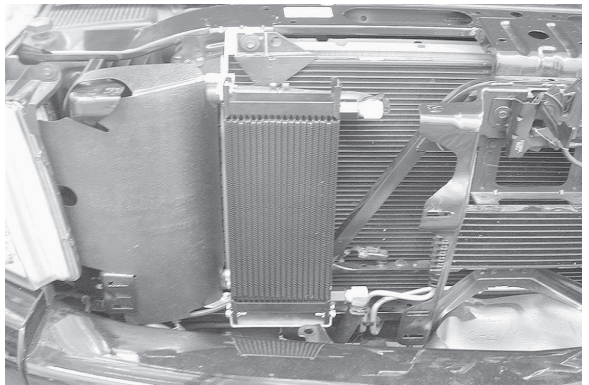


Fig. 11-d

11B. ESCALADE WATER COOLER INSTALLATION (ESCALADE ONLY - ALL OTHERS SKIP TO SECTION 12)

- A. Locate the water cooler assembly P/N 8N106.140
- B. Remove 4 fasteners on each side connecting the front inner splashguards to the bumper cover. (See Fig 11-e)
- C. Remove fasteners that attach the underside of the bumper cover on each side just in front of the tires. (See Fig 11-f)
- D. Remove the 6 screws securing the top portion of the front grill to the body. (See Fig 11-g)
- E. Release the sides of the bumper cover by first pulling outward then forward. (See Fig 11-h)

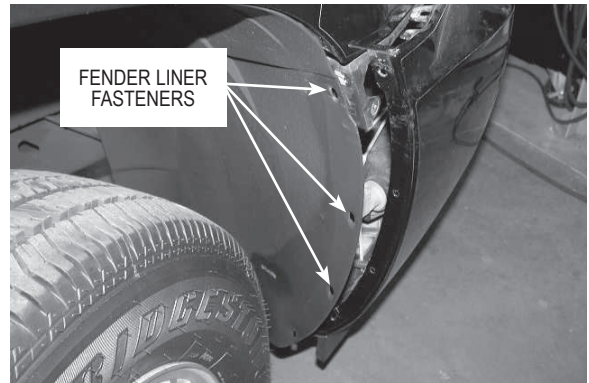


Fig. 11-e

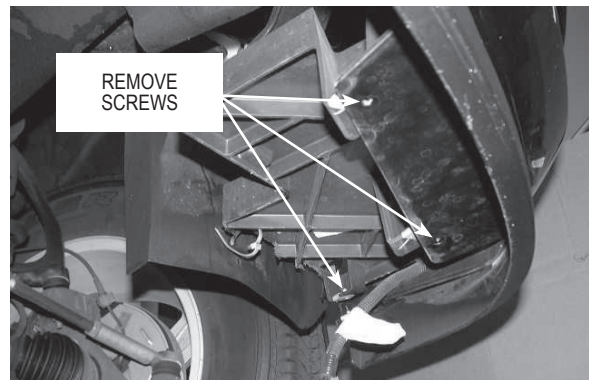


Fig. 11-f

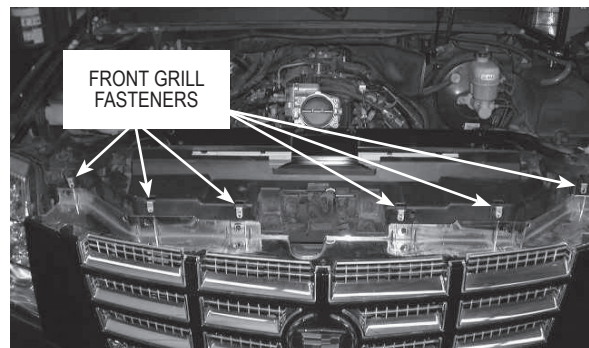


Fig. 11-g

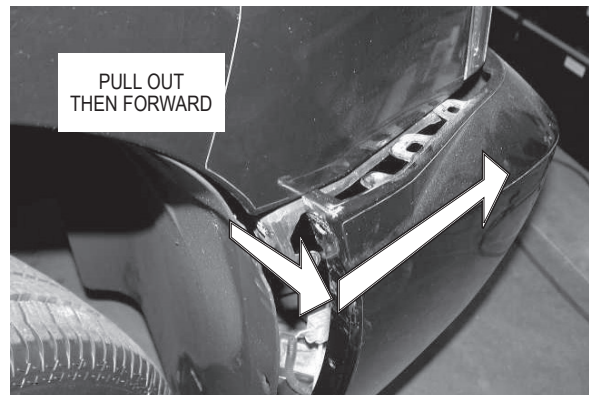


Fig. 11-h

11B. ESCALADE WATER COOLER INSTALLATION, CONT'D (ESCALADE ONLY - ALL OTHERS SKIP TO SECTION 12)

- F. Remove the bumper cover with grill attached slowly, being sure to unplug the wiring harness on each side located just on top of the front crash bar. (See Fig 11-i & 11-j)
- G. Temporarily attach the two supplied brackets to the water heat exchanger as shown. (See Fig 11-k)
- H. Place the heat exchanger with bracket in place and mark hole locations to drill on trapezoidal radiator support crosslink member. (See Fig 11-m)

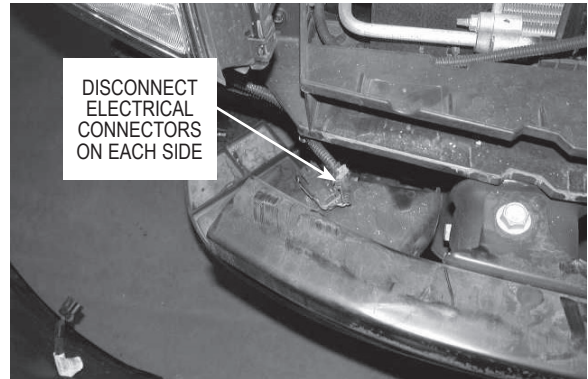


Fig. 11-i



Fig. 11-j

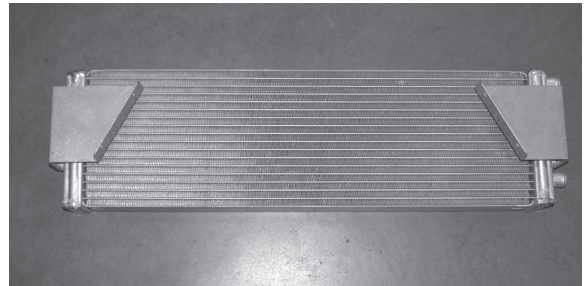


Fig. 11-k

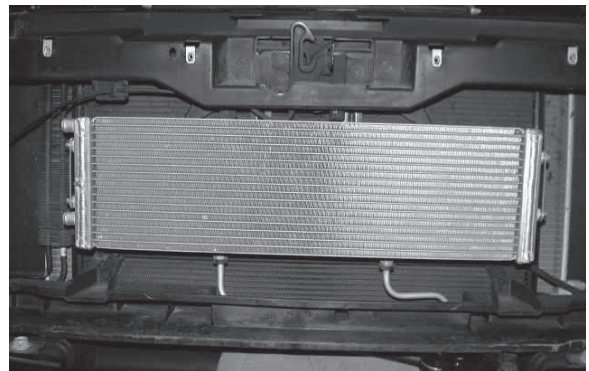


Fig. 11-m

11B. ESCALADE WATER COOLER INSTALLATION, CONT'D (ESCALADE ONLY - ALL OTHERS SKIP TO SECTION 12)

- I. Using an angle drill and extreme caution as to not damage radiator, drill an 11/64 hole in the locations previously marked. If necessary to prevent radiator damage, remove the Trapezoidal radiator support members to drill holes (See Fig 11-n & 11-o).
- J. Using supplied sheet metal screws, attach the brackets to the Trapezoidal radiator support as shown (See Fig 11-p & 11-q).
- K. Using supplied 1/4 -20 x .50 SHCS and washers install cooler on brackets making sure that the cooler is oriented as shown in Fig 11-r.

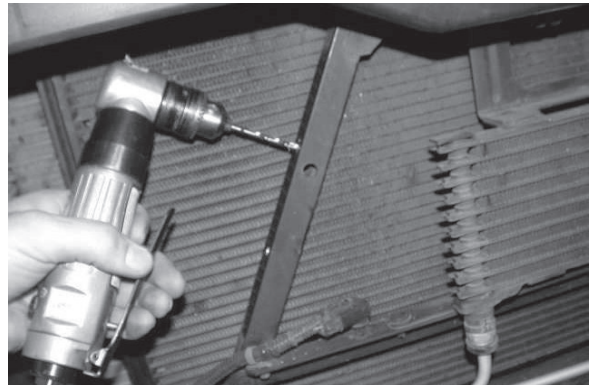


Fig. 11-n

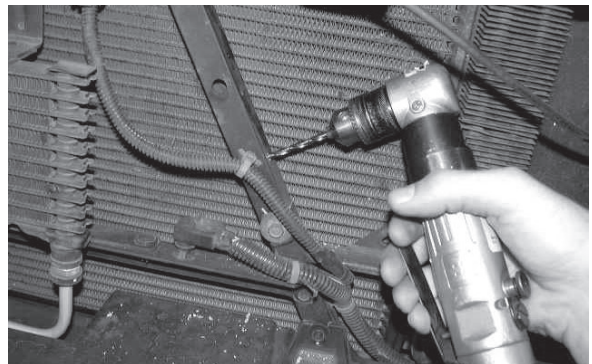


Fig. 11-o

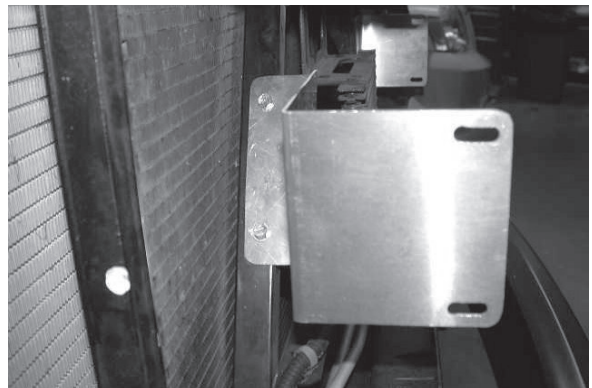


Fig. 11-p

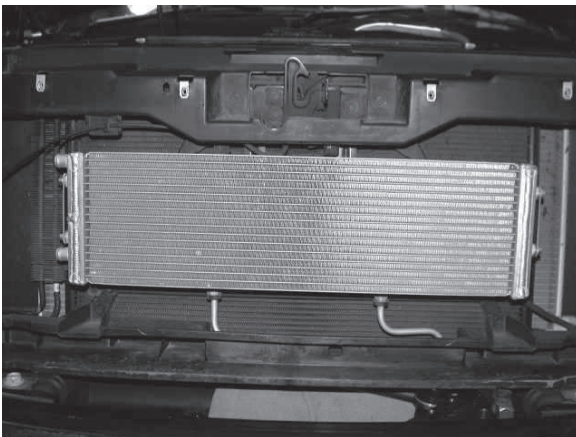


Fig. 11-r



Fig. 11-q

12A. GM PICKUP TRUCK CHARGE COOLER HOSE ROUTING (GM PICKUP TRUCK ONLY - ESCALADE SKIP TO SECTION 12B)

NOTE:

- When routing hoses, refer to Fig. 12-a (next page)
- Make sure to leave the hoses slightly long to allow for engine movement.
- Verify all hose lengths to the vehicle before cutting.
- Ensure that there are no kinks or tight bends in the rubber water hoses.

- A. Cut a 13.5" length of 3/4" hose. Run this from the 90° fitting on the charge air cooler to the 90° brass fitting on the side of the surge tank.
- B. Cut a 36.5" length of 3/4" hose. Run it from the bottom fitting on the surge tank along the fender toward the front and down to the 90° brass fitting on the top of the water reservoir.
- C. Take the supplied 4" x 12" 90° molded elbow and cut 1-3/4" from the 4" long end end. Connect the trimmed end to the straight brass fitting on the charge air cooler. Route the long end toward the surge tank. Cut a 110" length of hose and connect it to the end of the installed molded elbow with the supplied 3/4" union. Route the hose along the fenderwell, down toward the water reservoir and up under the front bumper. There is a small opening in the rubber apron between the bumper and A/C condenser. Pull the hose up and through, then connect it to the driver's side 90° fitting.
- D. Cut a 64" length of 3/4" hose. Run it from the outlet of the water pump to the same hole in the rubber apron you pulled the previous hose through. Pull the hose up and through, then connect it to the passenger's side 90° fitting.
- E. Secure all hose ends with the supplied nylon clamps.

WATER PUMP HOSE ROUTING (PICK-UP TRUCK APPLICATIONS ONLY)

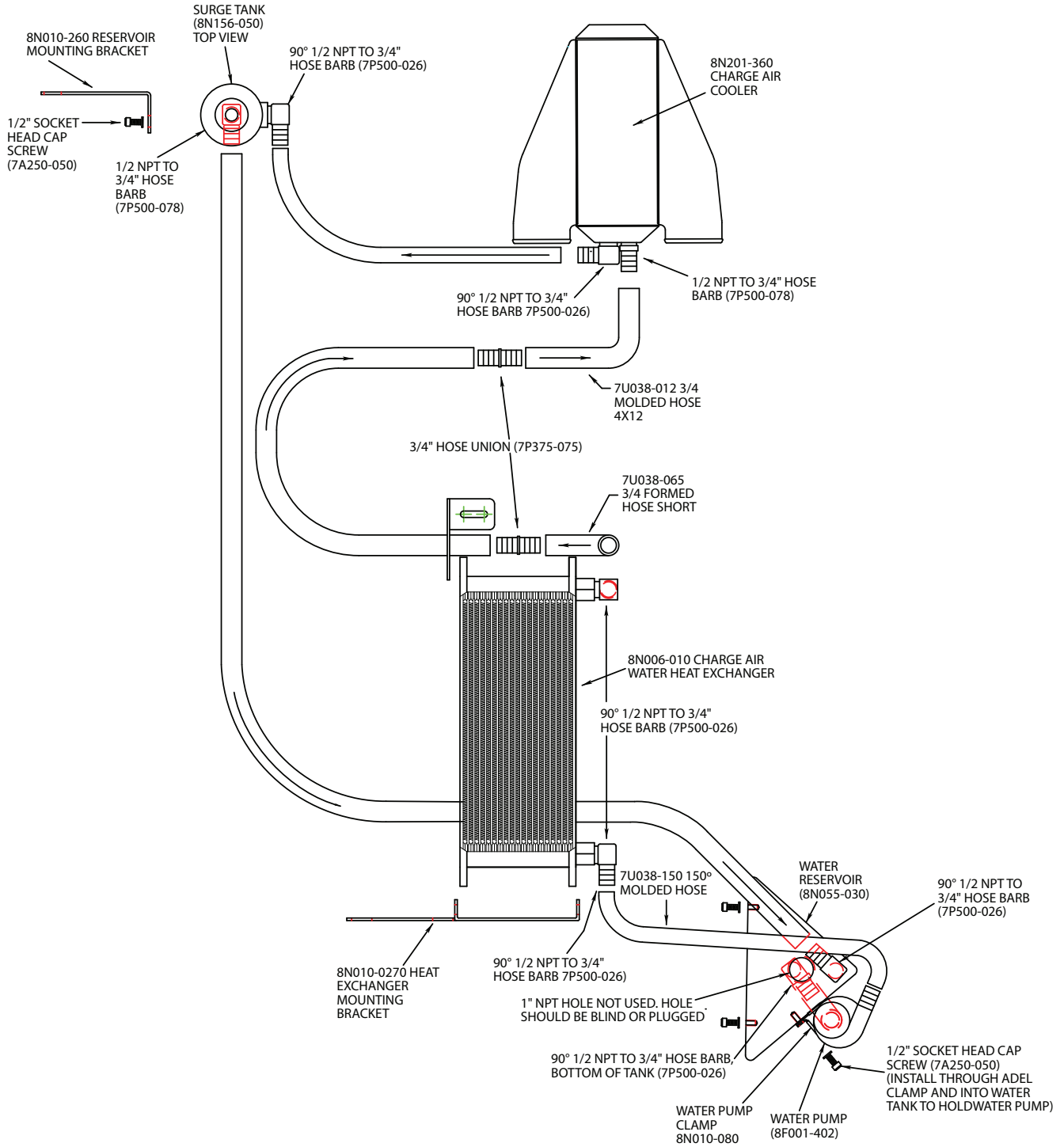


Fig. 12-a

12B. ESCALADE CHARGE COOLER HOSE ROUTING (ESCALADE ONLY - ALL OTHERS SKIP TO SECTION 13)

- A. Using a $\frac{3}{4}$ " hose union and 2 nylon clamps extend the long leg of the 150° hose bend with additional $\frac{3}{4}$ " hose. (See Fig 12-c)
- B. Feed the short end of the 150° hose across the top of the lateral frame rail that extends just behind the front horizontal crush tube (See Fig 12-d)
- C. Connect the short end of the 150° hose to the outlet of the water pump and secure with clamp. (See Fig 12-e)
- D. Sweep the hose attached to the long leg of the 150 deg hose just under the headlight and turn back to connect to the lower port on the water heat exchanger. (See fig 12-f)
- E. Attach a length of $\frac{3}{4}$ " hose to the top port on the water heat exchanger and feed through side of radiator as shown and route to hose attached to the lower fitting on the CAC. (See Fig 12-g)

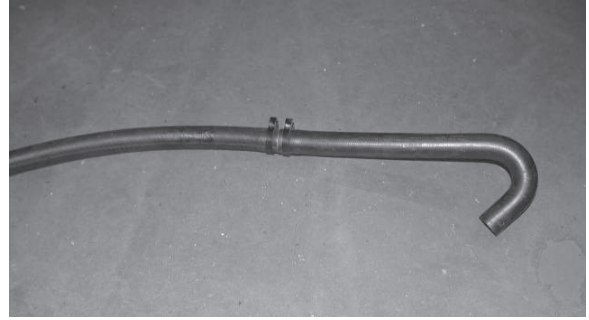


Fig. 12-c

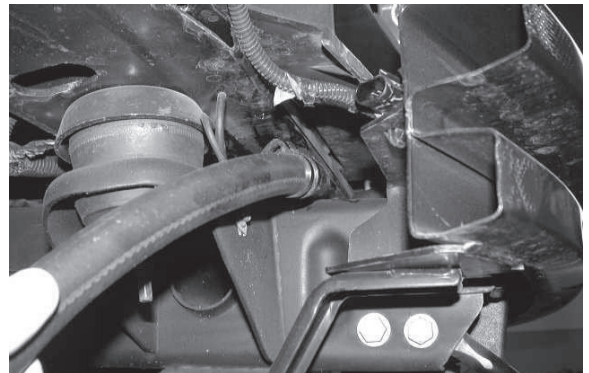


Fig. 12-d

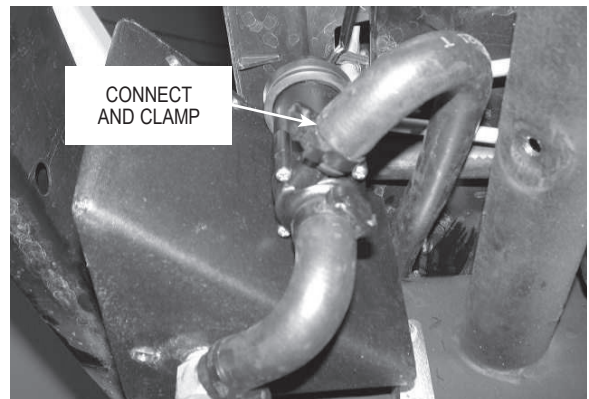


Fig. 12-e

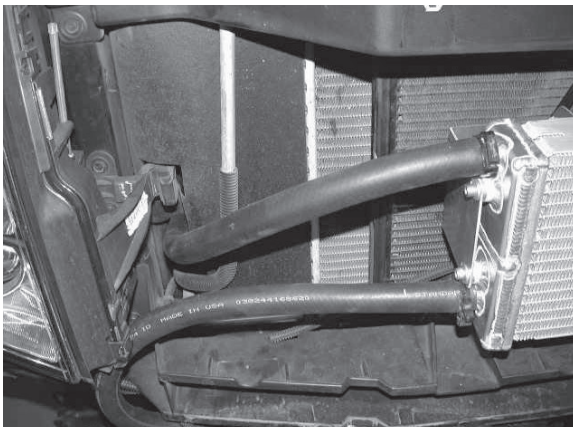


Fig. 12-g

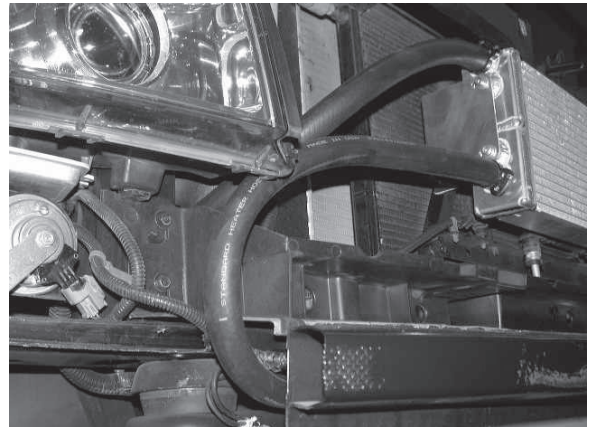


Fig. 12-f

WATER PUMP HOSE ROUTING (ESCALADE ONLY)

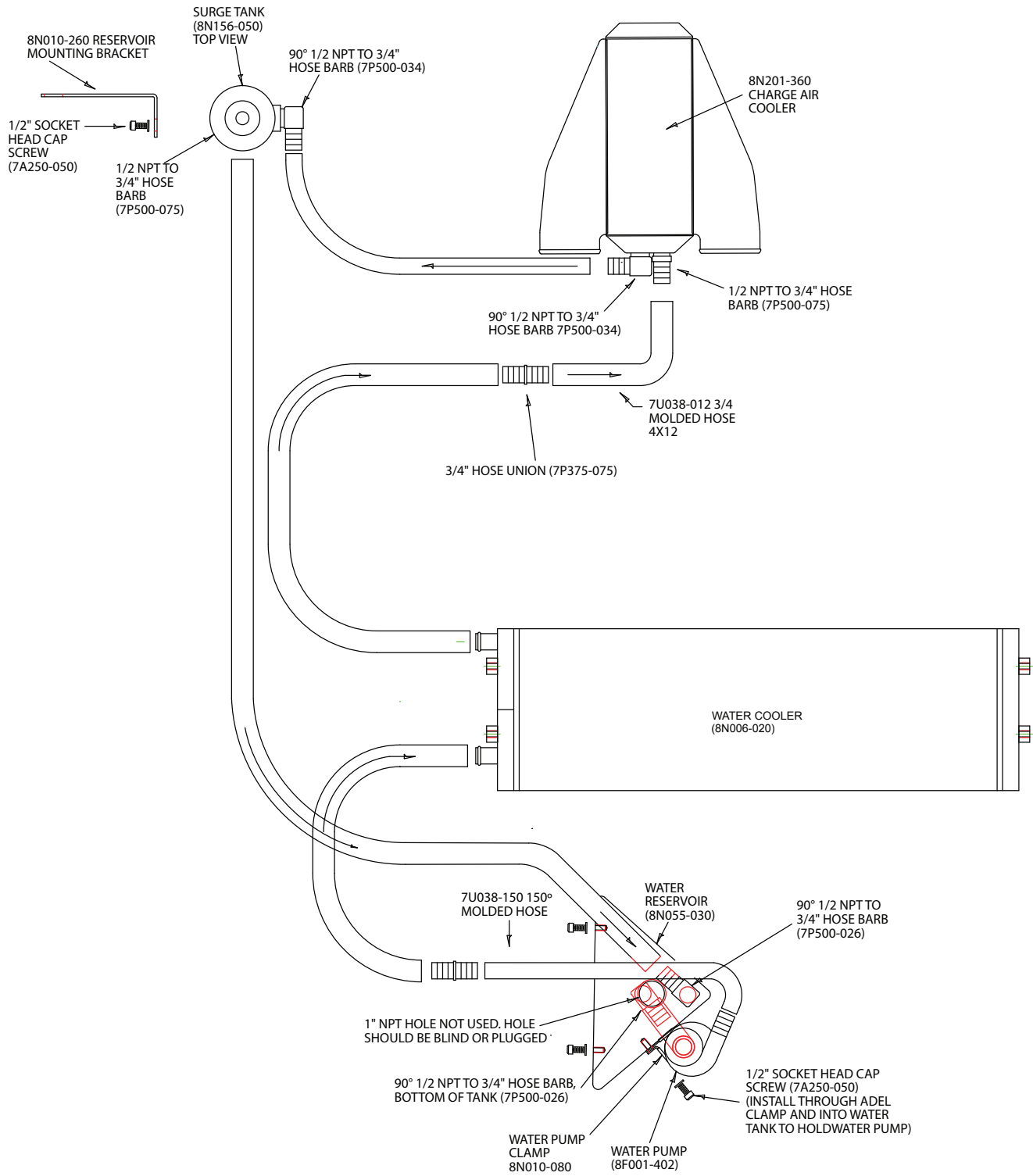


Fig. 12-h

13. WATER PUMP WIRING

- A. Mount the supplied water pump relay. (See Fig. 13-a.)
- B. Connect the red 12-gauge wire from terminal #30 to the supplied ring terminal. Connect to the positive terminal on the power distribution box (See Fig. 13-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.
- D. **(For 5.3L GM Pickup Truck)** Route the yellow wire directly to the fuel pump fuse in cavity # 20 (See Fig. 13-c1.) using the supplied fuse tap.
- D2. **(For 6.2L Cadillac Escalade)** Route the relay trigger wire (yellow wire) to fuse #4 in the power distribution box as shown using the supplied fuse tap. (See Fig 13-c2)

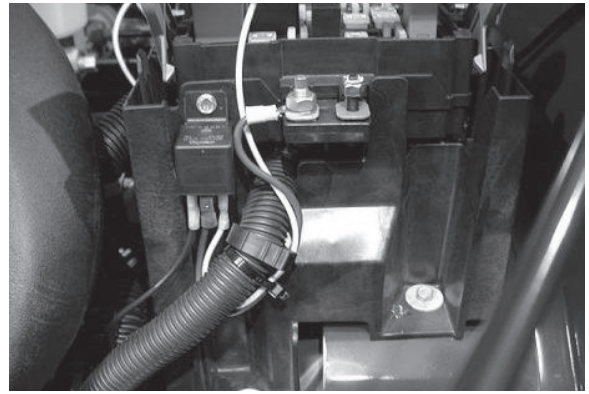


Fig. 13-a

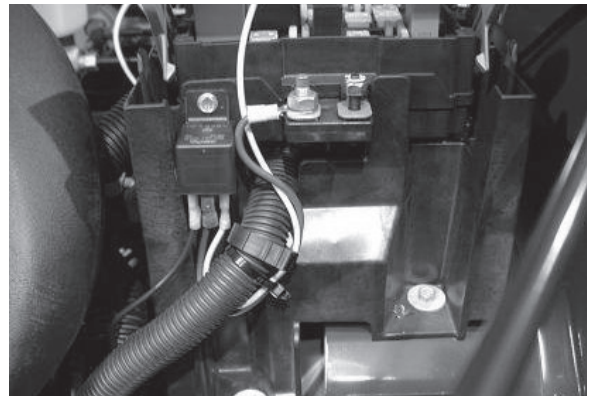


Fig. 13-b

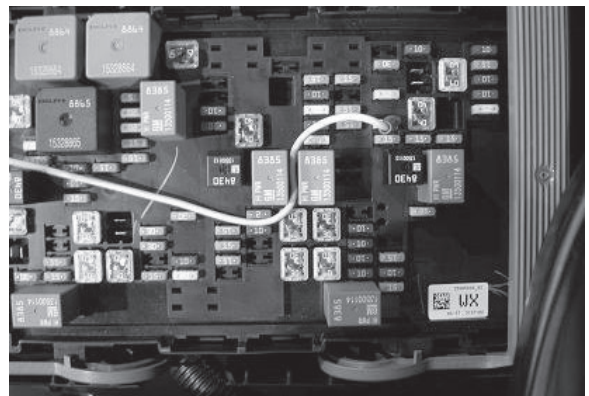


Fig. 13-c1

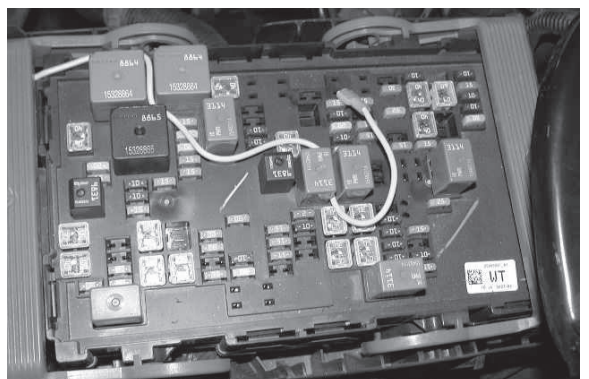


Fig. 13-c2

13. WATER PUMP WIRING, CONT'D

- E. Run the black wire from terminal #86 on the water pump relay to ground (see Fig. 13-d)
- F. With the long red 12-gauge wire connected to the water pump relay terminal #87, route the free end down along the fenderwell and under the base of the radiator over to the positive (blue/green) wire on the water pump. Secure as necessary to avoid heat and sharp edges (see Fig. 13-e).
- G. Run the negative (brown) wire from the water pump to a clean ground.
- H. With the key on, make sure the charge cooler water pump is operating and that water is flowing through the surge tank. Fill the surge tank if necessary. If the water is not flowing, remove the charge cooler supply hose and lower until water flows out of the hose. If necessary, provide light suction to the hose to help prime the pump. Verify water flow. Do not let the pump run for extended periods (30 seconds or more) without water flow. Fill the charge cooler tank until the level stabilizes.



Fig. 13-e

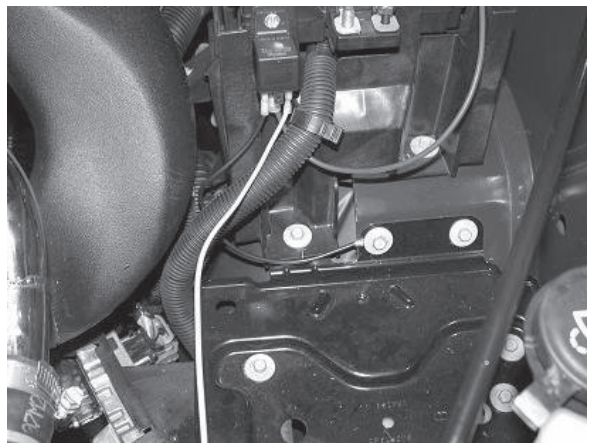


Fig. 13-d

14. HOOD HINGE SPRING REPLACEMENT (ESCALADE ONLY - ALL OTHERS SKIP TO SECTION 15)

- A. Support hood with prop rod or wooden dowel.
- B. Remove factory hood hinge springs on both sides.
- C. To allow for proper hole alignment during installation, temporarily wedge supplied 7/8" spacer into supplied hinge as shown (See Fig. 14-a). Install hinge using original hardware.

NOTE: Use caution with loaded hinge as not to get caught in a collapsing hinge. Serious injury may result.

- D. Be sure that the shoulder on the hardware locates in hinge's holes during installation.
- E. Remove spacers from hinges once the mounting hardware has been fully seated and tightened.
- F. Finally remove Hood Gas Strut Shock by prying at metal retaining clip on each end to release from swivel ball end.

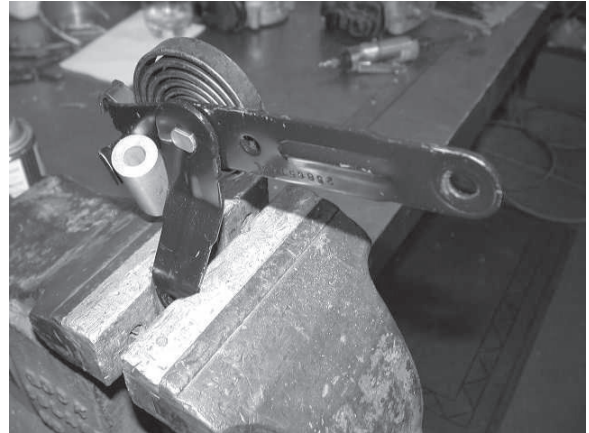


Fig. 14-a

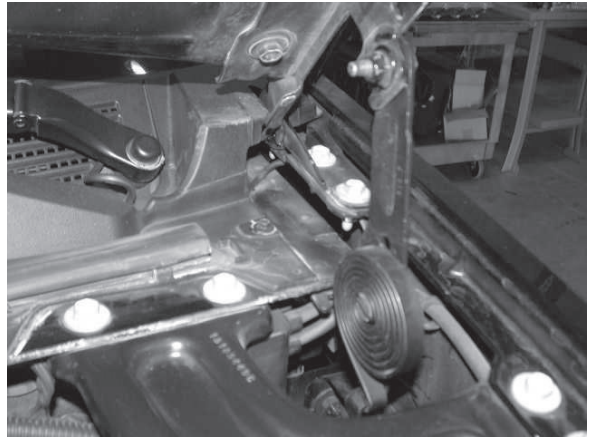


Fig. 14-b

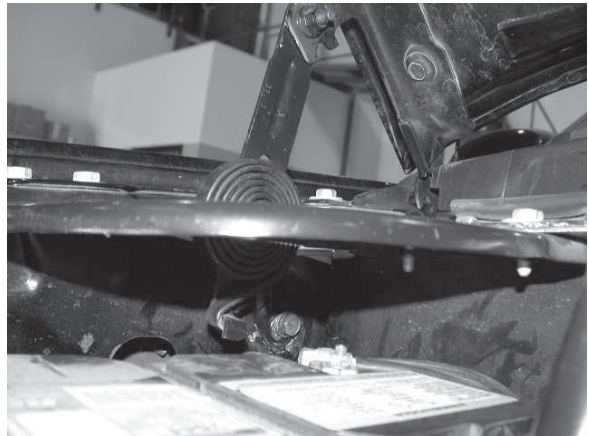


Fig. 14-c

15. REFLASH COMPUTER

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

- Locate "exterior" fuse panel and remove Qty 1 INFO, Qty 1 RADIO and Qty 1RADIO AMP labeled fuses.
- 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.

NOTE:• All vehicles equipped with On-star that have aftermarket stereos will experience problems with the ability to re-program the vehicle's ECM. It is necessary to disconnect the aftermarket stereo from the factory wiring harness before continuing with the programming procedure.

- 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!

- Reconnect the battery.
- Locate the vehicle's OBD2 connector located in the lower left hand corner of the dash on the driver's side of the vehicle.
- Attach the OBD2 connector from the Flash tool that is provided in the kit to the vehicle's OBD2 port. Make sure this connector is seated all the way in the vehicle's OBD2 port. You don't want this connector to disconnect during programming or damage may occur to the vehicle's ECM.
- The Reflash tool should power up and display three parameters.
 - Performance tune
 - Diagnostics
 - Options
- Select "performance tune" and press the enter button in the middle of the arrow keys.
- Read the disclaimer entirely, then select agree and press ENTER.
- At this point please read the screen displayed on the reflash tool. If you have any questions, either refer to the manual that is provided with the reflash tool or contact our service department for further assistance.
- Turn the ignition on (do not start the vehicle). Set the parking brake and press the ENTER button to continue.
- SELECT TUNE will be displayed at the top of the screen. Use the arrow keys to select the appropriate tune for your vehicle and press the ENTER button. You will have a choice.
- Continue to follow the screen and when finished unplug the reflash tool from the vehicles OBD2 port.



Fig. 15-a

16. 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.
- 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. The plastic engine cover that covers the upper manifold will need to be modified in order to reinstall. Refer to Fig. 16-b to trim and reinstall.
- F. Start engine and allow to idle a few minutes.
- G. 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.
- H. **PLEASE TAKE SPECIAL NOTE:** Operating the vehicle without ALL the subassemblies completely and properly installed may cause **FAILURE OF MAJOR COMPONENTS.**
- I. Test drive the vehicle.
- 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.

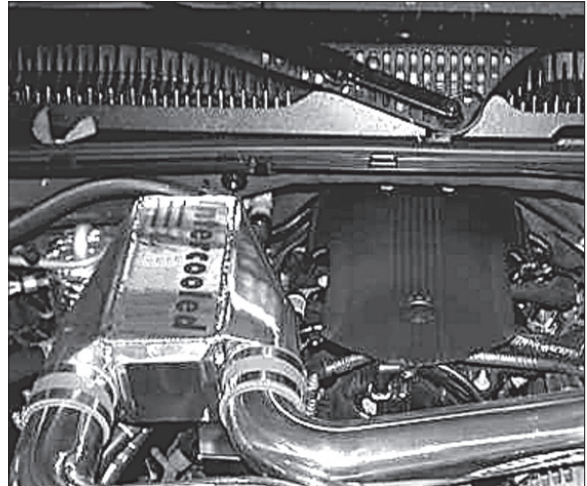


Fig. 16-a



Fig. 16-b

16. FINAL ASSEMBLY AND CHECK, CONT'D

For internally lubricated V3 units only

This supercharger has been factory pre-filled with special Vortech synthetic lubricant. Oil does not need to be added to a brand new unit; however a fluid level check should be performed.

Prior to operating the supercharger on the vehicle and after installation onto the vehicle:

Remove the factory installed flat-head brass shipping plug (not the dipstick) from the top of the supercharger case. Replace the sealed shipping plug with the supplied "vented" plug. Do not operate the supercharger without it. Check the supercharger fluid level.

Fluid level checking procedure:

1. Ensure that the .06" copper sealing washer is located on the dipstick base.
2. Thread the clean dipstick into the supercharger unit it seats.
3. Once the dipstick has seated, remove the dipstick from the unit. Fluid should register in the crosshatched area on the dipstick.
4. DO NOT OVERFILL!!! Drain excess fluid the unit if it is above the maximum level on the dipstick.

Check the fluid level using the dipstick at least every 2,500 miles.

Initial supercharger fluid change must be performed at 2,500 miles. The supercharger fluid must be changed at least every 7,500 miles.

Drain the fluid, refill the unit with 4 oz. of Vortech V3 lubricating fluid and then confirm proper oil level using the dipstick. DO NOT OVERFILL!!!

WARNING: Use of any other fluid other than the special Vortech lubricant will void the warranty and may cause component failure.

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