



Owner's Installation Guide for the
Paxton Automotive
Novi 2000 Supercharger
for the
1992-1996 Dodge Viper RT/10

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FOREWORD

This manual provides information on the installation, maintenance and service of the Paxton 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 Paxton Automotive for any additional information regarding this kit and any of these modifications at (805) 888-PAXTON 7:00am-3:30pm 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 Paxton Automotive 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 Paxton 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. Paxton is not responsible for any clutch, transmission, drive-line or engine damage.

Exclusions from Paxton 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 Paxton 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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1992-1996 Dodge Viper

IMPORTANT NOTES

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 Paxton Automotive. 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 Paxton Automotive.

When driving the vehicle on non-public roads (off-road applications such as racing/high rpm) it is recommended that the spark plugs be gapped down to .032".

This supercharger kit is designed to work on stock vehicles. Vehicles with modifications may not be compatible with this kit as delivered and should be tested with a wide band oxygen sensor and fuel pressure gauge to determine if the air/fuel ratio is safe. Detonation will quickly damage an engine.

1992-1996 Dodge Viper

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.

Paxton 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 Paxton Automotive. 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. Paxton Automotive 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 Paxton 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

RECOMMENDED TOOLS FOR INSTALLATION

1. Factory Repair Manual
2. 3/8" Socket and Drive Set: SAE & Metric
3. 1/2" Socket and Drive Set: SAE & Metric
4. 3/8" NPT Tap and Handle
5. Adjustable Wrench
6. Combination Wrench Set
7. Center Punch
8. Springlock 3/8" and 5/8" Fuel Fitting Disconnect Tool
9. 10 Quarts SH/CF Rated Quality Engine Oil
10. Oil Filter and Wrench
11. Flat #2 Screwdriver
12. Phillips #2 Screwdriver
13. Heavy Grease
14. Silicone Sealer
15. Drill Motor / Pneumatic Right Angle
16. 1/8", 13/32", 5/16" Drill Bits
17. Stepless Clamp Pliers
18. 3/16" Allen Wrench
19. Wire Strippers and Crimpers
20. Utility Knife
21. Ø1-1/8" Hole Saw
22. Pliers

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

24. Spark Plug Socket
25. NEW Spark Plugs



1992-1996 Dodge Viper RT10

Part No. 1201830

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
1011830	VIPER SUPERCHARGER ASY	1	4PCV130-028	OIL FEED LINE ASY, VIPER	1
4PCW038-375	S/C PLY, 8-GRV 3.75" PAXTON	1	7P125-004	1/8"NPT 90° x -4 JIC FTG	2
2A048-485	BELT, K080485-GATES	1	7P125-034	1/8"NPT x 1/8"NPT STRT T	1
4PCV118-011	CRANK PULLEY ASY, VIPER	1	7U100-055	TIE-WRAP, 6" NYLON	2
4PCV016-011	PULLEY, VIPER 7-GRV	1	7U250-220	OIL FEED HOSE, 22" -4 STRT	1
4PCV018-011	PULLEY, VIPER 8-GRV	1	4PCV130-036	OIL DRAIN LINE ASY, VIPER	1
4CV110-010	FIXTURE w/GUIDE, DOWEL PIN	1	7P375-017	3/8"NPT x 1/2" BEADED	1
7A312-100	5/15-18 x 1" HXCS GR5P	6	7R001-008	#8 STNLS HOSE CLAMP	2
7A312-101	5/16-18 x 1" SOC	6	7T560-001	CUTTER, 9/16" ROTABROACH	1
7K312-001	5/16"AN WASHER	12	7T560-002	ARBOR, ROTABROACH	1
7T100-120	DRILL BIT, #31, Ø.120", HSS	1	7U030-036	1/2" OIL-DRAIN HOSE	1.75'
7T110-125	REAMER, Ø.1247", HSS	1	7U100-066	TIE-WRAP, 11" NYLON	2
7U250-023	DOWEL PIN 1/8" x 1.25"	2	4PCV112-040	AIR INTAKE ASY, VIPER RT10	1
4PCV110-260	ALTERNATOR RLCT ASY, G1 VIPER	1	4PCV012-040	INLET DUCT, VIPER SC RT10	1
2A017-101-121	SPACER, FORD ALT. SBF CARB	3	7C010-077	10-24 x 3/4" BHCS	12
2A017-102-900	SPACER, .900" G1 VIPER IDLER	1	7R002-064	#64 GOLDSEAL HOSE CLAMP	1
2A017-102-740	SPACER, .740"L, C5 ALT. PLATE	3	7R002-104	#104 HOSE CLAMP	1
2A017-875-02	SPACER, .875"OD x 1.565 LONG	2	7PS400-650	INLET SLEEVE, VIPER RT10	1
2A017-875-04	SPACER, .875"OD x 3.457 LONG	1	7P625-091	5/8" x 5/8" x 90° BARB ELBOW	1
4HS017-021	SPACER, S/C BOSS S2000	2	7U033-000	5/8" FUEL/PCV HOSE	.75'
4PCV010-260	PLATE 1 PS ALT, RT10	1	7U100-050	GROMMET 5/8"ID x 7/8" HOLE	1
4PCV010-270	PLATE 2 PS ALT, RT10	1	8H017-021	AIR FILTER RET. RT10	1
4PCV010-280	PLATE 3 PS ALT, RT10	1	8H040-230	AIR FILTER, 4.75" x 15, RT10	1
4PCV010-291	PLATE DS ALT, '92-'96 RT10	1	5A001-074	TIMING CONTROL BOX, VIPER '96-'99	1
7A375-175	3/8-16 x 1-3/4" HXHD GR5 PLT	1	5A001-070	TIMING CONTROL BOX, VIPER	1
7A375-225	3/8-16 x 2-1/4" HXHD G8	1	5W001-017	3/8" RING TERMINAL, 12GA	1
7A375-276	3/8-16 x 2-3/4" HXHD ZINC	2	7U375-001	VELCRO-HOOK, 1" BLACK	.22YD
7A375-350	3/8-16 x 3-1/2" HXHD	2	7U375-002	VELCRO-LATCH, 1" BLACK	.22YD
7A375-451	3/8-16 x 4.50" HXHD GR5 ZINC	1	5W014-010	14GA STRD WIRE, RED	8'
7A375-475	3/8-16 x 4.75" HXHD GR8 PLTD	1	4PCV101-003	FUEL PUMP ASY, VIPER	1
7C080-035	M8 x 1.25" x 35 BLT CL8.8	1	5W001-005	3/8" PLASTIC WIRE LOOM	6'
7J312-000	5/16" FLAT WASHER-SAE	1	5W001-011	16-14GA RING TERMINAL, .26" HOLE	2
7J375-044	3/8"SAE WASHER, PLTD	8	5W014-030	14GA STRD WIRE, BLACK	.75'
4PCV111-023	MTG BRKT ASY, VIPER RT10	1	7E010-075	#12 x 3/4" SHT METAL SCREW H	4
4PCV011-023	MTG BRKT, VIPER, MACH	1	7P312-005	5/16" FEMALE FUEL CONCT	1
4PCV010-044	PLATE, VIPER S/C MTG	1	7P312-007	FUEL FITTING, MALE	1
2A017-101-400	SPACER, SBF MOUNTING PLATE	2	7P312-017	5/16" HOSE BARB TO PBURG	2
7A375-575	3/8-16 x 5-3/4" HXCS	2	7P312-082	5/16" TEE HOSE BARB	4
7A375-126	3/8-16 x 1.25" HXHD	5	7R003-027	ADEL CLAMP, 1-11/16"	4
7A375-175	3/8-16 x 1-3/4" HXHD	2	7R004-001	STEPLESS CLAMP, 15.7-70	22
7J375-044	3/8" SAE WASHER, PLTD	12	7U031-018	5/16" FUEL HOSE, HI-PRESSURE	8'
4FA016-170	IDLER PULLEY, 8-RIB SMOOTH	1	7U100-044	TIE-WRAP, 4" NYLON	10
7A375-224	3/8-16 x 2.25" GR5 HX	1	7U100-055	TIE-WRAP, 6" NYLON	5
4GF017-011	SPACER, IDLER	3	8F001-068	155 INLINE FUEL PUMP	2
4PCV011-052	SPRING TENSIONER	1	4PCV238-108	FMU ASY, VIPER	1
7C010-035	M10-1.5 x 35 HXCS	1	7P125-025	1/8"NPT x 5/32" HOSE 90°	1
4PCV210-220	BRACE ASY, VIPER SHOCK	1	7P125-031	1.8"NPT 90° 5/16" BARB	1
4PCV110-220	ASY, VIPER BRACE, DRIVER RT10	1	7P125-032	1/8"NPT - STR, 5/16" BARB	1
4PCV110-230	ASY, VIPER BRACE, PSGR RT10	1	7P156-082	5/32" TEE	2
4PCV110-180	ASY, VIPER BRACE, XBAR	1	7U030-046	5/32" VACUUM LINE	9
7A437-150	7/16-14 x 1-1/2" G8	2	6Z050-191	FMU WASHER 8:1	1
7B437-001	ROD END, RH, 7/16"	1	6Z070-030	FMU 8:1 RING SPACER	1
7B437-002	ROD END, LH, 7/16"	1	4PCV145-040	POWER STEERING HOSE ASY	1
7C010-025	M10-1.5" x 25mm HXCSP	4	7U030-028	-6 HI-PRESS PWR STR HOSE	1
7F437-000	7/16-14 HEX NYLOCK NUT	2	7P375-216	-6 JIC x M16 x 1.5" BUMP FTG	1
7F438-001	7/16-20 JAM NUT, PLTD	1	7P375-218	-6 JIC x M18 x 1.5" BUMP FTG	1
7F438-002	LH 7/16-20 HEX THIN NUT, ZINC	1	7U100-055	TIE-WRAP, 6" NYLON	5
7GL10-150	10mm x 1.5" NUT NYLOCK	4	7U100-045	O-RING, .301"	2
7J010-002	10mm WASHER, ZINC PLTD	10			
7K437-001	7/16" AN WASHER	6			



1992-1996 Dodge Viper RT10

Part No. 1201830

PARTS LIST cont'd

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
8PN301-010	POWER COOLER ASY, VIPER	1	8PN107-020	WATER PUMP ASY, VIPER	1
8PN201-020	DISCHARGE ASY, VIPER	1	5W001-005	3/8" PLASTIC WIRE LOOM	12'
8PN101-020	CAC ASY, VIPER, AIR/WATER	1	5W001-009	16-14GA MALE SLIDE INSUL	1
5W001-005	3/8" PLASTIC WIRE LOOM	1.6'	5W001-010	16-14GA FEMALE SLIDE INSUL	3
7PS263-090	2-5/8" 90° ELBOW	2	5W001-011	16-14GA EYELET .25" HOLE	2
7P5300-300	SLEEVE, BLACK, Ø3.00" x 3.00"	1	5W001-013	14-16AWG, SOLDERLESS CONNECTOR	2
7R002-040	#40 STAINLESS HOSE CLAMP	4	5W001-014	FUSE HOLDER, 10GA WIRE	1
7R002-048	#48 GOLDSEAL HOSE CLAMP	2	5W001-015	FUSE, BLADE TYPE 20AMP	1
7U030-046	5/32" VACUUM LINE	3.5'	5W001-016	RELAY, BOSCH	1
7U038-012	HOSE, Ø3/4", 90°, 4" x 12"	1	5W001-017	3/8" RING TERMINAL, 12GA	1
7P375-075	3/4" HOSE UNION	1	5W001-040	12-10GA FEMALE SLIDE INSUL	1
7R007-001	NYLON CLAMP 1-1/8"	2	5W014-010	14GA STRD WIRE, RED, UL101	11'
7P500-026	1/2"NPT - 3/4" BARB 90°	1	5W014-030	14GA STRD WIRE, BLACK	14'
8D204-010	BYPASS VALVE-BLACK	1	5W016-010	WIRE, STRND, 16AWG, YELLOW	2'
8H040-175	FILTER, 1-3/4"ID, MFRB	1	7A250-074	1/4-20 x 3/4" HXHD PLT	1
8PN104-030	SUPPORT COMPONENTS, VIPER RT10	1	7F250-021	1/4-20 NYLOCK NUT ZINC, PLTD	1
7A250-051	1/4-20 x .5" HHCS	2	7J250-001	1/4"SAE WASHER, PLTD	2
7A250-074	1/4-20 x 3/4" HXHD PLT	5	7R003-027	ADEL CLAMP, 1-11/16"	1
7A312-075	5/16-18 x 3/4" HXCS GR5 ZINC	1	7U100-044	TIE-WRAP, 4" NYLON	8
7F250-021	1/4-20 NYLOCK NUT ZINC PLT	1	8F001-402	PUMP, WATER, PIERBURG	1
7F312-017	5/16-18 NYLOCK NUT	1	8F060-270	FUEL INJECTOR, GEN2 STK	10
7J250-001	1/4"SAE WASHER, PLTD	8	ADDITIONAL ASSEMBLY NEEDED FOR INSTALLATION ON VEHICLES NOT EQUIPPED WITH AIR CONDITIONING		
7K312-001	5/16"AN WASHER, PLATED	2	4PCV110-050	VIPER, GEN 1 AC DELETE IDLER	1
7U038-150	HOSE 3/4" x 150 MOLDED	1	2A017-016	PILOT, 6203/5 BRG, 3/8" SCREW	1
8N010-100	MTG TAB, RT10 SURGE TANK	1	2A017-102-216	SPACER, 1.0"OD x 2.165"L	2
8N010-120	SUPPORT, RT10 WATER COOLER	2	2A017-190	SPACER, 1.0"OD x 1.902" w/PLTD	1
7F250-021	1/4-20 NUT PLATE	4	2A017-880-02	SPACER, .875"OD x 1.335"L	1
7U100-055	TIE-WRAP, 6" NYLON	10	2A047-750	BELT, DAYCO 5070750, 7-RIB	1
8N055-050	PLASTIC CAP, SURGE TANK	1	4GV016-150	IDLER PULLEY, 7-RIB	1
8N056-060	SURGE TANK, PLASTIC	1	4PCV010-050	PLATE, AC DELETE IDLER MTG	1
8PN010-140	SUPPORT, VIPER WATER COOLER	2	7A375-077	3/8-16 x 3/4" GR8 FLAT HD ZINC	3
7P500-026	1/2"NPT, 3/4" BARB, 90°	1	7A375-250	3/8-16 x 2.5" GR8 HX	1
8PN105-020	WATER TANK MTG ASY, VIPER	1	7A375-352	3/8-16 x 3-1/2" GR8 HXHD	1
7A250-050	1/4-20 x 1/2" SHCS ZINC PLTD	2	7F375-016	3/8-16 HX NUT	2
7J250-001	1/4"SAE WASHER, PLTD	1	7J010-002	10mm WASHER, ZINC PLATED	4
7P375-075	3/4" HOSE UNION	2			
7P500-026	1/2"NPT - 3/4" BARB 90°	5			
7P500-078	1/2"NPT x 3/4" HOSE FITTING	3			
7R007-001	NYLON CLAMP 1-1/8"	14			
7U038-000	3/4" HEATER HOSE	18			
7U038-012	HOSE, Ø3/4" 90°, 4" x 12"	2			
8N055-030	TANK, LT1 AFTERCOOLER	1			
8N006-010	WATER COOLER	1			

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Section 1

COMPONENT REMOVAL

1. PREPARATION/REMOVAL

- A. Disconnect the Idle Air Control (IAC) motor hose and the valve cover breather hose from the air box (air filter housing).
- B. Remove all of the inlet ducting up to but not including the throttle bodies. Remove the two air box mounting studs from the core support.
- C. Remove the air temperature sensor from the air box and set aside.
- D. Jack the front of the vehicle up and support with a jack stand under each frame rail.
- E. Drain the engine coolant sufficiently to remove the upper radiator hose.
- F. Remove the two screws securing the power steering cooler to the shock tower brace. Jack the front of the vehicle up by placing a jack under the front cross member.
- G. Remove the five screws holding the shock tower brace and remove the brace.
- H. Remove the accessory drive belt.
- I. Loosen the nut on the high pressure power steering line where it enters the power steering pump.
- J. Remove the three screws securing the power steering pump to the bracket and set aside for later use. Remove the three screws securing the bracket to the head and remove the bracket.
- K. Remove the six 5/16" screws securing the crank pulley to the harmonic damper and remove the crank pulley.
- L. Remove the front fascia. Close the rear of the hood to provide access under the front of the hood. Start by removing the mounting screws from the bottom of the vehicle and in the front of each wheel well. Remove the plastic push connectors from underneath the leading edge of the hood and from the top of the radiator air inlet opening. Unplug the fog and turn signal lights on each side of the vehicle by reaching behind the front fascia. Remove the plastic push connector securing the front fascia to the bumper in front of and below each headlight. Carefully remove and set aside the front fascia.

NOTE

Carefully note where any alignment shims are located and replace in the same location when the front fascia is re-installed.

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Section 2

OIL FEED

2. OIL FEED
 - A. Remove the oil pressure sender from the front passenger side of the engine directly above the oil filter.
 - B. Install the 1/8"NPT TEE in the oil sender hole. Leave the TEE pointed up. Install the 1/8"NPT x -4 90° fitting in the top of the TEE. Install the oil pressure sender in the front hole in the TEE and re-attach the electrical plug. (See *Fig. 2-a.*)
 - C. Temporarily cover one end of the oil feed line and protect it from debris until connecting it to the supercharger.
 - D. Connect the open end of the oil feed line to the -4 fitting. Use tie-wraps to secure the line and protect it from kinking, abrasion and high heat areas.

*****IMPORTANT*****

Use clean engine oil on the pipe threads. Teflon tape and sealant is NOT recommended as it might loosen and cause blockage of the small oil feed orifice resulting in supercharger failure.

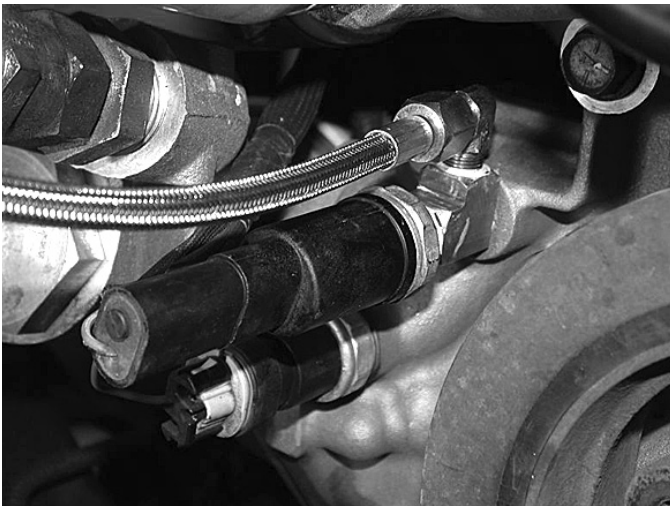


Fig. 2-a

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Section 3

OIL DRAIN

3. OIL DRAIN

- A. To provide an oil drain for the supercharger, it is necessary to make a hole in the front of the oil pan.
- B. Remove the oil dipstick retaining screw from the passenger's side valve cover bracket.
- C. Drain the engine oil.
- D. Remove the oil pan.
- E. The hole should be centered .5" from the bottom of the oil pan lip as shown. Use a center punch to mark the hole location. Use the supplied 9/16" rota-broach to drill the hole.
- F. Tap the hole with a 3/8"NPT pipe tap.
- G. Thoroughly clean the threaded area and the inside of the oil pan. Apply a small amount of sealer to the new threads. Apply more sealer to the supplied 3/8"NPT x 1/2" hose barb fitting and secure in the hole. Make sure a seal is formed all around the fitting.

*****NOTE*****

Clean and inspect the oil pan gasket. If it is in good condition it can be used again.

- H. Re-install the oil pan. Torque the fasteners to 95 in-lbs (11 N-m).
- I. Install a new oil filter and refill the engine with fresh oil.

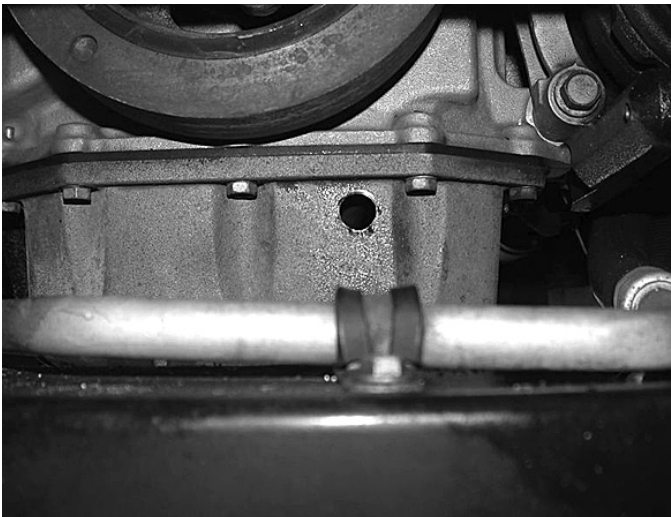


Fig. 3-a

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Section 4

CRANK PULLEY INSTALLATION

4. CRANK PULLEY INSTALLATION

- A. Remove the harmonic damper retaining screw. Placing the vehicle in first gear with the emergency brake applied should keep the engine from turning over.
- B. Dowel pins must be installed through the damper and into the crankshaft to assure that the damper does not rotate on the crankshaft snout during engine operation.
- C. Install the supplied drill guide onto the damper using two of the screws that held the crankshaft pulley on. Orient the damper so that the hardened drill insert is rotated to be as high as possible.
- D. Using a right angle drill and the supplied #31 (.120") drill bit, drill into the damper face at least 1-1/4". (See *Fig. 4-a*.)

NOTE

Remember to add 1/4" for the drill guide thickness. The drill bit must go in at least 1-1/2" from the surface of the drill guide.

- E. Using the supplied 1/8" reamer, plunge once to the end of the drilled hole and remove.
- F. Remove drill guide from damper.
- G. Line up one of the supplied dowel pins and lightly tap into the reamed hole until flush.
- H. Rotate drill guide 180° from the previously installed position. Rotate engine until the drill insert is at highest point and repeat steps D-F.
- I. Tap both dowel pins into the damper until they are flush.
- J. Re-install the Damper retaining bolt using threadlocker and torque to 250 ft-lbs.
- K. Install the supplied 7-rib crank pulley onto the harmonic damper using the supplied 5/16 x 1" hex head screws and thread locker. If necessary, heat the pulley until the pilot slides easily over the harmonic damper pilot. Torque the six mounting screws, in a rotating pattern, to 25 Ft-lbs.

- L. Install the supercharger 8-rib crank pulley into the pilot on the 7-rib crank pulley. If necessary, heat the 7-rib pulley until the 8-rib pulley pilot bottoms out fully. Install the supplied 5/16" x 1" socket head cap screws using washers and torque in a rotating pattern to 20 Ft-lbs. (See *Fig 4-b*).

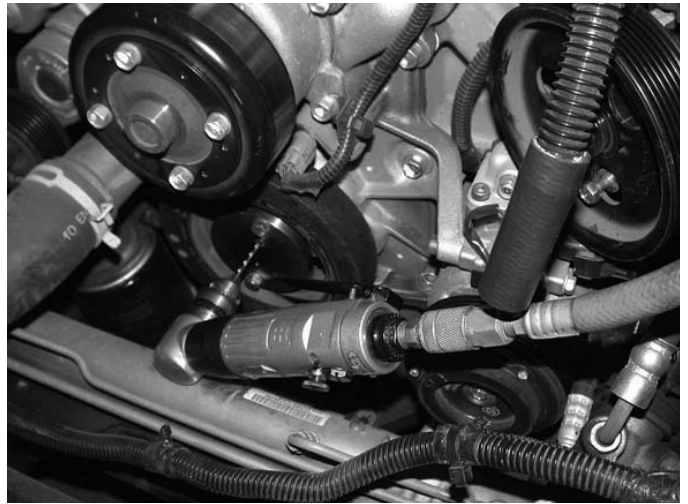


Fig. 4-a

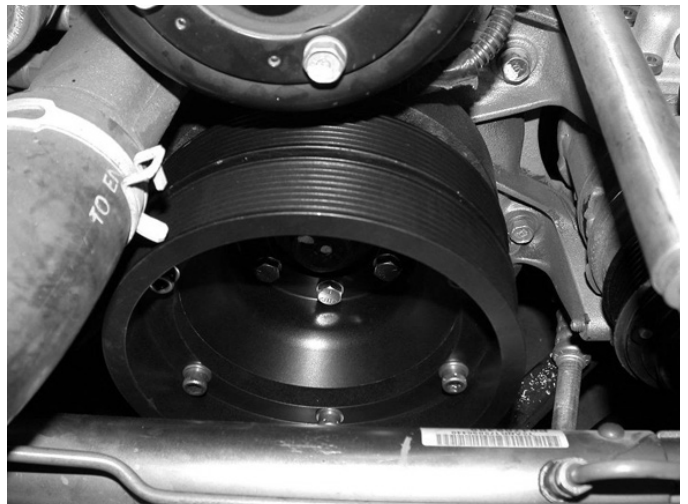


Fig. 4-b

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Section 5

REPLACEMENT SHOCK TOWER SUPPORT INSTALLATION

5. REPLACEMENT SHOCK TOWER SUPPORT INSTALLATION
 - A. Install the supplied shock tower brace onto each shock tower with the chamfered corner pointing forward. Use the factory bolt and nut and the supplied bolt, nut and washer in the top two holes.
 - B. Using a 13/32" bit, drill the forward-most hole in each shock tower using the installed parts as a template. (See *Fig. 5-a.*)
 - C. Install the supplied M10 x 25mm bolts through the drilled holes and tighten using the supplied nuts and washers. (See *Fig. 5-b.*)

NOTE

Bracket is slotted to provide supercharger pulley clearance on different vehicles.

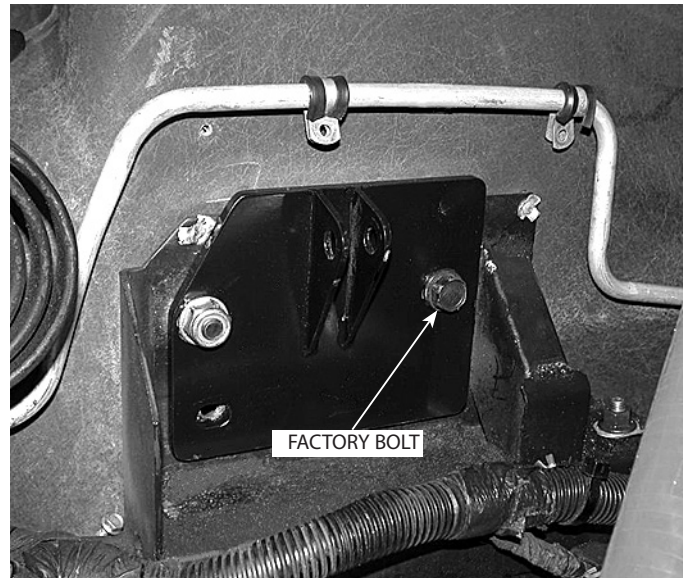


Fig. 5-a / Passenger's side shock tower brace

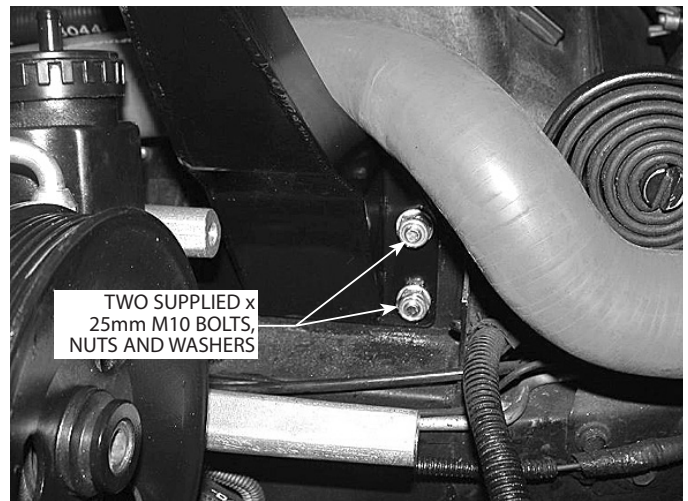


Fig. 5-b / Driver's side shock tower brace

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Section 6

SUPERCHARGER MOUNTING BRACKET INSTALLATION

6. SUPERCHARGER MOUNTING BRACKET INSTALLATION

- A. Install the supplied mounting bracket onto the head using the factory power steering bracket screws. (See Fig. 6-a.)

NOTE

Mounting bracket/spacer to shock tower support clearance may be too small on some vehicles. Lightly sand one or both parts until 3/16" clearance is achieved.

- B. Using the three supplied spacers (not used on 1996 vehicles, put spacers under bolt heads for proper thread engagement) between the power steering pump and the mounting bracket, install the pump using the factory bolts. (See Fig. 6-b.)
- C. Install the supplied -6 x 18mm adapter into the high pressure port on the power steering rack. Install the supplied -6 x 16mm adapter into the pump, attach the supplied power steering hose to the pump so that it is routed towards the passenger's side. (See Fig. 6-c.) Route the free end of the hose around the mounting bracket and attach to the power steering rack.
- D. Secure the power steering lines away from contact with sharp or moving objects using

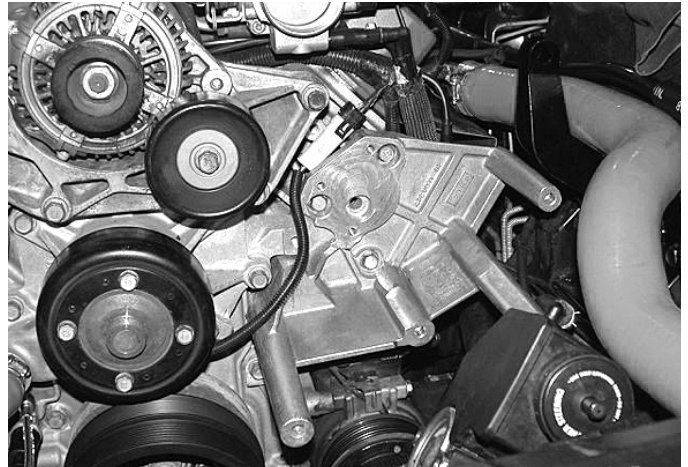


Fig. 6-a | '93 Vehicle Shown, See Text)

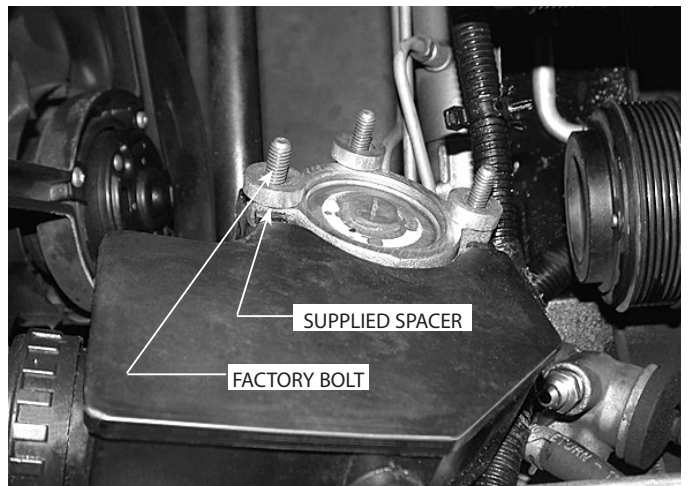


Fig. 6-b

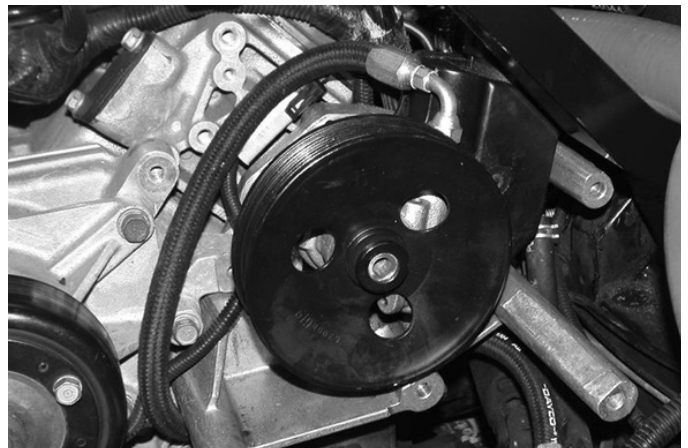


Fig. 6-c

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Section 7

ALTERNATOR RELOCATION ASSEMBLY

7. ALTERNATOR RELOCATION ASSEMBLY

- A. Remove the alternator bracket from the vehicle.
- B. Remove the alternator, alternator bushing, idler pulley and the spring tensioner from the bracket.
- C. Assemble the supplied alternator plates onto the engine as shown. (See Fig. 7-a.) Install the spring tensioner and idler pulley in their respective locations.
- D. Using the original alternator bolt installed through the bushing, install the alternator and belt in the original configuration but leave the belt loose on the spring tensioner.

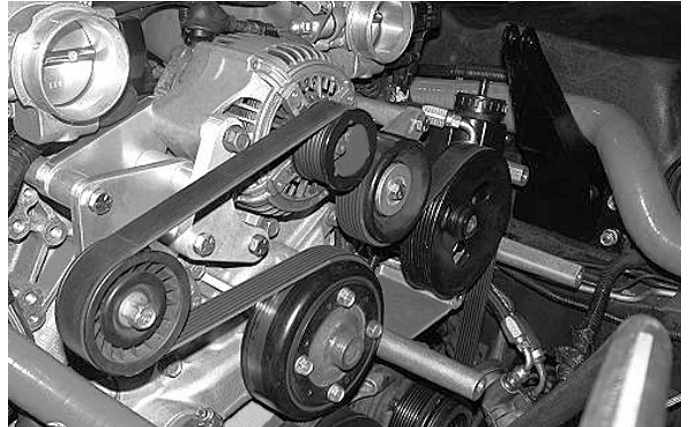


Fig. 7-b

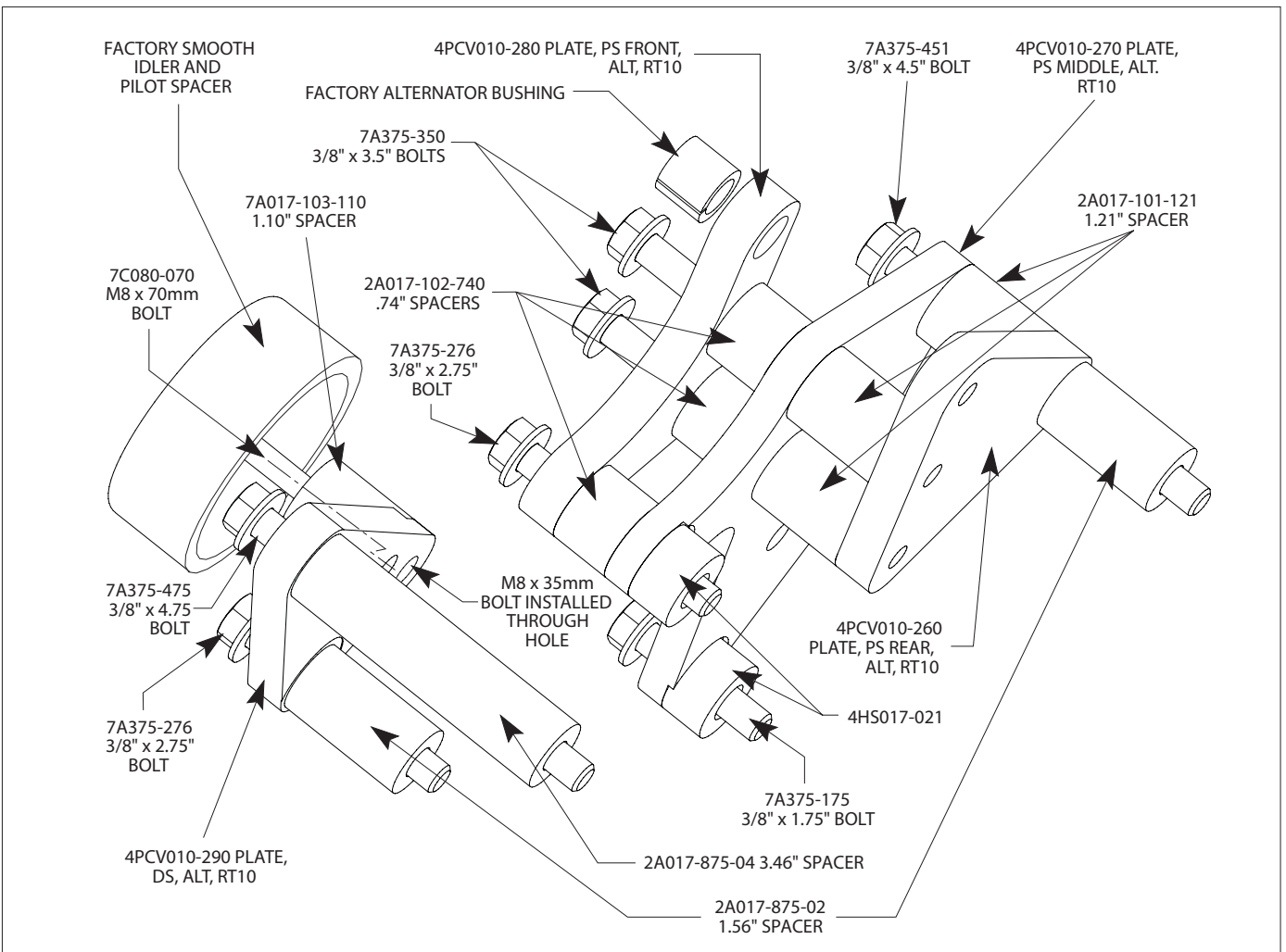


Fig. 7-a | Alternator and spring tensioner not shown

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Section 8

SUPERCHARGER INSTALLATION

8. SUPERCHARGER INSTALLATION

- A. Install the supplied 1/2" oil drain hose onto the barb fitting on the bottom of the supercharger and secure with the supplied #8 hose clamp.
- B. Attach the supercharger mounting plate to the supercharger. Use five of the supplied 3/8" x 1.25" screws and washers. (See Fig. 8-a.)

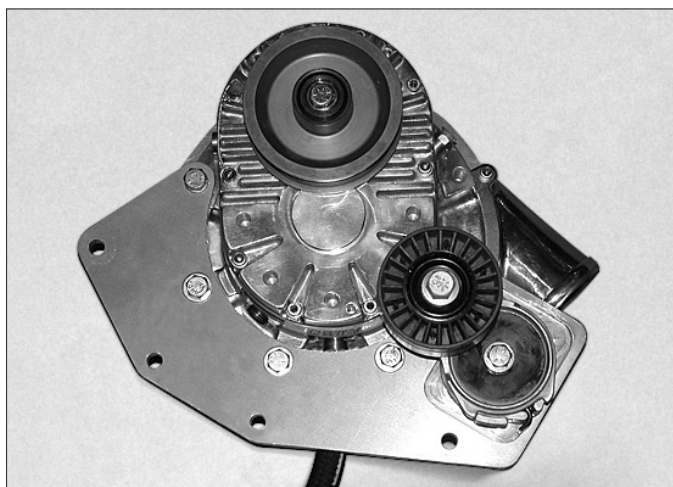


Fig. 8-a

- C. Install the spring tensioner onto the supercharger mounting plate using the supplied 3/8" x 2.25" screw and washer. (See Fig. 8-a.) Install the spring tensioner into the low mounting position.

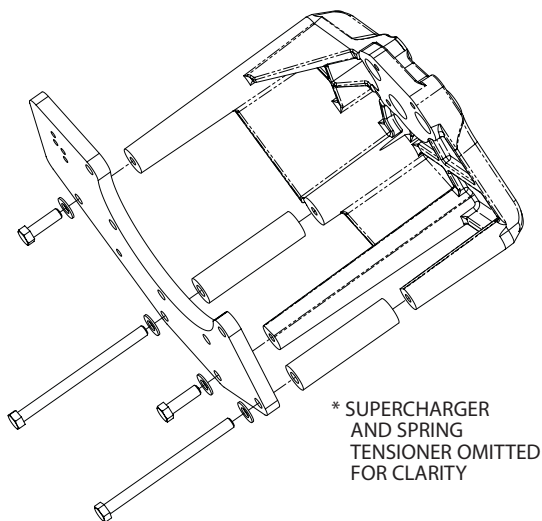


Fig. 8-b

- D. Install the supercharger drive belt onto the supercharger pulley so that the back side will ride on the spring tensioner idler. (See Fig. 7-c for belt routing.)

NOTE

When installing the supercharger assembly, keep in mind that the supercharger belt will need to be routed around the crank pulley and mounting bracket standoff. (See Fig. 8-c.)

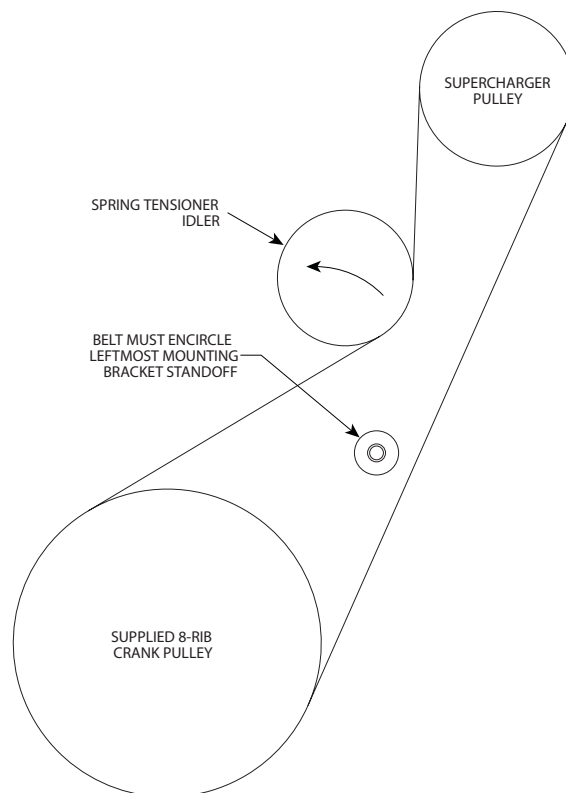


Fig. 8-c

- E.** For vehicles equipped with air conditioning skip the following and proceed with Step F. For vehicles without A/C, it is necessary to purchase assembly 4PCV110-050 separately. Install the assembly onto the supercharger as shown. (See Fig. 8-d.)

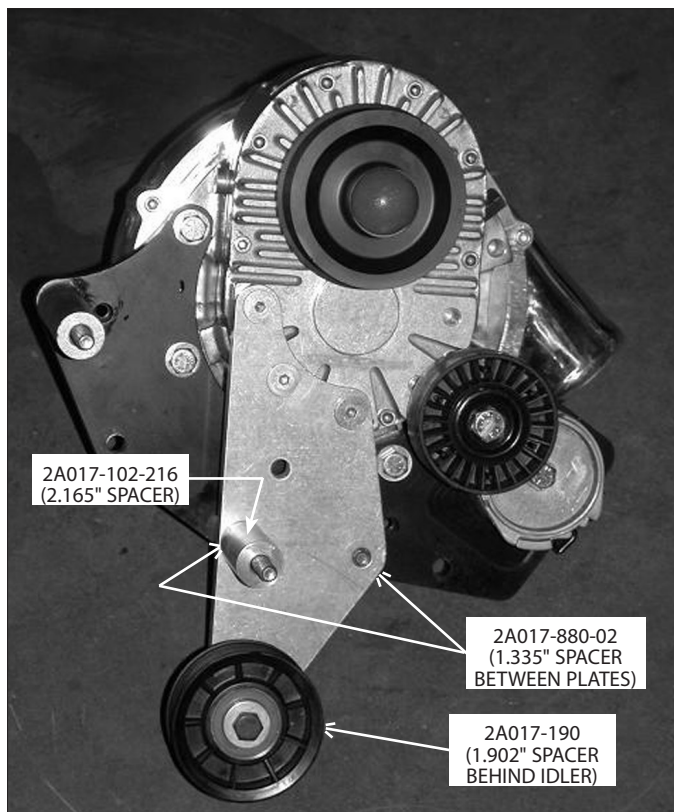


Fig. 8-d

- F.** Attach the supercharger plate assembly to the mounting bracket using the supplied 3/8" x 1-3/4" screws and washers. Install the supplied 4" spacers into the two remaining supercharger mounting plate locations and install the supplied 3/8" x 5-3/4" screws and washers. Tighten the screws. (See Fig. 8-b.)

NOTE

In order to get a wrench on the supercharger spring tensioner, it is necessary to remove the smooth idler from the alternator bracket and move the accessory drive belt out of the way.

- G.** Use a combination wrench on the spring tensioner idler screw to draw the spring tensioner as far away from the power steering pulley as possible. Route the supercharger drive belt around the crank pulley and release the spring tensioner.
- H.** Reinstall the smooth idler onto the alternator plate assembly. Install the accessory drive belt in the original configuration by retracting the factory spring tensioner.
- I.** Route the free end of the oil feed hose to the supercharger and attach using a 90° fitting in the supercharger oil feed fitting. (See Fig. 8-e.)

NOTE

Make sure there are no bends, kinks or dips in the oil drain line. The hose must maintain a constant "down-hill" direction. A restriction in the drain path may cause leakage and/or supercharger failure.

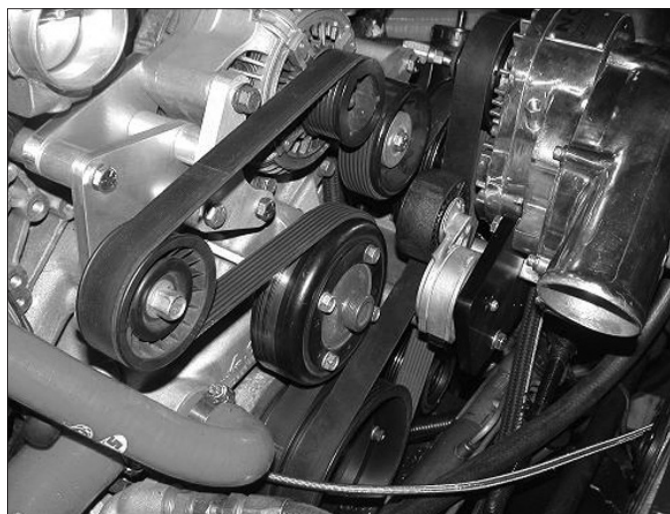


Fig. 8-e

- J.** Attach the free end of the oil drain hose to the previously installed oil drain fitting in the oil pan and secure with a #8 hose clamp. Trim hose length if necessary.
- K.** Use zip-ties as necessary to secure the oil drain and oil feed lines away from moving parts.
- L.** Install the supplied shock tower support cross bar into the previously installed braces. Note that at the end of the bar that has bolt flats is left-hand thread and so must use the left-hand rod end. Adjust the bar to fit and install and tighten the 7/16" bolts on each end. Tighten the jam-nuts on each rod end.

Section 9

CHARGE AIR COOLER INSTALLATION

9. CHARGE AIR COOLER INSTALLATION

A. Cooler Core Installation.

1. Using sealant, install a 1/2" NPT to 3/4" barb 90° fitting in the top cooler end tank hole so that it points downwards.
2. Install the supplied bypass valve with the supplied hardware onto the cooler so that it points to the front of the vehicle.
3. Using sealant, install a 1/2" NPT to 3/4" barb fitting in the bottom cooler end tank hole.
4. Using sealant, install a 3/4" 90° fitting in the 1/2" NPT hole near the bypass valve and point it so that it will be facing towards the back of the car when the cooler is installed. (See Fig. 9-a.)

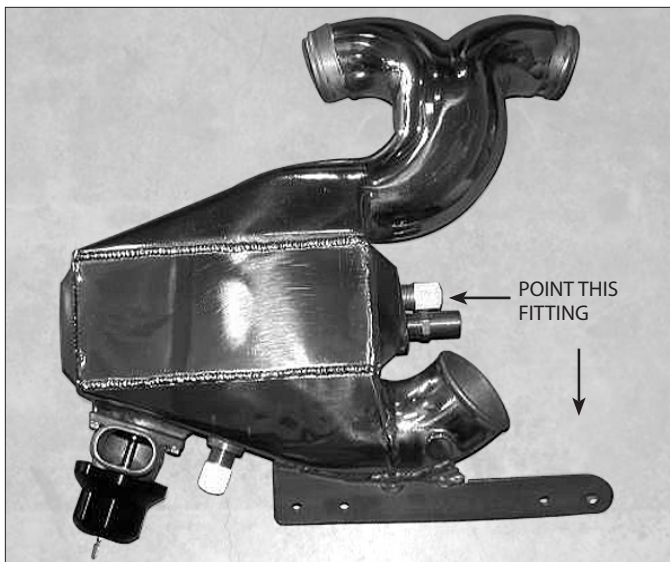


Fig. 9-a

5. Install the supplied 3/4" 90° molded hose onto the fitting installed in the previous step so that it conforms tightly to the cooler and will point up to the Idle Air Control (IAC) hose that was disconnected from the air box.
6. Install a 3" sleeve on the cooler inlet and a 2-5/8" elbow on the passenger's side cooler outlet.
7. Install a 2-5/8" elbow on the driver's side throttle body and secure with a supplied clamp.
8. Connect the supplied 5/32" vacuum line to the fitting on the bypass valve and

route it to the vacuum nipple behind the driver's side throttle body. Remove the existing hose from the nipple and use the supplied TEE to reconnect both hoses.

9. Install the aftercooler core assembly between the supercharger discharge and the throttle body. First, attach the 3" sleeve on the supercharger to the cooler, then slide the cooler onto the elbow installed on the driver's side throttle body. Lastly, attach the remaining elbow to the passenger's side throttle body. (See Fig. 9-b.)

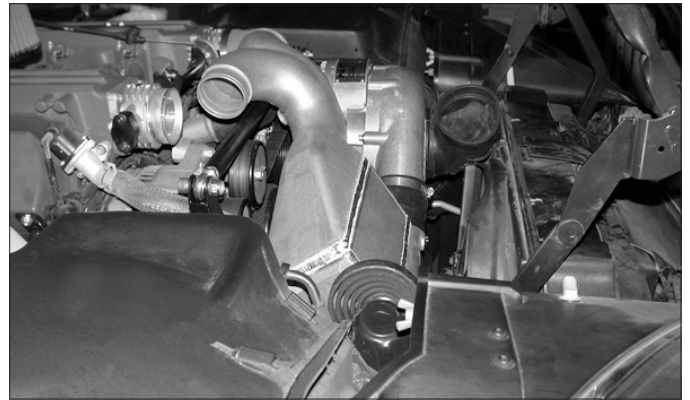


Fig. 9-b

10. Verify that the charge air cooler has sufficient clearance and tighten the supplied clamps on all of the sleeve connections.
11. Install the supplied 150° x 3/4" hose with the short leg on the straight fitting installed in the cooler. Point the free end of the hose towards the passenger's side and install and tighten the clamp.
12. Trim the hose installed in step 5 and connect it to the IAC tube using one of the supplied 90° hoses and hose menders. Install and tighten a clamp each connection.
13. Thread the air temperature sensor removed from the air box into the hole located on the CAC discharge duct. Attach the electrical connector to the sensor and secure the wiring harness that the sensor is connected to so that it can't contact any moving parts.
14. Install the supplied air filter onto the bypass valve and tighten the clamp.

B. Reservoir Installation

1A. ('92-'95 Model Year Vehicles:)

Using sealant, install a straight fitting into the top of the water tank (this is the side that has the large 1" NPT blind hole). Install a 90° fitting in the bottom of the tank. Bend the factory horn bracket up as shown in *Fig. 9-c* to provide clearance. Place the water tank on the supplied template (see *Fig. 9-k1*, at the end of this section) and position as close to the frame as possible. Once a satisfactory position is located, hold the template in place, remove the tank and drill two 1/4" holes on the radiator shroud that correspond to the brass inserts in the tank.

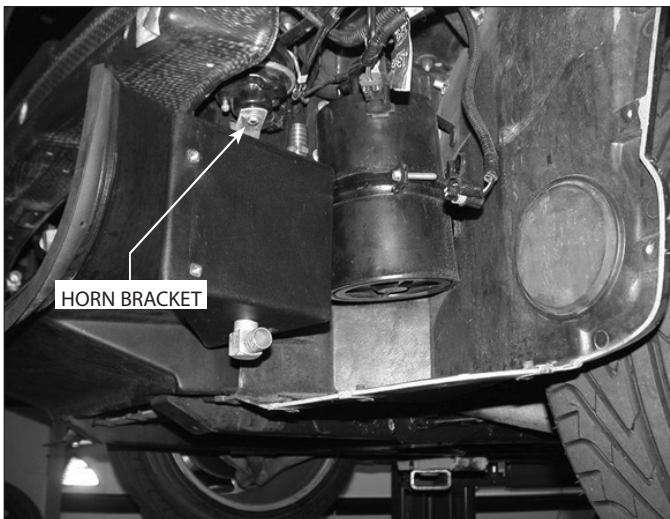


Fig. 9-c — ('92-'95 Model Year Shown)

1B. ('96 Model Year Vehicles:)

Using sealant, install a 90° fitting into the top and bottom of the water tank. Place the water tank on the supplied template (see *Fig. 9-k-2*, at the end of this section) and position as far inboard as possible. Verify that the chosen location will not interfere with the bumper cover when it is installed, hold the template in place, remove the tank and drill a 5/16" hole in the inner fender that corresponds with the brass insert in the tank.

2. Use two of the supplied 1/4" screws and washers to secure the reservoir.

C. CAC Water Pump Wiring And Installation

1. Cut a piece of the supplied hose to connect the bottom of the reservoir to the inlet of the water pump.
2. The pump outlet should point up and toward the front of the vehicle.
3. Install a plastic clamp on each hose connection and tighten. (See *Fig. 9-d.*)

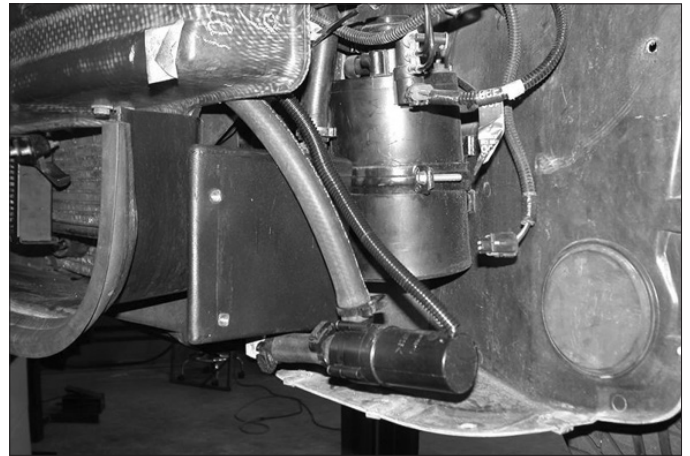


Fig. 9-d.1 / (1992-1995 Model Year Reservoir Mounting)

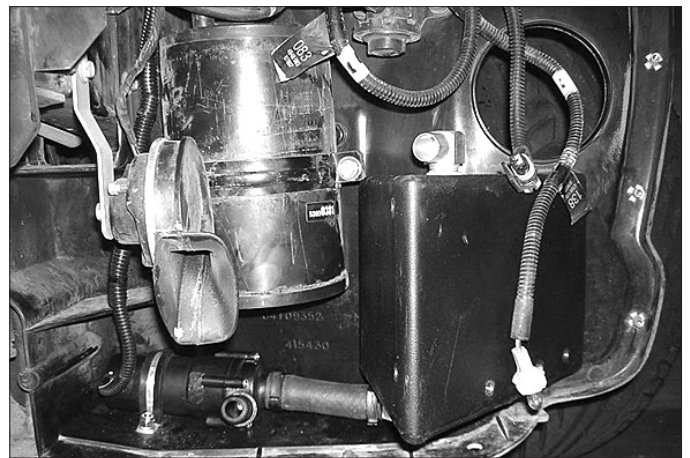


Fig. 9-d.2 / (1996 Model Year Reservoir Mounting)

4. (1992-1995 Model Year Reservoir mounting.) Mount the water pump relay at the location shown in *Fig. 9-e* on the passenger's side of the vehicle in front of the PCM.

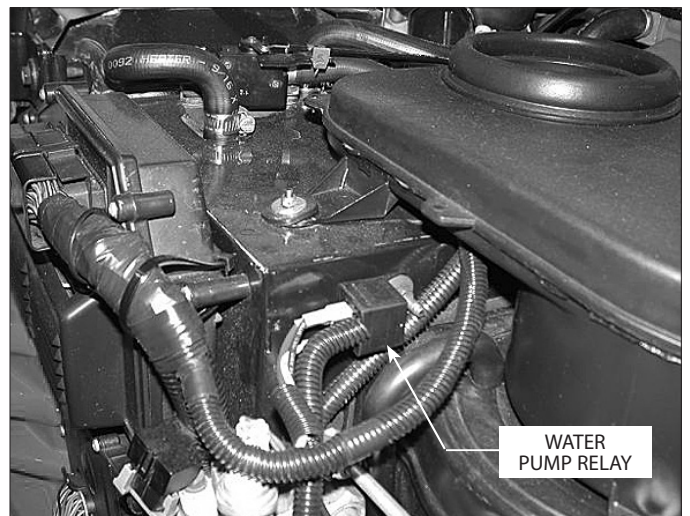


Fig. 9-e

5. The supplied yellow wire will be used as the "trigger" wire and should be connected to terminal #85 using a slide connector. The other end of the wire will be connected in section 11.
6. Run the black wire from terminal #86 on the water pump relay to the "ground" located beneath it on the vehicle's frame.
7. Connect the fuse holder using a yellow slide connector to terminal #30 on the aftercooler pump relay and to the fuse box power terminal on the front of the fuse box using the supplied wire and yellow ring terminal connector.
8. Use the supplied black wire, ring terminal and butt connector to extend the water pump ground wire (brown wire on pump) to the same grounding location used for the water pump relay ground.
9. Route the red wire from the water pump to relay terminal #87. Using the supplied butt connector, attach the red wire to the positive wire on the water pump (green wire on the pump).
10. Install the supplied plastic wire loom around the water pump power wires and secure.

NOTE

Double check that all wires are connected to the proper relay lugs.

D. Water Cooler Installation

1. Remove the two screws securing the hood release handle to the bumper.
2. Using sealant, insert the 90° fittings in the inlet and outlet of the water cooler and point them towards each other.

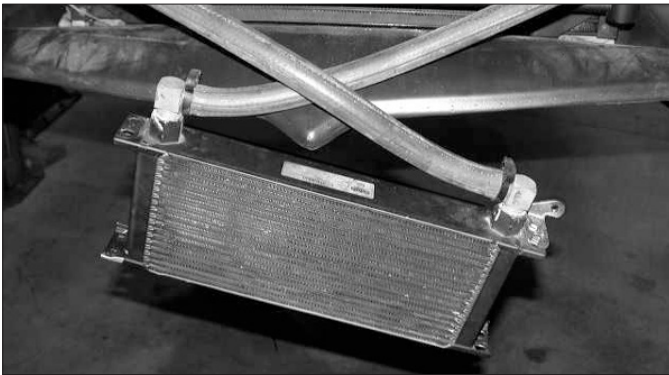


Fig. 9-f / ('96 Water Cooler Bracket Shown)

*** NOTE ***

1996 Model Year vehicles use different water cooler mounting brackets than the earlier cars, make sure to use the correct pair of brackets as indicated in Figs. 9-f, 9-g.

3. Using supplied hardware, loosely attach one of the supplied brackets to the passenger's side oil cooler mounting bolt. (See Fig. 9-g.) Attach the other bracket to the water cooler using the supplied 1/4" hardware.



Fig. 9-g / ('92-'95 Water Cooler Bracket Shown)

4. Attach the water cooler to the installed bracket and tighten so that the water cooler is as far to the passenger's side as possible.

CAUTION

In the following step, use extreme care when drilling through the oil cooler flange. If the drill bit slips or goes through the hole too far, it will damage the radiator, oil cooler or the AC condenser.

5. Use the unfastened bracket to serve as a template to drill a 5/16" hole in the top flange of the oil cooler. Install the supplied 5/16" hardware and tighten.
6. Connect the outlet of the water pump to the far side of the water cooler with the installed 3/4" hose trimmed to fit by routing a section of hose through the bumper. Clamp each end.
7. Route a 3/4" hose from the remaining fitting on the water cooler between the radiator and the passenger's side frame rail, connect to the 90° fitting installed on the CAC.

- Trim the hood release handle to clear the water cooler as shown in *Fig. 9-h*. If necessary, drill 1/8" holes in a new location to remount the handle so that its function is not impaired.



Fig. 9-h

E. Surge Tank Installation

- Using thread sealant, install the supplied 1/2" NPT to 3/4" hose barb straight fitting into the side of the surge tank. (See *Fig. 9-i*.)



Fig. 9-i

- Install the 90° fitting into the bottom of the surge tank so that it points the same direction as the straight fitting.

- Install a 90° hose onto the fitting on top of the reservoir and secure with a clamp. (See *Fig. 9-j*.)



Fig. 9-j / ('92-'95 Shown)

- Connect the bottom surge tank fitting to the hose elbow installed in the top of the reservoir. (See *Fig. 9-l*.) Install and tighten a clamp on each connection.
- Trim and connect a section of the supplied hose from the 120° hose installed on the CAC end of the tank to the straight fitting on the surge tank that is pointed toward the CAC. Secure the CAC end with a clamp. Leave the surge tank end loose until after the system is bled.
- Plug the open fitting in the surge tank, remove the cap and fill the system with 25%/75% coolant/water mix. Fill the system slowly until it refuses to take more coolant or coolant comes out of the open hose.
- Uncap the surge tank fitting, connect the open hose to it, and tighten with clamp.
- Loosely install the plastic cap.

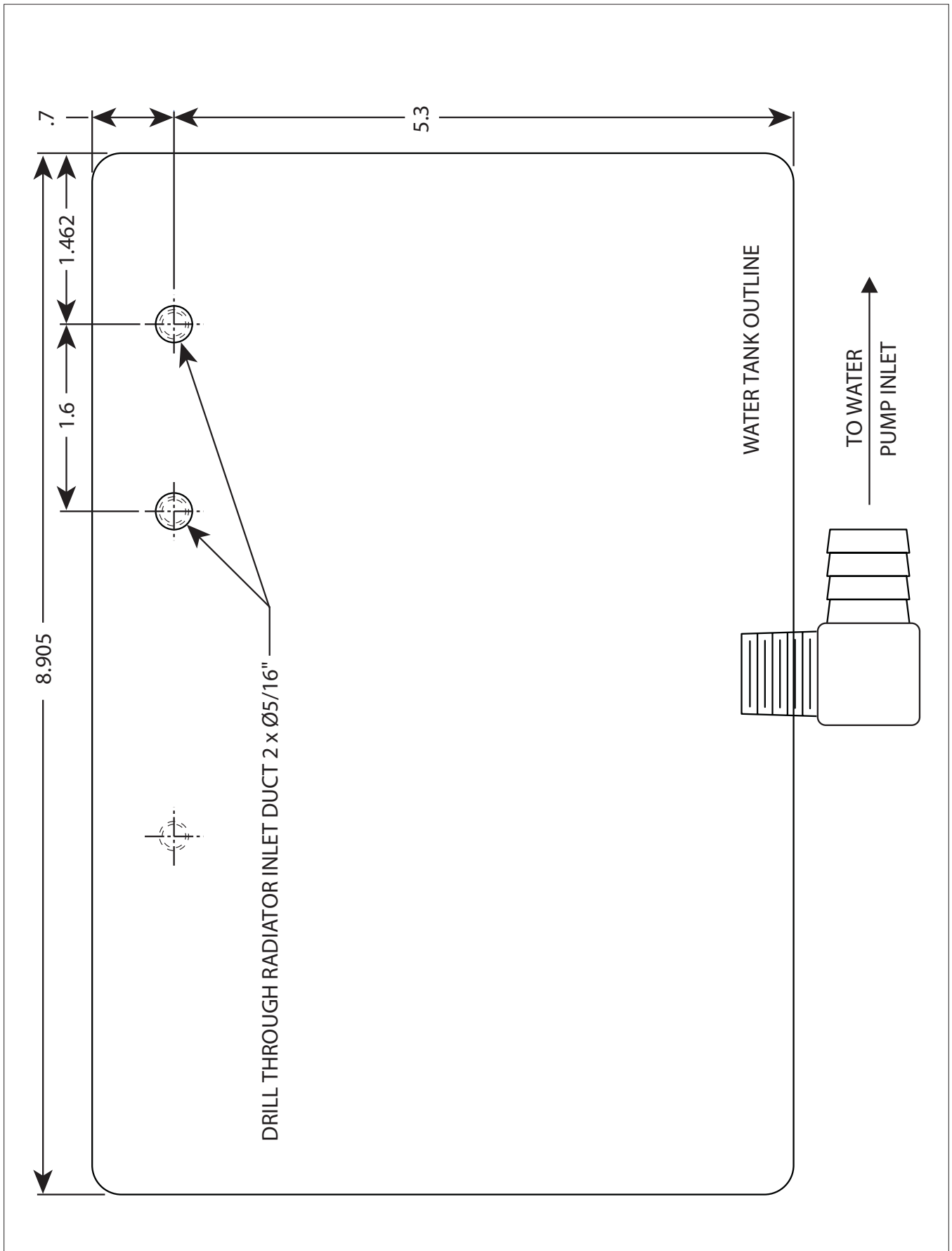


Fig. 9-k-1 / Water Tank Template ('92-'95 Vehicles)

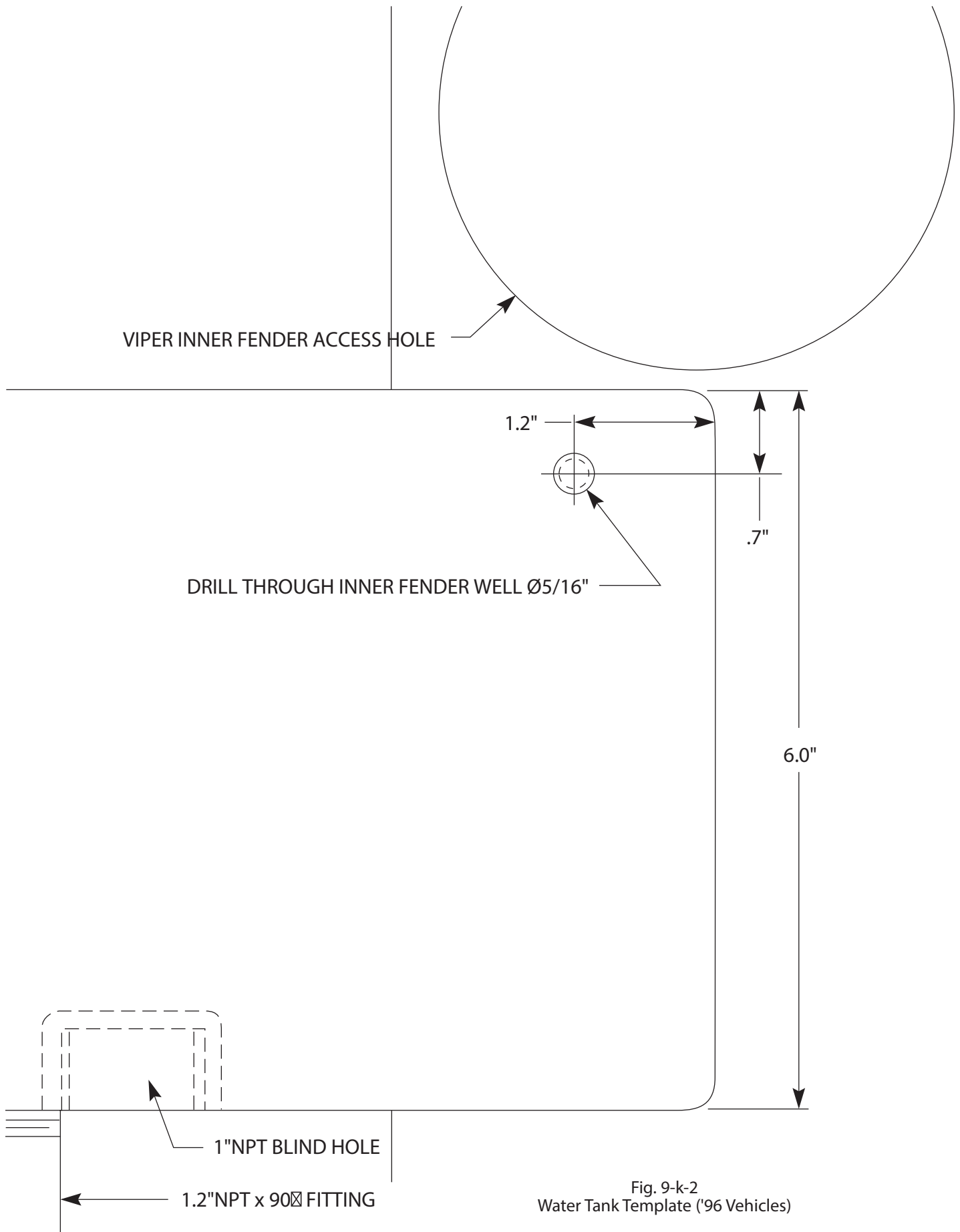


Fig. 9-k-2
Water Tank Template ('96 Vehicles)

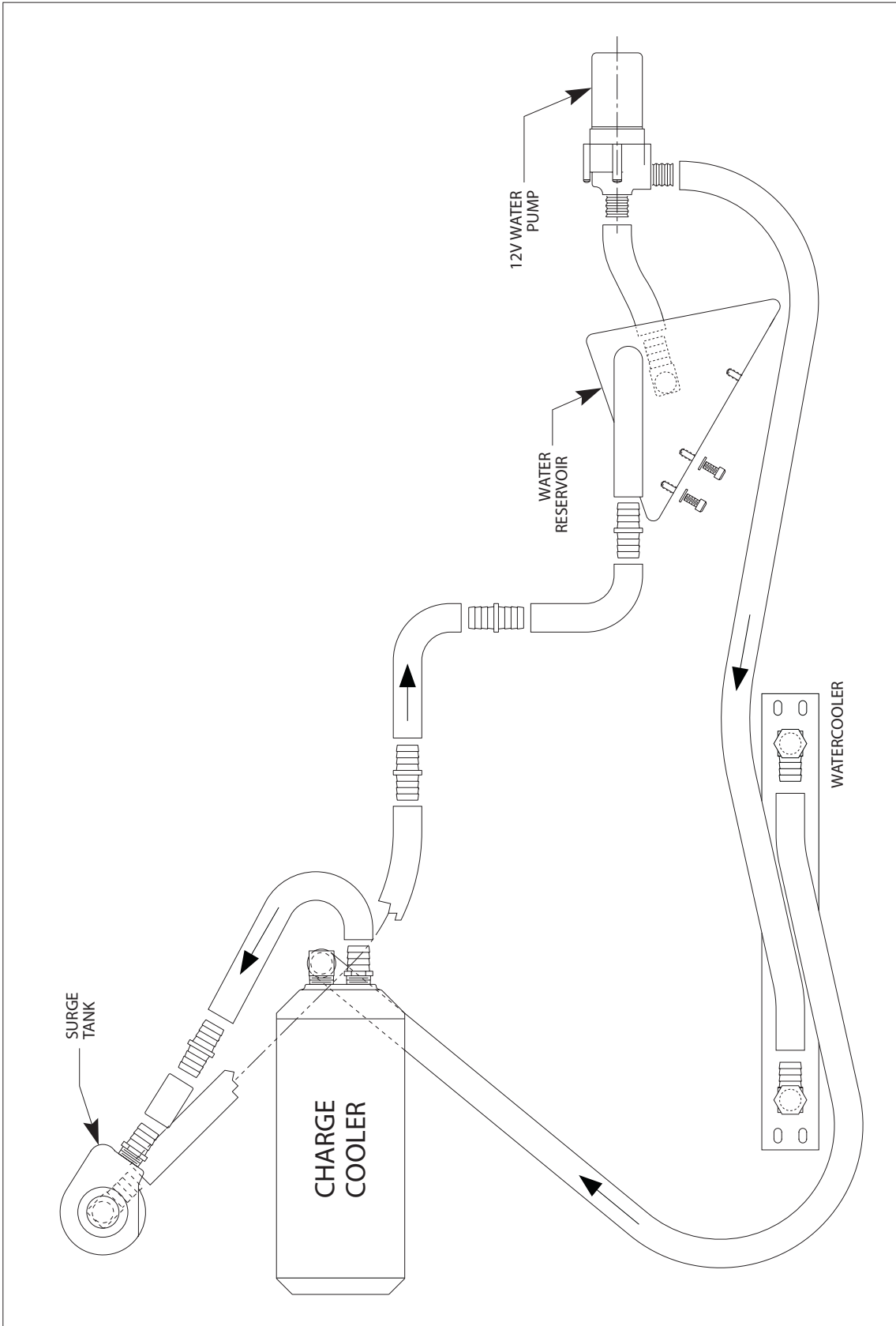


Fig. 9-1 / Plumbing Schematic

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Section 10

AIR INLET DUCT INSTALLATION

10. AIR INLET DUCT INSTALLATION

- A. Install the 4" end of the supplied sleeve onto the supercharger inlet using a #64 hose clamp.
- B. If the air inlet duct is not already assembled, install the metal frame around the air filter element and install onto the air inlet duct using the supplied screws. Install the supplied grommet into the duct. (See *Fig. 10-a.*)

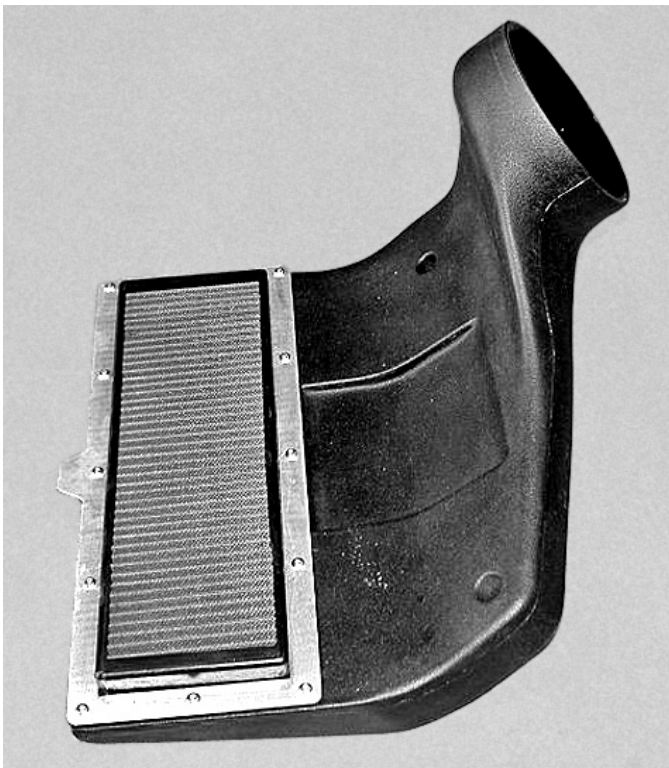


Fig. 10-a

- C. Install the supplied air inlet duct by placing the protruding air filter into the open area in front of the radiator core support.
- D. Work the open end of the duct into the sleeve installed on the supercharger and secure with a #104 hose clamp. Use the factory thumbscrews to secure the air inlet duct to the core support.

- E. Using the supplied 5/8" hose and 90° fitting, connect the factory valve cover breather hose to the hole in the driver's side of the air inlet duct. Secure with zip-ties. (See *Fig. 10-b.*)

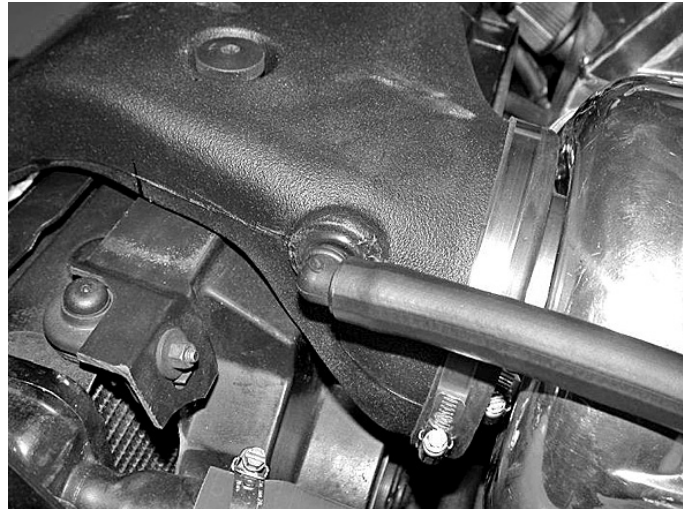


Fig. 10-b

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Section 11

TIMING CONTROLLER INSTALLATION

11. TIMING CONTROLLER INSTALLATION

NOTE

The VIOLET wire is not used. Tape up the wire to avoid confusion.

- A. Using the supplied adhesive-backed Velcro, position the ignition timing control computer



Fig. 11-a

- B. The vacuum hose on the timing controller should be connected to the intake manifold vacuum using the supplied TEE and hose.
- C. Remove the Powertrain Control Module (PCM) cover. (See Fig. 9-e.)

NOTE

Soldered wire connections are more sound than crimp-on connectors because they can be inspected. It is up to the installer to guarantee good connections. If there is any doubt, or the vehicle performs erratically, solder and insulate each connection.

NOTE

The following steps have some information in parenthesis. This information applies to 2000 Vipers only. Other vehicles are similar, but a factory service manual should be consulted for verification.

- ~~D.~~ Connect the thin 20GA RED wire to the battery's positive switch by the ignition, (Pin #9, dark blue wire). Use the supplied T-Tap and spade connector. The yellow water

pump trigger wire (installed in section 9-c) should also be connected to the same power source. Use the supplied T-Tap and spade connector. (See Fig. 11-c.)

- E. Connect the BLACK wire to the signal ground at the PCM (Pin #4, black with light blue stripe wire). Use the supplied T-Tap and spade connector.
- F. Cut the CRANK sensor signal wire (Pin #24, gray with black stripe wire).
- G. Connect the GRAY wire to the wire leading to the crank sensor.
- H. Connect the GRAY/BLACK wire to the wire leading to the PCM crank sensor input.
- I. Cut the CAM sensor signal wire, (Pin #44, tan with yellow stripe wire).
- J. Connect the TAN wire to the wire leading to the cam sensor.
- K. Connect the TAN/YELLOW wire to the wire leading to the PCM cam sensor input. (See Fig. 11-b.)

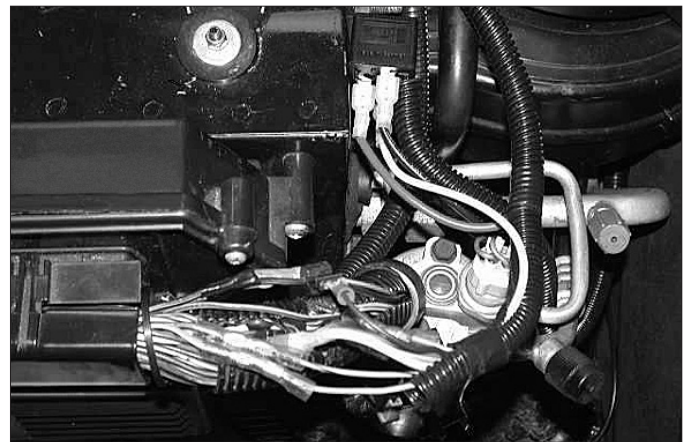


Fig. 11-b

- L. Connect the large 12GA red wire to the battery (+) positive terminal located at the front of the fuse box using the 3/8" ring terminal connector.
- M. Reinstall the PCM cover.
- N. The two striped red wires will be used to power the fuel pumps in the following section.

11. TIMING CONTROLLER INSTALLATION, cont'd.

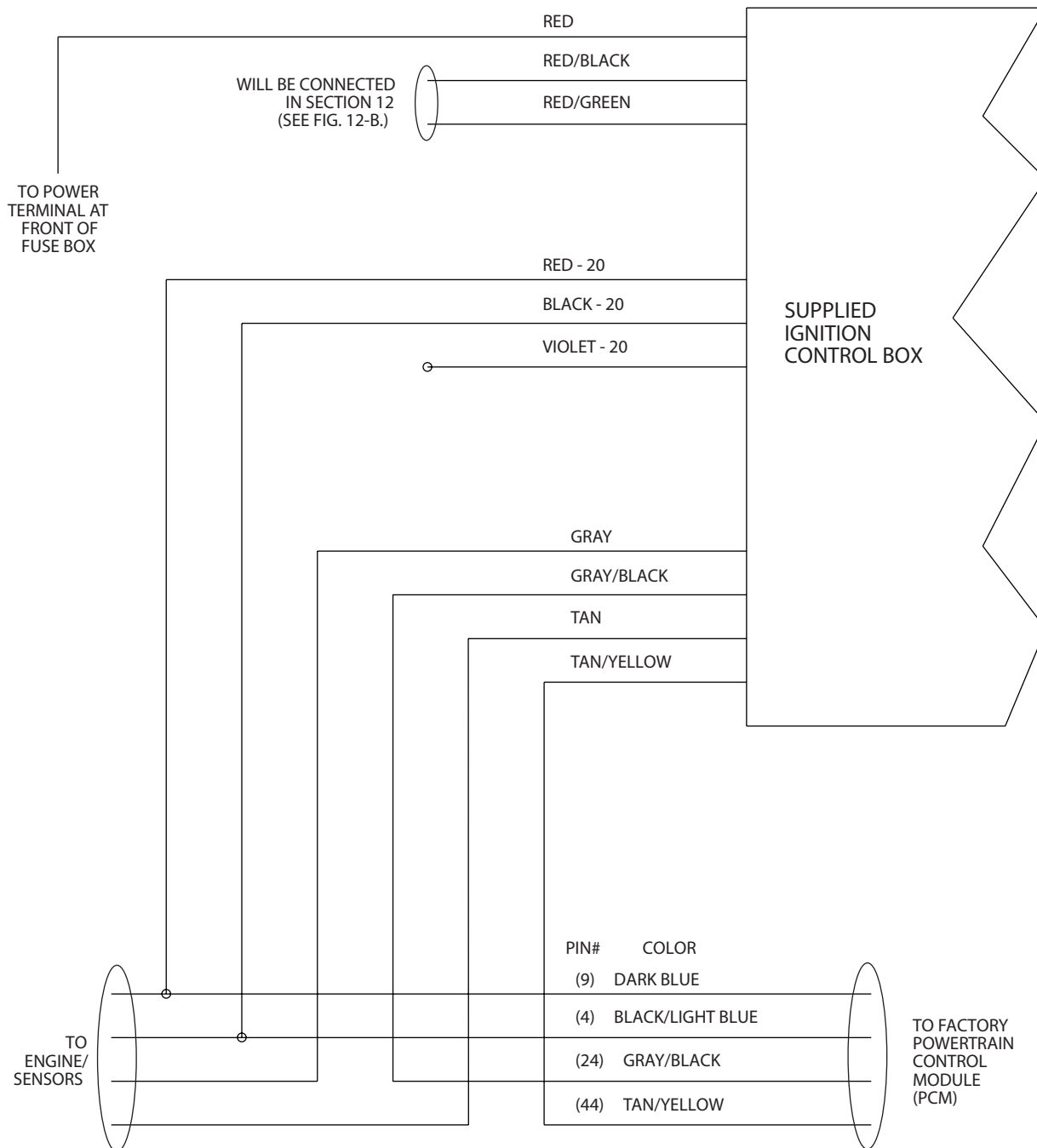


Fig. 11-c / Timing Controller Wiring Schematic

Section 12

AUXILIARY FUEL PUMP ASSEMBLY INSTALLATION

12. AUXILIARY FUEL PUMP ASSEMBLY INSTALLATION

- A. Plumb the supplied fuel pumps in parallel by connecting the pump inlets to a TEE fitting. Do the same with the outlets. The pumps are now configured so that one TEE feeds both pump inlets and another TEE draws from both pump outlets.
- B. Mount the pumps using the supplied adel clamps and sheet metal screws on the inside of the driver's side frame rail in front of the large frame plate. Install ring terminal connectors on both ends of the supplied black wire and fasten underneath one of the sheet metal screws for later use as fuel pump ground.
- C. Connect the negative terminals of the fuel pumps to each other with the supplied wire and ring terminals.
- D. Connect the previously installed ground wire to one of the fuel pump ground terminals.
- E. Connect a striped red wire from the ignition control box to each of the fuel pump positive terminals using the supplied ring terminal connectors.



Fig. 12-a

- F. Compress the plastic ring (or use a spring lock disconnect tool) to disconnect the factory fuel line behind the engine.
- G. Connect the supplied spring lock connector to the factory fuel line running to the intake manifold. Attach and route the supplied 5/16" fuel line down to the fuel pump outlet TEE.

- H. Connect the other supplied spring lock fitting to the factory fuel supply line with the supplied hose routed down to the fuel pump inlet TEE.
- I. Install the supplied Fuel Control Unit (FCU) in the location shown in *Fig. 12-b*. Route the fuel lines to the auxiliary fuel pumps.
- J. Cut the auxiliary fuel pump supply (inlet) line and install a supplied TEE in-line. Connect the fuel line coming out of the center of the FCU to this TEE.
- K. Cut the auxiliary fuel pump discharge (outlet) line and install a supplied TEE inline. Connect the fuel line coming out of the side of the FCU to this TEE.
- L. All of the hose connections should have clamps installed and tightened using stepless clamp pliers.
- M. Install a 3/16" TEE into the air bypass valve vacuum line. Attach the supplied 5/32" line from the FCU cover to the TEE.
- N. Install the supplied plastic wire loom around the fuel pump power wires and secure.

WARNING

Secure fuel lines away from hot or moving objects. Insulate the fuel line from possible abrasive contact points.

12. AUXILIARY FUEL PUMP ASSEMBLY INSTALLATION, cont'd.

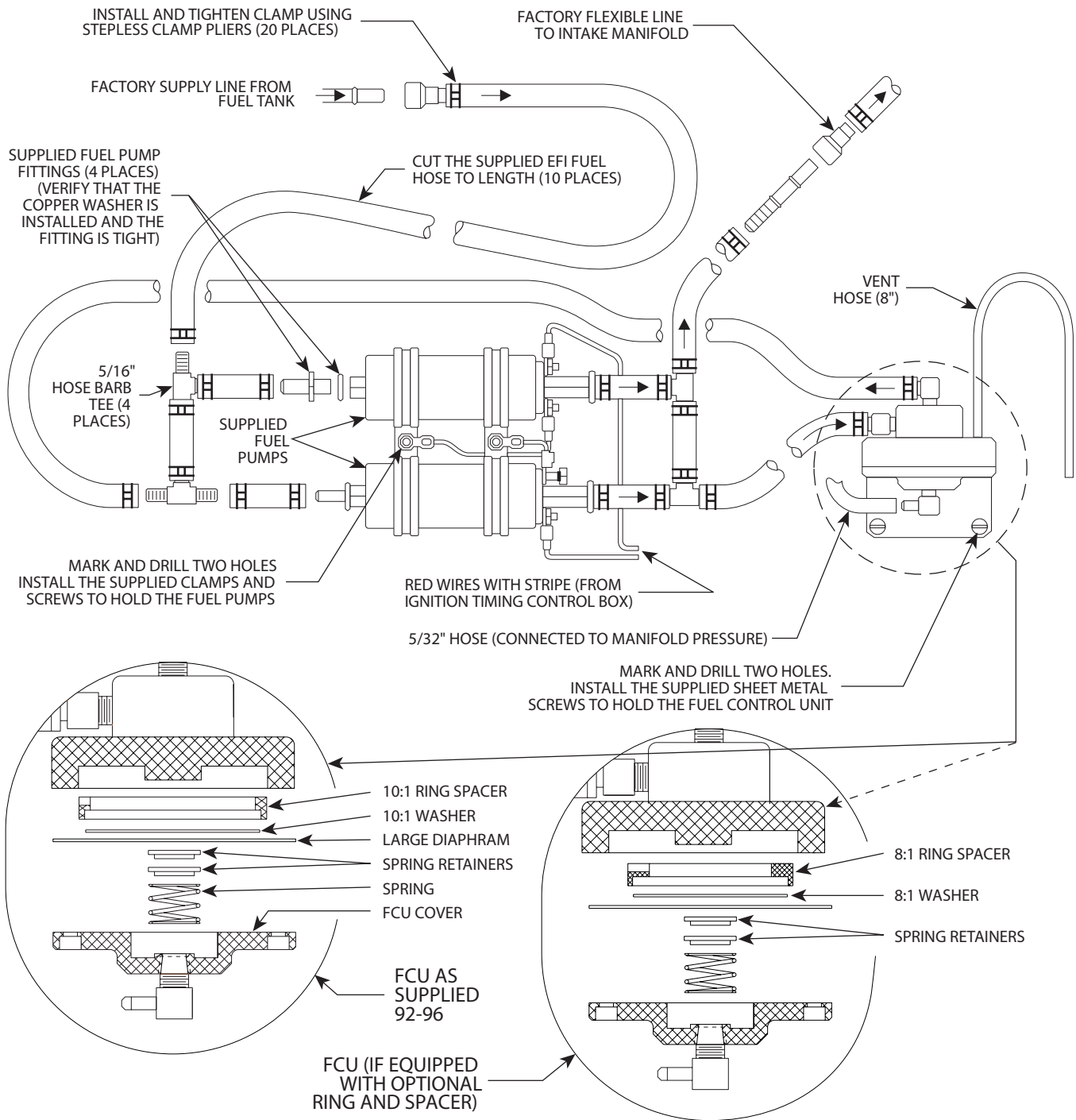


Fig. 12-b

Section 13

FUEL INJECTOR REPLACEMENT

13. FUEL INJECTOR REPLACEMENT

- A. Clean area around each fuel injector so that no dirt will fall in when they are removed.
- B. Remove the electrical plug and metal retainer from each fuel injector.
- C. Apply a small amount of engine oil to the O-rings on the supplied fuel injectors and install in the vehicle.
- D. Install the retainers and plugs in the original manner.

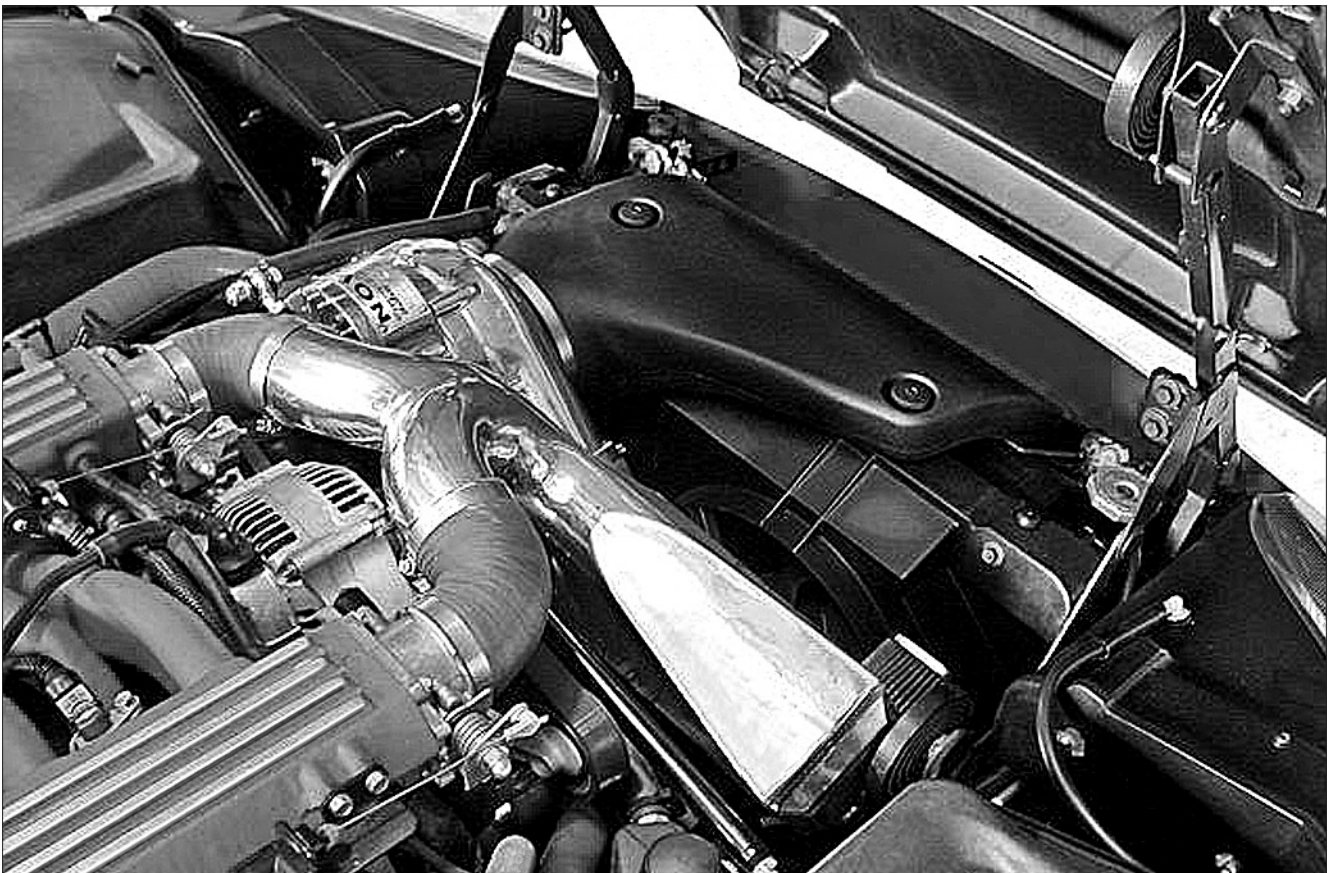
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Section 14

FINAL CHECK

14. FINAL CHECK

- A. Reconnect the battery.
- B. Make sure that all oil feed and oil drain fittings are connected and tight and that the engine is filled with factory specified oil.
- C. Make sure that the radiator and reservoir are full.
- D. Verify that the power steering reservoir is at the “full cold” level.
- E. Temporarily install a fuel pressure gauge onto the -6 fitting on the intake manifold. Cycle the fuel pump several times by turning the ignition, then off again. Check all fuel system hose connections and fuel injectors for leakage.
- F. With key on, make sure the cooler water pump is operating and that water is flowing through the surge tank. Fill the surge tank as required. Toggle the water pump several times to get as much air out of the system as possible. Do not run the water pump for extended periods (30 seconds or more) without water flow. Fill the cooler surge tank frequently until the level stabilizes.
- G. With the engine running, turn the steering wheel in both directions. Check the power steering hose connections for leakage.
- H. Engine detonation manifests itself as a metallic rattling sound emanating from the engine, usually at full throttle. It can quickly destroy an engine. If detonation is detected, discontinue hard use until the problem is fixed.
- I. Monitor the fuel pressure at full throttle. The fuel pressure should reach 100 psi at 6000 rpm. If this fuel pressure is not achieved, add a spring retainer under the FCU spring or increase the FCU calibration (e.g. replace 6:1 with 8:1).
- J. Read the “Street Supercharger System Owner’s Manual” and return the warranty registration form within thirty days of purchasing your supercharger system.





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