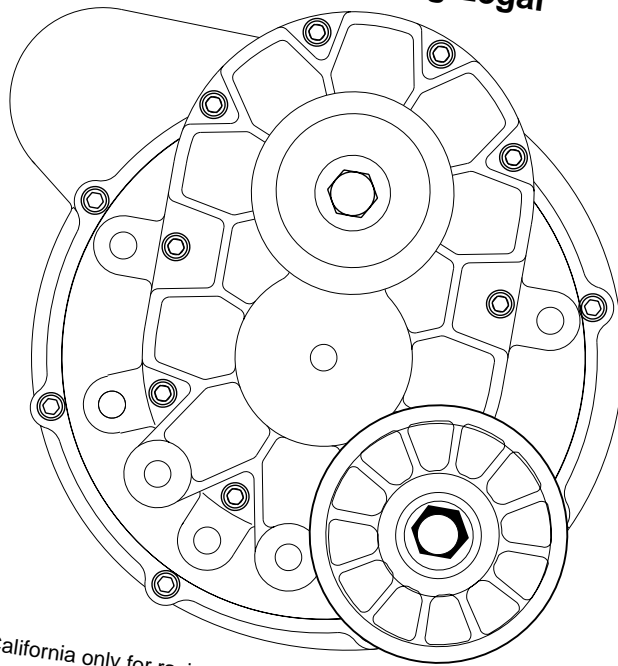


5.2/5.9L Dodge Durango/Dakota/Ram Supercharger System

Installation Instructions
1996-1999 Model Years
49 State Smog Legal*



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



ENGINEERING, INC.

1650 PACIFIC AVENUE • CHANNEL ISLANDS, CA 93033-9901

FOREWORD

Proper installation of this supercharger kit requires general automotive mechanic knowledge and experience. Please browse through each step of this instruction manual *prior* to beginning the installation to determine if you should refer the job to a professional installer/technician. Please call Vortech Engineering for possible installers in your area.

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NOTICE

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ENGINEERING, INC.

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

SPECIAL NOTICE CONCERNING THE *CRANE IGNITION SYSTEM*

The ignition system, manufactured by Crane Electronics, included in this kit is serviced exclusively by the manufacturer. Crane Electronics warrants this product to be free from defects in material and workmanship under normal use and if properly installed for a period of one (1) year from the date of purchase. In case of malfunction, this unit will be repaired free of charge according to the terms of the warranty. If found to be defective as mentioned above, it will be repaired or replaced if returned prepaid along with proof of date of purchase. This shall constitute the sole remedy of the purchaser and the sole liability of Crane Electronics and/or Vortech Engineering, Inc. To the extent permitted by law, the foregoing is exclusive and in lieu of all other warranties or representations whether expressed or implied, including any implied warranty of merchantability or fitness. In no event shall Crane Electronics and/or Vortech Engineering, Inc., be liable for labor charges, special or consequential damages.

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

Crane Electronics
Customer Service Department
530 Fentress Boulevard
Daytona Beach, Florida, 32114
(904) 258-6167
(904) 258-6174 Fax
www.cranecams.com

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

Should you have any technical or installation questions regarding this unit, contact Vortech Engineering, Inc., directly at (805) 247-0226.



1996-1999
5.2/5.9L Dodge Durango, Dakota and Ram
Installation Instructions for

Part No. 4CE218-010SQ/018SQ/020SQ/028SQ, 4CD218-040SQ/048SQ/050SQ/058SQ
49 State Smog Legal

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

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

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

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

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

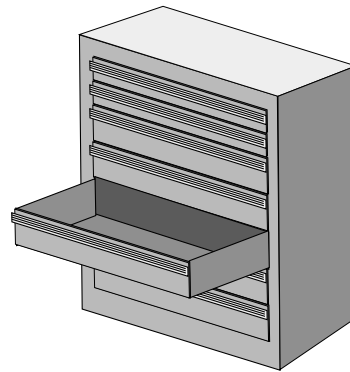
1. Use only premium grade fuel 92 octane or higher (R+M/2).
2. The engine must have stock compression ratio.
3. If the engine has been modified in any way, check with Vortech prior to using this product.
4. Always listen for any sign of detonation (pinging) and discontinue hard use (no boost) until the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

TOOL & SUPPLY REQUIREMENTS

- Factory Repair Manual
- 3/8" Drive and Socket Set: SAE and Metric
- 1/2" Drive and Socket Set: SAE and Metric
- 3/8" NPT Tap and Tap Handle
- Adjustable Wrench
- Open End Wrenches: 5/16", 3/8", 7/16", 1/2", 9/16"
- Center Punch and a 5/8" Tapered Punch
- 5 quarts SF Rated Quality Engine Oil, Oil Filter, and Wrench
- Flat #2 Screwdriver
- Phillips #2 Screwdriver
- Heavy Grease
- Silicone Sealer
- Drill Motor
- 3/32", #25, 5/8", 3/8" Drill Bits
- Oil Sender Socket, Snap-On #A120

If your vehicle has in excess of 15,000 miles since its last spark plug change, then you will also need:

- Spark Plug Socket
- NEW Spark Plugs





1997-1999 5.9L Dodge Durango/Dakota

Part No. 4CE218-010SQ/018SQ

PARTS LIST

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

Part Number	Description	Quantity	Part Number	Description	Quantity
2E228-140	SUPERCHARGER ASSEMBLY	1	4CJ110-010	COIL RELOCATION ASSEMBLY	1
2E128-140	V-2 SQ Supercharger	1	4CJ010-040	Coil bracket	1
2A037-312	Supercharger pulley, 3.125", 7 groove	1	7A250-125	1/4-20 X 1-1/4" SOC. HD.	2
4FA016-150	Idler pulley, smooth	1	7F250-021	1/4-20 Nylock nut	2
7J012-092	12mm Washer, flat	1	7A312-125	5/16-18 X 1-1/4 HXHD	1
7U100-070	Key, 3/16 X 3/16 X 7/8	1	7K312-001	5/16 AN washer	2
2A040-011	Supercharger pulley retainer	1	4CJ017-021	Spacer, coil, .625"	1
7B375-110	3/8-24 X 1" GR8 HX	1	5W001-005	3/8" Plastic wire loom	1
7K375-040	3/8 AN 960 Flat washer	1	7A312-075	5/16"-18 X 3/4 HXCSG5P	1
4CE111-021	MOUNTING BRACKET ASSEMBLY	1	5W022-040	22 GA wire, green	1
4CB010-034	Mounting plate	1	5W022-090	22 GA wire, grey	1
4CB011-021	Mounting bracket	1	5W001-007	3/16" Heat - shrink tubing	1
2A047-113	Belt	1	4CE160-010	FUEL CONTROL ASSEMBLY	1
7A375-100	3/8-16 X 1 G5 HXHD, plated	10	8F060-058	Fuel injector, 58 lbs. rail	2
7A375-300	3/8-16 X 3" HXCSG5P	1	8F003-024	Fuel rail	1
7A375-375	3/8-16 X 3-3/4 HXHD	1	7P563-016	Plug, fuel rail	1
7F375-016	3/8-16 HX nut	1	8F011-027	Mounting tab, fuel rail	2
7J375-044	3/8 SAE Washer, plated	10	7C008-050	#8-32 X 1/2" SOC. HD. bolt	2
7K375-040	3/8 AN 960 Flat washer	5	8F011-028	Spacer, fuel rail	2
7U100-055	Tie wrap, 6" nylon	2	7A250-237	1/4-20 X 2-3/8" SOC. HD. bolt	2
4CJ010-010	Mounting support	1	4CE145-010	Fuel hose with ends	1
4CJ017-041	Support spacer, .250"	1	8F011-024	Injector retainer, fuel rail	2
4CJ017-051	Support spacer, .60"	1	7P250-127	-6 Flair to 1/4" NPT	1
7J312-000	5/16 Flat washer-SAE	1	7P250-082	1/4 NPT X -4 90° fitting	1
7A312-375	5/16-18 X 3-3/4" SHCS	1	5W001-024	Mini ATC fuse tap	1
4CE212-010	AIR INTAKE ASSEMBLY	1	7U030-046	5/32" Vacuum line X 72"	1
4CE110-050	MAF bracket assembly	1	7P156-082	5/32" TEE	1
7R002-056	#56 Goldseal hose clamp	2	7U100-055	Tie wrap, 6" nylon	6
7S350-200	3-1/2 X 2 Sleeve	1	5W001-001	Wire tap	1
8H040-040	Air filter	1	5W001-025	Female slide, insulated, mini	1
7R002-052	#52 Goldseal hose clamp	2	7K250-001	1/4" AN washer	2
7U035-001	3-1/2" Flex hose, 1 ft.	1	7U100-059	O-ring, -6 AN flouro	2
7E010-049	#10 X 3/4 Hex head	3	5A001-007	FUEL INJECTION COMPUTER	1
7U033-000	5/8" PCV hose, 3.50 ft.	1	5A001-004	Fuel injection, computer	1
4CE112-010	Inlet elbow	1	7U375-001	Velcro, hook, 1" black	1
7P375-020	3/8" NPT X 5/8" Barb	1	7U375-002	Velcro, latch, 1" black	1
7R001-008	#8 Stainless hose clamp	1	5A101-012	HI-6 TR ASSEMBLY	1
4CE112-020	AIR DISCHARGE ASSEMBLY	1	5A001-009	HI-6 TR ignition system	1
4FG012-030	Discharge Tube	1	5W001-001	Wire taps	2
7S275-200	2-3/4" X 2" Sleeve	1	5W001-009	16-14 GA male slides	6
7S300-200	3" X 2" Sleeve	1	5W001-010	16-14 GA female slides	6
7R002-044	#44 Goldseal hose clamp	2	5W001-011	16-14 GA eyelets	2
7R002-048	#48 Goldseal hose clamp	2	5W001-014	Fuse Holder 10 GA wire	1
8D001-001	Bypass valve	1	5W001-015	Fuse, blade type 20 AMP	1
7P750-100	3/4" NPT x 1" Straight hose fitting	1	5W001-017	Large ring terminals	2
7U034-016	1" GS hose	1	5W001-020	3/4" Plastic wire loom	1
7R002-016	#16 Goldseal hose clamp	4	5W012-000	12 GA wire, red	1
7P156-082	5/32" TEE	1	5W012-010	12 GA wire, black	1
7U030-046	5/32" Vacuum line	1	7E010-046	#8 x 3/4" Sheet metal	4
4CJ050-011	Jeep/Durango plenum	1	7P156-082	5/32" TEE	1
4GB040-060	Air/plenum gasket	1	7U030-046	5/32" x 36" Vacuum line	1
7J250-010	1/4" Gasket washer	1	7U100-055	6" Nylon tie wrap	1
7U034-016	1" GS hose	1	7U375-001	3.6" Velcro hook	1
4CD110-060	Plenum assembly	1	7U375-002	3.6" Velcro latch	1
7A250-175	1/4-20 X 1-3/4 HHCS	1	5W018-010	18 GA wire, red	1
4CJ130-036	OIL DRAIN ASSEMBLY	1	5W018-020	18 GA wire, black	1
7U030-036	1/2" X 18" Oil drain hose	1	5W018-060	18 GA wire, orange	1
7P375-017	3/8" NPT X 1/2" Straight hose barb	1	5W018-240	18 GA wire, white and yellow	1
7R001-008	#8 Stainless hose clamp	2	5W001-040	12-10 GA female slide	2
7P375-045	3/8" NPT X 45° Street elbow	1	5W001-041	12-10 GA male slide	2
4CJ130-026	OIL FEED ASSEMBLY	1	5W001-019	Solderless connector, 10-12	2
7U030-026	1/4" Oil feed Hose	1			
7P125-103	-4 X 45° Male elbow	2			
7P250-066	#4 Swivel x 1/4" hose	2			
7P525-067	.525 Crimp ferrules	2			
7P125-026	1/8" NPT X #4 90° fitting	1			
7P125-104	1/8" NPT female TEE	1			
7P125-106	1/8" NPT X 3" nipple	1			



1997-1999 5.2L Dodge Durango/Dakota

Part No. 4CE218-020SQ/028SQ

PARTS LIST

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

Part Number	Description	Quantity	Part Number	Description	Quantity
2E228-140	SUPERCHARGER ASSEMBLY	1	4CJ110-010	COIL RELOCATION ASSEMBLY	1
2E128-140	V-2 SQ Supercharger	1	4CJ010-040	Coil bracket	1
2A037-312	Supercharger pulley, 3.125", 7 groove	1	7A250-125	1/4-20 X 1-1/4" SOC. HD.	2
4FA016-150	Idler pulley, smooth	1	7F250-021	1/4-20 Nylock nut	2
7J012-092	12mm Washer, flat	1	7A312-125	5/16-18 X 1-1/4 HXHD	1
7U100-070	Key, 3/16 X 3/16 X 7/8	1	7K312-001	5/16 AN washer	2
2A040-011	Supercharger pulley retainer	1	4CJ017-021	Spacer, coil, .625"	1
7B375-110	3/8-24 X 1" GR8 HX	1	5W001-005	3/8" Plastic wire loom	1
7K375-040	3/8 AN 960 Flat washer	1	7A312-075	5/16"-18 X 3/4 HXCSG5P	1
4CE111-021	MOUNTING BRACKET ASSEMBLY	1	5W022-040	22 GA wire, green	1
4CB010-034	Mounting plate	1	5W022-090	22 GA wire, grey	1
4CB011-021	Mounting bracket	1	5W001-007	3/16" Heat - shrink tubing	1
2A047-113	Belt	1	4CE160-010	FUEL CONTROL ASSEMBLY	1
7A375-100	3/8-16 X 1 G5 HXHD, plated	10	8F060-058	Fuel injector, 58 lbs. rail	2
7A375-300	3/8-16 X 3" HXCSG5P	1	8F003-024	Fuel rail	1
7A375-375	3/8-16 X 3-3/4 HXHD	1	7P563-016	Plug, fuel rail	1
7F375-016	3/8-16 HX nut	1	8F011-027	Mounting tab, fuel rail	2
7J375-044	3/8 SAE Washer, plated	10	7C008-050	#8-32 X 1/2" SOC. HD. bolt	2
7K375-040	3/8 AN 960 Flat washer	5	8F011-028	Spacer, fuel rail	2
7U100-055	Tie wrap, 6" nylon	2	7A250-237	1/4-20 X 2-3/8" SOC. HD. bolt	2
4CJ010-010	Mounting support	1	4CE145-010	Fuel hose with ends	1
4CJ017-041	Support spacer, .250"	1	8F011-024	Injector retainer, fuel rail	2
4CJ017-051	Support spacer, .60"	1	7P250-127	-6 Flair to 1/4" NPT	1
7J312-000	5/16 Flat washer-SAE	1	7P250-082	1/4 NPT X -4 90° fitting	1
7A312-375	5/16-18 X 3-3/4" SHCS	1	5W001-024	Mini ATC fuse tap	1
4CE212-010	AIR INTAKE ASSEMBLY	1	7U030-046	5/32" Vacuum line X 72"	1
4CE110-050	MAF bracket assembly	1	7P156-082	5/32" TEE	1
7R002-056	#56 Goldseal hose clamp	2	7U100-055	Tie wrap, 6" nylon	6
7S350-200	3-1/2 X 2 Sleeve	1	5W001-001	Wire tap	1
8H040-040	Air filter	1	5W001-025	Female slide, insulated, mini	1
7R002-052	#52 Goldseal hose clamp	2	7K250-001	1/4" AN washer	2
7U035-001	3-1/2" Flex hose, 1 ft.	1	7U100-059	O-ring, -6 AN flouro	2
7E010-049	#10 X 3/4 Hex head	3	5A001-011	FUEL INJECTION COMPUTER	1
7U033-000	5/8" PCV hose, 3.50 ft.	1	5A001-004	Fuel injection, computer	1
4CE112-010	Inlet elbow	1	7U375-001	Velcro, hook, 1" black	1
7P375-020	3/8" NPT X 5/8" Barb	1	7U375-002	Velcro, latch, 1" black	1
7R001-008	#8 Stainless hose clamp	1	5A101-012	HI-6 TR ASSEMBLY	1
4CE112-020	AIR DISCHARGE ASSEMBLY	1	5A001-009	HI-6 TR ignition system	1
4FG012-030	Discharge Tube	1	5W001-001	Wire taps	2
7S275-200	2-3/4" X 2" Sleeve	1	5W001-009	16-14 GA male slides	6
7S300-200	3" X 2" Sleeve	1	5W001-010	16-14 GA female slides	6
7R002-044	#44 Goldseal hose clamp	2	5W001-011	16-14 GA eyelets	2
7R002-048	#48 Goldseal hose clamp	2	5W001-014	Fuse Holder 10 GA wire	1
8D001-001	Bypass valve	1	5W001-015	Fuse, blade type 20 AMP	1
7P750-100	3/4" NPT x 1" Straight hose fitting	1	5W001-017	Large ring terminals	2
7U034-016	1" GS hose	1	5W001-020	3/4" Plastic wire loom	1
7R002-016	#16 Goldseal hose clamp	4	5W012-000	12 GA wire, red	1
7P156-082	5/32" TEE	1	5W012-010	12 GA wire, black	1
7U030-046	5/32" Vacuum line	1	7E010-046	#8 x 3/4" Sheet metal	4
4CJ050-011	Jeep/Durango plenum	1	7P156-082	5/32" TEE	1
4GB040-060	Air/plenum gasket	1	7U030-046	5/32" x 36" Vacuum line	1
7J250-010	1/4" Gasket washer	1	7U100-055	6" Nylon tie wrap	1
7U034-016	1" GS hose	1	7U375-001	3.6" Velcro hook	1
4CD110-060	Plenum assembly	1	7U375-002	3.6" Velcro latch	1
7A250-175	1/4-20 X 1-3/4 HHCS	1	5W018-010	18 GA wire, red	1
4CJ130-036	OIL DRAIN ASSEMBLY	1	5W018-020	18 GA wire, black	1
7U030-036	1/2" X 18" Oil drain hose	1	5W018-060	18 GA wire, orange	1
7P375-017	3/8" NPT X 1/2" Straight hose barb	1	5W018-240	18 GA wire, white and yellow	1
7R001-008	#8 Stainless hose clamp	2	5W001-040	12-10 GA female slide	2
7P375-045	3/8" NPT X 45° Street elbow	1	5W001-041	12-10 GA male slide	2
4CJ130-026	OIL FEED ASSEMBLY	1	5W001-019	Solderless connector, 10-12	2
7U030-026	1/4" Oil feed Hose	1			
7P125-103	-4 X 45° Male elbow	2			
7P250-066	#4 Swivel x 1/4" hose	2			
7P525-067	.525 Crimp ferrules	2			
7P125-026	1/8" NPT X #4 90° fitting	1			
7P125-104	1/8" NPT female TEE	1			
7P125-106	1/8" NPT X 3" nipple	1			



1996 5.2L Dodge Dakota, 1996-1999 5.2 Dodge Ram

Part No. 4CD218-040SQ/048SQ

PARTS LIST

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

Part Number	Description	Quantity	Part Number	Description	Quantity
2E228-140	SUPERCHARGER ASSEMBLY	1	4CJ110-010	COIL RELOCATION ASSEMBLY	1
2E128-140	V-2 SQ Supercharger	1	4CJ010-040	Coil bracket	1
2A037-312	Supercharger pulley, 3.125", 7 groove	1	7A250-125	1/4-20 X 1-1/4" SOC. HD.	2
4FA016-150	Idler pulley, smooth	1	7F250-021	1/4-20 Nylock nut	2
7J012-092	12mm Washer, flat	1	7A312-125	5/16-18 X 1-1/4 HXHD	1
7U100-070	Key, 3/16 X 3/16 X 7/8	1	7K312-001	5/16 AN washer	2
2A040-011	Supercharger pulley retainer	1	4CJ017-021	Spacer, coil, .625"	1
7B375-110	3/8-24 X 1" GR8 HX	1	5W001-005	3/8" Plastic wire loom	1
7K375-040	3/8 AN 960 Flat washer	1	7A312-075	5/16"-18 X 3/4 HXCSG5P	1
4CE111-021	MOUNTING BRACKET ASSEMBLY	1	5W022-040	22 GA wire, green	1
4CB010-034	Mounting plate	1	5W022-090	22 GA wire, grey	1
4CB011-021	Mounting bracket	1	5W001-007	3/16" Heat - shrink tubing	1
2A047-113	Belt	1	4CD160-010	FUEL CONTROL ASSEMBLY	1
7A375-100	3/8-16 X 1 G5 HXHD, plated	10	8F060-058	Fuel injector, 58 lbs. rail	2
7A375-300	3/8-16 X 3" HXCSG5P	1	8F003-024	Fuel rail	1
7A375-375	3/8-16 X 3-3/4 HXHD	1	8F011-027	Mounting tab, fuel rail	2
7F375-016	3/8-16 HX nut	1	7C008-050	#8-32 X 1/2" SOC. HD. bolt	2
7J375-044	3/8 SAE Washer, plated	10	8F011-028	Spacer, fuel rail	2
7K375-040	3/8 AN 960 Flat washer	5	7A250-237	1/4-20 X 2-3/8" SOC. HD. bolt	2
7U100-055	Tie wrap, 6" nylon	2	7K250-001	1/4" AN washer	2
4CJ010-010	Mounting support	1	8F011-024	Injector retainer, fuel rail	2
4CJ017-041	Support spacer, .250"	1	5W001-024	Mini ATC fuse tap	1
4CJ017-051	Support spacer, .60"	1	7U030-046	5/32" Vacuum line X 72"	1
7J312-000	5/16 Flat washer-SAE	1	7P156-082	5/32" TEE	1
7A312-375	5/16-18 X 3-3/4" SHCS	1	7U100-055	Tie wrap, 6" nylon	6
4CD212-010	AIR INTAKE ASSEMBLY	1	5W001-001	Wire tap	1
7R002-056	#56 Goldseal hose clamp	2	5W001-025	Female slide, insulated, mini	1
7S350-200	3-1/2 X 2 Sleeve	1	7P563-015	-6 Male to -6 male	2
8H040-040	Air filter	1	7U100-059	O-ring, -6 AN flouro	2
7U033-000	5/8" PCV hose, 3.50 ft.	1	4CD145-010	Fuel line, -6 STR.	1
4CE112-010	Inlet elbow	1	4CD145-020	Fuel line, -6 90°	1
7P375-020	3/8" NPT X 5/8" Barb	1	7P375-073	Fitting, fuel rail	1
7R001-008	#8 Stainless hose clamp	1	7P250-375	1/4 NPT to -6JIC 90°	1
4CE112-020	AIR DISCHARGE ASSEMBLY	1	5A001-011	FUEL INJECTION COMPUTER	1
4FG012-030	Discharge Tube	1	5A001-004	Fuel injection, computer	1
7S275-200	2-3/4" X 2" Sleeve	1	7U375-001	Velcro, hook, 1" black	1
7S300-200	3" X 2" Sleeve	1	7U375-002	Velcro, latch, 1" black	1
7R002-044	#44 Goldseal hose clamp	2	5A101-012	HI-6 TR ASSEMBLY	1
7R002-048	#48 Goldseal hose clamp	2	5A001-009	HI-6 TR ignition system	1
8D001-001	Bypass valve	1	5W001-001	Wire taps	2
7P750-100	3/4" NPT x 1" Straight hose fitting	1	5W001-009	16-14 GA male slides	6
7U034-016	1" GS hose	1	5W001-010	16-14 GA female slides	6
7R002-016	#16 Goldseal hose clamp	4	5W001-011	16-14 GA eyelets	2
7P156-082	5/32" TEE	1	5W001-014	Fuse Holder 10 GA wire	1
7U030-046	5/32" Vacuum line	1	5W001-015	Fuse, blade type 20 AMP	1
4CJ050-011	Jeep/Durango plenum	1	5W001-017	Large ring terminals	2
4GB040-060	Air/plenum gasket	1	5W001-020	3/4" Plastic wire loom	1
7J250-010	1/4" Gasket washer	1	5W012-000	12 GA wire, red	1
7U034-016	1" GS hose	1	5W012-010	12 GA wire, black	1
4CD110-060	Plenum assembly	1	7E010-046	#8 x 3/4" Sheet metal	4
7A250-175	1/4-20 X 1-3/4 HHCS	1	7P156-082	5/32" TEE	1
4CJ130-036	OIL DRAIN ASSEMBLY	1	7U030-046	5/32" x 36" Vacuum line	1
7U030-036	1/2" X 18" Oil drain hose	1	7U100-055	6" Nylon tie wrap	1
7P375-017	3/8" NPT X 1/2" Straight hose barb	1	7U375-001	3.6" Velcro hook	1
7R001-008	#8 Stainless hose clamp	2	7U375-002	3.6" Velcro latch	1
7P375-045	3/8" NPT X 45° Street elbow	1	5W018-010	18 GA wire, red	1
4CJ130-026	OIL FEED ASSEMBLY	1	5W018-020	18 GA wire, black	1
7U030-026	1/4" Oil feed Hose	1	5W018-060	18 GA wire, orange	1
7P125-103	-4 X 45° Male elbow	2	5W018-240	18 GA wire, white and yellow	1
7P250-066	#4 Swivel x 1/4" hose	2	5W001-040	12-10 GA female slide	2
7P525-067	.525 Crimp ferrules	2	5W001-041	12-10 GA male slide	2
7P125-026	1/8" NPT X #4 90° fitting	1	5W001-019	Solderless connector, 10-12	2
7P125-104	1/8" NPT female TEE	1			
7P125-106	1/8" NPT X 3" nipple	1			



1996 5.9L Dodge Dakota, 1996-1999 5.9L Dodge Ram

Part No. 4CD218-050SQ/058SQ

PARTS LIST

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

Part Number	Description	Quantity	Part Number	Description	Quantity
2E228-140	SUPERCHARGER ASSEMBLY	1	4CJ110-010	COIL RELOCATION ASSEMBLY	1
2E128-140	V-2 SQ Supercharger	1	4CJ010-040	Coil Bracket	1
2A037-312	3.125" Supercharger Drive Pulley	1	7A250-125	1/4-20 x 1-1/4" SOC. HD.	2
4FA016-150	Smooth Pulley Tensioner	1	7F250-021	1/4-20 Nylock Nut	2
7J012-092	12 mm Flat Washer	1	5W022-040	22 GA Wire, Green	1
7U100-070	Key, 3/16 x 3/16 x 7/8	1	5W022-090	22 GA Wire, Grey	1
2A040-011	Pulley Retainer	1	5W001-007	3/16" Heat - Shrink Tubing	1
7B375-110	3/8-24 x 1" GR8 HX	1	7A312-125	5/16-18 x 1-1/4 HHXD	1
7K375-040	3/8 AN960 Flat Washer	1	7K312-001	5/16 AN Washer	2
4CE111-021	MOUNTING BRACKET ASSEMBLY	1	4CJ017-021	Spacer, Coil .625"	1
4CB010-034	Mounting Plate	1	5W001-005	3/8" Plastic Wire Loom	1
4CB011-021	Mounting Bracket	1	7A312-075	5/16"-18 x 3/4 HXC5G5P	1
2A047-113	Belt, K071130 - Gates	1	4CE160-010	FUEL CONTROL ASSEMBLY	1
7A375-100	3/8-16 x 1" Bolts	10	8F060-058	Fuel Injector, 58 lbs. Rail	2
7A375-300	3/8-16 x 3" Cap Screw	1	8F003-024	Fuel Rail	1
7A375-375	3/8-16 x 3-3/4" HH Bolt	1	7P563-016	Plug, Fuel Rail	1
7F375-016	3/8-16 Hex Nut	1	8F011-027	Mounting Tab, Fuel Rail	2
7J375-044	3/8" SAE Washers	10	7C008-050	#8-32 x 1/2" SOC. HD. Bolt	2
7K375-040	3/8" AN960 Flat Washers	5	8F011-028	Spacer, Fuel Rail	2
7U100-055	6" Nylon Tie Wraps	2	7A250-237	1/4-20 x 2-3/8" SOC. HD. Bolt	2
4CJ010-010	Support, Mounting Plate	1	4CE145-010	Fuel Hose with ends	1
4CJ017-041	Spacer, Support .250"	1	8F011-024	Injector Retainer, Fuel Rail	2
4CJ017-051	Spacer, Support .60"	1	7P250-127	-6 Flair to 1/4" NPT	1
7J312-000	5/16 Flat Washer	1	7P250-082	1/4 NPT x -4 90° Fitting	1
7A312-375	5/16-18 x 3-3/4" SHCS	1	5W001-024	Mini ATC Fuse Tap	1
4CD212-010	AIR INTAKE ASSEMBLY	1	7U030-046	5/32" Vacuum Line x 72"	1
7R002-056	#56 Goldseal Hose Clamp	1	7P156-082	5/32" TEE	1
7S350-200	3-1/2" x 2 Sleeve	1	7U100-055	Tie Wrap, 6" Nylon	6
8H040-040	Air Filter	1	5W001-001	Wire Tap	1
7U033-000	5/8" PCV Hose	1	5W001-025	Female Slide, Insulated, Mini	1
4CE112-010	Durango Inlet Elbow	1	7K250-001	1/4" AN washer	2
7P375-020	3/8" NPT x 5/8" Straight Hose Barb	1	7U100-059	O-ring, -6 AN flouro	2
7R001-008	#8 Stainless Hose Clamp	1	5A001-007	FUEL INJECTION COMPUTER	1
4CE112-020	AIR DISCHARGE ASSEMBLY	1	5A001-004	Fuel Injection, Computer	1
4FG012-030	Discharge Tube	1	7U375-001	Velcro, Hook, 1" Black	1
7S275-200	2-3/4" x 2" Sleeve	1	7U375-002	Velcro, Latch, 1" Black	1
7S300-200	3" X 2" Sleeve	1	5A101-012	HI-6 TR ASSEMBLY	1
7R002-044	#44 Hose Clamps	2	5A001-009	HI-6 TR Ignition System	1
7R002-048	#48 Hose Clamps	2	5W001-001	Wire Taps	2
8D001-001	Bypass Valve	1	5W001-009	16-14 GA Male Slides	6
7P750-100	3/4" NPT x 1" Straight Hose Fitting	1	5W001-010	16-14 GA Female Slides	6
7U034-016	1" x 7" Heater Hose	1	5W001-011	16-14 GA Eyelets	2
7R002-016	#16 Hose Clamps	4	5W001-014	Fuse Holder 10 GA Wire	1
7P156-082	5/32" TEE	1	5W001-015	Fuse, Blade Type 20 AMP	1
7U030-046	5/32" x 24" Vacuum Line	1	5W001-017	Large Ring Terminals	2
4CJ050-011	Jeep/Durango Plenum	1	5W001-020	3/4" Plastic Wire Loom	1
4GB040-060	Air/Plenum Gasket	1	5W012-000	12 GA Wire, Red	1
7J250-010	1/4" Gasket Washer	1	5W012-010	12 GA Wire, Black	1
7U034-016	1" GS Hose	1	7E010-046	#8 x 3/4" Sheet Metal	1
4CD110-060	Plenum Assembly	1	7P156-082	5/32" TEE	1
7A250-175	1/4-20 x 1-3/4 HHCS	1	7U030-046	5/32" x 36" Vacuum Line	1
4CJ130-036	OIL DRAIN ASSEMBLY	1	7U100-055	6" Nylon Tie Wrap	1
7U030-036	1/2" x 18" Oil Drain Hose	1	7U375-001	3.6" Velcro Hook	1
7P375-017	3/8" NPT x 1/2" Straight Hose Barb	1	7U375-002	3.6" Velcro Latch	1
7R001-008	#8 Stainless Hose Clamps	2	5W018-010	18 GA Wire, Red	1
7P375-045	3/8" NPT x 45° Street Elbow	1	5W018-020	18 GA Wire, Black	1
4CJ130-026	OIL FEED ASSEMBLY	1	5W018-060	18 GA Wire, Orange	1
7U030-026	1/4" x 33" Oil Feed Hose	1	5W018-240	18 GA Wire, White and Yellow	1
7P125-103	1/8" NPT -4 x 45° Male Elbows	2	5W001-040	12-10 GA Female Slide	2
7P250-066	#4 Swivel x 1/4" Hose Barb Fittings	2	5W001-041	12-10 GA Male Slide	2
7P252-067	.525 Crimp Ferrules	2	5W001-019	Solderless Connector 10-12	2
7P125-026	1/8" NPT x #4 90° Fitting	2			
7P125-104	1/8" NPT Female TEE	1			
7P125-106	1/8" NPT x 3" Nipple	1			

1. PREPARATION/REMOVAL

- A. Disconnect the negative side of the battery.
- B. Remove the accessory drive belt.
- C. Remove the belt tensioner assembly, separate it from the mounting bracket and set aside. Remove tensioner mounting bracket.
- D. Disconnect and remove the crankcase breather hose.
- E. Remove the entire air filter/inlet assembly.
- F. Remove the ignition coil and bracket. Set aside.
- G. Remove the front plastic splash shield, if equipped.

2. OIL DRAIN

- A. To provide an oil drain for the supercharger, it is necessary to make a hole in the oil pan. The best way to provide this hole is to punch the hole rather than drill.
- B. Remove the front passenger's side wheel from the vehicle.
- C. Rotate the engine until the mark on the damper is aligned with the (TDC) top dead center tag on the front of the engine. To aid you in this, remove the distributor cap and watch the ignition rotor. It should end up between #5 and #7 electrodes (see *Figure 2-a*).
- D. Locate and mark hole per diagram. Remove paint around the hole area. Layout the hole center (see *Figure 2-b*).
- E. Use a small center punch to perforate the pan and expand the hole. Switch to a larger diameter punch and expand the hole further to approximately 9/16" diameter. Most punches are made from hexagon material and may be placed in a socket with an extension to make this procedure easier.

NOTE: Use extreme caution not to hit the crankshaft while punching the pan. If a clearance problem exists, rotate the crankshaft until clearance is obtained.

- F. Tap the hole with a 3/8" NPT tap approximately 1/4" deep. Pack the flutes of the tap with heavy grease to hold chips. Use a small magnet to check for stray chips.

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

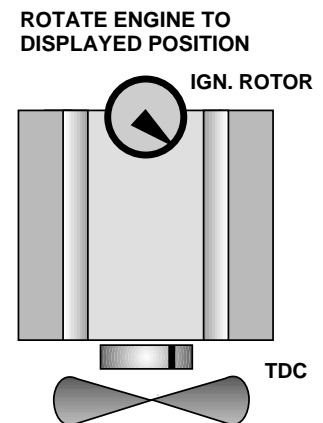


Figure: 2-a

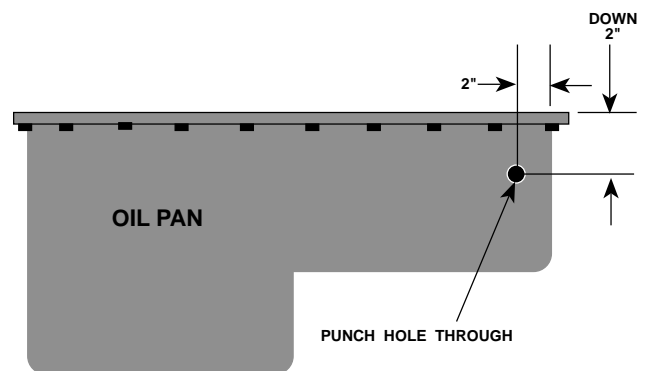


Figure: 2-b

2. OIL DRAIN, cont'd.

- G. Thoroughly clean the threaded area. Apply a small amount of silicone sealer to the new threads. Apply more sealer to the male threads of the 3/8" NPT x 45° street elbow and secure in the hole. Position the fitting so that it points up toward the top/front of the vehicle at approximately a 45° angle (see *Figure 2-c*). Make sure a seal is formed all around the fitting. Thread the 3/8" NPT x 1/2" barb fitting into the 45° street elbow using a small amount of pipe sealer.
- H. Drain engine oil and change filter.
- I. The drain hose will be attached to the fitting in later steps. If your installation is going to be over several days we suggest that you cover the fitting to protect it from dirt.
- J. Reinstall front wheel and torque lugnuts to proper specifications.

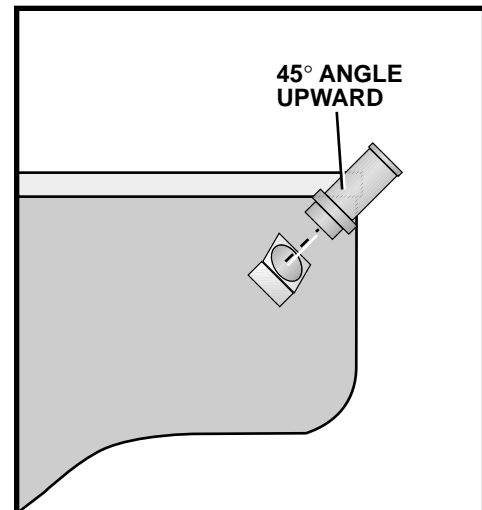


Figure: 2-c

3. AIR FILTER INSTALLATION (1997-99 Dakota/Durango only)

- A. Attached the new air filter to the supplied filter as shown and secure with a hose clamp.
- B. Place the filter assembly into the right side fenderwell and mark hole locations to be drilled for mounting. Make sure that the filter mount assembly is sitting on a flat area of the inner fender before marking hole locations. (See *Figure 3-a*.)
- C. Punch and drill the three hole locations.
- D. Mount the filter assembly to the inner fender using the supplied sheet metal screws (see *Figure 3-b*).

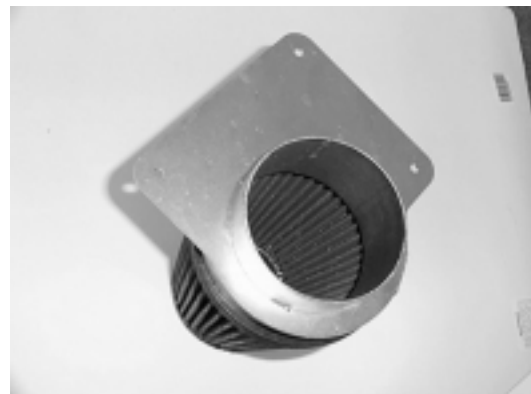


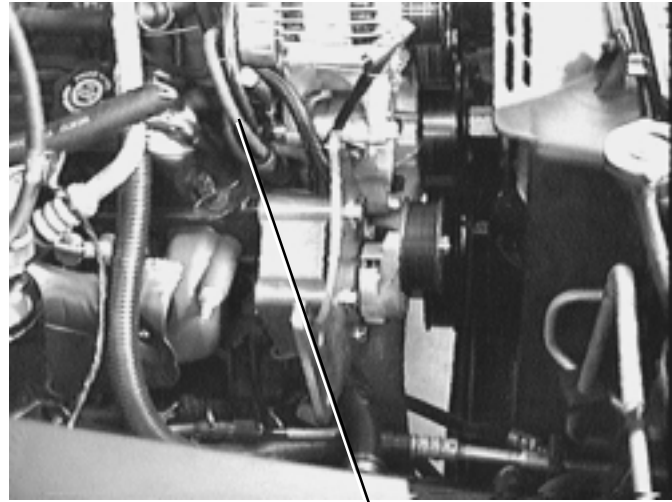
Figure: 3-a



Figure: 3-b

4. MAIN MOUNTING BRACKET AND PLATE

- A. It is necessary to provide clearance between the dipstick and accessory drive belt. Remove the bolt holding the dipstick tube. Hold the tube approximately two inches from the top and gently bend rearward and inward about one inch. Resecure with the existing fastener after the bracket installation.
- B. Mount the cast aluminum main mounting bracket onto the front of the engine right cylinder head using the fasteners provided, as shown in the graphic on the next page.



WIRING HARNESS

Figure: 4-a

NOTE: Before mounting the main bracket, the vehicle wiring harness may need to be shifted so that it rests in between the timing chain cover and the supercharger mounting bracket for exhaust clearance.

- C. Please note that the 3-3/4" bolt also holds the supercharger mounting plate. This fastener *must* be threaded into its hole loosely as a pilot while securing the cast bracket with the other two, then removed for installation of the supercharger mounting plate.
- D. Slide the 3/8" x 3-3/4" bolt into the proper hole in the supercharger mounting plate. Attach the stock belt tensioner to the front of the supercharger mounting plate. See graphic on the next page. Make sure the indexing tab is engaged in the slot. The factory stud on the on the tensioner may need to be shortened for proper bracket clearance. Test fit the plate assembly to the bracket before tightening any bolts.

4. MAIN MOUNTING BRACKET AND PLATE, cont'd.

1997-99 Dakota/Durango

NOTE: Slight bending of the factory 3/8" aluminum air conditioning line (running to the firewall) is required before mounting plate can be installed (see photo below).

- E. Secure the plate and tensioner as an assembly to the cast bracket. (See Figure 4-c.)
- F. Remove the right side exhaust manifold heat shield. Remove the second bolt (from the front) mounting the manifold to the head. Attach the supplied support strut between the supercharger mounting plate and the second exhaust manifold stud. Secure with the supplied stainless steel bolt (see Figure 4-b).
- G. Attach the loose ground connection(s) from the main harness (near the supercharger mounting bracket) to the existing alternator mounting bolt and secure. (See Figure 4-d.)

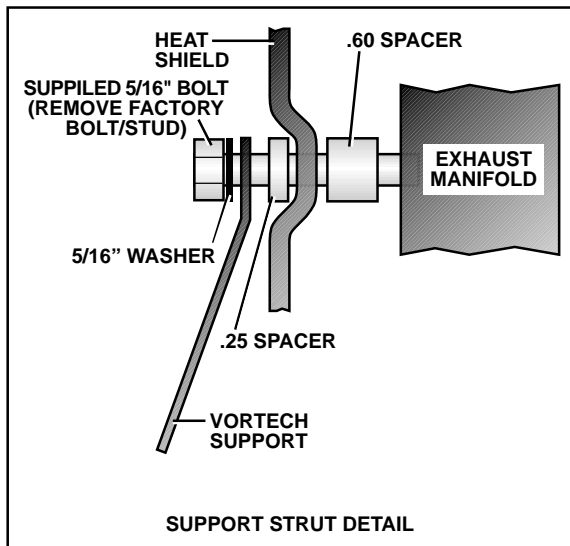


Figure: 4-b

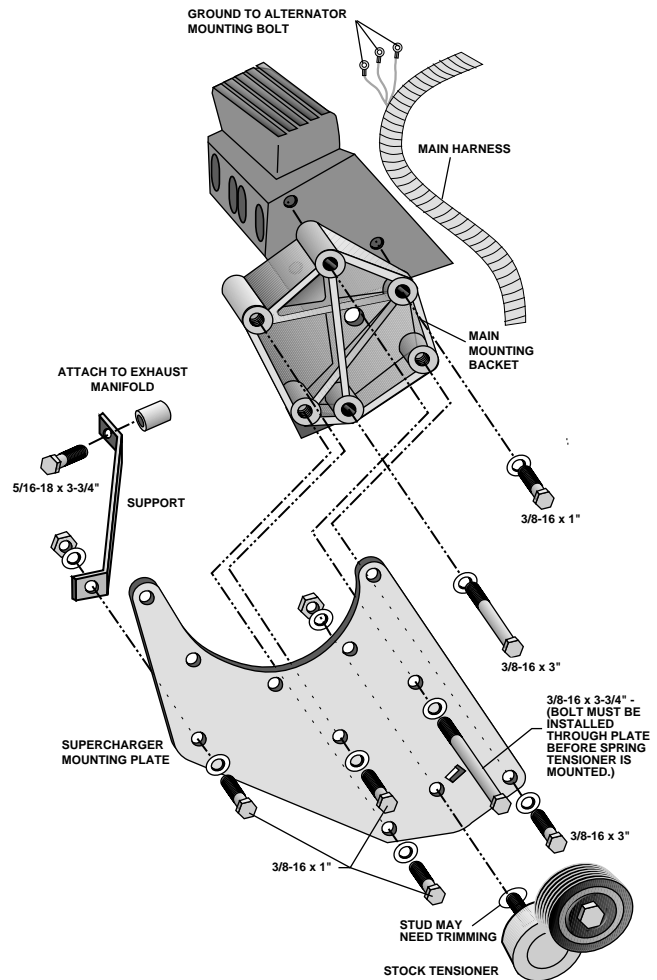


Figure: 4-c



Figure: 4-d

5. OIL FEED LINE

- A. Disconnect and remove the oil pressure sender from the engine. The sender is found at the rear of the intake manifold to the right side of the distributor.
- B. Install the supplied nipple and tee fitting into the block and place the sending unit in the upper end. Install the 45° fitting in the side port and orient the assembly so that it points forward and slightly outward towards the passenger's side (see *Figure 5-a*). Reconnect the pressure sender connector.

NOTE: *It is essential that the supercharger oiling orifice not be plugged. Therefore, do not use Teflon tape or other sealant that could possibly cause blockage. Use engine oil.*

- C. Attach the preassembled oil hose onto the fitting. Route the hose forward along the inside of the right valve cover. Be careful not to rest the oil hose or ignition wires on the EGR tube at the rear of the head.
- D. Before connecting the other end of the hose to the supercharger, briefly crank over the engine in order to purge the line with oil and remove any contaminants from the line. Use a drain pan or coffee can to catch the oil.

NOTE: *Supercharger drive belt must not be attached at this step.*

- E. Place the 45° union fitting into the supercharger fitting. Connect the hose to the 45° fitting.

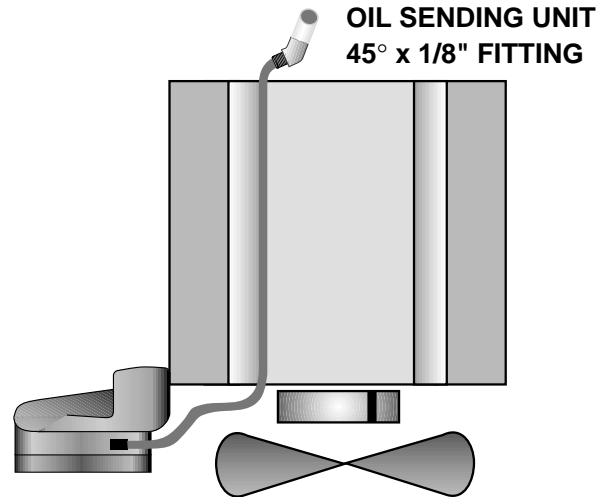


Figure: 5-a

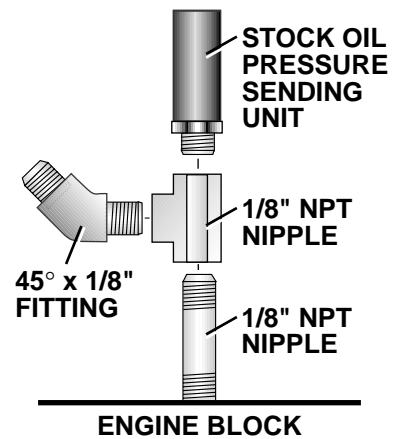


Figure: 5-b

6. IGNITION COIL RELOCATION

- A. Remove the ignition coil from its original mounting bracket.
- B. Locate the two 5/16" threaded bosses on the intake manifold between the throttle body and rear of the air conditioning unit.
- C. Attach the supplied coil bracket and 1/4-20 hardware to the ignition coil. Secure the coil assembly to the intake manifold using the supplied spacer, 5/16" bolts and washers. The distributor lead must point toward the rear of the vehicle.



Figure: 6-a

7. SUPERCHARGER MOUNTING

- A. Attach the oil drain hose to the drain fitting on the bottom of the supercharger and secure with the clamp provided. Make sure to position the clamp housing to the side so that it does not interfere with the mounting plate.
- B. Set the supercharger in place on the plate and secure with the five 3/8-16 x 1" bolts and washers.

NOTE: The forward A/C line requires slight bending for supercharger pulley clearance.

- C. Attach the plastic idler pulley (follow the arrow in *Figure 7-a*) to the inner most threaded boss on the supercharger. Use the supplied large washer as a spacer in between the pulley and the supercharger.
- D. Route the supercharger drain hose downward toward the drain fitting in the pan. Trim hose if necessary and secure to the fitting with the supplied #8 hose clamp.

NOTE: Drain hose must be routed downhill with no kinks or sharp turns. Supercharger life will be affected by an improperly routed drain hose.

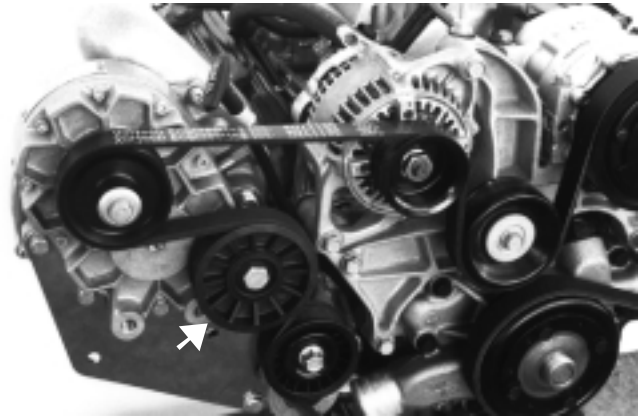


Figure: 7-a - Idler Pulley

8. SUPERCHARGER/ACCESSORY DRIVE BELT

- A. The new, longer accessory drive belt is routed the same as the original belt except for accommodation of the supercharger and a idler pulley.
- B. Route the belt around the outside of the supercharger drive pulley then around the inside of the idler (see *Figure 8-a*).
- C. The stock tensioner is used as originally intended in its relocated position.

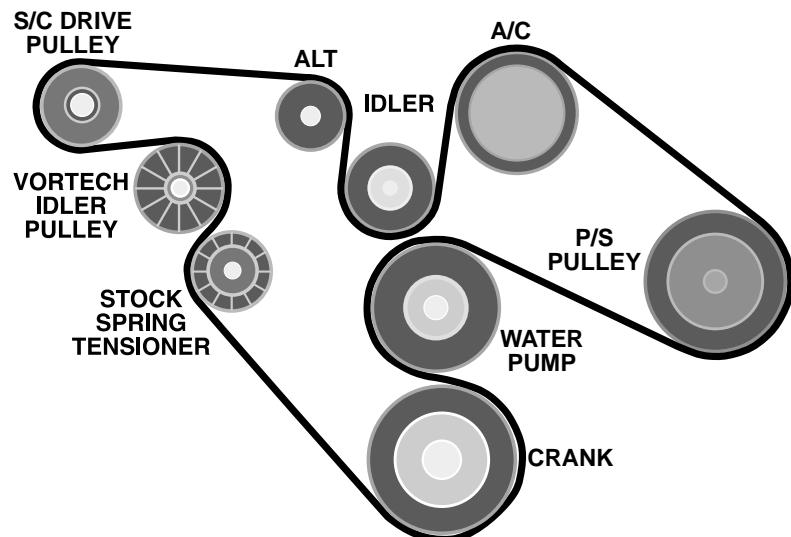


Figure: 8-a

9A. IGNITION/BOOST CONTROL INSTALLATION (1997-99 Dakota/Durango only)

- A. Remove the four phillips head screws attaching the plastic tray (located beneath the tilt-up console cover) to the armrest/console located between the two front seats. Remove the six console mounting screws with an 8mm socket and lift the center console out of the vehicle (four screws are located underneath the two cup holder mats in the armrest/console). From the bottom side of the console, remove the six phillips head screws attaching the plastic front cover to the console.
- B. Position the main ignition module onto the metal tray, (offset unit to keep mounting screws from puncturing air duct). (See *Figure 9A-a*.) Mark and drill holes using a #25 drill bit. Secure ignition module with the provided #12 hardware to the metal tray.
- C. With the center console removed, mark and drill a 5/8" hole into the floor. (See *Figure 9A-b*.)

NOTE: Ensure there is room for wires (that are to be routed into console) underneath vehicle and inside console.

- D. Under the hood, cut both wires at the coil connector, leaving a few inches of wire on the connector to work with. Attach the 10' red 18 GA wire extension using the supplied connectors to the green wire coming from the factory harness to the coil. Attach the 10' white 18 GA wire extension to the black wire coming from the factory harness coil. Refer to the ignition wiring diagram.
- E. Attach the supplied 10' orange 18 GA wire extension to the green wire on the factory coil connector plug and the 10' black 18 GA wire extension to the black wire on the same plug.
- F. Attach a 12 GA eyelet terminal to one end of the supplied fuse holder and a solderless connector to the opposite end. Connect the 10' red 12 GA wire to the solderless connector. Install the wired 12 GA eyelet assembly onto the positive accessory terminal, located on the fuse box underhood.
- G. Attach the supplied 5/32" vacuum line to the capped port on the side of the intake manifold. Route the vacuum line from the right side of the engine along the firewall. Route all five wires and vacuum line down the driver's side of the vehicle along the frame (securing along the way with tie wraps) to the previously drilled hole in the floor. **AVOID EXHAUST PIPES AND SHARP OBJECTS!** Pull wires and vacuum line into passenger compartment. (See *Figure 9A-b*.)

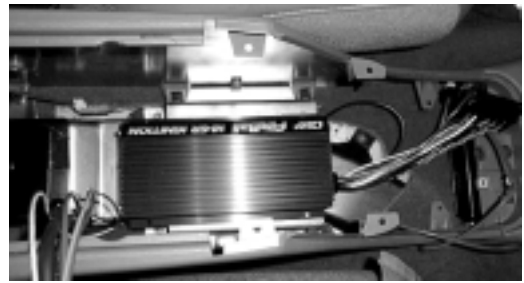


Figure: 9A-a



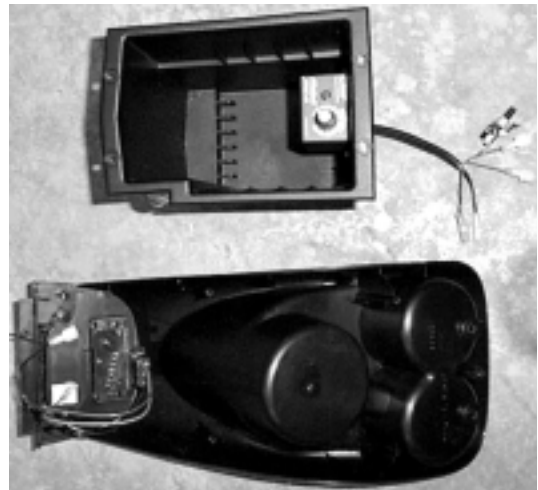
Figure: 9A-b

9A. IGNITION/BOOST CONTROL INSTALLATION, cont'd. (1997-99 Dakota/Durango only)

- H. Referring to *Figure 9A-c*, drill a #25 hole through the floor. Remove all paint from around the hole, ensuring a good electrical connection. Attach a 12 GA eyelet terminal to the supplied 2' black 12 GA wire. Secure this wire to the previously drilled hole on the vehicle's floor using #12 hardware.
- I. Using the supplied hook and loop fastener, attach the manifold air pressure sensor to the underside of the center console's front cover. (See *Figure 9A-d*.) Install the front cover back onto the center console.
- J. Following *Figure 9A-d*, drill a hole in the center tray where shown with a 3/8" drill and route the wires from the timing retard control through this hole. Secure to the inside of the tray using the provided #12 hardware.
- K. Using the included male and female electrical slide connectors, wire all connections according to the diagram on page 10. Install the center console and center tray back into the vehicle and secure with the previously removed hardware. (See *Figure 9A-e*.)



*Figure: 9A-c
Drill a Hole Through Floor.*



*Figure: 9A-d
Drill Hole in Center Tray.*



*Figure: 9A-e
Install Center Console and Tray.*

9B. IGNITION/BOOST CONTROL INSTALLATION (1996 Dakota/1996-1999 Ram only)

- A. Mount the ignition box in the engine compartment onto the flat area between the fuse box and driver's side firewall. Secure the ignition box with the four #8 sheet metal screws supplied (see *Figure 9B-a*). Mount the map sensor next to the ignition box.
- B. Route the heavy black cable to a clean ground. Route the heavy red cable to the (+) positive terminal located on the front side of the underhood fuse box.
- C. Locate the ignition coil plug-in connector (grey and green wires) on the vehicle wiring harness near the original spring tensioner location. Cut the connector from the harness leaving 2"-3" of the wire remaining on the connector.
- D. Mount the timing retard control knob in the driver's compartment underneath the dash. The knob control must be in an accessible position from the driver's seat (see *Figure 9B-b*).
- E. Attach one end of the supplied 5/32" vacuum line to the map sensor. Route the red and blue (or brown) wires through the firewall.
- F. Connect vacuum line and wiring harness (see *Figure 9B-c*).



*Figure: 9B-a
Mounting Ignition Box.*



*Figure: 9B-b
Timing Retard Control Knob.*

9B. IGNITION/BOOST CONTROL INSTALLATION, cont'd.

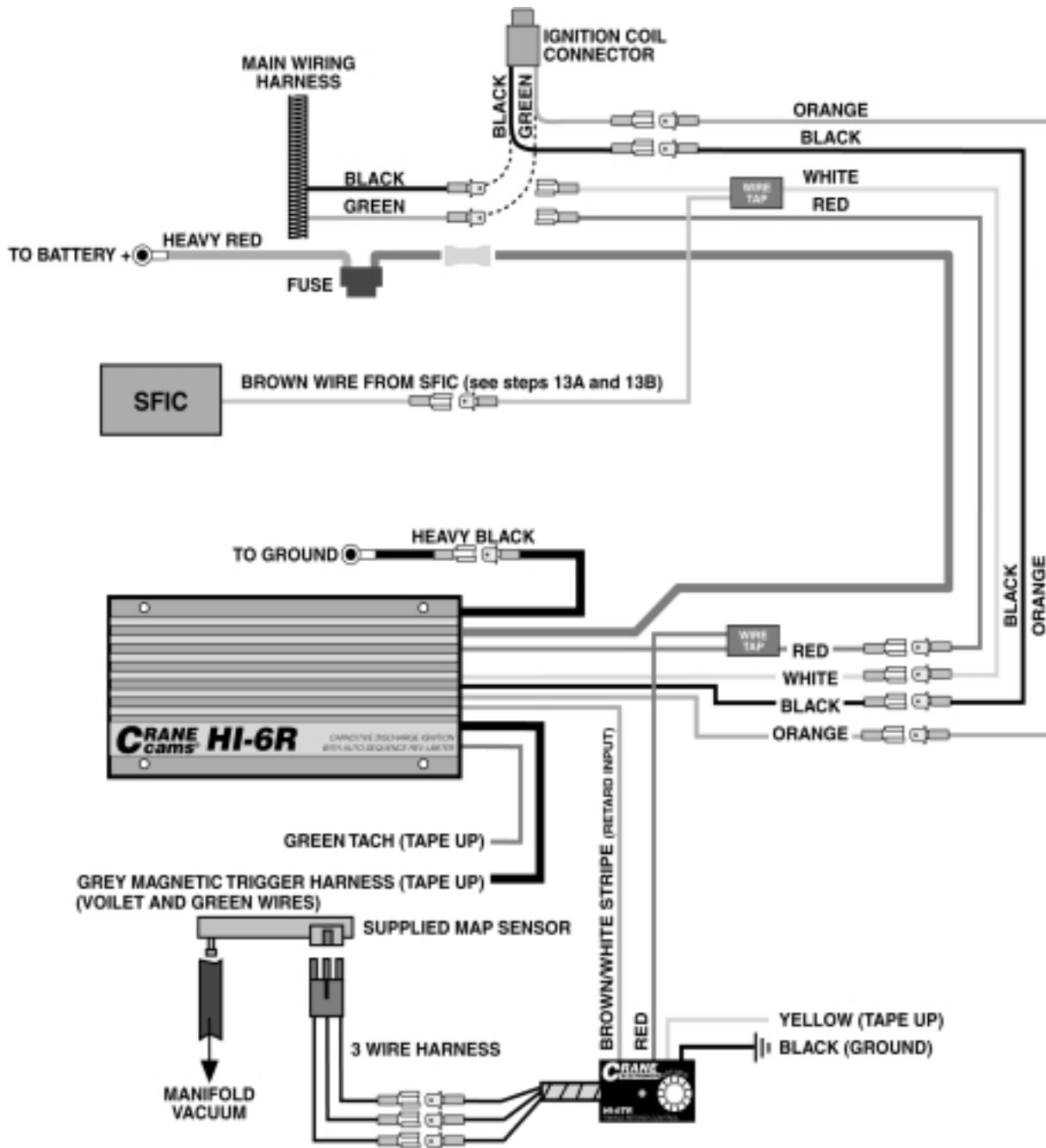


Figure: 9B-c

10. IGNITION/BOOST CONTROL UNIT OPERATION

- A. The Ignition/Boost Control unit is designed to retard ignition in relation to boost.
- B. The unit is adjustable from 0° of ignition retard to 4° of ignition retard for each pound of boost, up to a maximum of 20°
- C. Using the middle position (knob pointing straight up) as a starting place, adjust the ignition retard knob until just beyond the point of detonation. Use third gear for testing in a safe area or road. Adjust the retard according to changes in altitude and fuel quality.

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

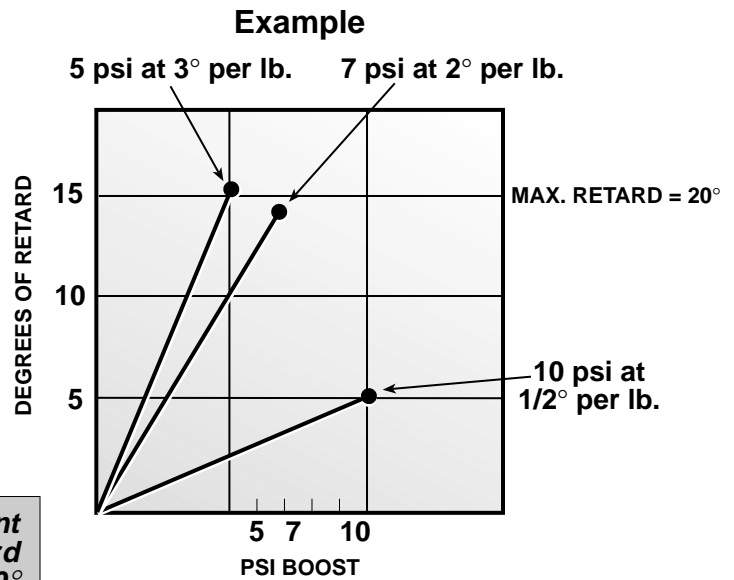


Figure: 10-a

11A. SUPERCHARGER AIR INLET DUCT (1997-99 Dakota/Durango only)

- A. Slide the supplied 3-1/2" silicone sleeve and two #56 clamps onto the supercharger inlet. Insert the short leg of the supplied aluminum air inlet duct into the silicone sleeve.
- B. Attach the supplied 5/8" hose to the barb on the air inlet duct and route over to the left side valve cover breather location. Attach the 5/8" hose to the breather fitting and secure with the supplied #8 clamp (trim hose length if necessary). (See Figure 11A-a.)
- C. Connect the aluminum air inlet duct to the previously mounted air filter flange on the inner fenderwell using the supplied length of the 3-1/2" flex hose and #52 clamps. (See Figure 11A-b.)
- D. Align inlet assembly and tighten all clamps.

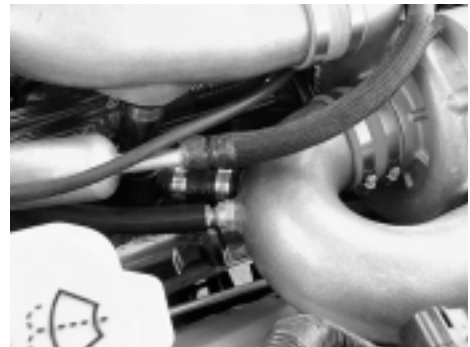


Figure: 11A-a



Figure: 11A-b

11B. SUPERCHARGER AIR INLET DUCT (1996 Dakota/1997-99 Ram only)

- A. Slide the supplied 3-1/2" silicone sleeve and two #56 clamps onto the supercharger inlet. Insert the short leg of the supplied aluminum air inlet duct into the silicone sleeve.
- B. Attach the supplied 5/8" hose to the barb on the air inlet duct and route over to the left side valve cover breather location. Attach the 5/8" hose to the breather fitting and secure with the supplied #8 clamp (trim hose length if necessary).
- C. Attach the supplied air filter to the aluminum air inlet using the supplied #52 clamps. (See *Figure 11B-a*.)
- D. Align inlet assembly and tighten all clamps.

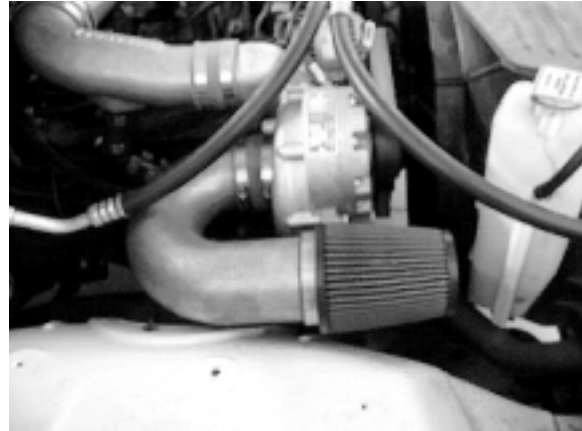


Figure: 11B-a

12. PLENUM AND DISCHARGE INSTALLATION

- A. Remove the tab holding down the factory air cleaner mounting stud. Reattach the supplied tab to the throttle body. (See *Figure 12-b*.)
- B. **(1997-99 Dakota/Durango only)**
Remove the cap covering the pressure test port on the intake manifold fuel rail. Carefully release the fuel rail pressure by slowly depressing the schrader valve. Remove the schrader valve from inside of the port. Install the supplied braided fuel line onto the fuel rail. (See *Figure 12-c*.)
- C. Place the gasket and plenum onto the throttle body. Secure with the supplied 1/4" x 1-3/4" bolt and 1/4" gasket washer. (See *Figure 12-d*.)
- D. Fit the 3" x 2" silicone sleeve onto the plenum and slide on the two #48 clamps.
- E. Slide the 2-3/4" x 2" sleeve onto the supercharger discharge. Secure with #44 clamps.
- F. Install the discharge tube between the plenum and supercharger.
- G. Slide the two 1" x 2-1/2" hoses onto the discharge duct and supercharger air inlet duct. Secure with #16 hose clamps. (See *Figure 12-e*.)



Figure: 12-b



Figure: 12-c

12. PLENUM AND DISCHARGE INSTALLATION, cont'd.

- H. Attach the bypass valve to the discharge and inlet (see *Figure 12-a*).
- I. Secure discharge and bypass assemblies.

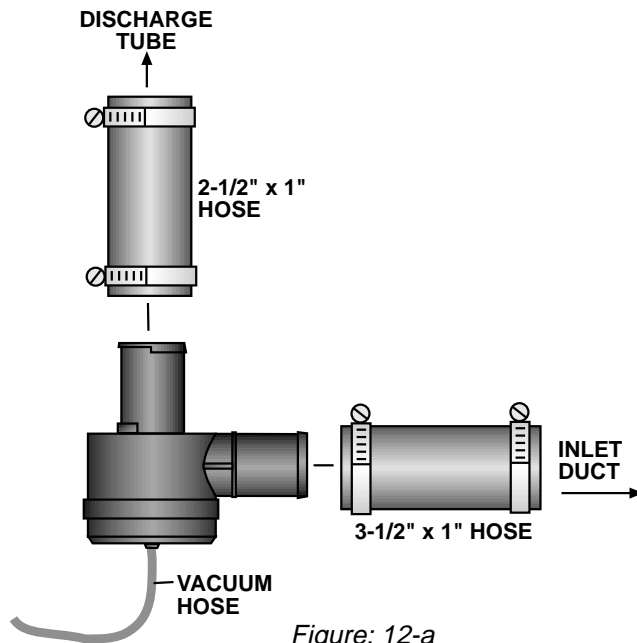


Figure: 12-a

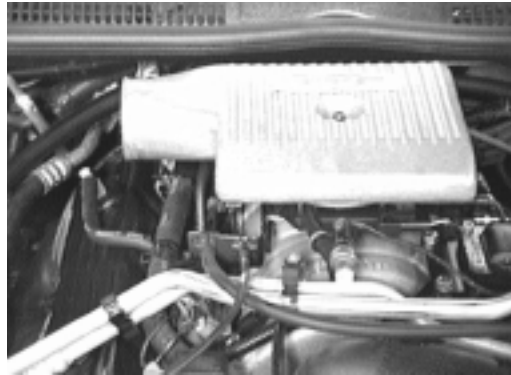


Figure: 12-d



Figure: 12-e

13A. SUPPLEMENTARY FUEL INJECTION COMPUTER (SFIC) AND RELATED SYSTEM (1997-99 Dakota/Durango only)

- A. Using the four supplied #8 x 1/2" screws, attach the fuel rail mounting tabs to the supplementary fuel rail in the orientation shown. Use thread locking compound on the bolt threads for safety.
- B. Lightly oil the O-rings on both ends of the supplied fuel injectors. Install one each of the supplied injector retainers onto each injector into the full circle groove on the end of each injector. Carefully insert the two injectors into the discharge plenum with the injector connectors pointing down and out (see *Figure 12-a*). Make sure that the injectors are inserted straight and are seated firmly into the plenum.
- C. Slide the fuel rail onto the installed fuel injectors. Slowly work the rail over the O-rings being careful not to dislodge or unseat them. Finish mounting the rail to the plenum using the two supplied fuel rail spacers and 1/4" x 2-3/8" bolts. Use a thread locking compound on the bolt threads for safety. Make sure that the injectors are seated properly.



Figure: 13A-a

13A. SUPPLEMENTARY FUEL INJECTION COMPUTER (SFIC) AND RELATED SYSTEM (1997-99 Dakota/Durango only), cont'd.

- D. Thread the supplied plug with an O-ring into the front of the fuel rail. Thread the 1/4" NPTF O-ring adapter fitting into the rear of the fuel rail. Use light oil on the O-rings. *Do not* over-tighten fittings. Thread the 1/4" NPT x 90° fitting into the installed adapter fitting at the rear of the fuel rail (use a small amount of Teflon paste on the pipe threads only. Do not get any paste on the inside of the fuel rail). Rotate the 90° fitting so that the flare portion points down toward the valve cover.
- E. Attach the previously installed braided hose to the 90° fitting on the rail. Make sure that the hose is not twisted after the hose has been tightened.
- F. From the engine compartment, remove (pull out) the grommet in the firewall that surrounds the transmission gear select cable. Use a razor blade to carefully slit the grommet and temporarily remove it from the cable.
- G. Cut the center of the grommet out to make room for the vacuum line and harness that must attach to the Vortech SFIC which will be located under the dash (see *Figure 13A-d*).
- H. Mount the Vortech SFIC unit inside the panel beneath the steering column with the Velcro strips and adhesive pads provided (see *Figures 13A-b, 13A-c*).
- I. Using the supplied 5/32" TEE, tap into the previously installed ignition vacuum line. Connect the wires and vacuum line for the SFIC. Attach the black wire to ground. Connect the red wire to the interior fuse panel cavity #3 (ABS) with the special mini fuse tap and female connector provided. Route the brown wire, two injector harnesses and vacuum line out into the engine compartment. Connect the brown wire to the negative wire going to the coil (white wire to the Crane ignition box). Attach the two injector harnesses to the supplementary injectors (plugs are interchangeable and reversible). Connect the vacuum line to the manifold (TEE into the bypass valve hose).



Figure: 13A-b



Figure: 13A-c

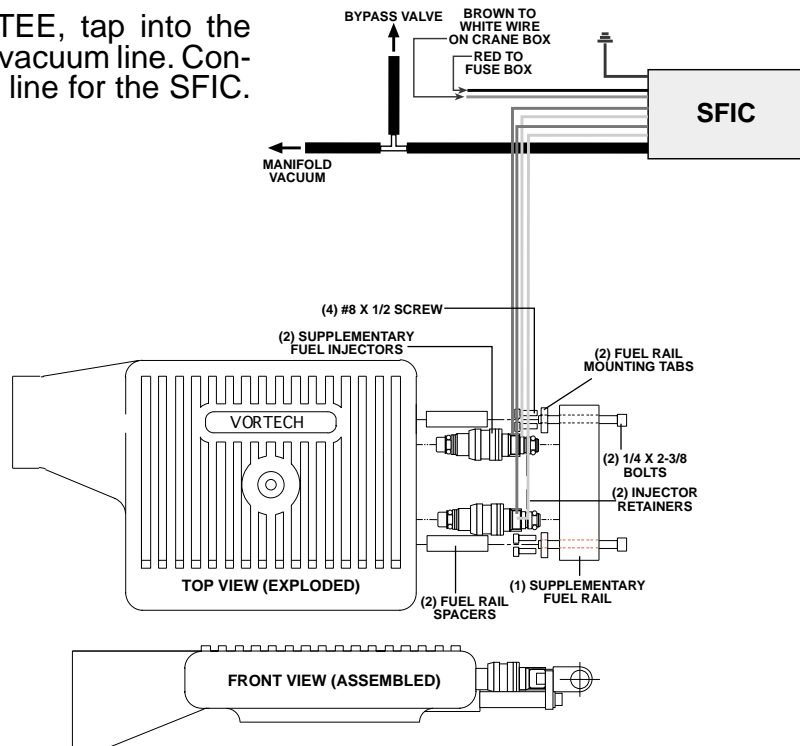


Figure: 13A-d

13B. SUPPLEMENTARY FUEL INJECTION COMPUTER (SFIC) AND RELATED SYSTEM (1996 Dakota/1996-99 Ram only)

- A. Using the four supplied #8 x 1/2" screws, attach the fuel rail mounting tabs to the supplementary fuel rail in the orientation shown (see *Figure 13B-a*). Use thread locking compound on the bolt threads for safety.
- B. Lightly oil the O-rings on both ends of the supplied fuel injectors. Install one each of the supplied injector retainers onto each injector into the full circle groove on the end of each injector. Carefully insert the two injectors into the discharge plenum with the injector connectors pointing down and out (see *Figure 13B-d*). Make sure that the injectors are inserted straight and are seated firmly into the plenum.
- C. Slide the fuel rail onto the installed fuel injectors. Slowly work the rail over the O-rings being careful not to dislodge or unseat them. Finish mounting the rail to the plenum using the two supplied fuel rail spacers and 1/4" x 2-3/8" bolts. Use a thread locking compound on the bolt threads for safety. Make sure that the injectors are seated properly.
- D. Thread the supplied -6 fittings with both ends of the fuel rail. Use light O-rings. Do not overtighten fittings.
- E. Attach the supplied Vortech fuel rail adapter fitting in front of the rail, such that the line is straight down.
- F. Thread the 1/4" NPT x 90° fitting in adapter fitting using a small amount of pipe paste on the pipe threads. Do not get pipe paste on the inside of the fuel fitting. Attach braided hose ends to the 90° fitting and loosely connect the other end of the Vortech fuel rail (see *Figure 13B-b*).
- G. Raise the spring clip, located on the side of the factory fuel rail, and gently lift the fuel line. Rotate the fuel line 90° pointing up, and connect it to the fitting on the Vortech fuel rail inlet. Connect the Vortech fuel rail outlet line into the factory fuel rail and secure it with the spring clip. Tighten the fuel line on the back of the factory fuel rail.



Figure: 13B-a

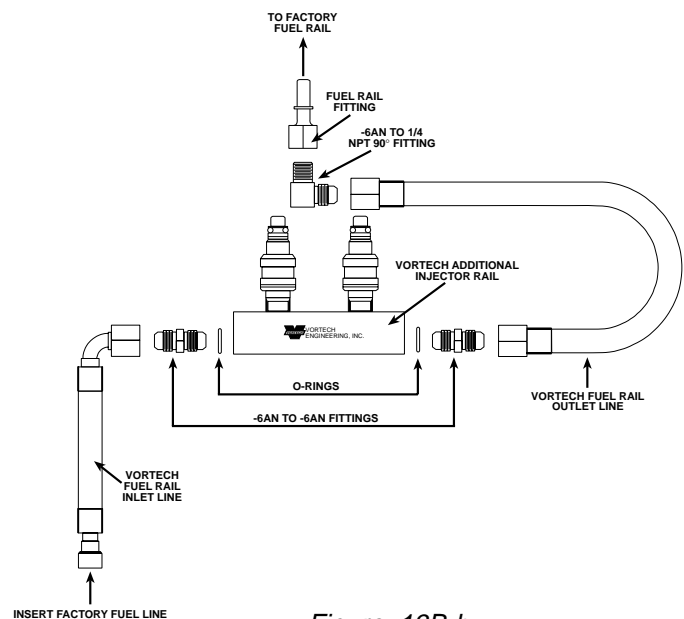


Figure: 13B-b

13B. SUPPLEMENTARY FUEL INJECTION COMPUTER (SFIC) AND RELATED SYSTEM, cont'd. (1996 Dakota/1996-99 Ram only)

- H. From the engine compartment, remove (pull out) the grommet in the firewall that surrounds the transmission gear select cable. Use a razor blade to carefully slit the grommet and temporarily remove it from the cable.
- I. Cut the center of the grommet out to make room for the vacuum line and harness that must attach to the Vortech SFIC which will be located under the dash (see *Figure 13B-d*).
- J. Remove the panel covering the steering column. Drill two 1/4" holes as shown in photo. Mount the Vortech SFIC and secure with the supplied 1/4" bolts and nyloc nuts. (See *Figure 13B-c*.)
- K. Using the supplied 5/32" TEE, tap into the previously installed ignition vacuum line. Connect the wires and vacuum line for the SFIC. Attach the black wire to ground. Connect the red wire to the interior fuse panel cavity #3 (ABS) with the special mini fuse tap and female connector provided. Route the brown wire, two injector harnesses and vacuum line out into the engine compartment. Connect the brown wire to the negative wire going to the coil (white wire to the Crane ignition box). Attach the two injector harnesses to the supplementary injectors (plugs are interchangeable and reversible). Connect the vacuum line to the manifold (TEE into the bypass valve hose).

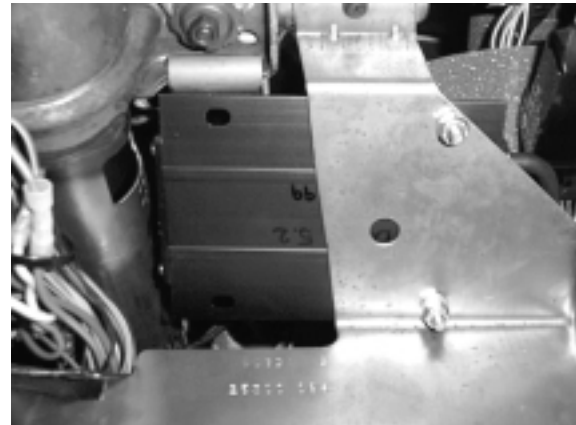


Figure: 13B-c

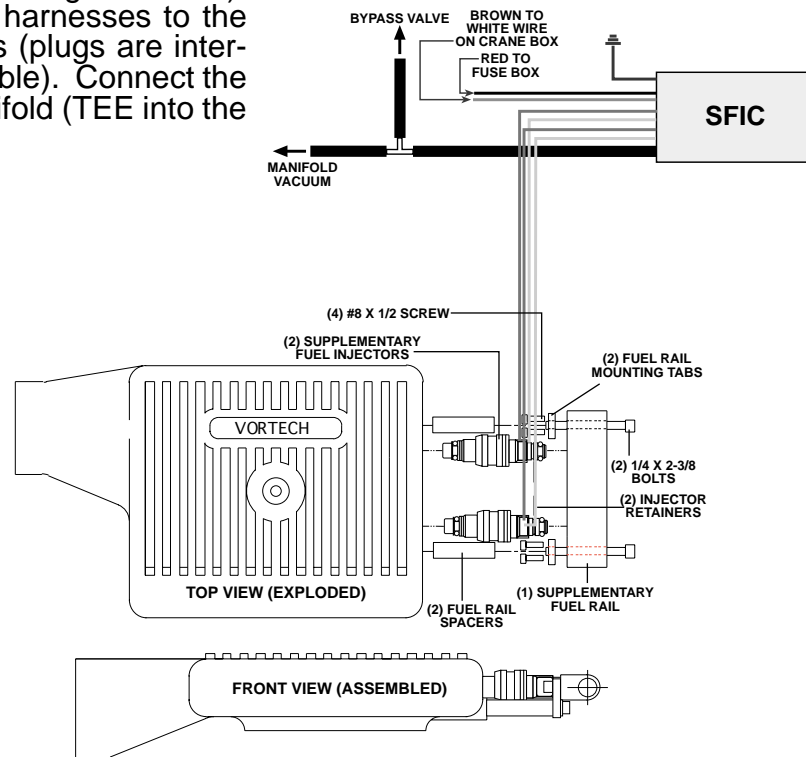


Figure: 13B-d

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

14. FINAL CHECK

- A. Reconnect the battery.
- B. If your vehicle has gone over 10,000 miles since its last spark plug change, you will need to change the spark plugs now before test driving the vehicle.
- C. Check all fittings, nuts, bolts and clamps for tightness. Pay particular attention to oil and fuel lines around moving parts, sharp edges and exhaust system parts. Make sure all wires and lines are properly secured with clamps or tie wraps. (See Figure 14-a.)
- D. Check all fluid levels, making sure that your tank(s) is/are filled with 92 octane or higher fuel before commencing test drive.
- E. Start engine and allow to idle a few minutes, then shut off.
- F. Recheck to be sure that no hoses, wires, etc. are near exhaust headers or moving parts and check for signs of any fluid leakage. Check ignition timing to make sure it is set to stock specifications before commencing test drive.
- G. **PLEASE TAKE SPECIAL NOTE:** Operating the vehicle without *ALL* the subassemblies completely and properly installed may cause **FAILURE OF MAJOR COMPONENTS**.
- H. Test drive the vehicle.
- I. Read the **STREET SUPERCHARGER SYSTEM OWNER'S MANUAL AND RETURN THE WARRANTY REGISTRATION FORM** within thirty (30) days of purchasing your supercharger system.



Figure: 14-a



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