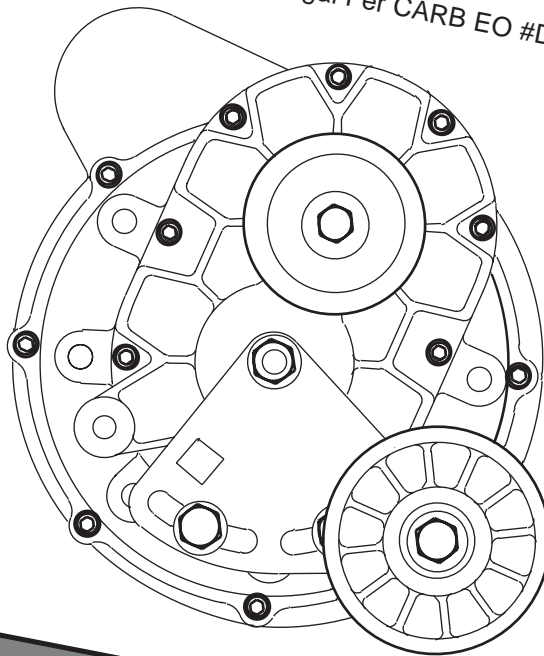


2004-2006 Nissan Titan Supercharger System Installation Instructions

50 State Smog Legal Per CARB EO #D-213-25



ENGINEERING, LLC

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

FOREWORD

This manual provides information on the installation, maintenance and service of the Vortech supercharger kit expressly designed for this vehicle. All information, illustrations and specifications contained herein are based on the latest product information available at the time of this publication. Changes to the manual may be made at any time without notice. Contact Vortech Engineering for any additional information regarding this kit and any of these modifications at (805) 247-0228 8:00am-4:30pm PST.



Take note of the following before proceeding:

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

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

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

IMPORTANT NOTE

OEM exhaust catalytic converter life may be dramatically reduced when the vehicle is subjected to frequent heavy or full throttle operation. Vortech is not responsible for any damage that may occur to these emission control devices.

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2004-2006 Nissan Titan

NOTICE

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2004-2006 Nissan Titan

Installation Instructions

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

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

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

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

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

1. Use only premium grade fuel 91 octane or higher (R+M/2).
2. The engine must have stock compression ratio.
3. If the engine has been modified in any way, check with Vortech prior to using this product.
4. Always listen for any sign of detonation (pinging) and discontinue hard use (no boost) until 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 15,000 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 20,000 miles.

TOOL & SUPPLY REQUIREMENTS

- Factory repair manual
- 3/8" socket and drive set: SAE & metric
- 3/8" Ratchet Extension 6"
- 1/2" socket and drive set: SAE & metric
- 3/8"NPT tap, 3/8-18 tap & handle
- Adjustable wrench
- Open end wrenches: 3/8", 7/16", 1/2", 9/16"
- Center punch and a 5/8" tapered punch
- 6 quarts (or what is specified in your owner's manual)
SF rated quality engine oil, oil filter and wrench



If it has been 15,000 miles or more since your vehicle's last spark plug change, then you will also need:

- Spark plug socket
- NEW spark plugs



ENGINEERING, LLC

2004-2006 Nissan Titan

Part No. 4NT218-010SQ

PARTS LIST

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

PART NO.	DESCRIPTION	QTY	PART NO.	DESCRIPTION	QTY.
2E228-410	V2SQ S/C SC-TRM, CW CRVD, TITAN	1	4NT112-020	DISCHARGE ASY	1
2A037-300	S/C PULLEY 3.00" 7-GROOVE	1	4NT012-010	DISCHARGE TUBE	1
5A003-100	UNICHIP ECU, NISSAN TITAN	1	7R002-016	#16 HOSE CLAMP	4
4NT111-034	MOUNTING BRACKET ASY	1	7R002-044	#44 HOSE CLAMP	5
4FG017-031	SPACER, TITAN S/C	5	7R002-052	#52 HOSE CLAMP	2
2A047-126	BELT, 7-RIB, 126.5"	1	7R002-056	#56 HOSE CLAMP	7
4FD017-011	BEARING PILOT .218"L	1	7S275-200	2.75" x 2" SLEEVE	1
4NT017-011	SPACER, IDLER	1	7S275-300	2.75" x 3" SLEEVE	1
4NT010-034	MOUNTING BRACKET, TITAN	1	7S325-275	90° SILICONE SLEEVE	1
4FA016-170	8-RIB IDLER SMOOTH	1	7U030-046	VACUUM HOSE	2
4PCW016-171	IDLER PULLEY TRIMMED	1	7U133-100	HOSE, ELBOW, 90°, 1"ID, MOLDED	1
7J012-092	12mm WASHER	2	8D001-001	STANDARD BYPASS	1
7A375-126	3/8-16 x 1.25" HXHD	5	8N201-270	WELDED CORE ASY, TITAN	1
7J375-044	3/8" WASHER	5	8N106-170	WATER COOLER ASY	1
7R003-012	ADEL CLAMP	1	4NT010-010	BRKT, SETRAB LOWER	1
7C012-050	M12-1.75 x 50mm HXHD PLTD	1	4NT010-020	BRKT, SETRAB UPPER	1
7C012-080	M12-1.75 x 80mm HHCS	1	7A250-075	1/4-20 x .75" SHCS	1
4FA016-171	DUST COVER (IDLER PULLEY)	2	7A250-074	1/4-20 x .75" HHCS	3
4NT112-010	AIR INTAKE ASY	1	7E010-049	#10 x 3/4" STSMS	1
4FA012-012	INTAKE ELBOW, 90° w/o BOSSES	1	7F250-021	1/4-20 NYLOCK NUT	4
4NT012-020	DUCT, S/C INLET 120°, TITAN	1	7K250-001	1/4" WASHER	8
4NT110-050	ASY, INLET BULKHEAD, TITAN	1	7P500-026	3/4" x 90° BRASS FITTING	2
7E010-049	#10 x 3/4" STSMS	4	8N006-010	SETRAB COOLER, SINGLE PASS	1
7P375-020	3/8"NPT x 5/8" BARB BRASS	1	8N105-170	WATER RESERVOIR ASY	1
7P625-004	5/8" PLASTIC TEE	1	4NT010-030	BRKT, WATER RESERVOIR	1
7R002-052	#52 SAE TYPE "F" SS HOSE CLAMP	2	7A250-150	1/4-20 x 1.5" HXHD	2
7R002-056	#56 HOSE CLAMP	8	7F250-021	1/4-20 NYLOCK NUT	2
7S350-200	Ø3.5" x 2" SLEEVE	2	7J250-001	1/4" WASHER	4
7S350-300	SLEEVE, 3-1/2" x 3", BLUE	1	7P500-026	3/4" x 90° BRASS FITTING	2
7U035-001	3-1/2" FLEX HOSE	1'	8N055-030	TRIANGLE RESERVOIR TANK	1
7U033-000	5/8" PCV HOSE	0.58'	8N107-170	WATER PUMP ASY	1
8A103-081	MAF, 3.3"ID, NISSAN TITAN	1	5W001-005	WIRE LOOM	3
8H040-040	AIR FILTER	1	5W001-009	16-14GA MALE SLIDE	1
4NT130-026	OIL FEED ASY	1	5W001-010	16-14GA FEMALE SLIDE INSULATED	1
7P125-004	90° x 1/8"NPT x -4 STEEL	2	5W001-011	16-14GA EYELET .25" HOLE	1
7P125-034	1/8"NPT STREET FITTING	1	5W001-013	14-16, BUTT CONNECTOR	2
7U250-000-260	STNLS BRAID HOSE STRT	1	5W001-024	MINI ATC FUSE TAP	1
7P125-125	1/8"NPT - 1/8" BSP	1	5W001-025	FEMALE SLIDE MINI	1
4NT130-036	OIL DRAIN ASY	1	5W014-030	14GA STRD WIRE BLACK	9
7P375-055	1/2" BARB x 3/8"NPT x 90°	1	7P500-026	3/4" x 90° BRASS FITTING	2
7U030-036	1/2" OIL DRAIN HOSE	0.67'	7P500-078	3/4" STRAIGHT BRASS FITTING	2
7R001-008	#8 HOSE CLAMPS	2	7R003-027	ADEL CLAMP	1
4NT020-010	INSTRUCTION MANUAL	1	7R007-001	NYLON RATCHET CLAMPS	10
4NT101-001	FUEL SYSTEM ASY, TITAN	1	7U030-065	MOLDED 90° HOSE SHORT	1
4CJ017-021	SPACER, .625" COIL	4	7U038-000	Ø3/4" HOSE	12
5W001-050	HARNES, FUEL INJ. PLUG w/WIRES	8	7U100-044	TIE-WRAP, 4" NYLON	8
7C080-030	M8-1.25 x 30 HXHD CL10.9	4	7U100-055	TIE-WRAP	8
8F001-342	FUEL PUMP w/SCREEN, GSS 342	1	8F001-402	PIERBURG WATER PUMP	1
8F060-042	FUEL INJECTOR, 42LBS RAIL STYL	8	8N055-050	SURGE TANK CAP	1
4NT214-020	WATER PIPE ASY	1	8N056-060	SURGE TANK	1
4NT014-010	WATER PIPE LOWER, TITAN	1			
4NT114-020	ASY, WATER PIPE UPPER	1			
7R002-020	#20 HOSE CLAMP	8			
4GK014-010	EXTENSION TUBE	1			
7C060-025	6mm x 25mm HXHD	1			
7J006-093	6mm WASHER	1			

1. PREPARATION/REMOVAL

NOTE: Beginning the supercharger installation with less than 1/8" a tank will make changing the fuel pump easier.

- A. Disconnect the Battery.
- B. Remove the engine cover.
- C. Remove the engine cover bracket located above the throttle body. Remove the wiring harness bracket from above the driver's side valve cover.
- D. Disconnect the two breather tubes running from the intake manifold to the plastic intake duct and remove the duct, air-box lid, filter and air-box.
- E. Remove the grill.
- F. Locate and remove the two clamps securing the A/C line to the driver's side firewall. Install the supplied adel clamp on the firewall. Flip over to lower the A/C line. (*Doing this lowers the A/C line to clear supercharger componentry.*) (See Fig. 1-b.)
- G. Remove the factory serpentine belt
- H. Drain the engine coolant from the vehicle.
- I. Remove the lower radiator hose connecting the bottom of the radiator to the hard radiator tube mounted off the engine's front cover.
- J. Remove the radiator hose that connects the top opening of the hard radiator tube to the plastic thermostat housing on the engine. Remove the hard radiator tube.
- K. Remove the MAF sensor from the factory air box lid and set aside for reinstallation in an upcoming step.
- L. Remove the factory idler from the driver's side of the engine.



Fig. 1-a

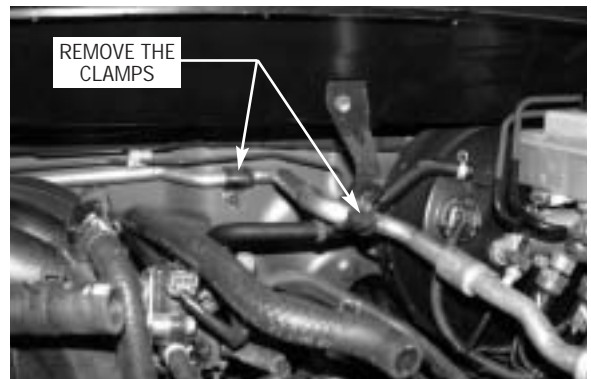


Fig. 1-b



Fig. 1-c

2. FUEL INJECTOR REPLACEMENT

- A.** Relieve the fuel system pressure.
- B.** Disconnect the eight fuel injector plugs and retaining clips from the injectors.
- C.** Install the factory injector retaining clips onto the new injectors.
- D.** Remove the four screws that hold down the fuel rail to the intake manifold. Lift up on the rails evenly and remove all eight injectors
- E.** Using a small amount of clean motor oil, lightly lubricate the O-rings on both ends of the Vortech supplied fuel injectors.
- F.** Install the new injectors into the fuel rails with the terminals facing outward.
- G.** Carefully lower the fuel rail/injector assembly down onto the intake manifold. Check to see that each injector has been seated properly into the intake manifold.
- H.** Install the four supplied .45"L spacers between the fuel rails and the intake manifold. Use the supplied bolts to secure.
- I.** Use supplied plug & play connectors to connect the OEM plug to the supplied fuel injectors.
- J.** Attach the injector plugs to the injectors.

3. MOUNTING BRACKET/SUPERCHARGER INSTALLATION

- A. Locate the driver's side cam cover. Remove the eight 6mm screws and carefully pry the cover from the cylinder head. (See Fig. 3-a.)
- B. Clean any excess sealant from the mating surface on the cam sprocket housing.
- C. Install the supplied 3/8"NPT x 1/2" barb x 90° fitting into the 3/8"NPT hole in the supplied supercharger mounting plate.
- D. Lay a thin bead of RTV silicone sealant along the machined groove on the rear of the mounting plate. Install the mounting plate using the factory hardware within five minutes.
- E. Tighten the screws to 10 ft/lbs.
- F. Assemble the supplied M12 x 80mm screw, washer, non-flanged idler, and spacer. Using thread sealant, secure the assembly into the 12mm hole in the plate. (See Fig. 3-b.)
- G. Connect the oil drain hose to the supercharger and secure it with a #8 hose clamp.
- H. Install the 90° x 1/8"NPT x -4 fitting into the brass oil feed fitting in the supercharger. Use oil on the threads, *not* teflon tape.
- I. Guide the oil drain hose through the hole in the mounting plate. Using the supplied 3/8-16 x 1" hardware and washers, secure the supercharger to the mounting plate.
- J. Install the idler into the center ear on the supercharger gear case using the supplied M12 x 50mm bolt, washer, dust cover and spacer. (See Fig. 3-d.)
- K. Connect the oil drain hose to the brass fitting in the mounting plate and secure with the supplied #8 hose clamp.
- L. Route and install the belt. (See Fig. 3-e.)

NOTE: Belt installation will be tight. For easiest installation have a second person release tension from the tensioner and route the belt last around the lowest Vortech smooth idler.



Fig. 3-a



Fig. 3-b



Fig. 3-c

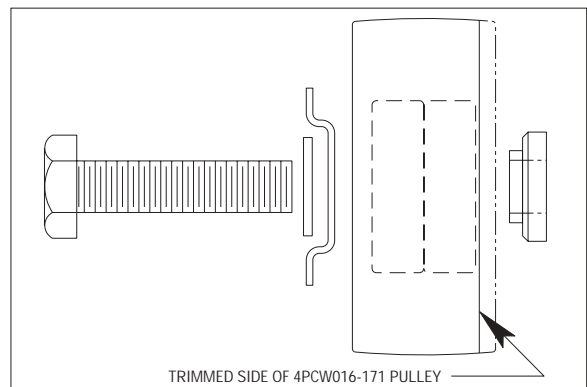


Fig. 3-d

3. MOUNTING BRACKET/SUPERCHARGER INSTALLATION, cont'd

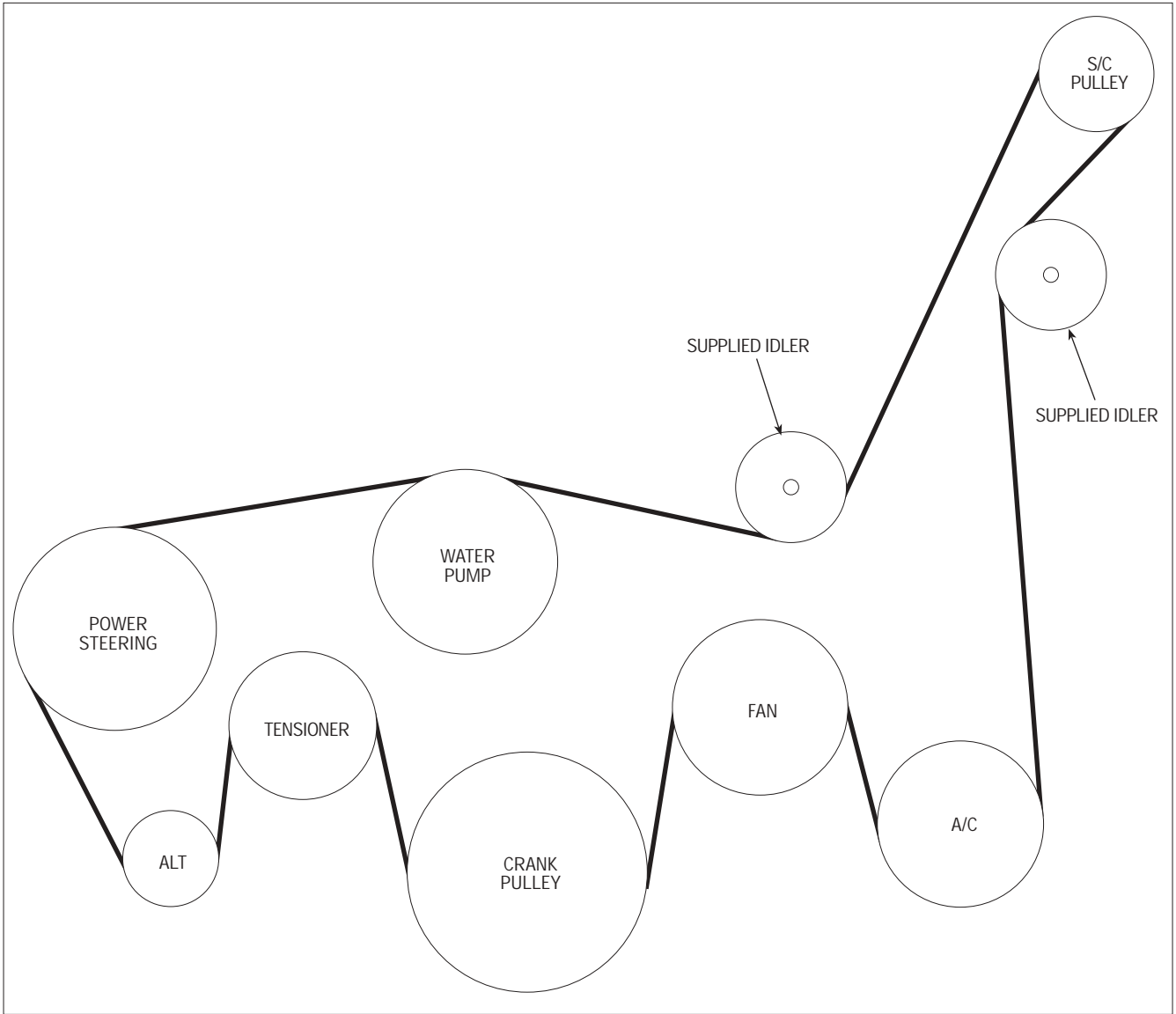


Fig. 3-e | Belt Routing Diagram

4. OIL FEED INSTALLATION

- A. Locate and remove the oil pressure sender from the oil pan. (*Located to the driver's side of the oil filter.*)
- B. In place of the oil pressure sender, install the supplied 1/8"BSPT male to 1/8"NPT female fitting.
- C. Insert the supplied 1/8"NPT street fitting into the 1/8"NPT female section of the installed fitting.

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



Fig. 4-b

- D. Install the factory oil pressure sensor into the end of the street fitting. This positions the sensor so that it is pointing away from the engine block. (See Figs. 4-a, 4-b.)
- E. Install the 1/8"NPT x -4 x 90° fitting into the open hole in the street fitting. Orient the fitting so that it points upward.
- F. Connect one end of the supplied steel braided oil feed hose to the -4 end that is pointing upward and route it up to the open -4 fitting on the supercharger. Tighten both ends of the hose.
- G. Using the supplied adel clamp and 8-32 hardware, secure the oil feed hose to the mounting plate. (See Fig. 4-c.)

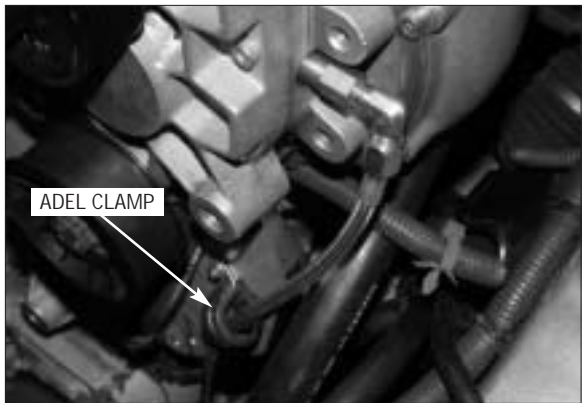


Fig. 4-c

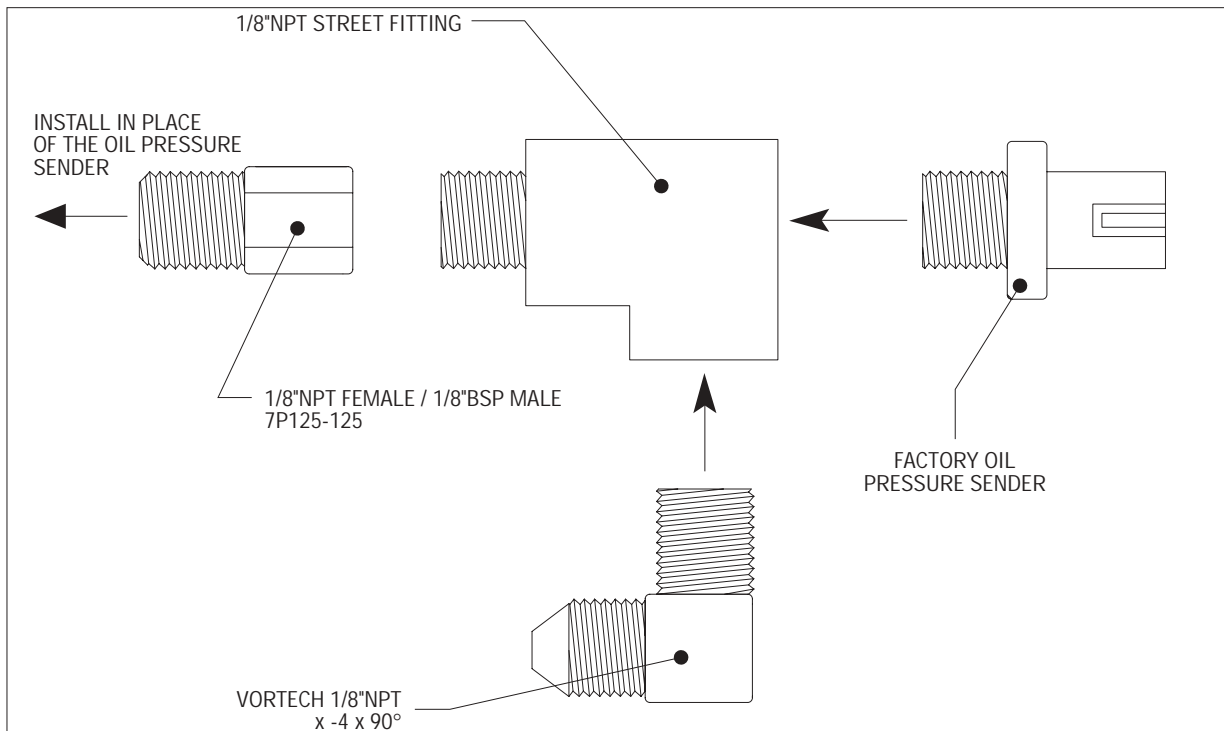


Fig. 4-a

5. INLET DUCT INSTALLATION

- A. Loosen the driver's side plastic splash shield above the front wheel.
- B. Attach the supplied air filter to the long leg of the plastic 90° elbow. Attach a 2" long sleeve to the open end of the elbow and secure with a #56 hose clamp. (See Fig. 5-a.)
- C. Insert the sleeved end through the air intake hole from the inner fender. (This locates the air filter above the driver's side wheel). Attach the inlet bulkhead assembly to the open end of the sleeve and secure with a clamp. (See Fig. 5-b.)
- D. Holding the bulkhead assembly flush against the inner fender, mark and drill four pilot holes and secure with sheet metal screws.
- E. Install the supplied 3/8"NPT x 5/8" barb fitting into the 3-1/2" aluminum inlet elbow. Attach the short end of the inlet elbow to the supercharger inlet using a Ø3-1/2" x 2" sleeve and clamps.
- F. Insert the MAF sensor that was removed in Step 1 into the supplied MAF housing and secure with the factory screws. Attach the MAF to the open end of the supercharger inlet elbow using the 3" long sleeve and clamps. (The arrow on the MAF housing indicates direction of air flow and must be pointed towards the supercharger). Plug in the MAF sensor.
- G. Locate the two factory breather tubes running to the top of the intake manifold from each valve cover. Using the supplied 5/8" TEE, connect the two hoses. Connect the open end of the TEE to the barbed fitting in the inlet elbow with the supplied Ø5/8" hose. (See Fig. 5-c.)
- H. Attach the open end of the MAF to the inlet bulkhead with flex-hose and secure with clamps. (See Fig. 5-d.)



Fig. 5-a



Fig. 5-b

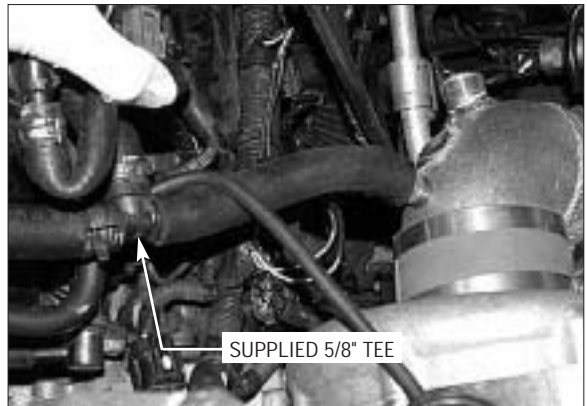


Fig. 5-c



Fig. 5-d

6. COOLANT LINE MODIFICATION

- A. Locate the upper factory radiator hose (Referenced as Hose "A") that connected the plastic thermostat housing to the hard radiator tube removed in Section 1. Using Fig. 6-a, cut 2.5" sections from each end of the hose.
- B. Locate the lower factory radiator hose (Referenced as Hose "B") that connected the lower radiator port to the bottom of the hard radiator tube. Use Fig. 6-b to cut the hose in two places.
- C. Connect the short end of the supplied long L-shaped water tube to the bottom port on the radiator with one of the previously trimmed 2.5" pieces of hose and secure with #20 hose clamps. (See Fig. 6-c.)
- D. Remove the driver's side fan shroud bolt and secure the supplied water tube (with the welded on bracket) using the supplied 6mm x 25mm HXHD and washer. (See Fig. 6-c.)
- E. Using the center 90° section of Hose "A", hose extender, 90° section of Hose "B" and #20 hose clamps, connect the thermostat port to the open end of the installed upper water tube. Make sure to keep the hose away from the fan blades. (See Figs. 6-c, 6-d.)
- F. Use the last 2.5" section of Hose "A" and two #20 hose clamps to connect the two water tubes together. (See Fig. 6-c.)

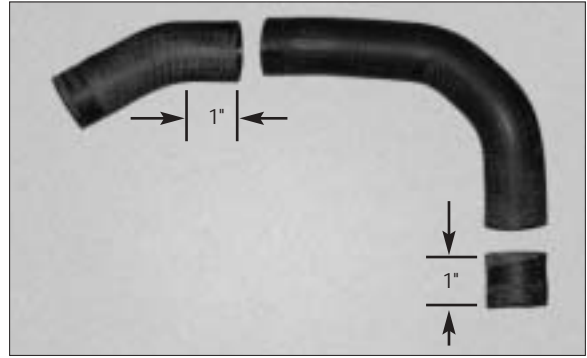


Fig. 6-b



Fig. 6-a | Hose "A"



Fig. 6-c

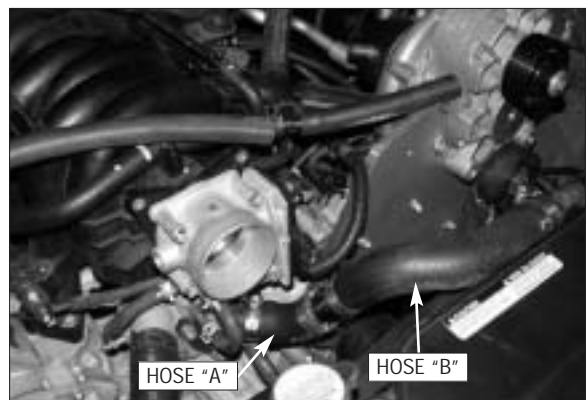


Fig. 6-d

7. CHARGE AIR COOLER (CAC) ASSEMBLY INSTALLATION

NOTE: Make sure all CAC water hoses are routed smoothly and have no kinks or sharp bends.

A. DISCHARGE ASSEMBLY INSTALLATION:

1. Cut a 2" piece off the long end of the supplied $\text{Ø}1.0$ " x 90° hose.
2. Attach the inlet of the bypass valve to the bung on the charge cooler.
3. Trim the long leg of the supplied 90° hose down to 5-1/2" long and attach to the discharge of the bypass valve. (See Fig. 7-a.)
4. Install the 1/2"NPT fittings into the charge air cooler using thread sealant as shown. (See Fig. 7-b.)
5. Use the $\text{Ø}2.75$ " x 3" long sleeve to connect the inlet of the charge cooler to the supercharger discharge.
6. Attach the 90° hose from the bypass valve discharge to the bung on the supercharger inlet elbow. Tighten the #16 hose clamps on all bypass valve connections.
7. Using the $\text{Ø}2.75$ " x 2" long sleeve on the discharge of the charge cooler, connect the 90° discharge tube to the throttle body with the $\text{Ø}3.25$ " x $\text{Ø}2.75$ " x 90° reducer elbow.
8. Position the discharge assembly so that there is no contact with brake lines, inlet duct or the hood and tighten the hose clamps. (See Fig. 7-c.)

B. SURGE TANK INSTALLATION:

1. Install a 3/4" barb x 90° fitting in the bottom of the supplied CAC surge tank. Install a straight fitting in the topmost hole of the plastic CAC surge tank. Using a 2" length of $\text{Ø}3/4$ " hose, connect the straight fitting in the surge tank to the 90° fitting installed into the top of the charge cooler.
2. Secure the surge tank to the bracket on the charge cooler using 1/4-20 x 1/2" long bolts.

C. CHARGE AIR COOLER RADIATOR INSTALLATION:

1. Install two 1/2"NPT x 90° brass fittings into the CAC radiator as shown. (See Fig. 7-d.)
2. Using the supplied hardware, connect the upper bracket to the driver's side of the CAC radiator.
3. Attach the lower bracket to the CAC radiator as shown.



Fig. 7-a



Fig. 7-b



Fig. 7-c

7. CHARGE AIR COOLER (CAC) ASSEMBLY INSTALLATION, cont'd

4. Locate the CAC radiator between the two angled cross members, lining up the two bottom bracket mounting locations. Bend the horn bracket as necessary to provide clearance. (See Fig. 7-d.)
5. Use a supplied sheet metal screw to secure the upper bracket to the core support.
6. Connect a 48" piece of hose to the passenger's side fitting on the CAC radiator. Route the hose around the passenger's side of the radiator and up to the straight fitting installed in the charge cooler.



Fig. 7-d

D. RESERVOIR AND WATER PUMP ASSEMBLY AND INSTALLATION:

1. Attach the water pump to the water reservoir using the supplied adel clamp in the position shown. (See Fig. 7-e.)
2. Cut off the electrical plug on the water pump leaving as much wire connected to the pump as possible. Install the supplied 1/4" eyelet on the water pump ground wire (*brown wire*). Install a male slide connector onto the water pump positive wire (*green wire*).
3. Using thread sealant, install a 1/2"NPT x 90° hose barb fitting into the top and bottom of the supplied plastic reservoir.
4. Connect the pump inlet to the bottom reservoir fitting with the supplied 90° hose.
5. Insert the water reservoir into the supplied bracket and insert into the area behind the driver's side front wheel next to the frame rail.
6. Remove the two factory support screws and re-install to secure the reservoir bracket.
7. Use the supplied adel clamp and hardware to secure the water pump to the trailing edge of the vehicle's bumper. (See Fig. 7-f.)
8. From the engine compartment, route the supplied 3/4" hose from the bottom of the surge tank to the top of the reservoir. (See Fig. 7-h.)
9. Connect a hose running from the water pump discharge to the 90° fitting installed on the driver's side of the CAC radiator.



Fig. 7-e

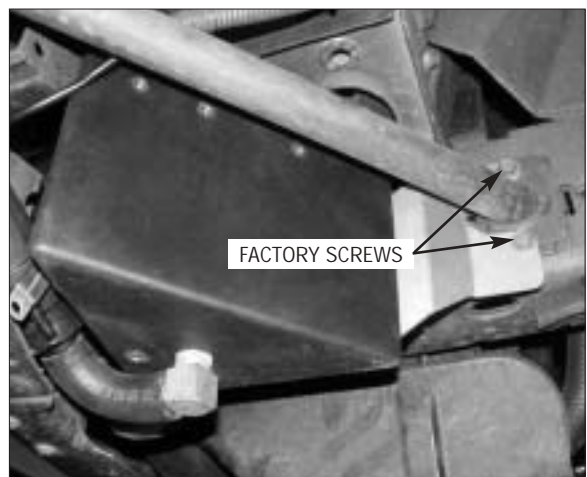


Fig. 7-f

7. CHARGE AIR COOLER (CAC) ASSEMBLY INSTALLATION, cont'd

10. Connect the long black wire to the water pump power wire using a female slide connector. Route the water pump power wire up to and across the cowl below the windshield and secure with zip-ties.
11. Connect the supplied mini fuse tap to the load side of the fuel pump fuse. Attach the black wire to the fuse tap using the supplied female connector. (See Fig. 7-g.)
12. Verify that all hose connections have tightened clamps installed.
13. Remove the cap from the surge tank and slowly fill the system with 25%/75% coolant/water mix.



Fig. 7-G

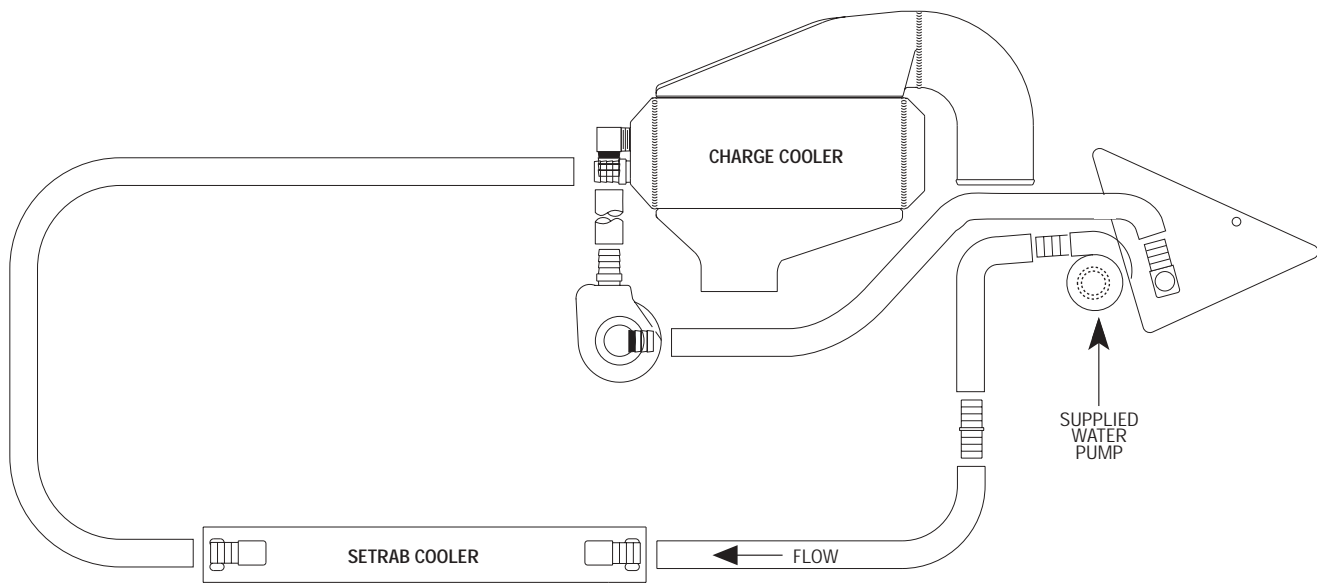


Fig. 7-h

8. PIGGYBACK ENGINE CONTROL UNIT (ECU) INSTALLATION

- A. Install the supplied “piggyback ECU” per the instructions supplied with the unit.

NOTE: *There is no “accessory cable functionality” used with the supercharger kit and it should be removed from the ECU if equipped.*



Fig. 8-a

9. IN-TANK-FUEL PUMP INSTALLATION

NOTE: Making sure that the vehicle has only a small amount of fuel in the tank will make the fuel tank easier to maneuver.

1. Disconnect the fuel lines (including the fuel filler hose) and electrical connector(s) from the fuel tank.
2. Remove the fuel tank from the vehicle. Remove the fuel pump module from the tank by rotating the clamp ring.
3. Remove the factory fuel pump. Install the supplied fuel pump in its place.
4. Re-assemble and install the fuel tank onto the vehicle.



Fig. 9-a

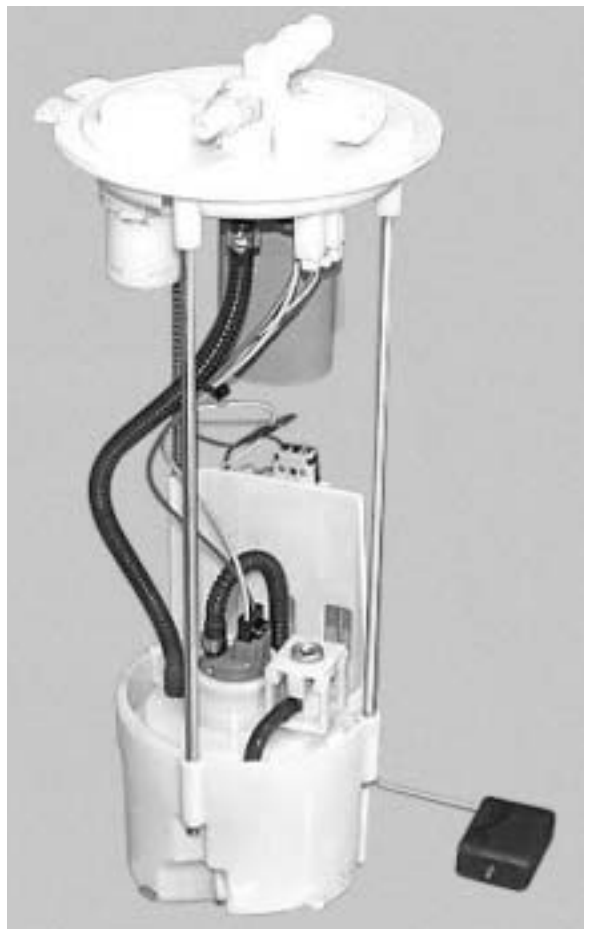


Fig. 9-b

10. FINAL ASSEMBLY AND CHECK

- A. If your vehicle has gone over 20,000 miles since its last spark plug change, it is a good idea to change the spark plugs now, *before* test-driving.
- B. Make sure that oil drain to oil pan fitting is tight and that the engine is filled with factory specified oil.
- C. Make sure radiator and overflow tanks are filled with a 50/50 coolant/water mix.
- D. Make sure that the vehicle is filled with 91 octane or higher fuel before commencing a test drive.
- E. Turn the key ON and OFF several times to build fuel pressure. Check for fuel leaks (*especially around the fuel injectors*).
- F. With the key on, make sure the charge air cooler water pump is operating and that water is flowing through the surge tank. Fill as necessary. If water is not flowing, remove the hose from the bottom of the surge tank and lower until water flows out of hose. This should prime the pump. Reconnect hose, verify water flow and top off surge tank. *Do not run the water pump for extended periods (30 seconds or more) without water flow.*
- G. Check all fittings, nuts, bolts and clamps for tightness.
- H. At this point it is OK to start the vehicle.

WARNING: *Do not attempt to operate the vehicle until ALL components are installed and ALL operations are completed including final check. Failure to do so may cause PREMATURE FAILURE OF MAJOR COMPONENTS.*

WARNING: *OEM exhaust catalytic converter life may be dramatically reduced when the vehicle is subjected to frequent heavy or full throttle operation. Vortech is not responsible for any damage that may occur to these emission control devices.*

- I. Turn off the vehicle and recheck all fluid levels and verify that no hoses, wires, etc. are near exhaust headers or moving parts and that there is no fluid leakage.
- J. Test drive the vehicle by gradually working up to full throttle and paying close attention to any abnormal sounds or engine detonation.
- K. Read the STREET SUPERCHARGER SYSTEM OWNER'S MANUAL AND RETURN THE WARRANTY REGISTRATION FORM within thirty (30) days of purchasing your supercharger system to qualify for the 3-year limited warranty.



Fig. 10-a

WARNING: *Never operate your engine at full throttle when the engine is cold. Always allow plenty of time for the oil to reach full operating temperature before running above 2,500 RPM. Full supercharger operating temperature is generally achieved only after the engine water temperature has been at the normal indicated operating range for two or three minutes.*



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