

Powerdyne Automotive Products Inc.
*Installation Instructions, 1996-1999 (99) Chevy/
GMC Pickup & SUV with the 5.7L Engine.*

This manual is intended for the installation of Powerdyne Supercharger kit, Part Number K10520 on Chevrolet and GMC Pickup and SUV's with the 5.7 liter Vortec motor, model years 1996-1999. It will also fit 1999 SUV's equipped with the same Motor. This kit is designed to be 50 state smog legal and as of the writing of this manual C.A.R.B. (California Air Resources Board) exemption is pending. This kit already complies with EPA memorandum 1A, making it smog legal in 49 states providing your states pollution laws do not supercede EPA memorandum 1A.

It is very important that these instructions be followed exactly. Premium unleaded fuel with an octane rating of 92 or higher must be used with this Supercharger installed at all times. Failure to use the proper fuel may cause detonation (pinging) and cause severe engine damage. Never change the crank Pulley or the Supercharger Pulley as this will void the factory warranty (see warranty document on the preceding page) and may cause severe engine damage.

To help you with the installation, please read the entire step before proceeding with that step.

Only install this kit on an engine with 0 (zero) fuel pressure to avoid fire, injury and possible damage. Make sure that you have a chemical fire extinguisher handy when installing and/or testing any part of the fuel system. **DO NOT** install any part of the fuel system, or break open any fuel lines near to any source of heat or flame such as a water heater or cigarette. If you are not a qualified mechanic do not attempt this installation. Instead take the vehicle to a qualified mechanic. ***If you are unaware of how to properly install compression fittings or the proper way to cut a solid fuel line, take the vehicle to a qualified mechanic for installation of this kit!***

Component Removal:

- A.** Disconnect battery cables from battery.
- B.** Remove fan shroud and fan.
- C.** Remove entire air inlet Assy. including the filter box and the throttle body resonator.
- D.** Remove vent tube from right side valve cover.
- E.** Remove accessory drive belt.
- F.** Remove the tensioner and the idler from the alternator mounting bracket.
- G.** Remove the alternator and it's mounting bracket.
- H.** Remove 3/8" stud form right side cylinder head.
- I.** Drain about 1 gallon of fluid from radiator.
- J.** Remove the rubber and aluminum hose that runs from the water pump to the heater core.

Step 1. Connect the supplied 5/8" x 36" hose in place of the hose removed in step "J" above. The 3/4" heater hose going to the intake manifold from the water pump must now be trimmed 11" and reconnected. See figure 1.

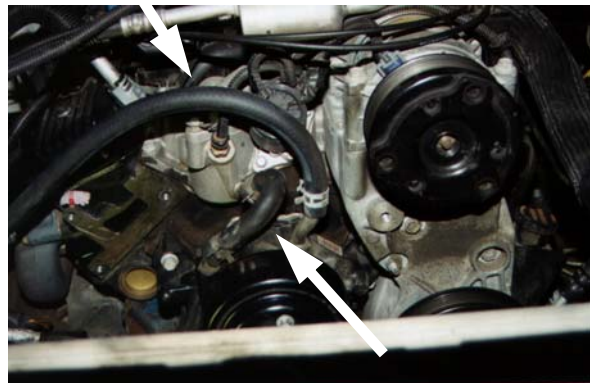


Figure 1.

Step 2. Before installing the Supercharger Mounting Bracket, you must bolt the Assy. together. See Figure 2. You will need the following parts:

- A.** Supercharger Mounting bracket.
- B.** 3/8"-16 x 6" bolts (4)
- C.** 3/8"-16 x 7" bolt. (1)
- D.** 3/8" AN washers. (5)
- E.** 3/8" SAE washers. (2)
- F.** 3/8" nuts. (2)
- G.** 3/4" x 4.465" spacers. (4)
- H.** 3/4" x 2.465" spacers (1)

I. 1/4" washer rear alternator spacers. (2)

J. Engine mounting plate.

K. Smooth idler pulley

L. 8mm x 30mm bolt (1)

M. 5/16 flat washer (1)

N. Accessory tensioner.

Bolt entire Assy. together as shown in figure 2, using the short spacer between the alternator and the engine mounting plate. Use 8mm x 30mm bolt and 5/16 flat washer and secure alternator from rear. Use the 3/8" x 7" bolt to run through the Smooth idler pulley and through the bracket. Install the 3/8" AN washers on the front side of the Supercharger Mounting bracket and the 3/8" SAE washers behind the engine mounting plate on the two top corners using the 3/8" nuts to secure.

See Figure 2 and 2A.

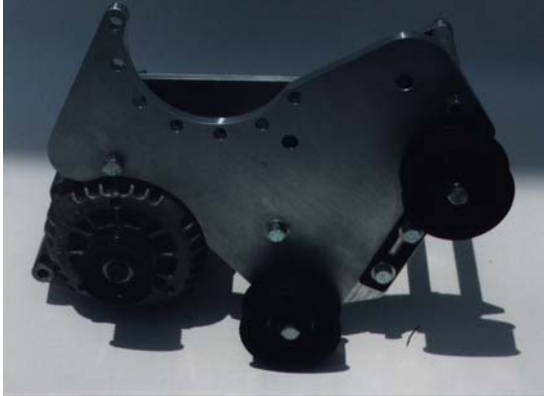


Figure 2.



Figure 2A

Step 3. Install accessory belt tensioner to Supercharger mounting bracket using 3/8-16 x 2 1/2" bolt, (2) SAE washers, split washer and 3/8" nut supplied. Now install entire Assy. to vehicle and tighten all bolts and nuts securely. See Figure 3.

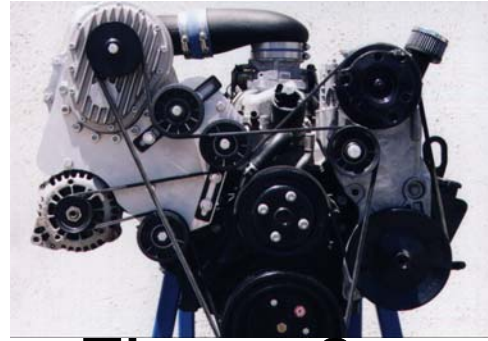


Figure 3.

Step 4. Unbolt the stock crank pulley from balancer. Set the supplied crank pulley spacer in the crank pulley, then set the new supercharger crank pulley on top of the spacer. Using the supplied 3/8-24 x 3" bolts, the supplied 7/16-20 x 4" bolt and the washers provided, along with the stock center bolt washer, reinstall the entire crank pulley Assy. Make sure all bolts are evenly and securely tightened.

Step 5. Attach the provided fan spacer and reinstall the fan. Make sure that both are tight and secure.

Step 6. Install the supplied accessory belt using the diagram shown in Figure 4. (next page)

Step 7. Mount Supercharger to mounting plate using the (7) 3/8-16 x 1" Cap head screws and AN washers supplied. Install ribbed idler pulley, standoff, pulley retainer and 10mm bolt and washer to threaded boss on AC bracket.

Step 8. Install the provided supercharger drive belt using the supplied belt tensioner as per Figure 4A. (Next Page). Make sure the tensioner is installed "long side" down. Tension belt so that you cannot turn the slack side more than 120 degrees with your fingers. (Good and Tight!) Re-install the fan shroud.

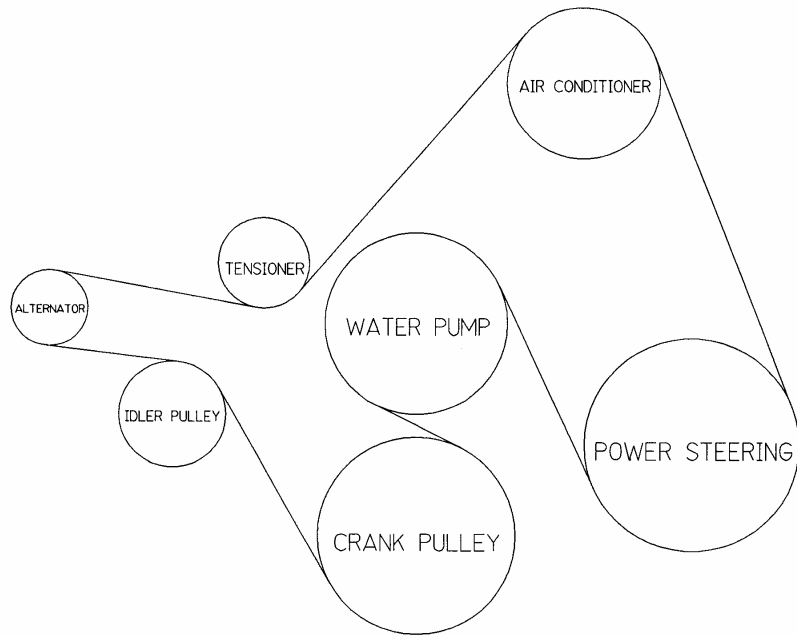


Figure 4

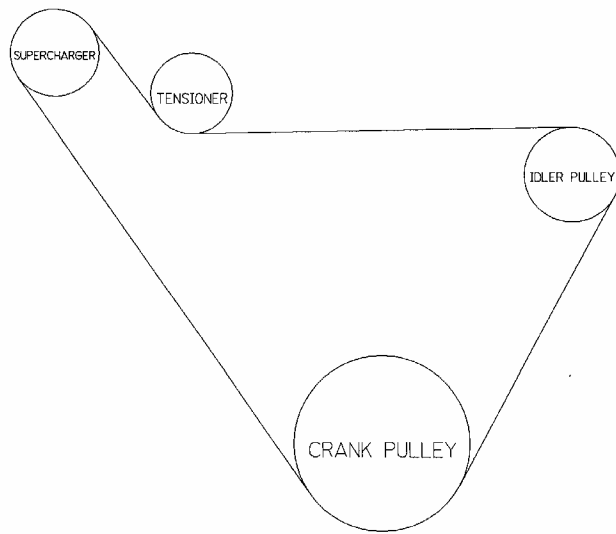


Figure 4A

Step 9. Place Air Filter Housing over the center of the stock air intake hole in the passenger side fender well. Using the flange as a template, mark and drill the mounting holes using a 5/32" drill bit. Secure to fender well using the supplied #10 sheet metal screws. See Figure 5. Attach the MAF sensor to the new filter housing using the supplied 3 1/2" silicone sleeve and #56 hose clamp. Make sure the arrow on the MAF sensor is pointing toward the engine. Connect the supplied 3 1/2" flex hose to the MAF and the other end to the supplied 3 1/2" plastic elbow using the clamps provided. Attach the 3 1/2" plastic elbow to the inlet of the supercharger using the silicone sleeve and clamps provided. Make sure the 1" 90 degree fitting on the plastic elbow is pointed towards the firewall.



Figure 5.

Step 10. Use the provided 3/4" elbow and install in the right side valve cover in the hole left open by the vent tube, removed in Step "D" of the Component Removal section. Attach the provided 3/4" x 17" hose to the elbow and the other end to the 3/4" fitting on the Air Filter Cover flange.

Step 11. Remove the entire throttle body plenum.

Step 12. Attach the Powerdyne discharge tube between the supercharger and the throttle body plenum. Use the provided 3" silicone sleeve and #48 clamps to attach to the supercharger. The throttle body side will use a 3" sleeve as a spacer and a 3 1/2" sleeve over it. Use the provided #56 clamps to secure. Install the factory air temperature sensor and grommet in the hole in the discharge tube and reconnect the factory wire connector. See Figure 6

Step 13. Attach the By-pass Assy. The 1" x 6" hose goes to the plastic 1" fitting on the discharge tube. The 1" by 5" hose goes to the 1" plastic fitting on the intake elbow. Secure with the 4 plastic clamps provided. See figure 6 and the drawing provided.



Figure 6

Step 14. Before installing the FRU to the firewall, attach the 1/4 x 51" fuel lines to the FRU. Place the FRU on the firewall just above the brake booster. Using the FRU bracket as a template, mark and drill the firewall with a 5/32" drill bit. Secure the FRU to the firewall with the (2) #10 sheet metal screws provided. Run the fuel lines down the firewall to the cross member as shown in Figure 7A & 7B. **Make sure** the fuel lines are routed away from any heat source or moving parts!!!. Secure lines with the tie wraps provided. You must cut the stock 5/16" fuel line about 1" from the bend. Install the provided compression fittings to the fuel line. See Figure 7B. **Note: If you are unaware of how to properly install compression fittings or the proper way to cut a solid fuel line, take the vehicle to a qualified mechanic. This is an important step that can lead to fuel leakage, fire and severe damage and/or injury if done incorrectly!!**

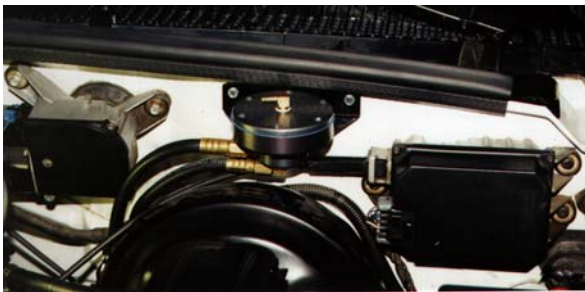


Figure 7A

Step 15. Attach the fuel line from the bottom center of the FRU to the hard line cut in step 15 above, going to the tank. The fuel line coming out of the side of the FRU is connected to the hard line coming down from the fuel rail. Both lines are connected with the compression fittings already installed on the FRU lines. See Figure 7B.



Figure 7B

Step 16. Place the inline fuel pump on the frame rail just below the fuel filter. Using the clamps as a template mark and drill the rail with a 3/16" drill bit. Attach the fuel pump to the frame using the provided screws and rubber mounts. Be sure that the wire terminals on the pump are pointed at the rear of the vehicle. See Figure 8A. You must cut the stock fuel feed line coming out of the filter about 3 1/2" from the fitting. The fuel line coming out of the fuel pump will attach to the cut fuel feed line going to the fuel rail. The line going into the fuel pump will attach to the cut line coming out of the fuel filter. Make sure the lines are secured out of the way and cannot be snagged or cut by road debris. Use the compression fittings supplied to attach to the cut hard line. See Figure 8B (See note at bottom of step 15 concerning compression fittings.)



Figure 8A



Figure 8B

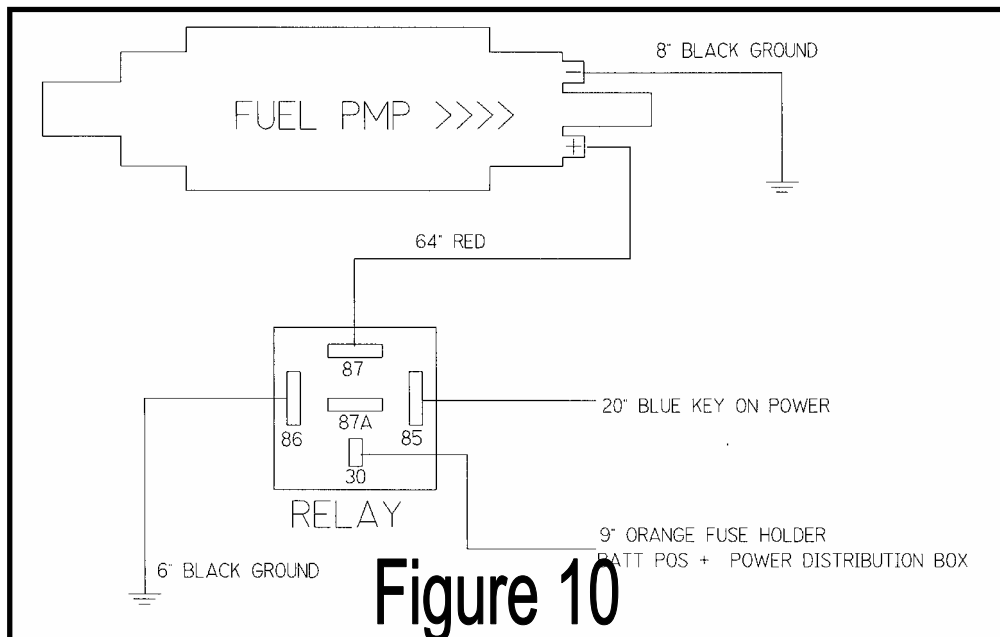
Step 17. Mount the relay provided on the left side fender well adjacent to the fuse box. Use the bracket as a template and mark and drill using a 5/32" drill bit. Secure with the provided #10 sheet metal screw. See Figure 9



Figure 9

Step 18. Wire the relay to run the fuel pump as shown in Figure 10.

Step 19. Remove the 1/2" brake booster vacuum line from the intake manifold. Cut the line Approx. 3" from the intake manifold side and install the provided 1/2" adapter tee. See Figure 11 on the next page. Run the 20" line from the FRU to one side of the 5/32" tee and the 34" line from the bypass valve to the other side of the tee. Use the supplied wire ties to secure the lines away from heat sources or any moving parts. Make sure to leave a little slack on the FRU line to allow for engine torque.



by-pass Valve

FRU

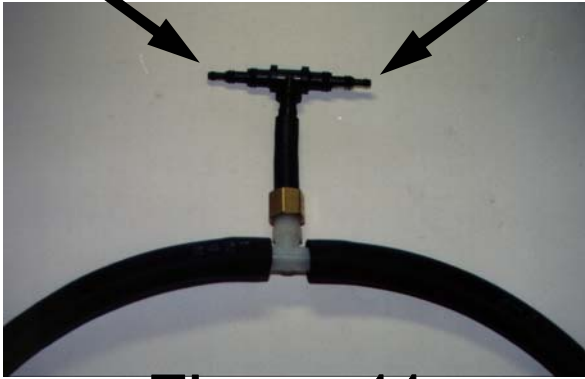


Figure 11

Step 20. Refill the radiator. Re-connect the battery cables. Turn the key to the on position without starting the vehicle. Listen for the in-line pump and make sure it is running. check the pump connectors to make sure there are no fuel leaks. If there is **any** leakage whatsoever, immediately turn the ignition off and fix the problem before proceeding.

Step 21. Turn the engine over a few times without starting it. Check for belt alignment and tension. **Check to make sure** that you tied all lines : Fuel, electrical and vacuum, away from any heat source or moving parts and left room for engine torque where necessary. Start engine and let idle for a few minutes. Shut of engine and re-check for belt alignment and tension. Re-check for fuel leaks.

Step 22. Drive vehicle under boost for a very short period and listen for any sign of pinging. Re-check for fuel leaks. If vehicle pings or has any sign of fuel leakage, correct the condition before driving or starting vehicle.

Suggested add-ons:

While your new Powerdyne Supercharger is designed to work flawlessly with your stock vehicle, many customers ask us what else they can do to their vehicle to even further improve the performance. We would make the following suggestions:

1. A good "Cat-Back" exhaust system will free up your exhaust back pressure and add substantial horsepower. We recommend the Borla stainless steel system.