

FE Power LLC

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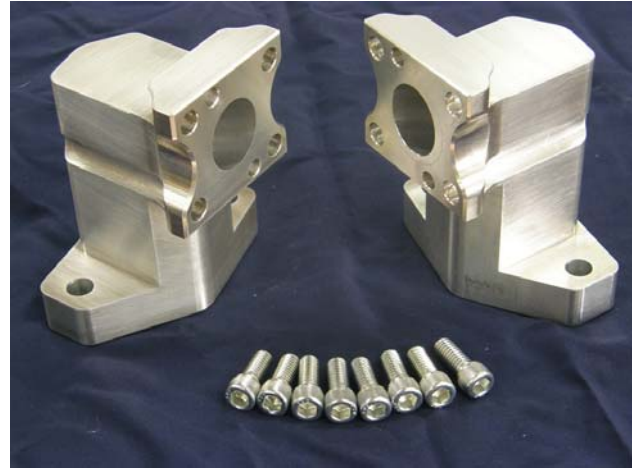
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January 26, 2017

CVR Water Pump Adapters for FE Engines

Thank-you for purchasing this product. These adapters are designed to be used with the universal electric water pump available from CVR Products (www.cvrproducts.com). They allow the CVR Proflo Extreme 55 gpm (gallons per minute) universal electric water pump to bolt onto FE Ford engines. For non-SOHC engines they also replace the factory block to water pump gaskets with O-rings. In addition, versions of these adapters are available that allow the use of factory alternator and power steering pump brackets for mounting these accessories on the engine.



Part #12001

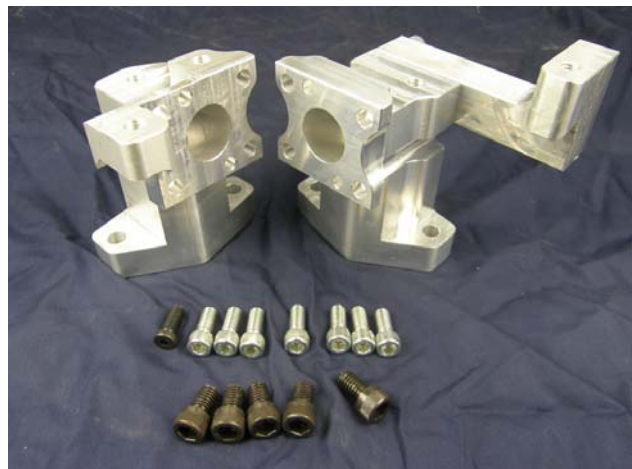
The CVR pump and the inlet tube for the pump are not included with these adapters; they must be purchased separately. They are available directly from CVR, from Summit Racing, and probably from other distributors as well. The following electric pumps will work with these adapters:



Part #12002

CVR Part Number	Summit Racing Part Number	Anodized Finish
8000BK	CVS-8000BK	Black
8000BL	CVS-8000BL	Blue
8000CL	CVS-8000CL	Clear
8000R	CVS-8000R	Red

The water pump inlet tube and lower radiator hose selected for the pump will depend on the radiator configuration. Here are some of the options:



Part #12003

1. A standard FE engine with the lower radiator hose on the left side of the vehicle will require one of the short inlet tubes to clear the fuel pump mount on the timing cover; these are CVR part numbers 8150TBK, 8150TBL, 8150TCL, and 8150TR. These tubes are smaller in diameter than the factory water pump outlet, and not in the same position, so a custom lower radiator hose will be required. A flexible hose can be used, or molded hoses can be modified to fit. Here are some potential molded hose candidates:

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- A Dayco 70782 hose (available from Summit Racing), with about 6” cut off the water pump end, may fit with a stock type radiator. This hose may not work with a power steering pump belt. See Photo 1 at the end of the instruction sheet.

- A Gates 21851 hose with about 2 ½” cut off the curved end will get the hose from the CVR pump out past the fuel pump mounting boss on the timing cover. From there a steel exhaust adapter can be used to splice another hose in place going to the radiator. See Photo 2 at the end of the instruction sheet.

SOHC engines, or engines that use the FE Power #14002 timing cover, can use either a short or a long inlet tube, because the fuel pump mount on the timing cover is not in the way of the inlet.

2. For a radiator with the outlet on the right (passenger) side, such as a dual pass radiator, the inlet tube of the water pump can be mounted in the hole on the right side of the pump, and the left side hole plugged. In this case a long inlet tube for the water pump can be used, such as the CVR 8150LCL or 8175LCL. Again, a custom lower radiator hose will be required.

3. CVR also offers a #16 AN fitting that allows using a #16 AN line as the lower radiator hose. Note that in order to use these fittings on the left (driver’s) side and clear the factory fuel pump mounting boss on the FE timing cover, a 45 degree #16 hose end must be used with the fitting.

The FE Power part numbers for the CVR water pump adapters and hardware are given below:

Part Number	Description
12001	Pair, machined finish, includes 8 mounting bolts and 2 O-rings, not for use with the factory alternator or power steering pump brackets.
12002	Pair, machined finish, includes 11 mounting bolts and 2 O-rings, for use with factory alternator brackets but not for use with factory power steering pump bracket.
12003	Pair, machined finish, includes 13 mounting bolts and 2 O-rings, for use with factory alternator brackets and factory power steering pump bracket.
12004	Pair for 427 SOHC engines, machined finish, includes 11 mounting bolts, for use with factory alternator brackets. These brackets do not include O-ring grooves.

Installation Instructions:

1. Using the 8 supplied Allen head cap screws, mount the adapters to the CVR pump. It's a good idea to use a thin coat of silicone sealer on the adapter's mating surface, and some blue Loctite on the threads of the cap screws. (Note for parts 12002, 12003 and 12004: One of the Allen head cap screws included has a shorter head, and it came tie wrapped in place on the right side adapter. This cap screw must stay in this location; screws with taller heads will interfere with the factory alternator bracket.)
2. Install the inlet tube on the CVR pump on the side that you need it, and plug the other inlet opening with the plug CVR provides with the pump.
3. Remove the stock water pump from the engine. Clean the water pump mounting surface on the block. Remove all traces of gaskets and sealer, and go over the sealing area with some fine sandpaper or a Scotchbrite pad to smooth out the surface. If there are deep pits in this surface, the O-rings may not seal; in this case normal gaskets and sealer will have to be used. Remove the O-rings if you must use gaskets.
4. Plug the small water bypass tube that goes from the intake manifold to the factory water pump. If this tube is threaded into the intake manifold, it can be unscrewed and plugged with a pipe plug. If it is pressed in, in some cases the tube can be removed; it can be plugged with a small diameter frost plug, or the hole in the manifold can be tapped and plugged with a pipe plug. Alternatively, a short length of 5/8" heater hose can be pushed onto the tube, a short piece of 5/8" diameter metal bar can be installed into the end of the heater hose, and the assembly clamped with hose clamps. (Note: With the bypass tube plugged, there will be no water circulation in the engine until the thermostat opens. If it is desired to maintain some water flow through the engine even when the thermostat is closed, a 1/8" hole can be drilled in the thermostat's outer ring, so water can bypass the thermostat and flow through the cooling system. If you position this hole at 12 o'clock when you install the thermostat, air can escape the engine while it is being filled, eliminating air pockets in the cooling system.)
5. Make sure the O-rings are properly installed in the grooves of the adapters, and bolt the CVR water pump assembly onto the engine using four 3/8-16 1" long or 1.25" long bolts (not included). Make sure that you use sealer on the threads of the lower right (passenger side) bolt, since this bolt is threaded into the engine's water jacket. If the block surface is pitted, you may also want to use a thin coat of silicone sealer on the block prior to installing the pump.
6. Fill the cooling system with water and check for leaks.

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7. If you will be using the factory alternator brackets, take the factory bracket and trim it to remove the notch as shown in Figure 1. Figure 1 from this instruction sheet can be cut out and used as a template to locate the notch on the bracket. Once the notch is removed, bolt the bracket onto the right side water pump adapter with the supplied 3/8-16 1/2" Allen head bolts. Also, bolt the factory alternator adjustment arm onto the right side adapter with the third 3/8-16 1/2" Allen head bolt; see Photo 3. Install a belt between the crank pulley and the alternator; the belt shown in Figure 4 is Napa number 25-7385. This belt is 39 1/8" long.
8. If you will be using the factory power steering pump bracket, install the bracket on the left side adapter with the supplied 3/8-16 1/2" Allen head bolts; See Photo 4. A stock power steering belt can be used, or Napa number 25-7410 will also work. This belt is 41 5/8" long.

Good luck on the installation, and thanks again for purchasing this product!



Photo 1 – Modified Dayco 70782 hose installed on CVR Pump

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Photo 2 – Modified Gates 21851 hose installed on CVR Pump

Cut this notch
out of the factory
alternator bracket



Figure 1 – Modification to Factory Alternator Bracket

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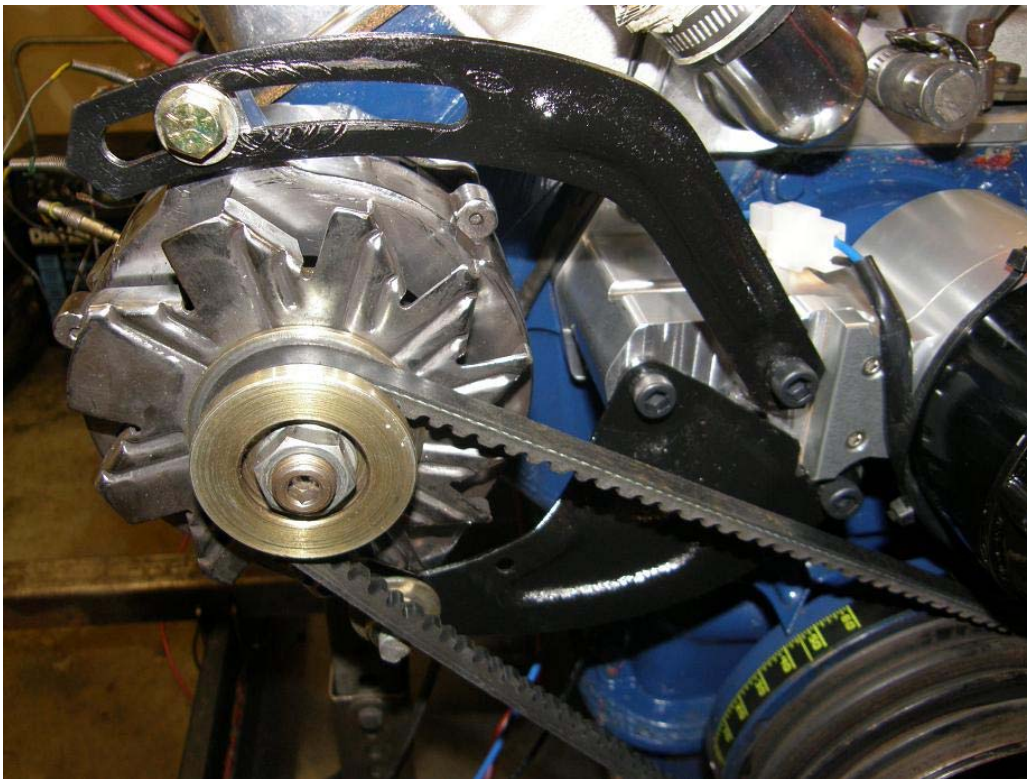


Photo 3 – Factory Alternator Brackets Installed

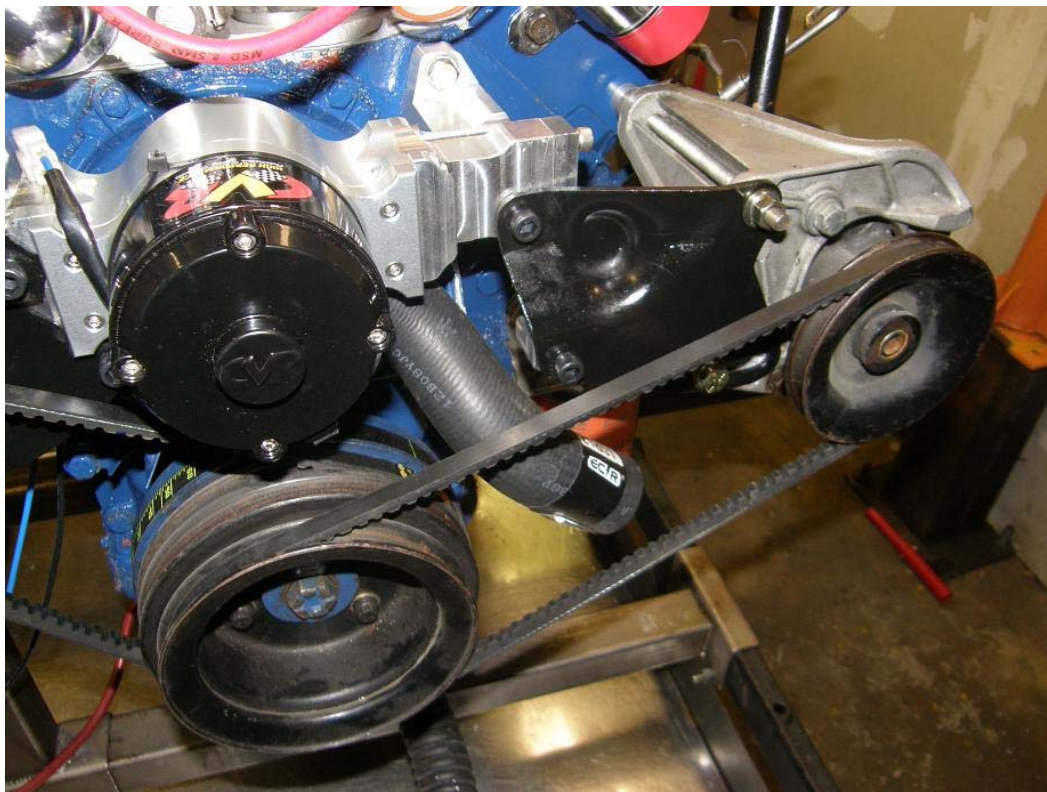


Photo 4 – Factory Power Steering Pump Bracket Installed