

Power steering pump modifications for your LS engine swap

Here's how to convert a Saginaw Type II (or TC) power steering pump from an attached reservoir to a remote reservoir.

This conversion may be necessary if you're using our Kwik Performance driver's side bracket kit. Why do you need our bracket kit at all? Most likely for three reasons:

1. You have a Camaro, Firebird, or GTO engine with the alternator down low and the power steering pump up top. Your LS1 or LS6 engine swap project may have clearance issues with a steering box or you may not like the idea of power steering fluid leaking down and frying your alternator. The Kwik kit puts the alternator up top and the pump down low—like the Corvette position.
2. You have a truck/SUV engine and the alternator is too high, maybe causing hood clearance issues.
3. You have an LS1, LS2, LS6, LS7 or other crate engine or a swap meet engine with no brackets at all. You can run our driver's side bracket by itself or you can team it up with our air conditioning compressor re-location bracket kit. Either one works alone or in tandem.



If you're using a F-body engine and you have the original power steering pump, all you have to do is remove the plastic reservoir by driving off two spring clips and giving the reservoir a good tug. You'll see a plastic sleeve that may come off with the reservoir or may stay in the pump. The sleeve may also have an o-ring. Pull out the sleeve and you'll be ready for the instructions below.

If you're using a truck or SUV engine, 4.8, 5.3 or 6.0, you'll most likely have a Type I (or P) style pump. This is the older Saginaw pump design with an attached metal reservoir. In this case, you have to track down a Type II or TC pump. Almost any GM car from the late '80s on will be a donor candidate.

Here's one from a Pontiac Montana van for example:



And here's one that looks completely different because of the attached plastic reservoir but the pump body is identical. This one is from a 2005 GMC Envoy (same as Chevy Trailblazer):

You can also find good deals on remanufactured units at your local parts store. For example, if you ask for a pump for a 1990 Chevy Celebrity with a 2.5L engine, your local NAPA store will probably charge you around \$65 plus a \$5 core charge. If you ask for a 2000 Cavalier, you'll get what appears to be the same pump but you'll pay about \$75 plus a \$55 core charge. I'm sure there are minor pressure and output differences but not enough to matter in most street driven vehicles.



Oh, and there's usually a supplier or two on eBay offering remanufactured units for even less and with no core charge. (Usual disclaimer about checking feedback ratings, etc. before doing business with eBay members).

OK, here's one way to set up a remote reservoir. We're going to use factory GM parts from a late Corvette. If you want to buy them new, here are the GM part numbers:

- Reservoir 26046502
- Bracket 12555222
- Return tube 26006074

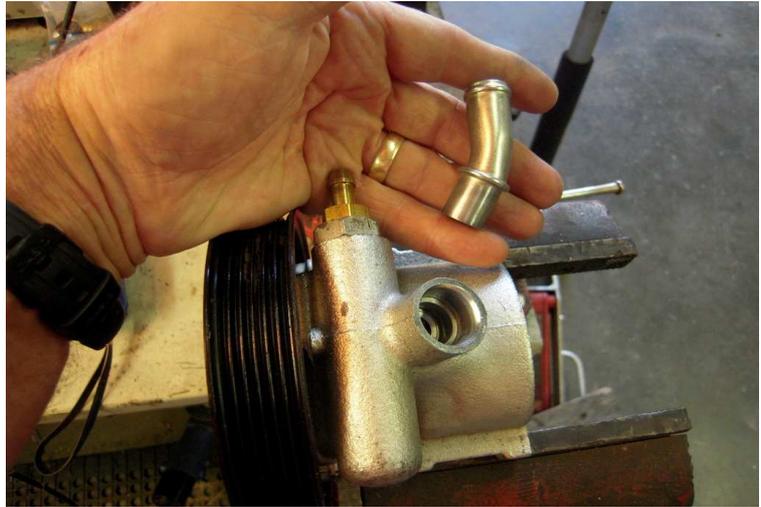
The photos below show how to install the return tube. When you first look at the return opening on the pump, the place where the reservoir used to connect, you may think that the new return

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tube you just paid about \$30 for, won't fit. That's because the hole in the pump has a step. The outer diameter is about .75" and the inner, stepped diameter is the .625" that matches the new return tube.

The return tube will be a press fit. The simplest way I found to do the job is to lube up the end of the tube, hold it in place, slide a 5/8" open end wrench over the tube just above one of the beads, and then tap gently on the wrench with a hammer. Keep moving the wrench around the tube as you hammer to keep the tube going in straight.



Next, bolt on the GM bracket using the two upper/inner bolts that hold the Kwik bracket to the cylinder head. After that, just slide the reservoir down over the spring tabs on the bracket.



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Here's what it looks like with the reservoir in place:

Now, you'll see two tubes sticking out the bottom of the reservoir. One is a small tube where the fluid returns to the reservoir from the steering box. The other is a larger, 5/8" tube that points down and back. Here's where you attach a feed hose from the reservoir down to the pump. This is a non-pressure hose but does need to be an oil-resistant type of hose (no heater hose here).

OK, that one way to do it. A second way, slightly more complicated, involves tapping the power steering pump for a threaded fitting so you can run stainless braided hose or other hydraulic hose with threaded fittings.

And, if you're working with a larger budget, a third way is to source an aftermarket pump that's already equipped with a threaded fitting. These pumps are often used in racing or off-road applications. Check Summit Racing or Jeg's for more info.

