



Ecotecmiata Power Steering Manual

This kit allows you to retain your Miata's power steering with an Ecotec engine. It is designed to use the power steering pump and bracket from an Ecotec engine, and mates it to the Miata steering rack and reservoir. All of the original Miata hard lines on the steering rack are retained. It uses the standard Ecotec alternator and accessory belt tensioner. All of the hardware to mount the bracket to the engine, the pump to the bracket, and the alternator to the bracket are included.

Kit Components

The kit includes a bracket designed to support the upper radiator hose at it passes over top of the power steering pump pulley. This prevents the hose from sagging and making contact with the belt. Note: Early L61 engines will use only one of the two bolts on this bracket. Later engines and all 2.4L versions use both.

Major Kit Components:

- High pressure Teflon lined braided stainless steel hose
- Rubber suction and return hoses
- Hose clamps
- NA or NB specific adapter fittings
- Upper radiator hose support bracket
- All required hardware

Minor Kit Components:

- 2x M8x90 bracket to block
- 1x M8x60 bracket to block
- 3x M8x100 alternator to bracket
- 3x M8x35 P/S pump to bracket
- 2x M8x20 hose support bracket to head
- 11x 8mm washers

Optional Components:

- 5 rib accessory drive belt

Items not included:

- Ecotec power steering pump with pulley
- Ecotec power steering pump bracket

The required pump and bracket can be sourced from the 2011-2013 Buick Regal. We've included the part numbers for the pump, bracket, and pulley. Generally if you purchase the pump used it will include the pulley. If you purchase a new pump it will come without a pulley.

Bracket 12628024

Pump 13309277

Pulley 12605176

Note:

The pulley used with this pump and bracket has 6 belt ribs. The normal Ecotec engine uses a belt with only 5 ribs. This is not an issue. Install the belt on the rear most grooves of the pulley, leaving one empty groove at the front. Alternatively, you can install the 6 rib crank pulley, 6 rib alternator, and 6 rib belt tensioner all from the 2011-2013 Buick Regal. This is, however, not required. Our kit optionally includes a 5 rib belt, not a 6 rib belt. If you intend to add our air conditioning kit in the future, you may want to switch over to the 6 rib setup. Again, this is not required.

Step 1 - Remove Alternator

If your engine has some studs holding the alternator on, remove and discard them. The kit comes with new alternator bolts.

Step 2 -Test Fit

Loosely test fit the bracket and alternator in place. There are several variations of alternator. Some alternators may require the Miata frame rail lip to be removed for clearance. Alternatively, you can have the mounting pads of the bracket machined down for the needed clearance. In some rare cases you may need to do both.

Step 3 - Install the bracket

Once you have enough clearance, install the bracket to the block. Then slide the alternator in and fasten it to the bracket.

Step 4 - Mount the power steering pump to the bracket.

Step 5 - Relocate Miata Power Steering Reservoir

The Miata power steering reservoir will need to be relocated. The kit provides enough hose to move the reservoir to the right side frame rail. Trim the hoses to a suitable length and use the provided clamps to tighten them down. The larger hose is the supply to the pump, the smaller hose is for the return from the steering rack.

Step 6 - Install High Pressure Hose

The kit includes two metric thread adapter fittings. You will need to remove the high pressure hose from your steering rack if you haven't already done so. One of the adapters included will thread into the high pressure port on the steering rack. Use the included crush washer to seal this fitting to the rack. The other fitting will thread into the pump, again with a crush washer to seal it. Install the provided high

pressure hose with the 45 degree end at the steering rack, and the 90 degree end at the pump. The hose should fit best with the 90 degree fitting pointing towards the rear of the engine bay. The hose should go around the back side of the alternator, not between it and the frame rail. Adjust the hose as required so that it doesn't rub through any wiring.

Step 7 - Fill the Reservoir

Fill the reservoir with power steering fluid, cycle the steering rack from lock to lock several times. As you do this the level in the reservoir will drop. Continue to top it up until no more air pockets are left in the steering rack. Start the engine, and monitor the fluid level in the reservoir. Adjust as necessary.