

## **GX470 Power Steering Cooler Kit Install Guide**

### **Introduction**

It is recommended that a licensed mechanic install the cooling kit. Some specialty tools are recommended or required. However, if you are willing and able to tackle this project, there will be a list of recommended or required tools with SKUs from Harbor Freight.

### **Parts**

- (1) pc Heat Sink
- (2) pcs ½" NPT to ⅜" Hose Barb Fitting
- (2) pcs ⅜" hose
- (4) Hose clamps
- (2) Self Tapping Screws

### **Tools**

- 10mm socket and ratchet
- Box Knife
- Pliers
- Assortment of Metric open-end wrenches SKU (95552)
- Diagonal Cutters SKU (63816)
- Transfer Pump SKU (63144)
- Oil Catch Can
- Rags
- Brake Clean
- Marker
- Drill or Impact Gun with Phillips #2
- Adjustable Wrench
- Small Funnel
- Flat head or 5/16" Socket
- Floor Rack Recommended

### **Fluids**

- Cooler Kit ONLY - **2** quarts Automatic transmission fluid DEXRON® II or III
- Rack and Pinion and Cooler Kit - **3** quarts Automatic transmission fluid DEXRON® II or III

## Removing Bumper Cover

- Pop the hood and begin removing the press-clips with flat head screwdriver and remove plastic shielding.
- Remove (3) screw clips that hold the top of the bumper cover to the bumper with Philips's screwdriver.
- Remove (3) 10mm bolts from the bottom of the bumper cover that hold the air dams.
- Disconnect the connector from the fog lights.
- Remove (1) 10mm screw that holds in the fog light.
- Squeeze the clip that holds the fog light with pliers or fingers while simultaneously pushing the light out.
- Remove (3) 10mm bolts that are in both fender wells.
- Begin pulling the corner of the bumper cover where it meets the fender. (This requires a significant amount of force. Be careful when pulling bumper cover)

## Location of Return Line



The PS return line is the hardline that is bolted to the radiator support.

## Draining Lines

If this product is being installed along with the Heavy-Duty Steering Rack, it is best to drain all fluids while removing the R&P first. We recommend using Transfer Pump SKU (63144), oil catch can, rags, and brake clean. Soapy water and a hose could also be used to clean, making sure to not directly spray connectors or electronics.

- Remove fluid from the PS Reservoir.
- Place catch can under the work area.
- Disconnect the clip that is circled in red above. **Make sure to disconnect the DRIVERS side first, as to drain the most amount of fluid from the hardline.**
- Using pliers, begin to lift the hose from the hardline. This can be difficult to do but take it slowly to mitigate bending the hardline. Alternatively, you can slice the hose if it is too difficult to remove.

## Removing Stock Return Line

- Remove the passengers side clip that is mirror opposite to the one circled in red. Make sure that the catch can is underneath the work area.
- Unbolt the (2) 10mm bolts that are fastening the hardline to the vehicle.

## Mount PS Cooler

The cooler can be mounted anywhere inside this space that you can find. Our instructions are guidelines for OEM bumpers. But if space is limited because of aftermarket bumpers, feel free to get creative.

- Place the heat sink up against the radiator support and center the heat sink.
- Mark the holes for the heat sink.
- Remove heat sink.
- Start the self-tapping screw on both marks (This is just to create the pilot hole)
- Install the hose barbs onto the heat sink, tighten with an adjustable wrench until snug.
- Place the heat sink back and fasten using the (2) self-tapping screws.

## Install Hose

- Begin pressing the hose onto the hose barb until fully seated.
- Press the other side of the hose onto the hardline of the vehicle making sure to fully seat to the original depth.
- Unscrew the (4) hose clamps fully and begin install them around the two hose barbs and two hardlines until snug.

## **Filling and Bleeding Fluid**

Check your work before refilling the PS Reservoir.

- Jack up front end enough to lift the tires off the floor.
- Remove the cap and place funnel onto reservoir.
- Fill the Reservoir with ATF DEXRON® II or III to the fill line. Leave the funnel on the reservoir.
- Turn on the vehicle and check level in the reservoir. Keep the reservoir full to the max line.
- Once the fluid is not pulled into the system as quickly, begin turning the steering wheel lock to lock.
- After a few turns check fluid level and refill if necessary. The fluid should be quickly consumed into the system.
- A good indicator to refill is the loudness of the PS Pump.
- Repeat these steps. Going lock to lock for roughly 40-50 turns.
- Cavitation of the fluid can occur and overflow the reservoir, especially if the vehicle is turned off during the bleeding process. Therefore, we keep the funnel in place to catch potential overflow.
- Roughly 1.5 quarts should be consumed if only the Cooler Kit is being installed. Roughly 2 quarts should be consumed if the R&P is also being replaced.
- Recap the reservoir and drive the car normally. Check the PS Fluid level and top it off if necessary.

From here you can reverse the steps to install the bumper and air dams back onto the vehicle.

We hope you enjoy your product, and as always if you have any questions, please contact us at [info@toy-steering.com](mailto:info@toy-steering.com).