

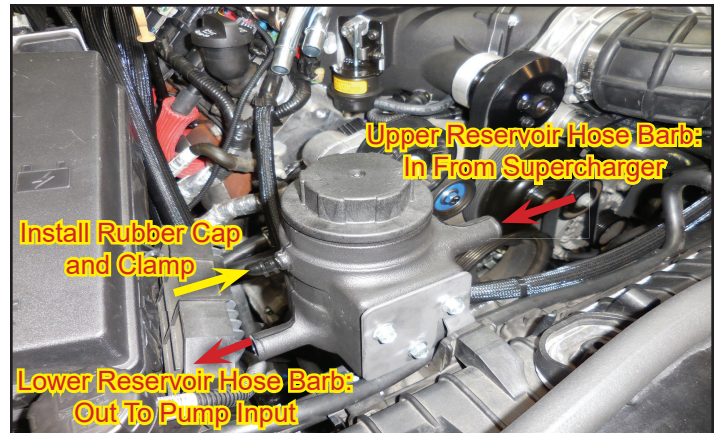
MAGNUSON

SUPERCHARGERS

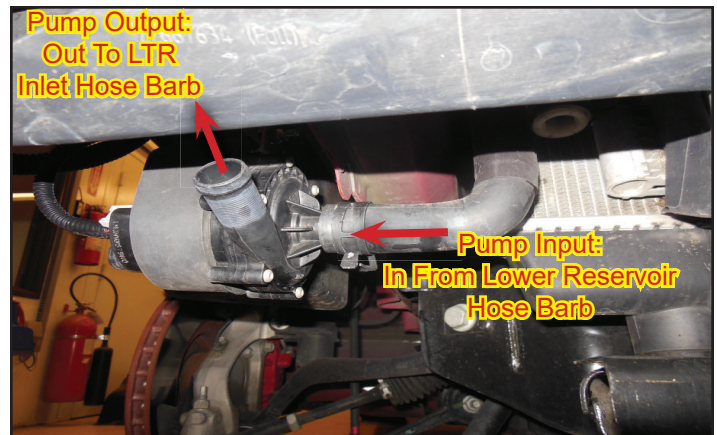
Hot Rod Universal Cooling System Installation (Part#s 31-99-07-005, 31-99-07-007, and 31-99-07-009)

The following steps have been extracted from other installation manuals to help you with this universal application.

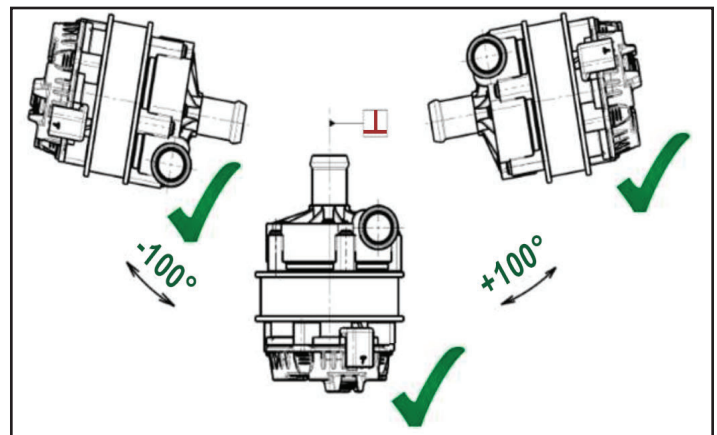
1. Secure the provided reservoir in a location where it will be the highest point in the intercooler system using the provided bracket. **Use the provided rubber cap, and clamp to seal the optional overflow location (shown at yellow arrow).** Connect the provided 3/4" hose to the end of the lower hose barb and secure with one of the provided hose clamps. All 3/4" hose connections will take one of these hose clamps. Use the provided polyester mesh sleeve to protect hoses where necessary.



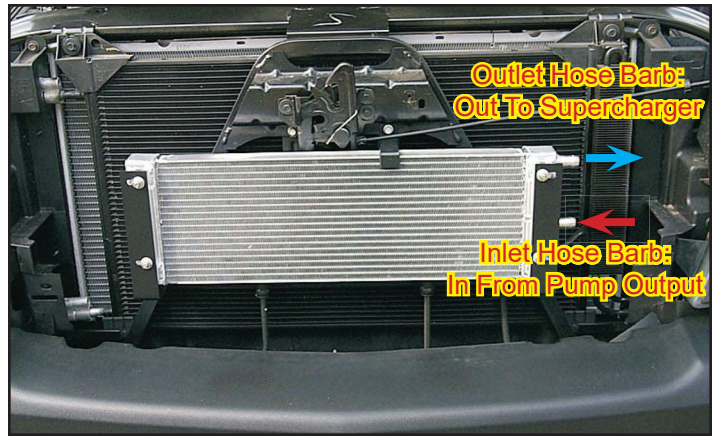
2. An adele clamp can be used as a simple solution to mount the provided pump. Secure the provided intercooler pump in a location where it is the lowest point in the intercooler system. The pump has a smart shut off feature when there is air in the system which must be avoided. The pump can be positioned in the range shown in the next step.



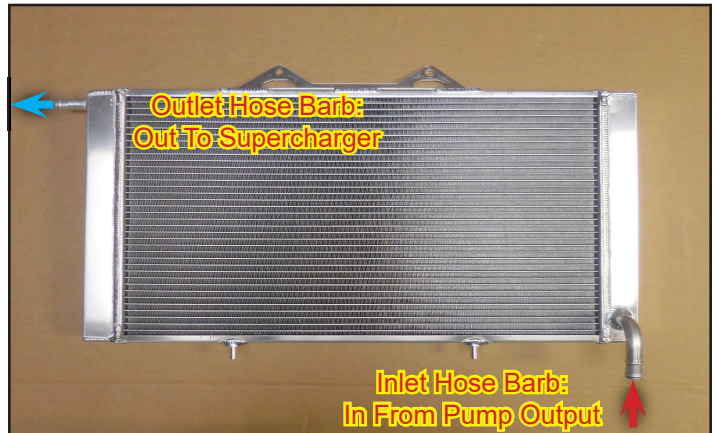
3. The pump can only be oriented within +/- 100° of the inlet facing straight up and perpendicular to the ground (center position of this drawing).



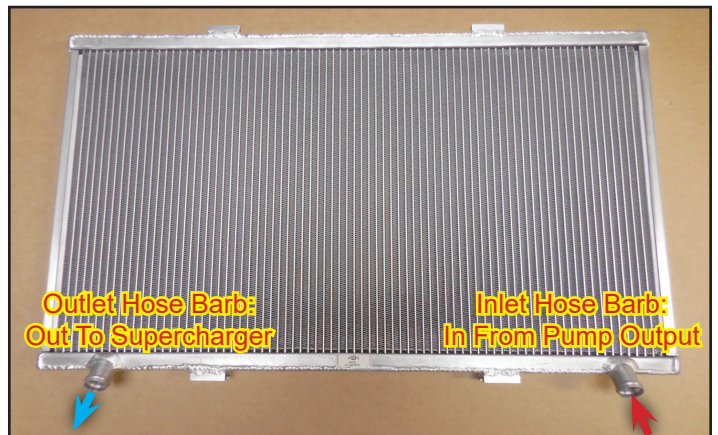
4. Secure the low temperature radiator (LTR) in front of your vehicles radiator. The mounting locations will vary depending on the LTR that you have chosen. If your LTR looks like the one shown you will orient it with the hose barbs to the side. The upper hose barb connects to the supercharger and the lower one will be connected to the output of the intercooler pump.



5. If you have an LTR like the one shown, orient the hose barbs as shown. Also connect the lower hose barb to the pump output, and the upper hose barb to the supercharger.



6. If your LTR looks like the one shown, you can mount it with the hose barbs facing up or down. If the hose barbs are facing down you will need to bleed air from the system at the arrow location shown below. You could also install a barbed fitting here to run a hose to the reservoir nipple that was capped in the first step.



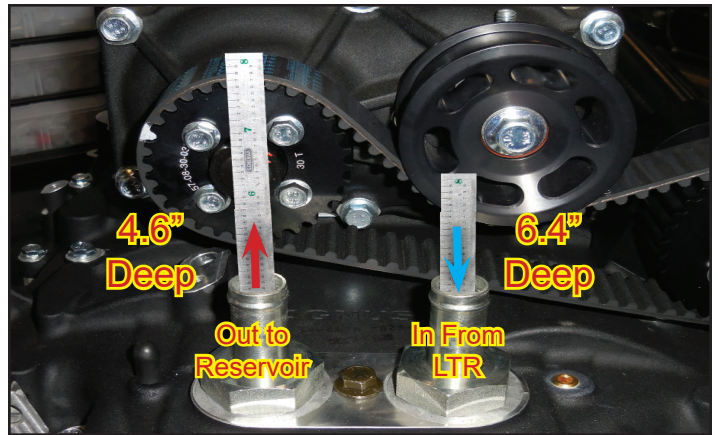
7. If you have a Magnum supercharger like the one shown you will need to take the single hose from the LTR and split it into two hoses with a provided Y-union, and connect them to the lower inboard hose barbs on the supercharger at the arrow locations.



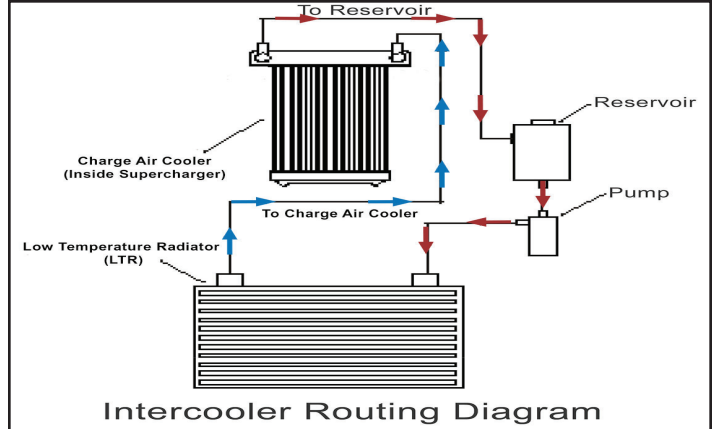
8. Connect two hoses to the upper outer hose barbs. These two hoses will get connected to a provided Y-union to reduce them down to a single hose. That single hose will go to the upper hose barb on the reservoir shown in step #1.



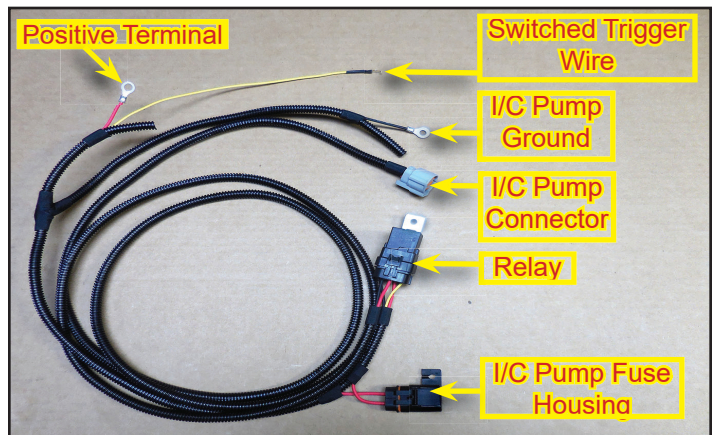
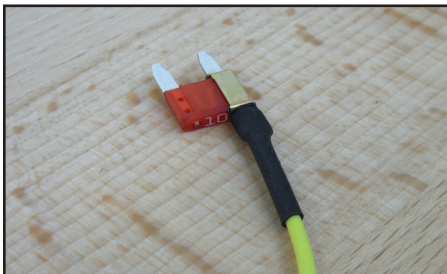
9. If you have a supercharger with rear coolant connections use an 8" or longer ruler to measure the internal hose barb depth. **Place the hose from the LTR onto the hose barb with the deepest internal measurement.** Use the provided 90° hoses as shown in the photo below with polyester mesh. Trim the shorter ends of the hose for better clearance.



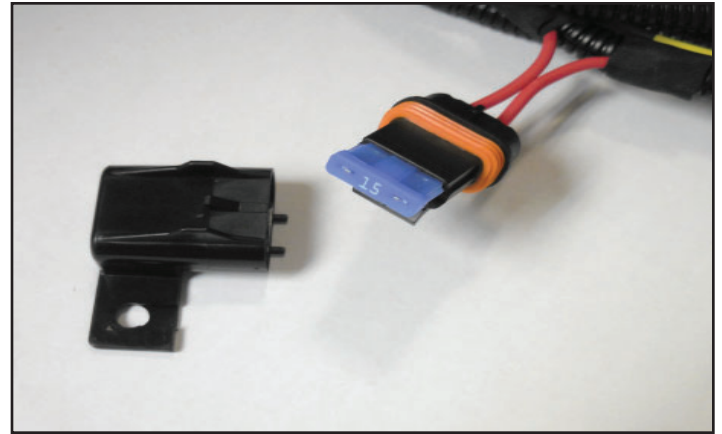
10. At this point you should have a complete circuit for the fluid. Here is a simplified diagram of the basic system.



11. Connect the intercooler pump wiring assembly using the diagram shown. The relay and fuse holder will need to be mounted to a secure location. The switched trigger wire shown below can be connected to a mini fuse at the appropriate switched power location in your fuse box.

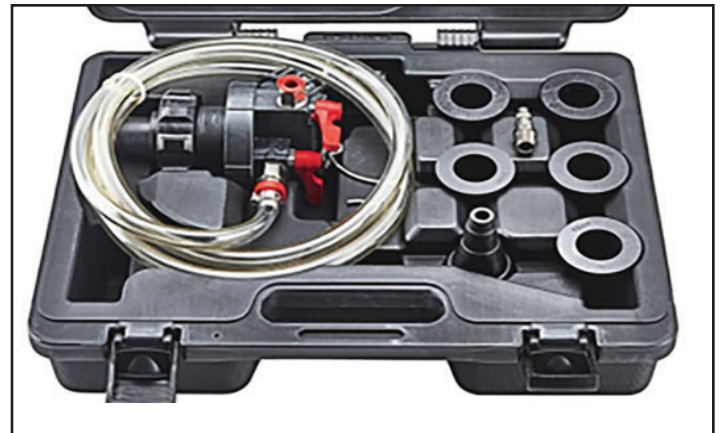


12. Open the fuse housing cover on the intercooler wiring harness and install the provided 15 Amp fuse. Reinstall the fuse housing cover.



Coolant Filling Options

13. Option #1: Magnuson Superchargers **highly** recommends using a cooling system vacuum purge and refill kit to properly fill the system. This will ensure all the air will be removed from the system. Use a 50/50 mixture of the same coolant approved by the OEM. To ensure you have no leaks, hold a vacuum on the system for 5 minutes to ensure there is no vacuum decay indicating a leak.



14. Option #2: Manual filling.
 - a. Using a coolant funnel attach the correct adaptor to the intercooler reservoir.
 - b. Connect the funnel to the adaptor.
 - c. Fill the funnel to the $\frac{1}{2}$ way mark with a 50/50 mixture of the same coolant approved by the OEM.
 - d. Remove the fuse tap/jumper from the fuse panel. You will need to hold the jumper harness on the power terminal to the power post to turn the pump on.
 - e. If the pump shuts off remove the fuse tap from the power terminal. Wait 5 seconds and reconnect it. You may need to do this multiple times to get the air out of the system.
 - f. Remove the funnel and fill the reservoir to $\frac{3}{4}$ full.
 - g. Reconnect the fuse tap jumper to the correct fuse.
 - h. Start the vehicle and verify the intercooler system is running.

