

Cooling System Notes

Your system may include some or all of the following:

- Liquid cooled Motor
- Liquid cooled Heatsink
- Radiator and Fan
- Water pump

The heatsink attaches to the bottom of the Gen4. You can use the provided 1/4x20 screws or if it's easier, you may want to use 1/4x20 allthread (or just longer bolts with extra nuts) instead of the included bolts so that you can also attach the heatsink and Gen4 to the boat with less hardware. Use the small packets of thermal transfer grease between the Gen4 and the heatsink.

The Fan can attach to the radiator; they usually include a few zip ties to do that but the fan may or may not need to be turned on depending on how hot the system gets. The Gen4 has two wires that can be used to power a 12v relay, and will be powered if the Gen4 gets above a certain temperature. This realy can be used to enable your water pump and/or fan as shown below. Don't run the pump directly off wires 7&8 as they are low powered and doing so may damage the Gen4.

The system should be arranged so the pump pushes coolant into the radiator. Cooler water leaving the radiator goes to the sevcon controller first, then to the motor, then back to the pump. We haven't yet seen the need for an additional reservoir but it's easier to fill the system and bleed out any bubbles if you at least have a T fitting before the pump with a length of extra tube and/or a reservoir that allows bubbles to rise, and a place to fill.

To connect each component you can use low pressure hydraulic hose with hose clamps.

You can use 1:1 glycol and water. Keep in mind this electric motor will be producing less heat than even a relatively small combustion engine so don't be surprised if you don't see much heat when the system is under minimal load. Do try to get all of the air out of the components so the water can do its job.

