

Thunderstruck Motors Cooling Kit

What's Included in the Kit:

- Radiator
- Fan
- Pump
- Pump Connector
- Zip Ties (8x)
- Rubber Washers (4x)
- $\frac{3}{4}$ inch NPT Fittings (2x)

What's Not Included:

- Reservoir
- NPT Hose Reducer ($\frac{3}{4}$ to $\frac{3}{8}$)
- Coolant Hose and Clamps
- Coolant

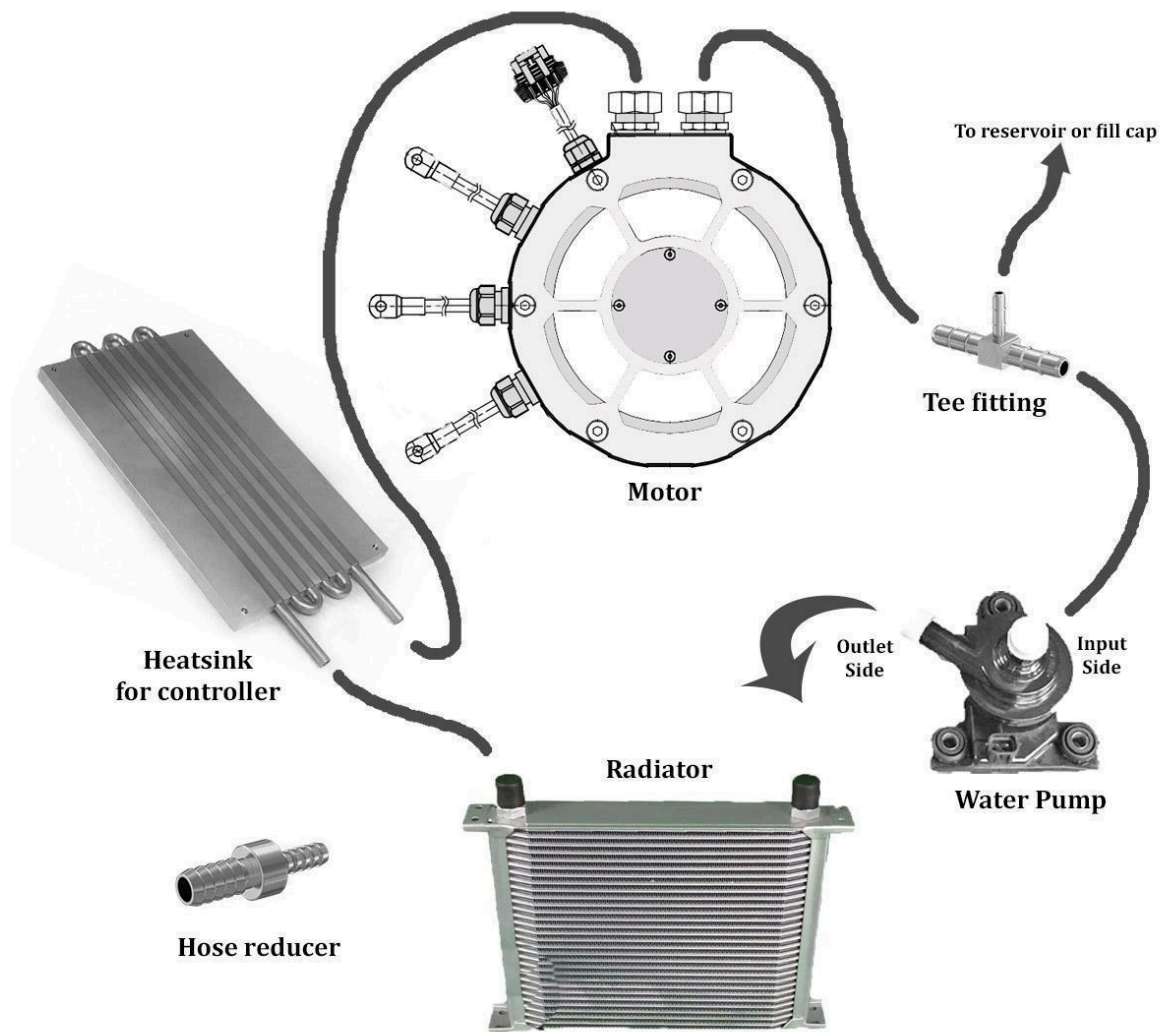
Key Specifications:

- The ME1616 motor uses $\frac{3}{4}$ inch NPT fittings.
- The G8055 heatsink accepts $\frac{3}{8}$ inch ID hose.
- Fan wiring:
 - Black wire = Negative
 - Blue wire = Positive (for Draw-Through Fan)=
- Coolant Mix: Use a 1:1 glycol and water mixture.

System Overview:

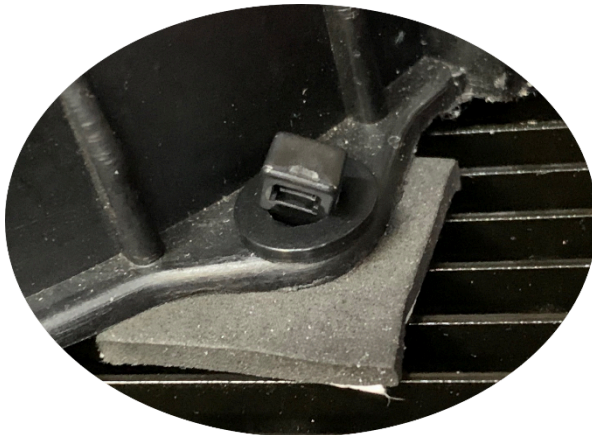
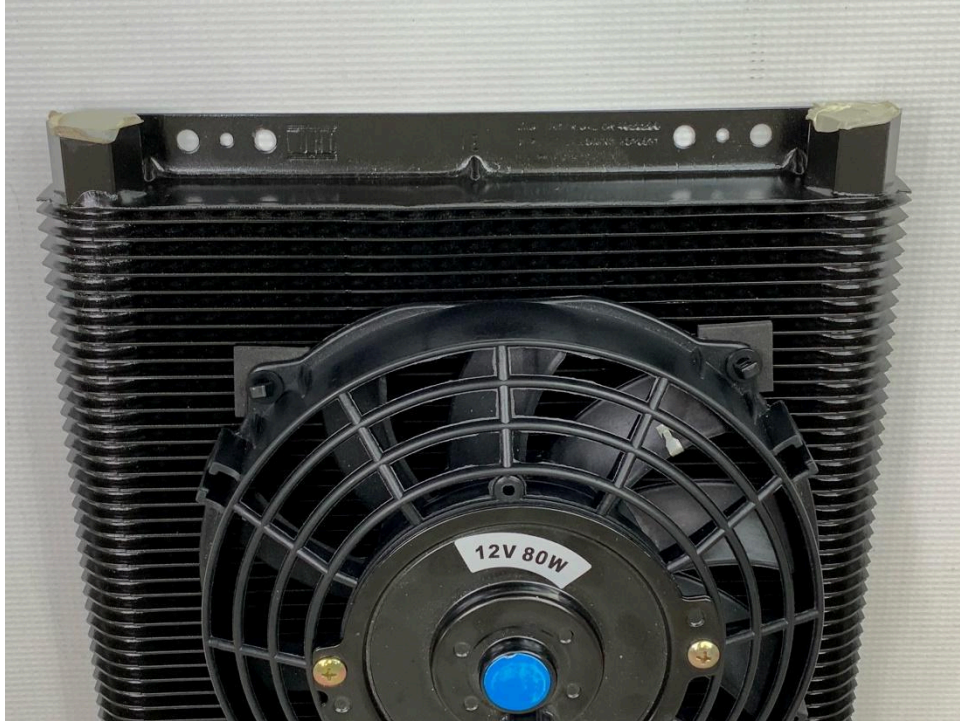
Connecting the System:

- Use low-pressure coolant hose and hose clamps for the system connections.
- Coolant Loop:
 - Pump → Radiator → Controller heat sink → Motor → Back to the pump
 - See the system diagram below for a visual guide.



Attaching the Fan to the Radiator:

- Use the included zip ties, rubber washers, and foam pads to securely mount the fan to the radiator.
- Zip ties should be threaded diagonally through the radiator core, positioning them where necessary to hold the fan firmly in place.
- Rubber washers and foam pads should be placed between the fan and radiator surfaces to reduce vibration and prevent movement during operation.
- Once the fan is secured, trim the excess ends of the zip ties for a clean and safe finish.
- Refer to the diagram below for a visual example of correct fan mounting.



Air Removal Process: To ensure proper coolant circulation, it's essential to remove air from the system. Follow these steps:

- Fill the system with the coolant mixture
- Run the pump briefly to allow coolant to flow through the system.
- Check for air pockets: Gently tap or shake the hoses to encourage air bubbles to rise.
- Continue running the pump until no more air bubbles are visible, ensuring the coolant is flowing freely.
- Top off the coolant level as needed and replace the filler cap.
- This will help prevent air from getting trapped in the system, which could affect cooling performance.

Coolant Mix:

- A 1:1 glycol-to-water mixture is recommended.
- The electric motor produces less heat than a small combustion engine, so don't be surprised if you don't notice much heat under light load.

Operating the System with a Liquid-Cooled Motor Kit:

If you're using this system with one of our liquid-cooled motor kits, your controller will include two relays:

- Relay 1 controls the fan.
- Relay 2 controls the pump.

The system operates as follows:

- Pump Relay: Turns on when the system is powered.
- Fan Relay: Turns on when the motor reaches 65°C.

Wiring Instructions:

- Refer to the simplified wiring diagram below for the system connections.
- Important: The controller only manages the relays—it does not power the pump or the fan.
- Warning: Do not connect the fan or pump directly to the controller's output. Doing so could damage the controller and void your warranty.

