



IMPORTANT! PLEASE READ!

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Thank you for your purchase of the *Hot Shot* Engine Heater. Before you use it, please take a minute to read the important notes below.



CAUTION! HOT WATER! This device heats the water in your engine to a temperature that could burn you if proper precautions are not taken. Use this device with extreme care and **NEVER REMOVE THE RADIATOR CAP WHEN ENGINE IS HOT.** Use heat-resistant gloves and proper eye protection when connecting and disconnecting hoses from the engine.



CAUTION! RISK OF ELECTROCUTION OR FIRE! This is an *electrical device* that if used improperly could cause fire, electrocution, or death. As such, common sense and precautions must be observed. Consult a qualified and certified electrician regarding your specific circumstances and connection.

Never open the lid when unit is plugged-in or running - Electrocution or death may occur. Disconnect power before opening.

Using the Hot Shot for the First Time

See enclosed Operating Instructions (page 4). They are very simple, but please share this information with any crew members who may be using the Hot Shot.

The unit has been shipped already primed with an antifreeze/water mix. It's ready to plug into your engine and begin use.

If you have just filled your car's cooling system, it is recommended to purge the air before running the heater. Purge the air with the Hot Shot as follows: Connect the Hot Shot to your cooling system and remove the radiator cap. Run the Hot Shot pump-only (do not switch on the heat) for a few minutes. This will bubble any trapped air out the top of the radiator.

Thank you again for your purchase and good luck in your racing!

Water Connection

See our website www.hotshotengineheater.com for complete photos & information about plumbing your engine.

The hoses are marked red (hot water out) and blue (return back in). When connecting to the block (either directly or via remote), it does not matter which hose goes where. When using a lower radiator check valve, connect the hose to the matching color port.

Electrical Connection

Below are some recommended guidelines for connecting the Hot Shot engine heater, but you should consult a qualified and certified electrician regarding your specific circumstances and connection.

- **A heavy 10 or 12 gauge outdoor or RV extension cord should be used.** Do NOT use a 16 gauge general-purpose extension cord – it's not sufficient. Consult a qualified and certified electrician regarding your installation.
- **We recommend running the Hot Shot on its own circuit with a 20 Amp fuse or breaker.** The Hot Shot draws approximately 2,100 watts and 18 amps. Consult a qualified and certified electrician regarding your installation.
- You should never need to open the lid of the Hot Shot engine heater. If for some reason you do, make sure to **DISCONNECT POWER BEFORE OPENING**. Never open the lid with the unit plugged-in or running!

Notes, Tips & Tricks

- **The pump must ALWAYS be running when the heater is on.** Never turn on the heater without the pump running! It will boil the water in the heating chamber and damage the heating element.
- If you have just filled your car's cooling system, it is recommended to purge the air before running the heater. Purge the air with the Hot Shot as follows: Connect the Hot Shot to your cooling system and remove the radiator cap. Run the Hot Shot pump-only (do not switch on the heat) for a few minutes. This will bubble any trapped air out the top of the radiator.
- If you completely fill a cold cooling system, when it's first heated it will push the excess fluid out of the overflow due to heat expansion. You may notice this when using the Hot Shot, but this is no different than what would happen when running your engine.
- You should never need to open the lid of your Hot Shot. If for some reason you do, make sure to **DISCONNECT POWER BEFORE OPENING**.
- We recommend running a cooling system additive such as Water Wetter or a small amount of antifreeze (10-15%). This helps resist sediment build-up & corrosion in the Hot Shot as well as your cooling system.
- For most applications, **heating the system to 160-180 degrees is sufficient**. Getting the engine any hotter does not necessarily do any good. It will use unnecessary electricity/generator capacity, and could shorten the longevity of the pump and heating element if done for prolonged periods of time.
- To maximize the efficiency of the Hot Shot and minimize heating time, use a heavy engine blanket over the hood to help retain heat. This makes a notable difference in heating times.

Troubleshooting

"I turn on the pump switch but it doesn't run"

The pump can "stick" if left sitting unused for a long period of time. If you turn on the pump and nothing seems to happen, **turn it OFF immediately** and unplug the unit. Open the lid and reach through the fan screen at the back of the pump motor with a screwdriver and turn the fan thus rotating and freeing the pump head. This is not uncommon for pumps of this type. Running a small amount of antifreeze or cooling system additive will help prevent this issue.

"Water temp gets to 140-160 degrees then heating drastically slows or stops."

This can occur if you are stretching the capacity of the electrical supply to the Hot Shot, which can come from 2 sources:

- Extension/power supply cord to the Hot Shot is not heavy enough. A 10 or 12 gauge cord is needed. If the cord is warm to the touch up near the Hot Shot, then this is the problem.
- The wiring within the garage, shop, or trailer is not sufficient. For example, if you are running the Hot Shot in your shop, having a heavy 12 gauge extension cord does no good if the wiring within the shop walls is too weak (i.e. 14 or 16 gauge) or if other electrical devices are running on the circuit. If the extension cord is warm to the touch up near the power outlet, but is cool further down toward the heater, then this is the problem. To solve, hook the Hot Shot directly to a generator or a heavier-duty shop circuit.

Operating Instructions



CAUTION! HOT WATER! This device heats the water in your engine to a temperature that could burn you if proper precautions are not taken. Use this device with extreme care and **NEVER REMOVE THE RADIATOR CAP WHEN ENGINE IS HOT.** Use heat-resistant gloves and proper eye protection when connecting and disconnecting hoses from the engine.

***** Purge air from newly filled cooling system! *****

***** Ensure Pump runs when switched on! *****

***** DO NOT turn on Heater switch without the Pump running! *****

***** Never leave the unit running unattended! *****

- Connect the heater to the car. ENSURE THE HOSES ARE NOT KINKED. Connect the electrical cord to the heater.
- Turn on the Pump switch and let it run for 20-30 seconds to ensure good flow through the heater and no air pockets.
- Turn on the Heater switch and allow the engine to heat until the desired temperature is reached.
- Turn off the Heater switch, and allow the pump to run for a few seconds.
- Turn off the Pump switch.
- CAREFULLY disconnect the hoses from the car. They will be HOT!
- Disconnect the electrical cord.



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