The Hot Setup™

Competition Engine Heaters

Available as a Kit
Or Fully Assembled

The same engine heaters used by teams in USAC, WoO, NST, IRL, CART, All Stars, CASA, Grand-Am, ALMS, NEXTEL Cup, Busch, Craftsman Truck Series, VARA & HSR Historic Racing, SCORE, CORR, Pikes Peak Hill Climb, SCTA, 24 Hours of LeMans, FFSA, and other major race series in North America, Europe, Australia & New Zealand are available fully assembled or as a kit.

Externally adjustable thermostats let you dial in the temperature you want from 100° F to 210° F

For cooling systems with or without thermostats and swirl pots

Uses pump water pressure to pressurize cooling system to 13 psi

US Patented

1 1/2 gallon reservoir provides coolant to replace the air removed from the cooling system during the heating process.
Large surface area heating elements (approx. 30 watts/in²) provide coolant heating without causing bubbles which could be transferred to the cooling system.
Large diameter impeller circulator moves a high volume of coolant through the cooling system to remove air bubbles and air pockets.

A circulator with a large diameter impeller is used to circulate coolant instead of a pump. Pumps can cause air to be injected into the coolant due to pump impeller cavitation. The circulator provides rapid coolant circulation (approx. 14 gal/min at 10 psi) that collects air pockets and small air bubbles that form on the interior surfaces of the cooling system and brings them back to the reservoir where they are expelled. Air in the cooling system causes decreased cooling, steam pockets in the heads, decreased power and engine damaging detonation. **An engine with air in the cooling system may run well at the start, but after a few laps, steam pockets around the combustion chambers will cause decreased power and eventual detonation. Power loss can be ever so slight that the driver may not be aware of it until a large power loss or complete failure due to detonation occurs.**

When a cold engine is operated, cold fuel, which needs heat for atomization and combustion, can not mix completely with cold air to form the mixture necessary for optimum combustion. Instead, droplets of raw fuel form on the cylinder walls. The raw fuel washes oil from the cylinder walls, causing increased ring wear, increased cylinder wear and potential piston scuffing. Part of the raw fuel mixes with the oil and contaminates the incoming charge, reducing the efficiency of combustion. Some of this raw fuel is blown past the rings and into the oil pan, reducing the oil's lubricating ability.

Unlike heating only the oil in the pan or dry sump tank, this system heats the entire engine. This means the **block** (including all internal oil passages), **crankshaft**, **connecting rods**, **pistons**, **cylinder heads**, **valve springs**, **intake manifold**, **valves**, **valve guides**, **water pump**, **oil pump**, **oil pan**, **bell housing**, **transmission**, **radiator, etc.**, are all heated. Note: valve spring failures often occur when cold springs are run at high engine rpm. Engine pre-heating can reduce the chance of valve spring failures.

By heating all engine components, oil is also heated by contact with the heated metal. These warm metal surfaces attract and hold lubrication better than cold surfaces, providing better lubrication and less friction for all engine components. Also, less power is required to pump warm oil than cold oil. The lower viscosity of warm oil also reduces crankcase windage losses. Pre-heating may allow for tighter piston to cylinder clearance which reduces piston rock and ring unloading, tighter piston to head clearance (quench) all resulting in more power. In addition, testing has shown that high pressure spikes in the oil pump can occur when cold oil is pumped through an oil filter. These pressure spikes have been shown to be large enough to cause the oil pump shaft to flex enough to cause internal galling of the oil pump housing.

Completely Portable

Used in the engine shop to heat engine blocks for **cylinder hot honing** and to heat engines prior to running on the **dyno.** Also, a valuable tool to **fill empty cooling systems**. Connect the heater hoses, turn on the pump, fill the reservoir as coolant is pumped into the cooling system as air is pumped out (no more coolant spills or funnels needed to fill cooling systems).
Used to pressurize cooling systems to **test for leaks. Heats engine at the race track for qualifying and keeps it warm for racing.**

Available as a Kit or Fully Assembled
3,000 watt, 130 volt, 60 Hz (North America & Japan)
3,000 watt, 240 volt, 50 Hz (Europe, Australia and New Zealand)

Additional Heater Models Available (Assembled Only):
5,000 Watt, 220 Volt, 60 Hz, (perfect for the dyno)
6,500 Watt, combination of 5,000 Watt, 220 V, 60 Hz and 1,500 Watt, 120 V, 60 Hz heating elements)

Components include powder-coated cabinet with wheels and pull handle, aluminum reservoir, circulating pump, two 1,500 Watt "Incoloy" heating elements, two "Externally Adjustable" thermostat controllers with bulb and capillary sensors, thermostat pilot lamps, pump control switch with indicator lamp, heater and booster control switches with indicator lamps, pressure gauge, temperature gauge, coolant level indicator, 8 ft. supply and return hoses with strainers and quick disconnect female couplings,

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Anyone considering assembling a kit should have a background in mechanics, electricity and be able to read and understand electrical schematic drawings. Assembly instructions that are included in the kit are posted on our website "www.speedpartsinternational.com". Before ordering, please review these instructions to determine if you are comfortable with accomplishing the assembly. Estimated assembly time 3 - 4 hours.

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