

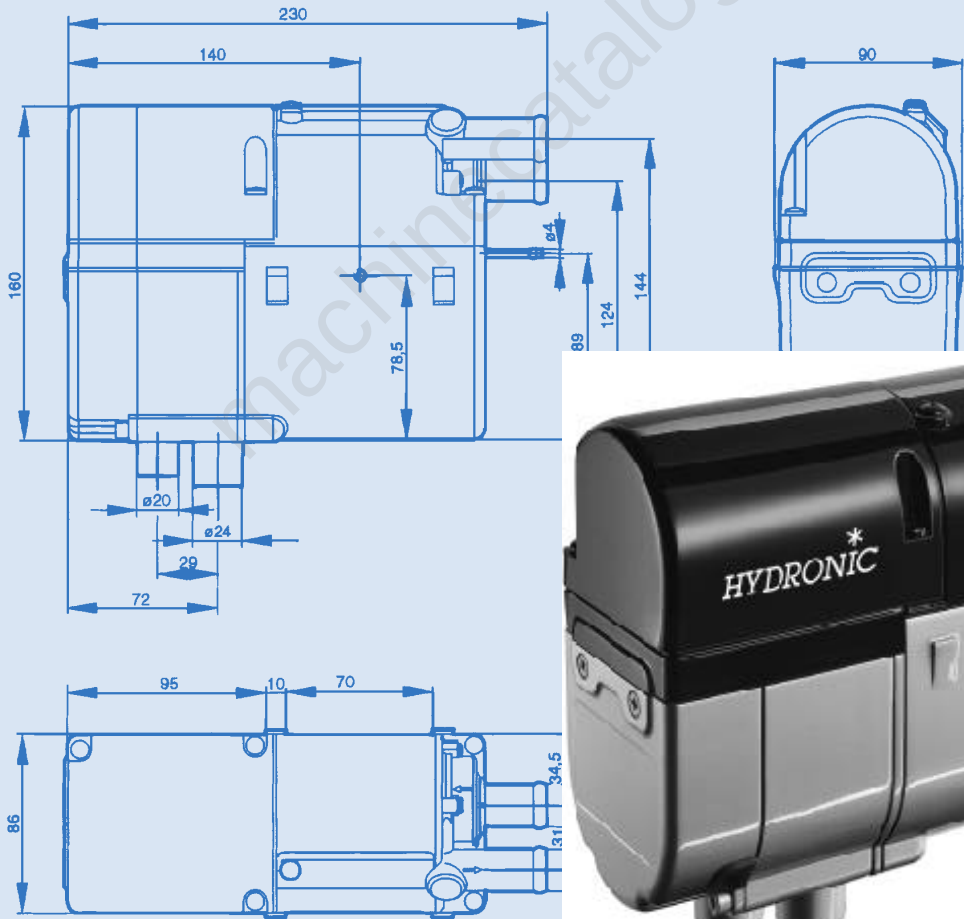
Hydronic 4/5 (Coolant Heaters)

Installation • Troubleshooting • Parts Manual



Heater Model 12 V		Heater Model 24 V	
Hydronic D4 SC	25 1917 01	Hydronic D5 SC	25 2147 05
	25 2096 05	Hydronic D5 S	25 2009 05
Hydronic B4 SC	20 1789 05		
Hydronic D5 SC	25 1920 05		
	25 2098 05		
Hydronic D5 S	25 2031 05		
	25 2100 05		
Hydronic B5 SC	20 1791 05		
Hydronic B5 S	20 1793 05		

www.espar.com
inquiries@espar.com





Heater Warnings

Warning To Installer

- Correct installation of this heater is necessary to ensure safe and proper operation. Read and understand this manual before attempting to install the heater. Failure to follow all these instructions could cause serious or fatal injury

Warning - Explosion Hazard

- Heater must be turned off while re-fueling.
- Do not install heater in enclosed areas where combustible fumes may be present.
- Do not install heaters in engine compartments of gasoline powered boats.

Warning - Fire Hazard

- Install the exhaust system so it will maintain a minimum distance of 50mm (2") from any flammable or heat sensitive material.
- Ensure that the fuel system is intact and there are no leaks.

Warning - Asphyxiation Hazard

- Route the heater exhaust so that exhaust fumes cannot enter any passenger compartments.
- If running exhaust components through an enclosed compartment, ensure that it is vented to the outside.

Warning - Safety Hazard on Coolant Heaters Used With Improper Antifreeze Mixtures

- The use of Espar coolant heaters requires that the coolant in the system to be heated contain a proper mixture of water and antifreeze to prevent coolant from freezing or slushing.
- If the coolant becomes slushy or frozen, the heater's coolant pump cannot move the coolant causing a blockage of the circulating system. Once this occurs, pressure will build up rapidly in the heater and the coolant hose will either burst or blow off at the connection point to the heater.
- This situation could cause engine damage and/or personal injury. Extreme care should be taken to ensure a proper mixture of water and antifreeze is used in the coolant system.
- Refer to the engine manufacturer's or coolant manufacturer's recommendations for your specific requirements.

Caution: During electrical welding work on the vehicle disconnect the power to the heater in order to protect the control unit.

Note: All measurements contained in this manual contain metric and approximate SAE equivalents in brackets eg 25mm (1")

Direct questions to Espar Heater Systems

USA	1-800-387-4800
CANADA	1-800-668-5676

This publication was correct at the time of print. However, Espar has a policy of continuous improvement and reserves the right to amend any specifications without prior notice.

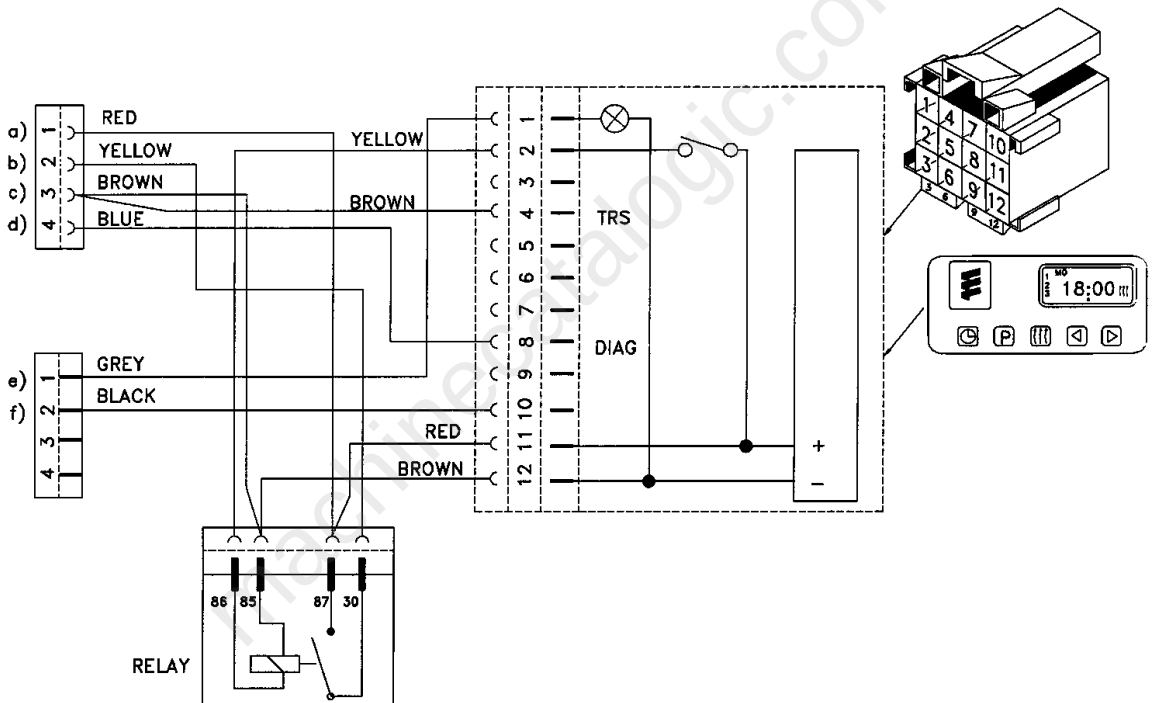
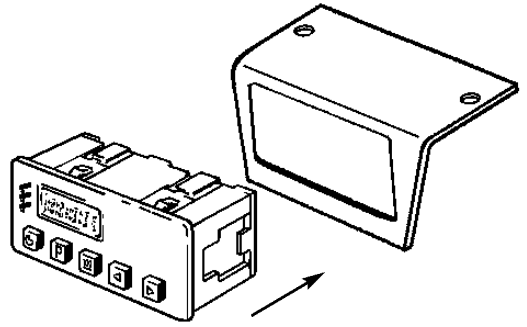
Operating Switches

A Push/Pull switch or a 7 Day Timer are available.

7 Day Timer

The 7 day timer is capable of setting 1 start time with in 7 days. It also has other functions such as a current time display and a heater numeric fault code. Refer to instructions provided with timer for setting options.

- Mount timer and bracket in a suitable location.
- Connect the switch harness to the connector at the heater and run the harness to the switch location.
- Cut harness to length at the switch and install terminals.
- Connect switch harness to timer as shown below
- Refer to timer instructions for other wiring options.

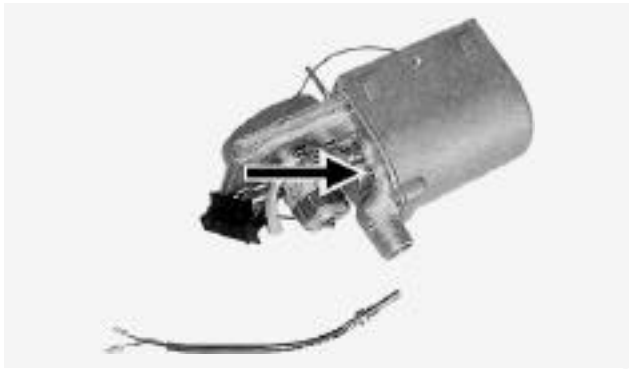


- a) Power from battery “+”
- b) Switch control to the heater
- c) Power from battery “-”
- d) Diagnostic from heater
- e) To the vehicle dimmer switch for light display
- f) To vehicle ignition accessories for continuous operation of heater

Note: The timer display is automatically illuminated while the heater is operating. Connecting the grey wire to the vehicle dimmer switch will allow the timer display to illuminate with the vehicles dash lights.

Note: Connecting the black wire to the vehicle ignition accessories “On” circuit may also be considered for some applications where extended run times are desired. Powering the black wire will enable the heater to run continuously when the heater is switched on manually.

- 7** Flame sensor, For removal of tab receptacles, use AMP extractor tool



- 10** Combustion chamber with flame tube



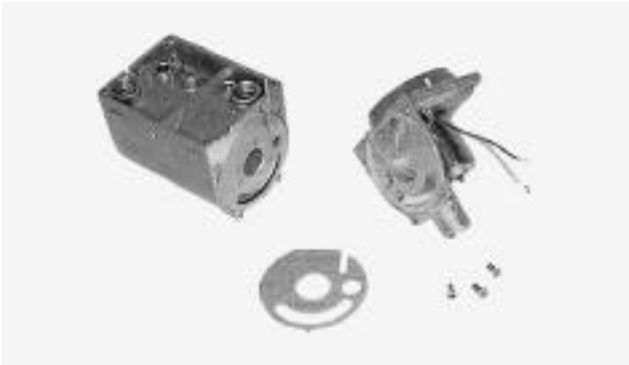
- 8** Cable Harness



- 11** Heat exchanger and jacket, Align slot on heat exchanger (arrow) with lug in jacket



- 9** Electric motor, complete



HYDRONIC 4 / 5 SC diesel & gasoline versions Description & Part #'s				Model #'s			
Ref. No.	Description		Part Number	20 1793 05 12v	25 2009 05 24v	25 2031 05 12v	25 2100 05 24v
38	Fuel metering pump	12V	20 1645 45 00 00	•		•	•
		24V	25 1942 45 00 00		•		
39	Metering pump holder		22 1000 50 03 00	•	•	•	•
40	Relay	12V	203 00 065	•		•	•
		24v	203 00 066		•		
41	Fuel line		090 31 118	•	•	•	•

Full Version Available

Espar Hydronic 4 5 Heater Service Manual

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