

99 Hour Installation & Operating Instructions



P/N CA1 00 051

Primarily For all Espar Water Heaters
can be used as a switch for all air heaters

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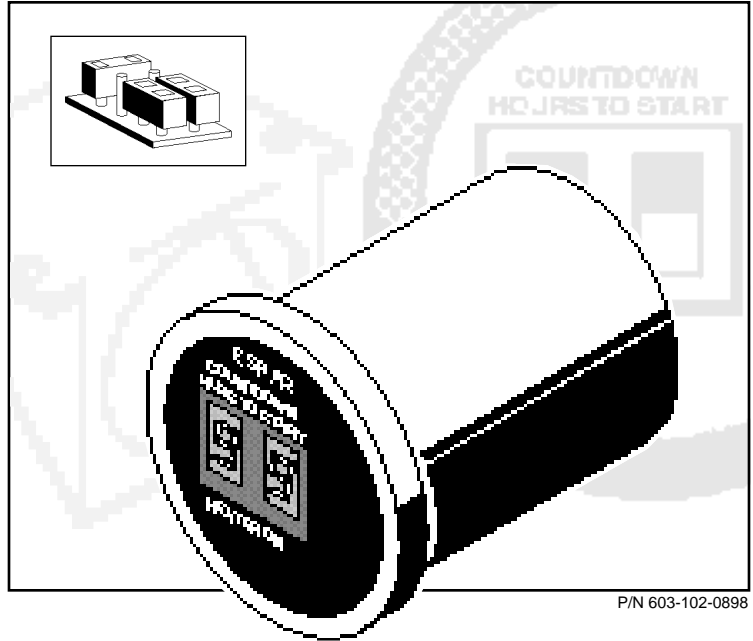
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P/N 603-102-0898

99 Hour Installation

For installation of timer
CA1 00 051

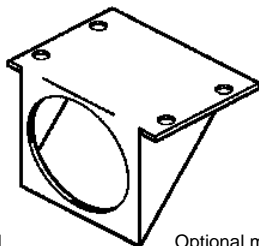
The Espar countdown timer has been designed to provide a simple means to control the operation of the heater system. The timer allows for pre-selection of turn on time, up to 99 hours in advance, as well as an option for a one, two, three or four hour run time before automatically turning off. In addition, there is an on/off switch for manual operation. The timer is pre-set by Espar to operate for one hour only. See reverse side for changing run times.

3 Connect the switch harness to the connector at the heater and run harness to switch location. (Harness should be neatly routed and secured under dashboard).

4 Cut harness to length and terminate wires. Attach using connectors provided.

Red to Red power
Yellow to Yellow switch
Brown to Brown ground

- 1** Mount timer using a 2" hole in the dash or use an optional mounting bracket.
- 2** Use hardware supplied for connections.



Optional mounting bracket
P/N CA0 00 032



For Manual Operation

To turn on...

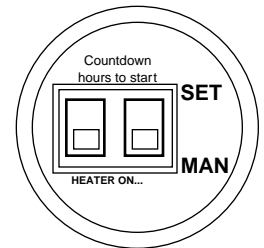
Press "MAN" switch.
"HEATER ON" and "MAN" dots illuminate.
Heater starts after a delay.
Heater will now run until manually switched off.

To turn off...

Press "MAN" switch.
"HEATER ON" and "MAN" dots go out.
Heater shuts down after three minute cool-down cycle.

For Timer Operation

Determine the number of hours before you want the heater to turn on. For Eg.
If it's **Friday @ 5:00PM** and you want the heater to turn on, on **Saturday @ 6:00AM**.
You would punch in 13hrs.
Monday @ 6:00AM
You would punch in 61hrs.



There are two possible ways to set the desired time:

- 1** Depress the "SET" switch and hold. The count will start at "00" and go up at a rate of two counts per second. Once the desired time is reached, release the "SET" switch. Timer will now start countdown.
- 2** Depress "SET" switch and hold it until the desired right hand digit is reached then release it. Wait until the "LEFT HAND" digit decimal point comes on then depress the "SET" switch to select the desired left hand digit. Once the desired left hand digit is reached, release the "SET" switch. Timer will now start countdown.

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Once the countdown hours have been set the "MAN" dot flashes and hours to start are displayed. When the hours to start reach "00" the heater will switch on, the digital display goes out, the "HEATER ON" and "MAN" dots flash.

time will be displayed. If the "SET" switch is depressed too long the count will start and then a new time must be set.

The heater will now run for the pre-set time (1 to 4 hours) then automatically switch off.

Note: If you wish to turn the heater off before the end of the automatic cycle, simply press the "MAN" switch. This will switch heater off after a cool-down cycle (approx. 3 minutes).

Note: If an error is made in setting the "Hours to Start" simply press the "MAN" switch to cancel input. Also...the timer retains the last "Hours to Start" time used. To recall this, simply depress the "SET" switch and release it when "00" appears. After a two (2) second delay the previous

Changing run times

This timer is pre-set by Espar to operate the heater for one (1) hour only. If an alternative run time setting is desired, it can be set using the following method:

- Locate the eight (8) program pins on the back of the timer.
- Locate the program jumpers supplied with the timer. These will be located on pins.
- By connecting these jumpers in the following sequences, it is possible to select the run time desired.

Note: By default one of these program jumpers will already be on the "A" program pins. (One hour setting arrangement).

Note: When using the manual function to activate the heater, the heater will operate continuously until it is manually switched off.

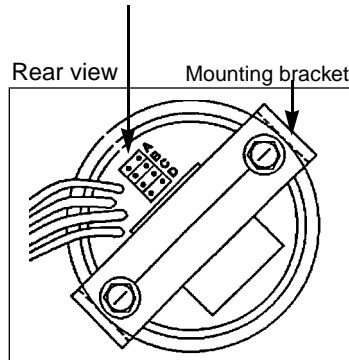
Warning: It is best to shut down the heater 3 minutes before turning over the ignition of vehicle. This ensures a longer life on the heater. If necessary it is possible to turn the heater back on after the vehicle is turned on to gain supplemental heat.

Jumper Selection

x = jumper pin
 ∅ = no jumper pin

	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>
Countdown, 1 Hour on & stop (Pre-set by Espar)	x	∅	∅	∅
Countdown, 2 Hours on & stop	∅	x	∅	∅
Countdown, 3 Hours on & stop	x	x	∅	∅
Countdown, 4 Hours on & stop	∅	∅	x	∅
Countdown and on continuously.	x	x	x	∅

Program jumpers and board



Program jumpers and pins. By default the pins will look like this including the extra jumpers mounted perpendicular to the "A" jumper.

