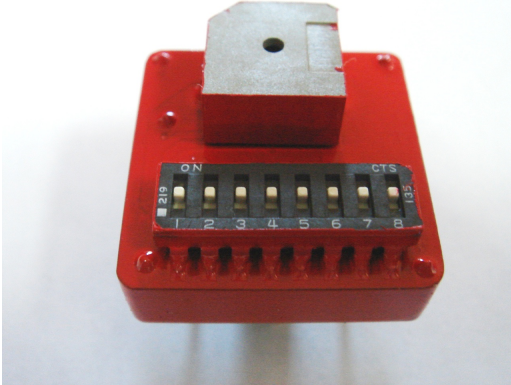# DeLorean Electronic Otterstat

This is a microprocessor controlled engine cooling system for the DeLorean engine.
Program switches can be user selected to select cooling fan operation for user preferred operation.
New enhancements incorporate a warning buzzer if overheating or low voltage occurs to signal the need for immediate attention to prevent engine damage.

Most common engine overheating is caused by a broken fan belt which stops the cooling system "water pump". This unit monitors the car voltage and if it drops below 12.5 volts it will beep 5 times when that voltage problem shows up. The voltage drops because the broken fan belt also stops the alternator from charging.

Switch settings

Switches are checked continually while the unit is powered up. Hence you can change the settings when the engine is running or stopped.

FAN ON GAUGE READING	S3	S4	S5	S6	S7	S8	#
1/8	OFF	OFF	OFF	OFF	OFF	OFF	0
1/8+	OFF	OFF	OFF	OFF	OFF	ON	1
1/8++	OFF	OFF	OFF	OFF	ON	OFF	2
1/8+++	OFF	OFF	OFF	OFF	ON	ON	3
1/8++++	OFF	OFF	OFF	ON	OFF	OFF	4
1/8+++++	OFF	OFF	OFF	ON	OFF	ON	5
1/8++++++	OFF	OFF	OFF	ON	ON	OFF	6
1/8+++++++	OFF	OFF	OFF	ON	ON	ON	7
¼	OFF	OFF	ON	OFF	OFF	OFF	8
¼+	OFF	OFF	ON	OFF	OFF	ON	9
¼++	OFF	OFF	ON	OFF	ON	OFF	10
¼+++	OFF	OFF	ON	OFF	ON	ON	11
¼++++	OFF	OFF	ON	ON	OFF	OFF	12
¼+++++	OFF	OFF	ON	ON	OFF	ON	13
¼++++++	OFF	OFF	ON	ON	ON	OFF	14
¼+++++++	OFF	OFF	ON	ON	ON	ON	15
3/8	OFF	ON	OFF	OFF	OFF	OFF	16
3/8+	OFF	ON	OFF	OFF	OFF	ON	17
3/8++	OFF	ON	OFF	OFF	ON	OFF	18
3/8+++	OFF	ON	OFF	OFF	ON	ON	19
3/8++++	OFF	ON	OFF	ON	OFF	OFF	20
3/8+++++	OFF	ON	OFF	ON	OFF	ON	21
3/8++++++	OFF	ON	OFF	ON	ON	OFF	22
3/8+++++++	OFF	ON	OFF	ON	ON	ON	23
220	OFF	ON	ON	OFF	OFF	OFF	24
220+	OFF	ON	ON	OFF	OFF	ON	25
220++	OFF	ON	ON	OFF	ON	OFF	26
220+++	OFF	ON	ON	OFF	ON	ON	27
220++++	OFF	ON	ON	ON	OFF	OFF	28
220+++++	OFF	ON	ON	ON	OFF	ON	29

220++++++	OFF	ON	ON	ON	ON	OFF	30
220+++++++	OFF	ON	ON	ON	ON	ON	31
5/8	ON	OFF	OFF	OFF	OFF	OFF	32
5/8+	ON	OFF	OFF	OFF	OFF	ON	33
5/8++	ON	OFF	OFF	OFF	ON	OFF	34
5/8+++	ON	OFF	OFF	OFF	ON	ON	35
5/8++++	ON	OFF	OFF	ON	OFF	OFF	36
5/8+++++	ON	OFF	OFF	ON	OFF	ON	37
5/8++++++	ON	OFF	OFF	ON	ON	OFF	38
5/8+++++++	ON	OFF	ON	ON	ON	ON	39
¾	ON	OFF	ON	OFF	OFF	OFF	40
¾+	ON	OFF	ON	OFF	OFF	ON	41
¾++	ON	OFF	ON	OFF	ON	OFF	42
¾+++	ON	OFF	ON	OFF	ON	ON	43
¾++++	ON	OFF	ON	ON	OFF	OFF	44
¾+++++	ON	OFF	ON	ON	OFF	ON	45
¾++++++	ON	OFF	ON	ON	ON	OFF	46
¾+++++++	ON	OFF	ON	ON	ON	ON	47
7/8	ON	ON	OFF	OFF	OFF	OFF	48
7/8+	ON	ON	OFF	OFF	OFF	ON	49
7/8++	ON	ON	OFF	OFF	ON	OFF	50
7/8+++	ON	ON	OFF	OFF	ON	ON	51
7/8++++	ON	ON	OFF	ON	OFF	OFF	52
7/8+++++	ON	ON	OFF	ON	OFF	ON	53
7/8++++++	ON	ON	OFF	ON	ON	OFF	54
7/8+++++++	ON	ON	OFF	ON	ON	ON	55

Hysteresis is the fan off setting. Normal is a little less then the OEM otterstat. Less will turn the fan off sooner.

HYSTERESIS	S2
NORMAL	OFF
LESS	ON

Switch 1 must be turned on to have the unit working. This switch is only turned off to allow reprogramming the firmware. If you forget to turn this on, the unit will beep at you

seven seconds after power is applied.

Installation

The unit requires a new relay socket. Most users have changed the AC panel light circuit to only light the panel when car lights are on. So you have the "Light relay" jumpered and your "Red resistor" can be removed. I used the blank red relay socket for my installation.

Four wires are required in the new socket.

Pin 85 is ground.
Pin 86 is power from the yellow/red wire on the "Main Fuel Relay"
Pin 30 is the gauge circuit Green/blue wire in the harness.
Pin 87 is the output to drive the fan relay.

The output pin 87 is internally driven through a diode and a 0.5 amp resettable fuse. The fuse will trip at 0.5 amps and hold the trip until current has dropped below 0.25 amps. Connect this pin to the black/orange wire on the fan relay.

You can leave the original otterstat connected and it will serve as a backup device if you are setting the electronic otterstat at a lower temperature than the otterstat. If you set the temperature higher than the OEM otterstat then the electronic otterstat is the backup device but you still get the warning buzzer to let the driver know something is wrong.