

Control circuit for Heater Box	<u>EHB-C1</u>	A-1	2017-12	B. Lindqvist	
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An EHB can be built in many different ways. The construction can be made operation-friendly and also compact with a 12V battery, two electric fuel pumps, two switches and a set of hoses between the can, pumps, tank, burner, and the vent filter.

Filling and emptying of the tank is carried out by the pumps. One pump for filling and one for emptying and the reason is just that these pumps leaking fuel backwards when standing still. Therefore, the outlet and inlet must always be above the tank's maximum level.

The operation of the pumps is done with a resilient tilt switch and a pushbutton. It is the automatic function that requires an electronic circuit. With the other tilt switch, one can select two or four burners (2B-4B).

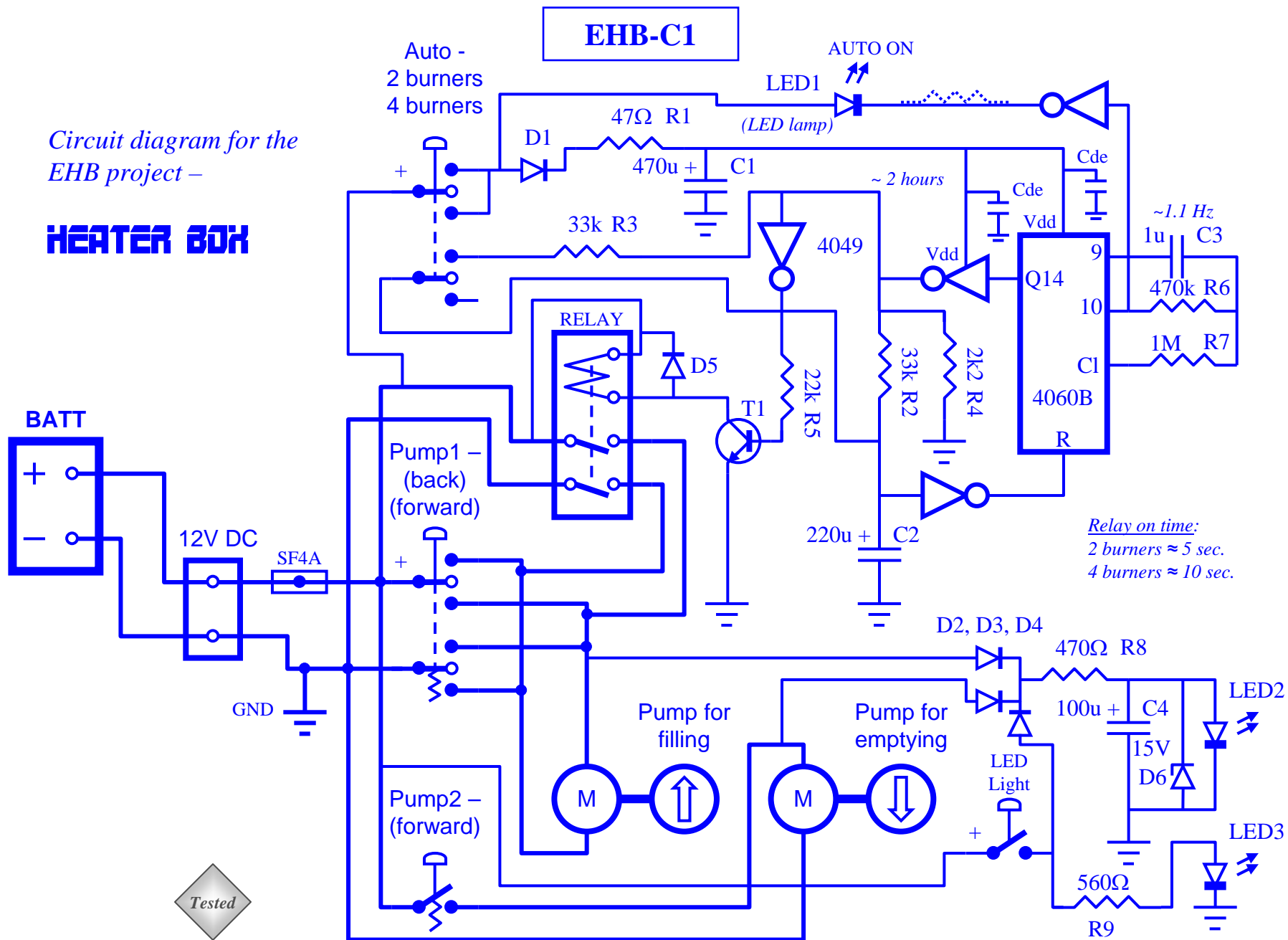
The control electronics start when the arm on the switch (Auto) snaps in some direction. The counter resets - is the first thing that happens. For some seconds the counting initiates and when two hours passes - the filling pump goes on. The pump stops after either 5 or 10 seconds, depending on selected mode? Four burners consume twice as much fuel as two do. The counter reset itself, and after 2 more hours - the pump restart for the second time, and so on.

A red LED lamp indicates *reset* (fixed light) and also *oscillator pulses* (flashing light). A white LED illuminates the tank's interior - so the fuel level can be observed (located on the handle). The white LED on the circuit board illuminates the inside of the Lixhult cabinet - facilitates replenishment of new fuel or in general review.

Board type	Single sided	Technique	Based on PCB/SMD	EMI	Yes	Supply	12V DC
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Circuit diagram for the
EHB project –

HEATER BOX



EHB-C1

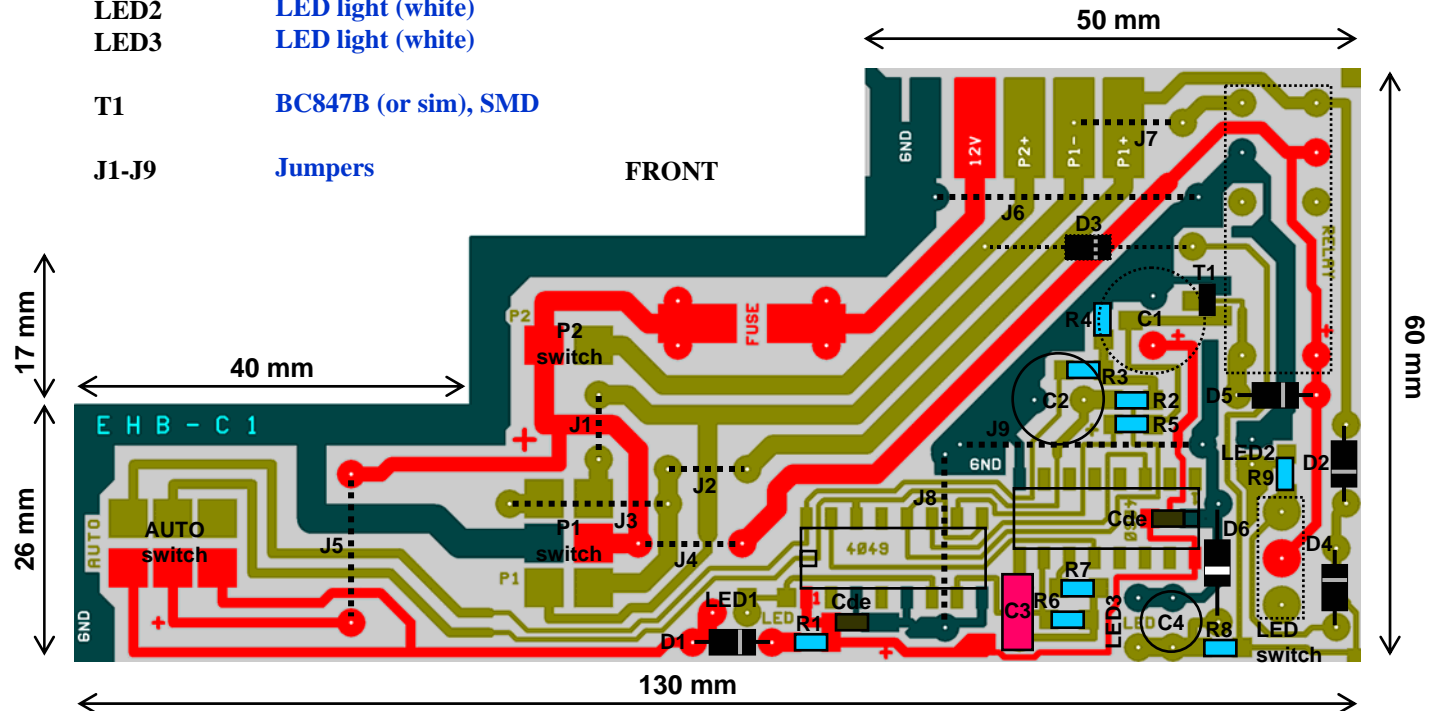
Placing of components

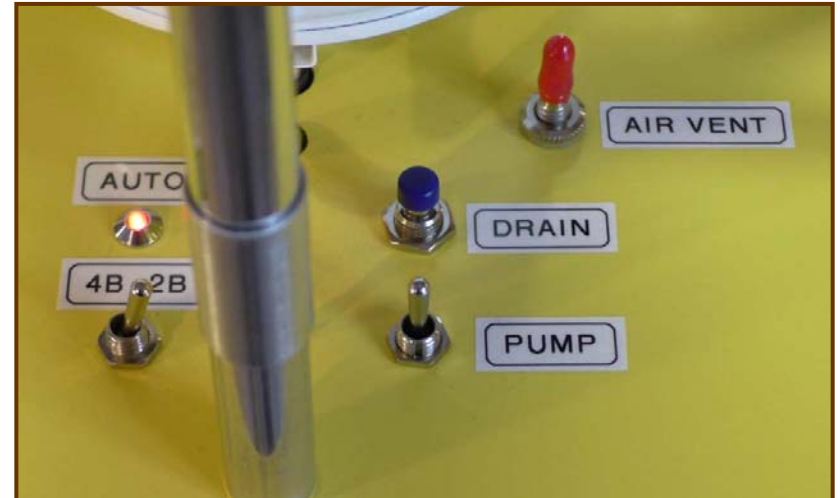
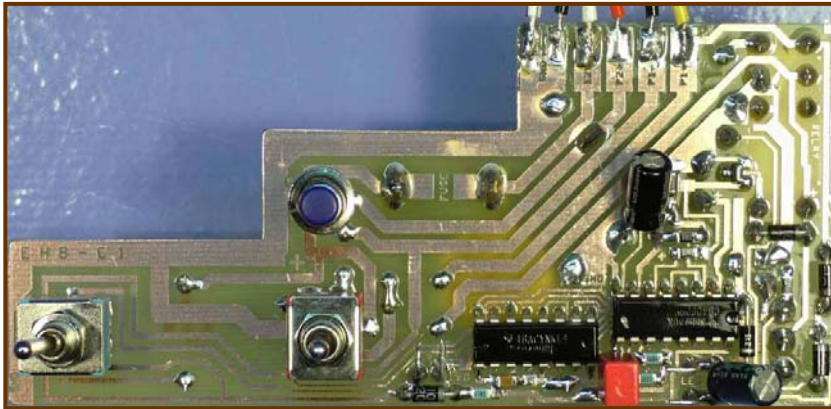
COMPONENTS:

R1-R9	1206, SMD
C1, C2 & C4	E-lytic, PCB
C3	Plastic, PCB
Cde(coupling)	10nF 1206, SMD
D1-D5	1N4004 (or sim), PCB
D6	Zener 15V, PCB
LED1	E;kit: 41011775
LED2	LED light (white)
LED3	LED light (white)
T1	BC847B (or sim), SMD
J1-J9	Jumpers

COMPONENTS:

4060	CMOS logic, PCB
4049	CMOS logic, PCB
P1 switch	E;kit: 41003966
P2 switch	E;kit: 41013036
AUTO switch	E;kit: 41003999
LED switch	E;kit: 41004218
Relay	E;kit: 41003458
Fuse	4A Slow
Fuel pumps	Conrad: 207894





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