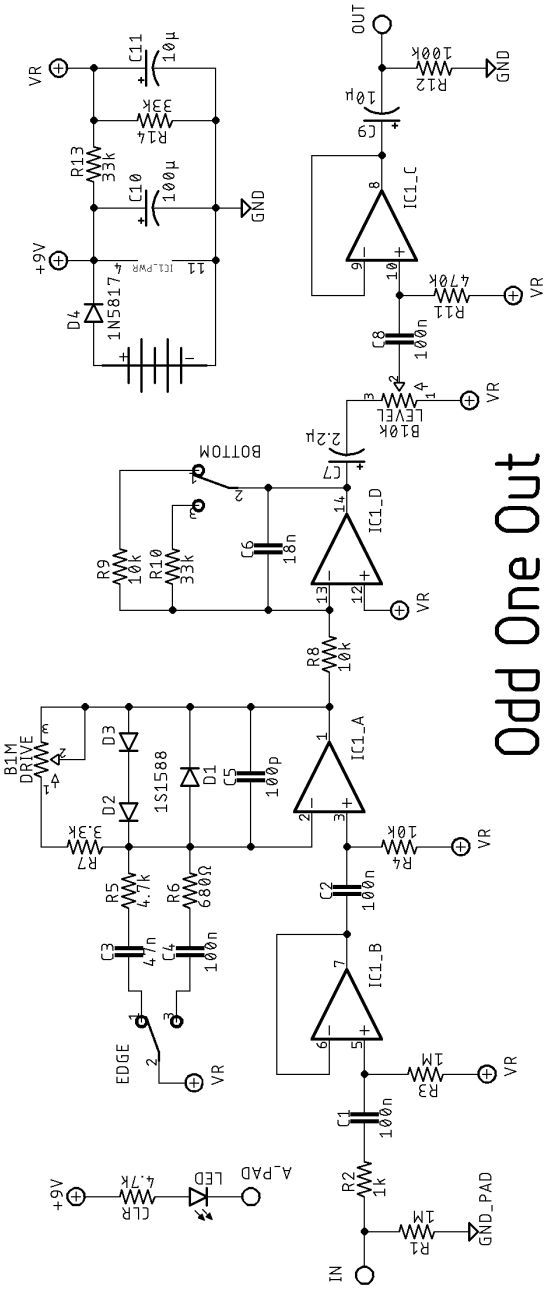
ODD ONE OUT

DESCRIPTION

The ODD ONE OUT is a variation of the original Boss OD-1 Overdrive (the one with the quad opamp), incorporating 2 extra toggle switches for adjusting the bass response from the Jersey Girl Fulltender.
If you've built this and had oscillation when both the Edge and Bottom switches are engaged, please see the 3 step directions to fix this at the end of the build doc.

SCHEMATIC



BOM

Resistors

R1	1M
R2	1k
R3	1M
R4	10k
R5	4.7k
R6	680Ω
R7	3.3k
R8	10k
R9	10k
R10	33k
R11	470k
R12	100k
R13	33k
R14	33k
CLR	4.7k

Capacitors

C1	100n
C2	100n
C3	47n
C4	100n
C5	100p
C6	18n
C7	2.2µ
C8	100n
C9	10µ
C10	100µ
C11	10µ

Semiconductors

D1	1S1588
D2	1S1588
D2	1S1588
D4	1N5817
IC1	LF444
LED	3 or 5mm LED

Electromechanical

Bottom	SPDT on/on
Drive	B1M
Edge	SPDT on/on
Level	B10k

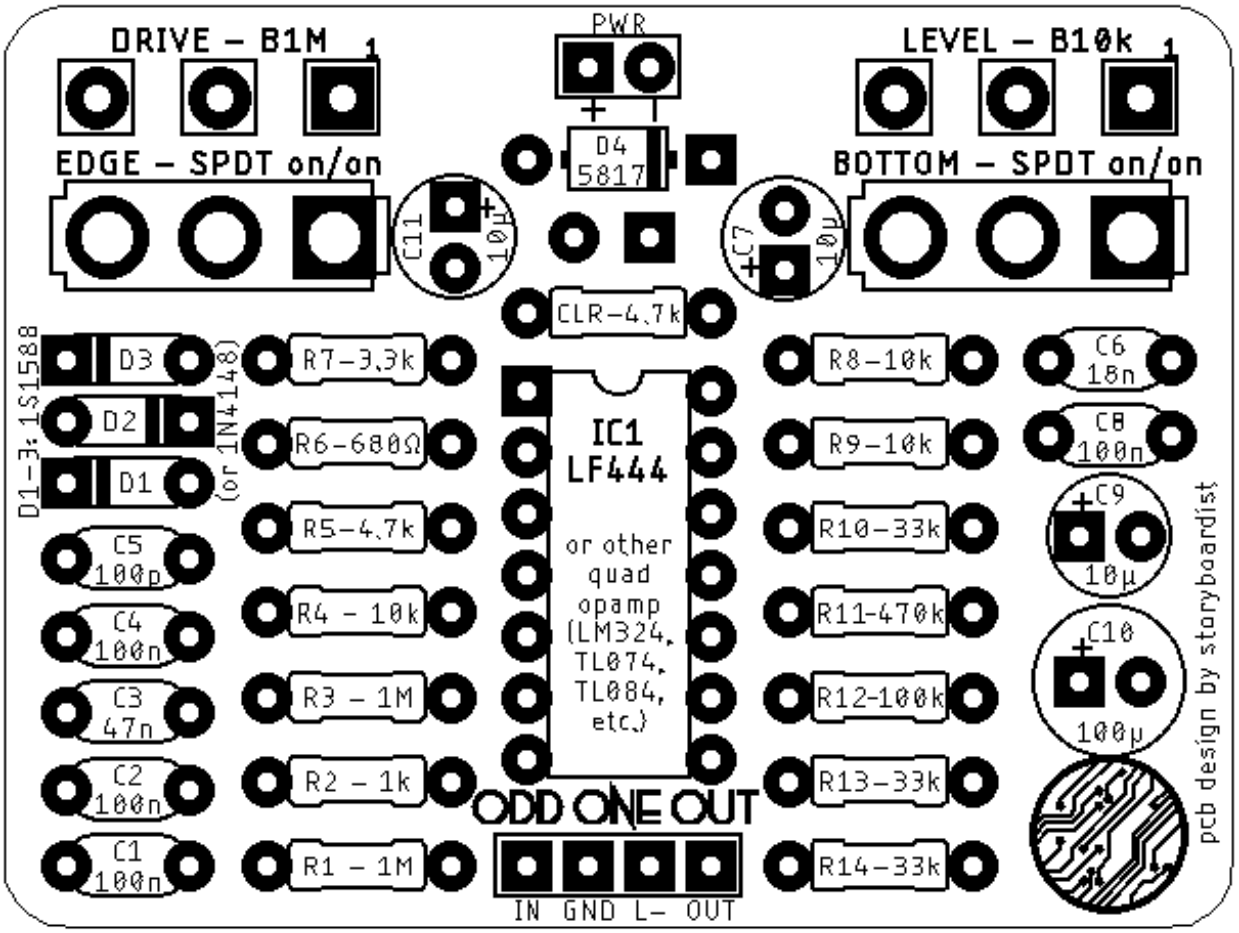
Note:
Just about any quad opamp can be used (the TL074 sounds just fine). D1-3 can be just about any diode as well (1N4148 or 1N916 are good alternatives to the 1S1588).

SHOPPING LIST

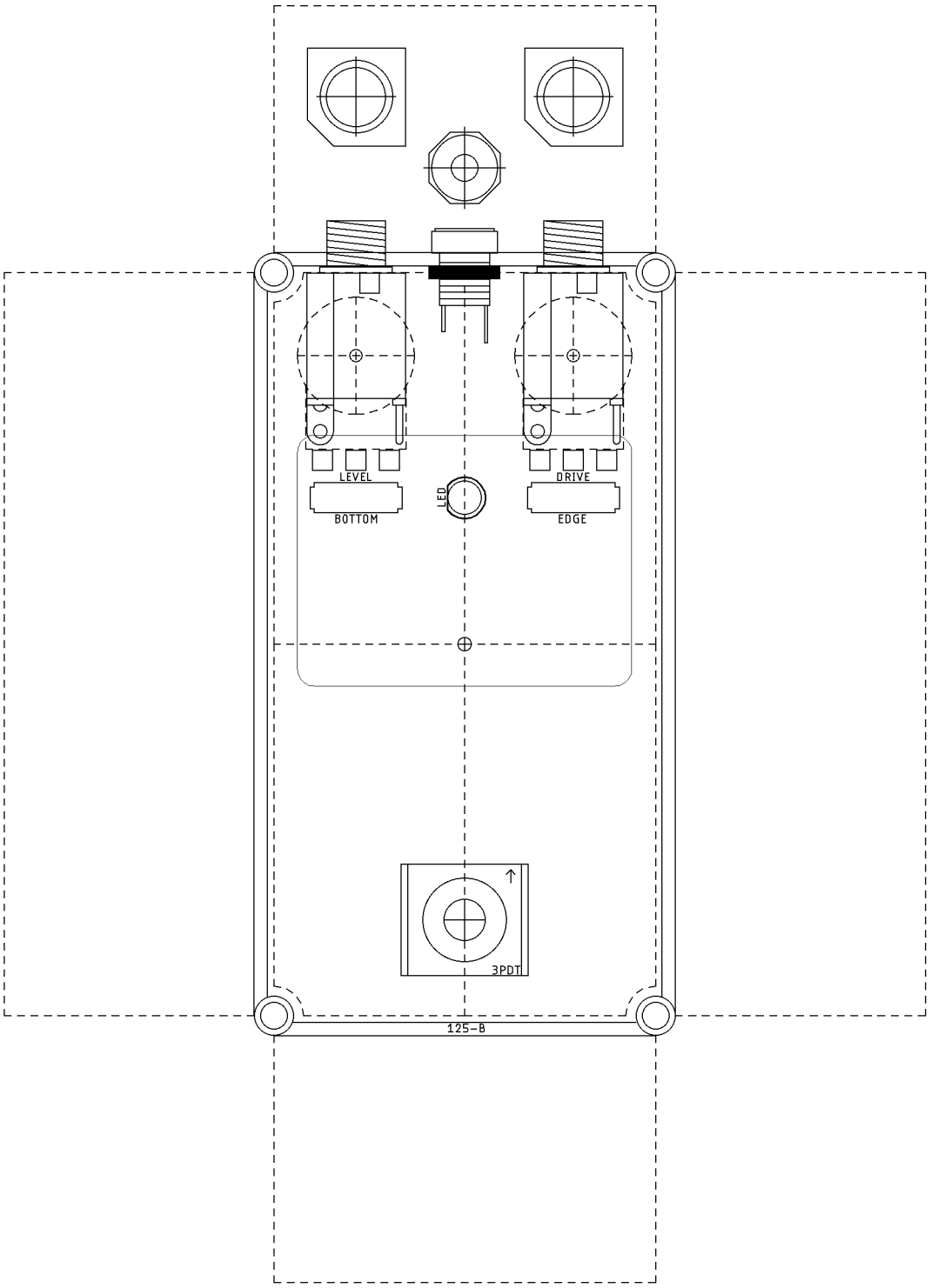
Value	**Type** (suggested)	**Quantity**
680Ω	¼ watt metal or carbon film	1
1k	¼ watt metal or carbon film	1
3.3k	¼ watt metal or carbon film	1
4.7k	¼ watt metal or carbon film	2
10k	¼ watt metal or carbon film	3
33k	¼ watt metal or carbon film	3
100k	¼ watt metal or carbon film	1
470k	¼ watt metal or carbon film	1
1M	¼ watt metal or carbon film	2
100p	Ceramic	1
18n	Film	1

47n	Film	1
100n	Film	4
2.2µ	Electrolytic (35v or higher)	1
10µ	Electrolytic (35v or higher)	2
100µ	Electrolytic (35v or higher)	1
1S1588	Silicon switching signal diode	3
1N5817	Schottky rectifier diode	1
LF444	Quad opamp	1
3 or 5mm LED		1
SPDT	On/on toggle switch	2
B10k	16mm right angle PC mount	1
B1M	16mm right angle PC mount	1

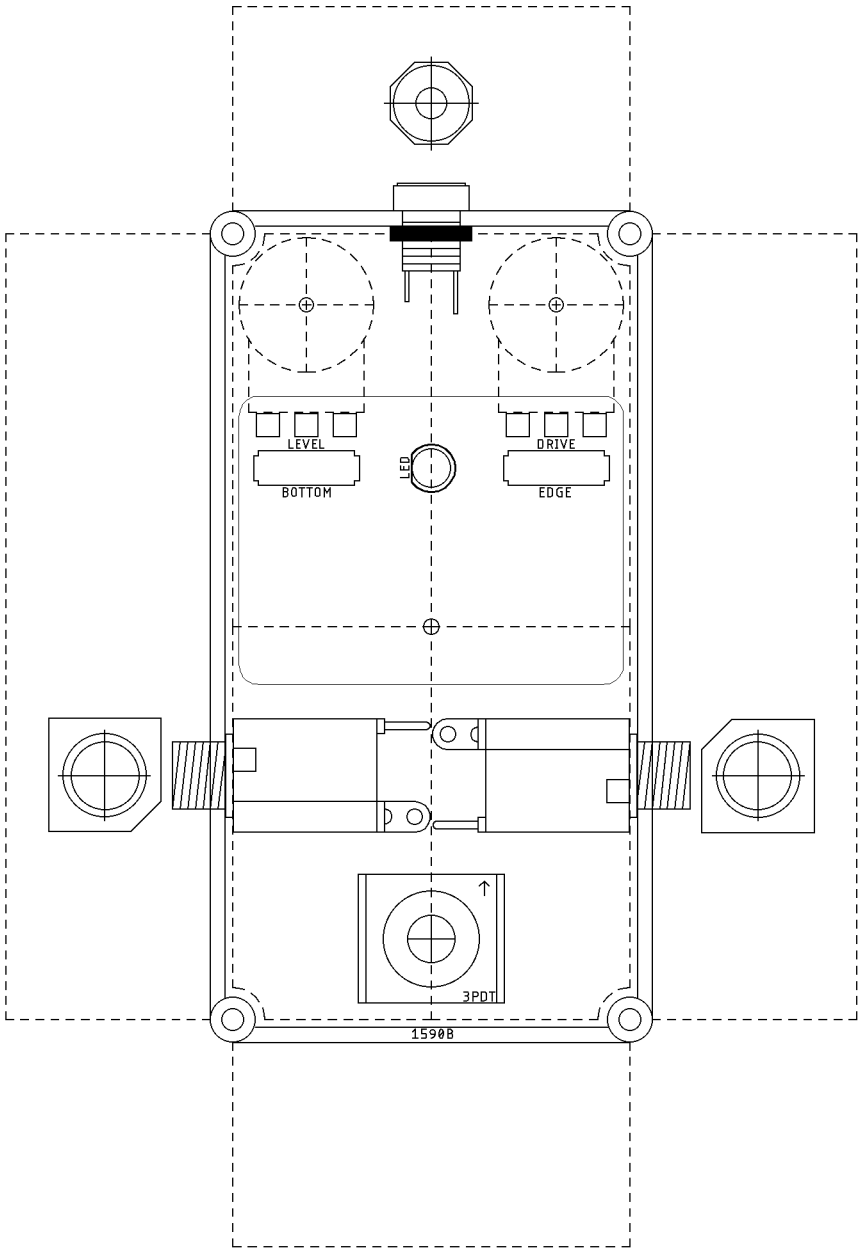
LAYOUT



DRILL TEMPLATE (125B)



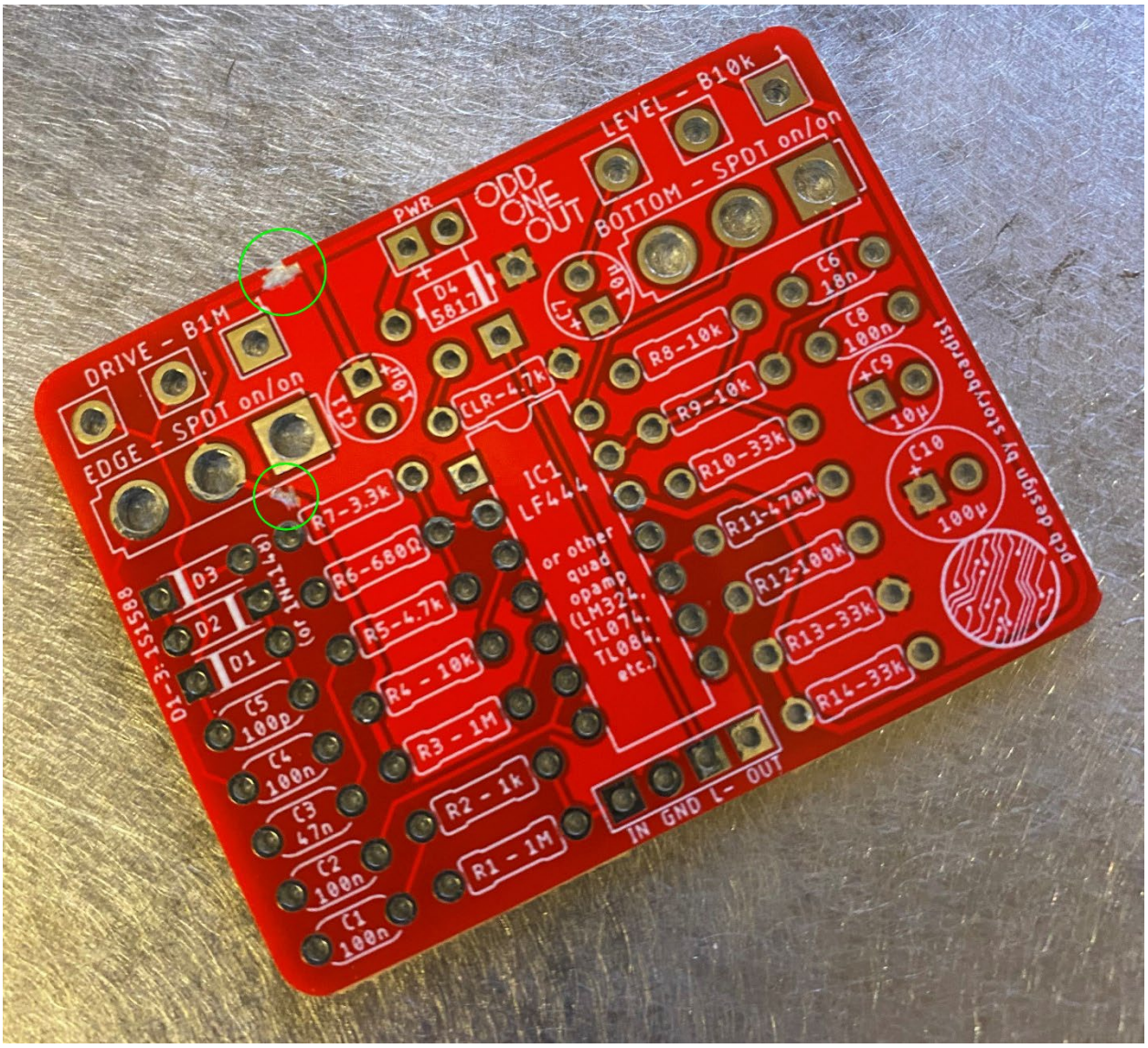
DRILL TEMPLATE (1590B)



OSCILLATION FIX

STEP ONE

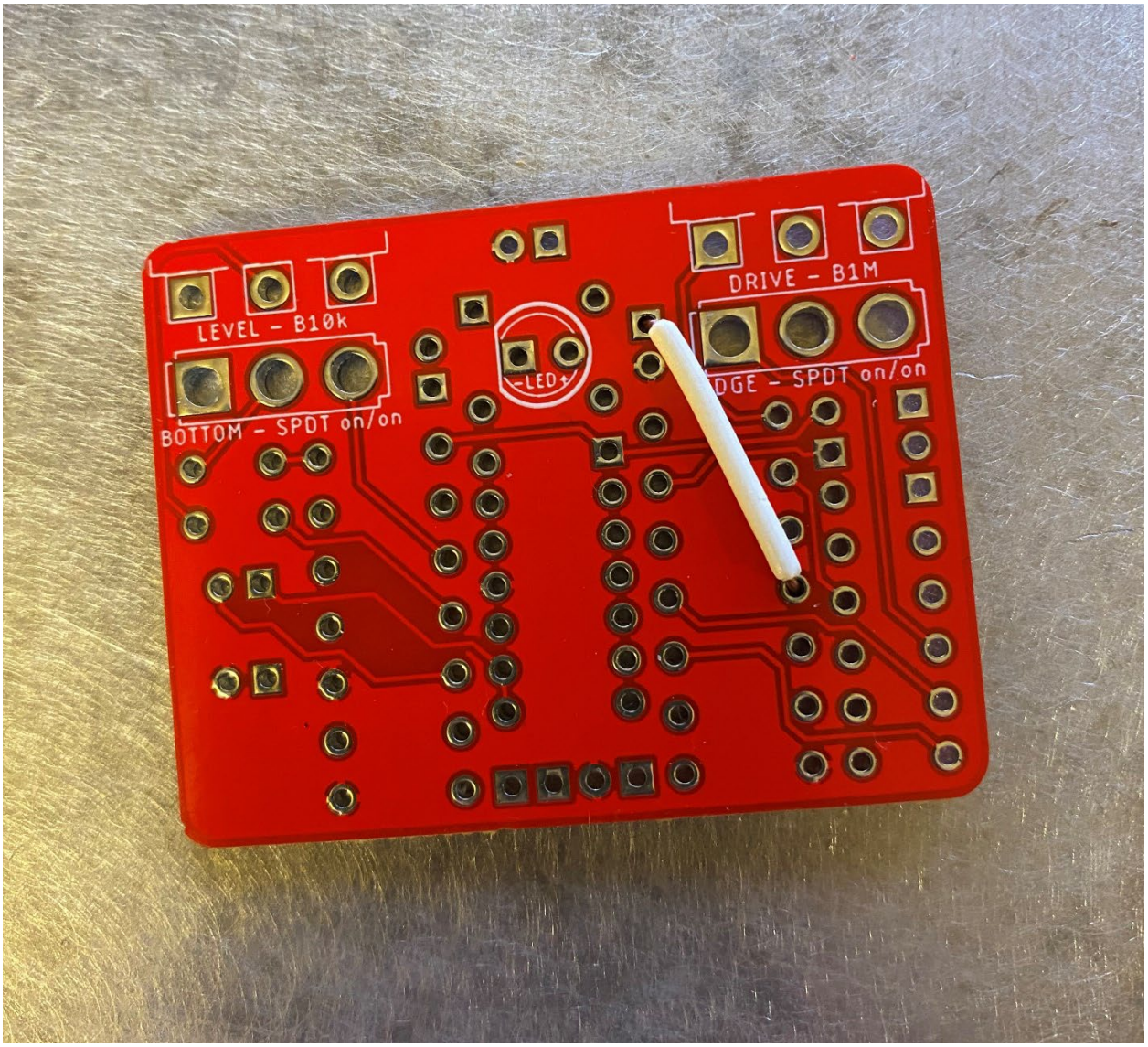
With a hobby knife carefully scrape away the solder mask and cut the copper for the VR traces in these two places:



Use a multimeter and test that there's no connectivity between the middle pad/lug of the Edge switch and the top/square pad of C11 or the outer pad of R4. This disconnects the edge switch from the VR.

STEP TWO

Then flip the board over and run a wire from the top/square pad of C11 to the outer pad of R4 like this:



This will reconnect R3-4 to VR.

STEP THREE

Then run another wire from the middle lug of the Edge switch to ground. Here I connected it to the ground pad for the IC: