

## Fix for Bad Keypad switches for a Cushman CE-7120

If you have a Cushman 7000 series service monitor you may find that the key switches on the keypad no longer rebound. The rubber domes in the switches get brittle with age and break. There is a replacement keypad for sale on EBay made by Grayhill but it requires mounting the keypad on the outside of the front panel instead of behind it.

I thought I would try to fix the original one first. The switches seem to be no longer available except for pulls. I figured that it would not be long before they would show the same problem with their rubber domes.

I stumbled across a switch from ALPS Electric (ALPS # SKEGACA010) that had a similar stem but the bodies were physically smaller. So I straightened out the leads and re-bent them to the proper spacing using a piece of Radio Shack PCB board (.061 inches thick) for a spacer. Drilled a small hole in the spacer PCB and held the switch tight against it with the lead sticking through, then bent the lead down 90 degrees. You do have to be careful installing the switches to keep them in line. Solder the side with the smaller hole in the keypad PCB first.

The original keypad switch bodies pressed against the front panel, you can't do that with the replacement switches so I got four nylon spacers .3 inches tall to put over the attachment studs.

The stems while similar do not have enough friction to keep the keycaps on. I used a little black RTV to work as an adhesive to fix that. I wanted to be able to get them apart again if necessary.

Hopefully the pictures will explain it a bit better.

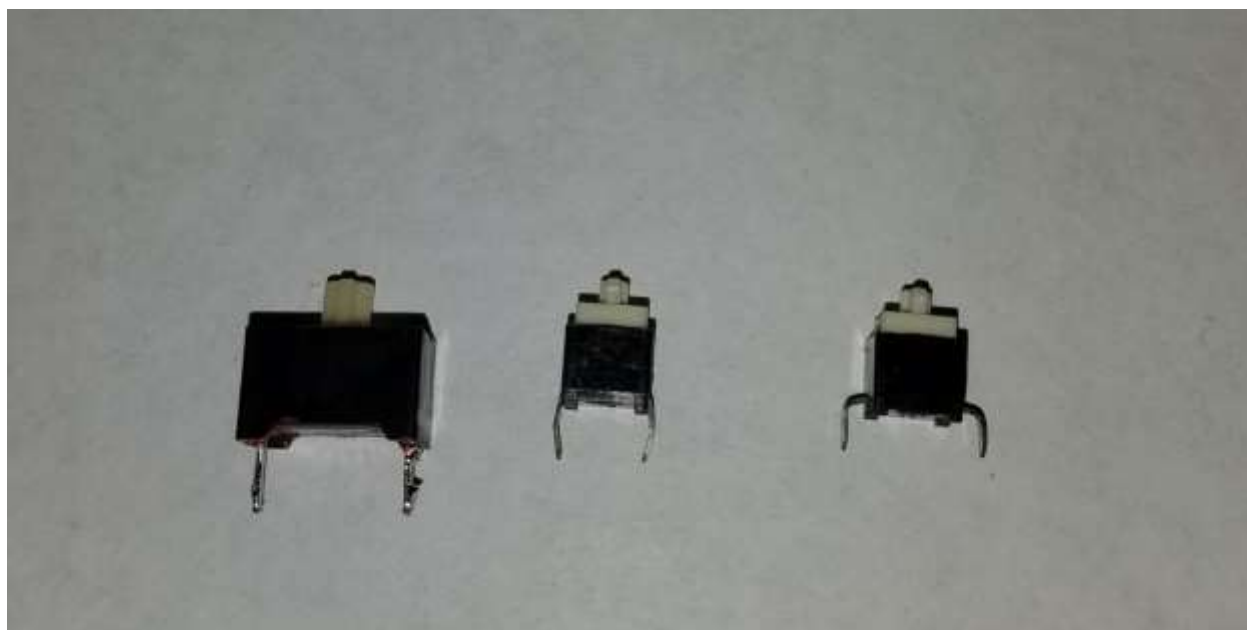
Todd

AD7VB

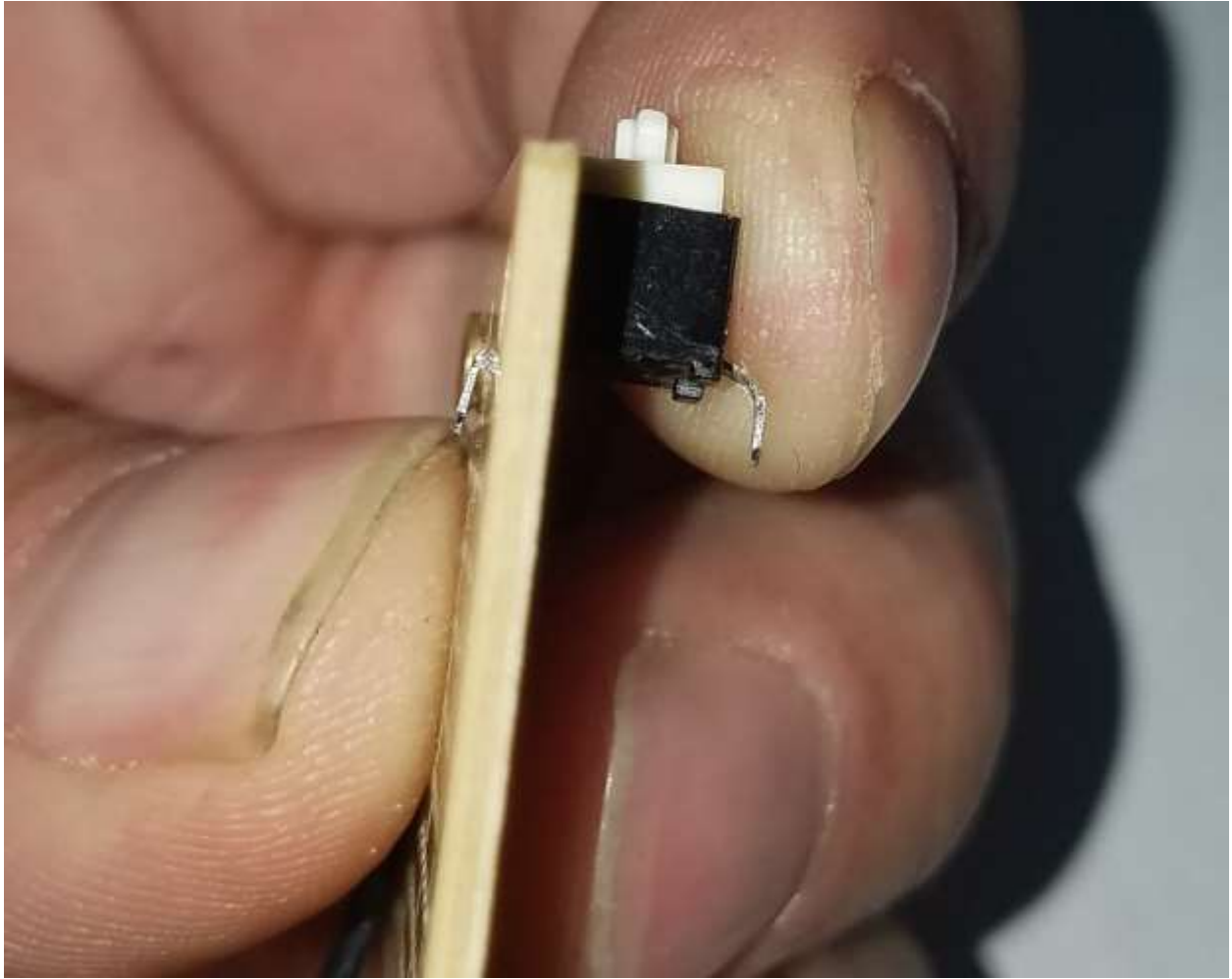
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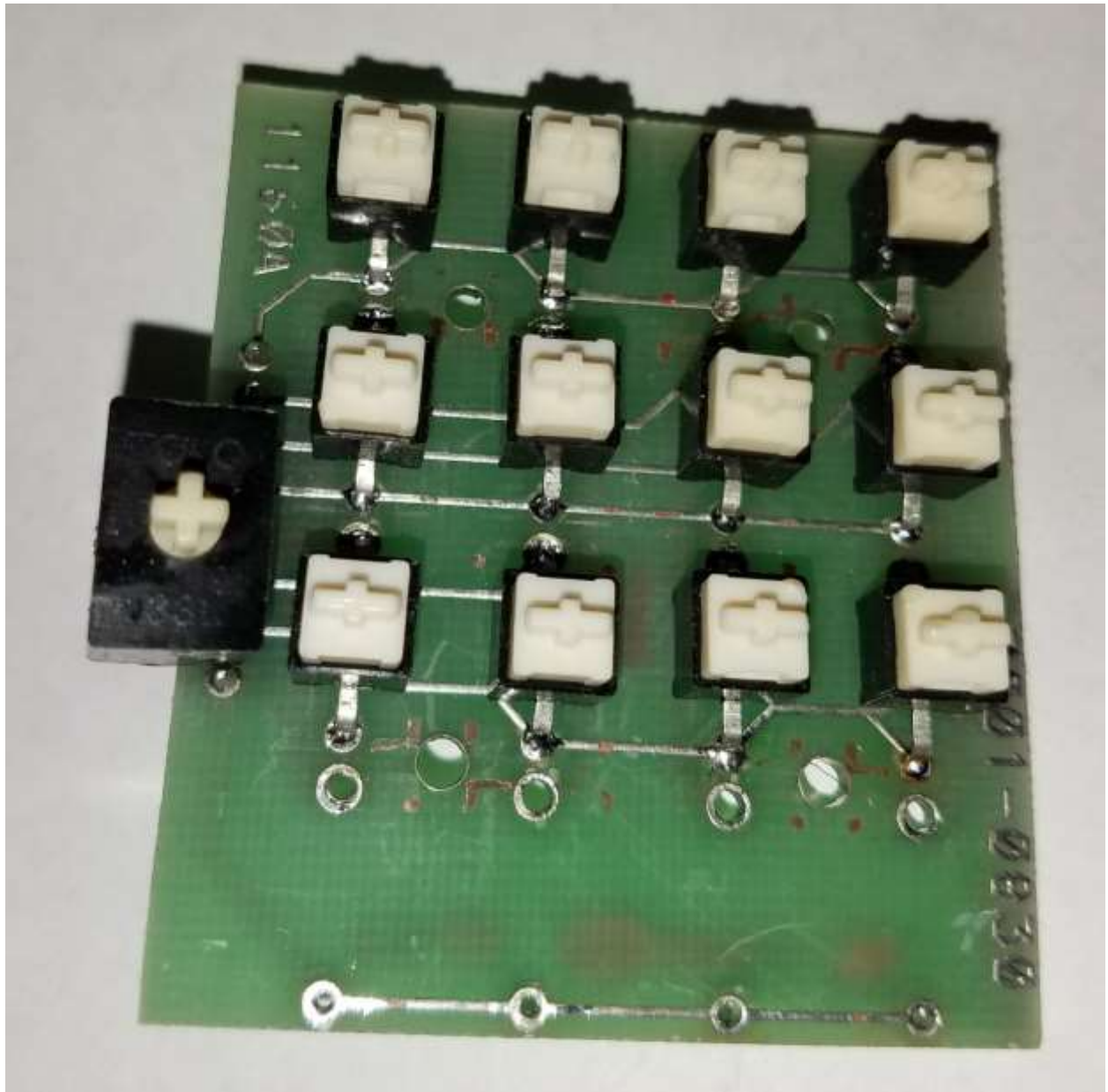
CE-7120 showing the Keypad



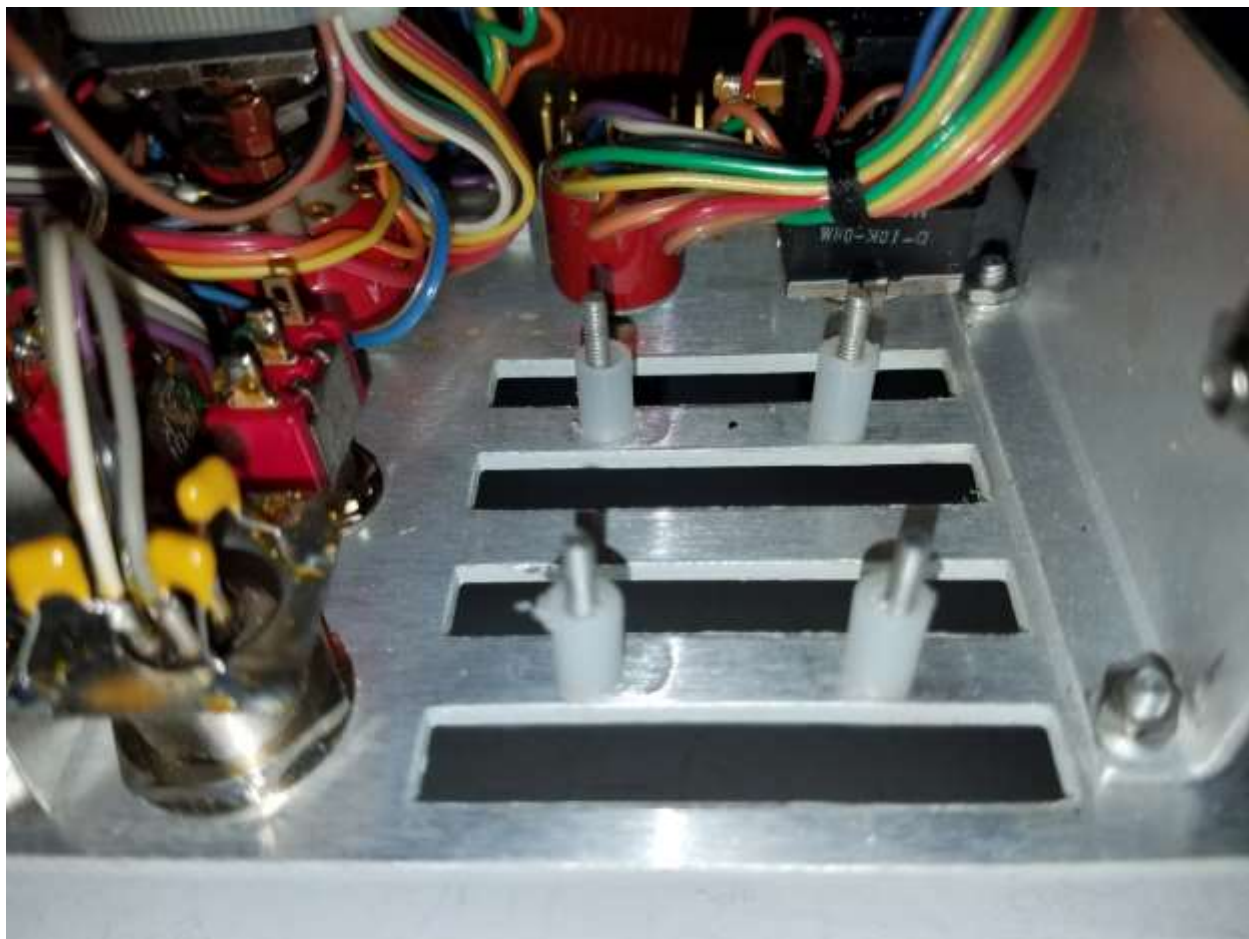
Original Switch, Stock replacement Switch, and modified replacement switch.



Switch lead bent down using PCB board as a spacer.



12 of the 16 switches installed with the original for comparison.



New Spacers before bolting the keypad back in place