The Flat Pack Key

When starting to learn how to send Morse code it is always advisable to start with the straight key. The problem is that Morse keys are expensive and this can discourage people from learning the code. Many People try to make their own key and we have all seen simple designs made from hacksaw blades and drawing pins. Often these designs work but are difficult to reproduce and lack any form of adjustment.

This Flat Pack Key (FPK) is designed to be low cost and ideal for anyone needing a simple key suitable for classroom or back packer use. My own straight key, a Pettersson Swedish pump key cost over 30 to 40 times the price of the FPK and I would not be comfortable to take it out on a field day trip for fear of damage or losing it.

The FPK is easy to build but will require you to solder one PCB connector and capacitor.

Before building check you have all the parts:-

1 x Base Fiberglass Panel
1 x Key Top Fiberglass Panel
1 x Round Flange Fiberglass Panel
4 x 14m M3 Steel Screws
1 x 6mm M3 Steel Screw
1 x 10mm M3 Steel Screw
7 x M3 Full Nuts
4 x 8mm Brass Threaded Spacer
1 x White Flange Spacer
1 x Red Gap washer
1 x 3.5mm PCB Jack Socket
1 x 0.01uF Ceramic Disk
4 x Square Rubber Stick on feet.

If any parts are missing contact me right away.

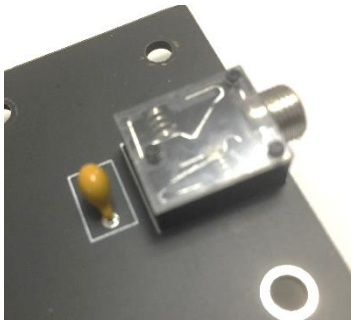
help@phoenixkitsonline.co.uk

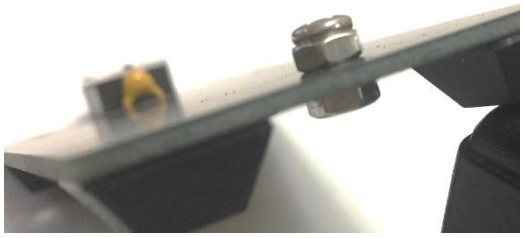
Construction of the key

Please take care to fit the right length screws into the correct places .

Step One:-

Find the PCB Jack socket and capacitor. These are fitted to the FPK base panel, it's the only panel with a silk screen component layout print on it. Since these are the only soldered parts it will be impossible to put them in the wrong place.



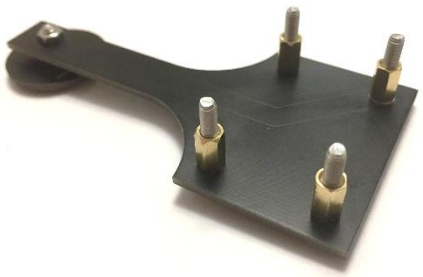


Now fit the bottom contact screw. Find the 6mm Screw (The shortest in the kit) and BEFORE putting it on the bottom board put one of the M3 nuts onto the screw, tighten this nut onto the screw. Put the screw through the single hole at the one end of the base panel away from the jack socket. The head of the screw needs to be on the same side as the jack socket and capcitor. The screw head is the bottom key contact. This screw is then fasten to the board by putting another M3 nut under the board. The screw should be more or less level with the bottom of this fixing screw.

Next find the round flange and the Key top board.

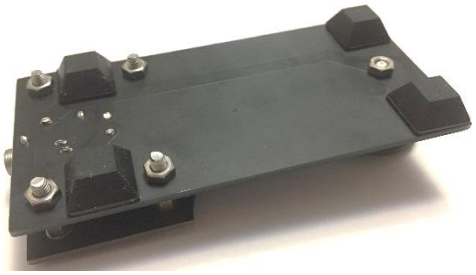
If you look at the flange you will see a number, make sure this on the BOTTOM side of the flange as in this picture. The screw is the 10mm one in the kit, (the medium length one). Put the screw through the flange and then place the white nylon spacer over the screw shaft.

Look at the main key top board and you will note 4 holes at one end and 1 hole on the thinner arm. On the arm the hole has a sliver contact ring on one side of the board This side MUST be the bottom of the top panel, the flange mounts so that the nut makes contact with this contact ring. This will form part of the circuit for the key. The screw will protrude by just about 1mm from the bottom of the nut.



Now find the 4 brass standoffs and the 4 long M3 screws you have left. Put the screws through the key panel top plate and tight the standoffs onto the screws as per the picture here.

Push the top and bottom panels together now so the standoff screws pass through the 4 holes in the base plate. Fasten the boards with the last four M3 nuts.



Fit the 4 rubber feet, the front two should be right at the front of the base to help its stability. Put the rear two between the screws on each side.

You should have one red gap washer left.

Try the action of the key. I find that the adjustment is ok when set like this. If you like more travel then remove the base panel again and remove the top flange, The spare red gap washer can be added to side with the nylon spacer, this will increase the gap between the contacts. If you want less travel then remove the bottom contact screw and then add the red washer to the top side of the screw/nut of the bottom contact, this will reduce the gap. Re-assemble the key and test again.

Connect the Key via a cable with a 3.5mm Jack plug on the key end and a connector to suit your radio on the other. That's it the FPK is built and ready.

It is NOT intended to be used for applications where high voltages are present on the keyer line, the brass standoffs and screws are exposed and would be dangerous if use to switch HT circuits. (and so would any metal/brass key)

It's not going to match the fine adjustment and smooth operation of a key costing hundreds of pounds but it will work as a no frills key for use in places that you would normally feel disinclined to take your expensive key too. Ideal for beginners and holiday/backpack use. (or as an emergency backup key)

Best of all if you lose it or break it it's replaceable for the price of a sandwich and a cup of coffee! so get outside and enjoy your CW with the Flat Pack Key without any worries.