

THANKS FOR CHOOSING ONE OF OUR KITS!

This manual has been written taking into account the common issues that we often find people experience in our workshops. The order in which the JumpSkiff is assembled is critical for ease of assembly.

Some steps are not obvious, so even if you're an experienced DIYer please read the steps thoroughly before starting.

If this is your first project, please read this article before you start assembling the kit:

www.befaco.org/howto/



ENJOY!

THE POWER SUPPLY

The Jumpskiff's power supply contains a PCB and a number of components. When soldering the components to the PCB ensure the body of the component is on the silkscreen side (the white images on the PCB) with the actual soldering done on the other side.

If this is your first project be aware that most components have a positive and negative terminal (these components are said to be 'polarised'). This means they have to be orientated correctly for the circuit to function. Check the description for each component and the silkscreen markings for polarity information before soldering your component. Do not solder the component until you are sure if it is polarised and if so what its polarisation is.

SOME USEFUL INFO:

- Resistors are not polarised
- Diodes are polarised and the negative side is indicated by a black or gray band on one side of the diode
- The long leg is positive (LEDs, capacitors etc...)
- If both the legs of a capacitor are the same length, it is not polarised.
- Snip the excess length of the legs of components after soldering

OPEN BAG A



RESISTOR

Qty	Value	Code	Name on PCB
1	820R	Gray, red, black, black, brown	R1



DIODE

Solder the diode **observing their polarity**. The black or white line on the diode must match with the white line on the diode symbol on the PCB silkscreen.

Qty	Value	Name on PCB
1	1N4007	D1



ELECTROLYTIC CAPACITORS

Its value is written on the side of the capacitor. Observe its polarity (the long leg of the capacitor is the positive (+)).

Qty	Value	Code	Name on PCB
2	22uf	22uf	C1, C2

FEMALE PIN HEADER



Place and solder the 8X2 female pin header over the silkscreen markings at position SV1.

LED LATCH SWITCH

The latch switch should be placed over the silkscreen as indicated on the PCB and soldered. After you have soldered the switch you can add the push button.

2.5mm DC POWER JACK

Place the DC power jack onto the PCB over the silkscreen at position J1 and solder.

OPEN REGULATOR BAG

5V DC REGULATOR (SMALL)

The small square 5V DC regulator should be placed over the silkscreen at position V1. Make sure the regulator is orientated correctly and fits neatly inside the white square silkscreen marking.

+/- 12V DC REGULATOR (LARGE)

The large DC regulator (marked "Mean Well 15W") should be placed at the center of the PCB and soldered into place where the large white square silkscreen indicates.

THE ENCLOSURE
OPEN BAG B



MALE PIN HEADERS

The fifteen 2x8 male pin headers must be soldered onto the large bus board PCB (which also forms the base of our JumpSkiff).

On the bus board PCB you will see a row of solder pads for fourteen pin headers and a final one offset from the rest (this will be for connecting to the power supply). You should solder the first fourteen pin headers to the pads then solder the remaining pin header. It is important that the final pin header is soldered precisely in position so that it lines up with the power supply for connection later.

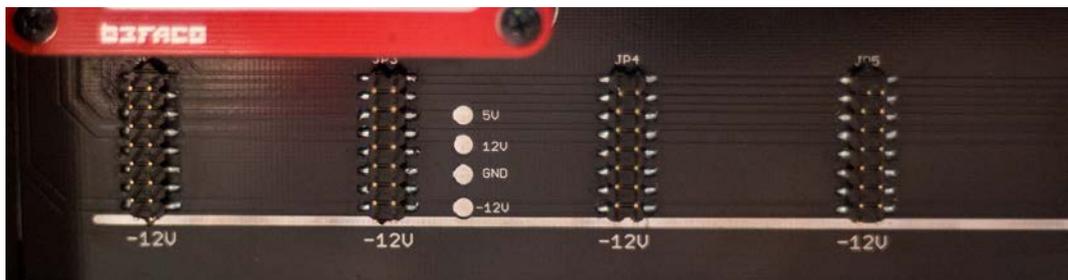
SOLDERING THE PIN HEADERS

- First tin one corner pad for each header on the bus board PCB with a small amount of solder.
- Next tin the corresponding pin on each pin header.
- Now bring the pin header into position over the tinned pad and heat both the pad and the pin until the solder melts and they are connected.
- With all the headers now in position, go back over each one and solder the remaining pins.

IMPORTANT: CHECKING FOR UNWANTED SOLDER BRIDGING

We need to check that all our solder joints are well formed and that no two are connected.

- Carefully inspect all your solder joints.
 - Are all the pins soldered to their respective pads? If not, resolder.
 - Are any two pads/pins bridged by solder? If so, you will need to remove the solder.
- Check with a multimeter on the continuity setting that none of the rails are connected. Use the large test points for this.



Buen trabajo! You’ve already made it quite far through the build. How are your focus and energy levels? Do you think a 15 minute break would better prepare you for the rest of the build?

Maybe you could call someone you haven’t talked to in a while or do something useful like watching videos of cats? Try “harmonizator no cat” on Youtube for example!

OPEN BAG C

HEX SPACERS

The four hexagonal spacers have to be added to the bus board PCB. Secure the spacers to the board using four M3 screws ensuring the spacers are on the same side as the pin headers. Use pliers and a screwdriver to make sure they are tightly secured.

M3 NUTS

You should have sixty M3 nuts; thirty for each rail as well as four remaining screws and two rails. We will temporarily use these four screws to help us secure the nuts in each rail.

Take the first rail and slide on the first nut. Slide the nut down the length of the rail and then secure it in place with one of the screws. Next feed in twenty-nine more nuts and secure the last one with another screw.

Repeat this process for the second rail.



OPEN THE ACRYLIC END-PANEL BAG

L-PROFILES & FIRST END PANEL

Add the two metal L-profiles to the long sides of the bus board PCB with the profile facing up on the same side as the pin headers. Make sure the L-profiles are aligned with length of the bus board.

Take the first acrylic end panel (not the one for the power connections) and two of the large black M5 screws. Pass the screws through the end panel and screw them into the corner of the L-profiles



ADDING THE POWER SUPPLY TO THE BUS BOARD

Add the power supply to the bus board PCB by slotting the 8x2 female connector on the power supply to the lone 8x2 male pin header. Do not add any screws to the power supply at this stage.

With the power supply in position you can secure the second acrylic end panel to L-profiles using two more M5 screws just as you did for the previous end panel.



FLANK PANELS AND RAILS

Now add the two flank panels by slotting them into the L-profiles. On top of the flank panels you can add the two rails.

Once everything is in place use the remaining four M5 screws to secure the rails to the end panels.



SECURING THE POWER SUPPLY

With everything in place we can now remove the four screws holding the nuts in place and use them to secure the PCB to the four spacers on the bus board PCB.



ADDING THE RUBBER FEET

Your kit should have 4 rubber feet for the skiff. Remove them from the paper and stick them on the underside of the skiff at each corner.

ENJOY YOUR NEW JUMPSKIFF!