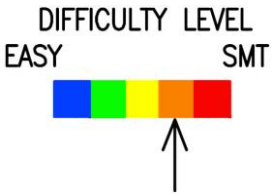
QRPGuys Iambic Mini Paddle



First, familiarize yourself with the parts and check for all the components. If a part is missing, please contact us and we will send one. You must use ***qrpguys.parts@gmail.com*** to request a part.

Parts List

1 – QRPGuys Iambic Paddle PCB pieces, 4 in all
4– 2-56 x .375”L SS pan head Phillips screw
4 - #2 SS flat washer
4 - #2 SS lock washer
4 – 2-56 SS nuts
4 – 4-40 x 3/8”L SS pan head Phillips screw
4 – #4 SS flat washer, .312” diameter
1 - #4 lock washer
3 – 4-40 SS nut
1 – 4-40 brass nut
1 - #2 x .75”L nylon spacer
4 - #2 x .187”L nylon spacer
1 - #4 x .187”L nylon spacer
1 – 2-56 x 1”L SS pan head Phillips screw
2 – SS paddle leaf
3 - #4 solder lug
2 - #4 stepped shoulder washer
2 - 1/2” wide x 2”L plastic shim
2 - 1/2” x 1” vinyl caplug

Even if you have done radio kit assembly before, please read through all the instructions before you start. This kit is a little different, in that the mechanical components are pieces of a printed circuit board. The instructions give you the scope of the project and an understanding of the techniques we have employed. You will be assembling the paddle from PCB material, and when assembled, they also form the electrical connections. There are solder pads, registration marks, and letter coded parts that match each other so that when you tack and solder, it will make a sturdy mechanical and electrical assembly.

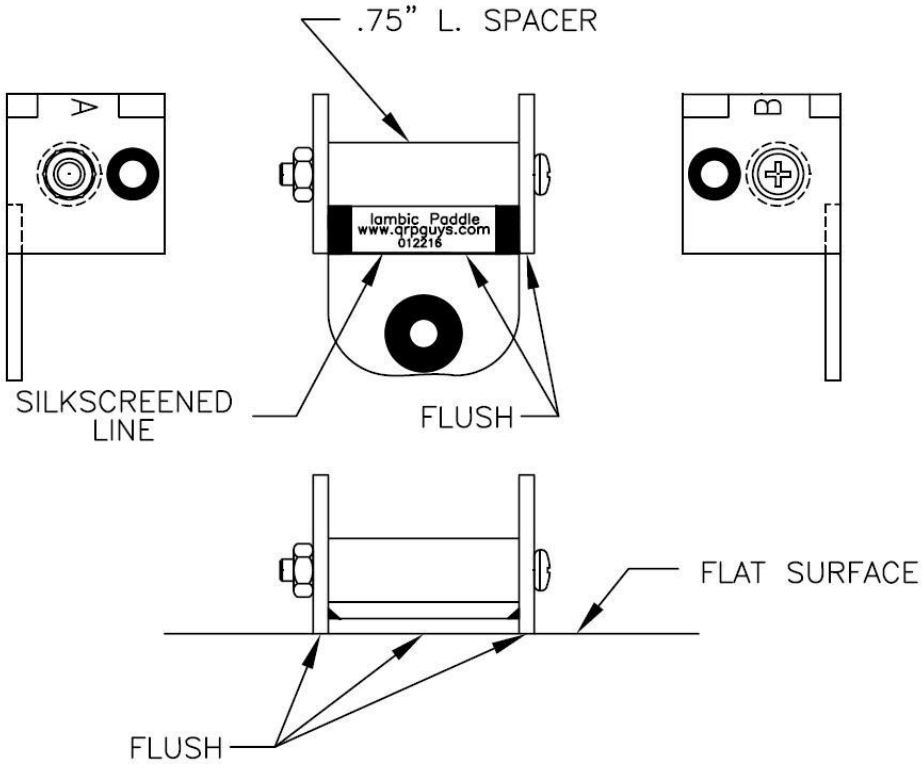
The tools you will need are a soldering iron with a small tip, rosin core solder, small Phillips screwdriver, needle nose pliers, tweezers for the small 2-56 screws and hardware, and a flat surface to work on.

These are the four pieces and the names we will be using during the assembly.

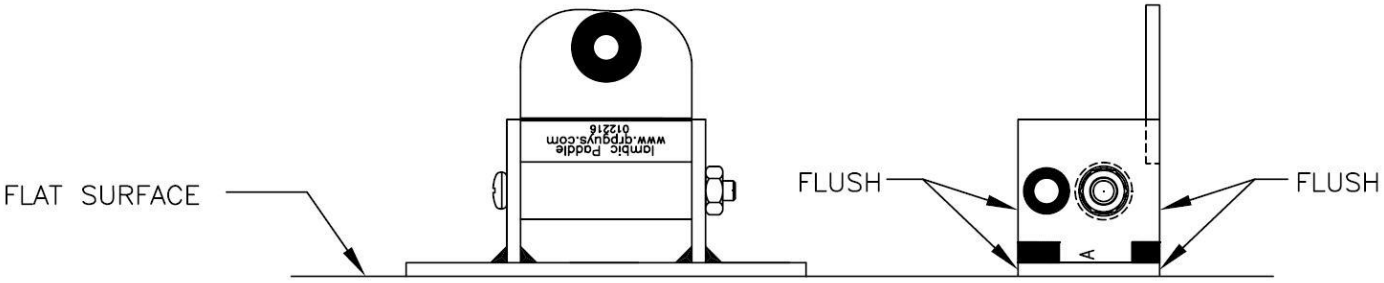
On all the soldering you do, you will use the same technique. You tack a single tiny point first and, then check to see that it is square and aligned with the registration points. It is easy to re-heat the joint and adjust the alignment when there is only a single point. Then you tack the other pads, before you do the finish soldering.

Notice that the pieces are coded with letters and registration lines. They will match up when you have them in the correct alignment.

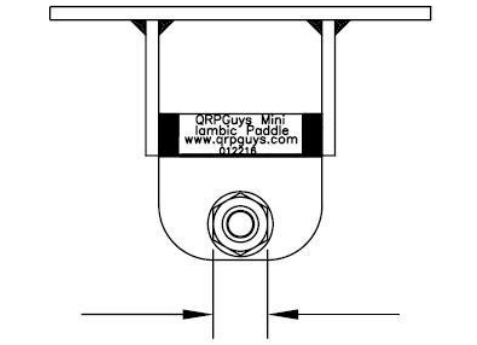
The first three pieces to be joined are the **left leaf holder** and **right leaf holder,** with the **contact holder.** Use the 2-56 x 1" screw, 2-56 nut, #2 x .75" long nylon spacer, left leaf holder and, right leaf holder. Position them as shown in the figure below on a flat surface. The silkscreened letters are to the outside. "A" on the left side, and "B" on the right side. The .75" spacer will give the optimum spacing for the contact holder. Place the spacer in the lower hole and tighten the screw/nut. The contact holder silkscreened line must be flush with the front edge of each leaf holder. When you are satisfied with the alignment, lightly tack the two sides of the leaf holders to the contact holder.

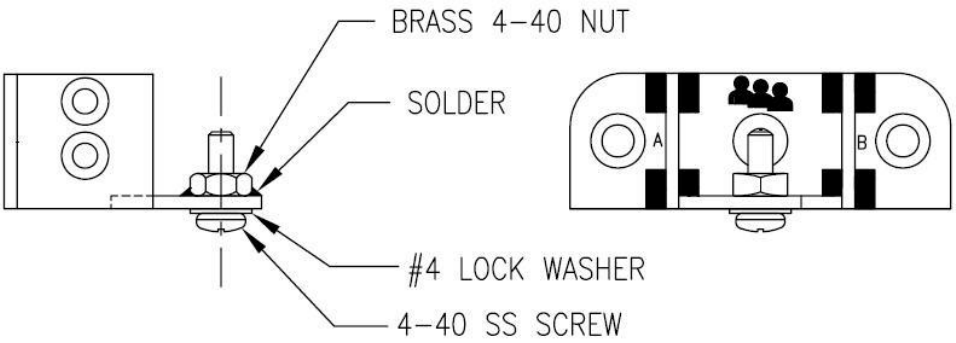


Do not remove the 2-56 screw. Mate the previous assembly to the **backstop** as shown in the figure below. Align the letters and registration silkscreened lines. Tack one small joint and check for alignment. When you are satisfied with the alignment, lightly tack all the other points. Finish soldering all the pads, including the joints between the leaf holders and the contact holder. You may now remove the 2-56 screw and spacer.



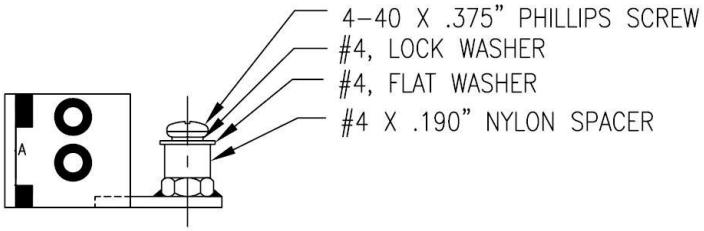
Solder the 4-40 brass nut to the assembly using the figure below as a guide. It is helpful to rub the brass nut on some scotchbrite or emery paper to remove any oxidation on the brass. Use the hardware as shown in the figure to hold it in place. The lock washer ensures the nut is square with the surface of the PCB when heated. *Position the nut flats as shown.* Solder the brass nut to the contact support. Heat the nut from the side. Do not get any solder on the top of the nut. If you do, it must be cleaned off. Remove the holding screw and lock washer.





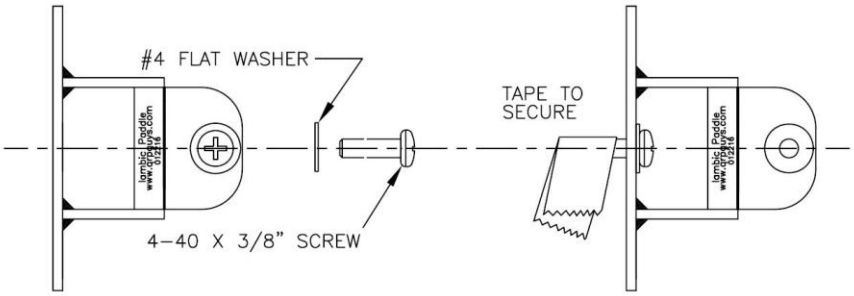
Assembling the center contact:

The center contact is assembled as shown in the figure below.



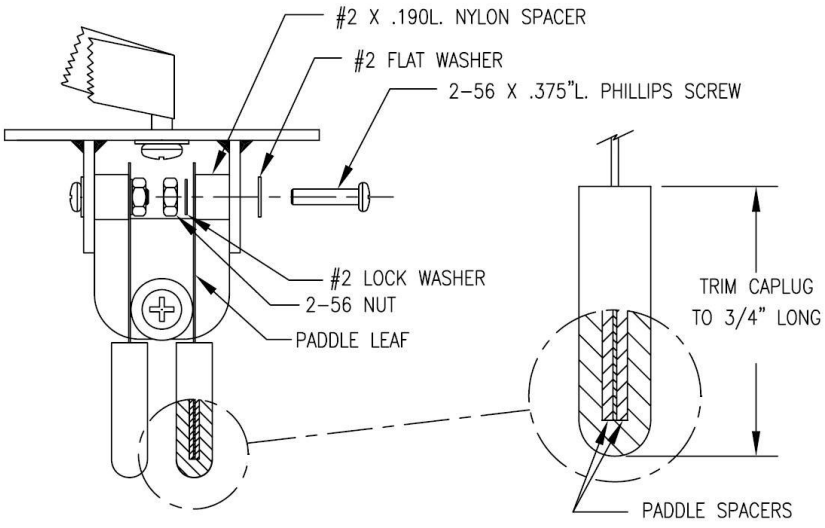
Pre-position center mounting screw:

Pre position the center mounting screw and flat washer and secure temporarily with a small piece of tape.

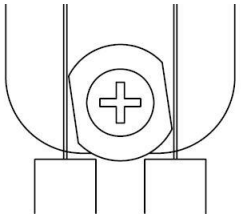


Assembling the paddle lever components:

It's a good idea to assemble the hardware over a cookie sheet. Any hardware is difficult to find if dropped.Secure the paddle leaves to the holders using the hardware as shown in the figure below. The hardware is small but with some patience and tweezers, can be assembled. It is easier to do the bottom screw first. Observe the order of the hardware. After assembly, if the paddle leaf holder is not perfectly square, the paddle leaf may be off to one side, or on an angle. Simply bend it to be close to the contact washer. The distance to the contact washer is a matter of personal preference and feel, and may need final adjustment after some practice. The hole in the center of the washer is a little larger that the holding screw, and permits some centering adjustment as well. The paddle leaves can easily be bent to accommodate different tensions and distances. The .010" thickness paddle leaves provide a light touch. A user could make a leaf with thicker material for a stiffer touch.



Cut the vinyl caplug lever cover 3/4” long from the closed end. Scissors will work easily. Cut the piece of 1/2” wide plastic into two 5/8” long pieces. Sandwich the paddle lever with the plastic spacers and slide the caplug over the end of the paddle leaf.

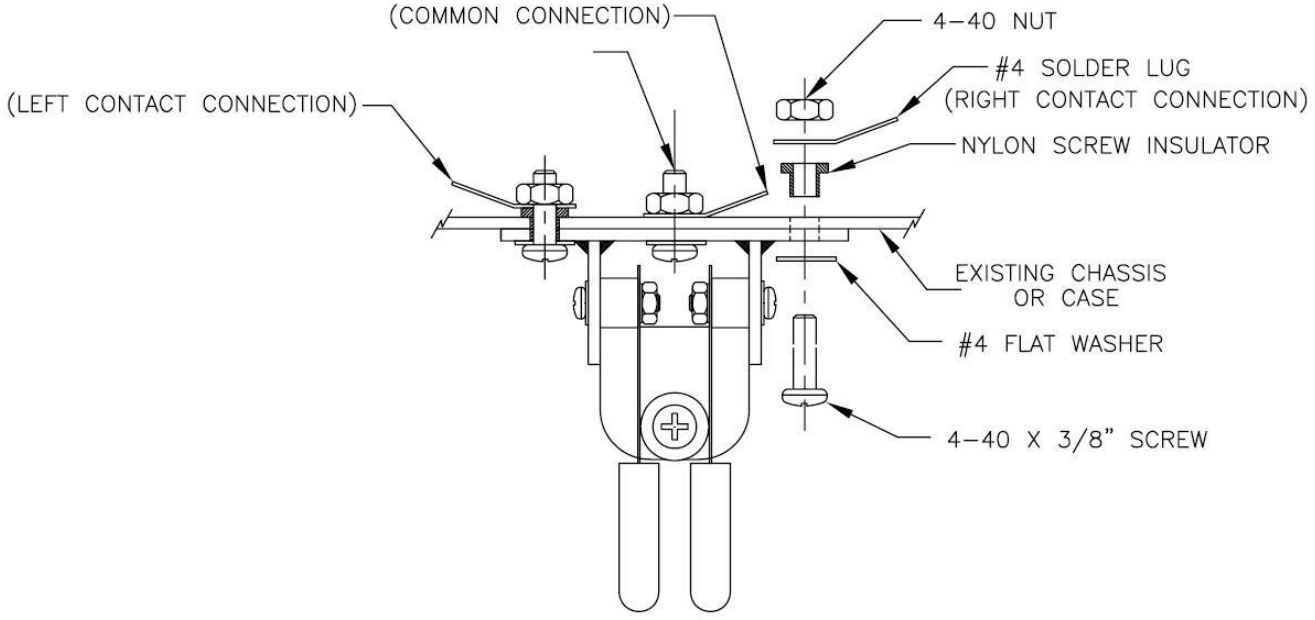


You may opt to use a different diameter washer of you own choosing. You could experiment with a larger washer with some flats filed on it for a different feel and or spacing.

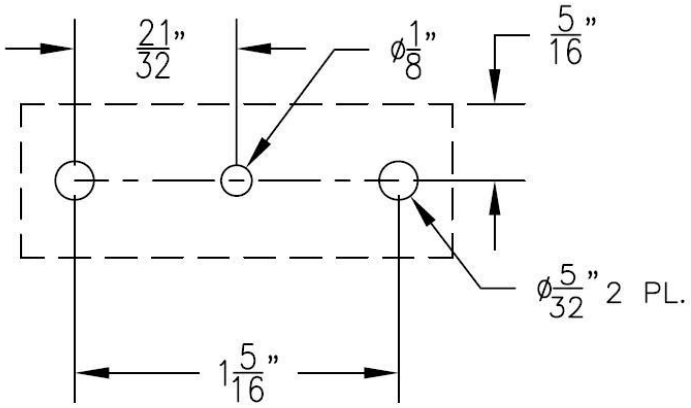
This completes the paddle assembly.

Mounting your paddle to a chassis:

The paddle was designed to mount to the front of your project chassis. It could also be mounted to the box where your keyer is housed. Mounting will require the drilling of three holes, in a straight line, that match the holes in the base of the paddle. Use the figure below and lay out the holes in you chassis in a straight line. Drill the two outside holes to 5/32” dia., and the inner hole to 1/8” dia. The two outside holes are insulated from your chassis by two nylon screw insulators, and form the dit and dah connection solder points for the input to your keying circuit. The center hole is not insulated, and is the common or ground connection. The three #4 solder lugs are supplied flat. Bend the solder end approximately to a 45º angle. The paddle is held in place, and electrically coupled to your chassis as shown below:



The figure below shows the hole location and diameters for your chassis mounting.



MOUNTING DIMENSIONS