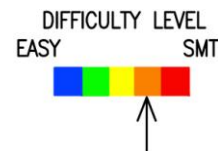
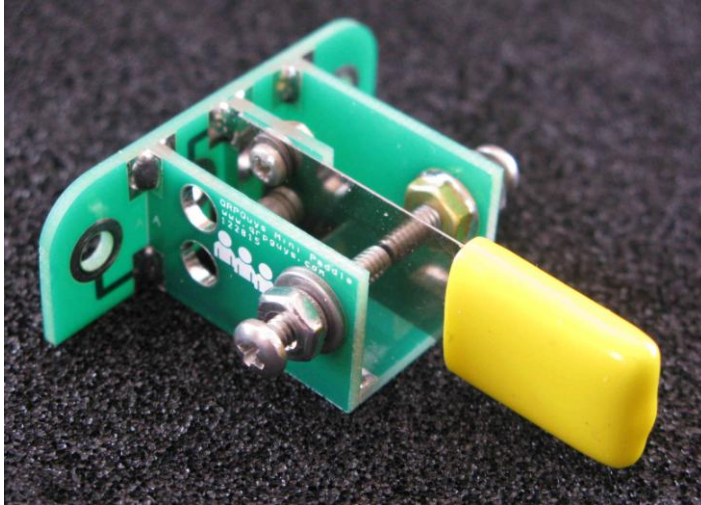




QRPGuys Single Lever Mini Paddle



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.

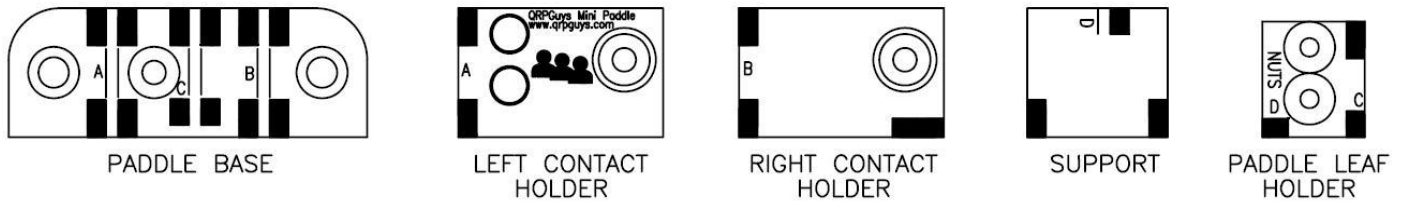
Parts List

- 1 – QRPGuys Mini Paddle PCB pieces, 5 in all
- 2 – 2-56 x .25”L SS pan head Phillips screw
- 2 - #2 SS flat washer
- 2 - #2 SS lock washer
- 2 – 2-56 brass nuts
- 2 – 4-40 x 5/8”L SS pan head Phillips screw
- 3 – 4-40 x 3/8”L SS pan head Phillips screw
- 2 - #4 SS lock washer
- 4 – #4 flat washer
- 5 – 4-40 SS nut
- 2 – 4-40 brass nut
- 1 – 4-40 x 1”L zinc pan head screw
- 1 – SS paddle leaf
- 3 - #4 solder lug
- 2 - #4 stepped shoulder washer
- 1 - 1/2” wide x 2”L plastic shim
- 1 - 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 parts 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, also forms 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, #1 Phillips screwdriver, needle nose pliers, tweezers for the small hardware, and a flat surface to work on.

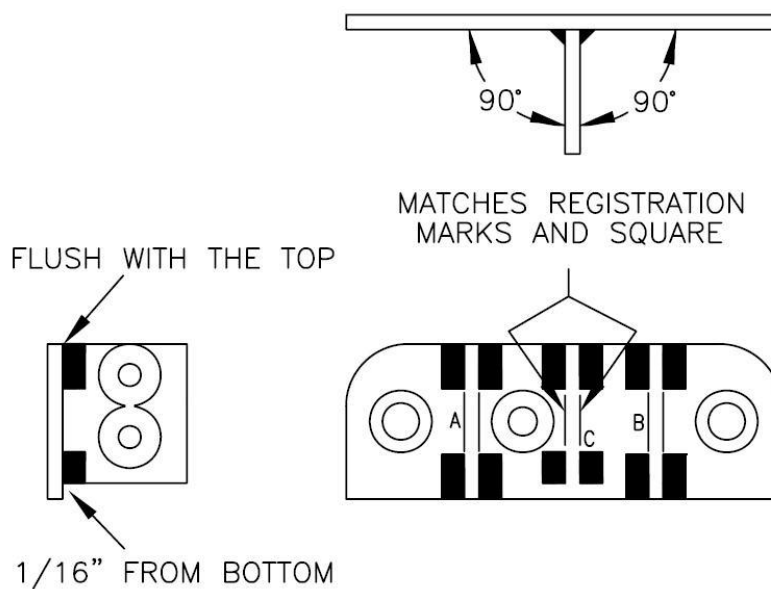
These are the five pieces and the names we will be using during the assembly.



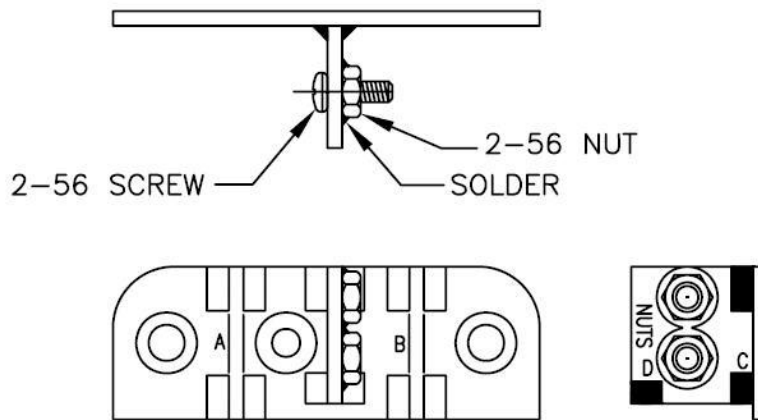
On all the soldering you do, you will use the same technique. You tack a single tiny point first and, then check to see that it is square and aligned with the registration points. It is easy to re-heat the joint and adjust the alignment when there is only a single point. Then you tack the other pads,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

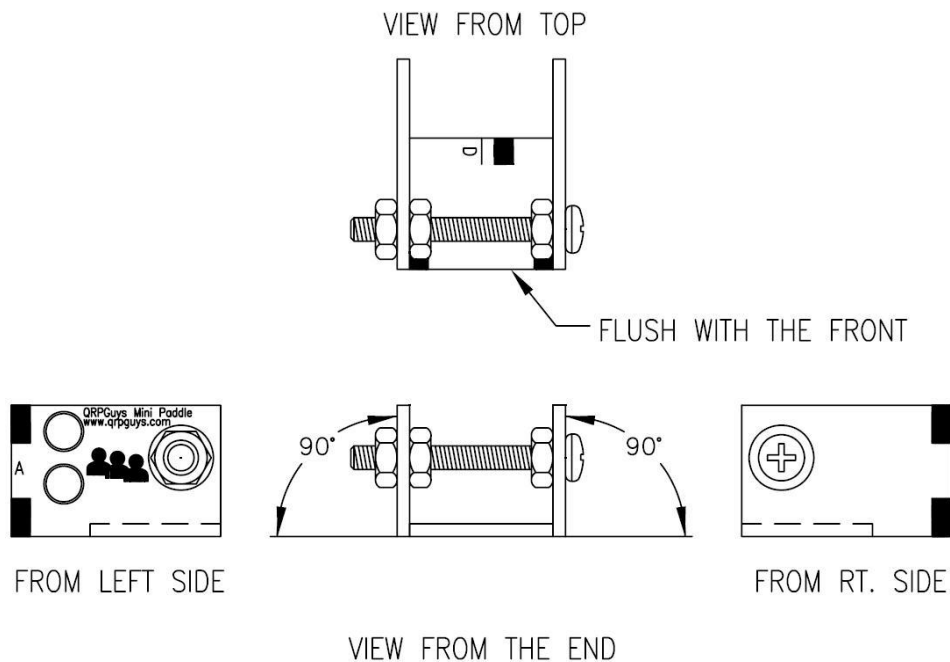
The first two pieces to be joined are the **paddle leaf holder** and the **paddle base**. Position the paddle leaf holder, flush with the top and aligned with the silkscreened lines. Put a small tack at the top on one side. Check your alignment. **If it doesn't look correct, do not try to bend it to fix it, you will lift the pad off the surface.** To adjust it, you need to re-heat the tack and straighten it while the heat is applied. Once you are satisfied, tack the opposite side pad. After a small tack is done on all the pads you can go back and touch up all the solder pads one at a time and it will stay square and flush with the top edge.



Next, solder the two 2-56 brass nuts to the **paddle leaf holder/paddle base** assembly. Use the two 2-56 SS screws to secure the brass nuts on the side of the paddle leaf holder marked “nuts”, and solder the brass nuts to the PCB. It is helpful to rub the face of the nut on some scotchbrite or emery paper to clean up the surface contacting the PCB.

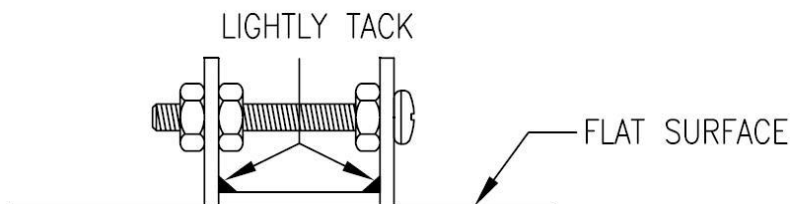


Next in the assembly, are the two **contact holders** mated with the **support**. Using the 4-40 x 1" long screw, assemble the two contact holders as shown in the figure below. You must adjust the nuts so that the support just does fit between the two contact holders, flush with the front

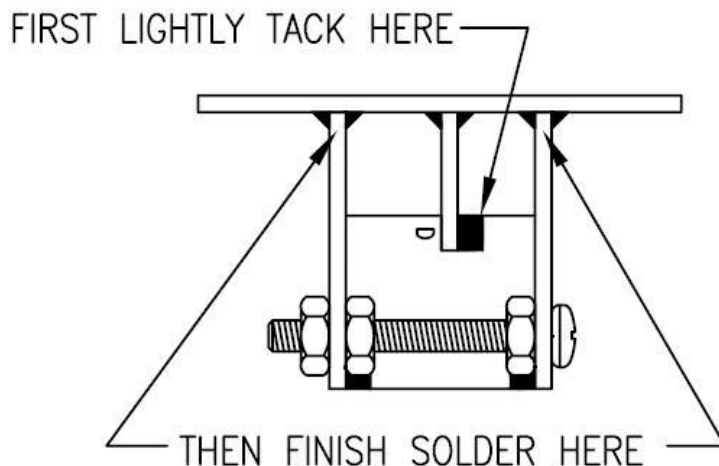


CORRECT ALIGNMENT OF THE CONTACT HOLDERS, AND SUPPORT

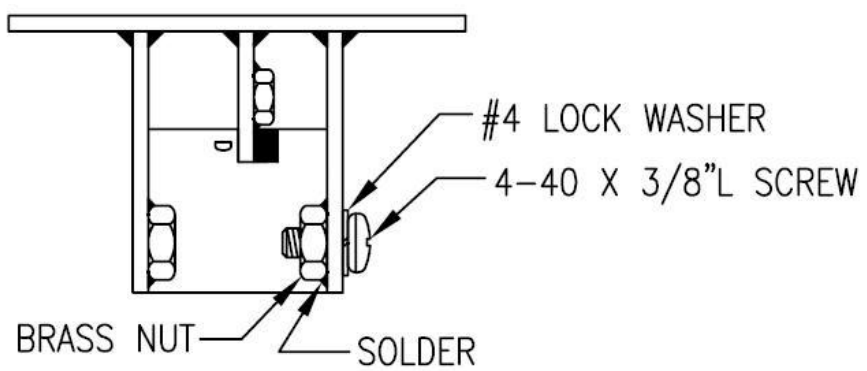
Once all this is aligned and secured, place on a flat surface, and put a “small” tack between each contact holder and the support.



Next, position the **contact holder/support assembly** with registration marks on the paddle base, and lightly tack the joint between the paddle leaf holder and the support. If all looks good, tack both sides of the holders, and alternate back and forth between the two sides adding a little more solder. Finish solders the first tack. Check that all the joints are finish soldered, and then remove the support screw.

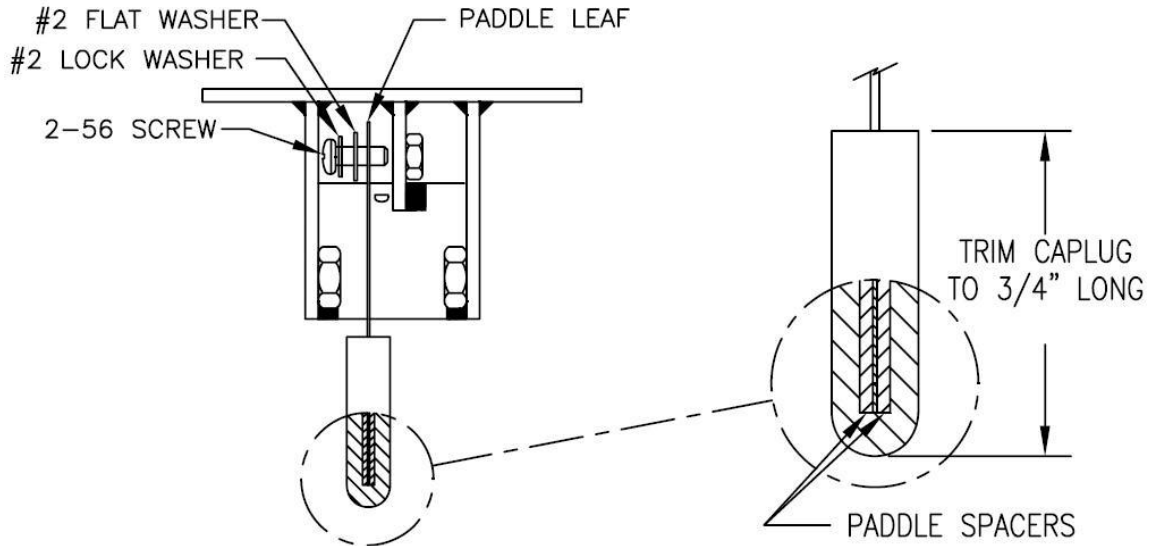


The two brass nuts need to be permanently soldered to the “inside” of both the contact holders. Temporarily use one of the 4-40 x 3/8”L SS screw, and, a #4 lock washer to hold them in place, and solder the brass nuts to the PCB. The lock washer insures that the nut will be flush with the PCB when it is heated. Rub the face of the nut on some scotchbrite or emery paper to clean up the surface contacting the PCB.



Assembling the paddle lever components:

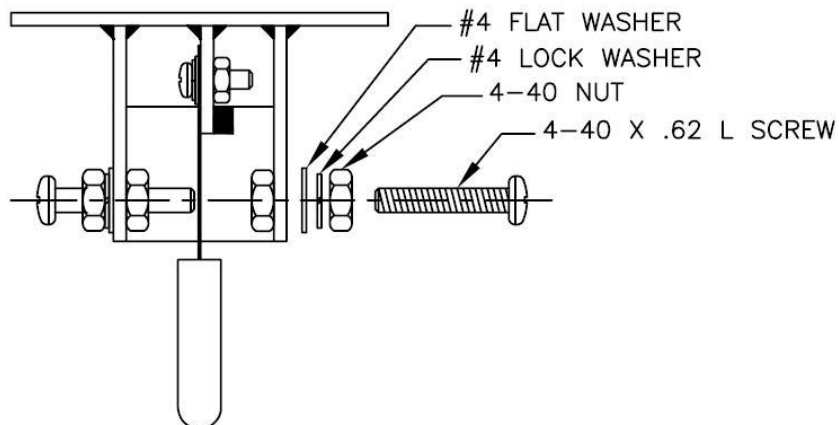
It's a good idea to assemble the hardware over a cookie sheet. Any hardware is difficult to find if dropped. Secure the paddle leaf to the holder using the hardware as shown. The hardware is small but with some patience and tweezers, can be assembled. It is easier to do the bottom screw first. Observe the order of the hardware. There are two clearance holes in the left contact holder for a small screwdriver to tighten the 2-56 screws. 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 centered between the two contact holders. Center the paddle leaf before installing the contact screws.



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.

Installing the contact screws:

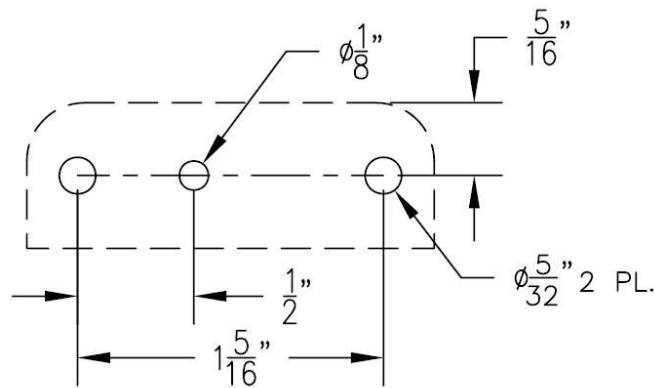
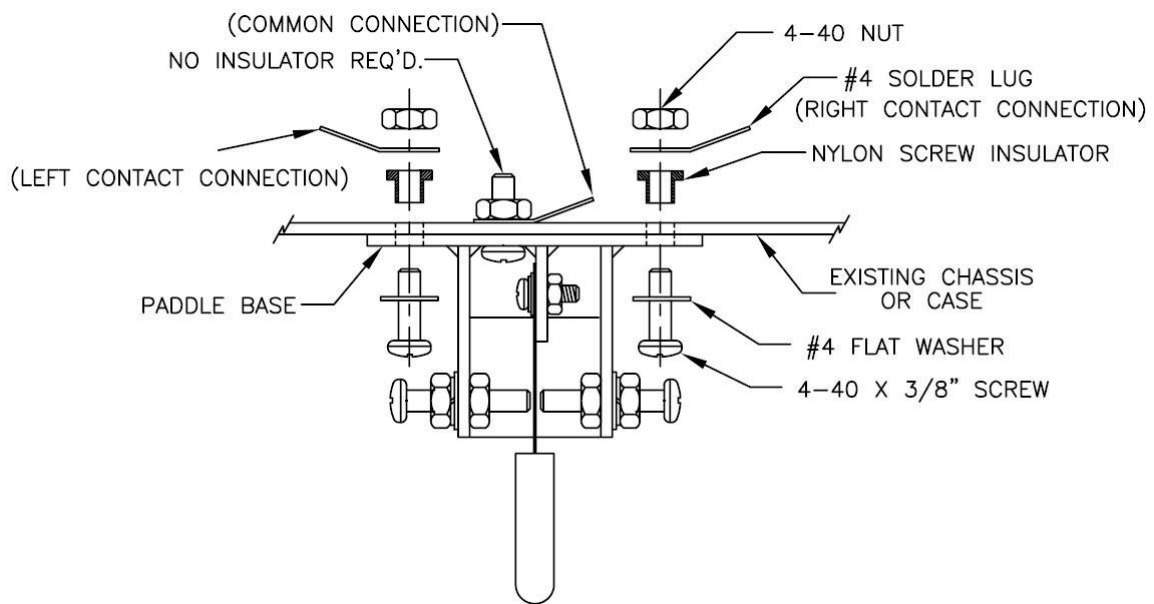
Install the contact screws to the holders as shown. Observe the order of the hardware. The contact distance to the paddle leaf can be adjusted from a few thousandths of an inch to whatever the user feels comfortable with for sending. Start with a very small clearance, and increase if needed. Secure the nuts when satisfied. This completes the paddle assembly.



This completes the paddle assembly.

Mounting your paddle to a chassis:

The paddle was designed to mount to the front of your project. 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. The easiest way to do this is to hold the key up to where you want to mount it, and simply use a pencil to mark through the two outside holes. The third hole is to the right of the left mounting hole by 1/2". 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 paddle is held in place, and electrically coupled to your chassis as shown below:



MOUNTING DIMENSIONS