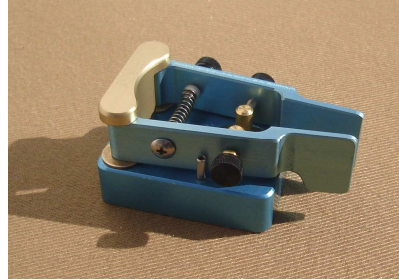


American Morse Equipment

Porta Paddle-II Iambic Paddle Kit



Thank you for purchasing an American Morse Porta Paddle-II Kit. We redesigned the original Porta Paddle for ease of assembly & provide all parts finished and ready for assembly, making this an easy kit to put together, but please read these instructions (or at least look at the pictures) before ripping open the parts bag. Good idea to **OPEN THE PARTS BAG OVER A CONTAINER** such as a bowl or pan or shoebox lid. Check your kit against the parts list & you are ready to start building.

Tools Needed:

#1 & #2 Philips screwdriver
Needle Nose Pliers
1/16 Allen Wrench (provided)

PARTS LIST

Item	Quantity
Base	1
Lever, Right	1
Lever, Left	1
Insulator	1
Contact Post	2
Dowel Pin	2
Washer, 3/16	2
Pin Retainer	1
Spring Retainer	1
Thumbscrew, 4-40 x 3/8	2
Thumbscrew, 4-40 x 1/2	1
Nut, 4-40, Brass	3
Set Screw, 6-32 x 1/8	1
Spring	1
Nut, Delrin, 4-40	1
Terminal Lug, #4	2
Screw, Panhead, 4-40 x 5/16	1
Screw, Panhead, 4-40 x 3/16	2
Screw, Panhead, 6-32 x 1/2	2
Plastic Sleeve, Strain Relief	1
Allen Wrench, 1/16	1
Adjustment Wrench, 3/16 Open	1

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ASSEMBLY

First, locate the two brass contact posts and insert them into the insulator, until they bottom in the holes. Note the notch in the insulator edge.



Now turn the insulator over & insert the two 4-40 x 3/16 screws with the #4 terminal lugs into the holes in the bottom of the insulator and thread them into the contact posts. Tuck the contacts together and snug the screws enough to hold the terminals in place. The contacts are pointing away from the notch milled into the edge of the insulator.



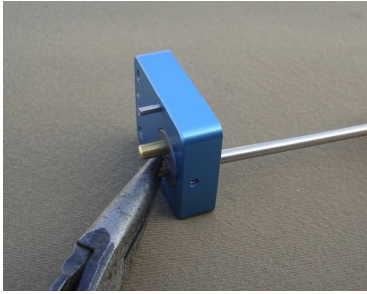
Start the insulator assembly into the bore in the base, with the notch aligned towards the edge of the base and the set screw hole.



Push the insulator assembly down until it bottoms in the bore, keeping the slot aligned with the set screw hole as you go. Put the 6-32 set screw onto the end of the 1/16 Allen wrench, and using the wrench to align the screw straight into the hole, thread it into the hole. As it starts to snug up against the slot in the insulator, rotate the insulator a little back and forth to allow the set screw to center the insulator. Reverse the wrench and use the long leg leverage to seat the screw in the insulator.



Turn the base over and loosen the 4-40 screws holding the terminal lugs, and spread the lugs apart & retighten. The posts may bind and tighten, or you may need to hold them. Turn the base on edge & hold the post with needle nose pliers while tightening the screws with a Philips screwdriver. You can put tape on the jaws to protect the brass, or simply use care.



Turn the base right side up & slide the dowel pins into the bores in the base. Locate the two 3/16 washers; note that each washer has one side with rounded edges & one with rather sharp edges. Slide a washer over each dowel pin with the sharp edges down. The base is now ready for the levers.



Prepare the two 4-40 x 3/8 thumb screws by cleaning up the screw ends. These are the lever contacts, so a smooth surface is desired. Hold the screw vertically and rub it on a piece of 320 grit paper on a flat surface (counter top, drill press table, mirror, etc) a few strokes. It doesn't take much to remove the rough mill surface.



Locate the three brass nuts & thread one onto each of the 4-40 thumbscrews, almost to the head of the screw. Screw one of the contact screws into each lever a few turns, in the hole nearest the paddle end of the lever. The right lever gets the 4-40 x 1/2 thumbscrew in the hole nearest the 3/16 bore. The left lever gets the 4-40 x 5/16 (Philips) screw in the corresponding hole; screw that one in until it bottoms. Locate the white Delrin 4-40 nut: thread the nut onto the 4-40 x 1/2 adjustment thumbscrew in the right lever. It is designed with a tight fit, as is a self-locking nut; start it onto the adjustment screw with your fingers & thread it up the screw with needle nose pliers: hold the Delrin nut with the pliers and turn the thumbscrew until there is 1/8 inch or so of the screw exposed.

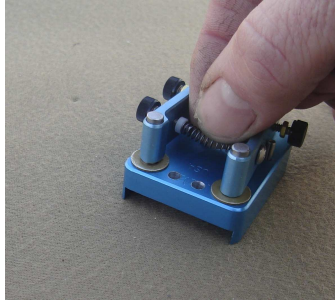
Note: "The spring adjuster thumbscrew has been lengthened to provide more engagement of the spring; please mount the Delrin spring retainer an additional 1/8 inch down the screw to create the extra engagement; the opposite pan head screw has also been lengthened "



You are ready for the final assembly now. The 3/8 thumbscrews should be threaded into the lever just a few turns, leaving plenty of clearance to install the levers. Slide each lever over it's dowel pin (finger paddles extended downwards). The lever fits between the stop pin & the contact post.



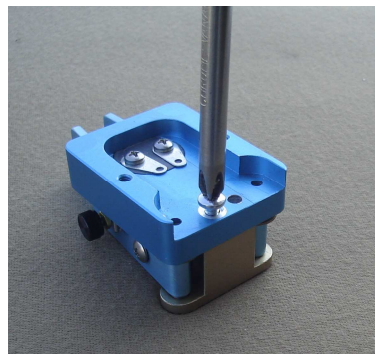
The spring sits tucked in between the levers close to the pin retainer; now is the time to install it while there is room for your fingers. Slide one end over the 5/16 pan screw in the left lever & the other end over the adjuster screw up against the Delrin washer.



Next fit the pin retainer over the dowel pins; make sure you have the retainer **perpendicular** to the base & press it over the pins with your fingers - snug fit.



Turn the paddle over & thread the 6-32 x 1/2 pan screws thru the holes in the base into the pin retainer. Note that one hole has a spot face in the anodize; this is for ground connection. Tighten both screws.



Turn the paddle over & adjust the spring force & contact gaps to your taste & lock with the 3/16 nuts & supplied wrench.

Use a 1/8 cable for key lead & slide the plastic sleeve over the cable before attaching connections; when the base is tightened to a mounting, the sleeve compresses between the base and the mount, providing strain relief.

