KK1 Precision Straight Key Kit

American Morse Equipment
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Thank you for purchasing a KK1 kit. I hope you enjoy building and using your new precision key. Believing that simplicity is elegance in design, I designed this key to be simple: reliable, easy to manufacture, easy to assemble, and with superior function. Please take a few minutes to check out these instructions and maybe save yourself some time and hassle.

You will need only a #0 Philips screw driver, a 1/16 Allen wrench, a fine file or sand paper, and a small knife.

First task is to check the parts inventory Be careful opening the small parts bag; there are a few very small parts that are easy to lose. It's a good idea to open the bag over a bowl or pan to catch the little devils that want to leap away into the void. If you find you are missing any parts, contact me at dwhauff@digitalputty.com and I will send a replacement as soon as possible.

PARTS LIST

PART	QUANTITY
Base	1
Operating Lever	1
Contact bar	1
Paddle	1
Dowel Pin	1
Shoulder Washer	4
Set Screw, 6-32 NC	1
Thumb Screw, 4-40 x 7/16	1
Thumb Screw, 4-40 x ½	1
Thumb Screw, 4-40 x 3/16	1
Thumb Screw, 4-40 x ¼	1
Thumb Nut, 4-40	2
Spring	1
Washer - #0/1	1
Machine Screw, 6-32 x ½	1
Machine Screw, 4-40 x ¼	2
Machine Screw, 4-40 x ¼, Brass	1
Machine Screw, 4-40 x ½	1
Bumper	4

ASSEMBLY

Only a few areas require deburring prior to assembly, but you may want to spend some time smoothing and polishing or customizing your key. We used a corner radius end mill for finishing inside corners on the key and interpolated radii into outside corners, but you may want to smooth some of the edges. The ends of screws used as contacts can be cleaned up with a few strokes on a piece of fine grit wet or dry or sand paper.

The area that requires attention prior to assembly is the inside of the clevis area integrated into the base. The dowel pin hole is reamed to a precise diameter; the reamer leaves a slight burr around the hole. The clearance between clevis and lever is less than .002 inch; this burr must be removed from around the holes on the inside of the clevis to allow the operating lever to fit between the clevis arms. If you have a fine flat file & are good at it, this is an easy method. A small pocket knife or some such also works well here, just scrape the little burr off the edge of the holes - doesn't take much, it is just a slight raised edge around the hole. Also check for a burr on the inside edge of the radii on top of the clevis arms. The operating lever should slide between the arms. Snug is OK but not tight.

Locate the four shoulder washers. They mount in the two 3/16 holes drilled into the contact bar notch, top and bottom (fig 1).

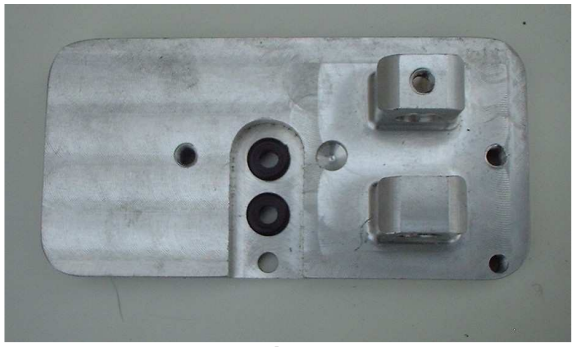


Fig 1

Locate the 4-40 x 1/2 ground end machine screw. There are two ½ inch screws, the smaller is the 4-40; you can easily see the ground end. This screw goes into the inboard (center) hole from the bottom of the base. Place the contact bar over the screw, flat end to the outside, and start the center screw in the threads of the bar, using a screw driver from underneath the base. Leave the screw loose & start one of the standard 4-40 x ¼ screws in the other hole. Tighten both screws evenly until the contact bar is pulled tightly against the shoulder washers (fig 2).

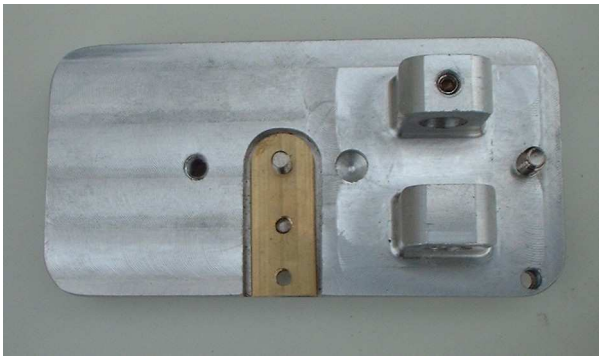


Fig 2

Locate the 6-32 x ½ screw. Screw it into the hole tapped near the rear edge of the base from underneath (fig 2).

Locate the clear plastic paddle and remaining standard 4-40 x ¼ screw. Mount the paddle to the operating lever in the step in one end of the lever. Figure 3 shows the paddle mounted on the lever, and the relative positions of the other components of the lever.

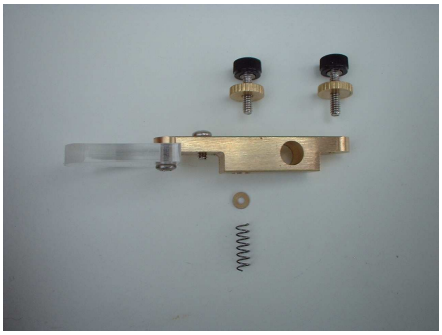


Fig 3

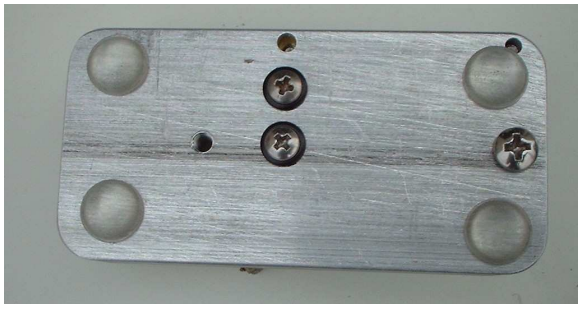
You are now almost ready to mount the lever to the base. Locate the dowel pin and set screw, the #0-1 washer, and the spring. Position the lever with the paddle and counterbored hole facing up, and place the washer, then the spring in the hole. Holding the base upside down, position it over the lever with the dowel pin holes in the lever concentric with those in the base, and slide the dowel pin through the base & lever. Make sure the end of the spring is in the shallow hole in the base; it usually takes care of itself. Push it into the hole in the base if it is not already there. Turn the assembly right side up, and start the 6-32 set screw into the hole in one leg of the clevis. Center the dowel pin in the clevis & tighten the set screw, clamping the dowel in place; don't over do it.

Locate the 4-40 x ¼ screw with the ground end. Screw this into the hole in the lever nearest the paddle, tightly.

Locate the two long thumb screws and observe that one is slightly longer than the other. Thread a thumb nut onto each thumb screw. The longer of the two goes into the hole at the end of the lever opposite the paddle. Screw the shorter thumb screw into the center hole (containing washer & spring) & tighten to push on the spring and provide opening force on the lever. Screw the end thumb screw up or down to adjust contact gap.

Locate the 4-40 x 3/16 thumb screw and start it into the hole at the end of the contact bar. The 4-40n x ¼ thumb screw goes in the hole at the rear corner of the base. Stick the soft bumpers to the underside and you're done! Use the "extra" 6-32 tapped hole in the base for alternative

mounting options, such as our leg mount.



NOTE: Early production kits used two 4-40 x 3/16 thumbscrews instead of one x 3/16 & one x ¼.