

American Morse Equipment

Mini-B Miniature Single Lever/Sideswiper Paddle Kit



Thank you for purchasing an American Morse Mini-B Paddle kit! **PLEASE NOTE: This kit contains some VERY small parts! You will need tweezers and perhaps a magnifier to assemble this kit!** Please consider our assembled version if this sounds like a problem for you. Please do not open parts bags until you are ready to begin and **open the parts bags over a container!** Note that many of the smallest parts can bounce right out a container! Please be gentle. Note that the smallest parts are bagged separately and inventory may be checked without opening the bag - wait until you need 'em!

You will need a well-lighted area to work; it is a good idea to work over a shoe box lid or similar tray (in addition to parts containers) to avoid losing any of the TINY parts. A magnifier lamp or magnifying glass on a stand can be very helpful.

Check contents of the parts bags against the parts list. All required Allen key wrenches are included; you will also need a #1 Philips screwdriver, tweezers, and needle nose pliers; 3/16 and 1/4 open end wrenches are helpful. The pic follows the Parts List, starting at upper left & spiraling clockwise.

Mini-B Parts List

	QTY
Base	1
Top cover	1
Lever	2
Paddle	1
Dowel Pin	3
#4 x 3/4 Flathead Screw	3
#4 Socket Head Cap Screw	2
#4 Flat Washer	3

#4 Shoulder Washer	4
#4 Nut	2
Solder Lug	1
Solder Lug, Trimmed	2
#4 x 3/16 Pan Head Screw	1
#4 x 5/16 Socket Set Screw	3
#4 x 1/4 Pan Head Screw	1
1/8" Cable Stay	1
#4 x 7/16 Pan Head Screw	1
#4 x 1/4 Pan Head Screw (Ground End)	2
#4 Self-Locking Nut	1
Spring	1
#2 x 3/32 Socket Set Screw	6
1/16" Diameter Delrin (White Plastic) Insert	3
.035" Allen Key	1
.050" Allen Key	1
3/32 Allen Key	1
#4 x 1/4 Flathead Screw (Not pictured; for mounting)	1



Once you have checked the parts inventory, you are ready to begin assembly. PLEASE NOTE: This kit is fully machined and all parts will fit together without excess force. If a pin doesn't fit a hole or whatever, do not force it - no hammer (Yikes!) needed! Check for metal chips, etc., if something does not go together. Please contact us with any problem. <dwhauff@digitalputty.com>

Locate the 4 black shoulder washers & push them into the holes in the base, top and bottom; make sure they seat fully and are flat to the surface.



Put a flat washer over each of the two socket head cap screws. Insert one thru the top of one of the shoulder washers and thru the corresponding washer in the bottom; from the bottom slip one of the trimmed solder lugs over the screw, with the flat facing the adjacent hole, & secure with a #4 nut.



Repeat with the second cap screw. Now find the #4 x 3/16 pan head screw and the third, untrimmed solder lug, and secure the lug to the grounding hole in the underside of the base.



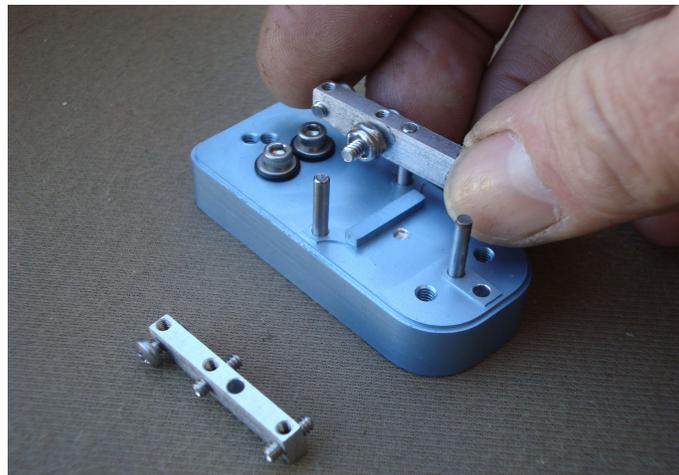
Now locate the two levers. We will install some of the hardware before mounting them in the base. Refer to the photo for placement of the screws and studs in the levers.

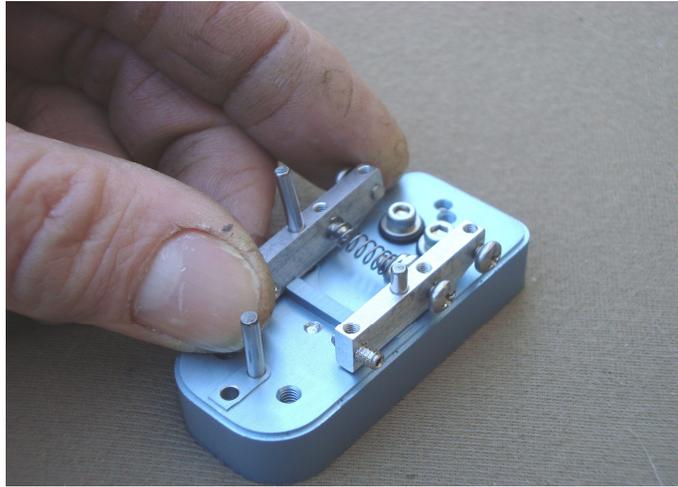


Each lever gets one of the ground #4 x 1/4 pan head screws. The flat ground ends of the screws are a little harder to start, so make sure they are going in straight before using a screwdriver. The levers are designated “Left” or “Right” as viewed from the rounded end of the base. Both levers get the pan head screw at the contact end (end with one side at angle), and a #4 set screw at the opposite end. The right lever gets the 7/16 pan head, and the left lever gets another #4 set screw in the middle position; screw this in until the wrench end is flush with or below the lever. Locate the #4 self-locking nut and thread it onto the pan head screw in the right lever, leaving about 1/8' of threads exposed. The levers are now ready to be installed on the base.

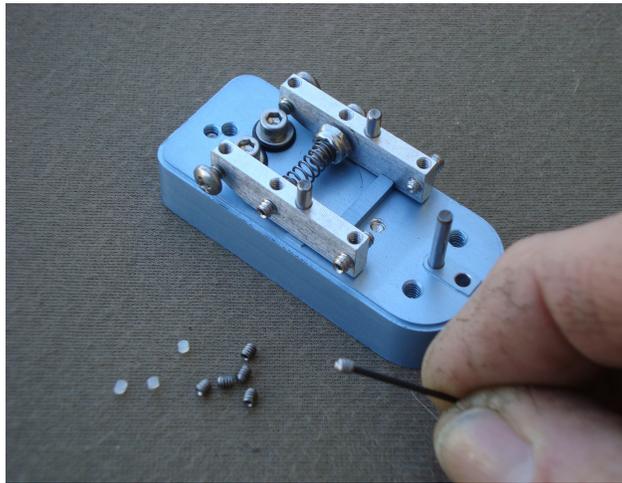


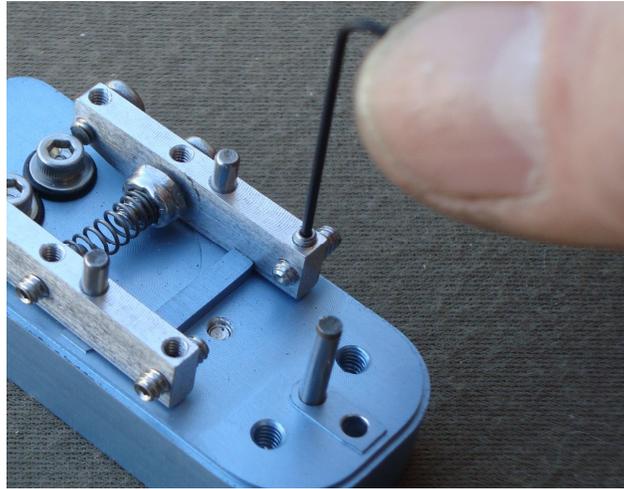
Insert a dowel pin in the right side hole in the base, and slide the right lever over it. The left lever is installed with the spring at the same time, thus: slide the dowel pin into the hole in the left lever, place the spring over the set screw, then present the other end of the spring to the 7/16 pan head in the right lever, position the lever, and slide the dowel pin into it's hole in the base. Make sure both levers are flush with the shoulder in the base, and resting against the stop machined into the base.



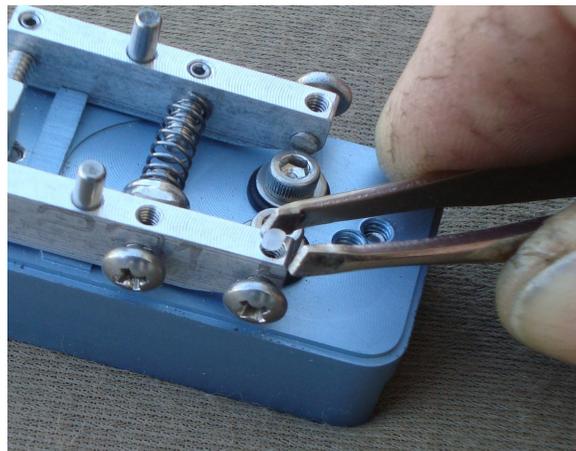


Now the really small stuff...Locate the #2 set screws, and start 3 of them into the tops of the levers over the three set screws. Do not tighten them yet.



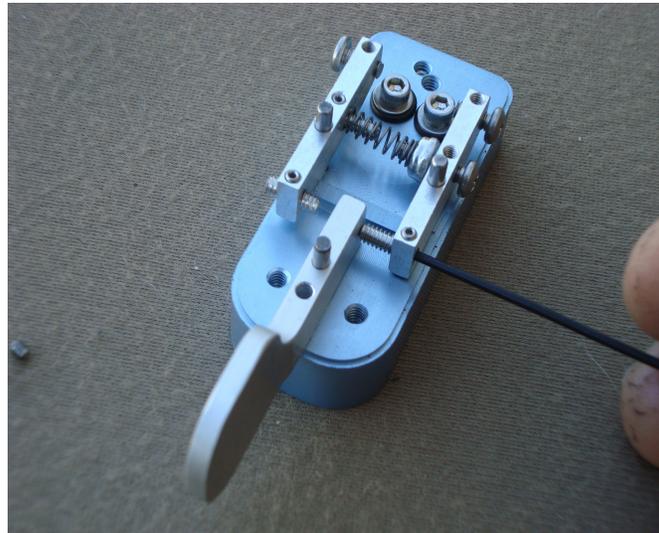


Using tweezers, insert one of the 1/16" diameter Delrin inserts into each of the tapped holes over the pan head (contact) screws and the 7/16 pan head screw in the right lever, then thread in a #2 set screw over each. Turn them down until they contact the cross screws thru the Delrin insert, then tighten securely against the contact screws and the 7/16 pan head. Make sure the short end of the Allen key is fully seated in the set screw socket; about as tight as you can comfortably make the set screw with the little .035" Allen wrench is correct. The clamping force created will keep regular adjustments (made with a Philips screwdriver) secure without further tightening.



Slide the last dowel pin into the center hole in the base, locate the paddle and

slide it over the dowel pin. (Start with the dowel pin in the inboard hole position [softest] - easily changed at any time.) You can now adjust the paddle: start by turning the right lever #4 set screw in until it contacts the paddle while holding the paddle centered...Letting the lever rest against the stop, gently push the paddle against the set screw and adjust until the paddle is centered. Then turn in the #4 set screw in the left lever until it just kisses the paddle; what you want is to remove all play without pushing the paddle from center position. Easy way to check: If you move the paddle from center, you should see only one lever move; if adjustment is not correct, you will see one lever close slightly as the other opens (starting from center position), i.e. both levers should be at rest against the stop and not levered by the paddle when in center, neutral position. Using the .035 Allen key, tighten the #2 set screws over the #4 set screws to lock adjustment.



Using a #1 Philips screwdriver, turn in the contact screws until they almost touch the SHCS contacts - final adjustment may be made later, as well as spring force adjustment.



Now carefully work the top cover over the base; the dowel pin holes in the top cover are very slightly larger (.0002") than the corresponding holes in the base to ease assembly, and to allow the dowel pins and entire assembly to remain in place when top cover is removed. Snug the cover down with your fingers & place the flat head screws in their respective holes and tighten. NOTE: The top cover will be a snug fit, and may require a little "wiggle" to seat, but must go on by hand! No hammers(!), no heavy hands, it should go on with fingers only! Note also, there will be a very slight (~.005") gap between the top & base seam; this is because the top cover rests on the bosses machined into the top cover and NOT on the outside lip.



Use a #1 Philips screwdriver to adjust gap & spring. You can change the paddle lever ratio at any time by simply removing the top cover and moving the paddle dowel pin to the other hole. Nothing else will change when dowel pin is repositioned. Adjustment may be made at any time with a Philips screwdriver; the set screws with Delrin inserts will maintain adjustment.

We have kept the adjusting screws short to minimize protrusion from the Mini-B; you may want to adjust the range of the spring force adjuster by changing the position of the self-locking nut. Turn the nut out towards the end of the screw to provide more firm adjustment range; turn it in to reduce protrusion at softer settings.

Use 1/8" shielded cable for connection. Radio Shack part #42-2387A is a 6-foot stereo patch cord with a 1/8" stereo plug at each end; cut it in half for two 3-foot leads. (Convention is: stereo plug tip is "Dits".) Clamp with cable stay and #4 pan head screw and washer.



A 4-40 tapped hole is provided to mount the Mini-B; it will fit on the Desk Base, Qwikmount, and Leg Mount offered by American Morse Equipment. You can also bolt it to your rig or any other convenient mounting point with the #4 screw provided. For Sideswiper use, simply short together the left & right lugs.