

Assemble the Sharp Shape USB3D Foot Scanner

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Figure 1. The Foot Scanner

The Sharp Shape 3D Laser Foot Scanner, model USB3D, is an improved version of the previous model, 2V. This manual is about assembly instructions. The software instructions and operational instructions are described in the PDF document “Install and Operate USB3D Foot Scanner”.

For shipping purposes, the scanner comes in separate body and parts boxes. The scanner needs to be assembled before you can use it. Figure 1 on the left illustrates the completed foot scanner.

The scanner is composed of a body (the top black box) and an adjustable stand (the mechanism that supports the body). A special horizontal stand is also used, but it is used in rare cases. Please contact us for details if you are interested in that.

Warning: do not power the scanner before removing the two parking screws! The screws are used to block the movement of the cart during shipping. They are located at the back of the scanner.

[Contents in the packages may vary from time to time, depending on the availability of parts at our hands.](#)

Scanner Unpacking

The scanner ships in two boxes as shown in Figure 2 on the left. The one on the top is called Scanner Box (or Long Box, or Box A) and the one on the bottom is called Stand Box (or Square Box, or Box B).

Box A holds the body of the scanner and Box B holds the stand, and accessories. Some customers order the scanner body only (without the adjustable stand). In this case, Box B will not be shipped. Instead, a much smaller box will be shipped for holding the power supply, foot pedal and A-B USB cable.

These boxes are custom-made for the special purpose of shipping the scanner only. You may want to save the two boxes for future use.

Please use caution when you unpack the materials. Finding adequate time and space for the work is the key for your success.

For scanner body repairs, you can only ship Scanner Box (Box A) back to us for easier shipping and handling.

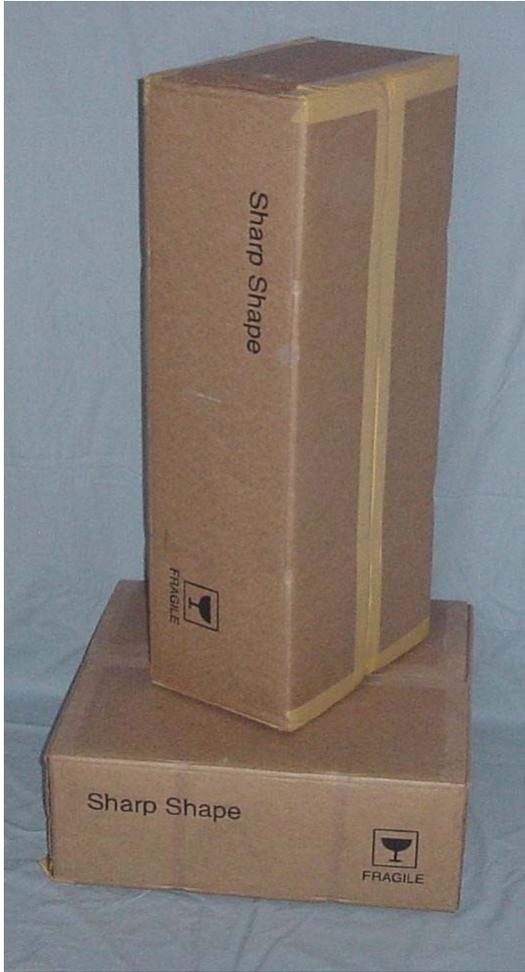


Figure 2. The Two Shipping Boxes

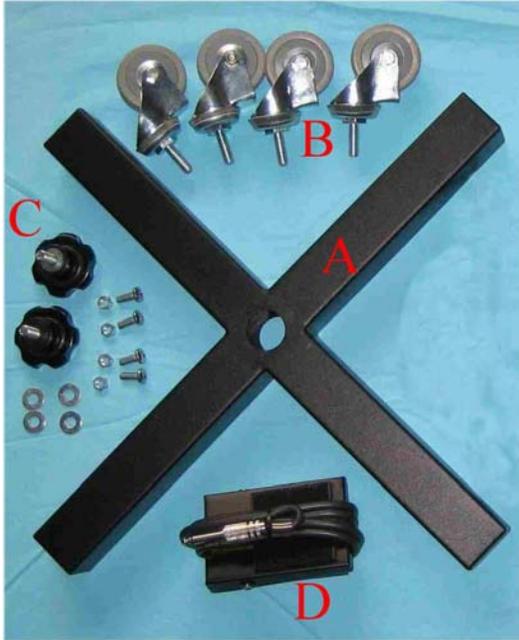


Figure 3. Parts and Tools



Figure 4. Accessories



Figure 5. USB A to B Cable

After you have received the two boxes, immediately check the scanner and the parts/accessories with reference to Figure 3, Figure 4, and Figure 5 on the left. **The contents in the two boxes may vary. We will enclose a note if there are variations. Contact us if you find anything missing or damaged.**

For discussion convenience throughout this paper, we name some devices in the following...

- ✓ *A: The cross bar:* the black metal cross that is shown as “A” in Figure 3.
- ✓ *B: The 4 wheels:* that is shown as “B” in Figure 3.
- ✓ *C: The 2 ear-knobs and mounting screws, nuts, and washer:* that is shown as “C” in Figure 3. **Since the inner rod is threaded, we currently do not ship the four nuts shown. See Step 3 below.**
- ✓ *D: The foot pedal:* that is shown as “D” in Figure 3.
- ✓ *E: The inner rod:* the shiny metal rod that is shown as “E” in Figure 4.
- ✓ *F: The outer rod:* the shiny metal rod that is shown as “F” in Figure 4. Note: parts are on it.
- ✓ *G: The power supply:* that is shown as “G” in Figure 4.
- ✓ *H The power cable:* that is shown as “H” in Figure 4.
- ✓ *I: The U-shape bracket (or U-bar):* that is shown as “I” in Figure 4.
- ✓ *J: The A to B USB cable:* that is shown as “J” in Figure 5.
- ✓ *K: The scan software:* that will be emailed to customers
- ✓ *L: The user manuals:* that will be emailed to customers

To assemble the scanner, you should follow the following steps.

Scanner Assembly

Skip this section (except Step 6 and Step 7) in the case that a customer doesn't order the adjustable stand.

Step 1.

Mount the four wheels on the cross bar. Usually, you do not need a wrench if you can use your hand to drive the wheels into the cross. It is not hard. If you can't, use a wrench to do the work (shown in Figure 6 on the left).

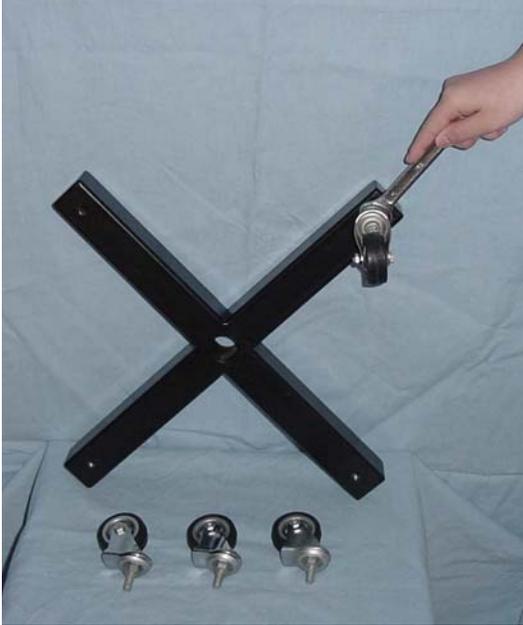


Figure 6. The cross-bar and 4 wheels



Figure 7. The outer rod

Step 2.

Mount the outer rod on the cross bar. Note that the configuration of the rod may have changed.

First, recognize what things are enclosed with the outer rod. After you have unscrewed the big nut from the bottom of the outer rod, you will a spring and an bushing ('O' ring) outside the rod as shown in Figure 7. The black insert is no longer used.

Second, put the bushing on the rod and insert the spring inside the rod. Then use the big nut to mount the rod on the cross bar as shown in Figure 8. Usually, you do not need a wrench if you can use your hand to drive the big nut. Use a big wrench to do the work if you have to.



Figure 8. Attach the outer rod to the cross-bar



Figure 9. The correct way



Figure 10. The wrong way



Figure 11. No nuts are needed for new design

Note: For the new design (after May 2014), threads are made on the inner rod, so no nuts are needed. For the old design, through holes are made on the inner rod. As result, 4 nuts were shipped in the packages.



Figure 12.



Figure 13.

Step 3.

Mount the U-bar to the inner rod. The way to insert the bolts is shown in Figure 9. The wrong way is shown in Figure 10. With the wrong way, you feel you need nuts. See Note on left. The finished part is shown in Figure 12.

Step 4.

Insert the inner rod with the U-bar into the outer rod as shown in Figure 13 on the above.



Figure 14.



Figure 15.



Figure 16.

Step 5.

Put the 4 washers (part of “C” in Figure 3) on the two ear-knobs as shown in Figure 14.

Notice the look of the threaded hole on the two sides of the scanner body. A hole is shown in Figure 15.

Put the 2 ear-knobs with washers (as shown in Figure 14) into the 2 holes (as shown in Figure 15) of the scanner body.

Then, raise the scanner body and mount it on the stand that you have built in Figure 13. Note that the 2 washers should be on the 2 sides on the support as shown in Figure 16.

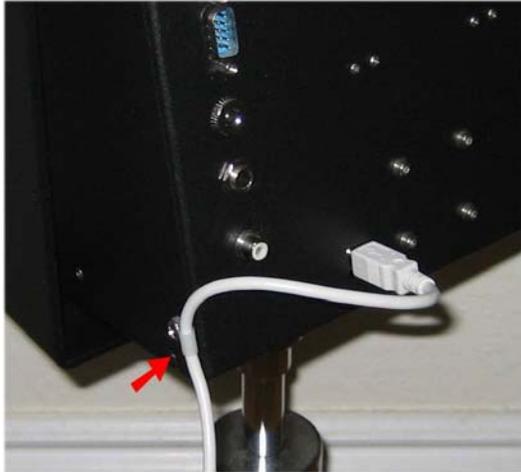


Figure 17. Teflon clip mounting



Figure 18. The final assembled scanner

Step 6.

Newer scanners (after May 2014) are shipped with a Teflon clip, which helps to enforce the durability of the USB receptacle of the scanner. The way to mount the clip and the USB cable is shown in Figure 17.

Step 7.

The scanner is set up and it is ready to work as shown in Figure 18.

You can make some adjustments to the scanner.

The scanner body can do a 'Yo Yo' by adjusting the 2 ear-knobs. The angle is shown in Figure 1.

The height of the scanner can be adjusted by the inner rod and the locking knob.

The 4 wheels can roll on hard carpet and they can make the scanner body turn left and right as needed.

Make sure the scanner is not tipped over by accident during use.

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