DUAL PURPOSE
WHEELCHAIR-PLATFORM SWING
ASSEMBLY MANUAL
DUAL PURPOSE
WHEELCHAIR-PLATFORM SWING

FRAME ASSEMBLY

STEP 1 (Video Reference: STEP 1_SQTUBE-BWELD SUBASSY)
Assemble square tube-bottom weldment subassemblies XY and WZ.

Clear any debris from the inside of the weldment and the outside of the square tubing using soft rag. If there are problematic areas, a light sanding may be used followed by the clearing of debris by a soft rag. *(Only sand if completely necessary for assembly)*.

Slip the X end of the XY square tube into the X weldment. Slip the Y end of the XY square tube into the Y weldment. **Do not pin.**

Slip the W end of the WZ square tube into the W weldment. Slip the Z end of the WZ square tube into the Z weldment. **Do not pin.**

Set both subassemblies off to the side for future use lifting only by weldments to move.
STEP 2 (Video Reference: STEP 2_PIPESTWELD_SUBASSY)

Assemble Pipes I, II, III, IIII-top weldment subassembly.

Gather the top weldment, four large pins and pipes X I, W II, Y IIII, Z III.

Clear any debris from the inside of the weldment and the outside of legs on the sides labeled I-III using soft rag. If there are problematic areas, a light sanding may be used followed by the clearing of debris by a soft rag. (*Only sand if completely necessary for assembly*).

Put the top weldment on the ground with the universal joint facing upwards (shown above).

Have one person hold the bottom weldment in resting position. Align pipe X I in the weldment using the dotted lines and corresponding marks as your guide; slip I side of X I into place ensuring you maintain the proper angle the entire time. Have the second person secure with pin from the outside in.

While bottom weldment is still secured in resting position. Align pipe Z III (the position located diagonally across the weldment) in the weldment using the dotted lines and corresponding marks as your guide; slip III side of Z III into place ensuring you maintain the proper angle the entire time. Have the second person secure with pin from the outside in.

Repeat steps with Legs pipes Y IIII and W II one at a time, ensuring it is supported at all times. Make sure to insert pins from the outside after each leg is slipped into place.
STEP 3 (Video Reference: STEP 3_XY SUBASSY-TWELD SUBASSY)

*Connect XY bottom weldment subassembly to top-weldment subassembly.*

Lean the top weldment subassembly structure so XY pipes are ground side. To assist in the next step of the assembly process, it may be helpful to prop the pipes up on 2 x 4 pieces of wood to ease alignment.

Align the XY bottom weldment subassembly with the end of the corresponding pipes in top weldment subassembly.

Each assembler should take a side and together, insert the X and Y sides of pipes X I and Y IIII into their respective X and Y weldments. Because of the angles movement of the X and Y weldments to their correct positions on the pipes needs to be done together or at the very least in the same incremental amounts. (For example, if you move weldment X up a half an inch on pipe, you need to then move weldment Y up a half an inch on pipe before moving X up any further!)

*Nothing* besides the top weldment pipes into the top weldment should be pinned. A rubber mallet may be used to help move the weldment to the correct position on the pipe shown by the white circular marking that goes all the way around the pipe.
STEP 4 (Video Reference: None)

*Rotate system and insert support pipes into XY.*

Lean the top weldment subassembly structure so WZ pipes are ground side. To assist in the next steps of the assembly process, it may be helpful to prop the pipes up on 2 x 4 pieces of wood to ease alignment.

Insert the small support pipes upwards into their respective X and Y weldments that are now in the air.
STEP 5 (Video Reference: STEP 5_WZ SUBASSY-TWELD SUBASSY)

Connect WZ bottom weldment subassembly to top-weldment subassembly.

Align the WZ bottom weldment subassembly with the end of the corresponding pipes in top weldment subassembly.

Each assembler should take a side and together, insert the W and Z sides of pipes W II and Z III and the support pipes into their respective W and Z weldments. This is tricky because you are just slightly trying to get four pipes started at the same time. You may need an extra person on each side to help with this process. You want to get everything just started. At this point, you may want to also ensure that the square tubing is equally as far in on each of the weldments for WZ. Often if it is very far in on one weldment, but slipped out very far on the other weldment, you will have trouble.

Remember that because of the angles movement of the W and Z weldments up the pipes need to be done together or at the very least in the same incremental amounts.

Do not put weldments into their final locations on the pipes. Nothing besides the top weldment pipes into the top weldment should be pinned.
STEP 6 (Video Reference: STEP 6_TEEPEE)

Flip system to rest on bottom four weldments (Tee-Pee)

Using only the weldments apply pressure and flip entire structure over (like a tee-pie) so it rests on the four bottom weldments.

Pin in the WZ square tube into the weldments. (A mallet may be needed to ensure that the white line on the square tubing appropriately lines up with the weldment edge. Additionally, lifting weldments one at a time may reduce the stress on the square tubing making pinning easier.)

Pin in the XY square tube into the weldments. (A mallet may be needed to ensure that the white line on the square tubing appropriately lines up with the weldment edge. Additionally, lifting weldments one at a time may reduce the stress on the square tubing making pinning easier.)

Attach the cable and turnbuckle piece to the universal joint while it is at this height. (It will save you from having to get a ladder.)
**STEP 7** (Video Reference: STEP 7_BWELD-BPIPES)

*Insert bottom pipes with footers*

Gather the bottom pipes with footers and lay the corresponding pipe near its bottom weldment.

Using the WZ bottom weldments or the center of the WZ square tube, lift the structure upwards. Slide bottom leg W into bottom weldment W by lining up the dotted lines. (Ensure that you are inserting at the correct angle. Twisting the leg as you slide into bottom weldment W may help the process.) Pin pipe into weldment.

Slide bottom leg Z into bottom weldment Z by lining up the dotted lines. (Ensure that you are inserting at the correct angle. Twisting the leg as you slide into bottom weldment Z may help the process.) Pin pipe into weldment.

Using the XY bottom weldments or the center of the XY square tube, lift the structure upwards. Slide bottom leg X into bottom weldment X by lining up the dotted lines. (Ensure that you are inserting at the correct angle. Twisting the leg as you slide into bottom weldment X may help the process.) Pin pipe into weldment.

Slide bottom leg Y into bottom weldment Y by lining up the dotted lines. (Ensure that you are inserting at the correct angle. Twisting the leg as you slide into bottom weldment Y may help the process.) Pin pipe into weldment.

It is ok to use a mallet if you are having trouble getting the pin through. Just ensure proper alignment before you use mallet.
DUAL PURPOSE
WHEELCHAIR-PLATFORM SWING

ATTACHING PLATFORM SWING

STEP 1 (Video Reference: None)
Clip on swing to turn buckle piece.

Twist in the regular eye bolt.

Once eye bolt is secure, clip on platform swing.
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ATTACHING WHEELCHAIR SWING

STEP 1 (Video Reference: None)
*Remove eye bolt.*

Ensure swing does not have the eye bolt attached to the turn buckle. If it does twist this piece out of the turn buckle.
**STEP 2** (Video Reference: STEP 2_SHAFT)

*Secure pillow block bearings to mounts.*

Have each person grab one side of the shaft. The pillow blocks housing the bearing should already be in place as they have clamps that should not be removed. Align the pillow block bearing screw holes with the threaded holes in the mounts on the square tubes.

Secure each side with four screws using an allen wrench to tighten.
STEP 3 (Video Reference: None)

Install rod end bearing for center support.

Now that the shaft is secured, take the already attached bearing in the center of the shaft and rotate it upwards towards the turnbuckle and cable. Insert the end of the bearing into the turnbuckle piece and begin to tighten. Tighten so it is taut.

Move the platform underneath the shaft.
**STEP 4** (Video Reference: None)

*Attach swing to frame attachment to platform.*

Place platform on a surface that raises it up a few inches off of the ground but does not cover the corners. Take the swing to frame attachment piece labeled with a triangle and insert the bottom two threaded rods into the platform. Repeat with the piece labeled with a square. (Depending on the direction you want the swing, you will need to plan accordingly to ensure that you line up correctly with the corresponding shapes on the shaft female pieces that will receive the swing to frame attachments).

Tighten the nuts to the bolts that are now poking through on the bottomside of the platform. Hand tight is sufficient for immediate use but it is recommended that you inspect often and tighten with wrench.

This portion is easiest with four people. Lineup the square labels and the triangle labels. Now that the STFA is attached to the platform the top male pieces of the swing to frame attachment need to be slid into the female pieces hanging off the shaft. With two people lifting slowly, have the other two people guide the male piece into the female piece for each side. Secure with short pins.