



1. Stick Welder Manual

General Overview:

Standing experience.

- In construction welder, the user must complete use stick welding to complete several welds around a construction site.
- The user will learn how to set up a welding generator, complete welds using a welding clamp and electrode, chip away residual slag from the welds and clean them using a brush.
- The user will experience working at heights on some scaffolds and will be challenged with some difficult angles, something commonly experienced by welders.

Macros / Shortcut keys:

T = turn teleportation on or off

Wrist Watch: The wrist watch is always on the user's left wrist. When a call is coming in for the user, the icon on the watch will be an orange vibrating phone (Image 1 below). They must place their right hand on top of the watch and a blue circular progress bar will fill up (Image 2 below). Once it is filled, the call will be answered and the watch icon will become a green chat bubble (Image 3 below). When the call is finished, the watch icon will become a yellow question mark (Image 4 below). When the yellow question mark is visible, the user can place their right hand on top of the watch and the narrator will repeat the last set of instructions.



Image 1



Image 2

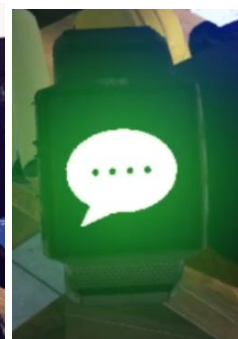


Image 3

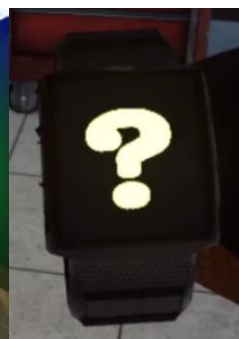
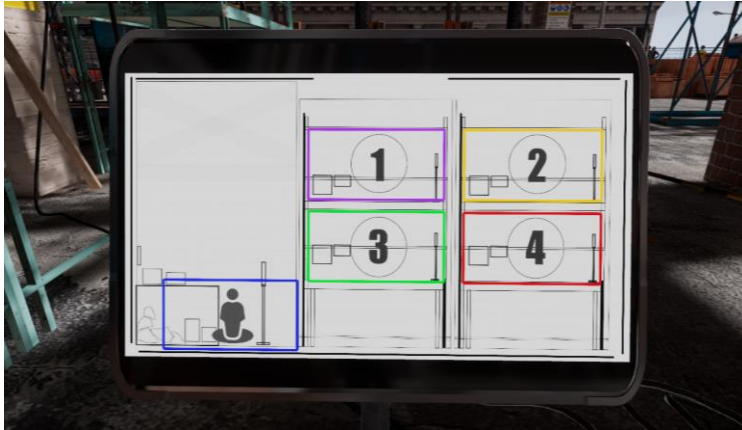


Image 4

Teleportation Map: A map tablet is at every location in the simulation. The user can move around the world using the map tablet when it is activated. When the VR hand is near the tablet, it will automatically point with an index finger which can be used to tap the screen. Tapping on the large boxes with numbers inside of them will move the user to that location. Each location is detailed on the map.



Facilitator Panel: The facilitator panel is an options menu that allows a simulation facilitator to adjust gameplay and accessibility options while a user is inside the experience. To access the facilitator panel during the simulation, press the TAB key.



There are five core options from this menu:

Hint Task: When pressed, the in-game narrator will repeat their most recent instruction, which is helpful if the user misses something or is distracted while in the simulation.

Print Screen: This button will save a screenshot of the current view that the user sees.

Settings: This will bring the facilitator into a separate menu screen where they have multiple options to change the experience. This is detailed below.

Restart: This will restart the simulation from the very beginning.

Quit: This will exit the experience.

Greyed out buttons: Finish Task & Restart Task - These functions are not currently working but will be implemented in the near future.

Settings: The gameplay settings have an additional set of toggles and sliders the facilitator can adjust during the simulation.



Force Grab: If someone is unable to reach something or is running the experience while seated, this option allows the user to grab objects without being directly next to them. The user can point their hands at objects that are far away and pulling the trigger will bring the object into their hand, grabbing it

Teleportation: This will turn on the granular teleportation around the game world. To use teleportation 1) hold down the center thumbpad button (Vive Pro) or push forward on the thumb joystick (Oculus Rift S) to create a blue teleportation arc 2) select a location to go by moving the controller until the blue circle at the end of the arc is in the desired location (A red line means that locations is not valid or blocked) and 3) release the center thumbpad button (Vive and Vive Pro) or thumb joystick (Oculus Rift S) which will cause the screen will quickly fade to black and when it fades back in, the user will be in a new location.

Seated Experience: When turned on, this option will move the user's location in the game world to be higher up, so that if they are sitting down, their view will be similar to a standing position.

Language: This drop-down menu will allow the facilitator to change the language of the experience. When changing language, the simulation will need to restart.

Volume: This slider will adjust the master volume of the game. If the sliding bar is on the right side, the volume will be at 100% and on the left side, the volume will be set to 0%.

Full written walkthrough:

Quest	Task	Description
1	A	Answer your watch by holding your right hand above the watch icon on your left wrist.
1	B	Listen to instructions from the narrator.
2	A	Listen to information from the narrator.

2	B	Grab the welding mask from the work bench and put it on your head.
2	C	Listen to information from the narrator.
2	D	Grab the welding clamp from the workbench.
2	E	Grab one of the electrodes from the workbench. With the welding clamp in your other hand, attach the electrode to the tip of the welding clamps and it will snap into place.
2	F	Listen to information from the narrator.
2	G	Press the large red power button of the generator located to the left of the workbench to turn it on.
2	H	Grab and pull your welding mask into the down position. Then try welding on the metal work bench in front of you. Bring the tip of the electrode into contact with the metal table and it will produce a small weld.
2	I	Continue to practice welding. Complete at least one more weld and the tutorial will continue.
2	J	Press the large red power button of the generator located to the left of the workbench to turn it off.
2	K	Listen to information from the narrator.
2	L	Grab the welding hammer from the workbench and hit the dark welds to chip away the slag. This will leave a shiny silver color underneath. Then, grab the welding brush from the table and brush the silver welds clean, which will cause some dust to appear.
3	A	Listen to information from the narrator. Turn the power back on by pressing the large red button on the generator if you wish to keep practicing.
3	B	Move to the scaffolding by tapping location 1 on the teleportation map. When your hand is near the tablet, it will automatically point with your index finger which you use to tap the screen.
3	C	Listen to information from the narrator.
3	D	Complete the weld at this location. First, grab a welding clamp from the container on the cross beam and then grab an electrode with your other hand. Attach the electrode to the tip of the welding clamp then check that the green power light from the generator is on. If the green light is not on, press the large red power button to turn it on. Welding along the gap in the cross beams, as indicated in yellow, until the flag shows 70% or higher completion. Optional: Once completed, chip away the slag with the welding hammer and clean the welds using the brush.

3 E	Complete the welds at locations 2, 3, and 4. Move to the other locations by tapping on the teleportation map. When your hand is near the tablet, it will automatically point with your index finger which you use to tap the screen. To complete the welds, grab a welding clamp from the container on the cross beam and then grab an electrode with your other hand. Attach the electrode to the tip of the welding clamp then check that the green power light from the generator is on. If the green light is not on, press the large red power button to turn it on. Welding along the gap in the cross beams, as indicated in yellow, until the flag shows 70% or higher completion. Optional: Once completed, chip away the slag with the welding hammer and clean the welds using the brush.
3 F	Listen to final tips from the narrator.

Map

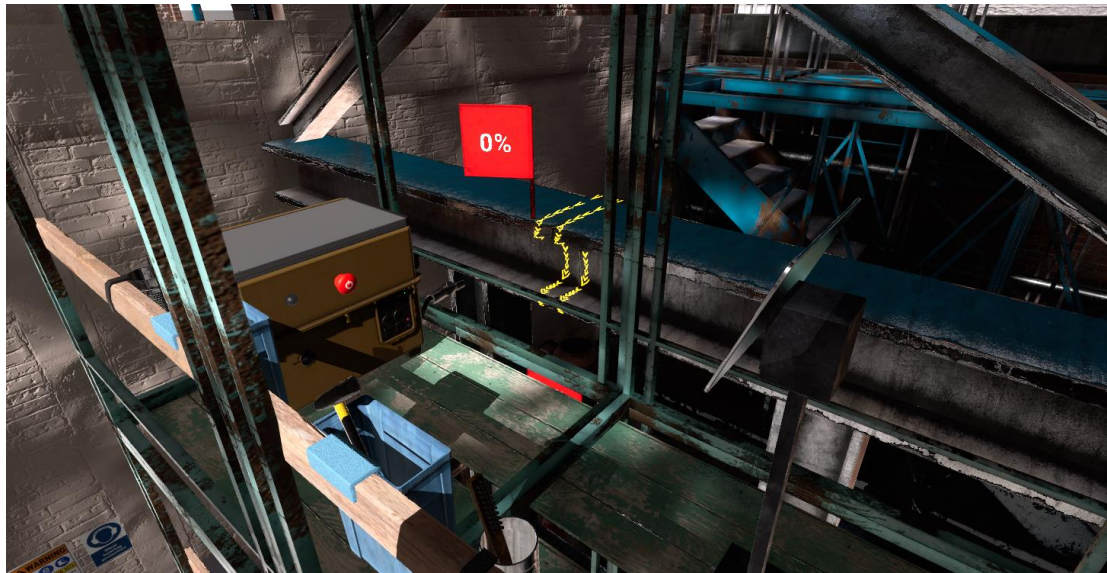
The user will work on scaffolding at a construction site and weld the support cross beams.



Home Location - Workbench: This is where the user begins the experience. There is a teleportation map that can be accessed later in the tutorial to move to the different scaffold locations. There is a workbench that has a tools rack along the bottom. The user can weld on this metal workbench to practice their welding. There is a generator located on the right side of the workbench. This can be turned on and off using the power button.



Location 1 to 4 - Scaffold Welds: There is a teleportation map that can be accessed to move to the different scaffold locations. There is a workbench that has a tools rack along the bottom. There is one split in the cross beams that needs to be welded. The user must weld down the split, as indicated with the yellow arrows. There is a large flag that will show the completion percentage that the user has welded. It will go from red when near 0% to green when near 100%. To complete the tasks in this tutorial, the user must hit at least 70%.



Key Objects

Note: Some tools will not be visible at the beginning of the tutorial and will only appear when they are required.

Tools Rack: The tool rack is at every location, along the bottom of the work bench at the home location and along the scaffolding at each of the four scaffolding locations. It holds all the tools the user will need, with some tools not visible during the initial part of the tutorial until they are required. These are the welding clamps, electrodes, welding hammer and welding brush.



Stick Welding Generators: There is one main generator next to the workbench and one smaller generator at each scaffolding location. These have one large red power button that can be turned on or off. When the power is on, a green light will turn on next to the power button. Note: All power generators are connected together, so turning off the power on one machine will turn it on all other machines.



Workbench generator



Scaffold generators

Welding Helmet: The welding helmet is sent to the user on top of the work bench during the tutorial and at the beginning of free play. It can be grabbed and put on the user's head to protect their eyes from the harsh lights caused from welding. The front of the helmet can be grabbed and the protective shield can be pulled up or down. The helmets shield will snap into position when pulled down all the way, turning on the auto-protection of the helmet.



Welding Clamp: The welding clamp is located on the tools rack and one is sent to the user on top of the work bench during the tutorial and at the beginning of freeplay. They can be grabbed and an electrode attached to the clamps. While the clamps are being held with an electrode clamped, the user can create welds if the electrode is touched to a metal surface that is connected to a clamp.



Electrode: The welding electrodes are located on the tools rack and three are sent to the user on top of the work bench during the tutorial and at the beginning of freeplay. They can be picked up and placed into the welding clamps. When inserted into the welding clamps, they will create welds if they are touched to a metal surface that is connected to a clamp.



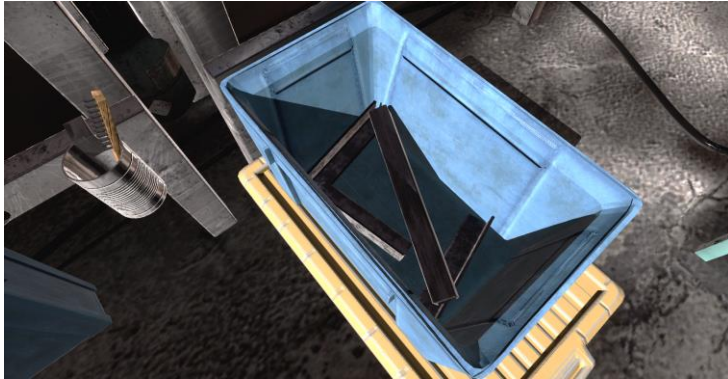
Welding Hammer: The welding hammer is located on the tools rack and one is sent to the user on top of the work bench during the tutorial and at the beginning of freeplay. The user can grab the welding hammer and hit the black welds to chip away the slag. This will leave a shiny silver color underneath.



Brush: The brush is located on the tools rack and one is sent to the user on top of the work bench during the tutorial and at the beginning of freeplay. The user can grab the welding brush and brush the silver welds clean, which will cause some dust to appear.



Scrap Metal: The scrap metal pieces are located next to the work bench and can be used to test out welding on the workbench.



Freeplay vs. Tutorial:

The tutorial mode will guide the user through the welding setup and show them how to weld. They will begin the experience by the workbench and once they've been taught the basics of welding, they will need to move to four different scaffold locations and weld together some large cross beams.

In freeplay, the user can access the four different scaffold locations right away and complete the welds at their own pace.

Common Issues:

Issue 1: The welding electrode isn't working properly.

Fix: Check to make sure the generator is powered on (indicated by a green light) and that the user is being careful with the welding clamps. Only the metal table at the workstation and the cross beams can be welded as they are connected to the generator via large welding clamps.