VULKA

FIRE EQUIPMENT

VTS Field Guide:

Window

SAFETY PRECAUTIONS

ALWAYS Use Personal Protective Equipment

Always wear appropriate P.P.E. including helmet, gloves, and eye protection when setting up and operating this equipment. Wear hearing protection during the operation of powered equipment.

Never Exceed Weight Limitations

Weight limitations for this equipment are available in this guide. Under most circumstances, this equipment can support 1500 pounds, inclusive of the weight of lumber/sheathing/materials used.

Never Use Damaged Parts

If a part is bent, cut, dented or otherwise damaged, DO NOT use that part. Replacement parts are available by contacting support@vulkafire.com. Paint/powder coat chipping and scratching are expected during normal use and will not affect the equipment operationally.

Always Use Official Vulka Parts and Hardware

Only use parts and equipment designed for this product. Using anything other than Vulka Fire Equipment approved parts will void the warranty and could lead to failure of the system and subsequent injury. Replacement parts are available by contacting support@vulkafire.com.

Do Not Practice Techniques You Have Not Been Trained On

Firefighting is a dangerous job and the techniques involved could lead to injury, even in a controlled environment, if executed poorly or improperly. Always ensure that instructors are trained and competent in the subject matter being practiced and are appropriately trained to instruct.

Do Not Operate Power Tools or Equipment You Are Not Familiar With

Always follow the manufacturer's recommended operating procedures and safety precautions when using power tools and equipment. Failure to do so could result in injury.

Always Use Fall Protection When Operating at Height

Most configurations of this system will not place the user above 4' off the ground. If using a configuration that places personnel above 4', ensure fall protection is provided per OSHA requirements.

Overview

The Vulka Training System can be configured to train on various window-based scenarios, including bailouts and self-extrication, victim/firefighter removal, VEIS, and window bar removal. The sill height and size of the window are adjustable, as is the floor height. This configuration also provides an area for an adjustable entanglement tunnel.

Tools & Materials

The following parts and materials will be needed:

- (1) VTS Unit
- (4) Pieces of 2x4 lumber for studs/base connectors. 96” length.
- (4) Pieces of 2x6 lumber for floor joists. 96” length.
- (2) 4x8 plywood sheets – ½” or ¾”
- Screws for attaching sheathing to lumber. Drywall screws (2” or greater) are typically okay.
- Screws for attaching lumber to brackets. Metal to wood roofing screws (#8-#14, 1.5” length) are recommended since they provide a gasket to cushion the metal bracket.
- Power drill with bits for roofing screws and drywall screws above.
- Pencil/marker, tape measure
- Circular saw with wood cutting blade
- A-frame ladder
- 3/8” hex key (*included in Convenience Pack Add-on)*
- Rubber mallet (*included in Convenience Pack Add-on*)
- OPTIONAL:
    - Rebar collars *(available at VulkaFire.com)*
    - ½” rebar to simulate window bars
    - Wires for an entanglement tunnel

Set Up

This Field Guide will cover how to set this configuration up properly:

- Set up tube and brackets
- Attach lumber
- Attach sheathing

See below for more detailed steps and diagrams.

Set Up Time

Set up time should take approximately 15-20 minutes with at least 2 people.

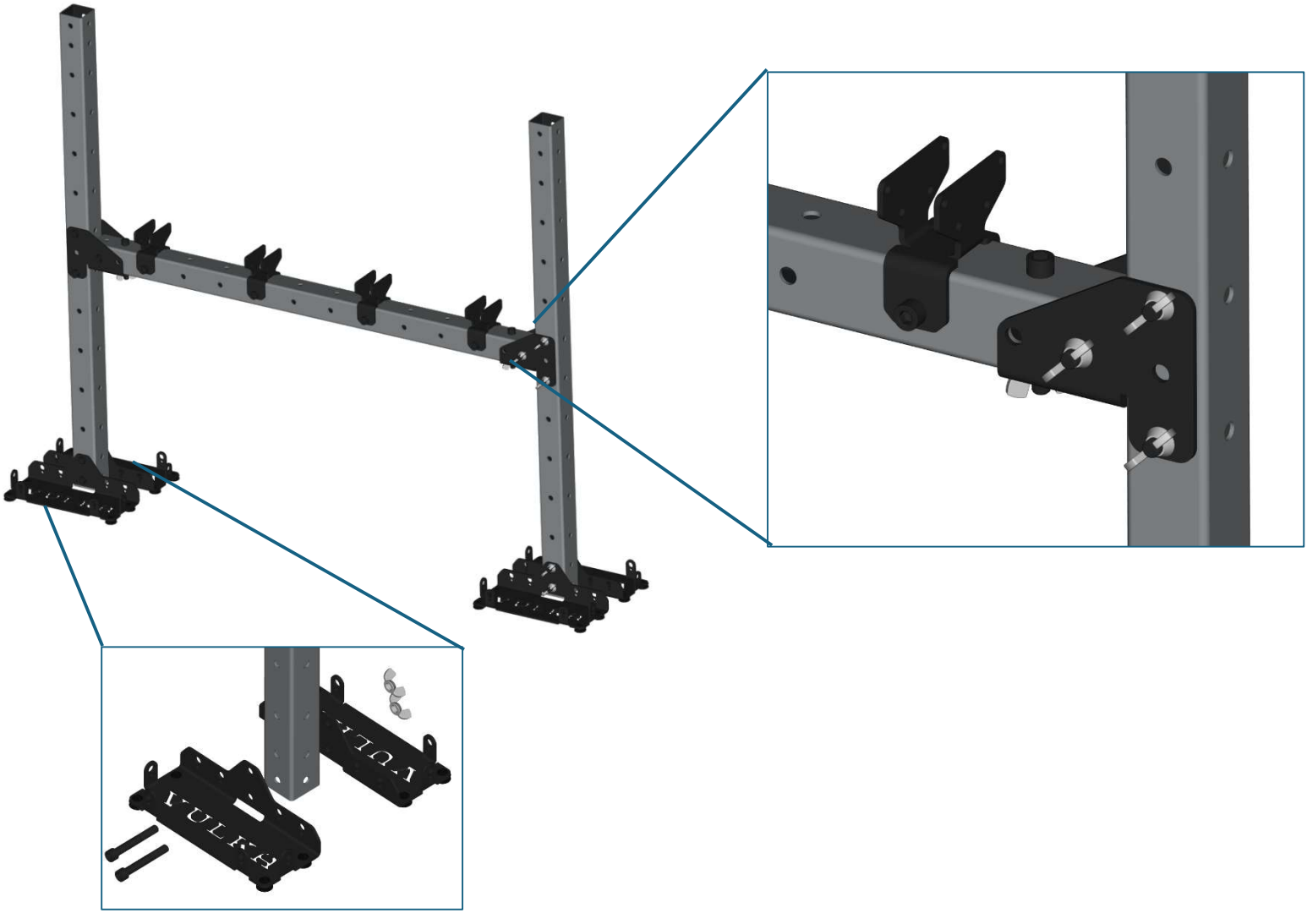
Inserting and Securing Bolts

When securing bolts with wing nuts, bolts should only be hand tight. **Do not overtighten the bolts.** Overtightening the bolts could lead to permanent bending of the brackets and difficulty removing the bolts. Though uncommon, a bolt may require light tapping with a rubber mallet when inserting or removing due to slight hole size variance and/or powder coating thickness – if this is needed, be sure to use as little force as necessary to get the bolt through.

Assembly

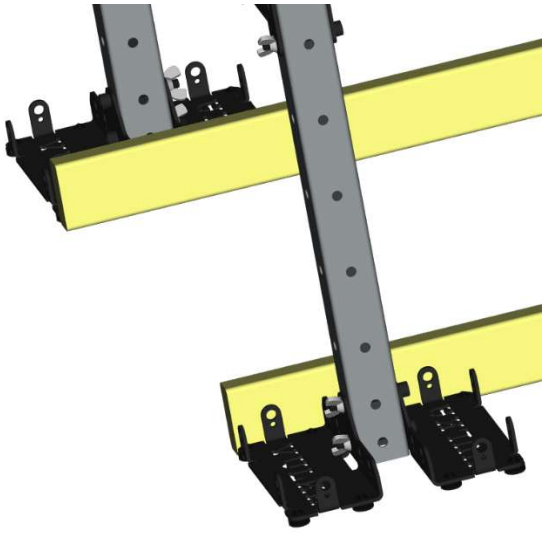
1. Assembling the Structure

a. Start by assembling **(2)** arch structures as shown below:



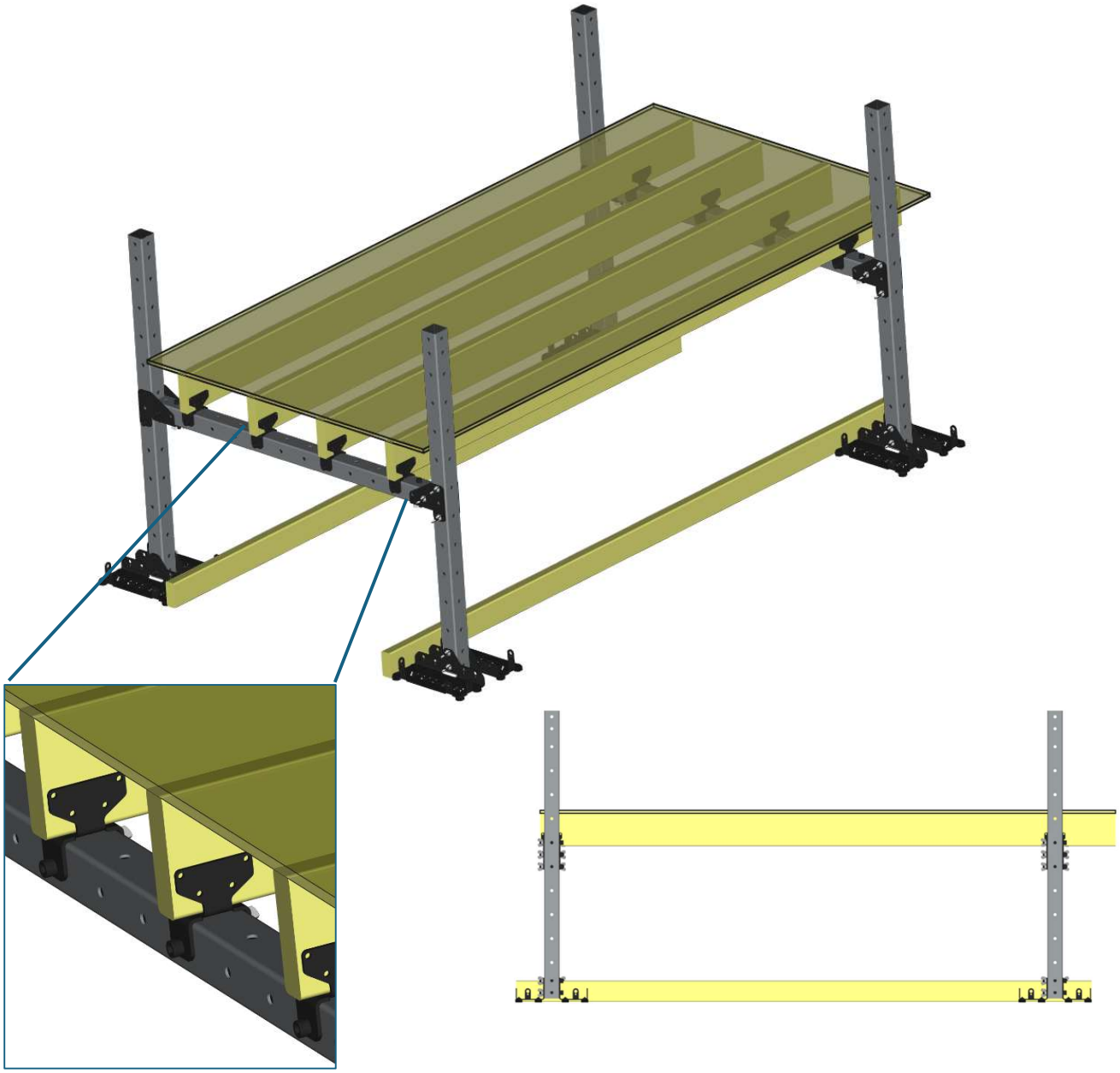
b. Tie the two assemblies together at the base using 2 pieces of 2x4. These pieces are only needed parallel to the floor joists of the system.

The lumber should be attached as shown below, with roofing screws through the ¼" tab holes and into the lumber using both tabs on each base, with the end of each piece of lumber lined up with the far edge of the base:

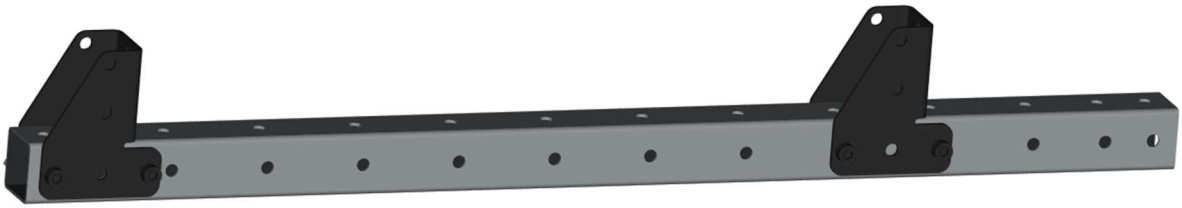


With both sides tied together it should look something like this:

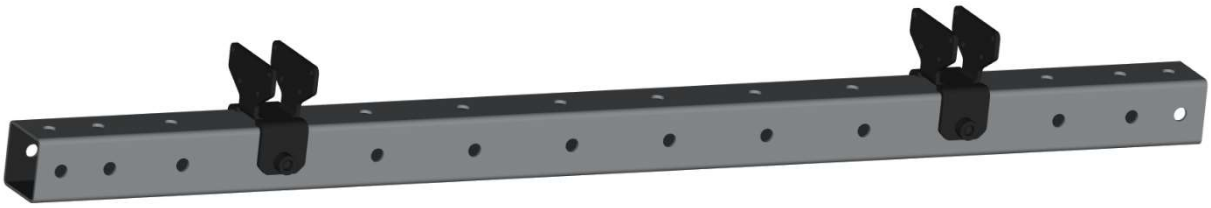
c. Add the 2x6 floor joists to the brackets and secure with roofing screws. Best practice is to place one screw on each side of each bracket. The lumber should be about even with the far edge of the front bracket. Secure the sheathing to the top of the floor joists. This will provide a platform to assist with the remaining set up. Note: there will be some overhang on the back side of the structure. This is fine.



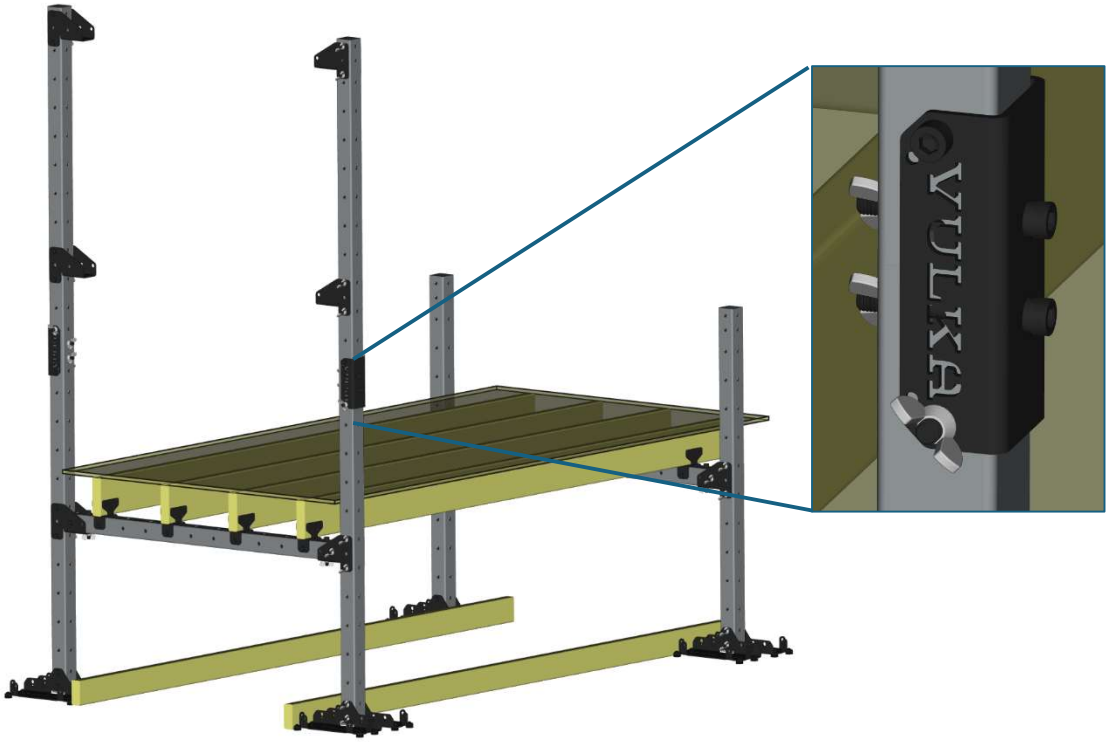
d. Assemble (2) uprights, as shown below. The bottom elbow, shown in the right side of the tube below, will determine the height of the window sill. As shown, the sill height is approximately 63.5” from the ground and 34” from the floor.



e. Assemble (2) cross bars, as shown below. The width of the brackets determines the window width. As shown, window width is approximately 26.5”.



f. Using a connector, affix the two upright elbow brackets to the vertical tubes of one of the assemblies:



g. Place the cross bars into the elbow brackets and secure with 2 bolts in each elbow, as shown:

h. Place 2x4 lumber pieces in the brackets and secure with roofing screws. The bottom of the 2x4s can be secured together with a shorter section of lumber as needed.

i. Trim the remaining plywood sheathing to fit the measurement from the sill to the floor. For this specific configuration, 26x48” was used. The final assembly should look something like this:

2. Final Assembly & Check

Before use, be sure to verify that all bolts are in place and hand tight, and all lumber is secured with screws.

At this point, the VTS is ready for use. Additional materials or add-ons (window bars, bailout anchor attachment, etc.) can be placed if desired. Review safety precautions *before* training begins.

Adding Window Bars

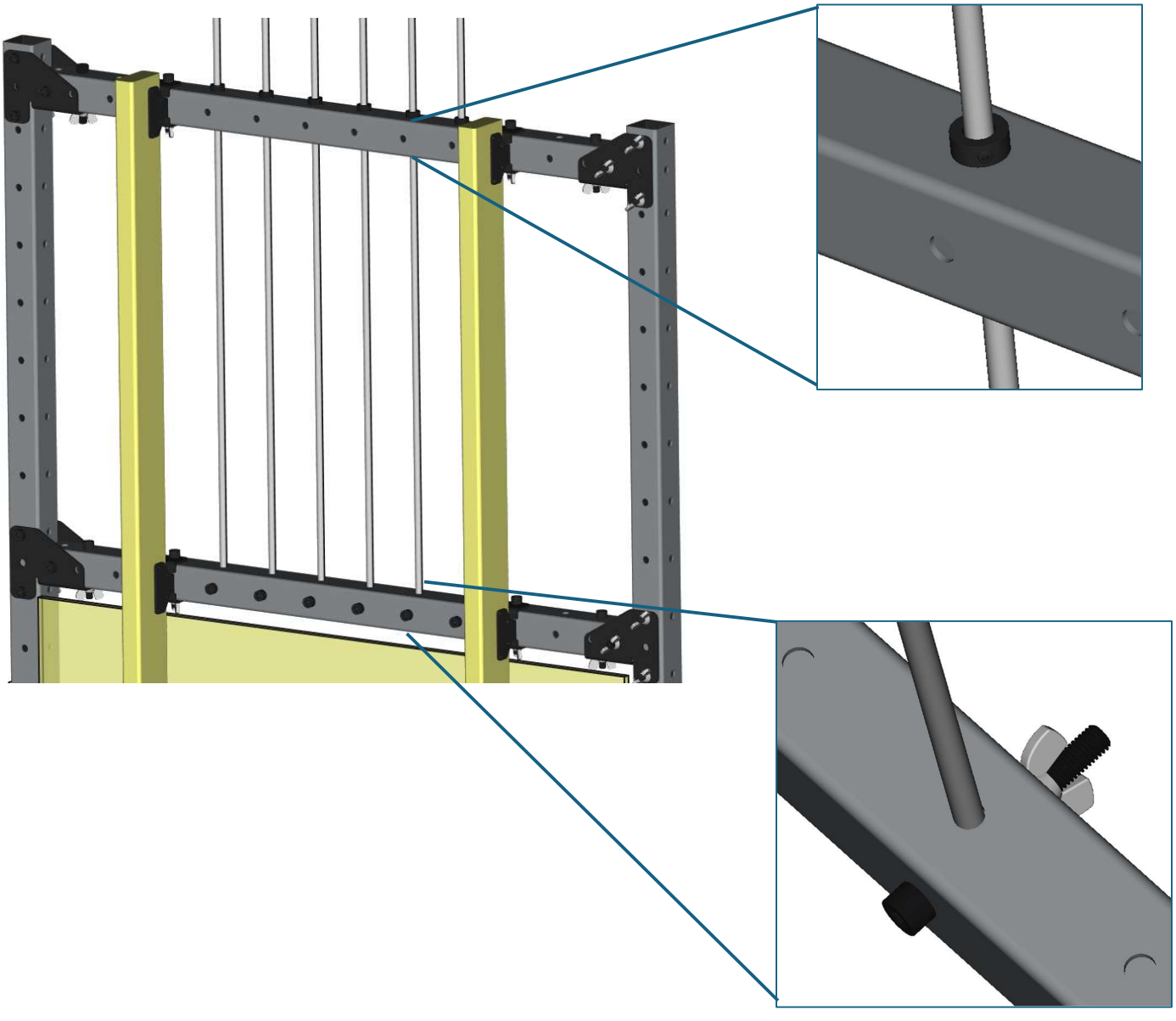
Tools & Materials

The following parts and materials will be needed:

- Desired amount of rebar, appropriate length for evolution.
- Same amount of rebar collars (available at VulkaFire.com)

Start by deciding where the rebar is to be placed. Rebar can be placed through any of the holes in the tube (not being used for other parts). Place a bolt and wing nut through the holes where the bottom of the rebar will rest.

Place the collar on the top side of the hole on the top tube. Then thread the rebar through the holes on both tubes, resting on the bolt at the bottom. Tighten the set screw in the collar (this prevents the rebar from falling straight through once cut).



When used together with the window configuration, window bars should look something like this:

Adding Entanglement Tunnel

The underside of this configuration lends itself well to adding entanglement hazards. Simply attach the wires with staples or drill holes and tie them off. Run the wires from the floor joists to the 2x4 base connectors.

Question? Concerns? Improvements?

Please be sure to reach out to us at support@vulkafire.com !

General information and additional configurations are available in their own Field Guide. Please be sure to check vulkafire.com.

Add-ons for the VTS are also available at vulkafire.com!

END OF GUIDE