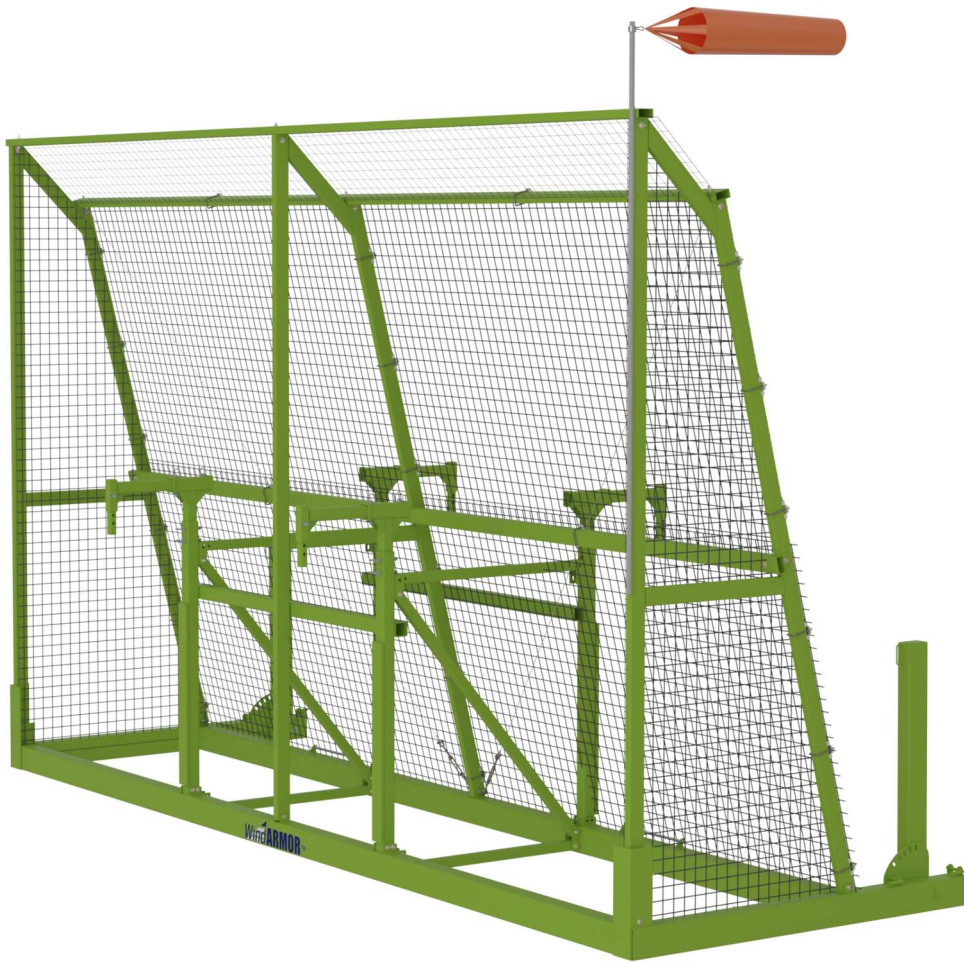


WindARMOR™

PORTABLE LITTER FENCES



Assembly Guide

Safety Information



Danger!

Only persons who have been trained and understand the information contained within this document may be allowed to assemble WindARMOR™ Portable Litter Fences.



Warning!

Appropriate personal protective equipment (PPE) must be utilized to prevent injury. This includes, but is not limited to fall protection equipment, safety glasses, safety shoes, gloves and long pants. Under certain working conditions, additional PPE may also be required. A complete assessment of the individual's job functions must be performed to determine if additional PPE is necessary.

Disclaimer

Con-Wal, Inc., dba Southwestern Sales Co., will not take responsibility for misinterpretation of the following instructions, or failure to abide by existing local codes and safety regulations, or for any installations with unauthorized modifications.

Product Overview

- The WindARMOR Portable Litter Fence is a 24' x 15' modular, self-supported fence section which can be moved using appropriately sized bulldozers or compactors and is intended to be used to catch windblown litter near the landfill's active face.
- WindARMOR Portable Litter Fences are not intended to replace site perimeter fencing.

Tool List –

- Cordless impact driver
- 3/4" and 9/16" hex nut sockets
- 3/4" wrench
- Side cutting pliers / wire cutters
- Grease gun with 1/8" tip

Equipment List –

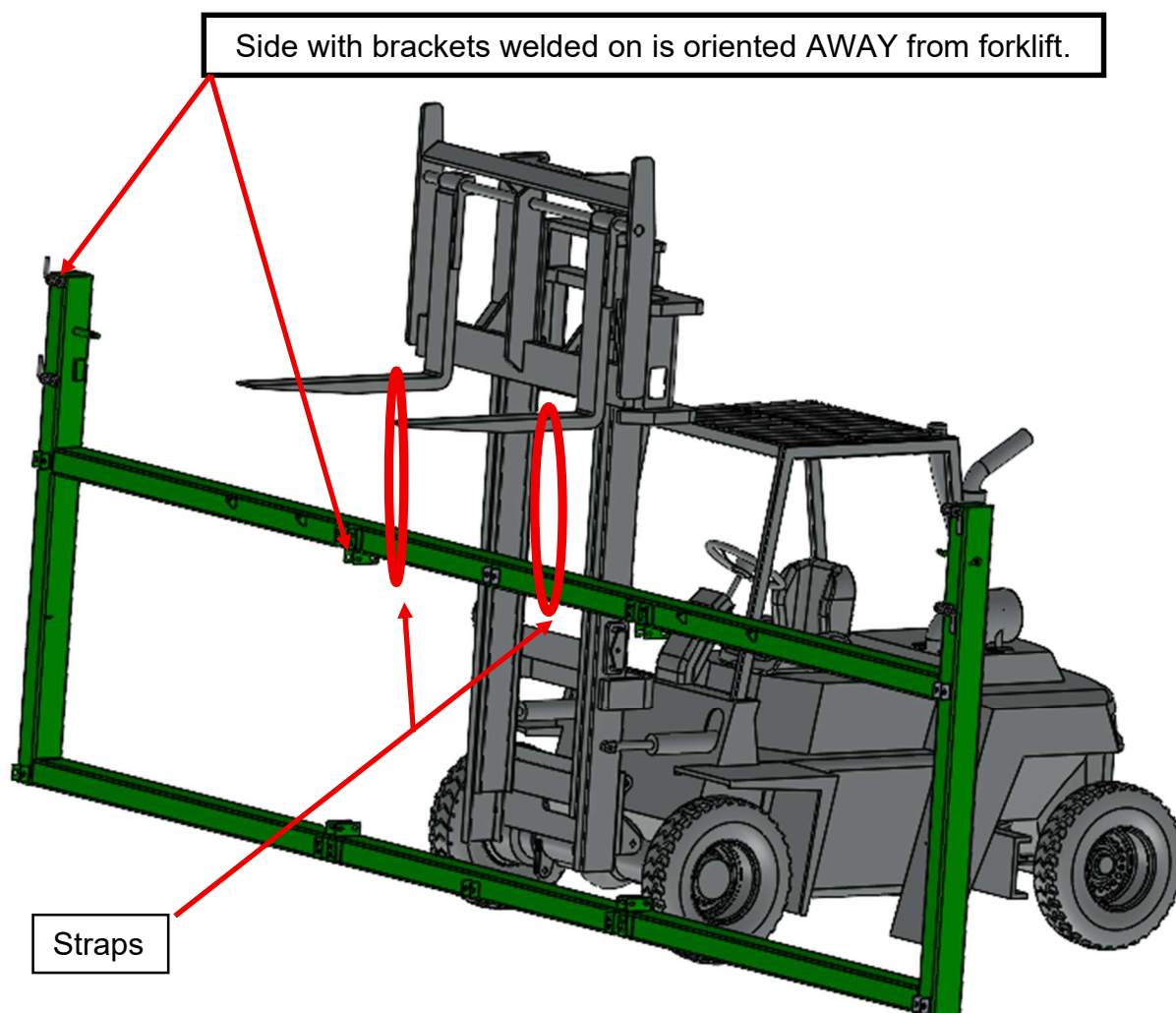
- Backhoe / Telehandler/ Forklift
- Strapping or chain rated for lifting 4,000 lbs
- Ratchet strap or clamp

Assembly Procedure

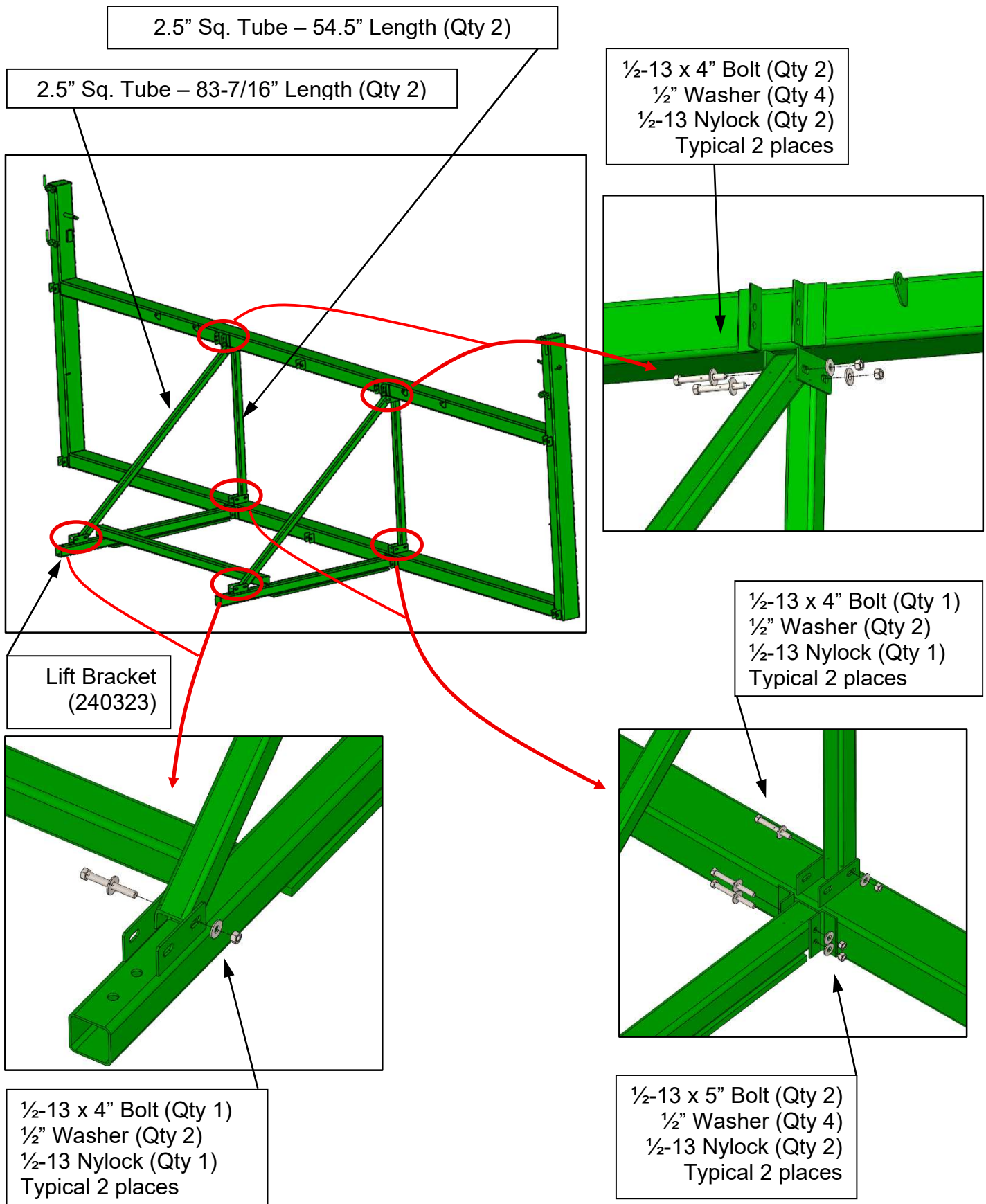
1) Base Position

Tilt the base up onto its front edge (side legs pointing up) by strapping the back horizontal member of the base to forklift / backhoe bucket. For safety purposes keep the base strapped to the equipment to prevent it from falling over. Base should remain in contact with the ground to prevent twisting.

Note: Locate the equipment holding the base upright to the bottom side of the base.



2) Attach the Lift Bracket

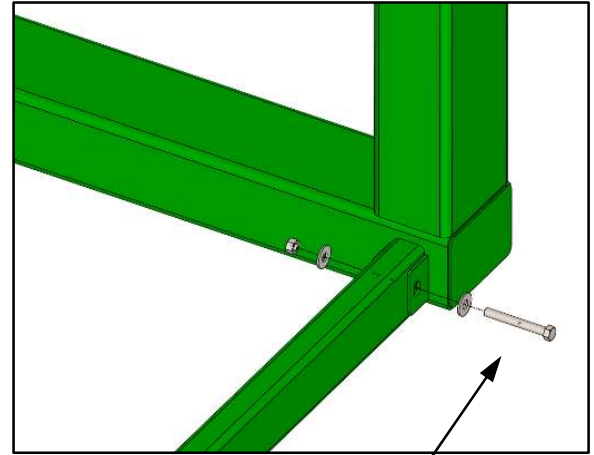


3) Attach Upright A-Frame Weldments

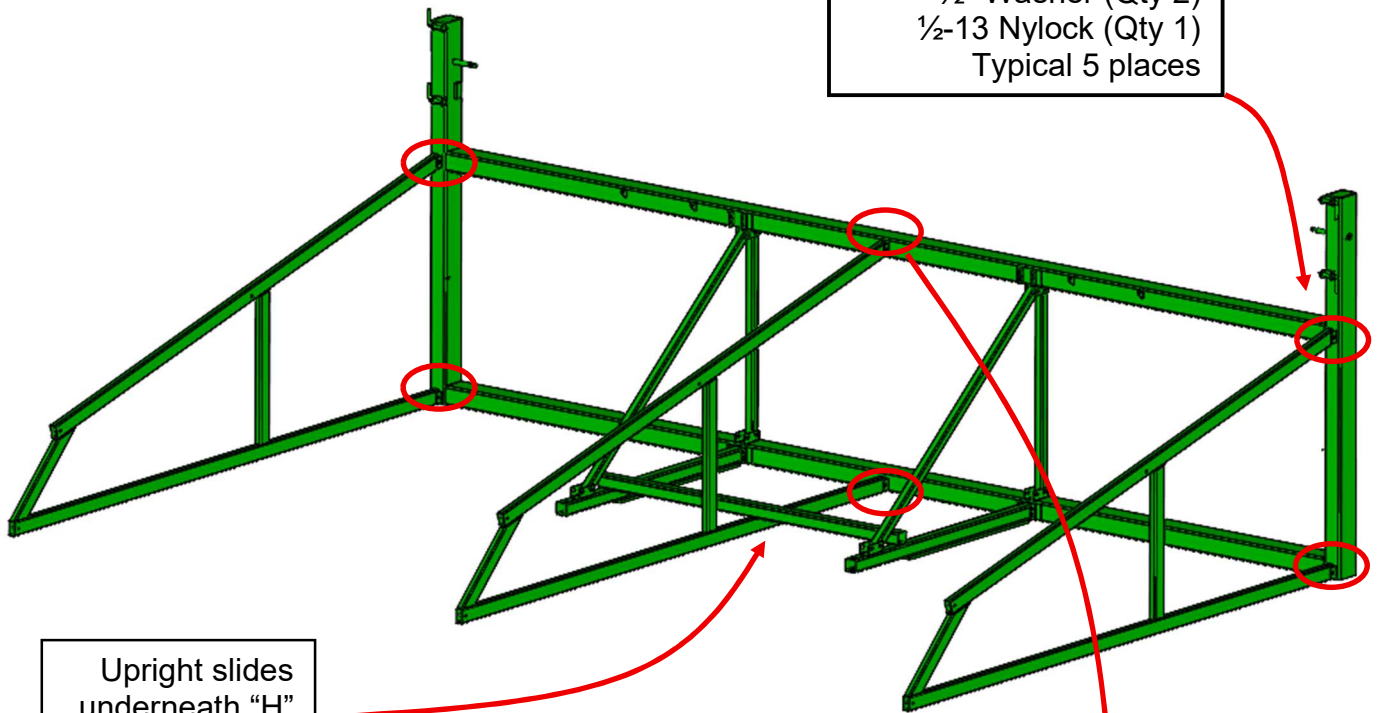
Notes:



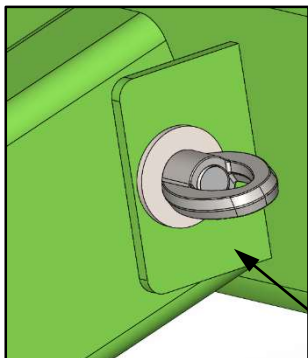
1. After the three A-frames have been installed, detach the equipment used to stabilize the base.
2. A-frame tubes must be inserted between the tabs for correct placement.



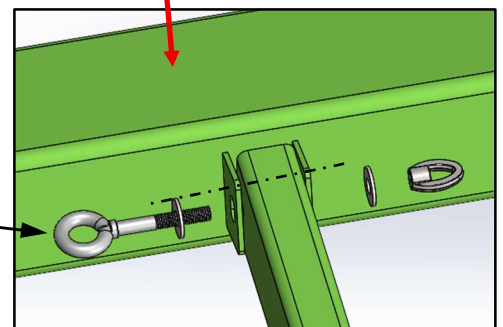
$\frac{1}{2}$ -13 x 3.5" Bolt (Qty 1)
 $\frac{1}{2}$ " Washer (Qty 2)
 $\frac{1}{2}$ -13 Nylock (Qty 1)
Typical 5 places



Upright slides underneath "H"



$\frac{1}{2}$ -13 x 3-1/4" Shoulder Eye Bolt (Qty 1)
 $\frac{1}{2}$ " Washer (Qty 2)
 $\frac{1}{2}$ -13 Eye Nut (Qty 1)
Typical 1 place



1. Eyebolt can be installed from either side of support.
2. Tighten Eye nut until bolt is fully engaged.
3. Rotate both eyes to align hole parallel with ground.

4) Attach 1st Horizontal 4x2 Stringer



Note: Do not tighten bolts until stringer is pulled tight against A-Frames for maximum stability.

1. Install Stringer Brackets on inboard side of outer A-Frames with slot side located on the A-frame upright. (Fig 1.)
2. Install stringer as shown below. For ease of assembly, support stringer with forklift and strap.
3. Install Stringer Bracket on either side of center A-frame after Stringer is in place.
4. Use a ratchet strap or clamp, if needed, to ensure stringer is tight against A-Frames at all 3 bolting locations.

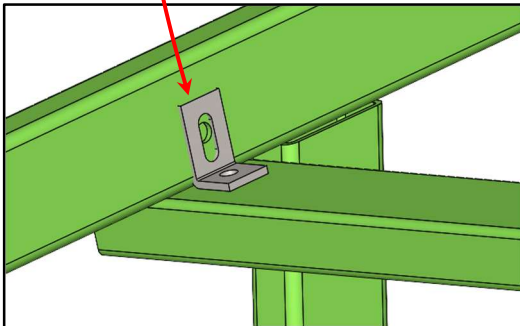
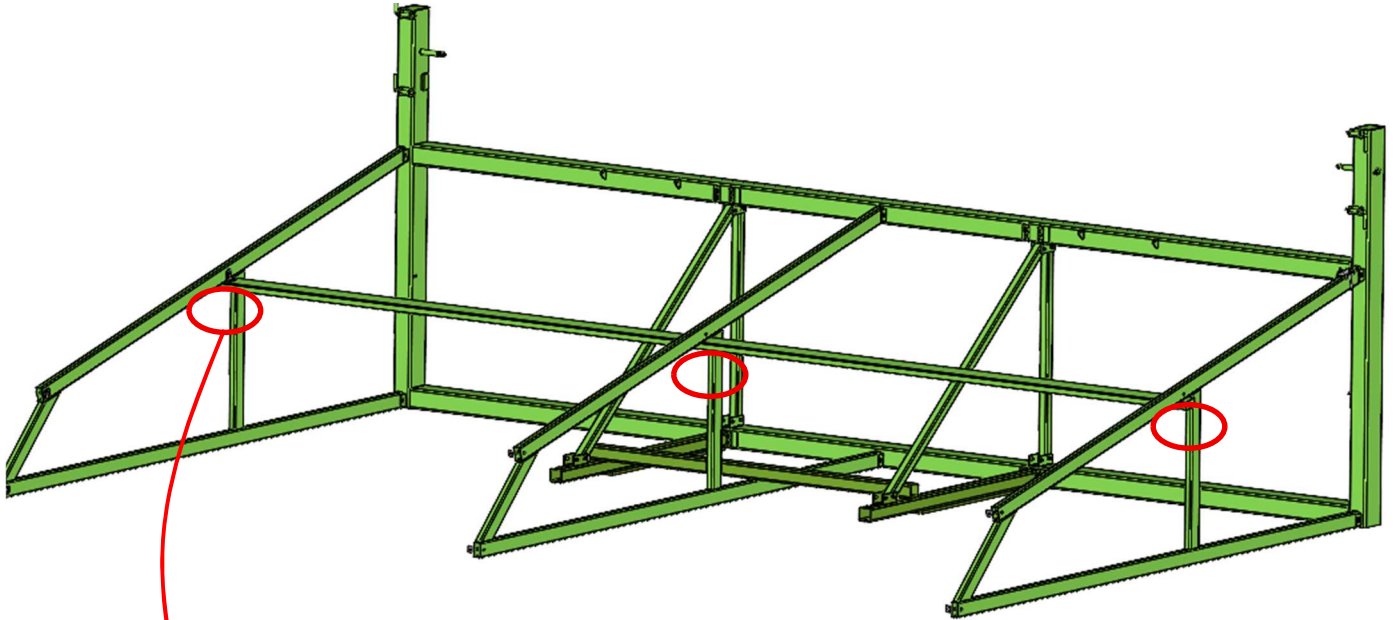


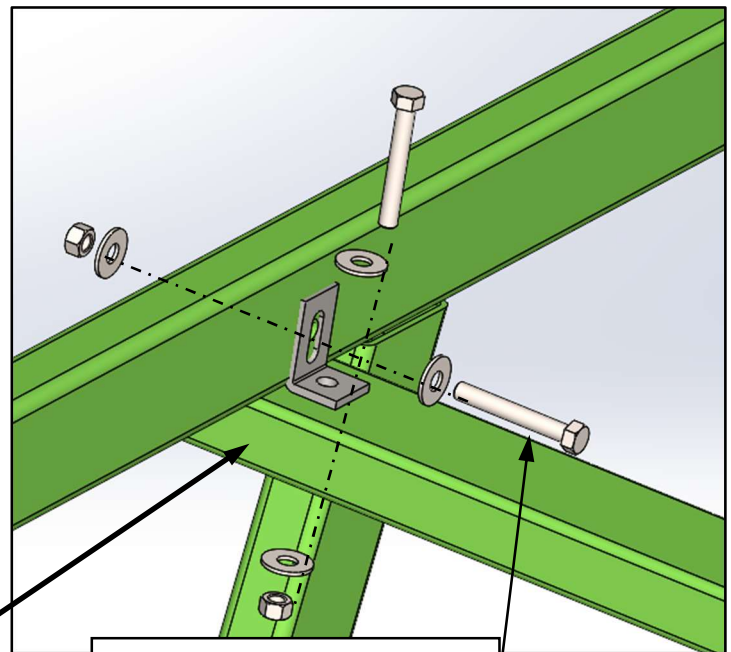
Fig. 1 Stringer Bracket Detail

Notes:

1. Ensure Stringer Bracket slot orientation and location.
2. Pull stringer tight against A-frame before tightening bolts.



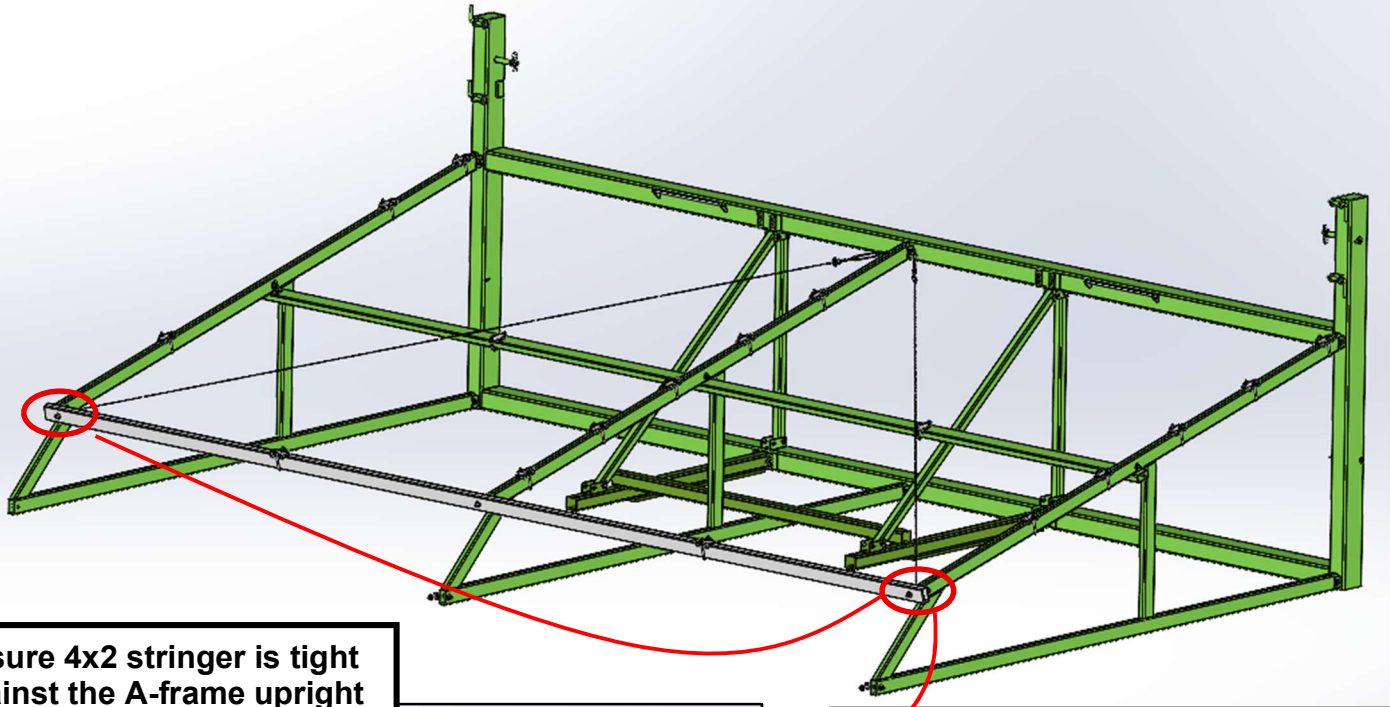
Ensure 4x2 stringer is tight against A-Frame before tightening bolt



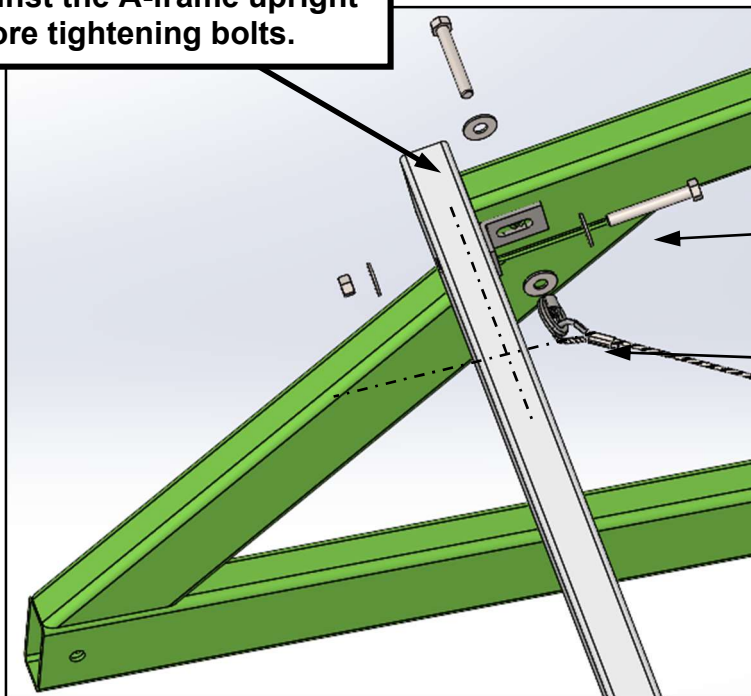
1/2-13 x 3-1/2" Bolt (Qty 2)
1/2" Washer (Qty 4)
1/2-13 Nylock (Qty 2)
25007 Bracket (Qty 1)

5) Attach 2nd Horizontal 4x2 Stringer

- Pre-assembled guy-wires have an Eye Nut crimped on one end. Place the Eye Nut at the top corners.
- Stringer attaches to the top of the A-Frames, against the end of the uprights. This also serves to cap the upright posts.



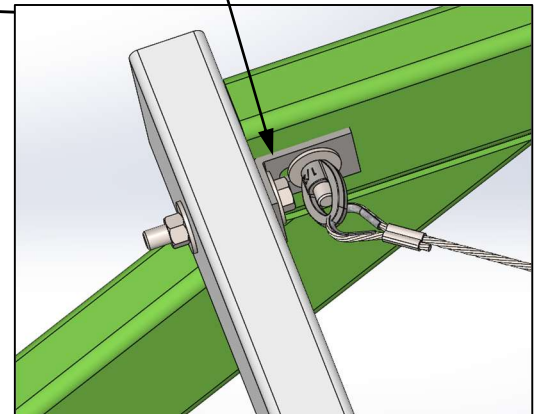
Ensure 4x2 stringer is tight against the A-frame upright before tightening bolts.



1/2-13 x 3-1/2" Bolt (Qty 2)
1/2" Washer (Qty 4)
1/2-13 Nylock (Qty1)
25007 Stringer Bracket (Qty 1)



Ensure bolt head is oriented as shown to allow Eye nut clearance.



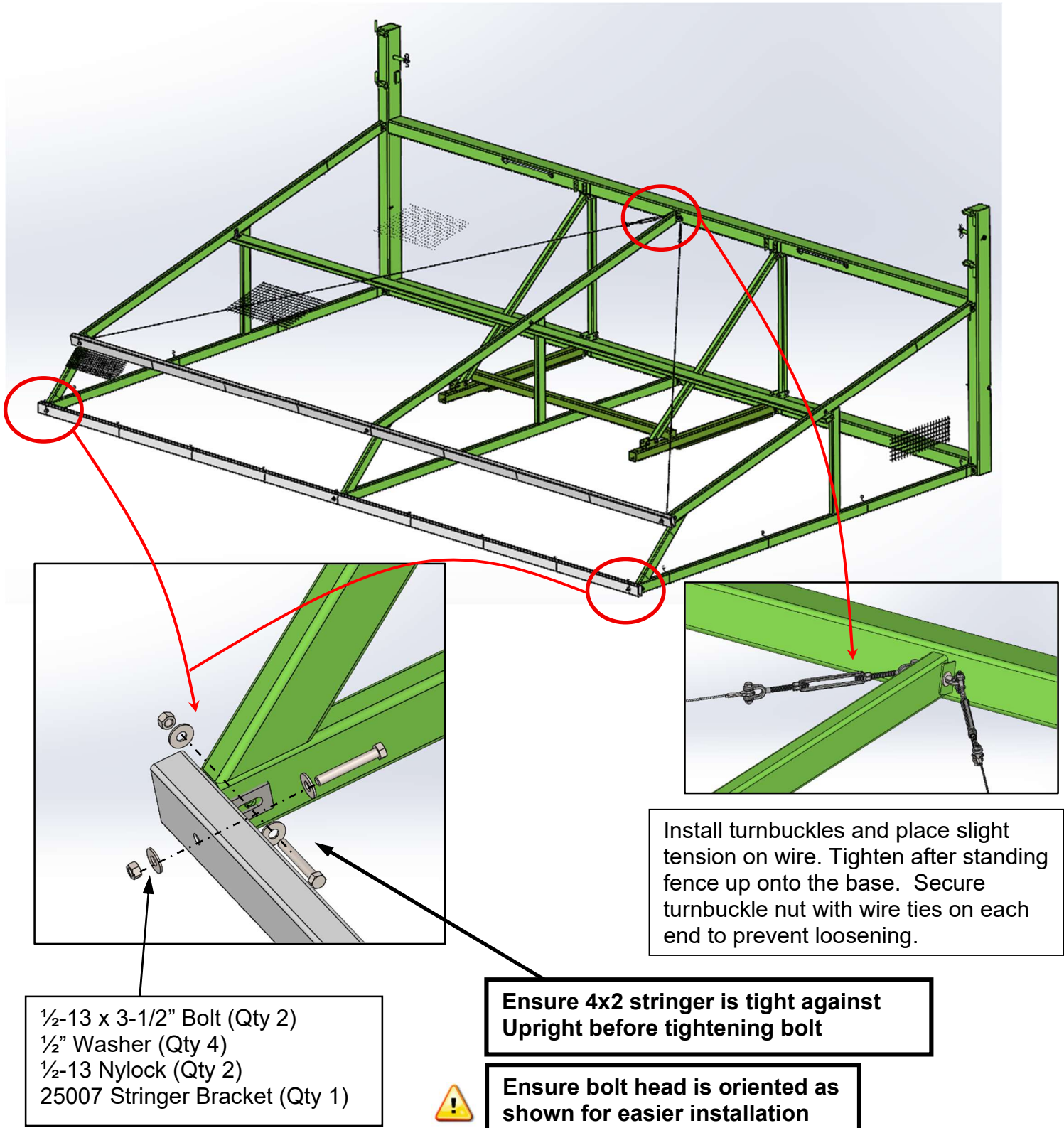
Notes:

1. Stinger Bracket slot orientation and location.
2. Pull stringer tight against A-frame before tightening bolts.

After bolt is tight, rotate eye nut until hole is aligned with ground.

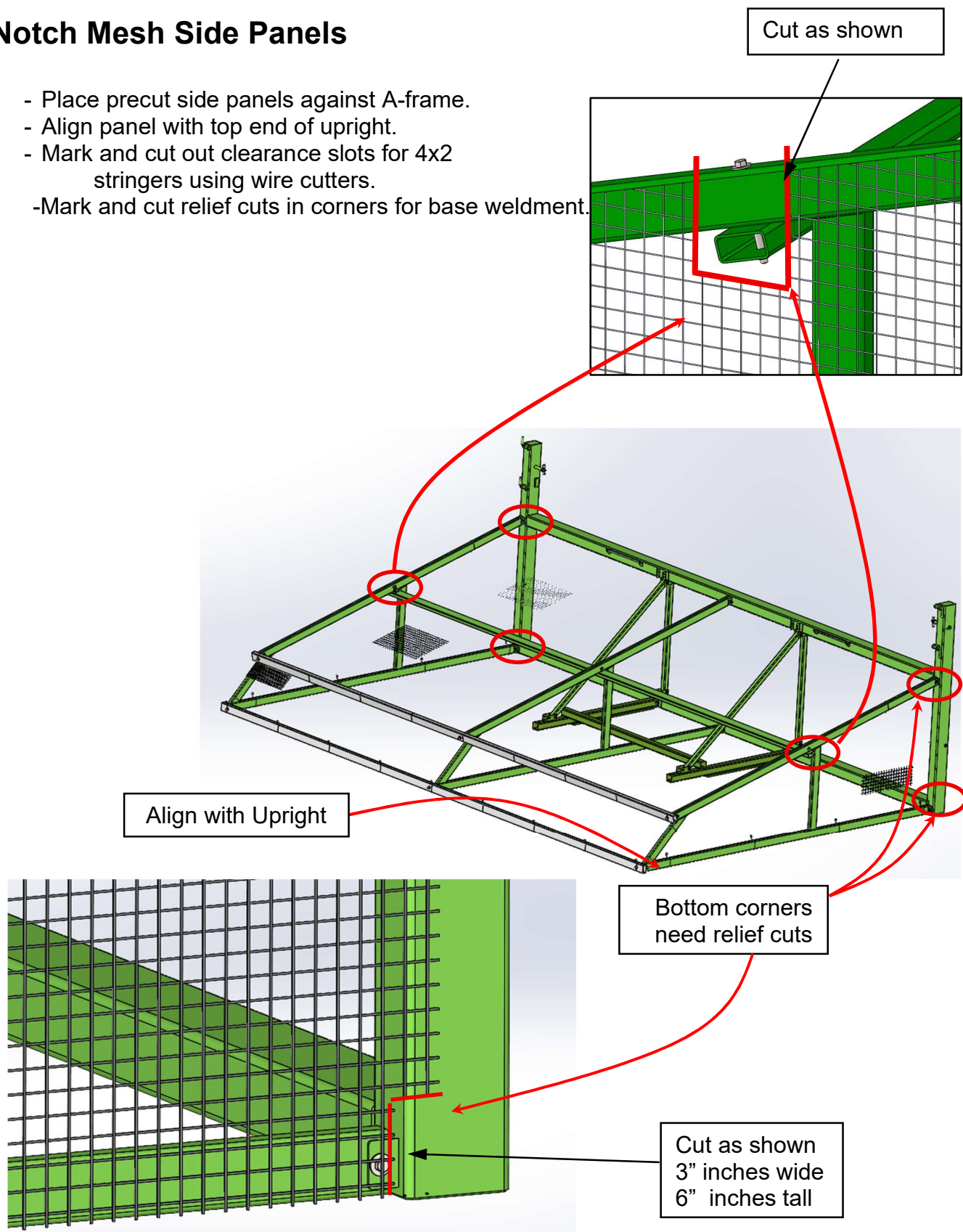
6) Attach guy-wires and 3rd 4x2 Stringer

- Stringer attaches to the top of the A-Frames, against the end of the uprights. This also serves to cap the upright posts.
- Turnbuckles will need to be opened to have approx. 1" of thread showing on each bolt before installation.



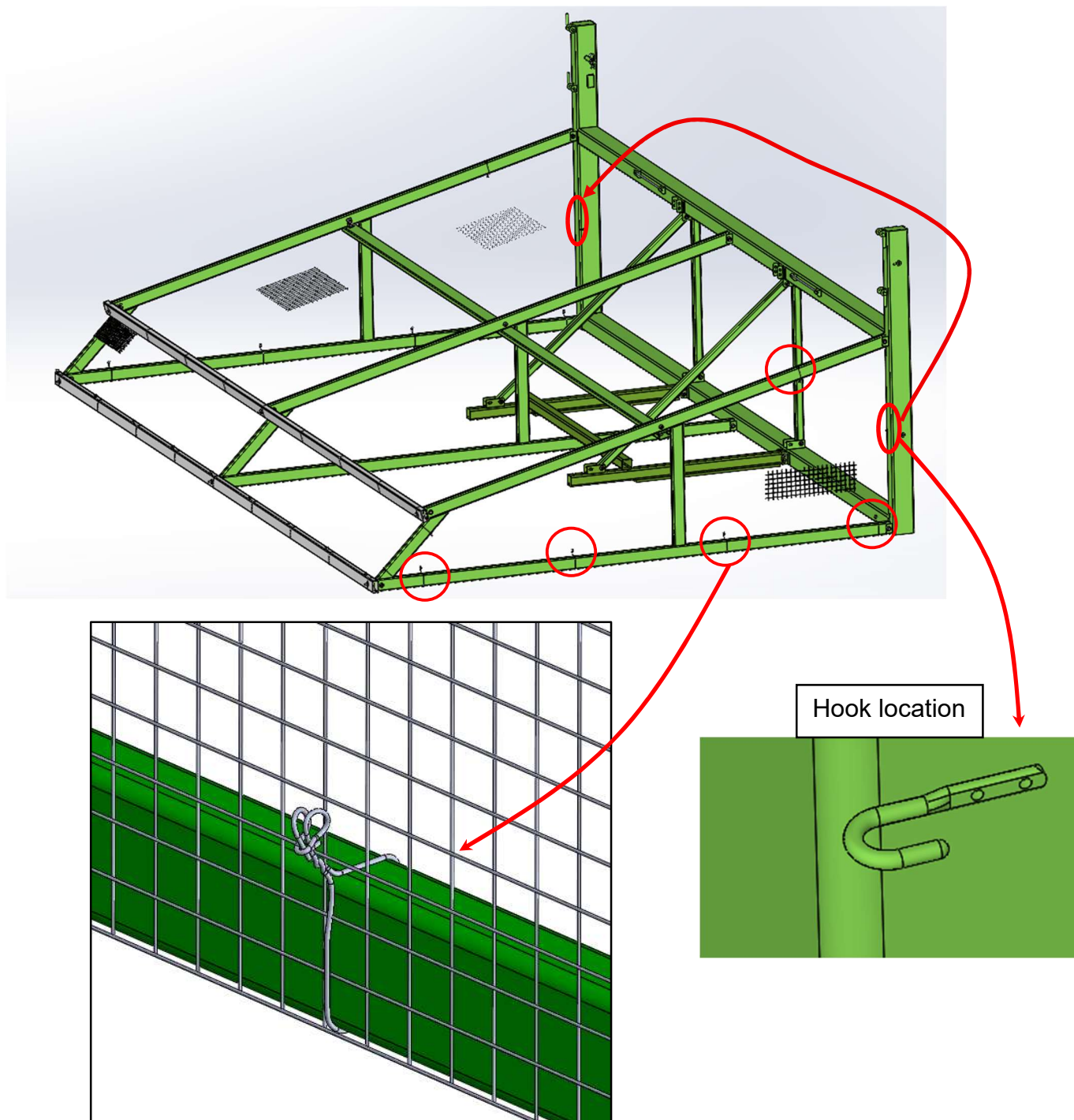
7) Notch Mesh Side Panels

- Place precut side panels against A-frame.
- Align panel with top end of upright.
- Mark and cut out clearance slots for 4x2 stringers using wire cutters.
- Mark and cut relief cuts in corners for base weldment.



8) Attach Mesh Side Panels

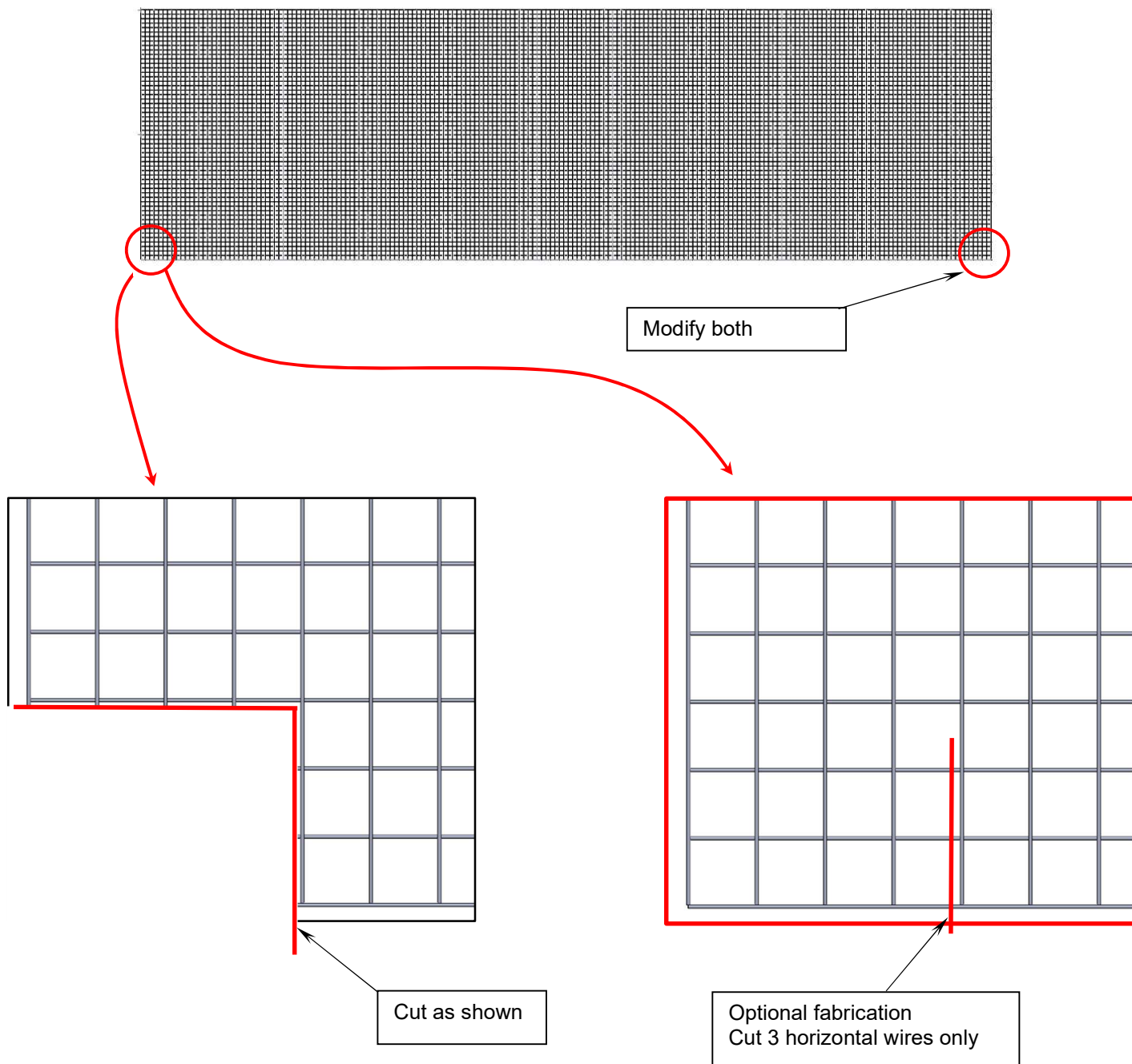
- (Complete mesh not shown for clarity.)
 - Reposition side panels to the interior of the sides.
 - Ensure panels are looped onto welded HOOK.
 - Attach panels using five 16" Galvanized Double-Loop Ties.
- Place 4 ties along the front edge of each side, evenly spaced
 - Place 1 tie along the back edge to hold the panel in place



9) Prep the Lower Back Panel

- Unroll provided Wire mesh and cut into 24' long panels.
- For each litter fence, modify 1 panel to be used as the "Lower Back Panel".
- Cut out a 4 square x 3 square grid section from each lower corner using wire cutters

**Optionally, cut 3 horizontal wires closest to the bottom edge, 4 squares in from the outside edge, see diagram below. This will allow you to bend the panel back if desired, instead of cutting.*

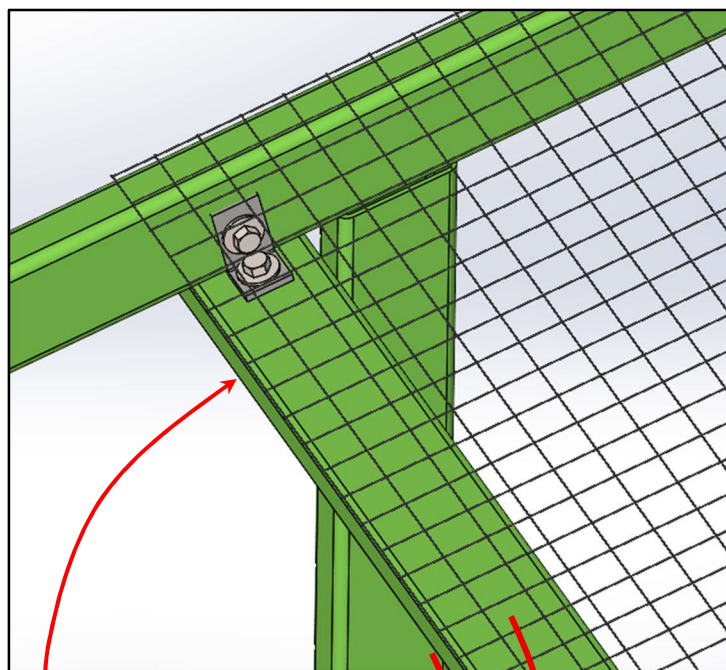


10) Position the Lower Back Mesh Panel onto the Frame

- (Full mesh not shown for clarity.)
- Position the lower panel on the outside with cutout notches around the two vertical 5x7 legs.

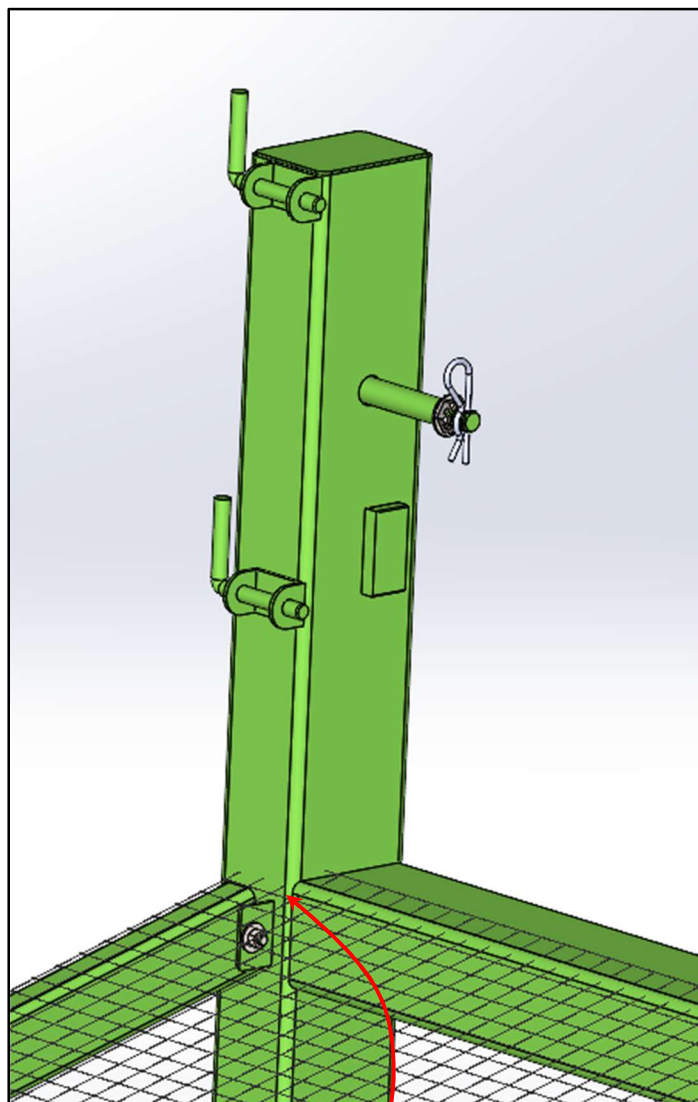
If the optional corner cutout was done in step 9, fold the tab of mesh up and position the notch around the two 5x7 legs as low as possible.

Lower mesh panel should cover all 3 A-frame uprights and extend up to the middle 4x2 stringer. If not, trim notch accordingly.



Middle 4x2 stringer

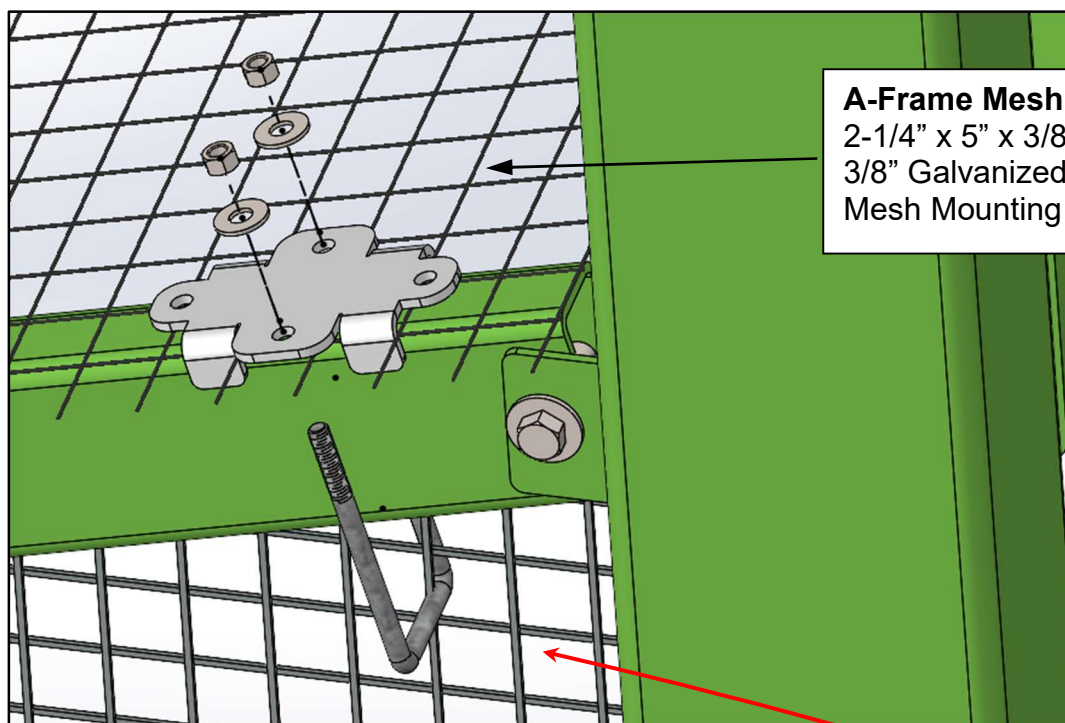
Panel should extend to at least the mid-point of the middle stringer.



Corner Notch

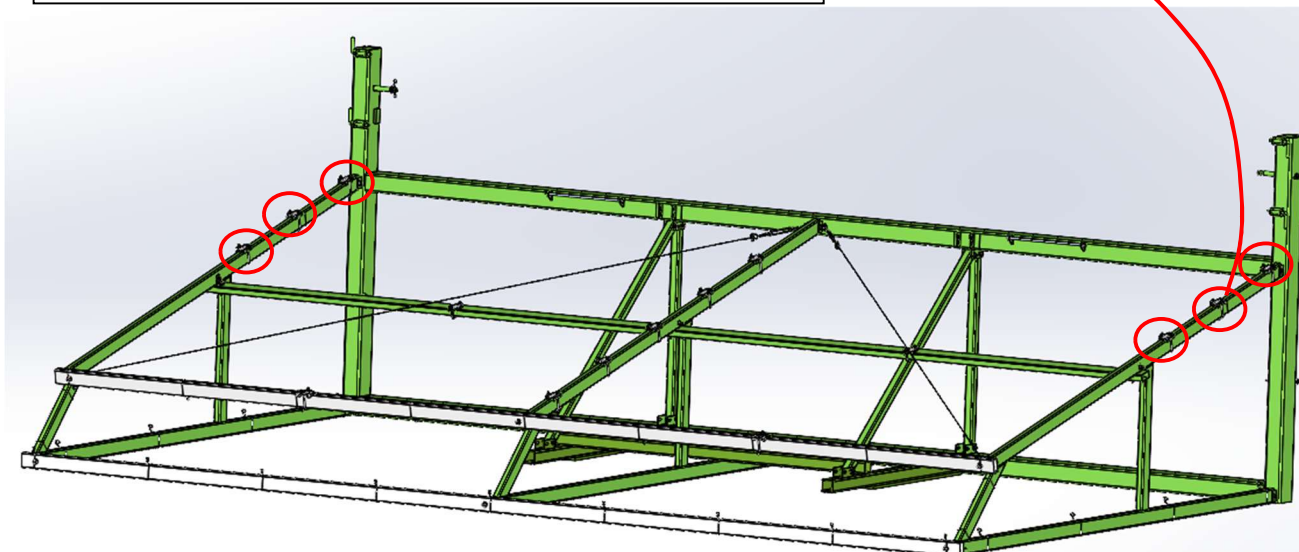
11) Attach the Lower Back Mesh Panel

- Lower Back Mesh Panel AND Side Mesh Panel are held in place using 3 brackets on each A-frame.
- 1st bracket is 5" from base.
- Space other brackets every 28",
- Pull mesh tight before tightening galvanized nuts.
- Install U-bolts and brackets ONLY on outside A-Frames.



A-Frame Mesh Bracket Assembly
2-1/4" x 5" x 3/8" Square U-Bolt (Qty 1)
3/8" Galvanized Nut (Qty 2)
Mesh Mounting Bracket (Qty 1)

WIRE MESH NOT SHOWN FOR CLARITY

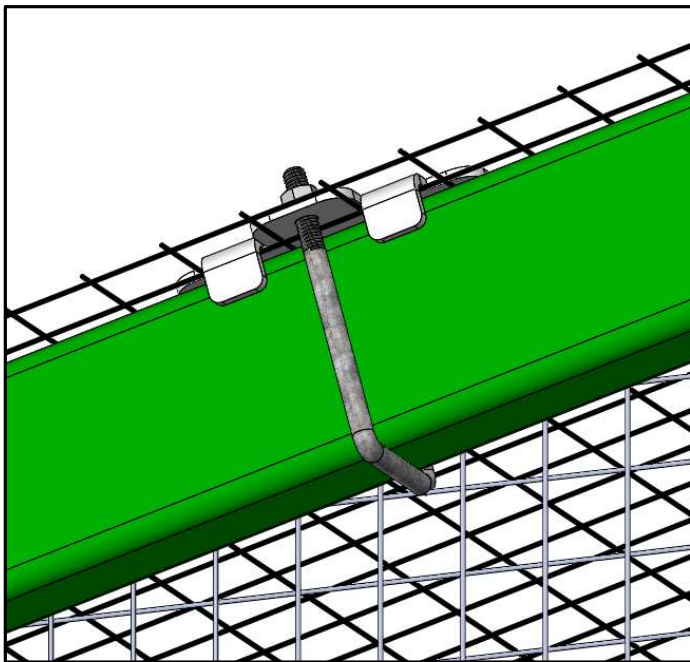
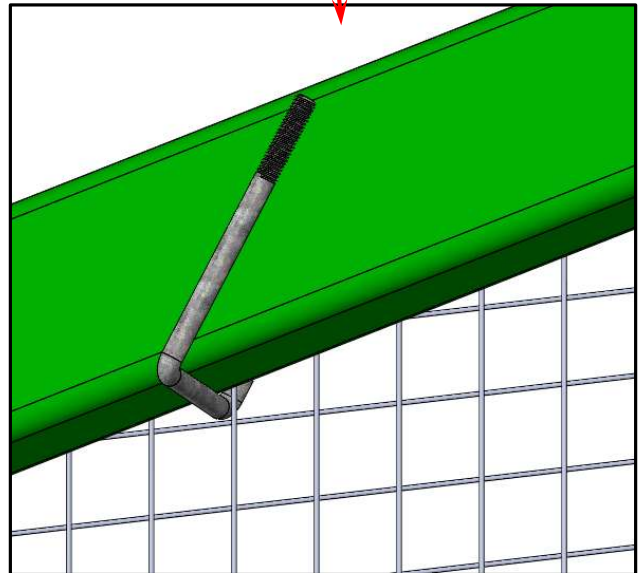
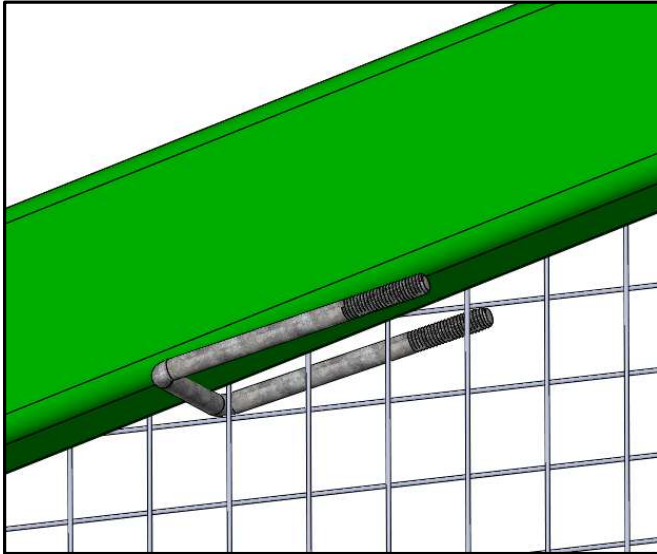


12) Attach the Lower Back Mesh Panel (continued)

- To install square U-bolts, pass one leg through the side panel wire mesh parallel to the 2x4 frame member it will go around.

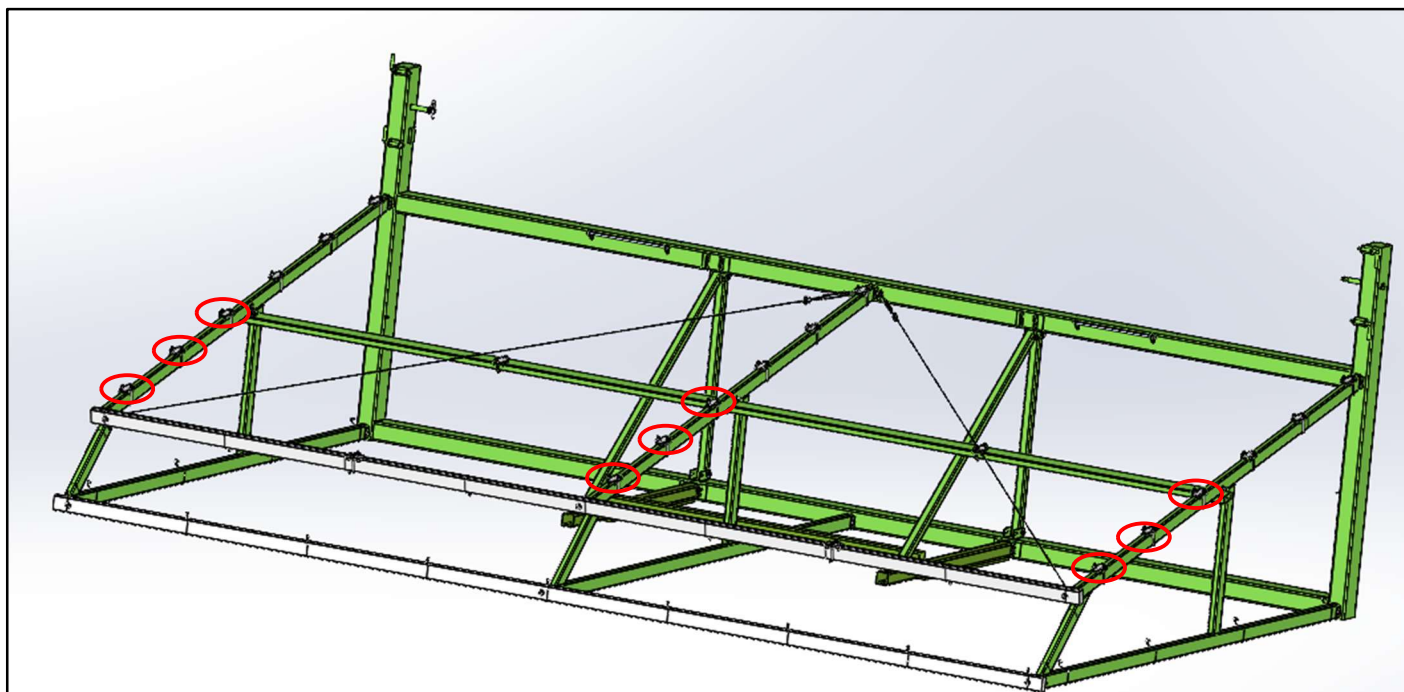
Note: U-Bolts will hold both the Back Mesh Panels and the Side Mesh Panels in place.

- Lift the Back Mesh Panel away from the 2x4 frame member and then rotate the U-Bolt into position



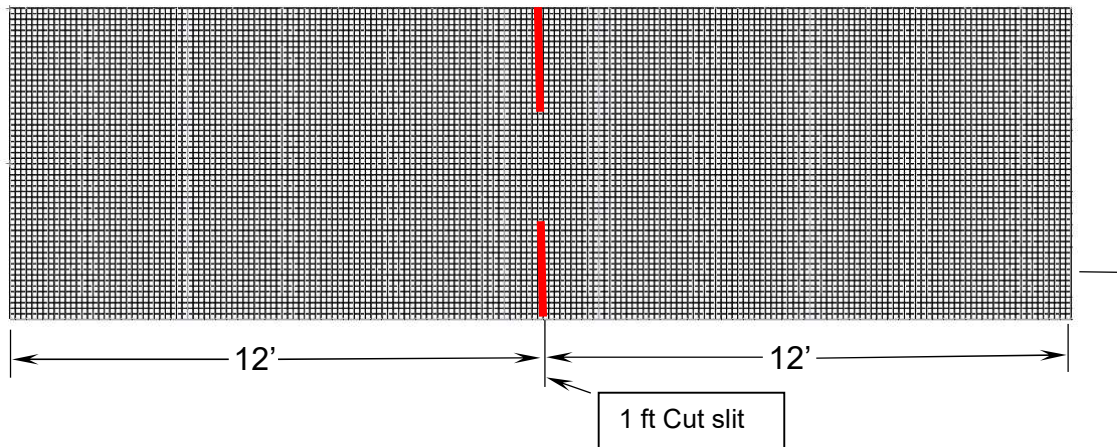
13) Position and Attach the Upper Back Mesh Panel

- (WIRE MESH NOT SHOWN FOR CLARITY)
- Place the remaining 84" W x 23'10" wire mesh panel onto the back of the frame such that the two back panels overlap by approximately 3" to 5".
- The Upper Mesh Panel should extend to the top of the upper 2x4 Stringer (2nd Stringer).
- Attach Upper Mesh Panel using 3 Mesh Mounting Brackets per A-frame (see step 11).
 - Including 3 brackets on the center A-frame.
- Continue spacing the brackets 28 inches apart.
- Pull mesh tight before tightening nuts.

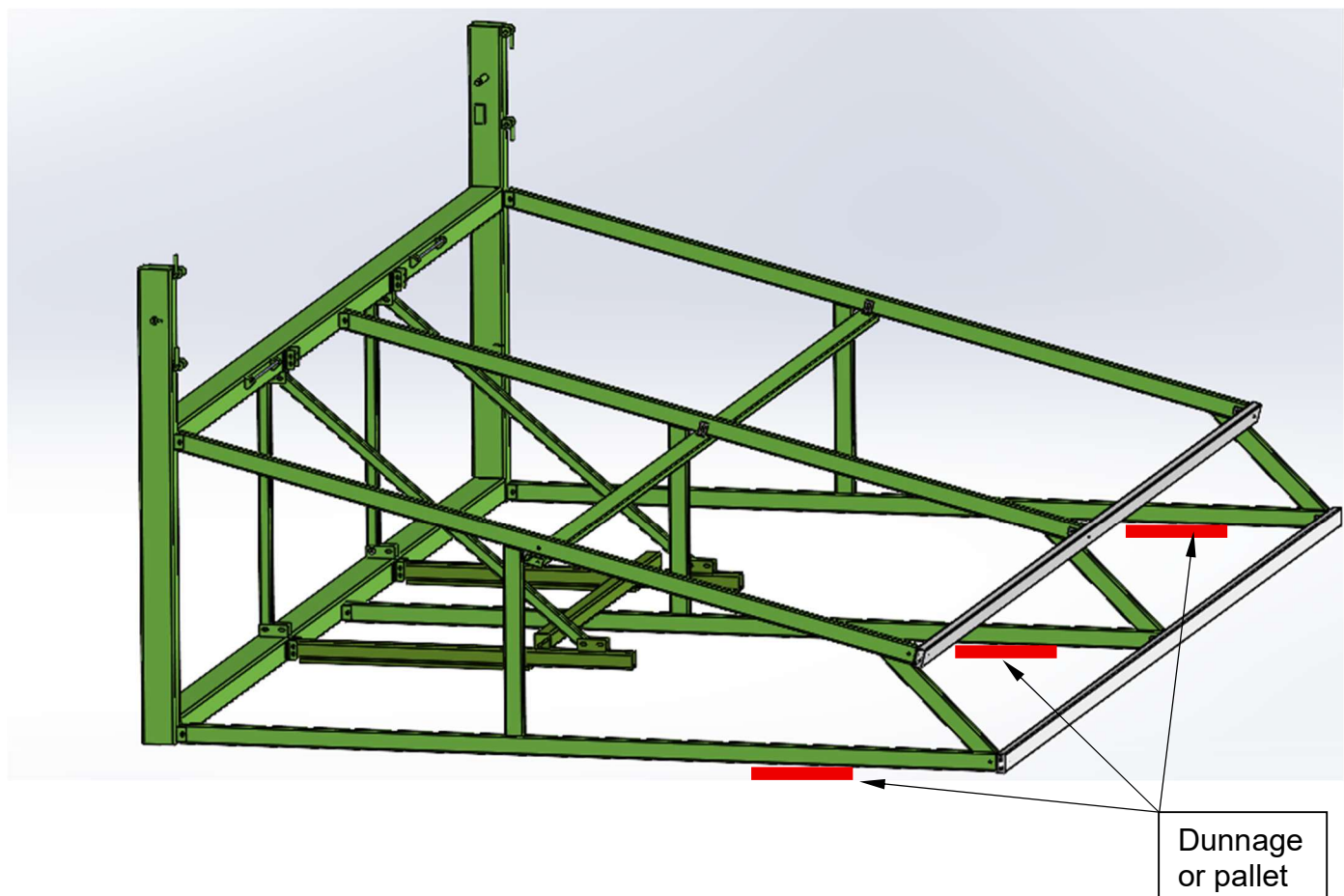


14) Prep for the Top Netting

- Cut a 1 ft long slit through the 42" x 24 ft Polyethylene Netting in 2 places as shown.



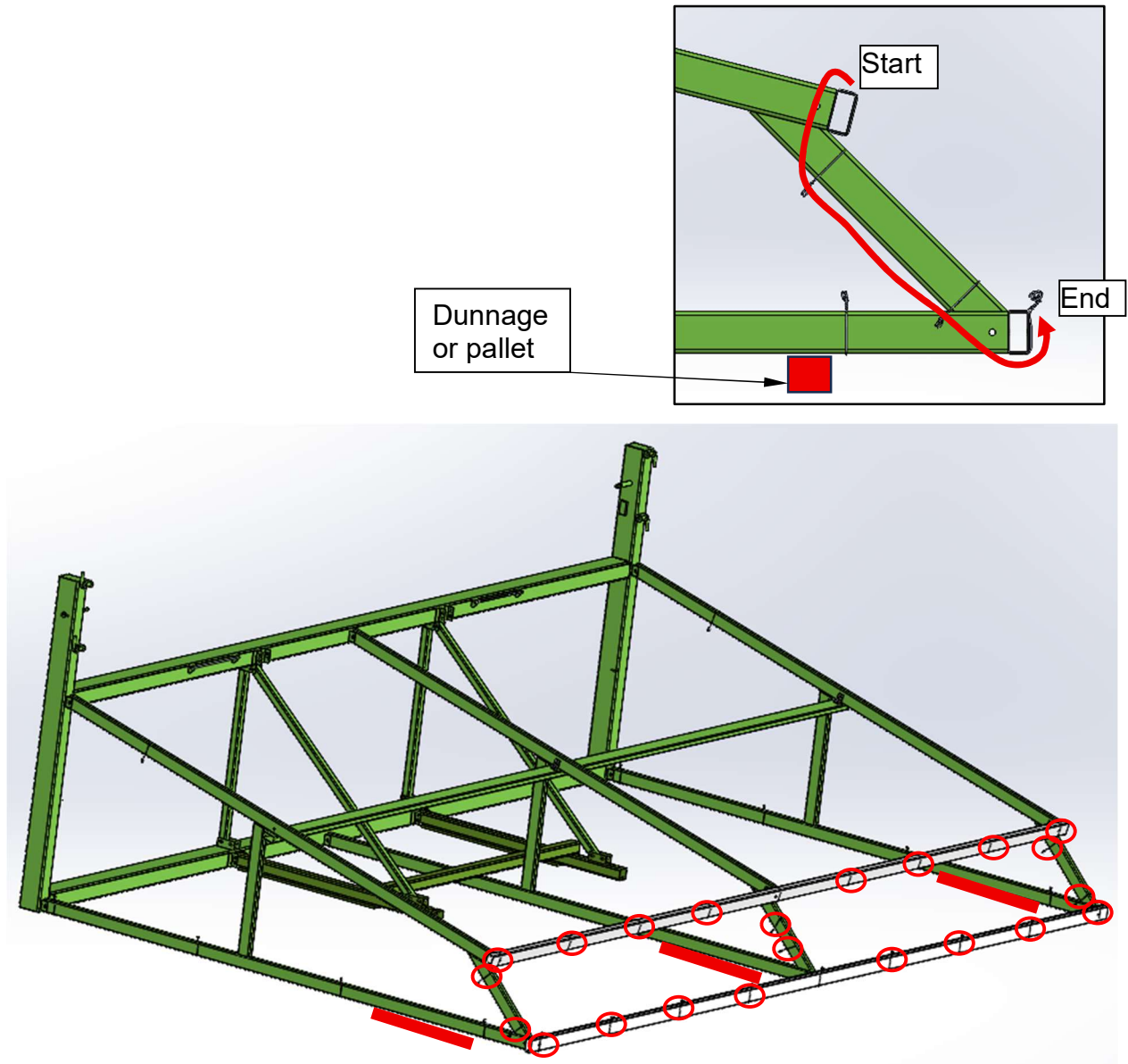
- Lift the top edge of the fence up and place dunnage or blocking under the A-frames to hold it 2" to 6" off the ground.
- (WIRE MESH NOT SHOWN FOR CLARITY)



15) Attach the Top Netting

- (WIRE MESH NOT SHOWN FOR CLARITY)
- Place netting on the inside of the fence.
- Starting in the middle, Align slit with center A-frame.
- Wrap the netting around the uppermost 2x4 Stringer. Slit will be around middle A-frame.
- Attach netting to both the Upper Back Mesh Panel and Upper 2x4 Stringer using (8) 16" galvanized double-loop ties (4 per side).
- Attach netting to lower 4x2 Stringers using (8) 16" galvanized double-loop ties (4 per side).
- Attach netting to A-frame cross-members using (2) 16" Galvanized Double-Loop Ties per side. Any excess netting may be folded or wrapped around the end of A-frames.

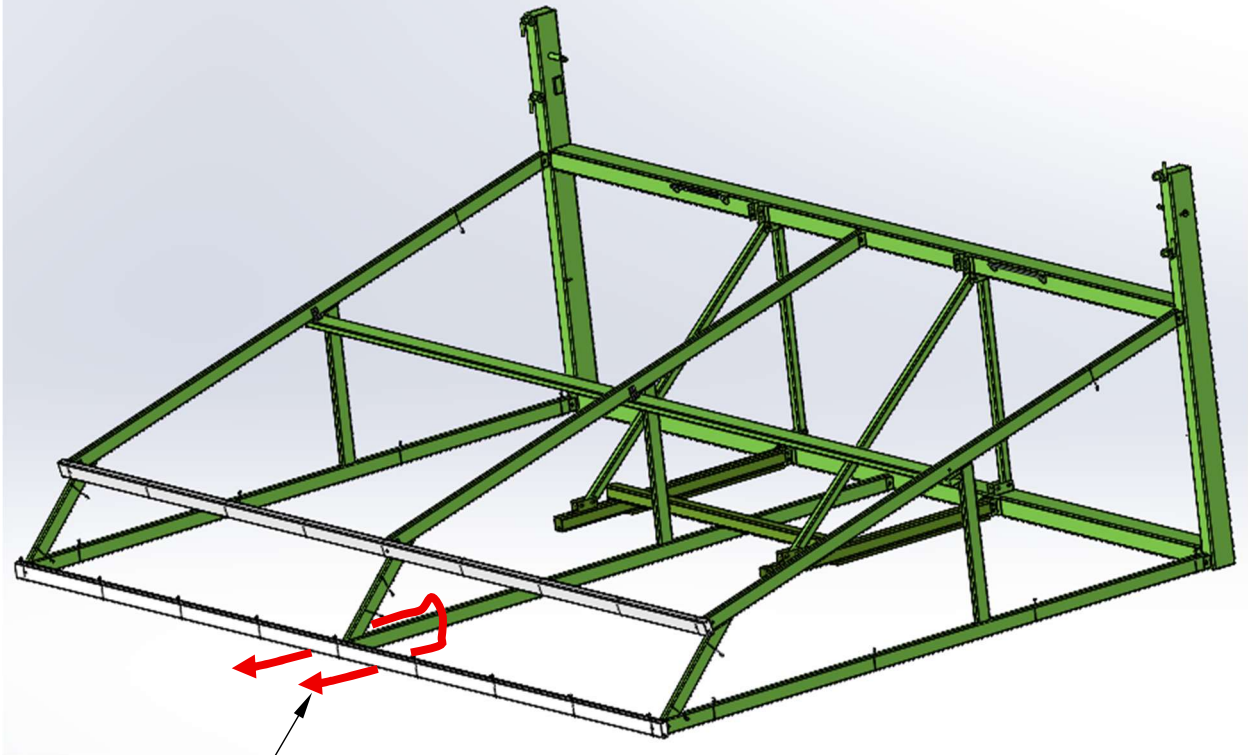
Note: Ensure Top Netting, Side Mesh Panels and uprights are captured by all wire ties.



16) Pivot the Portable Litter Fence Upright

- Ensure all bolts/nuts are tightened before continuing. 
- Place strap/chain (4,000Lbs lift capacity) around center A-frame as shown, and hook to bucket of Backhoe or forks of Telehandler.
- Rigging this way allows for strap removal at ground level.
- Slowly lift the Portable Litter Fence as the fence rotates into an upright position.
- (WIRE MESH NOT SHOWN FOR CLARITY)

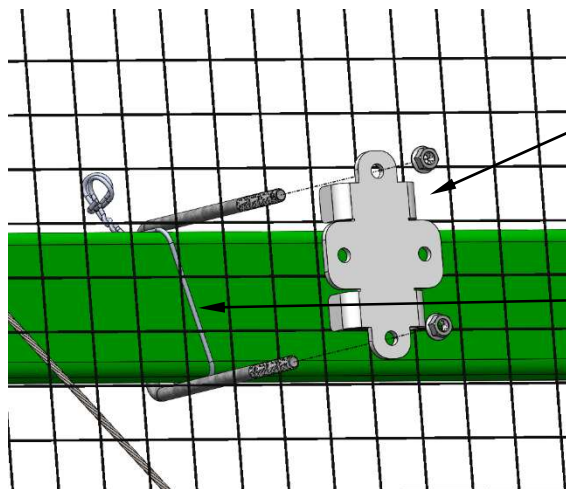
Note: Do not completely lift the fence off the ground at any point



Place strap/chain around vertical A-frame, and under Top Stringer.

17) Install Remaining Mesh Panel Brackets

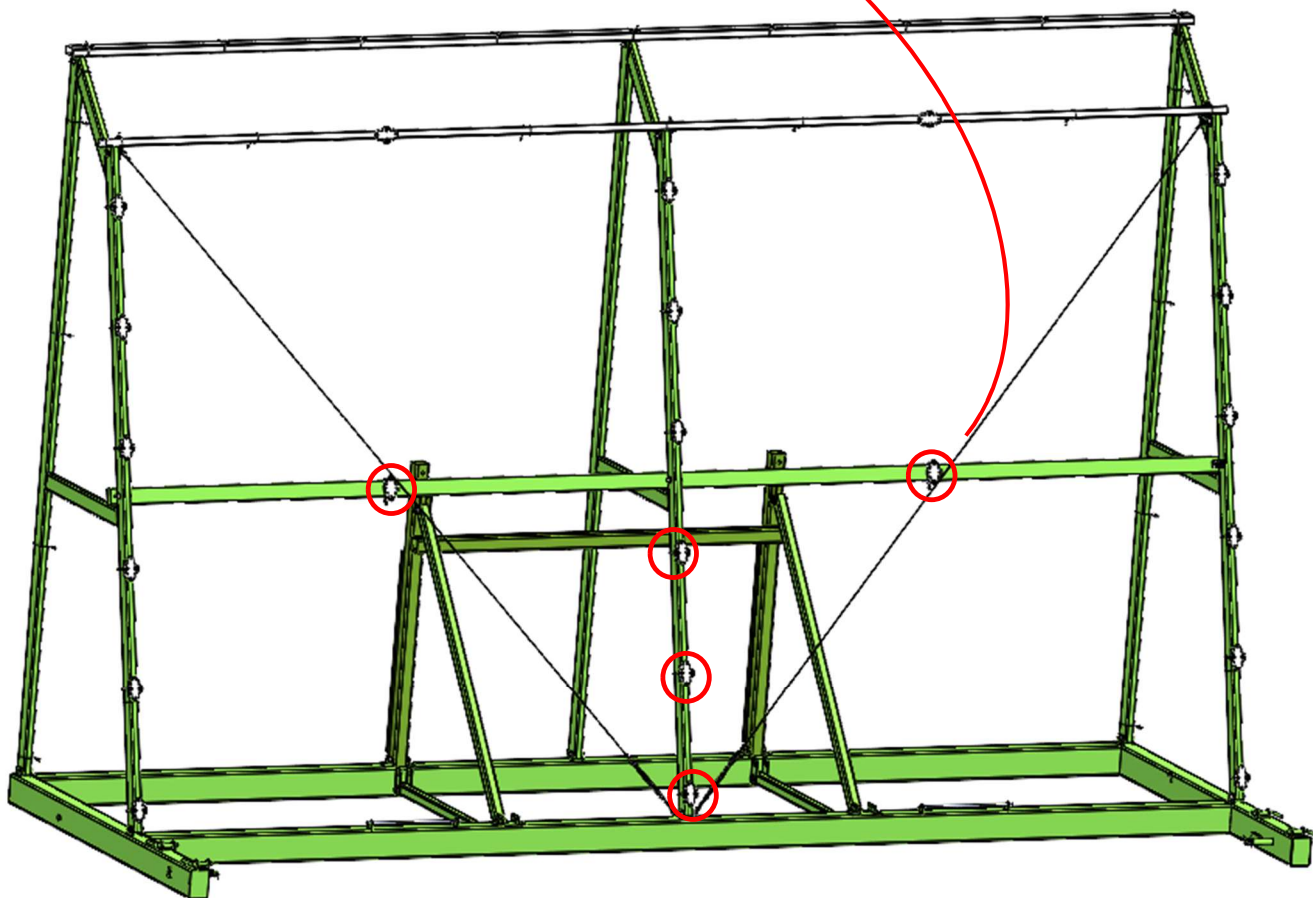
- Attach both Mesh Panels to Middle A-frame using three additional Mesh Mounting Bracket Assemblies with larger square U-bolts (see step 11) as shown.
- (DO NOT CAPTURE GUY WIRE WITH U-BOLT.)



Horizontal Mesh Mounting Bracket Assembly

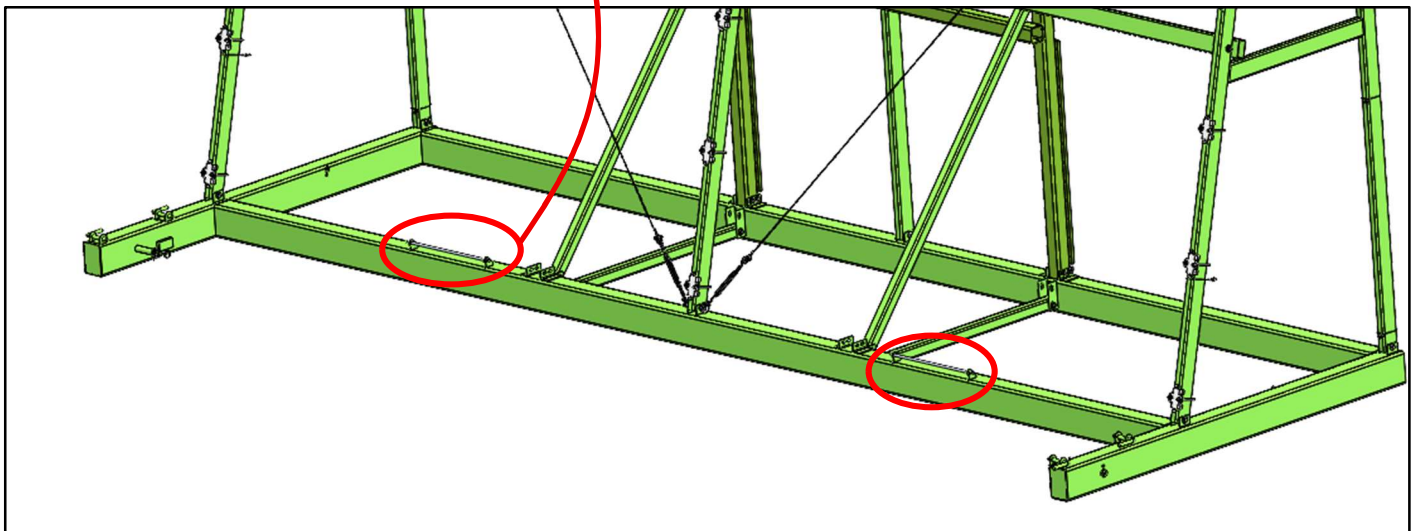
4-1/4" x 7" x 3/8" Square U-Bolt (Qty 1)
3/8" Flange Nut (Qty 2)

Note: Anchor the U-bolt to the 2x4 Stringer with a single 16" Galvanized Double-Loop tie.



18) Install Mesh Retention Bars

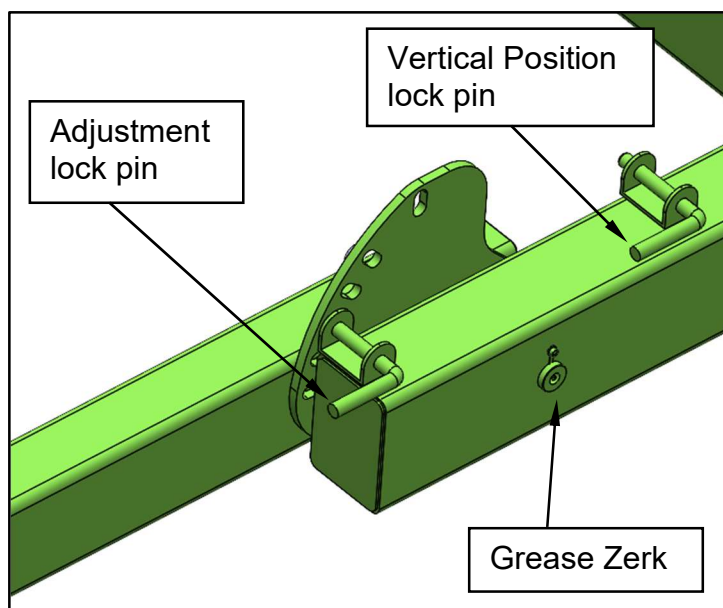
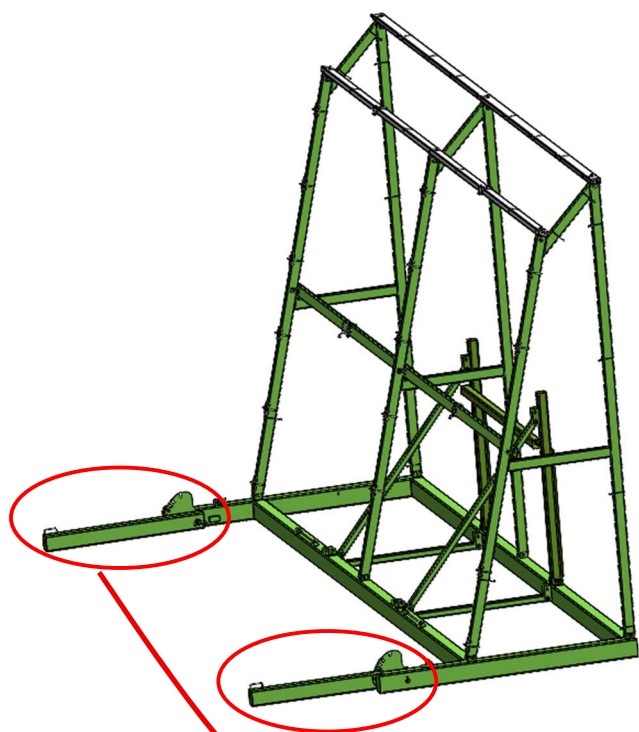
- From the back of the fence, press the wire mesh down over the tabs at the base such that the ½" Retention Bar can be inserted through the hole in each bracket.
- Insert (2) Cotter Pins into the Mesh Retention Bar to retain the bar.
- Repeat for other side.
- (MESH NOT SHOWN IN BOTTOM PICTURE FOR CLARITY.)



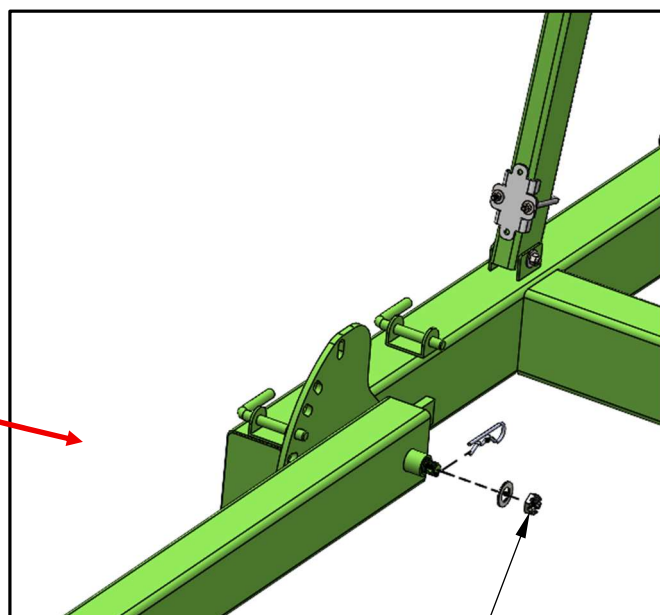
19) Install Extension Legs

- Remove polyurethane tubing from base pivot pins (If applicable).
- Attach Extension legs as shown (1 each side). Place the flat plate oriented against the fence base.
- Grease zerk after installation.

*Note: Finger-tighten castle nut only. Extension leg should pivot freely.
1/4" Hairpin prevents loosening of castle nut.*



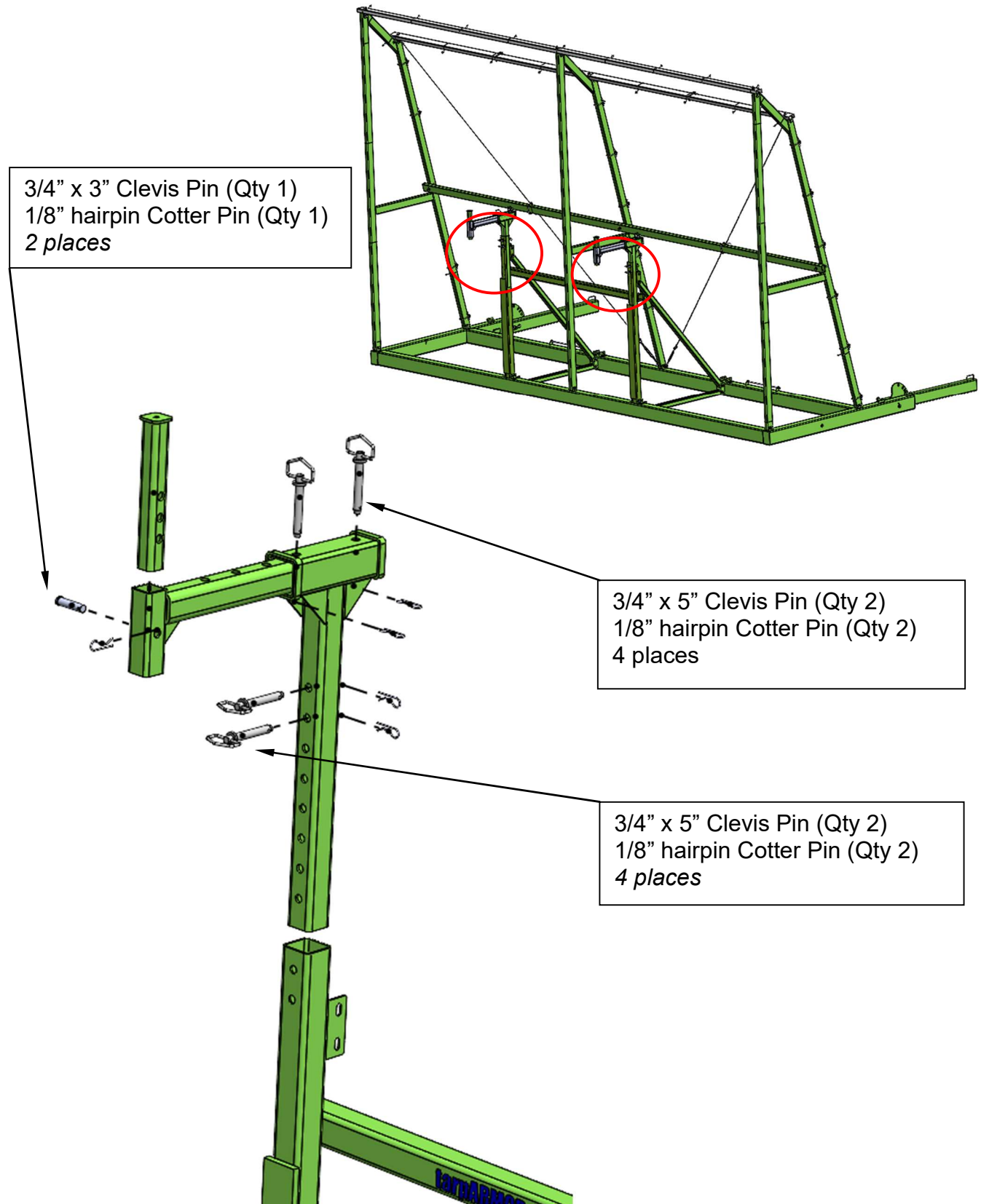
Adjustment plate installs flat against base when assembled correctly.



1/4" Hairpin Cotter Pin (Qty 1)
1" Castle Nut (Qty 1)
1" Flat Washer (Qty 1)

20) Install Adjustable Lift Arms

- Arms are adjustable to allow for adaptation to landfill equipment blades.



21) Apply Decals

- Install Decals as shown

"tarpARMOR® and PORTABLE LITTER FENCES" decals applied on front 3-1/2" Sq. tube of the Lift *Bracket*



"WindARMOR" Decal
Centered on the 7" x 5" Tube on
the front of the fence base