

Pallet Rack Upright Frames, Starter Kits, and Add-ons Assembly Manual



WARNING:

- All personnel should read and understand this manual before working with this product.
- Observe and obey all safety regulations when assembling, installing, and using the pallet rack. This includes all generally accepted safety rules, local building codes, and country/state-specific regulations for construction and storage.
- Do not install pallet racks outdoors, as they are designed solely for indoor warehouse usage. Do not store products unprotected in outdoor environments prior to installation. Do not store products in damp or corrosive environments that can damage the surface paint.
- Pallet racks should be assembled by trained or experienced personnel who are familiar with this product. At least two persons are required for the assembly of this product.
- All applicable drawings and instructions in this manual should be followed.
- Use necessary protective equipment such as gloves, safety shoes, hardhats, safety glasses, and anything else needed to prevent injury.
- Improper assembly and unapproved modifications/conversions (including but not limited to welding and cutting) of the pallet rack may cause injury, death, or damage to property and personnel.
- If seismic conditions apply, verification of capacities must be confirmed with a seismic engineer.

CAUTION:

- All nut and bolt connections should be tightened to the specified torque requirements. Do not over-tighten bolts!
- Aisle/work area should be kept clean and clear of all materials and debris during installation.
- Check overhead and surrounding clearance prior to raising components or the assembled uprights.
- Do not stand the upright or post until it is being used in a pallet rack assembly and supported by a beam.
- Be mindful of unsecured pivotable braces, which may create a pinch hazard.
- Storage rack should be installed only on an adequate concrete floor. Every column footplate of each pallet rack installation must be properly anchored to the floor. Consult with your professional engineer to ensure secure anchorage.
- Do not expose your storage rack to corrosive or abrasive substances or abnormal dampness.
- Never climb, stand, or step on racks before, during, or after assembly.
- Perform routine checks on pallet rack frames to identify any damages.



Recommended Tools:

- 2x 9/16" (14 mm) wrenches
- Sharp, cutting tool (box cutter, safety razor, etc)
- PPE (Personal Protective Equipment)
- Torque wrench, air compressor, 9/16" drive impacts or equivalent
- Measuring Tape

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PRE-ASSEMBLY PREPARATIONS

Before assembling the pallet racks:

- Measure out the area where the pallet racks will be installed. Ensure adequate floor space and sufficient ceiling height prior to installation.
- Allow sufficient aisle spacing. Please keep in mind that the space between pallet racking should be greater than the intended work aisle spacing as items stored on the shelves may protrude into the aisle. It is generally recommended to have a safety distance of 18" on both sides of traffic routes, but this distance may vary depending on the size of the vehicles operated in the facility.
- When planning out the racking layout, the necessary safety distance between the racks and building components (such as columns and walls) must be observed.
- When planning out the racking layout, ensure adequate longitudinal flue space between rows as required by NFPA 13 and/or other local fire safety regulations. 6" spacing is recommended; however, please confirm with a professional engineer.

FLOORING CONSIDERATIONS

Before installing the pallet rack system, make sure that:

- The floor has an adequate load bearing capacity that can withstand the intended loads. Consult a specialist or professional if unsure. The customer is responsible for ensuring that this information is correct.
- The floor must be a reinforced concrete slab with a minimum thickness of 6". If magnesite screed is present on the surface, insulating plates and special ground anchors are required to prevent corrosion.
- Pallet racks should be installed square and plumb on the floor. Shimming may be necessary if floors are not level. Maximum allowed out-of-plumbness is ½" per every 10 feet of height.

NOTE: All values mentioned below are general recommendations in the warehouse industry. It is the customer's responsibility to consult with a qualified professional and determine the anchoring requirements.

ADDITIONAL RECOMMENDATIONS

- Install adequate lighting in every aisle. Better visibility will reduce the chances of workers bumping into pallet racks and damaging them.
- Install column/post protection devices. These accessories are sold separately and protect the pallet rack upright from damage caused by impact from forklifts. It is recommended to install these in high traffic areas.
- Install capacity signs to each pallet rack that states relevant information such as: maximum pallet load, average pallet weight, and maximum load per bay.

PALLET RACK UPRIGHT ASSEMBLY

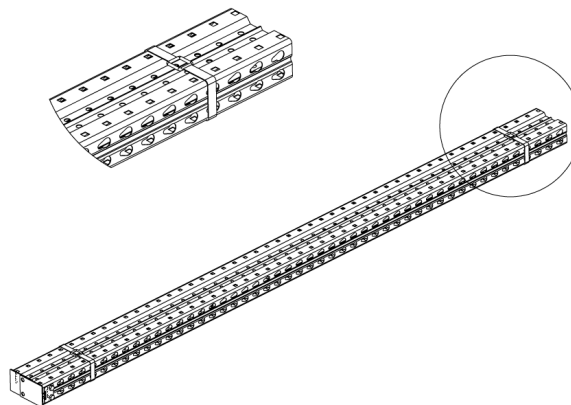
For models: 298678, 298689, 298690, 298691, 298692, 298693, 298694

1 Disassemble the Package

Disassemble the pallet upright package. Using a box cutter or similar sharp utensil, gently cut off the straps holding the upright kit together.

Avoid scratching the protective paint on the components.

Loosen the bolts on the footplates to separate the two posts.



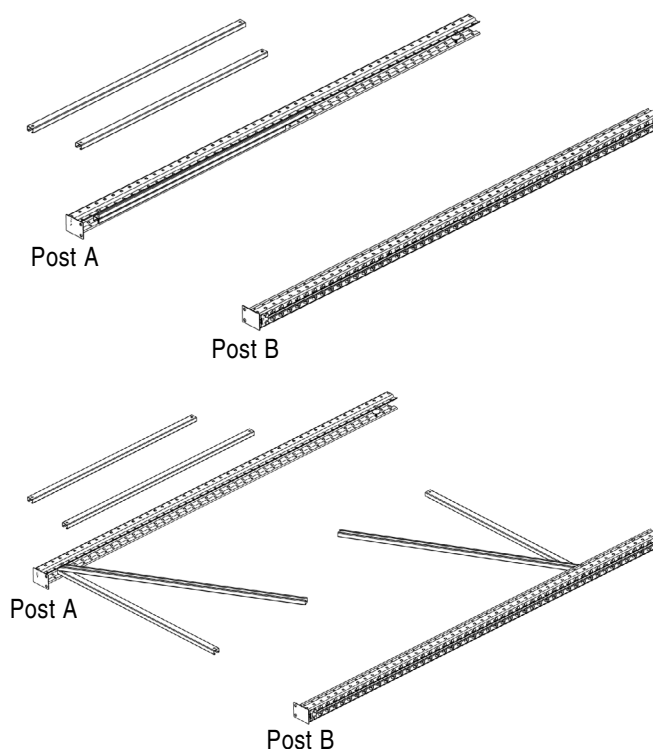
2 Lay Out and Check All Parts

Lay out all the components on the ground and identify them according to the parts list.

(Drawings of all upright models can be found on pages 12-25 of this manual. Refer to the corresponding model.)

Align the bottom footplates of the posts according to the diagram and spread the attached braces.

Confirm that all the parts are present and if any are missing or damaged, contact Global Industrial to request replacements.



NOTE: Graphics are for illustration purposes only and may not accurately reflect the loose components in your purchased item.

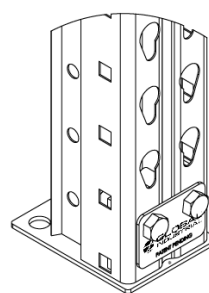
3 Adjust Footplates

Confirm that the footplate is flush with the bottom of the post. If it is not, loosen the bolts and push the footplate in until it is flush with the bottom of the post. Retighten the bolts afterwards.

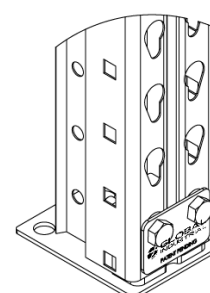
Bolts should be tightened following the below requirements:

Torque range: 33-43 ft. lbs. (45NM-59NM)
Max. torque: 43 ft. lbs (59NM)

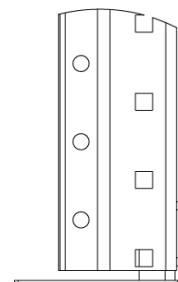
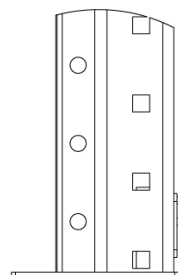
NOTE: Visit the Global Industrial website to view our selection of optional footplate accessories. Be sure to consult with a professional engineer first to determine if they are suitable for your seismic conditions.



Flush



Not Flush



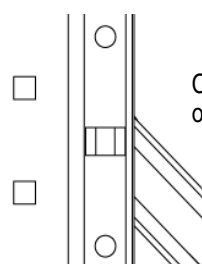
4 Connect the braces to the posts

Follow the assembly graphics to connect the two posts together using the braces and hardware. The bolt should go through the post and brace(s)/spacer and is secured with the nut. The holes on the posts are marked to indicate where the bolts are inserted.

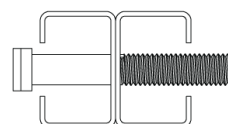
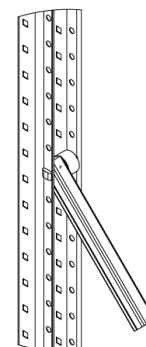
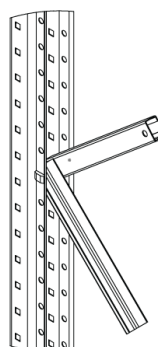
The shorter side of the shoulder bolt head should be touching the lip of the open end of the post.

NOTE: Some pre-inserted bolts may need to be removed to attach an additional brace into the correct position.

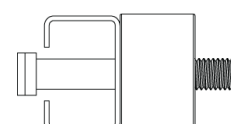
NOTE: The open “C” side of the brace should always face outwards, with the back of the brace touching either the back of another brace or a rubber bushing.



Correct Orientation of Shoulder T Bolt



2x Brace Configuration



1 Brace + Rubber Bushing Configuration

5 Tighten all bolts

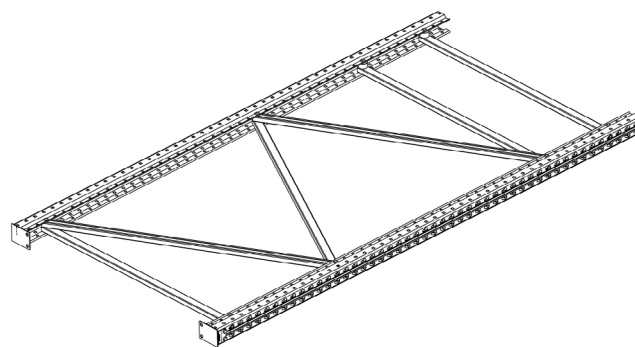
Confirm that the upright assembly matches the diagram shown in the graphics. Ensure all bolts are sufficiently tightened before using the upright panel in a pallet rack assembly.

Bolts should be tightened following the below requirements:

Torque range: 33-43 ft. lbs. (45NM-59NM)

Max. torque: 43 ft. lbs (59NM)

Do not over-tighten bolts!



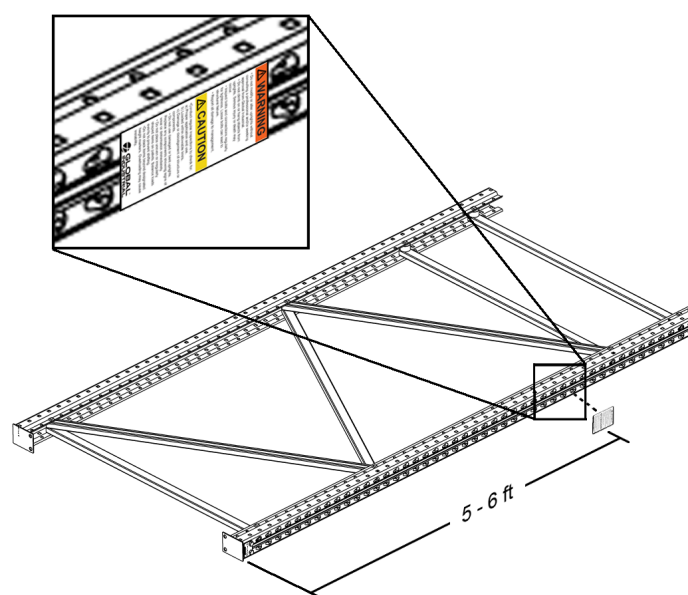
6 Apply Warning Label to Upright

Warning label not provided!

Print/copy the warning label from last page of this manual (pg 27).

Apply warning label to the face of the upright post. It is strongly advised to have the warning label on the face of each upright post at the end of the aisles.

Recommended height from the base of the footplate: 5ft to 6ft. Beam should not cover warning label when assembling pallet rack.



MAINTENANCE

Perform a regularly scheduled maintenance program. At a minimum this program should include the following:

- Check for missing or damaged hardware including bolts, nuts, and beam locking devices. Replace any missing or damaged items with Global Industrial supplied/approved hardware. Check that all bolts and fasteners are snug and tight.
- Check for damage to any components, including beams and columns. Damaged items should be repaired or replaced.
- Check to ensure that all racks are plumb, level, and square.
- Check to make sure that the rack is being used for its intended purpose. Maintain a set of installation drawings on site for review. Check the weight of the product being stored to ensure that it does not exceed original design weights.
- Be on the lookout for areas that have excessive damage or repeated damage and take corrective action. For instance, ends of rack rows often experience damage from fork trucks entering the aisle and cutting the corner too quickly. This problem can be addressed through the use of guard rails or other column protective devices.
- Maintain good housekeeping. Clear, clean aisles are essential to the safety of your facility.

REPLACING BRACES

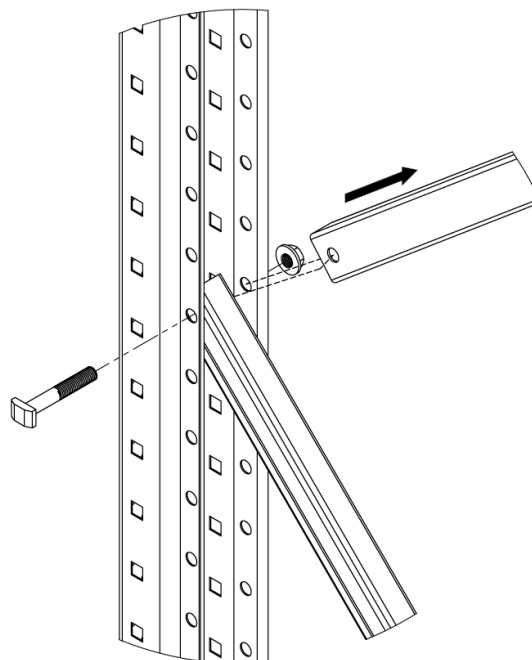
If there is any visible bending or damage to any of the braces, particularly at the first-beam level, they should be replaced as soon as possible. Damaged braces will impact the structural integrity of the pallet rack and alter the static load capacity.

To replace the brace:

- Remove all weight on the pallet rack around the affected pallet upright. All racking must be unloaded on all vertical bays on both sides of the upright.
- Unscrew the nuts and remove the shoulder bolts that are connecting the brace to the pallet upright.
- Replace the damaged brace with one provided by Global Industrial.
- Reattach the shoulder bolts and nuts and tighten them to the recommended torque range.

Torque range: 33-43 ft. lbs. (45NM-59NM)

Max. torque: 43 ft. lbs (59NM)



REPLACEMENT PARTS

Part Name	Part Number
Diagonal bracing for 42" frame	298812
Horizontal bracing for 42" frame	298813
Diagonal bracing for 48" frame	298814
Horizontal bracing for 48" frame	298815
Footplate (includes a pair of bolts)	298816
Hardware kit for 1x brace: 2 nuts, 2 bolts, 2 rubber bushings	298817

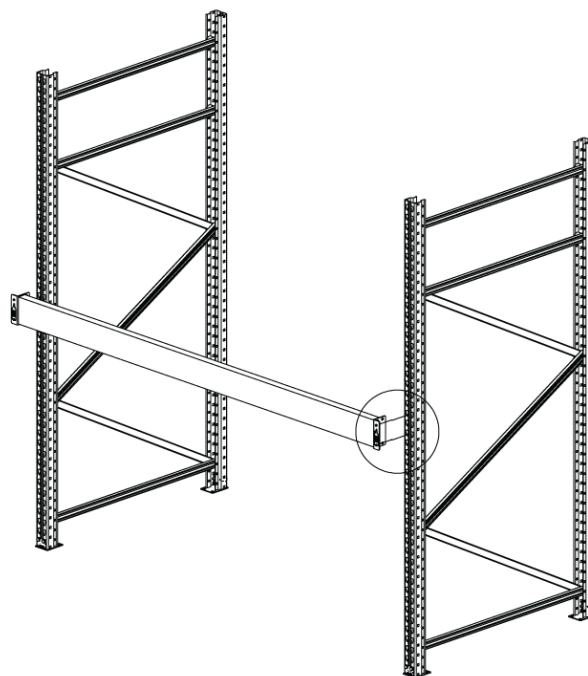
WARNING: Do not use or replace parts, hardware, or accessories with ones not specified in this manual. Using unapproved parts will void the warranty and absolve Global Industrial of any liability.

PALLET RACK START KIT ASSEMBLY

1 Connecting the Uprights

Stand two upright assemblies up and space them apart so that the distance between them is approximately the same as the length of the beams being installed.

Position the beam so that it is at the desired height.

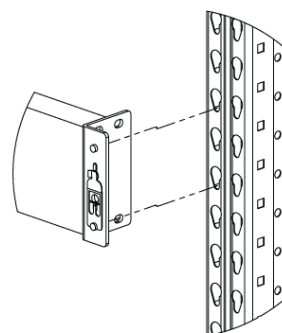


WARNING: Do not leave any of the uprights standing up without any support. A person should be holding onto it until it is secured to a beam.

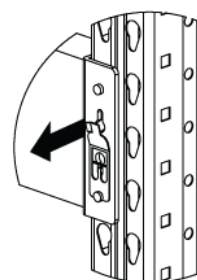
2 Attaching the Beam

Position the two rivets on each side of the beam on the desired upright post height.

Push the rivets downwards to securely seat them in the upright holes.



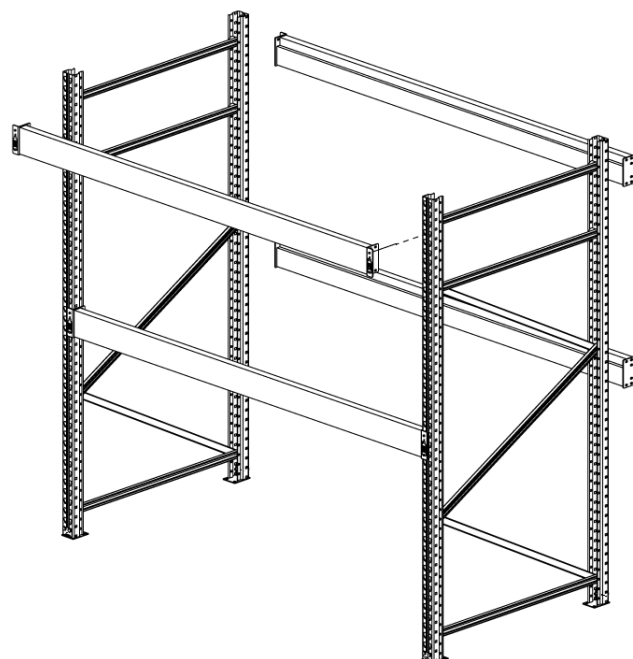
NOTE: To remove a beam, pull back the tab on the beam clip before pushing upwards to un-hook the rivets from the upright post.



3 Attaching the Other Beams

Attach the remaining beams to the upright assemblies using the same procedure as the previous step.

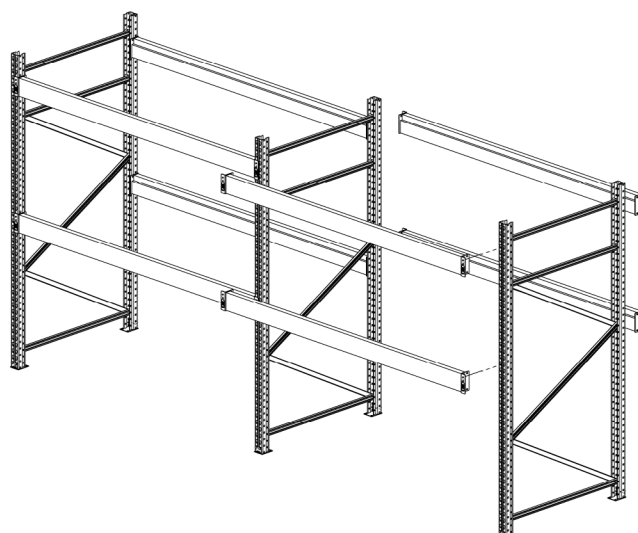
A minimum of four beams is required between every two pallet uprights for a structurally stable pallet rack.



DISCLAIMER: It is necessary to secure the footplates of the pallet rack with suitable floor anchors (not included) before using the pallet rack. Consult with a professional engineer to determine which floor anchors are required for the floor of the warehouse where the pallet rack is to be installed in.

4 Add-ons: Pallet Rack Expansion

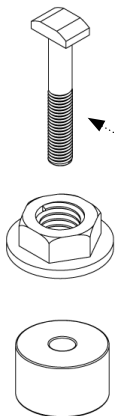
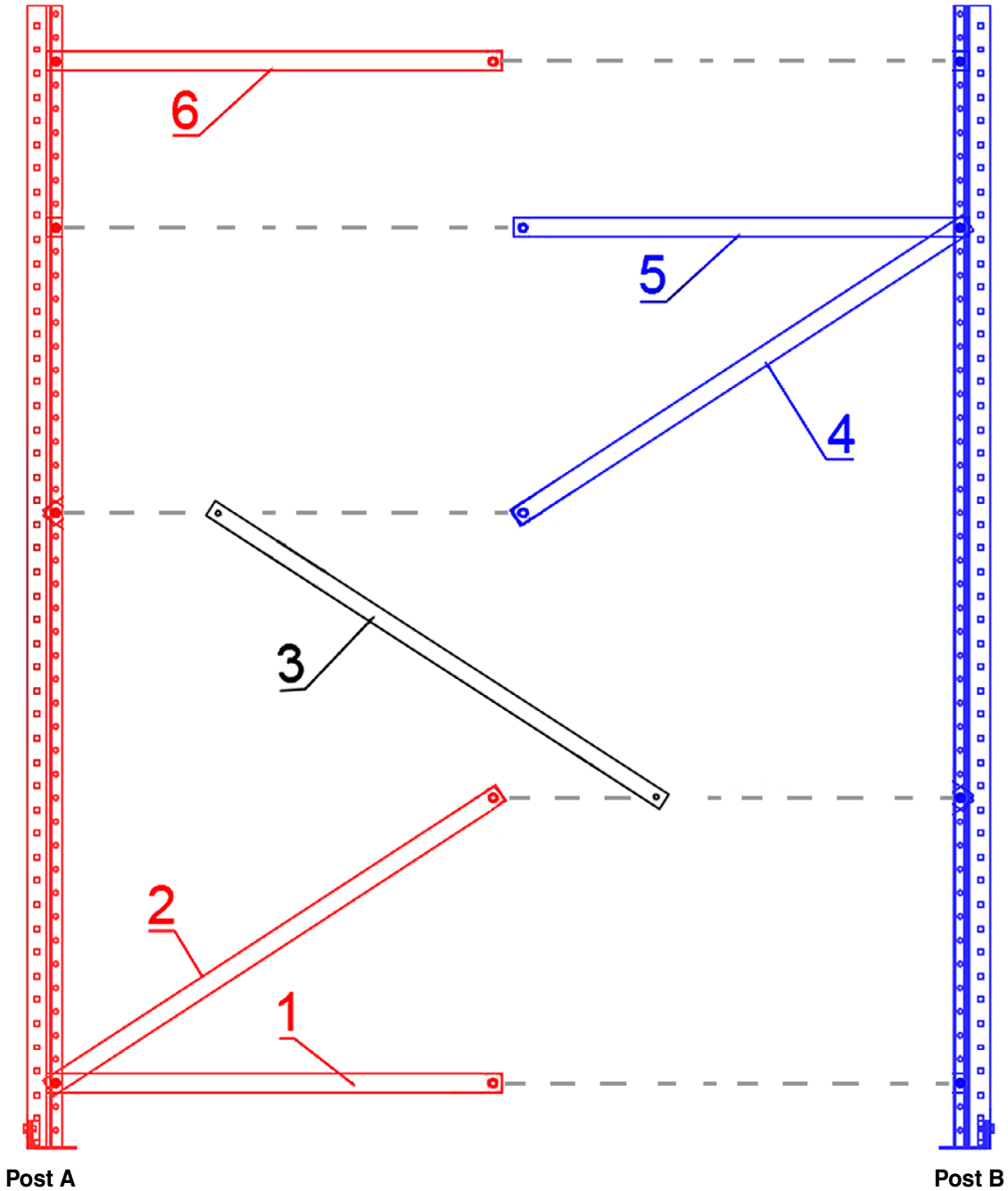
To expand the pallet rack, attach another upright assembly with a minimum of four beams to the end of the existing assembly.



Assembly Diagram

Model No. 298678

Pallet Rack Upright Frame 42"D x 96"H



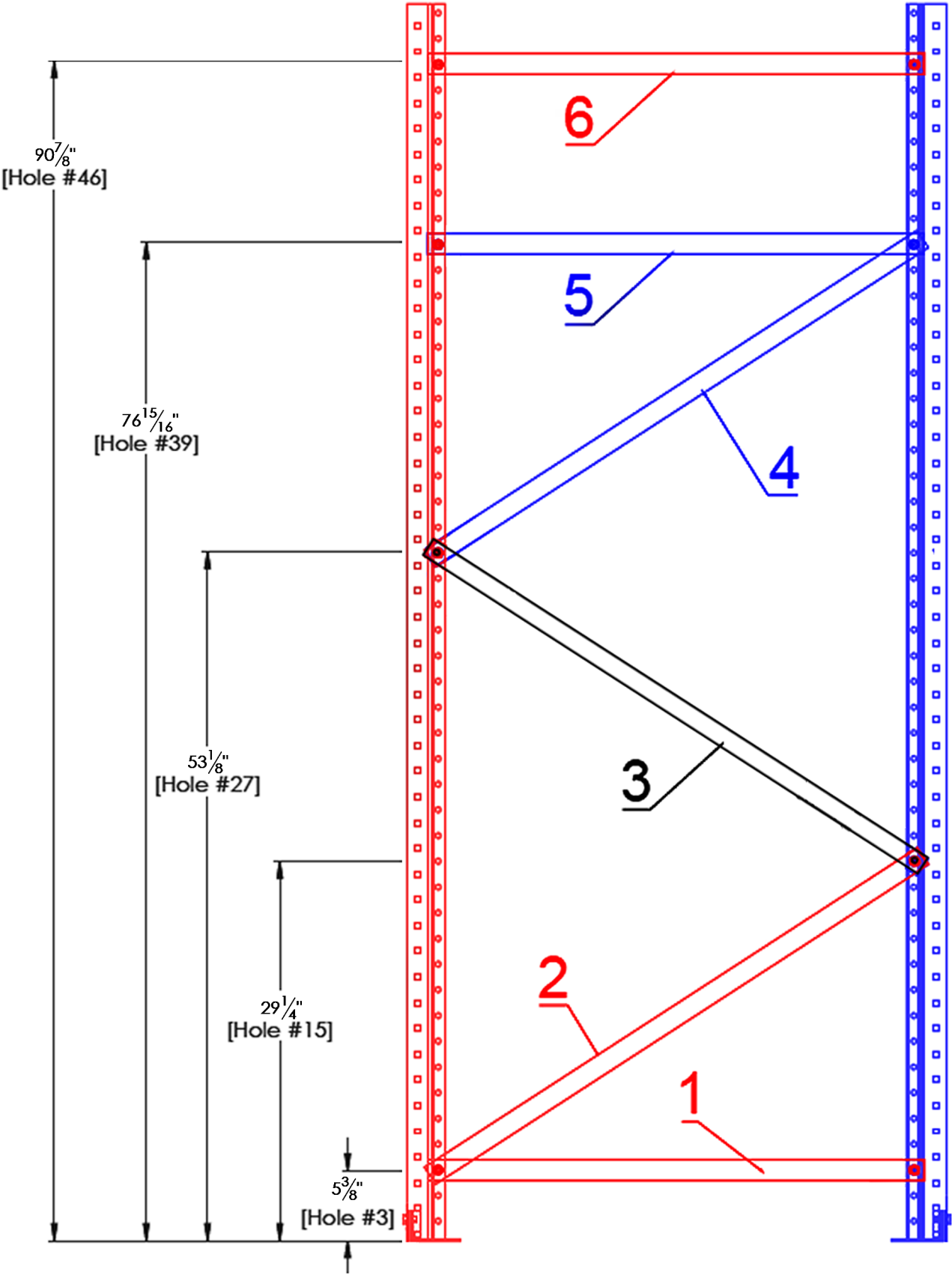
PART NAME	QTY (total)	BREAKDOWN
Footplate	2	
Footplate Hex Bolt [M10 x 1.5, 20mm]	4	
Washer Plate	2	
96" Post	2	
Diagonal Brace for 42" Frame	3	2 attached, 1 loose
Horizontal Brace for 42" Frame	3	3 attached
Shoulder T-Bolt [M10 x 1.5, 65mm] 800 MPa Tensile Strength	8	3 attached, 5 loose
Flanged Nut [M10 x 1.5]	8	3 attached, 5 loose
Rubber Bushing	4	1 attached, 3 loose

Note: Loose refers to unattached components

Assembly Diagram

Model No. 298678

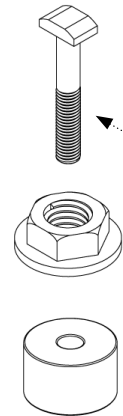
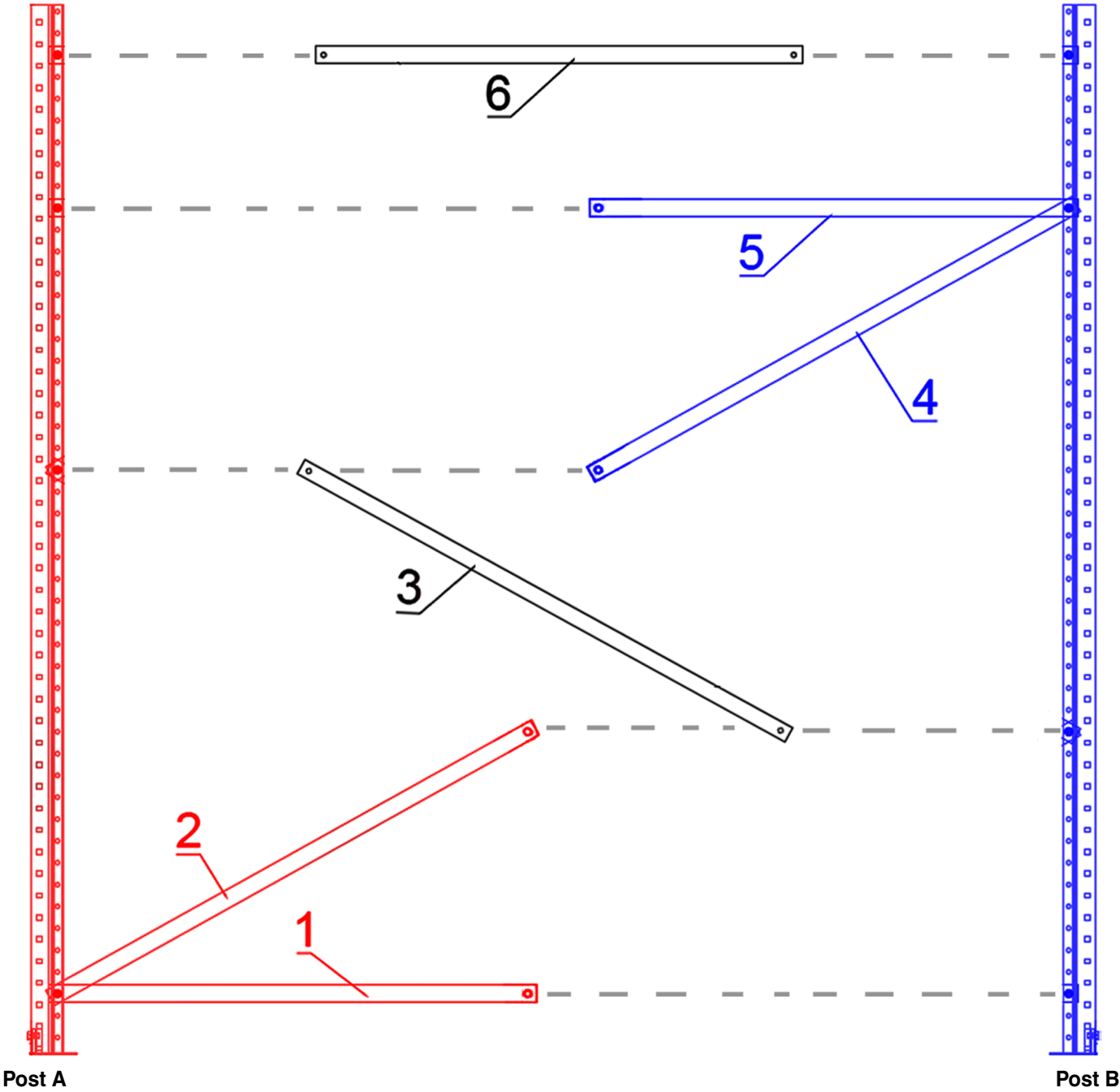
Pallet Rack Upright Frame 42"D x 96"H



Assembly Diagram

Model No. 298689

Pallet Rack Upright Frame 48"D x 96"H



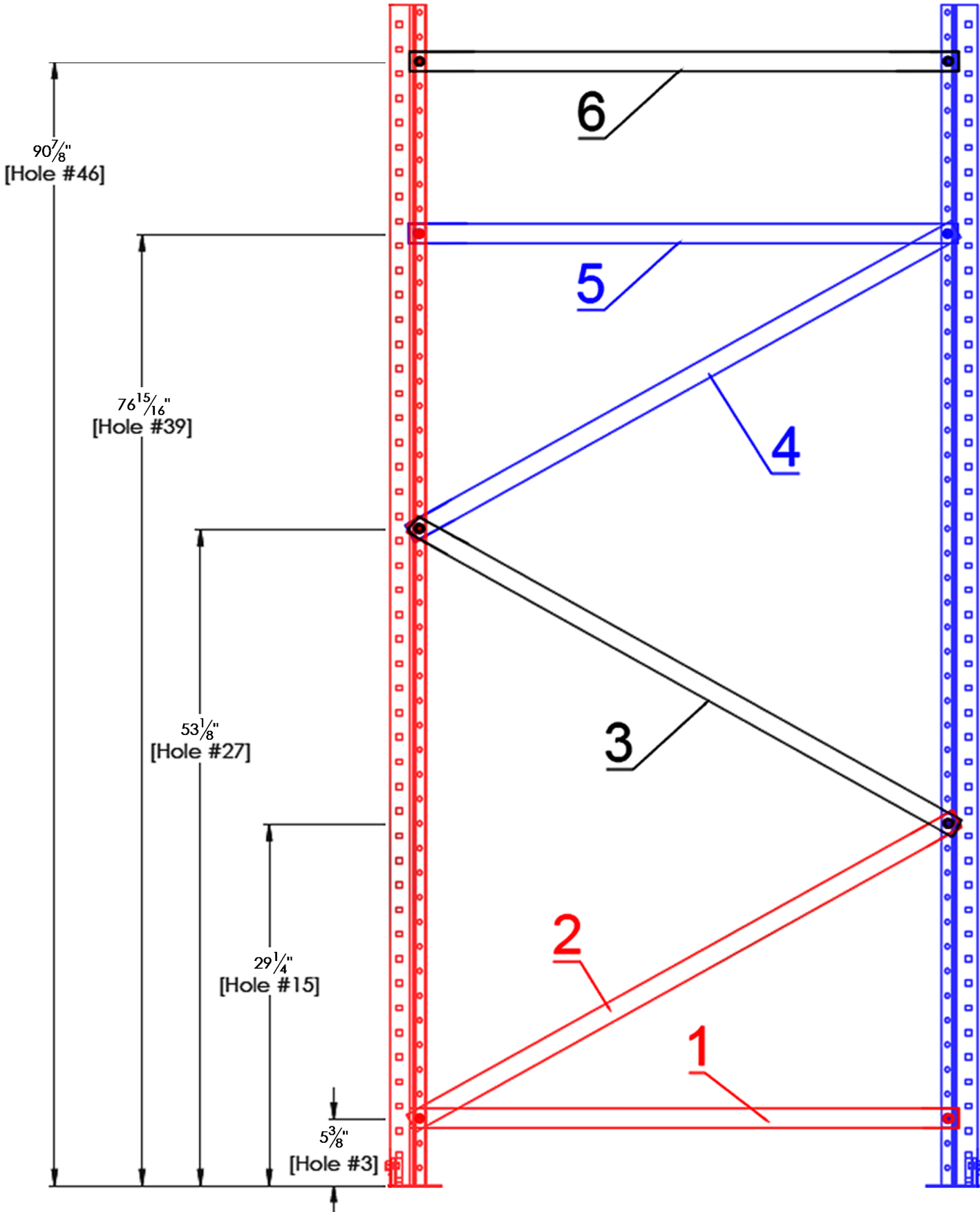
PART NAME	QTY (total)	BREAKDOWN
Footplate	2	
Footplate Hex Bolt [M10 x 1.5, 20mm]	4	
Washer Plate	2	
96" Post	2	
Diagonal Brace for 48" Frame	3	2 attached, 1 loose
Horizontal Brace for 48" Frame	3	2 attached, 1 loose
Shoulder T-Bolt [M10 x 1.5, 65mm] 800 MPa Tensile Strength	8	2 attached, 6 loose
Flanged Nut [M10 x 1.5]	8	2 attached, 6 loose
Rubber Bushing	4	4 loose

Note: Loose refers to unattached components

Assembly Diagram

Model No. 298689

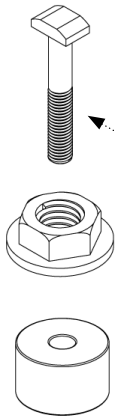
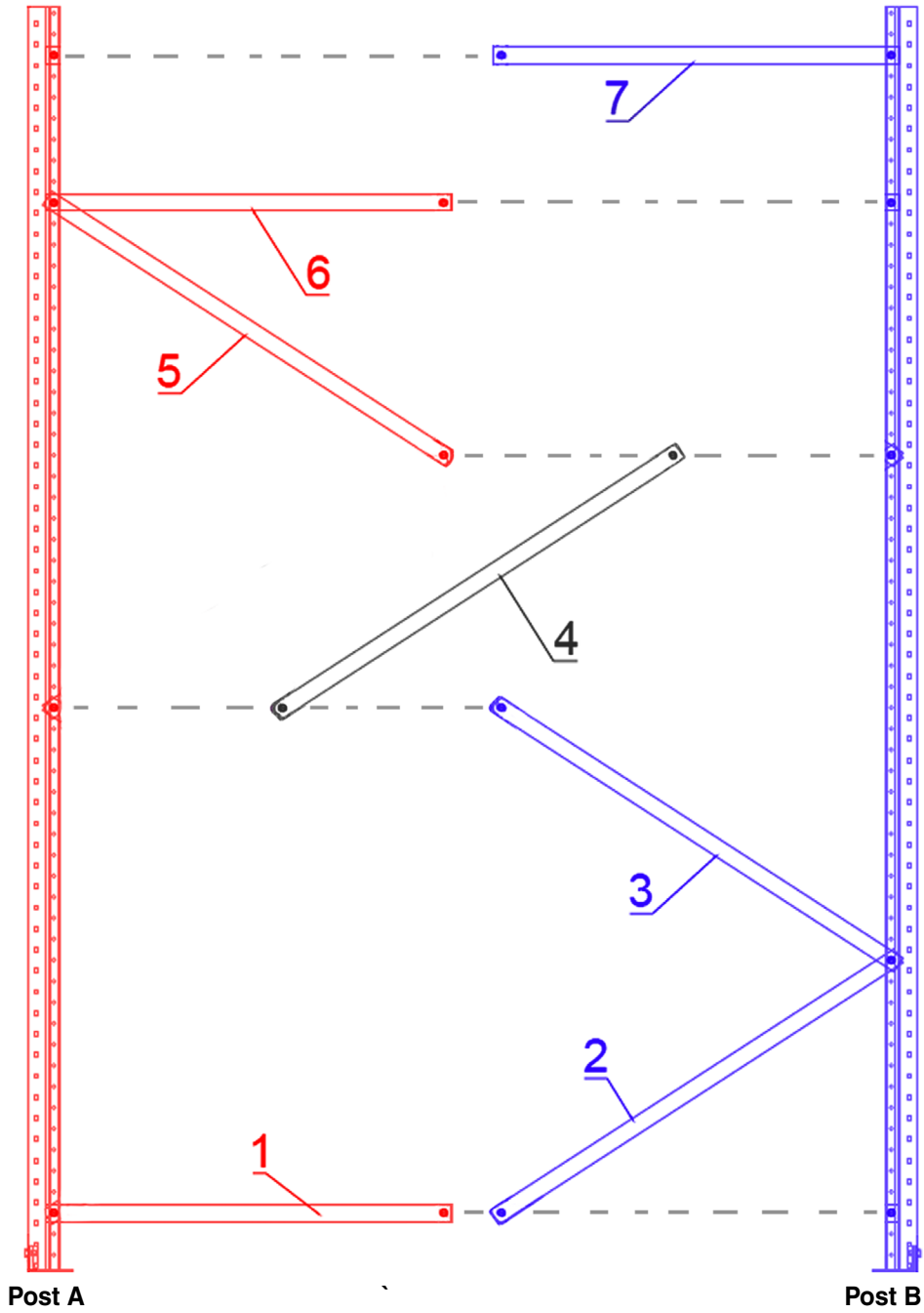
Pallet Rack Upright Frame 48"D x 96"H



Assembly Diagram

Model No. 298690

Pallet Rack Upright Frame 42"D x 120"H



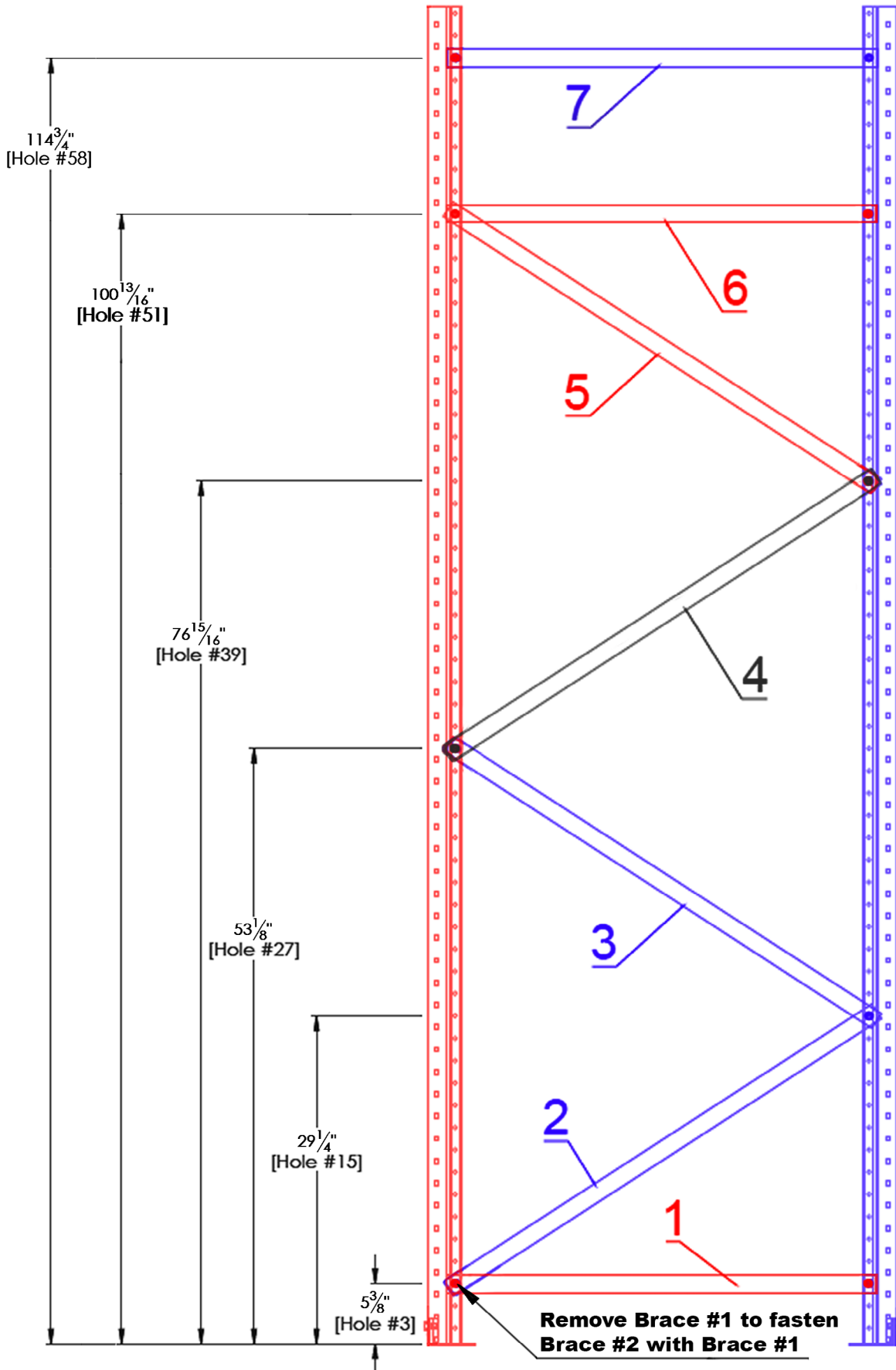
PART NAME	QTY (total)	BREAKDOWN
Footplate	2	
Footplate Hex Bolt [M10 x 1.5, 20mm]	4	
Washer Plate	2	
120" Post	2	
Diagonal Brace for 42" Frame	4	3 attached, 1 loose
Horizontal Brace for 42" Frame	3	3 attached
Shoulder T-Bolt [M10 x 1.5, 65mm] 800 MPa Tensile Strength	9	4 attached, 5 loose
Flanged Nut [M10 x 1.5]	9	4 attached, 5 loose
Rubber Bushing	4	1 attached, 3 loose

Note: Loose refers to unattached components

Assembly Diagram

Model No. 298690

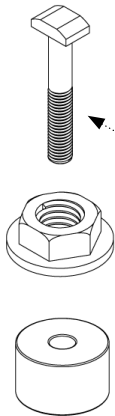
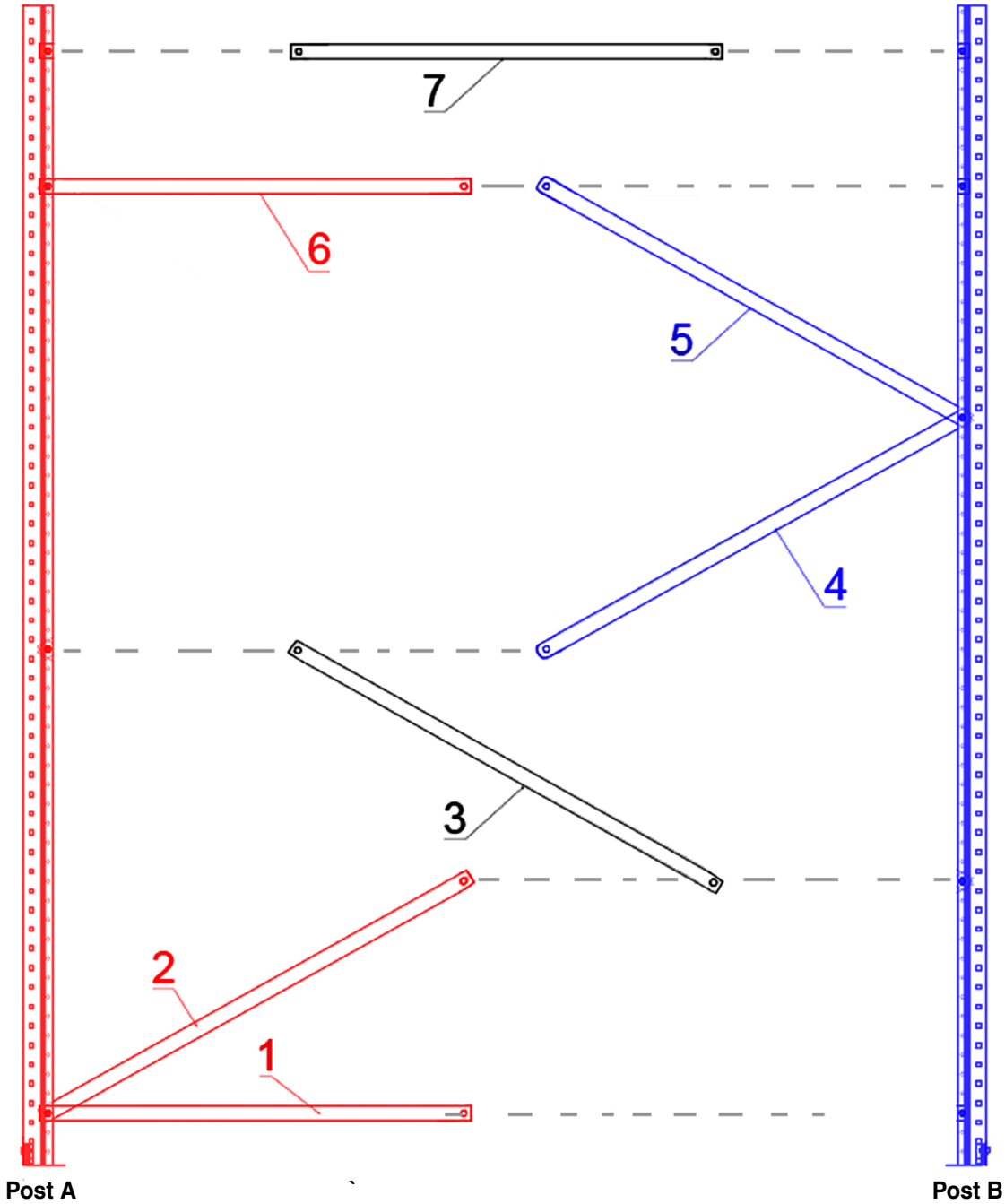
Pallet Rack Upright Frame 42"D x 120"H



Assembly Diagram

Model No. 298691

Pallet Rack Upright Frame 48"D x 120"H



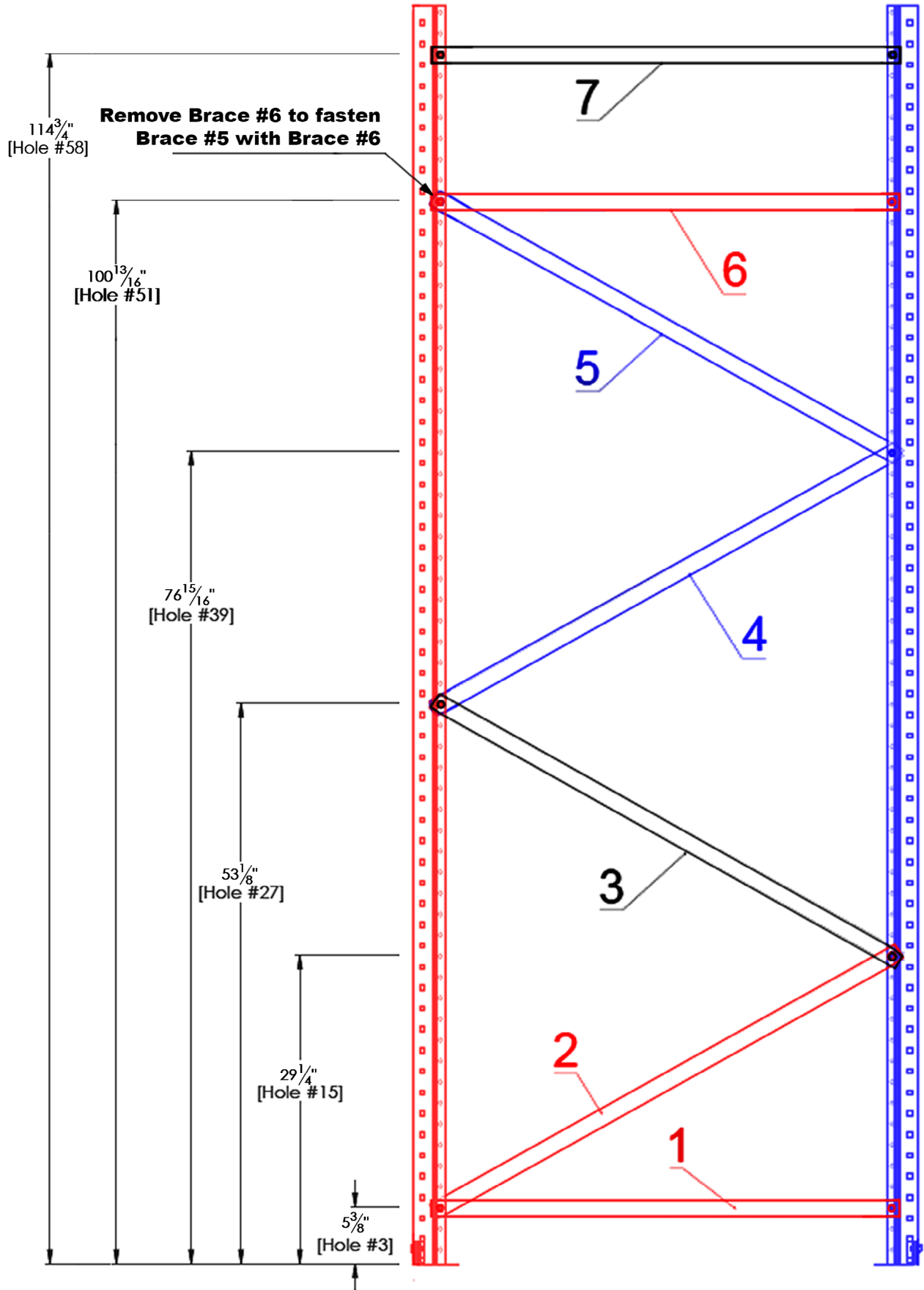
PART NAME	QTY (total)	BREAKDOWN
Footplate	2	
Footplate Hex Bolt [M10 x 1.5, 20mm]	4	
Washer Plate	2	
120" Post	2	
Diagonal Brace for 48" Frame	4	3 attached, 1 loose
Horizontal Brace for 48" Frame	3	2 attached, 1 loose
Shoulder T-Bolt [M10 x 1.5, 65mm] 800 MPa Tensile Strength	9	3 attached, 6 loose
Flanged Nut [M10 x 1.5]	9	3 attached, 6 loose
Rubber Bushing	4	4 loose

Note: Loose refers to unattached components

Assembly Diagram

Model No. 298691

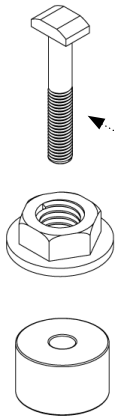
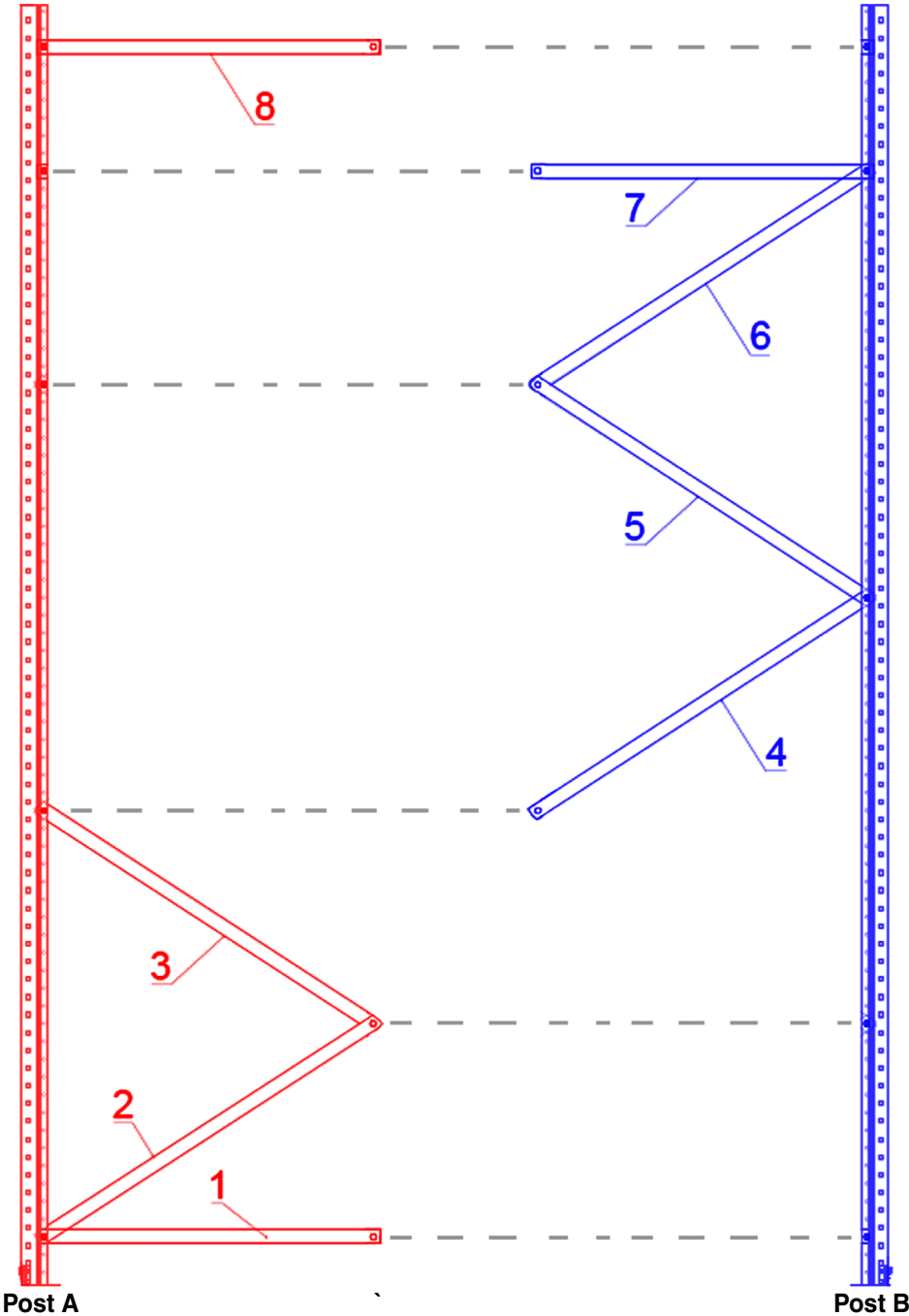
Pallet Rack Upright Frame 48"D x 120"H



Assembly Diagram

Model No. 298692

Pallet Rack Upright Frame 42"D x 144"H



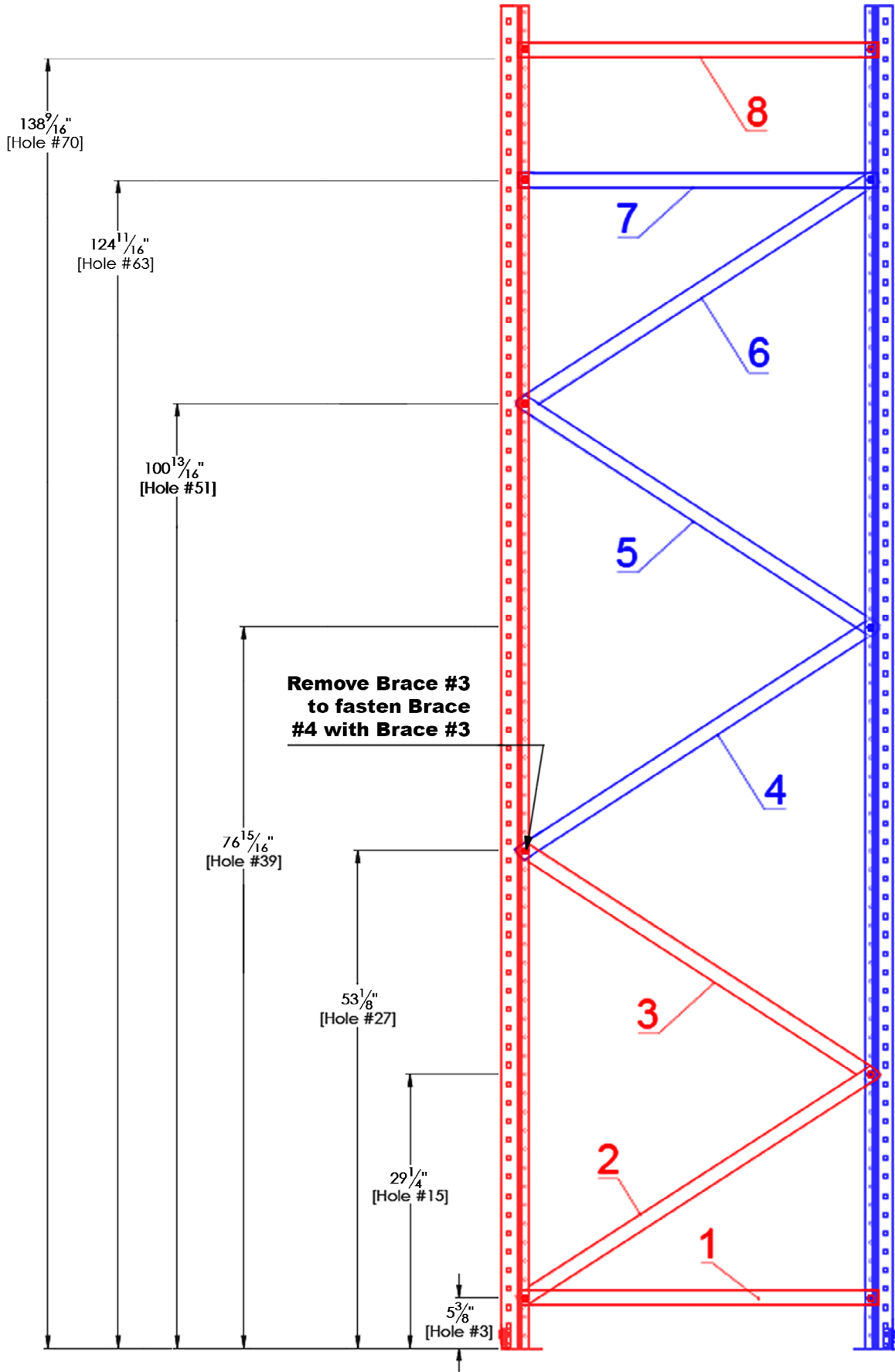
PART NAME	QTY (total)	BREAKDOWN
Footplate	2	
Footplate Hex Bolt [M10 x 1.5, 20mm]	4	
Washer Plate	2	
144" Post	2	
Diagonal Brace for 42" Frame	5	5 attached
Horizontal Brace for 42" Frame	3	3 attached
Shoulder T-Bolt [M10 x 1.5, 65mm] 800 MPa Tensile Strength	10	5 attached, 5 loose
Flanged Nut [M10 x 1.5]	10	5 attached, 5 loose
Rubber Bushing	4	1 attached, 3 loose

Note: Loose refers to unattached components

Assembly Diagram

Model No. 298692

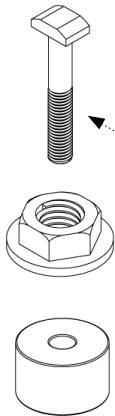
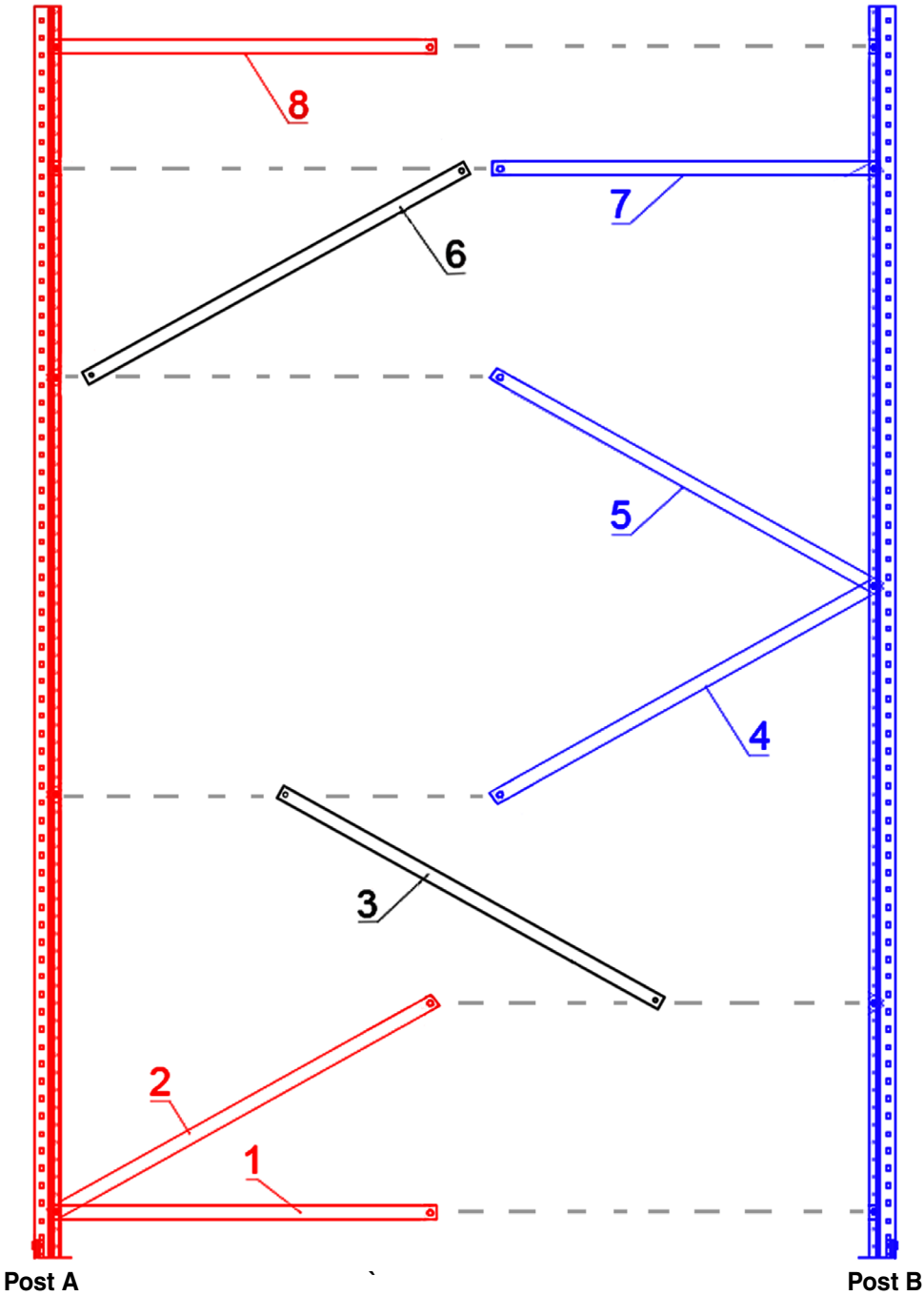
Pallet Rack Upright Frame 42"D x 144"H



Assembly Diagram

Model No. 298693

Pallet Rack Upright Frame 48"D x 144"H



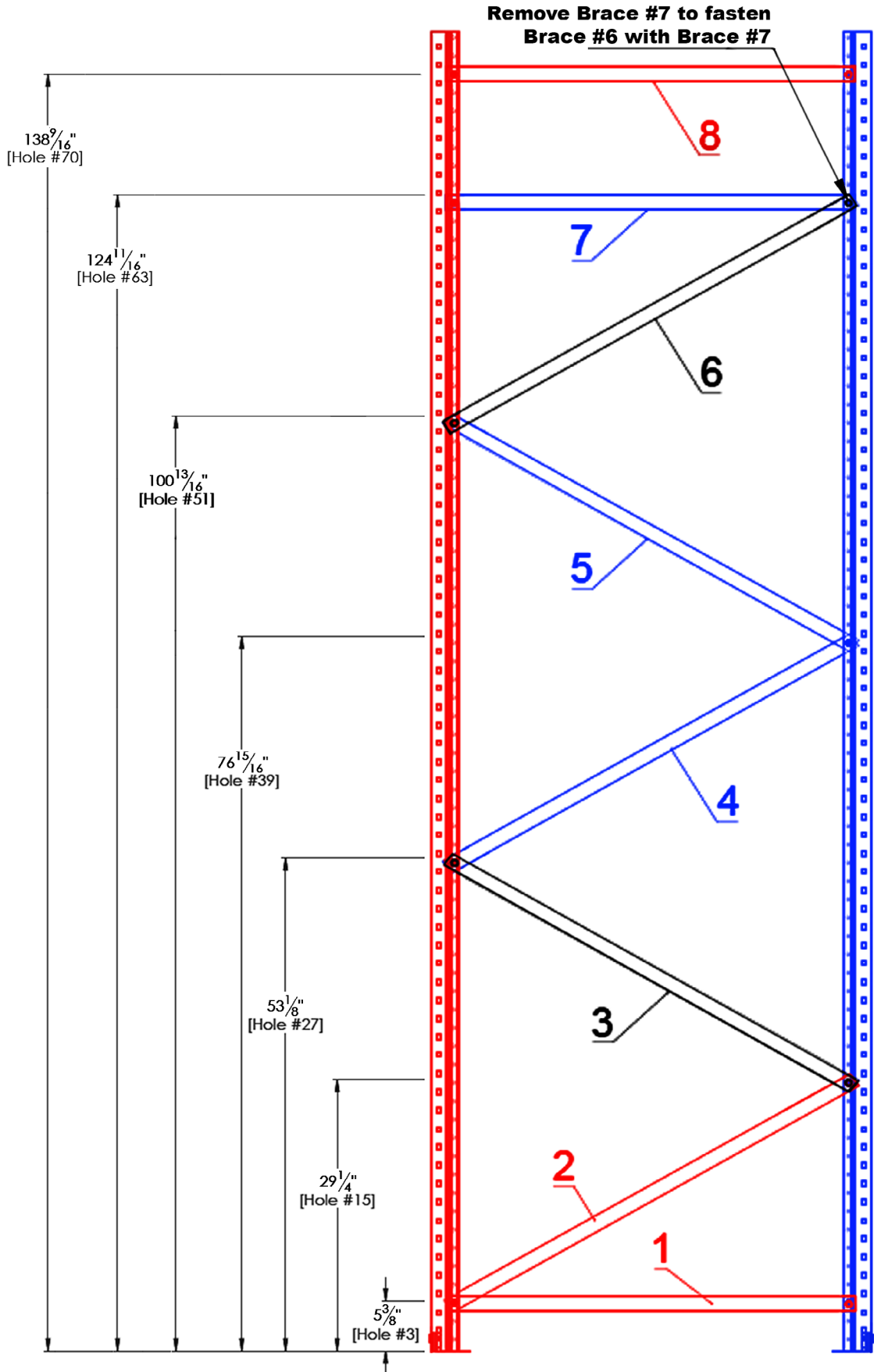
PART NAME	QTY (total)	BREAKDOWN
Footplate	2	
Footplate Hex Bolt [M10 x 1.5, 20mm]	4	
Washer Plate	2	
144" Post	2	
Diagonal Brace for 48" Frame	5	3 attached, 2 loose
Horizontal Brace for 48" Frame	3	3 attached
Shoulder T-Bolt [M10 x 1.5, 65mm] 800 MPa Tensile Strength	10	4 attached, 6 loose
Flanged Nut [M10 x 1.5]	10	4 attached, 6 loose
Rubber Bushing	4	1 attached, 3 loose

Note: Loose refers to unattached components

Assembly Diagram

Model No. 298693

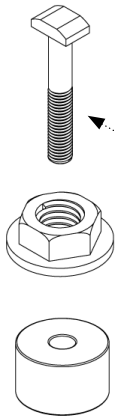
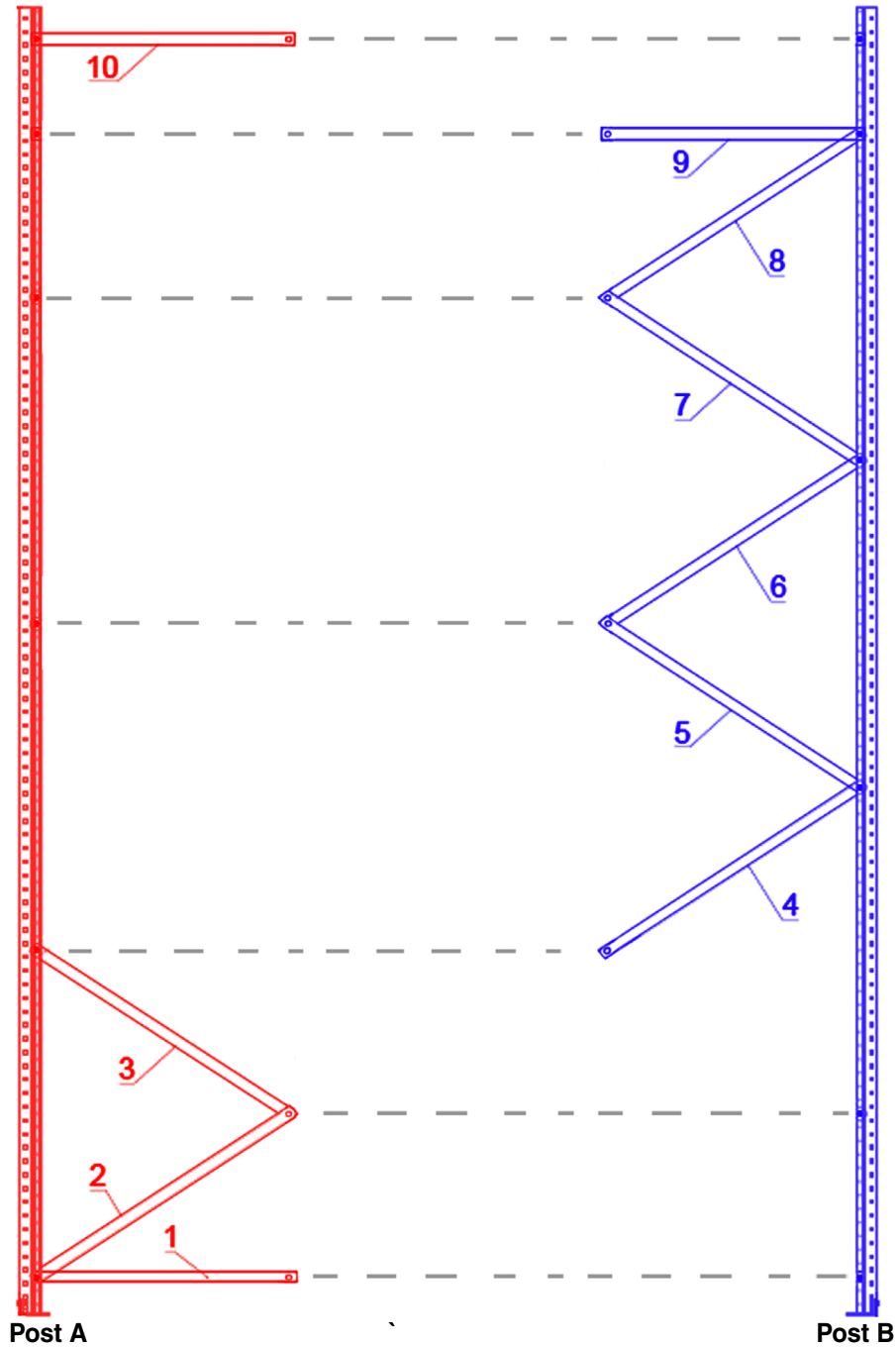
Pallet Rack Upright Frame 48"D x 144"H



Assembly Diagram

Model No. 298694

Pallet Rack Upright Frame 42"D x 192"H



PART NAME	QTY (total)	BREAKDOWN
Footplate	2	
Footplate Hex Bolt [M10 x 1.5, 20mm]	4	
Washer Plate	2	
144" Post	2	
Diagonal Brace for 48" Frame	7	7 attached
Horizontal Brace for 48" Frame	3	3 attached
Shoulder T-Bolt [M10 x 1.5, 65mm] 800 MPa Tensile Strength	12	6 attached, 6 loose
Flanged Nut [M10 x 1.5]	12	6 attached, 6 loose
Rubber Bushing	4	1 attached, 3 loose

Note: Loose refers to unattached components

Assembly Diagram

Model No. 298694

Pallet Rack Upright Frame 42"D x 192"H

