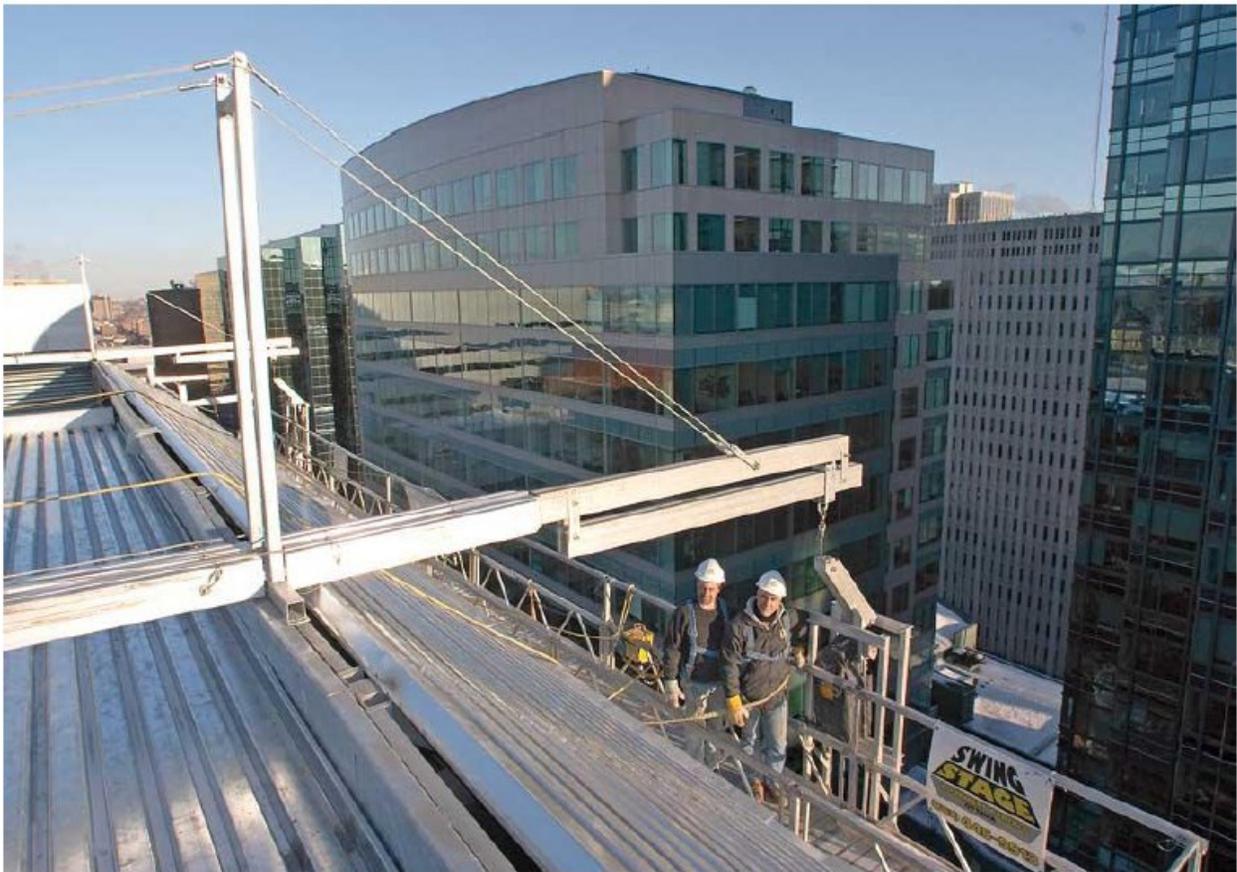


WINSAFE



OPERATING INSTRUCTIONS FOR MODULAR BEAMS & ACCESSORIES

THESE INSTRUCTIONS MUST BE READ & UNDERSTOOD BY ANYONE INSTALLING OR SUSPENDING EQUIPMENT FROM WINSAFE STANDARD MODULAR OUTRIGGER BEAMS & ACCESSORIES. QUESTIONS MUST BE DIRECTED TO THE WINSAFE DEALER OR DIRECTLY TO WINSAFE.



WINSAFE — 1 VALLEYWOOD DRIVE, UNIT 1
MARKHAM, ONTARIO — L3R 5L9 — CANADA
PHONE: 905-474-9340 — FAX: 905-474-9341
INFO@WINSAFE.COM — WWW.WINSAFE.COM



WARNING



1. Serious injury or death can result from improper use of this equipment. Read and understand all instructions for every component of your system before using them.
2. A complete suspended scaffold system is composed of four sub-systems. You must have instructions for each of the following systems:
 - Suspension system
 - Work platform
 - Hoist (suspension) system and suspension cables
 - Fall arrest system for each person on the platform
3. All components must be inspected prior to each usage.
4. Do not use equipment which has been damaged or which displays excessive wear. Inspect all equipment before and after each use. For replacement parts, contact your local dealer or Winsafe directly.
5. Review the rigging setup at the start of each day and check for changes made to the counterweights, the tie back cables, or the reach of the modular outrigger beams.
6. DANGER—To avoid contact and shock hazards, beams should not be used in the vicinity of energized power lines or electrical lines.
7. RISK OF INJURY—Acids and other corrosive substances may severely affect the strength of metal beams and devices. Use extreme care around such materials and follow instructions.
8. Do not use Modular Beams during high winds, inclement weather, extreme temperatures or where any surrounding conditions impair safe use.
9. Read the Code of Safe Practices before installation and use of Winsafe Modular Beams and Accessories. All instructions contained herein must be carefully and strictly followed, including applicable SAIA Code of Safe Practices.
10. Every user of Winsafe Modular Outrigger Beam components must have a copy of these instructions on site while the equipment is in use.

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1 — INTRODUCTION

Modular Outrigger Beams are a temporarily installed system of engineered components extending out from a building in order to support a hanging scaffold. Winsafe provides various accessories and system configurations for modular outrigger beams.



Outrigger Beam Setup



Cable Truss System



Overhang Beam



Outrigger Davit



Rolling Outrigger Beam

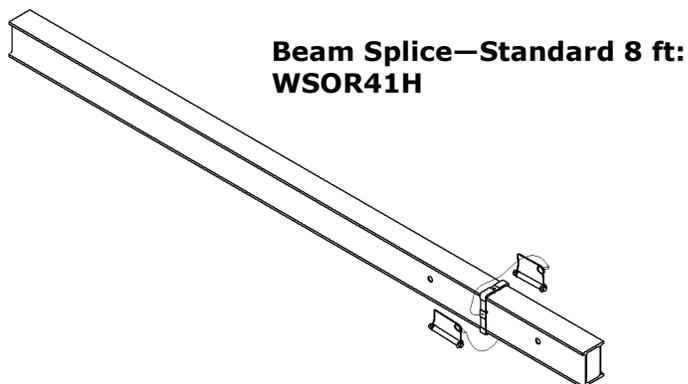
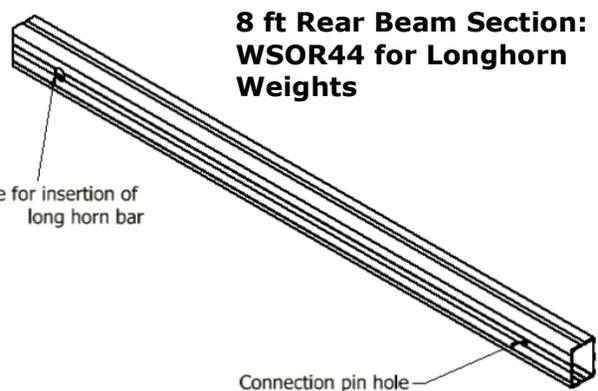
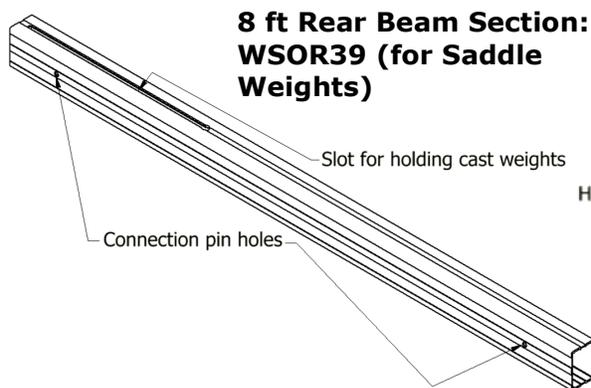
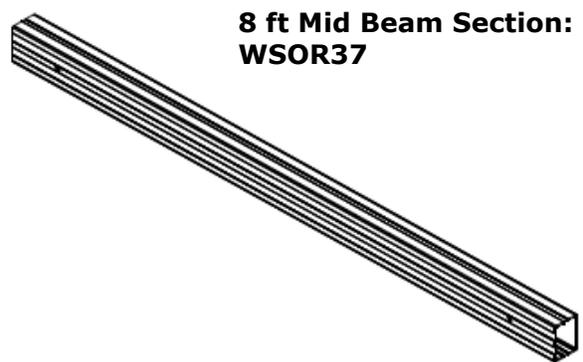
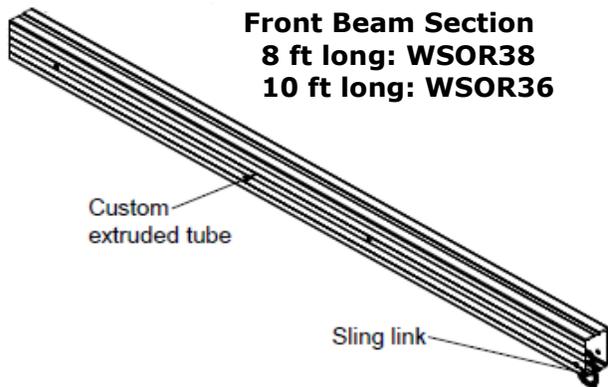


Outrigger Beam Dollies

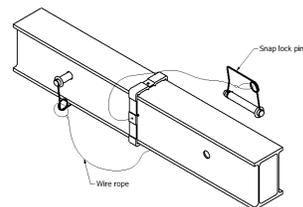
2 — OUTRIGGER BEAMS

Winsafe Outrigger Beams may be used individually or in pairs to support a suspended stage. Winsafe provides standard outrigger beams that provide 1,000 lbs of capacity at a wide range of suspension point reaches.

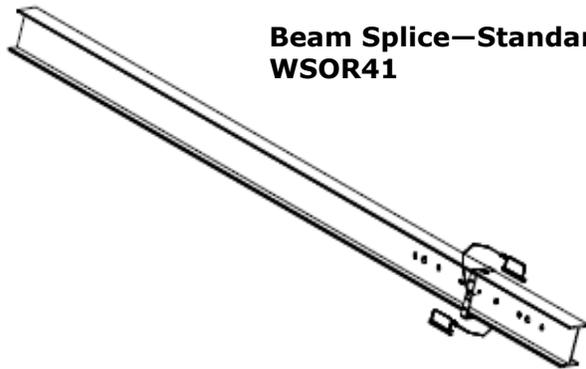
2.1 — Components



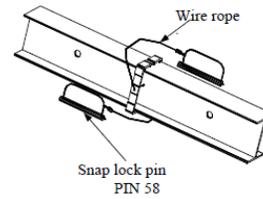
Beam Splice—Standard 30":
WSOR40H



Though Winsafe does not provide I-beam based splices anymore, they are still acceptable for use and can be used interchangeably with the newer H-beam based splices shown on the previous page.



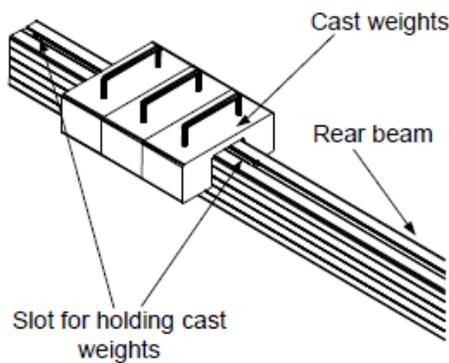
**Beam Splice—Standard 8 ft:
WSOR41**



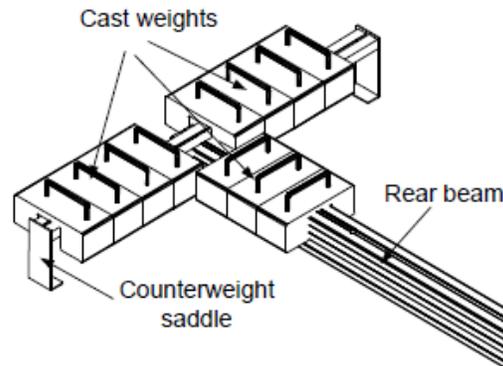
**Beam Splice—Standard 30":
WSOR40**

Weights

Modular Outrigger Beams generally use either one of two different types of counterweight systems: cast saddle style weights or flame cut weights. For cast saddle style weights use Rear Beams (WSOR39) which have a specific slot to accept these weights. If additional counterweight is required, beyond the capacity of the slot, use a Counterweight Saddle (WSOR42) to secure additional weights to the Rear Beam. The Counterweight Saddle must rest on top of the Rear Beam with the carriage bolt engaged into the slot of the Rear Beam.

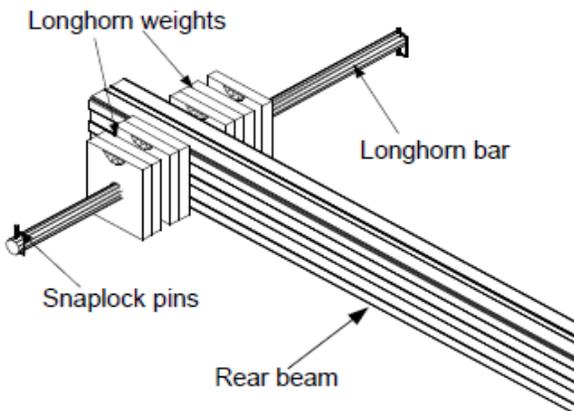


Rear Beam Holding Cast Weights

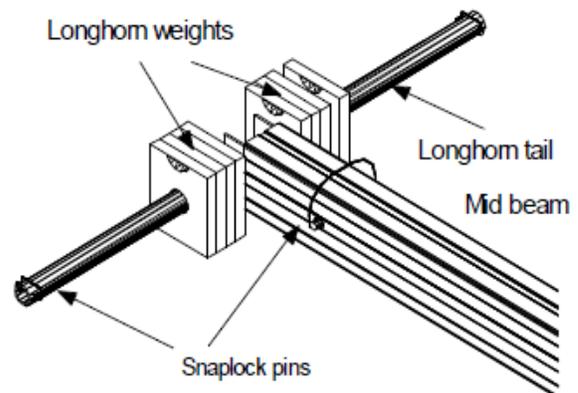


Rear Beam Holding Cast Weights with Counterweight Saddle

Flame cut weights can be used with either the Rear Beam or Mid Beam, as shown. If you are using a Rear Beam (WSOR44), use a Longhorn Bar. Thirty inch (WSOR43) and forty-two inch (WSOR70) Longhorn Bars are available. Alternatively, you can attach the Longhorn Weights to the Mid Beam (WSOR37) by using a Longhorn Tail (WSOR109), as shown. Take care to lock all snap lock pins. If your weight system does not fall into either of these two categories, contact Winsafe Corp. for a custom weight holder system.



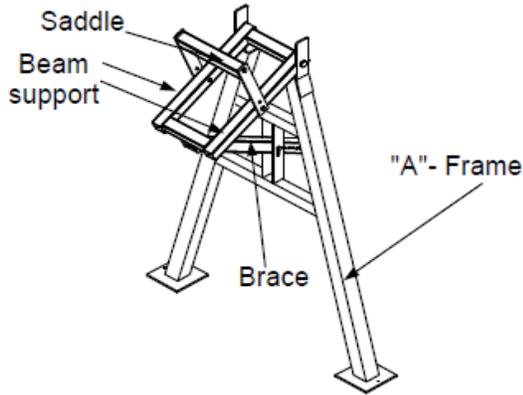
Rear Beam Holding Longhorn Weights



Mid Beam Holding Longhorn Weights 7

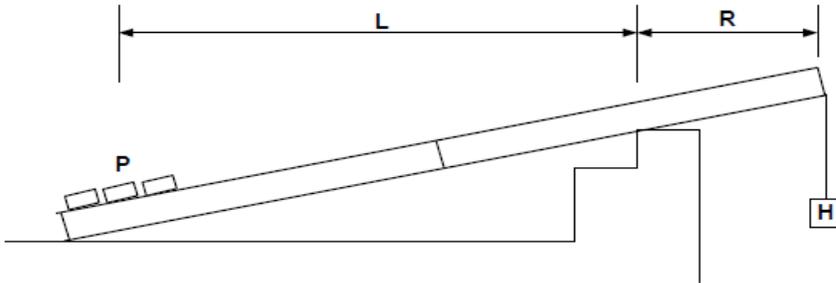
Beam Stand—WSBS001

Winsafe Beam Stands are used whenever the building's parapet is structurally inadequate to support the loaded beam. Installation of the Outrigger Beam on the Beam Stand is described in Section 2.4.



2.2 – Outrigger Beam: Counterweight Calculation

This section describes the procedure for selecting the correct amount of counterweight. Counterweight must be calculated by a professionally competent person.



$$P = (4 \times H \times R) / L$$

Where: P = Counterweight needed (must have 4:1 safety ratio)

H = Hoist lifting capacity (not intended load)

L = Length from fulcrum to point of counterweight attachment

R = Reach

For example: A hoist lifts 1,000 lbs. We multiply this by 4 to include the required safety ratio. Therefore, a standard 16 ft (192") beam system with 24" overhang would need a counterweight of:

$$P = \frac{(4 \times H \times R)}{\text{Length back from Fulcrum to center of Counterweight}} = \frac{(4 \times 1000 \times 2)}{156} = 620 \text{ lbs / beam}$$

In addition to the calculation above, the correct amount of counterweight can be determined using the chart on the following page.

Counterweight Chart Labels for the 8 ft & 10 ft Front Beams

8 ft Front Beam Label (Part #029)

WINSAFE 8 ^{FT} FRONT BEAM—WSOR38		Counterweight Requirement at Sample Reaches					Counterweight saddles or other means will be required to secure the weights on longer reaches.
		REACH:	12"	24"	30"	36"	
Max Load: 1,000 LB at 46" Reach 1,500 LB at 30" Reach	1,000 LB Load—2 PC—16 ^{FT} LG	290 LB	620 LB	800 LB	1000 LB	1380 LB	
	1,500 LB Load—2 PC—16 ^{FT} LG	430 LB	930 LB	1200 LB	N/A	N/A	
	1,000 LB Load—3 PC—24 ^{FT} LG	190 LB	390 LB	490 LB	600 LB	800 LB	
	1,500 LB Load—3 PC—24 ^{FT} LG	280 LB	580 LB	740 LB	N/A	N/A	

10 ft Front Beam Label (Part #038)

WINSAFE 10 ^{FT} FRONT BEAM—WSOR36		Counterweight Requirement at Sample Reaches						Counterweight saddles or other means will be required to secure the weights on longer reaches.
		REACH:	12"	24"	30"	36"	46"	
Max Load: 1000 LB at 46" Reach 1500 LB at 30" Reach	1,000 LB Load—2 PC—18 ^{FT} LG	250 LB	540 LB	690 LB	860 LB	1170 LB	1670 LB	
	1,500 LB Load—2 PC—18 ^{FT} LG	380 LB	800 LB	1040 LB	N/A	N/A	N/A	
*8 ft Splice Required for 1000 LB at 60" Reach	1,000 LB Load—3 PC—26 ^{FT} LG	170 LB	350 LB	450 LB	550 LB	730 LB	1000 LB	
	1,500 LB Load—3 PC—26 ^{FT} LG	250 LB	530 LB	670 LB	N/A	N/A	N/A	

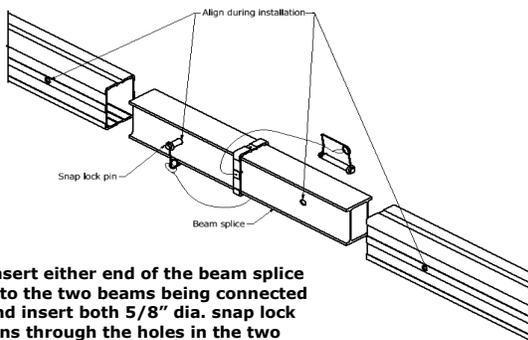
Notes

- Reach is the distance from the point of the wire rope at the end of the beam to the front supporting point, not to the vertical surface of the building. The reach should never exceed 46" if an 8 ft front beam is used, or 60" if a 10 ft front beam with an 8 ft splice is used.
- Always use sufficient counterweight and confirm the necessary amount is in place before each use.

2.3 — Installation Procedure for Outrigger Beam

The following steps outline the installation procedure for Winsafe Outrigger Beams. These directions assume that Beam Stands are not in use, and can be applied to the similar installation of 2-piece 16 ft, 3-piece 24 ft, 2-piece 18 ft, and 3-piece 26 ft outrigger beams.

1. Select the desired length of the outrigger beam and determine the counterweight required. Select the correct beam sections and splices.
2. Attach the beams by installing a beam splice at each joint as shown. Confirm the retaining clip is locked on the snap lock pin after the pin is pushed completely through the beam.
3. Position the beam where required and install the counterweights.
4. Attach the safety tie-backs.



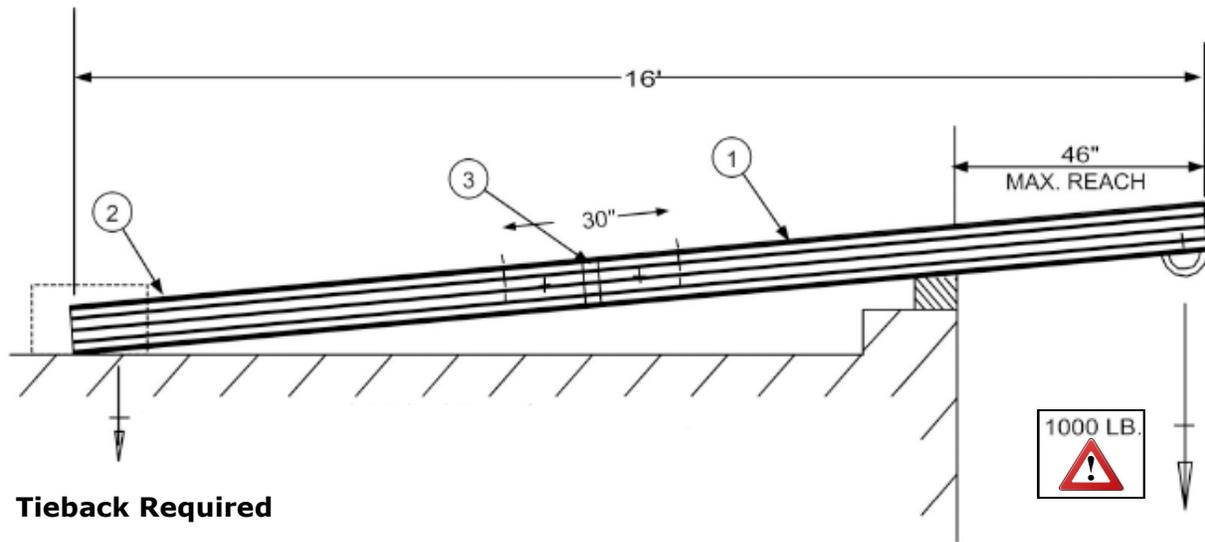
Insert either end of the beam splice into the two beams being connected and insert both 5/8" dia. snap lock pins through the holes in the two beams and the corresponding holes on either end of the splice.

Assembling Beams with Beam Splice

Notes

- See Section 2.4 for the assembly of Outrigger Beams on Beam Stands.

16 ft Beam Assembly



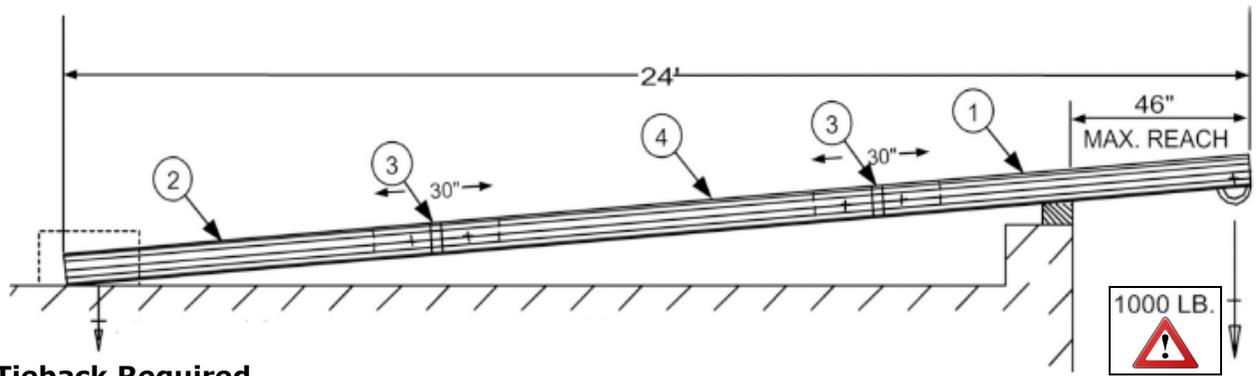
Parts Required per Suspension Point

1. WSOR38	8 ft Front Beam	x1
2. WSOR39 or WSSOR44 & WSOR###	8 ft Rear Beam Counterweight Holder	x1 x1
3. WSOR40H	30" Splice	x1

Notes

- Counterweight or clamp to structure in order to provide the necessary resistance to overturning with a safety factor of 4:1.
- Use a counterweight saddle or longhorn bar to secure additional weights as needed.
- Always tie back in accordance with applicable regulations and safe work practices.
- All sections are Winsafe Beams with custom extrusion 5.76 H x 3.94 W @ 4.08 Lbs./Ft.
- Material safety factors must exceed 4 to 1 based on material yield strength with nominal load at maximum reach.
- The roof, slab, and parapet of the structure (as applicable) must be verified as adequate to support loading by qualified persons.

24 ft Beam Assembly



Tieback Required

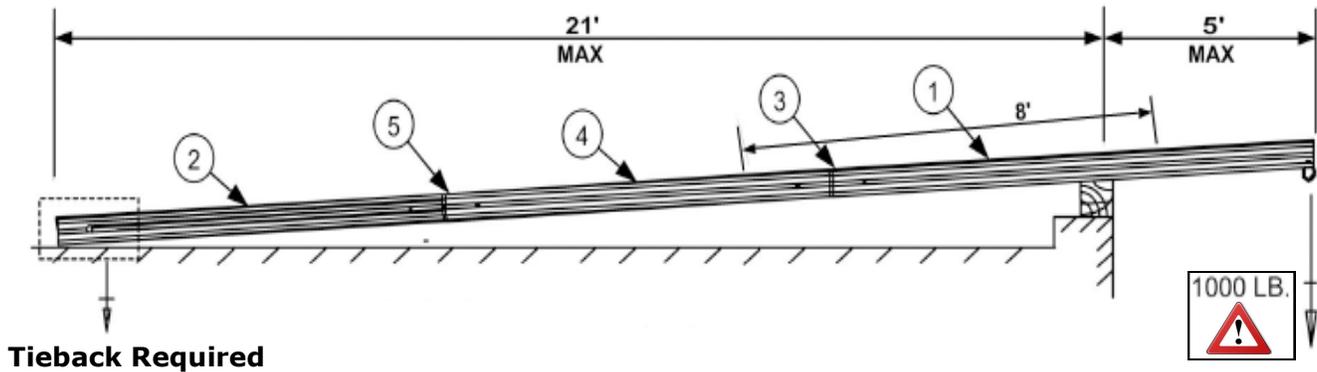
Parts Required per Suspension Point

1. WSOR38	8 ft Front Beam	x1
2. WSOR39 or WSSOR44 & WSOR###	Rear Ctw. Beam Counterweight Holder	x1 x1
3. WSOR40H	30" Splice	x2
4. WSOR37	8 ft Mid Beam	x1

Notes

- Counterweight or clamp to structure in order to provide the necessary resistance to overturning with a safety factor of 4:1.
- Use a counterweight saddle or longhorn bar to secure additional weights as required.
- Always tie back in accordance with applicable regulations and safe work practices.
- All sections are Winsafe Beams with custom extrusion 5.76 H x 3.94 W @ 4.08 Lbs./Ft.
- Material safety factors must exceed 4 to 1 based on material yield strength with nominal load at maximum reach.
- The roof, slab, and parapet of the structure (as applicable) must be verified as adequate to support loading by qualified persons.

26 ft Beam Assembly with 5 ft Reach



Tieback Required

Parts Required per Suspension Point

1. WSOR36	10 ft Front Beam	x1
2. WSOR39 or WSSOR44 & WSOR###	Rear Ctw. Beam Counterweight Holder	x1 x1
3. WSOR41H	8 ft Splice	x1
4. WSOR37	8 ft Mid Beam	x1

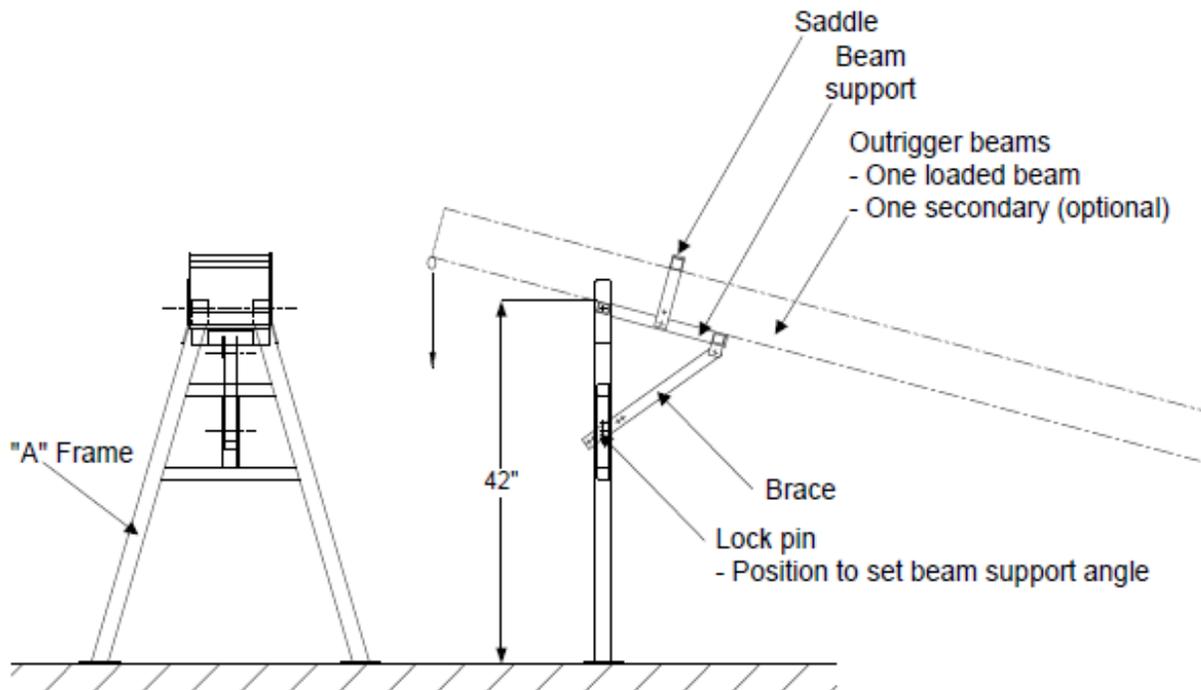
Notes

- **A WSOR41H 8 ft Splice must be used as shown when a hoist with 1,000 lbs capacity is suspended at maximum reach of 5 ft.**
- Counterweight or clamp to structure in order to provide the necessary resistance to overturning with a safety factor of 4:1.
- Use a counterweight saddle or longhorn bar to secure additional weights as required.
- Always tie back in accordance with applicable regulations and safe work practices.
- All sections are Winsafe Beams with custom extrusion 5.76 H x 3.94 W @ 4.08 Lbs./Ft.
- Material safety factors must exceed 4 to 1 based on material yield strength with nominal load at maximum reach.
- The roof, slab, and parapet of the structure (as applicable) must be verified as adequate to support loading by qualified persons.

2.4 – Installation Procedure for Outrigger Beams on Beam Stands

1. Raise the "A" frame to the vertical position and remove the retaining saddle.
2. Set the beam on the support and adjust the support angle to match the beam. Install the lock pin at the lower end of the brace to secure the support position.
3. Fit the retaining saddle snugly over the beam, then insert the pin to secure it.
4. If a secondary suspension is used, a second beam may also be installed. With the beam(s) in place, re-install the retaining saddle to secure the beam(s) to the stand.
5. After the Beam (or Beams) is in place, install counterweights, tie-back(s), and suspension cables.

WSBS001 Beam Stand Installation



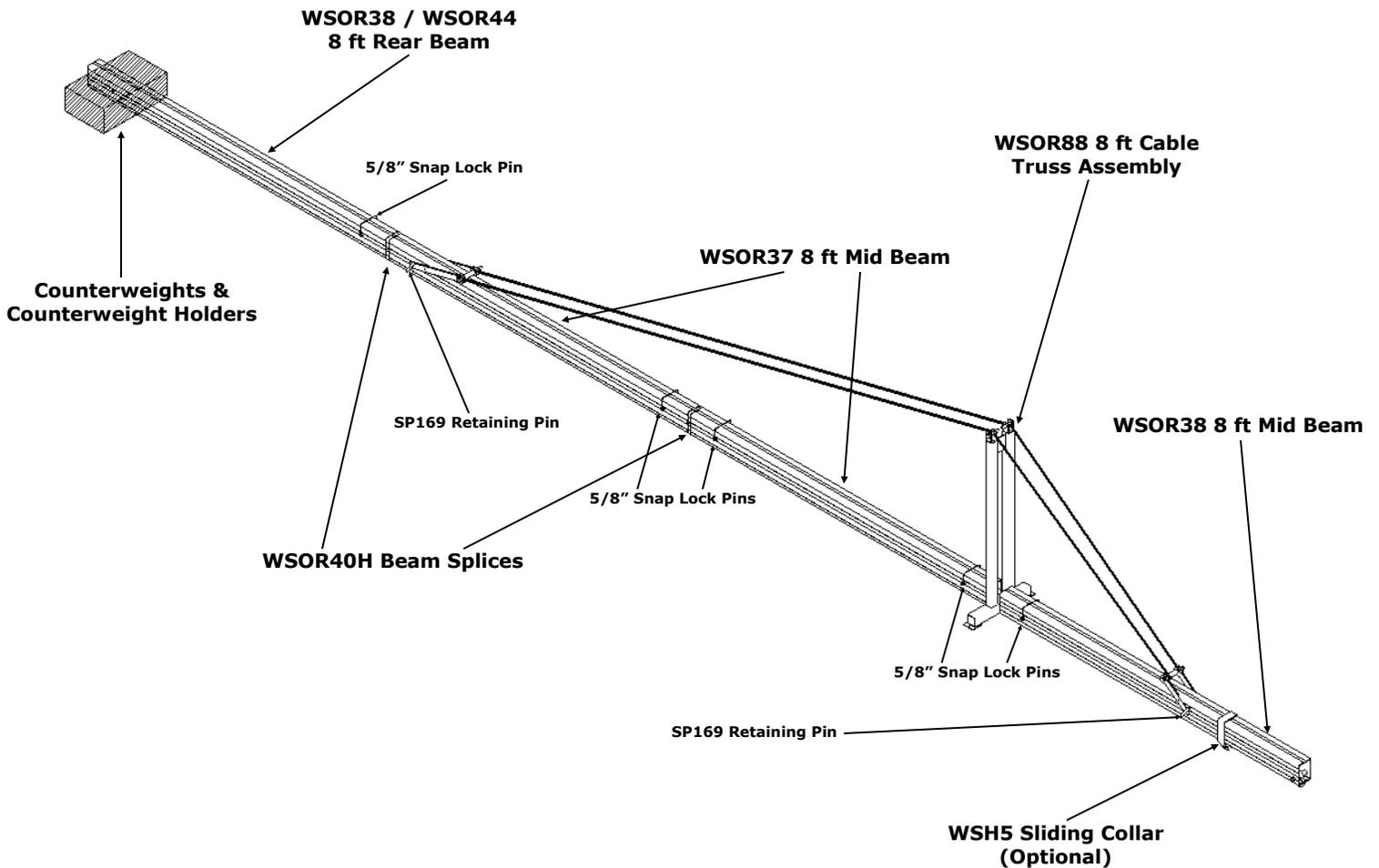
Notes

- If the Beam Stand is used on completed roofing, it is usually necessary to provide wood or other protective materials under the stand's feet. Take care to prevent load spreading, protective materials from shifting or tipping when subjected to a load.
- Beam Stands with a 60" (WSBS030) & 72" clearances are also available.

3 — CABLE TRUSS SYSTEMS

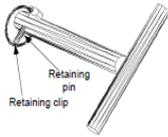
There are three different options for standard Cable Truss System configurations supplied by Winsafe. The system that you choose is based on the desired length of the Cable Truss System's reach you require. Available lengths of reach are 8 ft (WSOR88), 12 ft (WSOR115), and 14 ft (WSOR148). All Winsafe outrigger beams that complete the system are sold separately.

Cable Truss System — 8 ft Reach

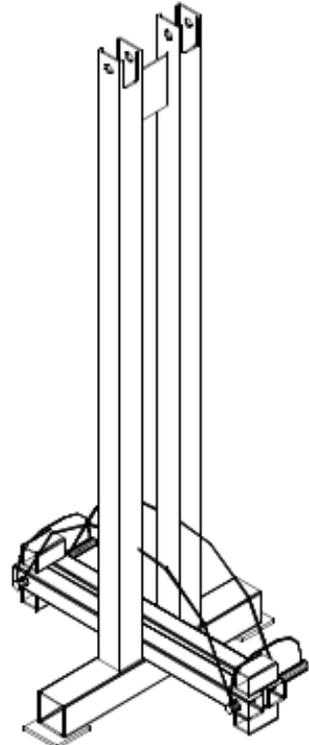


3.1 — Cable Truss Components

SP169 Retaining Pin



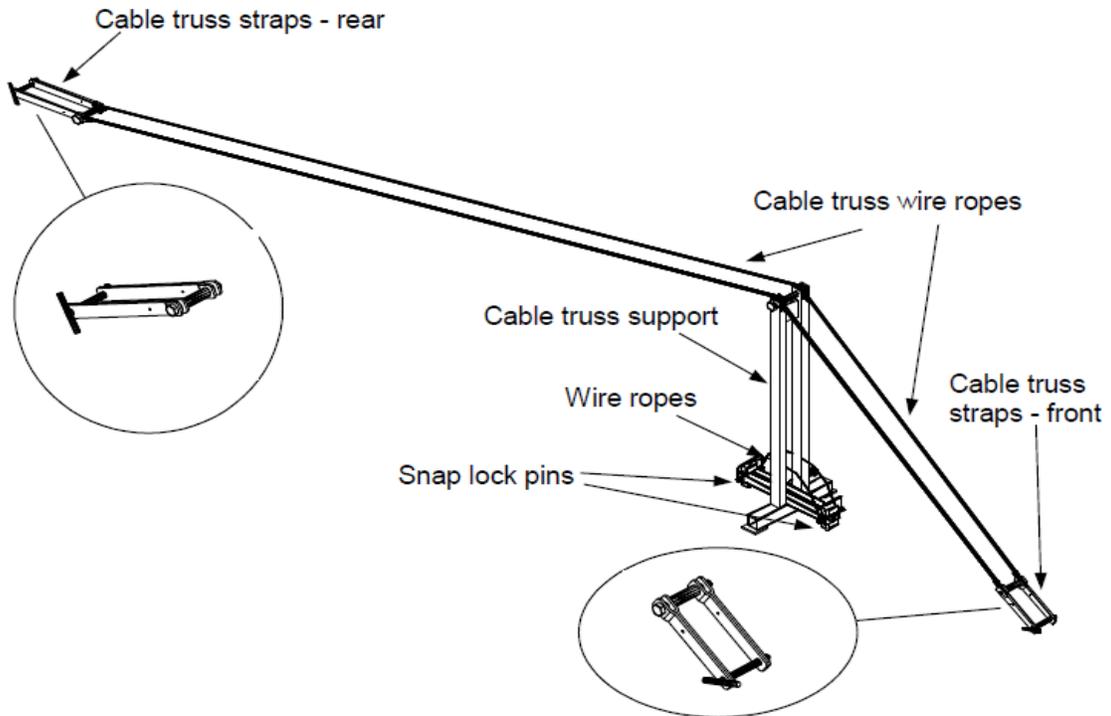
SP165 Cable Truss Support



WSH5 Sliding Collar (Optional)



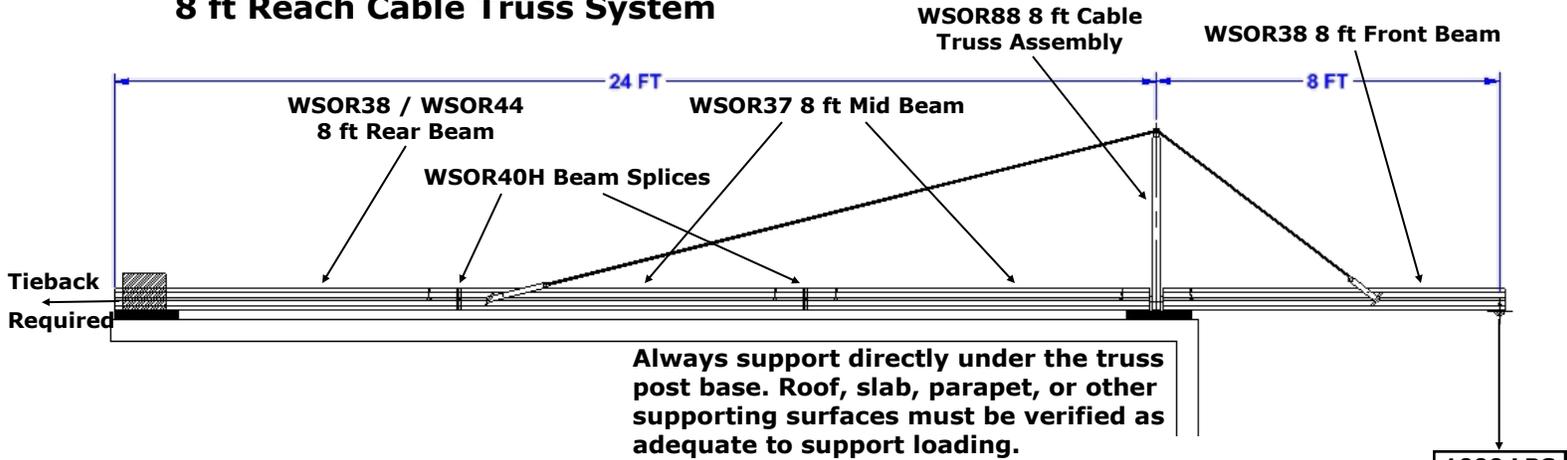
Cable Truss Assembly—8 ft. Reach: WSOR88



3.2 — Installation Procedure for the 8 ft Cable Truss System

1. Installation and use of the 8 ft reach Cable Truss System requires a clear space of at least 24 ft behind the parapet. Winsafe Cable Truss Systems are assembled in the following sequence: Mid Beam, Beam Splice, second Mid Beam, Beam Splice, third Mid Beam, Cable Truss Mast, and lastly the Front Beam, as shown in the diagram on the following page.
2. Assemble the Mid Beam (WSOR37), Beam Splice (WSOR40H), second Mid Beam (WSOR37), Beam Splice (WSOR40H), and third Mid Beam (WSOR37) by following the assembly procedure in Section 2.3. Confirm the retaining pins are inserted fully and that the retaining clip is locked.
3. Attach the Front Beam with the third Mid Beam through the Cable Truss Support (SP165). The Cable Truss Support pins to the third Mid Beam at the rear and Front Beam at the front, similar to a Beam Splice. Confirm the retaining pins are inserted fully and that the retaining clip is locked.
4. Check to ensure that cable truss wire ropes are attached to their respective Cable Truss Straps. Pin the Cable Truss Strap (SP166) to a hole provided in the Front Beam approximately 3 feet from the front using a Retaining Pin (SP166). Pin the Cable Truss Strap (SP167) in the same way to the middle Mid Beam using the Retaining Pin (SP169) to replace the normal splice pin.
5. Attach the suspension cable to the Front Beam pear link, or to the optional Sliding Collar (see following images). Only one suspension cable can be attached to a pear link or sliding collar.
6. When moving the Cable Truss System into position, confirm the support for the front of the beam is located directly beneath the feet of the Cable Truss Support. Do not support the Cable Truss System from the beam on either side of the Cable Truss Support, as this will place the load directly on the beam instead of the Cable Truss Support and can damage the equipment.
7. Install the counterweights in accordance with the chart on the following page. If the sliding collar is used, then the reach is determined by measuring the distance between the Sliding Collar and the Cable Truss Support stand. The pear link is 96" from the Cable Truss Support.
8. Install the tie back in accordance with applicable regulations and safe work practices.

8 ft Reach Cable Truss System



Parts Required per Suspension Point

→	WSOR88	8 ft Cable Truss Ass'y	x1
→	WSOR38	8 ft Front Beam	x1
→	WSOR37	8 ft Mid Beam	x2
→	WSOR40H	30" Beam Splices	x2
→	WSOR39 or WSOR44	8 ft Rear Beam	x1
→	WSOR###	Counterweight Holder	x1 (x2 required depending on counterweight requirement & arrangement)

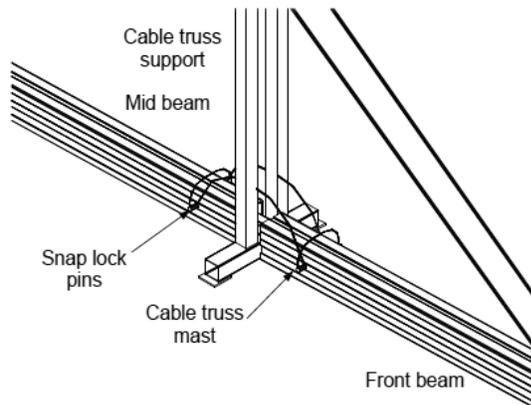
Notes

- Counterweight or clamp to structure in order to provide the necessary resistance to overturning with a safety factor of 4:1.
- Use a counterweight saddle or longhorn bar to secure additional weights as required.
- Always tie back in accordance with applicable regulations and safe work practices.
- All sections are Winsafe Beams with custom extrusion 5.76 H x 3.94 W @ 4.08 Lbs./Ft.
- Material safety factors exceed 4 to 1 based on material yield strength with rated load at maximum reach.
- The roof, slab, and parapet of the structure (as applicable) must be verified as adequate to support loading by qualified persons.

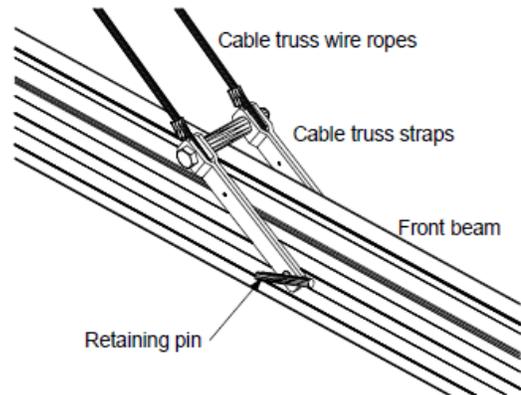
Counterweight Chart for 8 ft Reach Cable Truss System

Maximum 1000 Lb. Load - Beam Extends 24' Inboard of Truss Mast						
Reach (inch) (Sliding Collar Position from Base)	5'6"	6'	6'6"	7'	7'6"	Maximum
	60 inch	72 inch	78 inch	84 inch	90 inch	93~95 inch
Counterweight (lbs)	870	1050	1130	1220	1320	1400

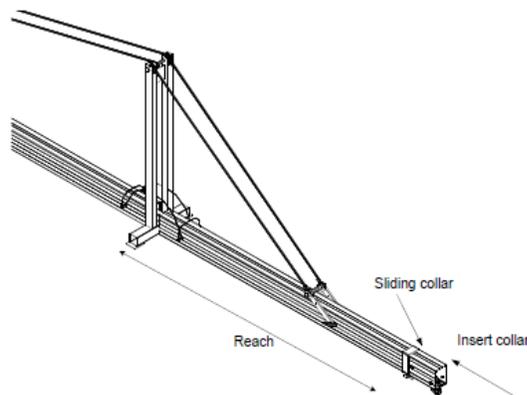
8 ft Reach Cable Truss Assembly Details



Assembly of Cable Truss Support with Beams



Assembly of Cable Truss Ropes with Cable Truss Straps



Reach with Sliding Collar

CAUTION



- Never install the Sliding Collar (WSH5) between the Cable Truss Support stand and the Cable Truss Straps connected to the front beam.

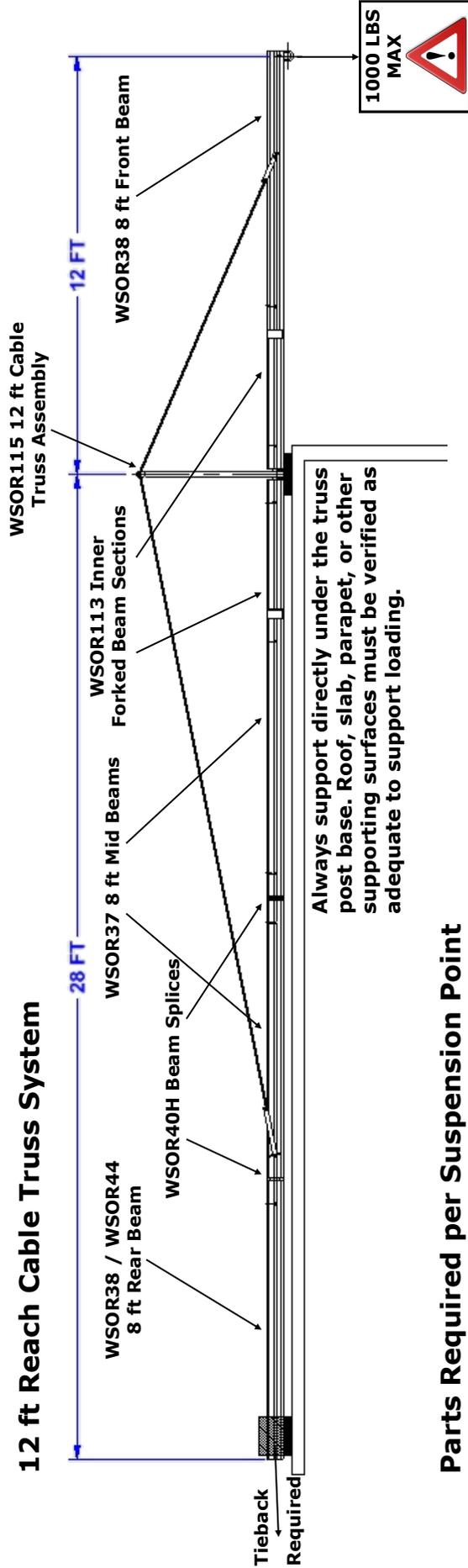
Notes

- Cable Truss Masts for Cable Truss Supports must be held on solid surfaces capable of carrying the applied load. Do not use insulating boards or other non-rigid materials under the Cable Truss Mast.
- A Sliding Collar must be used when working at less than 96" reach.
- Counterweight or clamp to the structure to resist overturning with a safety factor of 4 to 1.
- Use counterweight saddles or a long horn bar to secure additional counterweights as needed.
- Always tie back in accordance with applicable regulations and safe work practices.

3.3 — Installation Procedure for 12 ft Cable Truss System

1. Installation of the 12 ft reach Cable Truss System requires a clear space of at least 28 ft behind the parapet. The Cable Truss System is assembled in the following sequence: Mid Beam, Beam Splice, second Mid Beam, Beam Splice, third Mid Beam, Inner Section, Cable Truss Support, Inner Section and Front Beam.
2. Assemble the Mid Beam (WSOR37), Beam Splice (WSOR40H), second Mid Beam (WSOR37), Beam Splice (WSOR40H), third Mid Beam (WSOR37), and Inner Forked Beam Section (WSOR113) by following the procedure presented in Section 2.3. Confirm that the retaining pins are inserted fully and locked with the retaining clip.
3. Attach the Front Beam (WSOR38) to another Inner Forked Beam Section (WSOR113) that will be mounted to the other side of the Cable Truss Mast facing the edge of the parapet. The second Inner Section pins to the Front Beam and Cable Truss Support similar to a Beam Splice. Confirm the retaining pins are inserted and retaining clips are locked.
4. Pin the Cable Truss Strap (SP166) to the hole provided in the Front Beam approximately 3 ft from the front of the Beam using a Retaining Pin (SP169). When pinning the Straps to the Beams, confirm the retaining pins are fully inserted and the retaining clips are locked.
5. Pin the Cable Truss Strap (SP167) to the Mid Beam using the Retaining Pin (SP169), replacing the normal splice pin.
6. Attach the suspension cable to the Front Beam Pear Link or through the optional Sliding Collar. Only one suspension cable can be attached to a pear link or sliding collar.
7. When moving the Cable Truss System into position, take care to ensure the support for the front of the Beam is located directly beneath the feet of the Cable Truss Support. Do not support the Cable Truss System from the beam on either side of the Cable Truss Support, as this will place the load directly on the beam instead of the Cable Truss Support and can damage the equipment.
8. Install the counterweights in accordance with the chart on the following page. If using a Sliding Collar, the reach is determined by measuring the distance between the Collar and the Cable Truss Support stand. The pear link is 144" from the Cable Truss Support.
9. Install the tie back in accordance with applicable regulations and safe work practices.

12 ft Reach Cable Truss System



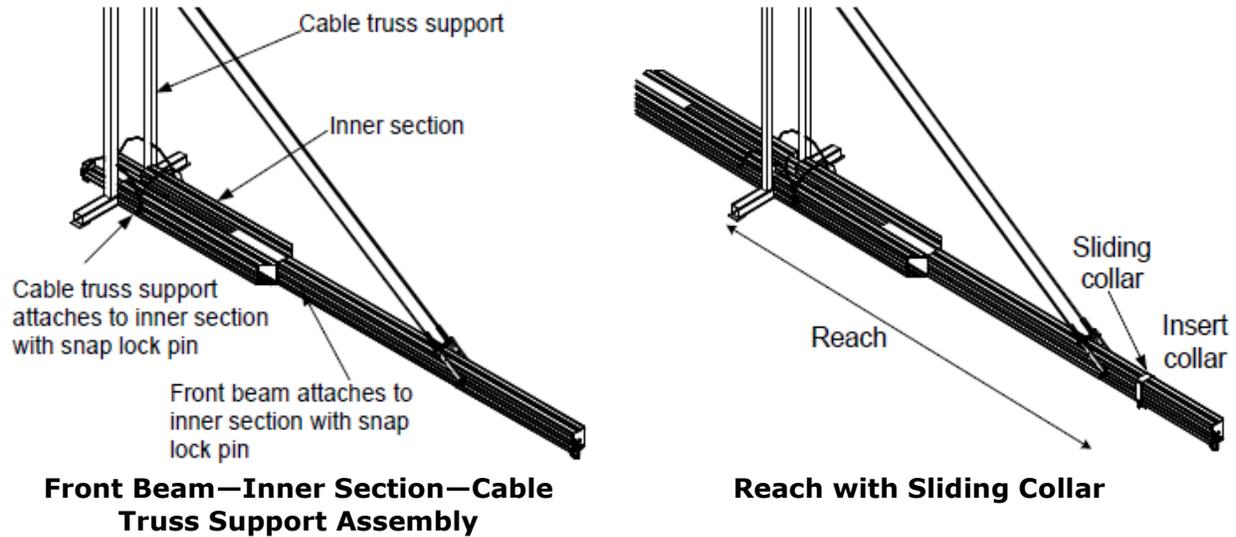
Parts Required per Suspension Point

WSOR115	12 ft Cable Truss Assembly	x1 (includes two WSOR113 Inner Fork Beam Sections
WSOR38	8 ft Front Beam	x1
WSOR37	8 ft Mid Beam	x2
WSOR40H	30" Beam Splices	x2
WSOR39 or WSOR44	8 ft Rear Beam	x1
WSOR###	Counterweight Holder	x1 (x2 required depending on counterweight Requirement & arrangement)

Notes

- Counterweight or clamp to structure in order to provide the necessary resistance to overturning with a safety factor of 4:1.
- Use a counterweight saddle or longhorn bar to secure additional weights as required. A counterweight chart showing the required amount for sample reaches can be found on the next page.
- Always tie back in accordance with applicable regulations and safe work practices.
- All sections are Winsafe Beams with custom extrusion 5.76 H x 3.94 W @ 4.08 Lbs./Ft.
- Material safety factors exceed 4 to 1 based on material yield strength with rated load at maximum reach.
- The roof, slab, and parapet of the structure (as applicable) must be verified as adequate to support loading by qualified persons.

12 ft Reach Cable Truss System Assembly Details



CAUTION



- Never install the Sliding Collar (WSH5) between the Cable Truss Support stand and the Cable Truss Straps connected to the front beam.

Notes

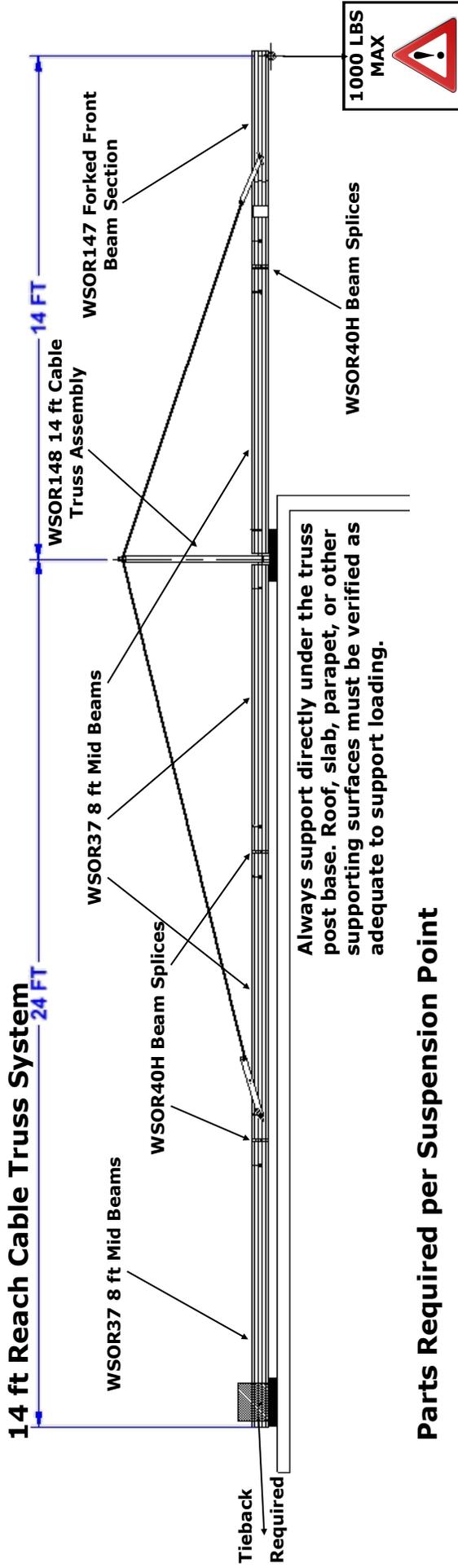
- Cable Truss Masts for Cable Truss Supports must be supported on solid surfaces capable of carrying the applied load. Do not use insulating boards or other non-rigid materials under the Cable Truss Mast.
- When working at a reach of less than 144", a WSH5 Sliding Collar must be used. Install the Sliding Collar as shown above. The reach is calculated from the base of the Cable Truss Support.
- Counterweight or clamp to structure in order to prevent overturning with a safety factor of 4 to 1.
- Use a counterweight support to secure additional weight as required.
- Tie back in accordance with applicable regulations and safe work practices.

Counterweight Chart for 12 ft Reach Cable Truss System

Maximum 1000 Lb. Load - Beam Extends 28' Inboard of Truss Mast						
Reach (inch) (Sliding Collar Position from Base)	9'6"	10'	10'6"	11'	11'6"	Maximum
	114 inch	120 inch	126 inch	132 inch	138 inch	141~143 inch
Counterweight (lbs)	1360	1430	1500	1580	1650	1710

3.4 — Installation Procedure for 14 ft Reach Cable Truss System

1. Installation and use of the 14 ft Reach Cable Truss System requires a clear space of at least 24 ft behind the parapet.
2. Assemble two sets consisting of three Mid Beams (WSOR37) per set using 30" Beam Splices (WSOR40H). Confirm the snap lock pins are inserted completely and that retaining clips secure the snap lock pins.
3. Attach one end of the Mid Beam series to one side of the Cable Truss Support (WSOR146) facing away from the parapet by inserting the snap lock pin through the Mid Beam and Cable Truss Support. Do the same for the other Mid Beam series and ensure that both of the three Mid Beams each are parallel to one and other. Confirm all the retaining pins are fully inserted and locked with the retaining clip.
4. Attach two Mid Beams to the front of the Cable Truss Support (WSOR146) and then attach the Forked Front Beam Section (WSOR147) using Beam Splices (WSOR40H) to the front of Mid Beams pointing towards the parapet. Confirm that the retaining pins are inserted fully and locked with the retaining clip.
5. Pin the Cable Truss Strap (SP166) to the Forked Front Beam (WSOR147) through the hole approximately 3 ft from the front of the Beam using a Retaining Pin (SP169). Pin the Cable Truss Strap (SP457) to the Mid Beams at the rear (both the beams), again using a Retaining Pin.
6. Install Cables (SP 458) to connect the Cable Truss Straps and the Cable Truss Support.
7. When moving the Cable Truss System into position, confirm that the support for the front of the Beam is located directly beneath the support feet of the Cable Truss Support. Do not support the Cable Truss System from the beam on either side of the Cable Truss Support, as this will place the load directly on the beam instead of the Cable Truss Support and can damage the equipment.
8. Install the counterweights in accordance with the chart on the following pages. If using a Sliding Collar, the reach is determined by measuring the distance between the Sliding Collar and the Cable Truss Support stand. You cannot have a reach of less than 11 ft 6".
9. Install the tie back in accordance with applicable regulations and safe work practices.



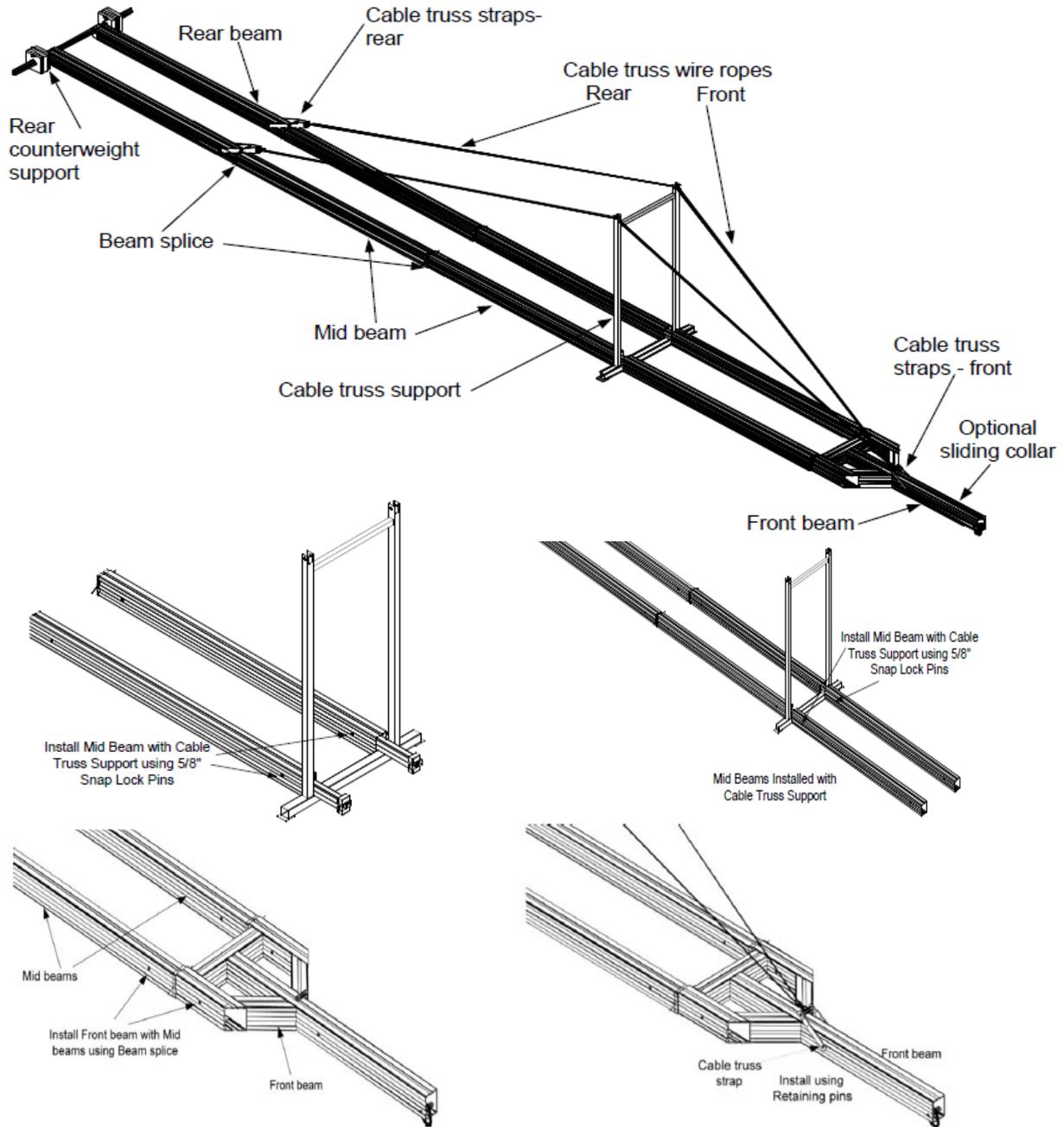
Parts Required per Suspension Point

→ WSOR148	14 ft Cable Truss Assembly	x1 (includes WSOR14 Forked Front Beam Section)
→ WSOR37	8 ft Mid Beam	x8
→ WSOR40H	30" Beam Splices	x6
→ WSOR188 or WSOR149	Counterweight Holder	x1

Notes

- Counterweight or clamp to structure in order to provide the necessary resistance to overturning with a safety factor of 4:1.
- A WSH5 Sliding Collar must be used when working with a reach under 14 ft. Install by slipping the Sliding Collar onto the Front Beam.
- Use a counterweight saddle or longhorn bar to secure additional weights as required. A counterweight chart showing the required amount for sample reaches can be found on the next page.
- Always tie back in accordance with applicable regulations and safe work practices.
- All sections are Winsafe Beams with custom extrusion 5.76 H x 3.94 W @ 4.08 Lbs./Ft.
- Material safety factors exceed 4 to 1 based on material yield strength with rated load at maximum reach.
- The roof, slab, and parapet of the structure (as applicable) must be verified as adequate to support loading by qualified persons.

14 ft Reach Cable Truss System Assembly Details



Counterweight Chart for 14 ft Reach Cable Truss System

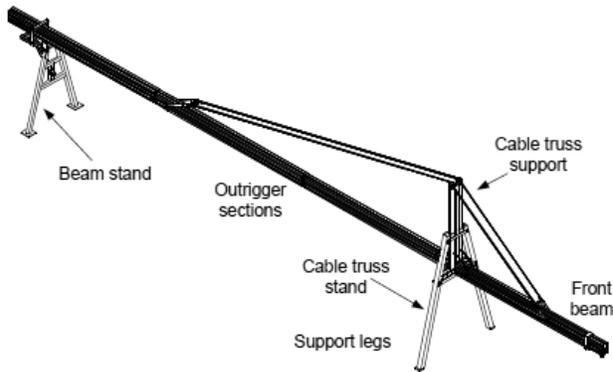
Maximum 1000 Lb. Load - Beam Extends 24' Inboard of Truss Mast						
Reach (inch)	11'-6"	12'	12'-6"	13'	13'-6"	Maximum 14'
(Sliding Collar Position from Base)	138 inch	144 inch	150 inch	156 inch	162 inch	168 inch
Counterweight (lbs)	2050	2100	2150	2250	2350	2400

CAUTION

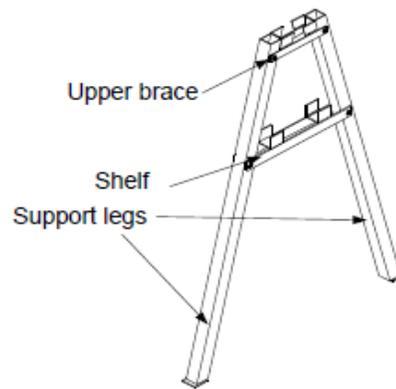


- Never install the Sliding Collar (WSH5) between the Cable Truss Support stand and the Cable Truss Straps connected to the front beam.

3.5 — Cable Truss Stand for 8 ft/12 ft Cable Truss



Cable Truss Stand Installation



Cable Truss Stand

Installation Procedure for Cable Truss Stand

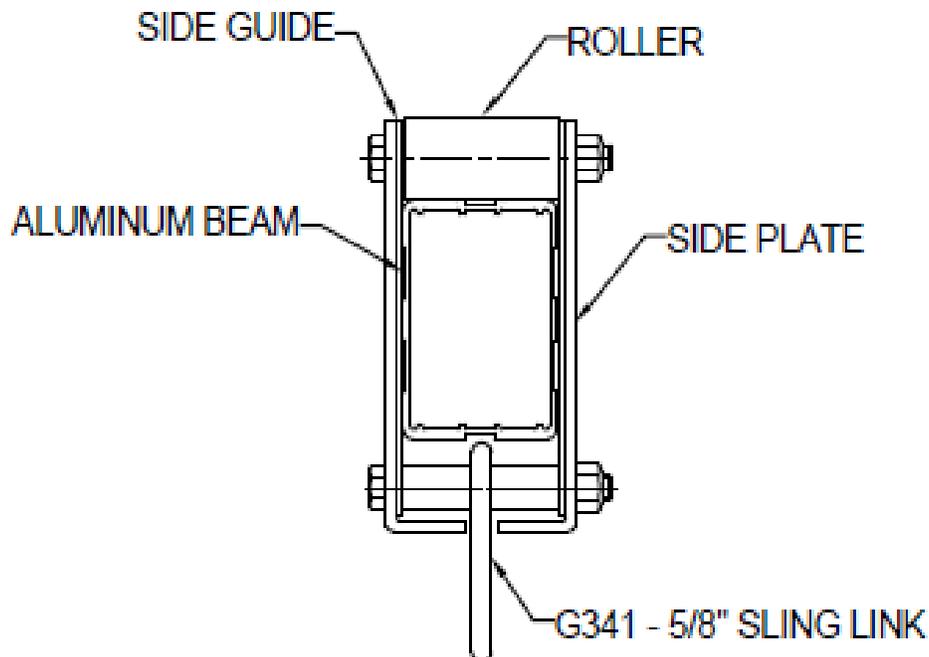
The Cable Truss Stand is designed to support the base of the 8 ft or 12 ft Cable Truss. The standard Beam Stand (WSBS001) must not be used to support the Cable Truss System, however it can be used to support the back end of the outrigger beam sections of the Cable Truss System. The Cable Truss Stand must be installed prior to the installation of the Cable Truss System. The installation procedure for the Cable Truss System with the Cable Truss Stand follows:

1. Place the base of the Cable Truss Support onto the shelf in the Cable Truss Stand and rotate the upper brace into position then pin it closed. (See figures above)
2. Assemble the remainder of the Cable Truss System. If you want the Cable Truss to be level, you can use a standard Beam Stand to support the rear of the Cable Truss. A rear Beam Stand is not required if the angle of the Cable Truss System is less than 15°.

4 — ROLLING TROLLEY

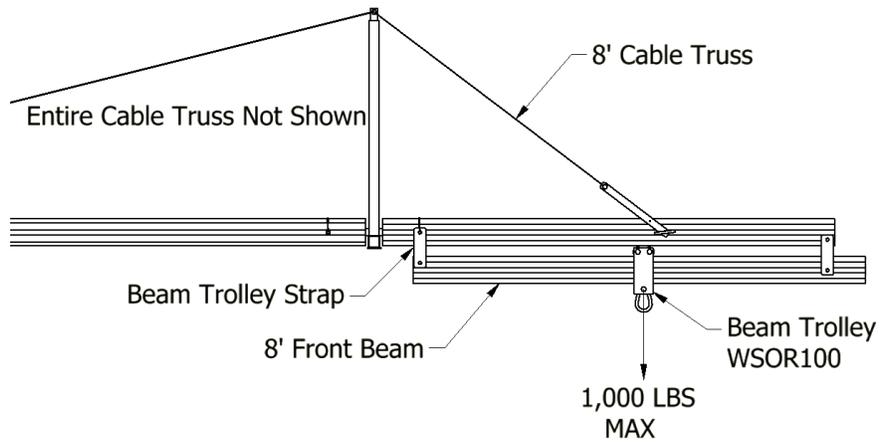
The Rolling Trolley Beam is used to provide safe, adjustable suspension points in order to be able to provide suspension points at varying reaches past the parapet and to access places such as sloped surfaces of buildings and other structures. A Rolling Trolley (WSOR100) can be used in these particular configurations depending on the reach you require.

- On a standard Beam setup—4 ft range of reach; no extra components required
- On an 8 ft Cable Truss—8 ft range of reach; requires an 8 ft Front Beam and a WSOR123 Beam Trolley Strap kit.
- On a 12 ft Cable Truss—10 ft max range of reach up to 12 ft from the base of the stand; requires a WSOR36 10 ft Front Beam and WSOR123 Beam Trolley Strap kit.
- On a 12 ft Cable Truss—10 ft max range of reach up to 14 ft from the base of the stand; requires a WSOR36 10 ft Front Beam and WSOR123 Beam Trolley Strap kit.

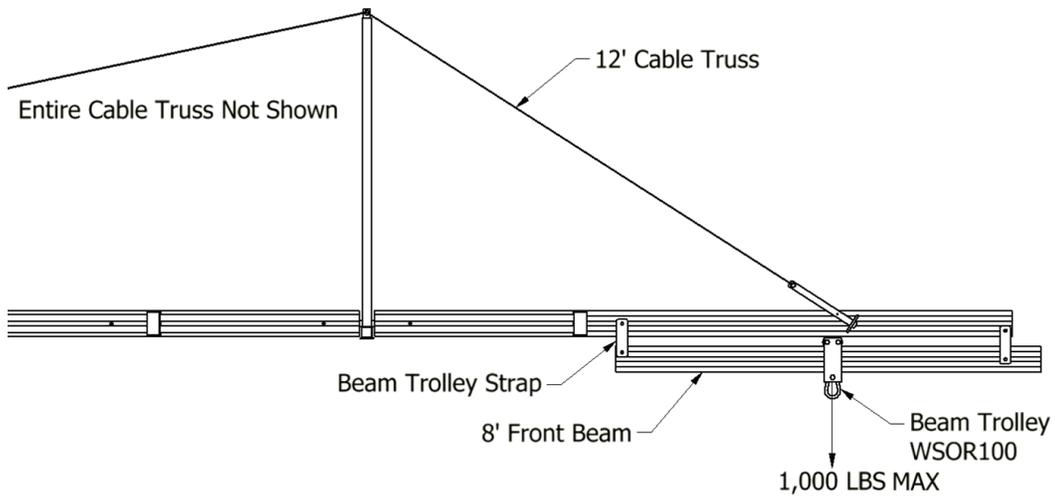


**Aluminum Beam Trolley
(WSOR100)**

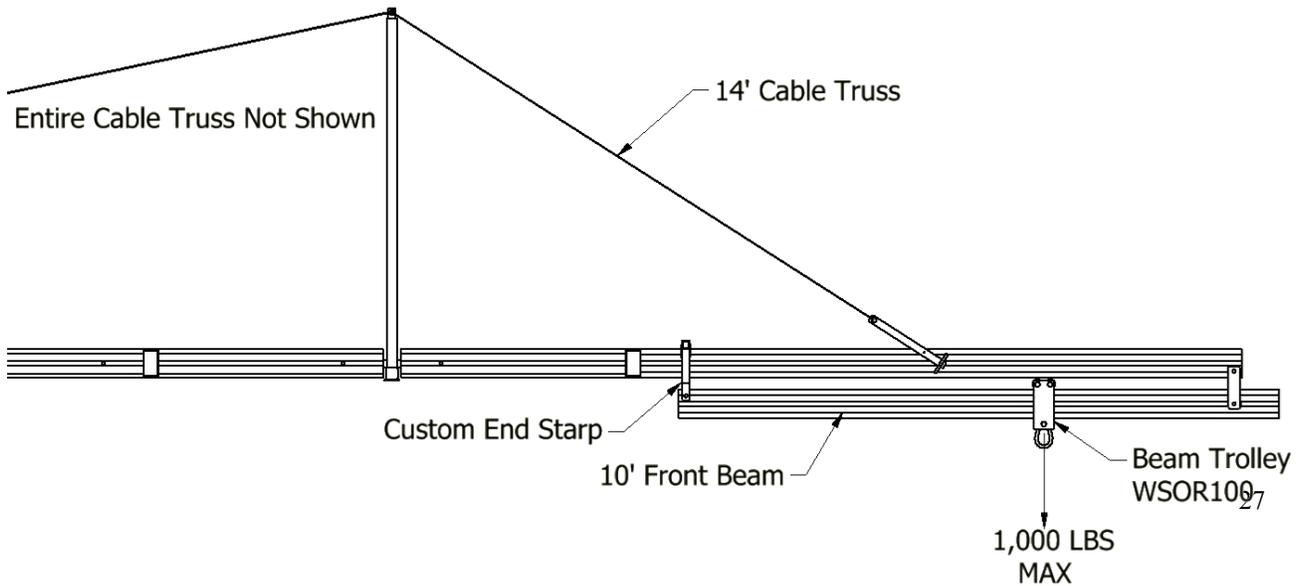
8 ft Cable Truss with Beam Trolley



12 ft Cable Truss with Beam Trolley

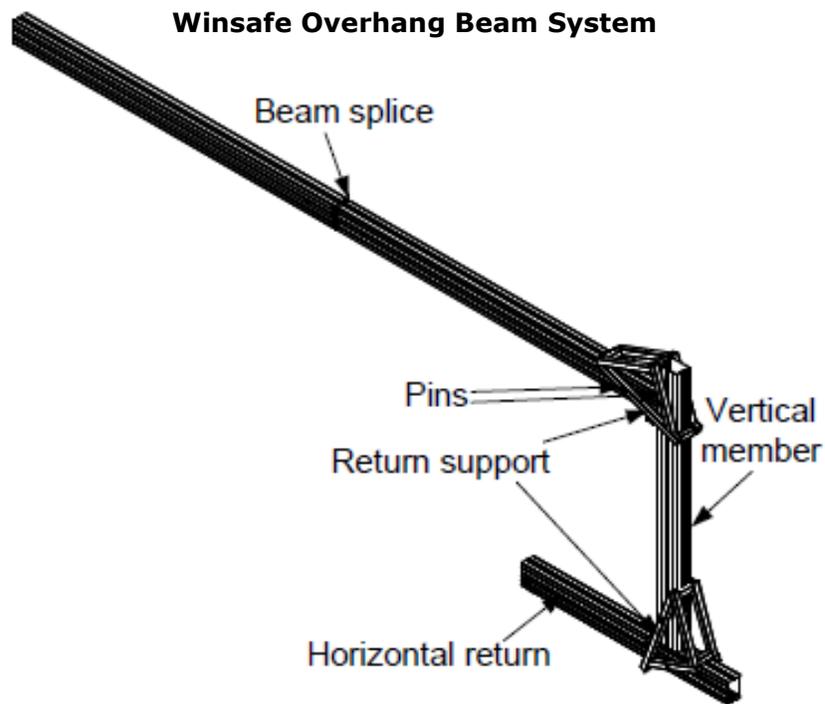


14 ft Cable Truss with Beam Trolley

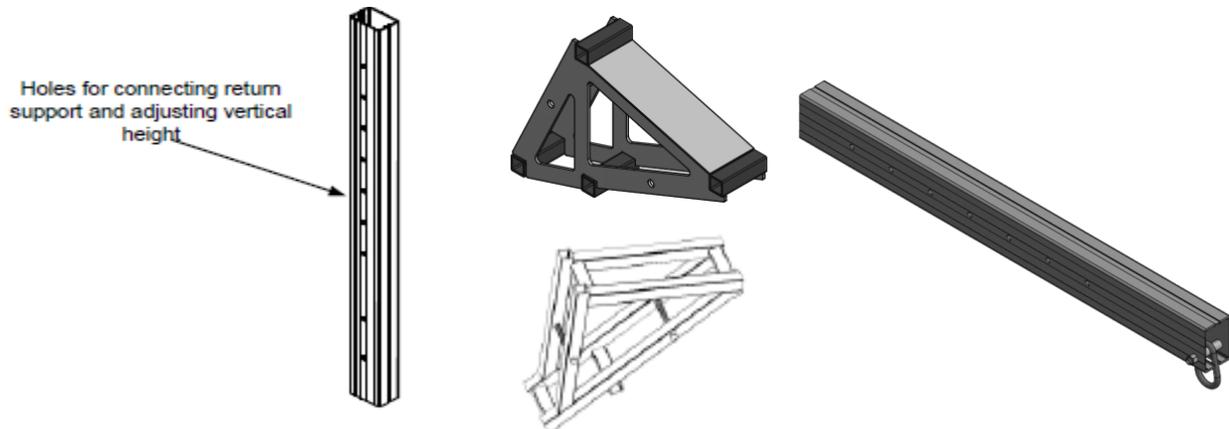


5 — OVERHANG BEAM

The Winsafe Overhang Beam system is used to reach areas below an overhang or cornice. Overhang Beams can reach up to 5 ft down and 4 ft under an overhang and can be assembled with shorter vertical or horizontal lengths in 6" increments from the maximum dimensions.



5.1 — Overhang Beam Components



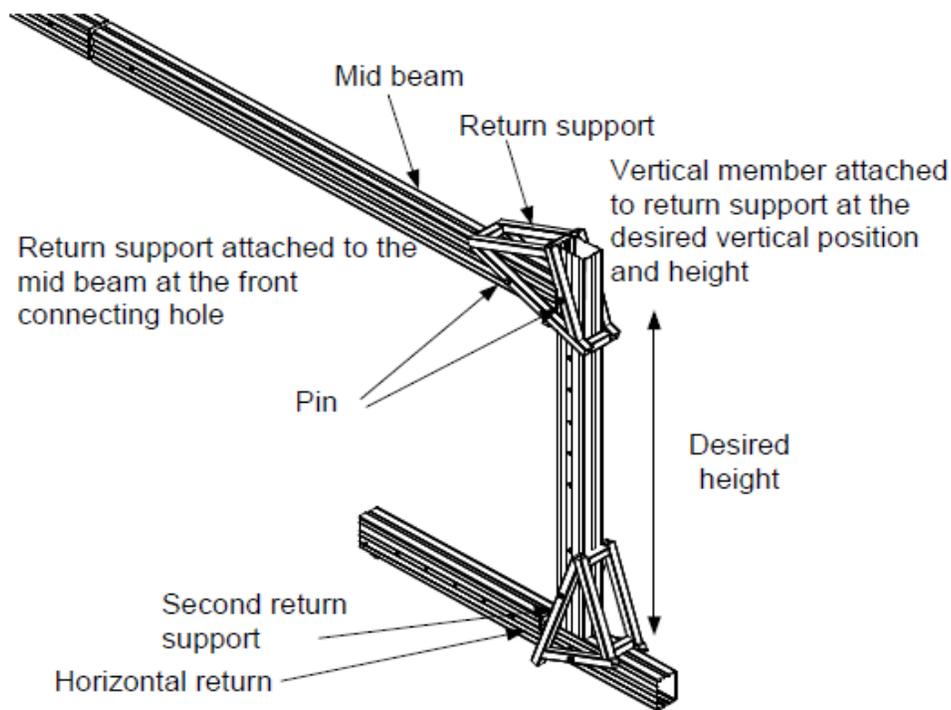
WSOR85 Vertical Member

WSOR84 Return Elbow Bracket

WSOR86 Horizontal Return

5.2 — Installation Procedures for 4 ft Overhang Beam

1. Attach at least two Mid Beams (WSOR37) using a Beam Splice (WSOR40H) and follow the assembly procedure outlined in Section 2.3.
2. Attach the first Return Support (WSOR84) to the Mid Beam by pinning it to the front connecting hole using the provided Pins (PC4207).
3. Attach the Vertical Member (WSOR85) to the first Return Support so that it is pinned in the desired vertical position and vertical length.
4. Attach the second Return Support (WSOR84) to the end of the vertical member, again using the provided Pins. Also, attach the Horizontal Return (WSOR86) to the return support.
5. While installing the Pins, confirm they are inserted fully through the holes and secured using the retaining clips. Consult the figure below for a visual representation of assembly.



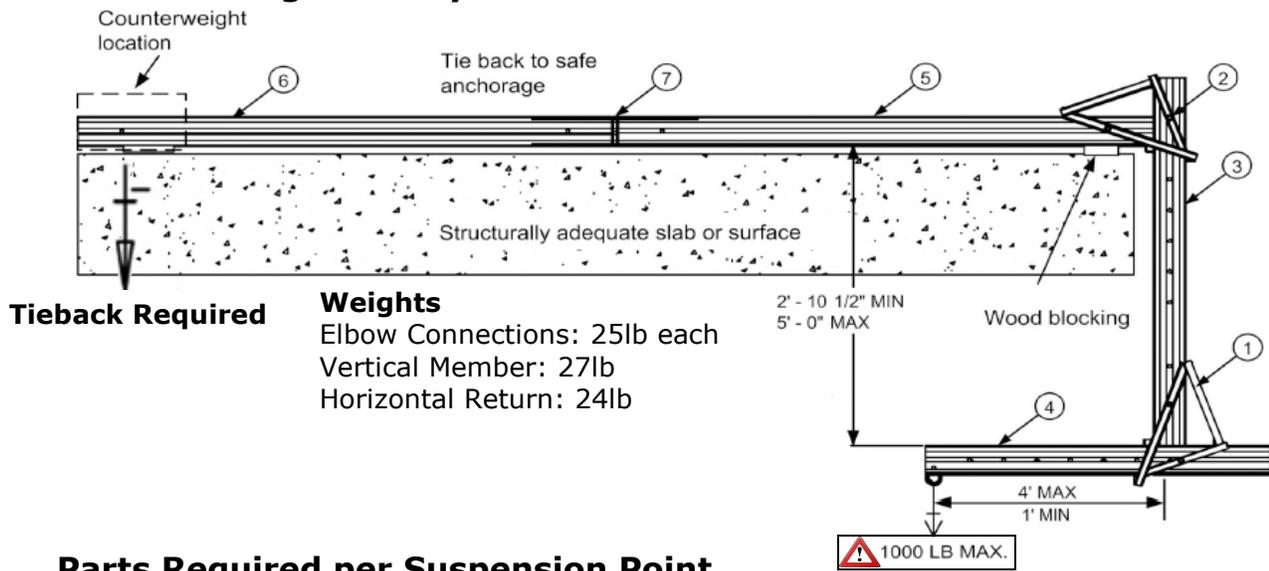
Overhang Beam Assembly

CAUTION



- Take precaution when lowering the overhang assembly into position to prevent it from damaging the parapet, or from falling from the roof.

4 ft Overhang Beam System



Parts Required per Suspension Point

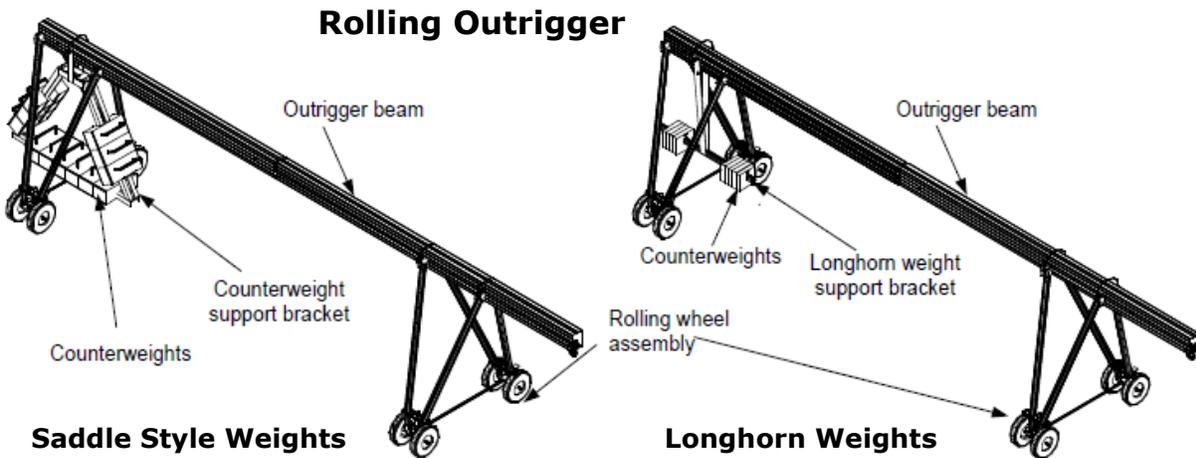
1. & 2. WSOR84	Return Elbow Brackets	x2
3. WSOR85	Vertical Member	x1
4. WSOR86	Horizontal Member	x2
5. WSOR37	8 ft Mid Beam	x1
6. WSOR39 or WSSOR44 & WSOR###	8 ft Rear Beam Counterweight Holder	x1 x1
7. WSOR40H	30" Splice	x1

Notes

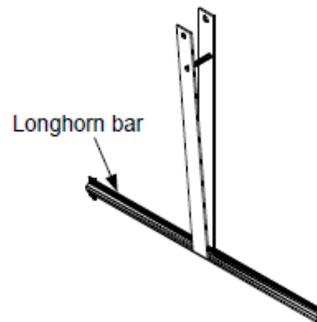
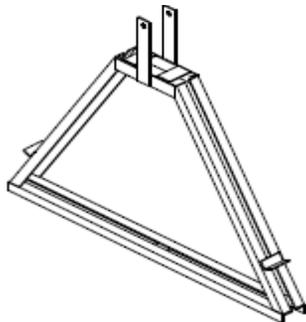
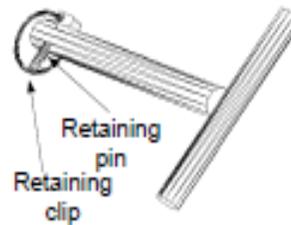
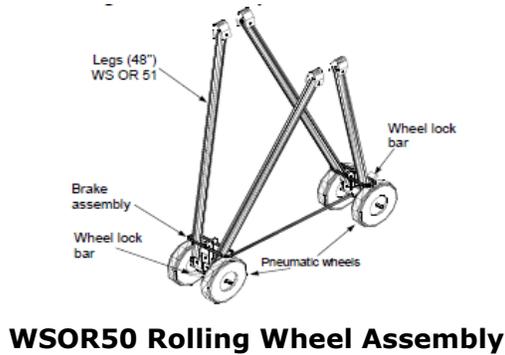
- When the suspension point is located inboard of the fulcrum, the beam theoretically requires only enough counterweight to make it stable. However, you should install a minimum of 250 lb of counterweight to keep the beam from shifting on the roof surface. Should the suspension point be outboard of the fulcrum, use the counterweight formula (provided in Section 2.2) to determine the correct amount of counterweight required. Do not exceed 4 ft reach from the point of support on the roof (fulcrum) to the Vertical Member.
- Always use wire rope and cable clamps to connect the beam system to a suitable tie-back anchorage (rated for 5000 lbs), which is in line with the beam. The wire rope and cable clips must be equal in strength to the suspension rope and must be capable of resisting 5000 lbs.
- It is usually necessary to attach the suspension rope to the pear link before moving the Horizontal Return into place. The suspension rope can be used to restrain the end of the assembly as it moved beyond the face of the building and rotated into its vertical position. Once the system is clear of the building and fully vertical, it is pulled back under the overhang. Install a tie-back cable before moving the beam over the side of the building.

6 — ROLLING OUTRIGGER

The Winsafe Rolling Outrigger couples the modular components of an Outrigger Beam with a folding wheel system. The Rolling Outrigger Beam has two reach positions, at 36" and 46", and may be combined with a Sliding Collar (WSH5) to achieve a variable reach.



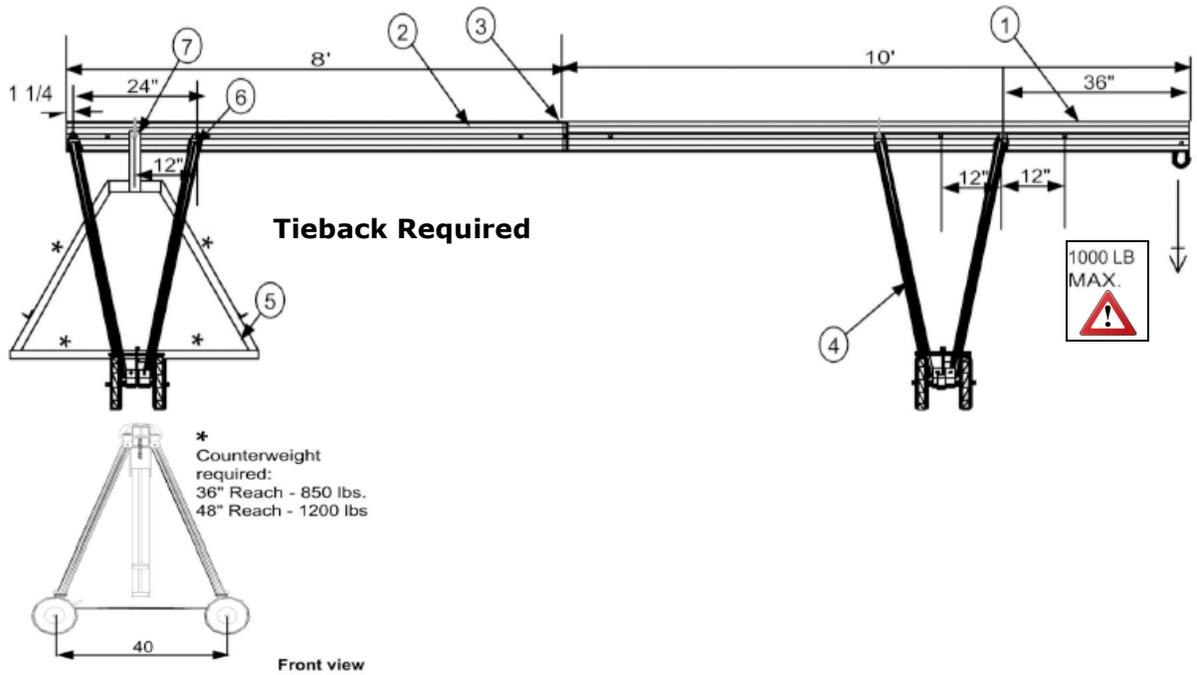
6.1 — Components



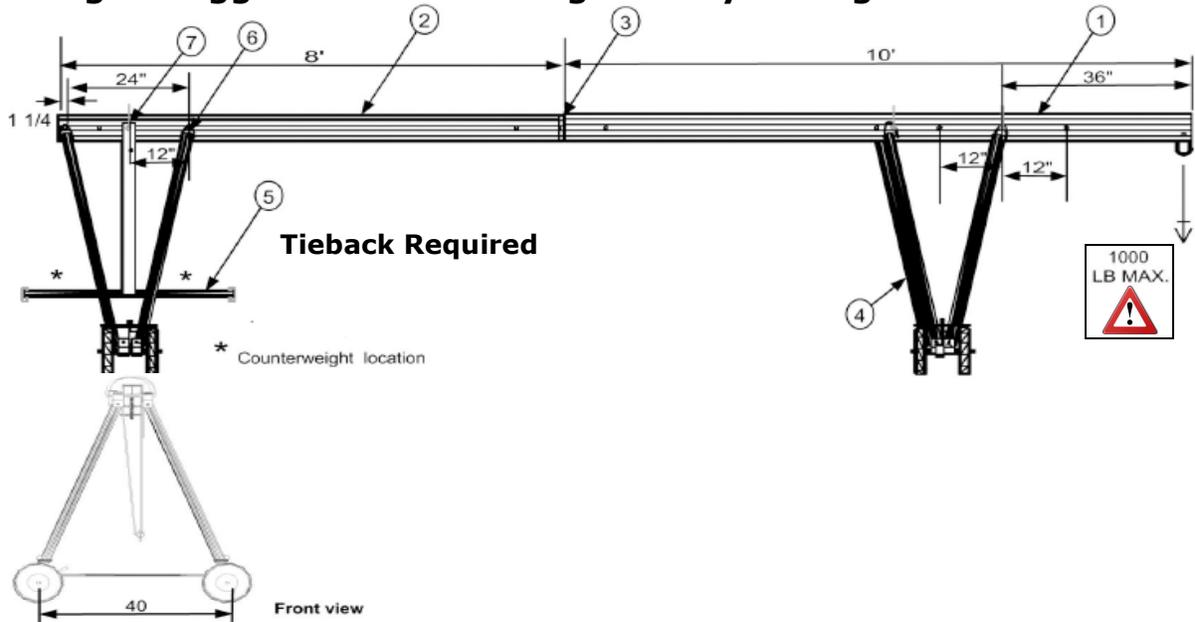
WSOR59 Saddle Counterweight Support Bracket

WSOR71 Longhorn Weight Support Bracket

Rolling Outrigger Beam with Saddle Style Weights



Rolling Outrigger Beam with Longhorn Style Weights

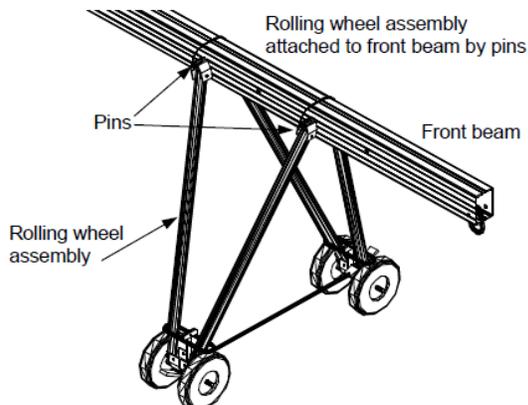


Notes

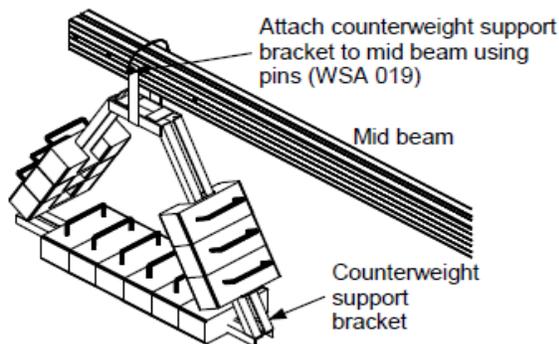
- Counterweight required: 1200 lbs for 46" reach, 850 lbs. for 36" reach.
- Add one extra 8' Mid Beam and one extra Splice to increase length of assembly, therefore reducing the counterweight requirement.
- Rolling Outrigger system must be tied back to anchorage (rated for 5000 lbs).
- Never attempt to roll the system while the platform is suspended.

6.2 – Installation Procedure for Rolling Outrigger

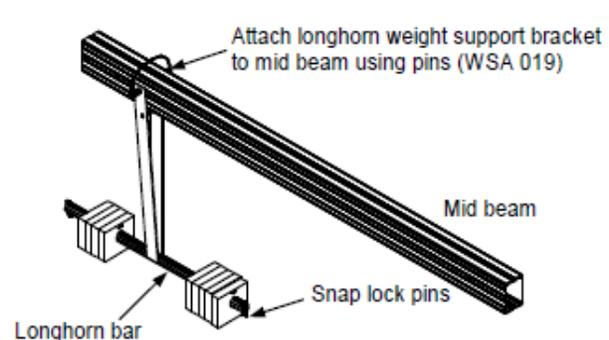
1. Attach the Front Beam (WSOR39) to the Mid Beam (WSOR37) using a Beam Splice (WSOR40H) and by following the assembly procedure presented in Section 2.3. These beam sections require extra pin holes to receive the Rolling Wheel assembly legs and counterweight support.
2. At the 24" hole spacing, pin the Rolling Wheel assembly to the combined Front Beam and Mid Beam using the Pins (PC4207) provided. Insert the Pins all the way through the bracket and secure with the retaining clips.
3. Suspend the Counterweight Bracket at the rear of the Mid Beam by inserting the Pins (WSA019) through the Mid Beam. Secure the Pins with the retaining clip. The installation procedure for the Longhorn Weight Support Bracket is similar.
4. Position the Rolling Outrigger and lock the brakes by pressing down on the wheel lock bar. To release the brake, pull on the wheel lock bar to move it up, allowing the wheels to freely turn. The wheels should be checked periodically to insure they are properly inflated and are undamaged.



Rolling Wheel Assembly with Front Beam



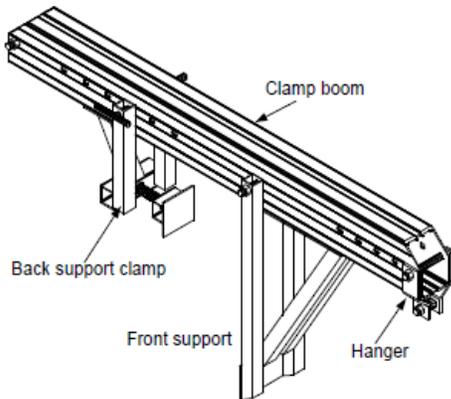
Counterweight Support Bracket Installation



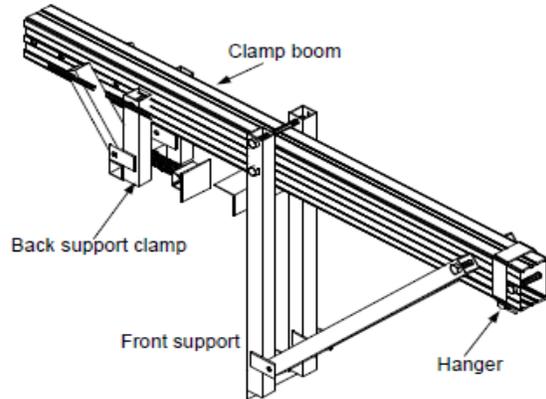
Longhorn Weight Support Bracket Installation

7 — PARAPET CLAMPS

Winsafe supplies two types of Parapet Clamps for reaches up to 22" for the PC2201, or up to 36" with the PC3601.

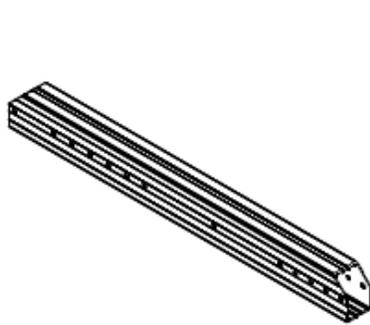


PC2201 22" Reach Parapet Clamp

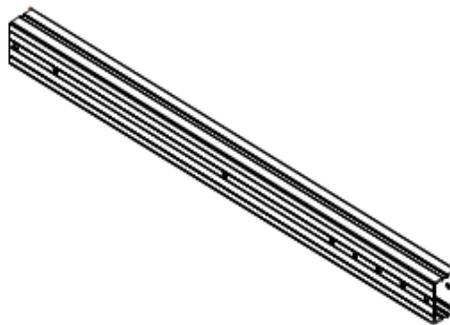


PC3601 36" Reach Parapet Clamp

7.1 — Components



PC2202 22" Clamp Boom



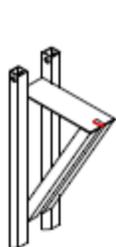
PC3621 72" Clamp Boom



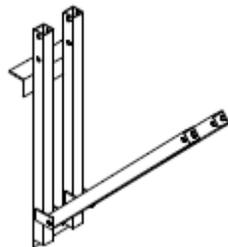
WSH4 Hanger (For PC2201)



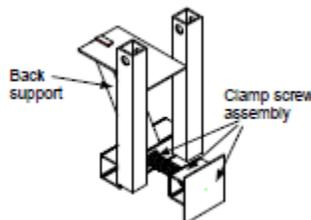
WSH5 Sliding Collar (For PC3601)



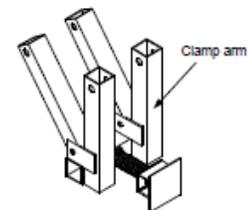
PC2203 Front Support (For PC2201)



PC3622 Front Support (For PC3601)

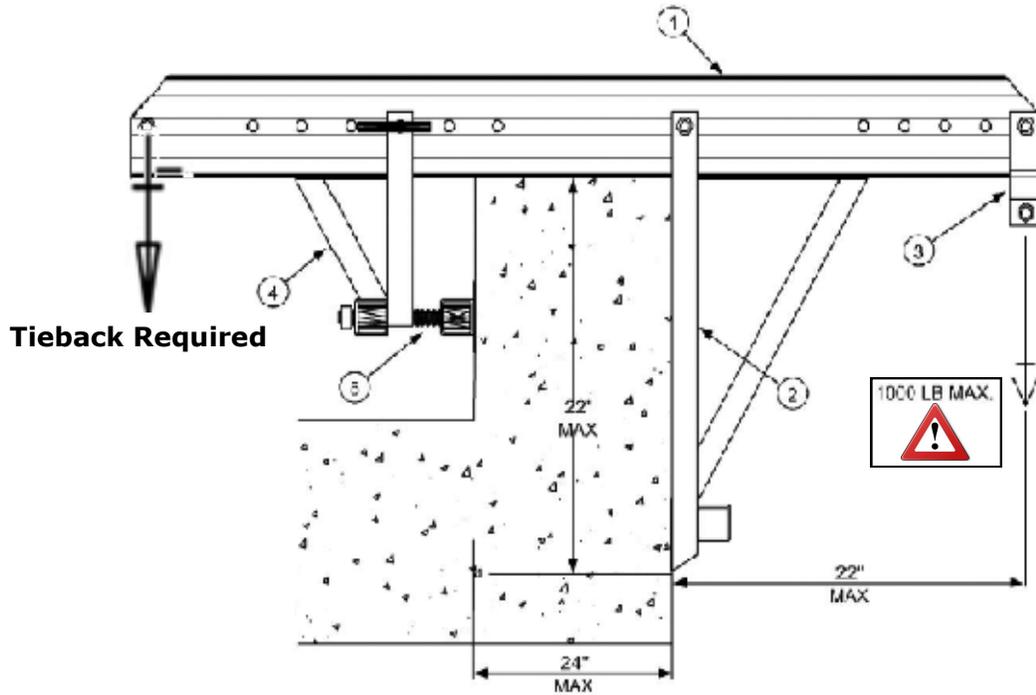


Back Support Clamp (For PC2201)
Back Support (PC2204)
Clamp Screw Assembly (PC2205)

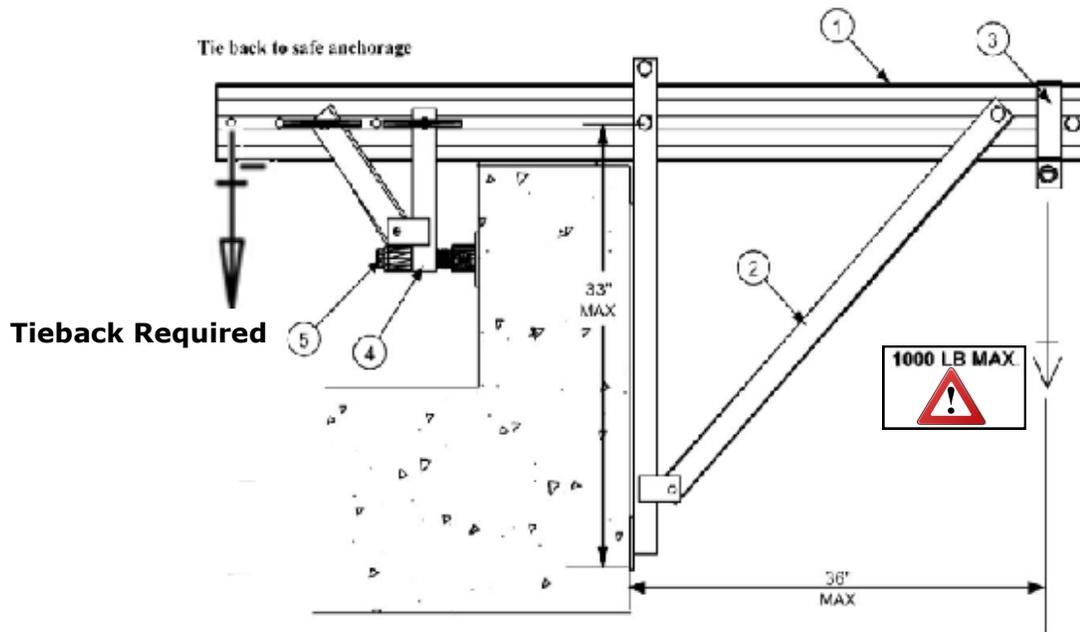


Back Support Clamp (For PC3601)
Clamp Arm (PC4203)
Clamp Screw Assembly (PC4208)

22" Reach Parapet Clamp (PC2201)

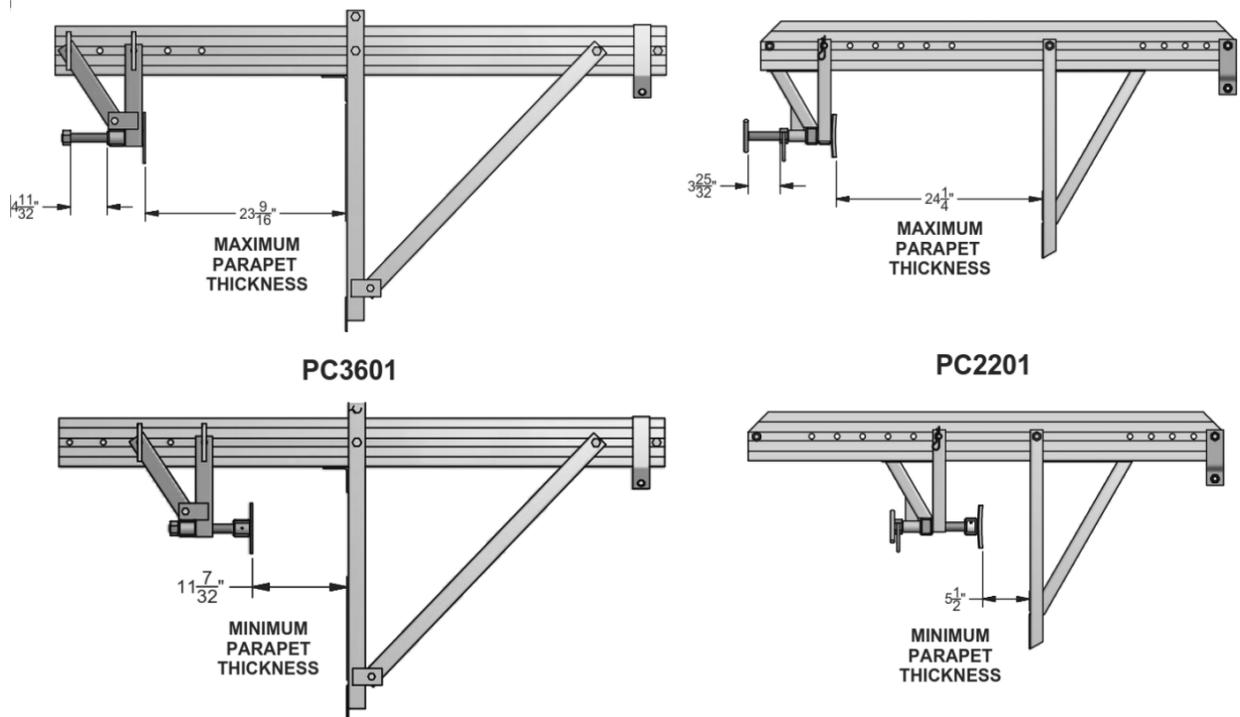


36" Reach Parapet Clamp (PC3601)



7.2 — Installation Procedure for 22" and 36" Reach Parapet Clamp

1. The Parapet Clamp has an adjustable Suspension Hanger and a Back Support Clamp which is used to adjust the Clamp for different widths on various parapets. The maximum and minimum parapet thicknesses for both size of parapet clamp is shown below.
2. To relocate the Suspension Hanger, remove the Hanger bolt and then move to the desired reach position.
3. To adjust the Back Support Clamp for various parapet widths, remove the pin, reposition the Support Clamp, then reinsert the Clamp pin. Make sure the pin is pushed completely through the hole and secured with the retaining clip.
4. Use the Clamp Screw Assembly to tightly secure the parapet clamp onto the parapet.

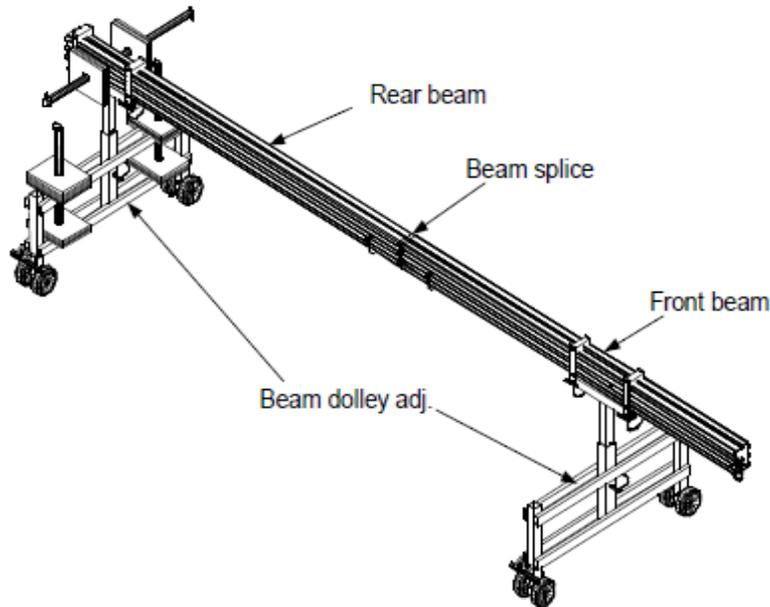


Notes

- The Parapet Clamp can fit parapets up to 24" thick. Clamp devices must only be used on structurally adequate parapets or equivalent structures, and must be verified as such by a structural engineer.
- When installing the Parapet Clamp, use the wire rope and cable clamps to tie the clamp to a safe tie-back anchorage.

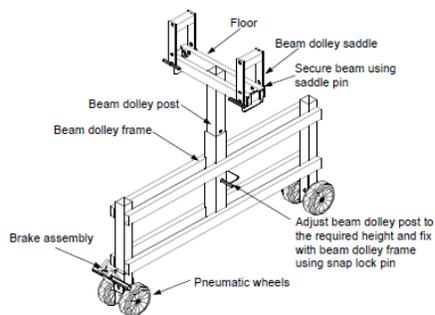
8 — BEAM DOLLIES

Winsafe supplies a Beam Dolly which provides a mobile outrigger beam that can move laterally along the parapet. The Winsafe Beam Dolly can be used with the same maximum reaches as any 2-piece 16 ft, 3-piece 24 ft, 2-piece 18 ft, or 3-piece 26 ft outrigger beam systems.

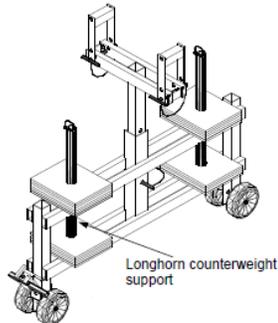


Modular Outrigger Beam with Beam Dolly and Longhorn Weights

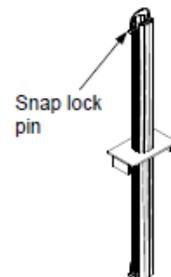
8.1 — Components



SP238 Beam Dolly



Beam Dolly with Longhorn Weights



SP485 Longhorn Counterweight Support

8.2 — Installation Procedure for Beam Dollies

1. Assemble the appropriate Modular Outrigger Beam system, as per the instructions in section 2.3.
2. Adjust the height of the Beam Dollies (SP238) by removing the pin in the center post of the frames of the Beam Dollies and then setting it at the appropriate height and then reinserting the snap lock pin.
3. Place the Outrigger Beam on the Dollies, then place the Beam Dolly Saddles over the outrigger beam, securing them in place with the Saddle Pin (SP244). Alternate pin holes are provided to fit other beam styles. Always use the pin hole that provides the closest fit to the beam.
4. Prevent any unwanted movement from the Beam Dolly by locking the wheels. To lock them, turn the "T" lever of the brake assembly.
5. Place counterweights on the Rear Beam Dolly frame, and the rear beam itself as required.

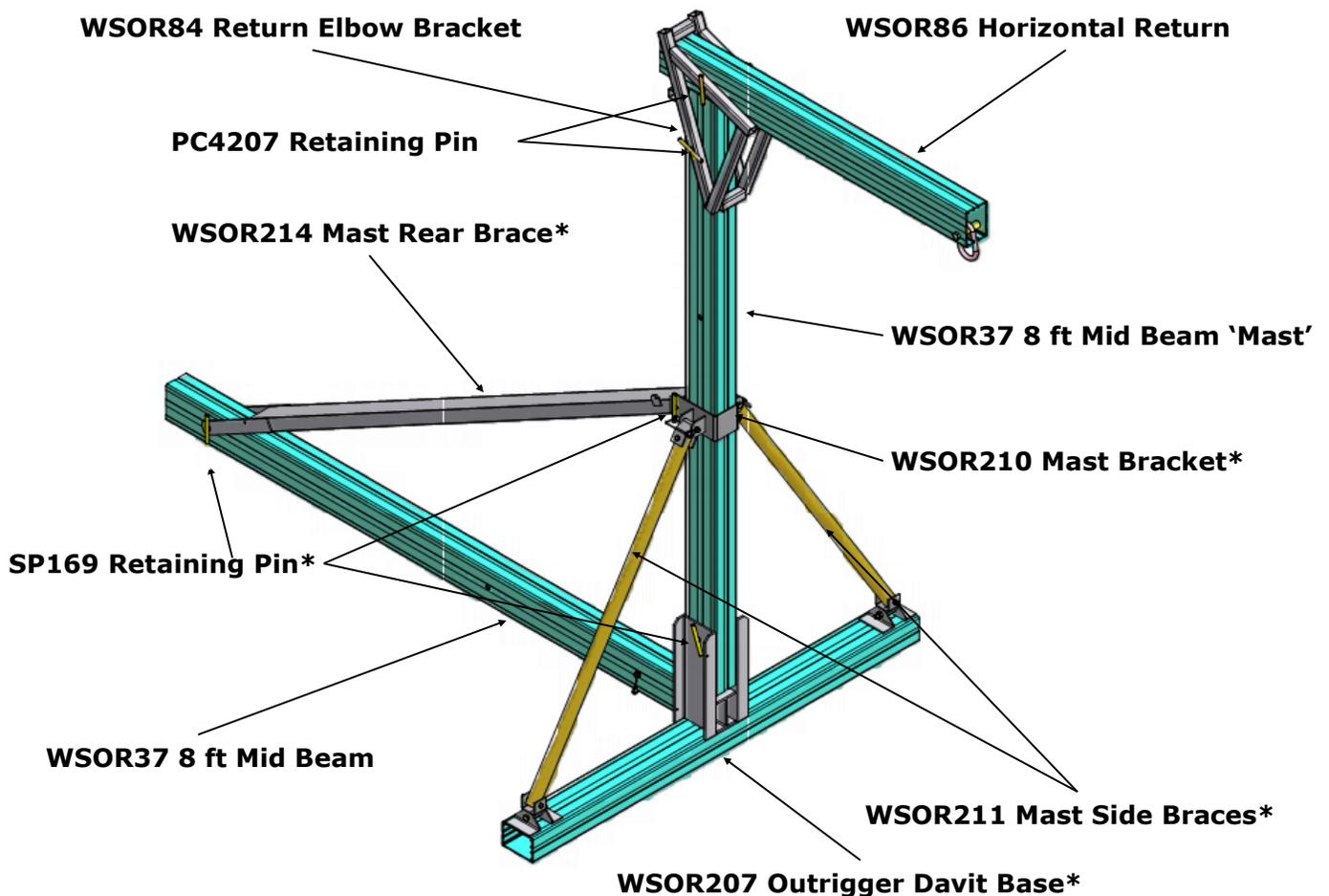
Notes

- Do not exceed the maximum reach or the maximum load limit on the beam.
- Secure the Rear Beam Dolly to the Rear Beam by means of a Saddle Pin, engagement of counterweights, or other secure means.
- Enough counterweight must be used to provide a safety factor against overturning of no less than 4 to 1.
- Confirm that the surface the outrigger beam system rests upon is capable of supporting the imposed load.
- Be sure to tighten the wheel locks to prevent movement once the system is in the desired location.
- No workers or materials should be on the suspended platform when moving the beam dollies from one location to another.
- When the system is in its desired work position, safety tie-backs must be secured to a safe anchorage (rated for 5000 lbs) before workers board the platform.

9 — OUTRIGGER DAVIT

The Outrigger Davit provides quick, easy clearance over tall parapets of up to 8 feet in height, while allowing for the outrigger beam and rigging equipment to be setup behind the parapet on the rooftop level. Additional Mid Beams and 30" Splices may be required if your application requires additional distance to meet counterweight requirements. It utilizes the following standard Winsafe outrigger beam components:

- ↳ WSOR37 8 ft Mid Beam x2
- ↳ WSOR84 Return Elbow Bracket
- ↳ WSOR86 Horizontal Return
- ↳ WSOR40 30" Splice
- ↳ WSOR39 or WSOR44 8' Rear Beam
- ↳ PC4207 8" LG. Retaining Pin x2



* = Included in WSOR208 Outrigger Unit Kit

9.1 — Installation Procedure for Outrigger Davit

1. Lay the Outrigger Davit Base (WSOR207) parallel to the edge of the parapet with the Mast Side Brace (WSOR211) connections facing up.
2. Attach a Mid Beam (WSOR37) to the protruding I-beam feature located in the middle of the Outrigger Davit Base (it will be perpendicular to the parapet in this orientation). Secure it with the supplied snap lock pin. Ensure that the retaining clip is locked on the snap lock pin after the pin is pushed completely through the beam.
3. Insert a 30" Splice (WSOR40) into the back of the previously installed Mid Beam. Do not secure it at this time (it will be pinned later, together with the Mast Rear Brace (WSOR214) in Step 14)
4. Install a Mid Beam (WSOR37) to the rear of the splice. Ensure that the retaining clip is locked on the snap lock pin after the pin is pushed completely through the beam.

Notes

- Some applications may use an additional tail section. Follow the same procedure to assemble the intermediate Mid Beam Section and a 30" splice.
 - Use of an additional intermediate beam section will alter (reduce) the amount of counterweights required to provide a 4 to 1 resistance to overturning. Refer to Section 2.2 for guidance in determining the counterweight requirement or contact Winsafe or their dealer.
5. Insert a Mid Beam between the two vertical brackets located in the middle of the Outrigger Davit Base. This will be the vertical mast. Secure it with the included 5" Retaining Pin (SP169). Ensure that the retaining pin is fully inserted and that the retaining clip is locked. At this point, the mast can be laid down to rest upon the tail section of the system to ease further assembly.



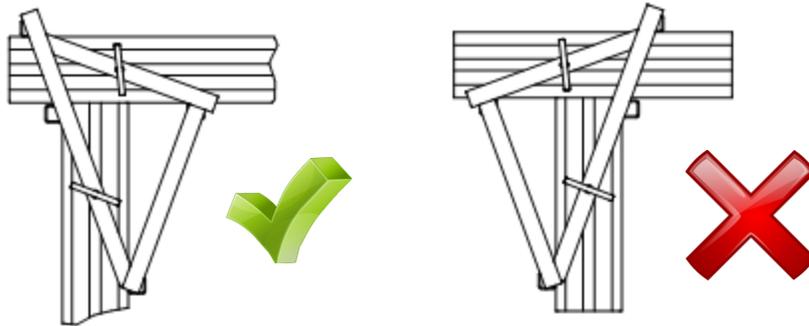
CAUTION

- The pin serves as the Outrigger Davit Assembly hinge. Take care to properly support the vertical mast any time the Mast Rear Brace (WSOR214) is not connected to avoid unintentional damage or injury.

Caution:



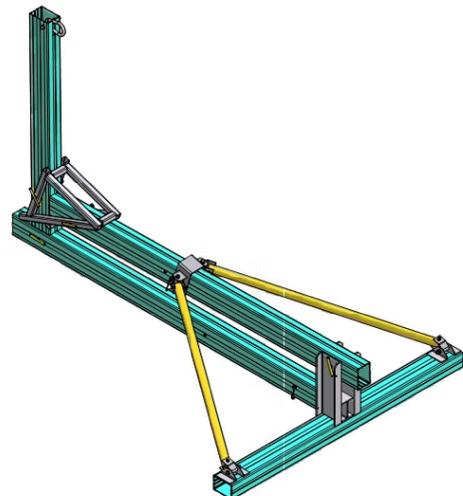
- BE SURE THAT THE RETURN ELBOW BRACKET IS ORIENTED CORRECTLY IN ACCORDANCE WITH THE DIAGRAMS BELOW.



6. Assemble a Return Elbow Bracket (WSOR84) to the other end of the mast, and pin it in place using a 8" Retaining Pin (PC4207). Ensure that the retaining pin is fully inserted and that the retaining clip is locked.
7. Insert a Horizontal Return Beam (WSOR86) into the Return Elbow Bracket.
8. Adjust the position of the Horizontal Return Beam to allow for the desired amount of outreach beyond the mast. Pin it in place using a 5" Retaining Pin. Ensure that the retaining pin is fully inserted and that the retaining clip is locked.

Notes:

- Refer to Section 2.2 for guidance in determining the counterweight requirement when using alternative reach values or contact Winsafe or your dealer directly.
9. Install the Mast Side Braces (WSOR211) to the Mast Bracket (WSOR210) using the included 3 1/2" snap lock pin on one side and the 3 1/2" Hex Head Bolt with Nyloc nut on the other.
 10. Assemble the opposite ends of the Mast Side Braces (WSOR211) to the Outrigger Davit Base (WSOR207) using the included 3 1/2" Hex Head Bolts and Nyloc nuts.

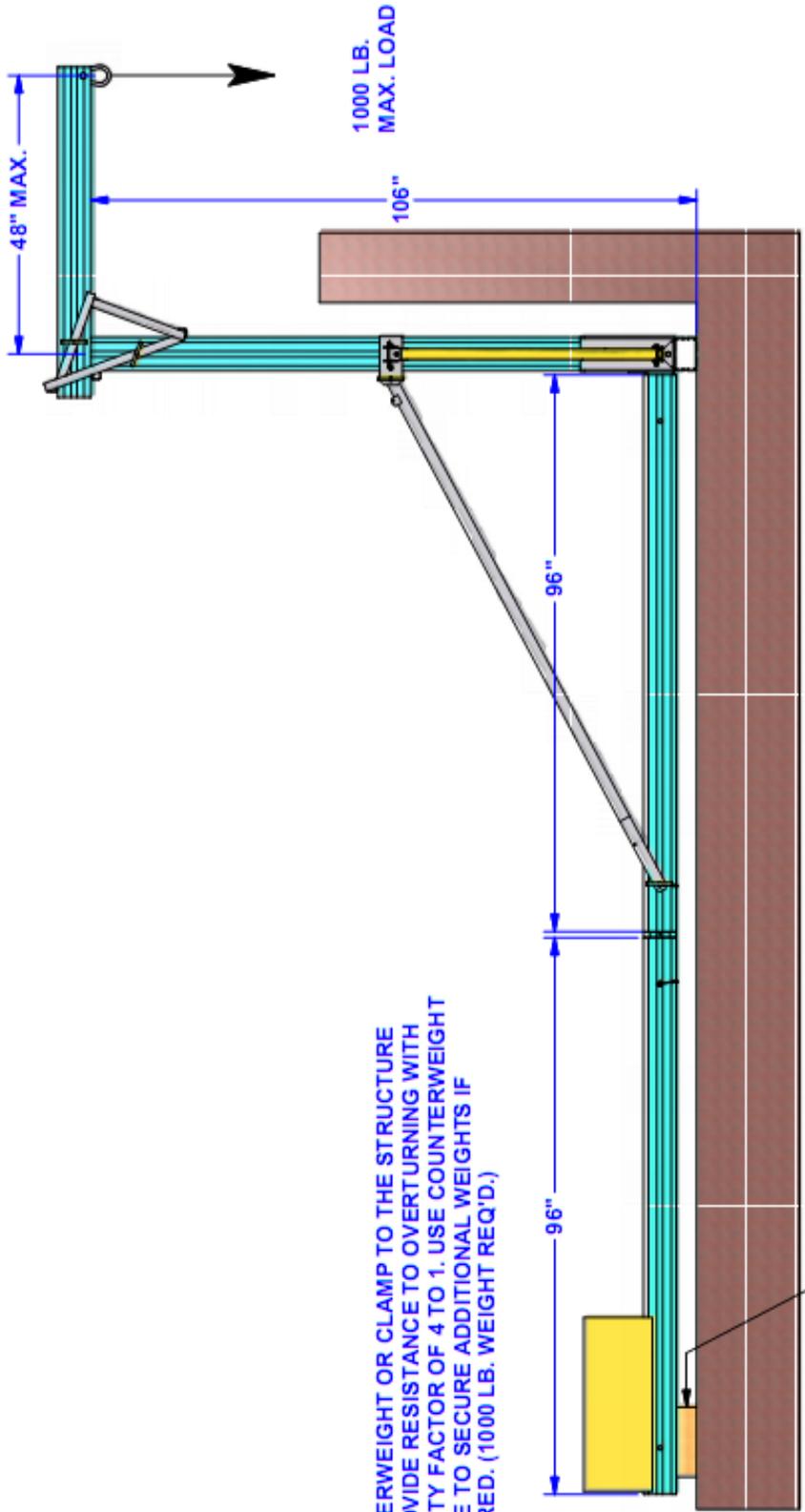


Notes

- AT THIS POINT, TWO INDIVIDUALS ARE REQUIRED TO SAFELY RAISE THE DAVIT AND SECURE IT IN PLACE. Once the mast is vertical, one person should hold it in position while the other installs the Mast Rear Brace (WSOR214).
11. Lower the Side Braces/Mast Bracket assembly onto the mast in preparation for raising the Outrigger Davit into its working position. At this point, the Outrigger Davit setup should look like the image shown on the previous page.
 12. Connect the rigging to the pear link suspension point on the front of the Horizontal Return Beam.
 13. Once everything is ready, raise the Outrigger Davit mast so that it pivots upward until it is vertical. While this is happening, ensure the mast stays within the Mast Bracket.
 14. Slide the long parallel end straps of the Mast Rear Brace over the horizontal beam tail section at the first splice location. Pin it through the splice that had not previously been secured (Refer to Step 3) using the included 5" Retaining Pin. Ensure that the retaining pin is fully inserted through the beam and the splice and that the retaining clip is locked.
 15. The short parallel end straps of the Mast Rear Brace will mate with the Mast Bracket. Secure using the included 5" Retaining Pin. Ensure that the retaining pin is fully inserted and that the retaining clip is locked.
 16. Position the beam.
 17. Install counterweights and safety tie-backs (Refer to the next chapter of this manual for Outrigger Tieback Installation) Lower the wire rope over the end of the building according to safe work practices.
 18. Disassembly is done by completing the above steps in reverse.

Notes

- The Outrigger Davit Mast must be supported on a solid surface capable of carrying the applied load. Do not use insulating boards or other non-rigid materials under the Outrigger Davit Mast to spread out the weight.
- When calculating the correct amount of counterweight, consider the center of the Outrigger Davit Mast as your fulcrum point and not the parapet of the building.
- Any adjustments to the outreach of the Horizontal Return beam should be done only once the Outrigger Davit has been lowered to the rigging position.
- Two individuals are required when erecting or dismantling the Outrigger Davit.
- Position the Outrigger Davits and the drop points directly above the suspension points on the stage. NEVER ALLOW YOUR DROP POINTS TO TRAVEL DIAGONALLY INWARD OR OUTWARD TO YOUR SUSPENSION POINTS ON THE STAGE. The Outrigger Davit is intended to be subjected to vertical loads only.
- Prior to installing counterweights, take care when positioning the Outrigger Davit into place so as to ensure that it does not tip over the parapet.
- DO NOT PUT ANY LOAD ON THE OUTRIGGER DAVIT UNTIL ALL STEPS HAVE BEEN COMPLETED AND THE MAST HAS BEEN SECURED IN PLACE.



1000 LB.
MAX. LOAD

COUNTERWEIGHT OR CLAMP TO THE STRUCTURE TO PROVIDE RESISTANCE TO OVERTURNING WITH A SAFETY FACTOR OF 4 TO 1. USE COUNTERWEIGHT SADDLE TO SECURE ADDITIONAL WEIGHTS IF REQUIRED. (1000 LB. WEIGHT REQ'D.)

WOODEN BLOCKING AS NEEDED TO LEVEL.

TIE BACK IN ACCORDANCE WITH APPLICABLE REGULATION AND SAFE WORK PRACTICE.

WINSAFE CORP.

		TITLE: OUTRIGGER DAVIT ASSY.	
DO NOT SCALE UNLESS OTHERWISE SPECIFIED MANUFACTURED COMPONENTS SHALL BE IDENTIFIED BY PART NUMBER AND QUANTITY OF EACH PART. ALL DIMENSIONS SHALL BE TO CENTER UNLESS OTHERWISE SPECIFIED.	DRAWN: ST	DATE: 3/2/2011	SCALE: 1:16
CHECK: HV	APP: HV	DRAWING NO.: WSOR208-S	SHEET: OF 2

ROOF, SLAB, PARAPET OR OTHERS SUPPORTING SURFACES MUST BE VERIFIED AS ADEQUATE TO SUPPORT LOADING.

10 — OUTRIGGER TIEBACK SYSTEMS

It is strictly mandatory to install a secure tieback system when using Winsafe Modular Outrigger Beams in any of its configurations. Tiebacks can be installed in either one-cable or two-cable systems depending on the location of roof anchors and the resulting angle formed by the tieback cables. Always install tiebacks in accordance with all local, provincial, state, and federal regulations.

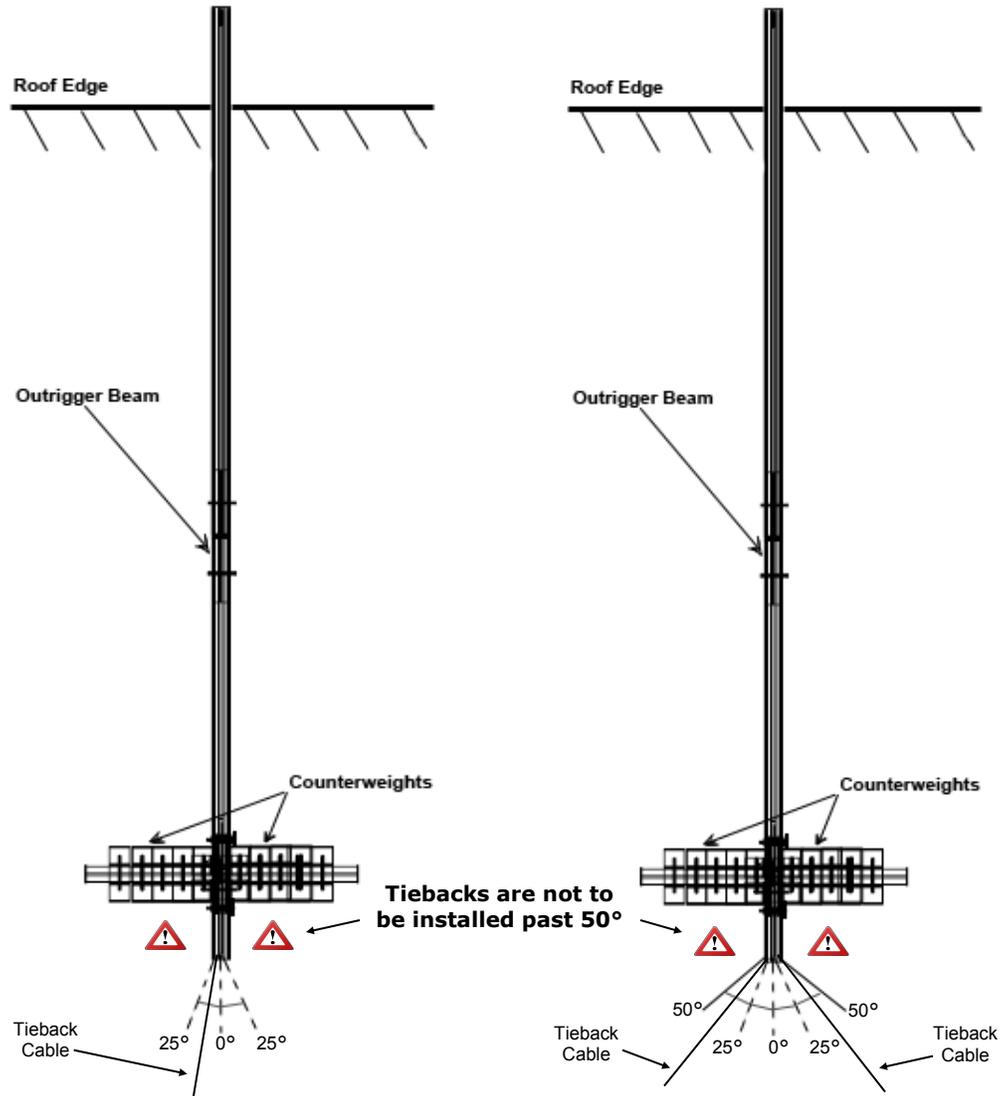
10.1 — Installation Procedure for Outrigger Tiebacks

1. Assemble the Modular Outrigger Beam following the instructions and position the Outrigger Beam as needed.
2. Locate the nearest anchorages and confirm they have been deemed suitable and secure by a professional, competent person, and that they are rated for 5000 lbs.
3. Determine the angle formed, between the cable and the centerline of the beam, when attaching the tieback to the closest anchorage. Refer to the drawing in the next section.
 - One tieback is required if the angle is less than 25°.
 - Two tiebacks are needed if the angle is between 25° and 50°. Cables must lie on either side of the centerline (or the 0° mark).
 - Tieback cables must not be installed past the 50° mark.
4. If the angle formed by the cable(s) and the beam falls within accepted parameters, install the tieback.

Notes

- Installation of tiebacks is strictly mandatory.
- All tieback cables must be installed without slack.
- Multiple tieback cables must be secured to separate anchorages and lie equally on either side of the beam.
- Tieback cables must be of equal strength to the hoisting cable.

10.2 – Installation of Tiebacks at Rear of Outrigger Beam System



Only one tieback is required if within 25° of the centerline.

Two tiebacks are required if between 25° and 50°, and must be on either side of the centerline.

Notes

- If using two tiebacks, ensure they lie on either side of the beam and are attached to separate anchorages.
- All tieback cables should be installed without slack and be of equivalent strength to the hoisting cable.
- The platform operators must be tied off to separate anchorages from the ones used by the outrigger beam system.

11 — FALL ARREST EQUIPMENT

When working on suspended platforms, it is vital that all workers wear fall arrest equipment. While working on four-line platforms, the fall arrest system may consist of a horizontal lifeline on the platform to which the operators attach their lanyards. The operators on both two and four-line platforms must wear a full body harness with a lanyard. For two-line platforms, each operator must have an independent vertical lifeline system. This consists of a vertical lifeline, a roof anchorage, and personal fall arrest equipment including a full body harness, lanyard, and rope grab.

All components of the fall arrest system must be inspected prior to each daily use by the operator, and periodically by a competent and qualified person. This includes the lifeline, the anchorage, and the connector to the anchorage, as well as the worker's harness, lanyard, and rope grab. The rope grab, lanyard, and harness should be inspected to ensure they are functioning properly and do not show signs of wear. Any equipment that does not pass inspection must be immediately removed from service.

Lifelines

Use only polyester blend, nylon, or other synthetic fibre rope with a rated breaking strength in excess of 7500 lbs. Never use a natural fibre lifeline. The lifeline should always lay firm and never soft. The line should be free of strands that are cut, burned, or damaged in any way, as well as any lubricants, dirt, or any other substance that may negatively affect the operation of the rope grab. When the rope grab is installed on the lifeline, test it by exerting a moderate force on the large ring and ensure that it has locked on the lifeline. Then cease applying the force and confirm the rope grab moves freely in both directions on the line.

Install the lanyard on the line by attaching the double locking snap hook of the lanyard to the large attachment ring. Only use lanyards with double locking snap hooks. Test the attachment of the lanyard to the attachment

ring by exerting a force on the lanyard. Once the lanyard is attached to the rope grab, use the lanyard to raise or lower the rope grab. Never hold the cam open as you would be interfering with the operation of the rope grab. While work is in progress, position the rope grab at shoulder height on the lifeline.

Safety Codes

Always follow all applicable safety codes for the region you are working in. The anchorage should be located in line with the work area to eliminate the possibility of a pendulum fall. The lifeline must have a snap hook, ladder snap, or carabineer that is compatible with the anchorage and rated at 5000 lbs. or greater.

The Safety Guidelines (Code of Safe Practices) sets forth some common sense procedures for safely erecting, dismantling and using suspended scaffolding equipment. Since equipment and scaffolding systems differ, reference must always be made to the instructions and procedures of the supplier and/or manufacturer of the equipment.

Since field conditions can vary and are beyond the control of Winsafe, safe and proper use of scaffolding is the sole responsibility of the employer and user. Any suspended stages, modular outrigger beam components, or system layouts provided by Winsafe that are not covered in this manual can only be used with proper design, engineering, and instruction. Always consult with a competent person, the scaffold supplier, or Winsafe directly if you have any questions regarding the safe use of this equipment.

12 — CODE OF SAFE PRACTICES

It shall be the responsibility of all employers and users to read and comply with the following common sense guidelines as they pertain to the safety of all personnel during the erection and use of suspended powered scaffolds, modular beams, and accessories. These guidelines are not all-inclusive, nor do they supplant or replace other additional safety and precautionary measures to cover usual or unusual conditions. If a portion of these guidelines are in conflict with any state, provincial, local, or federal statute or regulation, said statute or regulation shall supersede these guidelines. It shall be the responsibility of each employer and user to comply there with and also to be knowledgeable of government regulations pertaining to suspended power scaffolding, modular beams, and accompanying accessories.

A. GENERAL GUIDELINES

1. Post these safety guidelines in a conspicuous place and ensure that all persons who erect, use, locate or dismantle suspended scaffold systems are fully aware of them.
2. NEVER TAKE CHANCES — If you are at all in doubt concerning the safety or use of suspended scaffold, consult you scaffold supplier.
3. FOLLOW ALL EQUIPMENT MANUFACTURER’S RECOMMENDATIONS — Along with all state, provincial, local, and federal codes, ordinances, and regulations pertaining to suspended scaffolding.
4. CHECK FOR HAZARDS — Survey the job site for hazards such as exposed electrical wires, obstructions that could overload or tip the suspended scaffold when raised or lowered, unguarded roof edges, inadequate openings, missing tieback anchorages, or the need for overhead protection when exposed to a danger from falling objects. These conditions must be checked for, and corrected if needed, before installing or using suspended scaffold systems.

5. INSPECT ALL EQUIPMENT BEFORE EACH USE — Never use equipment that is damaged or defective in any way. Tag said equipment and remove it from the job site.
6. ALWAYS USE FALL ARREST EQUIPMENT — When using suspended scaffolds, always wear appropriate P.P.E. (personal protective equipment) for working at height, as well as all other site-required P.P.E. (See Section E for further details).
7. ALWAYS OBEY MANUFACTURER'S INSTRUCTIONS — Take care to erect, use, and dismantle suspended powered scaffold equipment in accordance with their design and the manufacturer's recommendations.
8. NEVER TAMPER WITH EQUIPMENT — Do not erect, dismantle, or alter suspended scaffold systems unless under the supervision of a competent person. Do not use the suspended scaffold for purposes or in ways for which it was not intended.
9. USERS MUST BE TRAINED — Specifically on how to safely operate equipment and how to handle an emergency situation. If in doubt, consult a qualified person.
10. INSPECT ERECTED SCAFFOLDS — All scaffolds erected and in use should be continuously inspected by the users to ensure they are maintained in safe working condition. Report any unsafe findings to your supervisor.
11. ALWAYS BE AWARE OF WEATHER CONDITIONS — Take care when operating and storing equipment in adverse or windy conditions.
12. CHECK FOR POWER LINES — Suspended platforms must never be operated near live power lines unless proper precautions are taken. Consult your local power service company for advice.
13. DO NOT WORK ON SCAFFOLDS UNDER THE FOLLOWING CONDITIONS
 - When covered by snow, ice, or other slippery materials. Except as necessary for the removal of said substances.
 - During storms or high wind, unless a competent person has determined it is safe and workers are protected by personal fall arrest systems and/or wind screens (Modular Platforms must be secured against wind loads).
 - If you feel dizzy, unsteady in any way, or are impaired by drugs, alcohol, or any other substance.

B. RIGGING GUIDELINES

1. When rigging on exposed roofs or floors, wear fall arrest equipment. When rigging from overhead supports, such as bridges or beams, wear fall arrest equipment.
2. Roof anchorages, parapet clamps, outrigger beams, or other supporting devices, including tiebacks and their anchorages, must be capable of supporting the rated load of the hoist with a safety factor of four.
3. Verify that the building or structure will support the suspended loads with a safety factor of at least four.
4. Overhead rigging, including counterweights, must be secured from unintentional movement in any direction.
5. Suspended scaffold outrigger beams must be stabilized either by counterweights or bolts (direct connections). Counterweights used to balance the Modular Platform must be capable of resisting at least four times the tipping moment imposed when the scaffold is operating at the rated load of the hoist, or a minimum of 1½ times the tipping moment imposed by the scaffold when it's operating at the stall load of the hoist; whichever is greater.
6. Counterweights must not be removed from the scaffold system until the Modular Platform is lowered to the ground and disassembled.
7. Outrigger Beams that do not use counterweights must be installed and secured on the roof structure with devices specifically designed for that purpose.
8. Tie back all transportable rigging devices with wire rope and hardware that has strength equal to the hoist rope.
9. Install tiebacks at right angles to the face of the building and secure, without slack, to a structurally sound portion of the structure. In the event tiebacks cannot be installed directly behind the beams, use two tiebacks, at opposing angles to prevent movement.
10. Always rig so the suspension points are directly above the hoisting machines.
11. The platform must be secured to prevent swaying when in use. Do not tie it to window cleaning anchors other than to secure it when not in use.
12. Never allow the wire suspension rope to become slack unless the platform is safely resting on a flat surface, or another suspension rope has been rigged to the platform.

C. WIRE ROPE AND HARDWARE GUIDELINES

1. Scaffold components from different manufacturers must not be intermixed unless they fit together without being forced and the scaffold's structural integrity is maintained.
2. Scaffold components from different manufacturers should not be modified to make them fit together, unless a competent person determines the resulting scaffold is structurally sound.
3. Use only wire rope and attachments as specified by the hoisting machine manufacturer. Do not use wire rope that is kinked, bird-caged, corroded, undersized, or damaged in any way.
4. Suspension ropes supporting adjustable suspension scaffolds must have a diameter large enough to permit proper functioning of both brake and hoist mechanisms. The load end of wire suspension ropes must be equipped with proper size thimbles, and secured by eye-splicing or other equivalent means.
5. The stall load of any scaffold hoist must not exceed three times its rated load.
6. When winding drum hoists are used and the scaffold is extended to its lowest point of travel, there must be enough rope remaining to wrap four times around the drum.
7. Clean, lubricate, and handle wire rope in accordance with the wire rope or hoist manufacturer's instructions to avoid kinks and damage.
8. Coil and uncoil wire rope in accordance with the wire rope or hoist manufacturer's instructions.
9. Use thimbles at all wire rope suspension terminations.
10. Use J-type clamps or swaged fittings to fasten wire ropes.
Do not use U-Clamps.
11. Tighten wire rope clamps in accordance with the clamp manufacturer's instructions.
12. Wire ropes used with traction hoists must have prepared ends in accordance with the manufacturer's recommendations.
13. Inspect wire rope during each ascent and descent.
14. Do not expose wire rope to fire, undue heat, corrosive atmosphere, chemicals, to passage of electrical currents, or to damage from tools or improper handling.

D. POWER SUPPLY GUIDELINES

1. BE SURE YOUR POWER SUPPLY CONFORMS TO HOIST MANUFACTURERS RECOMMENDATIONS.
2. Ground all electrical power sources, power cord connections, and protect circuit breakers.
3. Use power cords or air hoses of proper size and ensure that they are long enough for the job.
4. Power cord or air hose connections must be restrained to prevent their separation.
5. Tie off power cords or air hoses to the suspended scaffold to prevent them from falling.
6. Protect power cords or air hoses at sharp edges.
7. Ensure that air hoists have a clean supply of lubricated air.

E. FALL ARREST EQUIPMENT GUIDELINES

1. EACH PERSON ON A SUSPENDED POWERED SCAFFOLD MUST BE ATTACHED TO A FALL ARREST SYSTEM AT ALL TIMES.
2. Each lifeline must be fastened to a separate anchorage.
3. When wrapping lifelines around structural members, the lines must be protected and a suitable anchorage system must be used.
4. Protect lifelines at sharp corners to prevent chafing.
5. Rig fall arrest systems to prevent free falls in excess of six feet.
6. Lifelines must be suspended freely without contacting structural members or the building façade.
7. Use a lifeline size and construction that is compatible with the fall arrester and complies with applicable safety codes.
8. Be sure the fall arrester is installed on the lifeline in the proper direction, above your head, and in accordance with the manufacturers' recommendations.
9. Use a harness that is properly sized and fitted.
10. Be sure your harness has a lanyard attached to the D-ring at the center of the back.
11. Guardrail systems must be installed along all open sides and ends of platforms, and must be in place before the scaffold is released for use by employees, other than erection/dismantling crews.

12. When screens and mesh are used, they must extend from the top edge of the guardrail system to the scaffold platform, and along the entire opening between the supports.

F. ACCESS

1. Suspended scaffolds must be tied or otherwise secured to prevent them from swaying. This is to be determined as necessary by a competent person. Window cleaning anchors may be used for this purpose. Angulated roping and static lines may also be used.
2. Direct access to or from another surface is permitted only when the scaffold is not more than 14 inches horizontally and not more than 24 inches vertically from the other surface.
3. For two-point adjustable suspension scaffolds, access to one platform from another may only take place when the platforms are at the same height, or are abutting, or the platforms have walk-through stirrups specifically designed for that purpose.
4. For most activities, there must be no more than a 14 inch gap between the scaffold platform and the structure being worked on. For lathing and plastering, a gap of 18 inches is permitted.

G. STABILITY

1. Suspended scaffolds must be tied, or otherwise secured, to prevent them from swaying, as determined to be necessary by a competent person. Window cleaning anchors may be used for this purpose. Angulated roping and static lines may also be used.
2. No more than two employees should occupy suspension scaffolds designed for a working load of 500 pounds (non-mandatory).
3. No more than three employees should occupy suspension scaffolds designed for a working load of 750 pounds (non-mandatory).
4. Scaffolds and modular platforms shall be reconfigured on the ground and only under the supervision and direction of a competent person.

H. SOME ADDITIONAL GUIDELINES

1. USE ALL EQUIPMENT AND ALL DEVICES IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. Always read and follow all labels affixed to the equipment. Never rig or use modular outrigger beam components if any label is obscured or missing. Contact the equipment supplier or Winsafe for a replacement label.
2. Do not overload, modify, or substitute equipment.
3. Scaffold components from different manufacturers must not be intermixed, unless they fit together without being forced or modified, and while preserving the structural integrity of the scaffold setup.
4. Always refer to the label charts on you suspended stages to determine the correct working load for your platform configuration. The total combined weight of each worker and all materials should not exceed the rated working load.
5. Never attempt to straighten or reuse a deformed piece of outrigger beam or suspended platform equipment.
6. Do not apply impact loads to any parts.
7. Any parts that have been exposed to excessive heat, as in the case of fire, should be immediately removed from service and destroyed due to loss of structural strength.
8. Do not allow unstable objects, such as barrels, boxes, loose brick, tools, and debris to accumulate on the work surface.
9. Care should be taken to operate the platform hoists such that the working or standing surface remains level.
10. Before commencing work operations, pre-load wire rope and equipment with the maximum working load, then retighten rigging clamps to the manufacturer's recommendations.
11. Use guard rails, midrails, and toeboards as required by local, state, and federal regulations. Their use is recommended in all cases.
14. All components must be securely fastened to prevent them from falling off the platform.
15. Use bumper rollers or buffers to prevent damage to the structure or equipment.
16. Do not use acids or other corrosive substances on a platform without consulting the platform manufacturer for specific instructions.

17. Clean and service equipment regularly.
18. Always maintain at least four wraps of wire rope on drum type hoists.
19. Traction hoists must have wire rope that is long enough to reach from the highest point of support to the lowest possible landing, plus reeving lengths.
20. Do not join platforms unless the installation was designed for that purpose.
21. When re-rigging for another drop, be sure sufficient wire rope is available before moving the suspended scaffold system horizontally.
DO NOT MOVE SUSPENDED SCAFFOLDS HORIZONTALLY WHEN OCCUPIED IF IT IS NOT SPECIFICALLY DESIGNED TO DO SO.
22. Do not permit oil, grease, or slippery material to accumulate on climbing or gripping surfaces.
23. Do not use platform floors if the surface is damaged or has deteriorated.
24. Always refer to the label charts on your suspended stages to determine the correct working load for your platform setup. The total combined weight of each worker and all materials should not exceed the rated working load for your platform setup. Do not overload.
25. Do not ride the platform if it is being moved to another location. Tools, materials, and equipment should not be left on platforms that are being moved.
26. Scaffolds and tools shall not be allowed to contact unprotected, energized electrical lines or equipment. Maintain a minimum safe distance of at least 10 ft (3 M). Consult the power company to shut off power or insulate/relocate the line if working closer than 10 ft (3 M).
27. Each end of a platform shall extend over its suspension support center line no more than shown on the platform labels or platform layout drawing of that specific length or configuration.
28. WHEN WELDING FROM SUSPENDED SCAFFOLDS:
 - a) Be sure the platform is grounded to the structure.
 - b) Insulate wire rope above and below the platform to protect from damage by the welding torch or electrode.
 - c) Insulate the wire rope at its suspension point and be sure it does not contact the structure along its entire length.