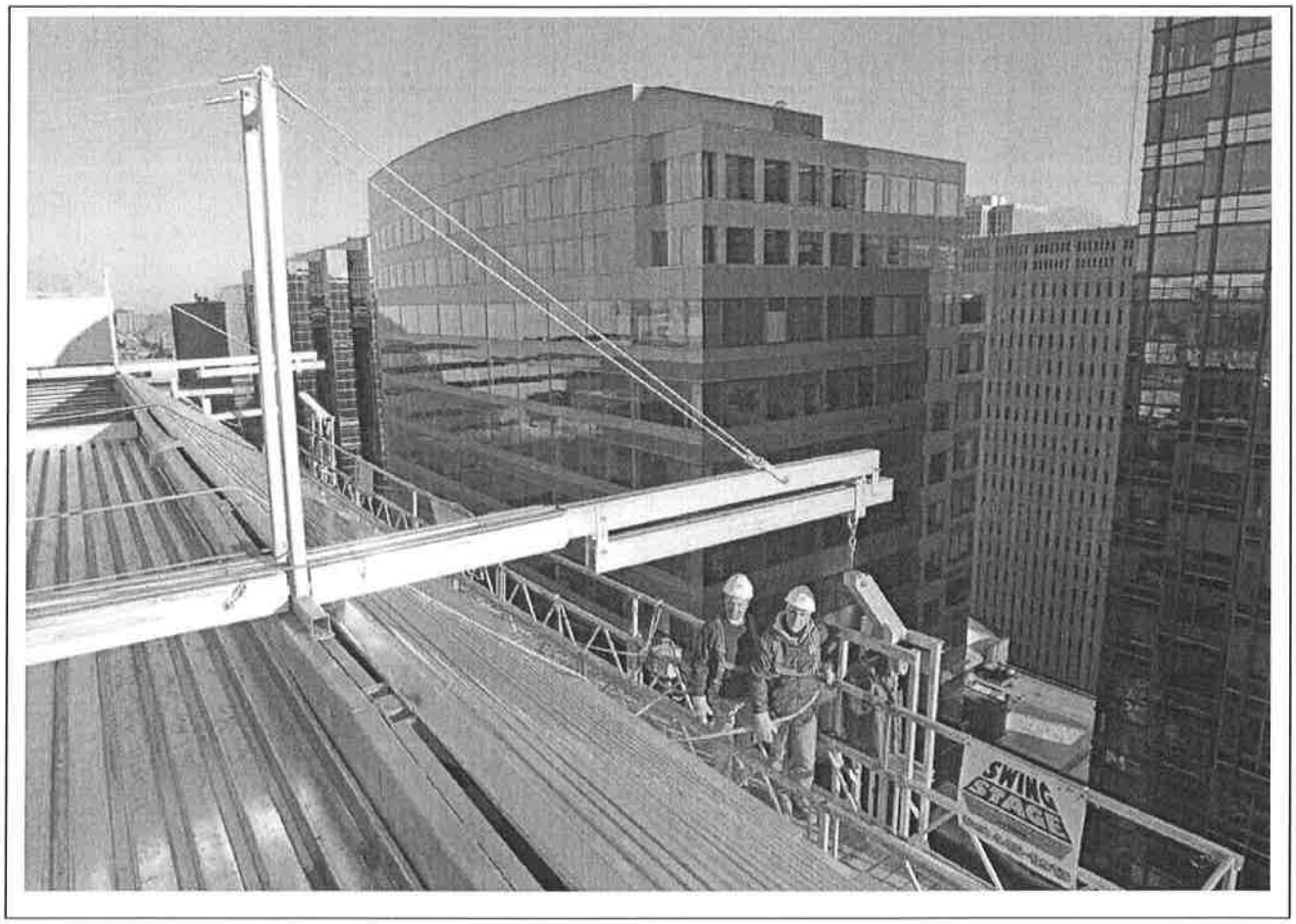
WINSAFE Corp.

OPERATING INSTRUCTIONS
MODULAR BEAMS and ACCESSORIES

THESE INSTRUCTIONS MUST BE READ AND UNDERSTOOD BY ANYONE INSTALLING OR SUSPENDING EQUIPMENT FROM WINSAFE MODULAR BEAMS AND ACCESSORIES. ANY QUESTIONS MUST BE DIRECTED TO THE WINSAFE DEALER OR DIRECTLY TO THE ADDRESS BELOW.



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WARNING

1. Serious injury or death can result from improper use of this equipment. Understand all instructions for all components of your system before using them.
2. A complete suspended scaffold system is composed of four sub-systems. Ensure that you have operating instructions for each of the following four sub-systems:

   Suspension system

   Work platform

   Hoist system & suspension cables

   Fall arrest system for each person on the platform
3. All components must be inspected prior to each / daily usage.
4. Do not use equipment which has been damaged or which displays excessive wear. For replacement parts contact your local dealer or Winsafe Corp.
5. Review the rigging set up at the start of each day to ensure that no changes have been made to the counterweights, the tie back cables, or the reach of the modular outrigger beams.

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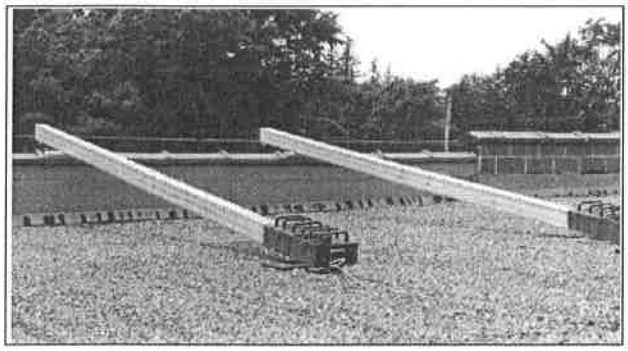
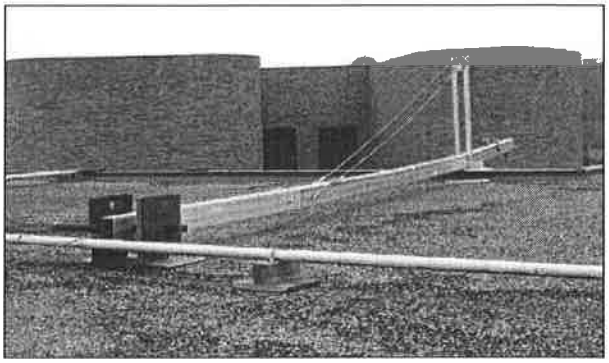
1. Introduction

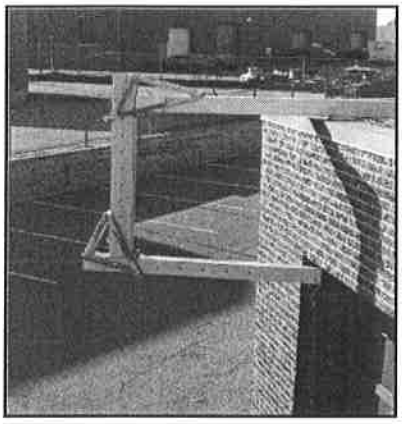
A Modular Outrigger Beam is a structural member extending out from a building or structure to support a hanging scaffold. Winsafe Corp. provides various accessories and configurations for Modular Outrigger Beams (see Figure 1).



Outrigger Beam

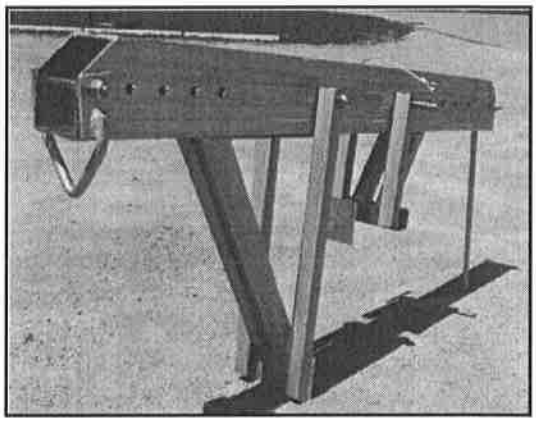


Cable Truss System



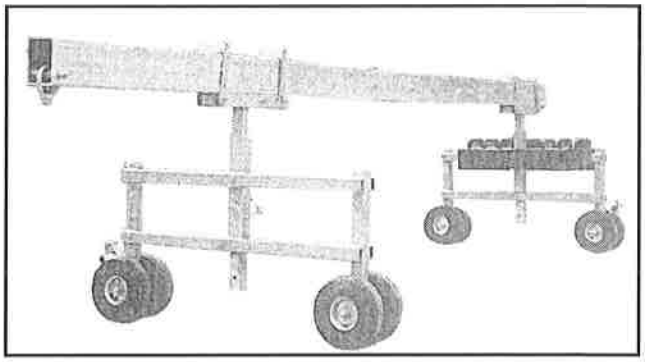
Overhang Beam

Winsafe Corp. Modular Outrigger Beams



Parapet Clamp

Rolling Outrigger



Beam Dollies

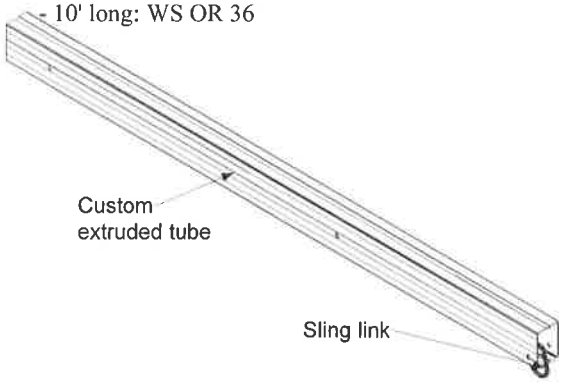
Figure 1. Modular Outrigger Beam Types

2. Outrigger Beam

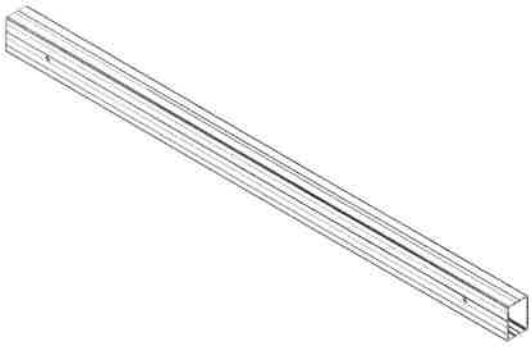
Outrigger beams may be used individually or in pairs to support a hanging scaffold. Winsafe provides two-section and three section outrigger beams for overhangs up to 48 inches.

2.1. Components

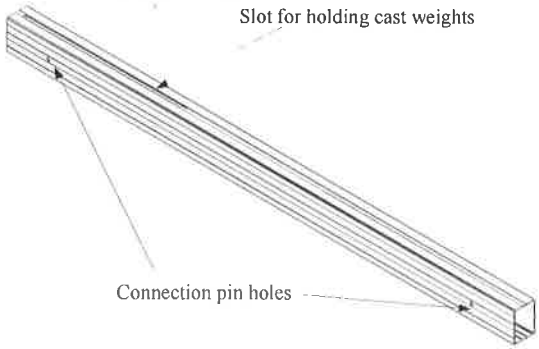
Front Beam Section
- 8' long : WS OR 38
- 10' long: WS OR 36



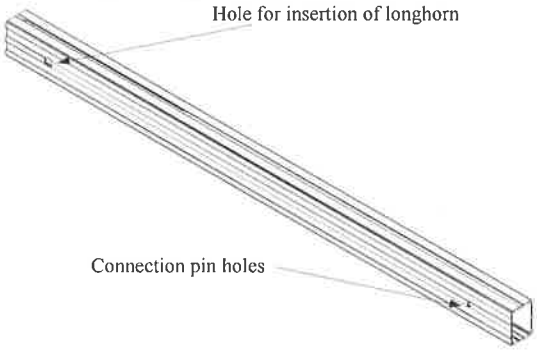
8' Mid Beam Section
- WS OR 37



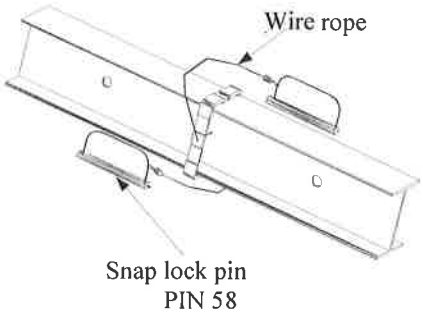
8' Rear Beam Section
- for Saddle style weights: WS OR 39



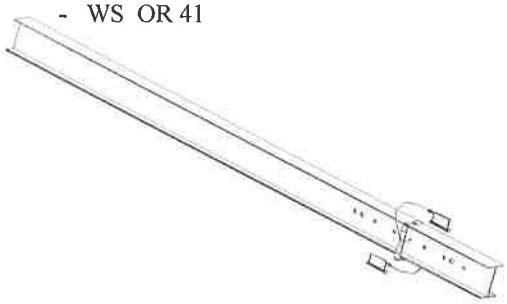
- for Longhorn type weights: WS OR 44



Beam Splice - Standard 30 inch long
- WS OR 40



Beam Splice - Standard 96 inch long
- WS OR 41



Weights

Modular Outrigger Beams generally use one of the two types of counterweight systems: cast saddle style weights; or flame cut weights. For cast saddle style weights (see Figure 2) use Rear Beam (WS OR 39) which has a slot to accept these weights. If additional counterweight is required beyond the capacity of the slot use a

Counterweight Saddle (WS OR 42) (see Figure 3) to secure the 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.

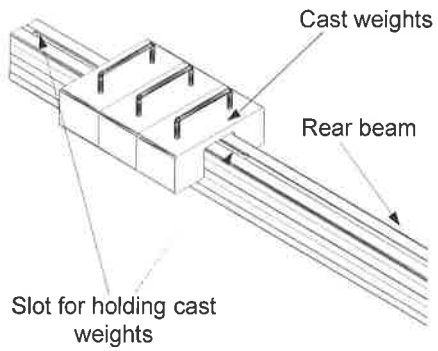


Figure 2. Rear Beam Holding Cast Weights

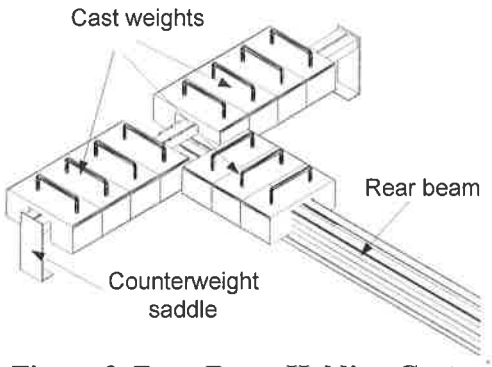
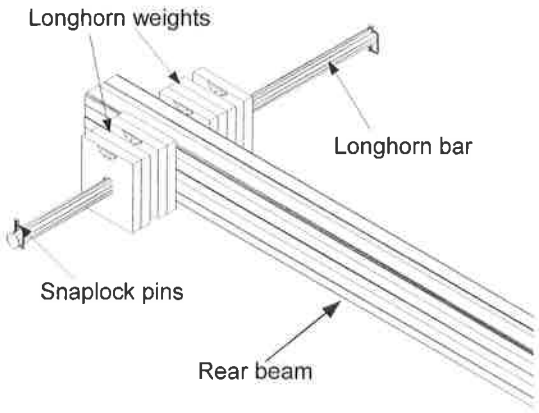
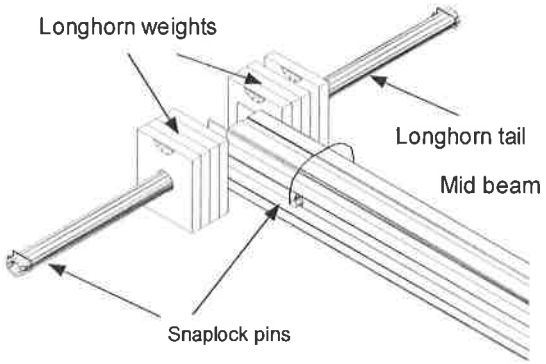


Figure 3. Rear Beam Holding Cast Weights with Counterweight Saddle

Flame cut weights can be either used with the Rear Beam or Mid Beam as shown in Figure 4. If you are using a Rear Beam (WS OR 44), use a Longhorn Bar. Thirty inch (WS OR 43) and forty two inch (WS OR 70) Longhorn Bars are available. Alternatively you can attach the longhorn weights to the Mid Beam (WS OR 37) by using a Longhorn Tail (WS OR 109) as shown. Be sure to lock the snaplock pins. If your weight system does not fall into these two categories contact Winsafe Corp. for a custom weight holder system.



Rear Beam holding Longhorn Weights



Mid Beam holding Longhorn Weights

Figure 4. Longhorn Weight Holders

Beam Stand - WS BS 001

A Beam Stand is used when the parapet is not adequate to support the loaded beam. Installation of the outrigger beam on the Beam Stand is described in Section 2.4.

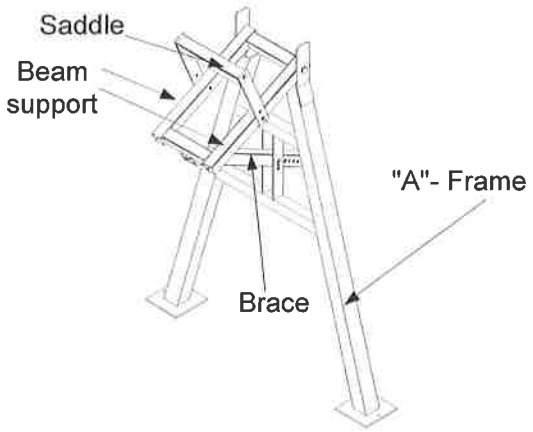
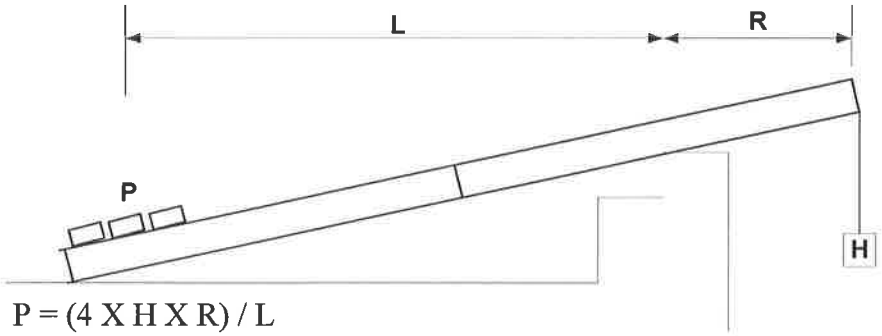


Figure 5. Beam Stand

2.2. Outrigger Beam: Counterweight Calculation

This section describes the procedure for the selection of counterweights



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

Where;

H = Hoist lifting capacity (not intended load)

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

L = Length from fulcrum to location of counterweight attachment point

R = Reach

Figure 6. Counterweight Calculation

For example:

A hoist lifts 1000 lbs. We multiply this by 4 to include the required safety ratio. Therefore, a standard 16 foot beam with 16" (1.33 feet) overhang would need a counterweight of :

$$P = \frac{(4 \times H \times R)}{L} = \frac{(4 \times 1000 \times 1.33)}{14} = 380 \text{ lbs. / beam}$$

In addition to the above mentioned calculation, counterweights can be selected from the counterweight chart.

Table 1. Counterweight Chart for Sectional Outrigger

	Counterweight						
Reach (inch)	**12**	**18**	**24**	**30**	**36**	**42**	**46**
2 piece 16' 1000 lb load	280 lb	450 lb	600 lb	800 lb	1000 lb	1220 lb	1450 lb
2 piece 16' 1500 lb load	420 lb	700 lb	900 lb	NA	NA	NA	NA
3 piece 24' 1000 lb load	180 lb	280 lb	380 lb	490 lb	600 lb	720 lb	850 lb
3 piece 24' 1500 lb load	270 lb	450 lb	570 lb	NA	NA	NA	NA
3 piece 26' 1000 lb load	60" (5') Reach position only: 1100 lb						

Note:-

1. Reach is the distance from the wire rope point to the front supporting point, not to the vertical surface of the building. Reach must not exceed four feet.
2. Use sufficient weights.

2.3. Installation Procedure for Outrigger Beams

The following steps outline the installation procedure for outrigger beams. The installation procedure assumes that Beam Stands are not used. Since the assembly procedure is similar for 2 piece 16', 3 piece 24' and 3 piece 26' outrigger beams, a common installation procedure is presented.

1. Select the desired length of outrigger beam and counterweights required. Select the appropriate beam sections and splices.
2. Assemble the beams by installing a Beam Splice at each joint as shown in Figure 7. Ensure that the retaining clip is locked on the snaplock pin after the pin is pushed completely through the beam.
3. Position beam and install the counterweights.
4. Install safety tie backs.

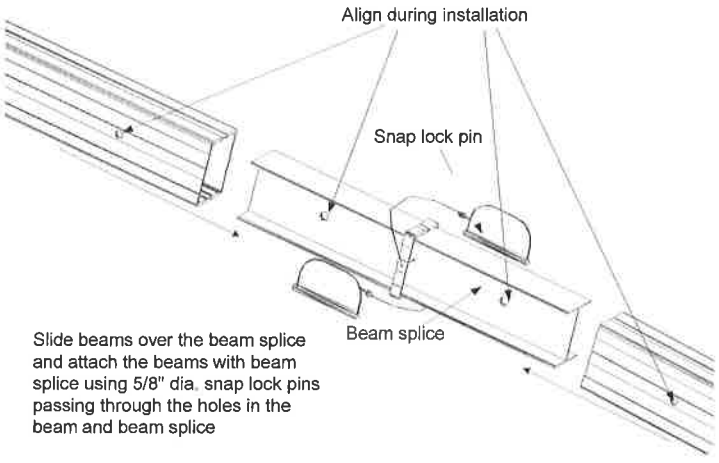
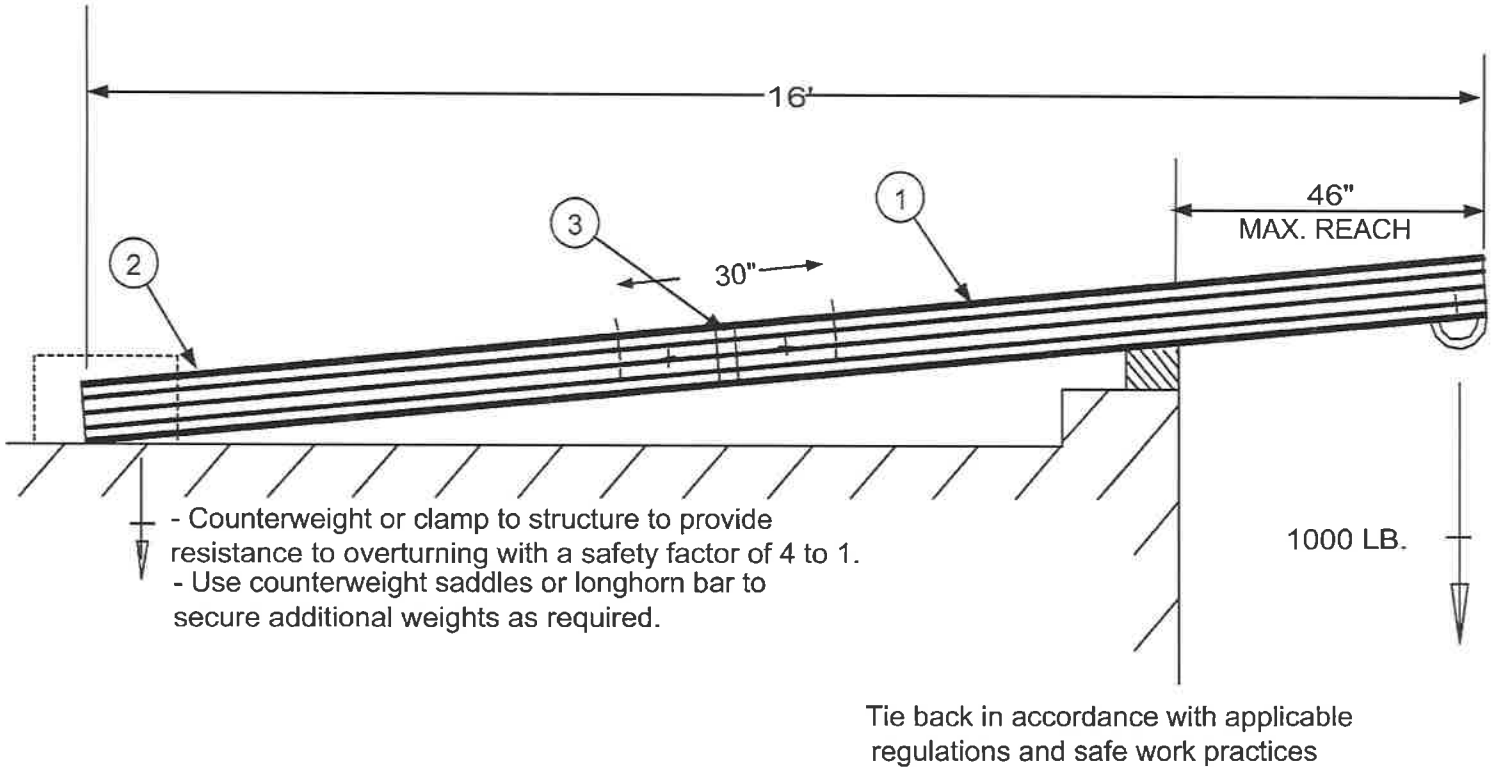


Figure 7. Assembling Beams with Beam Splice
Note:- See Section 2.4. for the installation of Outrigger Beams on Beam Stands.

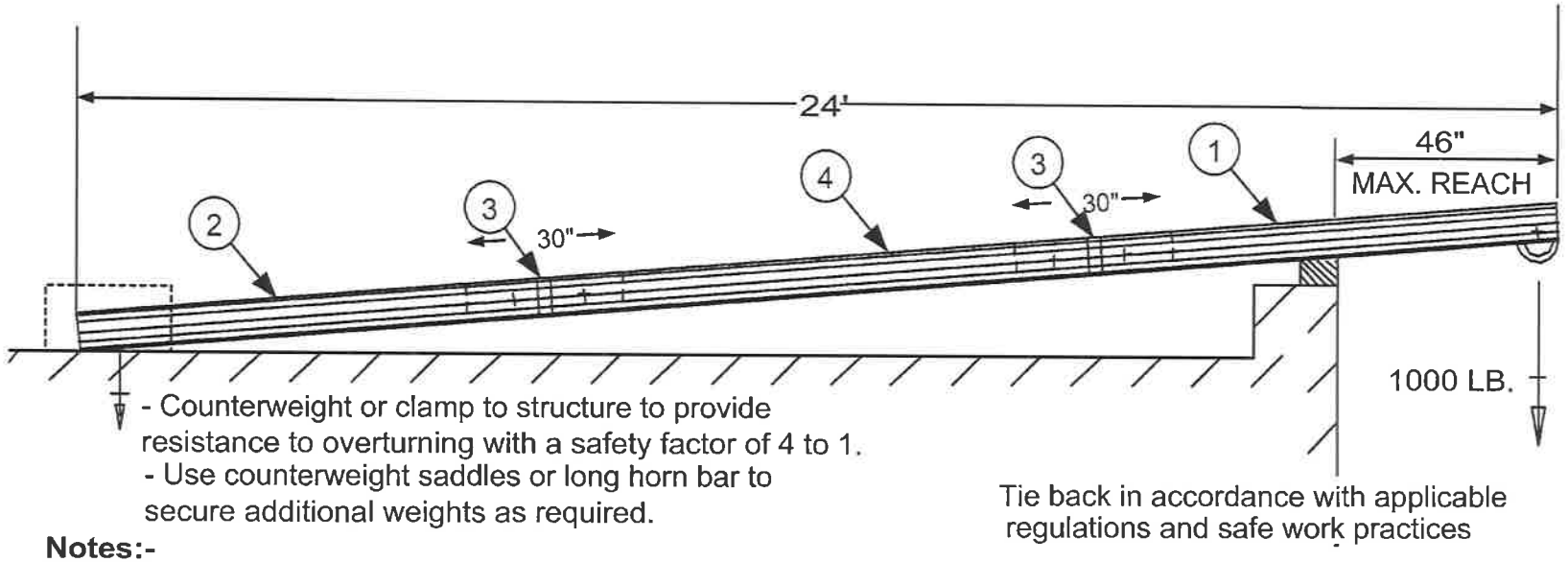


Notes:-

1. All beam sections are Winsafe custom extrusion 5.76 H X 3.94 W. @ 4.08 LB./FT.
2. Material safety factors exceed 4 to 1 based on material yield strength with nominal load at maximum reach.
3. Roof, slab and parapet (as applicable) must be verified as adequate to support loading.

ITEM	PART NO.	DESCRIPTION	QTY
1	WS OR 38	Front beam section - 8 ft.	1
2	WS OR 39 OR WS OR 44	Rear beam section for saddle style weights - 8 ft. Rear beam section for longhorn style weights - 8 ft.	1
3	WS OR 40	Beam splice - Standard 30 in. long	1

Figure 8. 16' Beam Assembly

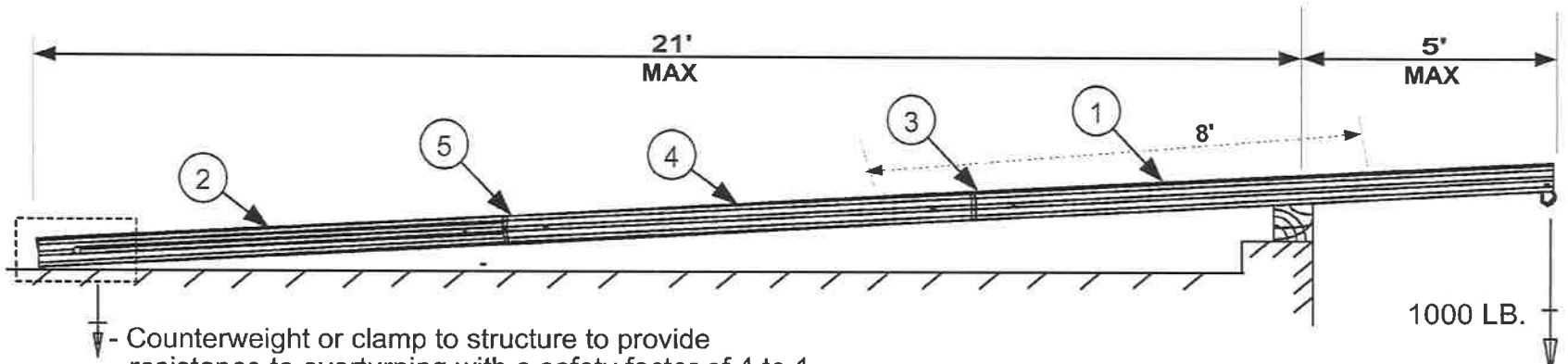


Notes:-

1. All beam sections are Winsafe custom extrusion 5.76 H X 3.94 W. @ 4.08 LB./FT.
2. Material safety factors exceed 4 to 1 based on material yield strength with nominal load at maximum reach.
3. Roof, slab and parapet (as applicable) must be verified as adequate to support loading.

ITEM	PART NO.	DESCRIPTION	QTY
1	WS OR 38	Front beam section - 8 ft.	1
2	WS OR 39 OR WS OR 44	Rear beam section for saddle style weights - 8 ft. Rear beam section for longhorn style weights - 8 ft.	1
3	WS OR 40	Beam splice - Standard 30 in. long	2
4	WS OR 37	Mid beam section - 8 ft.	1

Figure 9. 24' Beam Assembly



- Counterweight or clamp to structure to provide resistance to overturning with a safety factor of 4 to 1.
- Use counterweight saddles or longhorn bar to secure additional weights as required.

Tie back in accordance with applicable regulations and safe work practices

1. All beam sections are Winsafe custom extrusion 5.76 H X 3.94 W. @ 4.08 LB./FT.
2. Material safety factors exceed 4 to 1 based on material yield strength with nominal load at maximum reach.
3. Roof, slab and parapet (as applicable) must be verified as adequate to support loading.

5' Reach 26' Beam Assembly

ITEM	PART NO.	DESCRIPTION	QTY
1	WS OR 36	Front beam section - 10 ft.	1
2	WS OR 37 OR WS OR 44	Rear beam section for saddle style weights - 8 ft. Rear beam section for longhorn style weights - 8 ft.	1
3	WS OR 41	Beam splice - Standard 8 ft. long	1
4	WS OR 37	Mid beam section - 8 ft.	1
5	WS OR 40	Beam splice - Standard 30" long	1

2.4. Installation Procedure for Outrigger Beams on Beam Stands

1. Raise the "A" frame to the vertical position and remove the retaining saddle (see Figure 5, Figure 10).
2. Set the beam onto the support and adjust the support angle to match the beam. Install lock pin at lower end of brace to secure the support position.
3. Install the retaining saddle to fit snug over the beam and pin to secure.
4. If secondary suspension is used, a second beam can 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 is in place, install counterweights, tie-back(s) and suspension cable(s).

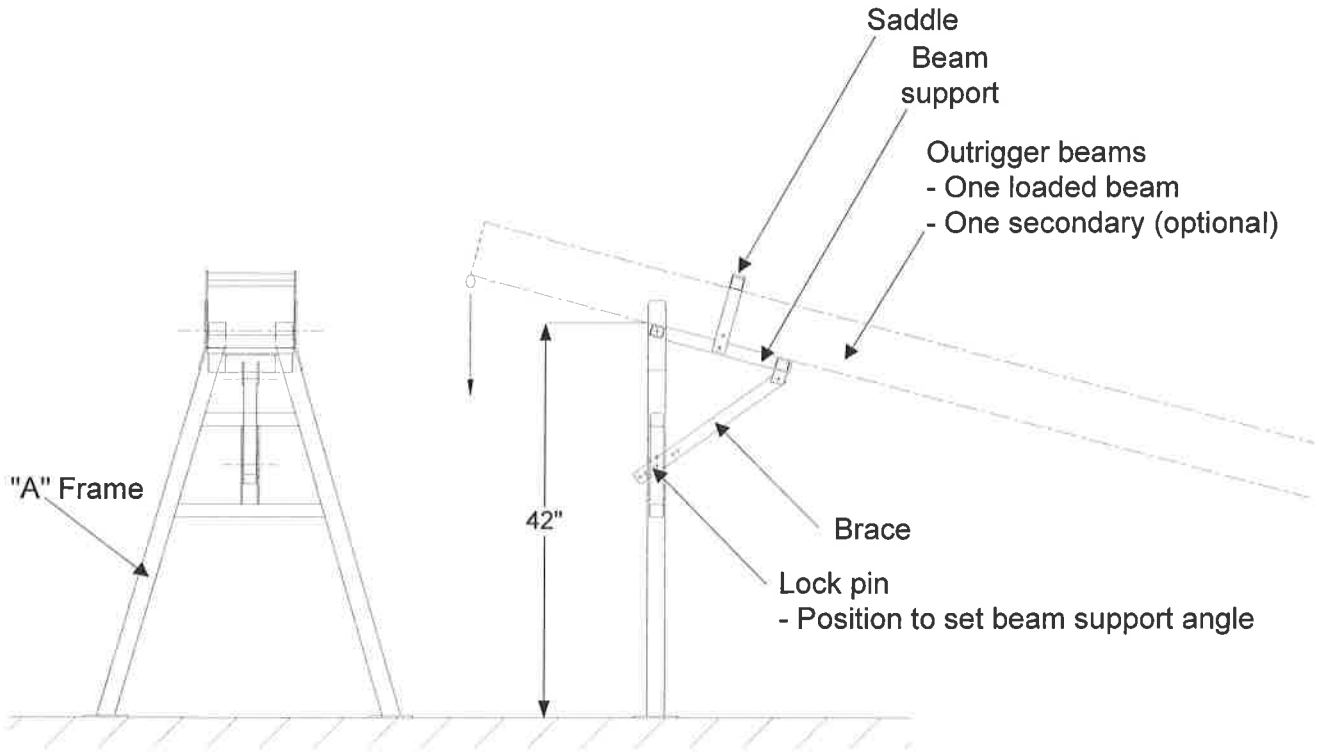


Figure 10. Beam Stand Installation

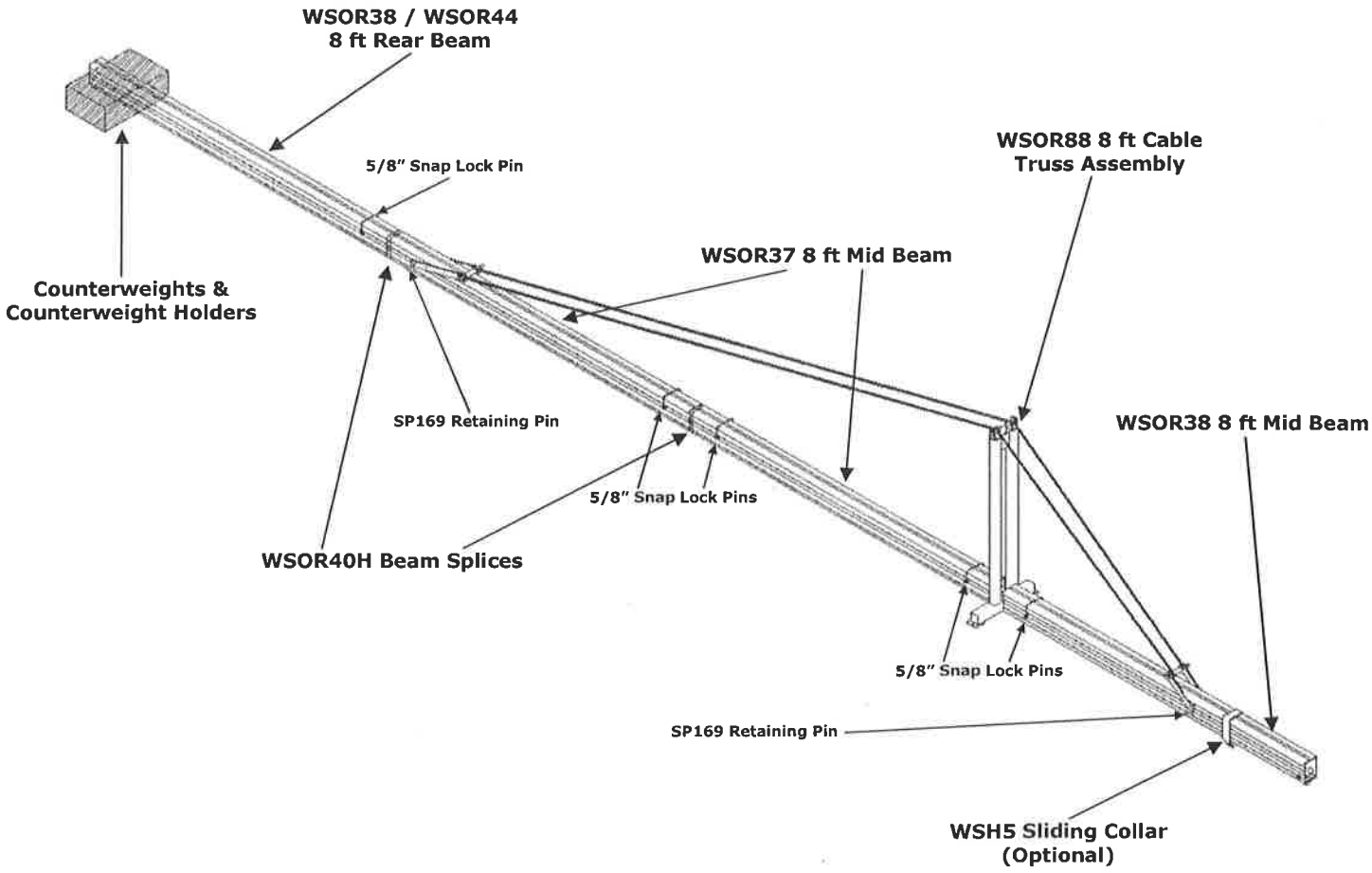
Note:-

1. If the Beam Stand is used on completed roofing, it will usually be necessary to provide wood or other protective materials under the feet of the stand. Care must be taken to ensure that materials under the stand cannot shift or tip when subjected to load.
2. Beam Stand is also available with 72" clearance.

3 — Cable Truss Systems

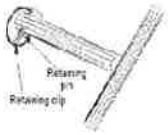
There are three different options for Cable Truss System configurations supplied by Winsafe Corp., The system that you choose is based on the desired length of the Cable Truss System's reach you require. Available lengths of reach are 8 ft (WSOR88), 12 ft (WSOR115), and 14 ft (WSOR148). All Winsafe Outrigger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

Cable Truss System — 8 ft Reach

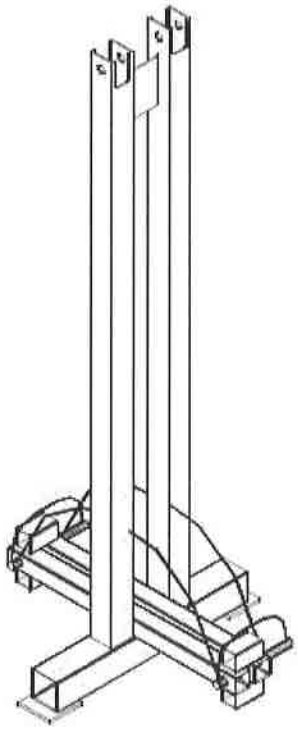


3.1 — Components

Retaining Pin: SP169

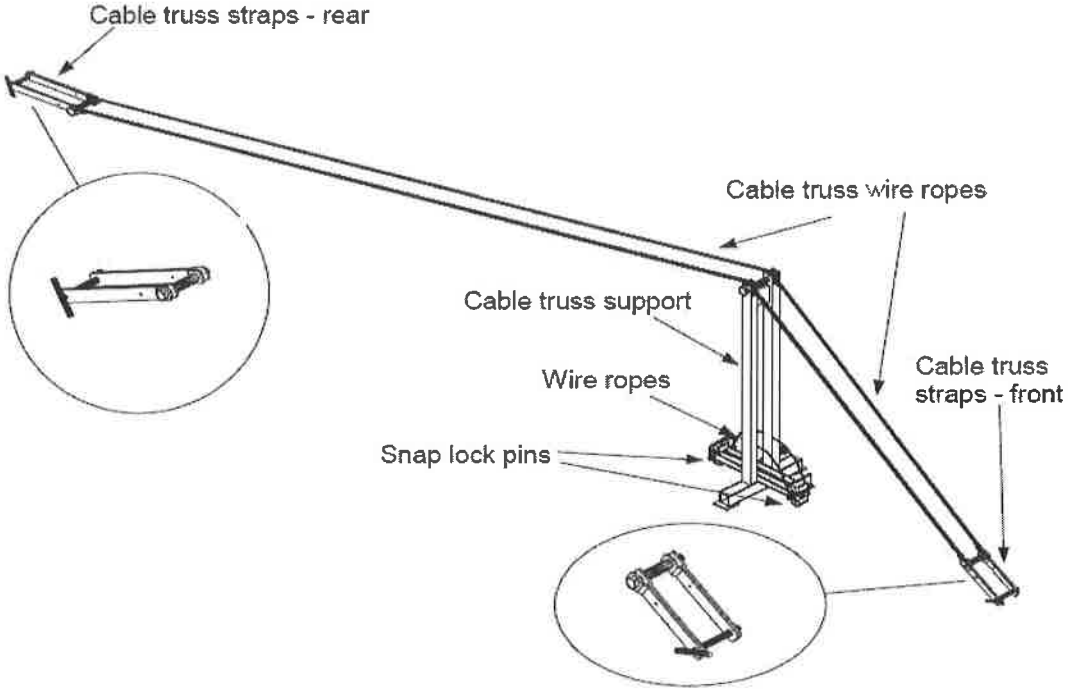


Cable Truss Support: SP165



Optional Sliding Collar: WSH5

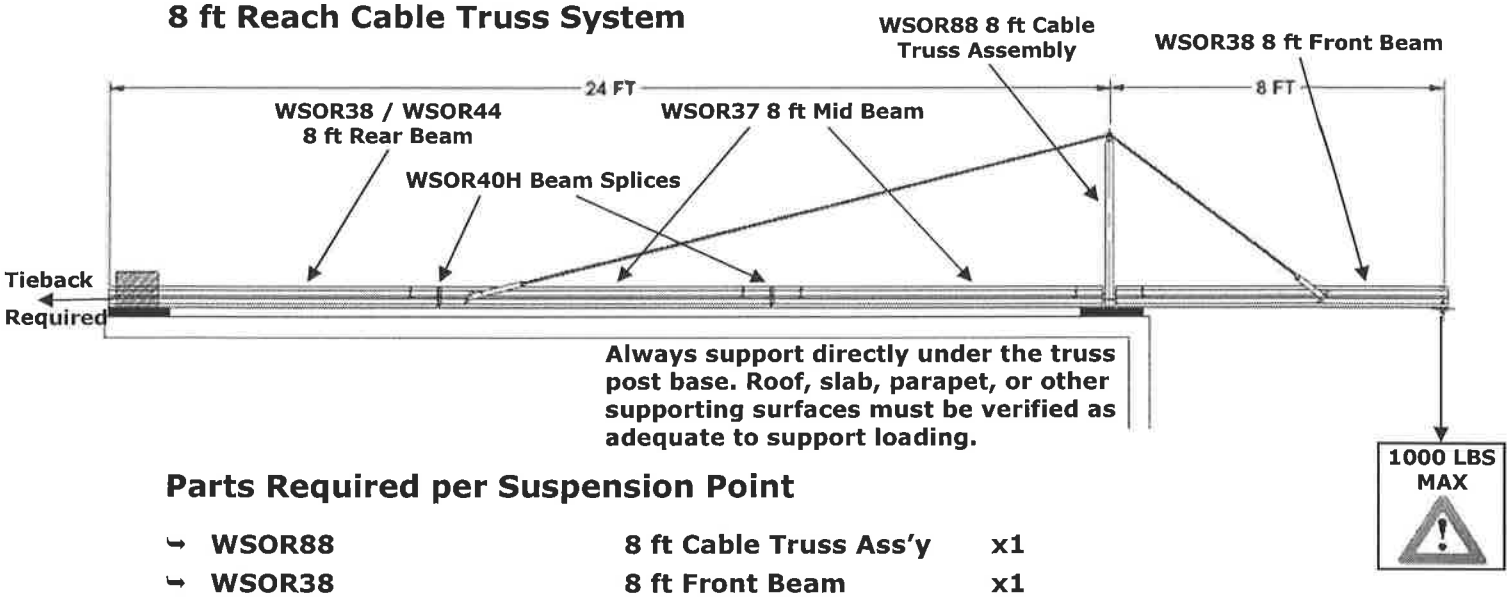
Cable Truss Assembly—8 ft. Reach: WSOR88



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 figure 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 that the retaining pins are inserted fully and locked with the retaining clip.
3. Attach 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 that the retaining pins are inserted fully and locked with the retaining clip.
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 along its length using a Retaining Pin (SP166). Similarly, pin the Cable Truss Strap (SP167) to the middle Mid Beam using the Retaining Pin (SP169), replacing 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 per beam can be attached.
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 Support and can damage the aluminum Beam.
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 vertical mast. The pear link is 96" from the Cable Truss Support.
8. Install the Tie-backs in accordance with the details described in Section 10.

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)**

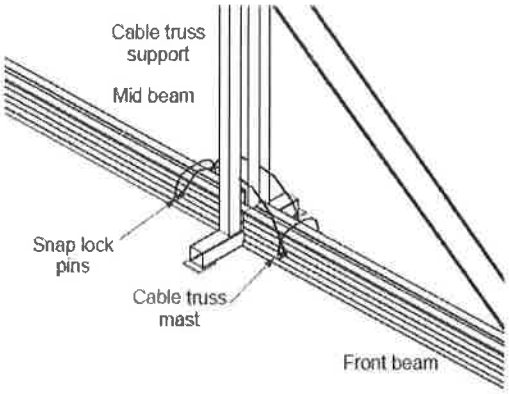
Notes

- 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.

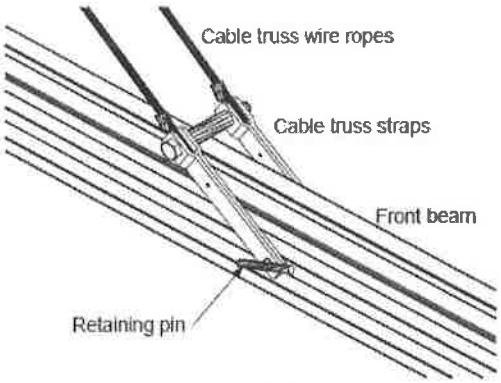
Counterweight Chart for 8 ft Reach Cable Truss System

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

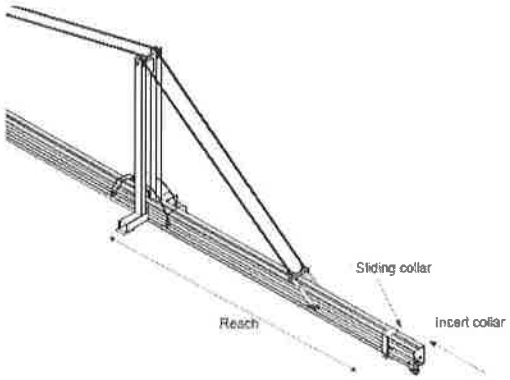
8 ft Reach Cable Truss Assembly Details



Assembly of Cable Truss Support with Beams



Assembly of Cable Truss Ropes with Cable Truss Straps



Reach with Sliding Collar

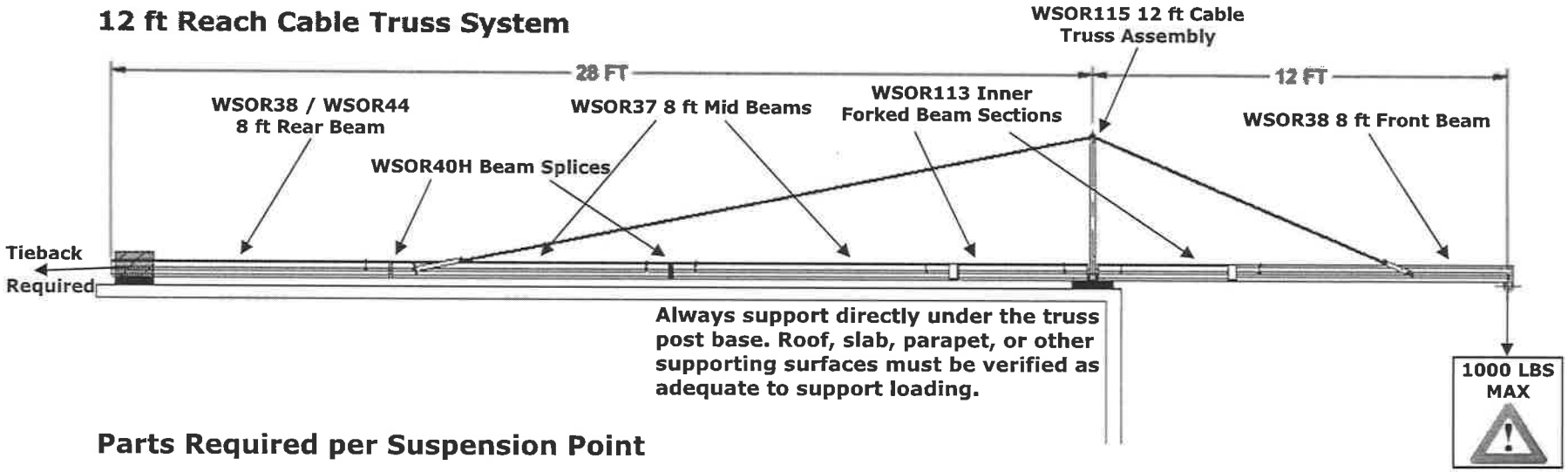
Notes

- 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 (WSH5) must be used when working at less than a 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 weights as needed (1400 lbs. weight required).
- 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, 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 per Beam can be attached.
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 by the Beam on either side of the Cable Truss Support, this places the load on the aluminum beam instead of the Support and can cause damage to the Beam.
8. Install the counterweights according to the chart following this page. If a Sliding Collar is in use, then the reach is determined by measuring the distance between the Collar and the Cable Truss Support vertical mast. The pear link is 144" from the Cable Truss Support.
9. Install the Tie-backs in accordance with the details described in Section 10.

12 ft Reach Cable Truss System



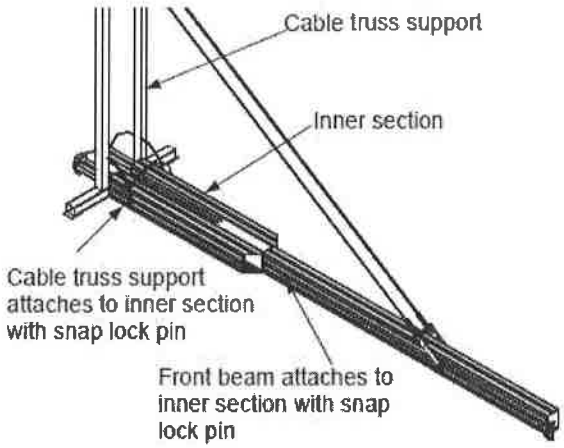
Parts Required per Suspension Point

⮡	**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)**

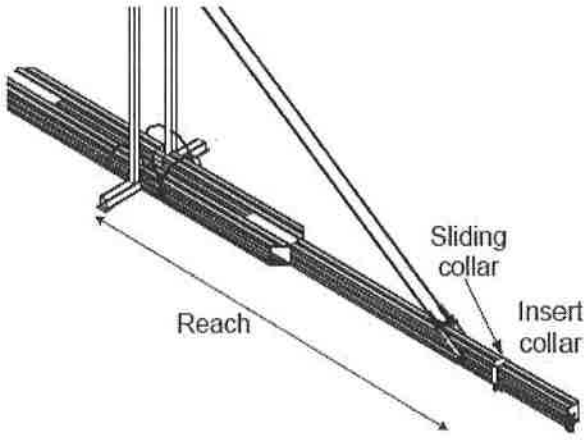
Notes

- 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 De-



Front Beam—Inner Section—Cable Truss Support Assembly



Reach with Sliding Collar

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.

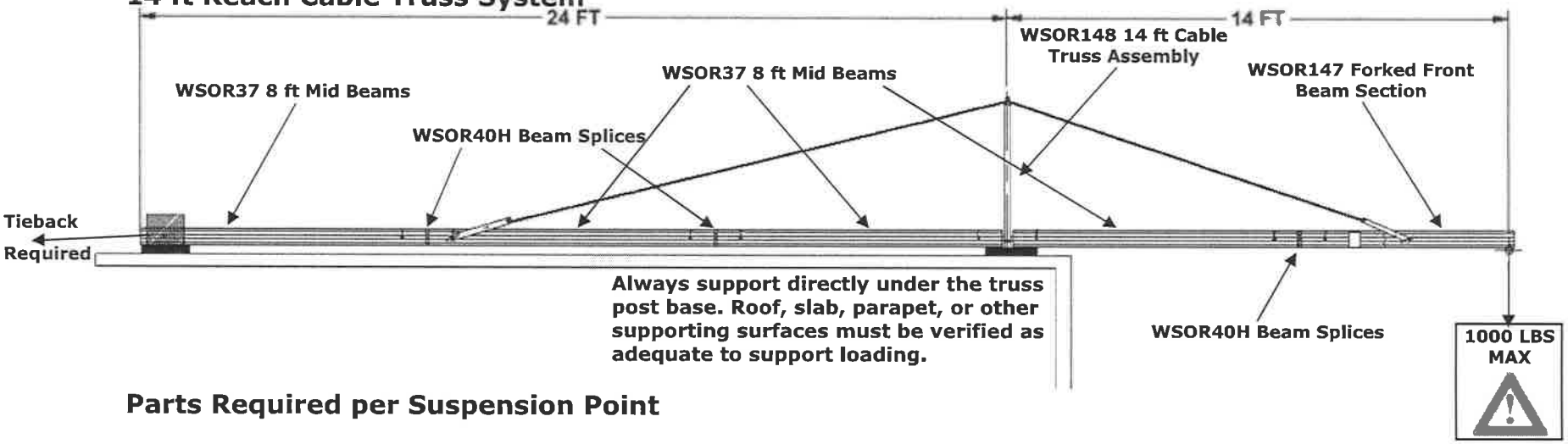
Counterweight Chart for 12 ft Reach Cable Truss System

Maximum 1000 Lb. Load - Beam Extends 28' Inboard of Truss Mast						
Reach (inch) (Sliding Collar Position from Base)	9'6" 114 inch	10' 120 inch	10'6" 126 inch	11' 132 inch	11'6" 138 inch	Maximum 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 set 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 set and ensure that the two sets of 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 by the Beam on either side of the Cable Truss Support, this places the load on the aluminum Beam and not on the Cable Truss Support which can damage the Beam.
8. Install the counterweights according to the table on the following page. If a Sliding Collar is used than the reach is determined by measuring the distance between the Sliding Collar and the Cable Truss Support vertical mast. Notes that you cannot have a reach of less than 11'6".
9. Install the Tie-backs in accordance with the details described in Section 10.

14 ft Reach Cable Truss System



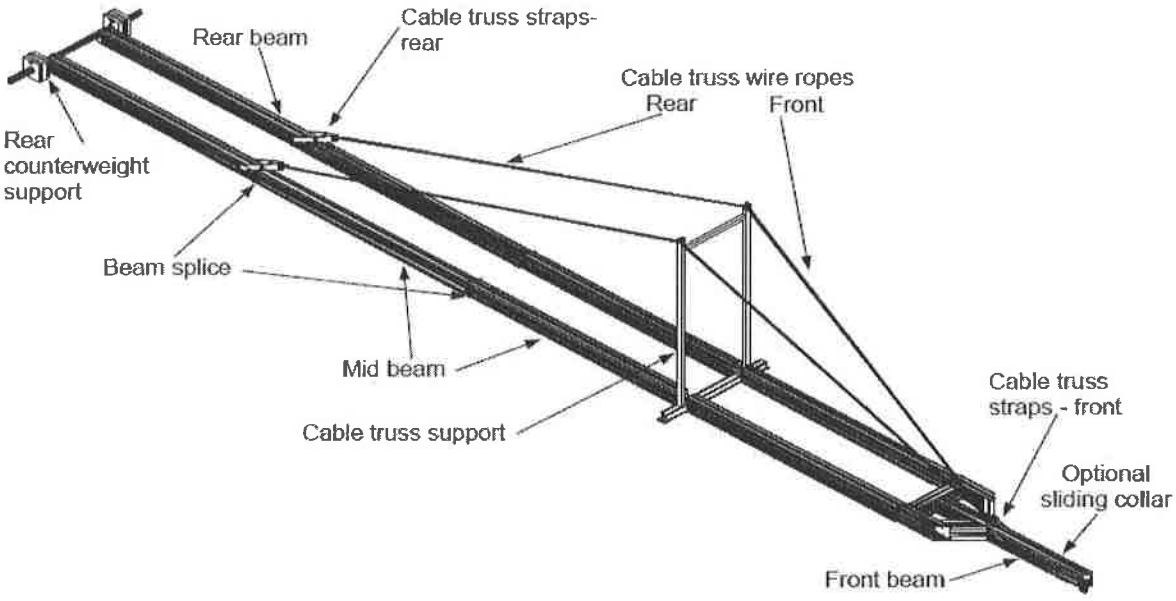
Parts Required per Suspension Point

↳	**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**

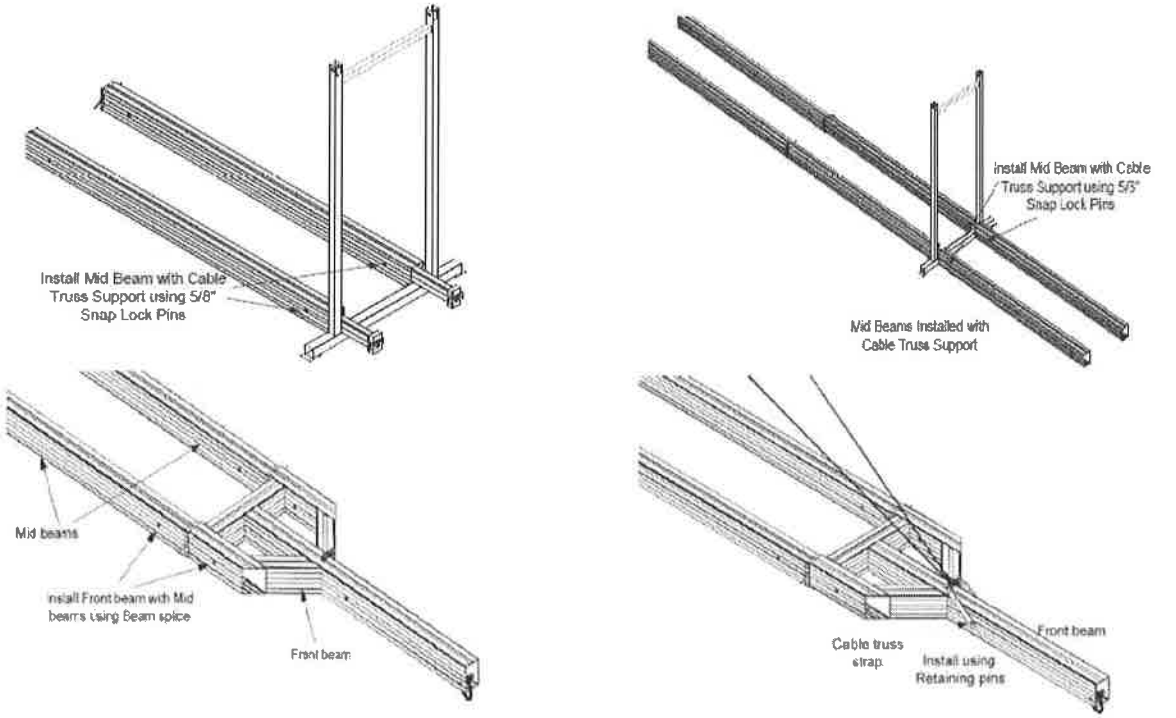
Notes

- 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



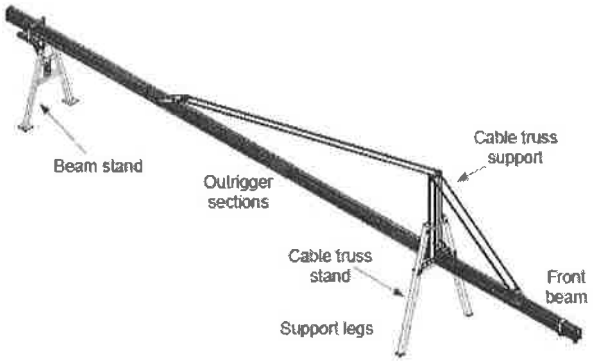
14 ft Reach Cable Truss System Assembly Details



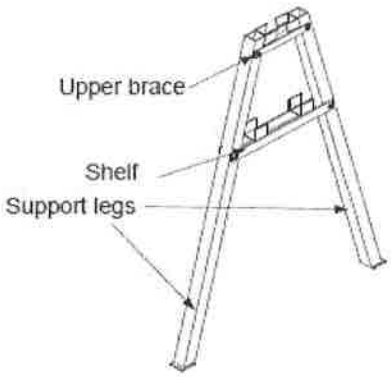
Counterweight Chart for 14 ft Reach Cable

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

3.5 — Cable Truss Stand for 8 ft Reach Cable



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 Reach Cable Truss. Notes that the standard Beam Stand (WSBS001) must not be used to support the Cable Truss System, however it is 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. Although a rear Beam Stand is not required if the angle of the Cable Truss System is less than 15°.

5. Overhang Beam – WS OR 83

An Overhang Beam (see Figure 21) is used to reach areas below an overhang or cornice. Winsafe overhang beam can reach up to 5 ft. down and 4 ft. back under an overhang.

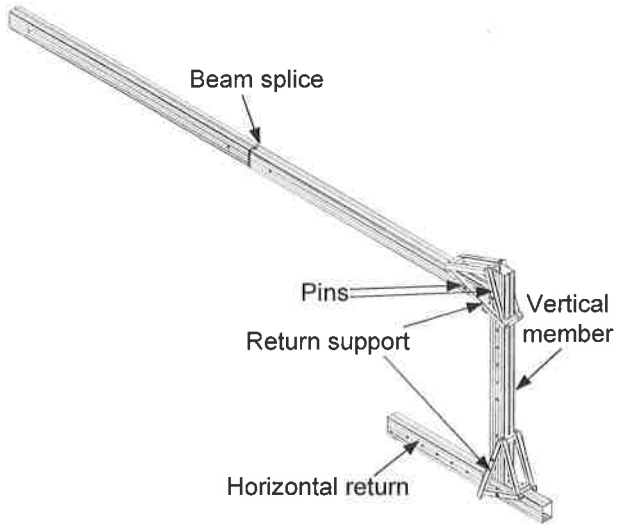
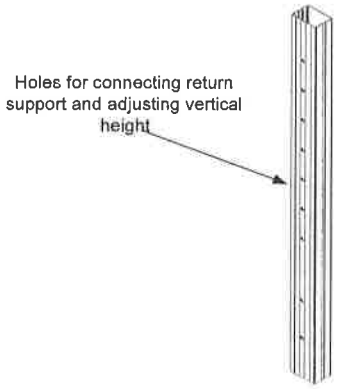


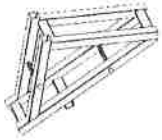
Figure 21. Overhang Beam

5.1. Components – WS OR 83

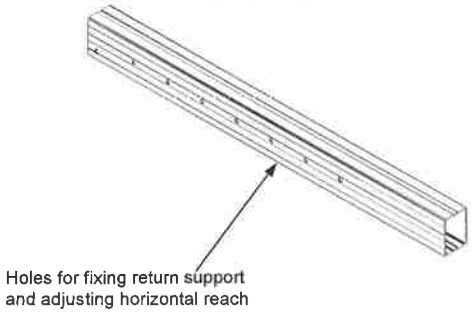
Vertical Member - WS OR 85



Return Support (Return Elbow Bracket) - WS OR 84



Horizontal Return- WS OR 86



5.2. Installation Procedure for 4 ft. Overhang Beam

1. Assemble the Rear Beam (WS OR 39 Saddle Weight or WS OR 44 Longhorn Weight) and the Mid Beam (WS OR 37) using a Beam Splice (WS OR 40) by the assembly procedure presented in Section 2.3.
2. Attach the first Return Support (WS OR 84) to the Mid Beam by pinning it to the front connecting hole by using Pins (PC 42 07) (see Figure 22).
3. Attach the Vertical Member (WS OR 85) to the first return support such that it is pinned in the desired vertical position and vertical length (see Figure 22).

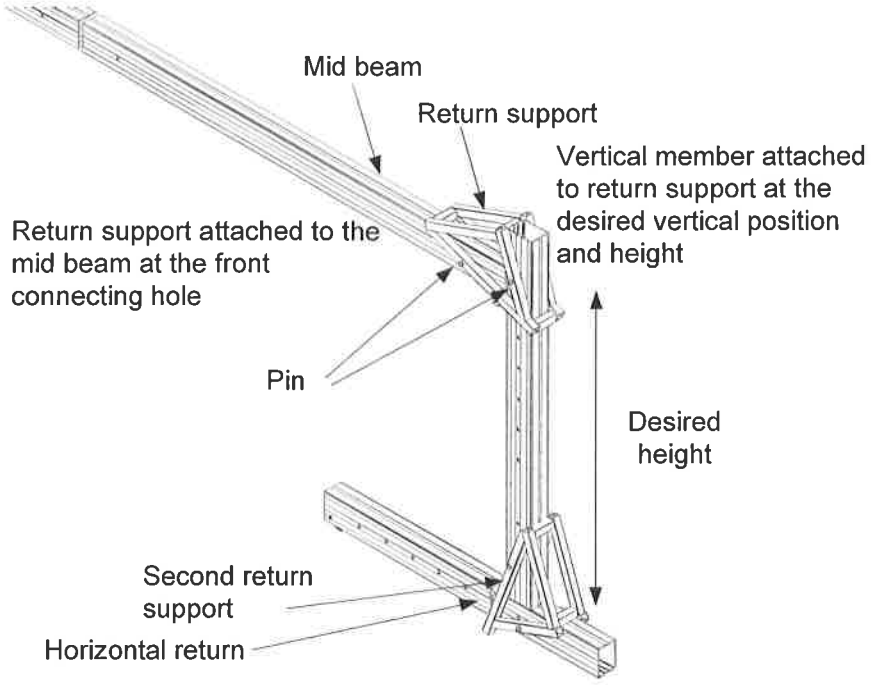
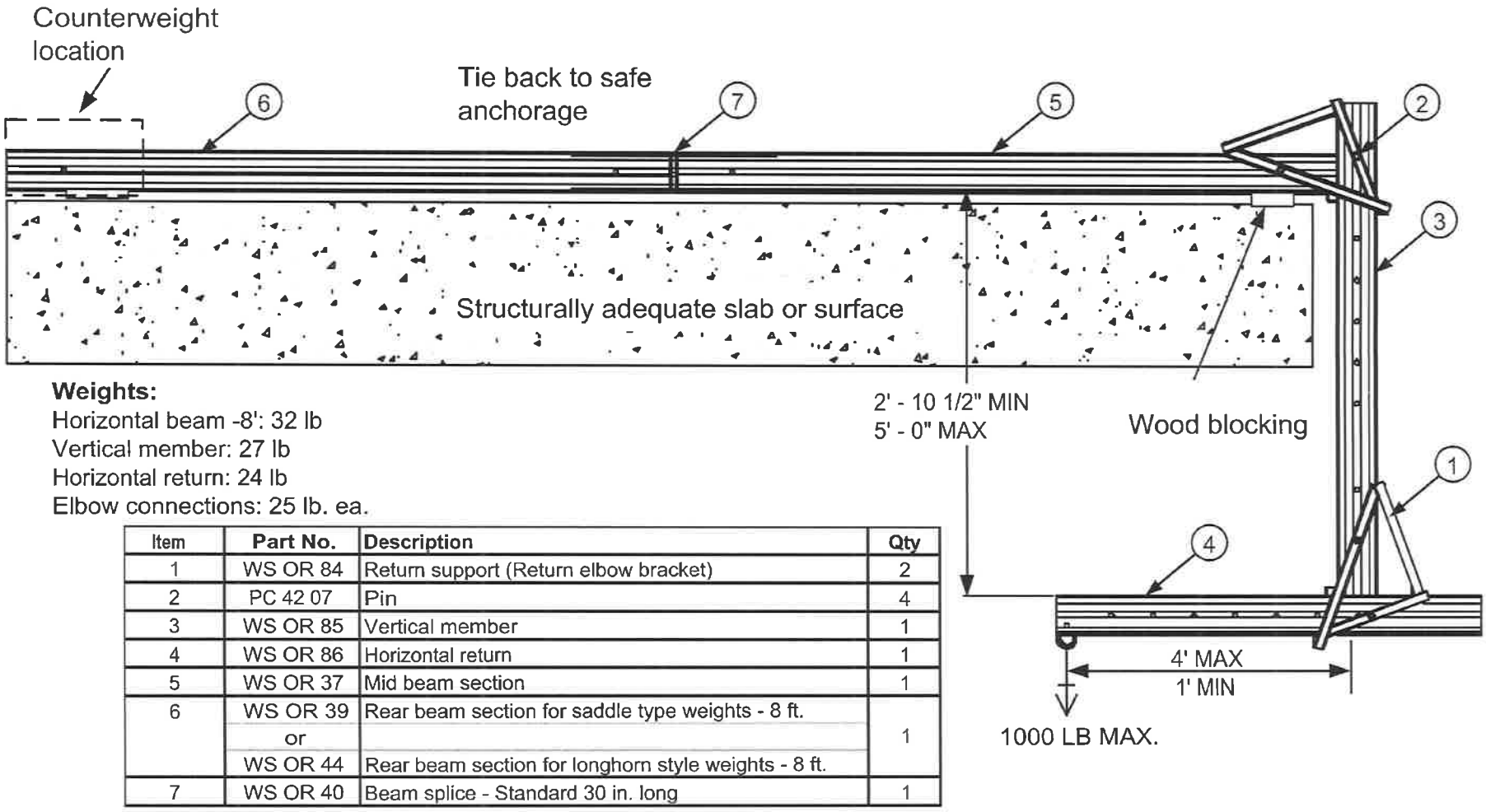


Figure 22. Return Support – Mid Beam Assembly

4. Attach the second Return Support (WS OR 84) to the end of the vertical member using pins. Also, attach the Horizontal Return (WS OR 86) to the return support as shown in Figure 22.
5. While installing the pins, insure that they are inserted through the holes and the retaining clips are fastened to the pins.

Note:-

1. 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 lbs. 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 (see Section 2.2) to determine the correct amount of counterweight. Do not exceed 4 feet reach from the point of support on the roof (fulcrum) to the vertical member.
2. Always use wire rope and cable clamps to connect the beam system to a suitable tie-back anchorage which is in line with the beam. The wire rope and cable clips must be equal in strength to the suspension rope. The anchorage must be capable of resisting 5000 lbs.
3. It will generally be necessary to attach the suspension rope to the pear link (suspension eye) before moving the horizontal return into place. The suspension rope can be used to restrain the end of the assembly as it is moved beyond the face of the building and rotated into the vertical position. Once the system is clear of the building and fully vertical it is pulled back under the overhang. Be sure to install a tie back cable before moving the beam out over the side of the building.



Weights:
Horizontal beam -8': 32 lb
Vertical member: 27 lb
Horizontal return: 24 lb
Elbow connections: 25 lb. ea.

Item	Part No.	Description	Qty
1	WS OR 84	Return support (Return elbow bracket)	2
2	PC 42 07	Pin	4
3	WS OR 85	Vertical member	1
4	WS OR 86	Horizontal return	1
5	WS OR 37	Mid beam section	1
6	WS OR 39	Rear beam section for saddle type weights - 8 ft.	1
	or		
	WS OR 44	Rear beam section for longhorn style weights - 8 ft.	
7	WS OR 40	Beam splice - Standard 30 in. long	1

Figure 23. WS OR 83 - 4 ft. Overhang Beam

6. Rolling Outrigger

The Rolling Outrigger couples the modular components of an outrigger beam with a folding wheel system. Winsafe Rolling Outrigger Beam has two reach positions: 36"; 48". A sliding collar (WSH 5) may be used to achieve a variable reach.

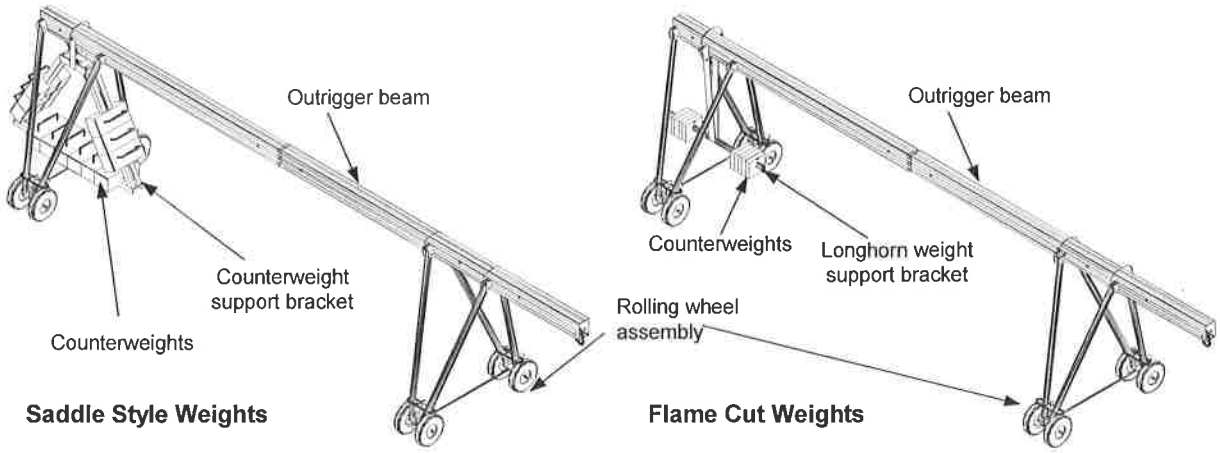
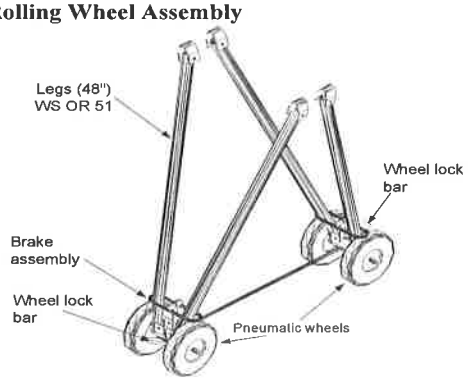


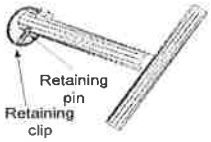
Figure 24. Rolling Outrigger

6.1. Components

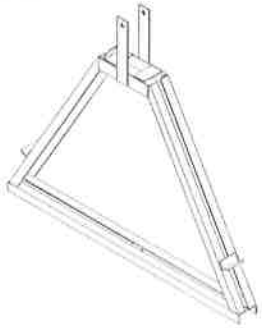
Rolling Wheel Assembly



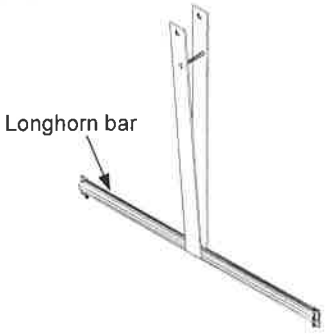
Retaining Pins
- SP 169

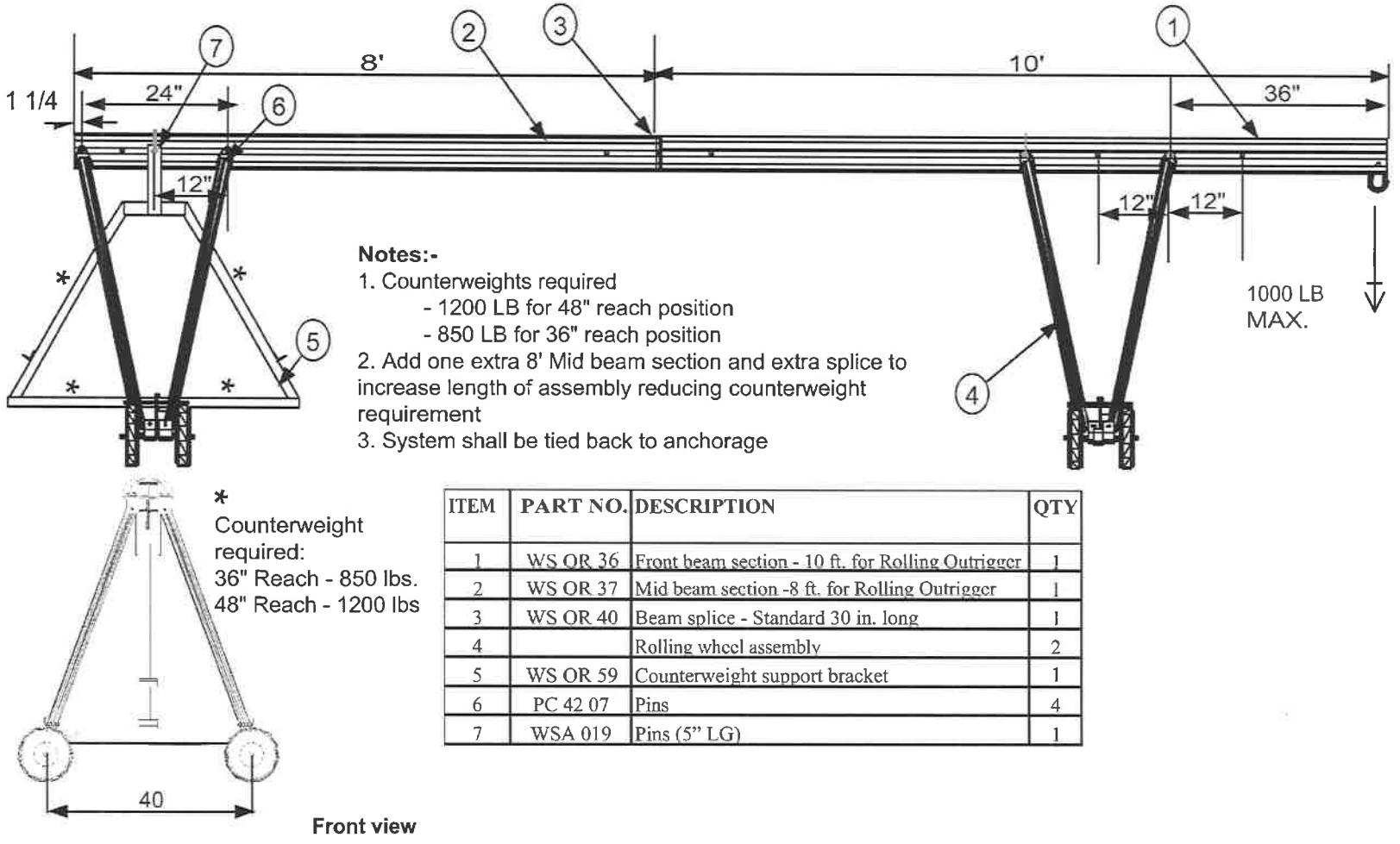


Counterweight Support Bracket
- WS OR 59



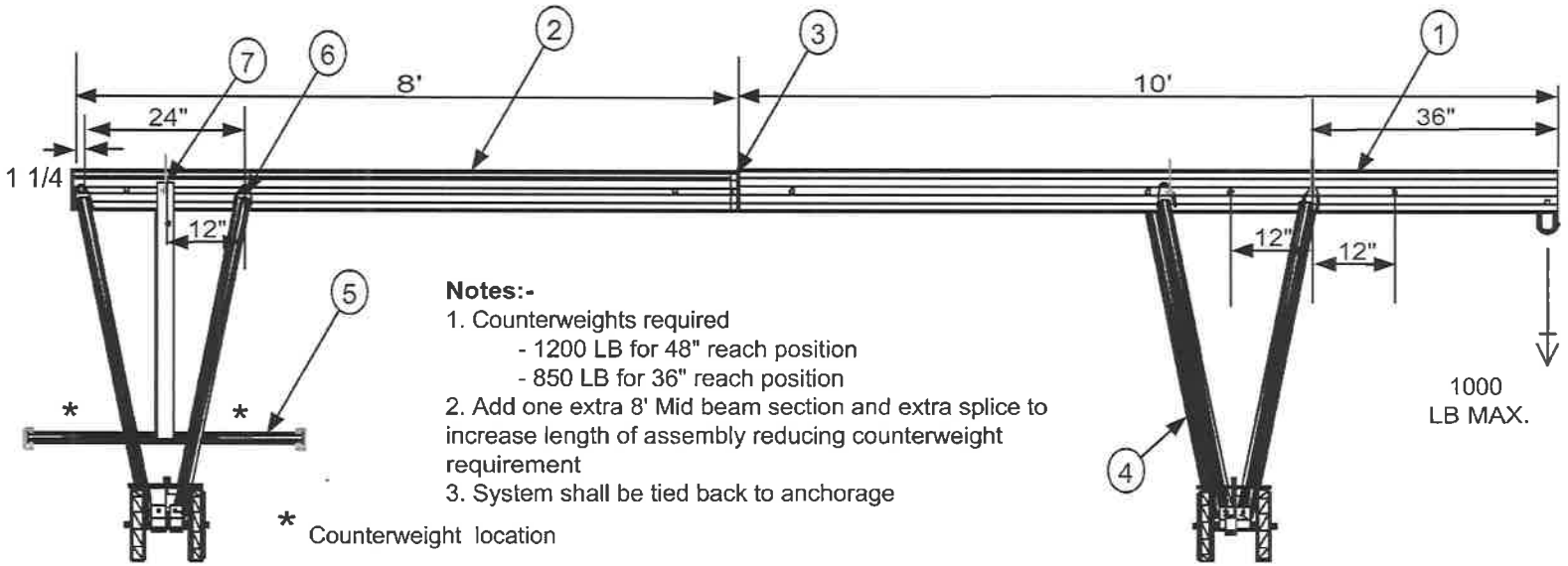
Longhorn Weight Support Bracket
- WS OR 71





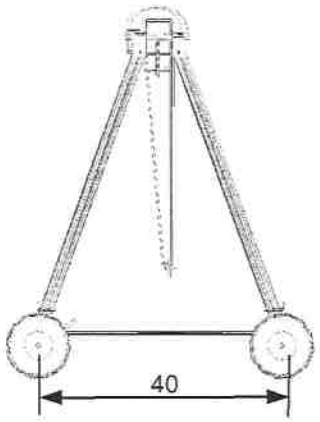
ITEM	PART NO.	DESCRIPTION	QTY
1	WS OR 36	Front beam section - 10 ft. for Rolling Outrigger	1
2	WS OR 37	Mid beam section -8 ft. for Rolling Outrigger	1
3	WS OR 40	Beam splice - Standard 30 in. long	1
4		Rolling wheel assembly	2
5	WS OR 59	Counterweight support bracket	1
6	PC 42 07	Pins	4
7	WSA 019	Pins (5" LG)	1

Figure 25. WS OR 50 - Rolling Outrigger Beam (Saddle Style Weights)



Notes:-

1. Counterweights required
   - 1200 LB for 48" reach position
   - 850 LB for 36" reach position
2. Add one extra 8' Mid beam section and extra splice to increase length of assembly reducing counterweight requirement
3. System shall be tied back to anchorage



Front view

ITEM	PART NO.	DESCRIPTION	QTY
1	WS OR 36	Front beam section - 10 ft. for Rolling Outrigger	1
2	WS OR 37	Mid beam section -8 ft. for Rolling Outrigger	1
3	WS OR 40	Beam splice - Standard 30 in. long	1
4		Rolling wheel assembly	2
5	WS OR 71	Longhorn weight support bracket	1
6	PC 42 07	Pins	4
7	WSA 019	Pins (5" LG)	1

Figure 26. WS OR 72 - Rolling Outrigger Beam (Longhorn Style Weights)

6.2. Installation Procedure for Rolling Outrigger

1. Assemble Front Beam (WS OR 39) with the Mid Beam (WS OR 37) using a Beam Splice (WS OR 40) by the assembly procedure presented in Section 2.3.1. Note that these beam sections have extra pin holes to receive the rolling wheel assembly legs and counterweight support.
2. Attach the rolling wheel assembly to the Front Beam and Mid Beam using the Pins (PC 42 07) (see Figure 27). Legs must be pinned at 24" hole spacing. Be sure to insert the pins all the way through the bracket and install the retaining clips.

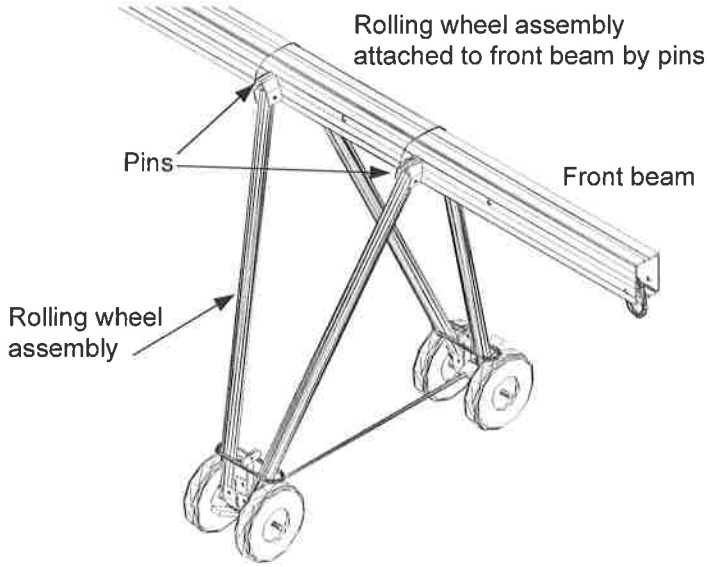


Figure 27. Rolling Wheel Assembly with Front Beam

3. Suspend the Counterweight Bracket at the rear of the Mid Beam by inserting pins (WSA 019) through the Mid Beam (see Figure 28). Secure the pins through the retaining clip. Installation procedure is similar for Longhorn Weight Support Bracket (see Figure 29).

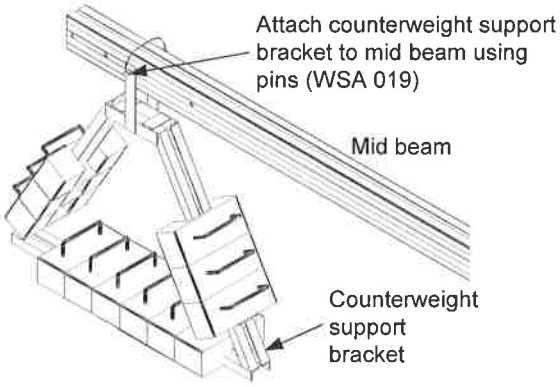


Figure 28.Counterweight Support Bracket Installation

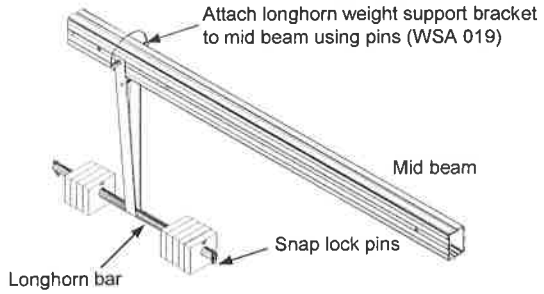


Figure 29.Longhorn Weight Support Bracket Installation

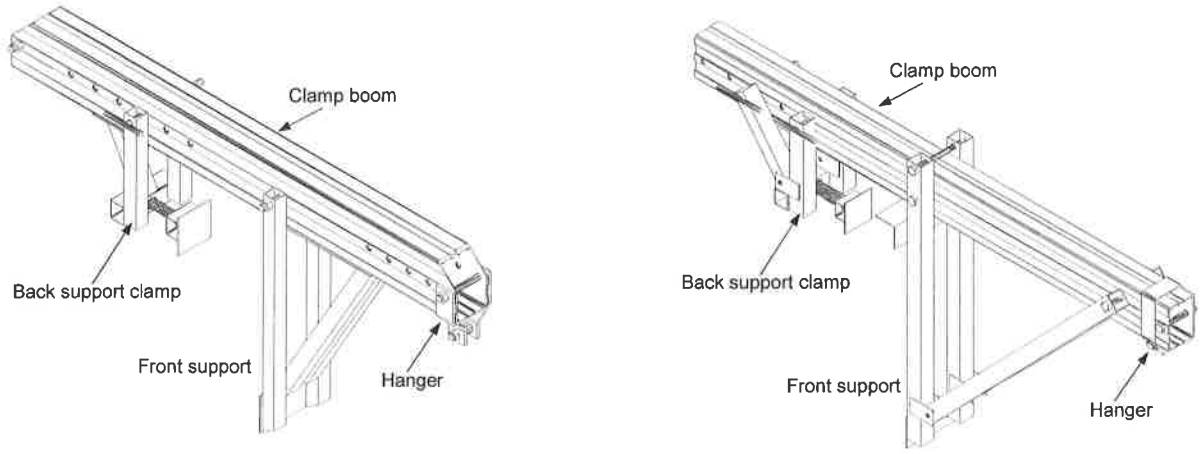
4. Position the rolling outrigger and lock the brakes by pressing down on the wheel lock bar. To release the brake, pull on the wheel lock bar to move it up allowing the wheels to turn freely. The wheels are pneumatic and should be checked periodically to insure they are properly inflated.

Note:-

1. Never attempt to roll the outrigger when the platform is suspended.
2. Always insure the outrigger is tied back to a suitable tie-back anchorage.

7. Parapet Clamp

Winsafe provides Parapet Clamps for a reach of 22 inch and 36 inch.

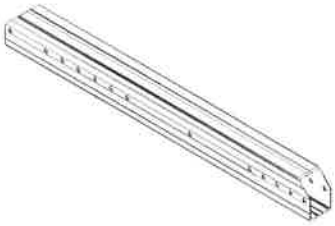


22" Reach Parapet Clamp **36" Reach Parapet Clamp**

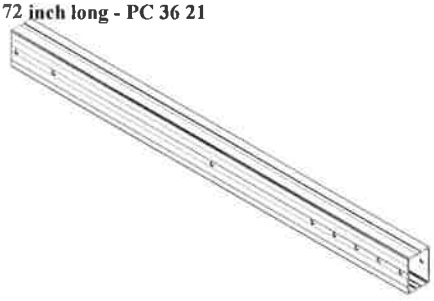
Figure 30. Parapet Clamp

7.1. Components

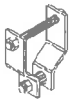
Clamp Boom
- 56 inch long - PC 22 02



Clamp Boom
- 72 inch long - PC 36 21



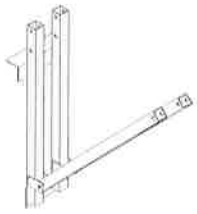
Hanger - WSH 4



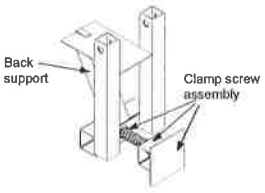
Hanger - WSH 5

Front Support (Front Brace)
- PC 22 03 (22" Reach)

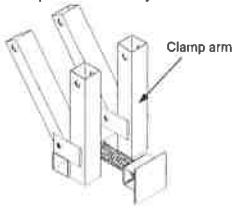
Front Support (Front Brace)
- (PC 36 22) 36" Reach



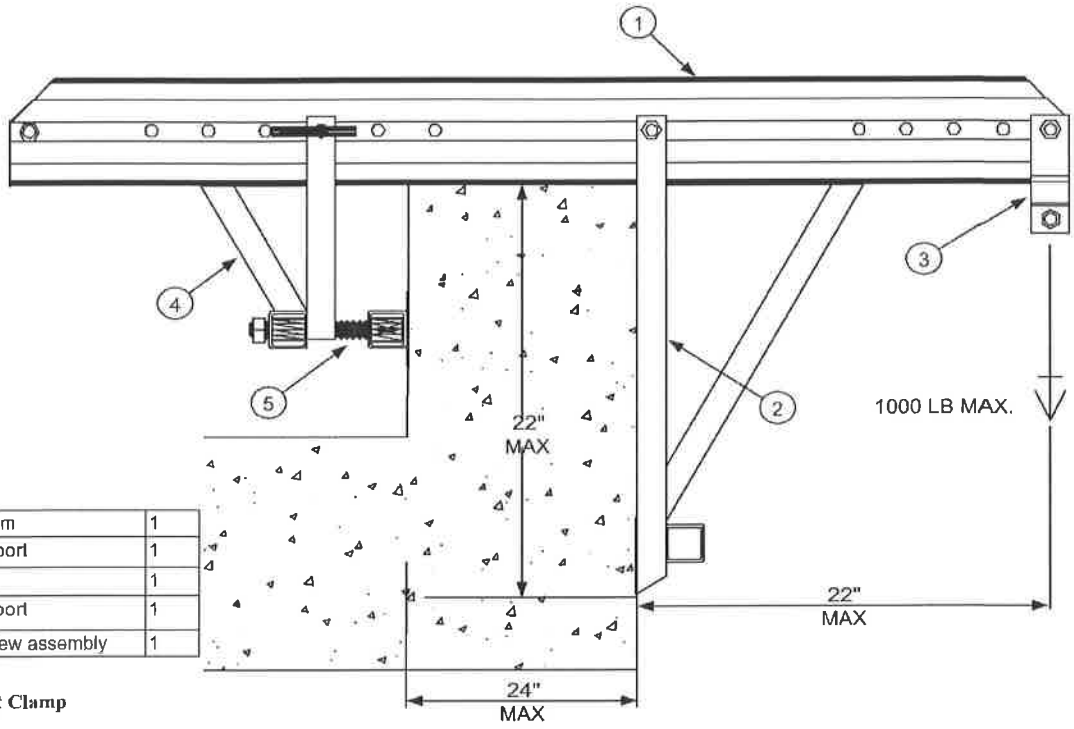
Back Support Clamp (22" Reach)
- Back Support - PC 22 04
- Clamp Screw Assembly - PC 22 05



Back Support Clamp (36" Reach)
- Clamp Arm - PC 42 03
- Clamp Screw Assembly - PC 42 08



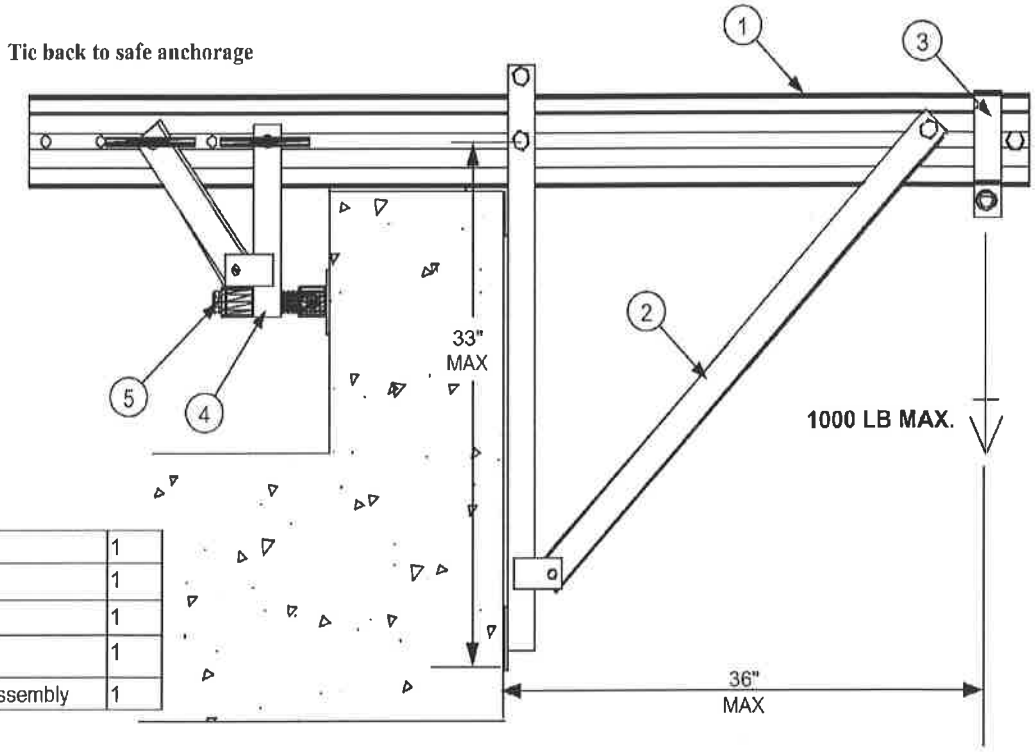
PC 2201



1	PC 22 02	Clamp Boom	1
2	PC 22 03	Front support	1
3	WSH 4	Hanger	1
4	PC 22 04	Back support	1
5	PC 22 05	Clamp screw assembly	1

Figure 31. 22" Reach Parapet Clamp

PC 3601



1	PC 36 21	Clamp boom	1
2	PC 36 22	Front support	1
3	WSH 5	Hanger	1
4	PC 42 03	Back support	1
5	PC 42 08	Clamp screw assembly	1

Figure 32. 36" Reach Parapet Clamp

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

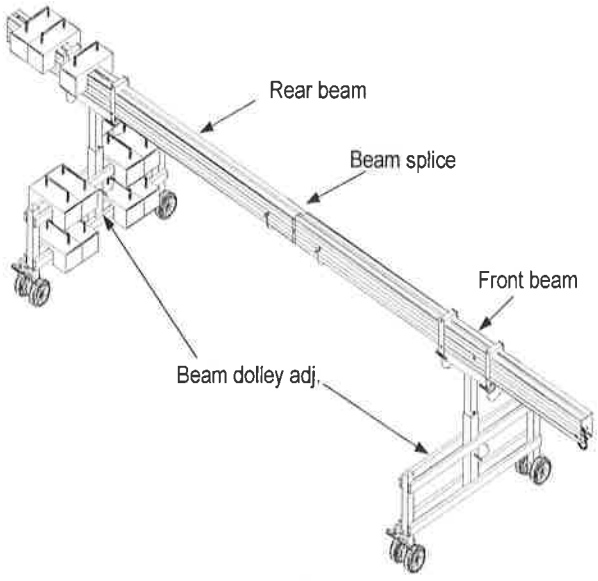
1. The parapet clamp has an adjustable Suspension Hanger and a Back Support Clamp by which the parapet clamp adjusts to different parapet thickness.
2. To relocate the Suspension Hanger remove the hanger bolt and move to the desired reach position.
3. To adjust the Back Support Clamp to the parapet thickness remove the pin, reposition the support clamp and reinstall the clamp pin. Push the clamp pin completely through the hole and secure the pin through the retaining clip.
4. Use the Clamp Screw Assembly to tightly secure the parapet clamp onto the parapet (see Figure 31, Figure 32).

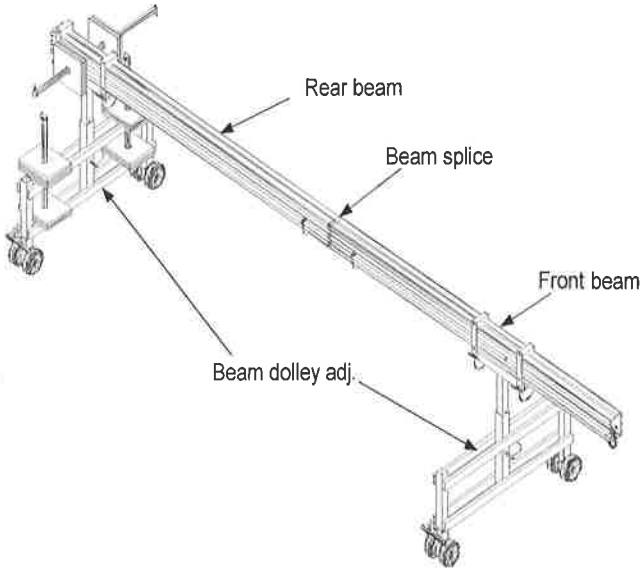
Note:-

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

8. Beam Dollies

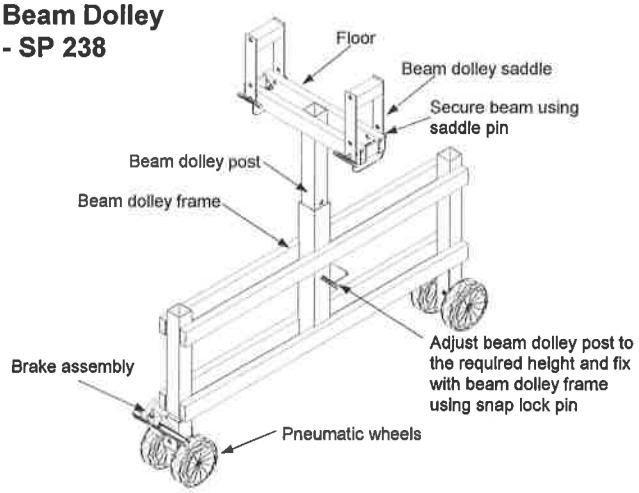
Winsafe beam dollies provide a mobile outrigger beam solution. Winsafe beam dolly can be used with up to a maximum cantilever of 4 ft. for a 2 section or 3 section modular outrigger beam configuration.



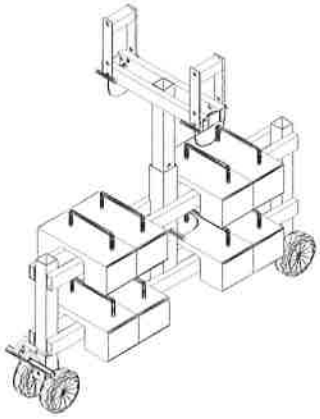


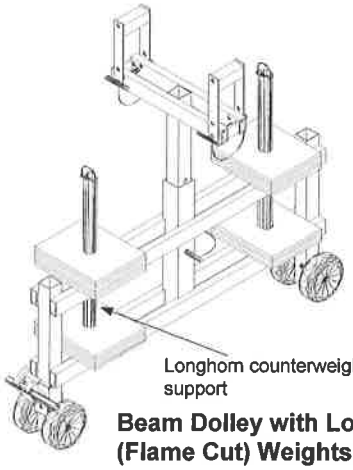
8.1 Components

Beam Dolley - SP 238



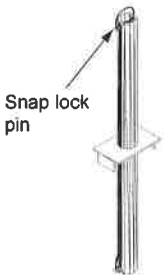
Beam Dolley with Saddle Weights





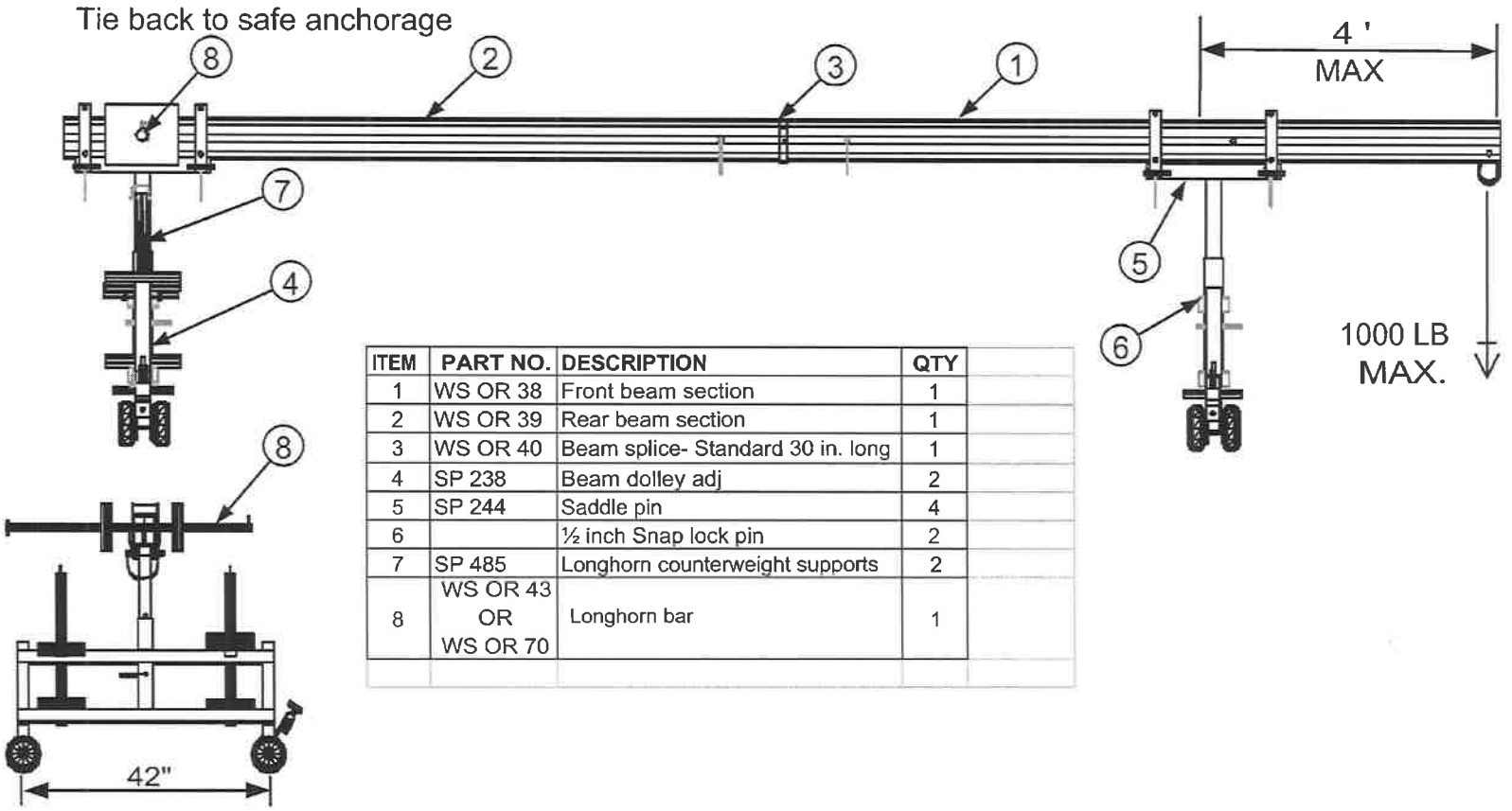
Beam Dolley with Long horn (Flame Cut) Weights

Longhorn Counterweight Support - SP 485



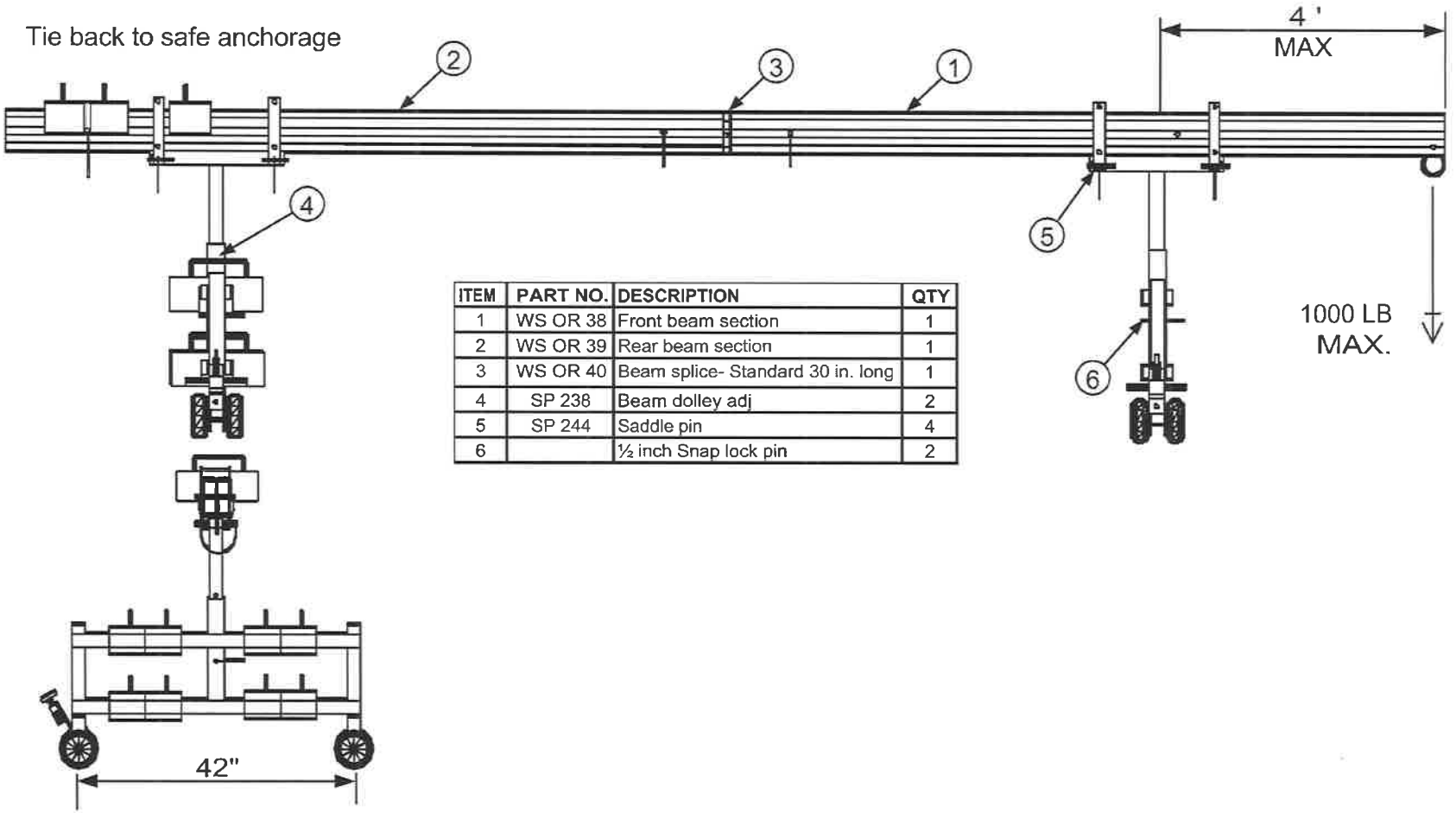
8.2. Installation Procedure for Beam Dollies

1. Assemble Front Beam (WS OR 38) with the Rear Beam (WS OR 39) using a Beam Splice (WS OR 40) to form a Winsafe 2 section Modular Outrigger Beam (see Section 2.3.1). (You can also use these dollies with outrigger beams from a different manufacturer.)
2. Adjust the beam height by adjusting the position of the beam.
3. Place the outrigger beam on the dolleys and use the Beam Dolley saddles placed over the outrigger beam to secure them in place with the Saddle Pin (SP 244). Alternate pin holes are provided to fit other beam styles. Always use the pin hole location that provides the closest fit to the beam.
4. Prevent movement of the Beam Dolleys by locking the wheels, which is done by turning the "T" lever of the brake assembly.
5. Place the counterweights on the Beam Dolley frame (of the Rear Beam Dolley) and the Rear Beam as required (saddle style weights or longhorn style weights).



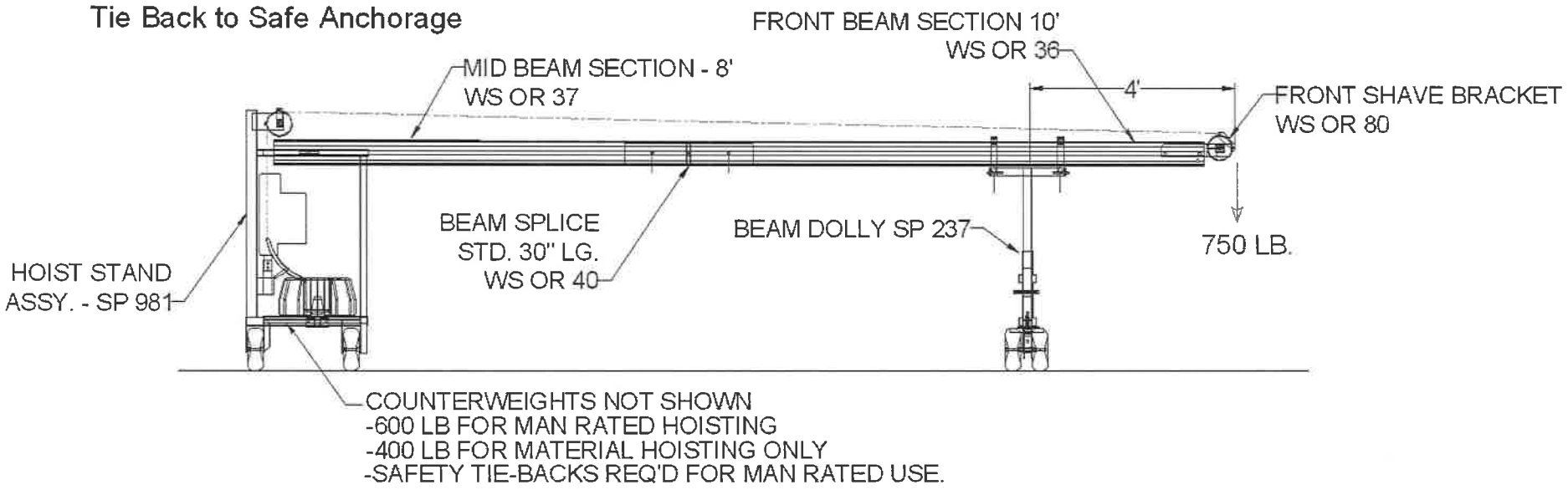
ITEM	PART NO.	DESCRIPTION	QTY
1	WS OR 38	Front beam section	1
2	WS OR 39	Rear beam section	1
3	WS OR 40	Beam splice- Standard 30 in. long	1
4	SP 238	Beam dolley adj	2
5	SP 244	Saddle pin	4
6		½ inch Snap lock pin	2
7	SP 485	Longhorn counterweight supports	2
8	WS OR 43 OR WS OR 70	Longhorn bar	1

Figure 33. SP 237 - 2 Section Beam Dollies: Longhorn Style Weights



ITEM	PART NO.	DESCRIPTION	QTY
1	WS OR 38	Front beam section	1
2	WS OR 39	Rear beam section	1
3	WS OR 40	Beam splice- Standard 30 in. long	1
4	SP 238	Beam dolley adj	2
5	SP 244	Saddle pin	4
6		½ inch Snap lock pin	2

Figure 34. SP 237- 2 Section Beam Dollies: Saddle Style Weights



SP 985 - Hoisting Beam Assembly

Note:-

1. Do not exceed 4 foot outreach or maximum load limit specified on beam.
2. Secure Rear Beam Dolley to the Rear Beam by means of a Saddle Pin through the beam, engagement of counterweights or other positive means.
3. Counterweights must provide safety factor against overturning of not less than 4 to 1. Secure counterweights to the beam by positive engagement or equivalent means. Secure counterweights to dollies with ropes tied through counterweight handles.
4. Ensure that the rolling surfaces are adequate to support imposed loads.
5. Tighten the wheel locks to prevent movement once the system is in the desired work position.
6. All workers must be off the suspended platform during relocation of the beam dollies.
7. When the system is in work position safety tie-backs must be secured to a safe anchorage (5000 lbs. minimum strength) before workers board the platform.

9. Fall Arrest equipment

Fall arrest equipment must be used with suspended platforms. 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 the platforms must be wearing a full body harness with a lanyard. For two line platforms, each operator must have a complete vertical lifeline system. It consists of a vertical lifeline, a roof anchorage, and personal fall arrest equipment consisting of a full body harness, lanyard and rope grab.

All components of the fall arrest system must be inspected prior to each daily usage by the operator and periodically by a competent 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 insure they are functioning properly, and do not show signs of wear. Equipment that does not pass inspection must be removed from service.

Lifelines

Use only polyester blend, nylon or other synthetic fiber rope that has a rated breaking strength in excess of 7500 lbs. Never use natural fiber lifeline. The lifeline must be a firm lay and should not be a soft lay. The lifeline must be free of any cut, worn, burned or damaged rope strands. The lifeline must not be contaminated by dirt, lubricants, or any debris that may effect 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 insure that it has locked on the lifeline. Remove the force and insure that the rope grab travels smoothly up and down the life line.

Install the lanyard on the line by attaching the double locking snap hook of the lanyard to the large attachment ring. Use only 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 are interfacing with the operation of the rope grab. Position the rope grab at shoulder height of the lifeline.

Safety Codes

Always follow the applicable safety codes for the region you are in. The anchorage you are attaching must be capable of supporting 5000 lbs. The anchorage should be located in line with the work area to eliminate possibility of pendulum fall. The lifeline must have a 5000 lb. rated snap hook, ladder snap or carabiner that is compatible with the anchorage.

10. Safety Guidelines

Code of safe practices for Suspended Powered Scaffolds

It shall be the responsibility of all employers and users to read and comply the following common sense guidelines which are designed to promote safety in the erection and use of suspended powered scaffolds. 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 these guidelines conflict in any way with any state, local or federal statute or government regulation, said statute or regulation shall supersede these guidelines and it shall be the responsibility of each employer and user to comply therewith and also to be knowledgeable and understand all state, local or federal statutes of governmental regulations pertaining to suspended powered scaffolding.

A. GENERAL GUIDELINES

1. Post these safety guidelines in a conspicuous place and be sure that all persons who erect, use, locate or dismantle suspended scaffold systems are fully aware of them.
2. NEVER TAKE CHANCES! If in doubt regarding safety or use of suspended scaffold, consult your scaffold supplier.
3. FOLLOW ALL EQUIPMENT MANUFACTURER'S RECOMMENDATIONS as well as all state local and federal codes, ordinances and regulations, pertaining to suspended scaffolding.
4. Survey the job site for hazards such as exposed electrical wires, obstructions that could overload or tip the suspended scaffold when it is raised or lowered, unguarded roof edges or openings inadequate or missing tieback anchorages, or the need for overhead protection where exposure to falling objects exist. These conditions must be corrected before installing or using suspended scaffold systems.
5. INSPECT ALL EQUIPMENT BEFORE EACH USE. Never use any equipment that is damaged or defective in any way. Tag damaged or defective equipment and remove it from the job site.
6. ALWAYS USE FALL ARREST EQUIPMENT when using suspended scaffolds. (See Section E for further details)
7. Erect, use, and dismantle suspended powered scaffold equipment in accordance with design and/or manufacturer's recommendations.

8. Do not erect, dismantle, or alter suspended scaffold systems unless under the supervision of a qualified person.

9. DO NOT ABUSE, MISUSE, OR USE SUSPENDED SCAFFOLD EQUIPMENT for purposes or in ways for which it was not intended.

10. USERS MUST BE TRAINED on how to safely operate equipment and how to handle emergency situations, If in doubt, consult a qualified person.

11. ERECTED SUSPENDED SCAFFOLDS SHOULD BE CONTINUOUSLY INSPECTED by the users to ensure that they are maintained in a safe condition. Report any unsafe condition to your supervisor.

12. CARE MUST BE TAKEN WHEN OPERATING AND STORING EQUIPMENT DURING WINDY CONDITIONS.

13. POWERED PLATFORMS MUST NEVER BE OPERATED NEAR LIVE POWER LINES unless proper precautions are taken. Consult the power service company for advice.

14. DO NOT WORK ON SCAFFOLDS if you feel dizzy, unsteady in any way or are impaired in any way by drugs or any other substance.

B. RIGGING GUIDELINES

1. WHEN RIGGING ON EXPOSED ROOFS OR FLOORS WEAR FALL PREVENTION EQUIPMENT. WHEN RIGGING FROM OVERHEAD SUPPORTS, SUCH AS BRIDGES, BEAMS, ETC. 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 4.

3. Verify that the building or structure will support the suspended loads with a safety factor of at least 4.

4. Overhead rigging, including counterweights, must be secured from unintentional movement in any direction.

5. Counterweights used with outrigger beams must be of a non-flowable material and fastened to the beam.

6. Outrigger beams that do not use counterweights must be installed and secured on the roof structure with devices specifically designed for that purpose.

7. Tie back all transportable rigging devices with wire rope and hardware that has strength equal to the hoist rope.

8. 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 can not be installed at right angles, use two tiebacks at opposing angles to prevent movement.

9. RIG SO THAT SUSPENSION POINTS ARE DIRECTLY ABOVE THE HOISTING MACHINES.

10. The platform must be secured to prevent swaying. Do not tie it to window cleaning anchors.

C. WIRE ROPE AND HARDWARE GUIDELINES.

1. Use only wire rope and attachments as specified by the hoisting machine manufacturer. Do not use wire rope that is kinked, birdcaged, corroded, undersized, or damaged in any way.

2. Be sure that wire rope is long enough to reach to the lowest possible landing.

3. Clean, lubricate and handle wire rope in accordance with the wire rope or hoist manufacturer's instructions.

4. Coil and uncoil wire rope in accordance with the wire rope or hoist manufacturer's instructions in order to avoid kinks and damage.

5. Use thimbles at all wire rope suspension terminations.

6. Use J-type clamps or swaged fittings to fasten wire ropes. DO NOT USE U-CLAMPS.

7. Tighten wire rope clamps in accordance with the clamp manufacturers

8. Wire ropes used with traction hoists must have prepared ends in accordance with the manufacturer's recommendations

9. INSPECT WIRE ROPE DURING EACH ASCENT AND DESCENT. Do not expose wire rope to fire, undue heat, corrosive atmosphere, chemicals, or to passage of electrical currents or to damage by tools or 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 with circuit breakers.

3. Use power cords or air hoses of proper size that 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 hose to the suspended scaffold to prevent them from falling.

6. Protect power cords or air hoses at sharp edges.

7. Remember, air hoists require clean, 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 fall in excess of six feet.

6. Lifelines must be suspended freely without contact with structural members or building facade.

7. Use a lifeline size and construction that is compatible with fall arrester and complies with applicable safety codes.

8. BE SURE FALL ARRESTER IS INSTALLED ON THE LIFELINE IN THE PROPER DIRECTION ABOVE YOUR HEAD and in accordance with the manufacturers' recommendations.

9. Use a body support device that is properly sized and fitted.

10. Be sure body support device has a lanyard attached to the D-ring at the center of the back.

F. SOME ADDITIONAL GUIDELINES.

1. USE ALL EQUIPMENT AND ALL DEVICES IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS.

2. Do not overload, modify, or substitute equipment.

3. Before commencing work operations pre-load wire rope and equipment with the maximum working load, then retighten rigging clamps to manufacturers' recommendations.

4. Be sure platform and cages have a proper guardrail system.

5. Secure stirrups no less than six inches from the end of the platform.

6. All components must be securely fastened to prevent them from falling off the platform.

7. Use roller bumpers or buffers to prevent damage to the structure or equipment.

8. Use care to prevent damage to equipment by corrosive or other damaging substances.

9. Clean and service equipment regularly.

10. ALWAYS MAINTAIN AT LEAST (4) FOUR WRAPS OF WIRE ROPE ON DRUM TYPE HOISTS.

11. 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.

12. Do not join platforms unless the installation was designed for that purpose.

13. DO NOT MOVE SUSPENDED SCAFFOLDS HORIZONTALLY WHEN OCCUPIED.

14. When re-rigging for another drop be sure sufficient wire rope is available before moving the suspended scaffold system horizontally.

15. WHEN WELDING FROM SUSPENDED SCAFFOLDS:

a) Be sure platform is grounded to structure.

b) Insulate wire rope above and below the platform to protect from damage by the welding torch or electrode.

c) Insulate wire rope at suspension point and be sure wire rope does not contact structure along its entire length.

These Safety Guidelines (Code of Safe Practices) set 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.