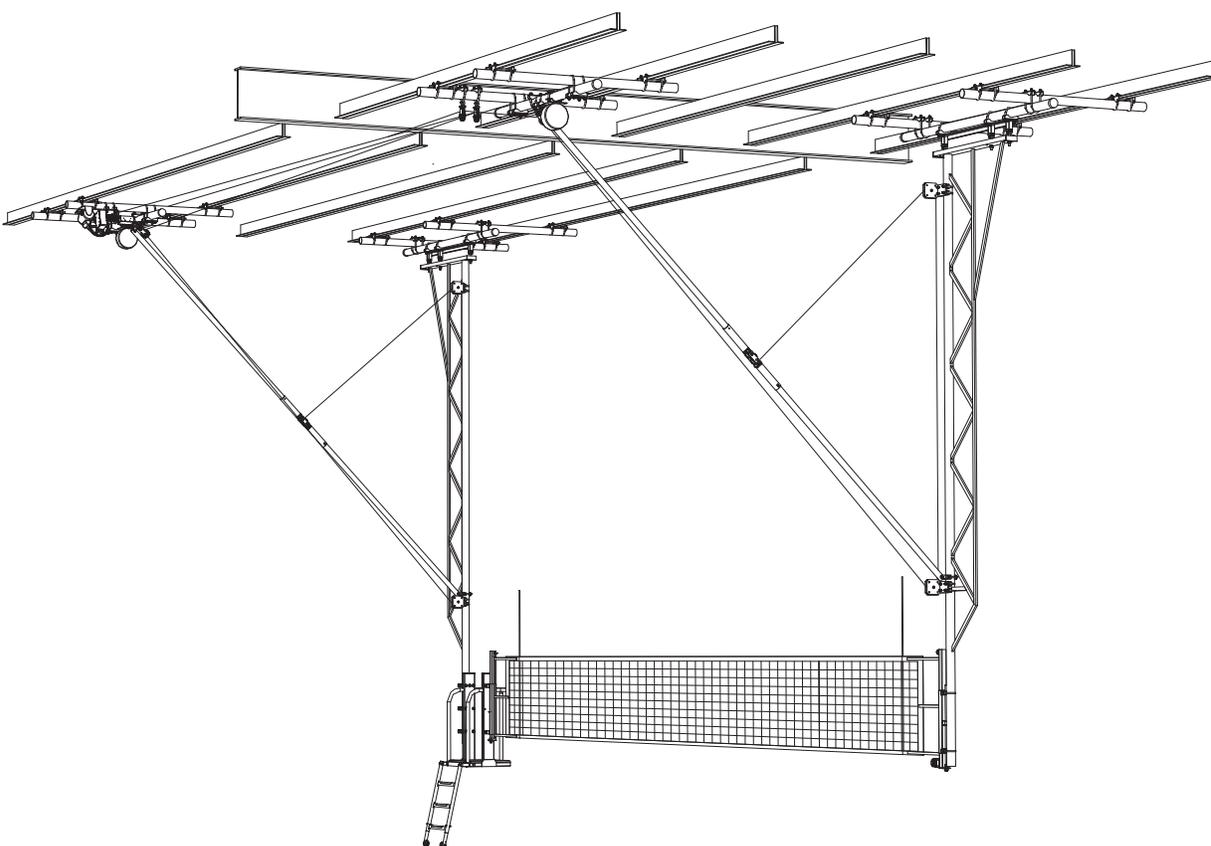


POWR-NET® OVERHEAD SUPPORTED VOLLEYBALL SYSTEM

No. 1910 Single or Multiple Court (without Judge's Stand)

No. 1920 Single Court Only (with Judge's Stand)



Porter®

Installation, Operation, and Maintenance Manual

SAVE THESE INSTRUCTIONS FOR FUTURE USE



INSTRUCTIONS: Dealer and/or Installation Supervisor,
Please give this book to the Owner/Customer

NAME OF PROJECT:	

NAME OF DEALER:	NAME OF INSTALLATION COMPANY:
PHONE #:	PHONE #:

Porter Order Number _____

Date of Scheduled Shipment _____

Date of Substantial Completion _____

The gymnasium equipment for this project has been custom fabricated according to the Owner's/Architect's specification. Care has been taken to fabricate and install this equipment to provide years of safe, satisfactory use and trouble free service.

The key to satisfactory service is proper operation and care. Should any malfunctions occur, please notify your supervisor and call your local Porter Dealer or Representative.



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- V-1910 Written Spec
- V-1920 Spec Drawing
- V-1920 Written Spec

PORTER LIMITED PRODUCT WARRANTY

Product Line: Ceiling Suspended Volleyball Systems (the “Equipment”)

Porter Athletic (“Porter”) provides the below limited warranty (the “Limited Warranty”) to the original purchaser of the Equipment and only as to the facility in which the Equipment was originally installed. The Limited Warranty extends from the time the Equipment is installed by qualified installers and continues based on the timeline listed below under the terms and conditions stated below.

Limited Warranty Terms and Conditions

Porter warrants the Equipment against defects in material or factory workmanship which cause failure of the Equipment within the applicable Limited Warranty period and provided that notification of defects, together with proof of purchase, is given to Porter at Porter@porterathletic.com within thirty (30) days of discovery of such defect. Porter, once it confirms the existence of a covered defect will, at its sole discretion, repair or replace the defective Equipment with comparable Equipment or will provide a refund of the purchase price prorated over the remaining Limited Warranty period. In the event of repair or replacement, the Limited Warranty includes labor, materials, and freight during the first year of the Limited Warranty and then materials only for the balance of the Limited Warranty period based on the Limited Warranty coverage time period shown below for each category. All other costs, expenses or losses are excluded, including, but not limited to, costs for maintenance of the Equipment. The manner of fulfillment of the Limited Warranty (including investigation, timing of response, labor, and manner of shipment, if applicable) is at the sole discretion of Porter.

Standard Limited Warranty Coverage Time Period

10 years – Structural Components (Mast, Structure Pipes, and Ceiling attachments)

1 year – Mechanical (Safety Straps, Height Adjuster, Pulleys, Hinges)

1 year -- Electrical Components (Winches, Height Adjuster Motors, Control Systems)

Padding/Nets/Accessories– Covered by separate warranty, please see product information sheets

Exclusions and Conditions: This limited warranty excludes and does not apply to:

- Damage, whether natural or manmade, including, but not limited to fire, flood, wind, lightning or other acts of nature or God.
- Normal maintenance items such as fuses and belts.
- Normal wear and tear
- Use for other than intended purpose or use not in accord with generally approved practices
- Abuse, neglect, vandalism, alterations, modifications or misuse – as determined by Porter
- Equipment not installed by Porter Athletic Approved Installers
- Natural variations occurring in product finishes are not considered defects.
- User attached accessories
- Damage caused by operation of Equipment by persons not properly trained to operate it
- Equipment not routinely inspected and maintained by facility personnel or operators in accordance with the Porter Operation and Maintenance Manual.

In cases where repair or replacement of Equipment is deemed necessary, color or texture shall be in accord with that offered by Porter at the then current time.

Porter’s liability under this Limited Warranty is limited to repair or replacement of defective Equipment or a prorated refund as described above. The sole and exclusive remedy against Porter, or its parent, affiliates, subsidiaries, or distributors shall be for the repair, replacement or prorated refund, at Porter’s sole discretion, of any defective Equipment as provided herein. IN NO EVENT SHALL PORTER OR ITS PARENT, AFFILIATES, SUBSIDIARIES, OR DISTRIBUTORS BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES RELATING TO, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THE EQUIPMENT, INCLUDING WITHOUT LIMITATION, ANY LABOR AND /OR OTHER INSTALLATION EXPENSES INCURRED IN CONNECTION WITH THE REPLACEMENT OR REPAIR OF DEFECTIVE EQUIPMENT, EXCEPT TO THE EXTENT OTHERWISE SET FORTH HEREIN, OR ANY OTHER INDIRECT OR CONSEQUENTIAL DAMAGES OF ANY NATURE WHATSOEVER, INCLUDING, BUT NOT LIMITED TO, LOSS OF REVENUE, PROFITS OR OPPORTUNITY.

This document constitutes Porter’s Limited Warranty in its entirety and no other provisions express or implied exist. This Limited Warranty excludes, without limitation, any implied warranties of merchantability or fitness for a particular purpose. Any modifications of this Limited Warranty must be in writing and signed by an officer of Porter. No other person, agent or representative of Porter or any distributor or dealer has any authority to change or modify this Limited Warranty, either verbally or in writing.

Porter reserves the right to change required inspection and maintenance provisions for the Equipment from time to time and upon notification of such change, Customer must abide by those revised provisions or this limited warranty is void.

Various states may have laws affecting your rights under this Limited Warranty.

PORTER EXTENDED LIMITED PRODUCT WARRANTY

Product Line: Ceiling Suspended Volleyball Systems (the “Equipment”)

Porter Athletic (“Porter”) provides the below extended limited warranty (the “Extended Limited Warranty”) to the original purchaser of the Equipment and only as to the facility in which the Equipment was originally installed. The Extended Limited Warranty extends from the time the Equipment is installed by qualified installers and continues based on the timeline listed below under the terms and conditions stated below, including, but not limited to, the required inspections and maintenance referenced below (the “Maintenance Program”).

Extended Limited Warranty Terms and Conditions

Porter warrants the Equipment against defects in material or factory workmanship which cause failure of the Equipment within the applicable Extended Limited Warranty period and provided that notification of defects, together with proof of purchase, is given to Porter at Porter@porterathletic.com within thirty (30) days of discovery of such defect. Porter, once it confirms the existence of a covered defect and compliance with the Maintenance Program, will, at its sole discretion, repair or replace the defective Equipment with comparable Equipment or will provide a refund of the purchase price prorated over the remaining Extended Limited Warranty period. In the event of repair or replacement, the Extended Limited Warranty includes labor, materials, and freight during the first year of the Extended Limited Warranty and then materials only for the balance of the applicable Extended Limited Warranty based on the Extended Limited Warranty coverage time period shown below for each category. All other costs, expenses or losses are excluded, including, but not limited to, costs for maintenance of the Equipment. The manner of fulfillment of the Extended Limited Warranty (including investigation, timing of response, labor, and manner of shipment, if applicable) is at the sole discretion of Porter.

Extended Limited Warranty Coverage Time Period

15 years – Structural Components (Mast, Structure Pipes, and Ceiling attachments)

10 years – Mechanical (Safety Straps, Height Adjuster, Pulleys, Hinges)

5 years -- Electrical Components (Electric Winch, Height Adjuster Motors, Control Systems)

Padding/Nets/Accessories – Covered by separate warranty, please see product information sheets

Exclusions and Conditions: This Extended Limited Warranty excludes and does not apply to

- Equipment not properly inspected or maintained by a Porter certified inspector at least annually in accordance with the Maintenance Program set forth in the current Porter Installation, Operation and Maintenance Manual for Basketball Backstops of the series covering the involved Equipment which is delivered with the product, is available on line at www.porterathletic.com, or which may be ordered from Porter.
- Damage, whether natural or manmade, including, but not limited to fire, flood, wind, lightening or other acts of nature or God.
- Normal maintenance items such as fuses and belts.
- Normal wear and tear
- Use for other than intended purpose or use not in accord with generally approved practices
- Abuse, neglect, vandalism, alterations, modifications or misuse – as determined by Porter
- Equipment not installed by Porter Athletic Approved Installers
- Natural variations occurring in product finishes are not considered defects.
- User attached accessories
- Damage caused by operation of Equipment by persons not properly trained to operate it
- Equipment not routinely inspected and maintained by facility personnel or operators in accordance with the Porter Operation and Maintenance Manual.

In cases where repair or replacement of Equipment is deemed necessary, color or texture shall be in accord with that offered by Porter at the then current time.

Porter’s liability under this Extended Limited Warranty is limited to repair or replacement of defective Equipment or a prorated refund as described above. The sole and exclusive remedy against Porter, or its parent, affiliates subsidiaries, or distributors shall be for the repair, replacement or prorated refund, at Porter’s sole discretion, of any defective Equipment as provided herein. IN NO EVENT SHALL PORTER OR ITS PARENT, AFFILIATES, SUBSIDIARIES, OR DISTRIBUTORS BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES RELATING TO, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THE EQUIPMENT, INCLUDING WITHOUT LIMITATION, ANY LABOR AND /OR OTHER INSTALLATION EXPENSES INCURRED IN CONNECTION WITH THE REPLACEMENT OR REPAIR OF DEFECTIVE EQUIPMENT, EXCEPT TO THE EXTENT OTHERWISE SET FORTH HEREIN, OR ANY OTHER INDIRECT OR CONSEQUENTIAL DAMAGES OF ANY NATURE WHATSOEVER, INCLUDING, BUT NOT LIMITED TO, LOSS OF REVENUE, PROFITS OR OPPORTUNITY.

This document constitutes Porter’s Extended Limited Warranty in its entirety and no other provisions express or implied exist. This Extended Limited Warranty excludes, without limitation, any implied warranties of merchantability or fitness for a particular purpose. Any modifications of this Extended Limited Warranty must be in writing and signed by an officer of Porter. No other person, agent or representative of Porter or any distributor or dealer has any authority to change or modify this Extended Limited Warranty, either verbally or in writing.

Porter reserves the right to change required inspection and maintenance provisions for the Equipment from time to time and upon notification of such change, Customer must abide by those revised provisions or this Extended Limited Warranty is void.

Various states may have laws affecting your rights under this Extended Limited Warranty.

MANUAL OVERVIEW AND OPERATIONAL INSTRUCTIONS

MODEL No. 1900 POWR-NET® OVERHEAD SUPPORTED VOLLEYBALL SYSTEM

WARNING! DO NOT ATTEMPT TO OPERATE THIS UNIT WITHOUT REVIEWING THE OPERATIONAL INSTRUCTIONS

This manual has been prepared to assist you with the installation, operation and maintenance of the Model No. 1900 overhead supported volleyball system. Enclosed in this manual is a maintenance inspection list for your equipment, including operational information. We recommend that you read this manual to become familiar with the operation of the Model No. 1900 overhead supported volleyball system, and then assign it to the person responsible for the maintenance and inspection program. If you require additional copies of this manual, please call Porter Athletic, Inc.

The safest equipment can be damaged when used by the untrained. We suggest that qualified personnel supervise all utilized equipment. Refer to the operational instructions for further information concerning use of equipment. For ease of administering this maintenance program, we suggest that your equipment be numbered and a file maintained of its location, name of manufacturer, original item number, date of purchase, and maintenance performed. This will be useful when ordering replacement parts and keeping track of maintenance. Defective equipment should be marked "**DO NOT USE**" until replacement or repairs are completed.

Inspections should be performed periodically, depending upon the nature of the equipment and its use. When the equipment is exposed to heavy use, special inspections should be made in addition to the normal maintenance program. At minimum, a yearly inspection of the system is recommended. Any structural and/or electrical deviation from the Porter installation manuals and drawings, without written authorization, will void all warranties.

MODEL No. 1900 POWR-NET® OVERHEAD SUPPORTED VOLLEYBALL SYSTEM

WARNING!

The Model No. 1900 overhead supported volleyball system is powered by a 110-volt electric winch assembly, which develops tremendous forces. This equipment is only to be operated by qualified personnel to avoid structural damage or possible injury to the operator and other individuals in the gymnasium.

Caution should be exercised at all times for safety reasons, keeping the following guidelines in mind.

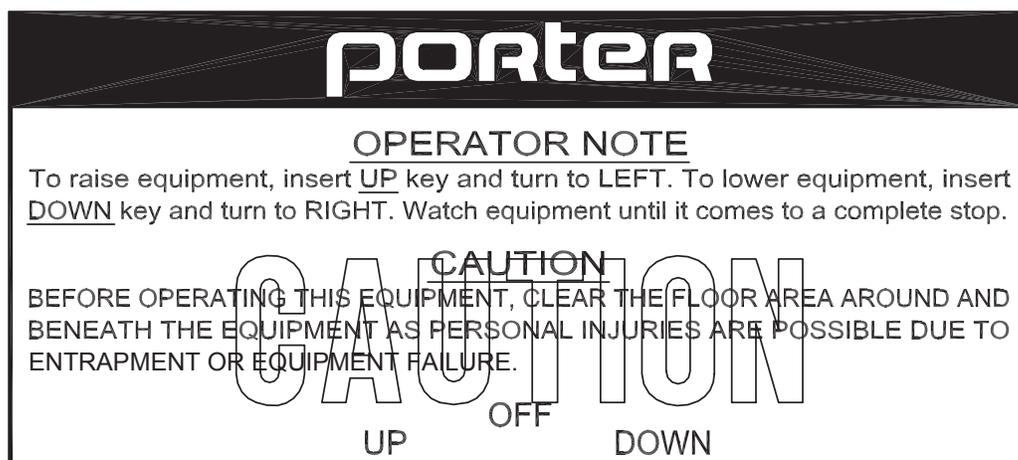
1. **ONLY** authorized, **TRAINED** personnel are to operate the Model No. 1900 overhead supported volleyball system. Authorized personnel is defined as an individual (or individuals) who is at least 21 years of age, has witnessed the proper operation of the unit, and is sanctioned by the facility as being responsible for the operation of the volleyball system.

2. The key switch or Powr-Touch keypad which controls the overhead supported volleyball system, must be flush mounted on the wall in a location which is in full view of the volleyball system, but not directly beneath the equipment.

3. Always make sure the area below the overhead supported volleyball system and in the path of travel is clear of all individuals or obstacles when raising or lowering the unit.

4. If the overhead supported volleyball system is controlled by a key switch, the system may be raised or lowered by placing the “UP” or “DOWN” key into the key switch and turning as indicated on the switch cover plate.

Note: The key switch must be labeled with the following operational instructions, as shown. If your key switch is not labeled properly, contact your Porter dealer immediately.



5. Always keep the operating device (keys from the key switch, code from Powr-Touch™ keypad, or Sportsonic® II transmitter) in the possession of a responsible adult who is trained in the proper use of this system.

6. It is critical the operator visually monitor the area around the overhead supported volleyball system through the entire raising and lowering travel cycles, making certain no one is at or near the overhead supported volleyball system travel. Pay particular attention to the unit as it nears a limit switch cut-off juncture. If the limits are not stopping the overhead supported volleyball system at the “DOWN” position with volleyball net oriented vertically, or if the limits are allowing the overhead supported volleyball system to rise higher than the top of the stored position, contact your Porter dealer immediately.

Again, the safest equipment can be damaged when used by untrained personnel. It is imperative the procedures and guidelines set forth in this manual are strictly observed.

MAINTENANCE INSTRUCTIONS

MODEL No.1900 POWR-NET[®] OVERHEAD SUPPORTED VOLLEYBALL SYSTEM

Porter recommends a maintenance inspection take place at least once a year by a Porter Certified Inspector, using the attached check list. Porter recommends the same check list be used as a guide for additional inspections by facility personnel or operators every 6 months. Any abnormal movement or sound during operation is cause for an immediate and thorough inspection. The annual inspection by a Porter Certified Inspector is required to maintain the extended limited warranty.

1. **General** - Make certain the Porter winch control device (key switch, Powr-Touch or Sportsonic II) is not substituted and is located within full view (but not beneath) the overhead volleyball system. Check the walls in close proximity to the system for any type of protrusion that may interfere with the raising or lowering of the unit (i.e., ducts, backstops, etc.).
2. **Electric winches**—should also be periodically inspected for proper operation of the limit switch assembly and control system. Faulty electrical components could create serious hazards. The winches should also be inspected for possible hairline cracks in the cable drum. If cracks are visible, do not use until unit is replaced or repaired. If winch is belt driven, Inspect the small and large belt drive pulleys, making certain they are properly secured to each shaft, and rotate concentrically. Also, check anchorage of winch to either the support pipe or wall; and loose anchorage should be repaired immediately. If the winch is gear driven, make sure the gear is not showing excessive signs of wear. Note any excessive noise as well as checking the limits are properly set to ensure complete stop before backstop comes within a safe distance of any obstructions. Make sure cable is properly spooling to ensure the limits will properly engage. The cable should evenly wrap the cable drum until the entire cable drum is wrapped or the limits are reached before the cable wraps on top of itself.
3. **Inspect Hoisting Cable** – Check cable for kinking and fraying. The best method is to take an oily or grease-filled rag and rub along the cable. The rag may hit broken strands of cable and snag. If the snags appear approximately ten times in a ten (10) foot length of cable, the cable should be replaced. This procedure not only checks the cable, but lubricates it for longer wear. Also, make certain the cable wraps evenly on the drum. Refer to the instructions in this manual for correcting an uneven cable wrap. Ensure the cable is free of any interferences which may be present along it's route. Ensure cable connections are secure and tight.

Note – The grinding noise of the hoist cable against the strands already wrapped on the winch-hoisting drum is normal with this hoist system.

4. **Inspect All Pulleys** – It is advisable to check all pulleys, checking the sheave bearing and shaft for excessive wear, replacing if necessary. Lubricate bearing at assembly.
5. **Inspect Folding Brace Hinge** – Check power lock hinge is properly folding and connections are secure. Ensure rivets installed to insure brace is secure. Hinge should be all the way locked so that a force on the back of the system does not cause the unit to start folding. Check that braces do not have any signs of deflecting.
6. **Inspect Structure Fittings** – Visually inspect clamps and support fittings for hairline cracks, loose bolts and corrosion, replacing defective parts as required. All fittings should be tightened occasionally to keep system rigid. Check all hinge fittings, tightening and lubricating hinge bolt as required. Replace worn bolts as required, utilizing the proper grade bolt and nut type as listed in the Fittings Parts List in this manual.

7. **Inspect Structure** – Visually inspect structure pipes for any sign of abnormal deflection or structural cracks.
8. **Volleyball Net Height Adjustment Feature**—Periodically (at least annually, depending on usage) lubricate the plated inside telescoping tube and height adjustment screw-rod with a aerosol spray type dry film lubricant. Run net height adjuster up and down (full stroke) several times, and wipe the telescoping tube dry to clean any dust or residue build-up. Spray the plated inside telescoping tube once again with a dry film lubricant. NOTE – protect the floor with a drop cloth to prevent a slippery build-up on the gymnasium floor.
9. **Volleyball Net Assembly**— Inspect the condition of the net and tension cable assembly. If there is evidence of fraying or wear, correct the condition by repairing or replacing the component.
10. **Safety Straps** – Check Saf-Strap to make sure it retracts properly into the housing unit. Also inspect strap tie-off on the equipment, ensuring it is securely attached. It is recommended that a safety lock be used on all systems. Consult factory for details if this unit was not included on the original installation. Ensure saf-strap warning label is not exposed as this indicates the strap has caught a load and replacement may be required.
11. **Mast** – Ensure that the system mast does not have any un-expected deformations or surface defects.
12. **Mast and Brace Hangers** – Check that mast hinges are rotating properly when system is folding. Check that mast hinge hardware is present and tight. Check that each brace connection is properly rotating and that the hardware securing these hangers are secure. Note any excessive wear
13. **Electrical System** – Check that the key switch or electrical system is working properly in both directions.
14. **Judges Stand** (if present) - Ensure that the judges stand is secured to the mast with all hardware. Confirm the ladder works properly and that platform is stable. Note any alterations to the judges stand on the inspection report.
15. **Other Equipment** – Other equipment such as height adjusters, winches, shot clocks, and electrical systems may have their own maintenance check lists to perform.

CEILING SUSPENDED VOLLEYBALL INSPECTION CHECK-

Please refer to previous pages for details on inspections.
 This checklist is to assist you in your inspection program.
 As you are making the inspection, enter "S" for satisfactory, or "R" for repair and replace.

INSPECT ALL ITEMS FOR EACH BACKSTOP											
WINCH											
#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12
HOISTING CABLE											
#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12
PULLEYS											
#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12
FOLDING BRACE HINGE											
#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12
STRUCTURAL FITTINGS											
#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12
STRUCTURE											
#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12
VOLLEYBALL NET HEIGHT ADJUSTMENT FEATURE											
#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12
VOLLEYBALL NET ASSEMBLY											
#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12
SAFTEY STRAPS											
#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12
MAST											
#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12
MAST AND BRACE HANGERS											
#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12
ELECTRICAL SYSTEMS											
#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12
JUDGES STAND											
#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12
OTHER EQUIPMENT											
#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12

TOOLS AND EQUIPMENT REQUIRED

To Be Provided by the Installer

- Scaffolding or Lift
- Chain hoist (at least as long as the attachment height)
- Hand tools, electric drill, drop cord, vise-grip pliers etc.
- Plumb bob or auto-leveling laser plumb bob
- Wire rope cutters for 1/4" wire rope
- Level
- Key switch assembly for drop cord operation

Optional Installation Kit

Electric Test Box Kit - Porter No. 02080-PWR

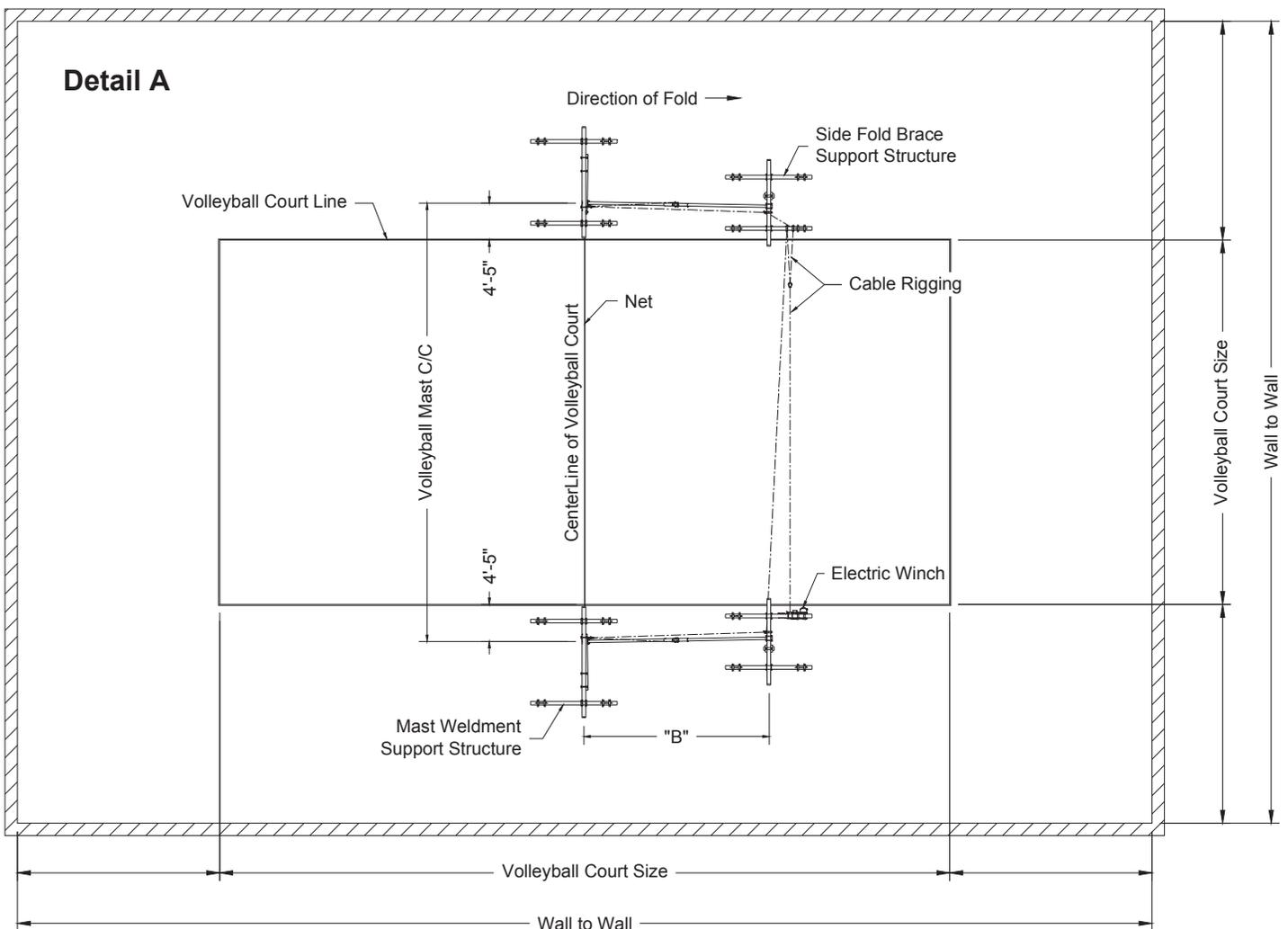
(Test box allows operation of equipment via extension cord supplied power.)

INSTALLER NOTES

SYSTEM OVERVIEW

Inventory parts listed on packing list to ensure parts required are accounted for. Inspect all components for possible shipping damage.

Refer to the installation drawing(s) for court location and size. If the court striping is not in place, verify size and location by referring to the onsite plans, or consulting with the General Contractor. It is imperative that this procedure is followed to assure proper placement of the system. Refer to **DETAIL A** for a typical single court layout. Do **not** install the system based on the diagram below. Always refer to the installation prints for exact system placement.

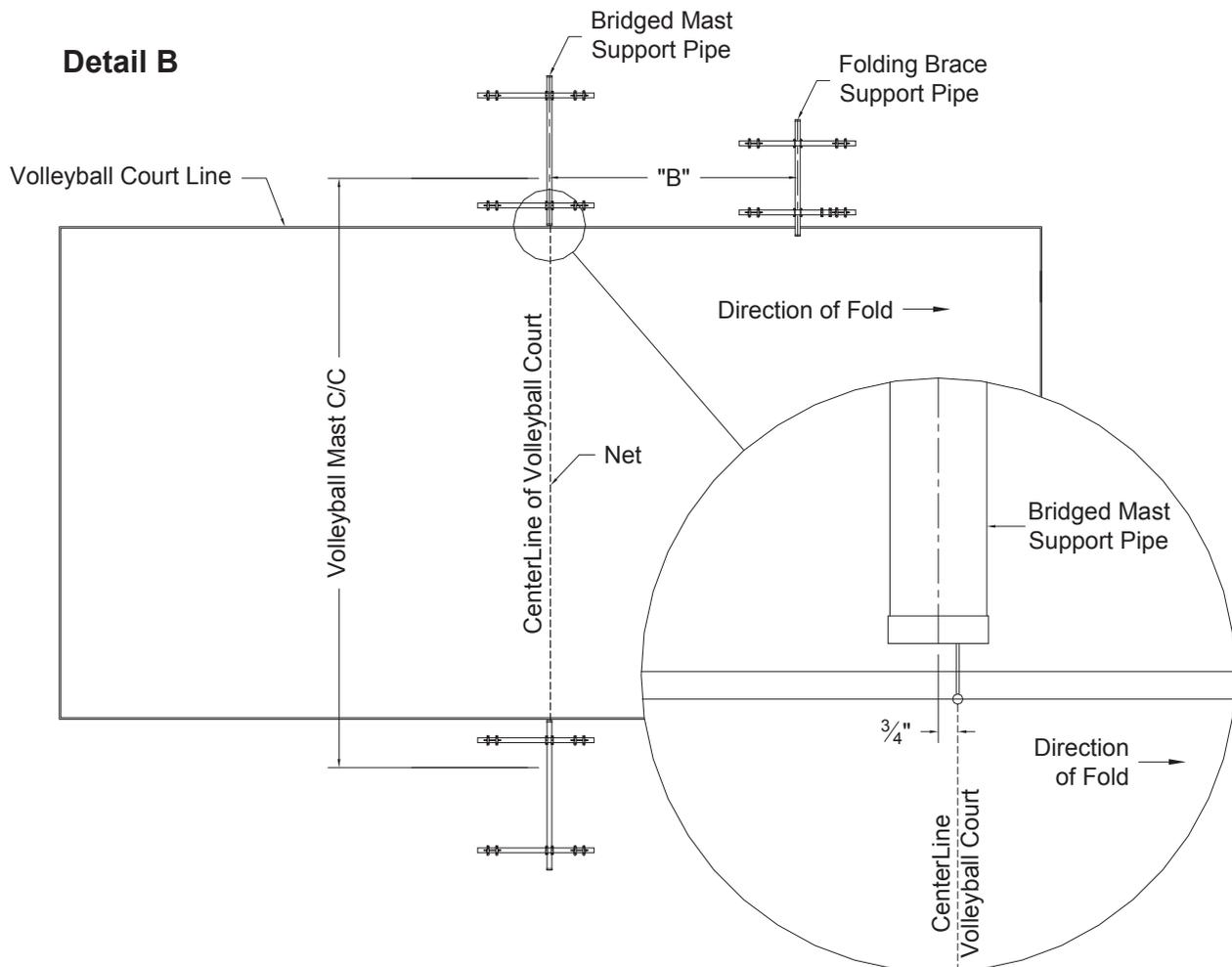


SUPERSTRUCTURE INSTALLATION

After confirming the court location, the bridged mast frame support pipes mounting location must be determined. It is important to note that the placement of the support pipes is critical, since further fore-aft or lateral adjustment of the mast frames may not be possible once the support pipes are installed. Refer to the installation drawing(s) for site-specific conditions. Start by marking reference points on the gymnasium floor at the court centerline to identify where the bridged mast frame must be located. It is recommended that masking tape or other type of non-permanent item be used for marking purposes.

Start at one side of the court at the court centerline. Mark a reference point at the outside of the court boundary line and in line with the court centerline and measure 4'-5" to locate mast drop tube centerline. **Note: If the system includes a judge's stand, ensure the additional 2'-2" offset is added to the correct side of the court.**

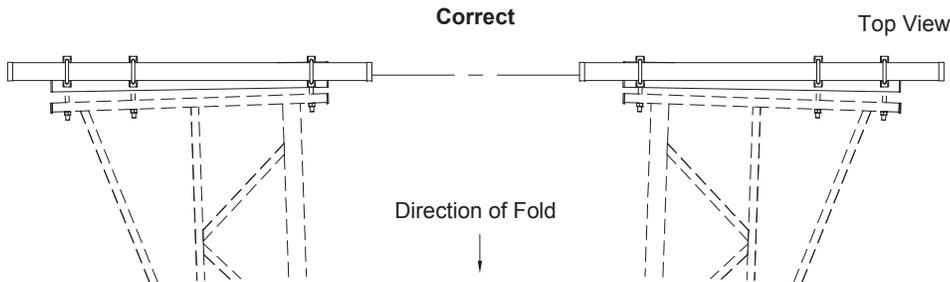
Using a plumb bob (or plumb laser), align the tool with the reference point marked on the floor and mark the overhead steel. Determine in which direction the mast hanger will be offset. Measure the required distance and mark that point. Install support pipes to overhead steel using the reference points and as specified by installation drawing(s). Repeat procedure at the opposite side of the court. Refer to **DETAIL B** for typical overhead supported volleyball system.



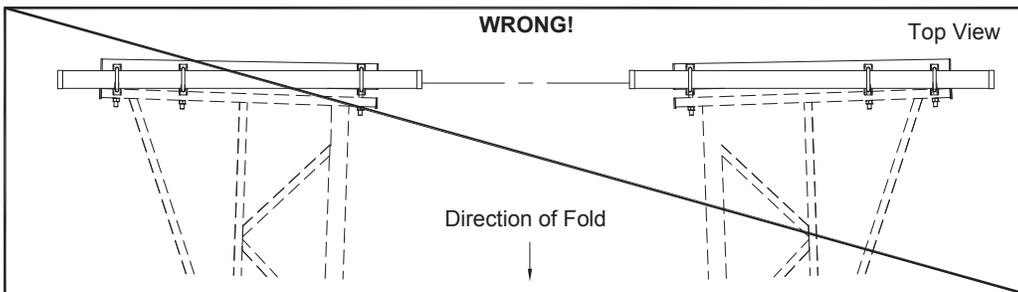
BRIDGED MAST FRAME INSTALLATION

Install adjustable hanger assemblies to the support pipe(s). Refer to **DETAIL C** and installation plans. The hinged hangers are a **LEFT** and **RIGHT** pair. It is imperative that the hangers are installed on the correct side so that when the unit folds up, the masts will “tow” in towards each other.

If necessary, make an allowance for the 3 15/16” hanger offset to maintain proper mast drop pipe centerline alignment. With a chain hoist or similar hoisting equipment, raise the mast up to the adjustable hanger assembly studs. Install the bridged mast frame to the adjustable hangers. **Note: Only three of the six holes located on the mast channel are utilized to anchor the mast. It is important that the correct holes are utilized in order for the weight-lock feature to function properly.** Refer to the installation drawing(s) or **DETAIL C** to determine which three holes to utilize. Center mast channel on hanger studs. Install lockwashers and nuts, but do not tighten at this time. Check if mast is hanging plumb. If necessary make adjustment by turning the hanger stud adjustment nuts. Tighten nuts on both hangers after completing the necessary adjustments. Repeat procedure for mast installation at opposite side of court.

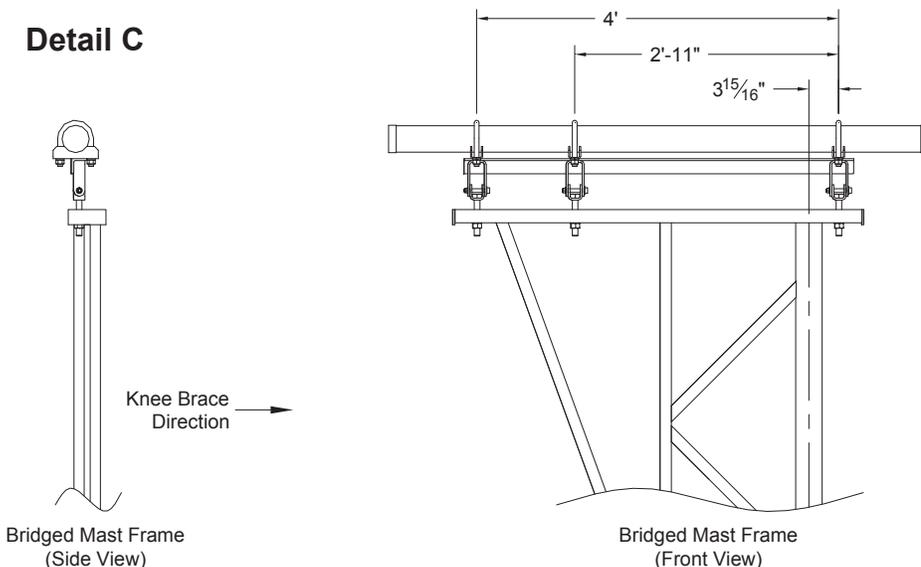


The dashed lines illustrate the bridged masts folded up into the storage position. The masts should angle in towards each other when in the storage position.

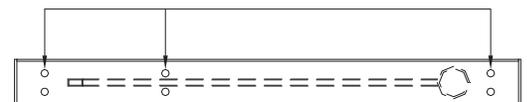


Damage to the system will occur if the system is installed such that the masts angle away from each other in the storage position. This will cause extreme loads to be placed on the net, masts, superstructure, and ceiling.

Detail C



Mast hanger attachment holes:
Use the three holes opposite the direction of the folding knee brace



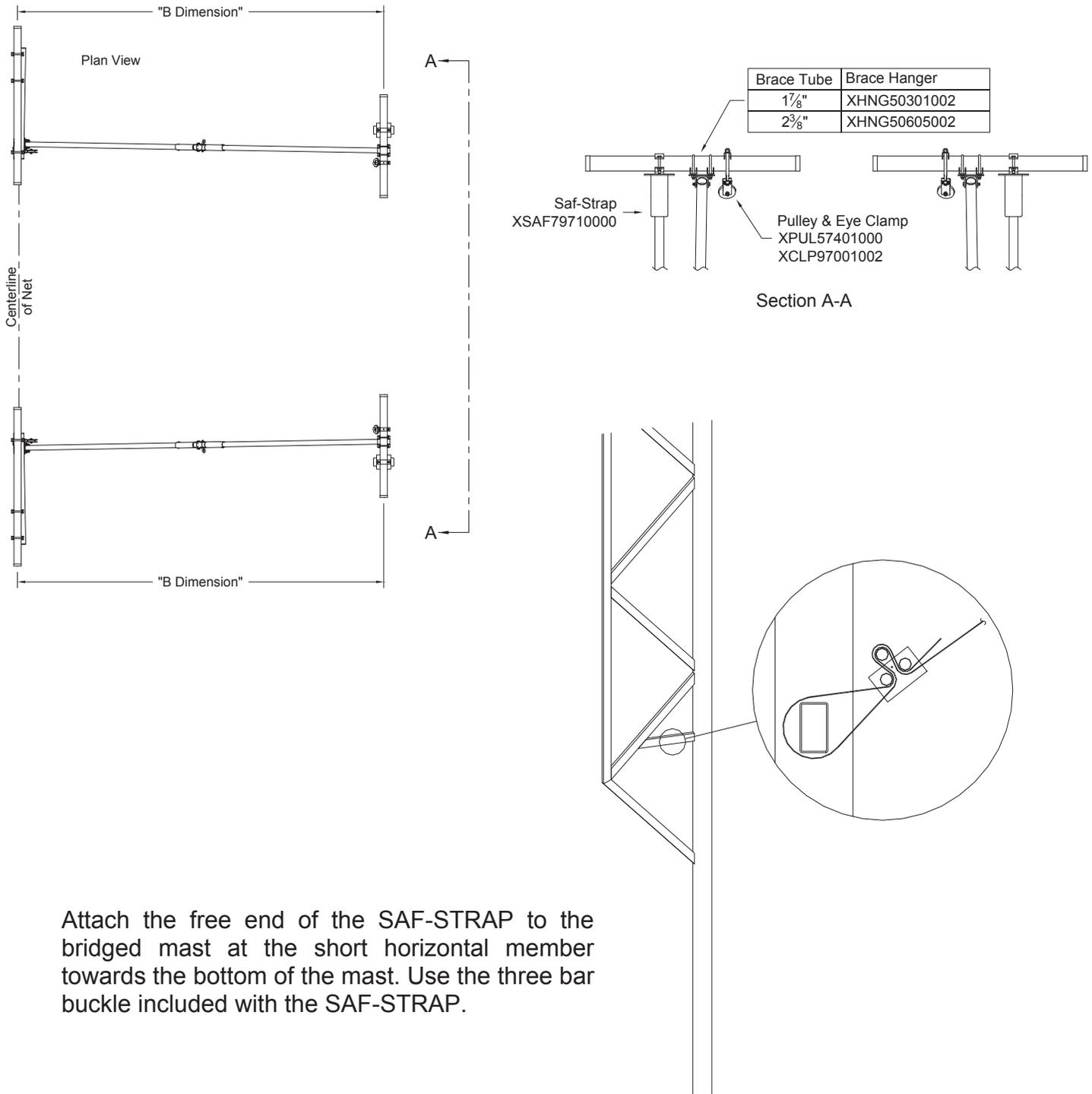
Top View of Bridged Mast Frame

Direction of Fold



BRACE INSTALLATION

Assemble the brace tubes to the adjustable hinge sleeve assembly per the dimensions shown on the installation drawing(s). Install the brace hangers to the overhead support pipe and mast pipe. Refer to the installation drawing(s) for proper location and dimensions. Attach upper end of brace assembly to the upper brace hanger. Attach lower brace pipe to the lower brace hanger. Plumb mast as required. Repeat steps at opposite side of court. If necessary, cut the mast pipe per installation drawing(s) dimension. Install swivel pulleys at brace locations and additional idler pulley support pipe(s) per the installation drawing(s). Ensure that the pulley cable paths are clear of any obstructions.



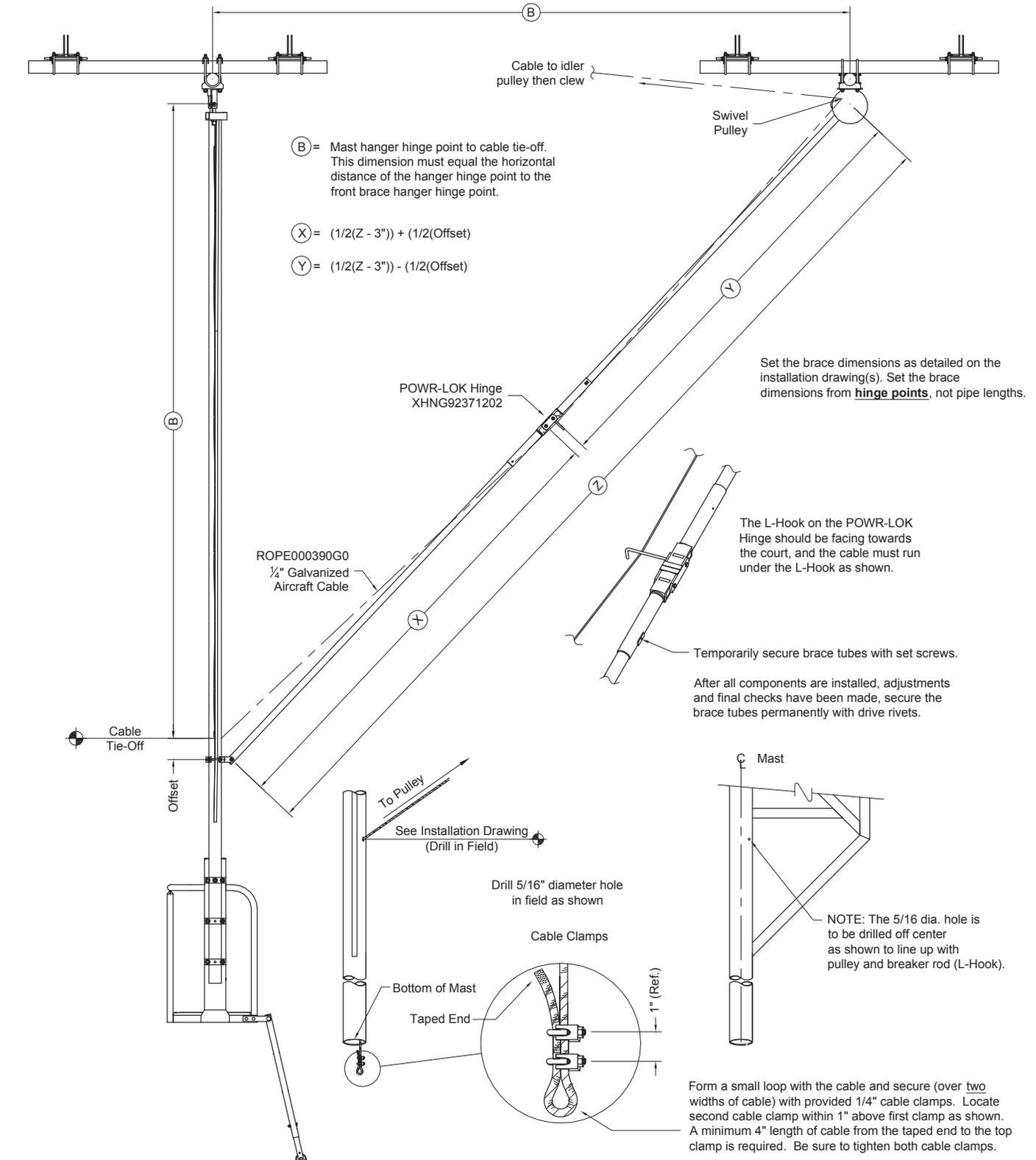
Attach the free end of the SAF-STRAP to the bridged mast at the short horizontal member towards the bottom of the mast. Use the three bar buckle included with the SAF-STRAP.

TYPICAL MAST TIE-OFF, SINGLE PULLEY OPERATION

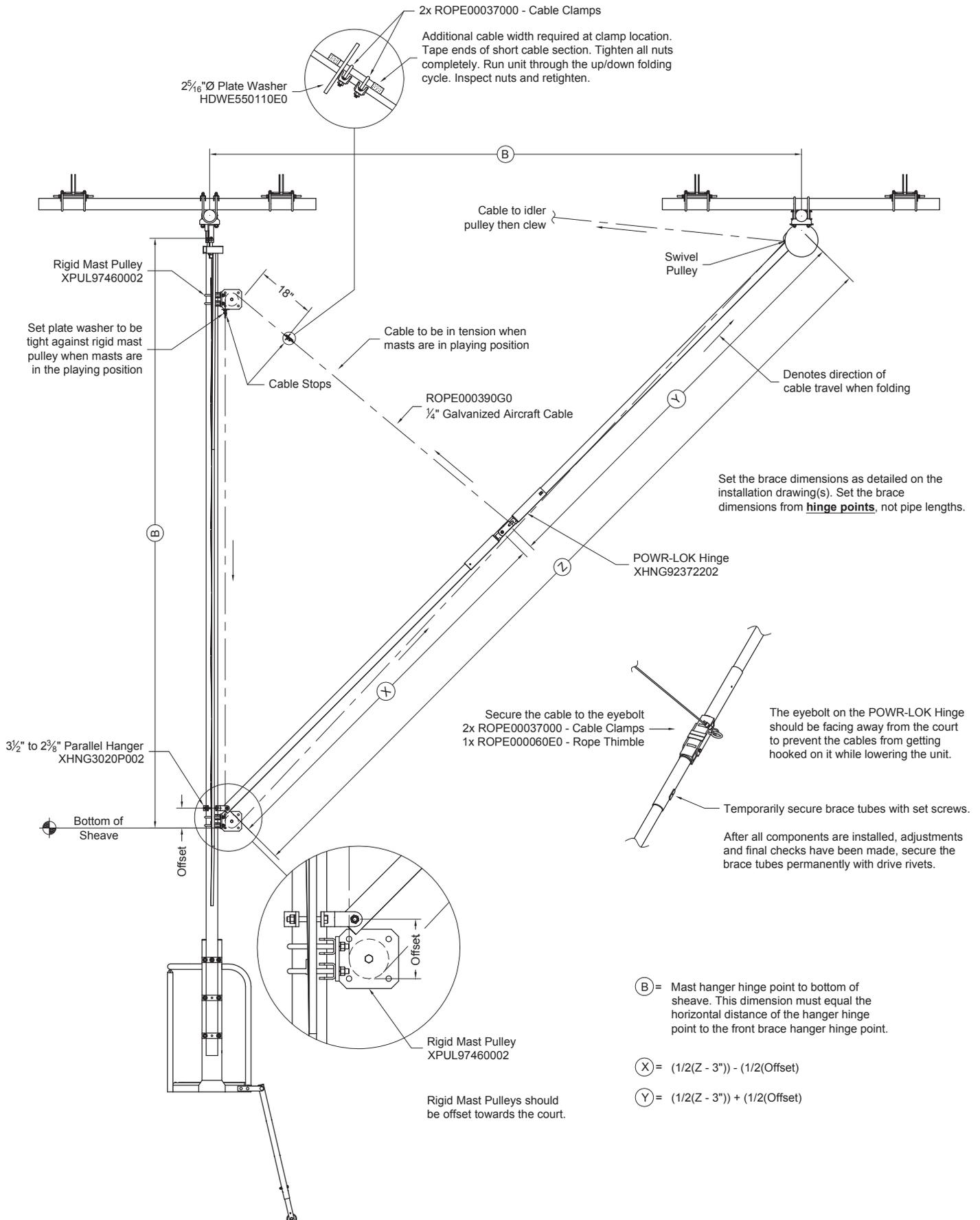
The Mast Tie-Off, Single Pulley configuration is used when the attachment height is below 25'-0".

The Three-Pulley configuration is used when the attachment height is above 25'-0". (see page 12)

The maximum attachment height is 32'-0".

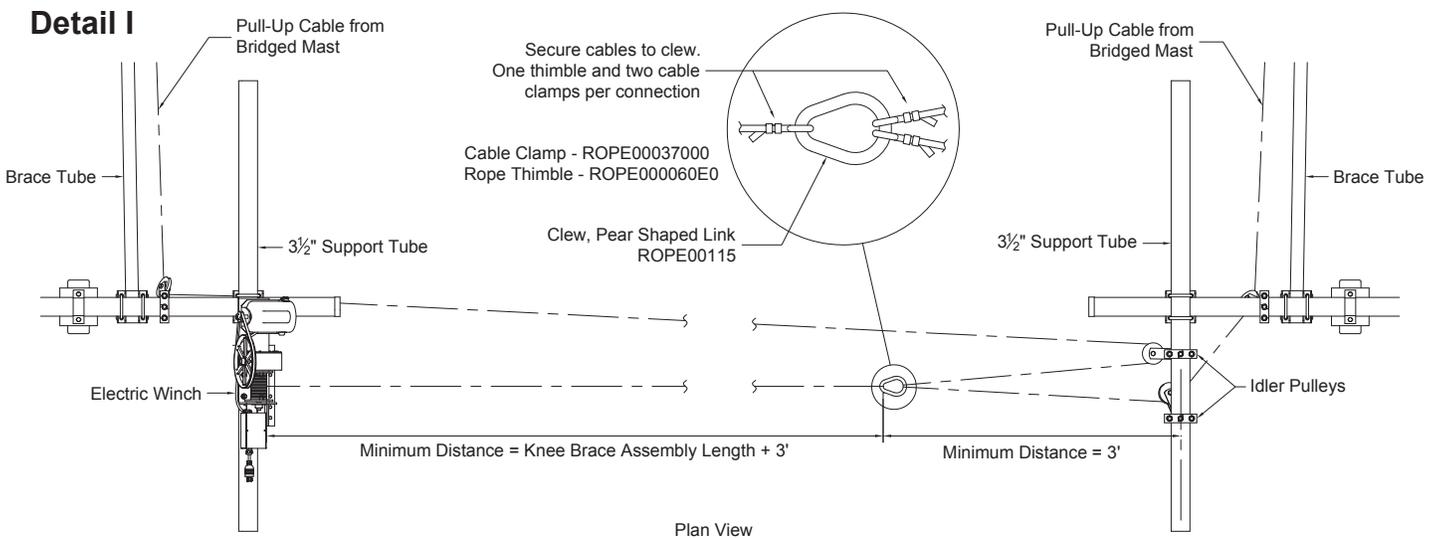
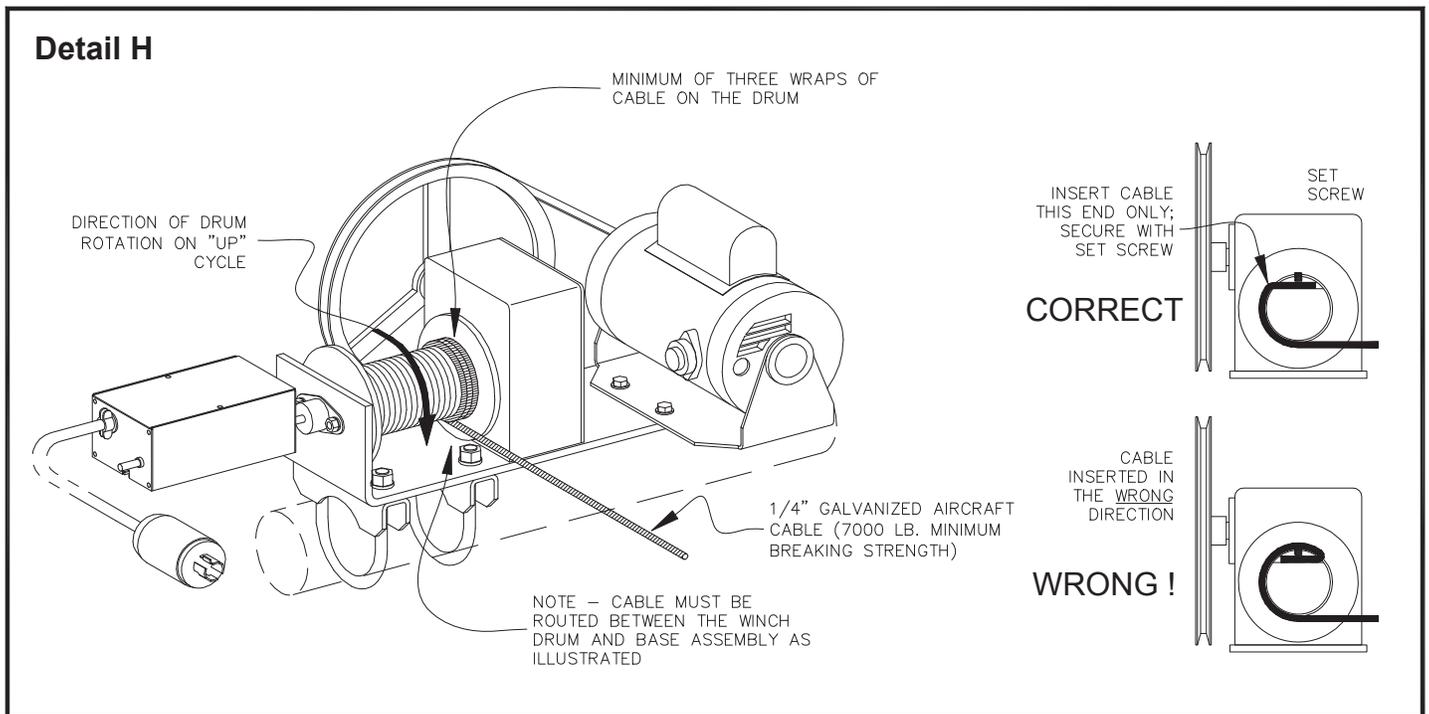


TYPICAL THREE-PULLEY OPERATION



ELECTRIC WINCH ASSEMBLY INSTALLATION

Mount the winch assembly to the winch support pipe. Refer to the installation drawing(s) for mounting location. Attach the primary cable to the winch drum. Ensure that the cable is dead wrapped around the drum a minimum of three times. Attach the other end to the narrow side of the traveling clew using a cable thimble and two cable clamps. Refer to **Detail H** and **Detail I** for additional information. **Note: The traveling clew assembly travel must be greater than the brace hinge center to center dimension. In addition, ensure the traveling clew's path is clear of any obstructions.**

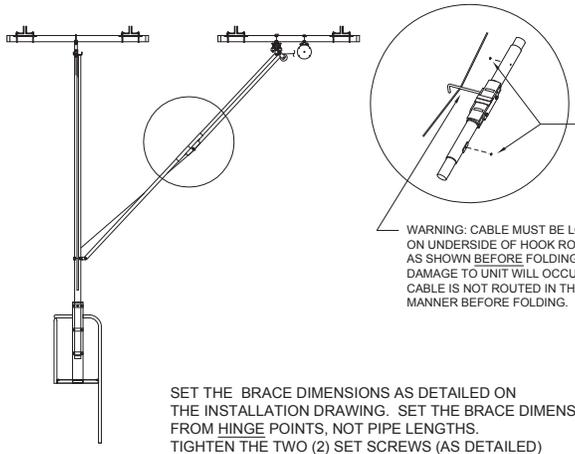


OPERATIONAL CHECK / BRACE FOLD ADJUSTMENTS

Operate unit in the “up” direction. **Important – Check to ensure that both side braces break at the center hinge joint and begin the folding action simultaneously. Make cable length adjustments at the traveling clew assembly until simultaneous folding action of the side brace assemblies is obtained.** Refer to **Detail I**. After verifying proper brace operation, secure each hinged brace sleeve assembly by drilling holes for two 5/16” hammer hit rivets. Refer to **Detail L**. Set both the “up” and the “down” limits. Refer to the limit switch adjustment instructions (provided with the winch, inside the limit switch box). Operate the unit through at least **three** complete **up/down** cycles, while observing for proper winch drum cable feed and proper limit switch operation.

Detail L

STEP 1

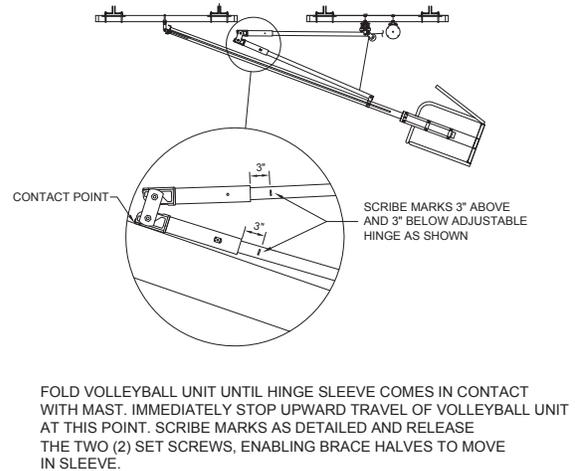


TIGHTEN TWO (2) SET SCREWS (LOCATED IN CHANNEL)

WARNING: CABLE MUST BE LOCATED ON UNDERSIDE OF HOOK ROD AS SHOWN BEFORE FOLDING UNIT! DAMAGE TO UNIT WILL OCCUR IF CABLE IS NOT ROUTED IN THIS MANNER BEFORE FOLDING.

SET THE BRACE DIMENSIONS AS DETAILED ON THE INSTALLATION DRAWING. SET THE BRACE DIMENSIONS FROM HINGE POINTS, NOT PIPE LENGTHS. TIGHTEN THE TWO (2) SET SCREWS (AS DETAILED)

STEP 2

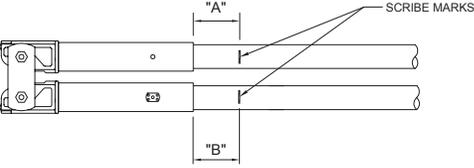


CONTACT POINT

SCRIBE MARKS 3" ABOVE AND 3" BELOW ADJUSTABLE HINGE AS SHOWN

FOLD VOLLEYBALL UNIT UNTIL HINGE SLEEVE COMES IN CONTACT WITH MAST. IMMEDIATELY STOP UPWARD TRAVEL OF VOLLEYBALL UNIT AT THIS POINT. SCRIBE MARKS AS DETAILED AND RELEASE THE TWO (2) SET SCREWS, ENABLING BRACE HALVES TO MOVE IN SLEEVE.

STEP 3



SCRIBE MARKS

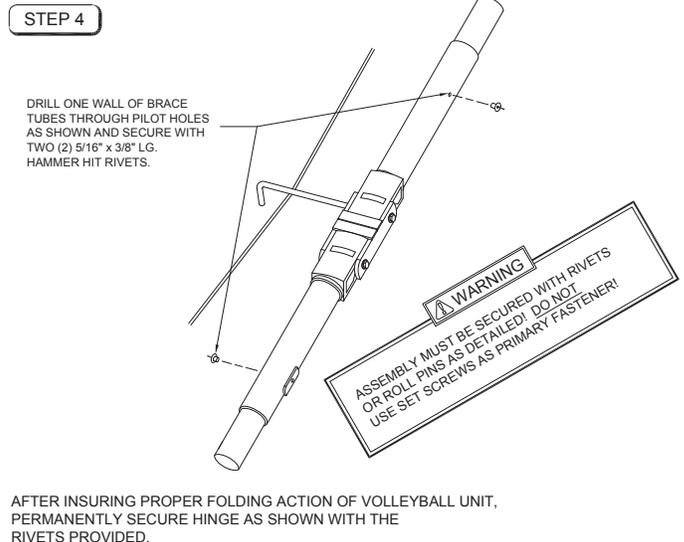
"A"

"B"

"A"+"B"= 6"

NOW CONTINUE TO HOIST THE VOLLEYBALL UNIT TO THE MAXIMUM "UP" POSITION. AT THIS POINT ADJUST THE SLEEVE ASSEMBLY SO THAT THE TOTAL OF DIMENSIONS "A" PLUS "B" EQUALS EXACTLY 6". EXAMPLE ("A") 2 1/4" PLUS ("B") 3 3/4"=6". TIGHTEN THE TWO SET SCREWS AND OPERATE BACKSTOP THROUGH A COMPLETE FOLDING CYCLE.

STEP 4



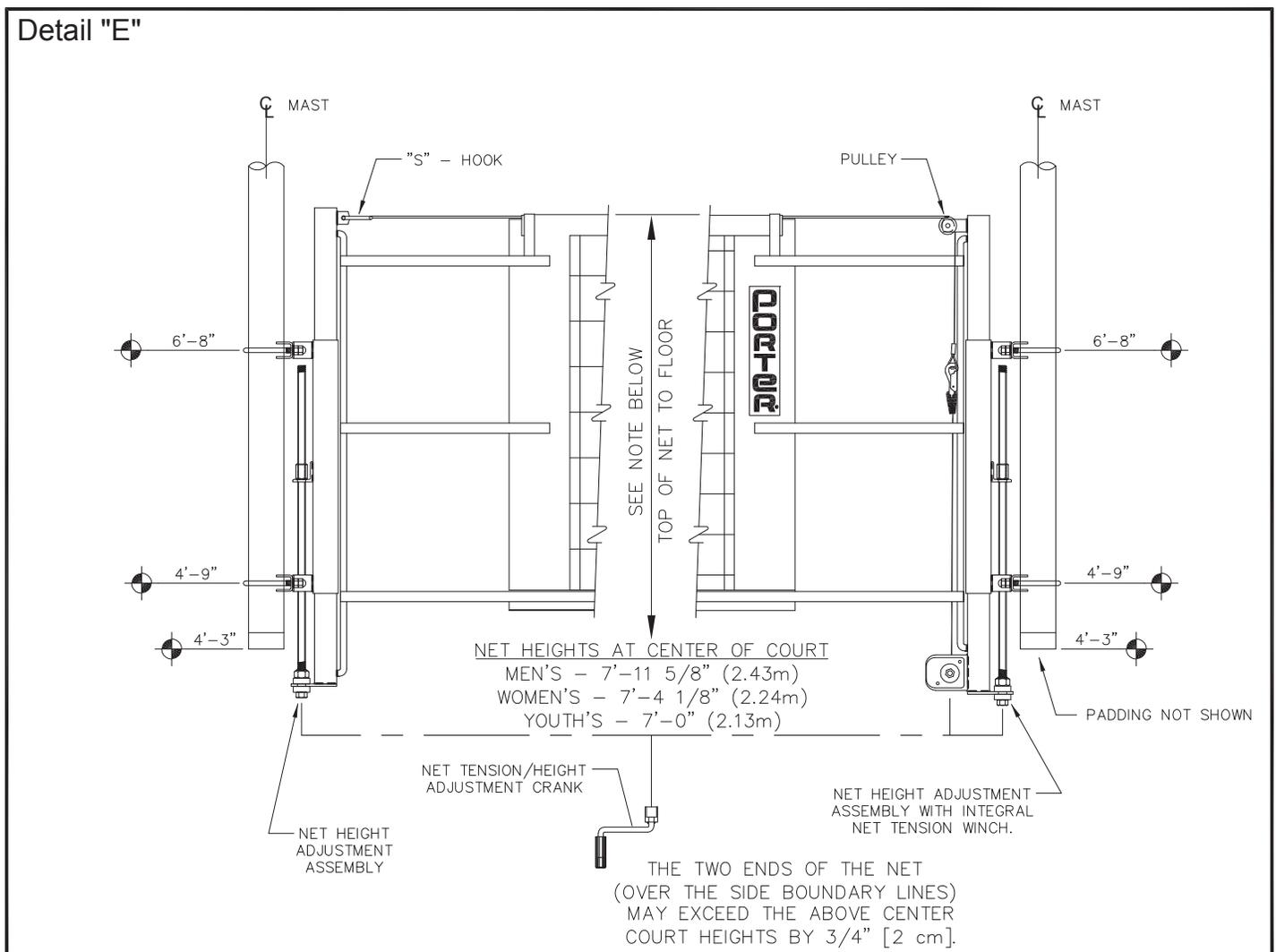
DRILL ONE WALL OF BRACE TUBES THROUGH PILOT HOLES AS SHOWN AND SECURE WITH TWO (2) 5/16" x 3/8" LG. HAMMER HIT RIVETS.

WARNING
ASSEMBLY MUST BE SECURED WITH RIVETS OR ROLL PINS AS DETAILED! DO NOT USE SET SCREWS AS PRIMARY FASTENER!

AFTER INSURING PROPER FOLDING ACTION OF VOLLEYBALL UNIT, PERMANENTLY SECURE HINGE AS SHOWN WITH THE RIVETS PROVIDED.

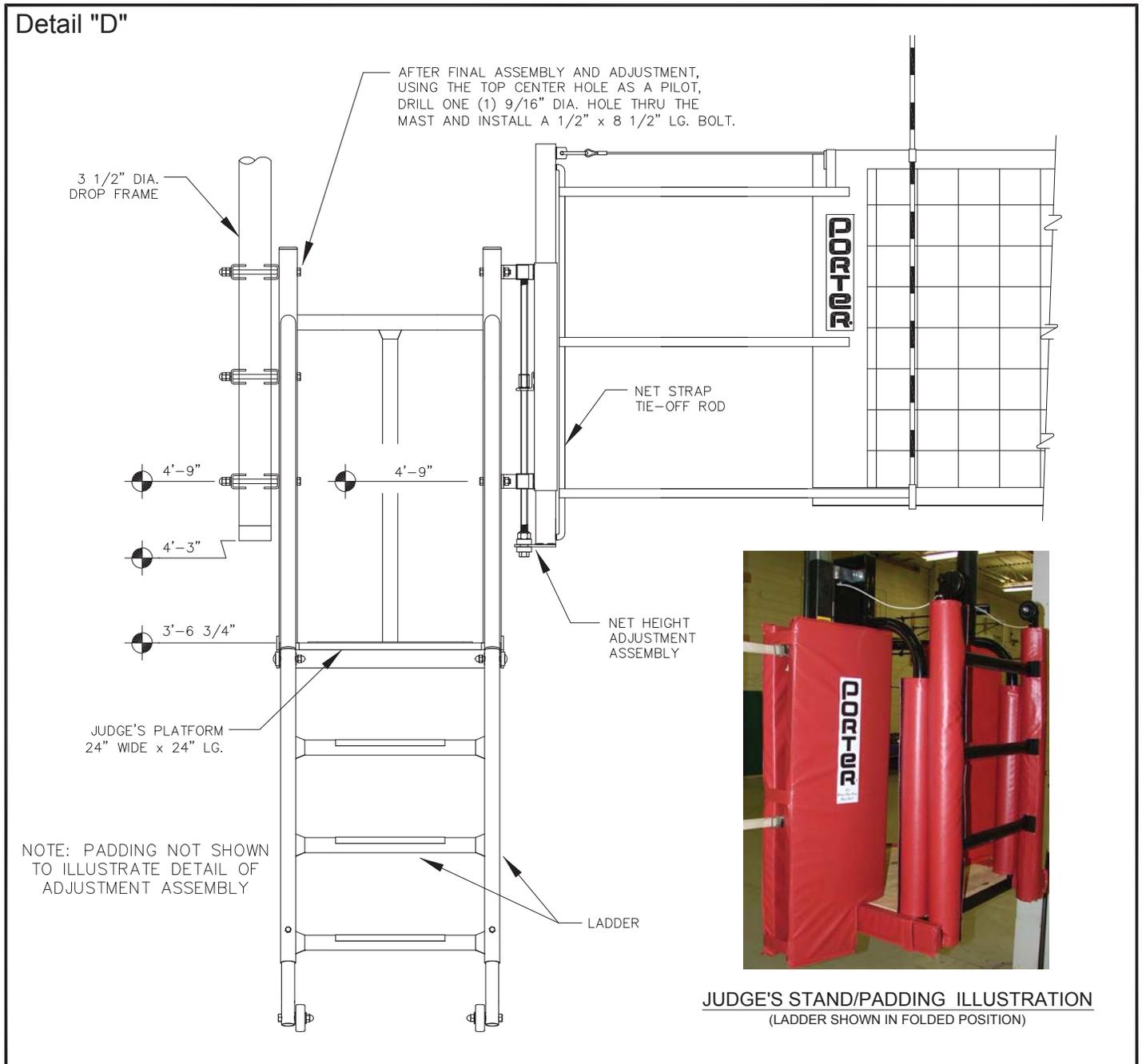
NET HEIGHT ADJUSTMENT ASSEMBLY INSTALLATION

First, it is important to note that there are three types of net height adjustment assemblies. One with a tension winch for net tension adjustment, and two with an upper net rope tie-off "S"-hook; one attaches to a drop frame for a court system without a judge's stand and one attaches to the judge's stand. The assemblies must be used in pairs for each court system. The pair for a court system without a judge's stand can be mounted on either mast within that system. For a court system with the judge's stand option, the net height adjustment assembly with tension winch **cannot** be installed on the judge's stand frame, but must be installed on the mast at the opposite side of the court. Attach assembly to mast with clamps and u-bolts. Refer to the installation drawing(s) for reference dimensions. Repeat for assembly at the opposite side of the court. Also see **DETAIL E**.

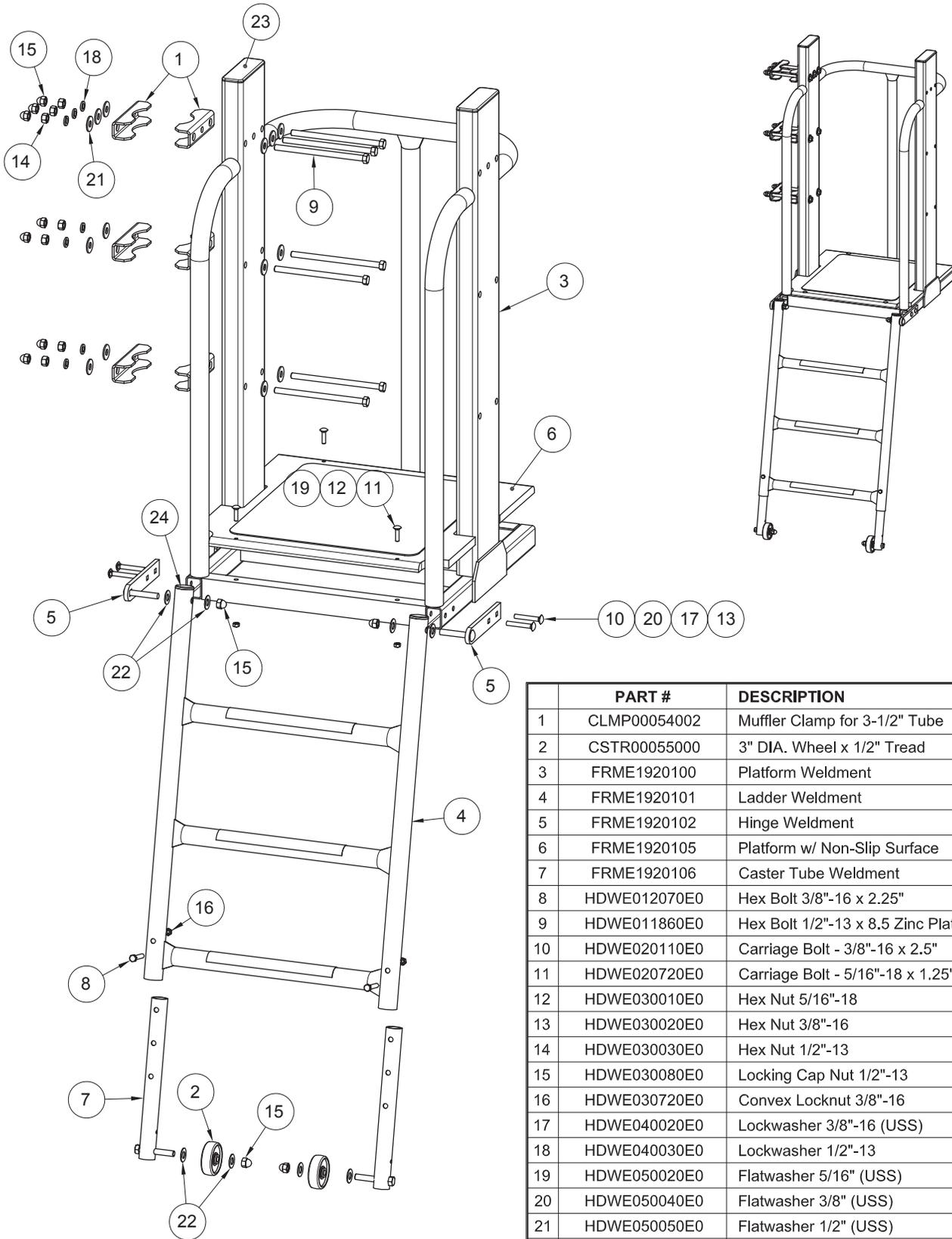


JUDGE'S STAND INSTALLATION

Install judge's stand on the selected mast using clamps and bolts, install judge's stand first to proper mast then assemble folding ladder to platform using hinge weldments and hardware. **Note: For all installations, the judge's stand folding ladder must be oriented on the same side as the folding knee brace assembly.** Refer to the installation drawing(s) and **DETAIL "D"** for the proper mounting location and reference dimensions. After final positioning, use the judge's stand frame attachment tube top center hole as a pilot/guide, drill a 9/16" Dia. hole thru the mast tube. Install a 1/2" x 8 1/2" lg. bolt. Refer to **DETAIL "D"**. Install wood platform to the base using the provided hardware.



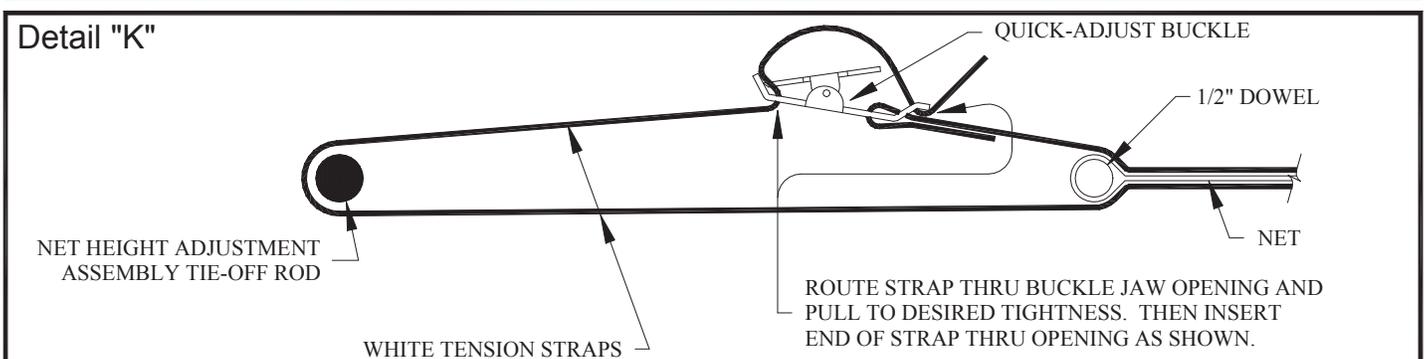
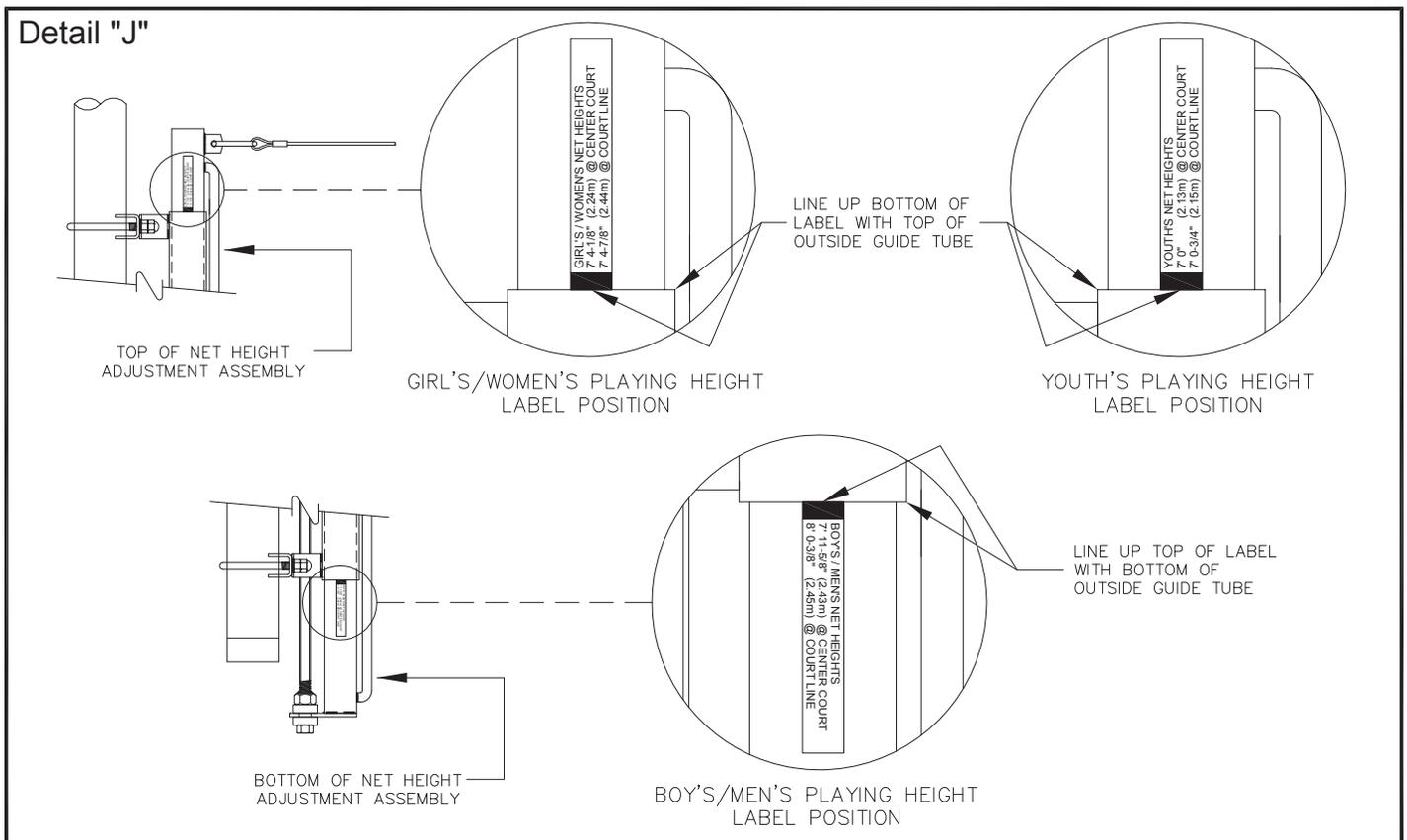
JUDGE'S STAND FRAME ASSEMBLY



	PART #	DESCRIPTION	QTY
1	CLMP00054002	Muller Clamp for 3-1/2" Tube	6
2	CSTR00055000	3" DIA. Wheel x 1/2" Tread	2
3	FRME1920100	Platform Weldment	1
4	FRME1920101	Ladder Weldment	1
5	FRME1920102	Hinge Weldment	2
6	FRME1920105	Platform w/ Non-Slip Surface	1
7	FRME1920106	Caster Tube Weldment	2
8	HDWE012070E0	Hex Bolt 3/8"-16 x 2.25"	2
9	HDWE011860E0	Hex Bolt 1/2"-13 x 8.5 Zinc Plated GR 5	7
10	HDWE020110E0	Carriage Bolt - 3/8"-16 x 2.5"	4
11	HDWE020720E0	Carriage Bolt - 5/16"-18 x 1.25"	4
12	HDWE030010E0	Hex Nut 5/16"-18	4
13	HDWE030020E0	Hex Nut 3/8"-16	4
14	HDWE030030E0	Hex Nut 1/2"-13	7
15	HDWE030080E0	Locking Cap Nut 1/2"-13	11
16	HDWE030720E0	Convex Locknut 3/8"-16	2
17	HDWE040020E0	Lockwasher 3/8"-16 (USS)	4
18	HDWE040030E0	Lockwasher 1/2"-13	7
19	HDWE050020E0	Flatwasher 5/16" (USS)	4
20	HDWE050040E0	Flatwasher 3/8" (USS)	4
21	HDWE050050E0	Flatwasher 1/2" (USS)	14
22	HDWE55045000	Nylon Flatwasher	8
23	PCAP00065000	2" x 6" Nylon End Cap (Black)	2
24	PCAP00066000	1.66" Nylon End Cap (Black)	2

VOLLEYBALL NET INSTALLATION

Attach one end of volleyball net cable to net height adjustment assembly "S"-hook. Close the "S"-hook with pliers or similar tool. Pull the volleyball net across the court to the net height adjustment assembly with integral tension winch. Route the volleyball net cable through the height adjustment assembly's top pulley. Pull the tension winch strap up to the cable loop. Attach the tension winch strap hook through the loop. Refer to **DETAIL J**. Using the winch crank, tighten the volleyball net. **Caution: Do not over-tighten the volleyball net, as damage to the net or system may result.** Additional net tension can be accomplished by adjusting the three white straps at each end of the volleyball net. Refer to **Detail K**. Set the volleyball net to the men's playing height (7'-11 5/8" [2.43m]) by turning the adjusting screw with the winch crank. Perform same step at opposite net height adjustment assembly. Confirm height at center court, and attach the men's playing height label to each net height assembly. Next, set the volleyball net to the women's playing height (7'-4 1/8" [2.24m]) as previously instructed and attach the women's playing height label. Next, set the volleyball net to the youth's playing height (7'-0" [2.13m]) as previously instructed and attached the youth's playing height label. **Note: The two ends of the net (over the side boundary lines) may exceed the above center court heights by 3/4" [2 cm].** Refer to **DETAIL E**.



PROTECTIVE PADDING INSTALLATION

Protective padding installation is **mandatory** for all Overhead Supported Volleyball Systems. Typically, the protective padding is installed on the bridged mast supports, volleyball net height adjusters, and the judge's stand assembly ladder rails after **all** final system adjustments are performed. Each protective pad is equipped with Velcro hook and loop strips to allow easy installation to the system components. **Note: Volleyball regulations require a minimum dimension of 6'-0" from the top of the protective pad to the playing surface. Ensure the pads are installed at the correct height.**

Install the Frame Pad on the side with the net tensioning winch. If the system does not include a judge's stand then install another Frame Pad on the side with the net cable tie-off.



Frame Pad



Frame Pad Installed

JUDGE'S STAND PADDING INSTALLATION



Edge Padding

Apply adhesive backed Velcro around the base and secure edge padding in place.



Ladder Leg Padding

Take the foam out of the vinyl wrap case and wrap it around the ladder leg so that the cut out line up with the ladder rungs and the hinge. Wrap the vinyl casing around the foam and secure it with the Velcro flaps.



Judges Stand Step Cover Pad
Velcro strips wrap around ladder leg padding



Vertical Post Padding

Take the foam out of the vinyl wrap case and wrap it around the posts. Wrap the vinyl casing around the foam and secure it with the Velcro flaps.



Mast Connection Padding

Wrap the pad around the Mast and the Judge's Stand frame where the two are bolted together. Secure the pad with the Velcro flap.

JUDGE'S STAND PADDING INSTALLATION



Height Adjuster Padding

Wrap the pad around the Height Adjuster and the Judge's Stand frame where the two are bolted together. Secure the pad with the Velcro flap.

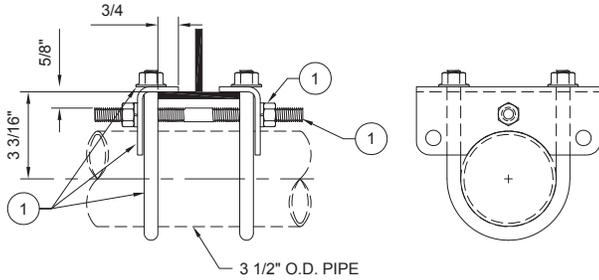


Complete Judge's
Stand Padding
Without Judges
Stand Step Cover Pad



Complete Judge's
Stand Padding
With Judges
Stand Step Cover Pad

COMMON PARTS DETAILS



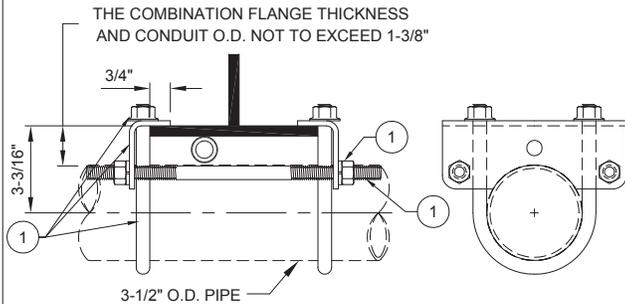
STANDARD "580" GIRDER CLAMP ASSEMBLY

(SINGLE ROD - FOR FLANGE THICKNESS OF 1/2" THICK OR LESS)

Required Parts For One (1) Complete SINGLE ROD Assembly

Item #	Qty.	Part Number	Description
1	2	FITG 580 xx1	STANDARD GIRDER CLAMP ASSEMBLY
INCLUDES:			(2) PRECISION DIE-FORMED GIRDER CLAMPS
			(2) 3-1/2"Ø U-BOLT - 1/2"Ø
			(4) 1/2"Ø SERRATED FLANGE NUTS
			(1) 1/2"Ø THREADED ROD X" LG
			(2) 1/2"Ø LOCKWASHER
			(2) 1/2"Ø HEX NUT

Part Number	Threaded Rod Length
FITG 580 121	12"
FITG 580 181	18"
FITG 580 241	24"



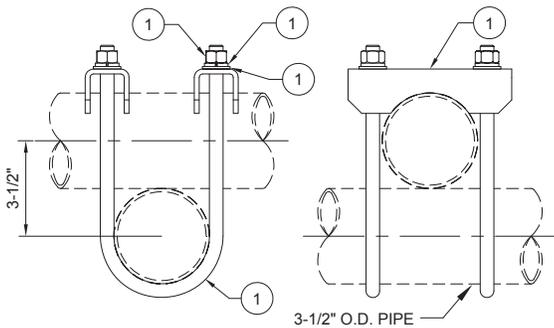
STANDARD "580" GIRDER CLAMP ASSEMBLY

(TWO RODS - FOR FLANGE THICKNESS OF 1/2" TO 1 3/8" THICK)

Required Parts For One (1) Complete DOUBLE ROD Assembly

Item #	Qty.	Part Number	Description
1	2	FITG 580 xx2	STANDARD GIRDER CLAMP ASSEMBLY
INCLUDES:			(2) PRECISION DIE-FORMED GIRDER CLAMPS
			(2) 3-1/2"Ø U-BOLT - 1/2"Ø
			(4) 1/2"Ø SERRATED FLANGE NUTS
			(2) 1/2"Ø THREADED ROD X" LG
			(4) 1/2"Ø LOCKWASHER
			(4) 1/2"Ø HEX NUT

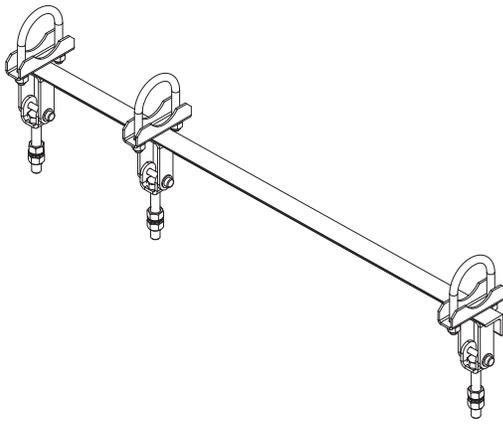
Part Number	Threaded Rod Length
FITG 580 122	12"
FITG 580 182	18"
FITG 580 242	24"



3-1/2" TO 3-1/2" RIGHT ANGLE CONNECTION

Required Parts For One (1) Complete 3-1/2" TO 3-1/2" RIGHT ANGLE Assembly

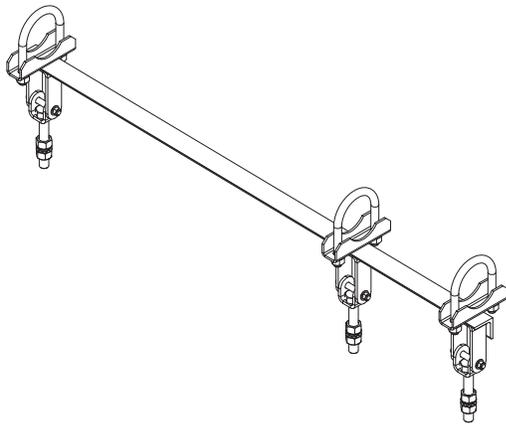
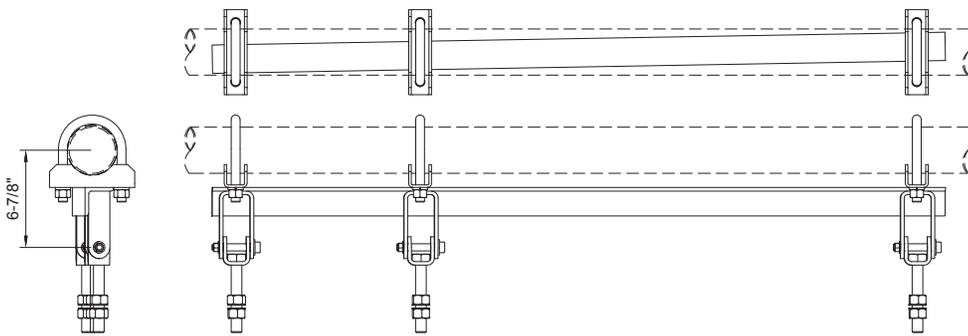
Item #	Qty.	Part Number	Description
1	1	XFTGRA33	RIGHT ANGLE CONNECTION 3-1/2" TO 3-1/2"
INCLUDES:			(2) FORMED PIPE CLAMP 3-1/2"
			(2) 3-1/2"Ø U-BOLT - 1/2"-13 X 9-1/4" LG
			(4) 1/2"Ø LOCKWASHER
			(4) 1/2"Ø HEX NUT
			(4) 1/2" FLAT WASHER



VOLLEYBALL MAST HANGER LEFT

Required Parts For One (1) Complete VB MAST HANGER LEFT Assembly

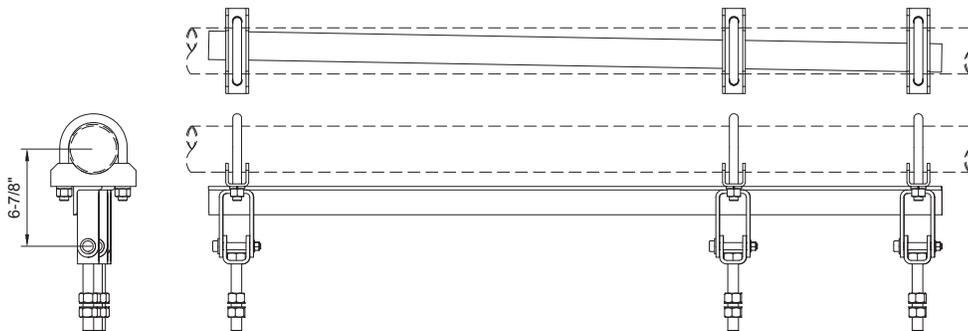
Item #	Qty.	Part Number	Description
1	1	XHNG91202L	VB MAST HANGER LEFT
INCLUDES:			(1) HINGE FRAME WELDMENT
			(3) HINGE STUD WELDMENT
			(3) 1/2"Ø x 2-1/2"Lg. SHOULDER BOLT
			(3) 1/2"Ø FLAT WASHER
			(3) 3/8"Ø FLAT WASHER
			(3) 3/8"Ø CONVEX LOCKNUT
			(6) 3/4"Ø INTERNAL TOOTH LOCKWASHER
			(6) 3/4"Ø HEX NUT
			(3) 3-1/2"Ø U-BOLT - 5/8"Ø
			(6) 5/8"Ø LOCKWASHER
			(6) 5/8"Ø HEX NUT



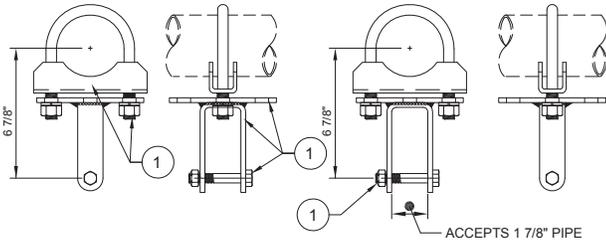
VOLLEYBALL MAST HANGER RIGHT

Required Parts For One (1) Complete VB MAST HANGER RIGHT Assembly

Item #	Qty.	Part Number	Description
1	1	XHNG91202R	VB MAST HANGER RIGHT
INCLUDES:			(1) HINGE FRAME WELDMENT
			(3) HINGE STUD WELDMENT
			(3) 1/2"Ø x 2-1/2"Lg. SHOULDER BOLT
			(3) 1/2"Ø FLAT WASHER
			(3) 3/8"Ø FLAT WASHER
			(3) 3/8"Ø CONVEX LOCKNUT
			(6) 3/4"Ø INTERNAL TOOTH LOCKWASHER
			(6) 3/4"Ø HEX NUT
			(3) 3-1/2"Ø U-BOLT - 5/8"Ø
			(6) 5/8"Ø LOCKWASHER
			(6) 5/8"Ø HEX NUT

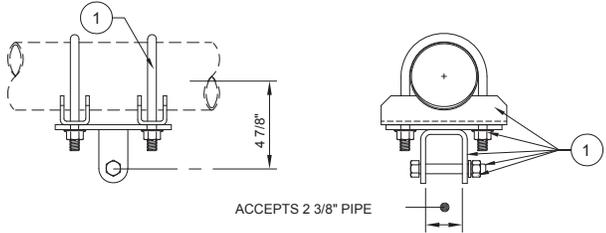


Required Parts For One (1) Complete BRACE HANGER Assembly



BRACE HANGER ASSEMBLY (LONG)

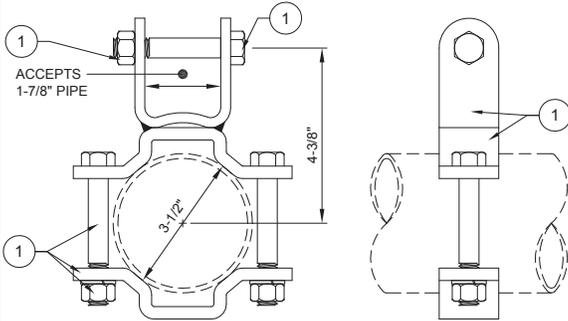
Item #	Qty.	Part Number	Description
1	1	XHNG 50605 002	BRACE HANGER ASSEMBLY (LONG)
INCLUDES:			(1) HINGE/PLATE WELD (LONG)
			(1) FORMED PIPE CLAMP 3-1/2"Ø
			(1) 1/2"Ø CONVEX LOCK NUT
			(1) 1/2"Ø x 3"Lg. HEX HEAD
			(1) 3-1/2"Ø U-BOLT - 5/8"Ø
			(2) 5/8"Ø LOCKWASHER
			(2) 5/8"Ø HEX NUT



BRACE HANGER ASSEMBLY ("W" SERIES)

Required Parts For One (1) Complete "W" - SERIES BRACE HANGER Assembly

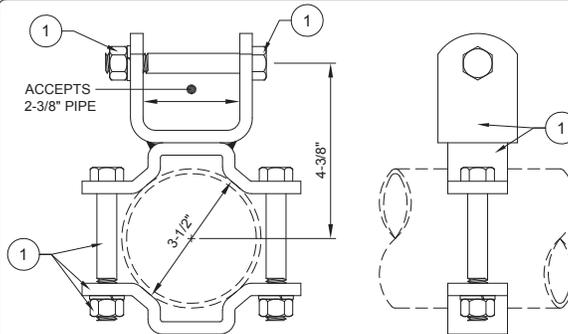
Item #	Qty.	Part Number	Description
1	1	XHNG 50301 002	BRACE HANGER ASSEMBLY
INCLUDES:			(1) HINGE/PLATE WELDMENT
			(2) FORMED PIPE CLAMP 3-1/2"Ø
			(2) 3-1/2"Ø U-BOLT - 1/2"Ø
			(4) 1/2"Ø SERRATED FLANGE NUT
			(1) 1/2"Ø x 3"Lg. SHOULDER BOLT
			(1) 3/8"Ø FLATWASHER
			(1) 3/8"Ø CONVEX LOCK NUT



3-1/2" TO 1-7/8" PARALLEL HANGER

Required Parts For One (1) Complete 3-1/2"Ø to 1-7/8"Ø PARALLEL HANGER Assembly

Item #	Qty.	Part Number	Description
1	1	XHNG 3010P 002	3-1/2"Ø TO 1-7/8"Ø PARALLEL HANGER ASSEMBLY
INCLUDES:			(1) PARALLEL HANGER WELD
			(1) INTERLOCK HALF CLAMP
			(1) 1/2"Ø x 3"Lg. HEX HEAD CAP SCREW
			*** GRADE 5 ***
			(1) 1/2"Ø CONVEX LOCKNUT
			(2) 1/2"Ø x 3-3/4"Lg. HEX HEAD CAP SCREW
			*** GRADE 5 ***
			(2) 1/2"Ø LOCKWASHER
			(2) 1/2"Ø HEX NUT

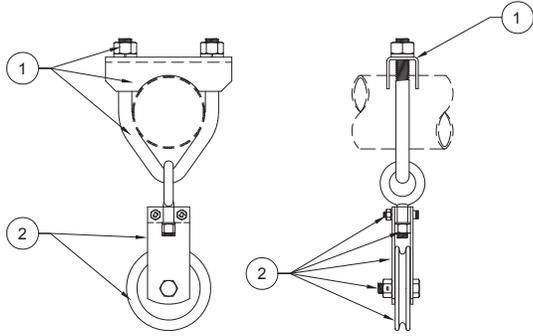


3-1/2"Ø TO 2-3/8"Ø PARALLEL HANGER

Required Parts For One (1) Complete 3-1/2"Ø to 2-3/8"Ø PARALLEL HANGER Assembly

Item #	Qty.	Part Number	Description
1	1	XHNG 3020P 002	3-1/2"Ø TO 2-3/8"Ø PARALLEL HANGER ASSEMBLY
INCLUDES:			(1) PARALLEL HANGER WELD
			(1) INTERLOCK HALF CLAMP
			(3) 1/2"Ø x 3-3/4"Lg. HEX HEAD CAP SCREW
			*** GRADE 5 ***
			(2) 1/2"Ø LOCKWASHER
			(2) 1/2"Ø HEX NUT
			(1) 1/2"Ø CONVEX LOCKNUT
			*** GRADE C ***

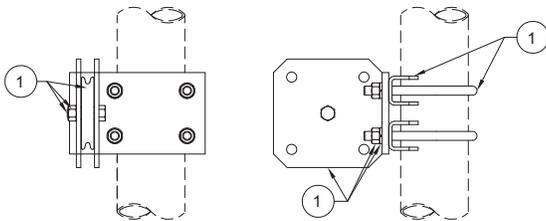
Required Parts For One (1) Complete PULLEY AND EYE CLAMP Assembly



PULLEY AND EYE CLAMP ATTACHMENT ASSEMBLY

Item #	Qty.	Part Number	Description
1	1	XCLP 97001 002	PIPE EYE CLAMP ASSEMBLY
INCLUDES:			(1) FORMED PIPE CLAMP 3-1/2"Ø (1) 3-1/2"Ø U-BOLT - 5/8"Ø (2) 5/8"Ø LOCKWASHER (2) 5/8"Ø HEX NUT
2	1	XPUL 57401 000	SWIVEL PULLEY ASSEMBLY
INCLUDES:			(1) FORGED EYE BOLT 1/2"Ø x 1-1/2"Lg. (1) SWIVEL BLOCK (1) NYLON WASHER (1) 1/2"Ø HEX NUT (2) PULLEY SIDE PLATE (2) 1/4"Ø X 1 1/2"Lg. SOCKET HEAD CAP SCREW ***GRADE 8*** (2) 1/4"Ø LOCK NUT (2) 1/4"Ø LOCKWASHER (1) MACHINED PULLEY SHEAVE (1) OILITE BUSHING (1) 1/2"Ø X 1 3/4"Lg. HEX HEAD CAP SCREW (1) CONVEX LOCKNUT 1/2"Ø

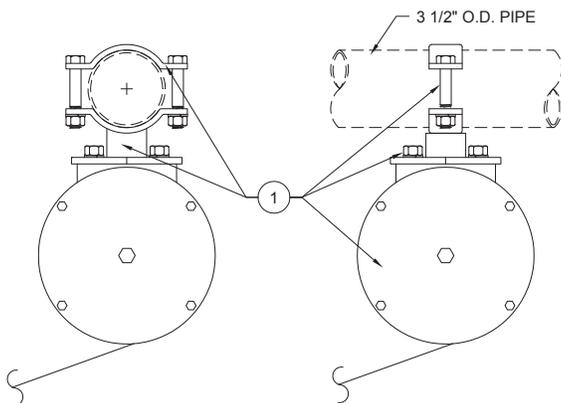
Required Parts For One (1) Complete VB RIGID MAST PULLEY OFFSET Assembly



VB RIGID MAST PULLEY OFFSET

Item #	Qty.	Part Number	Description
1	1	XPUL 97460 002	VB RIGID MAST PULLEY OFFSET
INCLUDES:			(1) PULLEY/PLATE WELDMENT (2) FORMED PIPE CLAMP 3-1/2"Ø (2) 3-1/2"Ø U-BOLT - 1/2"Ø (1) PULLEY SHEAVE 4" OD (1) HEX BOLT 1/2"-13 x 1-3/4" (1) 1/2"Ø CONVEX LOCK NUT (1) BUSHING - 1/2" ID x 11/16" OD x 3/4" LG (4) 1/2"Ø LOCKWASHER (4) 1/2"Ø HEX NUT

Required Parts For One (1) Complete STANDARD SAF-STRAP TO PIPE Assembly

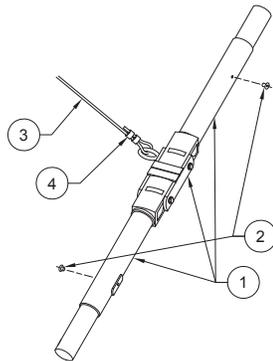


STANDARD SAF-STRAP ATTACHMENT TO PIPE ASSEMBLY

Item #	Qty.	Part Number	Description
1	1	XSAF 79710 000	SAF-STRAP ASSEMBLY
INCLUDES:			(1) SAF-STRAP (1) PIPE ADAPTER (1) BUCKLE ASSEMBLY (2) HEX HEAD CAP SCREWS LOCKWASHERS HEX NUTS

WARNING

ASSEMBLY MUST BE SECURED WITH RIVET AS DETAILED! DO NOT USE SET SCREWS AS PRIMARY FASTENER!



ADJUSTABLE HINGE SLEEVE ASSEMBLY WITH EYEBOLT

(FOR 900 LINE, 2-3/8" BRACE)

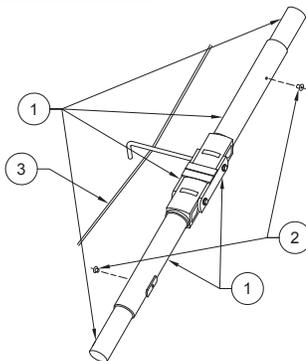
Required Parts For One (1) Complete ADJUSTABLE HINGE SLEEVE w/EYEBOLT Assembly (FOR 2-3/8"Ø TUBES)

Item #	Qty.	Part Number	Description
1	1	XHNG 92372 202	ADJUSTABLE HINGE BRACE WITH EYE BOLT
INCLUDES:			(1) INSIDE HINGE CHANNEL WELD (1) OUTSIDE HINGE CHANNEL WELD (1) TORSION SPRING (2) 5/16"Ø x 3/8"Lg. SET SCREW (1) CUT EYE BOLT 1/2"Ø
2	2	HDWE 58147 0E0	5/16"Ø HAMMER HIT RIVET
3		ROPE 00039 0G0	1/4"Ø GALVANIZED CABLE
4	2	ROPE 00037 000	1/4" CABLE CLAMP

INSTALLER NOTE: AFTER INSURING PROPER FOLDING ACTION OF BACKSTOP, EACH END OF THE SLEEVE **MUST BE SECURED** BY RIVETS PROVIDED. UTILIZE THE PILOT HOLE IN EACH SLEEVE TO DRILL THROUGH BOTH THE UPPER AND LOWER HALF OF THE FOLDING BRACE, AND PERMANENTLY SECURE WITH TWO (2) 5/16" x 7/16" LONG HAMMER HIT RIVETS.

WARNING

ASSEMBLY MUST BE SECURED WITH RIVET AS DETAILED! DO NOT USE SET SCREWS AS PRIMARY FASTENER!



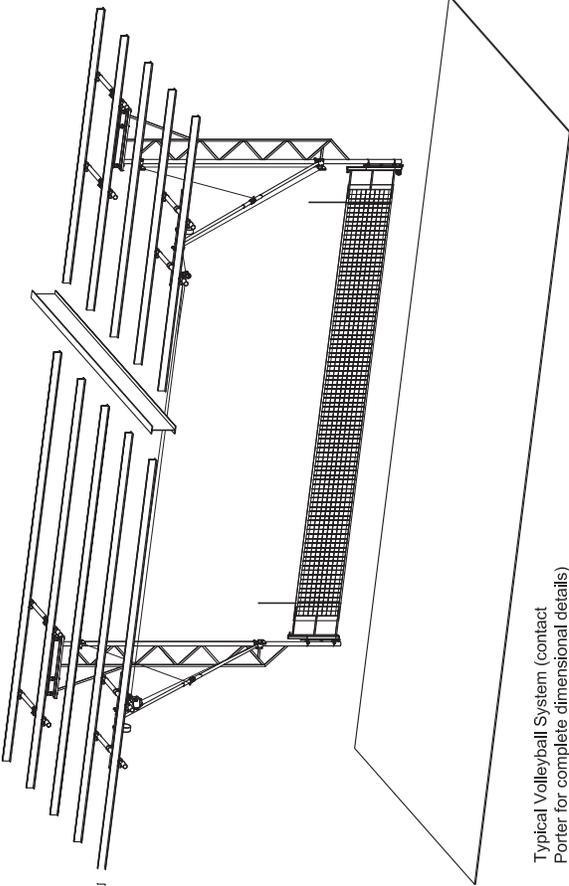
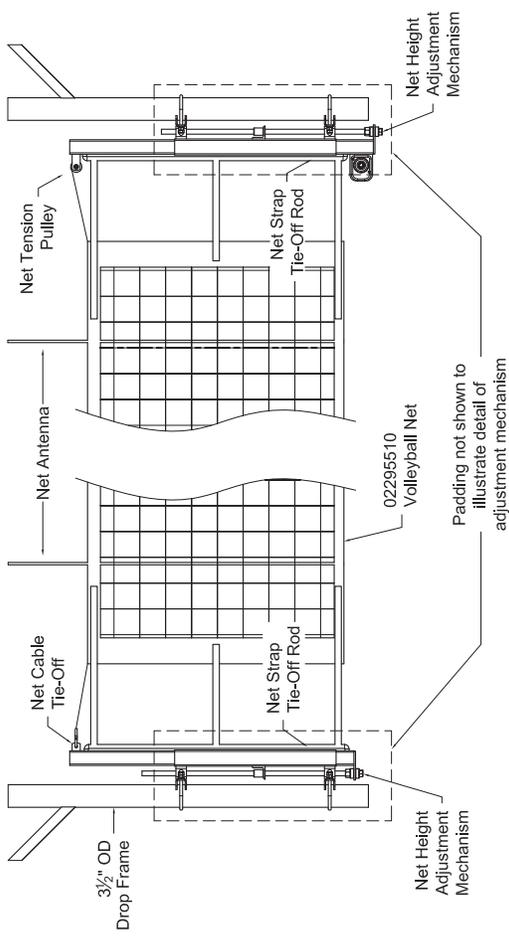
ADJUSTABLE HINGE SLEEVE ASSEMBLY w/ HOOK ROD

(FOR 900 LINE, 1-7/8" BRACE)

Required Parts For One (1) Complete ADJUSTABLE HINGE SLEEVE w/ HOOK ROD Assembly

Item #	Qty.	Part Number	Description
1	1	XHNG 92371 202	ADJUSTABLE HINGE BRACE
INCLUDES:			(1) INSIDE HINGE CHANNEL WELD (1) OUTSIDE HINGE CHANNEL WELD (1) TORSION SPRING (2) 5/16"Ø x 3/8"Lg. SET SCREW (1) 1/2"Ø x 12"Lg. BREAKER ROD
2	2	HDWE 58147 0E0	5/16"Ø HAMMER HIT RIVET
3	1	ROPE 00039 0G0	1/4"Ø GALVANIZED CABLE

INSTALLER NOTE: AFTER INSURING PROPER FOLDING ACTION OF BACKSTOP, EACH END OF THE SLEEVE **MUST BE SECURED** BY RIVETS PROVIDED. UTILIZE THE PILOT HOLE IN EACH SLEEVE TO DRILL THROUGH BOTH THE UPPER AND LOWER HALF OF THE FOLDING BRACE, AND PERMANENTLY SECURE WITH TWO (2) 5/16" x 7/16" LONG HAMMER HIT RIVETS.

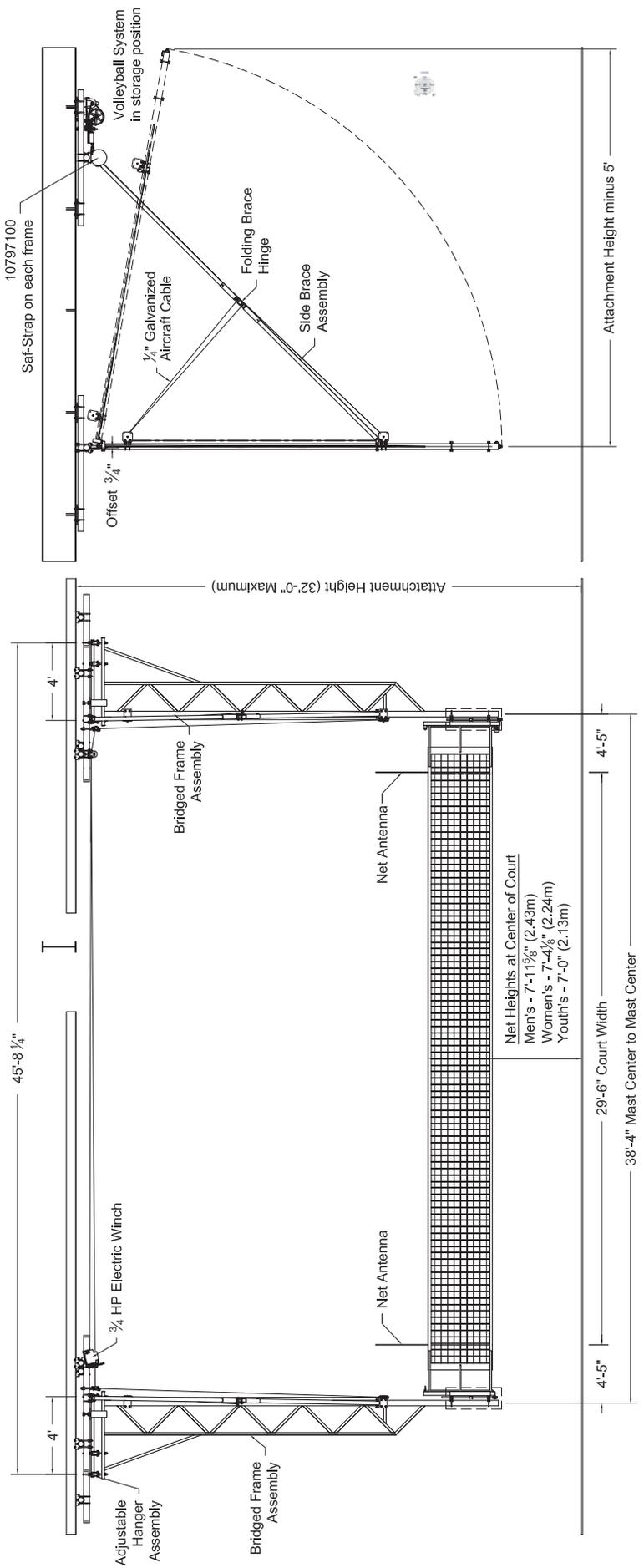


Typical Volleyball System (contact Porter for complete dimensional details)

- 91910-100 POWR-NET® OVERHEAD SUPPORTED FOLD-UP VOLLEYBALL SYSTEM

- SELECT COLOR OF PADDING FROM THE FOLLOWING:

- Light Blue, Royal Blue, Red, White, Orange, Yellow Gold, Tan, Gray, Maroon, Purple, Black, Navy Blue, Kelly Blue, Dark Green



SPECIFICATIONS

PORTER No. 91910-100 POWR-NET® OVERHEAD SUPPORTED FOLD-UP TYPE VOLLEYBALL SYSTEM **(PATENT No's. 6,511,391; 6,776,733)**

System shall be designed for facilities where floor sleeves or anchors are undesirable and frequent volleyball court set-up is a requirement. (Systems with any type of mechanical floor attachments will not be approved as equal.)

System shall consist of two (2) vertical drop-frame units with folding side brace assemblies to automatically fold entire unit (including net, antennas, padding, etc.) to the ceiling with a single electrically operated winch. As the system folds into the storage position, it shall release the tension on the net automatically.

Vertical frames shall be fabricated into a unitized unit with a 3-1/2" O.D. heavy-wall drop-tube bridged with truss-type webbing of 3/4" x 1-1/2" rectangular tubing to provide superior stability. Top of frames shall be supported by special adjustable hangers (three each frame) to provide for precise plumbing of frame during installation. Support hangers shall be offset 3/4" from centerline of vertical frames to properly weight lock entire system in playing position.

Vertical drop frame assemblies shall be fitted with a net-tensioning winch (Powr-Winch®), incorporating a heavy-duty, self-locking ratchet mechanism with a compression, disc-brake type release mechanism to eliminate sudden release of the cable tension when removing the net. Both frames shall also be furnished with a 3/4" dia. Acme screw-type height adjustment mechanism to easily adjust the net to men's 7' 11-5/8" (2.43m), women's 7' 4-1/8" (2.24m) and youth's 7'-0" (2.13m) official net heights for competition without loosening the net tension. Height setting indicators shall be visible from the side of each frame.

Each vertical frame shall be laterally braced and locked in playing position with a special diagonal brace (minimum 1-7/8" (4.8cm) O.D.) assembly, incorporating a folding knee-joint type mechanism. Knee joint to incorporate precision investment castings with a special internal torsion spring design to lock brace assembly firmly in playing position. Knee joint assembly shall be designed with an in-line pivot design to maximize system stability during aggressive play. Knee joint is easily disengaged by upward force of the hoist cables. All metal parts shall be painted one (1) coat of flat black enamel. (If special painting or colors are required, specify final painting by painting contractor.)

System shall be folded to the overhead storage position by means of a 3/4 H.P. electric winch (see Page No. B-706-1 for complete specifications) with integral up-and-down limit switches. Hoist cable system shall be 1/4" dia. galvanized aircraft cable with a 7,000-lb. ultimate breaking strength operating through 4" dia. swivel pulley assemblies rated at a minimum 9,000-lb. load rating. Winch shall be controlled by a special dual-keyed, flush wall mounted momentary key switch, which cannot be instantly reversed, providing a safety provision and preventing damage to the winch or support system. System may also be operated with an optional wireless (Sportsonic® II) control system. (Specify and add specifications on page No. B-2002.)

Wiring of all electrical components shall be in accordance with local area codes, and in accordance with manufacturer's instructions. All conduit, wiring, junction boxes, and components not specified herein shall be furnished and installed by the electrical contractor.

Each folding support frame shall be furnished with an inertia-sensitive type safety lock (No. 10797-100 Saf-Strap) to automatically lock system in position at any time in storage or during the raising or lowering cycle, should there be a possible malfunction of the hoisting system. (See Page No. B-10797 for complete details and specifications.)

Lower ends of folding support frames, including the net tension and height adjustment mechanisms shall be fully padded to a height of 6'-0" (1.83m) above the playing floor to comply with all competition requirements. (Padding colors are available in light blue, royal blue, white, orange, yellow gold, tan, gray, maroon, purple, black, navy blue, kelly green or dark green – specify.)

System shall be furnished complete with No. 02295-390 Powr-Line® volleyball net and No. 02296-100 net antennae. (See Page No's. V-2295-19 and V-2296-1 for complete specifications.)

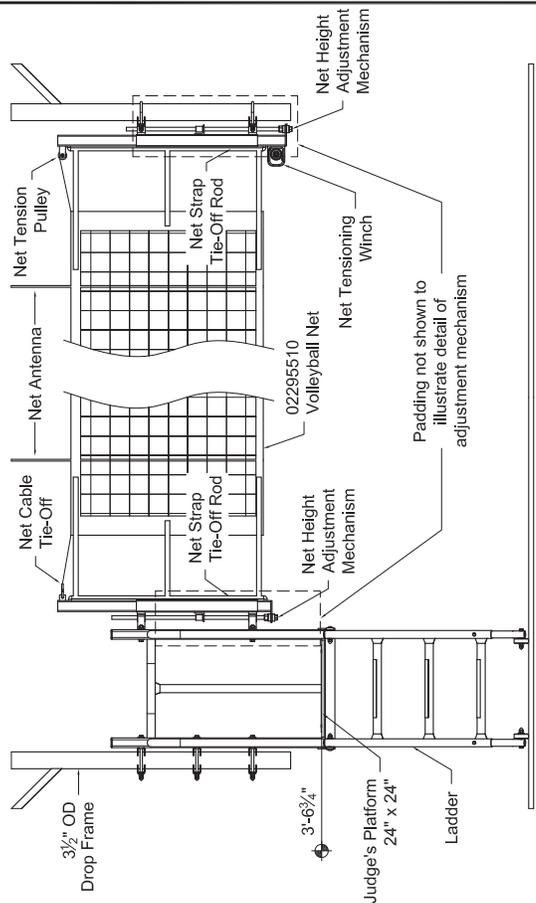
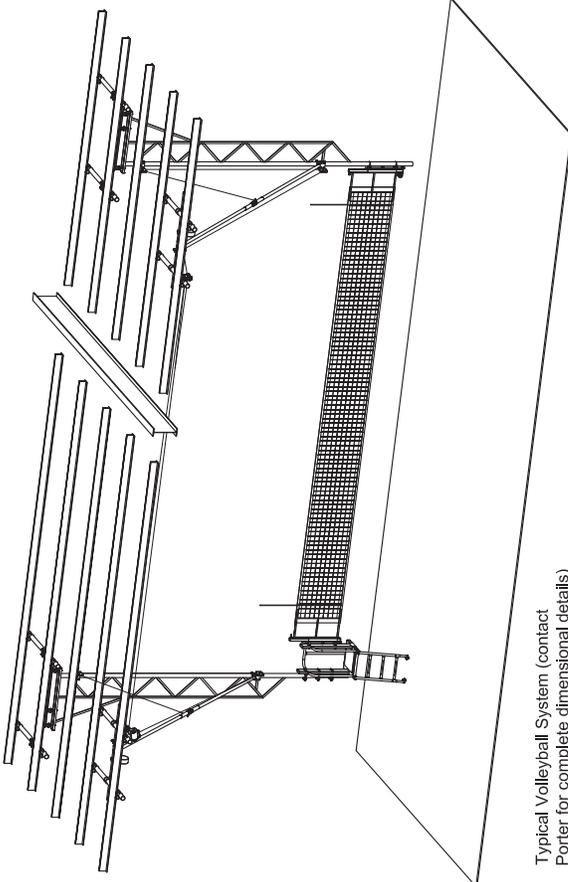
MULTIPLE COURT SYSTEMS

Same specification as above except center, folding support frames shall be provided as required for multiple court usage.

PORTER No. 91910-200 POWR-NET® DUAL COURT OVERHEAD SUSPENDED FOLD-UP TYPE VOLLEYBALL SYSTEM

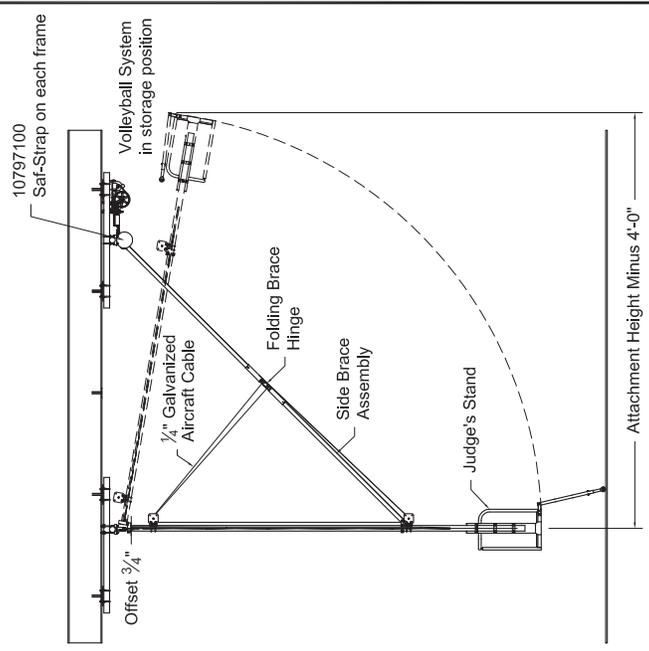
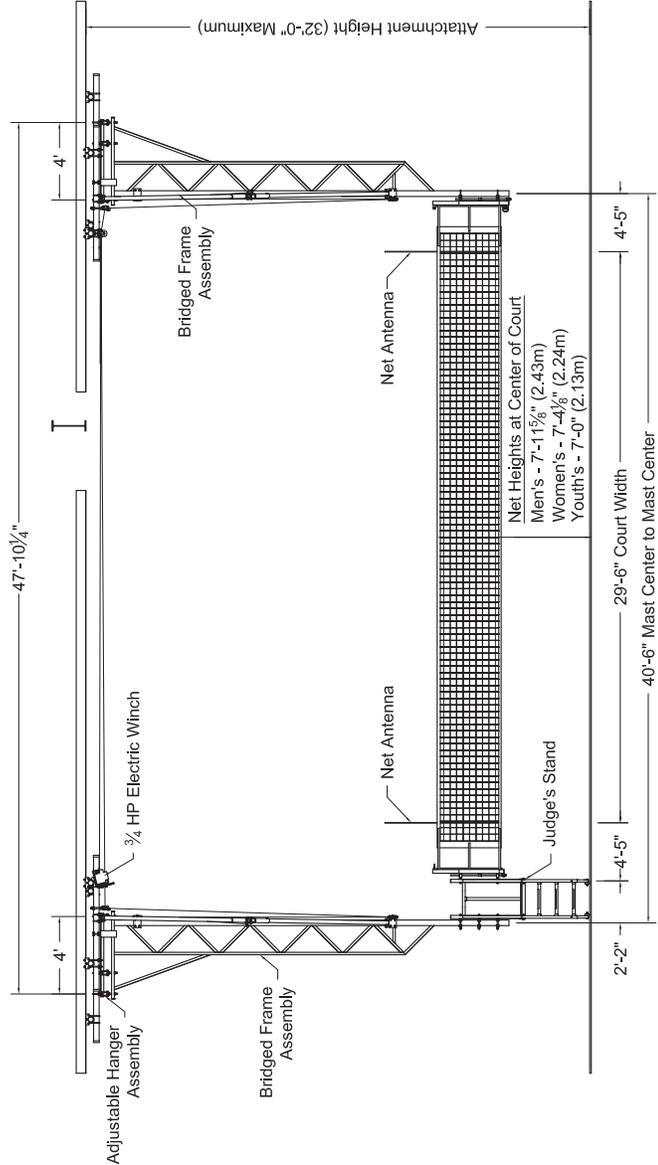
PORTER No. 91910-300 POWR-NET® TRIPLE COURT OVERHEAD SUSPENDED FOLD-UP TYPE VOLLEYBALL SYSTEM

ISSUED JUNE 14, 2011, SUBJECT TO CURRENT MANUFACTURING PROCEDURES AND CHANGES
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- 91920-100 POWR-NET® COMPETITION-TYPE OVERHEAD SUPPORTED FOLD-UP VOLLEYBALL SYSTEM

- SELECT COLOR OF PADDING FROM THE FOLLOWING:
 Light Blue, Royal Blue, Red, White, Orange, Yellow Gold, Tan, Gray, Maroon, Purple, Black, Navy Blue, Kelly Green, Dark Green



SPECIFICATIONS

PORTER No. 91920-100 POWR-NET® OVERHEAD SUPPORTED FOLD-UP TYPE VOLLEYBALL SYSTEM WITH JUDGE'S STAND (PATENT No's. 6,511,391; 6,776,733)

System shall be designed for facilities where floor sleeves or anchors are undesirable and frequent volleyball court set-up is a requirement. (Systems with any type of mechanical floor attachments will not be approved as equal.)

System shall consist of two (2) vertical drop-frame units with folding side brace assemblies to automatically fold entire unit (including judge's stand, net, antennas, padding, etc.) to the ceiling with a single electrically operated winch. As the system folds into the storage position, it shall release the tension on the net automatically.

Vertical frames shall be fabricated into a unitized unit with a 3-1/2" O.D. heavy-wall drop-tube bridged with truss-type webbing of 3/4" x 1-1/2" rectangular tubing to provide superior stability. Top of frames shall be supported by special adjustable hangers (three each frame) to provide for precise plumbing of frame during installation. Support hangers shall be offset 3/4" from centerline of vertical frames to properly weight lock entire system in playing position.

Vertical drop frame assemblies shall be fitted with a net-tensioning winch (Powr-Winch®), incorporating a heavy-duty, self-locking ratchet mechanism with a compression, disc-brake type release mechanism to eliminate sudden release of the cable tension when removing the net. Both frames shall also be furnished with a 3/4" dia. Acme screw-type height adjustment mechanism to easily adjust the net to men's 7' 11-5/8" (2.43m), women's 7' 4-1/8" (2.24m) and youth's 7' 0" (2.13m) official net heights for competition without loosening the net tension. Height setting indicators shall be visible from the side of each frame.

Each vertical frame shall be laterally braced and locked in playing position with a special diagonal brace (minimum 1-7/8" (4.8cm) O.D.) assembly, incorporating a folding knee-joint type mechanism. Knee joint to incorporate precision investment castings with a special internal torsion spring design to lock brace assembly firmly in playing position. Knee joint assembly shall be designed with an in-line pivot design to maximize system stability during aggressive play. Knee joint is easily disengaged by upward force of the hoist cables. All metal parts shall be painted one (1) coat of flat black enamel. (If special painting or colors are required, specify final painting by painting contractor.)

System shall be folded to the overhead storage position by means of a 3/4 H.P. electric winch (see Page No. B-706-1 for complete specifications) with integral up-and-down limit switches. Hoist cable system shall be 1/4" dia. galvanized aircraft cable with a 7,000-lb. ultimate breaking strength operating through 4" dia. swivel pulley assemblies rated at a minimum 9,000-lb. load rating. Winch shall be controlled by a special dual-keyed, flush wall mounted momentary key switch, which cannot be instantly reversed, providing a safety provision and preventing damage to the winch or support system. System may also be operated with an optional wireless (Sportsonic® II) control system. (Specify and add specifications on page No. B-2002.)

Wiring of all electrical components shall be in accordance with local area codes, and in accordance with manufacturer's instructions. All conduit, wiring, junction boxes, and components not specified herein shall be furnished and installed by the electrical contractor.

Each folding support frame shall be furnished with an inertia-sensitive type safety lock (No. 10797-100 Saf-Strap) to automatically lock system in position at any time in storage or during the raising or lowering cycle, should there be a possible malfunction of the hoisting system. (See Page No. B-10797 for complete details and specifications.)

System shall include a judge's stand platform for official volleyball competitions. Judge's stand shall be secured to one of the vertical drop-frame supports and shall fold in place to the overhead storage area with the entire system. Net adjustment mechanism shall attach to the courtside of the judge's stand frame to provide maximum visibility of the net and game action. Judge's stand shall provide an approximate 24" (60.9cm) square platform located 3'-6" (1.07m) above the playing surface with 1-5/8" (4.2cm) diameter, tubular handrails located on three sides of the platform at a height of 3'-0" (91.4cm). Access ladder shall be provided as part of the unitized frame for ease of access to and from the platform position. Judge's stand shall be a completely welded, unitized design, finished in a durable, black powder-coat finish.

Lower ends of folding support frames, including the judge's stand, net tension and height adjustment mechanisms shall be fully padded to a height of 6'-0" (1.83m) above the playing floor to comply with all competition requirements. (Padding colors are available in light blue, royal blue, white, orange, yellow gold, tan, gray, maroon, purple, black, navy blue, kelly green or dark green – specify.) System shall be furnished complete with No. 02295-390 Powr-Line® volleyball net and No. 02296-100 net antennas. (See Page No's. V-2295-19 and V-2296-1 for complete specifications.)

INSTALLER NOTES

 **WARNING:** This product can expose you to Titanium Dioxide, which is known to the State of California to cause cancer. For more information go to www.p65warnings.ca.gov.

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