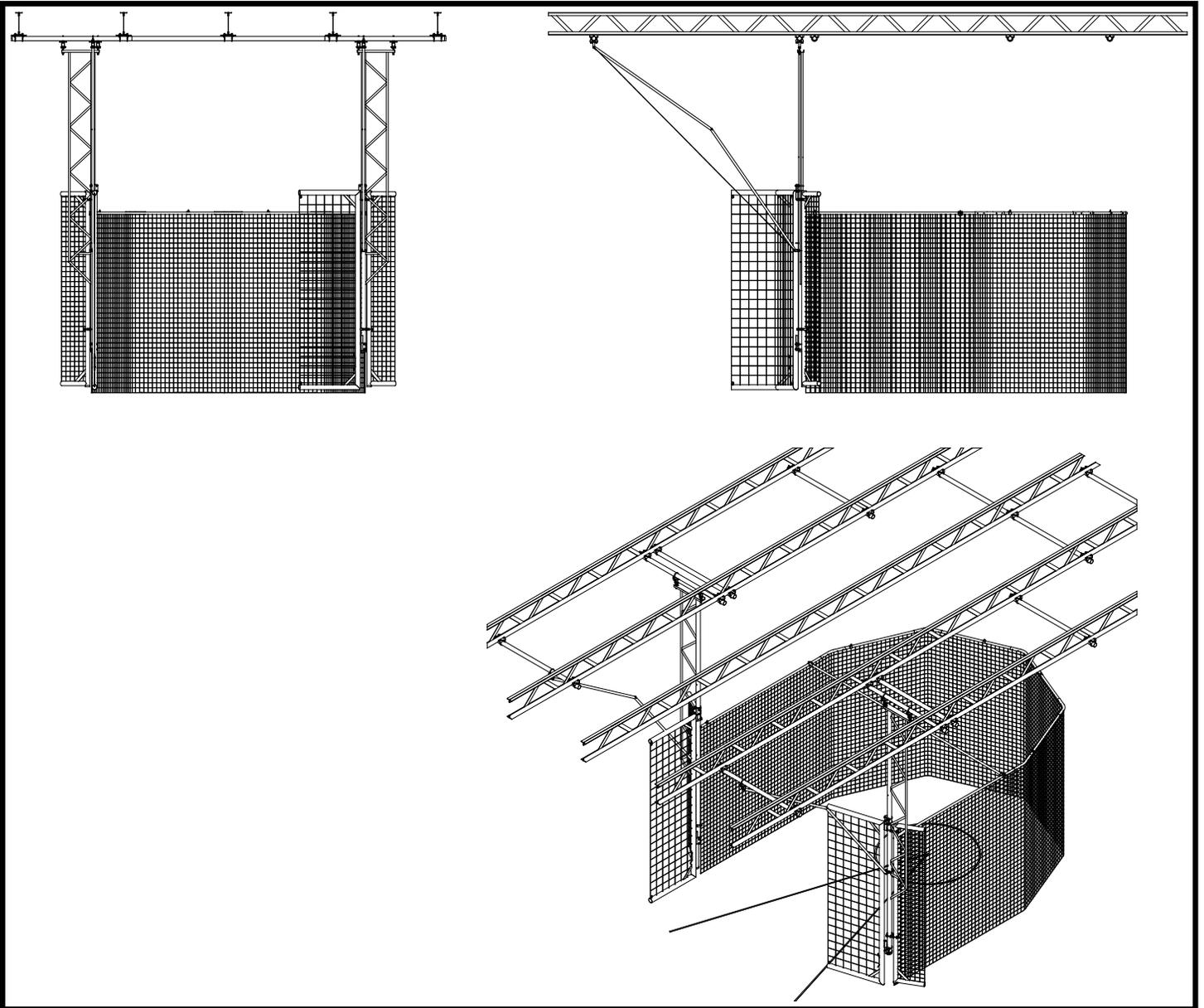


INSTALLATION, OPERATION & MAINTENANCE MANUAL

INDOOR CEILING SUSPENDED THROWING CAGE

No. GP732280



SAVE THESE INSTRUCTIONS FOR FUTURE USE



Dear Customer:

Congratulations on purchasing the Porter No. GP732280 Indoor Ceiling Suspended Throwing Cage. This quality built throwing cage features the unique design for maximum player and spectator safety, while providing many features for the ultimate in competition play. Your athletes and spectators should enjoy thousands of hours of practice and competition on Porter equipment.

This booklet is intended to be used for the initial set-up of your No. GP732280 Indoor Ceiling Suspended Throwing Cage, and as a guide for the safe use and maintenance of the throwing cage. **PLEASE READ THESE INSTRUCTIONS CAREFULLY AND COMPLETELY BEFORE BEGINNING THE SET-UP WORK, OR MAINTENANCE, OF THIS UNIT.**

If after reviewing this manual you have any questions, please feel free to consult our factory.



Porter Athletic, Inc.

2500 South 25th Avenue, Broadview, IL U.S.A., 60155

Toll Free: (888) 277-7778 • Phone: (708) 338-2000 • Fax: (708) 338-2060

www.porterathletic.com



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

GUARANTEE

All materials and workmanship of basic materials are guaranteed to be free and clear of defects. Defective material will be repaired or replaced, at our option, subsequent to complete information being received by us concerning the nature of the defect, for a period of one year from the date established by the certificate of occupancy or certificate of substantial completion, whichever shall occur first or otherwise documented and signed by an officer of Porter Athletic Equipment Company.

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.

LIABILITY

Liability is not only an issue with the installation and maintenance of this product, but it also extends to the proper operation by the end user. The operational instructions must be read and understood before operating this equipment!

This manual is for the model No. GP732280 Indoor Ceiling Suspended Throwing Cage which provides explicit example of overhead attachment and is meant to serve as a general guideline only for the safe installation of this product. Variables must be taken into consideration which are outside of Porter's control, including, but not limited to, steel joist variations which include splice plate interference, web panel point attachments if specified by the architect, conduit interference, HVAC and sprinkler interference, non-grouted cells of block walls, spacing and frequency of wall ties, appropriate selection of wall anchors for the given wall composition, proper installation of said anchors, embed depth of the anchors, etc. It is Porter's explicit requirement that this product be installed in a safe and secure manner. Any structural deviation from Porter installation drawings without written authorization will void all warranties. Contact the factory immediately should such a condition exist, necessitating a design revision. All anchor and fastening methodology is to comply with the International Conference of Building Officials (ICBO), the Uniform Building Code (UBC), the Industrial Fastener Institute (IFI), and all state regulatory agencies, such as The Division of the State Architect (DSA) in California.

General Hardware Guidelines

- Do not substitute hardware without written authorization from the factory.
- Minimum Grade 5 hardware is to be utilized at all attachments, unless specified otherwise.
- On eyebolt applications, a turned eye is not acceptable. Utilize forged eyebolts or, if necessary, a turned eye that is welded closed.
- Do not substitute for the factory-supplied cable and cable clamps. The quality of the 1/8" and 1/4" cables and clamps can vary widely from different manufacturers, and are not all suited for Throwing Cage applications.
- All Nicopress® clamps must be installed utilizing the proper tool and technique listed in this manual, ensuring a "worn" tool is **NOT** used.

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MANUAL OVERVIEW

MODEL No. GP732280 INDOOR CEILING SUSPENDED THROWING CAGE

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. GP732280 indoor ceiling suspended throwing cage 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. GP732280 indoor ceiling suspended throwing cage, 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**”, and the circuit breaker must be turned off and also tagged “**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.

OPERATIONAL INSTRUCTIONS

MODEL No. GP732280 INDOOR CEILING SUSPENDED THROWING CAGE SYSTEM

WARNING!

The Model No. GP732280 indoor ceiling suspended throwing cage system is powered by two 110-volt electric winch assemblies, which develop 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.

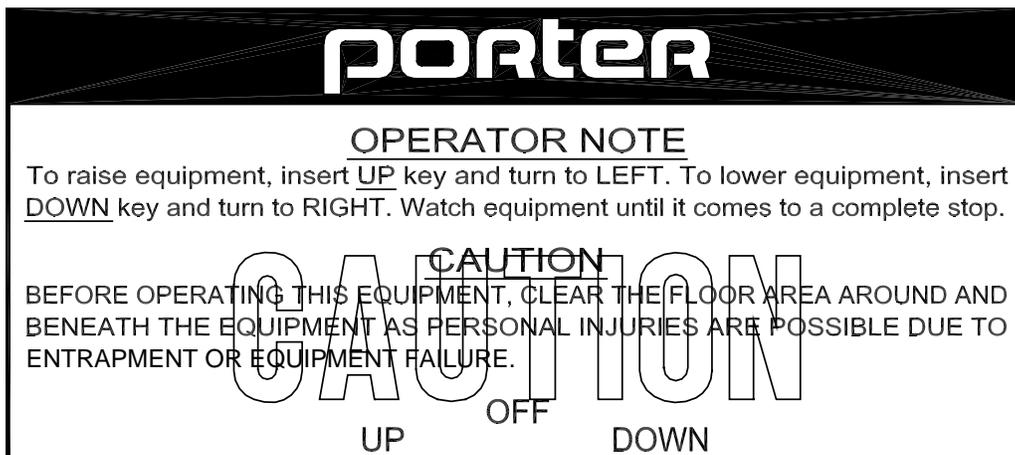
1. **ONLY** authorized, **TRAINED** personnel are to operate the Model No. GP732280 indoor ceiling suspended throwing cage system. Authorized personnel is defined as an individual (or individuals) who is at least 21

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 indoor throwing cage system.

2. The key switch or Powr-Touch™ keypad which controls the indoor ceiling suspended throwing cage system, must be flush mounted on the wall in a location which is in full view of the throwing cage system, but not directly beneath the equipment.
3. Always make sure the area below the indoor ceiling suspended throwing cage system and in the path of travel is clear of all individuals or obstacles when raising or lowering the unit.
4. If the indoor ceiling suspended throwing cage 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. One foot of netting must be laying on the floor when the cage is in use.
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. Refer to the separate Powr-Touch® or Sportsonic® II manuals for the key pad or remote control type operation.
6. It is critical the operator visually monitor the area around the throwing cage system through the entire raising and lowering travel cycles, making certain no one is at or near the ceiling suspended throwing cage system travel. Pay particular attention to the unit as it nears a limit switch cut-off juncture. If the limits are not stopping the throwing cage system at the “DOWN” position with the frame structures for the doors oriented vertically and cage frame of netting at the 12’-0” height off the floor, or if the limits are allowing the throwing cage 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.

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.



INVENTORY & INSPECTION

Inventory parts listed on the packing list to ensure parts required are accounted for. Inspect all components for possible shipping damage. Report any shortages to Porter's Customer Service Department immediately. On visible freight damage, sign as damaged, and file a freight damage claim with the carrier immediately. Failure to report shortages or hidden freight damage directly to Porter's Customer Service Department within three working days will place the financial burden for the missing or replacement parts with the installer or general contractor.

PREPARATION OF ASSEMBLY AREA

Moving the cage frame and mast drop frame structure after assembly is both difficult and awkward. For that reason, the assembly of the cage should take place below or near the cage overhead support location. The floor should be protected with a suitable material, covering the entire length of the cage in the assembly area, to prevent damage to the floor or cage. In addition, the floor and the covering must be free of any debris generated from assembly procedures prior to netting installation.

TOOLS AND EQUIPMENT REQUIRED

To Be Provided by the installer:

- Scissor lift or Scaffolding
- Hand tools, electric power drill, drop cord, laser measuring device, etc.
- Plumb bob
- Cable and bolt cutters
- Nicopress® crimper “VM” size
- Nicopress® checking gauge – “Oval M” size
- “U” type 1/8” cable clamps
- Control box assembly with plug (Porter part no. ELEC 00201 000 or equal) for Drop Cord Operation (Recommended)

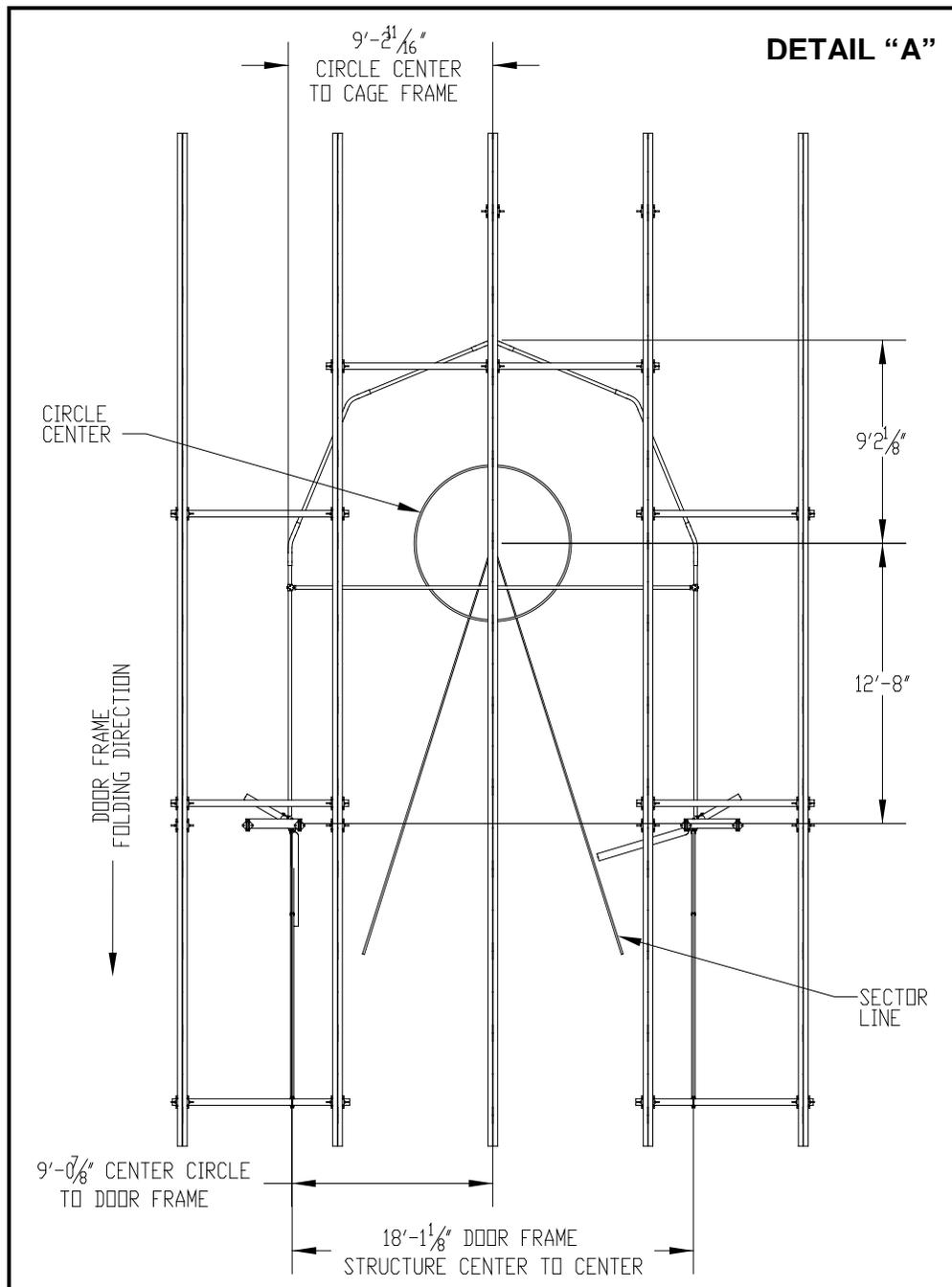
Power requirements:

Note – anticipate needing an electrician or a temporary control box for certain installation steps.

- “Cheater-box”, Porter part No. ELEC 00201 000, is available through Porter.

SYSTEM OVERVIEW

1. Inventory parts listed on packing list to ensure parts required are accounted for. Inspect all components for possible shipping damage. Proceed to arrange parts in installation order.
2. Refer to the installation drawing(s) for circle center and sector lines locations and size. If the circle center and sector lines stripping is not in place, verify size and location by referring to the onsite plans, or consult 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 plan view of a typical ceiling suspended throwing cage layout. Do **not** install the system based on the diagram below. Always refer to the installation prints for exact system placement.

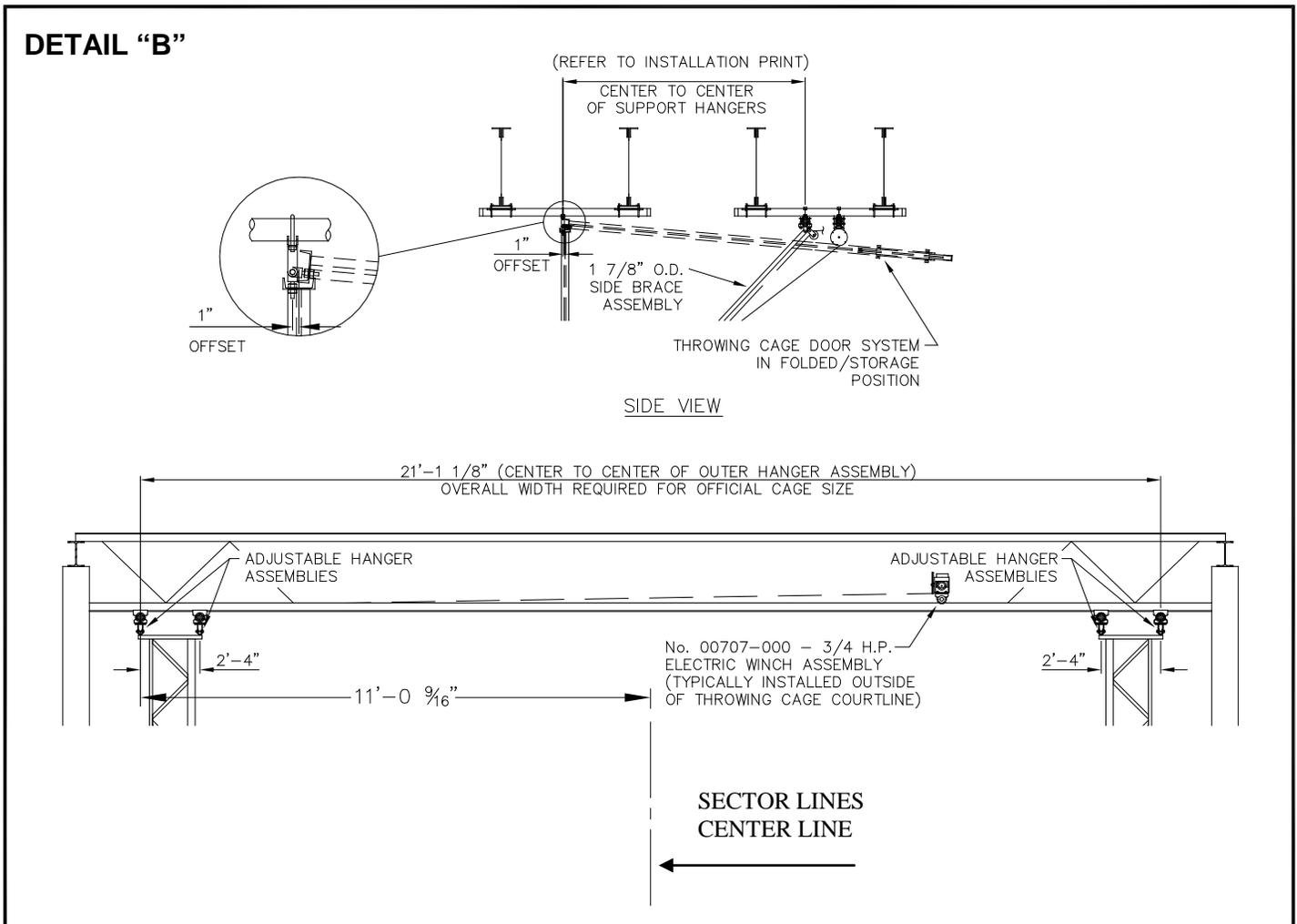


SUPERSTRUCTURE INSTALLATION

3. After confirming the circle center and sector lines locations, 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 and the illustrations for typical details and dimensions for the type of system being installed. Start by marking reference points on the gymnasium floor at the sector lines' centerline to identify where the bridged mast frame must be located from. It is recommended that masking tape or other type of non-permanent item be used for marking purposes.

Start at one side of the throwing cage at the sector lines centerline. Mark a reference point in front of the circle center 12'-8" and perpendicular to the sector lines centerline. Measure from the sector lines' centerline 9'-0 7/8" at reference mark and on both sides to locate mast drop tube centerline.

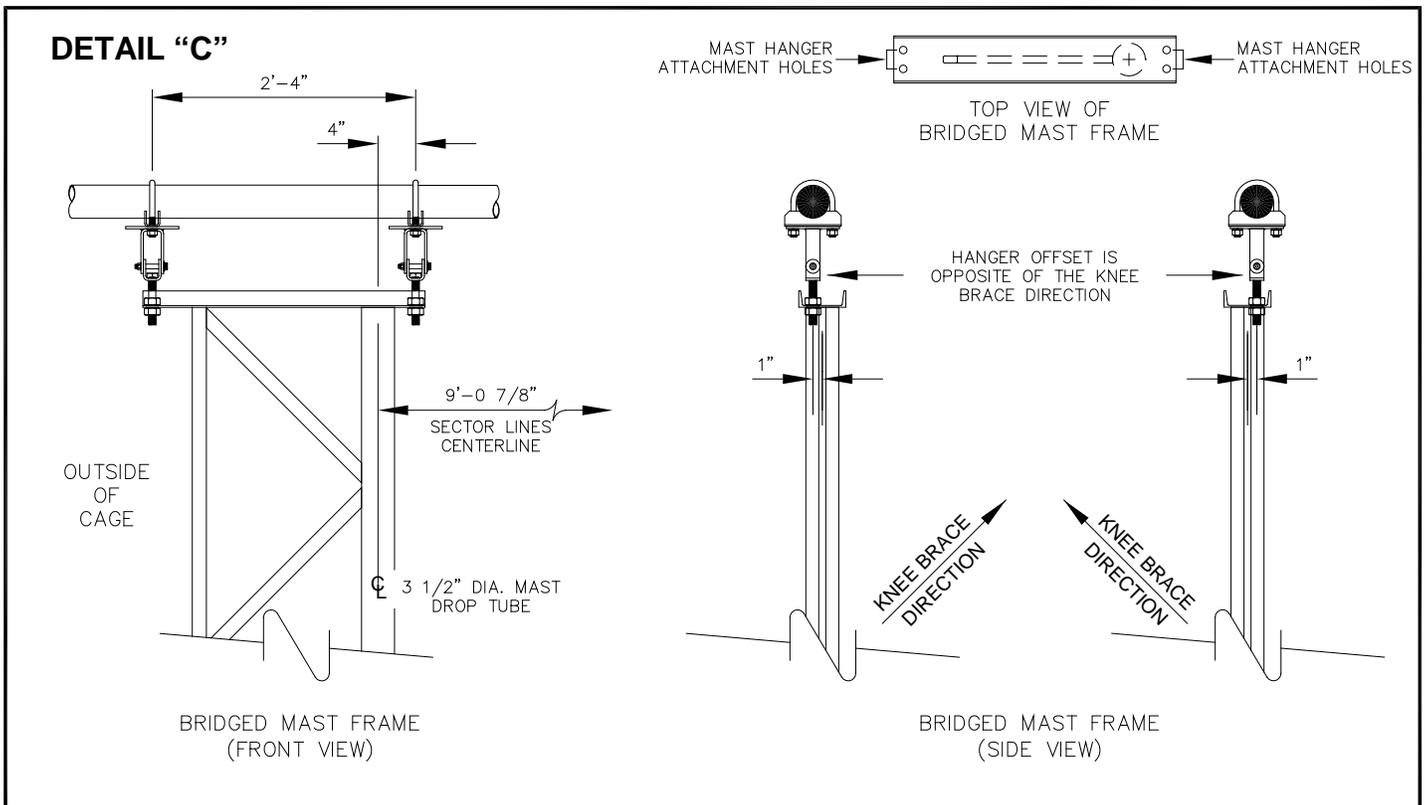
Using a plumb bob, align the tool with the reference point marked on the floor and mark the overhead steel. Determine in which direction the mast hanger will be offset. Measure the required distance and mark that point. Install support pipes to overhead steel using the reference points and as specified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



BRIDGED MAST FRAME INSTALLATION

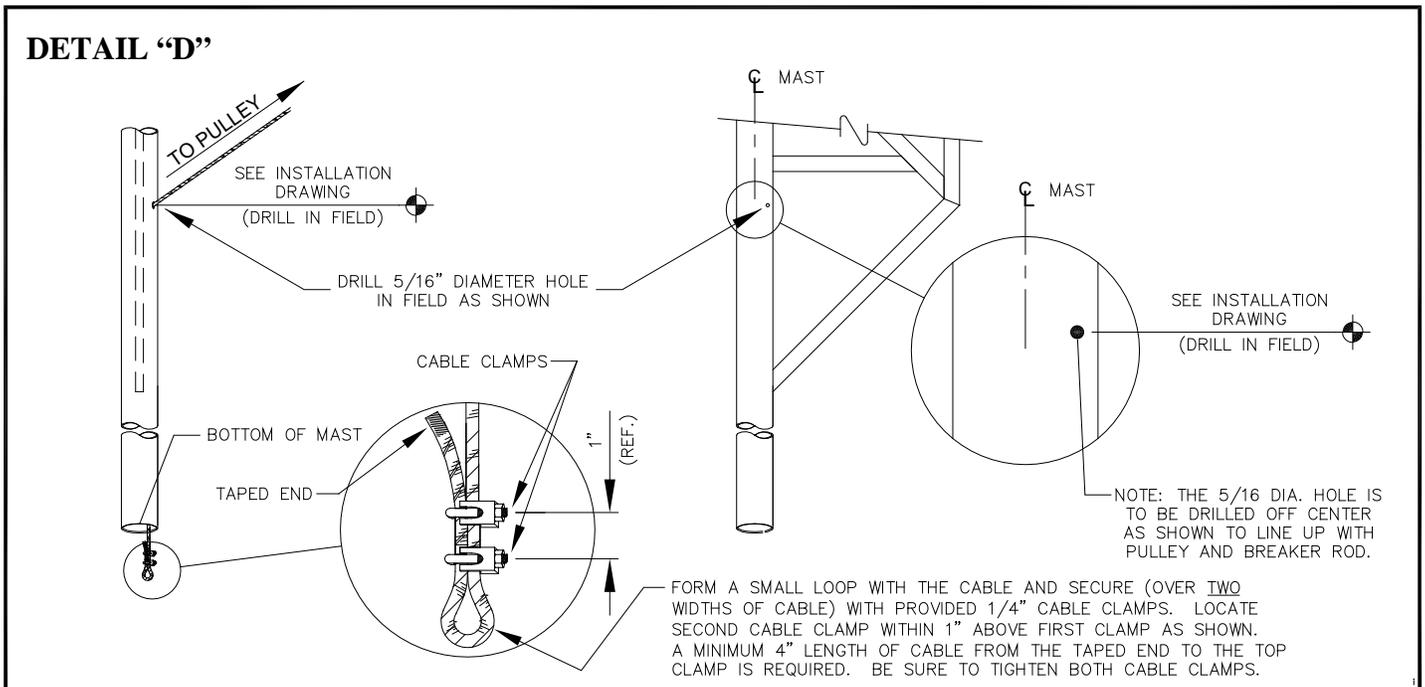
4. Install adjustable hanger assemblies to the support pipe(s). Refer to **DETAIL "C"** and installation plans. If necessary, make an allowance for the 4" hanger offset to maintain proper mast drop pipe centerline alignment. With a chain hoist or similar hoisting equipment, raise the mast up to the adjustable hanger assembly studs. Install the bridged mast frame to the adjustable hangers. **Note: Only two of the four drilled 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 two 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. **Note: The masts may be hung at a slight outward camber to compensate for the lateral force created by door assembly tension.**

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 to support pipe(s) per the installation drawing(s). Ensure that the pulley cable paths are clear of any obstructions.



HOIST CABLE INSTALLATION

6. Drill a 5/16" diameter hole as shown in **DETAIL "D"**. Offset the hole to avoid cable contact with the brace tube. **Note: The hole offset must be in the same direction as the adjustable hinged brace assembly hook rod and swivel pulley.** Insert one end of cable through the drilled hole and push in until the cable comes out the bottom of the mast. Loop the cable and install two cable clamps. Refer to **DETAIL "D"**. Pull the cable back through the hole until the clamps are against the inside wall of the mast. Finally, route the opposite end of the cable through the swivel pulley at the brace hinge and the idler pulley (if provided) to the double eyebolt side of the traveling clew assembly. Loop the cable through an eyebolt and a cable thimble. Secure loop with two cable clamps. Repeat procedure at the opposite side of the circle centers centerline. Refer to **DETAIL "H"**.

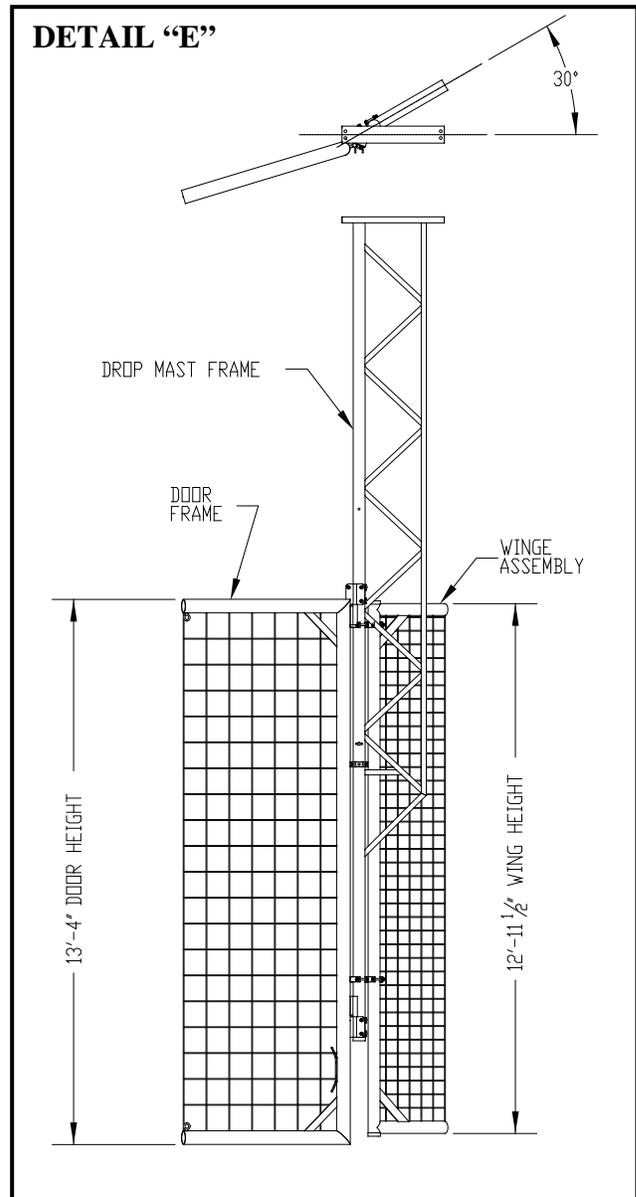


DOOR ASSEMBLY INSTALLATION

7. Install the door frame assembly to the drop mast frame's 3-1/2" diameter tube, which shall be facing inward. Use the hinge weldment, 2 formed pipe clamps, 2 U-bolts and 2 hex nuts at each hinge location on the door. The top hinge weldment shall face downward and the bottom face upward to limit the vertical movement of the door. Do not fully tighten hardware unless final adjustments have been completed. Assemble the door to the drop mast frame as to have the bottom of the door no more than a maximum of 3" and minimum of 1" off the finished floor. The door shall rotate from perpendicular of the sector line to parallel with the sector line centerline without interference. Repeat procedure for door assembly installation at opposite side. See **DETAIL "E"**

WING ASSEMBLY INSTALLATION

8. Install the wing weldment to drop mast frame's 3-1/2" diameter tube. There shall be 2 interlocking half clamps, 1 interlocking clamp weldment, 4 hex head bolts and 4 hex nuts at each attachment point. The wing weldment shall be attached to the drop mast frame in two locations. The wing shall be angled back from the drop mast frame 30° and shall be a maximum 4" and minimum 1" off the floor, center wing to door assembly. See **DETAIL "E"**. Tighten hardware after final adjustments.

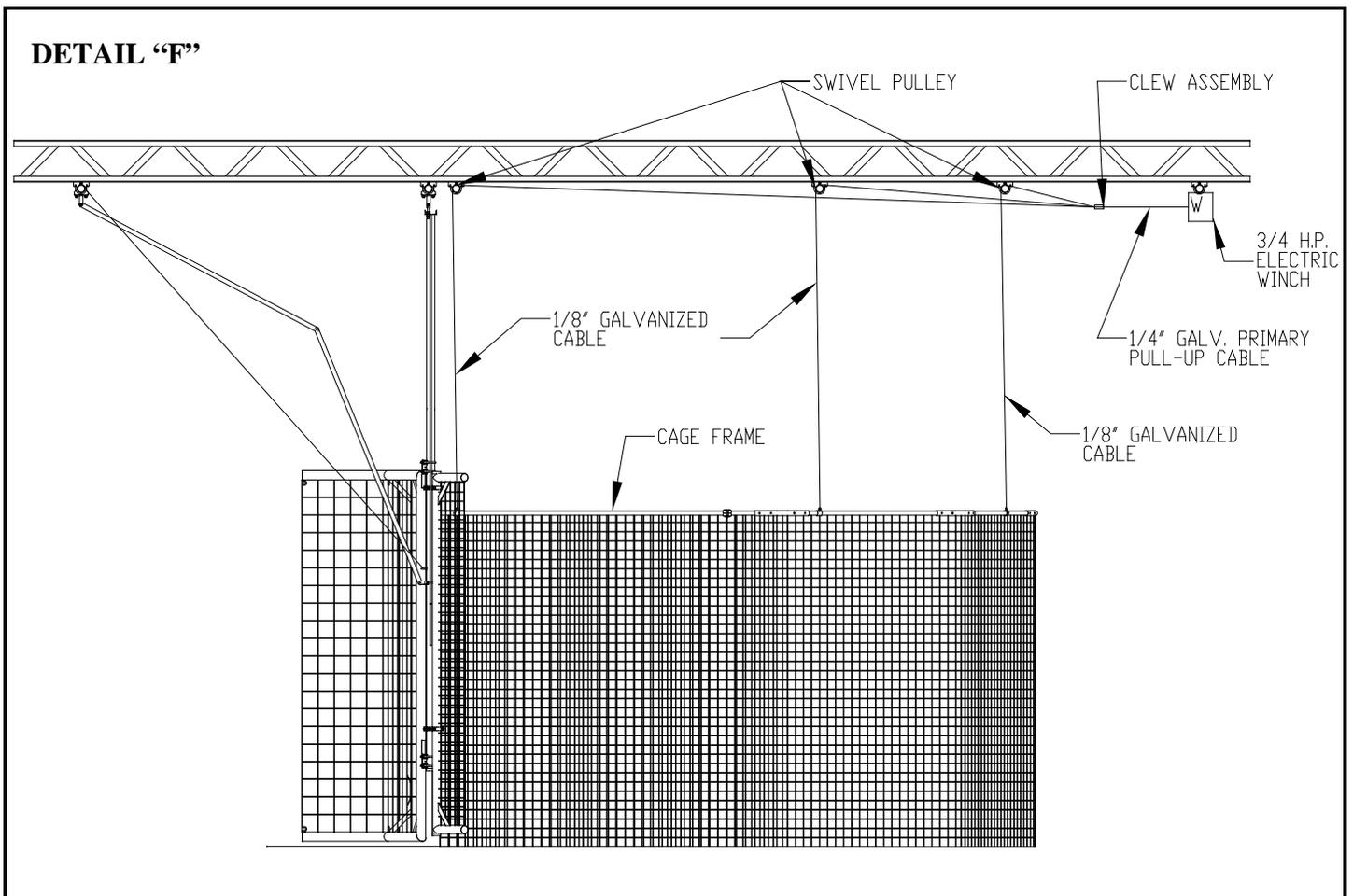


CAGE FRAME ASSEMBLY INSTALLATION

9. Assemble the cage frame in the proper position to the circle center on the floor under the ceiling attachment locations. Refer to the assembly drawing for proper cage tube positioning and needed hardware. Position the 6 chain attachment collar weldment to the cage frame for the 1/8" galvanized cable to be secured to.

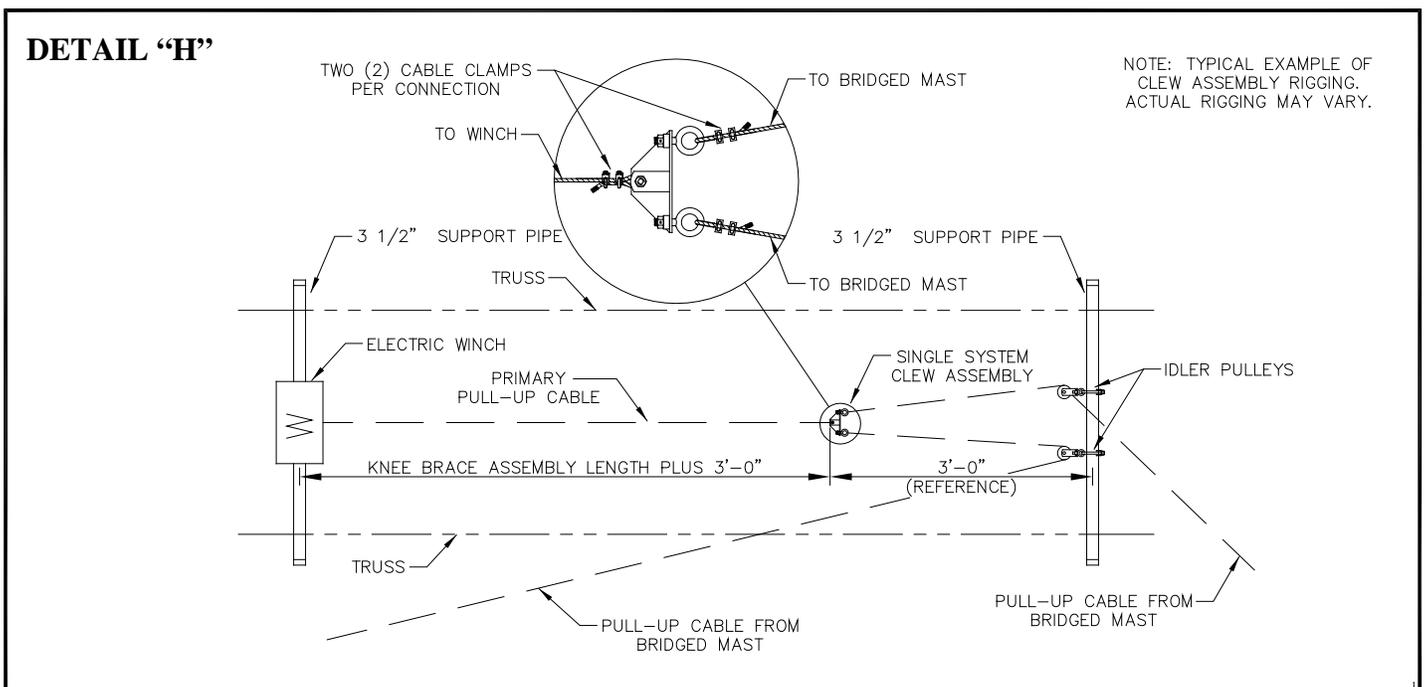
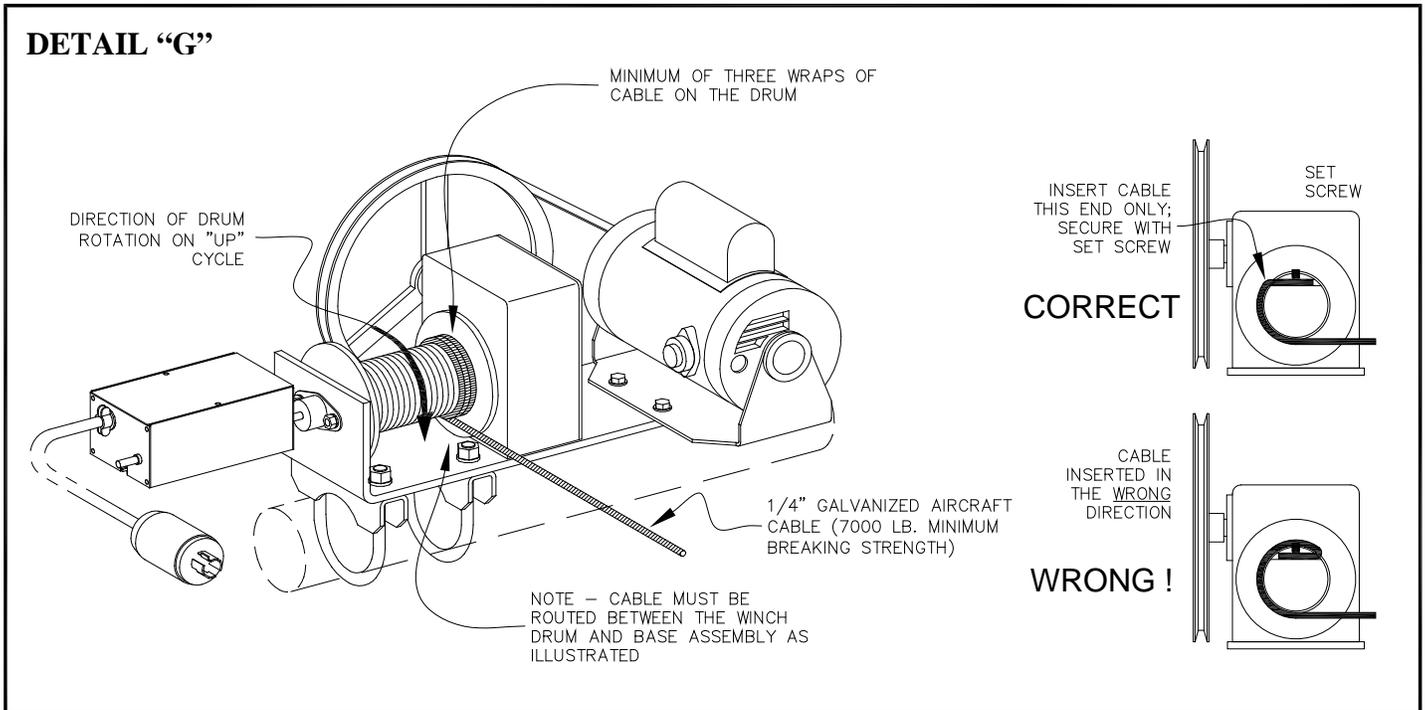
Determine the mounting locations of the cage frame support pipes. It is important to note that the placement of the support pipes is critical, since further fore-aft or lateral adjustment of the cage frame may not be possible once the support pipes are installed. Install swivel pulleys at brace locations and additional idler pulleys to support pipe(s) per the installation drawing(s). Route the cable through the swivel pulleys at the brace hinge and the idler pulleys (if provided) to the eyebolt side of the traveling clew assembly. Loop the cable through an eyebolt and a cable thimble. Secure loop with two cable clamps. Ensure that the pulley cable paths are clear of any obstructions. Repeat procedure at all six (6) locations of the throwing cage frame.

Follow the electrical winch assembly instructions in step 10, referencing **DETAIL "G"**. The primary pull-up cable from the winch is 1/4" galvanized cable. The cage frame hoisting assembly uses a quantity of six (6) sections of 1/8" galvanized cable with swiveling pulleys and one clew assembly.



ELECTRIC WINCH ASSEMBLY INSTALLATION

10. 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 single eyebolt side of the traveling clew assembly using a cable thimble and two cable clamps. Refer to **Detail "G"** for winch installation to both drop mast frames and cage frame. Refer to **Detail "H"** for only drop mast frame cable installation. **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.**



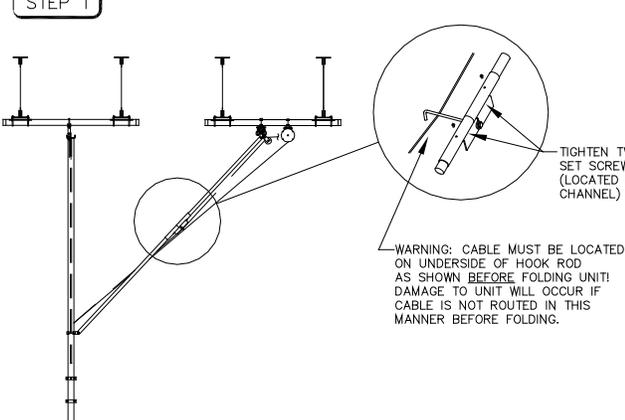
OPERATIONAL CHECK/BRACE FOLD ADJUSTMENTS

11. 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 “H”**. After verifying proper brace operation, secure each hinged brace sleeve assembly by drilling holes for two 5/16” hammer hit rivets. Refer to **Detail “J”**. 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.

BRACE HINGE INSTALLATION INSTRUCTIONS

DETAIL “J”

STEP 1

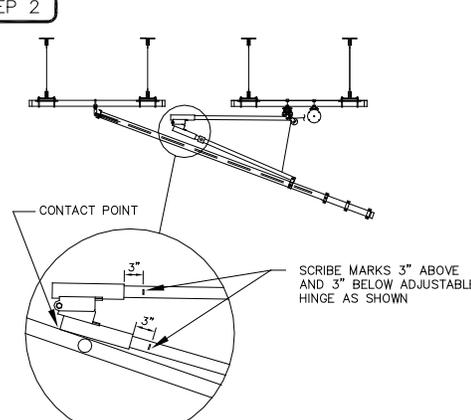


TIGHTEN TWO (2) SET SCREWS (LOCATED IN CHANNEL)

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

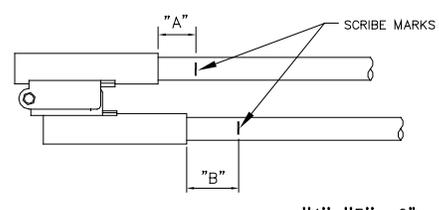


CONTACT POINT

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

FOLD THROWING CAGE UNIT UNTIL HINGE SLEEVE COMES IN CONTACT WITH MAST. IMMEDIATELY STOP UPWARD TRAVEL OF THROWING CAGE 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

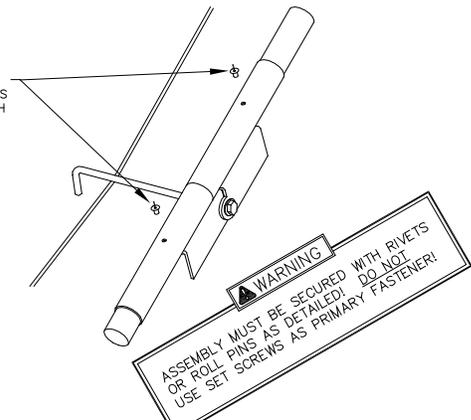
"A"

"B"

"A" + "B" = 6"

NOW CONTINUE TO HOIST THE MAST DROP FRAME 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. USE SET SCREWS AS PRIMARY FASTENER!

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

OPERATIONAL CHECK/CAGE FRAME ADJUSTMENTS

- 12. OPERATIONAL CHECK/CAGE FRAME ADJUSTMENTS** Operate unit in the “up” direction. **Important – Check to ensure that cage frame is raising and lowering parallel to floor and simultaneously to drop mast frames. Make cable length adjustments at the traveling clew assembly for minimum lowered cage height from floor and raised maximum height.** After verifying proper cage frame heights at raised and lowered positions, 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.

MAINTENANCE INSTRUCTIONS

MODEL No.GP732280 INDOOR CEILING SUSPENDED THROWING CAGE SYSTEM

The Model No. GP732280 Indoor Ceiling Suspended Throwing Cage system is designed to operate for many years without any significant service performed. Depending upon the usage of the unit, it is recommended that at least an annual inspection be made, at which time the following steps should be taken:

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 ceiling suspended throwing cage 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 WINCH ASSEMBLY

The winch assembly gearbox and motor are maintenance-free and do not require servicing. Periodically, check the assembly's v-belt for wear, and the v-belt pulleys for proper alignment. Inspect winch-mounting hardware for proper fastener torque. Verify the limit switch operation by operating the unit one full, up-down cycle.

3. SAF-STRAP ASSEMBLIES

Check each assembly's nylon strap for fraying or cuts. Check the strap retraction spring mechanism for proper operation.

4. WEIGHT THROWING CAGE 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 compo

 **WARNING:** Cancer and Reproductive Harm –
For more information go to www.p65warnings.ca.gov

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SAVE THESE INSTRUCTIONS FOR FUTURE USE