



# PRO-NET

SELF CLIMBING SAFETY DEBRIS NETTING SYSTEM

Installation Manual-rev 8.2021

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## **Introduction**

The **Pro-Net Self-Climbing Safety Netting System** is comprised of two configurations, both retractable. The main difference between the 2 versions is where the netting is attached. The system is primarily constructed of light-weight aluminum. All fasteners, shackles, pins, etc. are made of steel. This manual outlines the safe setup and installation of the system. Adhering to all of the steps detailed will ensure that the system will perform as designed to create a safe jobsite environment. Always use protective gloves, safety glasses, other required Personal Protective Equipment (**PPE**), and fall protection when installing, repositioning, and removing any component of the system.

All the aluminum components have a part number stamp to ease identification, and to eliminate the possibility of selecting an incorrect part. Those parts which are not stamped include pins, fasteners, shackles, cables, concrete anchors & ropes.

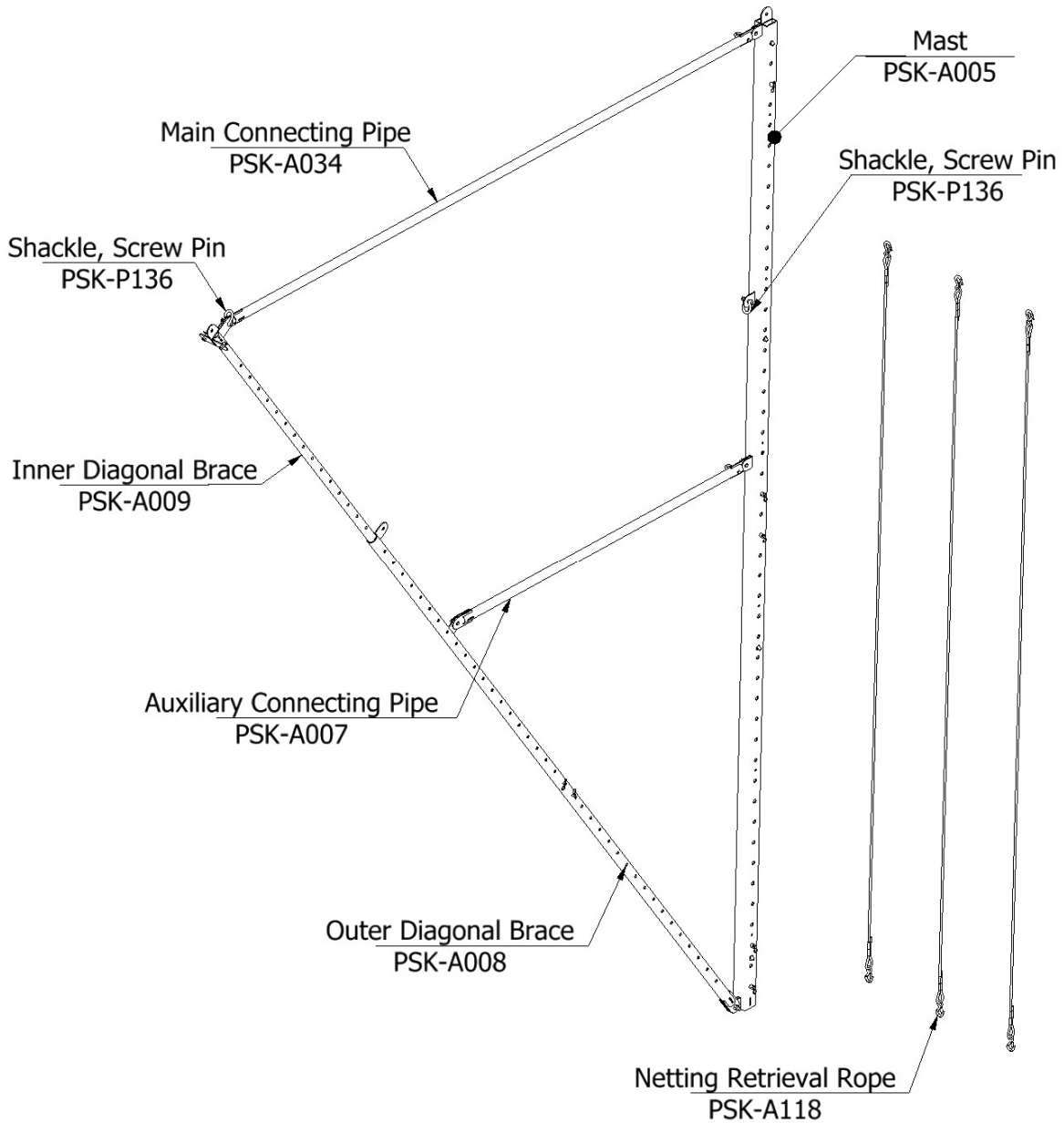
Prior to installation, fully review the provided engineered, stamped drawings, and discuss the project with engineer.

## **Site Safety**

- Installers shall use personal fall arrest systems meeting all federal, state and local OSHA regulations, as well as any company defined policies
- Personnel are not allowed on the **Pro-Net** system at any time
- The **Pro-Net** system is not to be used for personnel fall protection
- Installation shall be performed per the steps outlined in this manual
- No deviation from these instructions shall occur without prior approval of **Pro-Shore**
- All debris shall be removed daily
- Any accumulation of snow and ice shall be removed, as it will reduce the capacity of the system

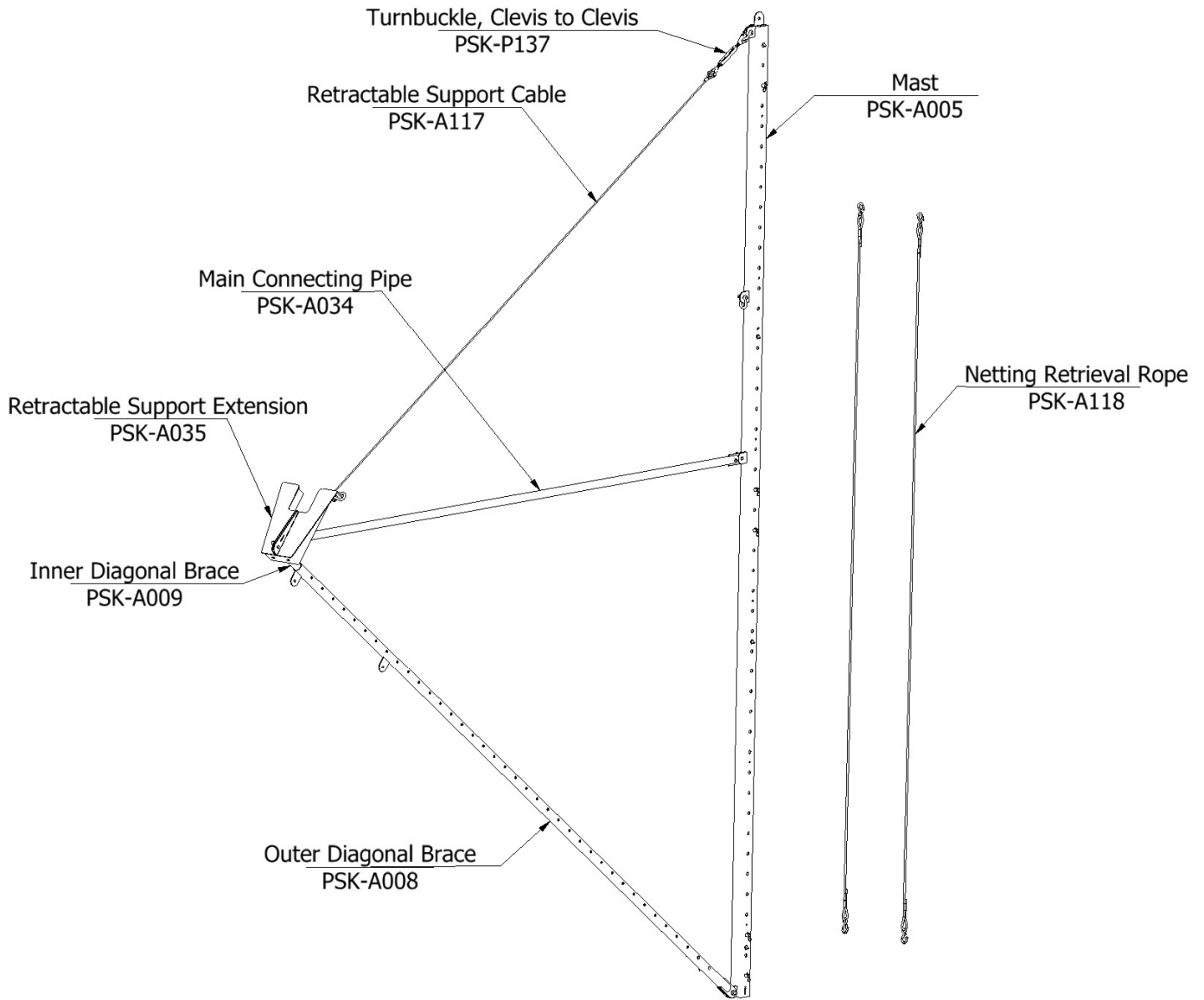
# System Components

## PSK-A004 PRO-NET, SUPPORT, STANDARD



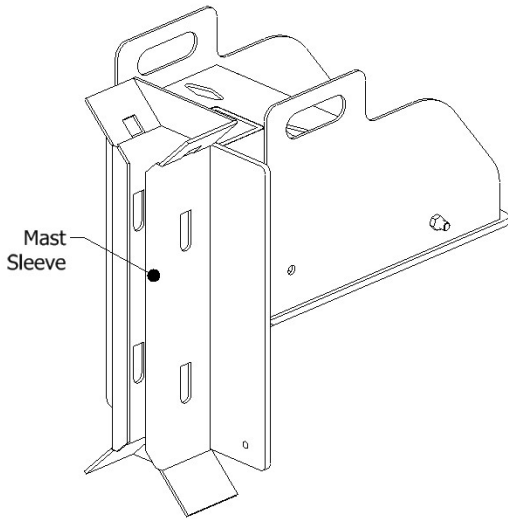
This system contains those items shown above, plus various fasteners, shackles and clevis pins (see the [System BOM](#) on last page for details).

## PSK-A010 PRO-NET, SUPPORT, RETRACTABLE



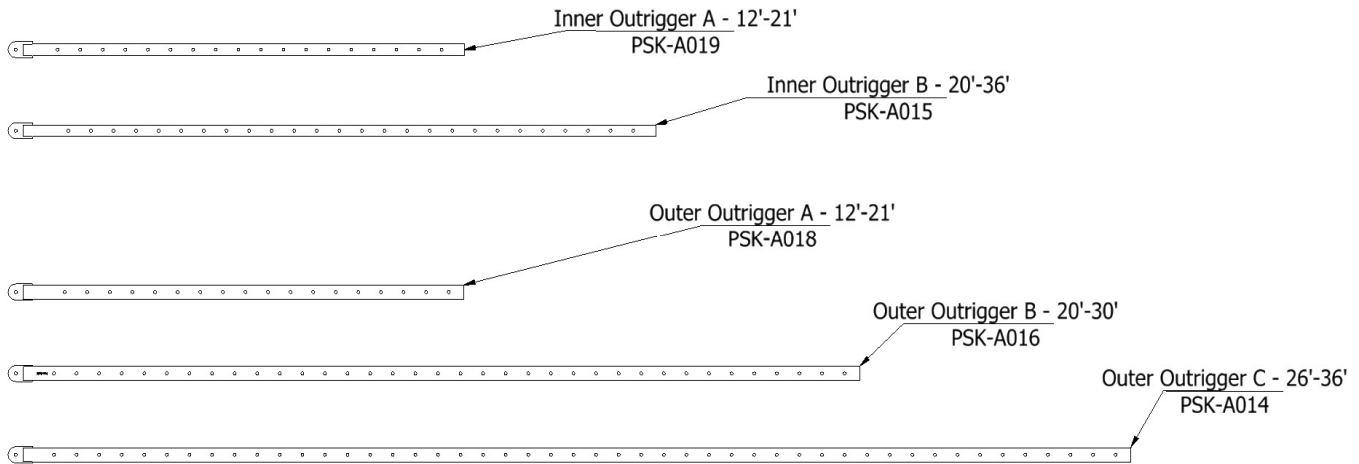
This system contains those items shown above, plus various fasteners, shackles and clevis pins (see the [System BOM](#) on the last page for details).

## PSK-A035 BOOT (SLAB MOUNTED)



The **Boot** attaches to the slab edge and guides the **Netting Supports** vertically during a jump. The **Mast** of each **Netting Support** travels up the building by engaging each **Boot** in the **Mast Sleeve** shown at left. The **Boots** are fixed to the slab using 5/8" concrete anchors, coil bolts or pre-embedded anchors. If required, the **Boots** have leveling features, but are usually not needed for new construction. Used for all support configurations.

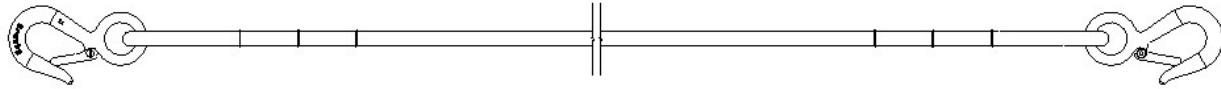
## OUTRIGGERS



These are lateral telescoping assemblies that bridge the space between each netting **Support**, to which the netting attaches. They also provide stability to the overall system. The **Outriggers** can be combined in numerous pairings, which allow the **Netting Supports** to be spaced from 12' to 36' apart. The standard spacing is 30', which matches the most common, off-the-shelf netting size.

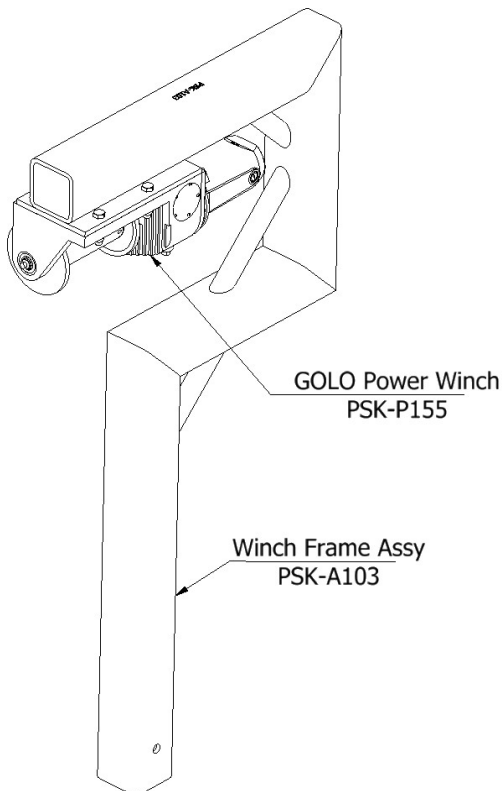
## PSK-A118 NETTING RETRIEVAL ROPES

These are ½” ropes, 18’ long, with snap hooks at each end:



To retract the 2 systems, the **Main Connecting Pipe** and **Auxiliary Connecting Pipe** must be detached from the **Mast** (see diagrams above), and lowered. The **Standard** configuration requires 3 ropes, one each attached to the eyebolts at the ends of the 2 **Pipes**, and the 3<sup>rd</sup> attached to the **5/8” Shackle** at the top of the **Inner Diagonal Brace**. The **Retractable** configuration requires 2 ropes, one rope is attached to a **Chain Shackle** underneath the **Retractable Support Extension**, attached to the eyebolt at the end of the **Main Connecting Pipe**, when these ropes are retracted, the **Diagonal Braces** fold up against the **Mast**. See the **Netting Support Assembly** instructions for each configuration below.

## PSK-A103 WINCH FRAME ASSY



The **Winch Frame Assy** is used when the system is jumped to its next position. The **Assy** is inserted into a receiver pocket in the topmost **Boot** and fixed in place. The **Frame** is designed for the [GOLO-RPNT](#) shown here, however, other winches can be used. Should you wish to use a different winch, contact [Pro-Shore](#) for assistance.



# System Setup & Assembly

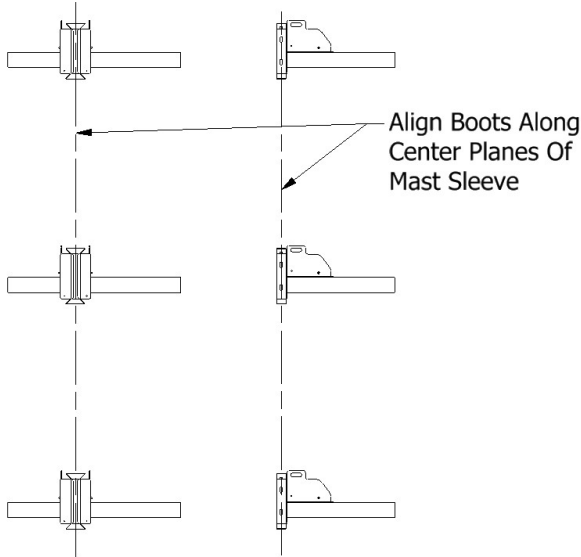
The setup of the **Pro-Net Debris Netting System** follows this sequence:

- **Boot Installation**
  - The **Boot** positions will have been defined previously by the Project Engineer, with assistance from **Pro-Shore** personnel. Once positioned correctly, the **Boot** is then anchored to the slab with 5/8” concrete anchors or coil bolts, as indicated below
- **Netting Support Assembly**
  - The **Support** components are assembled while it is lying on its side on the ground. The complete assembly is then folded and securely tied together
- **Raising the Assembled Supports**
  - Using either a crane or winch, the folded **Supports** are hoisted, aligned with the **Boots** and secured into position
- **Outrigger Attachment**
  - The **Outriggers** are installed to connect 2 adjacent **Supports**. These provide stability to the system, as well as connection points for the netting. Although the **Outriggers** can, be replaced with cables, the system is significantly more stable with the **Outriggers** installed. The use of cable in lieu of an **Outrigger** will require additional tiebacks from the end of the **Support** to the building structure
- **Attaching the Debris Netting**
  - The netting is ready to be installed. per manufacture’s recommendations as defined in their literature

The installation of the **Boots** and the **Support** assemblies can occur in parallel to save time.

## PSK-A035 BOOT (SLAB MOUNTED) INSTALLATION

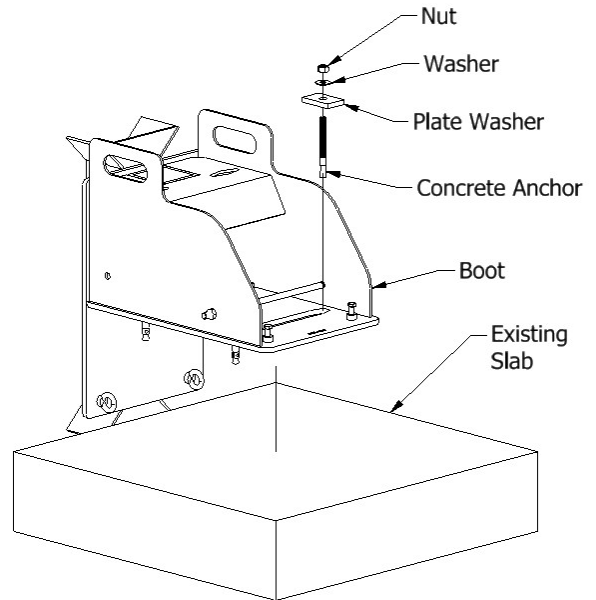
### Positioning



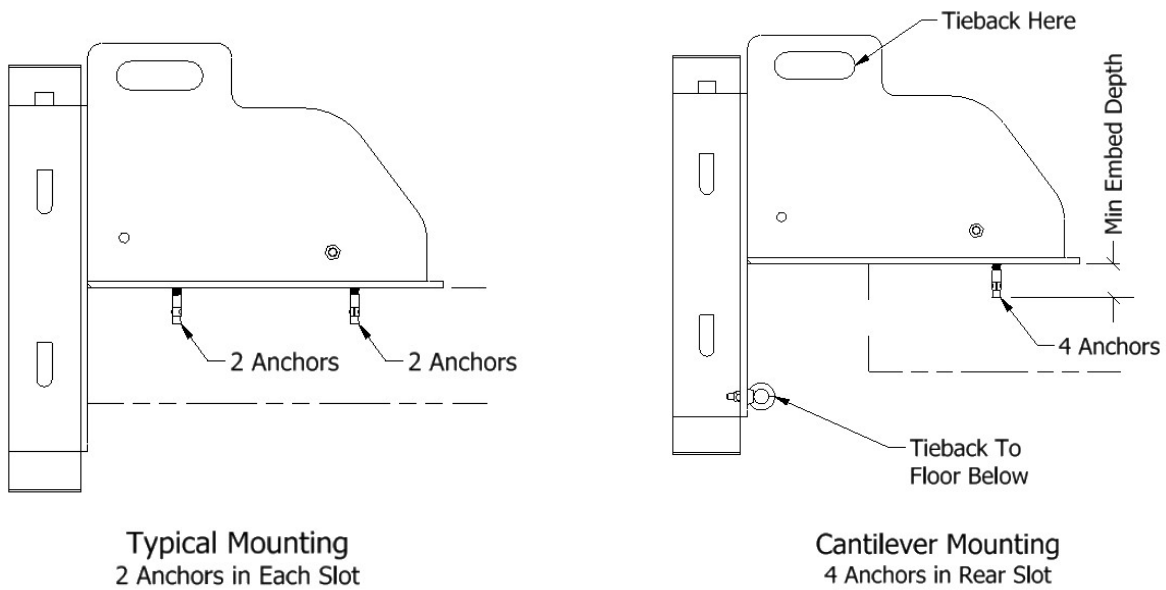
**Boots** are positioned as indicated in the approved layout drawings. All **Boots** in any particular sequence must be aligned as shown. This allows the **Netting Support Assembly**, **Outriggers** and **Netting** to travel freely up the structure. Failure to set this correctly will cause the **Mast** to bind in the **Boot**, and the netting cannot be jumped. If the slab edge is not uniform up the face of the building (cantilevers, setbacks, etc.) then the boots must be aligned based upon the furthest outside edge, and cantilevered, if necessary. Once boots are positioned correctly, anchor the boots to the slab.

### Anchoring

The boots can be anchored to the slab using concrete anchors, or pre-installed coil rod anchors. The concrete anchors allow minor adjustments to be made to the boot placement to accommodate irregularities in the slab, interference with PT Tendons, window wall embeds, etc. The concrete anchor option is shown at right



For a standard **Boot** installation, 2 anchors are placed in each of the forward and rear anchor slots. For a cantilever condition, all 4 anchors may need to be installed in the rear anchor slot. This will be determined by cantilever offset from the slab edge, and by the anchor minimum edge distance:



**Typical Mounting:**

- Concrete anchors shall be a minimum  $\varnothing 5/8"$  x 6" with a minimum embed of 2½". This should be verified in the design phase and checked by PE/EOR
- Concrete anchor installation and minimum edge distances to be determined by the anchor manufacturer's specifications

**Cantilever Mounting:**

- Concrete anchors shall be a minimum  $\varnothing 5/8"$  x 6" with a minimum embed of 2½"
- Concrete anchor installation and minimum edge distances to be determined by the anchor manufacturer's specifications
- Upper tieback options:
  - Truck straps with double hooks, such as those shown below. Best to use when **Boot** is located at or near a column

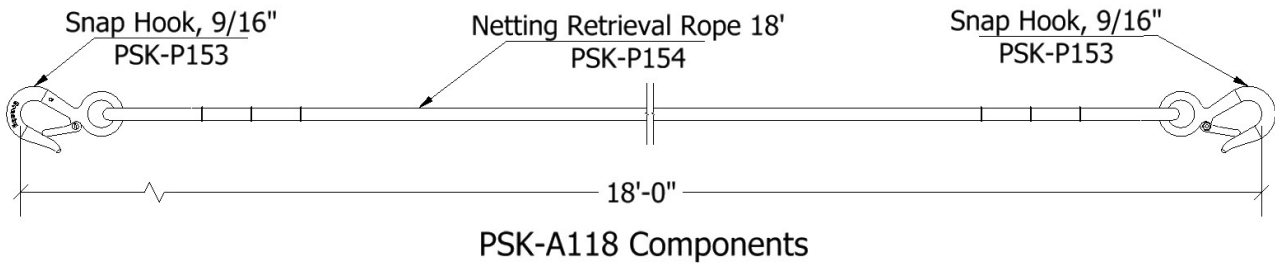


- 3/8" Aircraft Cable and Crosby Clamps tied back to ½" eyebolt anchored to slab
- Lower tieback to use 3/8" Aircraft Cable and Crosby Clamps
  - If anchored to slab below, eyebolt to be a minimum of 4' from edge of slab
  - If anchored to column, eyebolt to be maximum of 4' above slab on face of column

## PSK-A118 NETTING RETRIEVAL ROPE

**Pro-Shore** typically does not assemble the **Retrieval Ropes**. A 600' spool of ½” rope, along with the necessary snap hooks are shipped loose and assembled onsite.

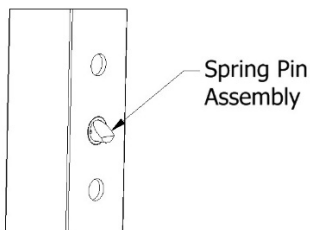
Cut a length of rope long enough to make the **PSK-A118 Netting Retrieval Rope** shown below. Loop each end of the rope through the eye of the **9/16” Snap Hook** and tie them off. Use any method you wish (knot, weave, clamp, etc.) to ensure rope will not detach from the snap hook:



3 **Retrieval Ropes** will be needed for **Standard Netting Support** and 2 **Retrieval Ropes** will be needed for **Retractable Netting Support**.

## PSK-A004 PRO-NET SUPPORT, STANDARD ASSEMBLY

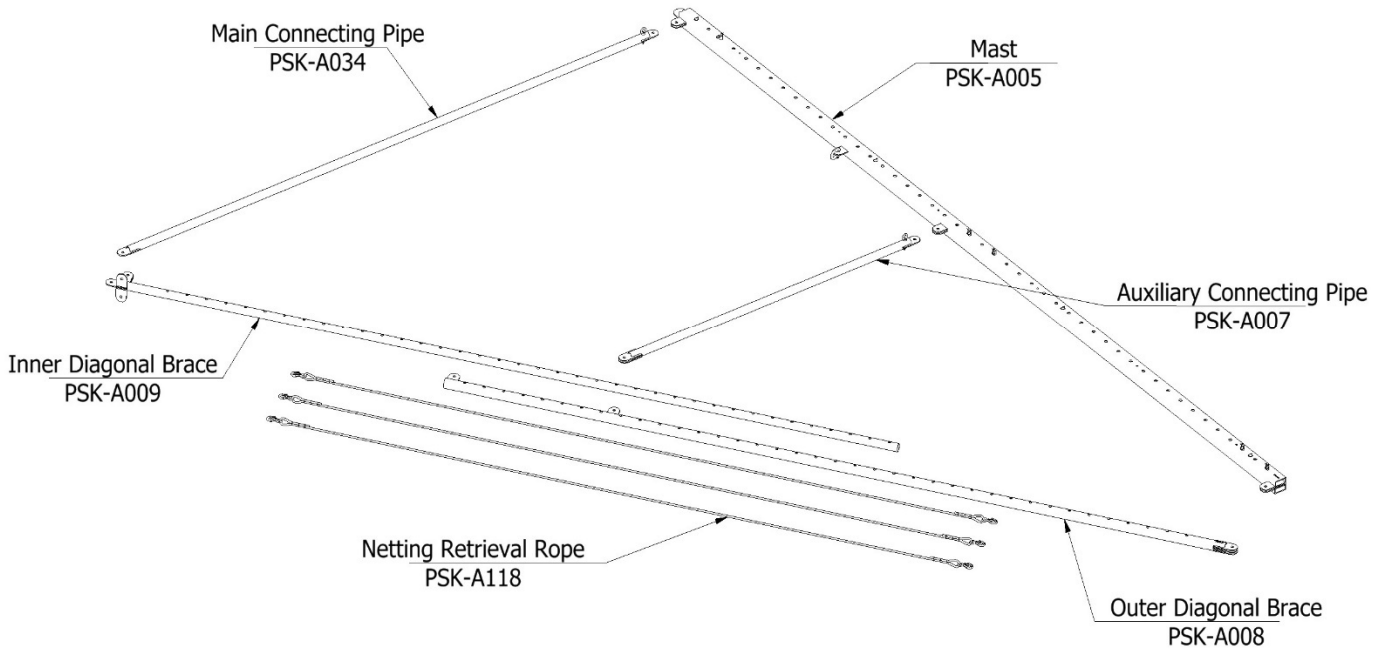
Assemble the support on the ground while lying on its side. Ensure the area is free from dirt and debris. Use a hard surface, such as concrete, asphalt or wood, if available. If assembly must be performed on a dirt surface, lay a tarp down, so that dirt does not enter the **Spring Pin Assembly** of the **Mast**. Use dunnage to raise components above the ground to ease assembly:



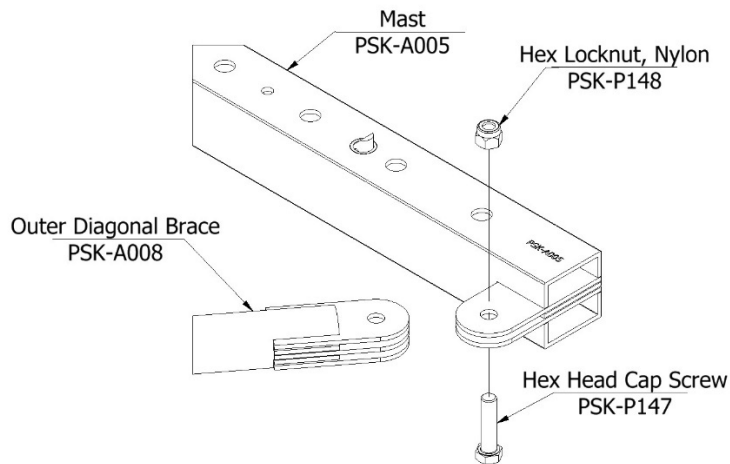
This **Spring Pin Assembly** is the primary safety device when performing a jump. In its normal position, the pins are extended and engage the slots in the **Mast Sleeve** of the **Boots**. This prevents the **Mast** from falling out of the **Boots**. During a jump, these **Pins** will retract when in contact with the inner surface of the **Mast Sleeve**, until they engage a slot and automatically extend. Each **Mast** has 5

**Spring Pins**. If the **Pins** become contaminated, the internal pin mechanism may bind when retracted and fail to engage the **Boot**. At the beginning of each installation of the system, inspect these pins to ensure free movement.

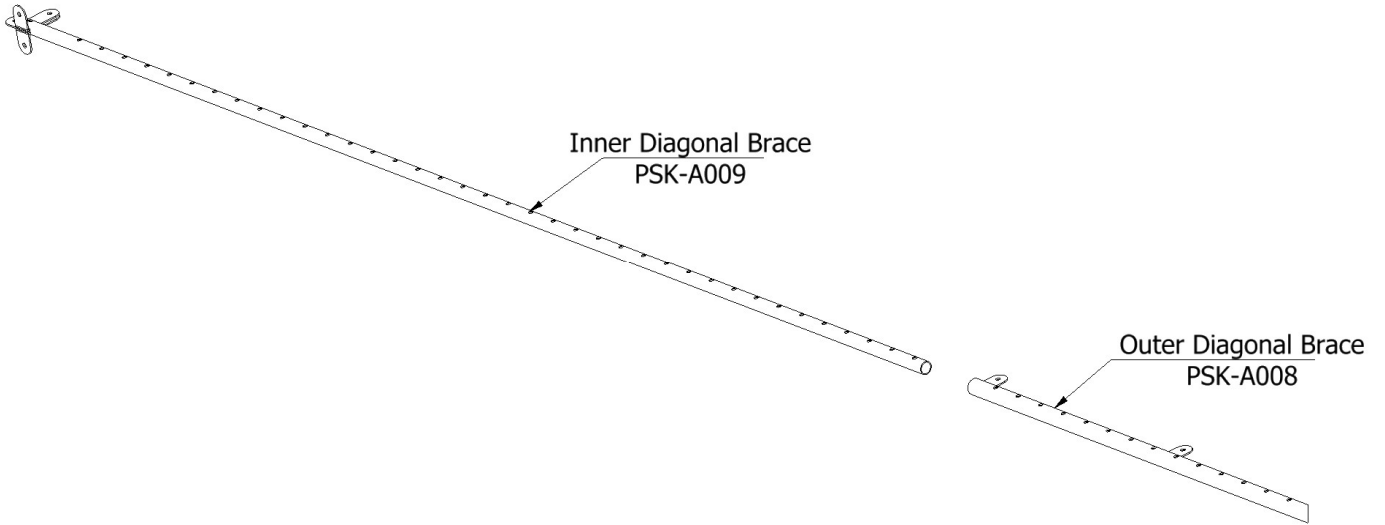
To ease assembly, position the components as shown. Use dunnage to allow better access to attach hardware:



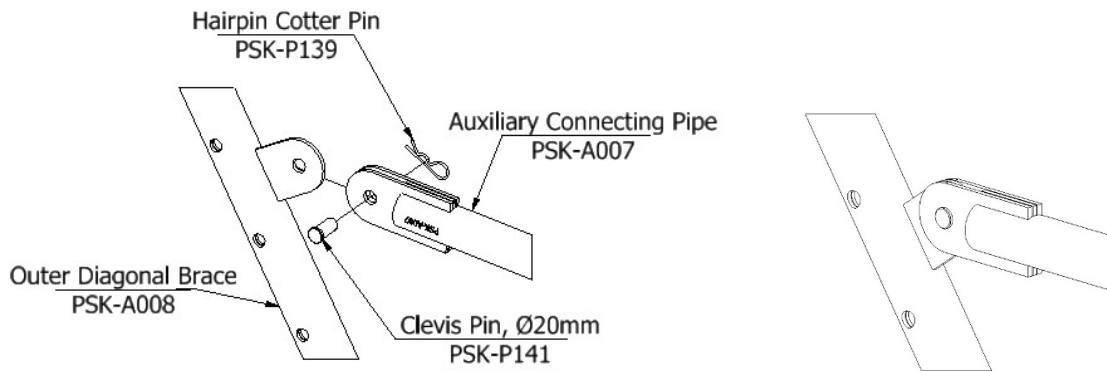
Attach the **Outer Diagonal Brace** to the lower end of the mast. **NOTE:** The tabs on the **Outer Diagonal Brace** must be pointing **toward** the **Mast**! Refer to previous diagram. Secure the **Outer Brace** to the **Mast** with an **M20 Hex Bolt** and **M20 NyLoc Hex Nut** and tighten hand tight. Ensure that the **Outer Brace** can rotate freely around the **Hex Bolt**:



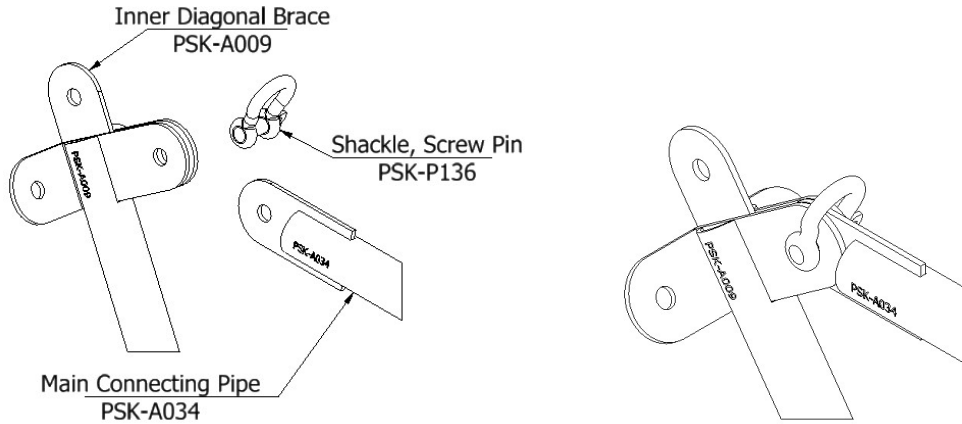
Slide the **Inner Diagonal Brace** into the **Outer Diagonal Brace**. Ensure that the 2 parallel tabs at the head of the **Inner Brace** face the *same* direction as the tabs on the **Outer Brace** (toward the **Mast**):



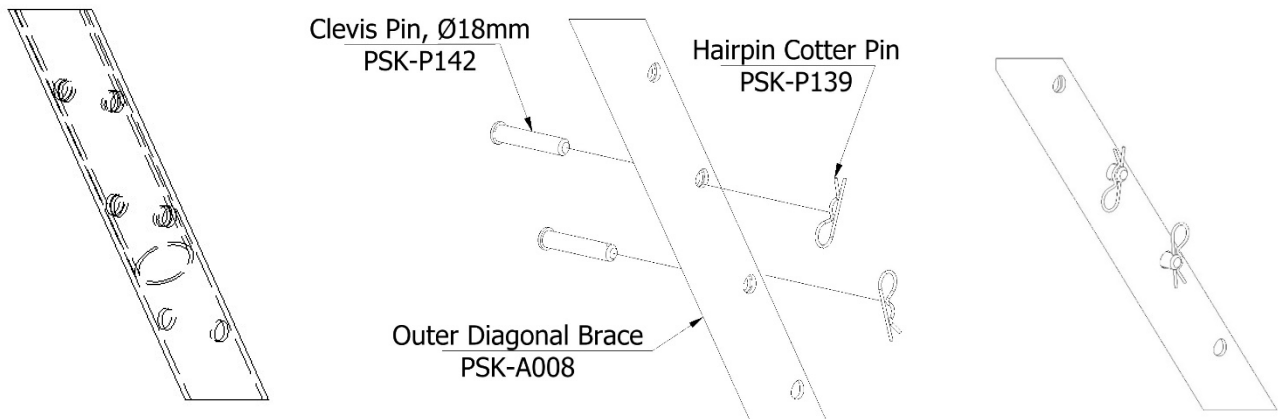
The **Auxiliary Connecting Pipe** has a single tab on one end and a double tab on the opposite end. Position the double tabbed end so that the lower tab of **Outer Diagonal Brace** lies between the 2 tabs of the **Pipe** and align the 3 holes. Insert the  $\varnothing 20\text{mm}$  **Clevis Pin** and **Hairpin Cotter Pin** (see diagram above):



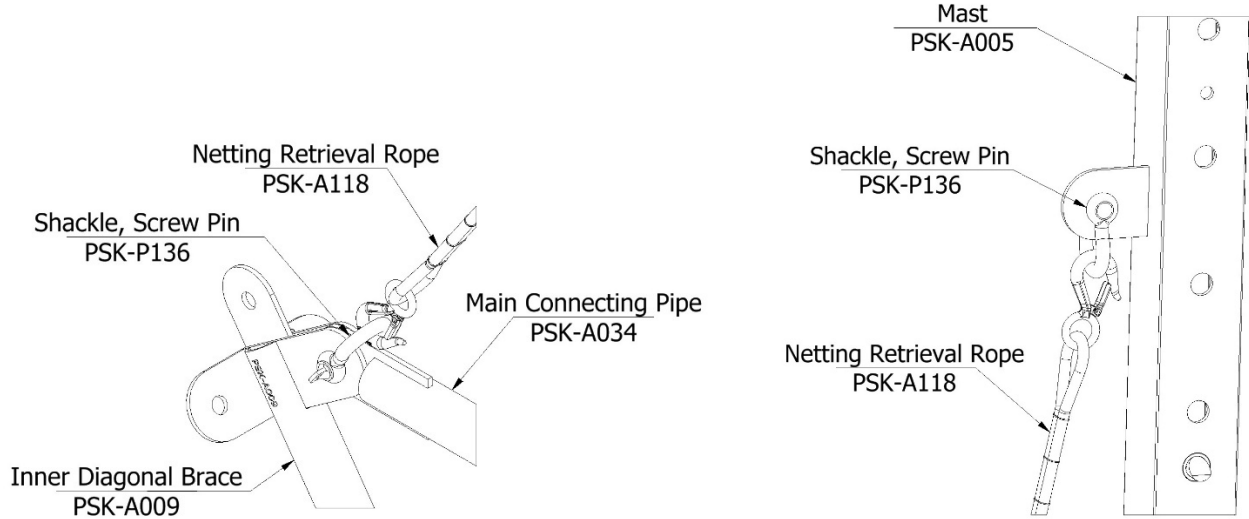
The **Main Connecting Pipe** has single tabs on both ends, with an eyebolt on one. Insert the *non-eyebolt* end between the 2 tabs at the top of the **Inner Diagonal Brace**. Align the 3 holes and insert the **5/8" Shackle**:



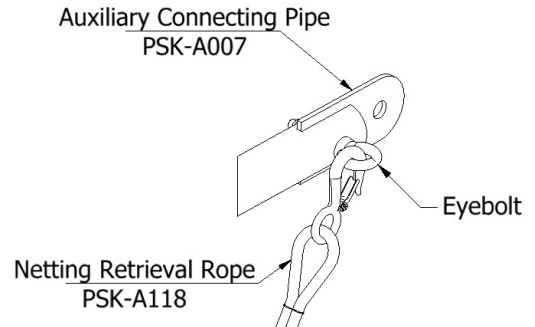
Locate the 2 holes at end of the **Inner Diagonal Brace** inside the **Outer Diagonal Brace**, by looking through the holes in the **Outer Brace** (A second option would be to count the holes. They are the 21<sup>st</sup> and 22<sup>nd</sup> holes, counting from the open end of the **Outer Brace**). Reposition the **Inner Brace** as needed to align the holes and insert two  $\varnothing 18\text{mm}$  **Clevis Pins**. Ensure that each **Pin** engages both **Braces**, and secure the **Pins** with **Hairpin Cotter Pins**:



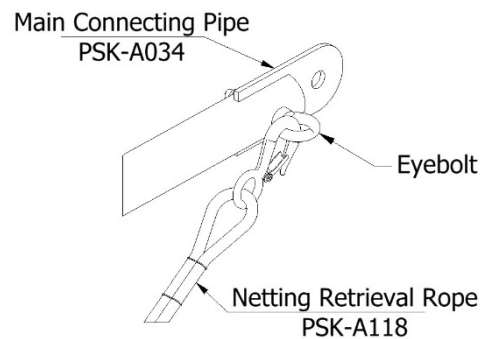
Clip one end of a **Netting Retrieval Rope** to the **5/8” Shackle** which connects the **Inner Diagonal Brace** to the **Main Connecting Pipe**. Clip the other end of the **Rope** to the **5/8” Shackle** on the **Mast** that sits above the **Auxiliary Connecting Pipe**:



Clip one end of a 2nd **Netting Retrieval Rope** to the eyebolt at the end of the **Auxiliary Connecting Pipe**. Clip the other end of the **Rope** to the same **5/8” Shackle** that the 1<sup>st</sup> **Rope** was attached to (see diagram above):

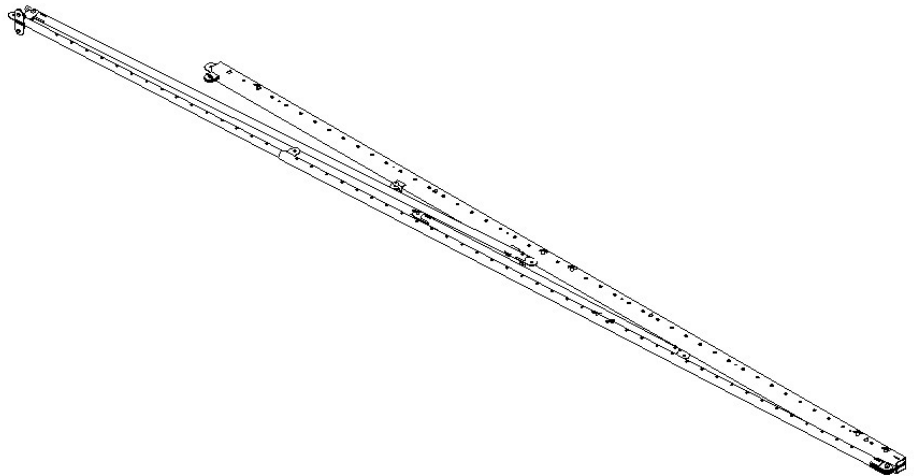


Clip one end of the 3rd **Netting Retrieval Rope** to the eyebolt at the end of the **Main Connecting Pipe** where it attaches to the head of the **Mast**. Clip the other end of the **Rope** to the same **5/8” Shackle** that the 1<sup>st</sup> & 2<sup>nd</sup> **Ropes** were attached to (see diagram above):

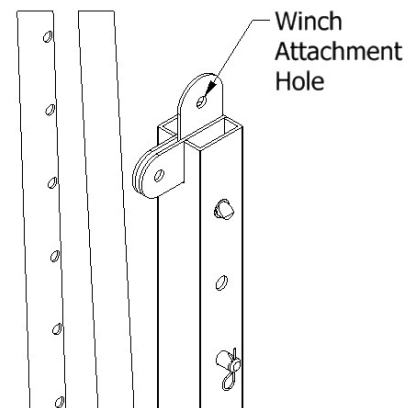




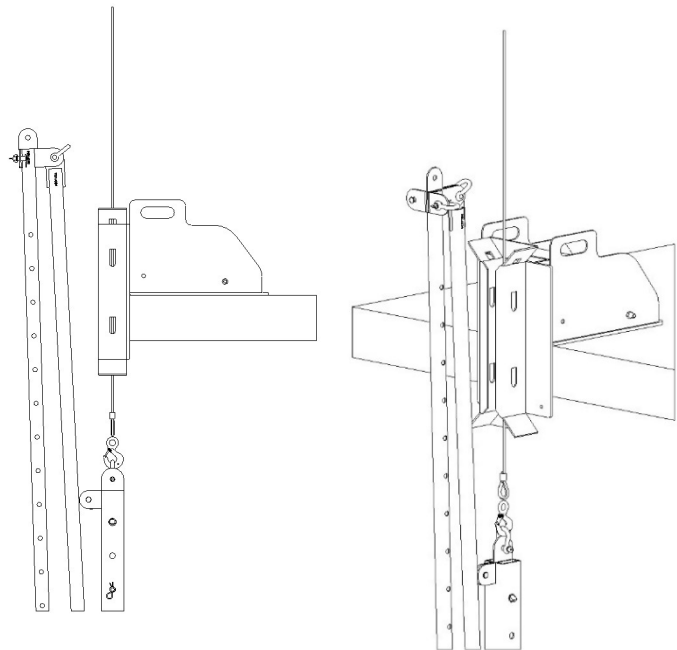
Fold the two **Connecting Pipes** against the **Diagonal Braces** and tie together. *Do not tie anything around the **Mast**, as this will prevent the **Mast** from engaging the **Boots** when flown up to the building.* The finished assembly will look similar to the image at right (ropes not shown for clarity).



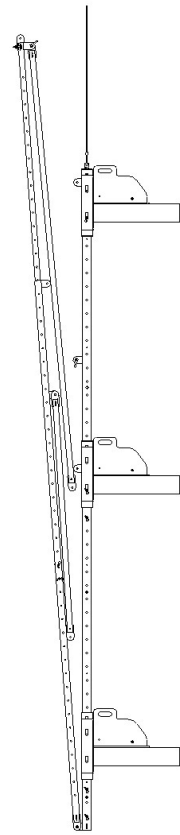
Attach a crane or winch hook to the attachment hole at the top of the **Mast**. If the hook is too large to fit in the attachment hole, use a **5/8" Shackle**. Hook and **Shackle** must be able to fit inside the **Mast Sleeve** of the **Boot**:



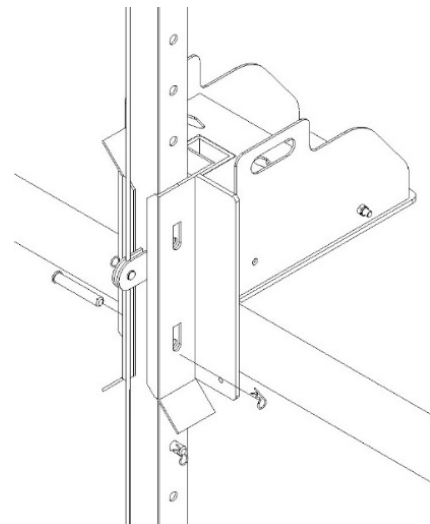
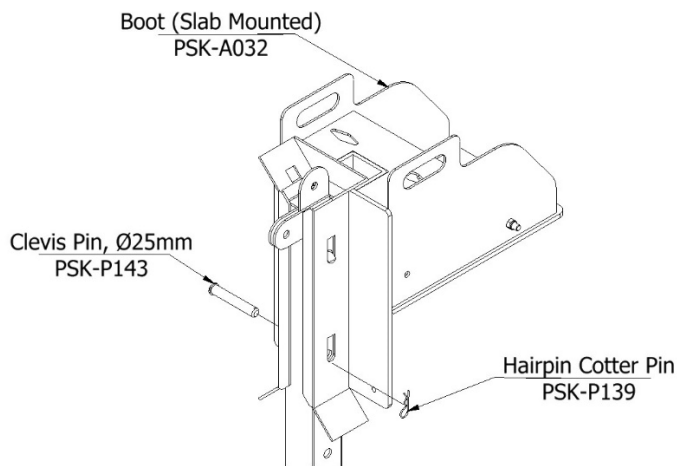
Slowly hoist the **Support** until it hangs just under the lowest **Boot**. Carefully align the **Mast** with the center of the **Mast Sleeve**, and gently raise the **Mast** until it engages the **Boot**. Use available personnel as necessary to keep the assembly stable.



Continue hoisting the **Support** until it fully engages 3 **Boots** and the **Spring Pin** at the top of the **Mast** locks into the top slot of the top **Boot**. Make certain that no components of the support will interfere with the **Boot** during the hoist process. If a possible collision is noted, loosen the tie rope to allow free travel. Note that the system is designed to have 3 **Boots** engaged when the floor-to-floor spacing is 10'. However, each project is different, and floor heights greater than 10' may only allow 2 **Boots** to be engaged. This is an acceptable condition.

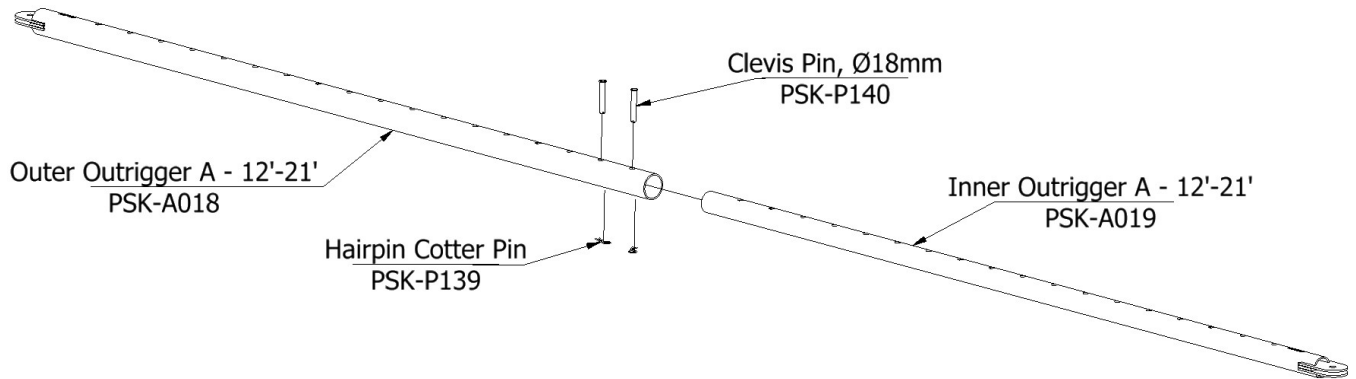


Once the support is in its final position and the **Spring Pin** is engaged in the top slot of the top **Boot**, install the  $\varnothing 25\text{mm}$  **Clevis Pin** and **Hairpin Cotter Pin** in the lower slot of the top **Boot**. Place additional **Pins** in the middle and lower **Boots**. Due to varying floor heights, the **Pins** may not line up with a slot. In this case, place a **Pin** in the nearest hole directly above the **Boot** (**Braces and Pipes** removed for clarity).

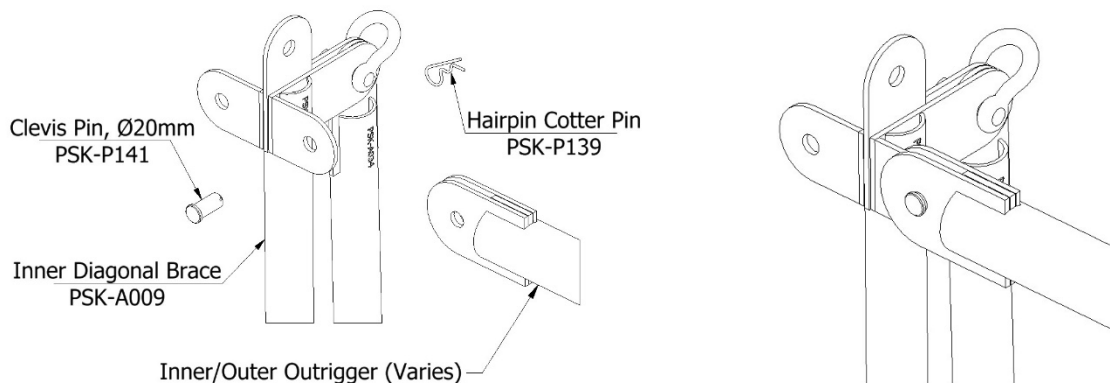


## PSK-A004 PRO-NET SYSTEM OUTRIGGER INSTALLATION

When the supports have been flown up and pinned into the **Boots**, install the **Outriggers**, which span between 2 individual supports. This is called a **Run**. Insert an **Inner Outrigger** into the **Outer Outrigger** (refer to the project **Pro-Net** layout drawing to determine which **Inner & Outer Outriggers** to use for a particular **Run**). Do not insert the  $\varnothing 18\text{mm}$  **Clevis Pin** and **Hairpin Cotter Pin** at this time:



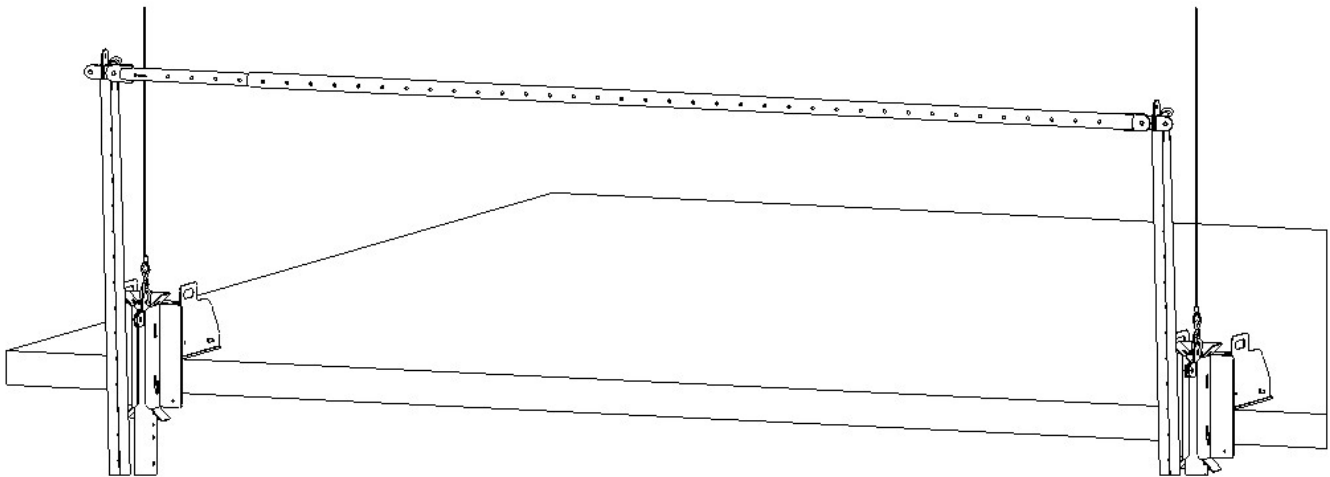
Using 2 people to support the **Inner** and **Outer Outriggers**, Position the double tabbed end of the **Outrigger** (**Inner Outrigger** shown) onto the single tab of the **Inner Diagonal Brace**. Align the 3 holes and insert a  $\varnothing 20\text{mm}$  **Clevis Pin** and **Hairpin Cotter Pin** as shown below. Repeat the procedure to attach the **Outrigger** at the opposite end (Either **Outrigger** end can be attached to either **Brace**):



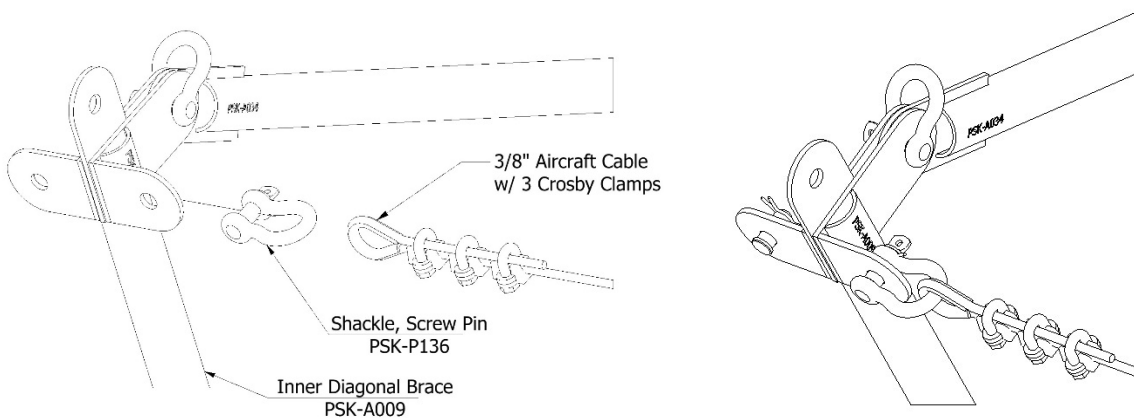
The system is designed to have the **Boots** laterally spaced at 6” increments: 30’, 21’-6”, 13’, etc. If the **Boot** spacing adheres to the recommended 6” increments, place the **Ø18mm Clevis Pins** in any 2 holes where each **Pin** will engage both **Outriggers** and insert a **Hairpin Cotter Pin** into each **Pin**.

Depending upon the building design, irregular slab edges or slab post-tensioning the **Boots** cannot always be spaced as designed. When this occurs, the **Pins** will not be used.

**Completed Run:**



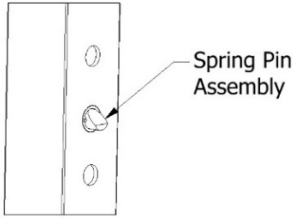
For structures that have irregular slab edges, the **Boots** may not be able to be positioned to allow an **Outrigger** to be used (i.e., A slab edge is offset 6”). In this case, 3/8” aircraft cable with 5/8” **shackles** will need to be used:



The debris netting can now be attached to the **Outriggers** and/or cables. Follow the netting manufacture’s specifications for attaching their netting. Once this is completed, the supports and netting can be extended. Follow the steps in **Extending The Netting** outlined below.

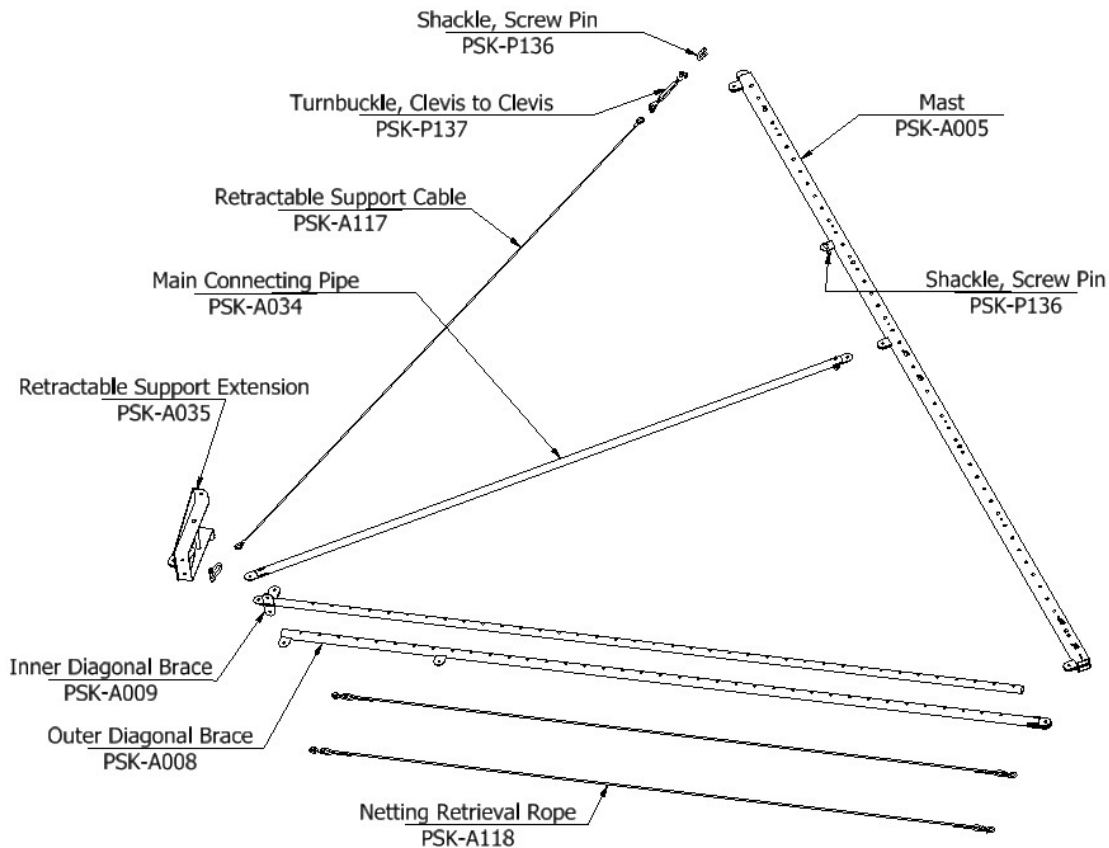
## PSK-A010 PRO-NET SUPPORT, RETRACTABLE ASSEMBLY

Assemble the support on the ground while lying on its side. Ensure the area is free from dirt and debris. Use a hard surface, such as concrete, asphalt or wood, if available. If assembly must be performed on a dirt surface, lay a tarp down, so that dirt does not enter the **Spring Pin Assembly** of the **Mast**. Use dunnage to raise components above the ground to ease assembly:

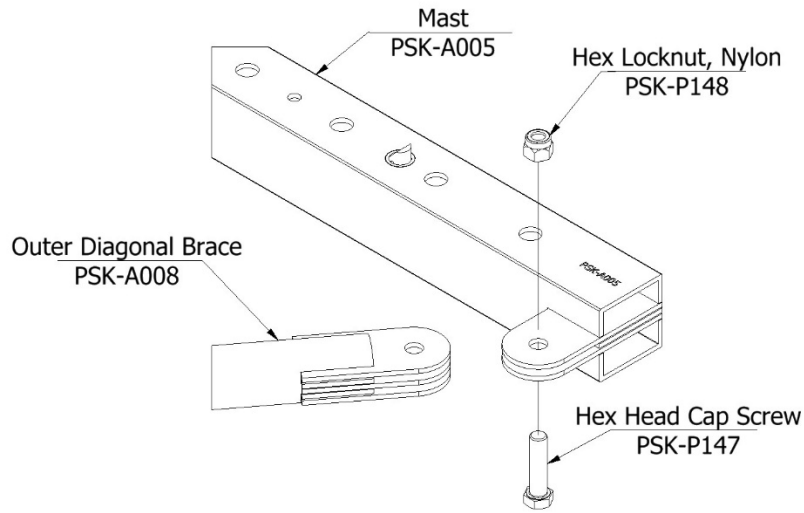


This **Spring Pin Assembly** is the primary safety device when performing a jump. In its normal position, the pins are extended and engage the slots in the **Mast Sleeve** of the **Boots**. This prevents the **Mast** from falling out of the **Boots**. During a jump, these **Pins** will retract when in contact with the inner surface of the **Mast Sleeve**, until they engage a slot and automatically extend. Each **Mast** has 5 **Spring Pins**. If the **Pins** become contaminated, the internal pin mechanism may bind when retracted and fail to engage the **Boot**. At the beginning of each installation of the system, inspect these pins to ensure free movement.

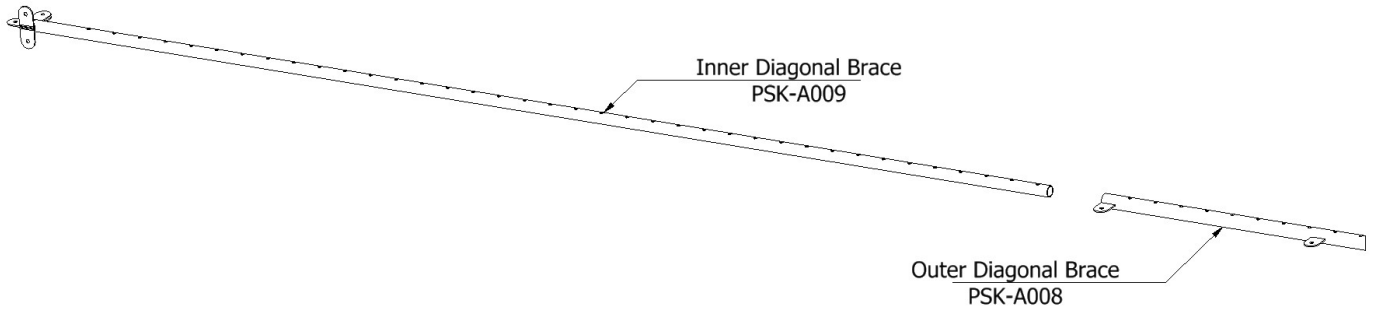
To ease assembly, position the components as shown. Use dunnage to allow for easy access to hardware:



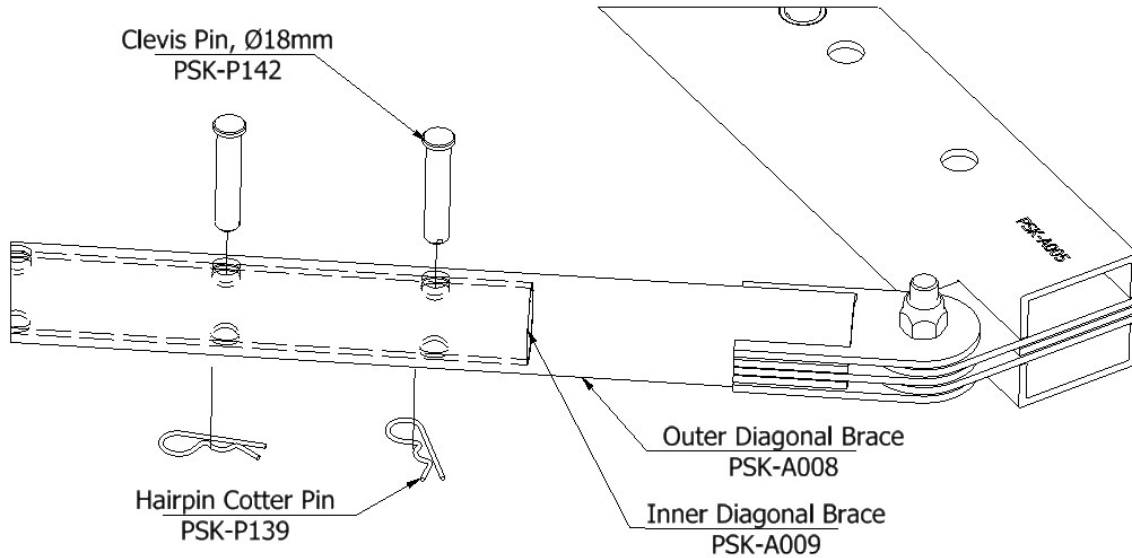
Attach the **Outer Diagonal Brace** to the lower end of the mast. **NOTE:** The tabs on the **Outer Diagonal Brace** must be pointing *away* from the **Mast**! Refer to the diagram above. Secure the **Brace** to the **Mast** with an **M20 Hex Bolt** and **M20 NyLoc Hex Nut**. Ensure that the **Brace** can rotate freely around the **Bolt**:



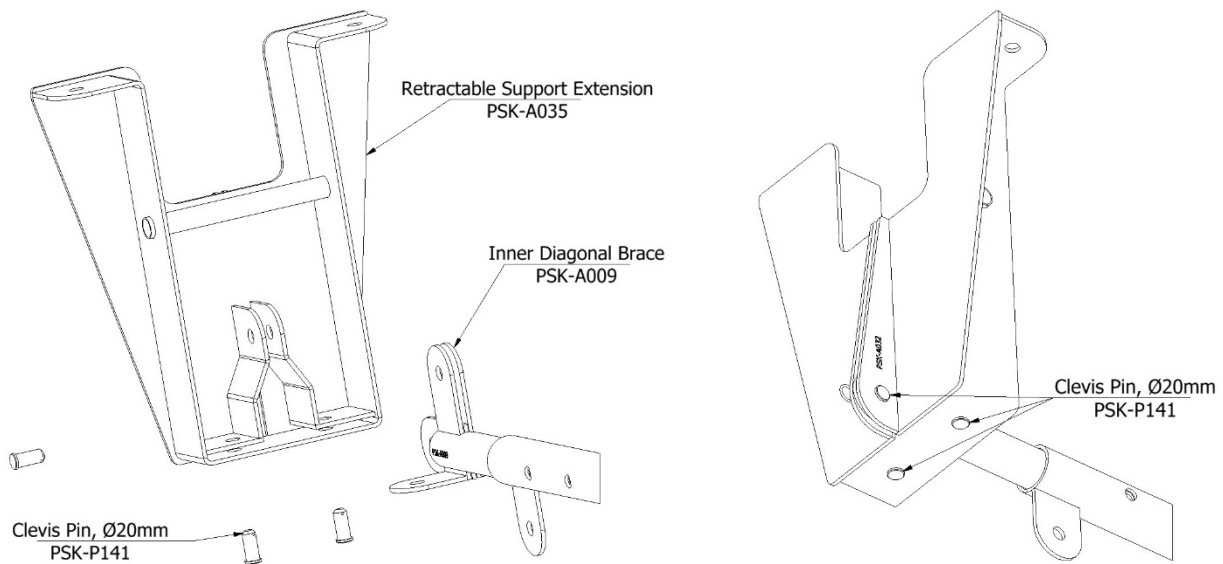
Insert the **Inner Diagonal Brace** into the **Outer Diagonal Brace**. Ensure that the 2 parallel tabs at the head of the **Inner Brace** face the *opposite* direction to the tabs on the **Outer Brace**:



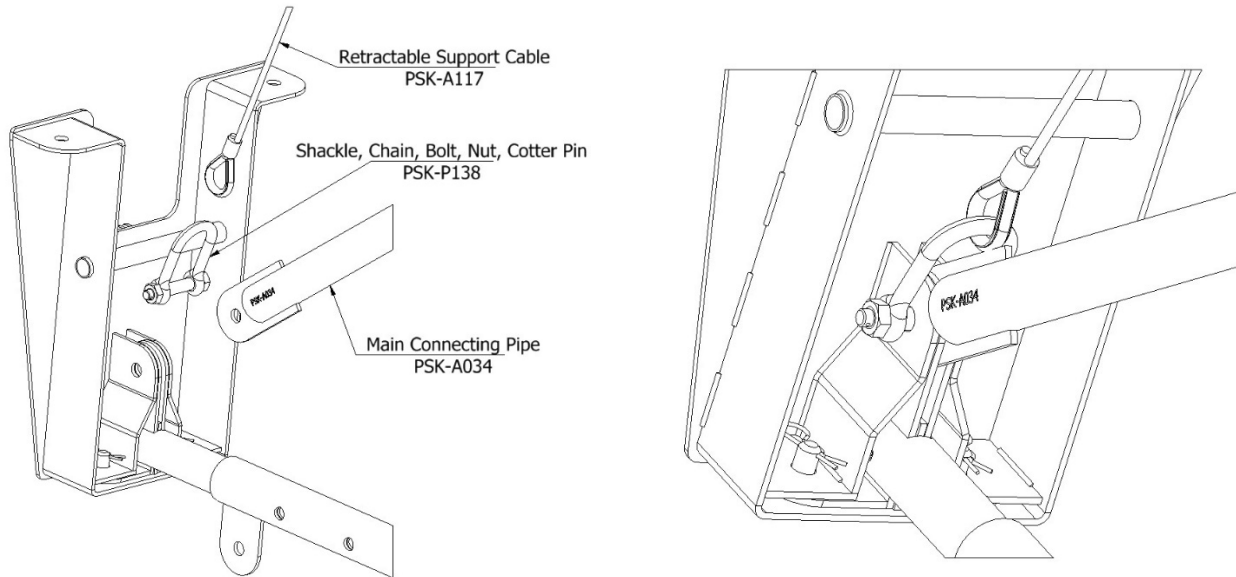
Slide the **Inner Diagonal Brace** all the way into the **Outer Diagonal Brace** until the bottom 2 holes of the **Inner Brace** align with the bottom 2 holes of the **Outer Brace**. Recheck the tab alignment and insert two  $\varnothing 18\text{mm}$  **Clevis Pins** into these bottom 2 holes. Ensure that each pin engages both **Braces**. Secure each pin with a **Hairpin Cotter Pin**:



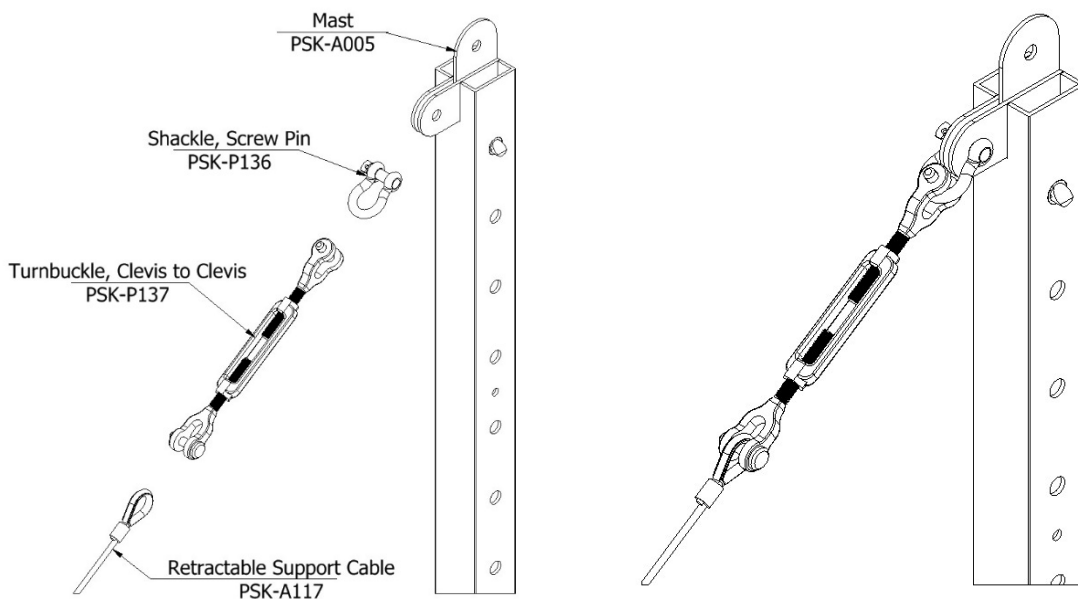
Fit the **Retractable Support Extension** onto the end of the **Inner Diagonal Brace**. Insert three  $\varnothing 20\text{mm}$  **Clevis Pins** and secure each **Clevis Pin** with a **Hairpin Cotter Pin**:



Only one end of the **Main Connecting Pipe** has an eyebolt. Using the *non-eyebolt end*, insert the tab between the 4 tabs on the underside of the **Extension** and align the holes. Remove the **Pin** from the **Chain Shackle** and thread the **Shackle Ring** through one end of the **Retractable Support Cable**. Position the **Shackle** so it lines up with the holes in the **Extension**, **Inner Brace** and **Main Connecting Pipe**. Replace the **Shackle Pin** so all components are locked together. The **Shackle** should rotate freely:

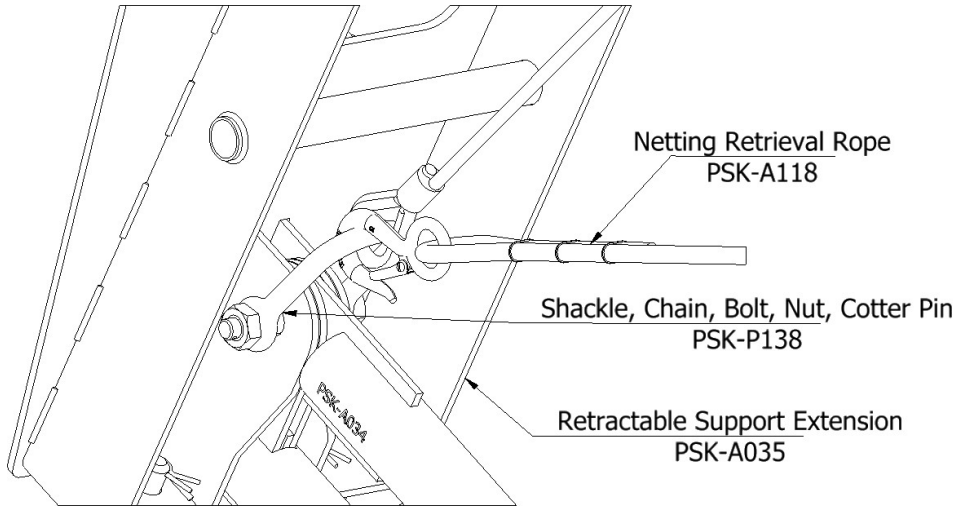


Attach the other end of the **Retractable Support Cable** to one end of the **Clevis-to-Clevis Turnbuckle**. Attach the other end of the **Turnbuckle** to a 5/8” **Shackle**. The **Shackle** is then attached to the 2 tabs at the top of the **Mast**:

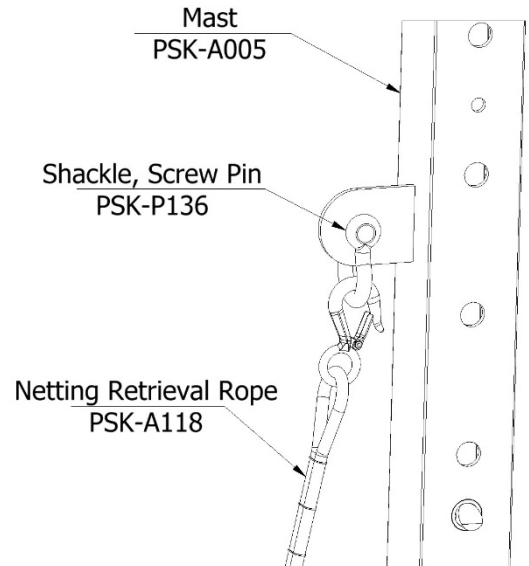




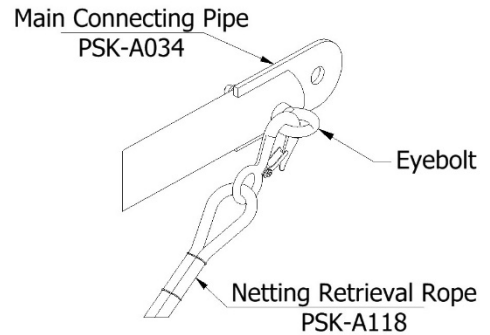
Clip one end of a **Netting Retrieval Rope** onto the **Chain Shackle** underneath the **Retractable Support Extension**:



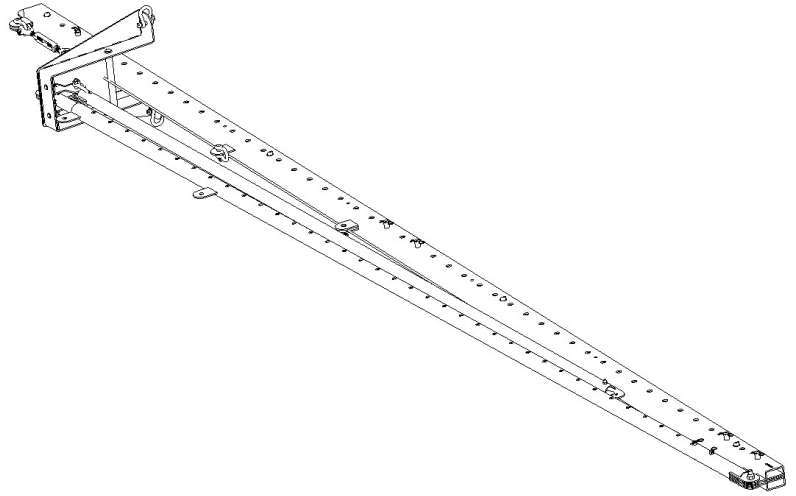
Clip the other end of the **Rope** to the **5/8" Shackle** on the **Mast** that sits above the **Main Connecting Pipe** (See diagram above):



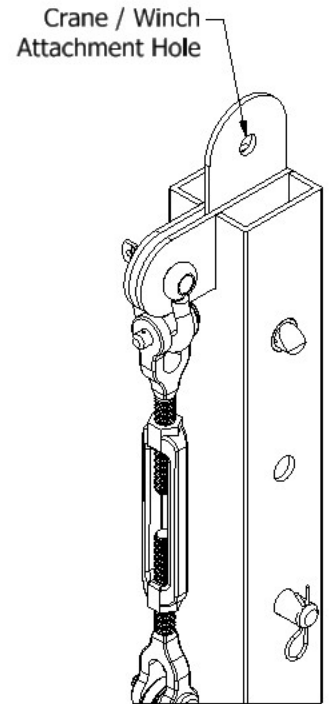
Clip one end of the 2nd **Netting Retrieval Rope** to the eyebolt at the end of the **Main Connecting Pipe**. Clip the other end of the **Rope** to the same **5/8" Shackle** that the 1<sup>st</sup> **Rope** was attached to (see diagram above):



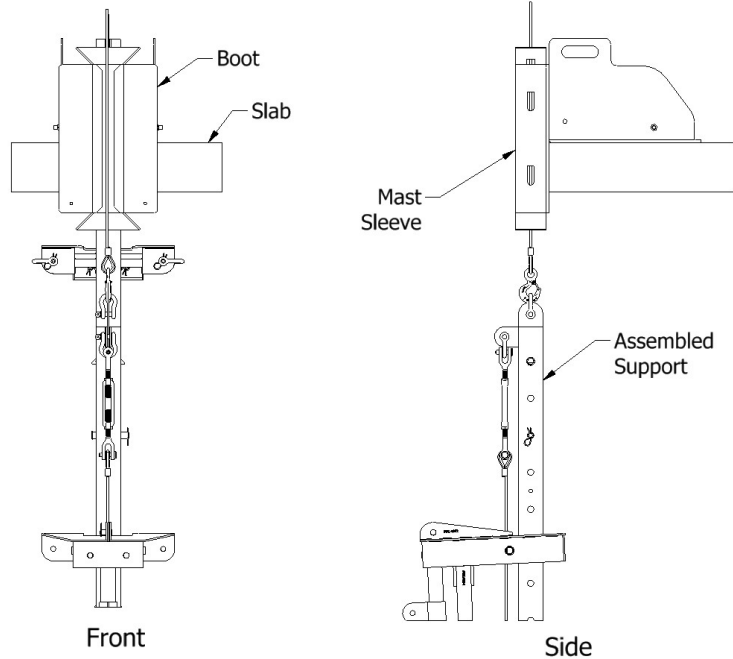
Fold the **Connecting Pipe** against the **Diagonal Braces** and tie together. *Do not tie anything around the **Mast**, as this will prevent the **Mast** from engaging the **Boots** when flown up to the building.* The finished assembly will look similar to the image at right (ropes not shown for clarity).



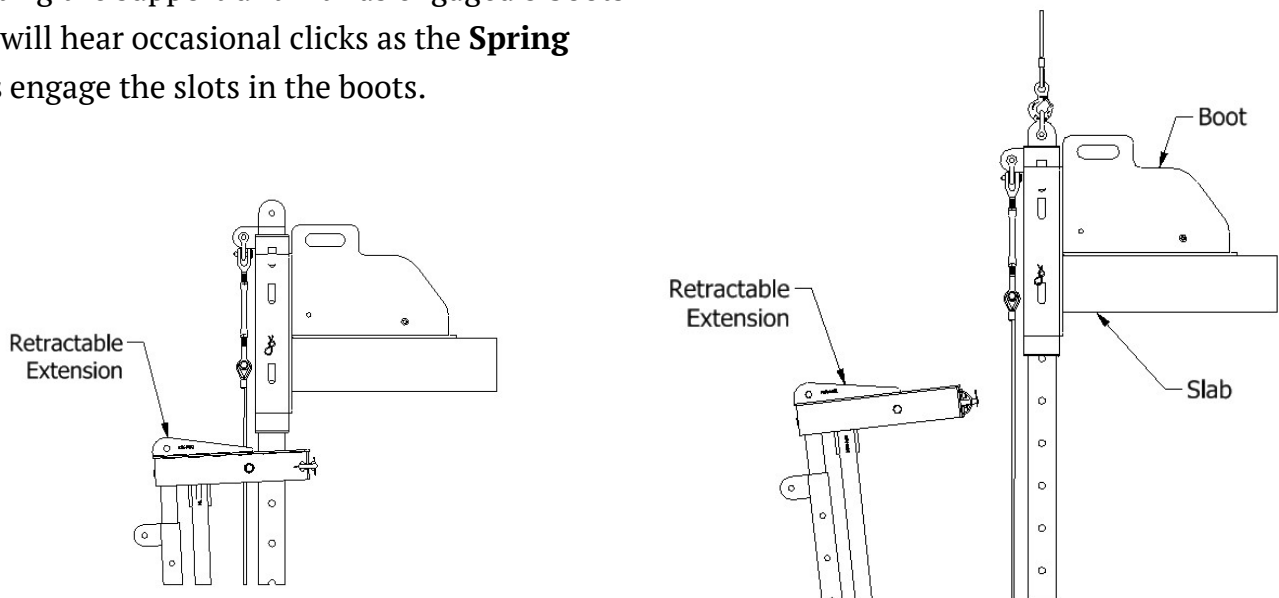
Attach a crane / winch hook to the attachment hole at the top of the **Mast**. If the hook is too large to fit in the attachment hole, use a shackle. ***NOTE:*** Hook and shackle must fit inside the **Mast Sleeve** of the **Boot**.



Slowly hoist the support until it hangs just under the lowest **Boot**. Carefully align the **Mast** with the center of the **Mast Sleeve**, and gently insert the **Mast** into the **Boot**. Use available personnel as necessary to assist.

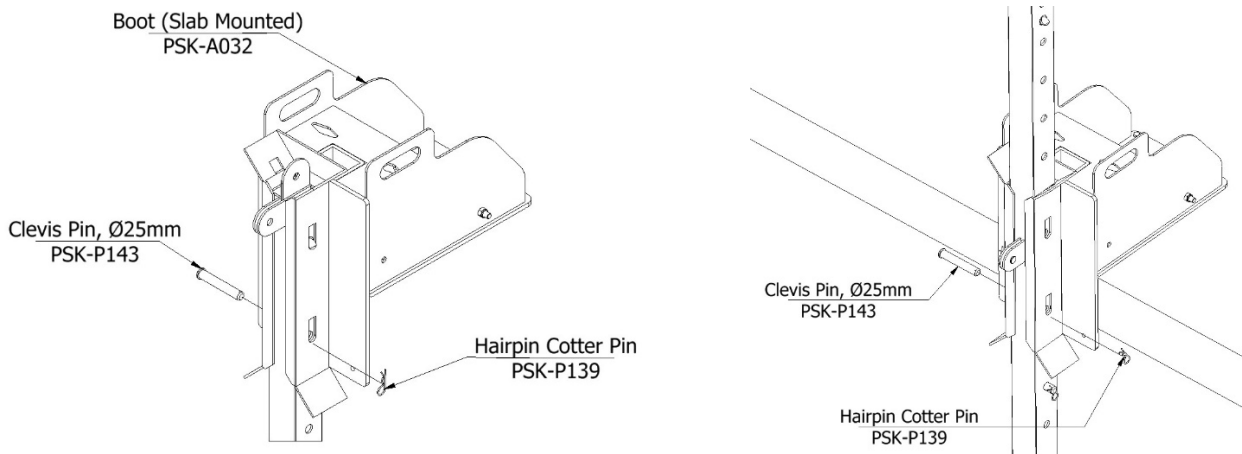


When the support lies just below the **Boot**, pause hoisting. The support cannot be in the condition at below left or the **Retractable Extension** will collide with the **Boot**, damaging both. At this point, slightly extend the **Extension, Brace and Pipe** by loosening the **Netting Retrieval Ropes** until the **Extension** clears the **Boot**, as shown below right. Continue hoisting the support until it has engaged 3 boots  
 You will hear occasional clicks as the **Spring Pins** engage the slots in the boots.



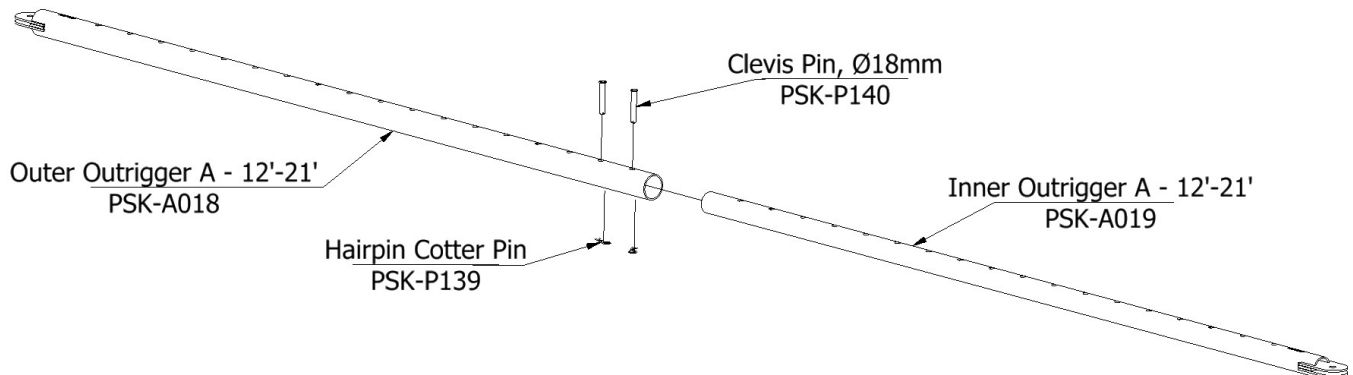
Note that the system is designed to have 3 **Boots** engaged when the floor-to-floor spacing is 10'. However, each project is different, and floor heights greater than 10' may only allow 2 **Boots** to be engaged. This is an acceptable condition.

Once the support is in its final position and the **Spring Pin** is engaged in the top slot of the top **Boot**, install the **Ø25mm Clevis Pin** and **Hairpin Cotter Pin** in the lower slot of the top **Boot**. Place additional **Pins** in the middle and lower **Boots**. Due to varying floor heights, the **Pins** may not line up with a slot. In this case, place a **Pin** in the nearest hole directly above the **Boot**.

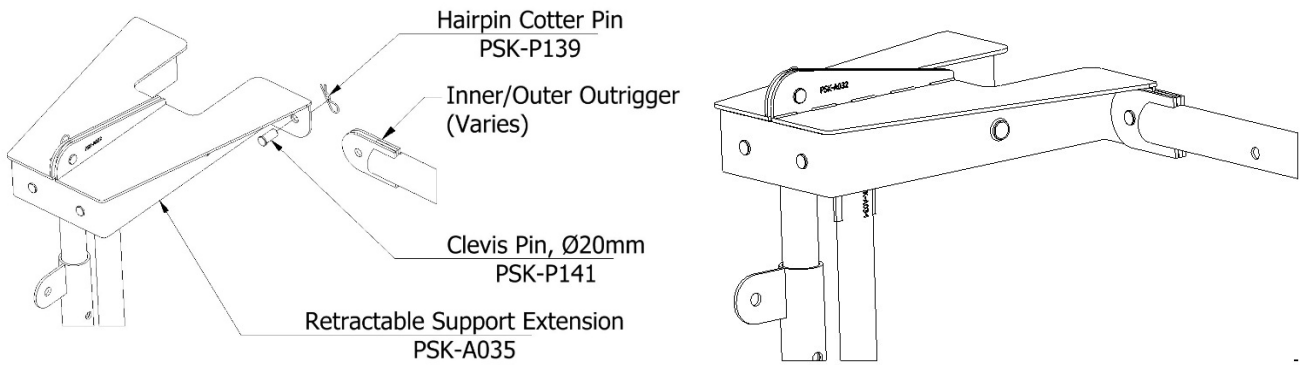


### PSK-A010 PRO-NET SYSTEM OUTRIGGER INSTALLATION

When the supports have been flown up and pinned into the **Boots**, install the **Outriggers**, which span between 2 individual supports. This is called a **Run**. Insert an **Inner Outrigger** into the **Outer Outrigger** (refer to the project **Pro-Net** layout drawing to determine which **Inner & Outer Outriggers** to use for a particular **Run**). Do not insert the **Ø18mm Clevis Pin** and **Hairpin Cotter Pin** at this time:



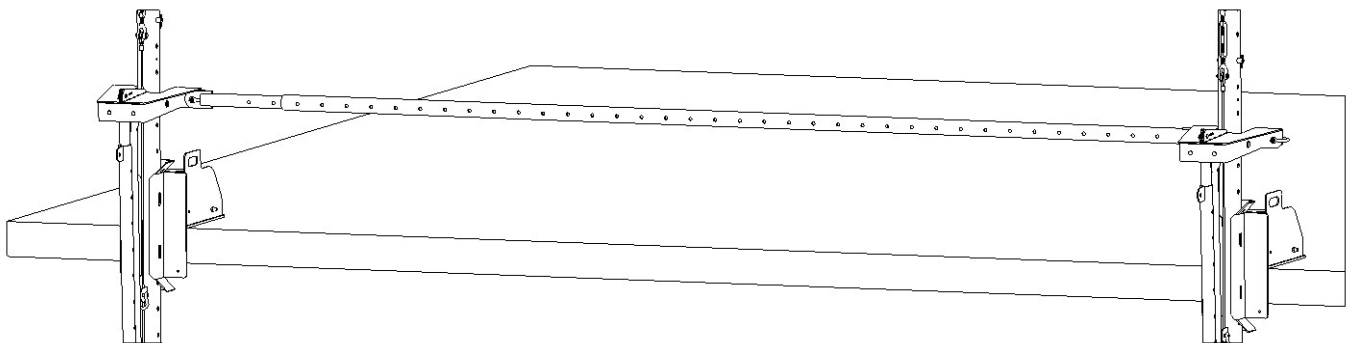
Using 2 people to support the **Inner** and **Outer Outriggers**, attach each end of the **Outriggers** to the tabs on the **Extensions**. Insert a  $\varnothing 20\text{mm}$  **Clevis Pin** and **Hairpin Cotter Pin** in each end as shown below:



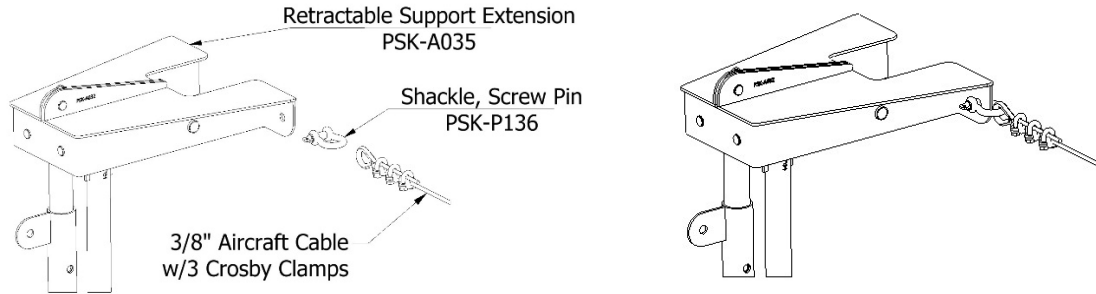
The system is designed to have the **Boots** laterally spaced at 6" increments: 30', 18'-6", 12', etc. When this recommended spacing is adhered to, the  $\varnothing 18\text{mm}$  **Pins** can be inserted. However, the **Boots** cannot always be spaced this way, due to irregular slab edges, slab post-tensioning and building design. When this occurs, the pins will not be used.

If the **Boot** spacing adheres to the recommended 6" increments, insert the  $\varnothing 18\text{mm}$  **Clevis Pins** and **Hairpin Cotter Pins** as shown above.

**Completed Run:**



For structures that have irregular slab edges, the **Boots** may not be able to be positioned to allow an **Outrigger** to be used (i.e., A slab edge is offset 6”). In this case, 3/8” aircraft cable with 5/8” shackles will need to be used:



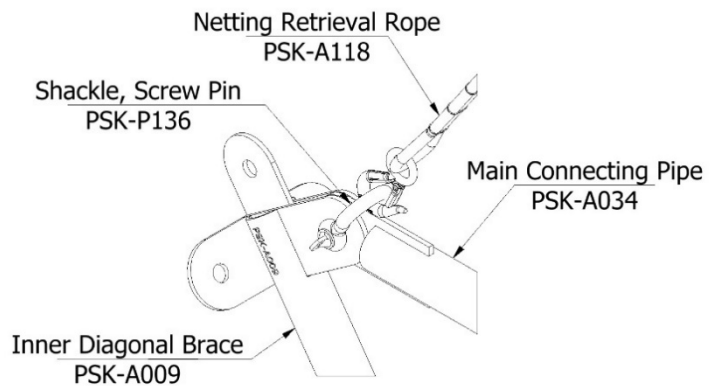
The debris netting can now be attached to the **Outriggers** and/or cables. Follow the netting manufacture’s specifications for attaching their netting. Once this is completed, the supports and netting can be extended. Follow the steps in **Extending The System** outlined below.

## Extending The System

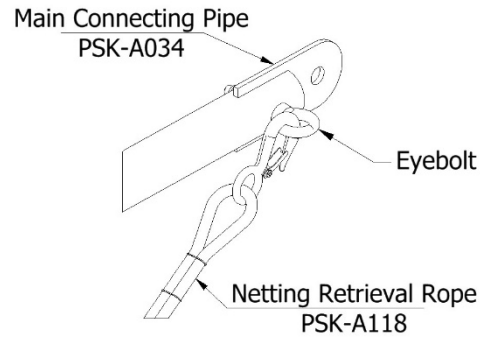
### PSK-A004 PRO-NET, SUPPORT, STANDARD

Safely extending the supports and netting requires 2 people for each support: One to control the **Retrieval Ropes** so that the system does not fall outward, and the other to control the **Ropes** for the **Main & Auxiliary Connecting Pipes**.

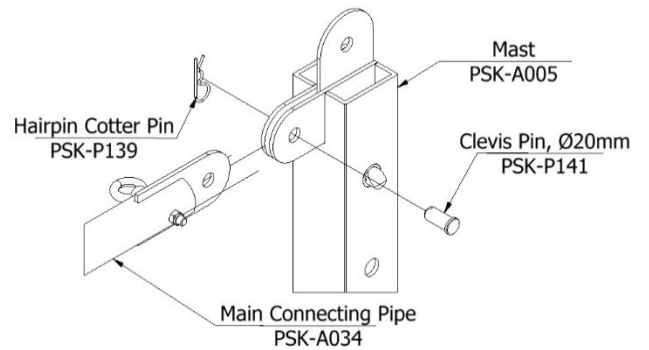
Locate the **Retrieval Rope** that is clipped to the 5/8” **Shackle** at the head of the **Inner Diagonal Brace**:



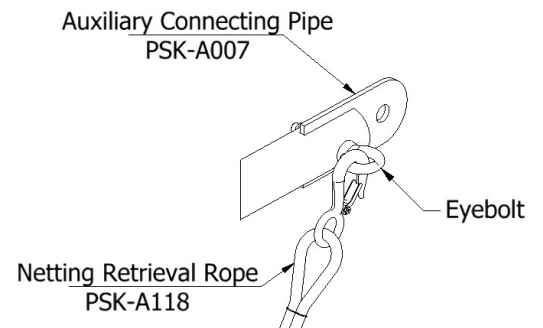
Locate the **Retrieval Rope** that is clipped to the eyebolt at the end of the **Main Connecting Pipe**:



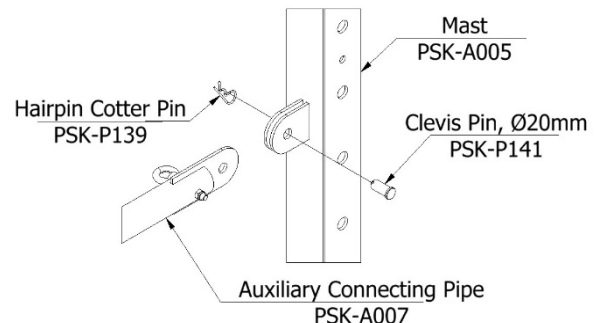
Slowly lower the **Retrieval Rope** connected to the **Inner Diagonal Brace**, while slowly raising the **Rope** attached to the **Main Connecting Pipe**. When the end of the **Pipe** nears the double tab at the top of the **Mast**, insert the **Pipe** tab between the double tabs and align the holes. Insert a  $\varnothing 20\text{mm}$  **Clevis Pin** and secure with a **Hairpin Cotter Pin**. Secure the **Rope**:



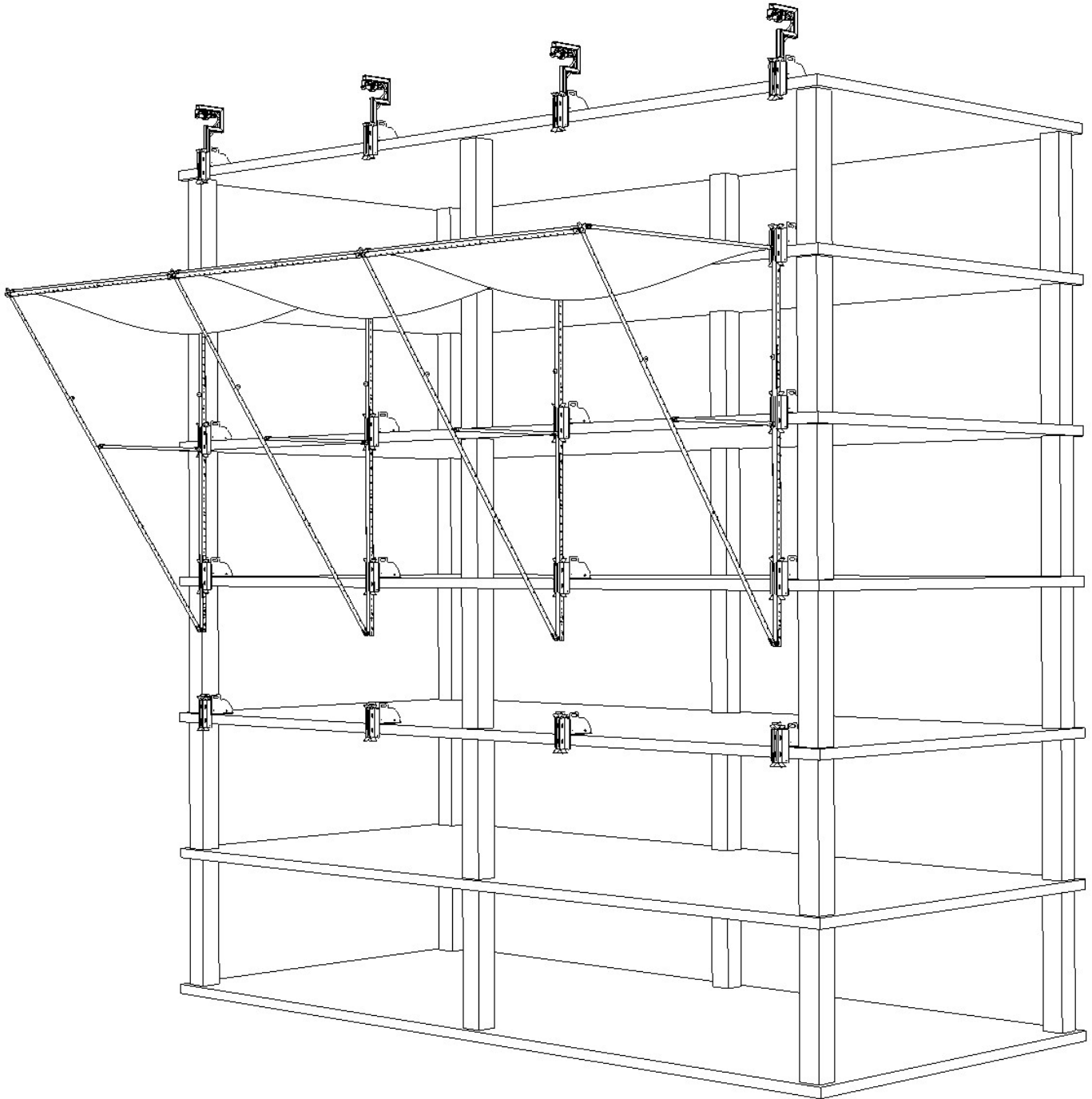
Locate the **Retrieval Rope** that is clipped to the eyebolt at the end of the **Auxiliary Connecting Pipe**:



Slowly raise the **Rope** attached to the **Pipe**. When the end of the **Pipe** nears the double tab at the center of the **Mast**, insert the **Pipe** tab between the double tabs and align the holes. Insert a  $\varnothing 20\text{mm}$  **Clevis Pin** and secure with a **Hairpin Cotter Pin**. Secure the **Rope**:



Completed **Standard Netting Support System** installation with netting extended:

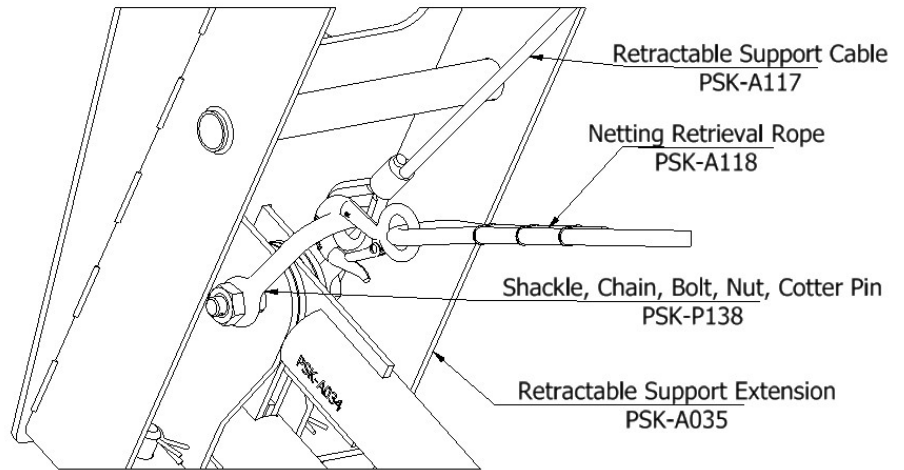




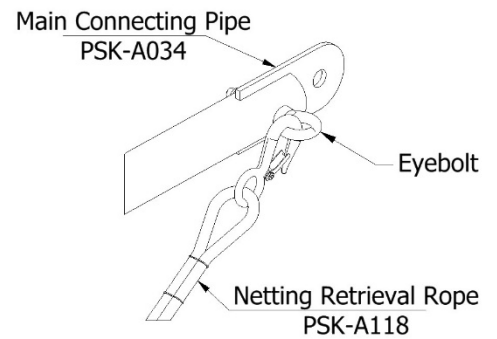
## PSK-A010 PRO-NET, SUPPORT, RETRACTABLE

Safely extending the supports and netting requires 2 people for each support: One to control the **Retrieval Rope** for the **Retractable Extension** and the other to control the **Rope** for the **Main Connecting Pipe**.

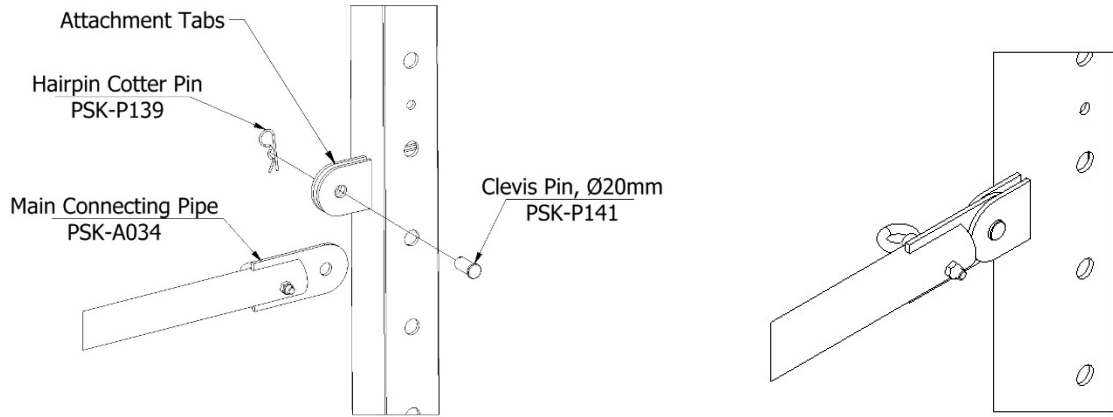
Locate the **Retrieval Rope** that is clipped to the **5/8” Chain Shackle** underneath the **Retractable Support Extension**, and slowly release the **Extension**. This will also extend the **Retractable Support Cable**. When the **Cable** fully extends, the **Extension** will stop. Secure the **Rope**:



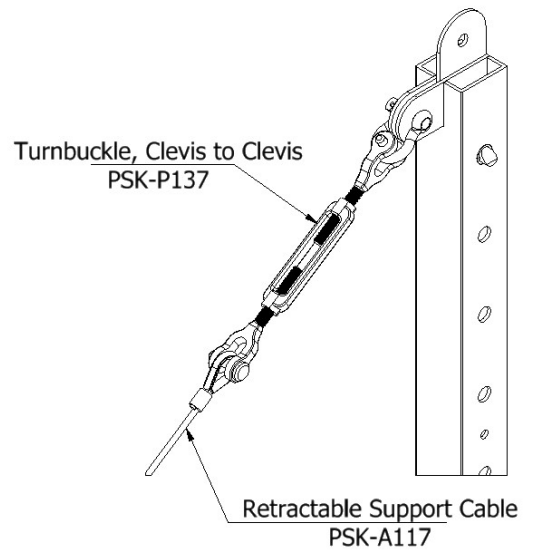
Locate the **Retrieval Rope** that is clipped to the eyebolt at the end of the **Main Connecting Pipe**:



Slowly raise the **Rope** attached to the **Pipe**. When the end of the **Pipe** nears the double tab at the center of the **Mast**, insert the **Pipe** tab between the double tabs and align the holes. Insert a  $\varnothing 20\text{mm}$  **Clevis Pin** and secure with a **Hairpin Cotter Pin**. Secure the **Rope**. Secure the **Rope**:



If the holes cannot be aligned, loosen the **Turnbuckle** at the top of the **Mast**. This will cause the **Extension** to move outward far enough until the **Pin** can be inserted.



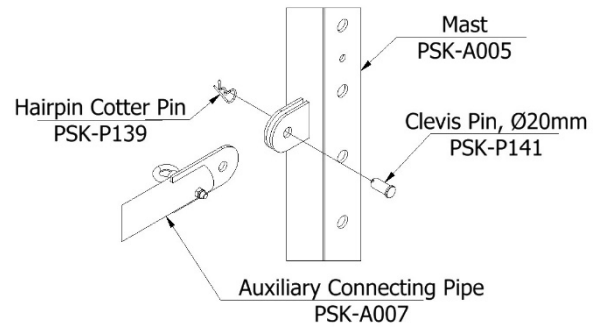
Retighten the **Turnbuckle** snug, until the **Retractable Support Cable** is in tension.

# Retracting The System

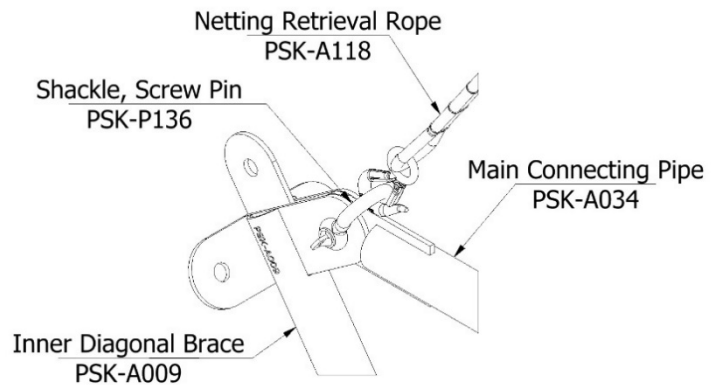
## PSK-A004 PRO-NET SYSTEM

*This system was designed to remain extended during the project. Although the system cannot be fully retracted into the building as can the **PSK-A010 Support**, there may be situations that require the system to be collapsed. The steps to retract the **PSK-A004** system are the same steps as those described in the **PSK-A004 Pro-Net Support** section above under **Extending The System** but performed in reverse.*

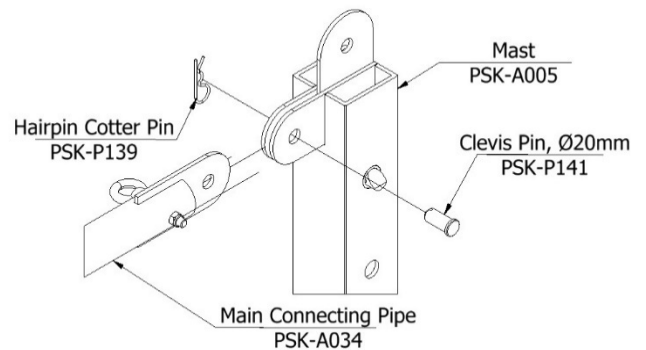
Locate the **Rope** attached to **Auxiliary Connecting Pipe** and apply tension. Remove the **Hairpin Cotter Pin** and disengage the **Ø20mm Clevis Pin** from the 3 tabs. Slowly lower the **Pipe**, keeping firm tension on the **Rope**. When the **Pipe** rests against the **Diagonal Braces**, secure the **Rope**.



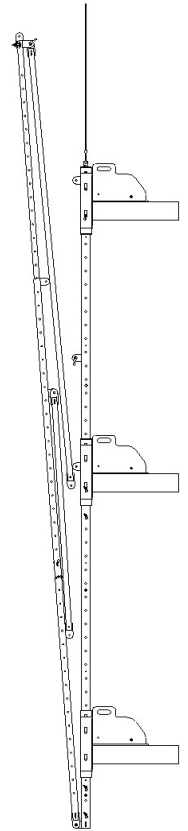
Locate the **Retrieval Rope** that is clipped to the **5/8” Shackle** at the head of the **Inner Diagonal Brace**. Either have an assistant keep this **Rope** in tension or secure it to the **Mast** so that it is taught. Failure to do so will cause the **Support** to fall outward, possibly damaging the system.



Locate the **Retrieval Rope** attached to the **Main Connecting Pipe** at the top of the **Mast**. Remove the **Hairpin Cotter Pin** and disengage the **Ø20mm Clevis Pin** from the 3 tabs. Slowly lower the **Pipe**, keeping firm tension on the **Rope**. When the **Pipe** rests against the **Diagonal Braces**, secure the **Rope**.



Using the **Retrieval Rope** that is clipped to the **5/8” Shackle** at the head of the **Inner Diagonal Brace**, slowly pull the **Support, Outriggers (Cables)** and netting toward the building. When the system looks similar to the diagram at right, securely tie the **System** back to the **Mast** (ropes and netting not shown for clarity).



## PSK-A010 PRO-NET SYSTEM

*This system was designed to allow the netting to be completely retracted into the structure, so that the outriggers and netting will lie inside of the slab edge. However, a building's design (such as perimeter columns) may not allow for this. If these conditions, care must be taken to protect the outriggers from a collision with the crane cable, when material is being flown.*

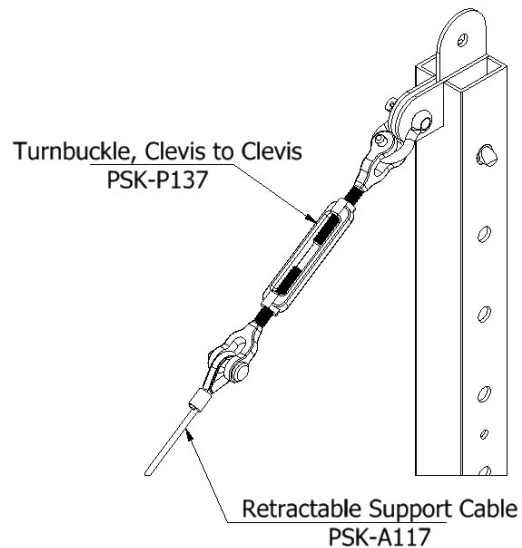
The system will need to be retracted into the structure under the following conditions:

- A. To allow material or pre-cast panels to be flown up the building, or at night, as directed by the project safety engineer, such as forecasted high wind conditions
- B. If needed, when preparing for a jump

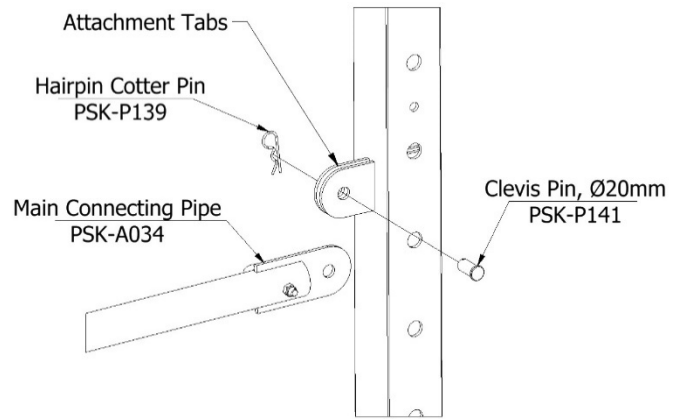
### Condition A – To Fly Material & Night Conditions

To retract the netting for these situations, perform these steps:

Loosen the **Turnbuckle** at the **Mast** head:

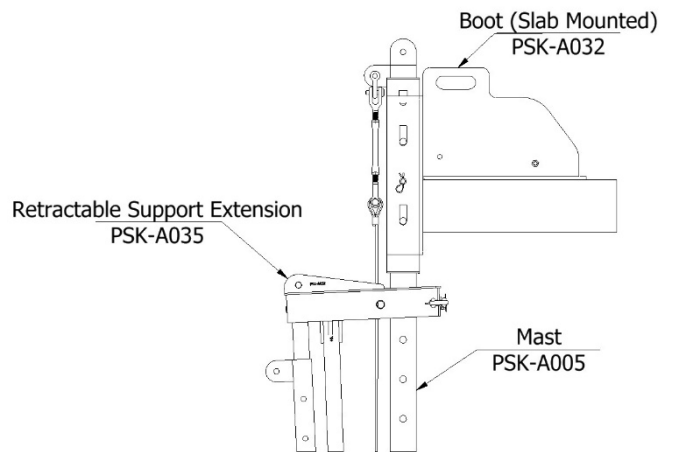


Ensure that the **Rope** tied to the **Main Connecting Pipe** is secure (so the **Pipe** will not fall) and remove the **Ø20mm Clevis Pin** and **Hairpin Cotter Pin** that fixes the **Pipe** to the **Mast**. Carefully lower the **Pipe** out of the way until it rests against the **Diagonal Braces**. Secure the **Rope**.



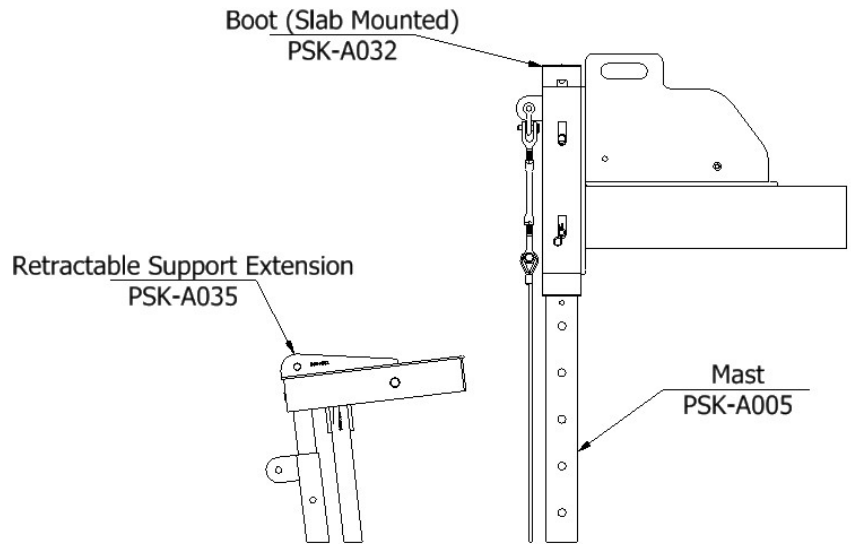
Locate the **Retrieval Rope** attached to the **Retractable Extension**, and carefully retract the **System Outriggers** (or cables, if used) and netting back into the building, ensuring that the netting does not catch on any hardware.

Pull the **Support, Outriggers (Cables)** and netting into the building, so that the **Retractable Extension** wraps around the **Mast** as shown (If the building design has perimeter columns, then the **Outriggers** will not fully retract, and instead, will rest upon the columns). Securely tie the **System** back to the **Mast** (ropes and netting not shown for clarity).



## Condition B – Preparing for A Jump

To retract the netting for this condition, repeat steps defined for **Condition A** above, however, do not fully retract the **System**. Position the **Retractable Support Extension** so that it will clear the **Boot** as the **System** travels up the building. Secure the **Support** so that it cannot fall outward. Ensure that the **Retrieval Rope** and **Support Cable** do not catch on anything during the jump.

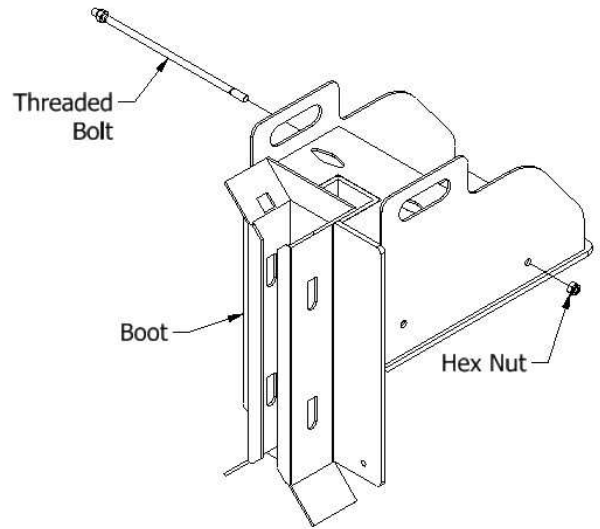


# Performing a Jump

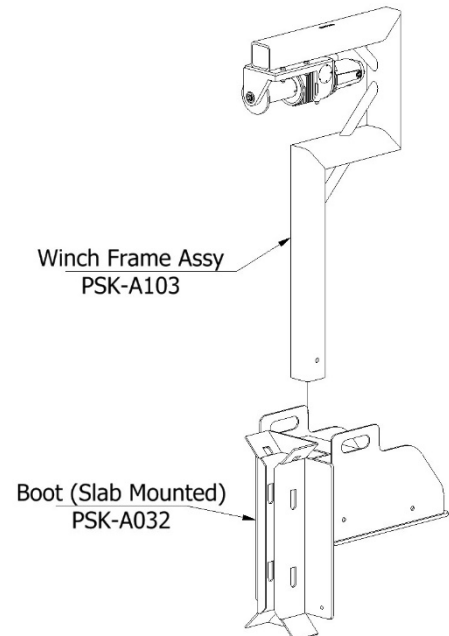
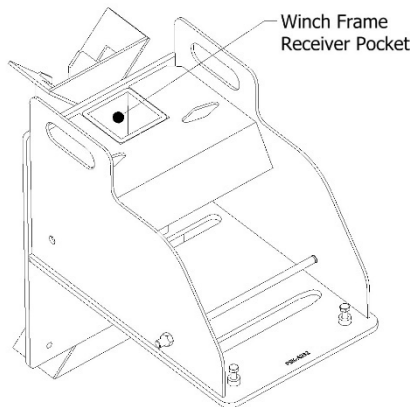
A jump will be determined by the defined sequences on the project netting layout drawing. Each jump in the sequence will have a pre-determined number of nets, supports and winches (refer to the project netting layout drawing for specific information). A jump can be performed with the **System** either extended or retracted. In both cases, care must be taken to ensure a smooth and safe process.

## INSTALL WINCH FRAME ASSY INTO BOOT

At the topmost **Boot** for each support to be jumped, remove the **Hex Nut** from one end of the **Threaded Rod**, slide the **Rod** out of the **Boot** and set aside:

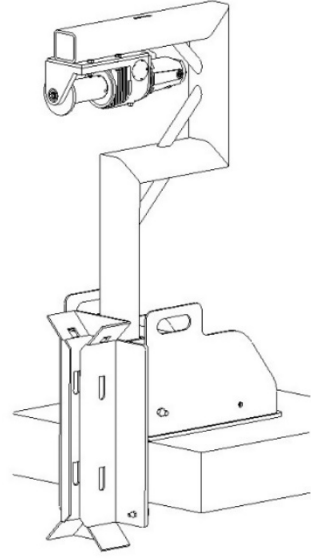
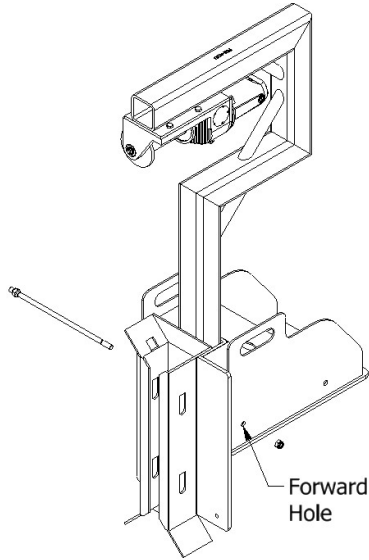


Insert a **Winch Frame Assy** into the receiver pocket of the **Boot** as shown:

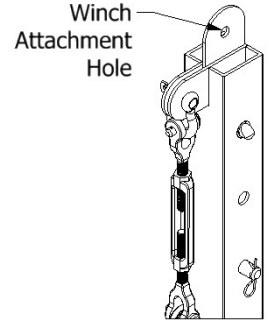




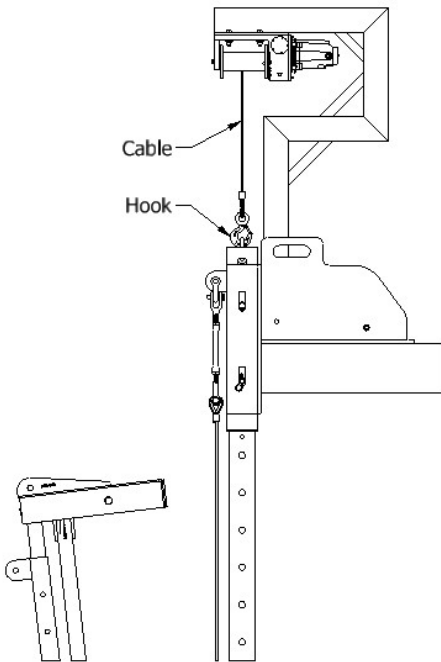
Insert the **Threaded Bolt** into the forward hole of the **Boot** and engage the holes at the bottom of the **Winch Frame**. Attach the **Hex Nut** and tighten hand tight:



To move the **Winch Frame** from one **Boot** to another, perform steps above in reverse



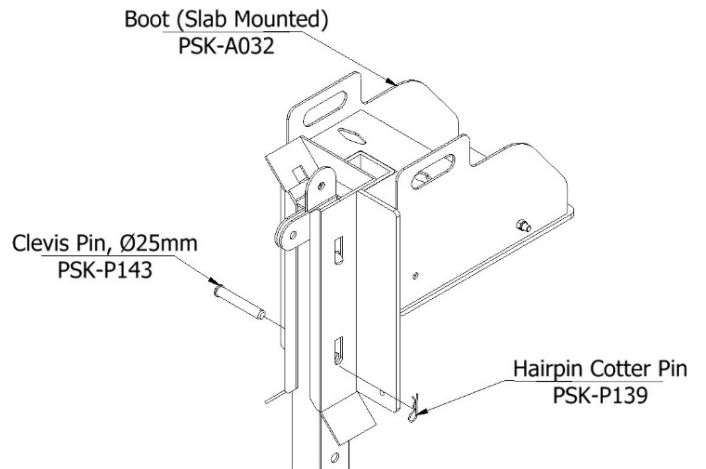
## HOIST THE SUPPORTS, OUTRIGGERS & NETTING



Unwind the hook and cable from the winch and attach the hook to the hole at the top of the **Mast**. If the hook will not fit into the hole, connect a **5/8" shackle** to the hole and clip the winch hook to the shackle

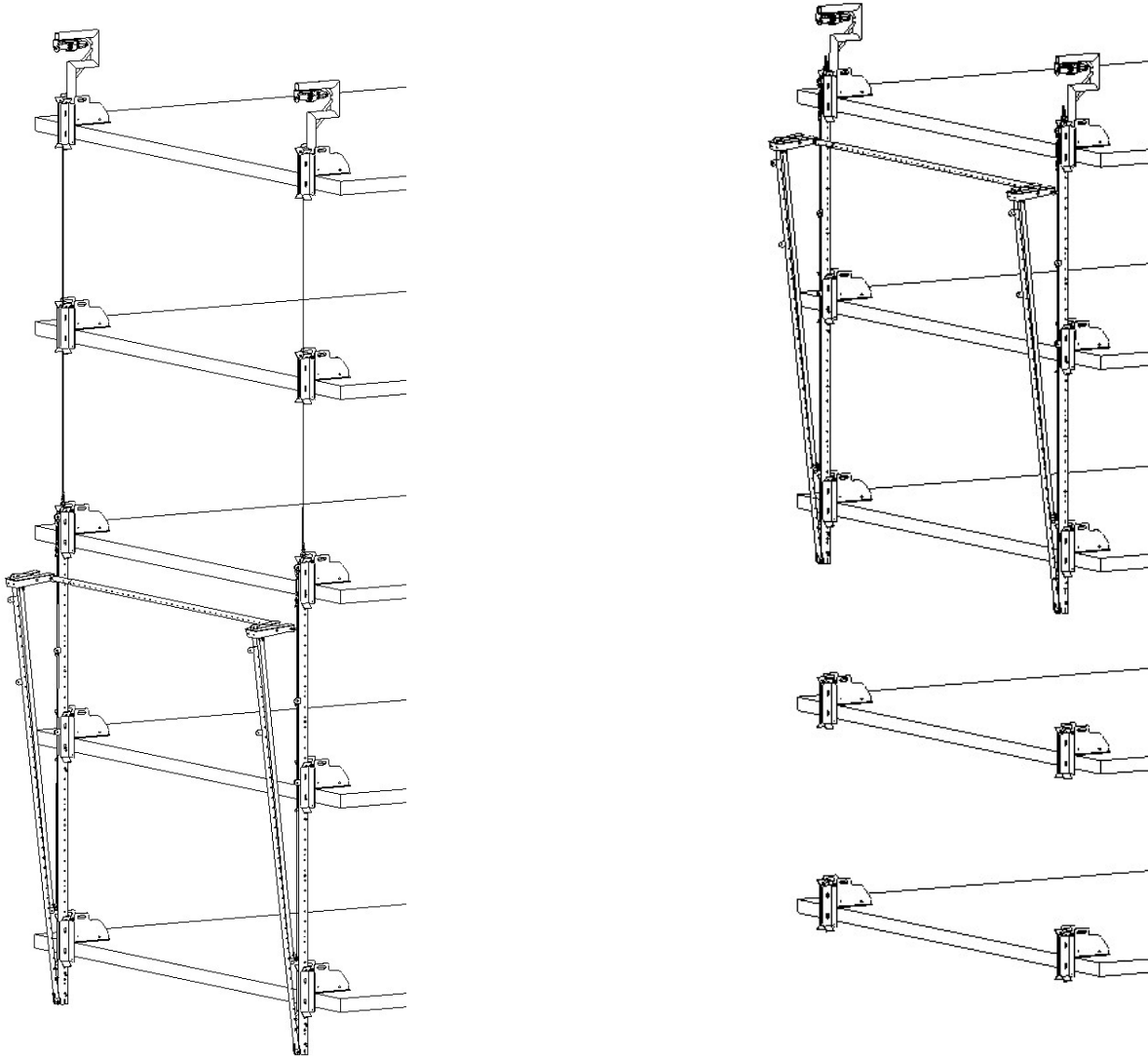
Remove all of the **Ø25mm**

**Clevis Pins** and **Hairpin Cotter Pins** from each **Mast** and set aside. The **Pin** engaging the **Boot** and **Mast** are shown at right, however, there will be other pins at various places along the **Mast**. All must be removed. Carefully raise the **Supports** and nets, making sure the nets, ropes & cables do not catch on any hardware.



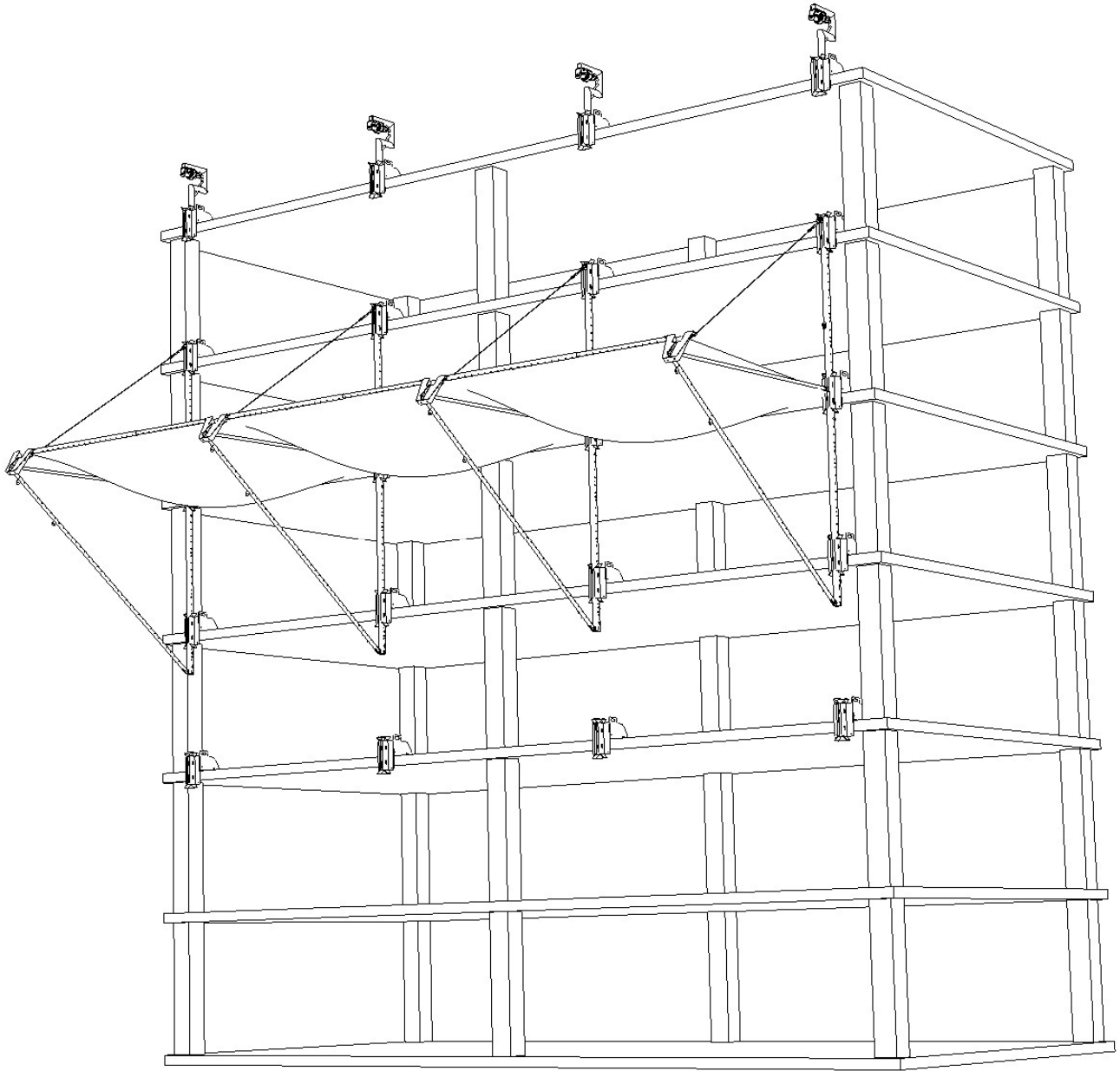
Once the **Supports** and netting are aligned with the correct floor, and the **Spring Pin** is engaged in the top slot of the top **Boot**, re-insert the **Ø25mm Clevis Pins** and **Hairpin Cotter Pins**, where necessary.

The image below left displays the setup of a single **Run** (2 **Supports**, **Outrigger** and netting) prior to a 2-floor jump. The image at below right displays the completed jump:



Either **System** can be jumped whether extended or retracted.

Completed **Retractable Netting Support** system installation with netting extended:



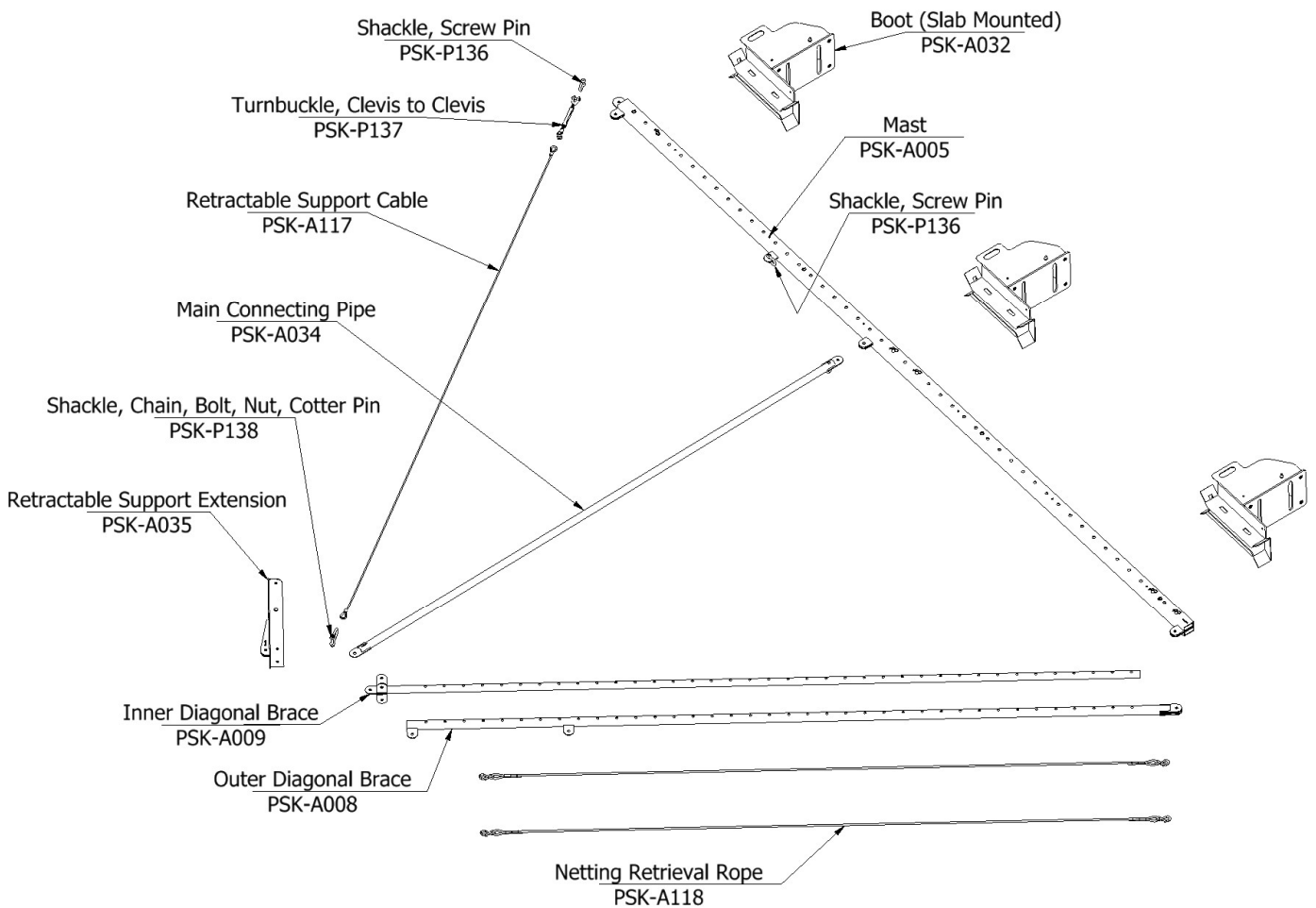
# Special Situations

*Under certain conditions, the workflow defined above will not meet the needs of the project.*

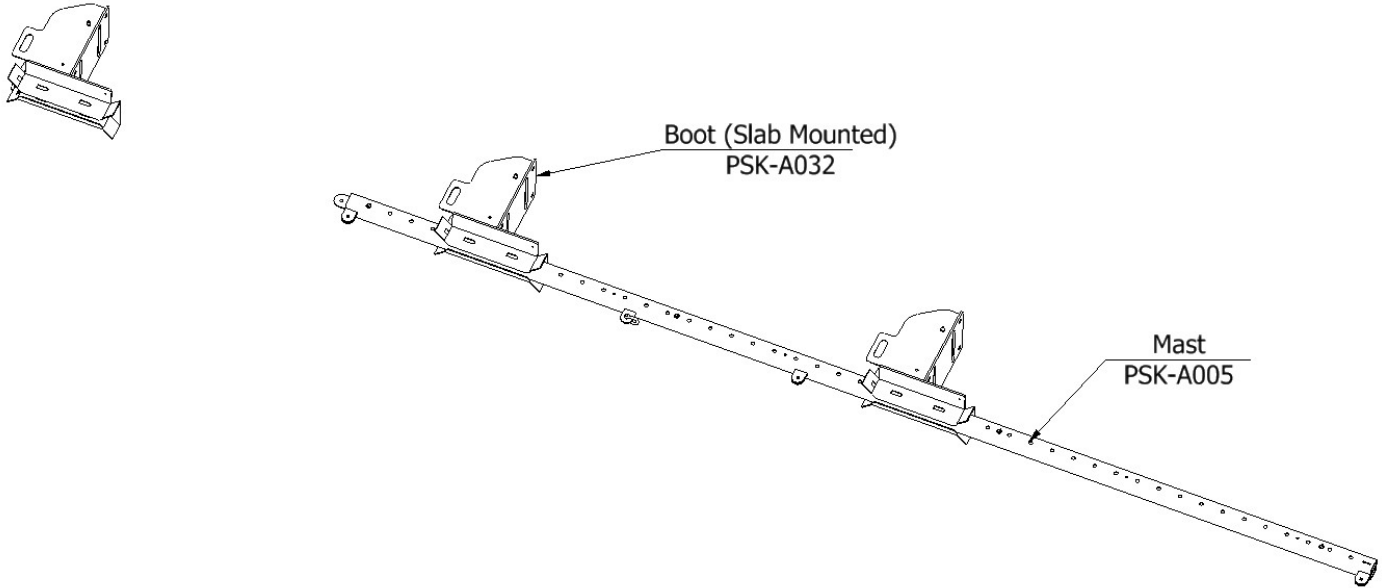
## ALTERNATE SYSTEM ASSEMBLY

Your projects may require that the **Boots** and **Supports** be assembled prior to being flown up to the building. Once the assembly is positioned correctly on the building, the boots are anchored into place.

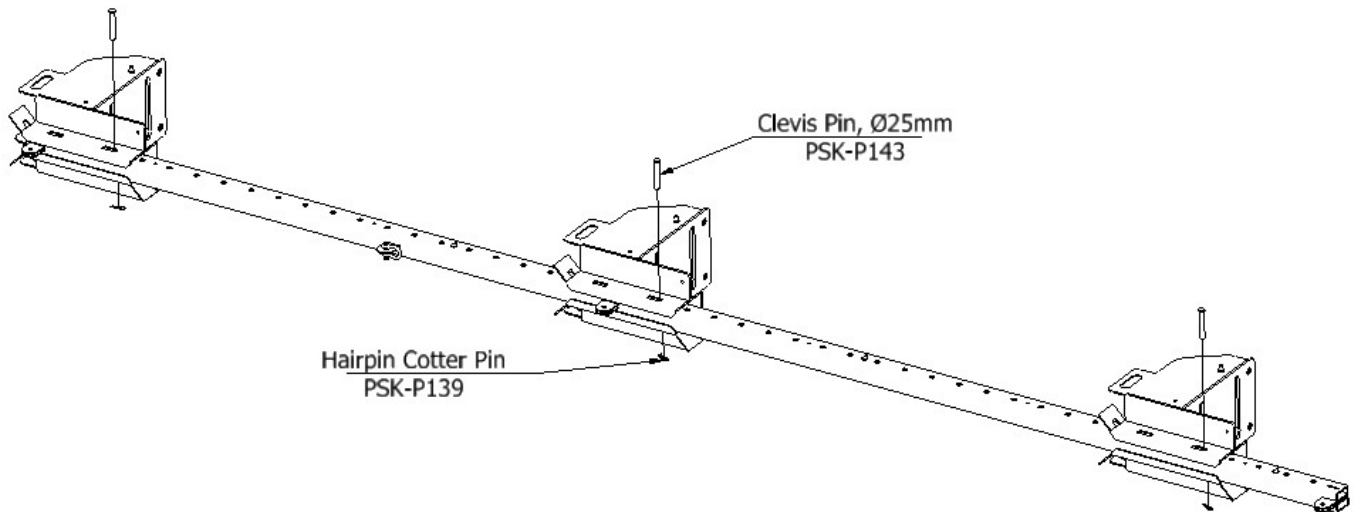
Layout the components as shown. Use dunnage to allow for easy access to hardware (The **Retractable System** is shown here, but the procedure applies to both systems).



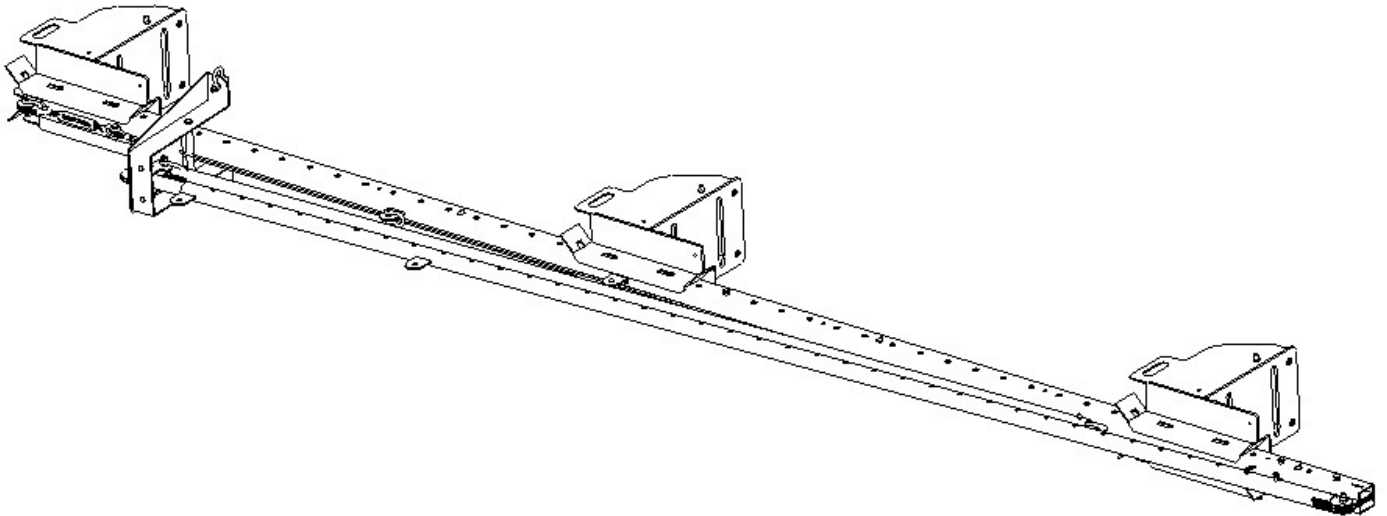
Remove all  $\varnothing 25\text{mm}$  Clevis Pins and Hairpin Cotter Pins from the Mast (if installed) and slide the Mast into the Mast Sleeve of each Boot, until the Mast engages all 3 Boots:



Align the holes in the Mast with the slots in the Boots and insert a  $\varnothing 25\text{mm}$  Clevis Pin into the Boot slot and through the Mast. Secure each Pin with a Hairpin Cotter Pin:

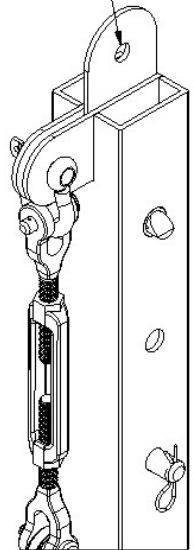


Complete assembling the components as defined in the appropriate **System Assembly** instructions above. Ensure the components are securely tied together:

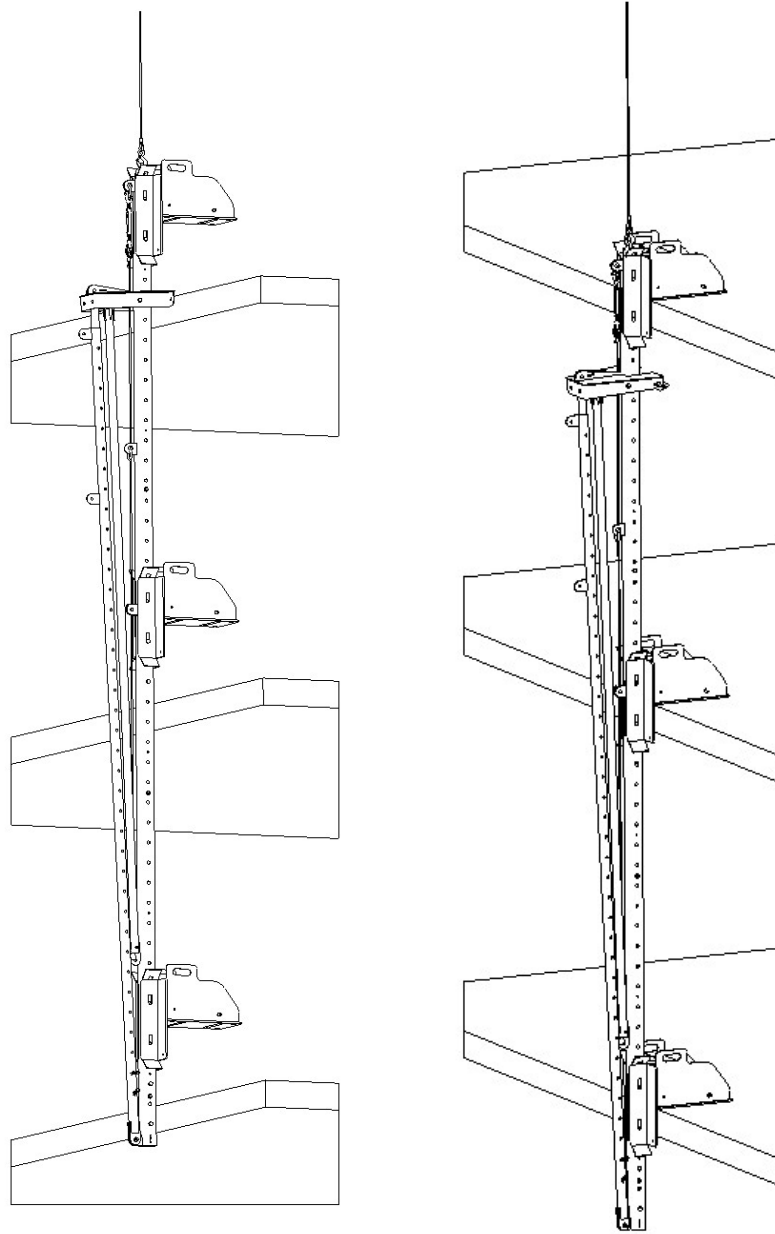


Attach a crane hook to the attachment hole at the top of the **Mast**. If the hook is too large to fit in the attachment hole, use a shackle. **NOTE:** Hook and shackle must fit inside the **Mast Sleeve** of the **Boot**.

Crane / Winch  
Attachment Hole



Hoist the Support and Boots up to the building and position where required.



Attach the **Boots** to the slabs using approved anchoring systems. Ensure that the **Spring Pin Assembly** engages the top slot of the top **Boot**, and the necessary  $\varnothing 25\text{mm}$  **Clevis Pins** and **Hairpin Cotter Pins** are installed.



## System BOM – (Bill of Materials)

Part #	Thumbnail	Title	Description	Material	Weight	
PSK-A005		Mast		AL 6061, Welded	110.3	
PSK-A007		Auxiliary Connecting Pipe		AL 6061, Welded	12.7	
PSK-A008		Outer Diagonal Brace		AL 6061, Welded	40.4	
PSK-A009		Inner Diagonal Brace		AL 6061, Welded	27.1	
PSK-A014		Outer Outrigger C - 26'-36'		AL 6061, Welded	59.1	
PSK-A015		Inner Outrigger B - 20'-36'		AL 6061, Welded	28.0	
PSK-A016		Outer Outrigger B - 20'-30'		AL 6061, Welded	45.0	
PSK-A018		Outer Outrigger A - 12'-21'		AL 6061, Welded	24.4	
PSK-A019		Inner Outrigger A - 12'-21'		AL 6061, Welded	19.9	
PSK-A032			Boot (Slab Mounted)			77.8
PSK-A034			Main Connecting Pipe			21.9
PSK-A035			Retractable Support Extension		AL 6061, Welded	18.2
PSK-A103		Winch Frame Assy		AL 6061, Welded	44.2	
PSK-A117		Retractable Support Cable	3/8 OD, Crimped Ends	Steel	7.3	
PSK-A118		Netting Retrieval Rope	18' Rope Assy, 1/2" Rope, Snap Hooks		2.4	
PSK-P136		Shackle, Screw Pin	5/8" Ring, 3/4" Pin, Galv, 10000 lbs	Steel, Alloy	1.2	
PSK-P137		Turnbuckle, Clevis to Clevis	3/4" x 6", Galvanized, 5200 lbs WLL	Steel	5.1	
PSK-P138		Shackle, Chain, Bolt, Nut, Cotter Pin	5/8" Ring, 3/4" Pin, Painted, 7000 lbs	Steel, Alloy	2.0	
PSK-P141		Clevis Pin	Ø20mm x 45mm Long	Steel	0.3	
PSK-P142		Clevis Pin	Ø18mm x 90mm Long	Steel	0.4	
PSK-P143		Clevis Pin	Ø25mm x 150mm Long	Steel	1.3	
PSK-P147		Hex Head Cap Screw	M20x2.5x80 Class 10.9, Zinc	Steel	0.6	
PSK-P148		Hex Locknut, Nylon	M20x2.5 Class 10, Zinc	Steel	0.2	
PSK-P155		GOLO Power Winch		Steel	53.0	
PSK-P156		Debris Net		Generic	Varies	