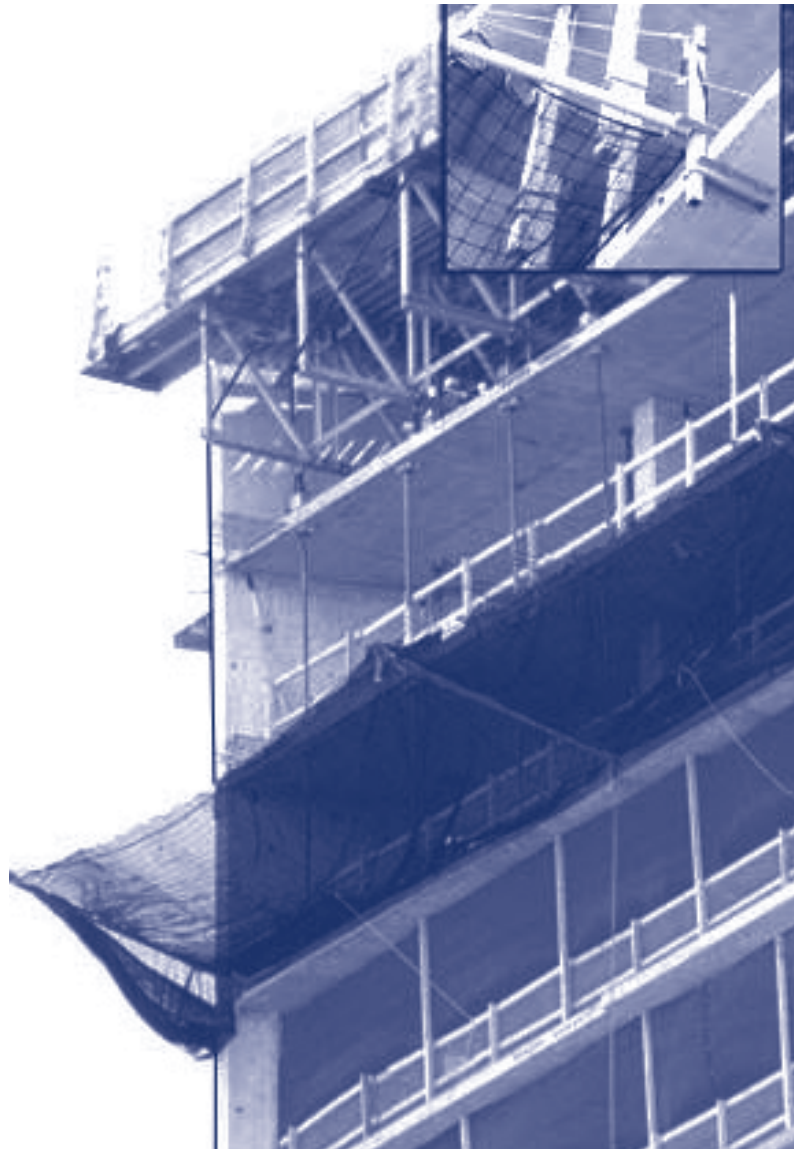




Instructions for the following series products:  
Light Duty Perimeter Debris Netting System  
  
(SEE BACK PAGE FOR SPECIFIC MODEL NUMBERS.)

## **USER INSTRUCTION MANUAL FOR LIGHT DUTY PERIMETER DEBRIS NETTING SYSTEM**



**WARNING:** The user must follow the manufacturer's instructions for each component of the system. These instructions must be provided to the user of this equipment. The user must read and understand these instructions before using this equipment. Manufacturer's instructions must be followed for proper use and maintenance of this product. Alterations or misuse of this product, or failure to follow instructions may result in serious injury or death.

**IMPORTANT:** Before using this equipment, record the product identification information, found on the ID label, in the inspection and maintenance log in section 7.0 of this manual.

**IMPORTANT:** If you have any questions on the use, care, application, or suitability for use of this safety equipment, contact DBI-SALA immediately.

### **DESCRIPTION:**

**LIGHT DUTY PERIMETER AND PERSONNEL NET SYSTEM:** The DBI-SALA Light Duty Perimeter Net is a personnel safety net designed for debris capturing. It is easily adjusted to fit most work spaces and is available with a debris liner for debris capturing. The Light Duty Perimeter Net meets the requirements of OSHA 1926.105, OSHA 1926.502, ANSI A10.11-1989, and U.S. Army Corps of Engineers General Safety Requirements 21.D.

## 1.0 APPLICATIONS:

### 1.1 PURPOSE: DBI-SALA's Light Duty Perimeter Net is designed for, but not limited to, the following applications:

- Areas left undecked during construction, within the perimeter of the building.
- Perimeter netting around the outside of a building.
- Elevator shafts, service chases, tower cranes, skylights.
- Bridges, towers, drilling rigs, power and chemical plants, oil refineries, silos, dams, ship's hold.

### 1.2 LIMITATIONS: The following application limitations must be recognized and considered before using this product. Failure to observe product limitations could result in serious injury or death.

- A. WIND LOADS:** The Light Duty Perimeter may add wind loads to your structure. An engineer should evaluate any effect on the safety of the supporting structure. Small mesh debris liners increase the likelihood of wind damage to the net. When using a debris liner, additional cable ties (one foot on center) should be installed on each border of the netting. Do not rely solely on hooks, as hooks may be damaged.
- B. SHARP EDGES AND ABRASIVE SURFACES:** Avoid installing nets over sharp edges or abrasive surfaces, where movement by wind may cause chafing. If necessary, protect net by covering the sharp or abrasive surface with a light pad. Do not drag nets over abrasive surfaces.
- C. ULTRAVIOLET EXPOSURE:** The strength of nylon nets will be reduced in time by exposure to ultraviolet light (sunlight, welding). Always store nets in a clean, dry area, away from sunlight.
- D. HEAT:** Protect nets from heat, such as; welding, metal cutting, burning, etc. Weld slag may burn or melt the nylon cord.
- E. DEBRIS:** Keep nets free of rubbish and debris, particularly abrasives, which may become embedded and cut fibers. The net should be installed with a plan for removal of debris.
- F. SNOW AND ICE:** Keep nets cleared of snow and ice. Light accumulations may damage the net system and impose unsafe loads on the supports and structure. The net should be installed with a plan for removal of snow and ice.
- G. CORROSIVE ENVIRONMENTS:** Do not use or store nets in corrosive environments where contaminants, such as corrosive vapors, exist. Contact DBI-SALA if using this equipment in corrosive environments.
- H. INSTALLATION:** The perimeter net must be properly installed in accordance with the requirements found in section 2.0 of this manual.
- I. TRAINING:** This equipment is intended to be installed and used by persons who have been properly trained in its correct application and use.

### 1.3 APPLICABLE STANDARDS: See ANSI, OSHA, state, and local requirements for more information on use of this system.

## 2.0 INSTALLATION AND USAGE:

**WARNING:** Do not alter or intentionally misuse this equipment, your safety may depend on it. Consult DBI-SALA when using this equipment in combination with components or subsystems other than those described in this manual. Use caution when using this equipment around moving machinery, electrical hazards, chemical hazards, and sharp edges.

### 2.1 BEFORE EACH USE: Carefully inspect this equipment according section 4.0 of this manual. Do not use if inspection reveals an unsafe condition. Plan the use of the debris capturing system before exposing employees to dangerous situations. Consider all factors affecting employee's safety before using this system.

### 2.2 INSTALLATION PROCEDURE

1. Plan and Layout Netting System
2. Install Slab Clamps or Wall Clamps
3. Assemble the Support Arms to the Clamps
4. Install Inboard and Outboard Cables
5. Install Netting.
6. Extend and Deploy Support Arms and Netting

7. Perform inspection and required tests or certification record. See OSHA 1926.502

**2.3 PLANNING:** Plan your debris capture system before starting work. Take into consideration factors that affect your safety at any time during installation and use. Some important points to consider when planning your system are as follows:

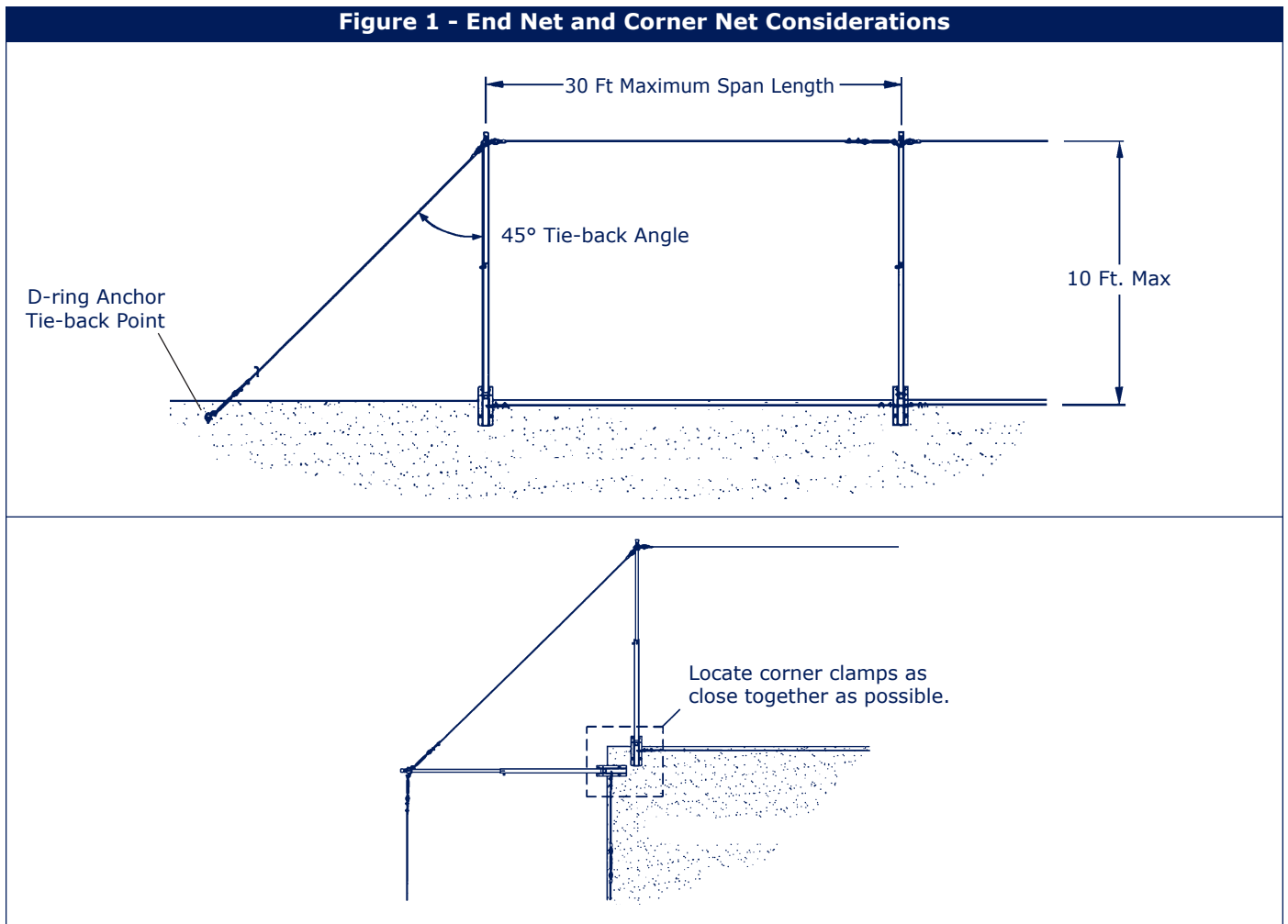
**A. HAZARD EVALUATION:** An evaluation of job site hazards is necessary prior to starting work. Consult applicable OSHA and industry standards for guidelines and regulatory requirements.

**B. WORK SITE GEOMETRY:** When suspending the netting system, check for obstructions or sharp edges in the work path.

**C. OTHER DESIGN CONSIDERATIONS:**

1. Spans between support arms must not be more than 30 ft.
2. Support Arms at the end of a system must have room for a tie-back cable to extend back at a 45° angle beyond the end of the netting system. See Figure 1.
3. If the netting wraps around a corner, the corner clamps must be installed as close to the corner as possible. See Figure 1.
4. Slab Clamps and Parapet Wall Clamps accommodate slabs within a range of 6 in. to 12 in. thick.

**Figure 1 - End Net and Corner Net Considerations**

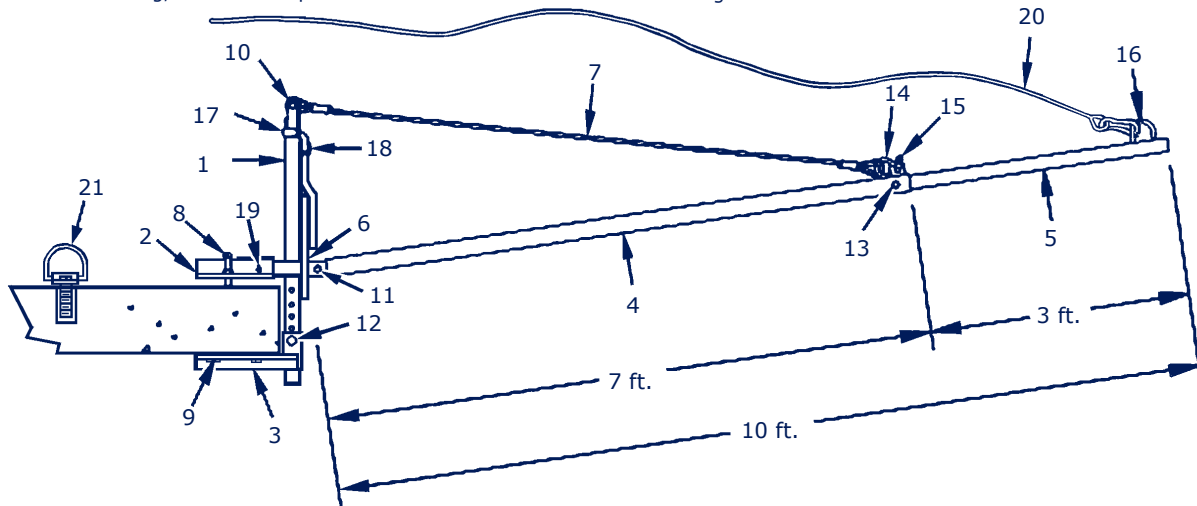


**2.4 TOOLS REQUIRED:**

- 2 - 8 in. adjustable wrenches
- 1 - 3/4 in. deep well socket and wrench
- 1 - tapered nose cutting pliers (dykes)
- 1 - 5/8 in or 11/16 in. or 3/4 in. concrete drill bit and drill
- 1 - 30 ft. tape measure
- 1 - torque wrench

**Figure 2 - Parts Identification**

- |  |   |
|--|---|
| 1. Post Weldment   | 11. 1/2 - 13 x 4 in. Long, Hex Head Cap Screw with Nut and Washer         |
| 2. Slab Clamp Upper Weldment   | 12. 1/2 - 13 x 4 in. Long, Hex Head Cap Screw with Nut and Washer         |
| 3. Slab Clamp Lower Weldment   | 13. 1/2 - 13 x 1 1/2 in. Long, Hex Head Cap Screw with Nut welded on pipe |
| 4. Inner Support Arm   | 14. 1/2 in. Forged Shackles   |
| 5. Outer Support Arm   | 15. 1 1/2 - 2 x 1/4 Thick Plate welded to Inner Pole                      |
| 6. Pivot Point Bracket/Flush Mount Clamp   | 16. 1/2 in. diameter bent Rod welded to Outer Pole                        |
| 7. 3/8 in. Dia. Cable Assembly with swaged thimble at each end                       | 17. 1 in. wide x 24 in. long Nylon Web Strap                              |
| 8. 3/4 - 10 x 4 in. Long, Sq Head, Cup Point Bolt with Nut welded on clamp (2 req'd) | 18. 1 in. Cam Buckle  |
| 9. 1/2 - 13 x 3/4 in. Long, Cup Point Set Screw with Nut welded on clamp (4 req'd)   | 19. Hole for Interior Cable Connection                                    |
| 10. 1/2 - 13 x 4 in. Long, Hex Head Cap Screw with Nut and Washer                    | 20. Tag Line  |
|  | 21. D-ring Anchor Tie-back Point  |

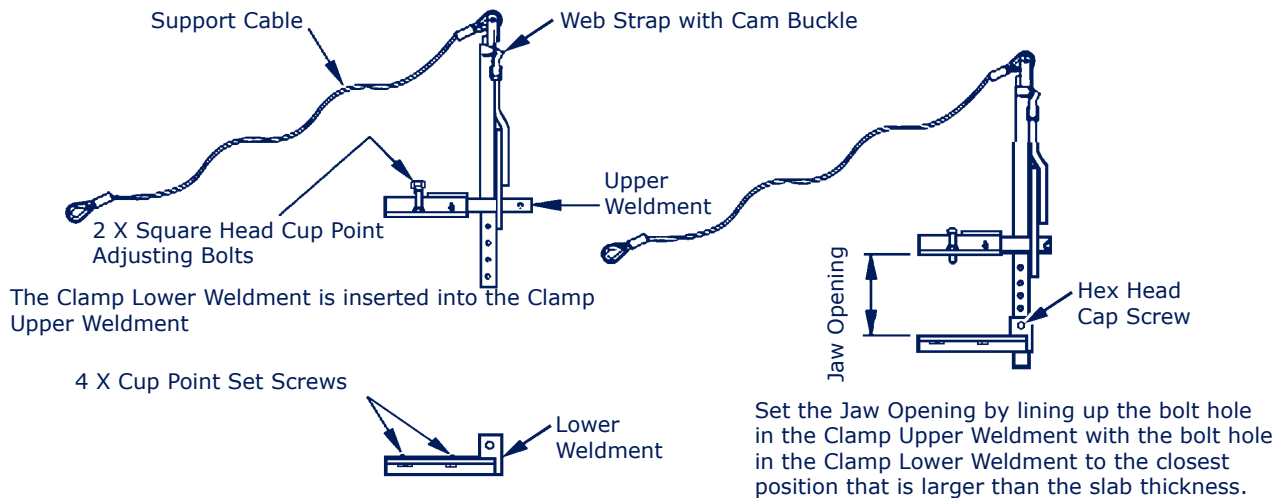


**2.5 INSTALLATION OF CLAMPS:**

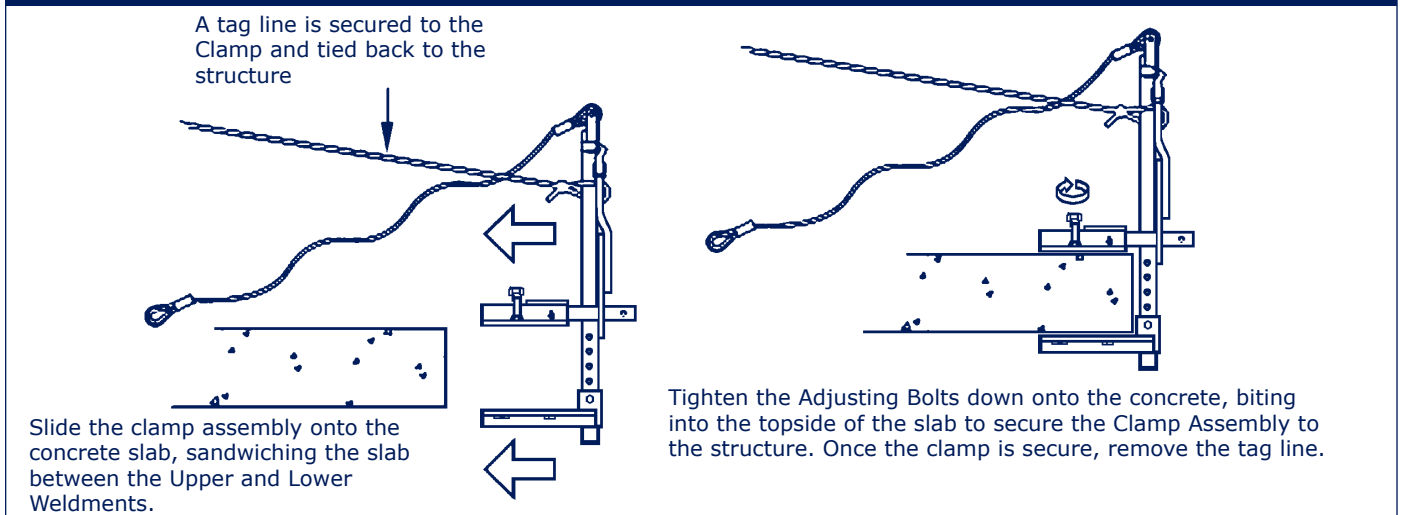
**A. SLAB CLAMP:**

- Step 1. Layout and mark the location of each stanchion along the building perimeter (refer to the Layout Plan if one has been prepared) making sure the distance between clamps does not exceed 30 ft. If the netting wraps around a corner, position the corner clamps as close together as possible. If a building column is located at the corner, additional hardware and netting may be required. Contact DBI-SALA if you have questions.
- Step 2. Adjust the Slab Clamp opening to the closest position that is larger than the floor slab thickness. See Figures 3 and 4.
- Step 3. A tag line should be secured to the Clamp and tied back to the structure. Position the Clamp Assembly over the outside edge of the floor at the pre-marked locations. Tighten the Adjusting Bolts until snug. Do not overtighten as this may bend the clamps. See Figure 4.

**Figure 3 - Slab Clamp Assembly**

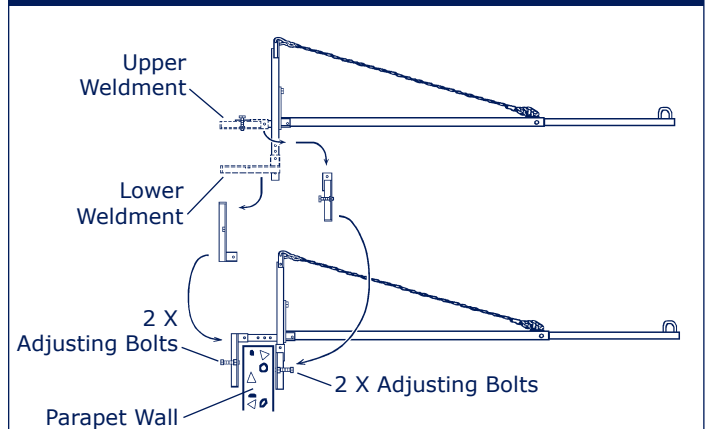


**Figure 4 - Slab Clamp Installation**



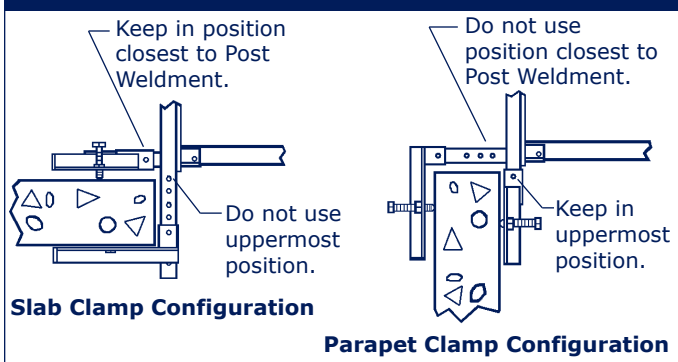
**B. PARAPET CLAMP:** The Slab Clamp can be modified for use as a Parapet Wall Clamp by removing the upper weldment and lower weldment and swapping their placements. See Figure 5. When using the assembly as a Parapet Wall Clamp, two bolts must also be used in the lower weldment on the inside of the parapet wall.

**Figure 5 - Parapet Mount**



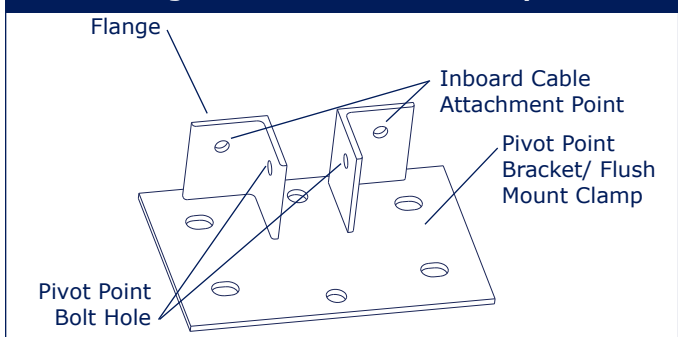
Note: In the Slab Mount configuration, use the upper weldment in the position closest to the Post Weldment and do not use the top positioning hole for the lower weldment. In the Parapet Mount configuration, keep the Upper Weldment in the uppermost position and do not use the Lower Weldment in the position closest to the Post Weldment. See Figure 6.

**Figure 6 - Installation Notes**

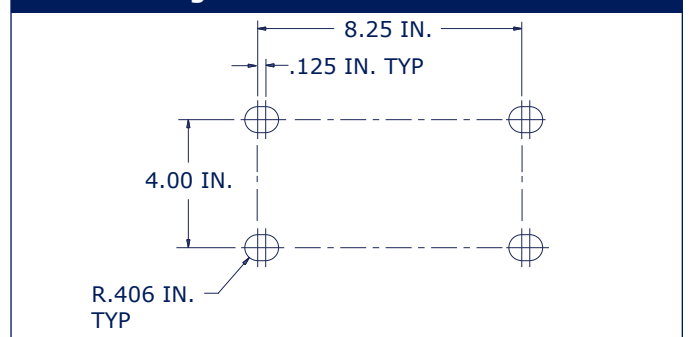


**C. FLUSH MOUNT CLAMP:** The Pivot Point Bracket on the Slab Clamp may be removed and used as a Flush Mount Clamp. The Flush Mount Clamp (see Figure 7) may be installed vertically on a wall or horizontally on a floor. Drill holes in the desired location according to the bolt hole pattern in Figure 8. The user must select fasteners suitable to their application. Refer to the manufacturer's instruction for proper installation of fasteners.

**Figure 7 - Flush Mount Clamp**

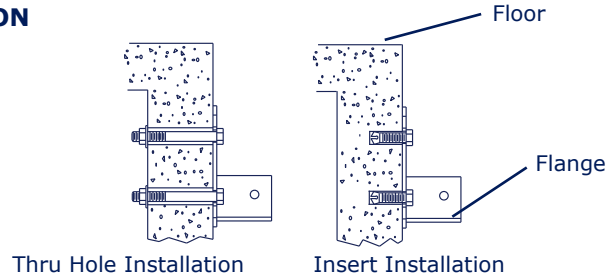


**Figure 8 - Bolt Hole Pattern**



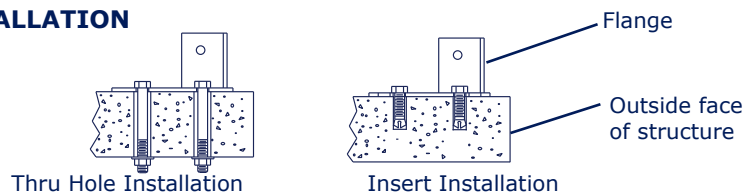
**Figure 9 - Flush Mount Clamp Installation**

**VERTICAL INSTALLATION**



**WARNING:** Refer to hardware manufacturer's instructions regarding positioning of bolt holes that apply to your concrete specifications.

**HORIZONTAL INSTALLATION**

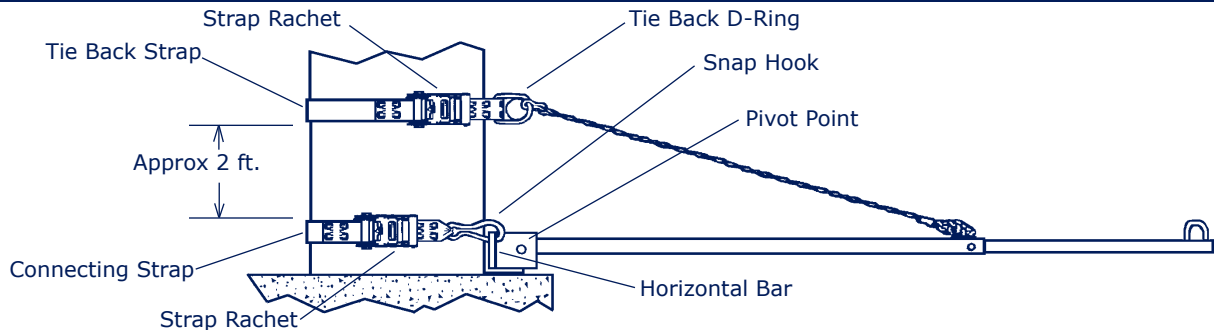


In a vertical installation, install the Flush Mount Clamp with the flange parallel to floor. In a horizontal installation, install the Flush Mount Clamp with the flange parallel to the outside face of the structure (see Figure 9).

**D. COLUMN ADAPTER:** To install the Column Adapter, place the Horizontal Bar at the base of the column, wrap the connecting strap around the column and attach the snap hook at the end of the strap to the other end of the horizontal bar. Make sure there are no twists in the strap, then tighten it using the strap ratchet (see Figure 10).

Install the Tie Back Strap approximately 2 ft. above the Horizontal Bar. Center the Tie Back D-ring over the Pivot Point, make sure there are no twists in the strap, and tighten it using the strap ratchet.

**Figure 10 - Column Adapter**



**WARNING:** if the tieback strap will be in contact with or abrade against unprotected sharp edges, provide protection for the strap when possible or increase inspection frequency.

**2.6 ASSEMBLING ARMS TO THE CLAMP PIVOT POINT.**

Step 1. Attach one end of a Support Cable to the Screw Pin Shackle on the Inner Support Arm and anchor the other end to the Clamp (or Tie Back D-ring, depending on system design). See Figure 10.

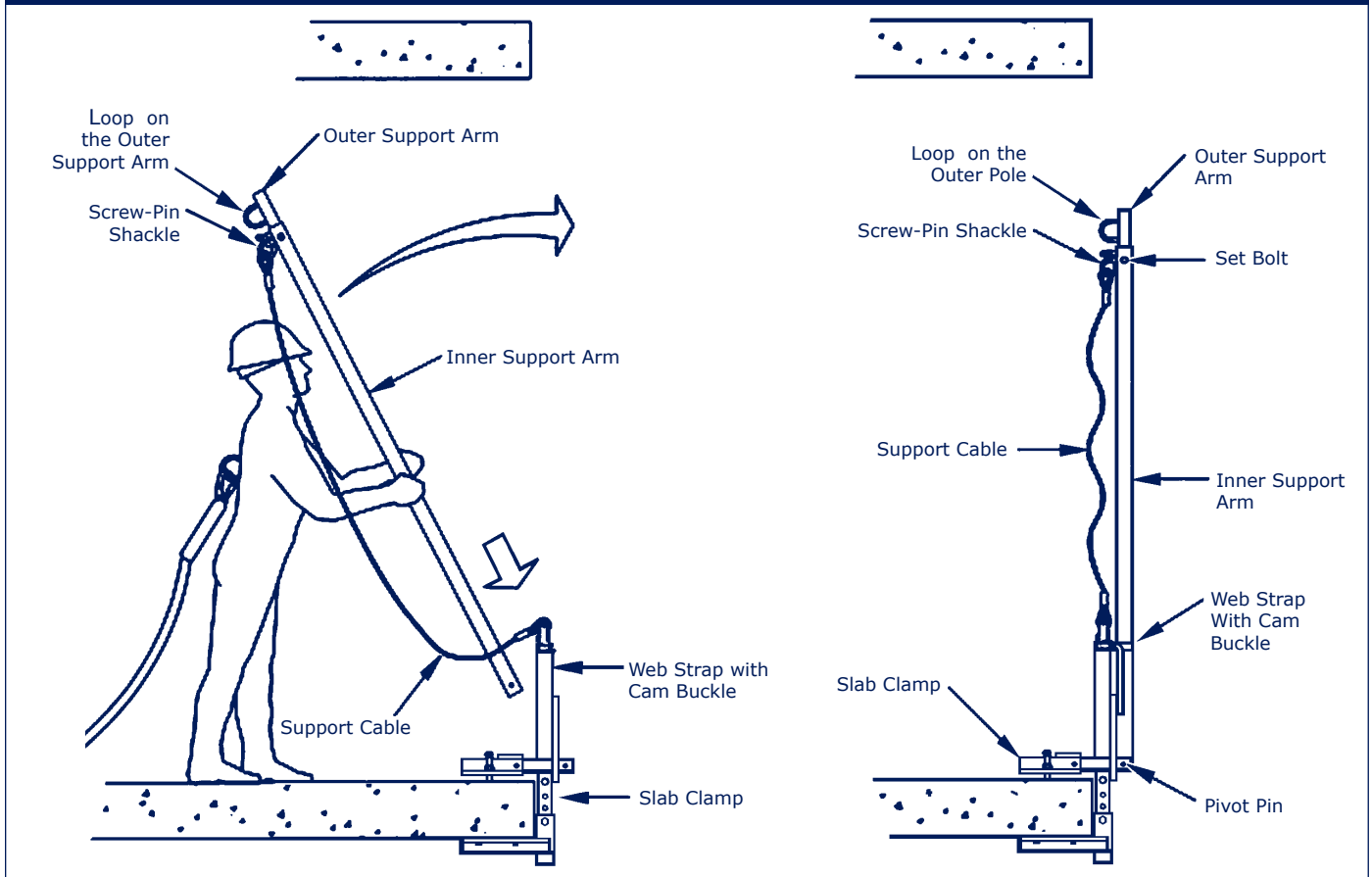
**NOTE:** Users must supply their own cable anchor point if using a Flush Mount Clamp.

Step 2. Remove the bolt at the Pivot Point of the clamp and place the end of the arm between the brackets and replace the bolt through the Pivot Point Bracket and Arm. Be sure the loop at the end of the Outer Support Arm and the Screw Pin Shackle are oriented toward the inside of the building as shown in Figure 11.

Step 3. Use the Web Strap on the Clamp to hold the arm in place until after the net assembly is complete and is ready to be deployed.

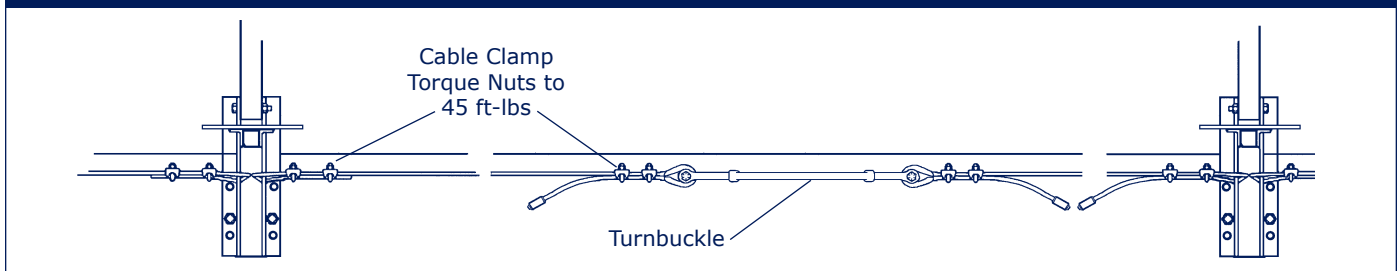
**2.7 INSTALLATION OF INBOARD AND OUTBOARD CABLES:** After the Arms are installed, Inboard Cables must be created and installed between the clamps. Outboard Cables must be created and installed between the Arm ends.

**Figure 11 - Slab Clamp Assembly**



Step 1. Create an Inboard Cable for each of the spans between the Clamps. The Inboard Cable consists of two pieces of cable. One piece is approximately 5 ft. long which threads through the hole in one the Clamp Brackets and is attached with cable clamps. A turnbuckle is attached to the other end. The other piece of cable attaches to the other end of the turnbuckle and then threads through the hole in the next clamp and is secured with cable clamps. See Figure 12. When installing the Inboard Cable, make sure the turnbuckle is fully extended. After installing the Inboard Cable, take the sag out of the Cable by tightening the turnbuckle.

**Figure 12 - Inboard Cable Termination**



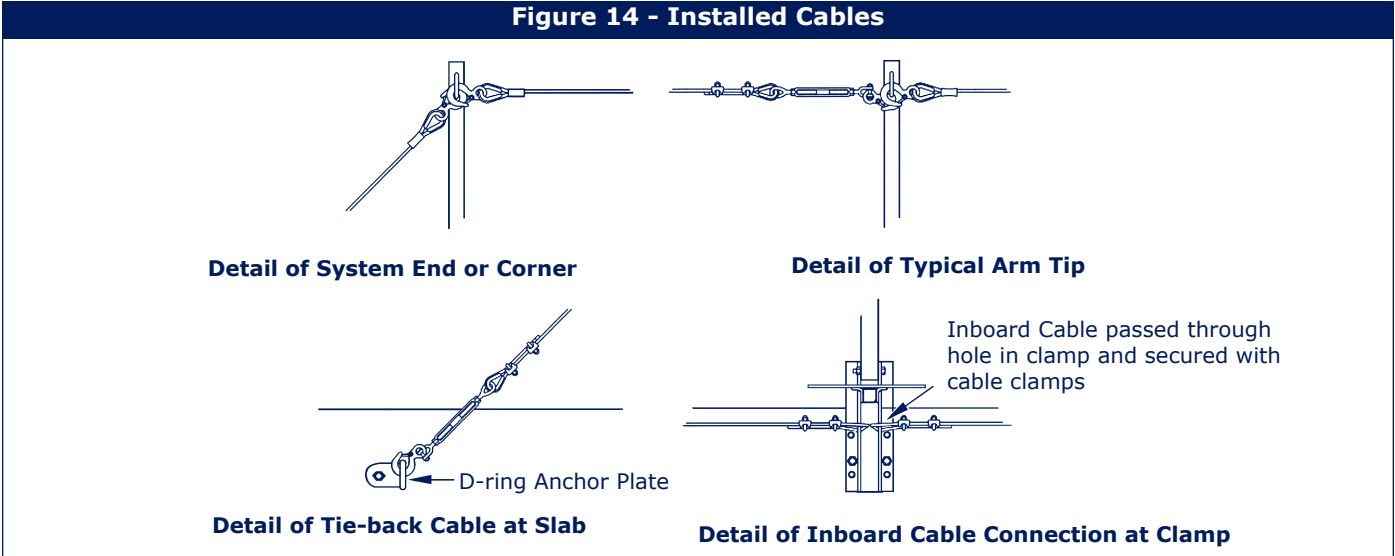
Step 2. Create an Outboard Cable for each of the spans between the netting arms. Use the length of the Inboard Cables as a guide for the lengths of the Outboard Cables. The Outboard Cable consists of a single piece of cable with a snap hook and turnbuckle installed at one end and a snap hook installed on the other. See Figure 13.

**Figure 13 - Outboard Cable Termination**



Step 3. Attach the snap hook of the Outboard Cables through the loops at the end of each Outer Support Arm (See Figure 14). After all cables are installed, adjust the turnbuckles to take sag out of the cables and plumb the Arms. This may require deploying and adjusting the cable length several times.

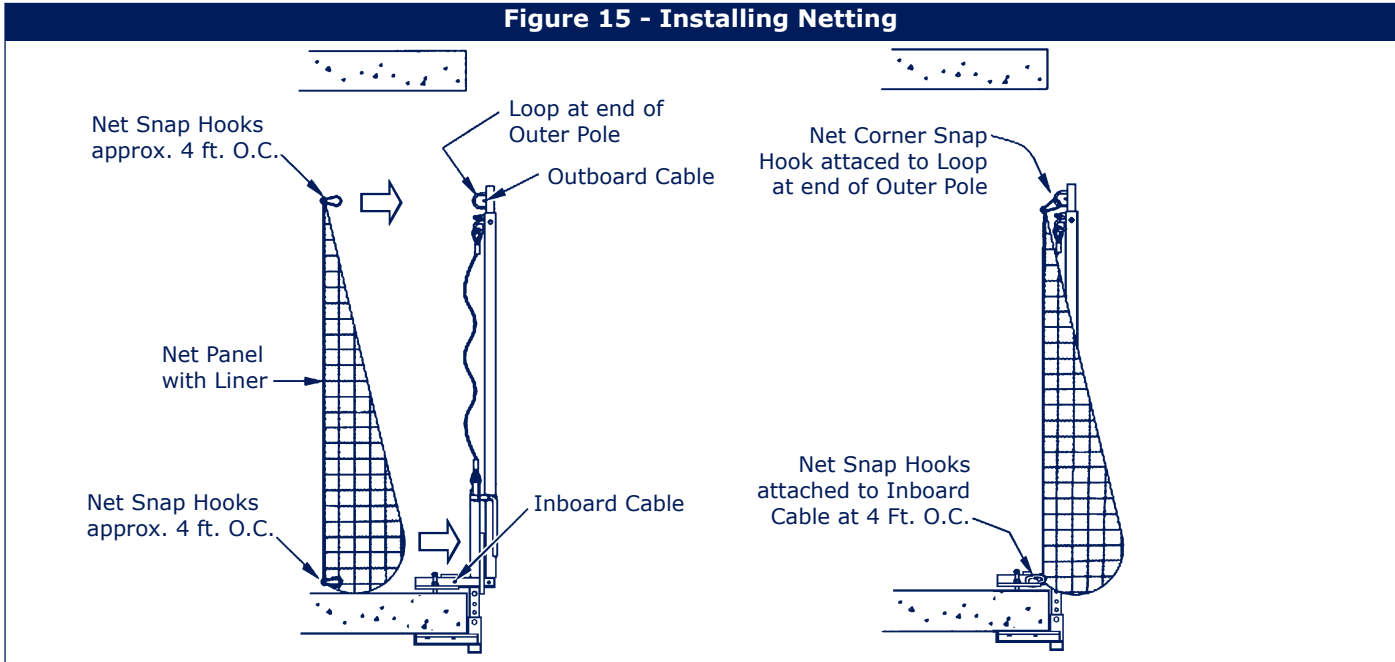
**Figure 14 - Installed Cables**



**2.8 INSTALLATION OF DEBRIS NET**

Step 1. Locate a corner of the Netting Panel and attach a snap hook to the thick rope border and then attach the snap hook to the loop at the end of the Outer Support Arm. See Figure 15. Make sure the small mesh liner faces in toward the building.

**Figure 15 - Installing Netting**



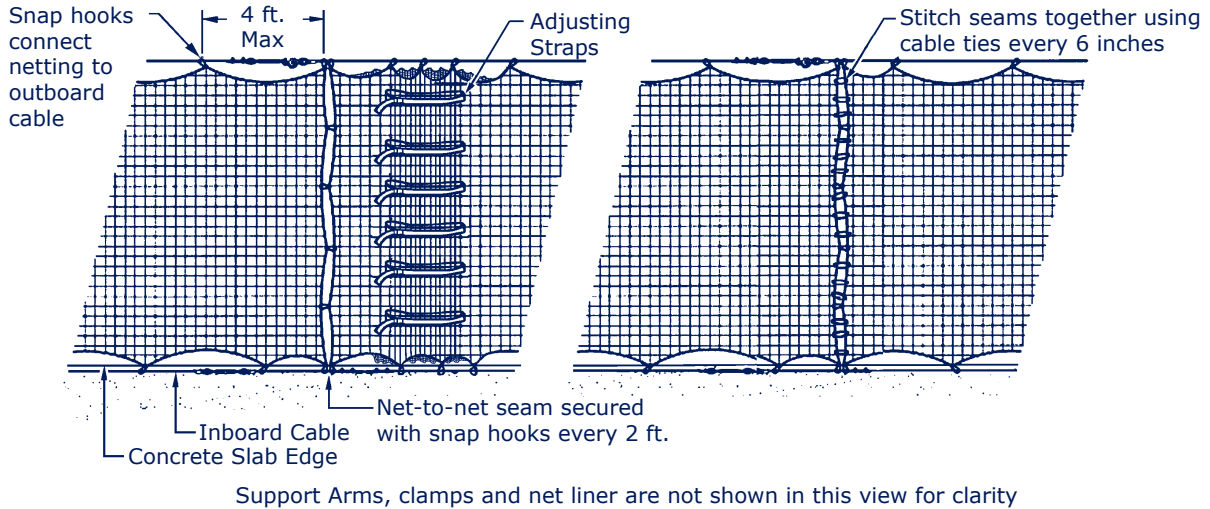
Step 2. Attach Net Snap Hooks to the thick rope border along the top of the netting at about 4 foot intervals then attach the netting to the Outboard Cable using the installed Snap Hooks. Use the same procedure for the Inboard Cable at the bottom of the net.

If required, the net panel length may be reduced to the appropriate size by using the adjusting straps to gather a segment of the heavy mesh netting. See Figure 16.

Step 3. Once the nets are secured at the top and bottom to the Outboard Cable and Inboard Cable, close the seams between adjacent net sections by attaching snap hooks between the nets every 2 feet along the seam. Attach the snap hooks to adjacent border ropes, not snap hook to snap hook. Add supplied cable ties between the nets every 6 inches. See Figure 16.



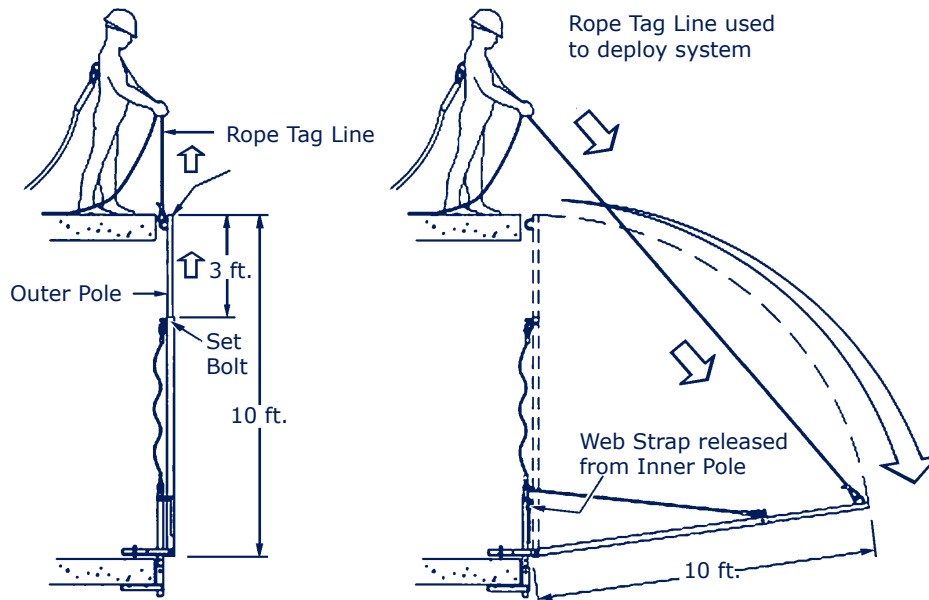
**Figure 16 - Adjusting Section Length and Securing Seams**



**2.9 DEPLOYING THE SYSTEM**

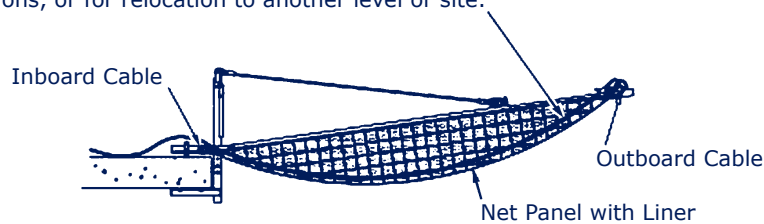
- Step 1. Position an assistant on the next level above the Netting System and transfer the loose end of the Rope Tag Line to him or her.
- Step 2. Loosen the Arm Extender set bolt. When the Outer Support Arm is free to move, have the assistant on the level above pull on the Rope Tag Line to extend the Outer Support Arm until the Length Indicator is visible just beyond the end of the Inner Support Arm, then tighten the Set Bolt.

**Figure 17 - Deploying The System**



NETTING NOT SHOWN FOR CLARITY

Rope Tag line draped (with slack) into the net and free end secured on the concrete deck until the net is to be drawn back into the building for cleaning, weather conditions, or for relocation to another level or site.



Step 3. While the assistant on the level above the system controls the Support Arm with the Tag Line, release the Web Strap from the base of the Pole. The assistant can then pay out the Tag Line and allow the netting system to lower into position. See Figure 17.

After the system is resting in place, secure the free end of the Tag Line at a convenient location inside the building and allow the remainder of the Tag Line to lie in the netting.

### **3.0 TRAINING:**

- 3.1** It is the responsibility of the user and the purchaser of this equipment to assure that they are familiar with these instructions, trained in the correct care and use of and are aware of the operating characteristics, application limits and the consequences of improper use of this equipment.

**IMPORTANT:** Training must be conducted without exposing the trainee to a fall hazard. Training should be repeated on a periodic basis.

### **4.0 INSPECTION:**

- 4.1 FREQUENCY:** The Light Duty Perimeter Net and the installation must be inspected or tested by a competent person after initial installation, before being used as a fall protection system, whenever relocated, after major repair, after impact loading, and at weekly intervals, according to OSHA 1926.502 and ANSI A10.11-1989. Record inspection results in the log provided section 9.0 of this manual.

**IMPORTANT:** Extreme working conditions (harsh environment, prolonged use, etc.) may require increasing the frequency of inspections.

- 4.2** Inspect mesh ropes, perimeter ropes, hardware, connectors, and suspension systems. Nets that show mildew, wear, damage; including damage to hardware and the suspension system, or deterioration that may substantially affect their strength must be immediately removed from service for repair or replacement.
- 4.3** If inspection reveals an unsafe or defective condition, remove the unit from service and destroy it, or contact DBI-SALA for repair or replacement.

**NOTE:** Only DBI-SALA or parties authorized in writing may make repairs to this equipment.

### **5.0 MAINTENANCE - SERVICING - STORAGE:**

#### **5.1 DEBRIS MUST BE REMOVED FROM THE LIGHT DUTY PERIMETER NET DAILY AS FOLLOWS:**

- **Net systems that can be folded in:** Fold net systems in and clean from a safe location. Use other fall protection safety equipment (i.e. lifelines, etc.) when cleaning the nets.
- **Net systems that don't fold in:** Lower nets to the ground or suitable work surface. Remove debris.
- **Use:** Man Lifts, Snoopers, JLG's, Boatswain Chairs, "Spider" Baskets, Swing Stages, and other similar equipment to remove debris.
- **Use:** Suitable tools for pulling or lifting debris from net systems.

**WARNING:** Do not walk or climb into a net system to remove debris. If this is unavoidable, the worker who enters the net must be protected with an active fall protection system (i.e. retractable lifeline). The active fall protection system should be anchored to a structurally sound point of the building or structure. The anchoring point should be capable of holding a falling worker. The active fall protection system anchor point will be separate and apart from the net support (see appropriate fall protection standards).

### **6.0 SPECIFICATIONS:**

#### **6.1 MATERIALS:**

**NET:** 3 1/2" mesh size, diamond style, nylon polyamide fiber, Weatherkote treated.

**HOOKS:** Zinc plated steel.



This instruction applies to the following models:

4100006  
4100007  
4100047  
4100048  
4100049  
4100089  
4100091  
4100092  
4100093  
4100139  
4100140  
4100141  
4100142  
4100143  
4100144  
4100145  
4100146  
4100147

Additional model numbers may appear on the next printing of these instructions



A CAPITAL SAFETY COMPANY

**USA**

3833 SALA Way  
Red Wing, MN 55066-5005  
Toll Free: 800-328-6146  
Phone: (651) 388-8282  
Fax: (651) 388-5065  
[www.capitalsafety.com](http://www.capitalsafety.com)

**Canada**

260 Export Boulevard  
Mississauga, Ontario L5S 1Y9  
Toll Free: 800-387-7484  
Phone: (905) 795-9333  
Fax: (905) 795-8777  
[www.capitalsafety.com](http://www.capitalsafety.com)

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