

# OPIsystems Temperature Cable Installation (Metal Bins)

## Center Cable Installation

**Case 1:** If the roof cap has a flat shoulder that is greater than 3-1/2" (90mm), use procedure #1.

**Case 2:** If the roof cap is opened for loading and the roof sheet ribs have flat top, use procedure #2.

**Case 3:** If the roof cap is opened for loading and the roof sheet ribs have a round top, use procedure #3.

**Case 4:** If the roof cap is permanent and is not removed for loading the bin you may use Procedures #2,#3 or #4.

## Procedure #1 ON-SHOULDER Installation

### Step #1

Locate cable position out of the way of moving grain or auger to prevent damage. For example, if the auger fills the bin from the South, then locate the cable either on the East or West side of the roof cap.

### Step #2

Drill a vertical 1" (25mm) hole 3-1/2" (65mm) down from the vertical side of roof cap as shown. The 3-1/2" allows 1/2" for the rounded bend. If the rounded bend in the corner is very large, you may need to move farther down the shoulder so the cable base will fit flat on the shoulder. Finish off the hole with the drill vertical since the cable needs to hang vertical.

### Step #3

Place saddle on Rib and feed cable through.

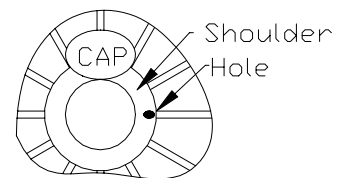
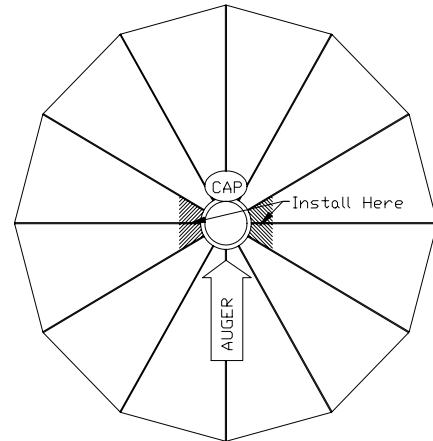
### Step #4

Put in two long self-tapping screws (1/4" x 3") vertically downward through the two holes in the 'T', the saddle and into the roof cap shoulder sheet snugly. If the screw is difficult to start, give it a sharp blow with a hammer to make a dimple to start the hole.

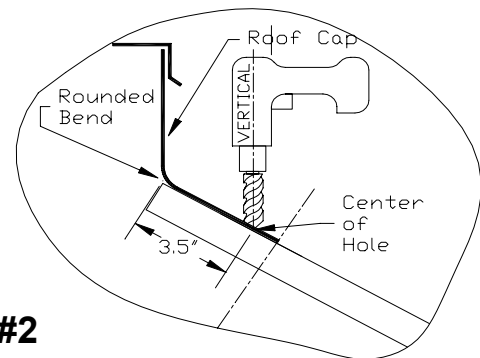
### Step #5

There is no need to install the remaining self-tapping screws in this installation method.

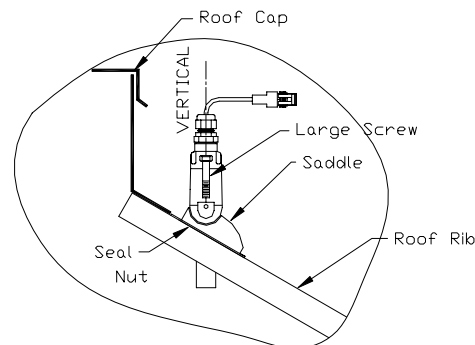
Proceed to Step #6.



### Step #1



### Step #2

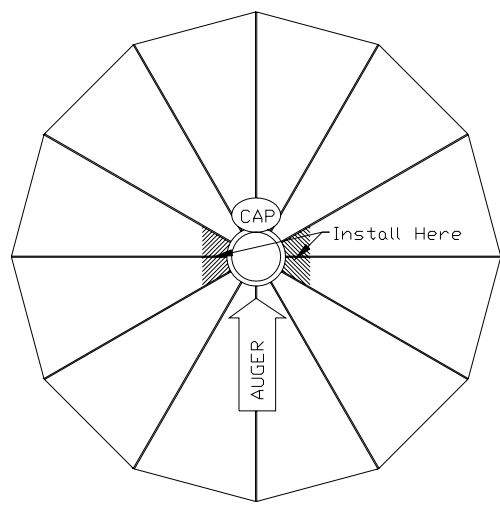


### Steps #4 and #5

**OPIsystems Temperature Cable Installation (Metal Bins)**  
**Procedure #2 ON-RIB Installation**

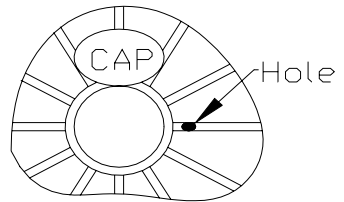
**Step #1**

Locate cable position out of the way of moving grain or auger to prevent damage. For example, if the auger fills the bin from the South, then locate the cable either on the East or West side of the roof cap.



**Step #2**

Drill a vertical 1" (25mm) hole 2" (50mm) down from the edge of roof cap as shown. Finish off the hole with the drill vertical since the cable needs to hang vertical.



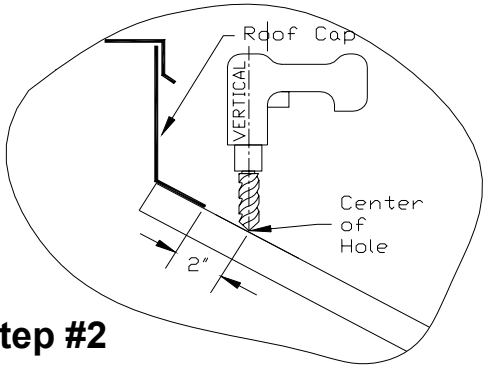
**Step #3**

Place saddle on Rib and feed cable through

**Step #4**

Put in two bolts provided (1/4"x2") through the 'T' and saddle and apply nuts from underneath. Hold the cable exactly vertical and tighten the bolts securely.

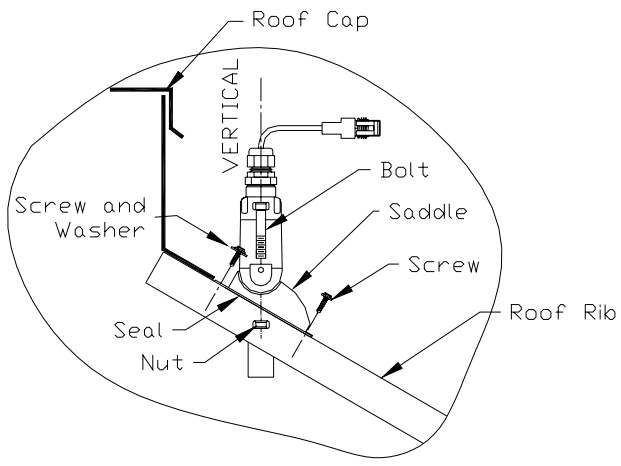
**Step #1**



**Step #5**

Install a self-tapping screw in the tab hole at the lower edge of the saddle to secure saddle to rib. Install a self-tapping screw and washer just above the tab at the top edge of the saddle to hold the saddle down. The washer overlaps the edge of the tab to hold in place.

**Step #2**



**Steps #4 and #5**

Proceed to Step #6.

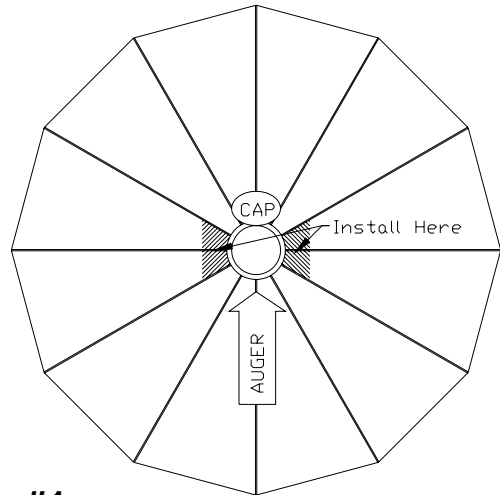
# OPIsystems Temperature Cable Installation (Metal Bins)

## Procedure #3 BETWEEN-RIB

### Installation

#### Step #1

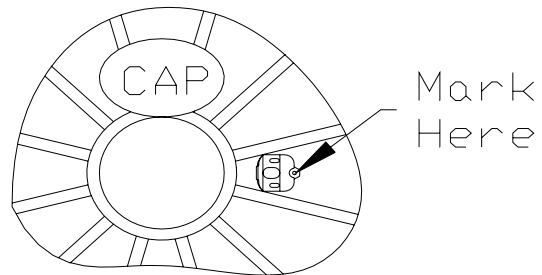
Locate cable position out of the way of moving grain or auger to prevent damage. For example, if the auger fills the bin from the South, then locate the cable either on the East or West side of the roof cap.



#### Step #2

Position the saddle flat between two ribs (mounting tab with hole facing down the roof) as near as the cap as possible so the saddle just touches the two ribs with the upper corners. Mark the position of the hole in the lower mounting tab onto the roof sheet. Drill a vertical 1" (25mm) hole 1-1/2" (38mm) up the roof from the mark. Finish off the hole with the drill vertical since the cable needs to hang vertical.

#### Step #1

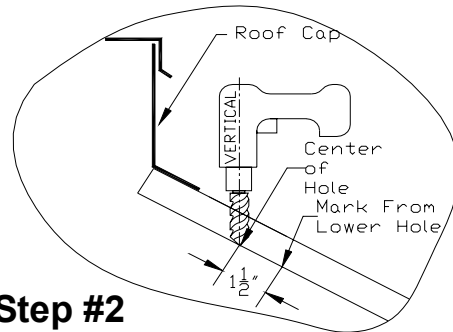


#### Step #3

Place saddle over the hole and feed the cable through the hole.

#### Step #4

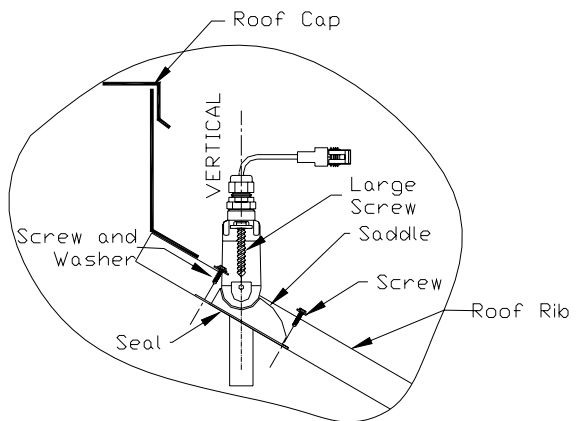
With the cable held exactly vertical, screw in the two long self-tapping screws (1/4" x 3") vertically downward through the two holes in the 'T', the saddle and into the roof sheet snugly. IF the screw is difficult to start, give it a sharp blow with a hammer to make a dimple to start the hole.



#### Step #5

Install a self-tapping screw in the tab hole at the lower edge of the saddle to secure saddle to roof sheet. Install a self-tapping screw and washer just above the tab at the top edge of the saddle to hold the saddle down. The washer overlaps the edge of the tab to hold in place.

#### Step #2



Proceed to Step #6.

#### Steps #4 and #5

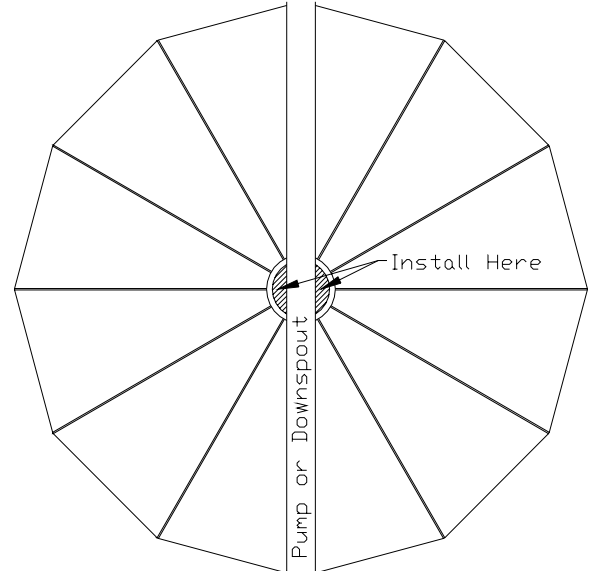
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## Procedure #4 PERMANENT ROOF

### CAP Installation

#### Step #1

Locate cable position out of the way of moving grain or auger to prevent damage. For example, if the pump or spout fills the bin from the South, then locate the cable either on the East or West side of the roof cap.



#### Step #2

Drill a vertical 1" (25mm) hole at the chosen location on the flat (top) of the roof cap.

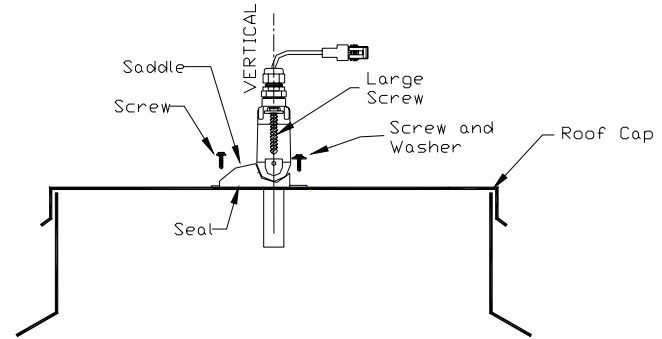
#### Step #3

Place saddle over the hole and feed the cable through the hole.

#### Step #1

#### Step #4

With the cable held exactly vertical, screw in the two long self-tapping screws (1/4" x 3") vertically downward through the two holes in the 'T', the saddle and into the roof sheet snugly. If the screw is difficult to start and the material is thicker than 1/8" (3mm) you may need to drill a pilot hole first.



#### Step #5

Install a self-tapping screw in the tab hole at the lower edge of the saddle to secure saddle to roof cap. Install a self-tapping screw and washer just above the tab at the top edge of the saddle to hold the saddle down. The washer overlaps the edge of the tab to hold in place.

#### Steps #4 and #5

Proceed to Step #6.

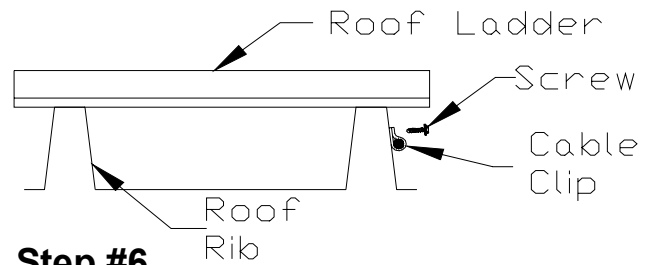
## OPIsystems Temperature Cable Installation (Metal Bins)

### Step #6

#### Lead Routing

If the lead is to go to ground level for readout, continue with step #6. Otherwise, please contact your dealer for directions on installing RTU, 0XLE,s etc.

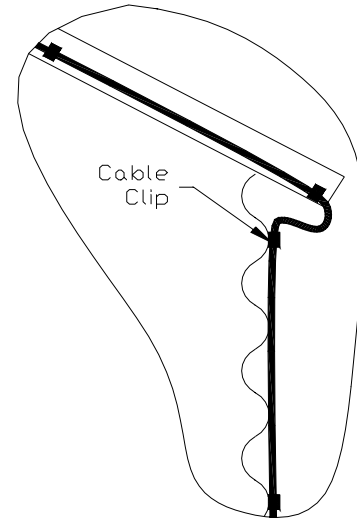
Route the lead along side a roof rib next to the roof ladder and clip with a screw and clip every 4 ft (1.2m) or closer if desired.



**Step #6**

### Step #7

When rounding the eave of the bin, first attach a clip near the end of the roof sheet, then loop back under to the bin wall, leaving about 3" (75mm) of slack to allow for expansion and contraction. Clip the lead every 4 feet (1.2m) down the bin wall.



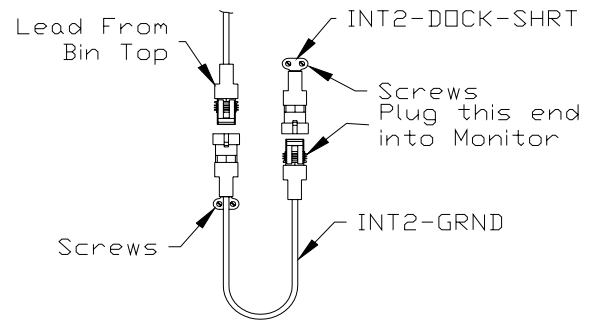
**Step #7**

### Step #8

Install the INT2-DOCK-SHRT in a convenient location not higher than eye level since this is where the end of the cable will stay when not in use. Attach with 2 self-tapping screws as shown.

### Step #9

Plug the INT2-GRND into the INT2-DOCK-SHRT, loop the lead down to create a drip loop and then back up. Install 2 self-tapping screws into the INT2-GRND next to the INT2-DOCK-SHRT. Plug the lead coming down the bin wall into the INT2-GRND. Neatly coil and stow any excess lead.



**Steps #8 and #9**

### Step #10

Alternatively, you could install the INT2-DOCK-SHRT and INT2-GRND first at the convenient location, attach the lead and clip to the bin wall as you climb the bin ladder, keeping the lead neat and straight as you go. When you get to the roof, install the temperature cable. Then coil any excess and neatly stow at the rooftop.

# OPIsystems Temperature Cable Installation (Metal Bins)

## Multi-Cable Installation Using OPIsystems' Roof Bracket

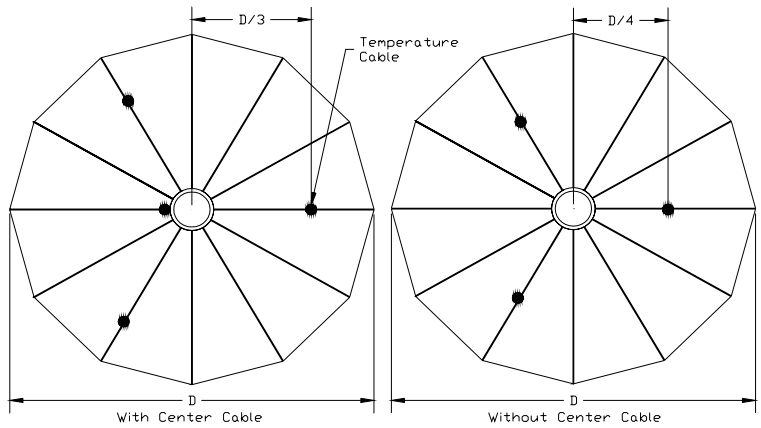
### Step #1

Locate the correct placement of the cables on the bin.

For a multiple cable system with a center cable and one outer ring of cables, the outer cable is located a distance of  $\frac{1}{3}$  the diameter horizontally out from center.

For a multiple cable system without a center cable the outer ring of cables is located  $\frac{1}{4}$  the diameter horizontally out from center.

For 30° roof, when measuring along the roof, add 15% to the horizontal distance.



### Step #2

Mark a location on the top of a rib where the cable will be dropped. Position the angle bracket with the large slot over the mark across three ribs. Check that the bracket spans the three ribs and the slots in the ends of the bracket will reach the two outside ribs for mounting. If it does not, contact your dealer.

### Step #3

Drill a 1" hole at the marked location in the top of the rib, finishing the hole with the drill in the vertical position.

### Step #4

Apply one rubber gasket over the hole and glued to the roof sheet. Place the roof bracket over the large hole and feed the cable through the saddle and bracket and into the bin. While holding the cable termination vertical, apply the two self-tapping screws (1/4x2) through the 'T' and into the roof bracket.

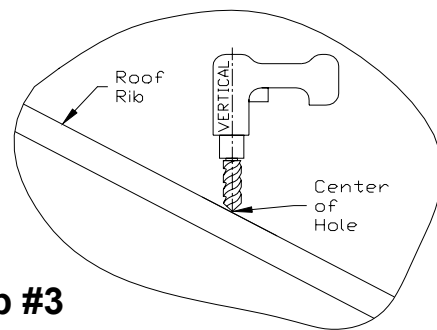
### Step #5

Ensure that the roof bracket is square on the roof and snug down each end with a self tapping screw, placing spacer(s) under each end to make equal contact on each of the three ribs.

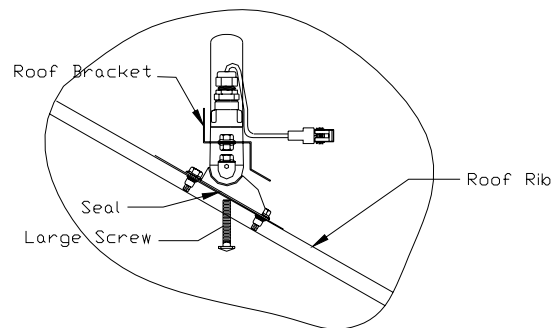
### Step #6

Route the lead cable on the side of a rib up to the center of the bin. Clip the lead every 4'.

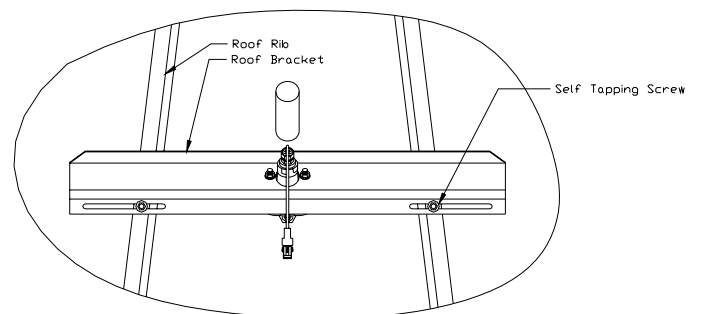
### Step #1



### Step #3



### Step #4



### Step #5