



# Solar Panel

## INSTALLATION MANUAL



P.O. Box 279  
Shakespeare, ON  
N0B 2P0

1-800-960-4002  
[www.faromor.com](http://www.faromor.com)

July 2013



# Table of Contents

Page 3	-	<b>Introduction</b>
	-	<b>General Considerations</b>
Page 4	-	<b>Framing Details</b>
Page 5-6	-	<b>Parts List</b>
Page 7-18	-	<b>Installation Instructions:</b>
		<i>Page 7: End of section framing</i>
		<i>Page 7: Birdscreen option</i>
		<i>Page 8: Stand off bracket mounting detail</i>
		<i>Page 8: Top elbow installation</i>
		<i>Page 9: Solar glide installation</i>
		<i>Page 9: Panel connection</i>
		<i>Page 10: Bar cap installation</i>
		<i>Page 10: Guide post installation</i>
		<i>Page 11: Guide post installation - cont'd</i>
		<i>Page 11: Guide post installation - cont'd</i>
		<i>Page 12: Main cable installation</i>
		<i>Page 12: Pull up cable installation</i>
		<i>Page 13: Reverse pull up cable installation</i>
		<i>Page 13: PVC rain cap installation</i>
		<i>Page 14: Installation completion</i>
		<i>Page 14: Appendix A1: Drive unit installation</i>
		<i>Page 15: Appendix A2: End pulley bracket installation</i>
		<i>Page 15: Appendix A3: Manual winch installation</i>
		<i>Page 16: Appendix A4: Panel Switch Mounting</i>
		<i>Page 17: Appendix A5: Panel Switch Wiring</i>
		<i>Page 18: Appendix A6: Automatic drive unit installation</i>
		<i>Page 18: Appendix B1: Limit switch system</i>
Page 19	-	<b>Finishing Tips and Touches</b>
Page 19	-	<b>Warranty Policy</b>





# Introduction

**Solar Panels** are a popular choice for applications where both light and ventilation is important. They can withstand the rigors of power washing, don't flap and cause disruptive noise and will insure many years of trouble free service.

Fabricated from aluminum, these panels are light weight and offer a high quality appearance. The panel tracking system ensures a smooth vertical 'open & close' operation over relatively large uninterrupted openings.

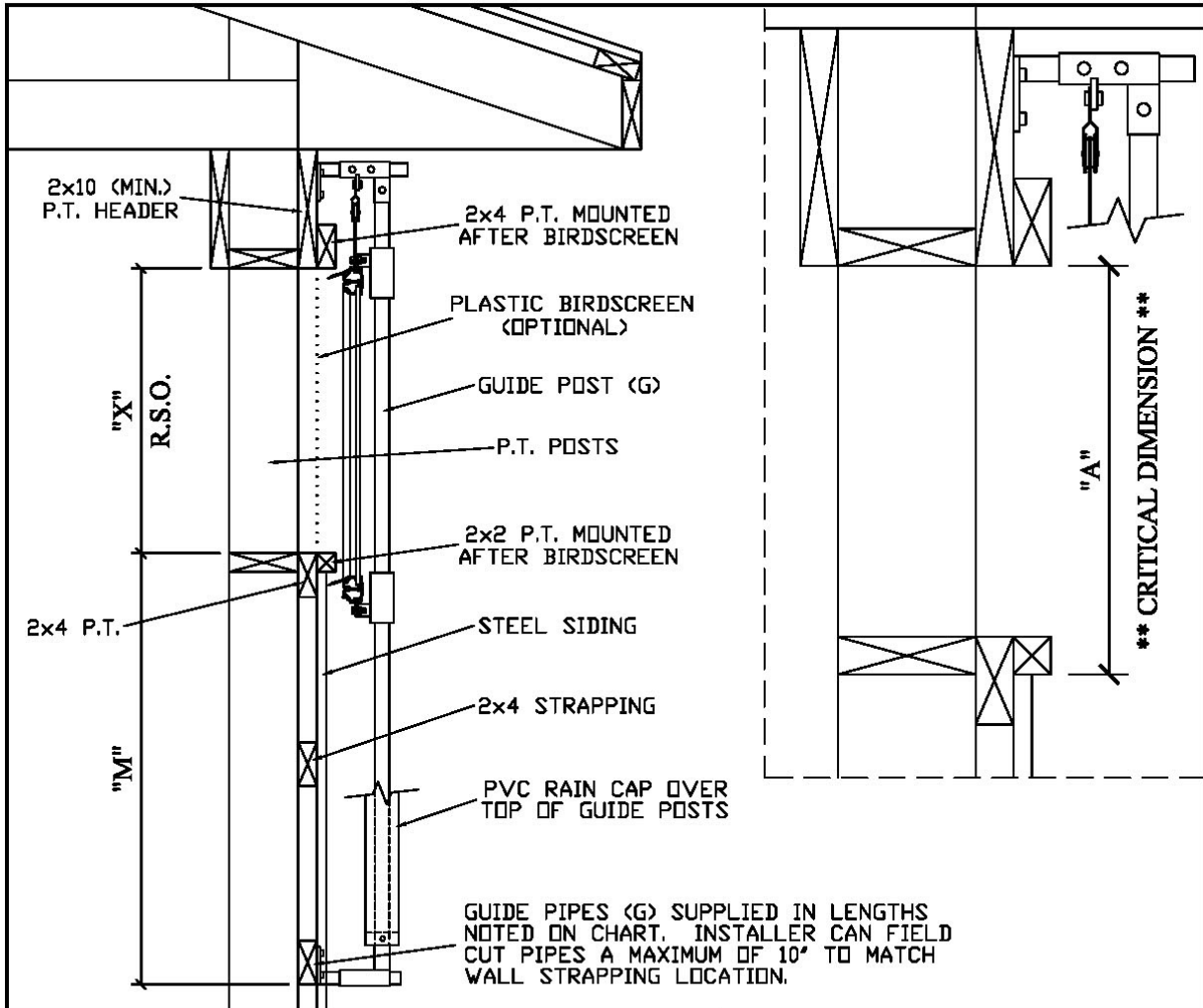
The **Faromor Solar Panel** is constructed of individual panels which attach together onto an external guide system, to form a continuous panel across a non-interrupted opening. It can be custom made to fit many applications and can easily be installed on new or retrofitted naturally ventilated livestock buildings.

## General Considerations

\*\*Please read the following notes prior to installing the Solar panel:

- 1) Verify framing details are correct, as per page 4, to assure installation will work properly.
- 2) Read all instructions prior to beginning installation to familiarize yourself with parts and terminology.
- 3) Confirm what appendixes are required for your specific installation (E.g. Manual vs automatic)
- 4) Watch for "Faromor Tips" on installation pages for pointers that will assist with installation.
- 5) Please read final page "Finishing Tips and Touches" before completing installation.

# Framing Detail



### FRAMING OPENING:

PANEL SIZE:	R.S.O. ("X")	GUIDE POST (G)	LENGTH (M)		CRITICAL DIM. ("A")
			MIN.	MAX.	
2 FT.	22"	72"	34"	44"	23 1/2"
3 FT.	34"	96"	46"	56"	35 1/2"
4 FT.	46"	120"	58"	68"	47 1/2"
5 FT.	58"	144"	70"	80"	59 1/2"

### NOTES:

ABOVE DETAILS FOR SALES PURPOSES ONLY. SEE DETAILED FRAMING DRAWINGS FOR MORE INFORMATION.

SOLAR AND CLEAR-VU PANEL LENGTHS ARE AVAILABLE IN FOUR FOOT LONG INCREMENTS.

PANEL OPENING LENGTH TO BE SIX INCH LESS THAN ACTUAL PANEL.

## **FAROMOR**

P.O. Box 279, RR#1  
Shakespeare, Ontario.  
NOB 2P0 - (519) 625-8000


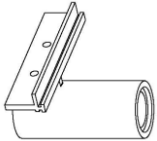
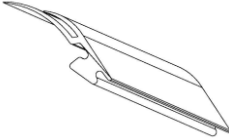
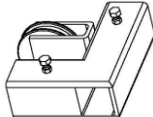
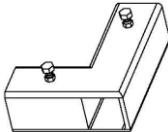
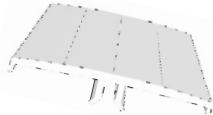
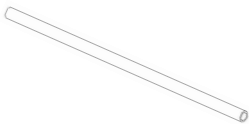
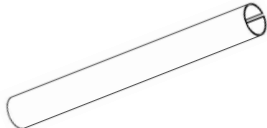

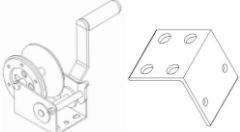
**TITLE:** SOLAR / CLEAR-VU PANEL ON  
POST FRAME STRUCTURE

**PROJECT / OWNER:**

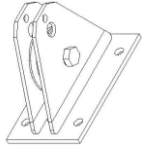

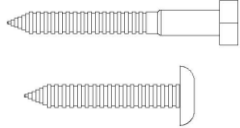

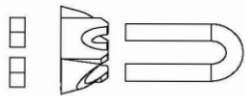
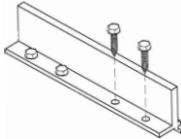

**DRAWN:** FEBRUARY 2004

**DWG. FILE:** 03-SOL/CLEAR-P-W

# Parts Listing

Item #	Part #	Description	Picture
1	03-210-01	Top tubular stand-off	
2	03-340-01	Solar glide	
3	MDBLGRAY	Double finger rubber seal	
4	03-220-01	Top elbow	
5	03-230-01	Bottom elbow	
6	PVCBARCAP	PVC bar Cap	
7	03-240-01-01 03-240-02-01 03-240-03-01 03-240-04-01	Guide post for 2' panel Guide post for 3' panel Guide post for 4' panel Guide post for 5' panel	
8	PVCRAINCAP	PVC rain cap for guide system	
9	03-250-01-01	Nylon rain cap bushing	
10	08-100-28	Brake winch and bracket	

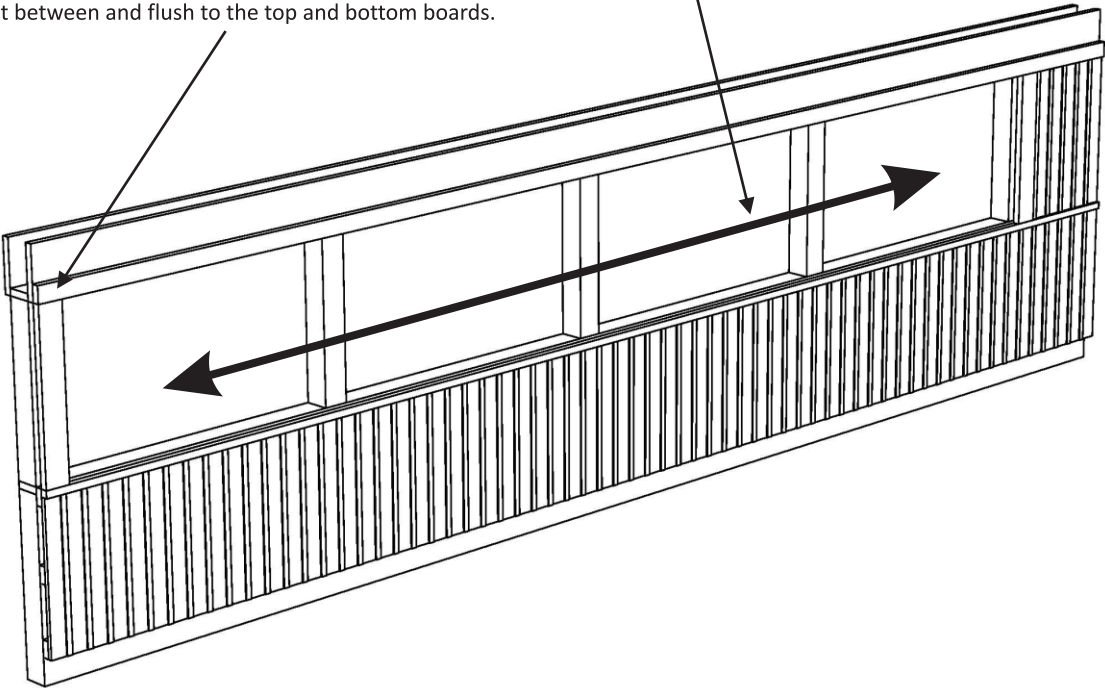
# Parts Listing

Item #	Part #	Description	Picture
11	08-110-04	End pulley bracket	
12	03-320-01	Stainless steel reverse pull-up pulley	
13	BZHLB516112 SSMS812TAP SSMS1034TAP	5/16" x 1-1/2" hex head lag #8 x 1/2" s.s. self tapping screw #10 x 3/4" s.s. screw	
14	08-210-24-05 08-210-24-12	3/16" s.s. cable 7x19 flexible 3/16" s.s. cable 1x19 stiff	
15	08-200-17-04 08-210-24-04	1/8" cable clamp 3/16" cable clamp	
16	03-240-01-06	Aluminum joiner x 5"	
17	SZ10X58HWSD	#10 x 5/8 hex self screw	
18			
19			
20			

# End of Section Framing

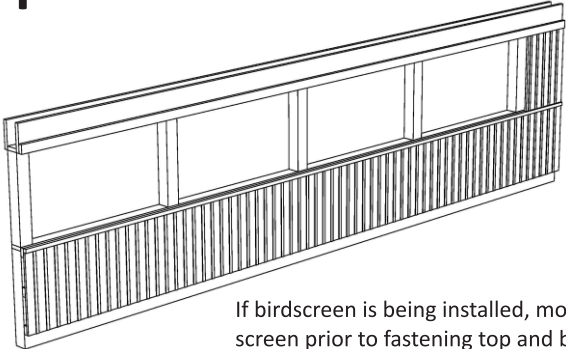
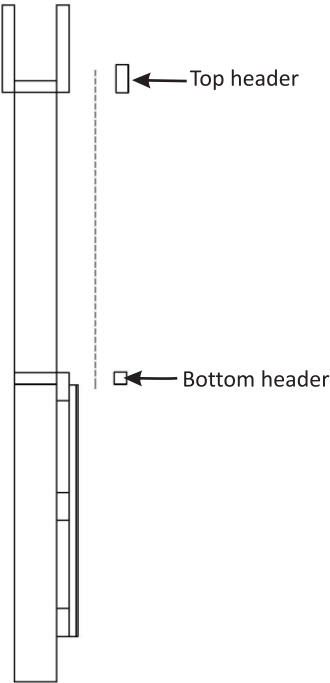
**\*\*Note:** Finished opening size for length should be 6" less than actual panel size. i.e: 64' panel should have opening of 63'-6". This allows for 3" overlap on each end for full weather seal.

At both ends of panel sections a 2x6 (or similar flat surface) should be installed on the flat between and flush to the top and bottom boards.

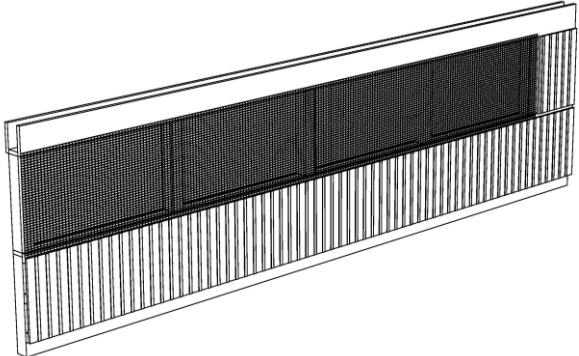


---

# Birdscreen Option

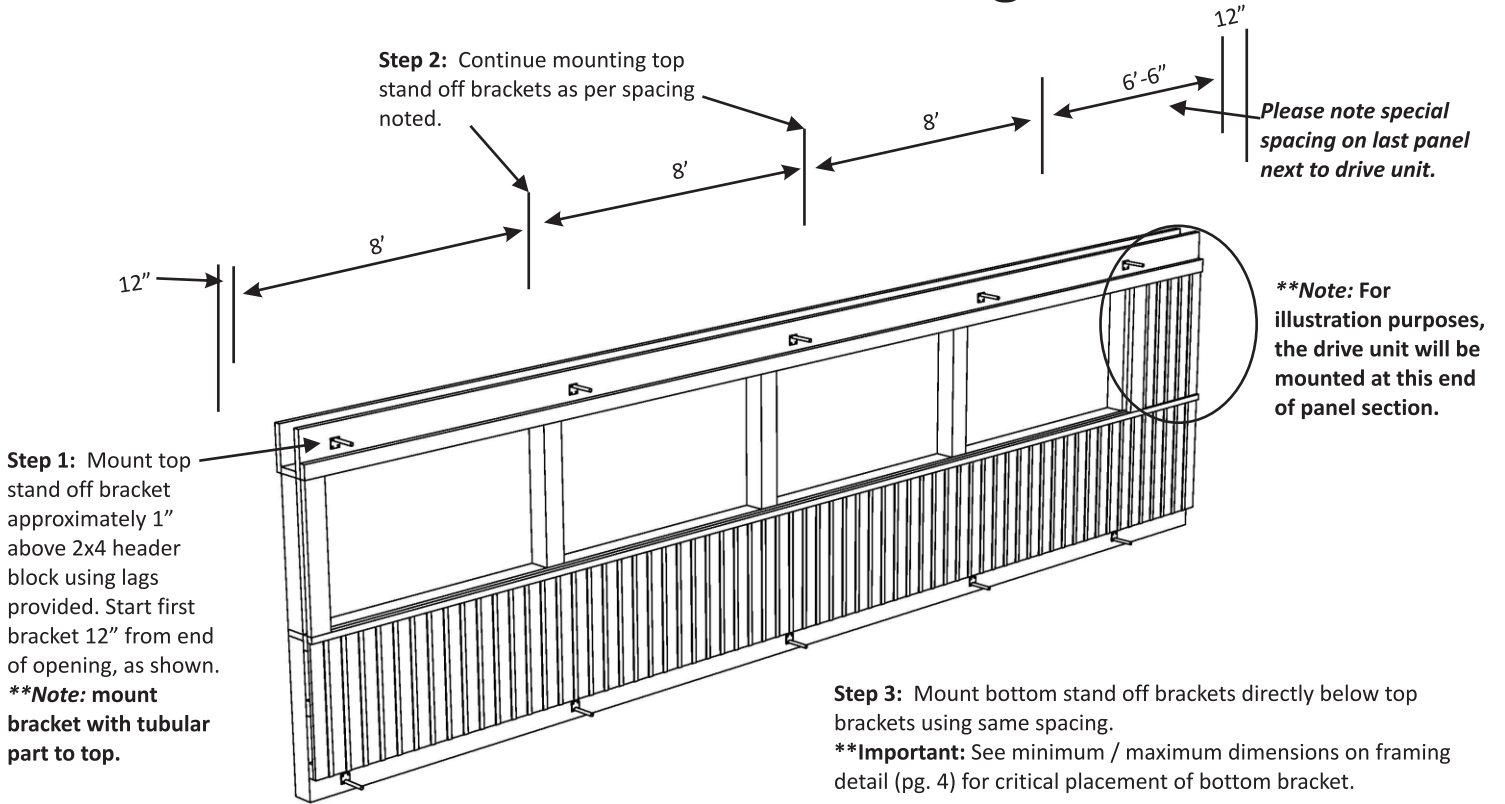


If birdscreen is being installed, mount screen prior to fastening top and bottom boards.



**Faromor Tip:** It is recommended that the birdscreen be mounted prior to framing panel openings so that the screen is sandwiched between boards.

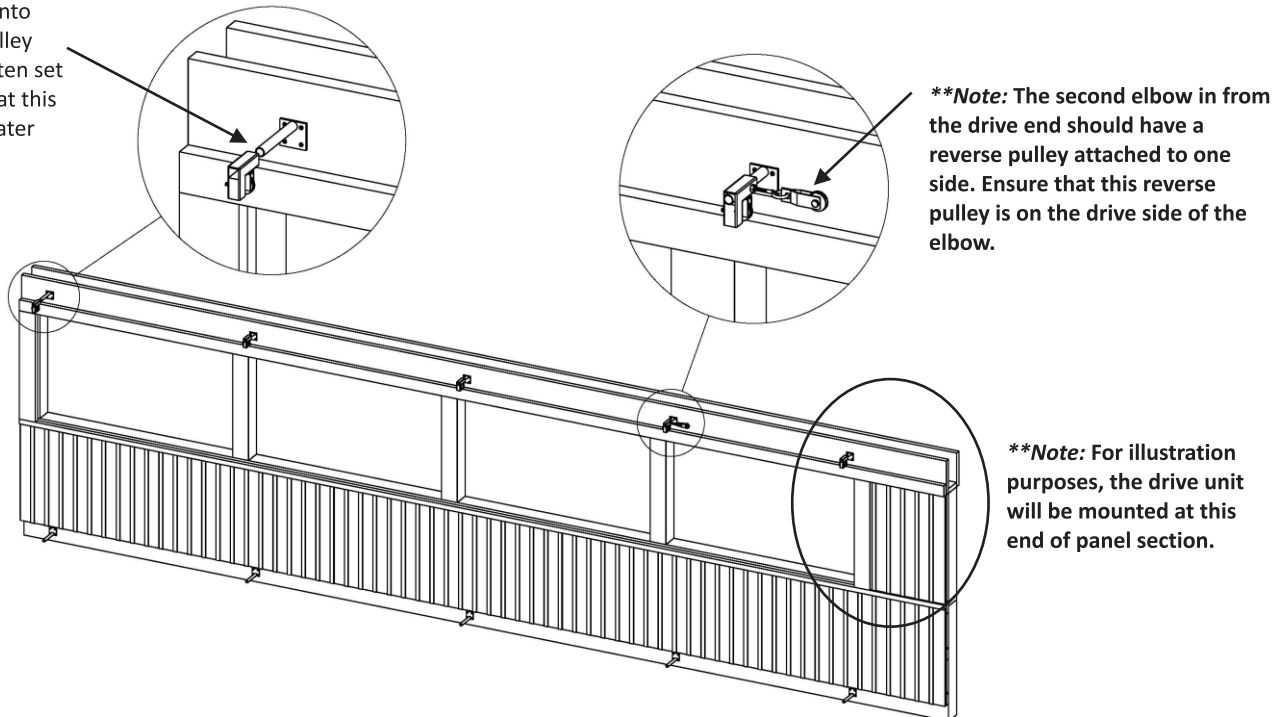
# Stand off Bracket Mounting Detail



**Faromor Tip:** Ensure plumbness of top/bottom brackets to make sure guide posts are straight. If guides are not straight binding will occur.

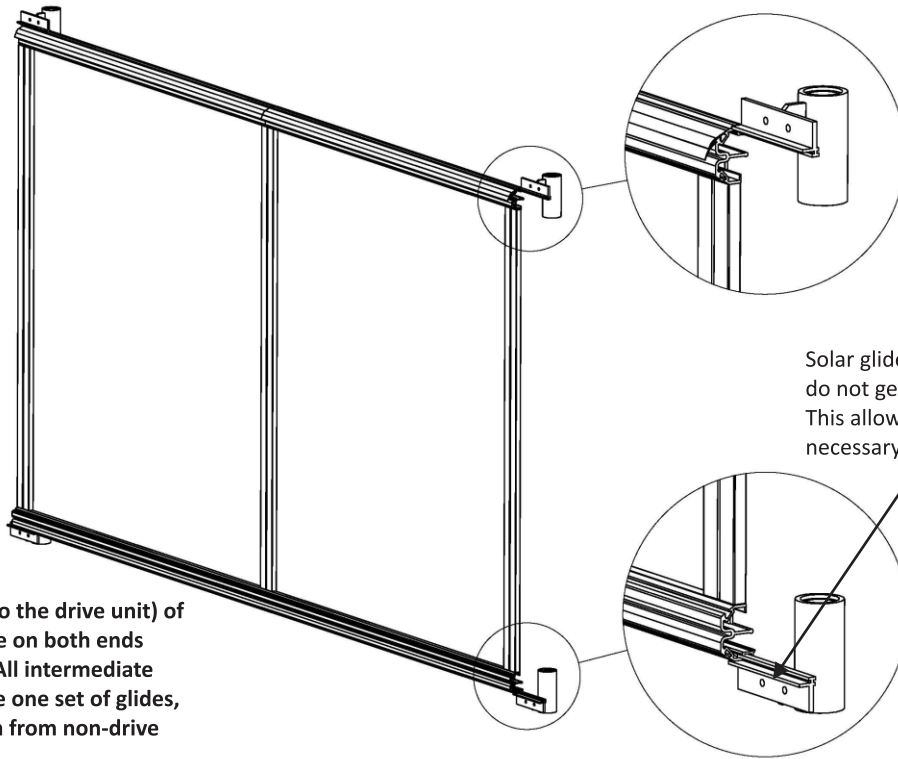
# Top Elbow Installation

**Step 1:** Slide top elbow onto stand off bracket with pulley wheel towards wall. Tighten set screw by hand only so that this may be adjusted during later stages of installation.



# Solar Glide Installation

**Step 1:** Slide solar glide T-bar into front groove of top and bottom channels as noted on drawing.



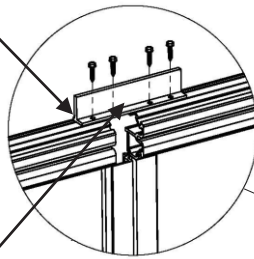
Solar glides are always floating and do not get fastened to panel frame. This allows for easy adjustments if necessary.

**\*\*Note:** The starting panel (closest to the drive unit) of each section will require a solar glide on both ends approximately 8" in from the ends. All intermediate panels and other end panel will have one set of glides, top and bottom, approximately 6" in from non-drive side of panel.

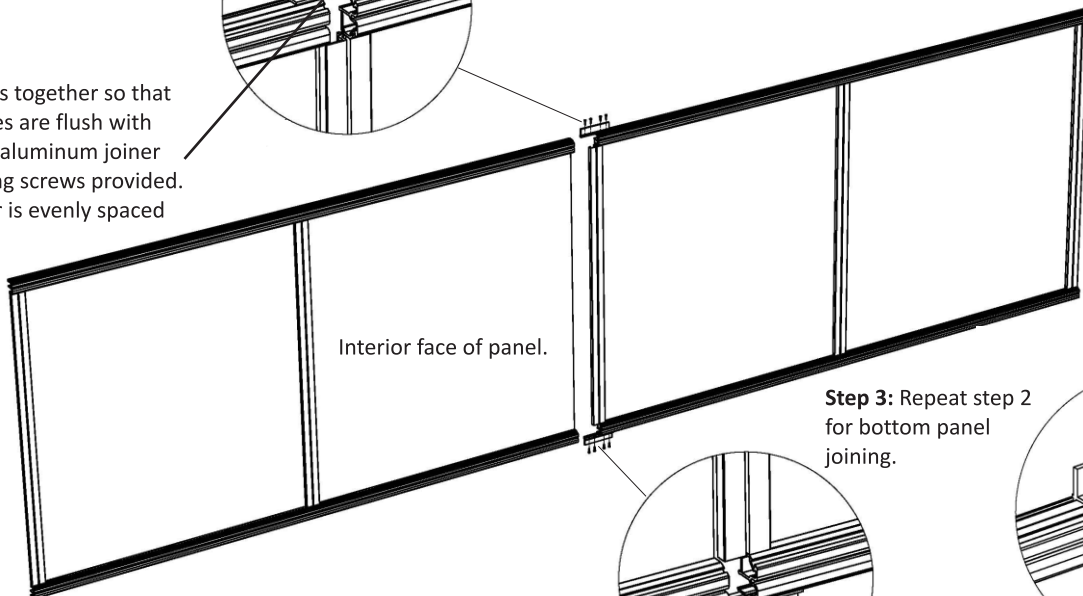
---

## Panel Connection

**Step 1:** Slide aluminum panel joiner into first panel (top and bottom) with "L" towards back of panel. Once panels are joined together slide joiner evenly over panel joint.

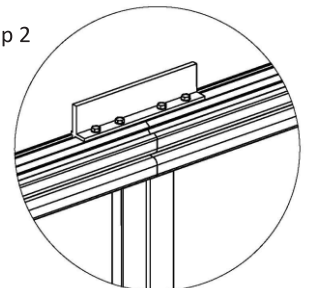
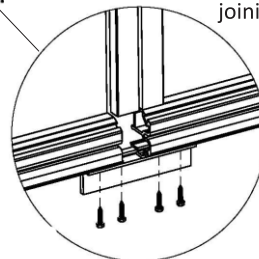


**Step 2:** Place panels together so that all aluminum frames are flush with each other. Secure aluminum joiner to panel frame using screws provided. Ensure panel joiner is evenly spaced across joint.



**\*\*Note:** Horizontal bar caps may need to be peeled back slightly to get glass to lay properly on aluminum frame. Be sure to re-fasten horizontal cap if necessary.

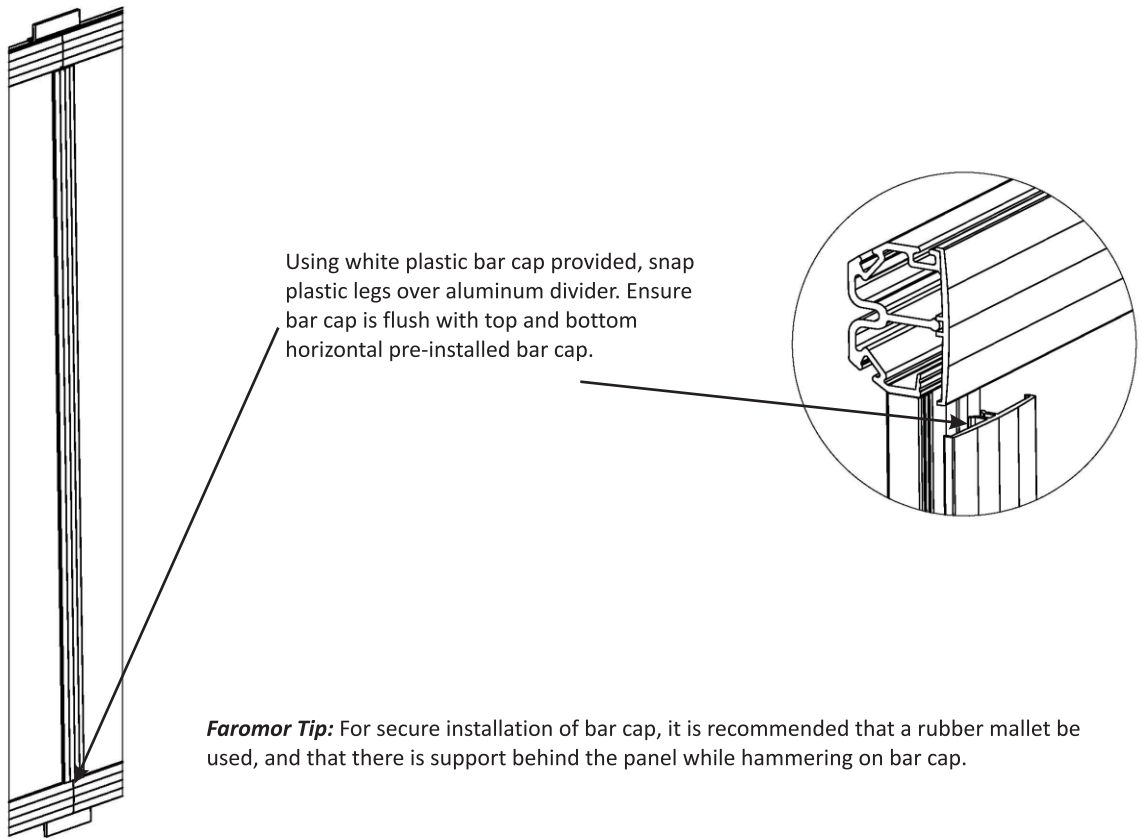
**Step 3:** Repeat step 2 for bottom panel joining.



Completed view of secured panel joint.



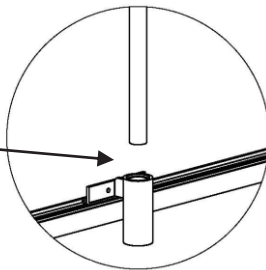
# Bar Cap Installation



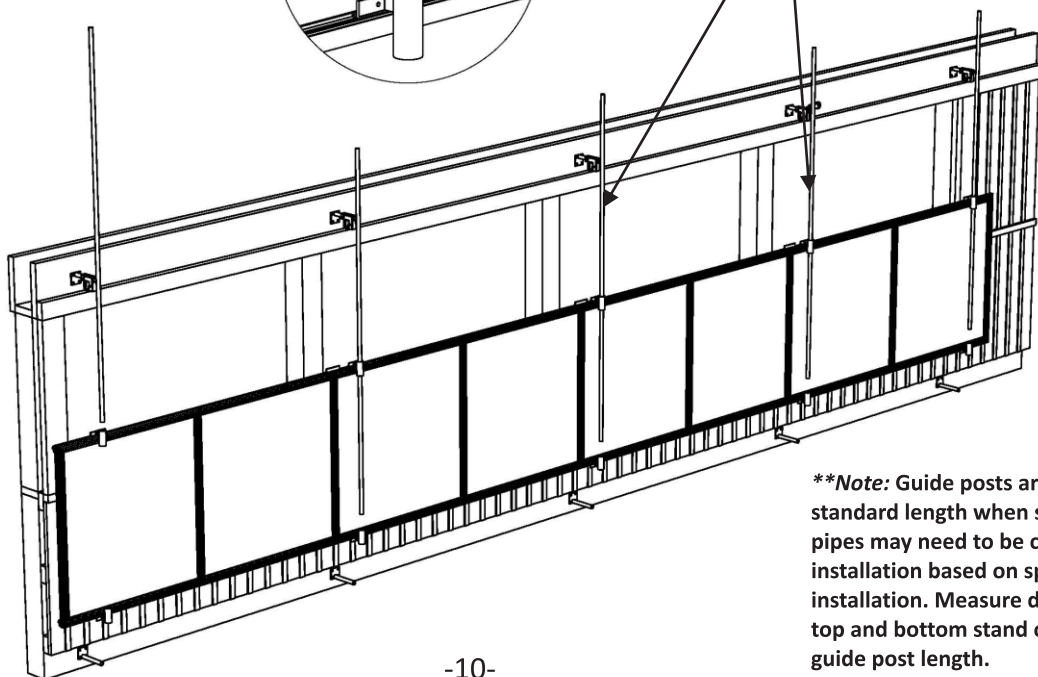
---

# Guide Post Installation

**Step 1:** With panels resting on bottom stand off take first guide pipe and slide through glide assembly from top glide through bottom glide.



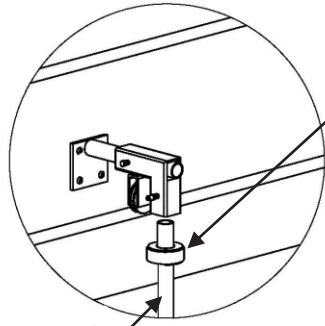
**Step 2:** Continue this for remaining guide posts.



**\*\*Note:** Guide posts are pre-cut to standard length when shipped. These pipes may need to be cut prior to installation based on specific installation. Measure distance between top and bottom stand off for required guide post length.

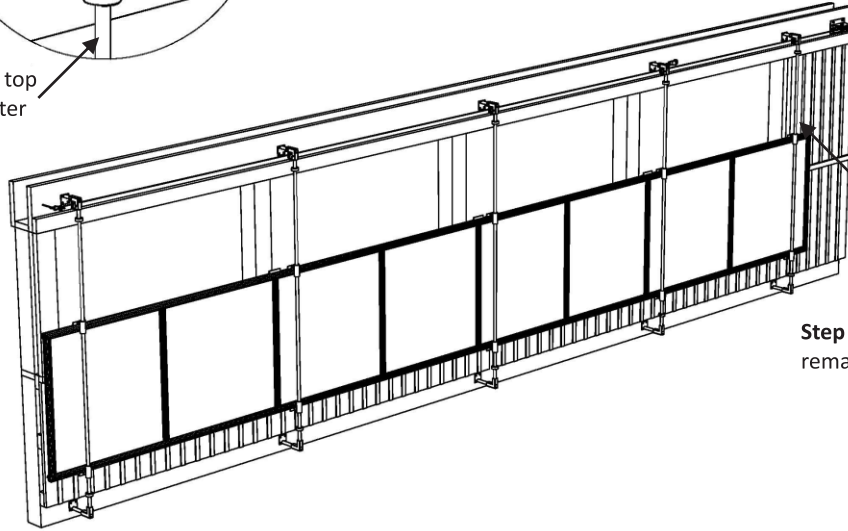


## Guide Post Installation - cont'd



**Step 2:** Slide top of guide post into top elbow bracket as far as possible. Hand tighten set bolt.

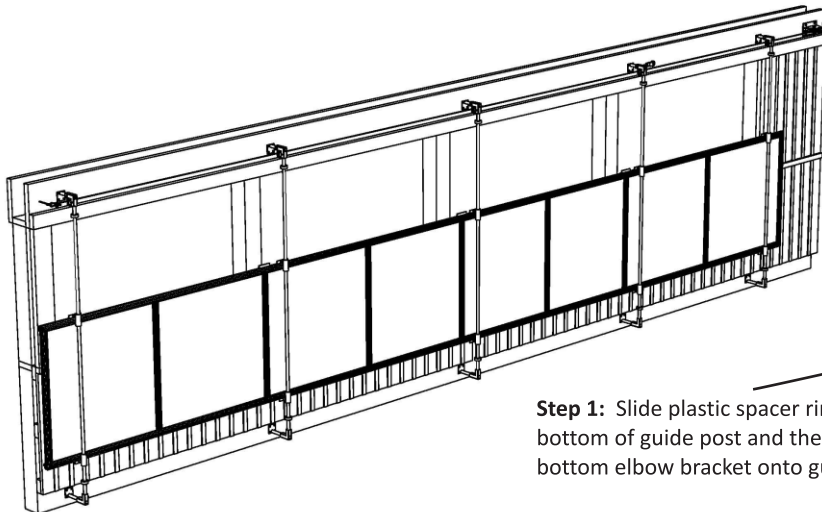
**Step 1:** Slide plastic spacer ring over top of guide post and leave loose until later stages of installation.



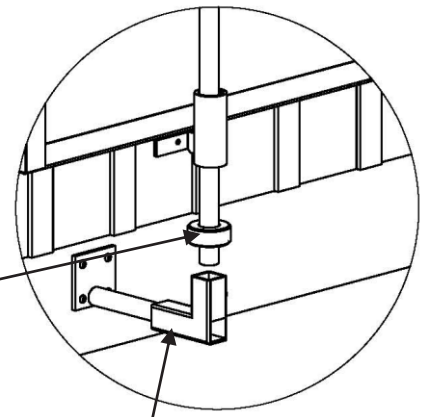
**Step 3:** Continue doing this on remaining guide posts.

---

## Guide Post Installation - cont'd



**Step 1:** Slide plastic spacer ring over bottom of guide post and then slide bottom elbow bracket onto guide post.



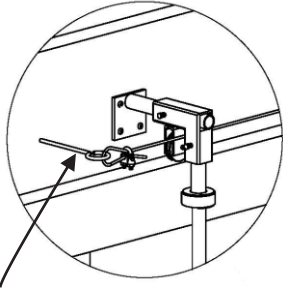
**Step 2:** With elbow bracket on guide post, slide other end of elbow bracket approximately halfway onto bottom stand off.

**Step 3:** Continue doing this on remaining guide posts.

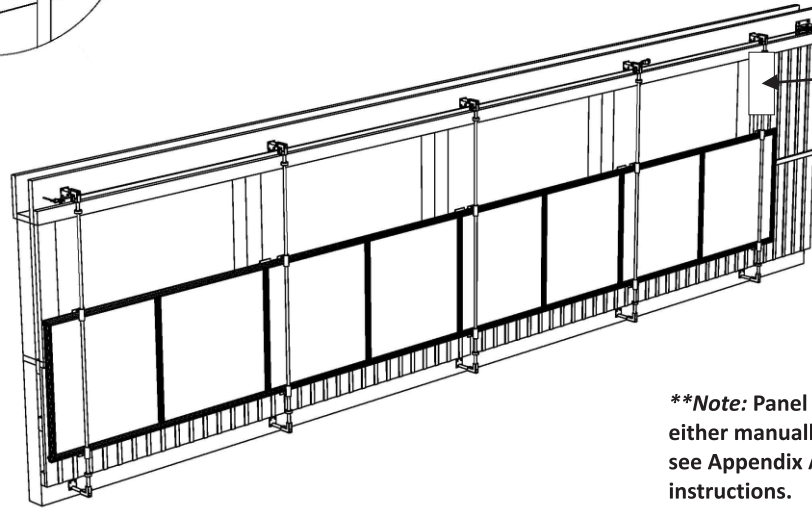
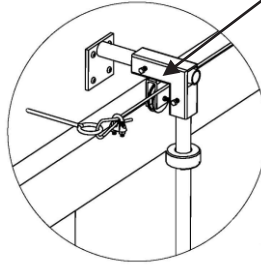
**Faromor Tip:** All set bolts should be hand tightened only. Final adjustments will be made upon completion of installation.

# Main Cable Installation

**Step 1:** Install temporary screweye beyond last guide post and attach main cable with supplied cable clamp.



**Step 2:** Thread main cable between pulley bracket and inside edge of elbow bracket on each guide post assembly.



Drive unit mounted here.

**Step 3:** Connect main cable to manual lead in cable as per instructions in Appendix A1- pg. 14

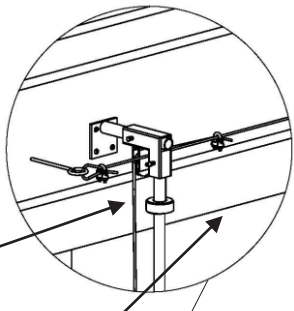
**\*\*Note:** Panel systems can be installed either manually or automatically. Please see Appendix A1 - pg. 14 for instructions.

---

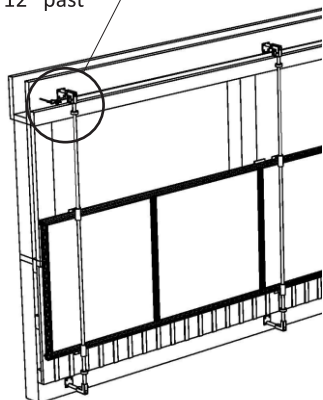
# Pull Up Cable Installation

Panel should be in open position when connecting pull up cables. Final cable adjustment can be done at end of installation.

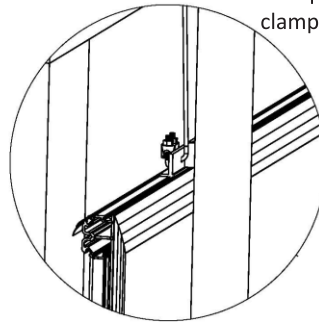
**Step 1:** Thread one end of pull up cable (supplied) over top of nylon pulley from the non-drive end. Attach to main cable using clamps provided approximately 12" past



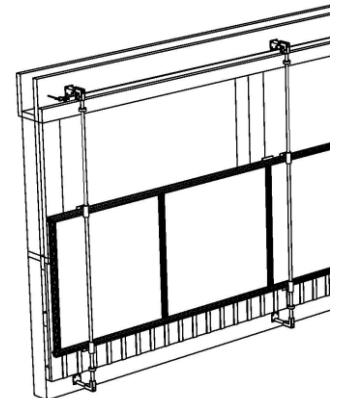
Non-drive end of panel section.



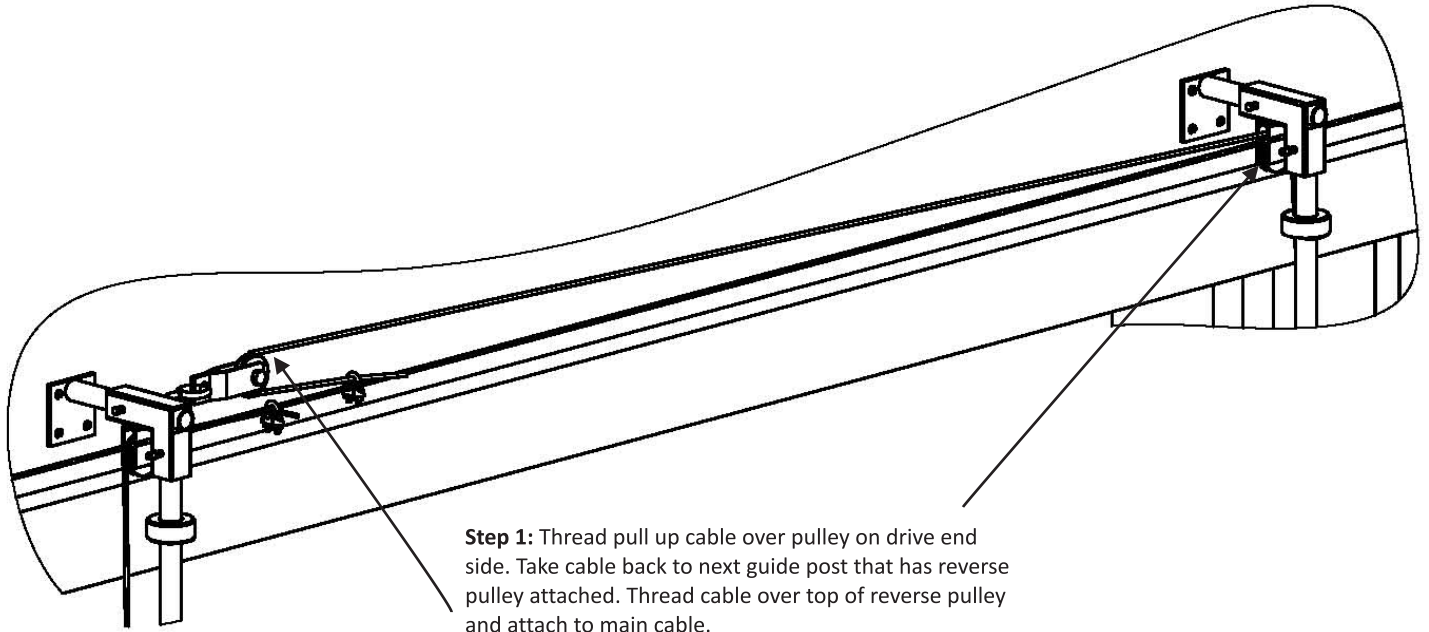
**Step 2:** Take other end of cable down to top solar glide and thread through one of the two holes in the T-bracket. Clamp end of cable on back side of solar glide with cable clamps provided.



**Step 3:** Continue doing this on remaining pulleys except for guide post closest to drive unit where a reverse pull is required (see next page).



# Reverse Pull Up Cable Installation

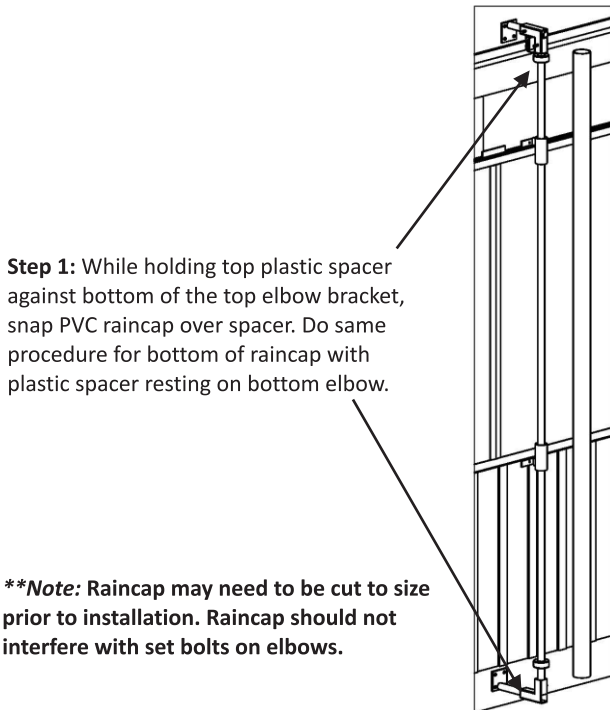


**Step 1:** Thread pull up cable over pulley on drive end side. Take cable back to next guide post that has reverse pulley attached. Thread cable over top of reverse pulley and attach to main cable.

**\*\*Note:** Be sure this cable is attached in front of previous pull up cable.

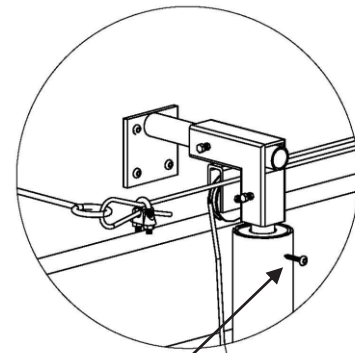
---

# PVC Raincap Installation

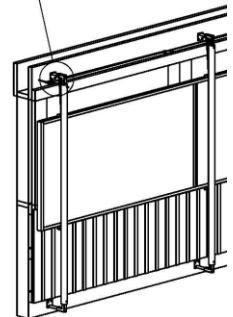


**Step 1:** While holding top plastic spacer against bottom of the top elbow bracket, snap PVC raincap over spacer. Do same procedure for bottom of raincap with plastic spacer resting on bottom elbow.

**\*\*Note:** Raincap may need to be cut to size prior to installation. Raincap should not interfere with set bolts on elbows.



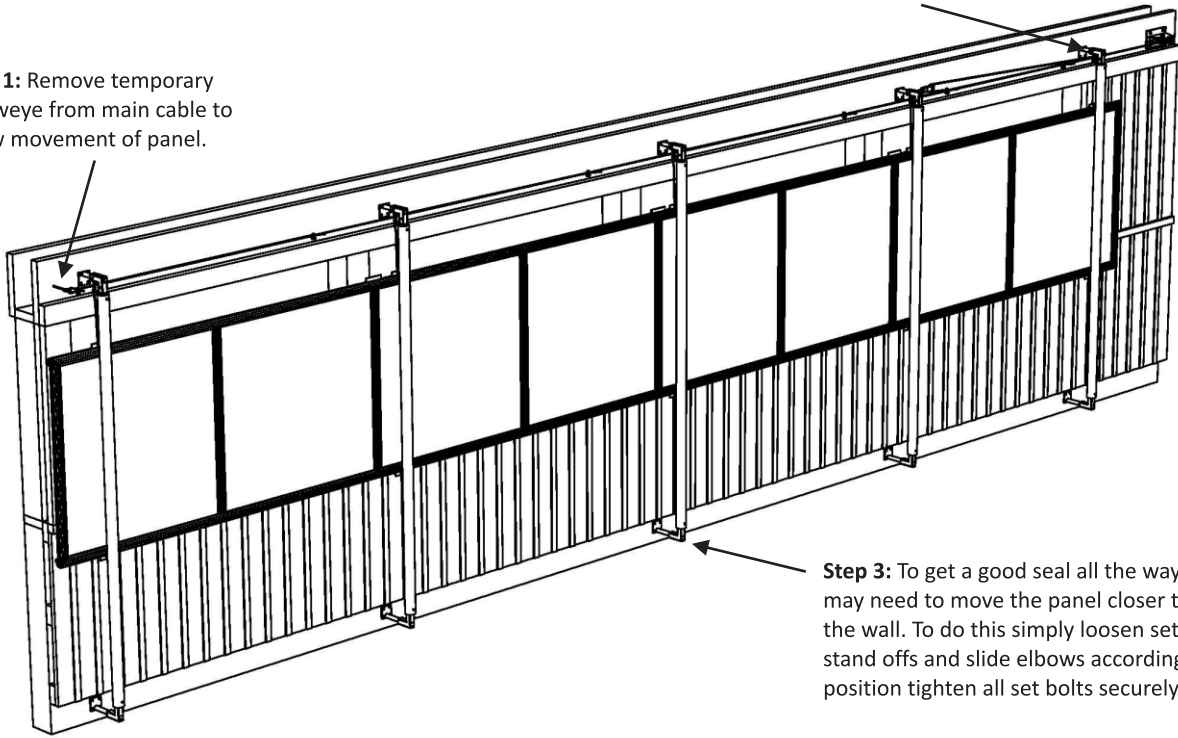
**Step 2:** Using self tapping screws provided, fasten raincap to plastic spacer ring on top and bottom.



# Installation Completion

**Step 2:** Adjust all pull up cable lengths so that panels are level with one another, and to permit seal closure at top of opening and bottom of opening when panel is in closed position.

**Step 1:** Remove temporary screw eye from main cable to allow movement of panel.

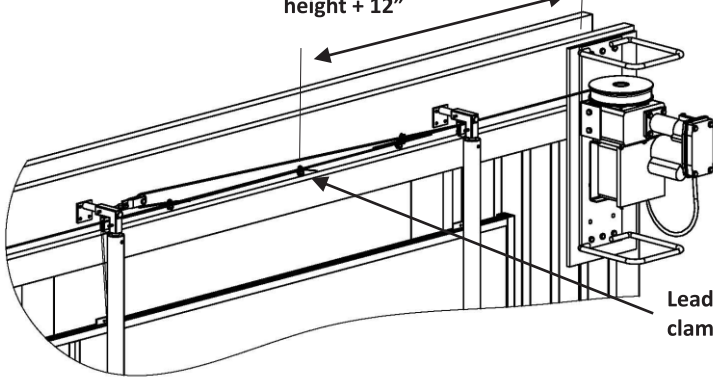


**Step 3:** To get a good seal all the way around the panel you may need to move the panel closer to or further away from the wall. To do this simply loosen set bolts on top and bottom stand offs and slide elbows accordingly. When in proper position tighten all set bolts securely.

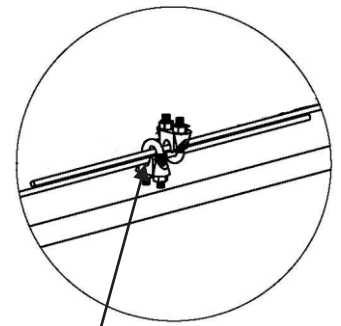
## Appendix A1 - Drive Unit Installation

Main cable to lead in cable connection

Minimum length is panel height + 12"

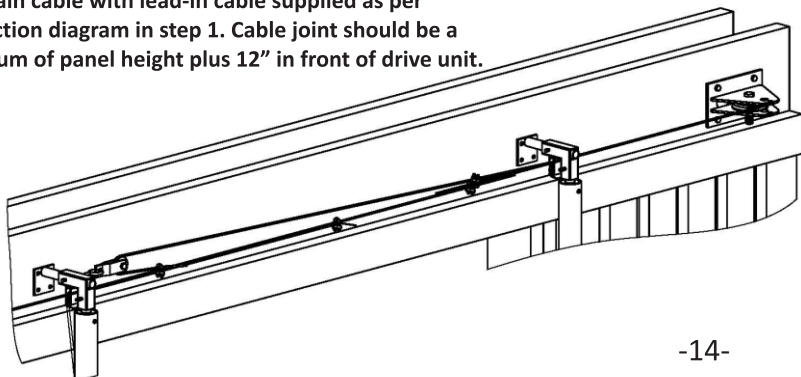


Lead-in and main cable clamped here.



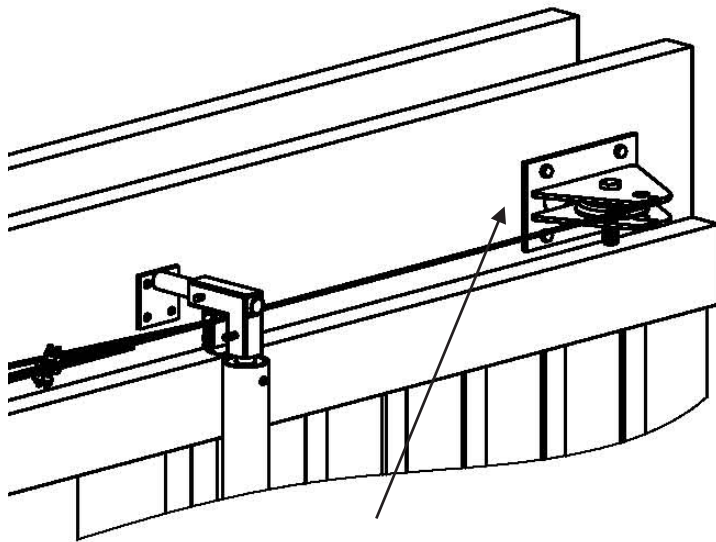
**\*\*Note:** The main cable is six feet shorter than overall panel length. To connect main cable to drive unit you must join main cable with lead-in cable supplied as per connection diagram in step 1. Cable joint should be a minimum of panel height plus 12" in front of drive unit.

**Step 1:** With panel in the open position attach end of main cable to one end of lead-in cable overlapping 6". Fasten with two cable clamps secured on opposite sides.



**Step 2:** Connect lead-in cable to drive unit as per instructions on following appendix pages.

# Appendix A2 - End Pulley Bracket Installation



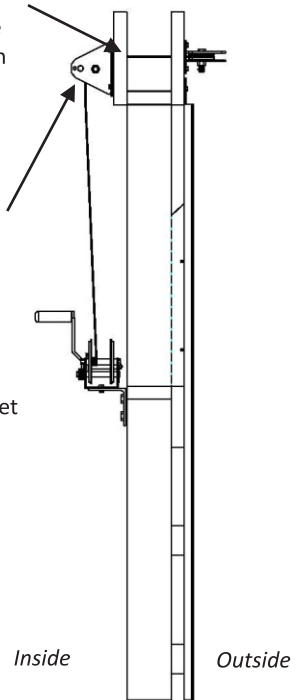
Block pulley should be mounted in line with top elbows. It should be mounted at least 6" past end of panel.  
**\*Note:** pulley must be mounted horizontally so it turns cable into the wall.

The outside block pulley and inside block pulley must line up for proper main cable operation.  
**\*\*See next diagram.**

A hole must be drilled through header so the cable can pass through the building.

Interior block pulley should be mounted vertically to direct cable down towards winch.

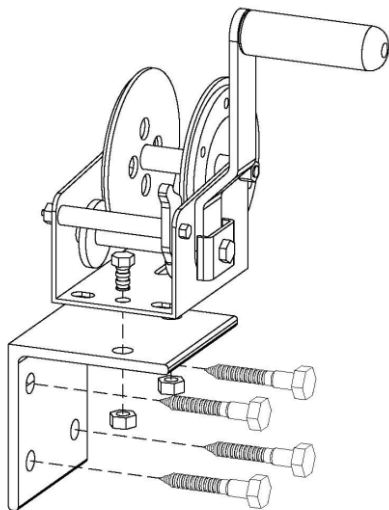
Brake winch and bracket should be mounted at suitable height for operator with handle facing away from wall. The main cable should wrap several times around drum and secured to drum.




---

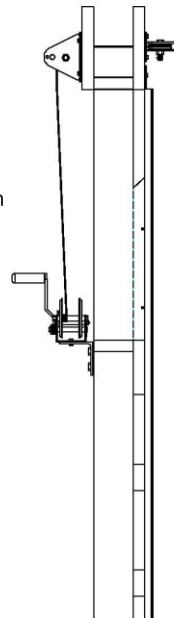
# Appendix A3 - Manual Winch Installation

Manual drive units are interchangeable from right-hand to left-hand.  
**\*\*Illustration is for a right hand drive unit**

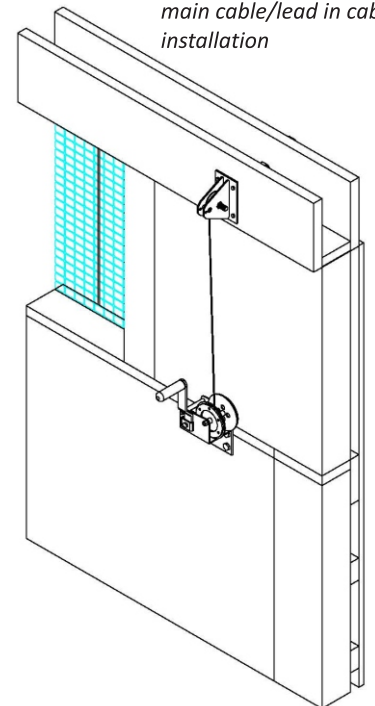


To mount winch on wall, find suitable location directly beneath end pulley bracket so cable stays straight. Mount winch bracket to wall with lags provided and mount winch to bracket with nuts and bolts provided. Install handle to winch to begin operation.

Connect lead in cable to winch by threading cable through winch drum and gathering slack cable on drum.



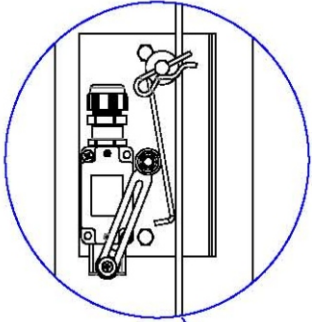
*Overall view of completed main cable/lead in cable installation*



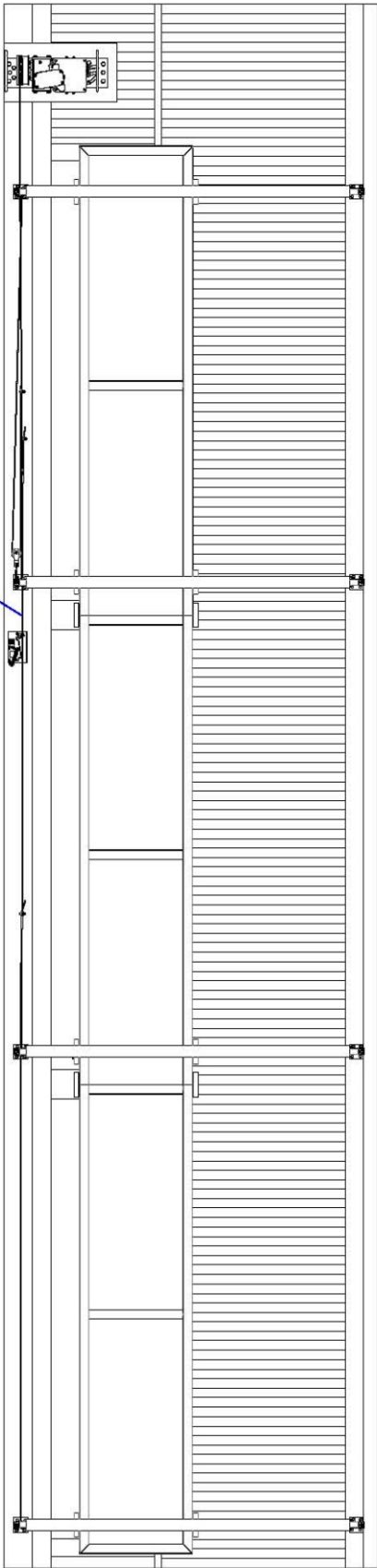
# Appendix A4 - Panel Switch Mounting

Mount Panel Limit Switch between 2nd and 3rd guide pipe from drive end.

When switch is mounted, push cable down and you should hear switch click, when you release cable you should hear switch click again.



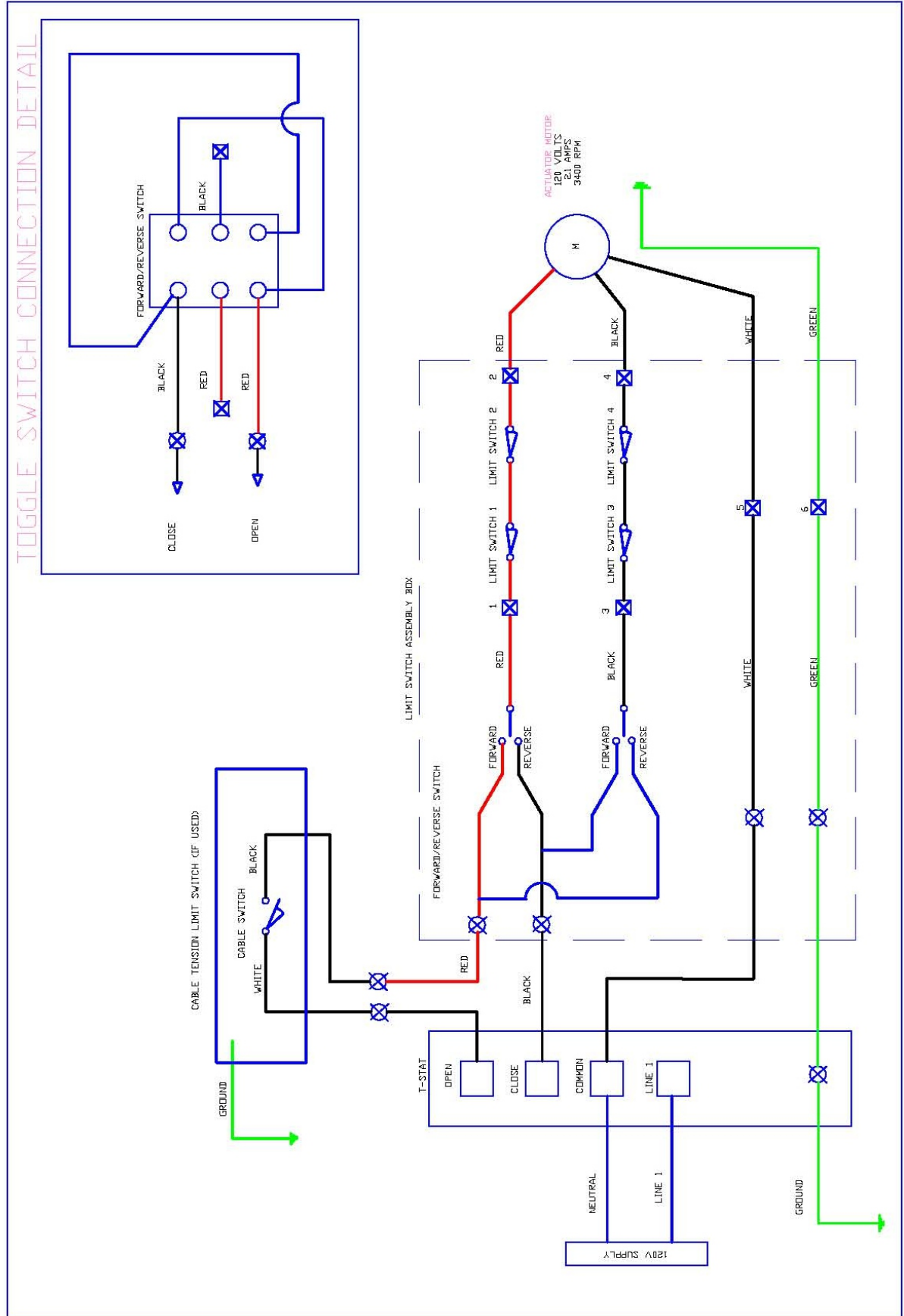
Main Cable



1 TITLE  
A1



# Appendix A5 - Panel Switch Wiring



1 TITLE  
AT

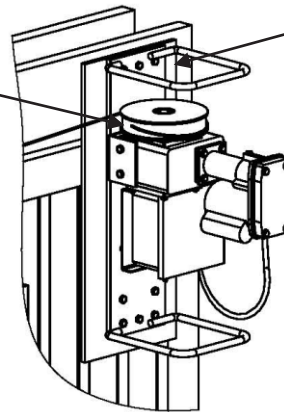
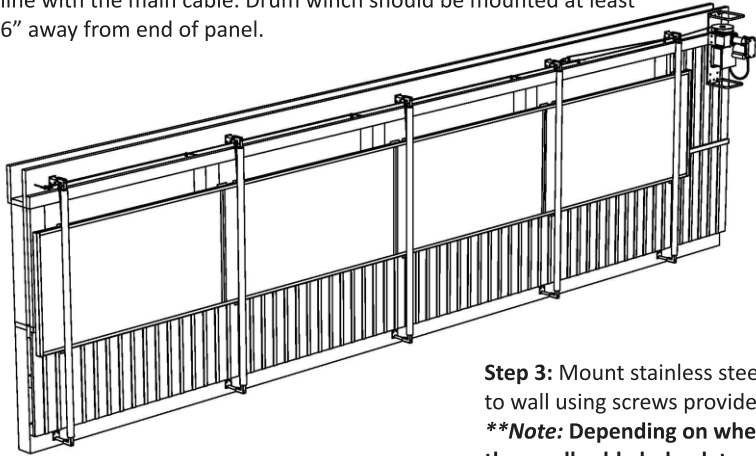
# Appendix A6 - Automatic Drive Unit Installation

Automatic drum winches can be a left or right hand drive unit.  
 \*\*For illustration purposes, the diagram below depicts a right hand drive unit.

**Step 2:** Wrap lead in cable around wall side of drum, thread through cable hole in drum, and clamp with cable clamp provided on outside of drum.

**\*\*Note:** cable should wrap 1-1/2 to 2 times around drum before connecting.  
 Trim off excess cable pulled through drum hole.

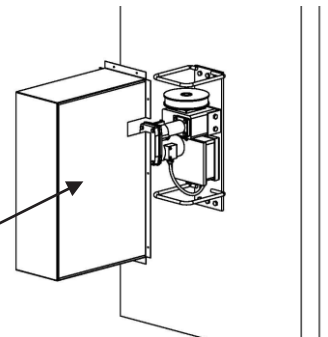
**Step 1:** Mount drum unit on a pre-blocked area (12" x 24") with cable drum at the top. The centre of the cable drum should be in line with the main cable. Drum winch should be mounted at least 6" away from end of panel.



**\*\*Note:** Pre-blocked area should be a minimum 14" wide x 36" high x 3" thick, and flush with the top header board.

**\*\*Note:** It is best to have only one layer of cable on drum surface.

**\*S.S. Cover dimensions:**  
 11" w x 30-1/2" h



**Step 3:** Mount stainless steel cover over top of drum unit and attach to wall using screws provided.

**\*\*Note:** Depending on whether it is left hand or right hand drive, the small cable hole plate may need to be switched to opposite side.

# Appendix B1: Limit Switch System

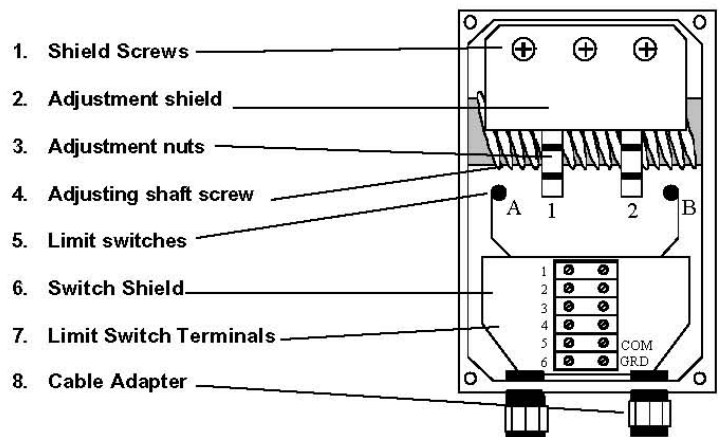
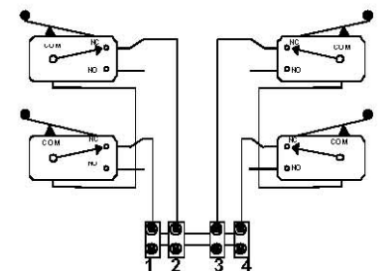
- Remove adjustment shield 2.
- Momentarily jog to verify that it is clockwise rotation. Adjusting nut 1 must be traveling towards limit switch A.
- If unit is rotating in the wrong direction, reverse motor leads or reverse limit switch connections such that wires 1 and 2 connect to terminals 3 and 4 and wires 3 and 4 go to terminals 1 and 2 respectively.

**Note:**

**Depending on right hand or left hand positioning of drive requires opposite rotation.**

- While motor is running in the clockwise direction turn adjusting nut 1 with screwdriver or finger until desired vent location and the motor is stopped.
- While holding adjusting nut 1, adjust in the counter clockwise direction by repeating step d) using adjusting nut 2 and limit switch b.
- Replace adjustment shield 2 in reverse position from which you received it from the manufacturer ensuring that the shield edge retains the adjusting nuts in place.
- Replace cover to avoid dirt and humidity entering limit switch compartment.

**Limit Switch System**





## Finishing Tips and Touches

- 1) It is very critical to make sure all guide posts are vertically straight to ensure panel does not bind while moving up and down the posts. In the closed position, adjustments can be made on pull up cables to ensure proper seal against top of opening and that the panel is level along the wall. Adjustments can also be made on elbow brackets to slide panel closer to or away from wall for proper weather seal. When closed, rubber molding should be partially folded over and touching bottom of top board and pulled up slightly on bottom of bottom board. These are the critical seal points for panel closure.
- 2) Double check all pull up pulleys and end pulleys (where required) to ensure smooth operation. Check all cable movements and ensure that no cables or clamps are getting caught or truck which will result in panels not operating properly.
- 3) Make sure PVC raincaps are installed properly so they do not interfere with movement of panel glides on guide posts.
- 4) Check clamp connection between main cable and lead in cable to prevent separation of cables, which will result in panels falling.
- 5) Use a small piece of electrical tape to tape off all loose ends of pull up and main cables to prevent fraying of cable ends.

### **WARRANTY POLICY**

Faromor Ltd. Warranty Policy covers all parts manufactured and supplied by Faromor. Warranty starts from date of initial installation of product and lasts one (1) year.

Faromor will also give full warranty on any installation labour we provide for a period of up to one (1) year from date of installation.

All digital thermostats have a two (2) year full warranty.

## PANEL SYSTEM SAFETY

**NOTE: ALL INSTALLATION OF ELECTRICAL CONTROLS SHOULD BE DONE BY A QUALIFIED ELECTRICIAN.**

### General Operation

- Panels should only be operated when the owner or other responsible persons are in the facility.
- Unauthorized persons or small children should not be near or have access to the outside or inside automatic/manual drive units as they may result in injury. Do not attempt to stop any automatic drive unit by hand while it is in operation.
- Do not attempt to adjust cables or pulleys while system is in operation.
- When making adjustments to automatic drive units, ensure that the override switch is in the “off” position so that the curtain cannot start while any work is being completed.

### Protective Covering

- Ensure that all drive units (manual or automatic) have the covers installed where applicable.
- Electrical motors mounted on outside of building should be covered to prevent damage.

## PANEL SYSTEM MAINTENANCE

### SOLAR/CLEAR VU/VIP

- All cables (main and pull-ups) should be checked on a monthly basis to ensure proper operation. Over time, some cables may stretch causing uneven pull up of panel system. Where necessary, loosen cable clamp, pull cable tight and re-fasten clamp when panel is level.
- Ensure all cable clamps are tightly secured so it does not result in drop cables coming loose.
- Check all pulleys for excess wear on wheels that may cause cable to get caught.
- Periodically check over aluminum panel joiners top and bottom to ensure they are fastened tightly.

**NOTE: FOR ANY SERVICE ON THERMOSTATS OR AUTOMATIC DRIVE UNITS, PLEASE CONTACT A SERVICE REPRESENTATIVE FOR ASSISTANCE. FOR ADJUSTMENT OF LIMIT SWITCHES SEE INSTALLATION MANUALS – ELECTRICAL SECTION.**

### General Cleaning:

- Use mild soap or detergents for cleaning any of our Faromor products – do not use solvents or aggressive cleaning agents.
- High pressure washers can be used on all products but maintain a minimum distance from product of approximately 1m so as not to put too much pressure on the material – especially fabric curtains.
- Ensure rolling curtains are in the fully closed position when washing so that excess water does not get caught in the rolls of the fabric – allow the water to run completely off the curtains.
- Avoid direct pressure on any curtain area that has an existing hole or ClearVu panel that has an existing crack – the added water pressure may cause more damage at those locations.
- **FOR DRIVE UNITS** – it is recommended to do a simple hand cleaning of the units with warm water and avoid excess water around the motor, wiring or vent plugs so no water will enter the gears or damage the wiring – this will cause premature failure.

**NOTE: DO NOT USE HIGH PRESSURE WASHERS OR WATER OF ANY KIND TO CLEAN DRIVE UNITS OR THERMOSTATS – THIS WILL DAMAGE THE UNITS.**