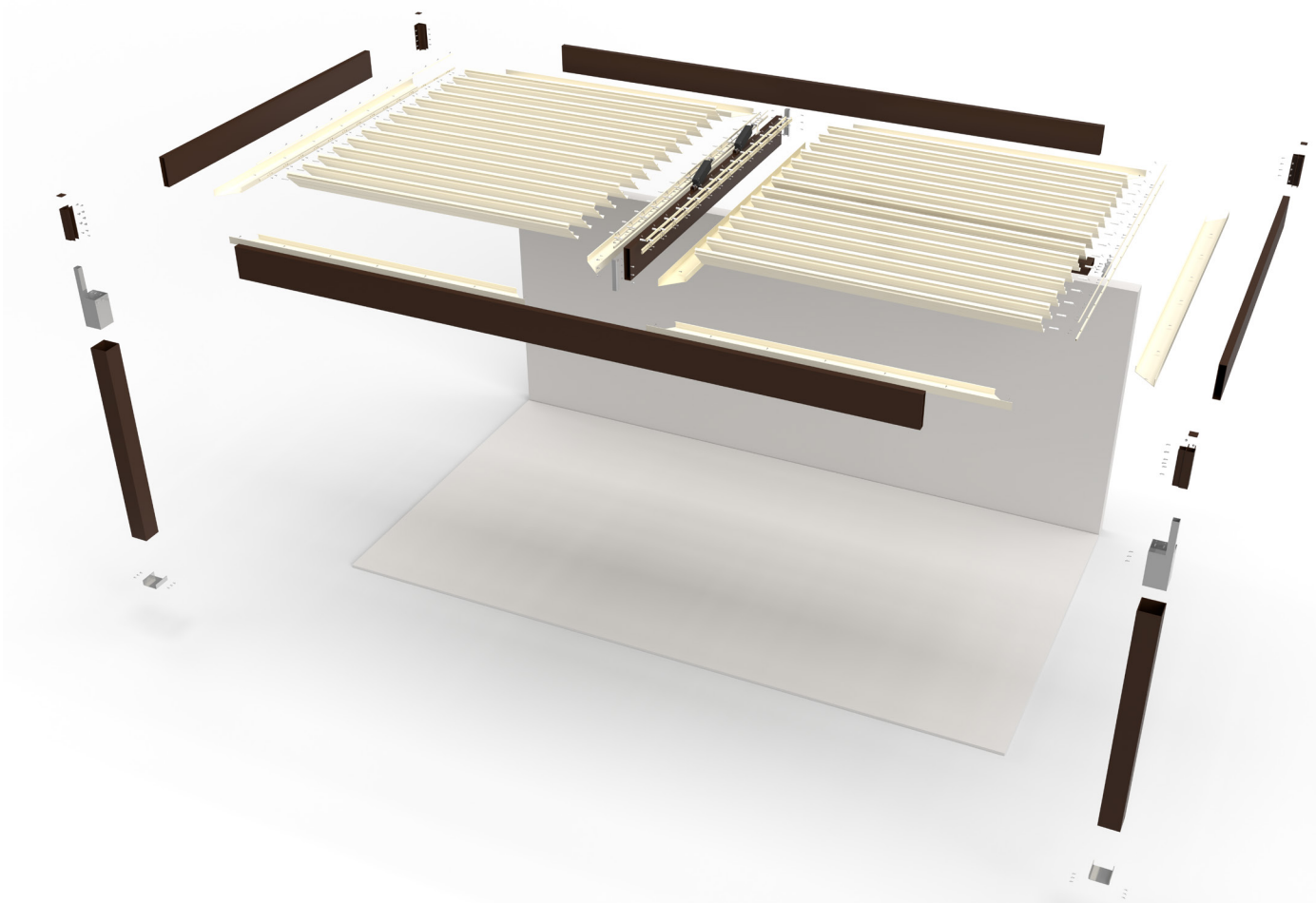




APOLLO
LOUVERS MADE SMART

INSTALLATION GUIDE



THE ULTIMATE ADJUSTABLE PATIO COVER SYSTEM

CONTEMPORARY DESIGN / SUN / SHADE/ RAIN/ TEMPERATURE CONTROL

(866) 241-2792 | info@apolloopeningroof.com



























Table of Contents

Tools List	1
Installation Steps	2
Plan Ahead	2
1. Control Box	3
2. Cut/Install Frame.....	7
3. Support Track	9
4. Gutters	11
5. Prepare Louvers	12
6. Louver Orientation & Installation	13
7. Locking Cap	14
8. Control Bar	15
9. Motors.....	16
10. Actuator Bracket to Control Bar	18
11. Check Motors & Controller.....	21
12. Install Remaining Louvers	21
13. Downspout.....	21
Technical Support	21
Programing	22



Tool List: Quick Reference Guide

 <input type="checkbox"/> Safety Goggles	 <input type="checkbox"/> Face Shield	 <input type="checkbox"/> Hearing Protection	 <input type="checkbox"/> Work Gloves
 <input type="checkbox"/> Welders Pencils for Easy Marking	 <input type="checkbox"/> Painters Masking Tape	 <input type="checkbox"/> Multi-Mark for Support Track Accuracy	 <input type="checkbox"/> Tape Measure
 <input type="checkbox"/> Laser Level	 <input type="checkbox"/> Tarp	 <input type="checkbox"/> Ladders	 <input type="checkbox"/> Shop Vacuum
 <input type="checkbox"/> 18 Gauge Wire	 <input type="checkbox"/> Wire Snake	 <input type="checkbox"/> Sawhorses	 <input type="checkbox"/> Deburring Tool
 <input type="checkbox"/> Sliding Miter Saw	 <input type="checkbox"/> 96 Tooth Blade	 <input type="checkbox"/> Step Bit	 <input type="checkbox"/> Circular Saw
 <input type="checkbox"/> 5/8 Drill Bit	 <input type="checkbox"/> Spyder Carbide 2.25" Information	 <input type="checkbox"/> Magnetic Bit Drivers	 <input type="checkbox"/> 10" Magnetic Bit Holder
 <input type="checkbox"/> Cordless Impact Drill			

Spyder Carbide 2.25" Link: <https://spyderproducts.com/2-1-4-tungsten-carbide-tipped-hole-saw/>



Pro Tip: Measure twice and cut once! Replacement parts are not available at your local Home Depot or material supply store!

Note: Avoid galvanic corrosion. Any steel that will be in direct contact with the Aluminum components should be galvanized or well painted.

Installation Steps:

Plan Ahead

Carefully review these instructions and review your job specific plans before installation, and call Apollo with any questions.



Pro Tip: Use care in handling! Finished surfaces can be easily scratched. When possible, always cut on the side that will be hidden. Such as: on the side of the gutter that goes against the beams, or the side of the beams that will face toward the inside of the bays. Use duct tape or other surface protection on tool surfaces (saw bases, jigsaw footplate, clamp surfaces, etc), and cover working surfaces such as sawhorses and tables that Apollo components will be in contact with to help avoid scratching. (If you do scratch them - hide them behind gutters or face up and away from common view)

Note: #14 (larger) TEK screws are for frame-to-frame connections. #10 (smaller) TEK screws are for the track and gutter.

- i. Determine location for the control box (wall, under eave, attached to Apollo frame, etc.) so that it is easily accessible for wiring, programming, troubleshooting and repair.
- ii. Develop a wiring layout plan. Choose whether the wiring will be located inside the frame or on the top of the frame.
* Check local codes.
- iii. Determine the opening direction of the louvers (i.e. clockwise or counterclockwise).
- iv. Identify where the motor(s) will be located.
- v. Prepare what water drainage method you will use (Apollo does not include downspouts)
Examples: Standard downspout, rain chain, scupper, through post



1. Control Box



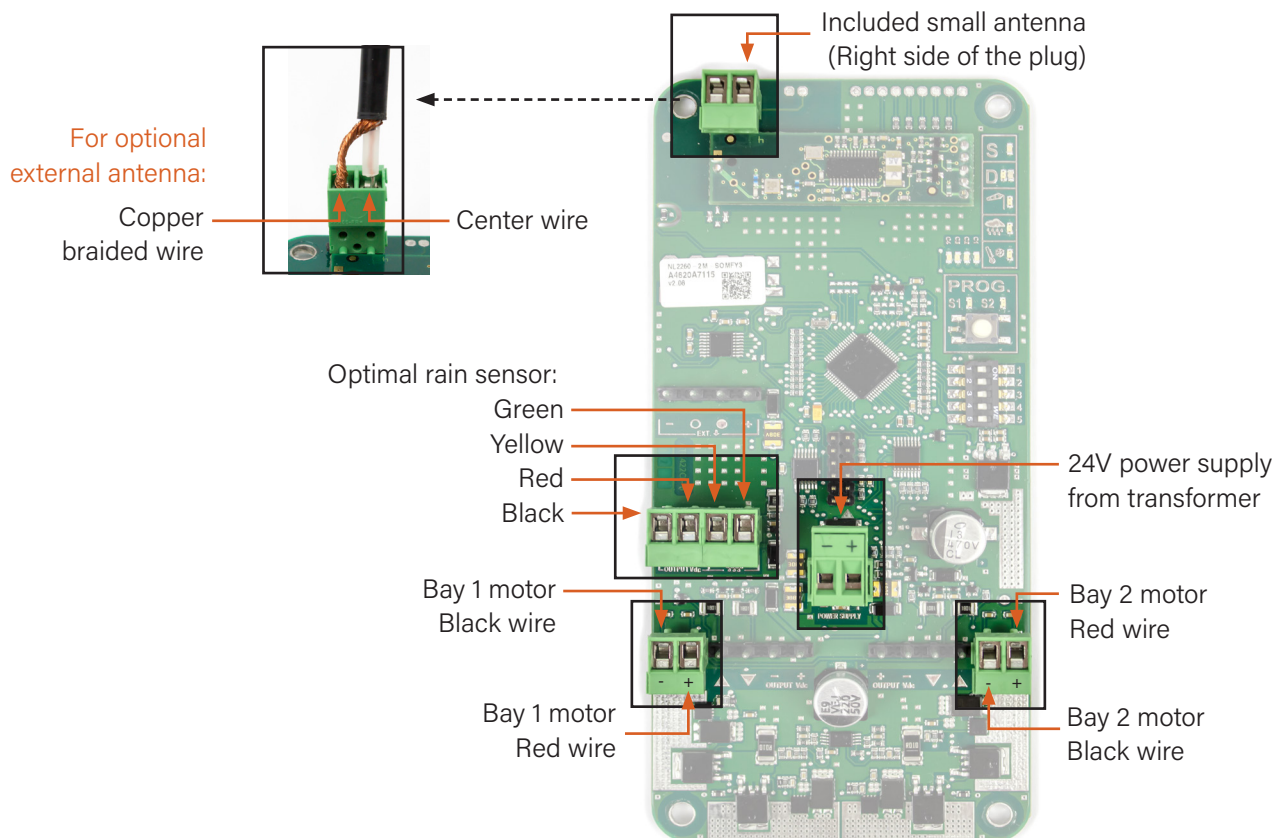
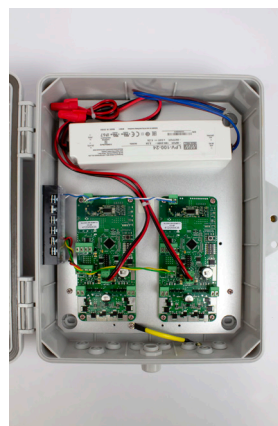
Note: The freeze protection sensor located on the Somfy Control Systems will not work properly if the control box is installed in an area without exposure to the cold weather. (Ex. If installed inside the house, under outdoor kitchen cabinetry, by an exhaust vent, etc.)

1.1 Identify Control Box location and attach. Do not connect to 120v power until motors are connected.

Somfy Control Systems:

SC-2: Up to 2 motors

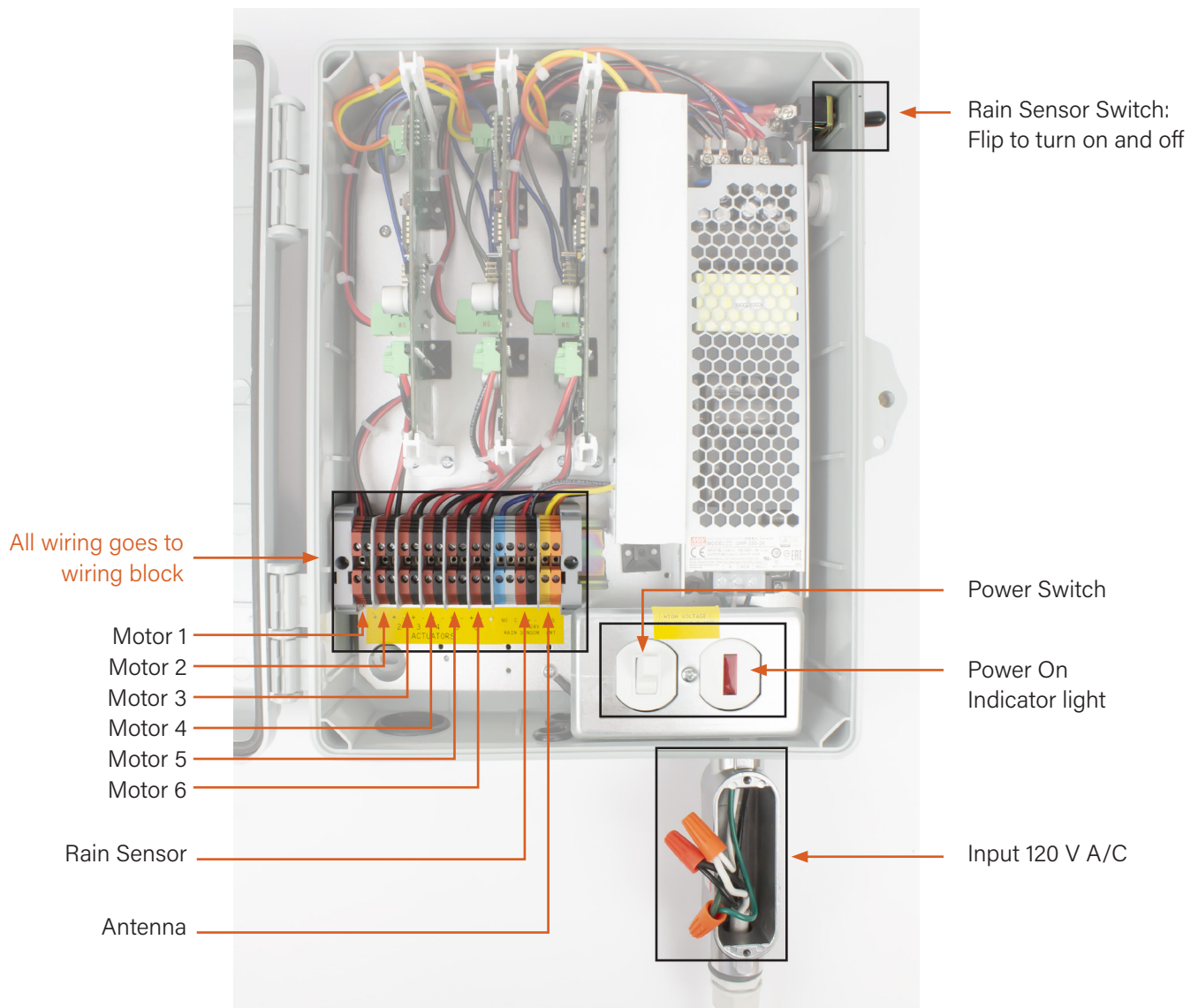
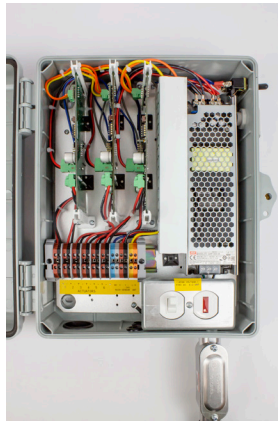
SC-4: Up to 4 motors





Somfy Control Systems Cont.

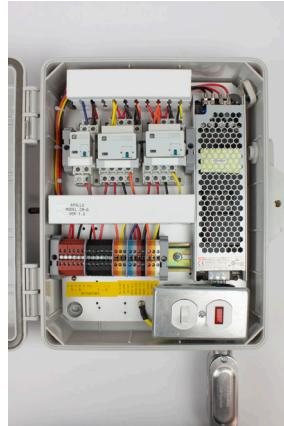
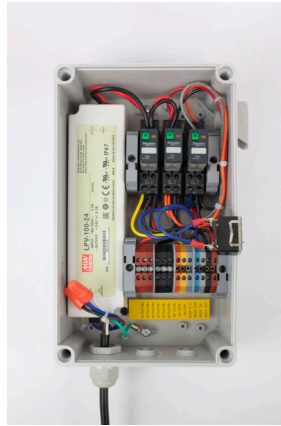
SC-6: Up to 6 motors





Momentary Switch/Manual Control Systems:

CM-3: Up to 3 motors CM-6: Up to 6 motors





Splicing The Motor Wire

- Locate motor position on beam as shown on page 16.
- Drill 5/8" access hole for motor wire 6"-10" behind the motor's clevis bracket.
- Run power wires up through the access hole in the top of the beam; through the access hole in the bottom of the junction box. (Figure 1)
- Attach the junction box to top of the system's frame directly above the access hole using the attached double sided tape.
- Run motor wiring through the cable gland. (Figure 1)
- Insert wires into the inline splice connector and clamp down levers. (Figure 2 & 3)
- Maneuver the inline splice connector down into the junction box.
- Tighten the cable gland to ensure waterproof seal.
- Screw top of junction box on.

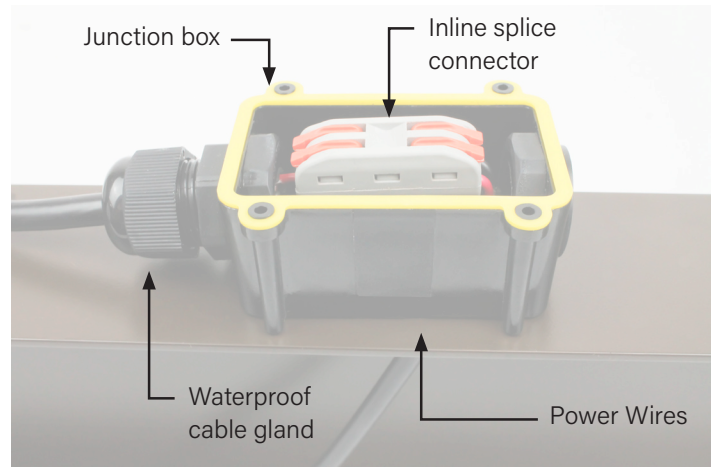


Figure 1.



Figure 2.

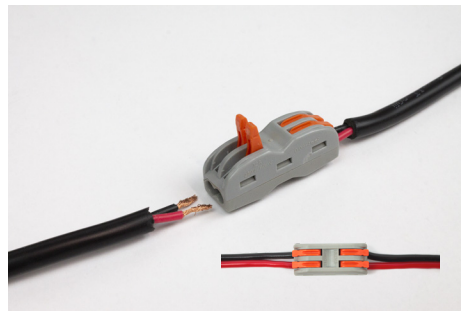


Figure 3.



Figure 4.



2. Cut and Prepare Frame for Installation and Wiring



Pro Tip: While beams are at a comfortable working height on protected sawhorses, PRIOR to erecting frame, install support track to frame and temporarily install locking cap over support track, for ease of final installation. Also, connect the actuator bracket to the control bar in the same location that the motor will connect to when fully assembled. See pages 9-10 for instructions.

Pro Tip: Pre-drilling holes prior to installing TEK screws makes for a cleaner installation. Use 1/8" drill bit to predrill #10 TEK screws, and a 3/16" drill bit for #14 TEK screws.

Note: For proper mechanical operation, it is CRITICAL that louver bay openings are SQUARE.

Pro Tip: Use a short cut-off from a frame or post as a jig to be used as a template for the placement of the U-brackets. (Ex. U-bracket that holds the center rafter to the ledger or fascia beam)

- Deburr all cut edges.
- Recommend that the frame be sloped 1/2" per 10' in the direction of water drainage.
- If you are installing the motor, rain sensor, or additional wiring inside of the frame, deburr all holes and feed wire through the frame during the installation of each framing component.
- During the framing process, do not install connection screws in the lower 2 1/4" of the beams, until after the gutters are installed.



Watch our "How to" Video for Reference: www.apolloopeningroof.com/installation-video/



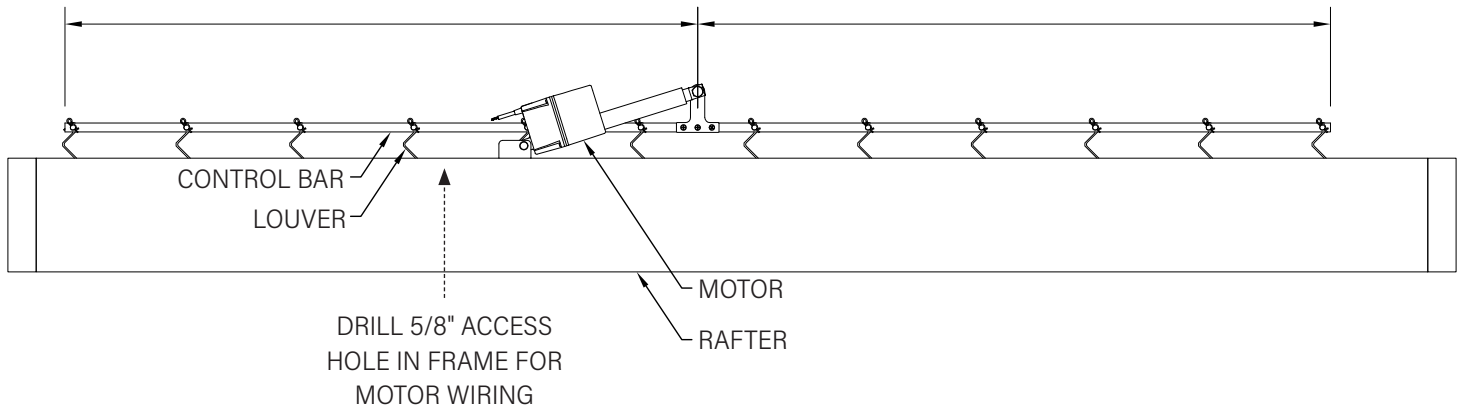
**Plan Ahead for Motor and Rain Sensor Wiring:**

If wiring will be inside of the Apollo frame: **BEFORE** installing the framing, plan for the location of wiring access holes.

Motor Wiring: Use 18-2 stranded wire

Rain Sensor Wiring: Use 18-4 wire

CENTER ACTUATOR BRACKET ON CONTROL BAR BETWEEN TWO
LOUVERS (NEAR THE CENTER OF THE RAFTER) SEE PAGE 16



Important: If installing an optional Rain Sensor, ensure you choose a location where it will **NOT** be sheltered from the rain so rainfall will activate it immediately.



3. Install support track

Pro Tip: Install the support track on the beams before installation of the frame & pre-drill holes for TEK screws.



Note: For (long) louver projections requiring spliced support tracks, ensure that the control pin slots are centered EXACTLY 8" apart. (See page 10)

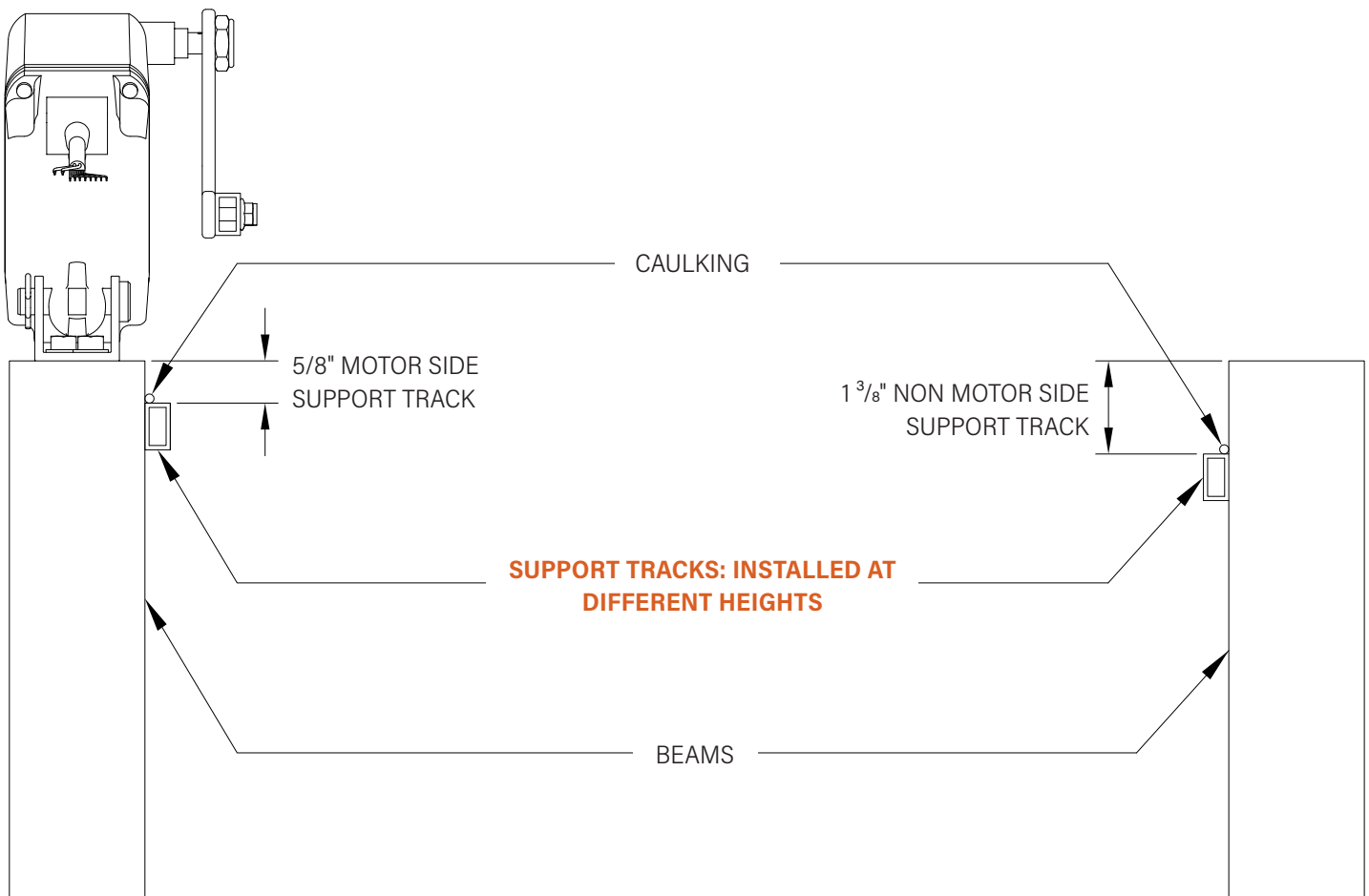
Important Reminder: The overall length of the support track will be slightly shorter than the louver projection. Center the support track so that there is equal clearance on each end.

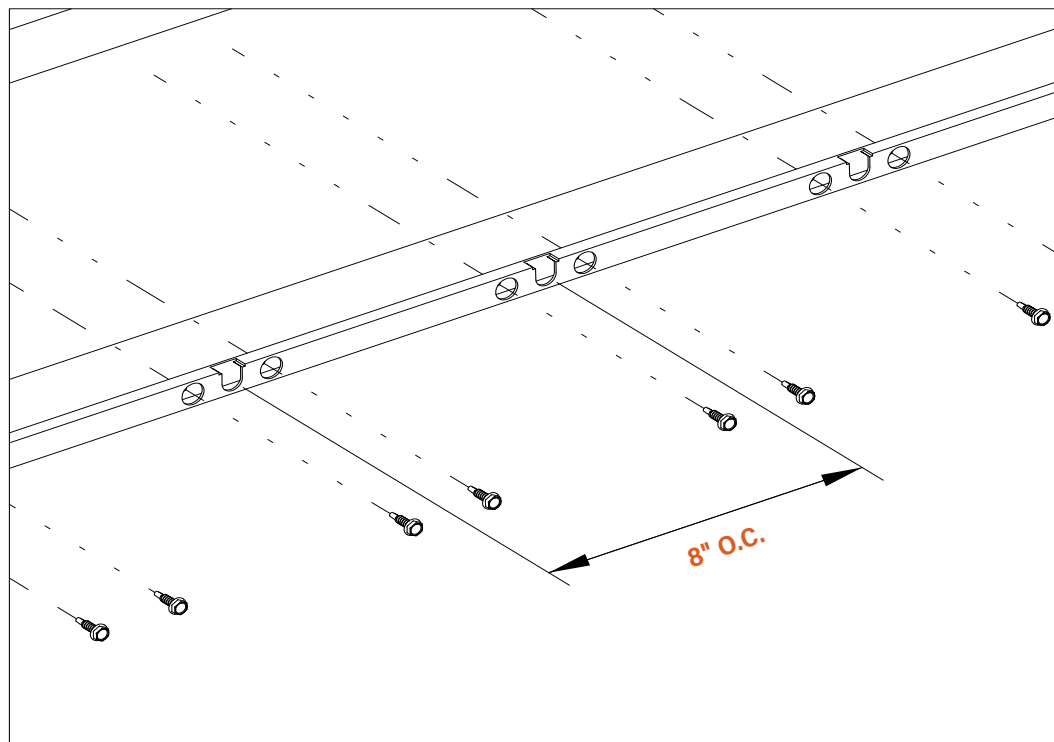
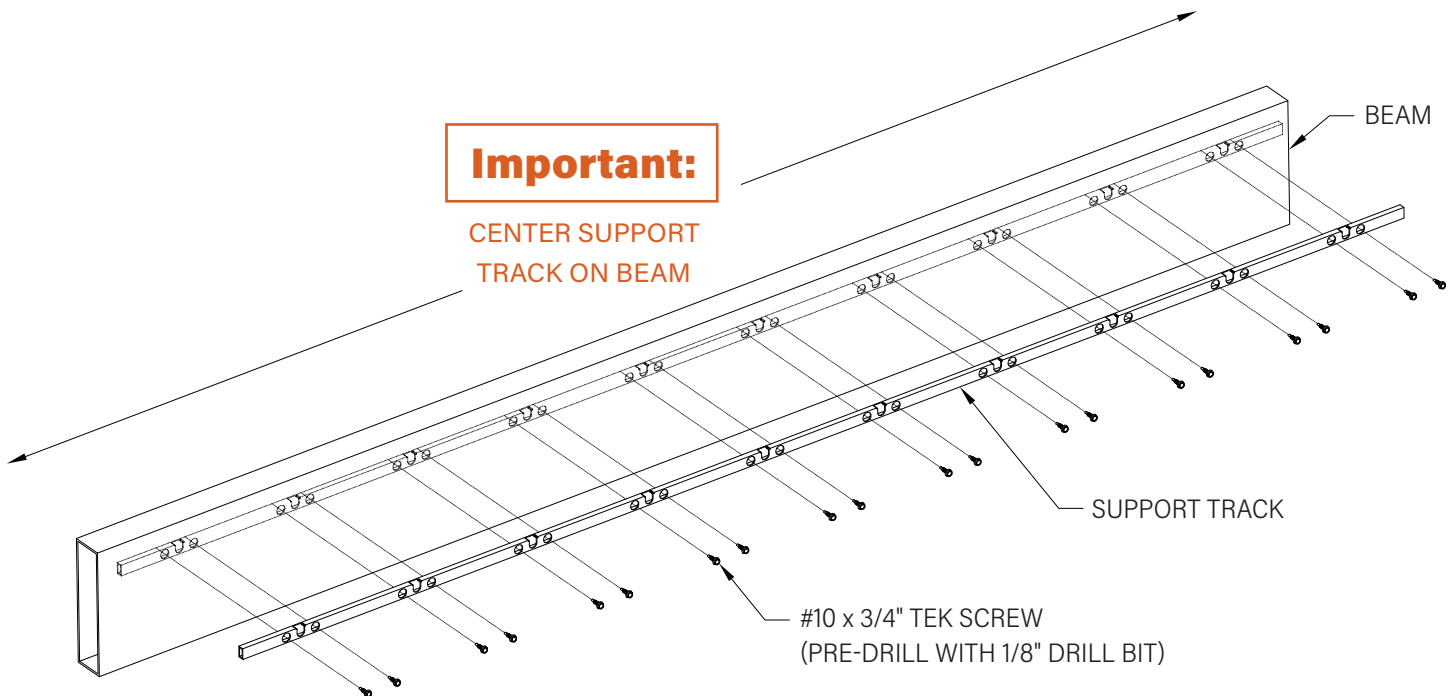
*Note: If you are installing a support track to framing that is NOT Apollo framing: Attach to steel using #10 TEK screws, or attach to wood using #9 wood screws .

3.1 For the support track being installed on the **motor-side** beam: Install the track so the distance from the top of the track to the top of the beam is 5/8".

3.2 For the support track being installed on the **non-motor side**. Install the support track so the distance from the top of the track to the top of the beam is 1 3/8" .

3.3 Caulk the top of the support track where it meets the frame.







4. Install gutters



Note: Deburr all cut edges.



4.1 Select method A or B from drawings below.

*Note: Method A uses square cuts. Method B uses angled cuts and requires exceptional precision.

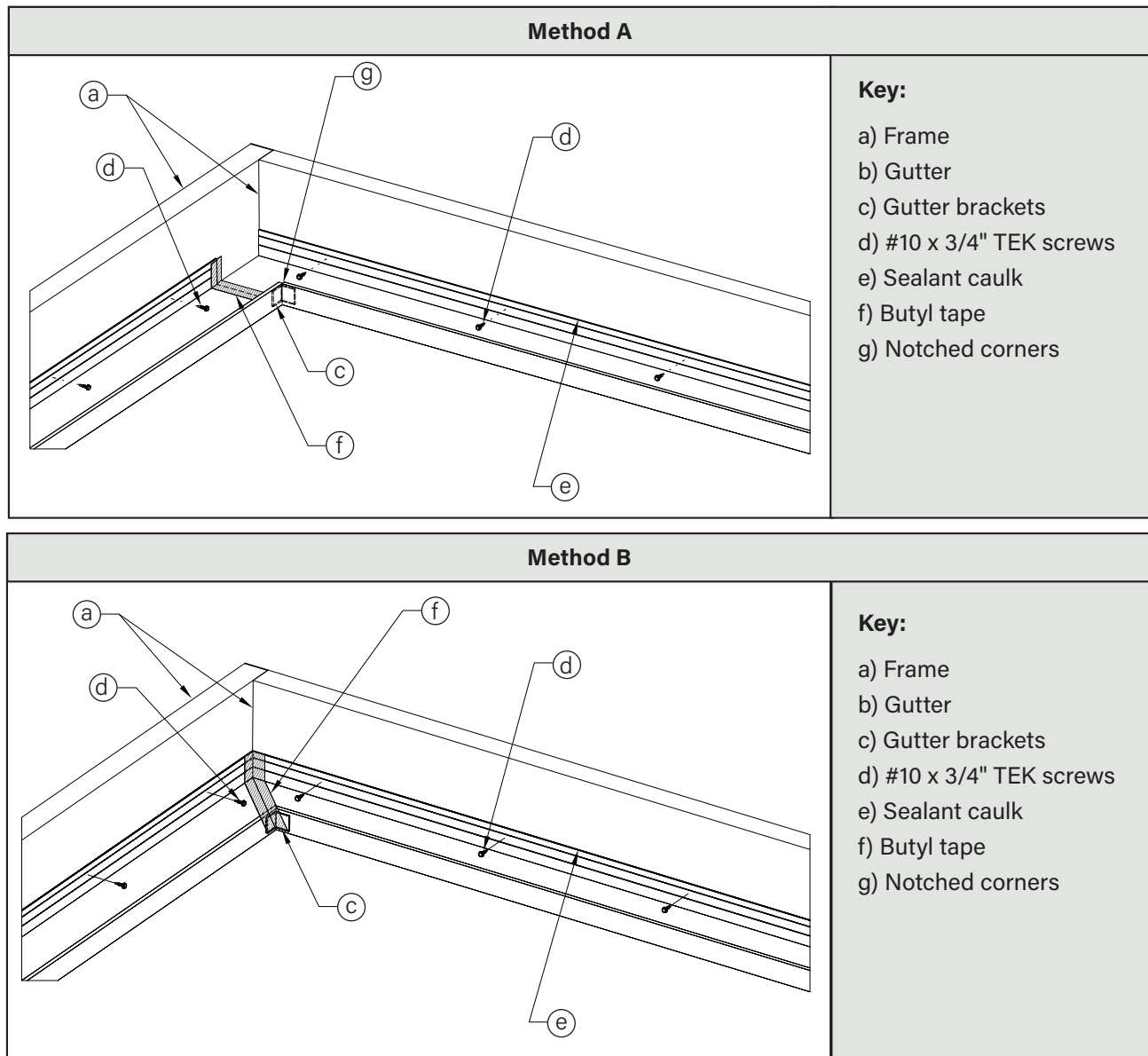
4.2 To prevent rain water from dripping between gutter and beam, apply bead of sealant to back of gutter (or to beam) before installing gutter.

4.3 Attach bottom of gutter flush to bottom of beam. Use #10 TEK screws 16" on center. Pre-drill with 1/8" bit.

4.4 Add gutter brackets to the inside corner where the two gutters meet. This keeps the gutters aligned flush and level. Use sealant to secure in place if necessary.

4.5 Use butyl tape to cover and seal the gutter's seams (f)

4.6 Apply sealant caulk along top edge of gutter (e)





5. Prepare louvers

* If louvers are cut to length, skip steps 5.1 - 5.3.

5.1 Cut each louver to 2 1/2" less than the bay opening.

5.2 If Pivot Pins do **NOT** spin freely, use a 1/2" reamer bit to ream both ends of the pivot pin holes.

5.3 Use countersink bit to bevel pivot pin hole on each end of louver.

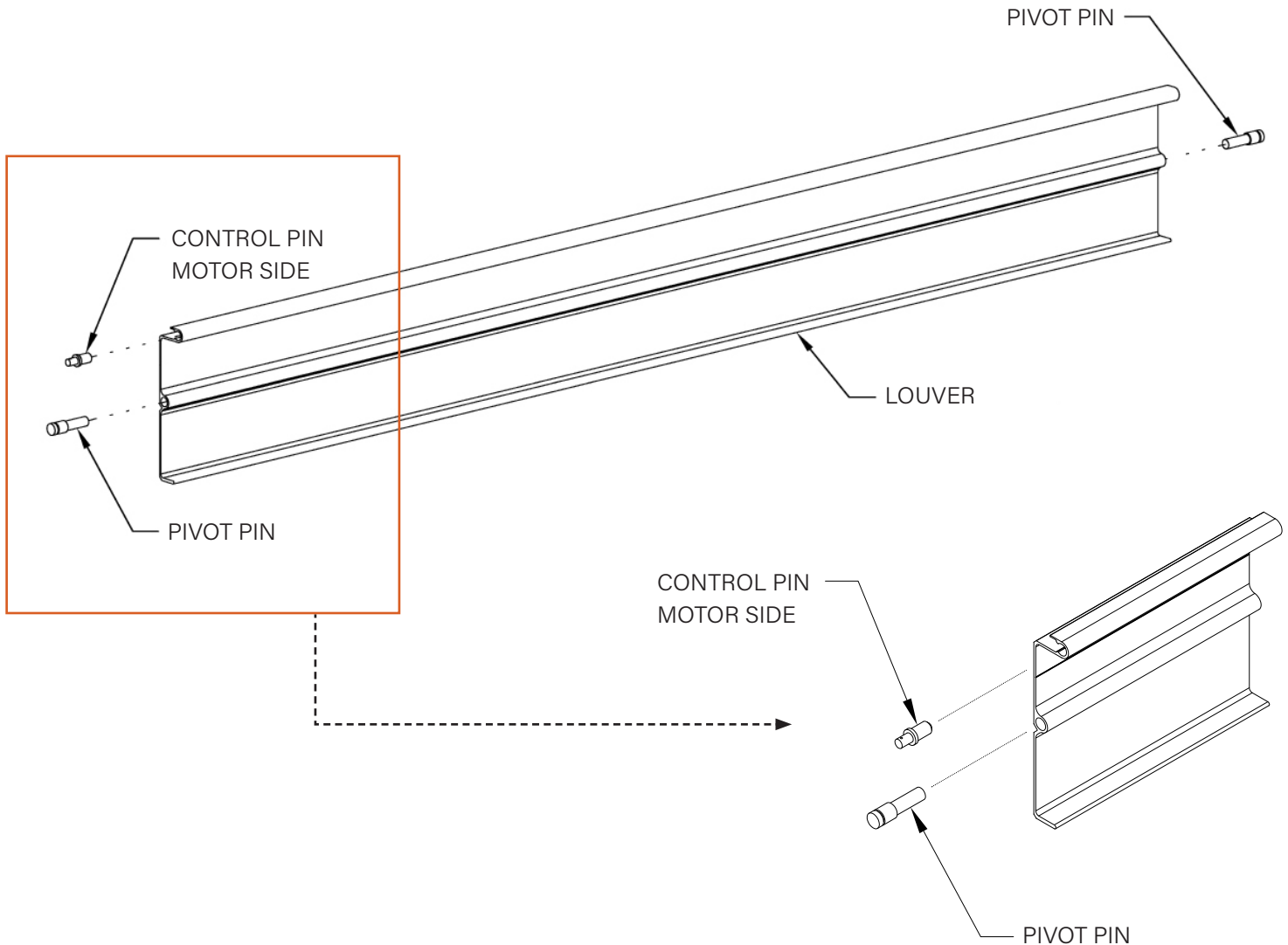
5.4 Deburr all cut edges.

5.5 Insert the control pins into the motor side of each louver.

Note: The fit between the control pins and the louvers should be snug, and it may require a tool to gently tap them in place. Align cotter pin hole in the control pin parallel to the flat section of the louver.

5.6 Insert pivot pins into the center hole at both ends of each louver.

Note: The fit between the pivot pins and the louvers will be loose and they should spin freely.





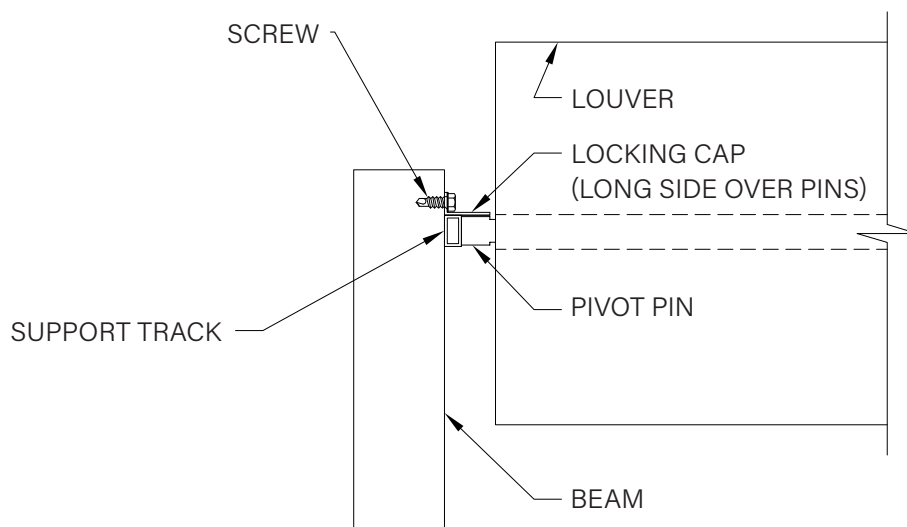
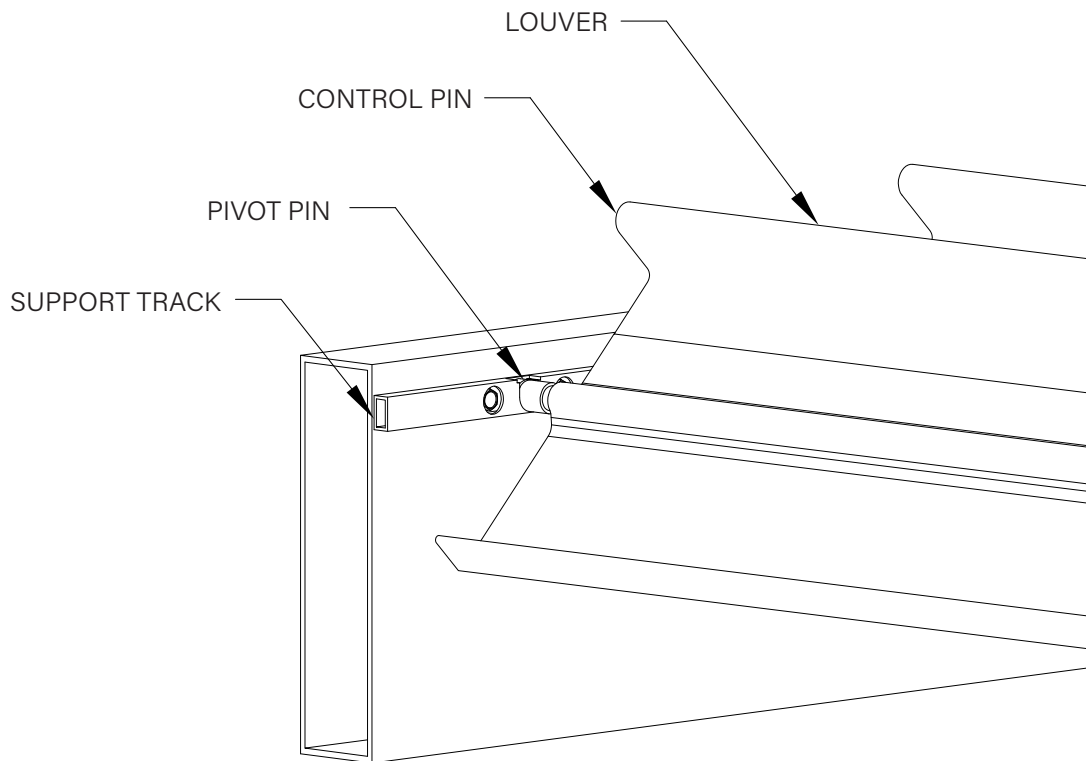
6. Install louvers into track



Pro Tip: Leave 3 to 4 louvers out where the motor attaches for access to mount the motors.

6.1 Install louver with pivot pins into the support track.

6.2 If support tracks are spliced together, verify the fit and clearance between the louvers where the track splice occurs.





7. Locking cap

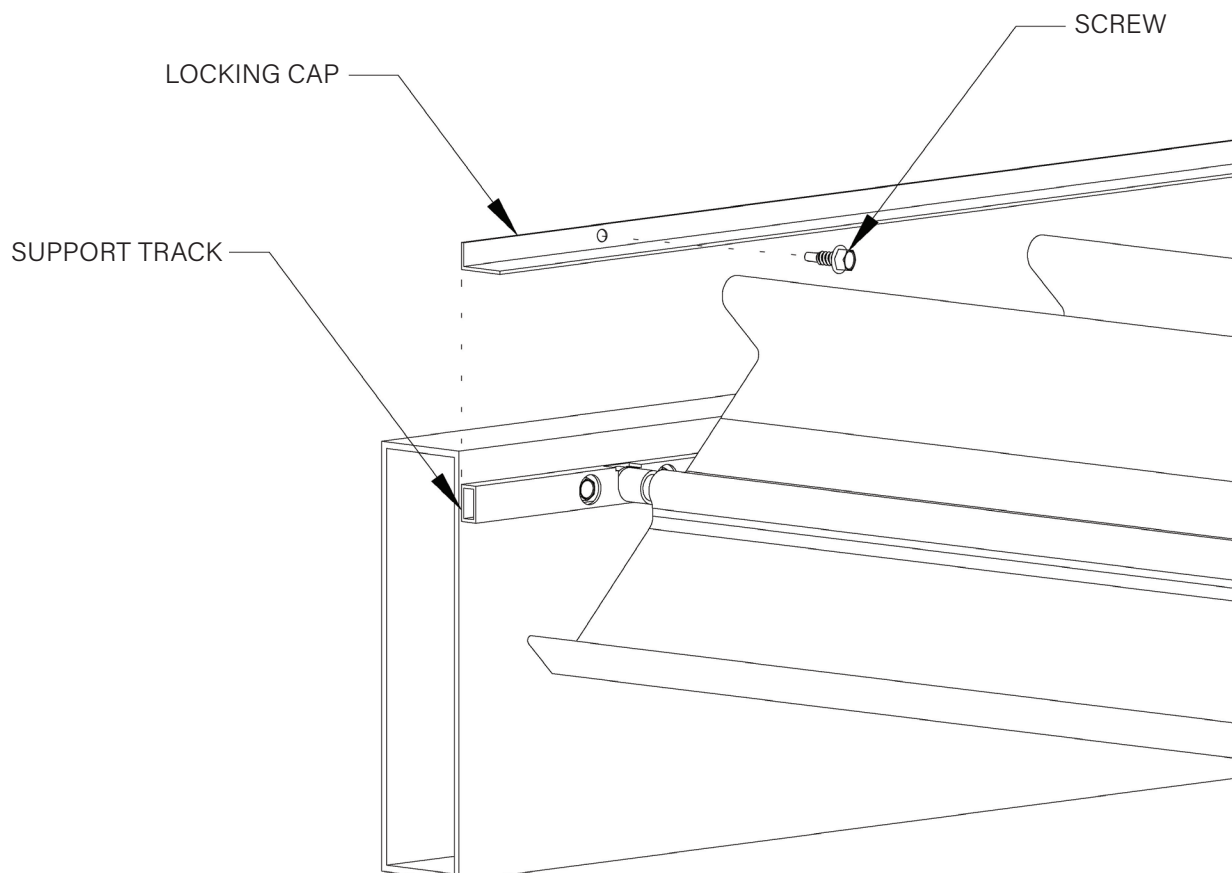


Pro Tip: Cut locking cap into 3 sections, with center section long enough to cover the louvers that will be installed after the motor is connected. This eliminates step 7.3

7.1 Install locking caps so the long side is over the pins.

7.2 Pre-drill and install (1) #10 TEK screw 1" from each end of locking cap **AND** (1) #10 TEK screw between **EVERY** louver - **MANDATORY**

7.3 Leave the center and one end of the locking cap loose until the final louvers are installed (after motor installation).





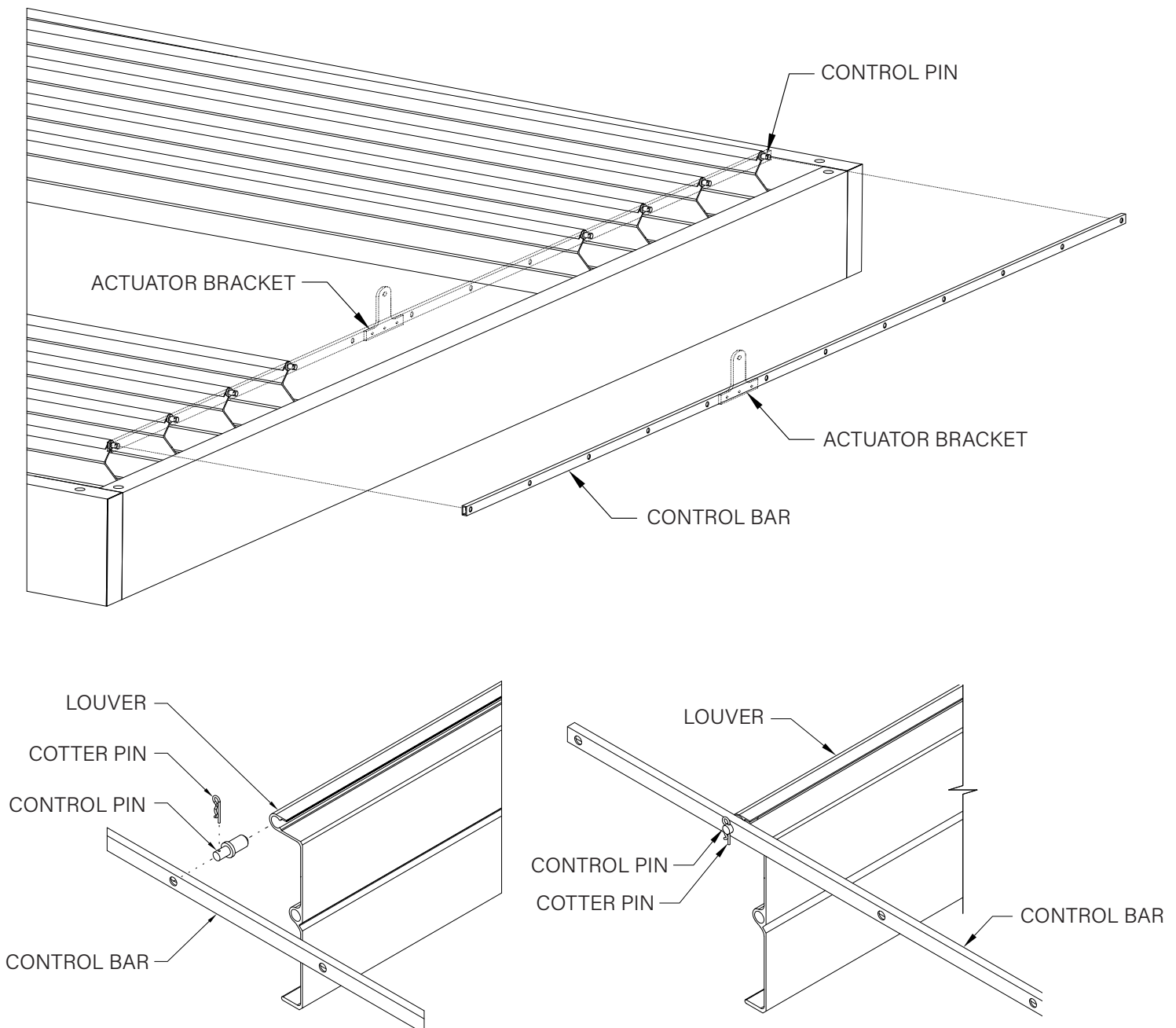
8. Install control bar



Pro Tip: Install actuator bracket to control bar PRIOR to attaching control bar to louver.

Note: Install the cotter pins so that the holes are in the same direction as the louvers. The pins should always be parallel to the bottom of the louvers.

8.1 Gently slide the control bar over each control pin and secure with cotter pins.





10. Install motors



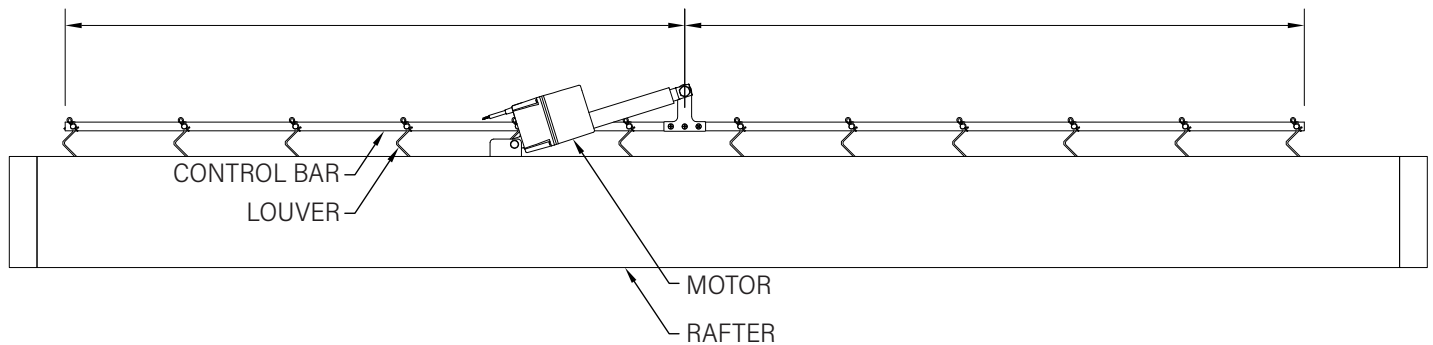
Notes before beginning motor installation:

1. Accuracy in motor installation is critical to proper functioning of the louvers. Improper motor installation may result in the louver system not closing completely.
2. The motor arrives from the factory extended approximately 1/8" so that when the motor closes it will pull a slight tension to the louvers so they are snug and firmly locked closed, which also aids in preventing winds from "rattling" the louvers. Install as is before operating motor.
3. The motor will retract to pull the louvers closed, and extend to push the louvers open.

MOTOR PLACEMENT

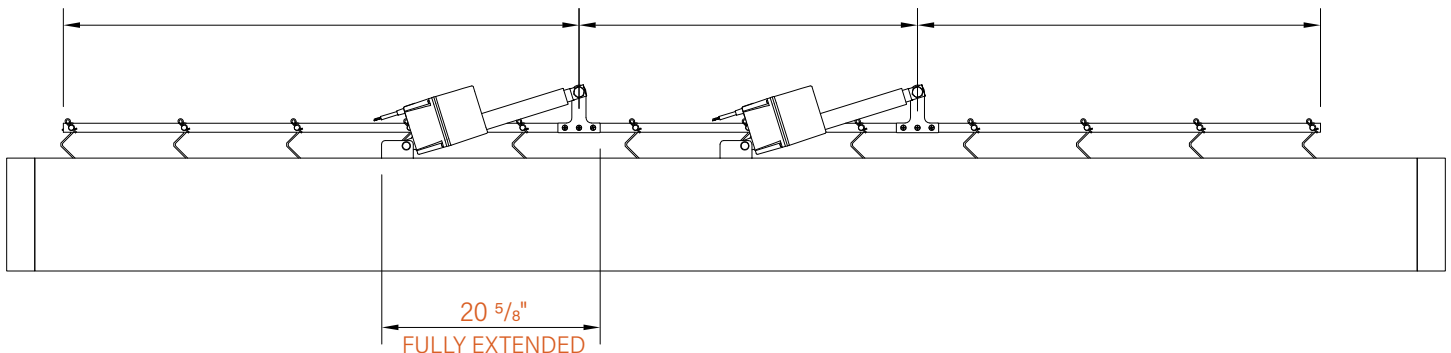
For Single Motor on Rafter

CENTER ACTUATOR BRACKET ON CONTROL BAR BETWEEN TWO LOUVERS (GENERALLY NEAR OR IN THE CENTER OF THE RAFTER)



For Two Motors on Single Rafter

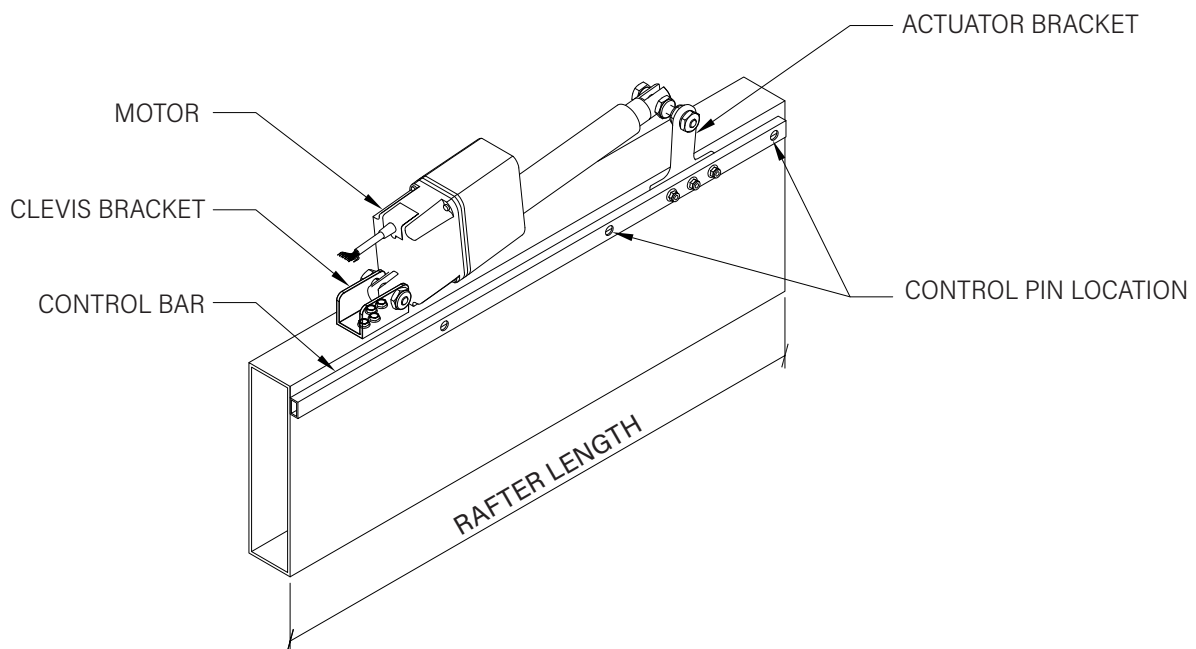
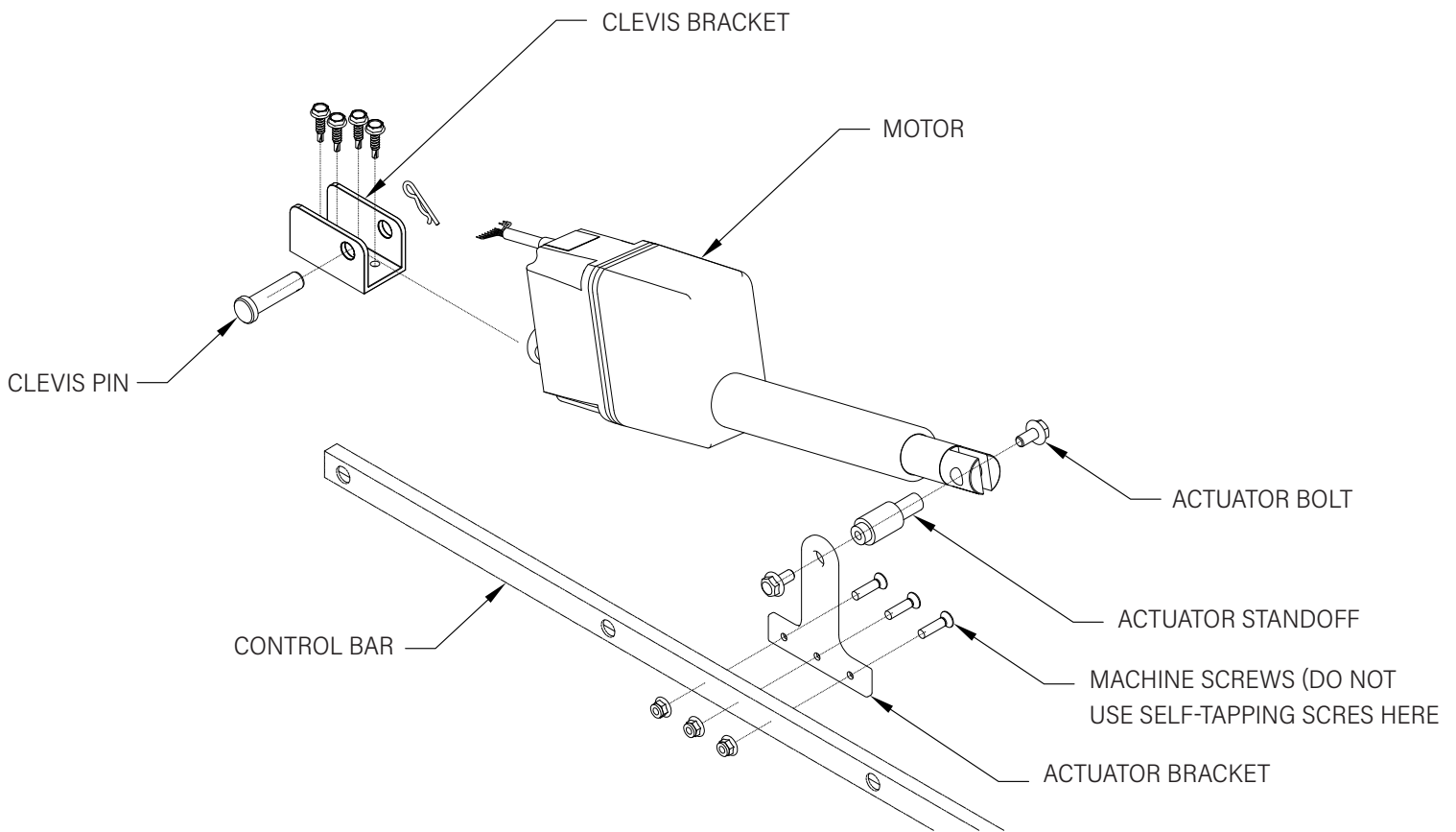
INSTALL 3-4 LOUVERS APART



When installing two or more motors on the same single rafter, the actuator must be spaced a minimum of (3) louvers (or 24") apart to allow the rear motor to extend fully.



MOTOR PARTS

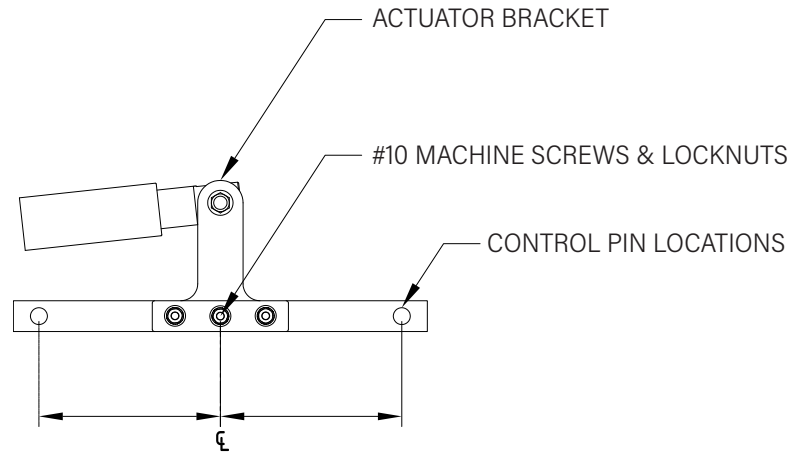




10.1a Attach actuator bracket to control bar between two louvers with supplied #10 Machine screws and locknuts.

Align bottom of actuator bracket with 3 holes flush along the control bar and pre-drill hole into control bar using the holes in the actuator bracket as a guide.

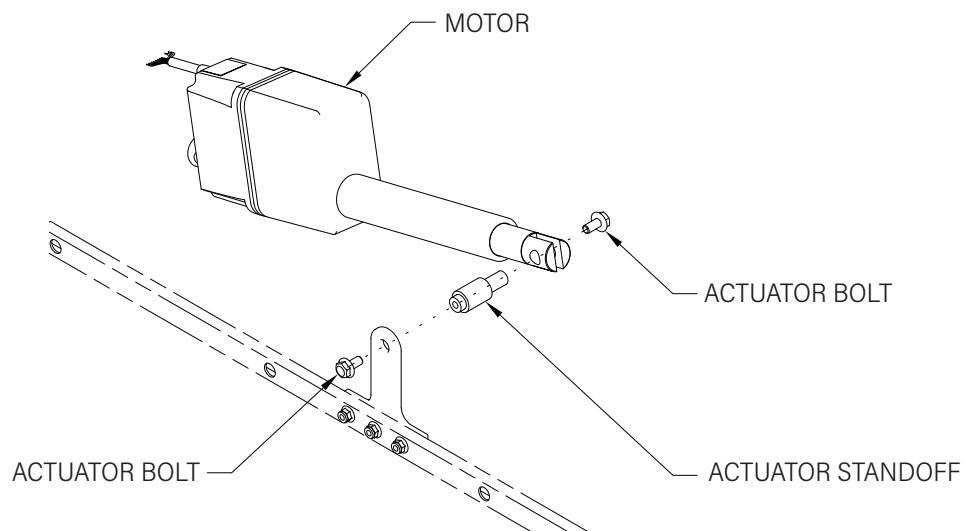
10.1b Actuator Bracket should be mounted to the side of the control bar facing the beam.



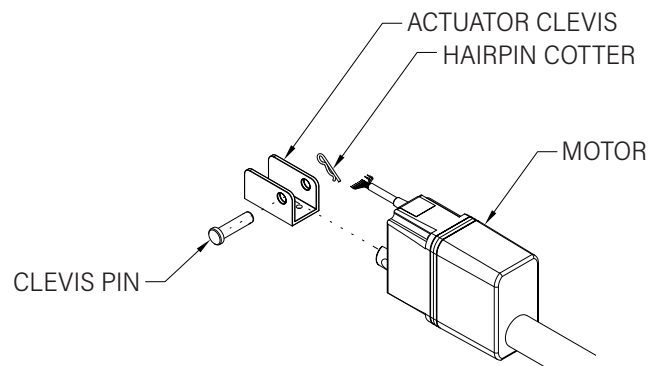
INSTALL BRACKET CENTERED
BETWEEN TWO LOUVERS

10.2 Attach front of motor (long end) to the actuator bracket with the actuator standoff.

*Note: Bolt should be tight, but still allow the actuator bracket to rotate.



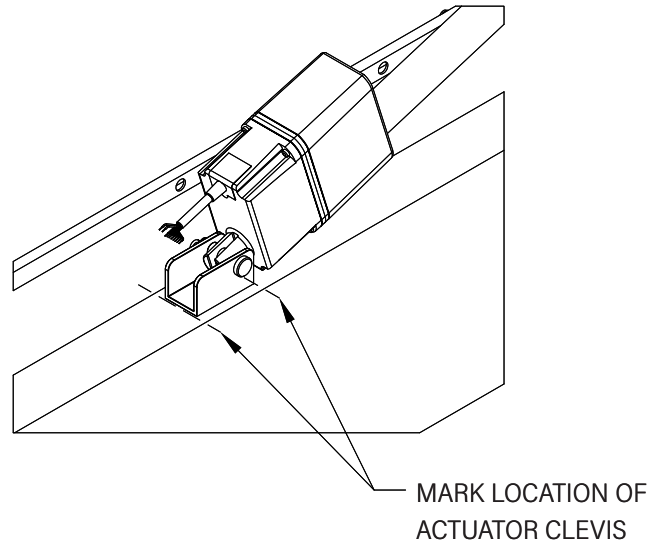
10.4 Attach Actuator Clevis to the rear of the motor with the Clevis Pin and Hairpin Cotter



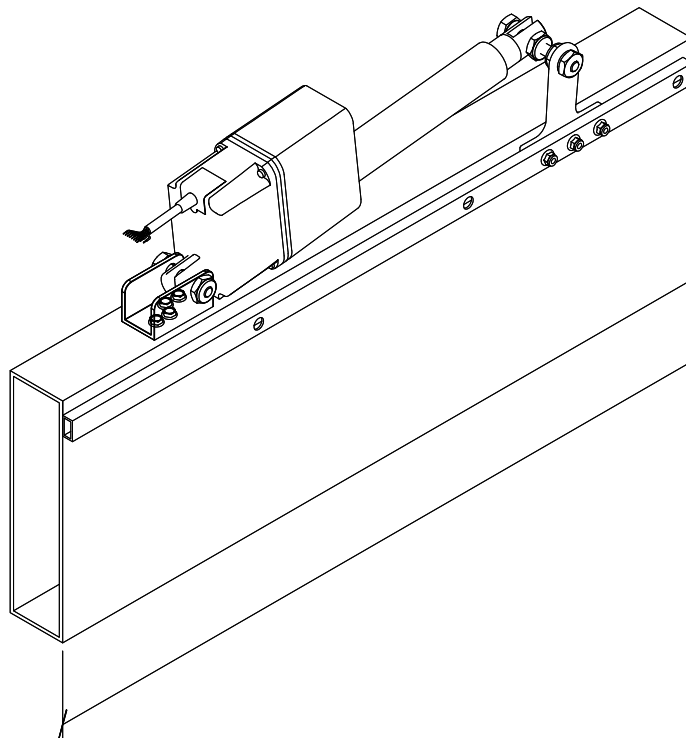


10.5 With louvers fully closed, center the actuator clevis on the beam and mark the screw hole locations.

***CAUTION:** Verify that **ALL** louvers are closed and sitting flat before marking and drilling holes to set actuator clevis.



10.6 Remove the actuator clevis from the motor and fasten to beam using #14 TEK screws into pre-drilled holes that were marked.

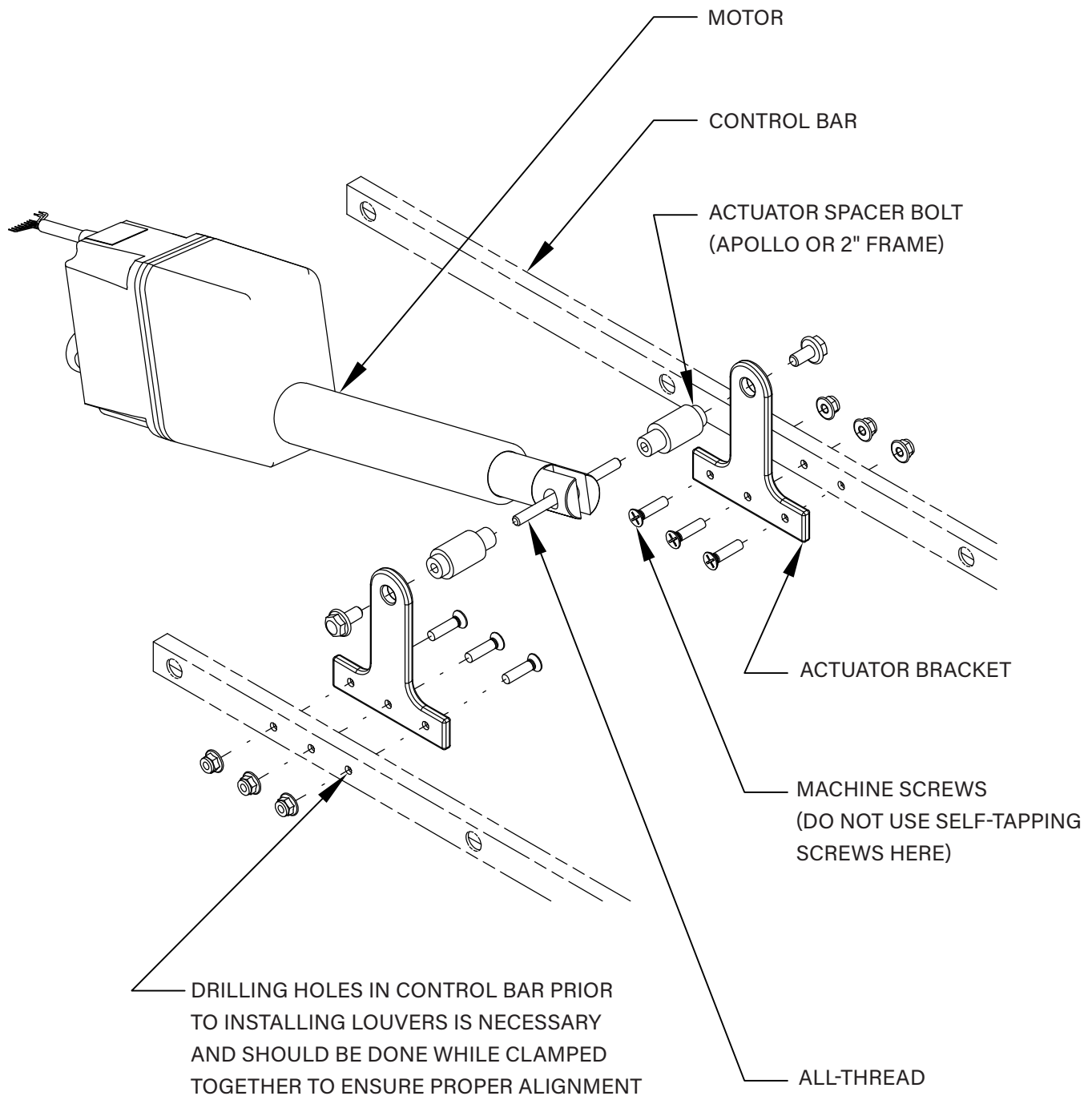


10.7 Complete the actuator installation by reattaching rear of motor to clevis with the clevis pin and hairpin cotter

10.8 Connect motor wiring - Refer to pages 3-5



***IF YOUR PLAN SET SPECIFIES USING ONE MOTOR TO OPERATE TWO LOUVER BAYS USE THIS DETAIL**
(THIS METHOD **NOT** TO BE USED IN FREEZING ENVIORNMENTS WHERE SNOW OR ICE COULD BIND SYSTEM.)





11. Check Motors and Controller



Note: Systems with Somfy Controllers arrive pre-programmed from the factory. When Somfy Controller is powered up, remote will operate the louvers.

Note: Install the final louvers at the motor location ONLY after ensuring the system is functioning properly.

- 11.1 Complete wiring of motors (and optional rain sensor).
- 11.2 Connect 110v power to the power supply connection.
- 11.3 Press arrow up or down buttons and confirm system opens and closes properly.
- 11.4 If the louvers open when the down button is pushed, or vise-versa, refer to page 26.
- 11.5 If the system needs to be reprogrammed, refer to page 23 and begin at step 2.1.

12. Install remaining louvers

- 12.1 Open the louvers so that they are vertically open 90° before installing the remaining louvers (using the remote).
- 12.2 Remove the Hairpin Cotters from the control pins on each of the 2 louvers next to the empty louver spots.
- 12.3 Install the remaining louvers into the support track, and carefully move and attached the Control Bar to the Control Pins and install the remaining Hairpin Cotters.
- 12.5 Finish attaching the Locking Cap with #10 TEK Screws.
- 12.6 Louver installation is complete

12. Install downspout/rain chain for water drainage.

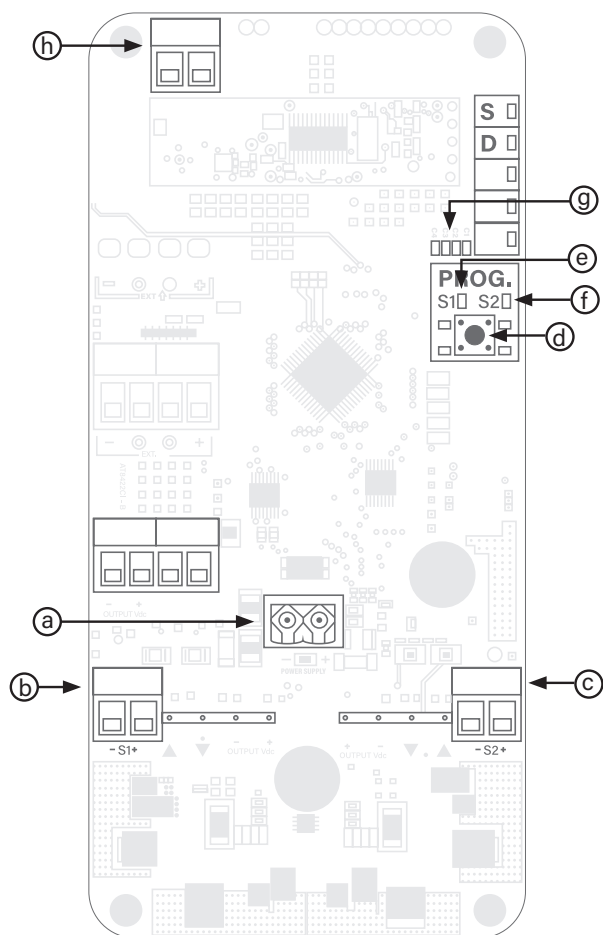
- a. Not included

13. Ensure all frame seams and joints are sealed/caulked to prevent moisture intrusion.

***For technical support contact our office.
Call (866) 241-2792 or email us at support@apolloopeningroof.com.**

Control Board Overview:

- a. 24V Power Supply Input
- b. Drive output S1
- c. Drive output S2
- d. PROG button
- e. S1 LED
- f. S2 LED
- g. Power Indicators
- h. Antenna



Channel Indicators

*To select a specific channel on your Somfy remote, press the "channel select" button until the corresponding light(s) indicate you are on the correct channel.

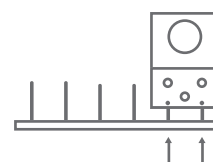
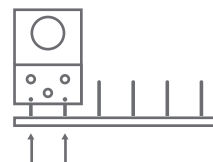


- Channel 1
- Channel 2
- Channel 3
- Channel 4
- Channel 5

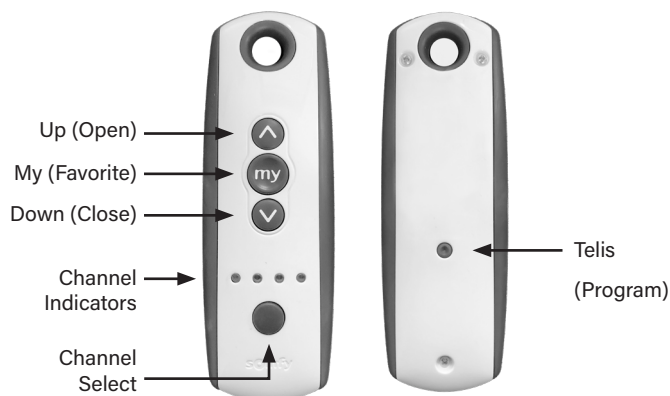
Somfy Programming:

*To ensure accurate programming of the Apollo control system:

1. Verify that the power supply is connected to the control board (a).
2. Verify that the first motor is connected to S1 (b) on the lower left side of the control board and that the terminal plug is located on the far two left pins.
3. If a second motor is being used, ensure it is connected to S2 (c) on the lower right side of the Control Board.

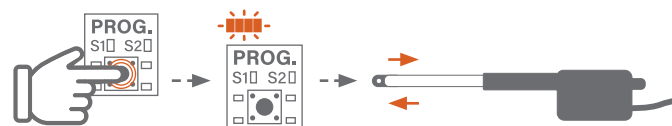


Somfy Remote:



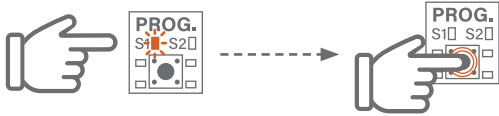
1. INITIATE PROGRAMING:

1.1 **Press and hold the PROG button** (d) on the control board for approximately 12 seconds until all LEDs begin to flash (g). The motor will "jog" (briefly extend and retract) indicating the control board is reset and is ready to begin programming.

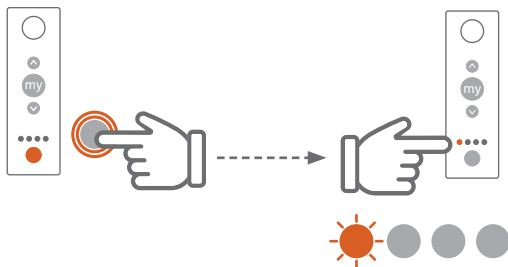


2. PROGRAMMING S1 TO MOTOR 1:

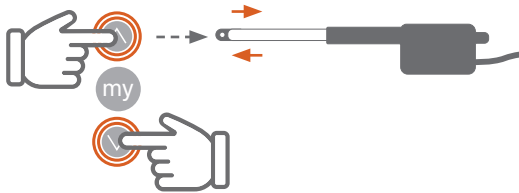
2.1 On the control board, ensure the LED light for S1 is blinking. If it's not, press and hold the **PROG** button (d) on the control board for 3 seconds. S1 is now ready to be programmed to motor 1.



2.2 On the remote, select channel 1. To do this, press the "channel select" button until the far left LEDs light up.

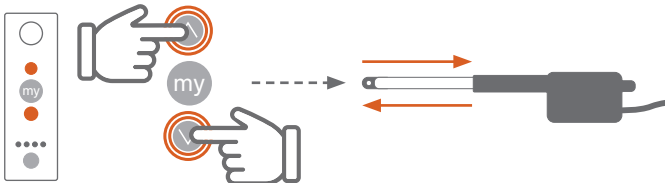


2.3 Press the "up" and "down" buttons simultaneously for approximately 3 seconds. Release when the motor begins to jog.

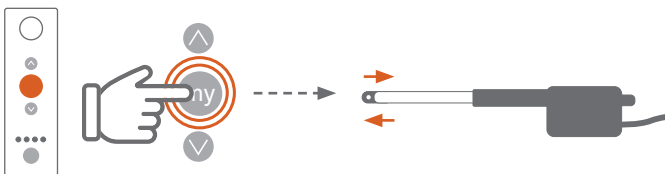


2.4 Again, press the "up" and "down" buttons simultaneously for approximately 3 seconds. The motor will begin to search for the end limits and will stop when fully extended.

Note: Do not interrupt the movement:



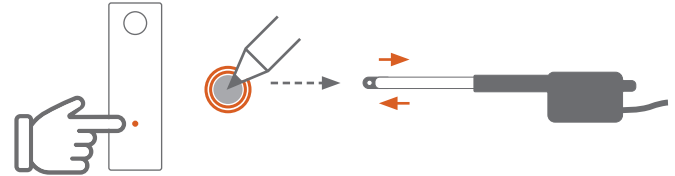
2.5 Press and hold the "my" button on the remote for approximately 5 seconds until the motor begins to jog.



2.6 Ensure that the S1 LED light is still blinking. If it is not, return to step 1.



2.7 Press the "telis" programming button on the back of the remote. The motor will jog. (Suggestion: use something with a point at the end to press the button. i.e. a screwdriver, pencil, etc.)



With an Apollo system using a single motor, programming is now complete.

2.8 Ensure the "up" and "down" buttons on the remote are controlling the motor properly.

Note: If the motors are moving in the opposite directions of the remote buttons, you can choose to correct the issue now, or finish programming the remaining motors and then refer to "Somfy Troubleshooting" on pg 26.

3. PROGRAMMING S2 TO MOTOR 2:

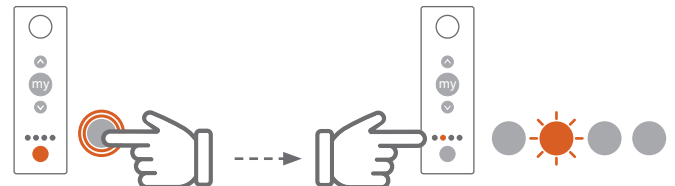
3.1 Press and hold the PROG button (d) on the control board for 3 seconds. The S1 LED will begin to flash.



3.2 Briefly press the PROG button (d) again. This will switch to S2. Ensure that the S2 LED is now flashing.



3.3 On the remote, select channel 2. To do this, press the "channel select" button until the second LED light from the left lights up.



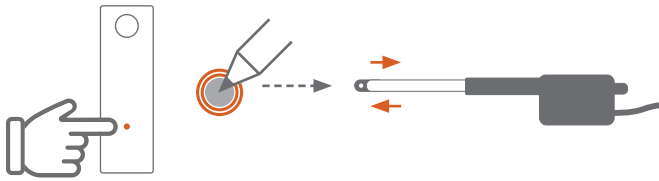


3.4 Repeat steps 2.3-2.5

3.5 Ensure that the S2 LED is still blinking. If it is not, return to step 3.1.



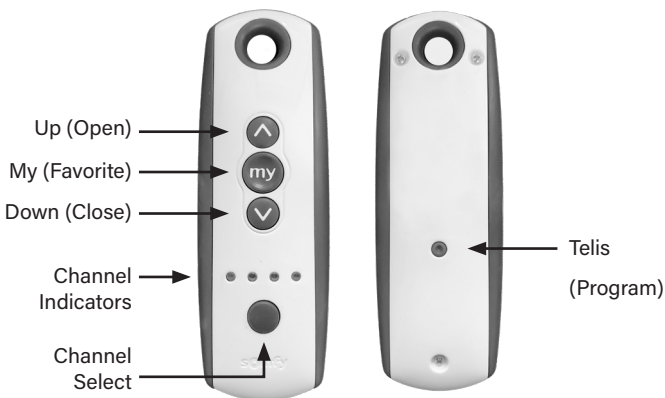
3.6 Press the "telis" programming button on the back of the remote. The motor will jog.



3.7 The S2 LED will stop blinking indicating you have finished programming the second motor to S2. With an Apollo system using two motors, programming is now complete.

3.8 Ensure that the "up" and "down" buttons are correctly controlling this motor.

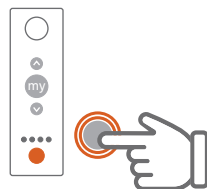
4. OPERATING THE APOLLO OPENING ROOF SYSTEM WITH THE TELIS REMOTE



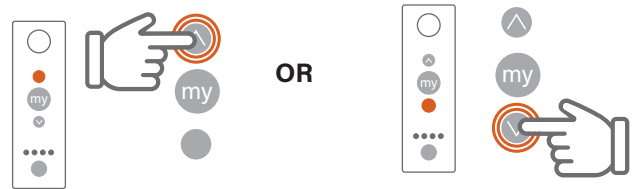
4.1 Switch between channels by pressing the "channel select" button.

Channel Indicators:

- Channel 1
- Channel 2
- Channel 3
- Channel 4
- Channel 5



4.2 Open the louvers by pressing the "up" arrow on the remote, close them by pressing the "down" arrow.



5. PROGRAM THE TELIS REMOTE "MY" BUTTON

The Somfy Remote allows the Apollo System to be programmed to a preferred position. The "my" button is used to program this function.

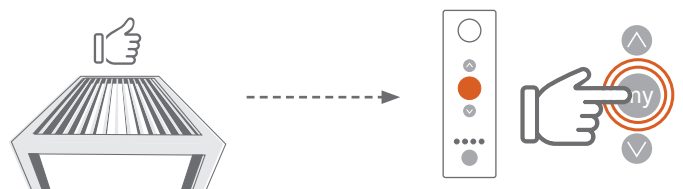
5.1 Ensure you're on the channel that corresponds with the motor you are programming by pressing the "channel select" button until the lights indicate you are on the desired channel.



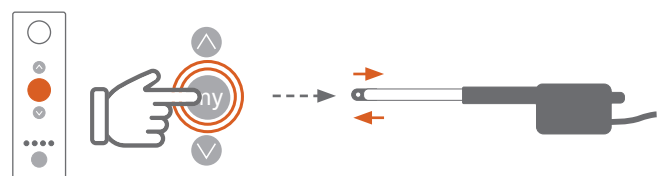
Use the "up" or "down" buttons on the remote to begin repositioning the louvers.



5.2 Briefly press the "my" button when the louvers reach the position you want to program them to stop at.



5.3 Again, press and hold the "my" button until the motor jogs.





6. COPY AND PASTE CHANNELS (SETTING UP TWO REMOTES TO CONTROL THE SAME SYSTEM)

NOTE: Copy and paste can be used on the same remote to function multiple motors on one channel. (Typically used to set up a "function all" channel to control all bays/sections at once.)

6.1 **Set up the first remote.** Follow steps 2.1-3.8.

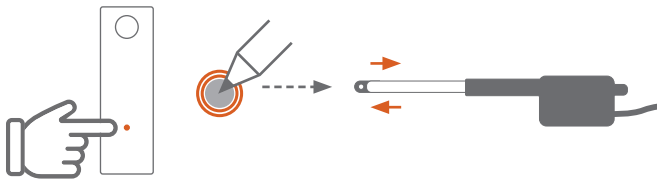
6.2 **On the first remote select the first channel to "mirror".** To change channels press the "channel select" button on the remote until the LED for the corresponding channel lights up.

Remote #1



6.3 **Press the "telis" button** on the back of this remote until the motor jogs.

Remote #1



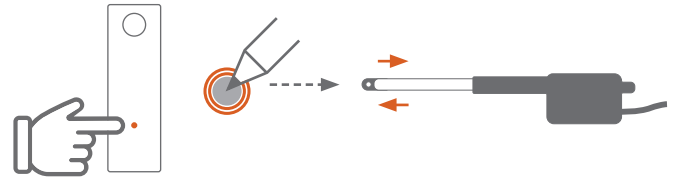
6.4 **On the second remote, select the channel you want to paste the copied function to .**

Remote #2



6.5 **Press the "telis" button** on the back of this remote. The motor will jog again.

Remote #2

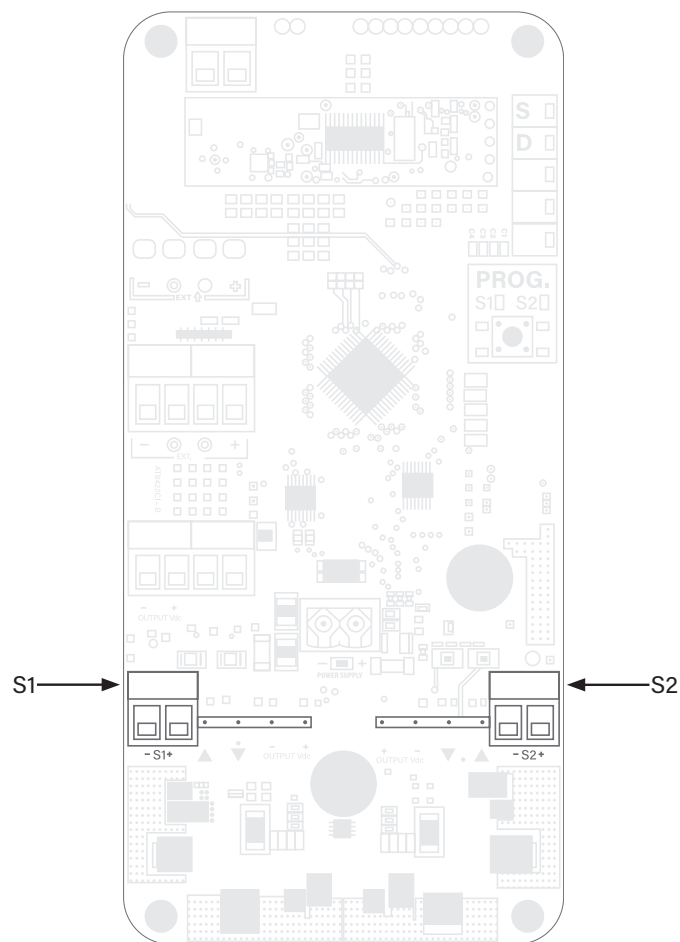


6.6 **Repeat steps 6.2-6.5** for each channel.

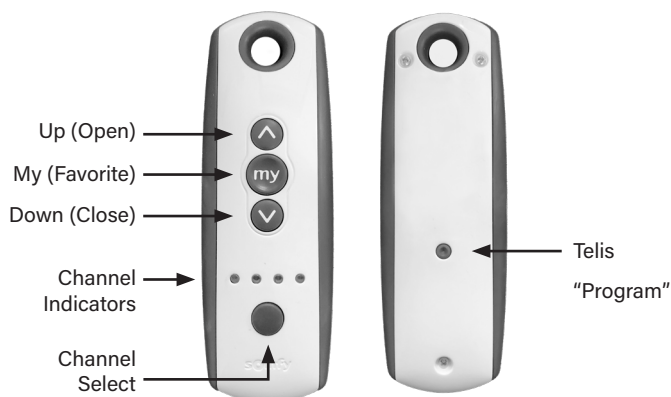
Somfy Troubleshooting:

1. MOTOR MOVING IN THE OPPOSITE DIRECTION

I.e. The motor is extending when you press “down” on the remote and retracting when you press “up” on the remote.

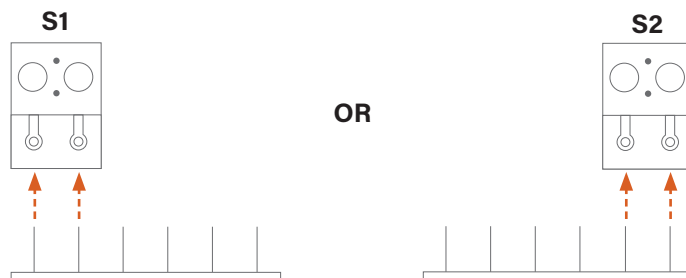


Somfy Remote:



1.1 Establish which side of the control board the malfunctioning motor is plugged into. See illustration for location details.

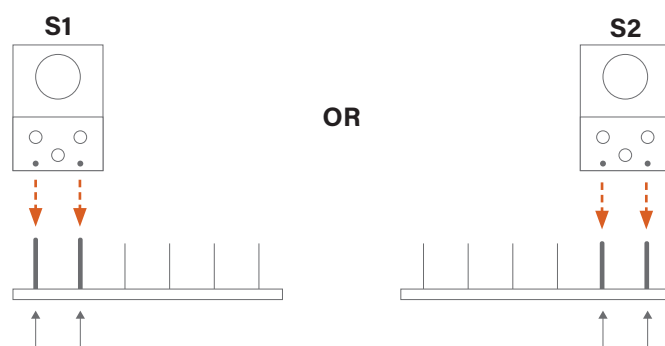
1.2 Lift the corresponding motor’s plug in an upwards motion off of the control board.



1.3 Rotate the plug 180°. (Illustration note: The face/direction of the plug you see is dependent upon which sides of the plug you placed the wires)



1.4 Reattach the plug to the far 2 pins on the corresponding side. The motor should now be moving in the correct directions.



1.5 Ensure the motor is working correctly. I.e. it extends when you press “up” on the remote, and retracts when you press “down” on the remote.