Skystar 701B Folding Skylight Shade
Installation Instructions

Thank you for purchasing your new *Skystar*™ folding skylight shade. It has been custom-made from the highest quality materials to the dimensions you specified. With proper installation and care, it will provide you with many years of beauty and trouble-free use.
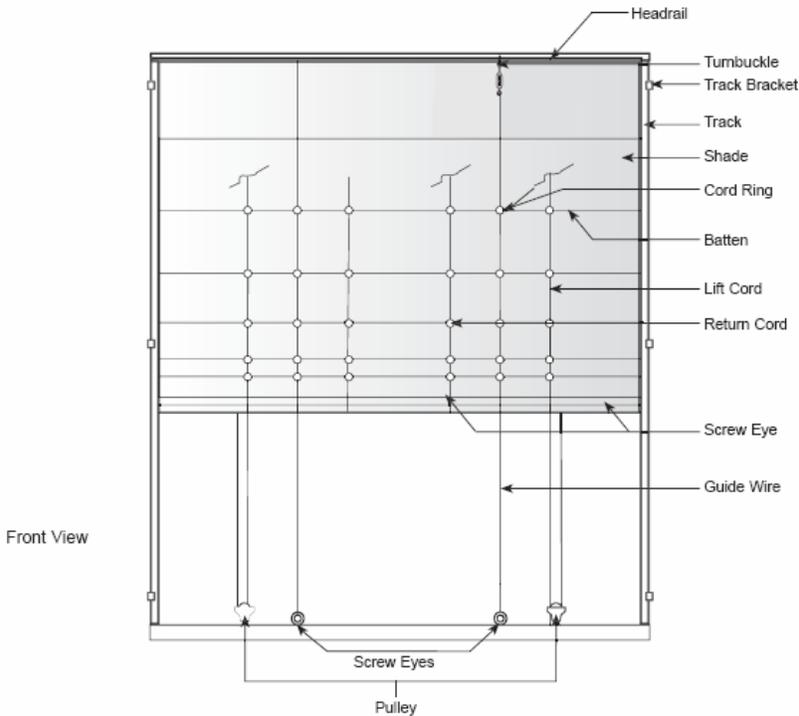

Figure 1   Skystar 701B Folding Skylight Shade

Main Components

- Shade with headrail
- Motor
- Motor tube
- Tracks
- Fascia (optional, but needed unless architectural elements cover bottom of opening)

Tools Required

- Metal measuring tape
- Level
- Awl
- Pencil
- Ladder or stepstool
- Pliers or crimping tool
- Wire cutter (for shades requiring guide wires)
- Power drill with the following bits:
    - ¹⁄₁₆″ drill bit (wood)
    - ¹⁄₁₆″ and ¹⁄₈″ metal drill bit (metal mounting surface or optional fascia)
    - Masonry drill bit (if mounting surface requires)
    - ¼″ hex driver
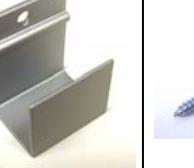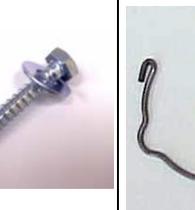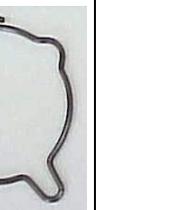   - Phillips screwdriver
- Motor tester

Hardware

Track Bracket	Track Bracket Screw *½" self-tapping hex head*	Track End Cap	Headrail Bracket	Headrail Bracket Screw *1½" hex head*	Headrail Screw (for motors mounted on headrail) *2" hex head*
Universal Motor Bracket, Standard	Universal Motor Bracket, Extended	Idler Bracket, Standard	Idler Bracket, Extended	Motor Bracket Screw *2"-long ⁷⁄₁₆" hex head screw with washer*	Motor Retaining Clip
Turnbuckle (for guide wires)	L-Bracket (for optional outside mount)	Fascia Screw *1½" self-tapping hex head*	Motor Idler End Cap	Pulley	Pulley Screw *¾" hex head*
C-Clip	Cord Attachment Device for 2¾" tube	Guide Wire (for shades requiring guide wires)		Crimp Sleeve (for guide wires)	Screw Eye (for guide wires)

Figure 2   Small Hardware

Motor	Motor Tube

Tracks
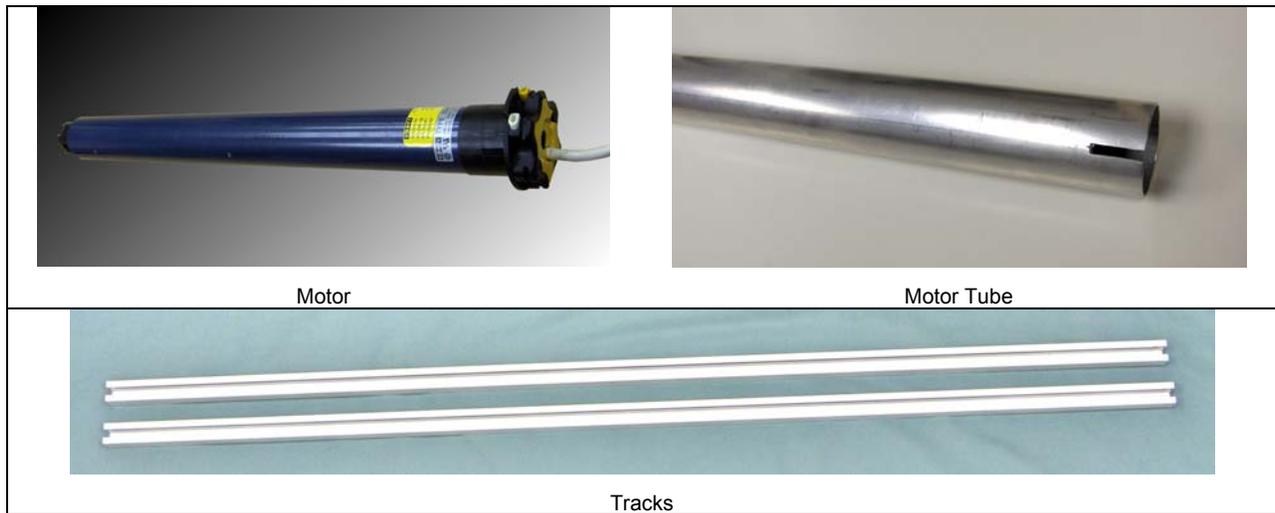
Figure 3   Large Hardware

Important Information on Fasteners

The shade components must be securely attached to the mounting surface. The screws included with the shade can be used in wood or metal. When installing to a wood surface, drill ¹⁄₁₆″ pilot holes before setting the screws. When installing to metal, the self-tapping screws (for track installation) can be installed without predrilling. To set tapered screws in metal, predrill ⅛″ holes.

For other surfaces, use special fasteners designed for your mounting surface (not included). See Figure 2 for examples. When selecting your fastener, make sure it is designed to support the weight of the product being installed. Follow the fastener manufacturer's instructions carefully.
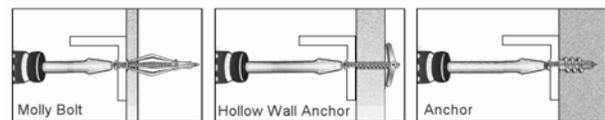

Figure 4   Special Fasteners

Definitions

For identification purposes, ″top of the opening″ refers to the side of the opening where the shade headrail is mounted; ″bottom of the opening″ refers to the side of the opening directly opposite the side with the shade headrail. To designate positioning with regard to the depth within the skylight opening, ″upper edge″ refers to the edge closest to the window and ″lower edge″ refers to the edge closest to the floor.

Installation Steps for Shades Without Motor Headrail

Step 1: Mount the Tracks

- To determine track placement, slide one of the shade carriers into a track and measure from the stitch line on the shade to the bottom of the track. For flush mount, use this measurement as the distance from the lower edge of the window opening to the bottom of the track. For higher or lower mounting, adjust accordingly.

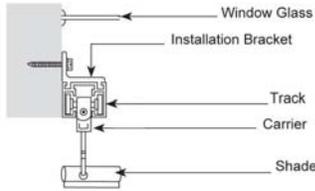- Measure and mark the track positions on each side of the window opening.

Figure 6   Installed Track Cross-Section

- Slide the track brackets onto the backs of the tracks, allowing one bracket for approximately every 12″ of track. Space the brackets evenly along the track.

- Place the track in its marked position, and loosely fasten all but the top (motor end) bracket using the hex head screws provided. (Leave the top bracket unfastened until after the carriers are placed in the tracks.)

- Adjust the positioning of the track so that the bottom end is flush with the bottom of the window opening. Then tighten the bracket screws.
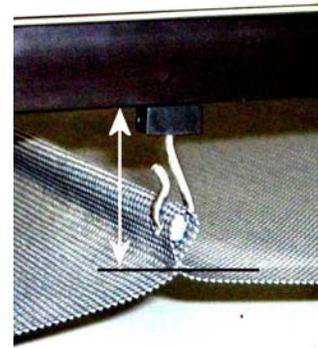

Figure 5   Measure from stitch line to bottom of track

Step 2: Place the Motor and End Cap in the Motor Tube

- Align the raised key on the the idler end cap with one of the notches in the tube and slide the cap into the tube. Use a rubber hammer to drive it all the way in.

- Align the raised key on the motor with the notch in the other end of the tube and slide the motor all the way into the tube until it locks into the drive wheel.

Caution: Do not tilt the motor end downward as the motor could fall out and be damaged.
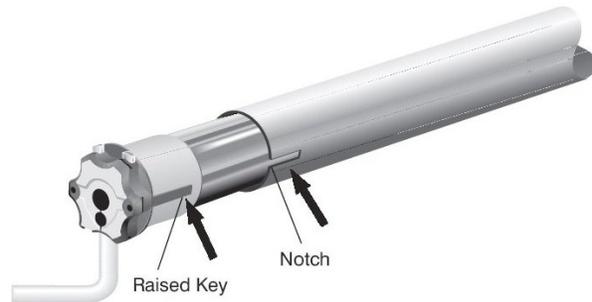

Figure 7   Motor and Tube

Step 3: Mount the Motor Brackets

- Place the brackets on the motor assembly and measure the distance between the outside edges of the brackets.

- Measure and mark the bracket locations in the top of the window opening. The positioning in the depth of the opening is a matter of customer preference. The most usual positioning is as close to the window as possible. If the motor is placed approximately level with the tracks, the pulleys at the top of the opening will not be needed. (See Step 10: Attach the Top Return Pulleys (if needed) and Step 12: Attach the Lift Pulleys.)

Figure 8   Fasten Motor Bracket

- Remove the brackets from the motor, and fasten them at the marked locations using the 2″ x ⁷⁄₁₆″ hex head screws provided.

Figure 9 Installed Headrail Brackets

Step 4: Mount the Headrail Brackets

- Position the headrail brackets in the top of the window opening with the open end facing up. Usually the bottom is placed flush with the lower edge of the window opening, but placement depends on the depth of the opening and the customer's preference. Place a bracket about 12″ from each end, and space any additional brackets evenly along the opening. Fasten the brackets with the 1½″ hex head screws provided.

Step 5: Place the Shade Carriers in the Tracks

- Starting from the bottom rail, slide the carriers into the tracks from the top of the opening.

- After all carriers are inserted, insert the track end caps at the open ends of the tracks and tighten them down. Then attach the top track bracket.

Figure 10 Track End Cap on Track

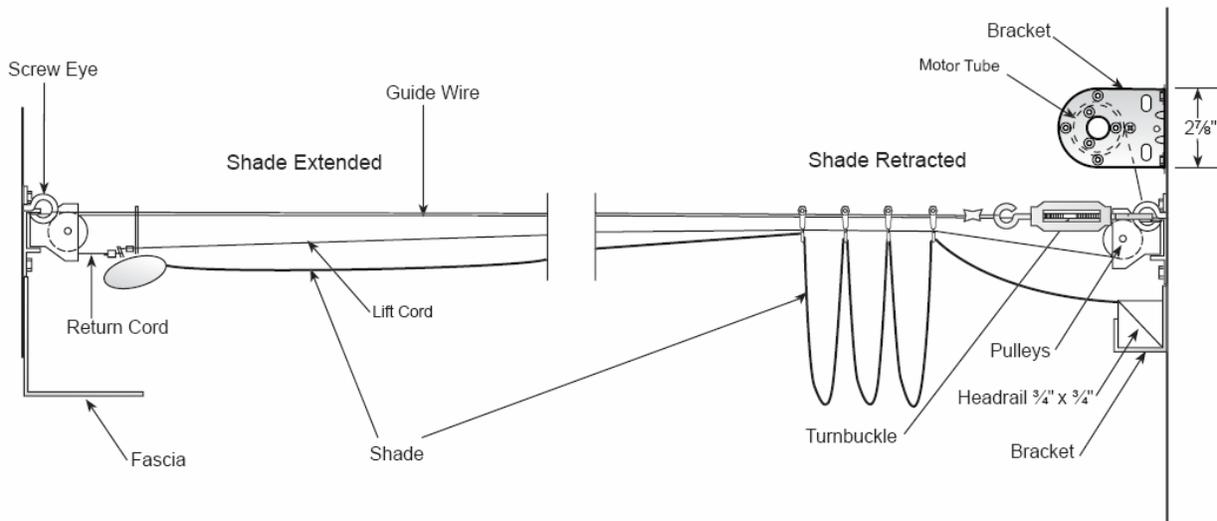### Step 6: Install the Guide Wires (if needed)

Figure 11 Installed Shade, Side View (tracks not shown)

If the shade is wide enough to require guide wires, heavy-duty carriers are attached to the shade at the stays to accommodate the wires.

Important: The guide wires must be fastened firmly to solid material.

- Separate the screw eyes and crimp sleeves from the guide wire itself.

- Using the pulleys as guides, mark the guide wire positions in the top and the bottom of the window frame. The guide wires should be attached about ½″ above the level of the top of the track aligned with the pulleys.

- At each marked location drill a ¹⁄₁₆″ pilot hole (wood surface) or a ⅛″ hole (metal surface), and install the screw eyes.

Figure 12 Heavy-Duty Carrier

- Install each guide wire as follows:

  – Attach one end of the guide wire to the screw eye at the bottom of the opening. To do this string the guide wire through a crimp sleeve, through the screw eye, and back through the crimp sleeve. Pull the crimp sleeve close to the screw eye, crimp it closed, and trim any excess wire.
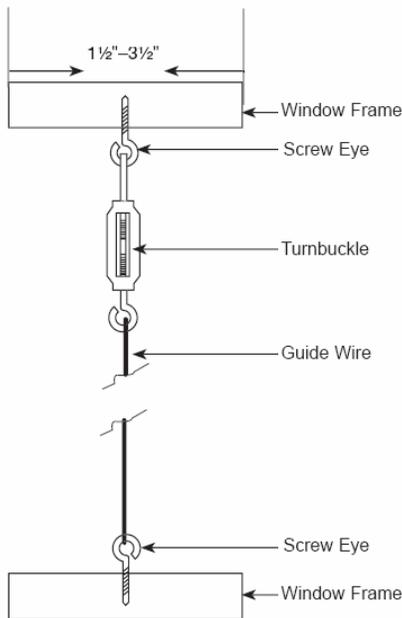

Figure 13 Guide Wire on Screw Eye

  – Open the turnbuckle to its maximum length and hook it to the screw eye at the top of the opening.
  – String the guide wire through the heavy-duty carriers from the bottom to the top of the shade, and then string it through a crimp sleeve, through the eye on the turnbuckle, and back through the crimp sleeve. Pull the wire taut, pull the crimp sleeve close to the turnbuckle, and crimp the sleeve closed.
  – Trim off the excess wire. Turn the turnbuckle to tighten the wire as much as possible.
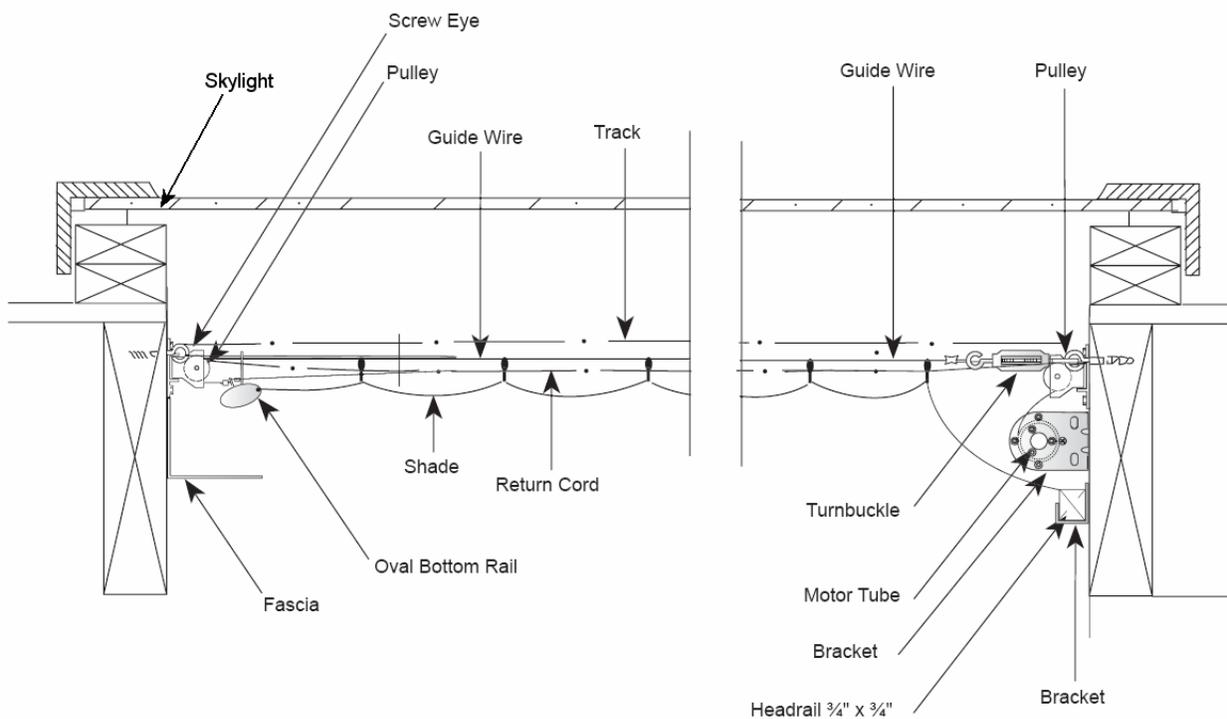

Figure 14 Turnbuckle Attachment

Figure 15   Installed Shade, Side View (tracks not shown), Motor Below Shade

Step 7: Attach the Return Pulleys

The return pulleys are shipped already attached to the return cords and must be attached to the bottom of the opening aligned with the cords.

- Unwrap the return cords (the longer cords) from the shipping cards at least enough to allow room to work with the pulleys.

- Slide the shade to the bottom of the opening and mark the pulley positions so they will align with the cords.

- Using the ¾″ screws provided, attach the pulleys as shown in Figure 16.

Step 8: Mount the Motor Tube

- Place the idler pin on the shade into the idler end bracket. See Figure 17.

- Gently push the tube assemby toward the idler bracket until the idler pin collapses. See Figure 18.
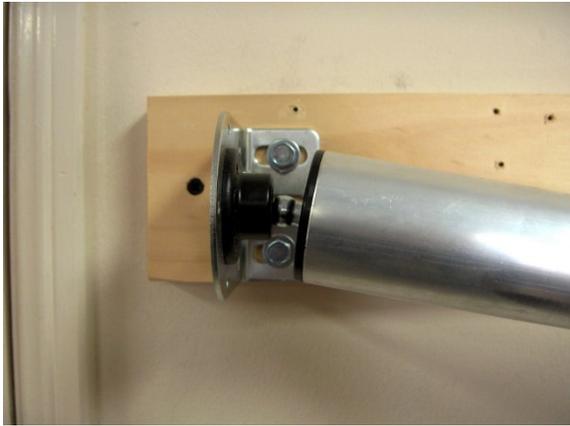
Figure 16 Attached Return Pulley

Figure 17 Motor Idler Going into Bracket

Figure 18 Motor Idler Collapsed in Bracket

- Rotate the tube until the limit switches at the other end of the shade are in the desired position. The switches should point down or a little towards the room so that they are accessible.

- Align the hardwired end of the motor with the pins on the motor bracket.

- Allow the idler to spring back so that the star head on the motor engages the pins on the motor bracket. See Figure 19.
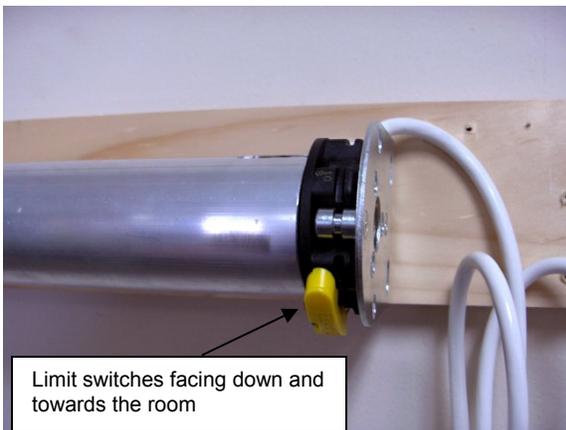

Limit switches facing down and towards the room

Figure 19 Motor in Bracket
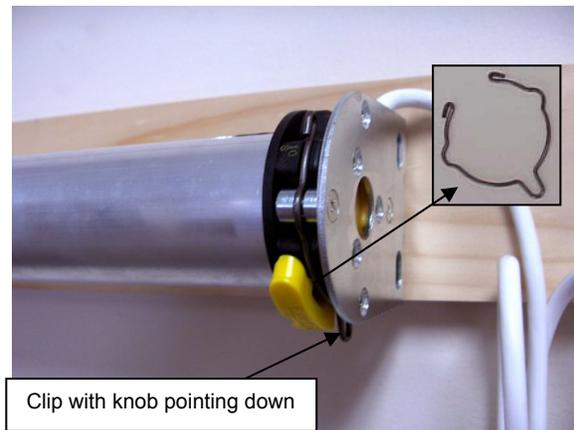

Clip with knob pointing down

Figure 20 Motor in Bracket with Motor Retaining Clip in Place
(Detail of motor clip at top right in figure)

When the pins on the motor bracket have engaged the motor, the motor will remain in the brackets without additional adjustment.

- **Important! Follow This Step!** The motor will remain in the brackets, but to ensure that it does not slip out of the installation, attach the motor retaining clip into the groove on the pins and motor. The clip should snap into position when it has been properly inserted into the groove on both pins. See Figure 20.

- **Helpful Hint!** It can be difficult to snap the motor retaining clip into the groove on the pins and motor once the motor is installed in the bracket. To avoid such difficulties, you can pre-load the motor retaining clip onto the motor before putting the motor into the brackets. To do this:

  1. Place the motor retaining clip onto the star head portion of the motor. The clip should be on the wider part of the head near the tube. Do not put the clip into the groove on the motor.

  2. Engage the star head motor with the pins on the motor bracket. The motor should engage the pins without the clip getting in the way.

  3. Slide the motor retaining clip into the groove on the motor and pins.

Note: The small knob on the bottom of the retaining clip should point straight down when installed. If it is necessary to remove the motor from the brackets—for example, to clean the shade or to move the installation from wall to ceiling (or vice versa)—simply place the tip of a screwdriver into this knob and gently pull the retaining clip away from the motor and the bracket pins.

Step 9: Test the Motor

- Attach the motor tester to the motor (instructions included separately) and test that the motor is working properly. (Leave the tester attached until the remaining steps are complete.)

Step 10: Attach the Top Return Pulleys (if needed)

Unless the motor is mounted level with the tracks, you must attach pulleys to route the return cords to the motor. Mount the pulleys at the top of the window frame aligned with the return cords.

- At the bottom of the opening, measure the distance from each pulley to the outside edge of the opening. Use these measurements to measure and mark the positions for the pulleys at the top of the opening.

- Attach the pulleys using the ¾″ screws provided.

Step 11: Attach the Return Cords

C-Clip Attachment

- Fully unwrap the return cords from their shipping cards, and push the shade all the way to the top of the opening (motor end). The return cords should extend from the bottom rail of the shade down to the bottom of the opening, through the return pulleys, and back up to the top of the opening.

- Depress the limit switch on the motor for the upper limit so that it pops out. (For additional information on limit switches, see instructions included separately.) Pass a return cord **over the top of the motor tube**, and wrap it around twice. Pass it through the hole in one of the C-clips and snap the C-clip onto the tube toward the outside of the tube from the cord.

- Pull any excess cord through the C-clip and make a knot. Do not cut off the excess cord yet, as it may be needed for further adjustments.

Figure 21 Return Cord Wrapped Over Tube

- Rotate the C-clip to remove any slack in the cord, being sure the shade remains stacked at the top of the opening.

- Repeat this procedure for each of the return cords.

Nut and Bolt Attachment for 2¾" Tube

If the shade has a 2¾″ tube, the cords are attached with a small nut and bolt device that slides into a groove in the tube.

- Fully unwrap the return cords from their shipping cards, and push the shade all the way to the top of the opening (motor end). The return cords should extend from the bottom rail of the shade down to the bottom of the opening, through the return pulleys, and back up to the top of the opening.

Figure 22 Attachment Device on 2¾″ Tube

- Slide the nuts into a groove in the tube and align them with the cords.

- Pass a return cord **over the top of the motor tube**, and wrap it around twice. String it through its attachment device and tie a knot. Secure the attachment device by tightening the screw.

- Repeat this procedure for each return cord.

- Operate the motor to take up any slack, and adjust the cords by retying the knots as needed.

- Ensure the shade is in its fully open position, and depress the upper limit switch on the motor so that it pops out. (For additional information, see instructions included separately.)
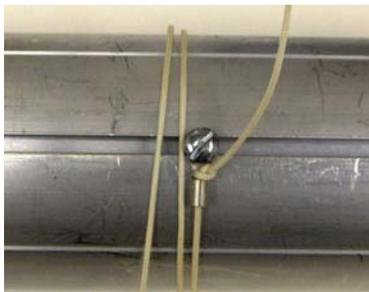
Figure 23 Return Cord on 2¾″ Tube

Step 12: Attach the Lift Pulleys

Unless the motor is mounted flush with the level of the tracks, lift pulleys must be attached to the window frame aligned with the lift cords.

- Measure along the bottom rail from each lift cord to the outside of the nearest track, and use these measurements to find and mark the positions for the lift pulleys in the top of the window frame. Make sure the pulleys align with the level of the cords.

- Attach the pulleys using the ¾″ screws provided.

Step 13: Attach the Lift Cords

C-Clip Attachment

- Fully unwrap the lift cords from their cards.

- Operate the motor to move the shade to the bottom of the opening.

- Pass a lift cord **under the motor tube** (in the opposite direction to the wrap of the return cords), and wrap it around twice. Pass it through the hole in one of the C-clips and snap the C-clip onto the tube toward the outside of the tube from the cord.

- Pull any excess cord through the C-clip and make a knot. Do not cut off any excess cord yet, as it may be needed for further adjustments.

- Rotate the C-clip to remove any slack in the cord.

- Repeat this procedure for each of the lift cords.

- With the shade still at the bottom of the opening, depress the limit switch on the motor for the lower limit so that it pops out. (For additional information, see instructions included separately.)
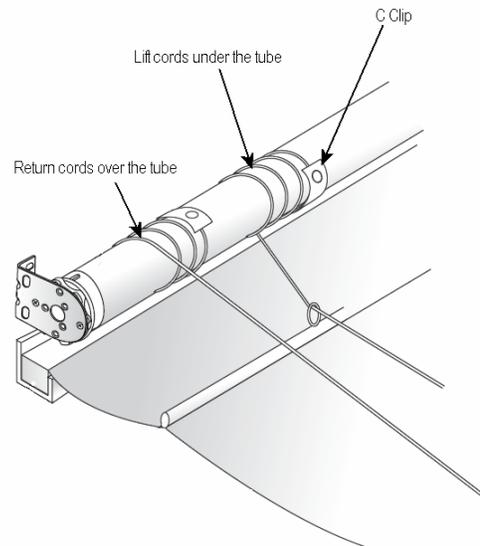
Figure 24 Correct Cord Attachment

Nut and Bolt Attachment for 2¾″ Tube

- Fully unwrap the lift cords from their shipping cards, and operate the motor to move the shade all the way to the bottom of the opening.

- Slide the nuts on the attachment devices into a groove in the tube and align them with the cords.

- Pass a lift cord **under the motor tube** (in the opposite direction to the wrap of the return cords), and wrap it around twice. String it through its attachment device and tie a knot. Secure the attachment device by tightening it with a screwdriver.

- Repeat this procedure for each return cord.

- Operate the motor to take up any slack, and adjust the cords by retying the knots as needed.

- With the shade still at the bottom of the opening, depress the limit switch on the motor for the upper limit so that it pops out. (For additional information, see instructions included separately.)

Step 14: Place the Shade Headrail in the Headrail Brackets

- Pull the shade headrail up to the top of the opening and snap it into the headrail brackets.

- Operate the shade in both directions and make any needed adjustments to the cords or limits. When you are satisfied the shade is opening and closing correctly, trim the excess cord from all the C-clips or attachment devices.

Step 15: Attach the Fascia (if a fascia was ordered)

- Hold the fascia in place with the short side against the bottom of the opening, making sure it will not interfere with closing the shade. On the short side of the fascia, mark locations for the mounting holes. If possible, center the mounting holes across the depth of the fascia plate. Place a hole about 3″ from each end. Mark additional holes spaced about every 24″ as needed.

- Use a ⅛″ drill bit to drill mounting holes in the fascia at the marked locations. Attach the fascia to the bottom of the opening using the hex head screws provided. Operate the shade in both directions to verify that the fascia is not interfering with the shade as it closes.

When you have completed the installation, have the wiring completed by a qualified electrician.

Installation Steps for Shades With Motor Headrail

Step 1: Mount the Tracks

Inside Mount

- Mount the tracks as covered in Step 1 above.

Outside Mount

- Measure and mark the positions of the tracks so that the distance between the centers of the tracks is the same as the distance across the width of the shade between the carriers. Ensure the tracks are correctly aligned at the bottom and top and the distance between them is equal throughout the length of the shade.

- Install each track by drilling the self-tapping track screws directly through the back surface of the track and into the mounting surface. Place one screw approximately every 12″.

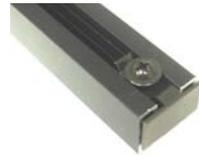- At the bottom of the opening, place track end caps in the tracks and tighten them down.

Figure 25 Track End Cap on Track

Step 2: Mount the Motor Headrail

Inside Mount

- Measure and mark the position of the motor headrail in the opening, making sure it is level and centered. The shade can be mounted flush with the lower edge of the opening, or it can be recessed into the opening. If the shade is to be flush with the opening, mount the motor headrail ¾″ above the lower edge to allow room for the shade headrail below.

- Hold the headrail in place, with the VELCRO™ strip facing the floor, and use an awl to mark the locations of the predrilled mounting holes. Attach the headrail, using the 2″ hex head screws provided.

Outside Mount

For an outside mount, L-brackets are supplied.

- Measure and mark the position of the inside edge of the headrail on the ceiling, making sure it is centered over the window opening and parallel to the top edge.

- Attach the L-brackets to the ceiling approximately 12″ apart along the headrail markings.

- Place the shade headrail on the brackets, make sure it is centered, and attach it to the brackets using the ¾″ hex head screws provided.
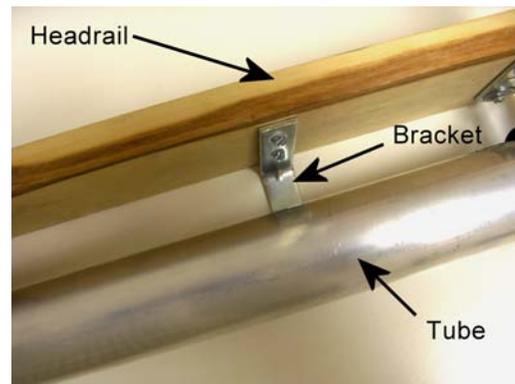

Figure 26 Motor Headrail on Bracket

Step 3: Place the Shade Carriers in the Tracks

- Starting with the bottom rail, slide the carriers into the tracks from the top of the opening. After all carriers are inserted, insert the track end caps at the open ends of the tracks and tighten them down. Then attach the top track bracket.

Step 4: Install the Guide Wires (if needed, for inside mount only)

- Follow the instructions above—Step 6: Install the Guide Wires (if needed).

Step 5: Attach the Return Pulleys

The return pulleys are attached to the return cords and must be attached at the bottom of the opening to the window frame or ceiling.

Inside Mount

- Unwrap the cords enough to work with the pulleys.

- Slide the shade to the bottom of the opening and mark the positions of the pulleys on the window frame, ensuring they are aligned with the return cords.

- Drill ⅟₁₆″ pilot holes and attach the pulleys using the ¾″ screws provided.

Figure 27 Attached Return Pulley

Outside Mount

- Slide the shade to the bottom of the tracks and mark the positions of the pulleys on the ceiling.

- Drill ⅟₁₆″ pilot holes and attach the pulleys using the ¾″ screws provided.

Step 6: Test the Motor

- Attach the motor tester to the motor (motor tester instructions included separately) and test that the motor is operational. (Leave the tester attached until the remaining steps are complete.)

Step 7: Attach the Return Cords

Inside Mount

- Follow the instructions above—Step 10: Attach the Top Return Pulleys (if needed) and Step 11: Attach the Return Cords.

Outside Mount

- Follow instructions above—Step 11: Attach the Return Cords.

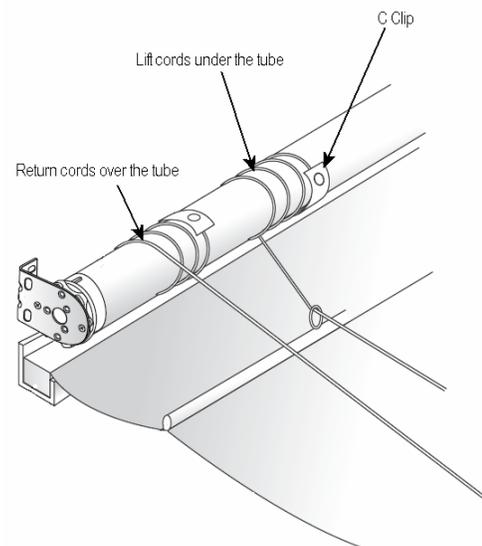## Step 8: Attach the Lift Cords

Inside Mount

- Follow the instructions above—Step 12: Attach the Lift Pulleys and Step 13: Attach the Lift Cords.

Outside Mount

- Follow the instructions above—Step 13: Attach the Lift Cords

Figure 28 Correct Cord Attachment

Step 9: Attach the Shade Headrail

- Attach the shade headrail to the motor headrail by joining the VELCRO strips.

When you have completed the installation, have the wiring completed by a qualified electrician.

Caring for Your Skystar Shade

Your *Skystar*™ shade will provide you with years of beauty and pleasure with minimal care and cleaning. To care for your shade:

- Vacuum using a brush or dust head attachment.

- Dust lightly using a soft, clean cloth or duster.

- Never immerse your shade in water or liquids of any kind.

- If necessary, wipe the solar fabric with a damp cloth. Allow the shade to dry completely before opening.

- On some fabrics, a mild detergent solution can be used, if needed. Test on a small inconspicuous area first. Be sure to rinse thoroughly and allow the shade to dry fully before opening.