

Bottom-Up FlexShade®—Motorized Dual Roller

Motorized bottom-up shade with pulleys

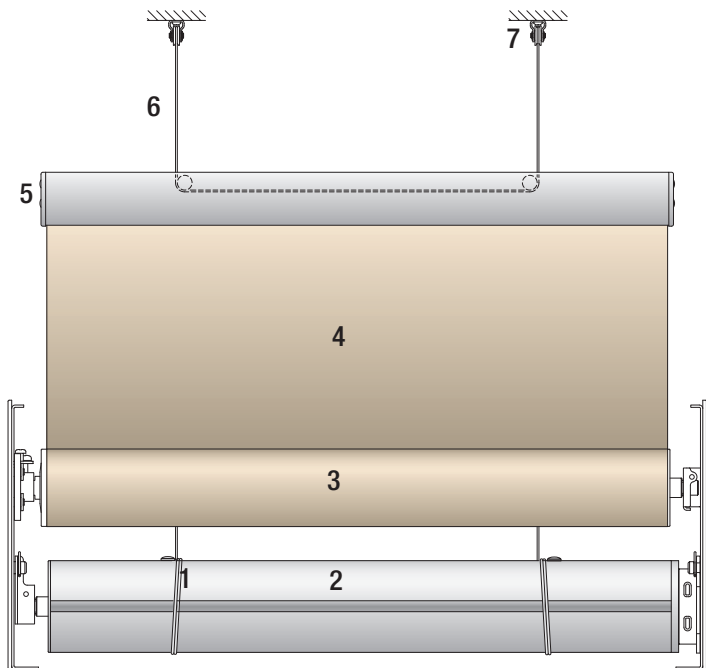
INSTRUCTIONS

INSTALLATION & OPERATION

FLEXBOTMUP MO

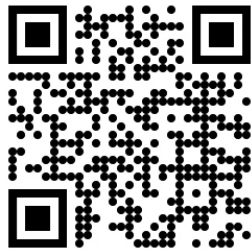
Overview - Components

- | | |
|------------------------|--|
| 1 Cable attachment | 6 Draw cable |
| 2 Front (cable) roller | 7 Pulley |
| 3 Rear (fabric) roller | 8 Alternate pulley attachment location |
| 4 Fabric panel | 9 Dual roller headbox |
| 5 Hem bar | |

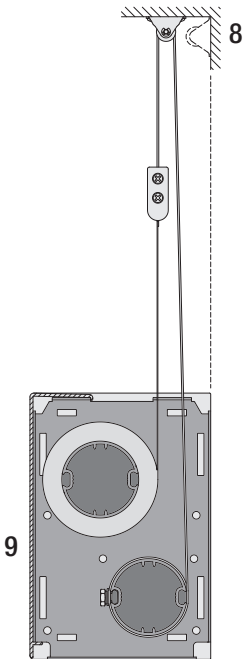


Scan this QR Code with your smartphone* to view our online installation video:

Installation Video Link



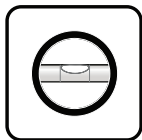
*You must have a QR Code scanner app on your smartphone.



TOOLS REQUIRED



PENCIL



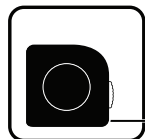
LEVEL



POWER DRILL



HARDWARE (by others)



TAPE MEASURE



PLIERS

⚠ CAUTION ⚠

Read and understand all warnings (Page 2 of this document) before beginning installation.

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If you have any difficulties installing or servicing your Bottom-Up FlexShade—Motorized Dual Roller, call your dealer or Draper, Inc.

PLEASE READ - Important Installation Information

Caution:

1. Inspect all boxes to make sure you have received the proper shades and parts. Controls may be shipped separately, or in same carton as shades.
2. Open cartons lengthwise.
3. Before mounting shades, verify measurements on label provided with shade, and ensure unit is installed at correct width.
4. Before connecting switches, controls, or electrical, ensure that power is turned **OFF**. Wiring indicated in diagram by dashed lines must be completed by an electrician.
5. Do not wire motors in parallel without written permission from Draper®.
6. All endcaps, fascia, pocket headbox, and other hardware must be installed level. Shades must be level and square.
7. **Read the following installation guidelines thoroughly and follow them carefully. Failure to do so may cause product to fall or otherwise fail, and invalidates warranty.**
8. **Installer is responsible for selecting mounting hardware appropriate for site conditions.**

PLEASE READ - Safety Information

Important Safety Information



Important Safety Information

Improper installation and use of the Bottom-Up Flexshade® - Motorized Dual Roller can result in serious injury or death. Primarily, injuries can occur if the unit falls due to imprecise installation, mishandling of the unit during installation, or installation on an insufficient wall or ceiling structure. Please use extreme care.

1. Please read the following installation guidelines thoroughly and follow them carefully. Failure to do so may cause product to fall or otherwise fail, and could result in serious injury.
2. Installation and calibration of the unit should only be performed by an authorized, qualified, and experienced professional. In particular, electrical work and wiring [indicated in diagram by dashed lines] must be completed only by a qualified professional electrician who has read this manual completely and is familiar with the construction and operation of this equipment and the hazards involved.
3. Do not affix the unit to wall or ceilings that have inadequate strength to permanently hold the unit during use. It is the owner's and installer's responsibility to confirm the wall or ceiling to which the unit attaches is sufficient to permanently hold the weight and stress loads of the unit at all times. Draper, Inc., is not responsible for improper installation, application, testing, or workmanship related to the product at place of installation.
4. It is the installer's responsibility to make sure appropriate fasteners are used for mounting.
5. All brackets, fascia, headboxes, pockets, wall clips, and other hardware must be installed level. Unit must be level and square.
6. Never leave the area while operating the unit during installation, maintenance, or normal operation, unless it is secure and safe.
7. Before testing or operation, carefully inspect the entire area and path of the shade and areas underneath the shade to be sure no persons or objects are in the area.
8. Turn off power and any nearby equipment or cables carrying electricity before connecting switches, wires, controls, or electrical components.
9. Make sure the limit switches are pointed down or accessible when placing the motor in brackets/endcaps.
10. All motors should be tested and limits set using test cord before shades are wired.
11. Do not wire motors in parallel without written permission from Draper, Inc.
12. During testing or operation, carefully watch the surrounding area for any potential safety concerns including nearby persons or objects.
13. After installation, the entire system, including all sensors, should be carefully tested to ensure safe and normal operation. Extreme care should be taken during testing to remain clear of moving parts to avoid possible injury.
14. Operation of unit should be performed only by authorized and qualified personnel, who have been trained in the safe and effective operation of the unit and understand its safety features.
15. The safety features of the unit, including sensors, should never be disabled, bypassed, or overridden. The system should not be operated until all safety features, including the sensors, are properly and completely installed, calibrated, and tested.
16. Unit may need to comply with local, state, or district rules and regulations, in particular when installed in schools. All applicable rules and regulations should be reviewed before installation and use.
17. Failure to precisely follow installation guidelines invalidates all warranties.
18. Custom products/installations may not be reflected in this manual. Call Draper®, Inc., if you have questions about the installation of custom products or any questions about your installation.

Before Beginning Installation

1. Look for any job site conditions that could interfere with installation or operation of the system.
2. Read carefully and be sure to understand all installation instructions and all related operations manuals. These instructions are intended to serve as a guide for the installer and owner. They should be followed closely and combined with the expertise of experienced qualified installers. Draper, Inc., is not responsible for improper installation, application, testing, or workmanship related to the product at place of installation. Please retain all instructions for future use.
3. Open cartons lengthwise.
4. Locate and lay out all pieces.
5. Inspect all boxes to make sure you have received the proper shade and parts. Controls may be shipped separately, or in same carton as shade.
6. If you have any difficulties with installing, servicing, or operating your shade, call your dealer or Draper, Inc., 765-987-7999.

PLEASE READ - Field Adjustments

Each Draper Solar Control Shade is tested to ensure proper operation. Even with this testing, some field adjustments may be needed for telescoping.

If the shade is telescoping, place a piece of high quality gaffer tape about 1" (25mm) wide on the exposed roller (*where the fabric will cover it*) on the side that the fabric will be drawn toward. For example: if the fabric is tracking to the left, place the tape on the right side.

PLEASE READ - Cleaning and Maintenance

Window covering products manufactured by Draper, when properly installed, should require no operational maintenance or lubrication.

Most standard Draper fabrics may be cleaned at the window by vacuuming with a soft brush attachment. They also may be cleaned by using a sponge or soft cloth and mild solution of warm soapy water. A mild dishwashing liquid is recommended. A clean dry cloth is recommended for the metal finish.

Please Note: Exceptions are GreenScreen Evolve, GreenScreen Revive, Flocké, and PhiFer SW7000 fabrics, which must be cleaned with a dry art sponge.

Section 1 - Endcaps

⚠ Caution: Before mounting shades, verify measurements on label provided with shade, and ensure unit is installed at correct width.

Please Note: Installer is responsible for selecting mounting hardware appropriate for site conditions.

1. Mark wall, jamb, or ceiling for placement of mounting endcaps.
2. Drill small starter hole (if necessary) in mounting surface.
3. Snap endcap covers (Fig. 1) into place.
4. Mount endcaps using appropriate fasteners for surface.

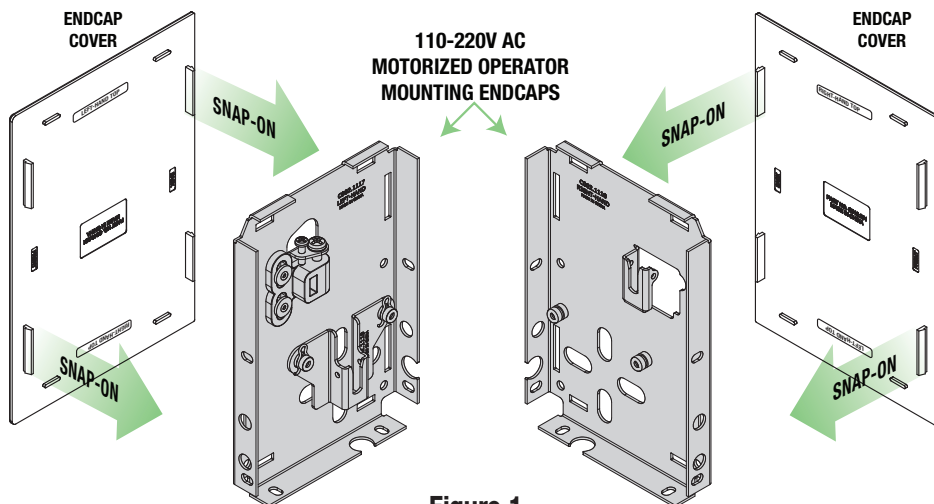


Figure 1

Section 2 - Idler

Figure 2a

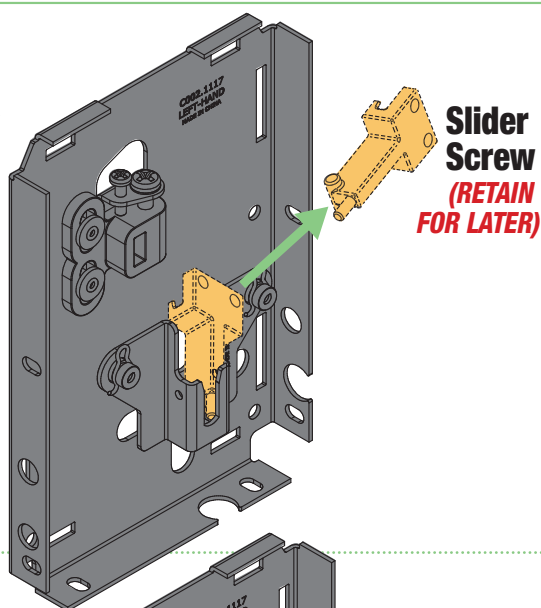
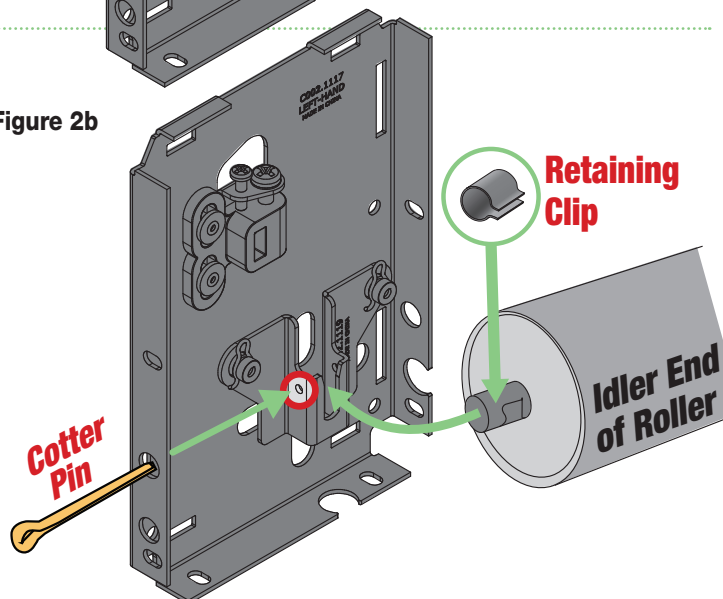


Figure 2b



1. Remove the safety screw and slide from the top idler endcap. Retain these pieces for later (Fig. 2a).
2. Install the top motorized take-up roller assembly into the lower/back position. Place operator end into its endcap, then slide cotter pin into idler endcap and attach retaining clip (Fig. 2b). Bend one leg of the cotter pin to secure in place.

⚠ Caution: The retaining clip must be installed around the idler-end shaft as shown to prevent the roller assembly from moving left or right during operation, and to ensure that the spring-loaded shaft does not retract into the mechanism in case of a bearing failure.

Please Note: Cable Attachment Studs must be facing outward, toward the installer, and limit switches **must be** accessible.

2. Install Draw Cable Pulleys (Fig. 3). Place the pulleys according to specific locations provided by Draper.

Please Note: Pulley mounting screws are to be supplied by the installer, and must be suitable for the mounting surface to hold the weight of the fabric panel. The screws must be #4 Pan Head to ensure that the draw cable does not contact the screw heads during operation, resulting in failure of the cable.

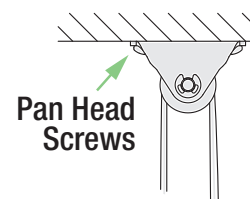


Figure 3

3. Rotate the operator roller until the cable attachment studs are facing outward, toward the installer.
4. Replace Slide and Safety Screw. Place into groove at an angle, slide up, and make sure the bottom of the slide is hooked into the Receiver (Fig. 2a, reverse steps).

Section 3 - Pre-tensioning

Please Note: The fabric retraction device must be pre-tensioned to 3-5 revolutions.

⚠ Caution: NEVER ROTATE THE SPEAR IN THE OPPOSITE DIRECTION indicated by the arrows. This will irreparably damage the springs.

⚠ Caution: DO NOT pre-tension the spring beyond 5 revolutions. Adding rotations **WILL NOT** increase the retraction spring force on the assembly. The mechanism is rated for a maximum of 25 revolutions throughout the operating height of the shade. Up to 20 revolutions may be required for operation of the unit, plus a maximum of 5 pre-rotations. Operating the fabric retraction device beyond 25 revolutions may cause the device to fail, requiring replacement.

1. Orient the triangular shaped arrow on the end of the device to point UP (Fig. 4a). This ensures there are zero pre-rotations on the device.
2. Holding the roller in this position, rotate spear counter-clockwise (as indicated by the directional arrow) approximately ¼-turn. Restrain the spear and allow it to slowly unwind clockwise until it stops.

⚠ Caution: Allowing the spear to unwind rapidly can damage the mechanism.

3. Ensure that the fabric panel is wound tightly around the roller assembly.
4. Orient the hem bar and the triangular shaped arrow on the end of the fabric retraction device so that the arrow points down toward the ground (Fig. 4b).

Please Note: The number of rotations required can be found on the order label.

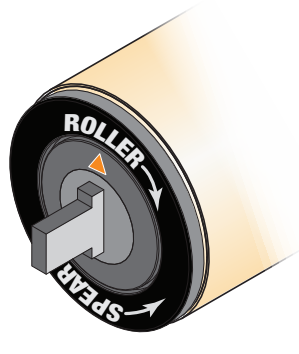


Figure 4a



Figure 4b

5. Hold the spear with pliers in this position, and rotate the roller clockwise (as indicated by the directional arrow). There will be a slight "click" as the spring assist locks.
6. Hold roller with arrow pointing down, and use pliers to rotate the spear in a counter-clockwise direction. The rotation will "lock" at each revolution by rotating the spear just beyond one full revolution, then, allowing it to slowly unwind until it stops at the point where the triangular shaped arrow is again pointing downward. Repeat this until the mechanism has 3-5 pre-rotations.

Please Note: The device must remain locked until the final step (when draw cables are attached to roller). Rotating the fabric roller as though the shade is being raised will unlock the device. The installer should ensure that the hem bar cannot move around the fabric roller if the roller is unlocked before the installation is complete.

⚠ WARNING: DO NOT OPEN. ASSEMBLY CONTAINS HIGHLY STRESSED SPRINGS. UNIT IS NOT REPAIRABLE.

Section 4 - Hem Bar

1. Remove one of the endcaps from the fabric hem bar (Fig. 5).
2. Remove fabric retainer from hem bar and insert it into the fabric hem.
3. Attach the hem bar assembly to the fabric panel by sliding it over the fabric and retainer, then re-attach the hem bar endcap.

⚠ Caution: Do NOT remove the draw cable from the hem bar assembly during installation. Doing so may require that the hem bar assembly be disassembled to re-install the cable.

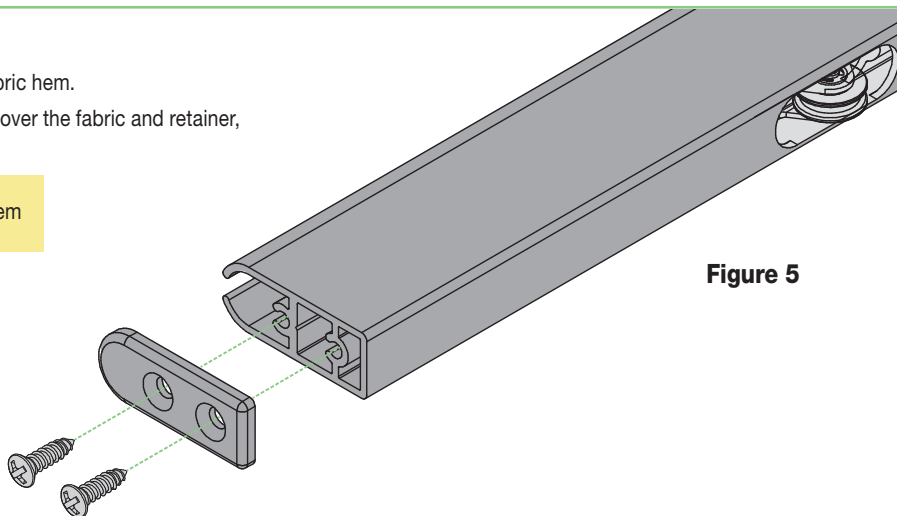


Figure 5

Section 5 - Roller Assembly

- Slide the fabric roller assembly into the brackets, spear-end first (Fig. 6).

Warning: The triangular shaped arrow on the end of the device **MUST** be pointing **UP** when installed (Fig. 4a) to ensure that the mechanism will not "lock" during operation. Raising the hem bar approximately ¼-turn will "un-lock" the device, providing constant tension on the fabric panel.

Please Note: Ensure that the hem bar cannot move (counterclockwise) around the roller until the installation is complete.

- Install the cotter pin through the fabric roller idler bracket to secure the roller (Fig. 6). Bend one leg of the cotter pin down to lock it into place.

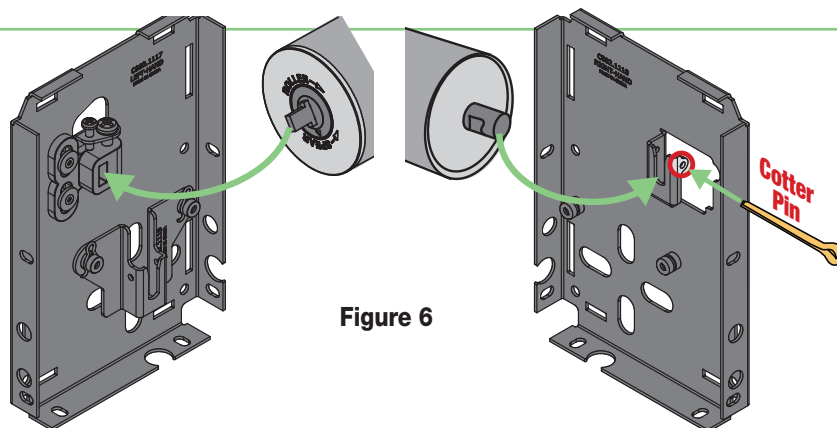


Figure 6

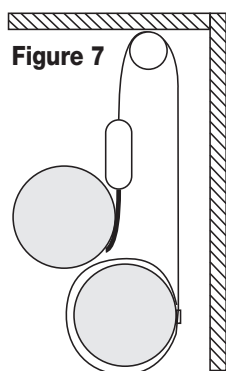


Figure 7

- Carefully pull one side of the draw cable up through one of the Draw Cable Pulleys, then back down and around the back of the operator roller (Fig. 7).
- Wrap the cable 1½ revolutions around the tube.
- Grip the end of the draw cable between the flat washer and roller tube, then tighten the nut.

Caution: Starting locations of the Cable Attachment Studs are provided by Draper with each shade. Although these locations can be adjusted, the installer must ensure that any adjustments do not cause the hem bar to run into the brackets, possibly damaging the unit.

- Repeat the above step for the other side of the draw cable. However, with this side, pull the hem bar up so that the fabric retraction device "unlocks." Be careful NOT to let the hem bar move around the roller until the installation is complete. This last end of the draw cable should be attached so that both ends have 1½ revolutions around the operator roller when the hem bar is at its lowest possible position.

Warning: Do NOT trim draw cables until Section 6, Step 10.

Section 6 - Adjusting Fabric Tracking

- Slide both ends of the draw cable close to the attachment stud flat washers.
- Raise the shade to its fully closed position and ensure that the hem bar is centered in the window.

Please Note: The upper pulleys determine position of the hem bar in the window.

- Position may be adjusted by sliding one or both of the draw cable attachment studs to the left or right.
- Lower the shade to its fully retracted position and observe the tracking on the fabric roller.
- Adjust the tracking by loosening the smaller screw, and then raising or lowering the fabric roller with the larger screw, as needed (Fig. 8).
- Tighten the smaller screw to lock the position of the roller.
- Re-test the fabric tracking and re-adjust if needed.
- Set the upper- and lower-limits of the unit's operating range (Section 9).
- Ensure that the hem bar does not contact the fabric bundle, operator roller, pulleys, etc. throughout its range of operation.
- Trim any excess draw cable from both ends.
- Click the hem bar Pulley Caps into place (Fig. 9).

Please Note: Installer must ensure that the cable is properly routed through the pulleys before the pulley caps are installed.

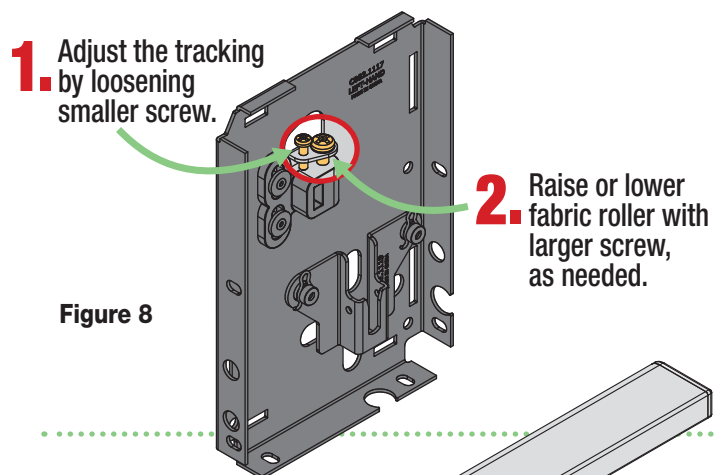


Figure 8

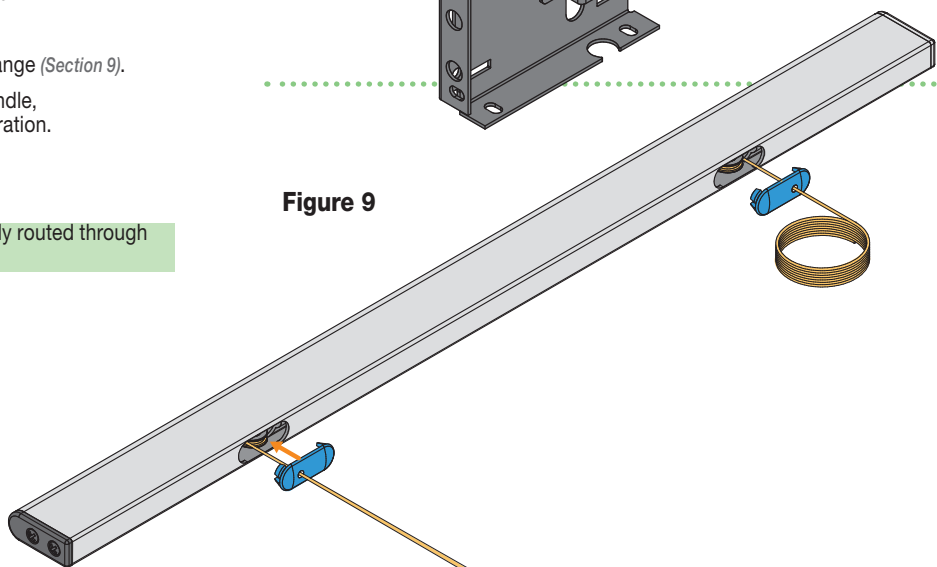
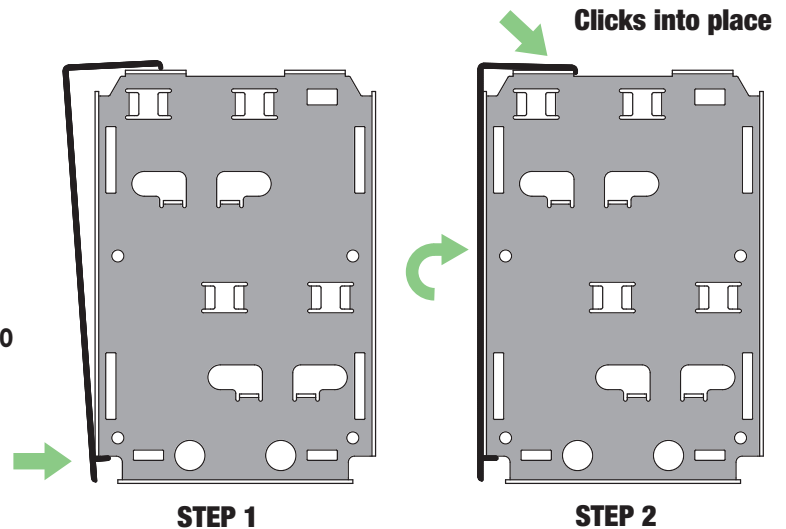


Figure 9

Section 7 - Install Fascia

Place groove along top of fascia over endcaps, and snap into place (Fig. 10). Fascia is not fully seated until it clicks into place on both ends. Once in place, check for secure fit.

Figure 10



Section 8 - Electrical Connections

Shade operates on 110-120V, 60 Hz. current. Shade is shipped with internal wiring complete and control switch(es) fully boxed, and standardly supplied with a 6' (183 cm) cable lead. Longer lead can be substituted by removing two screws in motor end of roller, removing lead, plugging new lead in, and replacing screws. Wire to connect shade to switch(es) and switch(es) to power supply should be furnished by installer. Connections should be made in accordance with attached wiring diagram, and wiring should comply with national and local electrical codes. DO NOT wire motors in parallel without written permission from Draper.

All operating switches should be "off" before power is connected.

Please Note: For low-voltage wiring requirements, Draper recommends consulting with a professional low-voltage electrical contractor. It is very important that shielded and stranded CAT5 cable be used to prevent any electrical interference.

Section 9 - Limit Switch Adjustments

Standard and Quiet Motors

⚠ Caution: Bottom-Up FlexShades are shipped without limits. Limits will need to be set before the unit is operated. Always be prepared to shut off manually when new adjustment is being tested.

Push Button Limits

1. Fully depress both limit switch push buttons, then operate wall switch to make sure system works properly.
2. Raise shade to desired "up" stop position.
3. Set upper limit by depressing proper (back) push button.
4. Lower shade to desired "down" stop position.
5. Set lower limit by depressing proper (front) push button.

Screw-Type Limits

6. Determine which direction of fabric travel corresponds with arrows on motor.
7. Operate shade to desired "down" stop position. Set limit by turning proper socket toward "+" to lower limit, and "-" to raise it.
8. Operate shade to desired "up" stopping position. Set limit by turning proper screw toward "-" to raise limit, and "+" to lower it.

Please Note: Each full rotation of the limit screw equals approximately $\frac{1}{8}$ " (16mm) of shade travel, which may require rotating the limit screw several times.

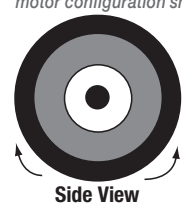
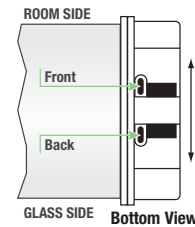
⚠ Caution: DO NOT allow the hem-bar to hit the upper roller or fascia. This will damage the unit.

⚠ Caution:

- Be sure all switches are in "off" position before adjusting limit switches.
- Be prepared to shut off manually while testing.
- Shade may be damaged by running shade fabric up too far and exposing roller.
- If using a group control system, each limit switch must be set prior to connecting to system.
- Motor must be installed so limit switches are pointed down.

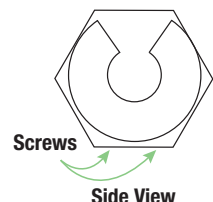
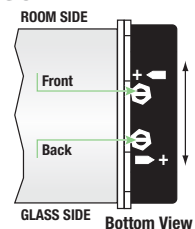
PUSH BUTTON LIMITS

Standard right-hand motor configuration shown



SCREW-TYPE LIMITS

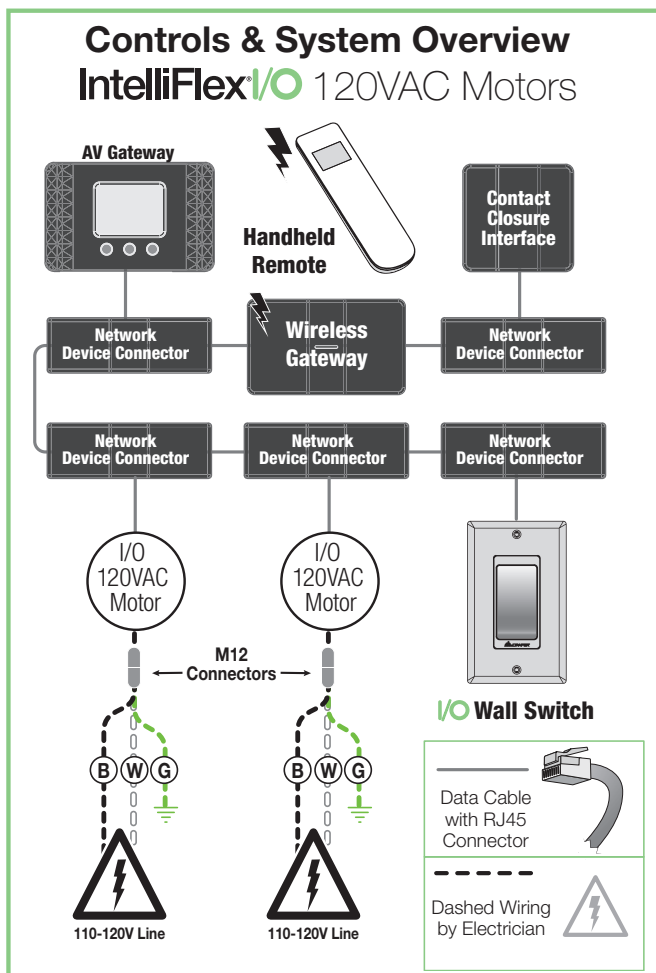
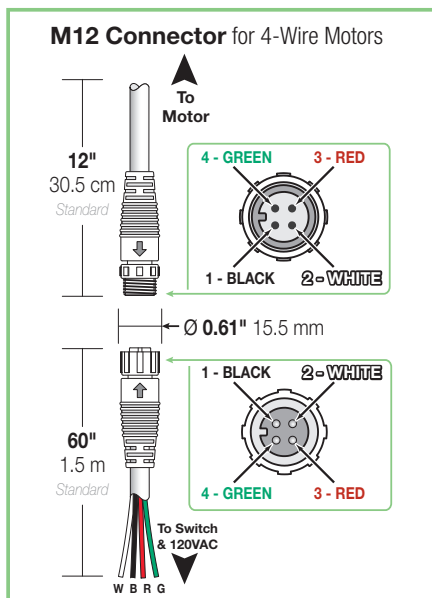
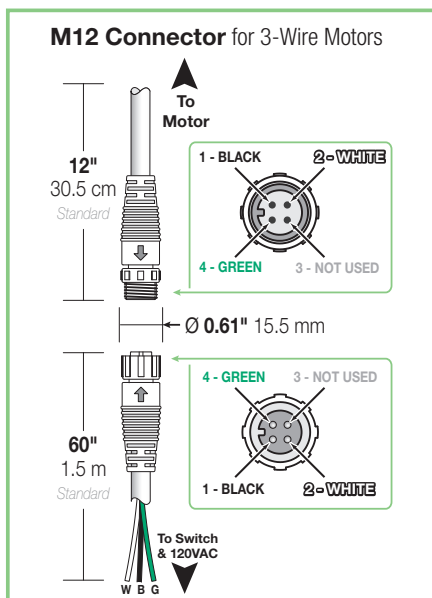
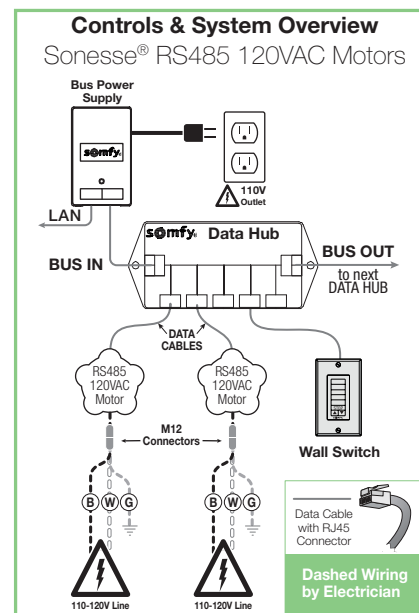
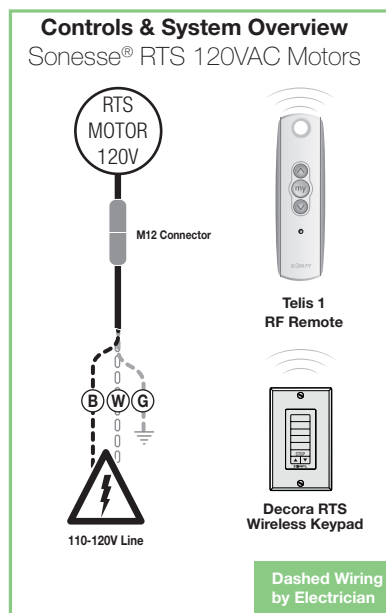
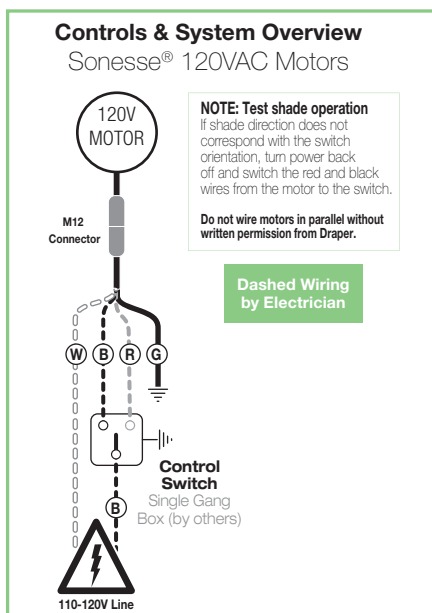
Standard right-hand motor configuration shown



Limit Adjustments for Other Motors

- For limit setting instructions on RS485 Motors, see instructions packaged with the RS485 Address/Limit Setting Tool (part# C156.241).
- For limit setting instructions on RTS Motors, see Radio Frequency Remote Control Programming Instructions (FS_MO_RFRC_ProgInst).
- For limit setting instructions on IntelliFlex® I/O Motors, see instructions packaged with the Motor Limit Setting Tool (part# C202.030).

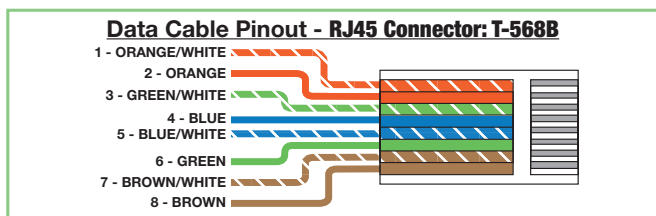
Section 10 - Wiring Diagrams



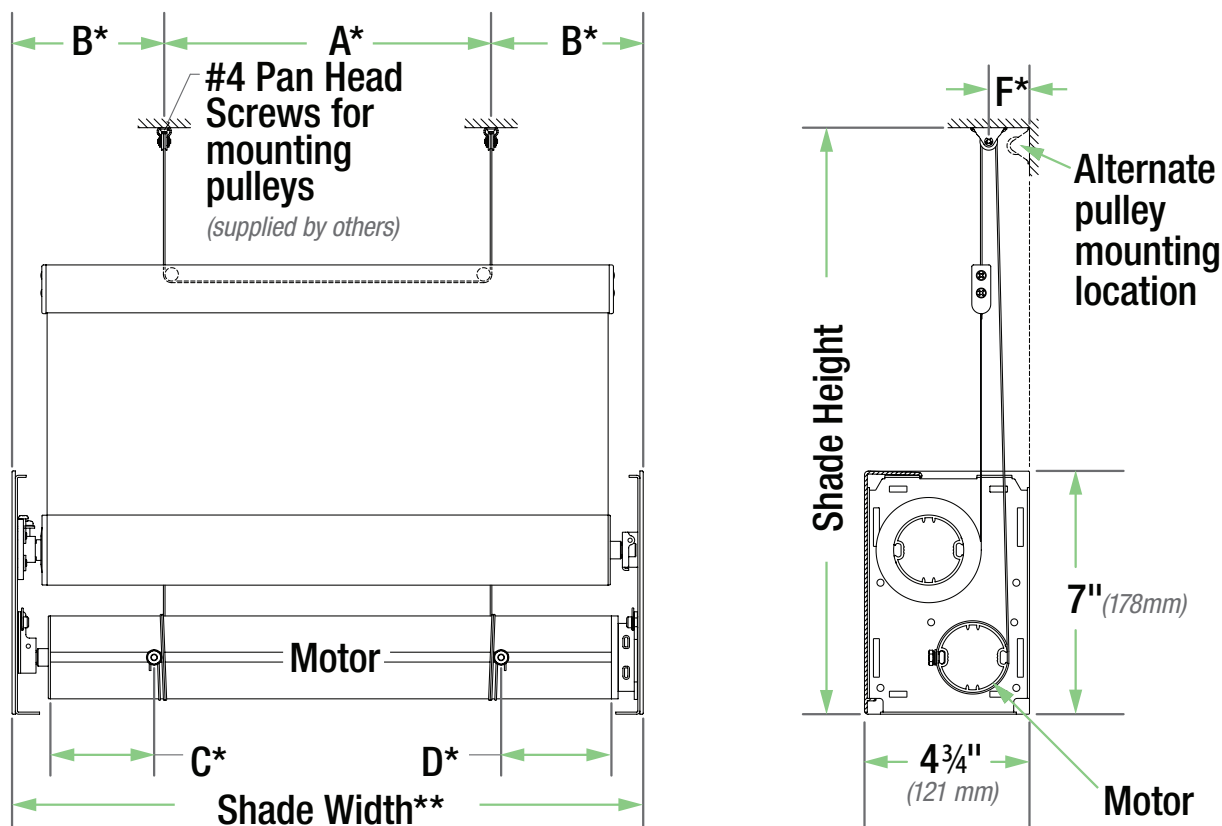
Caution:
Do not wire motorized units in parallel without written consent from Draper®.

Please Note:
A Draper Motor Test Cable (Part# 503109) and M12 Pigtail (Part# C107.089.60) are recommended for temporary power for testing and limit setting. Other motor cables available upon request:

- 5' (1.5 m) cable with female M12 Connector
- 3' (0.91 m) cable with female M12 Connector
- 6' (1.83 m) cable with female M12 Connector
- 10' (3 m) cable with female M12 Connector
- 24' (7.32 m) cable with female M12 Connector



Section 11 - Dimensions



***These dimensions are different for each shade and are provided by Draper with your order.**

- > Dimension "A" is the vertical cable spacing.
- > Dimension "B" is the distance from the vertical cable spacing to the vertical edge of the shade.
- > Dimension "C" is the distance from the idler-end of the tube to the center of the cable attachment stud.
- > Dimension "D" is the distance from the operator-end of the tube to the center of the cable attachment stud.

Shade Width = Fabric Width + A	
Operator	Dim A
110-220V Standard/RS485	1 3/4" (44mm)
110-220V Quiet	1 15/16" (49mm)