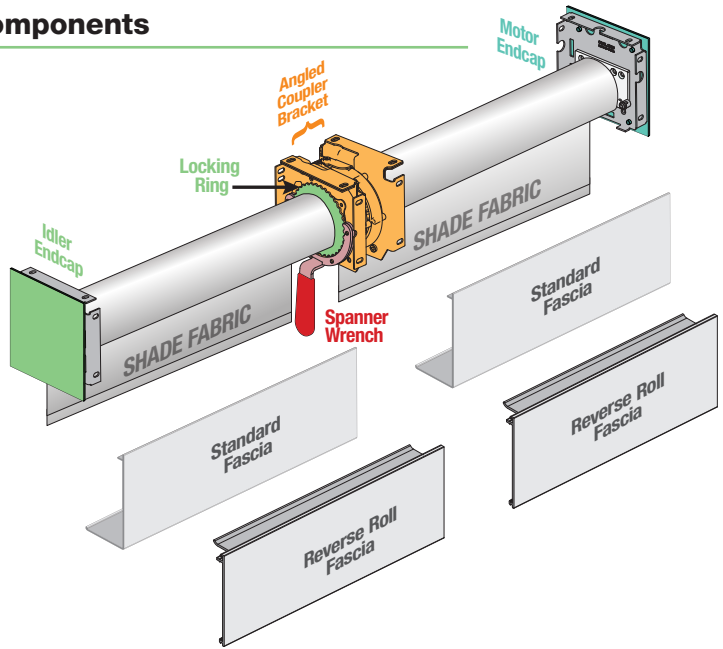


# Angled Coupler for Motorized FlexShade®

## INSTRUCTIONS INSTALLATION & OPERATION

### FLEXSHADE ANCOUP XMO

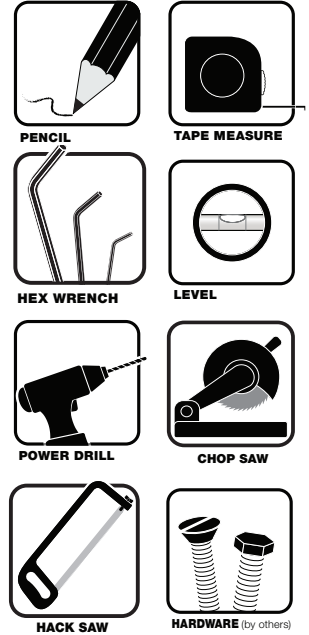
#### Overview - Components



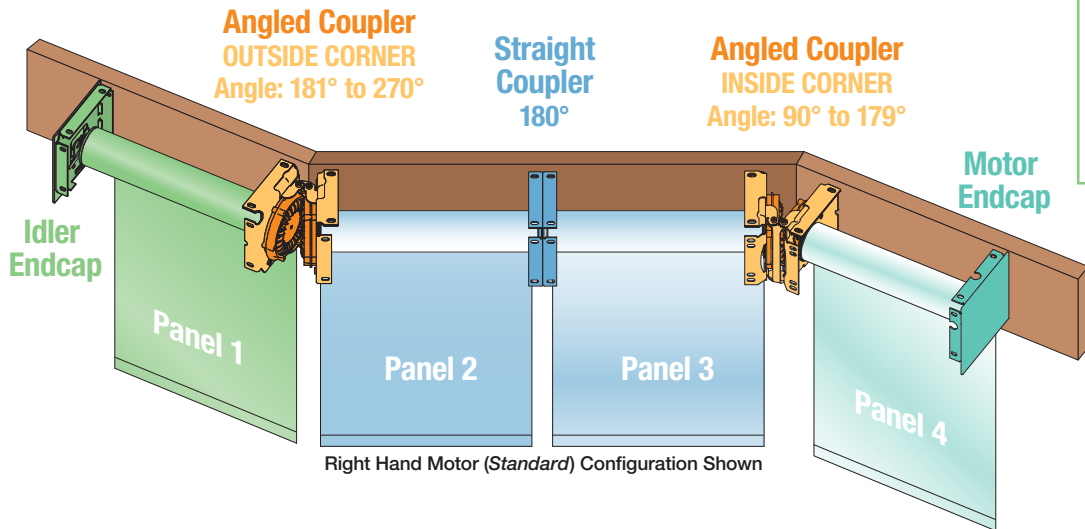
#### PERSONNEL REQUIRED



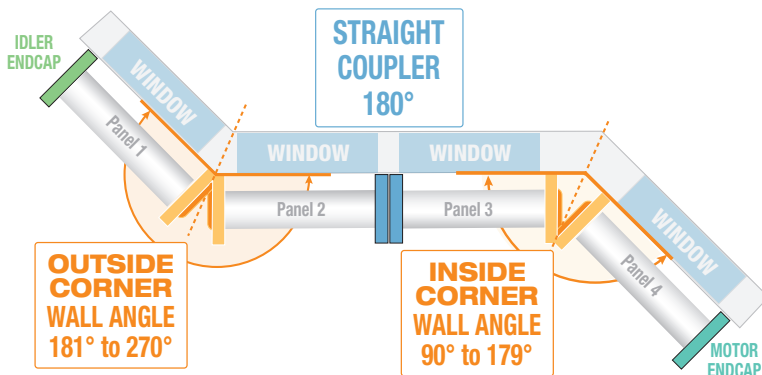
#### TOOLS REQUIRED



#### Overview - Completed Installation (Isometric View)



#### Overview - Completed Installation (Top View - Diagram)



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

If you have any difficulties installing or servicing your Coupled FlexShade®, 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, taking care not to cut into cardboard shipping container.
3. Before mounting shades, verify measurements on label provided with shade, and ensure unit is installed at correct width.
4. All endcaps, fascia, pocket headbox, and other hardware must be installed level. Shades must be level and square.
6. **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.**
7. **Installer is responsible for selecting mounting hardware appropriate for site conditions.**

## PLEASE READ - Safety Information

### Important Safety Information



## WARNING

### Important Safety Information

**Improper installation and use of the Angled Coupler for Motorized FlexShade® 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 shimmed fabric into the fabric roll when the shade is deployed on the side that the fabric will be drawn toward. For example: if the fabric is tracking to the left, place the shimmed fabric 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®, and Phifer® SW7000 fabrics, which must be cleaned with a dry art sponge.

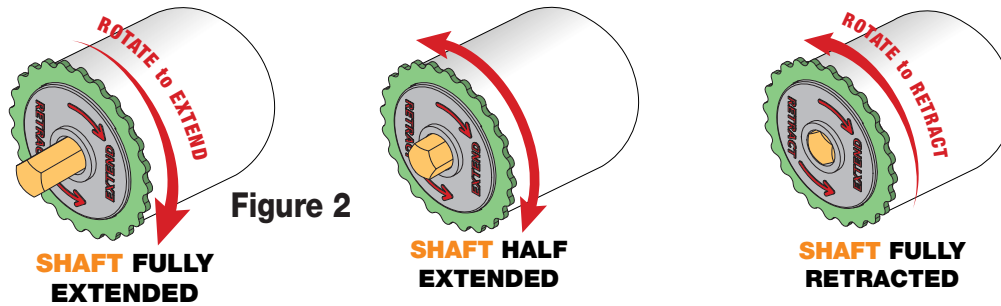
*(GreenScreen Revive® and GreenScreen Evolve® are registered trademarks of Mermet® USA. SheerWeave® is a registered trademark of Phifer® Incorporated.)*

## Section 1 - Operating the Retractable Coupler Shaft

**Please Note:** Custom products/installations may not be reflected by this document.

Draper® Coupled FlexShades utilize a locking retractable shaft (Fig. 2) to hold roller assemblies in place and link panels together. The retractable coupler shaft has three distinct positions: fully extended, intermediate, and fully retracted.

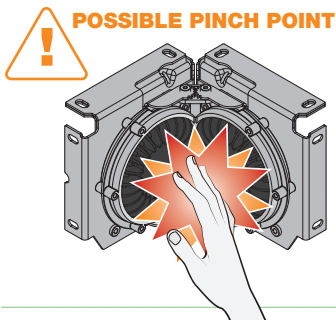
1. To retract the coupler shaft from fully extended to the intermediate position, grasp the roller with one hand while rotating the metal ring counterclockwise (as viewed facing the coupler assembly) approximately 1/2 of a turn with the other; this will leave the shaft extended approximately 1/2".
2. To retract the coupler shaft fully, rotate the metal ring counterclockwise (as viewed facing the coupler assembly) an additional 1/2 of a turn.
3. To lock shaft in place when extended, rotate metal ring clockwise 1/4 turn.



**Please Note:** There is no retractable shaft in the idler end assembly on the idler end shade (furthest from the operator). This idler assembly utilizes a sliding pin and retainer clip.

**Please Note:** These instruction steps are for installing endcaps one at a time. Endcaps may also all be installed at the same time, prior to installing roller/fabric assemblies. If endcaps are installed first, be certain of measurements and locations. For best results, assemble the unit on a flat, clean surface. Verify measurements before attaching endcaps.

## Section 2 - Attaching Angled Coupler Safety Guards

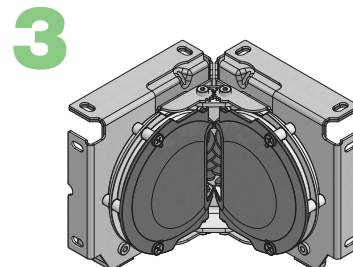
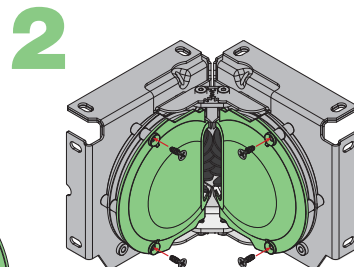
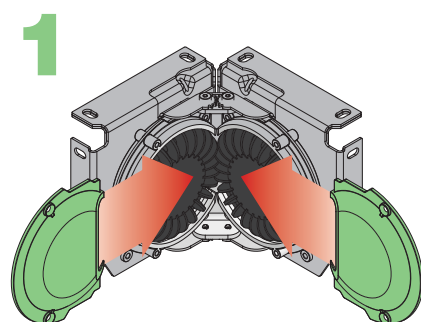


If Safety Guards are required they **MUST** be attached **BEFORE** mounting endcaps to Wall or Ceiling so that Endcaps do not need to be removed later.

**WARNING!**

No safety guards are required for: Inside Corner Wall Angle 165° to 179° OR Outside Corner Wall Angle 181° to 195° Angled Coupler for Motorized FlexShades requires the installation of two (2) safety guards per Angled Coupler.

1. Locate safety guards included with your Angled Coupler.
2. Place one safety guard over each gear.
3. Secure safety guards to coupler using provided screws.
4. Coupler is now ready to be installed.



### Safety Guards

**NO SAFETY GUARDS REQUIRED**

**INSIDE CORNER**  
Wall Angles: 165° to 179°

**OUTSIDE CORNER**  
Wall Angles: 181° to 195°

**INSIDE CORNER**  
Wall Angles: 145° to 164°

**OUTSIDE CORNER**  
Wall Angles: 196° to 215°

**INSIDE CORNER**  
Wall Angles: 130° to 144°

**OUTSIDE CORNER**  
Wall Angles: 216° to 230°

**INSIDE CORNER**  
Wall Angles: 90° to 129°

**OUTSIDE CORNER**  
Wall Angles: 231° to 270°

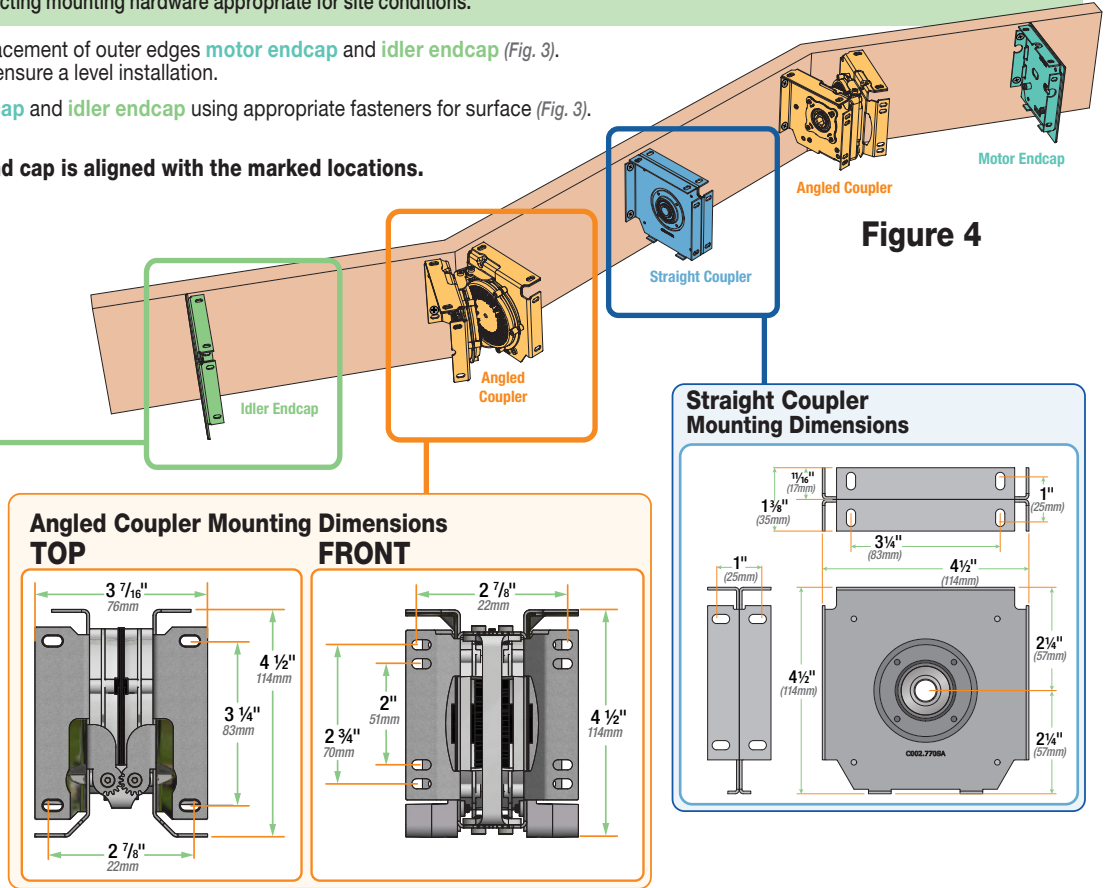
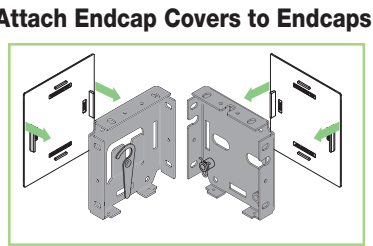
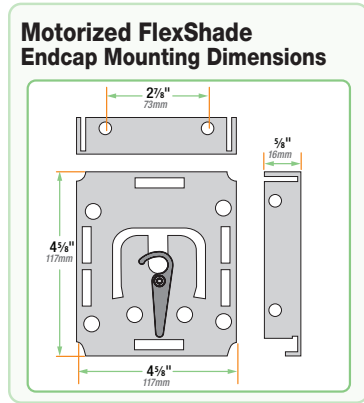
## Section 4 - Mounting Angled Coupler and Endcaps

**⚠ Caution:** Before mounting shades, verify measurements on the card provided with the shade, and ensure the endcaps are installed at the correct width.

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

1. Measure and mark wall (or ceiling) for placement of outer edges **motor endcap** and **idler endcap** (Fig. 3). Mark a level line across all windows to ensure a level installation.
2. Mount **Angled Coupler(s)**, **motor endcap** and **idler endcap** using appropriate fasteners for surface (Fig. 3).

Make sure the outside edge of each end cap is aligned with the marked locations.



## Section 5 - Installing Fabric Roller Assemblies to Mounted Endcaps and Angled Couplers

Always begin with the **Motor Shade Panel** (Right hand side standard) then all **Intermediate Shade Panels** (Right to Left) and finish with **Idler Shade Panel** (See Fig 5).

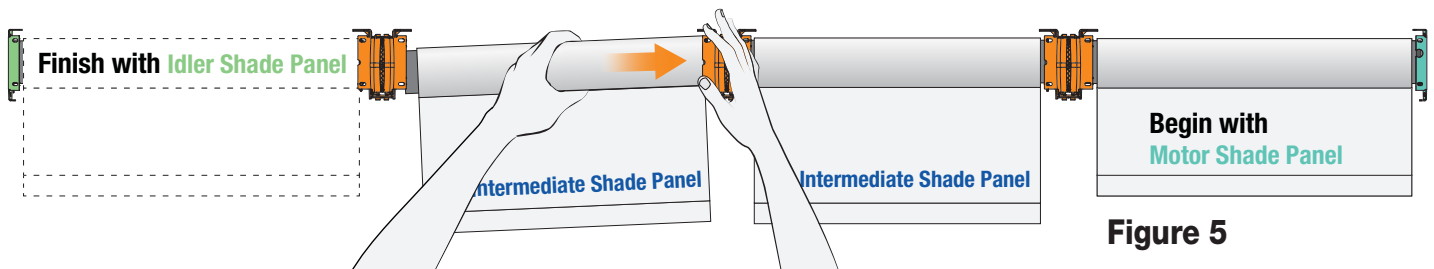
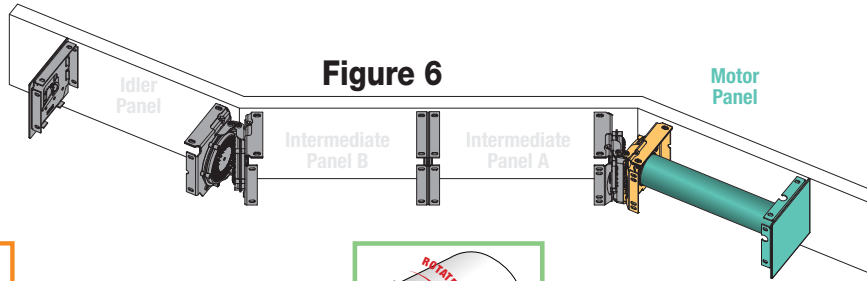


Figure 5

## Section 5.1 - Installing Motor Panel



**1A Motor Endcap**

Slide Motor Bracket over studs on Motor Endcap

**SHAFT FULLY RETRACTED**

**SHAFT FULLY EXTENDED**

**2A**

**Angled Coupler**

**Motor Panel**

**Motor Endcap**

Lift panel to align coupler shaft with hexagonal hole in the Angled Coupler

**2B**

**Angled Coupler**

**Motor Panel**

**Motor Endcap**

Rotate ring ¼-Turn to lock shaft into Angled Coupler

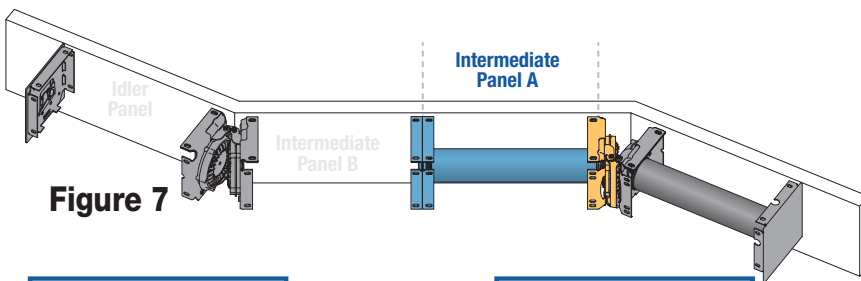
**2C**

**Motor Endcap**

**Motor Panel**

Attach Motor Clips to studs

## Section 5.2 - Installing Intermediate Panel Between Angled Coupler and Straight Coupler



**1A Angled Coupler**

**Angled Coupler**

**Intermediate Panel A**

**1B Angled Coupler**

**Angled Coupler**

**Intermediate Panel A**

**SHAFT FULLY EXTENDED**

**2A**

**Straight Coupler**

**Intermediate Panel A**

Lift panel to align coupler shaft with hole in coupler

**SHAFT FULLY RETRACTED**

**2B**

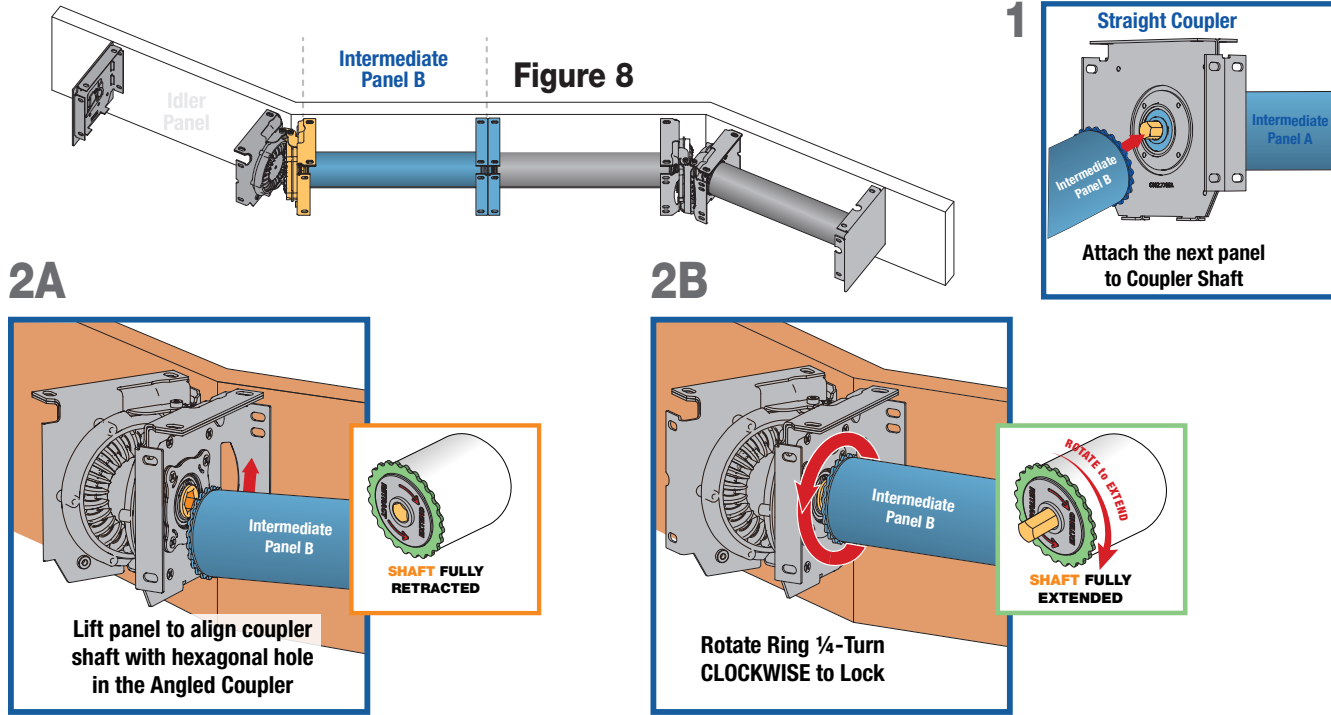
**Straight Coupler**

**Intermediate Panel A**

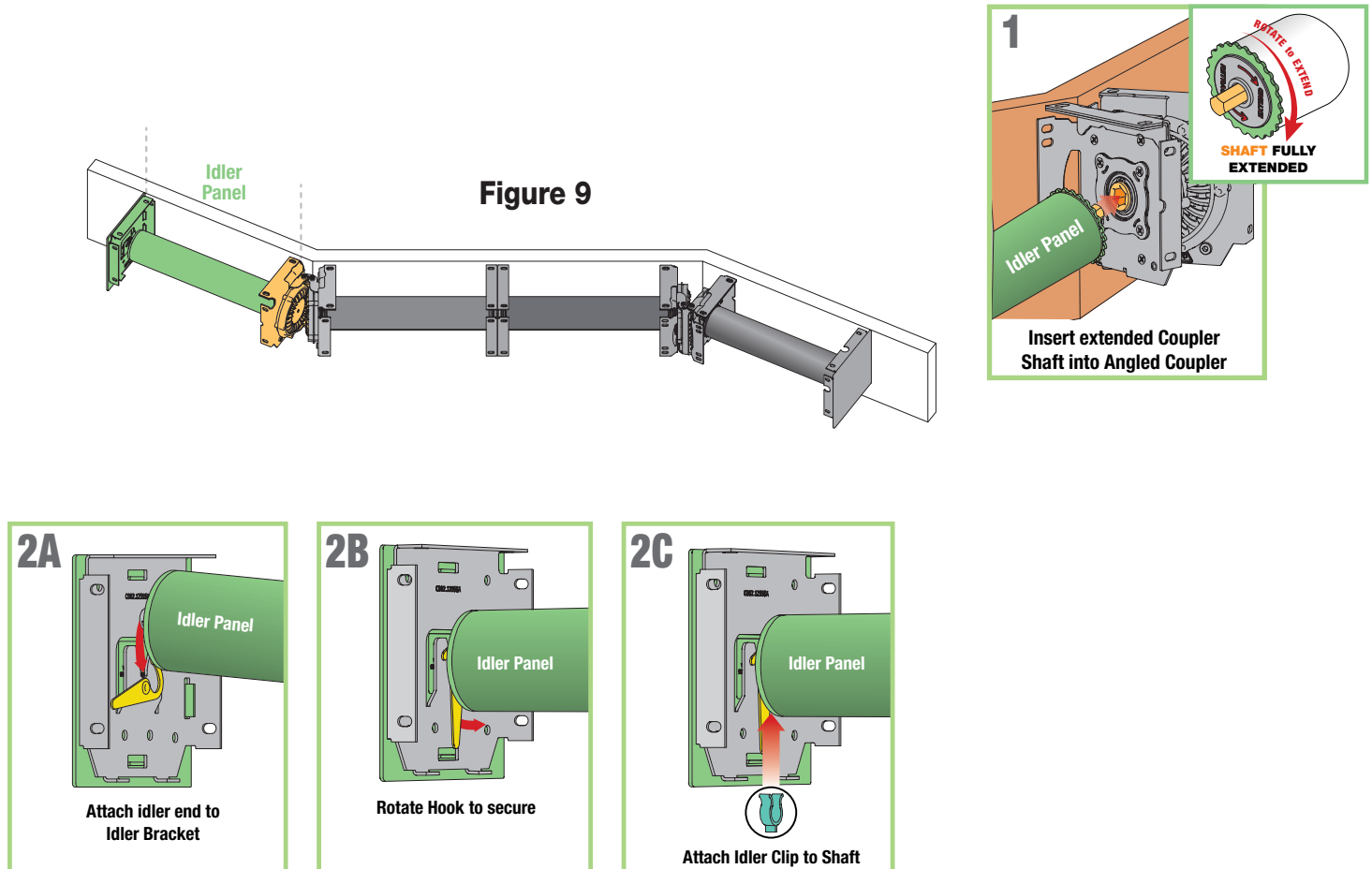
Rotate to release Shaft through Coupler

**SHAFT FULLY EXTENDED**

## Section 5.3 - Installing Intermediate Panel Between Angled Coupler and Straight Coupler



## Section 5.4 - Installing Intermediate Panel Between Angled Coupler and Idler Endcap



## Section 6 - Fabric/Roller Assembly Alignment *(Steps are shown for right-hand operators)*

**Please Note:** If needed, the fabric panel heights can be adjusted so that the bottom edges of the fabric panels are aligned. On large units, this procedure should be done on only one panel at a time to minimize the amount of fabric weight that must be supported during the adjustment procedure.

1. Unlock height adjuster mechanism (or coupler shaft receiver) located at the operator end of fabric roller assembly being adjusted by using the included Spanner to rotate the metal ring about ¼ turn counterclockwise when viewing the face of the coupler assembly (Fig. 10).

**Please note:** Do not use this procedure to adjust the motor-end assembly. Use the limits to set the down travel of the operator-end assembly.

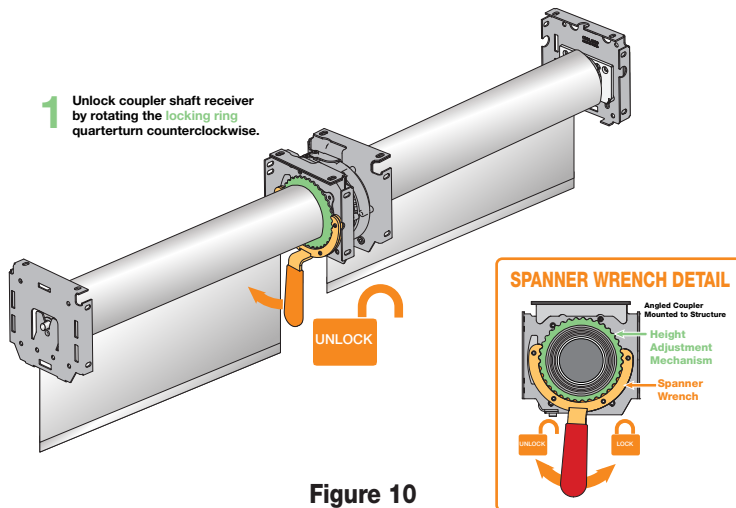


Figure 10

2. Push the fabric/roller assembly you are adjusting toward the operator end of the unit. The fabric/roller assembly you are pushing will move approximately 3/16" toward the operator end (Figs. 11 and 14).

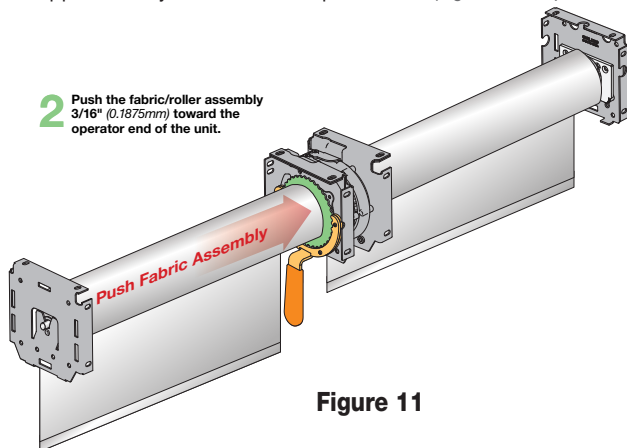


Figure 11

3. Rotate the fabric/roller assembly being adjusted in either direction to raise or lower the fabric panel (Figs. 14 and 16).

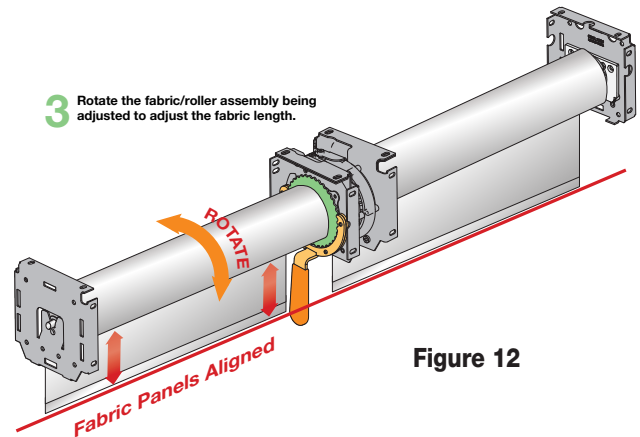


Figure 12

4. Allow the fabric/roller assembly being adjusted to move back away from the operator end of the unit, and check the position of the fabric panels.

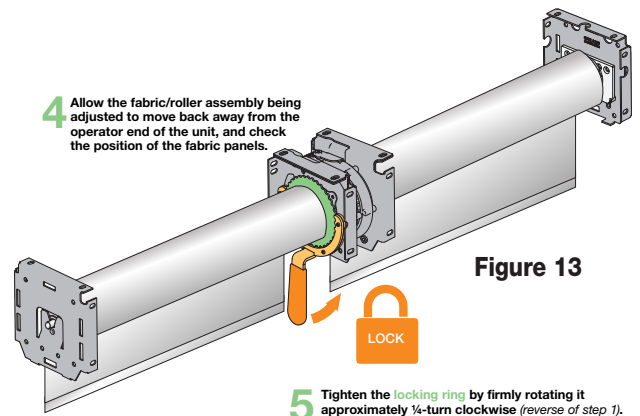


Figure 13

5. Tighten the locking ring by using the included Spanner to rotate it approximately ¼ turn clockwise (reverse of step 1) (Fig. 10).
6. Operate the unit to check for proper fabric position, tracking, etc.

**⚠ Caution:** Make sure the locking ring on the idler end coupler assembly is fully tightened following height adjustment. Make sure you use the included Spanner to grip the locking ring. Tighten the locking ring until it is fully locked and you cannot rotate it any further. Check to make sure it is tight and will not work loose.

## Section 7 - Attaching Fascia for Standard Roll Brackets to Angled Coupler

### Section 7.1 - Attaching Fascia Brackets to Angled Coupler

1. Locate fascia brackets included with your shade (Fig. 14).
2. Secure fascia brackets to angled coupler using a 2mm Hex Wrench.

**Please Note: Inside Corner Standard Roll Fascia Shown.  
For Outside Corner Standard Roll reverse bracket locations.**

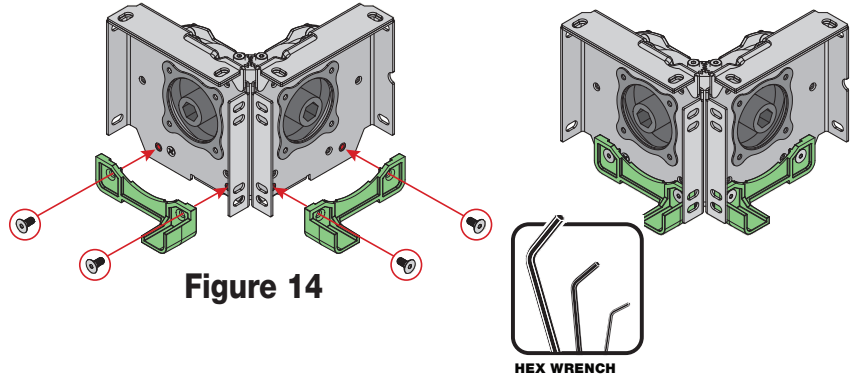


Figure 14

## Section 8 - Standard Roll Fascia

### Section 8.1 - Mitre Cutting Standard Roll Fascia

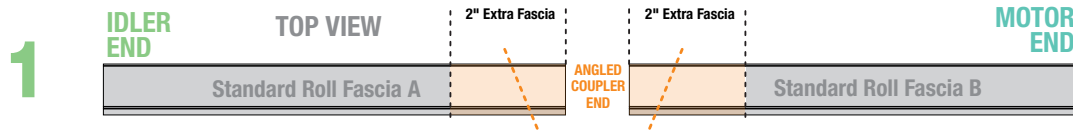
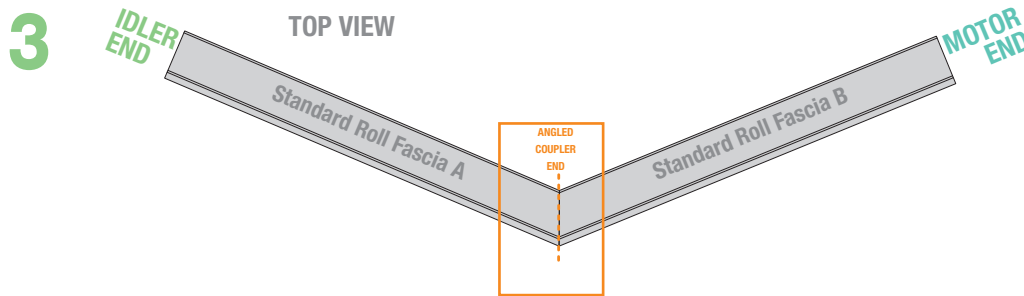
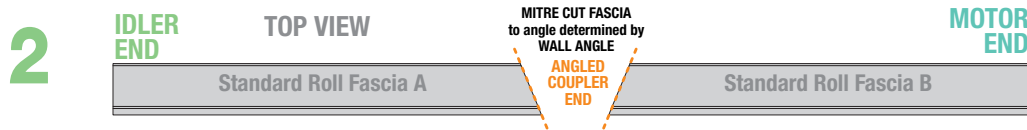


Figure 15



### Section 8.2 - Attaching Standard Roll Fascia to Endcaps

1. Place groove along top of fascia over endcaps, and snap into place (Fig. 16).

Endcaps must be installed the correct distance apart for fascia to be properly attached with full engagement. Fascia is not fully seated until it clicks into place on both ends. Once in place, check for secure fit. If not secure, use an appropriate fastener (not included).

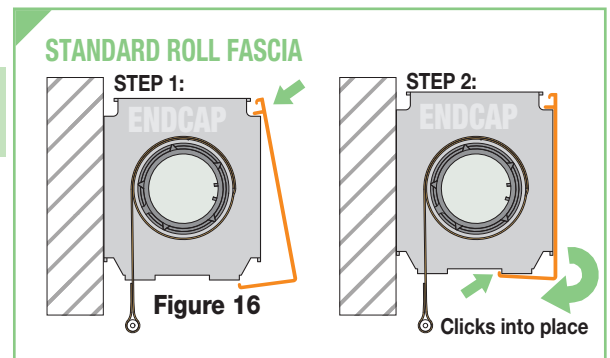


Figure 16



## Section 9 - Reverse Roll Fascia

### Section 9.1 - Mitre Cutting Reverse Roll Fascia

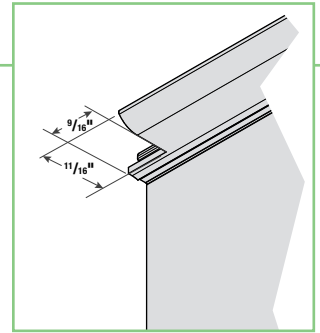
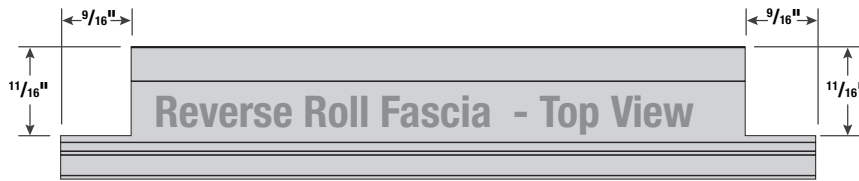
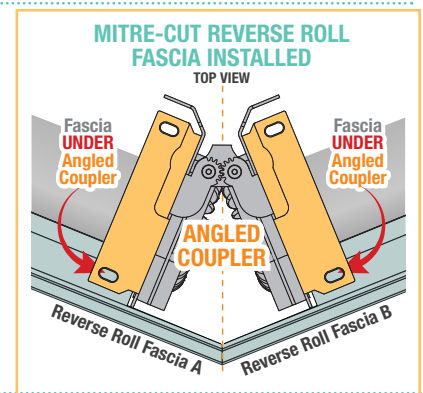
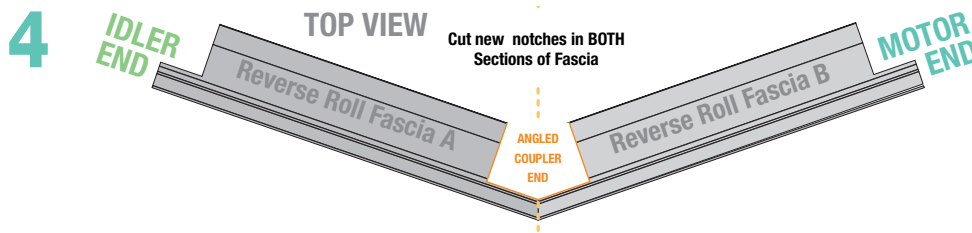
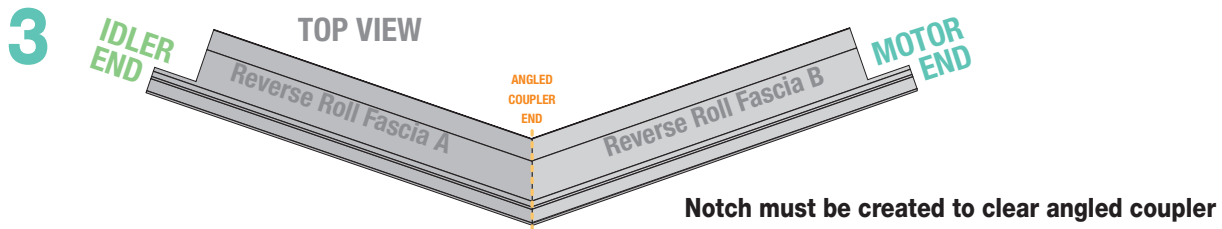
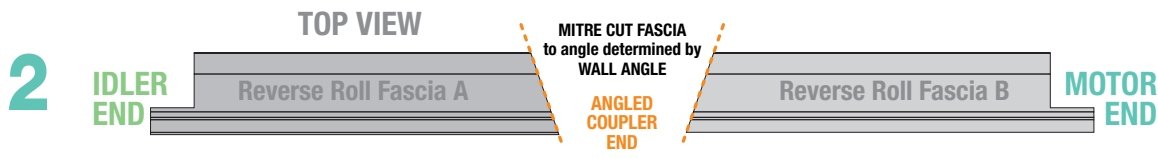
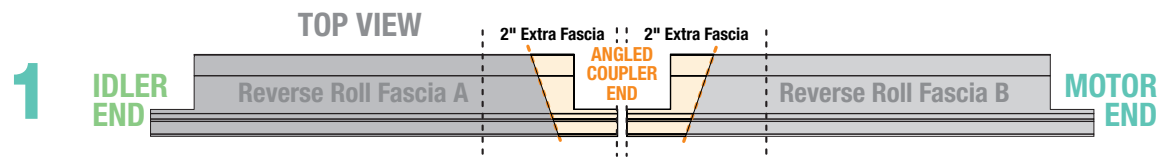


Figure 17



### Section 9.2 - Attaching Reverse Roll Fascia to Endcaps (Fig. 18)

1. Slide endcap onto fascia.

**Please Note:** A kit containing two clips and a hex wrench is supplied per each piece of fascia.



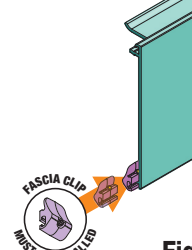
2. Hang fascia on room side of endcap.

3. Slide Clip to end of fascia, ensuring that clip covers mounting bracket of endcaps. (Motor Endcap shown).

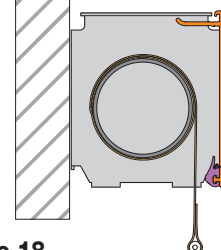
4. Tighten set-screw with included Hex Wrench.

### REVERSE ROLL FASCIA

STEP 1:



STEP 2:



STEP 3:

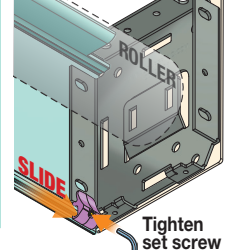


Figure 18

## Section 10 - Limit Switch Adjustments

### Section 10.1 - Standard and Quiet Motors (All procedures shown are for Standard Roll. Invert orientation for Reverse Roll)

#### Section 10.1.1- 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.

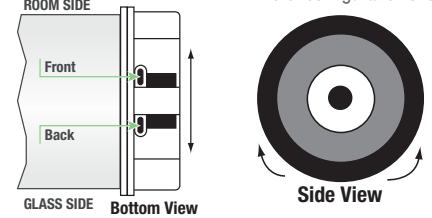
#### Section 10.1.2 - Screw-Type Limits

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

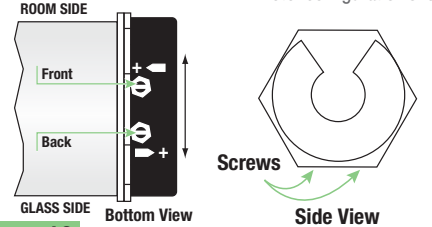
#### ⚠ Caution:

- 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 down too far to expose 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



**Figure 19**

### Section 10.2 - Limit Adjustments (RS485 Motors)

For limit setting instructions on these motors, see instructions packaged with the RS485 Address/Limit Setting Tool (part# C156.241).

### Section 10.3 - Limit Switch Adjustments (RTS Motors)

For limit setting instructions on these motors, see Radio Frequency Remote Control Programming Instructions (FS\_MO\_RFRC\_ProgInst).

### Section 10.4 - Limit Switch Adjustments (IntelliFlex I/O Motors)

For limit setting instructions on these motors, see instructions packaged with the Motor Limit Setting Tool (part# C202.030).

## Section 11 - 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' (1.8 m) 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 CAT 5 cable be used to prevent any electrical interference.

**Please Note:** A Draper Motor Test Cable (Part# 503109) and M12 Pigtail (Part# C107.089.60) are available for temporary power for testing and limit setting.

**⚠ IMPORTANT:** To reduce the risk of electric shock, equipment that features a grounding type attachment plug has a third (*grounding*) pin on the attachment plug. This plug will **ONLY** fit into a grounding type outlet. If the plug does not fit into the outlet, a qualified electrician must install the proper outlet. Do not change the plug in any way. Do not use an extension cord. If the power supply cord is too short, a qualified electrician must install an outlet near the drapery operator.

## Section 11 - Electrical Connections (Continued)

### Controls & System Overview

#### Sonesse® 120VAC Motors

**NOTE: Test shade operation**  
If shade direction does not correspond with the switch orientation, turn power off. Consult a licensed electrician to switch the red and black wires from the motor to the switch.

**Do not wire motors in parallel without written permission from Draper®.**

**Control Switch**  
Single Gang Box (by others)

**Dashed Wiring by Electrician**

### Controls & System Overview

#### Sonesse® RTS 120VAC Motors

**110-120V Line**

**Telis 1 RF Remote**

**DecoFlex Wire Free Keypad**

**Dashed Wiring by Electrician**

### M12 Connector for 4-Wire Motors

**12" 30.5 cm Standard**

**60" 1.5 m Standard**

**Ø 0.61" 15.5 mm**

**1 - BLACK 2 - WHITE 3 - RED 4 - GREEN**

**To Motor**

**To Switch & 120VAC**

### M12 Connector for 3-Wire Motors

**12" 30.5 cm Standard**

**60" 1.5 m Standard**

**Ø 0.61" 15.5 mm**

**1 - BLACK 2 - WHITE 4 - GREEN 3 - NOT USED**

**To Motor**

**To Switch & 120VAC**

### Controls & System Overview

#### Sonesse® 485 120VAC Motors

**Bus Power Supply**

**110V Outlet**

**LAN**

**sofmy Data Hub**

**BUS IN**

**BUS OUT to next DATA HUB**

**RS485 110VAC Motor**

**M12 Connectors**

**SDN DecoFlex Keypad**

**110-120V Line**

**Data Cable with RJ45 Connector**

**Dashed Wiring by Electrician**

**Data Cable Pin-Out - RJ45 Connector**

- 1 - DATA + (ORANGE/WHITE)
- 2 - DATA - (ORANGE)
- 3 - N/A (GREEN/WHITE)
- 4 - POWER + (BLUE)
- 5 - POWER - (BLUE/WHITE)
- 6 - N/A (GREEN)
- 7 - GROUND - (BROWN/WHITE)
- 8 - GROUND - (BROWN)

### Controls & System Overview

#### IntelliFlex i/O 120VAC Motors

**AV Gateway**

**Handheld Remote**

**Contact Closure Interface**

**Network Device Connector**

**Wireless Gateway**

**Network Device Connector**

**Network Device Connector**

**RS485 120VAC Motor**

**M12 Connectors**

**RS485 120VAC Motor**

**i/O Wall Switch**

**110-120V Line**

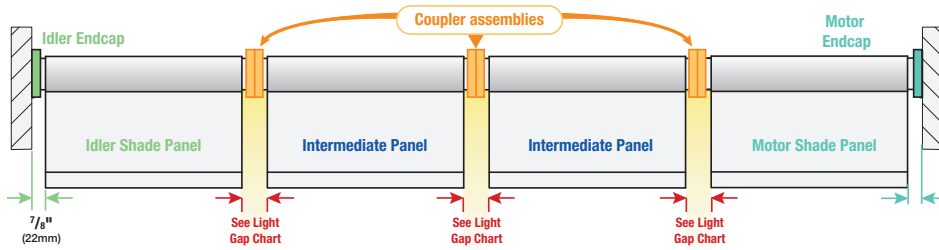
**Data Cable with RJ45 Connector**

**Dashed Wiring by Electrician**

**Data Cable Pin-Out - RJ45 Connector**

- 1 - ORANGE/WHITE
- 2 - ORANGE
- 3 - GREEN/WHITE
- 4 - BLUE
- 5 - BLUE/WHITE
- 6 - GREEN
- 7 - BROWN/WHITE
- 8 - BROWN

## Section 12 - Angled Coupler Light Gap Dimensions



MOTOR TYPE	Roller Diameter			
	2"	50.8mm	3"	76.2mm
Round-Head	15/16"	23.8mm	1"	25.4mm
Square-Head	1 1/16"	27mm	1 1/4"	31.8mm
Star-Head	1 3/16"	30.2mm	1 3/8"	35mm
Gaposa	1 1/16"	27mm	1 1/4"	27mm

Light Gap dimension will vary depending on fabric orientation (e.g. - reverse roll). See chart below.

### LIGHT GAP for INSIDE WALL ANGLES: 90° to 179°

Angle°	2" Roller				3" Roller				
	Standard Roll		Reverse Roll		Standard Roll		Reverse Roll		
	Inches	mm	Inches	mm	Inches	mm	Inches	mm	
175°	2.7"	68.6	2.5"	63.5	175°	2.8"	71.1	2.5"	63.5
170°	2.9"	73.7	2.5"	63.5	170°	3"	76.2	2.5"	63.5
165°	3.1"	78.7	2.5"	63.5	165°	3.2"	81.3	2.4"	63.5
160°	3.2"	81.3	2.5"	63.5	160°	3.5"	88.9	2.4"	63.5
155°	3.4"	86.4	2.5"	63.5	155°	3.7"	94.0	2.3"	58.4
150°	3.6"	91.4	2.5"	63.5	150°	3.9"	99.1	2.3"	58.4
145°	3.7"	94.0	2.5"	63.5	145°	4.1"	104.1	2.2"	55.9
140°	3.9"	99.1	2.5"	63.5	140°	4.3"	109.2	2.1"	53.3
135°	4"	101.6	2.4"	61	135°	4.5"	114.3	2.1"	53.3
130°	4.2"	106.7	2.4"	61	130°	4.6"	116.8	2"	50.8
125°	4.3"	109.2	2.4"	61	125°	4.8"	121.9	1.9"	48.3
120°	4.4"	111.8	2.4"	61	120°	5"	127	1.9"	48.3
115°	4.6"	116.8	2.3"	58.4	115°	5.1"	129.5	1.8"	45.7
110°	4.7"	119.4	2.3"	58.4	110°	5.3"	134.6	1.7"	43.2
105°	4.8"	121.9	2.2"	55.9	105°	5.4"	137.2	1.6"	40.6
100°	4.9"	124.5	2.2"	55.9	100°	5.5"	139.7	1.5"	38.1
95°	4.9"	124.5	2.1"	53.3	95°	5.7"	144.8	1.5"	38.1
90°	5"	127	2.1"	53.3	90°	5.8"	147.3	1.4"	35.6

### LIGHT GAP for OUTSIDE WALL ANGLES 181° to 270°

Angle°	2" Roller				3" Roller				
	Standard Roll		Reverse Roll		Standard Roll		Reverse Roll		
	Inches	mm	Inches	mm	Inches	mm	Inches	mm	
185	2.5"	63.5	2.7"	68.6	185	2.5"	63.5	2.8"	71.1
190	2.5"	63.5	2.9"	73.7	190	2.5"	63.5	3"	76.2
195	2.5"	63.5	3.1"	78.7	195	2.4"	63.5	3.2"	81.3
200	2.5"	63.5	3.2"	81.3	200	2.4"	63.5	3.5"	88.9
205	2.5"	63.5	3.4"	86.4	205	2.3"	58.4	3.7"	94.0
210	2.5"	63.5	3.6"	91.4	210	2.3"	58.4	3.9"	99.1
215	2.5"	63.5	3.7"	94.0	215	2.2"	55.9	4.1"	104.1
220	2.5"	63.5	3.9"	99.1	220	2.1"	53.3	4.3"	109.2
225	2.4"	61	4"	101.6	225	2.1"	53.3	4.5"	114.3
230	2.4"	61	4.2"	106.7	230	2"	50.8	4.6"	116.8
235	2.4"	61	4.3"	109.2	235	1.9"	48.3	4.8"	121.9
240	2.4"	61	4.4"	111.8	240	1.9"	48.3	5"	127
245	2.3"	58.4	4.6"	116.8	245	1.8"	45.7	5.1"	129.5
250	2.3"	58.4	4.7"	119.4	250	1.7"	43.2	5.3"	134.6
255	2.2"	55.9	4.8"	121.9	255	1.6"	40.6	5.4"	137.2
260	2.2"	55.9	4.9"	124.5	260	1.5"	38.1	5.5"	139.7
265	2.1"	53.3	4.9"	124.5	265	1.5"	38.1	5.7"	144.8
270	2.1"	53.3	5"	127	270	1.4"	35.6	5.8"	147.3