

SOLHARO® ASSEMBLY **& INSTALLATION INSTRUCTIONS**

A. Introduction:

The Solharo® is an external, retractable, tensioned sun shading system designed to fit over a sunroom or wood pergola. The special brackets allow the Solharo® to be fitted to almost any type of sunroom or wood structure. The Solharo® is motorized with either a standard hardwire motor, or Altus motor and remote. The motor will not come with a plug, so wiring is necessary.

The Solharo® is shipped to you with a minimum of assembly required. The following instructions pertain to a “type one” Solharo®, meaning that there is only one section. For “type two” or “type three” units refer Figs. 7-12 of these instructions.

Your carton(s) will contain the following:

- 1- The pre-assembled cassette (box) complete with roll tube, motor and fabric with the front bar (end profile) and carriages attached. The high-tech rope is attached to the roll tube pulleys with the excess stored in the cassette.
- 2- Two guide rails (lateral guides) for a type one unit.
- 3- Standard (or type A or type B) support brackets. The number of support brackets depends on the projection. (See section C-2).
The bolts to connect the guide rails to the supports are shipped in the supports.
- 4- Two cover guides, one left-one right, for the pulley ends of the guide rails.
The screws for the covers are shipped in the pulleys.

B. Tools required:

Tape measure (Metric and U.S)
Cordless drill w/ 5/16” nut driver
13 MM wrench
Phillips screwdriver
Motor test kit (If motor is hard wire).

C. Final assembly/installation:

- 1- **CHECK YOUR MEASUREMENTS.** Center to center of the outside Mounting brackets will be 2” less than the overall width of the cassette and outside of track to outside of track (1” less on each side). Small deviations can be adjusted with the slots in the brackets.
- 2- Divide the track brackets among the number of guide rails. Slide the bolt heads into the ½” X ¼” channel on the underside of the guide rails. Position the brackets evenly on the mullions supporting the front, back and middle of the guide rail evenly. Attach the guide rails to all the brackets, but only tighten down the bottom or front bracket so the guide rail does not move leaving 10 – 12” in the back to insert the cassette into the guide rails.

- 3- If you have not already removed the cassette hood cover and front bar cover, do so at this point. Removing the hoods before attaching cassette to guide rails make the system / unit lighter to handle. The springs are taped inside the front bar and can also be removed.

After attaching the cassette, loosen the two bottom brackets so that you can slide the entire unit into position against the wall , roof, etc. to close off the gap in the back. Now you are ready to start running the cable.

- 4- Pull rope from under spool and run cable going over the 1st white small wheel on the cassette end plate (Make sure you maintain 3 wraps on the roller spool). Now run the rope along the underside channel of the guide rail. Wrap the rope around the front end wheel of the guide rail and run the rope back up in the center channel to the front bar. Thread the rope through the horizontal flat wheel at the end of the front bar. Then thread through the wheel that is connected to the spring. Now run the rope through the hole of the black jam cleat. Go under the "Silver" round pin on opposite side. Now repeat process for every guide rail on unit the same way.
- 5- Now you are ready to put tension on the system. Pull the rope tight under the guide pin on the jam cleat and putting tension on the system until you pull the spring to the marked position, **NOT** to exceed or go under the max or minimum pre-tension marked on front bar (See separate tension sheet figure #13).
- 6- Hook up the electric with electric or use test kit to hook up color code wires. **Make sure the rope is correctly fed over all wheels before operating.** Now proceed to extend / open the system a few feet at a time, until you get to the desired open position. Once at the desired position set the mechanical limits on motor (Hardwire motors), or electronic limits using the remote on Altus RTS remote motors. **As you project the fabric it may begin to loosen. If so, put more tension in the spring by pulling the rope tighter. Make sure the maximum and minimum expansion and retraction of the spring is within specs.** Now run the system up and set up limit.
- 7- Now you are ready to lower / open the system again to make sure the limit is set properly. **If the unit extend and retracts smoothly, you can leave the system in the open position and tighten down all the guide rail brackets so that all guide rails are tight and square..**

Setting limits on hardwire motors:

If you have a standard, NON-RTS motor the limit switches are the white and yellow buttons located on the motor. (When the button is depressed, it will stay IN. When it is depressed a second time, it will pop out). If the motor is on the **RIGHT** end of the unit, the **YELLOW** button is the IN stop, the **WHITE** button is the OUT stop. If the motor is on the left end, the opposite will apply. Attach your test unit and set the limits as follows: (See *SOMFY limit switch directions*)

- a- Be sure both of the buttons are IN.
- b- Run the fabric OUT and stop it at full projection.

- c- Pop OUT the button that controls the OUT stop.
- d- Run the fabric IN and stop it at full retraction.
- e- Pop OUT the button that controls the IN stop.

The limit switches are now set.

Setting limits on RTS Altus motors:
(Follow Somfy Altus limit switch instructions).

Now you can replace the cassette cover and screws. Replace the front bar cover and snap it into place. Install the cover guides over the pulleys in the ends of the guide rails (one left, one right).

The installation of your Solharo® type one is complete..

D. Type two & type three Solharo's.

- 1- Type two and type three Solharos are those that are comprised of two or three separate units that are joined together, share a single motor and operate in unison. The abutting ends do not have a solid side frame on the cassettes but instead have a coupling frame (left or right – see Fig 7). Each section is basically assembled and installed the same as a type one with several additional steps.
 - a. The middle guide (Double guide) is wider to accept a bay on each side. This guide must be installed on the mullion where the abutting ends will meet.
 - b. One of the coupling frames will have a bolt and nut attached. Remove this and put it aside (See Figure 7). There will also be a square coupling axle taped to one of the coupling frames. Leave the tape in place until you are ready to join the units.
 - c. When the units have been placed where they will be installed, Remove the tape from the axle pin and push the units together. (See Figs.# 8 thru 10). **BE CERTAIN THE FRONT BARS ARE EVEN SINCE THE UNITS OPERATE BY THE SAME MOTOR.** Use the bolt and nut referred to above to secure the coupling frames (See Fig. #11).
 - d. REFER TO SECTION 'C' TO COMPLETE THE INSTALLATION.

NOTE: If the unit is being used in a windy location, it is recommended to add a wind sensor. Do not leave out in the rain unless a mesh fabric is being used.

IF ADDITIONAL ASSISTANCE IS REQUIRED CALL 1-800-548-0408.

Use & Maintenance

The awning will have to be inspected and serviced on an annual basis.

Suitable use and maintenance greatly increase the life of the awning.

- Do not use the awning as a rain or wind awning.
- Do NOT operate the awning in heavy wind
- Regular maintenance of the awning prevents unnecessary wear or problems with the function.

FRAME & CABLES:

- Cleaning of the frame: Use tepid water instead of aggressive substances that can affect the paint and protective layers.
- Lubricate the rollers, wheels, and Tedlar rope/cables once a year. Use a silicone or Teflon spray. Pay particular attention to lubricating the wheels at the end of the track. They take more strain because of the heavy tension in the front bar. When lubricating the wheels it is best to unhook the spring so that the lubricant can go through the wheels and the small axle.
- Also lubricate the bearing / bushing at the opposite side of the motor.
- Check tension in cable / springs.
- Units operating with a "Sun & Wind Control will experience a higher rate of wear on the cables.

FABRIC:

- Cleaning of the fabric: Use dry brush.
- Stubborn stains: a tepid water and mild soap solution, rinse with clean water.
- See each manufacturers warranty and cleaning instructions of each type of fabric.

Let the awning dry fully before rolling it up (even after an unforeseen rain shower).

Warranty: (see separate warranty sheet)

- Frame is warranted for Five (5) years.
- The fabric and motors are warranted for Five (5) years by the manufacturer of the Fabrics and motors: (See separate warranty sheets for fabric and motors from the manufacturers).
- The cable is warranted for 2 years.



SUNAIR® AWNINGS & SCREENS
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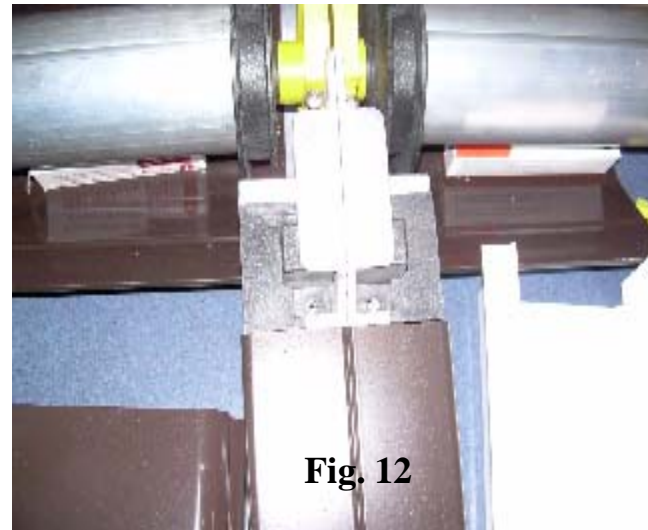
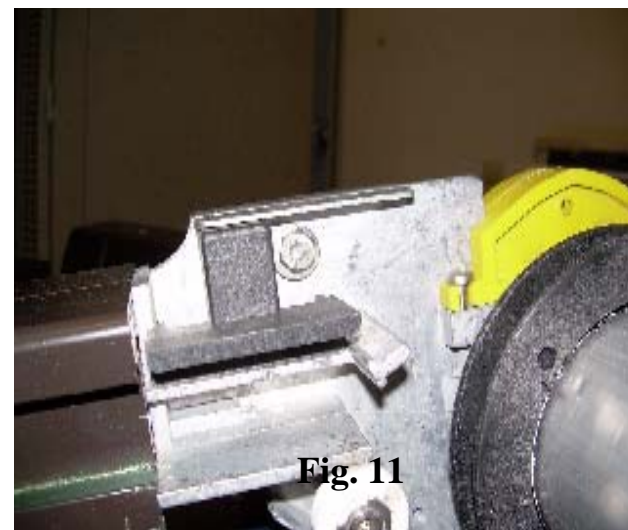
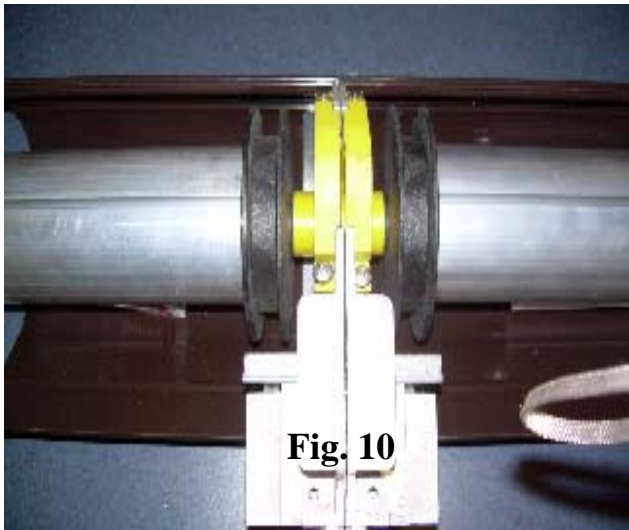
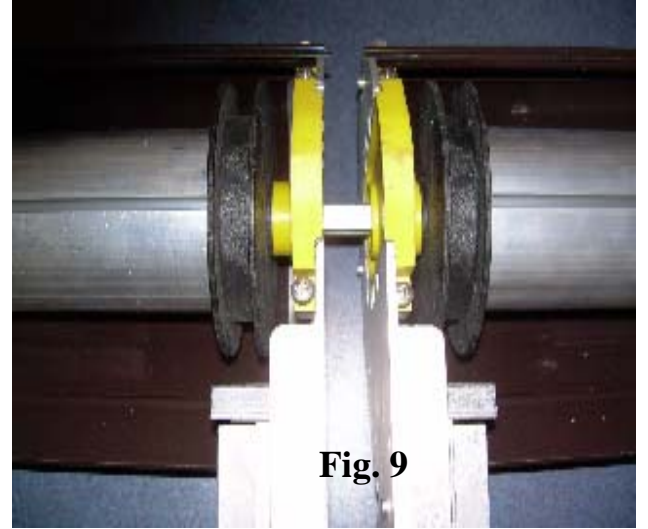
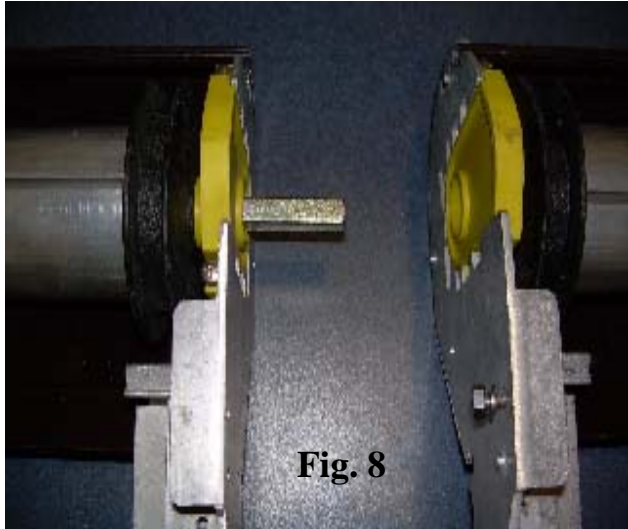
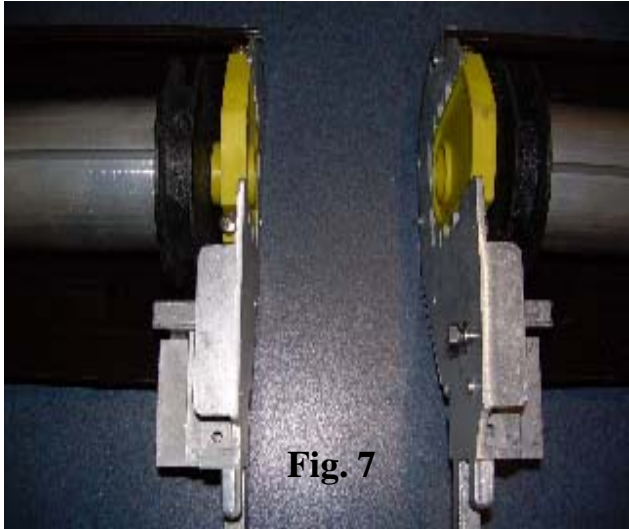
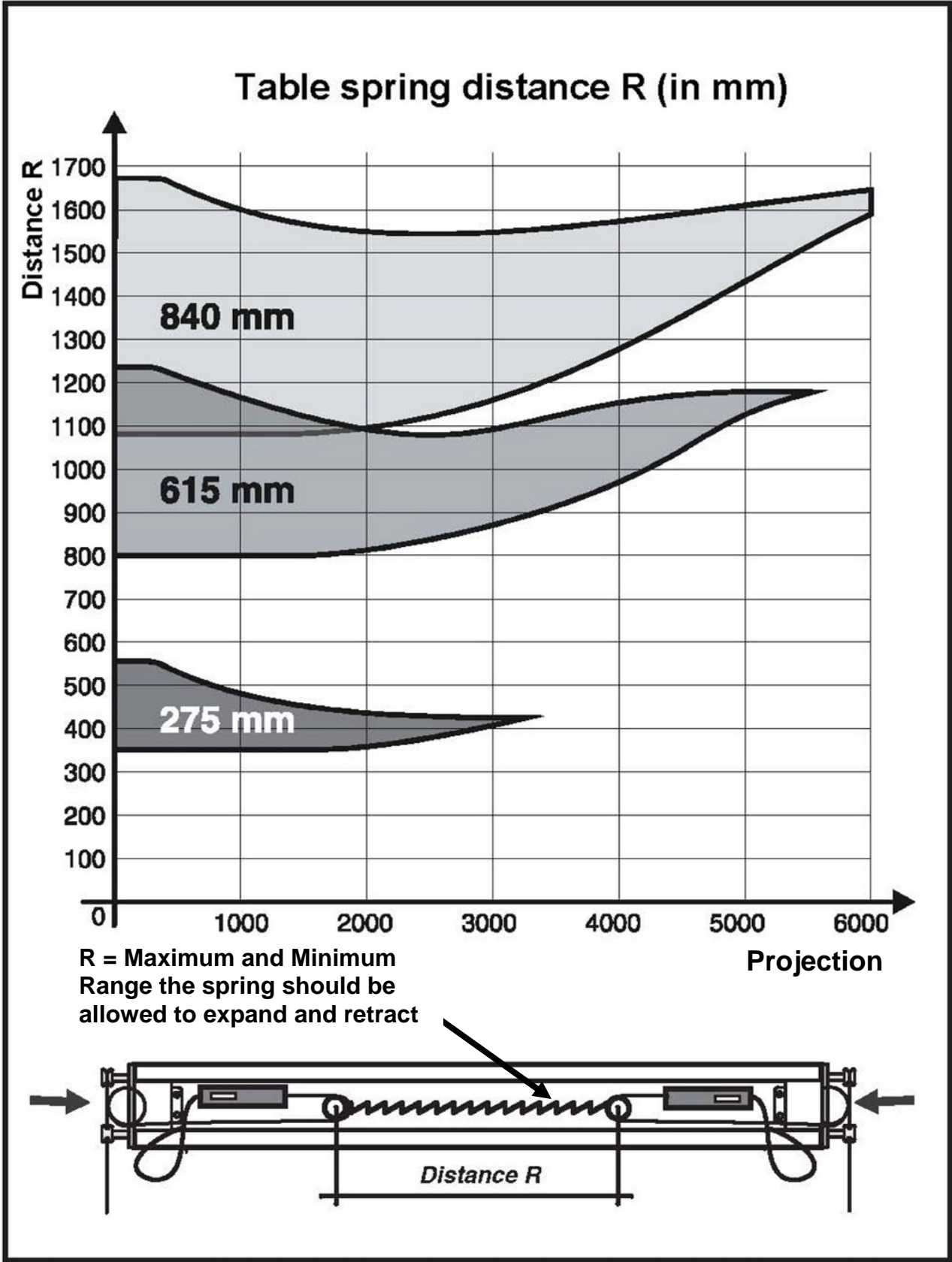


CHART FOR DETERMINING PROPER MAXIMUM AND MINIMUM EXPANSION ON THE SPRING



Figure 13



MAKE SURE THE EXPANSION AND RETRACTION OF THE SOLHARO SPRING IS CORRECT

It is very important that the spring is tensioned properly and that you are using the correct spring for the particular unit. The springs and the measurements are in metric, so you will need a metric measuring tape. The springs are available in two sizes 840mm and 615mm. The smaller 275 mm spring is only used for special sizes. The 840mm spring will be used as much as possible. The 615mm spring will only be used when the 850mm spring is too long.

SPRING TYPE NEEDED:

Acrylic Fabric: When projection is less than 4000 mm or 13 ft. always use 840mm “single” loop spring. When projection is more always use double loop springs

Soltis Ferrari: Always 840 mm” Double” loop spring

See Figure 13: Chart

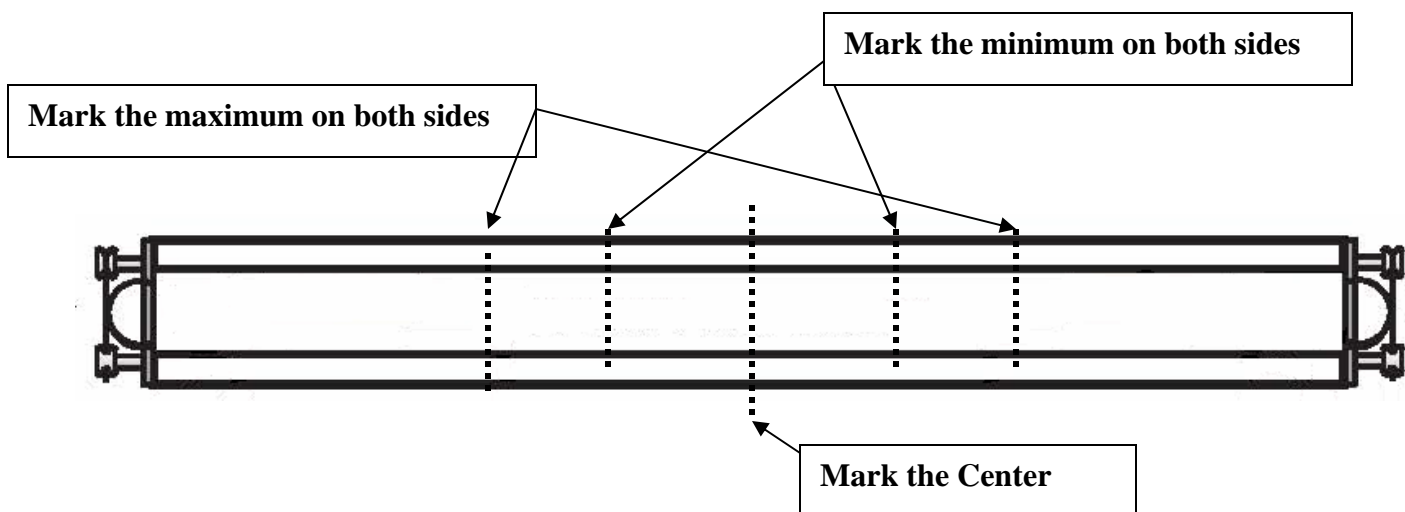
Here is an example of how to read the chart:

EXAMPLE: If you are using an 840mm spring on a 5 meter projection unit (5000mm), the minimum size at all times that the spring should be is 1425 mm. The maximum the spring should ever expand is 1600 mm.

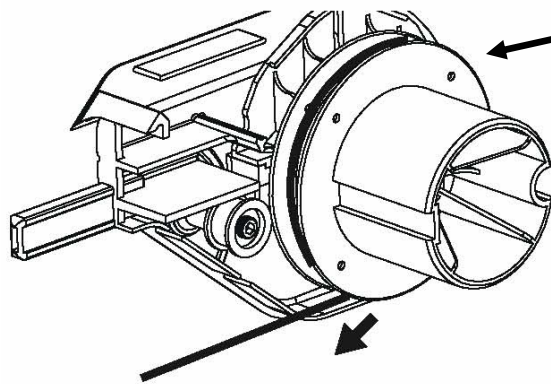
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HOW TO MEASURE:

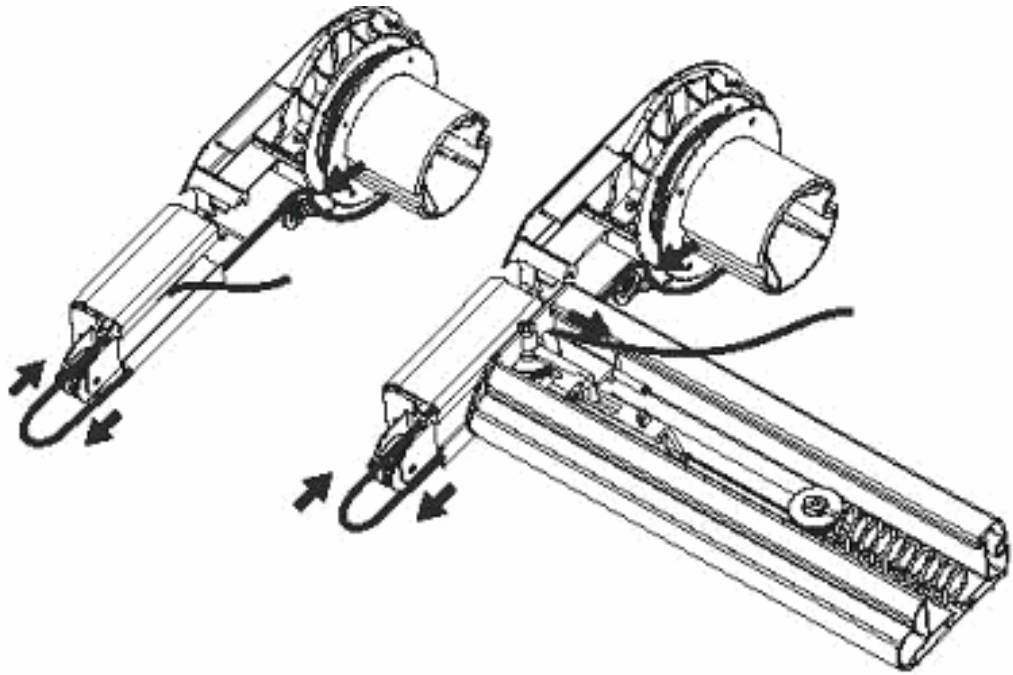
- 1) Make a mark in the center of the front bar on each section (Type 1 or Type 2 etc.)
- 2) Mark the minimum on each side which would be $1425\text{mm} / 2 = 712.5\text{mm}$. Measure this distance from center both to the left and right.
- 3) Mark the maximum on each side which would be $1600\text{mm} / 2 = 800\text{mm}$ on each side. Measure this distance from center both to the left and right.
- 4) These markers represents the maximum allowable expansion and contraction of the springs in each section as measured from CENTER.



ROPE DIRECTIONS



Make sure rope does not cross over itself as it winds up on the spool



Ties a knot here in the rope

