

## 1. TUBE PREPARATION

- Cut the tube to the required length (B), taking into account the width of the installation (A), the motor end clearance (C), and the idler end clearance (D). (See Fig. 1)
- USE FORMULA TO DETERMINE MEASUREMENTS.
- Remove all burrs from the ends of the tube and ensure that the inside of the tube is clean.
- For all round tube sizes up to 3.35" (85 mm) inclusive, notch the tube on the motor end to the dimensions A & B. (See Fig. 2)
- For all tubes over 3.35" (85 mm) form a tongue in the motor end of the tube by making two cuts 1" (25 mm) apart and .75" (20 mm) deep. (See Fig. 3)

## 2. PREPARING THE TUBULAR MOTOR

- Place the crown wheel over the body of the motor. Slide the slot in the motor crown over the raised key on the motor's limit switch unit. (See Fig. 4)  
A crown is not necessary on
  - 2.0" Tube when used with LT50, and
  - 2.5" Tube with LT60.
- Fit the drive wheel on to the output shaft of the motor. There are two types of LT drive wheels: Removable or "SOFT CLIP" type, and fixed or "HARD CLIP" type. The "SOFT CLIP" drives are only available for round tubes in 2.0", 2.5", and 2.75" diameters. The drive wheel can be removed by physically pulling it off the motor shaft. For the ease of identification all "SOFT CLIP" drives are **BROWN**. The "HARD CLIP" drives can only be removed from the shaft by pressing the two clips inward at the same time. The motor must be out of the tube in order to have access to the clips. These drives are **BLACK**.

## 3. FITTING THE MOTOR INTO THE TUBE

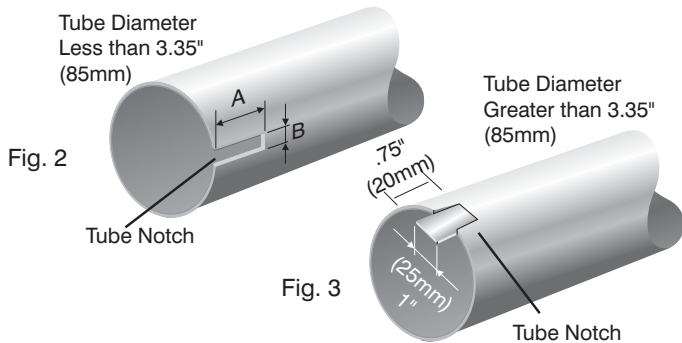
For round tubes: Measure the drilling length R according to the motor type listed in the table below. Fit the motor into the tube ensuring that the notch at the end of the tube slides over the raised key on the crown wheel. (See Fig. 5, 6) Secure the drive wheel to the tube using four 7/32 steel pop rivets or four 1/4 DIA. screws. Fit the end plug into the other side of the tube and secure it with three steel pop rivets. Use only fasteners with steel grades SAE 5 or higher. Metric fasteners must be grade 8.8 or higher. (See Fig. 7)

### LT50 CMO

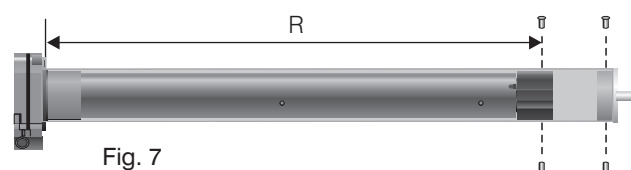
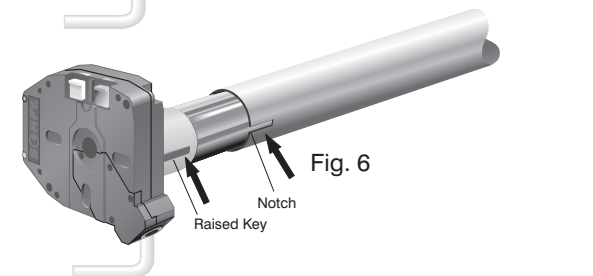
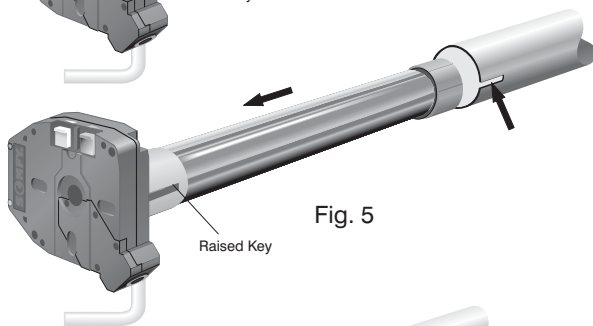
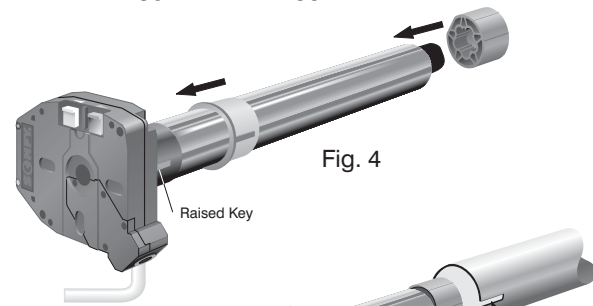
MOTOR TYPE	R in. / mm
525A2 CMO	22.80/579
530R2 CMO	22.80/579
535A2 CMO	25.55/649
540R2 CMO	25.55/649
550R2 CMO	25.55/649

### LT60 CMO

MOTOR TYPE	R in. / mm
660R2 CMO	24.8/630
680R2 CMO	26.2/665
6100R2 CMO	26.2/665



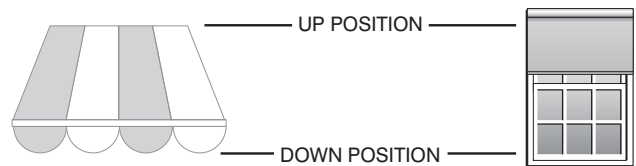
Notch: LT50 Length = 25 mm Width = 4 mm  
 LT60 Length = 35 mm Width = 8 mm



#### 4. LIMIT SWITCH SETTING

SOMFY strongly recommends using a Tester Cable (T.C.) Cat. No. 6020086 to set the motor limits, and to ensure the system is operating correctly before the final electrical connection is made. Refer to Step 6 "Trouble Shooting Guide" for any problems encountered.

**Two positions have to be set: the UP & DOWN positions, this is where the rolling shutter or awning will stop automatically.**



Sequence:

- 1 Ensure the tester cable switch is in the center "OFF" position, and connect T.C. to motor leads by matching color codes.
- 2 Remove the protective cap covering the limit setting buttons on motor head, and replace when finished.
- 3 Depress fully both limit switch push buttons. They will automatically lock in the down position. Operate the T.C. switch and check that the system operates correctly. Identify the UP limit switch push button (refer to figure used for step 1). Press the T.C. switch in the UP direction until the required position is reached. Set the switch to the center "OFF" position.
- 4 Unlock the UP limit switch push button by depressing and releasing it.
- 5 Repeat the above operation to set the lower limit. Check with the switch that the motor stops at the up & down positions just set.
- 6 Always remember to affix the protective cap over the limit switch buttons.

**NOTE:** Tubular motors are not continuously rated. They have a built-in thermal overload device which limits their operation to approximately 5 minutes.

#### 5. WIRING/INSTALLATION RECOMMENDATIONS

- A. All wiring must conform to NEC (National Electrical Code) and local codes
- B. Do not wire two or more motors to one SPDT (single pole double throw switch-NO PARALLEL WIRING).
- C. Do not use light switches.
- D. Do not wire two or more switches to one motor, without using SOMFY's multi switch command. Cat. No. 6300427.

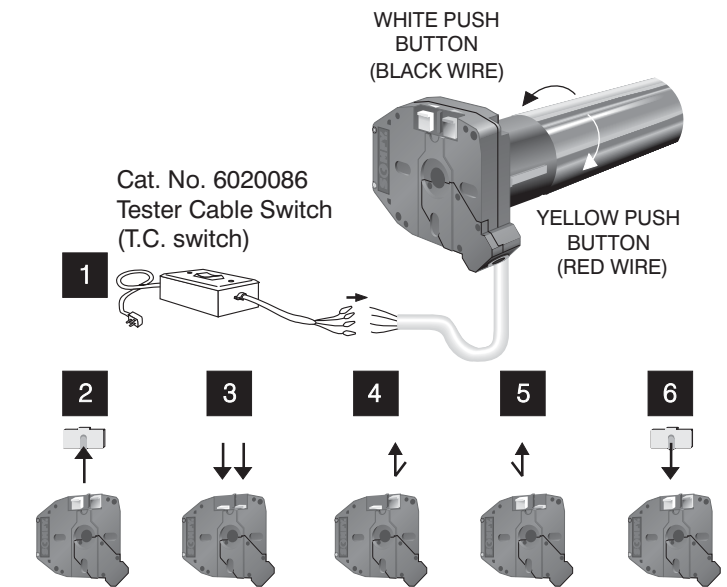
**NOTE: SOMFY motors conform to IP44 requirements and as such must be protected against direct weather elements such as rain, sleet,...etc.**

**SOMFY reserves the right to void the motor warranty if the wiring recommendations are not followed.**

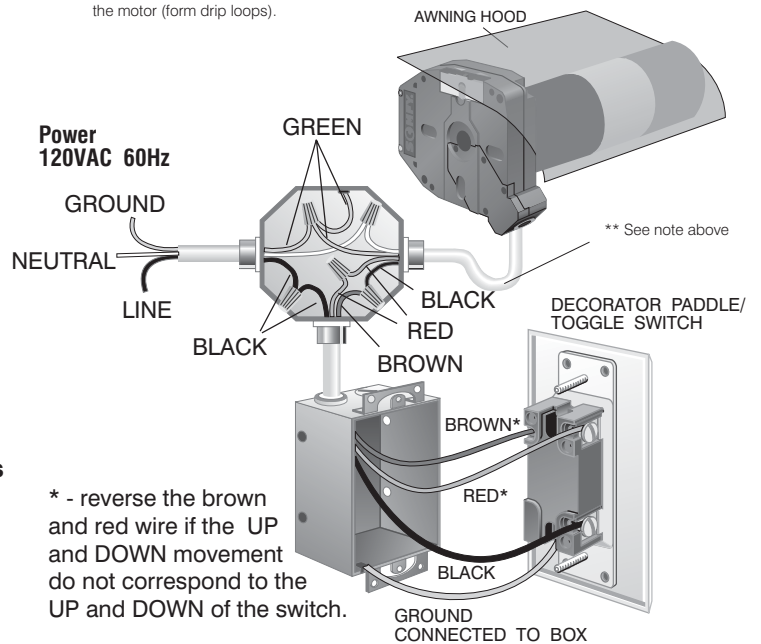
#### 6. TROUBLESHOOTING GUIDE

##### SYSTEM DOES NOT RESPOND

- Is the power supply switched on - check any fuses in the system?
- Is control switch wired correctly? Refer to instructions.
- Are limit switches set properly? Review limit switch settings.
- The thermal protective device may have shut the motor off. Wait for the motor to cool down.
- Check the wiring between the motor & the switch.
- Disconnect the switch & test the motor with a tester cable.



\*\* The motor cable should not act as a direct conduit for the water to enter the head of the motor (form drip loops).



\* - reverse the brown and red wire if the UP and DOWN movement do not correspond to the UP and DOWN of the switch.

##### THE SYSTEM IS NOT STOPPING

- Is the limit switch crown wheel being driven by the tube (has tube profile been properly notched)?
- Is motor drive wheel securely fastened to the tube?

**NOTE: if the motor is tested outside the tube, the crown wheel has to be manually turned in order to stop the rotation of the output shaft.**