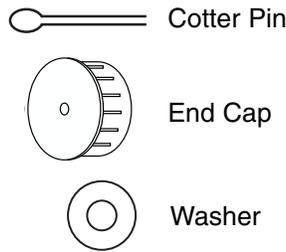
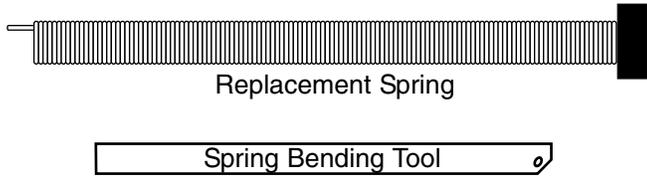


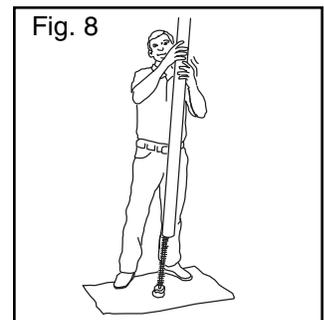
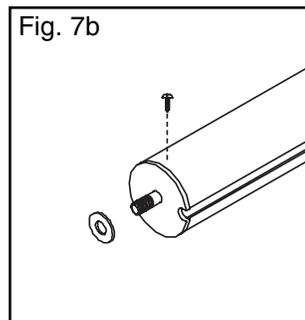
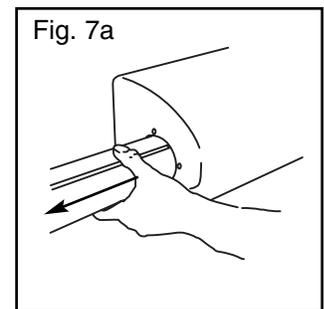
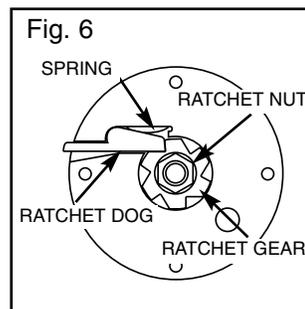
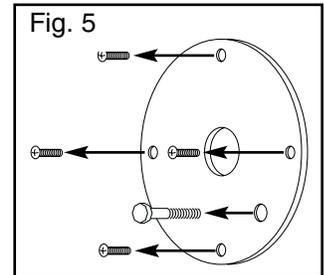
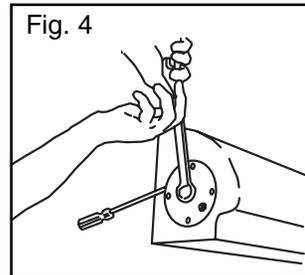
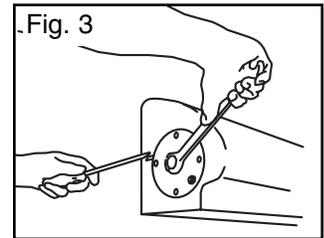
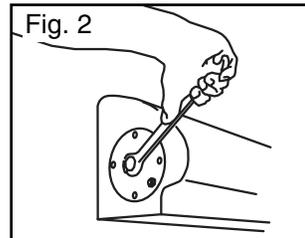
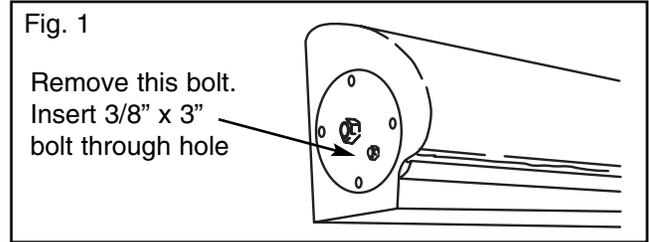
Parts Provided To Replace Spring:



Required Tools:

- Flat Blade Screw Driver
- #2 Phillips Screw Driver
- 3/4" Box End Wrench
- Spring Bending Tool (provided)
- Vise Grips or Channel Locks
- A Piece of 12" x 12" cardboard
- Red Lock Tight

1. Pull the tarp all the way out as far as possible and hold in place by tying down the Pullrope.
2. Remove the 7/16" x 1/2" bolt from the ratchet cover plate (Fig. 1). **WARNING: Do not remove the four Phillips head screws from the ratchet cover plate!**
3. Insert a 3/8" x 3 bolt through the hole in the ratchet cover plate and into groove in the roller tube (Fig. 1)
4. Slide tarp out of the roller tube through the end plate that is slotted (opposite ratchet end).
5. Release tension on roller assembly by carefully following these steps.
  - A. With 3/4" box end wrench, turn ratchet nut clockwise just far enough to relieve tension on ratchet dog (Fig. 2).
  - B. Place flat blade screwdriver on top of ratchet dog to disengage it from the ratchet gear (Fig. 3).
  - C. With **both hands** turn wrench counter clockwise to remove all tension from the spring (Fig. 4). Do not let go of the wrench! (**Be sure all tension is released**)
6. Remove 3/8" bolt from the groove in the roller tube and ratchet cover plate.
7. Remove the four screws from ratchet cover plate and carefully take off the plate (Fig. 5).
8. Remove ratchet dog and spring (Fig. 6). Spring is vital to proper operation of ratchet dog, **DON'T LOSE IT!**
9. Pull the entire roller assembly out the side of the roller housing (Fig. 7a).
10. Remove the #506-9916 screw from the roller tube (Fig. 7b).
11. Place a piece of cardboard on the ground and hold the roller assembly vertically, with the ratchet assembly towards the ground. Shake the roller assembly up and down above the cardboard to pop the end cap and spring assembly free from the roller tube. The cardboard is used only to keep the spring and ratchet assembly from striking the ground when it shakes loose (Fig. 8).
12. Remove spring assembly from roller tube.



13. Use a pair of vise grips or channel locks to secure spring shaft and remove ratchet nut (Fig. 9).
14. Remove ratchet housing, nylon washer and end cap (Fig. 10).
15. Locate the end of the spring that is attached to the tab welded to the shaft. Using a screw driver, pry out the spring tang far enough to fit the spring tool provided over spring tang (Fig. 11).
16. Using the spring tool provided straighten the spring tang so spring may be removed (Fig. 12).
17. Turn the spring assembly around to the other end and remove the cotter pin. Remove washer, spring, torque block and second washer. Do not remove PVC pipe.
18. Slide spring or spring pieces off of shaft.
19. Slide replacement spring onto shaft and place spring tang through hole in spring rod flange. Be sure spring is seated over the collar and flush against the back of the flange (Fig. 12).
20. Slide spring tool as far onto spring tang as possible. With the beveled part of tool facing towards the flange, bend the tang down and to the right of the threaded shaft (Fig. 13).
21. Turn shaft over and replace washer and cotter pin. Both sides of cotter pin must be bent around as close to shaft as possible (Fig. 14).
22. Replace washer, end cap, nylon washer onto spring shaft. Slide spring assembly into roller and press-fit end cap until the shoulder of the end cap sits flush against the roller tube. Replace the #506-9916 screw in the end cap (Fig. 15).
23. Replace ratchet housing and gear/nut on end of spring shaft by carefully following these steps.
  - A. Inspect bushing in ratchet housing for any wear or damage (Fig. 16).
  - B. Slide ratchet cover onto the end of the spring shaft (Fig. 17).
  - C. Apply Red Lock-Tight to threads and tighten the ratchet gear/nut using a 3/4" box end wrench while holding the shaft with vise grips or channel locks. Tighten snugly but don't over tighten (Fig. 18).
24. Slide roller assembly into roller housing and seat end cap onto stub shaft (Fig. 19 & 20). Be sure nylon washer is in place.

