

REPLACEMENT INSTRUCTIONS

TORSION KIT 3108709.621

Kit Contains:

- 1 ea. RH Torsion
- 1 ea. LH Torsion
- 6 ea. Pop Rivets
- 1 ea. 3108896.006 Crank
- 1 ea. 3109404.008 Instructions
- 2 ea. 1/4-20 x 1/2" Screw
- 2 ea. Washer

Tool Required:

- Step Ladder
- Hand Drill
- 1/8 x 2" Cotter Pin
- Socket Set
- 3108896.006 Crank
- Pop Rivet Tool
- 3/16" Drill Bit
- 5/16 x 5" Bolt
- Screw Driver
- 5/16" Drill Bit

INTRODUCTION

Installation of these torsions will increase the ability of the awning to roll up without assistance. The force required to unroll the fabric may be increased slightly.

! WARNING

These instructions must be read and understood before installation of this kit. This kit must be installed by a Dometic Service Center or a qualified service technician. Modification of this product can be extremely hazardous and could result in personal injury or property damage.

A. GENERAL INSTRUCTIONS

Contained in this kit are a right and left hand torsion. **Both** must be replaced to equal the amount of tension placed on the ends of the roller tube.

B. UNWINDING TORSION ASSEMBLY SPRING

Note: Awning removal from the coach is NOT necessary when replacing a torsion assembly. Complete the following steps on a step ladder with the awning completely extended.

! WARNING

Use extreme care. Springs under tension are dangerous. If not controlled they will unwind quickly. Keep hands and clothing clear of top casting, as personal injury may result.

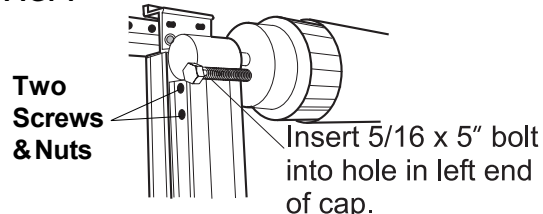
The removal of the tension from the torsion can be safely done with the awning completely extended. The gas struts are in the neutral position with no danger of rapid arm extension.

! WARNING

Severe injury can result from the rapid spin-off of the top casting. Use the 3108896.006 crank (NEVER use bare hands) to handle a top casting under spring tension.

1. Before the arm is removed from the torsions, it must be pinned to prevent uncontrolled unwinding of the spring.
 - a. To pin the left hand torsion, insert a 5/16 x 5" bolt into the 5/16" hole in the left hand end cap. The top casting acts as a stop, preventing the torsion from turning. See FIG. 1.

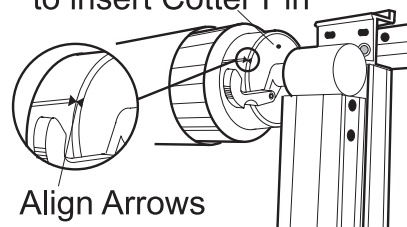
FIG. 1



- b. To pin the right hand torsion, align the arrow on the end cap with the arrow on the lock lever hub, making sure it is through the inside hole in the end cap. See FIG. 2.

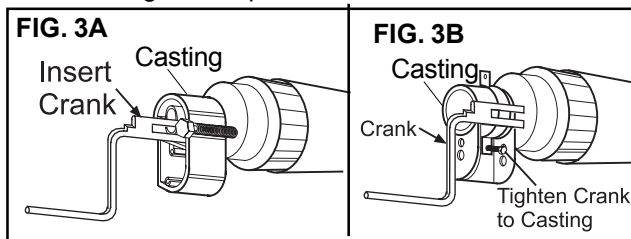
FIG. 2

Arrows must be aligned to insert Cotter Pin



Note: Torsions must be pinned for Step 2. See Step 1.

2. If your end casting looks like the one in FIG. 3A go to Steps 3 & 4. If your end casting looks like the one in FIG. 3B go to Steps 5 & 6.



3. Remove the two nuts and screws holding the arm to the torsion. The FRTA can now be lifted out of the arm.

4. Insert the torsion winding crank (3108896.006) into the top casting. With a firm grip on the crank, remove the cotter pin (RH torsion, See FIG. 2) or 5/16 x 5" bolt (LH torsion) from the end cap/hub. See FIG. 1. Slowly unwind the turns of tension on the spring. See FIG. 3A. Repeat on other end.

Note: Torsions must be pinned for Step 5. See Step 1.

5. Remove the #1/4 x 20-0.5 hex head bolt from the arm. Make sure the cotter pin (RH torsion) - See FIG. 2 - or 5/16" x 5" bolt (LH torsion) - See FIG. 1 - are in place before you lift the end casting out of the arm. Repeat on other end.
6. While casting is still in the arm, place the 3108896.006 crank on the back side of the casting. Insert the screw just removed through the hole in the bracket on the crank. Tighten the screw. Now the arm can be removed from the torsion. Slowly unwind the turns of tension on the spring. See FIG. 3B.

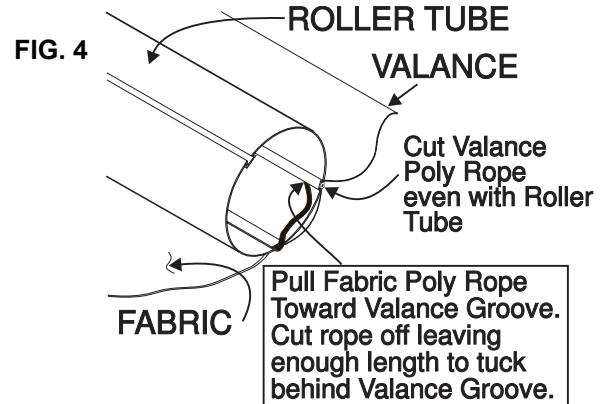
C. REMOVAL OF THE TORSION ASSEMBLY

1. Make sure the torsion spring has been relieved of its tension. See Section B.
2. Mark or make note of the torsion location on the roller tube. This is necessary to reposition the new torsion exactly the same when the new part is installed.
3. Drill out the three pop rivets using a hand drill and a 3/16" drill bit. Remove the torsion assembly from the roller tube. Clean out any burrs or rivet bodies left in the tube. See FIG. 4.

D. REPLACING THE TORSION ASSEMBLY

1. The poly rope on the fabric right hand side must be pulled toward the valance groove, leaving enough length to tuck it behind the valance groove (cut off if necessary). The poly rope for the valance is cut off even with the roller tube. See FIG. 4.
2. The poly ropes on the left hand end of the roller tube should be pulled toward and tucked into the groove. See FIG. 4.
3. Reinstall the torsion assembly in the roller tube. Align rivet slots on the end cap with the holes in the roller tube. Be sure the new torsion is in the same position as the original torsion. If the position of the torsion assemblies was not noted, they must be aligned as follows:
 - a. Left hand torsion assembly: align empty groove of the roller tube with the slot in the end cap.
 - b. Right hand torsion assembly: has an arrow on the outside of the end cap and the hub. The arrows match up with the empty groove in the roller tube. See FIG. 4.
4. Secure torsion assembly to roller tube using the 3/16 x 3/8" long stainless steel pop rivets.

Note: If the roller tube is new, the rivet hole must be drilled.

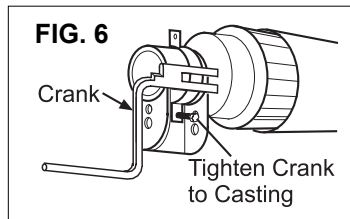


E. REWINDING OF TORSION SPRING

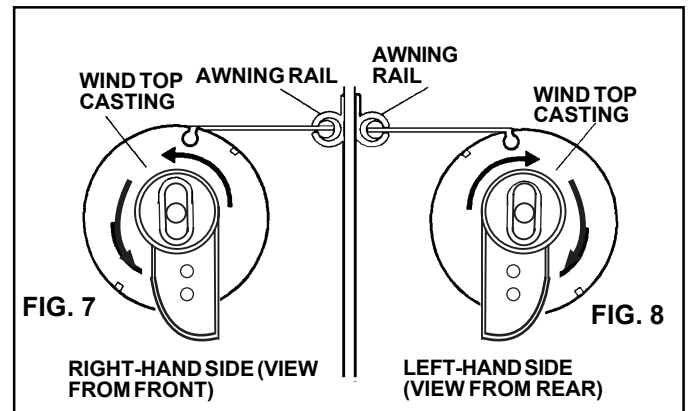
⚠ WARNING

Use extreme care. Springs under tension are dangerous. If not controlled they will unwind quickly. Keep hands and clothing clear of top casting, as personal injury may result.

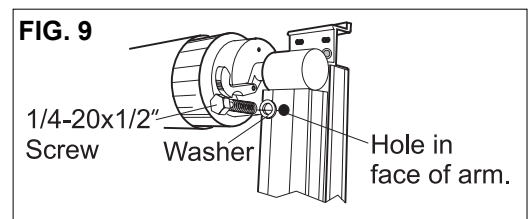
1. Attach the crank to the casting with the 1/4-20 x 1/2" screw and washer. See FIG. 6. Slowly rewind the spring to the number of turns listed in the Torsion Assembly Chart and the direction shown in FIG. 7 & 8.



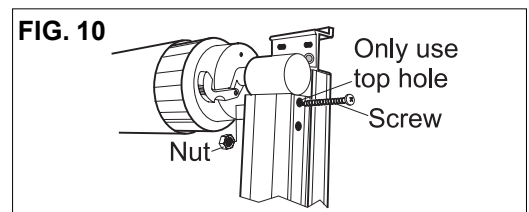
TORSION ASSEMBLY TORQUE SPECIFICATIONS		
Awning Length	Number of Turns	
	Rolled Up	Extended
12'	10	18
13'	11	19
14'	11	19
15'	11	19
16'	12	20
17'	12	20
18'	12	20
19'	13	21
20'	13	21
21'	13	21



2. Insert the cotter pin into the end cap on the right hand torsion or insert the 5/16 x 5" bolt on the left hand torsion (see Section B, Step 1).
3. Slide the casting into the arm assembly. Remove the crank from the casting by taking out the 1/4-20 x 1/2" screw. See FIG. 6.
4. If the arm assembly has a hole in the front face, use the 1/4-20 x 1/2" screw and washer. See FIG. 9.



If the arm has two holes in the side of the arm assembly and none in the face, replace the screw and nut removed in Section B, Step 2. See FIG. 10.



5. Repeat steps 3 & 4 on opposite end.
6. Remove the cotter pin and 5/16 bolt from the end casting allowing the awning to function.
7. Open and close the awning several times to check operation.