

## 8500 & 9000 TORSION ASSEMBLY REPAIR

### ■ 830494 DISK REPLACEMENT KIT

#### THIS KIT CONTAINS:

|       |             |                            |
|-------|-------------|----------------------------|
| 1 ea. | 730371      | Lock disk                  |
| 1 ea. | 3104618.008 | Spring                     |
| 2 ea. | 3103332.015 | Pushnut                    |
| 1 ea. | 143365      | Bushing flange             |
| 1 ea. | 3104384.031 | Pin, drive                 |
| 2 ea. | 308171.021  | Pop rivets                 |
| 1 ea. | 309513.056  | Washer                     |
| 1 ea. | 3107484.036 | Instructions               |
| 1 ea. | 3105965.028 | Gear Lubricant, 1 oz. tube |
| 1 ea. | 317534.009  | Nut                        |
| 1 ea. | 312110.039  | Screw                      |

### ■ 3103773.010 END CAP (Painted) REPLACEMENT KIT

#### THIS KIT CONTAINS

|       |             |                            |
|-------|-------------|----------------------------|
| 1 ea. | 3104259.019 | End cap asm.               |
| 2 ea. | 3103332.015 | Pushnut                    |
| 1 ea. | 3104384.031 | Pin, drive                 |
| 1 ea. | 309513.056  | Nylon washer               |
| 2 ea. | 308171.021  | Pop rivet                  |
| 1 ea. | 3107484.036 | Instructions               |
| 1 ea. | 3105965.028 | Gear Lubricant, 1 oz. tube |
| 1 ea. | 317534.009  | Nut                        |
| 1 ea. | 312110.039  | Screw                      |

#### TOOLS REQUIRED:

|                       |                           |
|-----------------------|---------------------------|
| 3/16" drill bit       | Pop rivet tool            |
| Drill                 | 1/8" nut driver or socket |
| 1/2" wrench or socket | Step ladder               |
| Vise Grip®            | Pliers                    |
| Phillips screwdriver  | 1/8" punch                |
| Hammer                |                           |

### **WARNING**

These instructions should be read and understood before installation, adjustment, service or maintenance is performed. This unit must be installed and serviced by a qualified service person. Modification of this equipment can be extremely hazardous and could result in personal injury or property damage.

## A. GENERAL INSTRUCTIONS

The Replacement Disc or End Cap Kit is designed to allow field repair of the torsion assembly on A&E 8500 and 9000 models awnings. This Kit should only be installed by a qualified service person who is trained in awning repair.

### **WARNING**

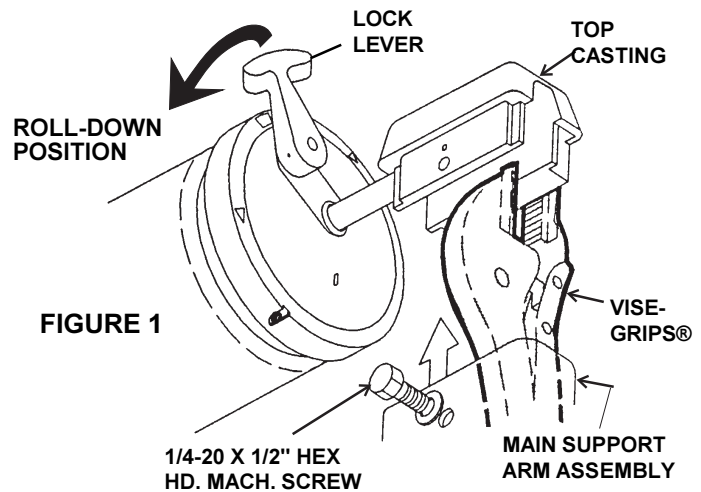
Severe injuries can result from the spinning top casting. Use Vise Grips® (*never bare hands*) to grasp top casting while unwinding or winding the torsion spring.

#### REVISION

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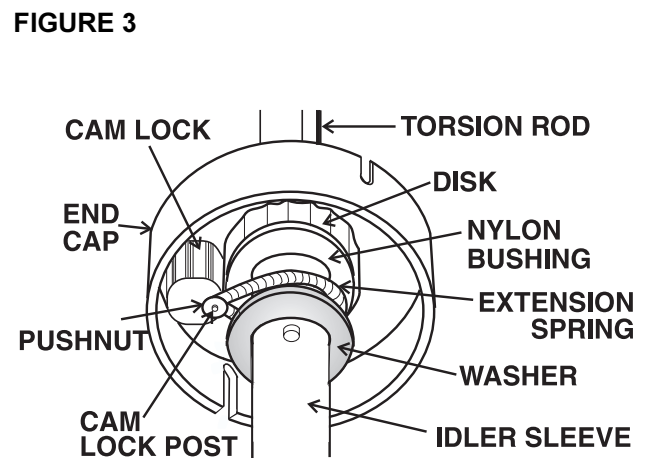
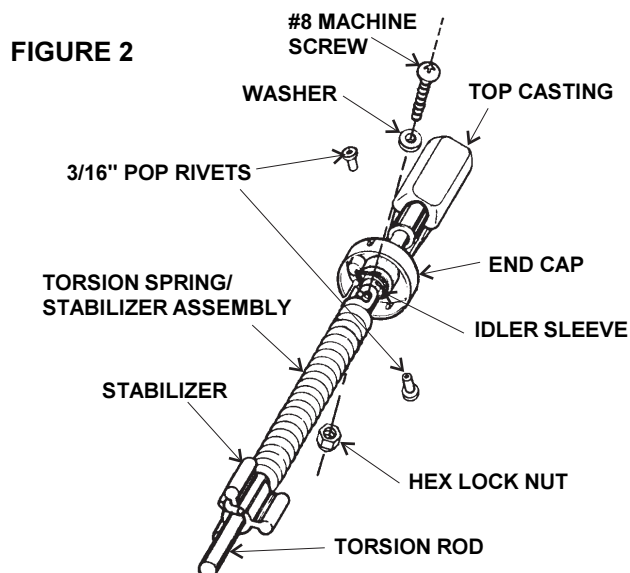
## B. REMOVING TORSION FROM AWNING

1. Unlock the travel lock from the main support arm.  
**NOTE:** Do the following steps on a step ladder with awning fabric extended two feet from awning rail.
2. Remove the 1/4-20 hex head machine screw and washer at the top of the main support arm. This releases the top casting. Grasp the top casting firmly with the aid of Vise Grips® and lift it carefully out of the main support arm. (See Figure 1)
3. Place the lock lever into the roll-up position. Very slowly and carefully allow the torsion spring to unwind itself.
4. Use a 3/16" drill bit to remove the two pop rivets that hold the end cap to the roller tube. See left inside of the roller tube.
5. Secure the free end of the roller tube to prevent damage to the left-hand hardware, coach and fabric.



## C. TORSION DISASSEMBLY

1. Remove the torsion spring/stabilizer assembly by removing the #8 machine screw, washer and nut that hold it to the torsion rod. (See Figure 2). Slide the spring/stabilizer assembly off of the torsion rod.
2. Remove the pushnuts from the post of the camlock mechanism. Remove one end of the extension spring and unwrap it from the nylon bushing. Remove the spring completely from the camlock post. (See Figure 3).

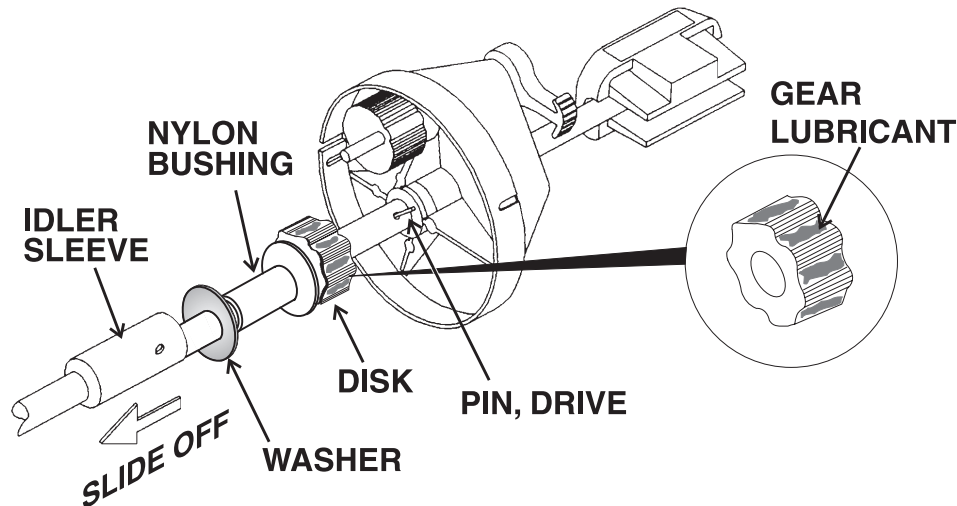


- Slide the idler sleeve, nylon bushing and aluminum disk out of the end cap and off the torsion rod - it may be necessary to use pliers. (See Figure 4)

- Use the 1/8" diameter punch to knock out the drive pin inside the end cap. (See Figure 4).

**NOTE:** You can now slide the end cap assembly off the torsion rod.

**FIGURE 4**



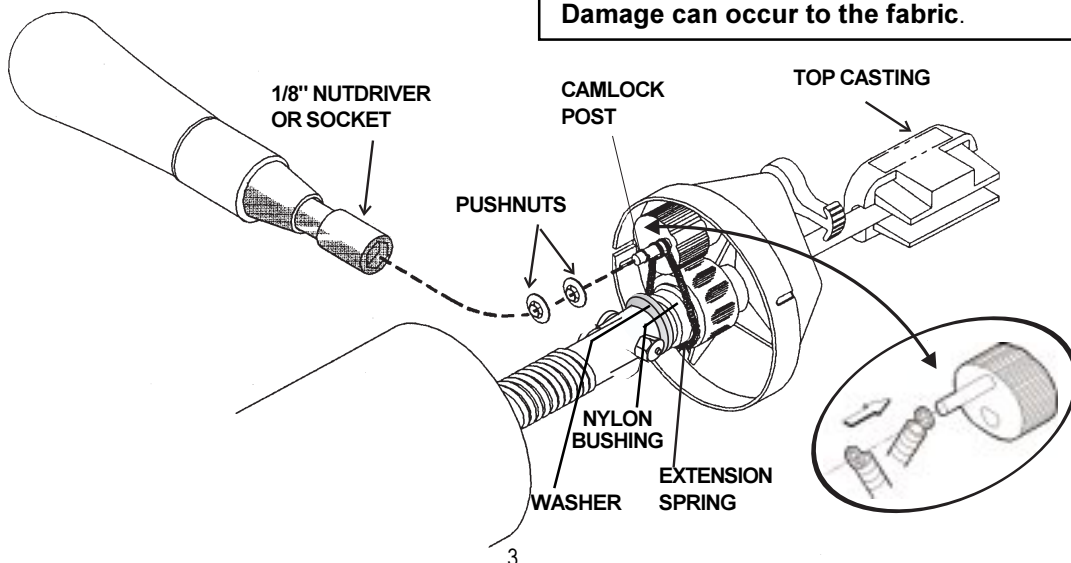
## D. TORSION REASSEMBLY

- Slide the new/original end cap assembly back onto the torsion rod. (See Figure 4)
- Install the new 1/8" x 3/4" drive pin into the torsion rod to key the disk.
- Apply gear lubricant to the new/original lock disk on the right hand torsion assembly. Add the lubricant to the outer diameter of lock disk. See Figure 4.  
**NOTE:** To avoid overflow, apply lubricant sparingly and spread evenly around outer diameter of lock disk.
- Slide the new/original disk onto the torsion rod. Fit the drive pin into the key slot of the disk. Position it next to the bearing of the end cap. (See Figure 4)
- Slide the nylon bushing (see Figure 5), washer, idler

sleeve, and torsion spring back onto the torsion rod. Secure the torsion spring to the idler sleeve using the new #8 machine screw, washer and new nut. Tighten the nut to 35 ( $\pm 5$ ) inch pounds of torque. (See Figure 2)

- Attach one end of the extension spring to the camlock post. Wrap the free end around the nylon bushing and place it with the other end of the spring on the camlock post. **NOTE:** Extension spring must be installed as shown in the insert of Figure 5. Use a 1/8" nutdriver/socket and hammer to tap the pushnut in place on the camlock post. (See Figure 5)
- Operate the camlock lever back and forth several times to check operation.

**FIGURE 5**



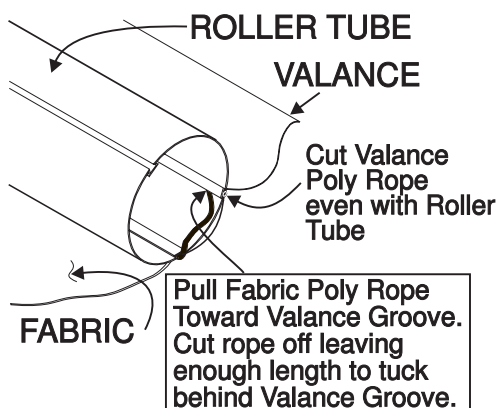
### **CAUTION**

**DO NOT** lubricate the torsion spring with grease. Damage can occur to the fabric.

## E. REPLACING TORSION IN ROLLER TUBE

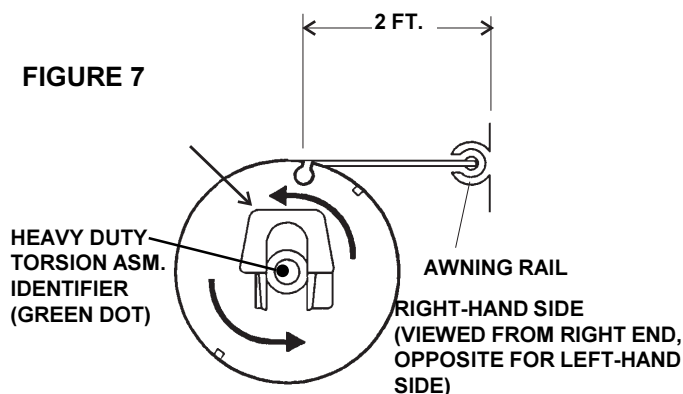
1. Insert the torsion assembly back into the roller tube.  
**NOTE:** 8500 and 9000 model awnings have been manufactured with both standard and heavy duty torsion springs. Before reinstalling the torsion, properly identify the springs (standard or heavy duty). This is necessary to properly wind the springs with the correct number of turns. See Spring Identification Chart on this page.
2. Align the rivet holes of the end cap with the existing rivet hole in the roller tube. If a new roller tube is being used, align the open slot of the end cap with the empty groove of the roller tube.
3. Pull the poly ropes toward a groove and cut off, leaving enough length to tuck behind the groove.

FIG. 6



4. Fasten the end cap into the roller tube with the two 3/16" x 3/8" stainless steel pop rivets.
5. Rewind the torsion assembly to the number of turns in the correct direction as indicated in the Torsion Assembly Torque Specification Chart and Figure 7.

FIGURE 7



**NOTE:** The number of full turns specified in the Chart on this page is based on the awning fabric being extended two feet. Maximum number of turns NOT to exceed 14 for standard duty and 8 for heavy duty. If the awning is fully extended, add 8 turns to the number listed on the Chart.



**Severe injuries can result from the spinning of casting. Use vise grips® - never bare hands to grasp the top casting while loading the torsion.**

6. Reinstall the top casting into the arm assembly and secure with the 1/4-20 x 1/2" hex head bolt and lock washer. (See Figure 1)
7. Extend the awning fully several times to check its operation.
8. Close the awning and secure in the travel position. Please refer to the Owner's Manual for proper operation of the awning.

**TORSION ASSEMBLY  
TORQUE SPECIFICATIONS**

| Awning Length (Ft.) | Number of Turns    |                      |
|---------------------|--------------------|----------------------|
|                     | Model Number       |                      |
|                     | 8500/9000 Standard | 8500/9000 Heavy Duty |
| 8                   | 8                  | —                    |
| 8'6"                | 8                  | —                    |
| 9                   | 8                  | —                    |
| 10                  | 8                  | —                    |
| 10'6"               | 8                  | —                    |
| 10' 8"              | 8                  | —                    |
| 11                  | 8                  | —                    |
| 11'6"               | 8                  | —                    |
| 12                  | 8                  | —                    |
| 13                  | 9                  | —                    |
| 14                  | 9                  | —                    |
| 14'6"               | 9                  | —                    |
| 15                  | 10                 | —                    |
| 15'6"               | 10                 | —                    |
| 16                  | 10                 | —                    |
| 16'1"               | 10                 | —                    |
| 16' 6"              | 12                 | —                    |
| 17                  | 12                 | —                    |
| 18                  | 12                 | —                    |
| 18'6"               | 13                 | —                    |
| 19                  |                    |                      |
| 19' 6"              |                    |                      |
| 20                  |                    |                      |
| 20'6"               |                    |                      |
| 20'9"               |                    |                      |
| 21                  |                    |                      |
| 21'9"               |                    |                      |
| 22                  |                    |                      |
| 23                  |                    |                      |
| 24                  |                    |                      |
| 25                  |                    |                      |

 See Spring Identification Chart for awnings lengths 19' and over

**SPRING IDENTIFICATION CHART**

|          | STANDARD                                           | HEAVY DUTY                                                                               |
|----------|----------------------------------------------------|------------------------------------------------------------------------------------------|
| Wire Dia | .120                                               | .140                                                                                     |
| RH       | Painted red cap end and no paint on stabilizer end | Painted red cap end, white on stabilizer end and green dot on end of torsion rod         |
| LH       | No paint on either end                             | Painted white on cap end, no paint on stabilizer end and green dot on end of torsion rod |
| LENGTH   | TURNS OF TENSION                                   |                                                                                          |
| 19       | —                                                  | 8                                                                                        |
| 20       | —                                                  | 8                                                                                        |
| 20'6"    | —                                                  | 8                                                                                        |
| 20'9"    | —                                                  | 8                                                                                        |
| 21       | —                                                  | 8                                                                                        |
| 21'9"    | —                                                  | 8                                                                                        |
| 22       | —                                                  | 8                                                                                        |
| 23       | —                                                  | 8                                                                                        |
| 24       | —                                                  | 8                                                                                        |
| 25       | —                                                  | 8                                                                                        |