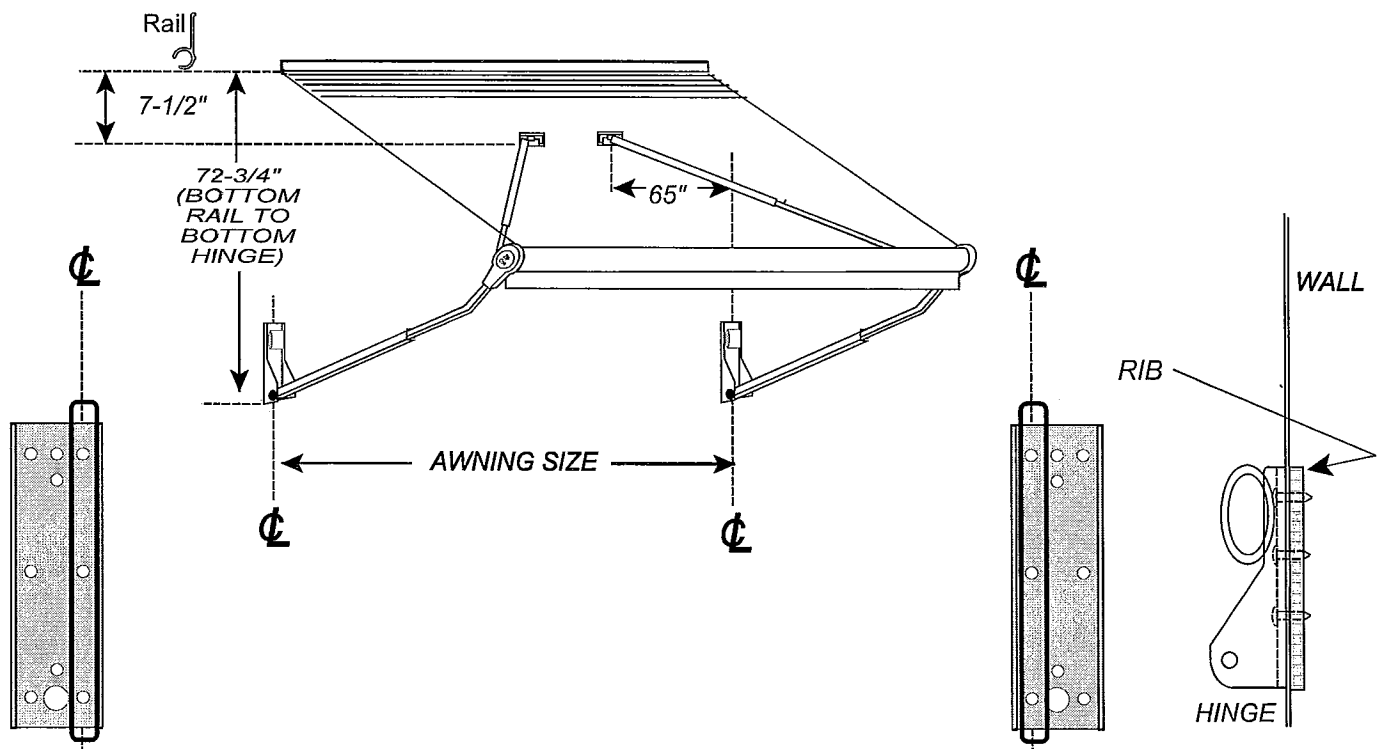


Relax Retrofit Hinge Placement Addendum



For retrofit kits, mount the hinges off center on the rivet lines to account for lengthening the awning when adding a motor.

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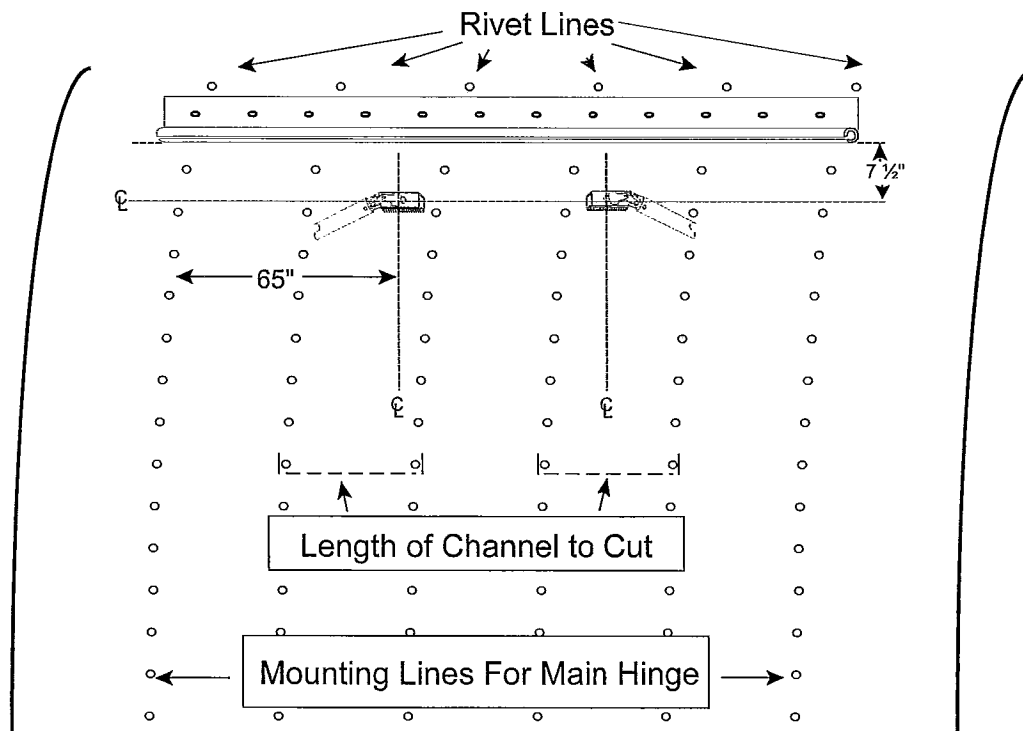
Relax Rafter Base Upgrade For Retrofit Kit

Tools needed:

Electric Drill	Marker	Hammer	82° Countersink Bit
#7 Drill Bit	1/8" Drill Bit	Saw	Tape Measure

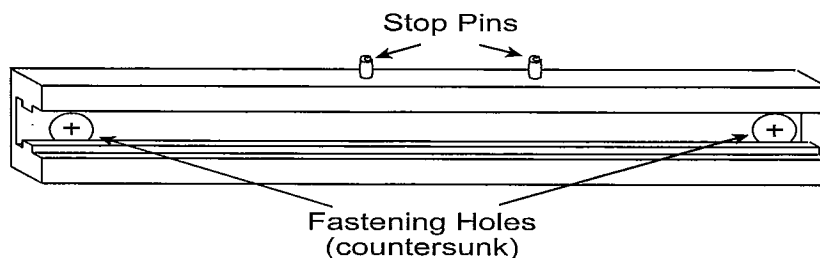
Materials Provided:

6' Unfinished Rafter Channel	4 - #14x1-1/2" Countersink Screws
4 - 1/8"x7/8" Roll Pin	2 - Gas Rafter



Instructions:

1. **Measure and Mark Rafter Base Location**
 - a. Measure in 65" from the rivet line that the main hinge mounts on and down 7-1/2" from the BOTTOM of the awning rail and use a marker to mark the location. This will be where the center of the rafter base will sit.
 - b. Repeat the process for the other side.
2. **Determine Lengths of Channel to be Cut**
 - a. At each mark take a center to center measurement between the rivet lines on either side of the mark.
 - b. Add 1 inch to the length measured and that is the length to cut.
 - i. Eg. A center to center measurement of 26" = 27" to be cut
3. **Cut Channel to Finished Lengths**
 - a. Use a saw suitable for cutting through aluminum
4. **Mark for Fastening Holes and Stop Pin Holes**
 - a. Hold the finished length of channel up to the vehicle just below your mark and centered on the rivet lines to either side.
 - b. Use a marker to place three marks on the channel; One at each rivet line and one at the mark you made earlier on the vehicle.
5. **Drill and Countersink Fastening Holes**
 - a. Use a #7 drill bit to drill through the recessed groove in the channel at each of your rivet line marks. (See Diagram)
 - b. Use an 82° countersink drill bit to countersink the holes.
 - i. Use a provided #14x1-1/2" countersink screw to test for the depth of the countersink. The screw head should be flush with the surface of the recessed channel.
6. **Determine Location and Drill for Stop Pins**
 - a. At the mark on the finished channel that you transferred from the vehicle Measure over 1-1/2 inches to the left and 1-1/2 inches to the right and mark for the location of the stop pins.
 - b. Use a 1/8" drill bit to drill from the top surface of the finished piece down into the recessed channel. (See diagram)
7. **Attach Finished Channel to Vehicle**
 - a. Hold the finished piece of channel up to the vehicle so the center of the recessed area is 7-1/2" below the bottom of the rail and the countersunk holes are on their corresponding rivet lines.
 - b. Use a #7 drill bit to drill into the vehicle.
 - c. Fill the drilled holes with a waterproof sealer and attach your finished channel using the provided #14x1-1/2" screws.
8. **Repeat Steps 4-7 for the Other Side**



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Relax MOTOR Upgrade For Retrofit Kit

Tools Needed: **Electric Drill** **#20 & #7 Drill bits** **#10-32 tap** **Rivet Gun**
 1/8" Hex Key **LOCTITE** **Phillips Head**
 (Provided) **Screwdriver**

1. Remove Idle End (FRONT non-spring side)

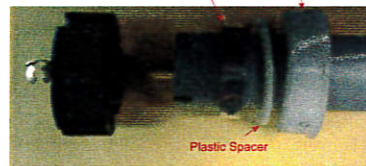
- Use an electric drill and a #20 drill bit to drill out the 4 rivets holding the Idle End into the roller tube.
- Pull Idle End straight out of the tube and discard.



1.a.

2. Disassemble Motor

- Remove the retaining clip on the end of the motor and slide the plastic gear off the end.
- Use 1/8" Hex Key to loosen all 4 set screws in the aluminum retaining ring.
- Slide the aluminum retaining ring, plastic spacer and plastic tube adapter off the end of the motor.

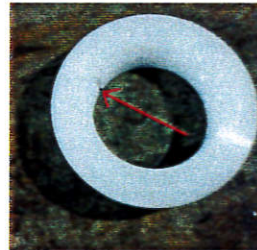


2.a.

2.c.

3. Mark for Groove

- Locate the groove on the inside of the plastic tube adapter you removed from the motor.
- Mark a line at the location of the groove on the end surface of the adapter and the steel tube. You **DO NOT** want to drill into this groove.



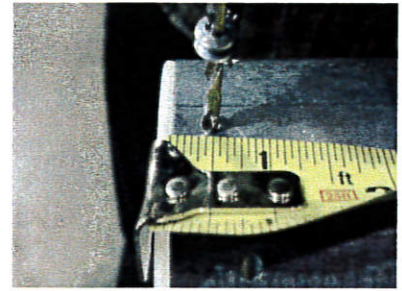
3.a.



3.b.

4. Drill Tube Adapter Holes

- a. Hold the tube adapter into place in the tube.
Measure $\frac{1}{2}$ " in from the end of the tube and use a #20 drill bit to drill through the steel tube and through the adapter. **MAKE SURE NOT TO DRILL THE HOLE WHERE YOU MARKED FOR THE GROOVE.**
- b. Remove the tube adapter from the steel tube.
- c. Use a #7 drill bit and widen the hole in the steel tube.
- d. Use a #10-32 tap to tap the hole in the plastic tube adapter.
- e. Replace the tube adapter into the steel tube and use a provided 10-32 phillips head machine screw to secure it.
- f. Use a #20 drill bit to drill 3 more holes $\frac{1}{2}$ " in from the end of the tube.
- g. Remove the Machine screw and repeat steps 4.c. & 4.d. for the 3 new holes



4.a.



4.c.



4.d.

5. Re-Assemble Motor

VERY IMPORTANT

WHEN SECURING THE ALUMINUM RETAINING RING, BE SURE TO USE LOCTITE ON THE SET SCREWS AND BE SURE THE SET SCREWS ARE TIGHTENED DOWN SECURELY.

- a. Beginning with the plastic tube adapter re-assemble the motor according to figure 2.c.
 - i. There is a "key" on the motor that must line up with your mark on the tube adapter in order for the adapter to slide completely on.
- b. **Remove the set screws in the aluminum retaining ring and apply Loctite to them before replacing and securing them with torque from the $\frac{1}{8}$ " hex key.**



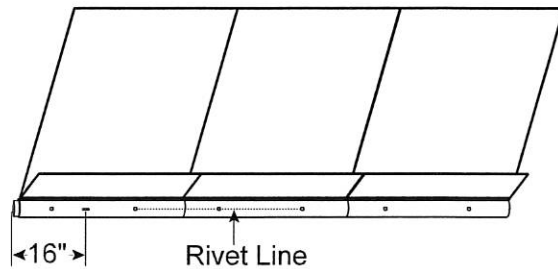
5.a.i.

6. Add Gear Rivets to Roller Tube

On new awnings there is a dimple pressed into the tube that the groove in the motor gear slips onto. Since there is already fabric on your awning you will add a horizontal line of rivets (provided $\frac{5}{32}$ " x $\frac{3}{8}$ " steel dome rivets) underneath the valance to serve the same purpose.

- a. Lift the valance, you will see a line of rivets in a line all the way down the tube that secure the fabric to the tube. You want to put your gear rivets on this same line.
- b. Measure 16" from the end of the roller tube and make a mark in line with the existing rivets.

- c. Use a #20 drill bit to drill through the fabric and steel tube at your mark. Then drill a hole on the same line about 1/4" to each side of the first hole.
- d. Use a rivet gun to pop the three provided 5/32" x 3/8" long rivets into place.



7. Insert the Motor

- a. Line up the groove in the motor gear with the rivet line and slide into the roller tube.
- b. Before you push the motor completely into place line up the marks you made earlier on the tube adapter and steel tube. This will line up your holes properly.
- c. Secure the steel tube to the motor assembly using the 4 provided #10-32 machine screws

Relax SPRING Upgrade For Retrofit Kit

Tools Needed: **Vise Grip Pliers**

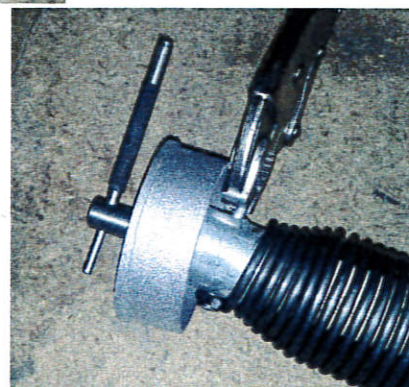
Hammer

5/32" Punch

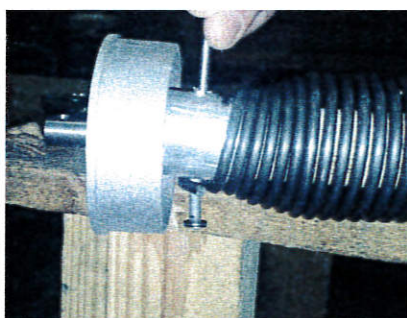
(Zip Dee manual patio spring)



1. Insert 5/32" punch into the hole in the shaft and use vise grip pliers to straighten the rivet that holds the spring into place.



2. Use a hammer and a punch to drive the rivet all the way out. The spring will retract onto the dowel rod.



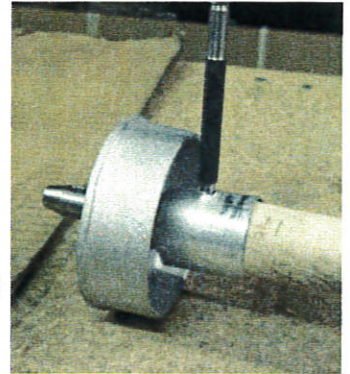
3. Grab the aluminum casting and pull it straight out of the dowel rod. Remove the shaft from the casting and replace it with the provided threaded shaft. **Be sure to replace the washers that were between the casting and the dowel rod.**



4. Carefully line up the hole in the shaft with the hole in the dowel rod and press the new winding shaft into place. Use your punch to line up the holes and make it easy to press the new rivet through.



5. Stretch the spring till it covers the entire dowel rod and the loop at the end of the spring wire lines up over the hole in the dowel rod.



6. Use hammer to drive the new retaining rivet into place then use your punch and vice grips to bend the new rivet and lock it into place.

