

Models:	Paramount Awnings built prior to February 1, 2009.
Purpose:	Improved spring arm performance
Summary of Work:	<ol style="list-style-type: none"> <li>1. Remove the existing 2 outer short spring arms.</li> <li>2. Install new arms.</li> <li>3. Remove the elbow shim on the long arms.</li> <li>4. Reset the motor limits.</li> </ol>

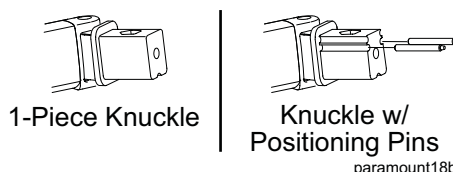
The procedures for arm replacement and motor limit adjustments are excerpts from the Paramount Service Manual available on-line at [www.carefreeofcolorado.com](http://www.carefreeofcolorado.com)

## SHORT SPRING ARM REPLACEMENT



**THE SPRING ARM IS UNDER TENSION TO OPEN. USE EXTREME CARE TO FIRMLY HOLD THE SPRING ARMS DURING ASSEMBLY AND DISASSEMBLY TO AVOID ANY SUDDEN OR UNEXPECTED MOVEMENT BY THE ARM. SERIOUS PERSONAL INJURY AND/OR PROPERTY DAMAGE COULD OCCUR.**

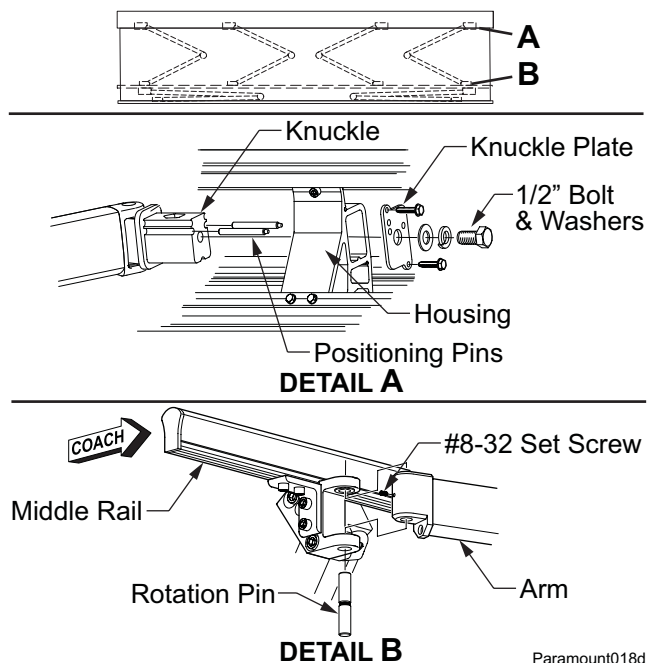
**IMPORTANT NOTE:** Two styles of case knuckles are used on the Paramount short arms. Early units use the 1-piece knuckle. Later models use the knuckle with positioning pins. Replacement arms use the knuckle with positioning pins.



**Figure 1. Knuckle Styles.**

### REMOVING THE EXISTING ARM

1. Extend the awning out to the Slide-Out Cover position.
2. Disconnect power to the awning.
3. For arms with the sensor cable mounted, carefully remove the sensor cable from the wire channel on top of the arm. Use care to not bend, break or compromise the cable.
4. (Refer to Detail A) Remove the 1/2-13 bolt and washers from the frame mount. Save the screw and washers.
5. Remove the knuckle plate and screws. If installed, remove the positioning pins. It may be necessary to gently lift and pull the arm to slide the pins out of the housing.
6. While firmly holding the arm, pull the arm knuckle out of the housing.
7. Fold the arm together and securely tie the arm closed. Use a 3/8" x 12" plastic tie or equivalent.
8. Rotate the arm so that it is parallel with the middle rail to provide access to the setscrew located in the arm knuckle.
9. (Refer to Detail B) Remove the setscrew and rotation pin from the arm knuckle.
10. Remove the arm from the awning and set aside.



**Figure 2. Short Arm Replacement.**

**INSTALLING THE NEW ARM**

The new arm is banded in the closed position. Do not remove the binding until instructed to do so.

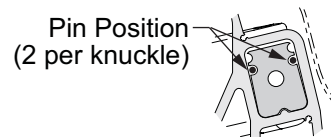
1. (Refer to Detail B) Attach the arm to the middle rail joint using the rotation pin and set screw removed previously. Ensure that the groove in the pin aligns with the set screw.
2. Firmly hold the arm together and remove the binding. Allow the arm to slowly open.

**⚠ CAUTION**

**WHEN THE ARM IS CLOSED, IT CAN OPEN WITH SIGNIFICANT FORCE. USE CARE WHEN OPENING THE ARM.**

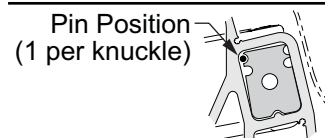
3. (Refer to Detail A) Slide the arm knuckle into the frame mount.
4. The new knuckles use positioning pins to seat the knuckle in the housing.
  - Liberally coat the positioning pins with quality silicone grease.
  - For awnings under 19' long, two (2) pins are used for the inner and outer arms in the positions shown. For awnings 19' and longer, the inner arms use the two pins, the outer arms use one (1) pin in the position shown.
  - Slide the positioning pins into the housing with the knuckle. It may be necessary to gently lift the arm up or down to slide the pins into the housing with the knuckle.

**NOTE:** On a few early production units, the housing is slightly narrower. If the knuckle projects out of the housing, contact Carefree customer service before proceeding.



Pin Position  
(2 per knuckle)

For All Inner Arms &  
Outer Arms In Units under 19'



Pin Position  
(1 per knuckle)

For Outer Arms In Units over 19'  
Paramount018c

**Figure 3. Pin Positions.**

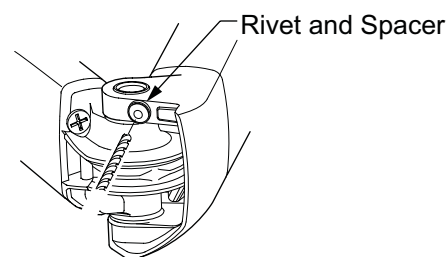
- Attach the knuckle plate to the housing using the screws removed previously.
5. Attach the knuckle to the mount using the 1/2-13 bolt, washer and lock washer removed previously. Tighten the 1/2-13 bolt.
  6. If the sensor cable is routed on the replacement arm:
    - Route the cable along the arm extrusions. At the arm joints, arch the cable slightly to avoid binding. Do not twist the cable.
    - Place 1" foam inserts on the cable at each end of the extrusion and in the center. Press the foam inserts and cable into the groove at the top of the extrusion. Do this for both sections of the arm.

**REMOVE THE LONG ARM ELBOW SPACER**

Some units may have a spacer located in the elbow of the long arms. These spacers must be removed.

1. Open the awning 12"-14" past the slide out room position to provide access to the long arm elbows.
2. Use a 1/8" drill bit, drill out the existing rivet and spacer and discard.

**NOTE:** The spacer on some models may use a square drive screw instead of the rivet. Use a square drive bit to remove the screw and spacer.

**⚠ CAUTION**

**DO NOT ATTEMPT TO PULL THE ELBOW JOINT OUT OF THE ARM EXTRUSION. THE SPRINGS ARE UNDER TENSION.**

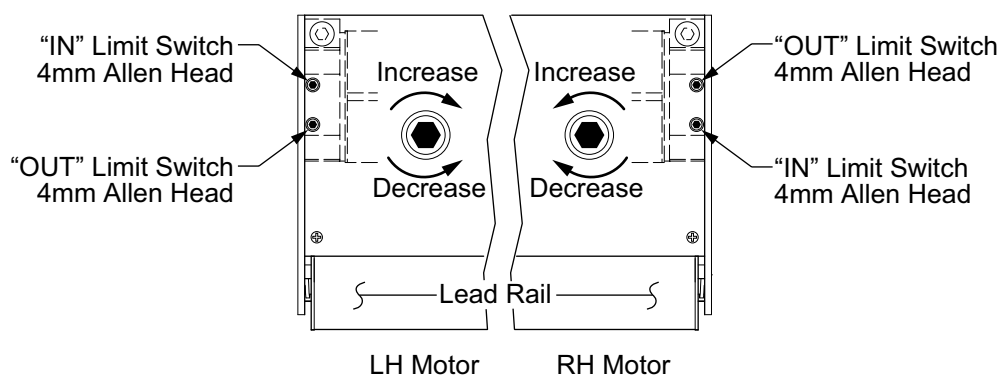
Drill Out the Existing  
Rivet and Spacer

Paramount025a

3. Repeat for both arms.

## SETTING THE MOTOR LIMITS

After removing the spacer from the long arm elbows, it is necessary to adjust the Motor "Out" Limit Switch to increase the lead rail travel. When the awning is open, the arms must be fully extended with the elbows locked and the fabric taut.



Paramount014

**Figure 4. Motor Limit Switches.**

The limit switches are located inside the case, near the end cap. To access the switches, remove the small rubber plugs next to the end cap or end plate.

### ADJUSTING THE OUT LIMIT SWITCH

**NOTE:** During normal operation, the awning will extend out completely then roll back slightly to provide tension to the fabric.

1. Extend the awning out completely.
2. Confirm that the arms are fully extended. The motor should stop and the fabric should be tight. If the motor continues to run, the fabric will sag; or, if the motor quits before the arms are extended, it will be necessary to adjust the "OUT" limit switch.
3. Using a 4mm Allen wrench turn the "OUT" limit switch. For LH motors, CLOCKWISE increases time the motor runs during extension, COUNTERCLOCKWISE reduces the time the motor runs. For RH motors, COUNTERCLOCKWISE increases time the motor runs during extension, CLOCKWISE reduces the time the motor runs.

**NOTE:** It is best to make the adjustments in increments of a single turn. 3 full turns of the screw equals approximately 4" of fabric extension.

4. Extend and retract the awning several times to confirm that the adjustment is correct.
5. Repeat steps 3 and 4 as required until the awning extends correctly.

### ADJUSTING THE IN LIMIT SWITCH

**NOTE:** The "IN" limit switch is not adjusted when the Direct Response system is installed. The system electronics monitors the motor and shuts the motor off when the awning is fully retracted.

If the IN limit switch is accidentally adjusted, the motor may shut off before the awning is fully closed. If this occurs, for LH motors turn the IN adjustment screw clockwise; for RH motors turn the IN adjustment screw counterclockwise. It is not necessary that the screw matches the closed position. The electronics control the closed position.