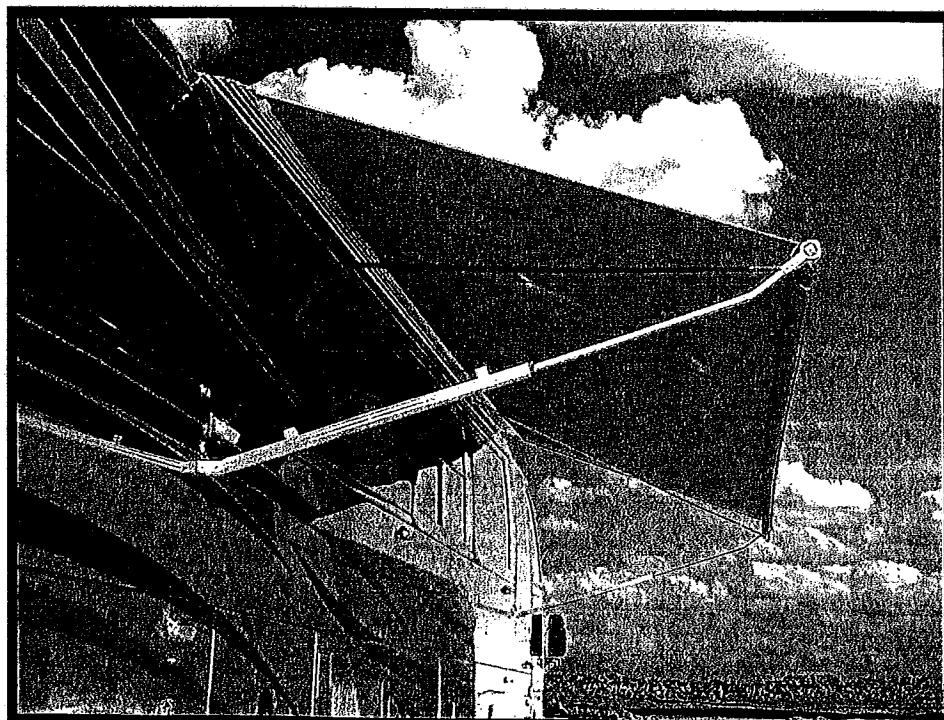


# **The Zip Dee** **Evolution** **Series**

## **Automatic Awning Replacement Main Arm Procedure**



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## Automatic Awning Replacement Main Arm Procedure

### Materials Provided

- A. 3 ea. – 1/16 to 1/16 small profile barbed air line connectors (no locking sleeves needed) for connecting the Main Arm.

### Material Needed

- A. Winding tool, slotted screwdriver, 7/16 open end wrench.

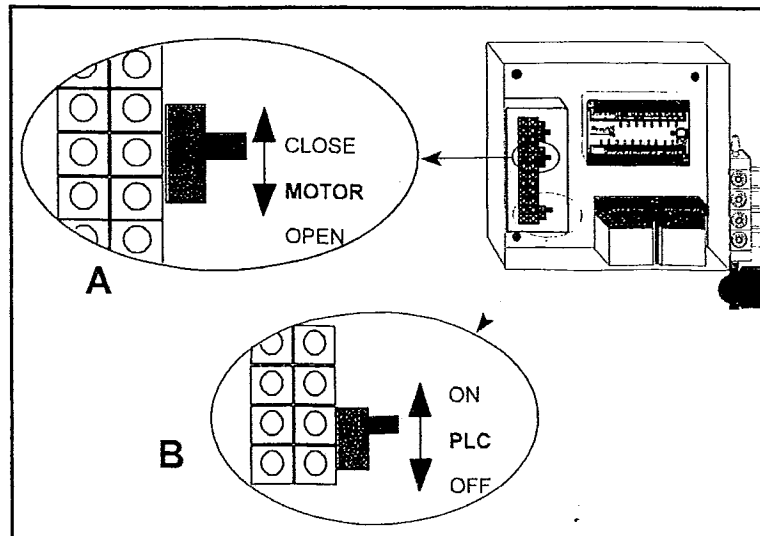
## Steps

### A. Remove existing arm(s)

1. **A second person is needed to help with this step.** Open the awning using the manual control. Use manual motor control (**Fig. 1-A**) and slide “MOTOR” switch to “OPEN” position and hold. The awning roller will to unwind. **Since the Push-Off pistons will not be operating, you will need to pull the main arms away from the vehicle as the awning begins to unroll.** Once the awning is far enough away from the vehicle gravity will take over and you can stop pulling on the arms.

Hold the “OPEN” button until the motor stops, at which point the awning should be fully open. In the unrolled position the awnings valance should be fully extended and hang straight down from the seam behind the roller tube.

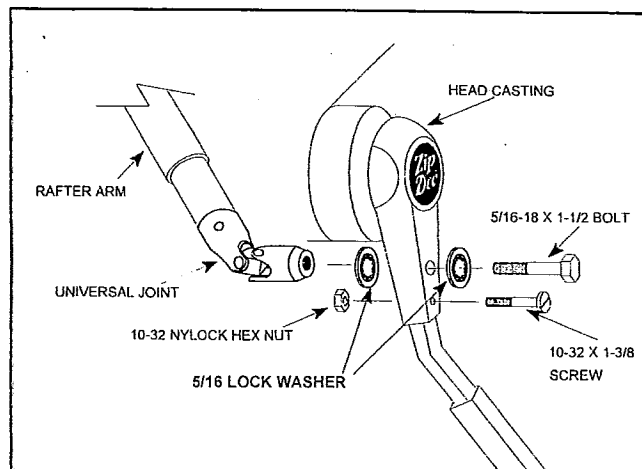
2. Support the roller tube so that it will remain level and stable when the front arm is disconnected. Turn the power off to the controller by sliding the “PLC” switch to the “OFF” position (**Fig. 1-B**). Then disconnect the battery in the control box.



**Fig. 1**

3. Unbolt the Rafter Arm (remove 5/16-18" hex head bolt only, not the slotted screw that holds the Head Casting in place)(**Fig. 2**) Let the Rafter Arm hang gently from the side of the vehicle.

**CAUTION: IN STEPS 4a-4f BELOW, ALL SPRING TENSION IN THE REAR OF THE AWNING WILL BE TRANSFERRED DIRECTLY TO THE DRIVING TOOL. THERE ARE NO SAFETY STOPS. DO NOT RELEASE THE WINDING TOOL WHILE IT IS CONNECTED TO THE AWNING. IT WILL SPIN RAPIDLY AND CAN CAUSE SEVERE PERSONAL INJURY.**

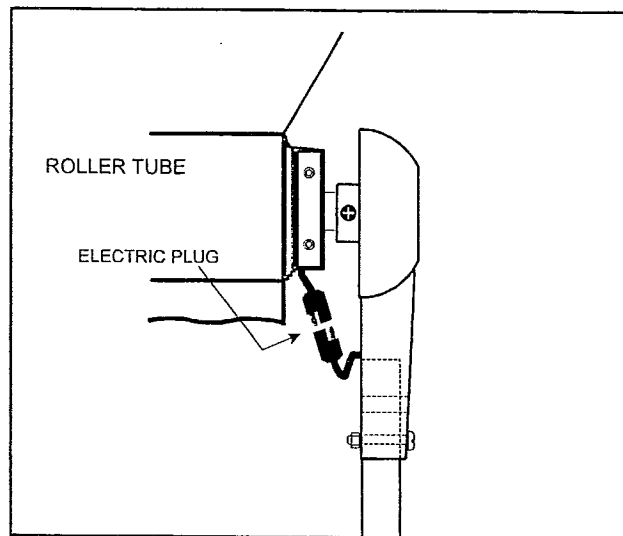


**Fig. 2**

**4a. Changing Front Main Arm**

(for changing rear main arm skip to step 4b.)

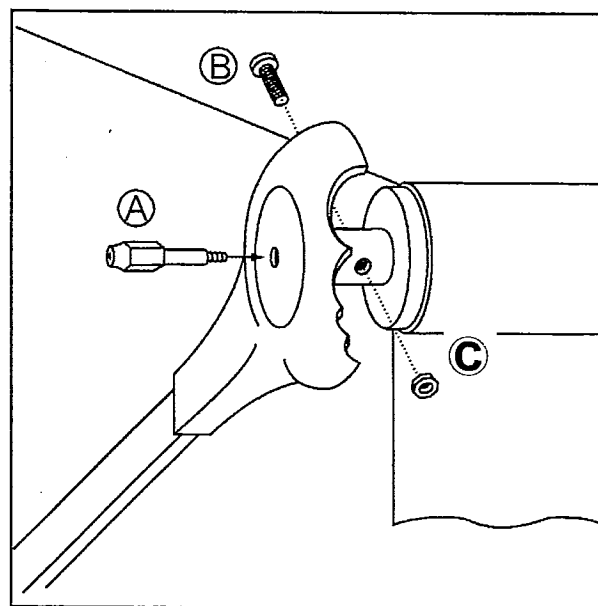
Unplug motor connection at the top of the main arm (**Fig. 3**) near the Head Casting. Unbolt Main Arm from the Head Casting and allow it to rest on some form of support. Go to step 5



**Fig. 3**

**4b. Changing Rear Main Arm**

Insert the threaded end of the Emergency Winding Tool (Supplied with awning) through the hole in the Zip Dee logo on the rear Head Casting and screw it into the shaft of the roller. (**Fig.4**) Use a deep 1/2" socket (completely capturing the hex driving head) to tighten until snug. Applying excess torque may bend the machine screw that connects the shaft to the Head Casting.



**Figure 4**

**4c.** Remove Nylock hex nut from head bolt (**Fig 4-C**) Attach a breaker bar to the hex socket and apply just enough clockwise movement to relieve the pressure on the machine screw so that it can be removed. Hold winding wrench firmly and remove the black 10-32 machine screw that connects the shaft to the Head Casting. (**Fig.4-B**)

**4d.** Unwind the spring counterclockwise approximately 28 turns, until all tension is removed from the spring.

**4e.** Use the winding wrench to help align the holes in the head and shaft. Replace the black head screw that was removed in step 4c above. Replace and hand tighten the Nylock hex nut.

4f. Unscrew and remove the winding tool.

5. Looking at the bottom of the Main Arm, identify and tag each airline with its corresponding number using Fig 5 as a guide. **IT IS CRITICAL THAT THESE LINES ARE IDENTIFIED CORRECTLY FOR PROPER OPERATION AND TO AVOID POSSIBLE DAMAGE.**

6. Disconnect the air lines from the Main Arm by either cutting close to the arm or pulling the air lines off of the barbs with needle nose pliers. Cut the electric line, also close to the main arm. Disconnect the Main Arm from the Hinge Bracket by removing the cotter pin and hinge pin. (Fig 6) and remove arm from coach.

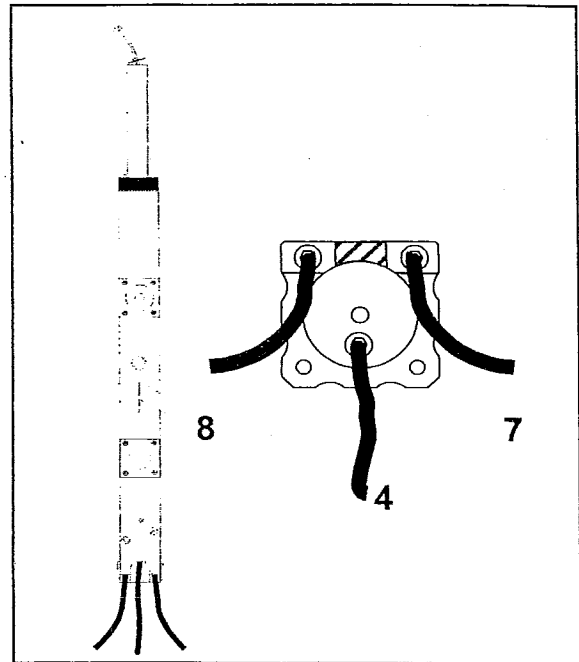


Fig 5

## B. Attach new Main Arm to hinges

1. Attach Front Main Arm to Hinge base with 5/16" Pivot Pin. Place a washer under the head of the pin before inserting into Hinge and through arm. Bring the air lines from the bottom of Main Arm around the front of the Pivot Pin. This should result in a short loop bundle as shown in "side view" (Fig. 6) Connect Pig Tail lines from bottom of arm to stub air lines extending from the vehicle, matching numbers on lines to corresponding numbers (or colors) of stubs. Use 1/16-1/16 barbed connectors (no locking collar needed)

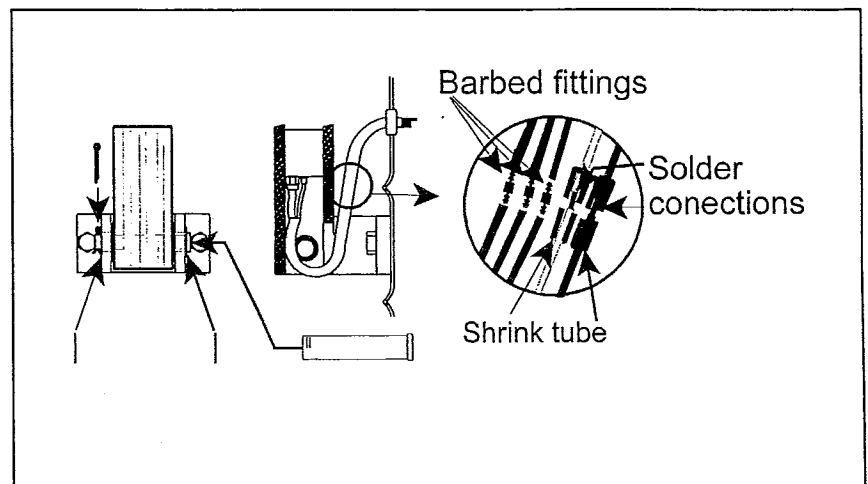


Fig. 6

2. Splice the stranded motor leads from the arm to the cord coming out of the coach near the hinge. Splice the white wire to the white wire (**terminal "8" in box**) and the red wire to the other wire which will be red or black (**terminal "7" in box**) (Fig. 5).

3. Cover each splice with heat shrink or electrical tape. Cover all exposed lines with black vinyl cover jackets provided. (Slit jacket to fit)

## C. Connect Arm to Roller. Note: If the motor is also being replaced, perform the motor replacement at this point. After the motor has been replaced, continue from here.

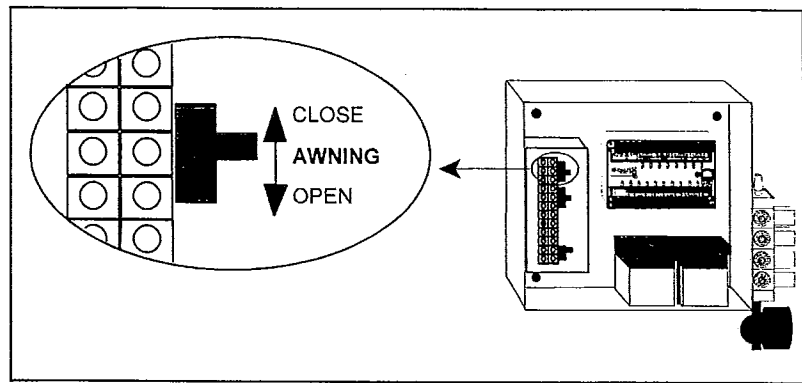
1. Attach the Roller Assembly to the main arms with 10-32 x 1 3/8" slotted machine screw and hex nut with nylon insert. Plug electric lead at the end of the front arm into lead from motor in the end of roller assembly.

2. If changing rear arm, rewind spring (the reverse of steps 4a – 4f)
3. Connect Rafter Arms to head Casting (**Fig. 2**) Connect the rafter to the head casting by passing the bolt through the head casting and steel bar (be careful not to nick the wiring). Put the lock washer between the universal joint and the head casting to prevent rotation. Reconnect the battery wire.
4. Close the awning: Use the manual control (**Fig. 1**) and slide the “MOTOR” switch to the “CLOSE” position. The motor should begin to turn the roller and close the awning. Hold the switch until the roller stops. Adjust the limit switch in the same manner as described in the opening step.  
**NOTE: There is a 2 second delay to retract the rafter locks before the motor starts.**

## D. CONTROL AND RAFTER ARM ADJUSTMENTS

1. The awning should be in the closed position and all air and electric lines should be reconnected. The roller up and down limits should now be set.

**CAUTION** - Before starting your first automated operation, read the section titled emergency stops and starts in the troubleshooting section.



**Fig. 7**

2. Momentarily move the slide switch inside the control box (Fig. 6) marked “AWNING” to the “OPEN” position OR push “open” on the remote transmitter. The awning should open automatically in the following sequence.
  - a. The roller motor should start to unwind
  - b. The push off cylinders should push the arms away from the coach while the rafter arms assist in the push off
  - c. The roller should continue to unwind about half of the fabric, then the main arms should extend and lock. The push-off cylinders should retract at this time.
3. Close the awning by momentarily sliding the switch inside the control box marked “AWNING” to the “CLOSE” position. **CAUTION: DO NOT USE THE REMOTE TRANSMITTER!** The automatic closing sequence can only be stopped except by switching the “ON-OFF” switch in the control box to the “OFF” position to cut power. For this first automatic close cycle, there will be a slight delay as the system pressurizes before the closing sequence begins. Be patient. The awning will close in the reverse order it opened.

**Check power levels. You should have a minimum of 11 Vdc and 95 psi air pressure.**

Note: The controller is programmed to ignore the “open” command for 15 minutes after it is closed to allow time for the air compressor to recharge and the motor to cool down. If it is necessary to operate the awning before 15 minutes, simply turn the controller off and on (see page 1 of the troubleshooting guide) to reset.

Be patient. There will be a slight delay as the system checks itself before any movement is seen. After the awning has opened completely make sure that the Rafter Arms are locked ( the pin has “dropped” into one of the five locking holes on the underside of the arm) (**Fig. 7**)

**Emergency Stop – The remote transmitter only, will stop and reverse the opening sequence anytime during the first 45 seconds of operation (until the main arms are extended and locked) there is no emergency stop in the closing sequence**