

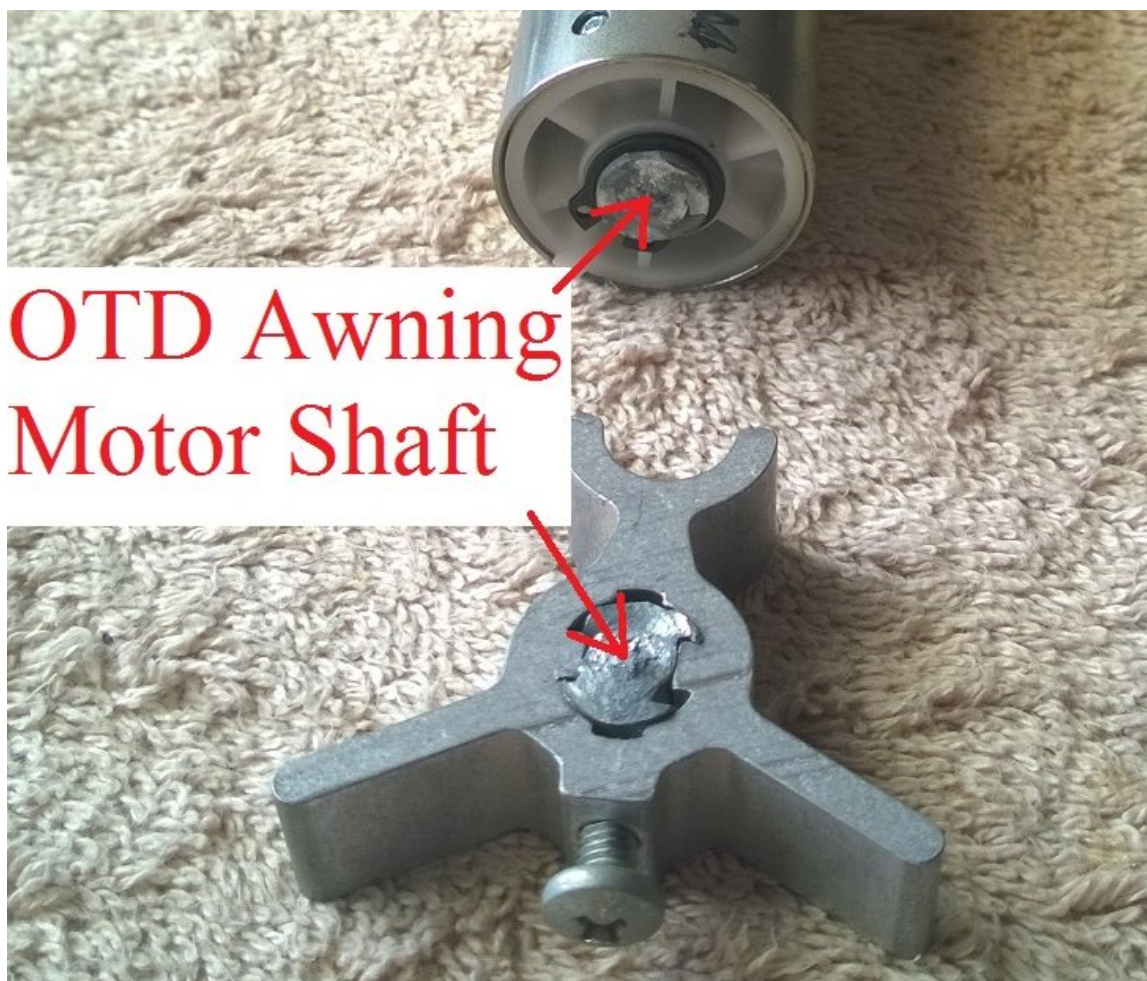


## 2010 43QGP Allegro Bus

2/4//2015

**118 - FYI – OTD AWNING MOTOR SHAFT REPAIR.** While putting the finishing touches on the installation of the OTD (Over The Door) awning LED lighting project, I experienced a near and close encounter with the OTD awning motor shaft breaking, when that happens the awning explosively deploys. If I had been in front of the awning rather than to the side I would have been HIT by the awning cover when the shaft broke and possibly knocked off the ladder onto the concrete floor. During 35 years of construction I've been on a ladder one second and on the floor the next second, TWICE.

As seen below the awning shaft was wrung in half, IMO, this is another Tiffin failure to properly adjust the awning open and close stop settings.



The below photo shows the way the motor shaft looks when it is not damaged. The Philips head set screw keeps the Jumping Jack in place, my term for the aluminum figure which appears to be a Jumping Jack with a Phillips screw head.



After removal, I determined if a repair to the motor shaft were possible the motor shaft would require drilling a 3/16" hole 1 inch deep centered in the motor shaft, followed by tapping the hole to install a 2 inch long 10 – 32 screw with the head removed. The sheared portion of the shaft was also drilled and tapped allowing me to screw the sheared portion back to the motor shaft on the 10-32 screw. The Jumping Jack was installed over the reconstructed motor shaft. The Philips set screw was tightened, a flat washer, lock washer and two nuts were locked together on the screw after blue Loctite had been applied to the threads of the screw.





After getting all of the pieces reassembled it was time to reinstall the motor into the awning tube housing.

As seen below I did not completely remove the awning housing from the side of the coach. I had to gain control the awning arms and fabric before I could work on the awning. To gain control I pushed the awning about  $\frac{3}{4}$  of the way closed wrapped a bungee cord around the forward (right) end then slid my hands toward the rear (left) and collapsed the left end of the awning, installed a second bungee cord, this left the awning open about one foot, allowing me to access the four screws securing the awning to the coach, after removing those four screws I was able to tilt the awning housing UP enough to slip the awning forward about one foot (as seen below). Next three 3/16" pop rivets installed to keep the motor roller tube cap (black cover behind my left thumb) secured to the awning tube housing had to be drilled out and removed. After the pop rivets were removed, three sheet metal screws securing the motor drive bracket assembly (portion in my hand) to the awning tube housing were removed.

Now the motor drive assembly and motor drive bracket assembly can be removed from the awning tube housing. Since the (Jumping Jack) for lack of a better term, was twisted off the motor shaft and lying inside the awning tube housing I had to fish it out.

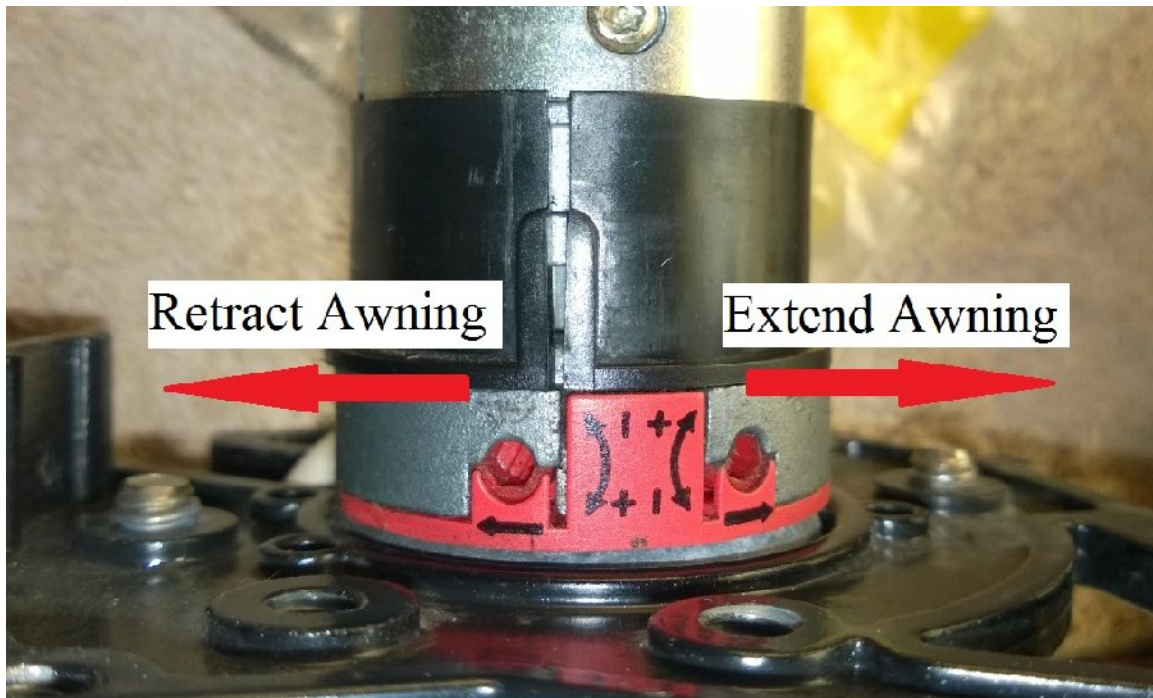


The above photo shows the assembly reassembled and being reinserted into the awning tube. Keep in mind the lower LEGS of the Jumping Jack straddle the rolled portion of the tube which is used to slide/insert a drop down shade.

Now on to the part of this file that make me very unhappy with SOME Tiffin's employees. The awning motor STOP limits can be adjusted to prevent this type of damage from occurring.

Part of this is my fault I should have known Tiffin did not properly set the motor STOP LIMITS after the same thing occurred to our 2007 Phaeton's OTD awning motor.

We rarely use the door awning maybe ten or fifteen times in the past four years, so it just slipped my mind until the awning almost hit me in my face.



After the repair the **RETRACT** awning **STOP** setting required turning **SEVEN FULL REVOLUTIONS** in the – direction before the motor would **STOP** where it needed to **STOP** without being stalled to a **STOP**. Each time the awning motor retracted and **STALLED** to a **STOP** contributed toward the wringing apart of the awning motor shaft.

While on the ladder I decided to adjust the **EXTEND** motor **STOP** setting because the awning fabric would unwind too far when the awning **EXTENDED** to Tiffin's set awning motor **STOP** point. To properly set the **EXTEND STOP** point required turning the set screw **THREE FULL REVOLUTIONS** in the – direction.

Something to keep in mind, I highly doubt your **PATIO** or **DOOR** awning motor **STOP** set points are properly adjusted either.