

## Kwikkee Step Repair. SERVICE ISSUES

by Chris • August 10, 2006 • 248 Comments

UPDATED...

Unfortunately, it looks like the Kincor kit I mention below is no longer available- Kwikkee changed the motor enough that it is not possible to take it apart- the unit is not sealed.

An alternate repair method using an Auto Parts store motor is discussed in this RV.NET forum posting.

Original post below-----

Electric steps are one of those luxuries that are a near necessity- in a Motor Home, you often need a step to enter, and yet once you are in, you cannot push a manual step in, and when you are in the rig, pulling the step out is impossible.

The vast majority of electric steps are manufactured by the Kwikkee Company. These steps are pretty darn reliable, if the maintenance is performed as required, which is easy- simply lubricate the hinge points with a good quality lubricant. Kwikkee sells a very good "Kwik-Lube", which is a kind of "penetrating grease" that starts out thin, but thickens after a few minutes. Others have recommended motorcycle chain lube- I've never tried it, but it sounds like it would be good- a good quality lube which does not attract dirt.

But... even with the best maintenance there are a couple of problems that can crop up. I dealt with the most common today. The step was stuck in the retracted position, so... first I check the voltage to the unit. Next, check the grounds and connections (older models have a 4 way connector which has a tendency to

corrode- Kwikkee changed that a few years ago- the new ones are much more reliable.

So, I remove the motor assembly from the step frame- 4 bolts and the pin which attaches the arm to the step- the 4 way connector, and the connector between the electronics and the motor. Once the motor is off, it still will not run- even hooked directly to a battery. So, I next remove the actual motor from the gear case (3 screws)- as soon as I pull the screws, the motor case rotates at least 20 degrees, indicating it was in a major bind.

This bind comes from the way the motor is designed. The motors are actually power window motors, and they have a small worm gear on the motor output shaft which engages in a large gear (#2), which in turn is coupled to an output gear(#3). This coupling is made by a triangular cutout in gear #2 which contains three small round plastic inserts that a triangular part on gear #3 fit in to.

The round plastic parts are there to absorb the shock when the step hits the end, so that the other gears don't simply shatter. This works well- until the step gets some age on it, and these small plastic parts get oval, rather than round. This allows the motor to bind up, and because the step electronics sense current draw, and the step motor is drawing a lot of current trying to get out of the bind, the steps get stuck.

Luckily, a company named Kincor has made a gear replacement kit, which includes gear #2, the round plastic parts and a supply of high quality grease. The kit part number is BD52, and it retails for around \$30 (a fraction of what a new motor assembly costs).

A quick Google for more information yielded an FMCA Magazine

writeup on this kit- along with a picture and company contact information.

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In my last post about Kwikiee steps, I told about a repair kit for Kwikiee step motors, that has since been discontinued. But... all is not lost- a quick trip to the local auto parts store let me fix a set of steps for a fraction of the cost of replacing the motor.

In fact, the parts cost a bit under \$9, and saved having to buy an over \$100 (if you buy a Kwikiee brand motor), or around \$60 (if you buy one from an auto parts store).

## Help brand plugs

If your Kwikiee steps simply get jammed, and you are getting power to them (you can hear the box click when you open or close the door, and the under step light is going on and off), quite often it is just these small plastic parts that are bad- not the whole motor. The symptoms of failure for these parts are that the step will get stuck in the extended or retracted position, yet the step is still getting power.

Let's take a look at how to replace them...

These parts are actually 1/2 of the kit that used to be available from Kincor, the gear isn't included, but most times the gear itself is fine. Note that the new Kwikiee steps use an "Integrated Motor and Linkage assembly, so if it doesn't look like these pictures, this fix will not work, but it's fine for most.

You start by removing the motor- **MAKE CERTAIN THE STEP IS UNPLUGGED BEFORE WORKING ON IT!!!** – IT IS POSSIBLE FOR

THE STEP TO BE IN A BIND, AND ACTIVATE WHEN YOU REMOVE THE BIND- something that can be dangerous to fingers and hands. There is always a 4 way plug within a foot of the step- unplug this.

The motor is held on by 3 machine screws- 5/16" hex head, and is connected to the control box by a weatherproof connector- note that newer styles use a snap together "Packard" style motor connector.

Remove these screws and disconnect the leads, and the motor should pull straight down. Be aware that there is a small pin in the end of the gear which might stay in the gear housing, or might come out.

Once the motor is off of the step, take it to your workbench and remove the plate covering the internal gears- most I have run in to take a torx bit to remove this screw.

After removing the cover, you will see the output gear with a larger gear adapter and the plastic gear set with the plastic gear plugs. The adapter simply lifts off, then to remove the output gear you will snap off a small "C" clip from the shaft (being careful not to lose it). The output gear will lift off, exposing the plugs in their triangular cutout.

(click on any image for a larger view)

Replacing the plugs is a simple matter, though the replacements will be tight. I put a bit of grease to hold them in place while I start the output gear, then press the whole thing back together.

Now it is simply a matter of reversing the order- replace the “C” clip, cover plate, output adapter, reattach the motor to the step gearbox, hook the motor wires back to the control box, and last- making certain your hands and fingers are clear, hook the 4 way connector back up.

These motors very rarely actually burn out- they really don't make that many revolutions in their work, so normally this will fix them as good as new. Of course, while you are under the rig, it's a great time to lubricate the step.

Hope this helps!

-Chris

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