

Solar Feeders Portable Automatic Livestock Feeders

Troubleshooting Guide

If your Solar Feeder is not working properly most likely it is a bad 12v battery. If the battery is determined to be good then it may be a bad timer, bare/broken wires (rodent damage), and finally but rarely the motor itself.

Troubleshoot in the following order and replace bad components as needed. All components are available directly from our suppliers. Solar Feeders does not stock these components for resale or replacement.

1. Check the 12v battery located behind the Timer (we recommend replacing it yearly).

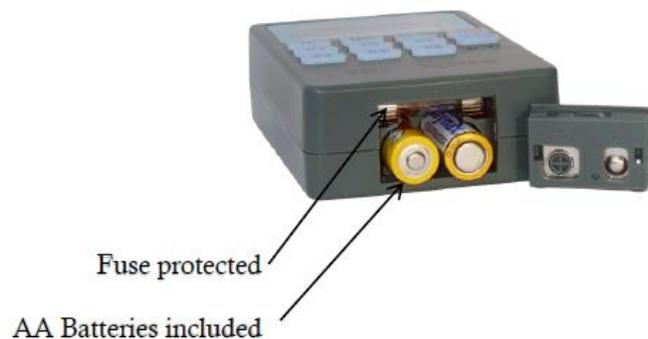
The TIMER screen should indicate "12V" and battery indicator at bottom right side of screen showing at least 3 bars. If less replace with a 12v 8ah w/F1 connectors - <https://a.co/d/0UFNQnG>

If The TIMER indicates a good battery, it could **STILL BE THE BATTERY** failing under load so try another 12v just to be safe before you move to the next step.



2. Check THE TIMER

Slide open the battery/fuse compartment located on the bottom of the timer and check AA batteries and fuse then press TEST button.



Normal conditions:

- **Red motor light** - motor is operating normally
- **"12V" displayed on LCD screen**
- **12v battery indicator at bottom right of screen showing at least 3 bars**
- **Solid battery blinking** – this is the AA battery life; they are not needed for proper operation as they are only for saving time and settings when disconnected from 12v battery

Common Signs of The Timer Problems:

- **LCD screen flashes “FUSE”** - the timer fuse needs to be replaced and if this happens again it could be the harness or wire frays. A small chance that it could be a bad motor
- (Fast-Blow Fuse 15Amp 250V Glass Fuses 0.24 x 1.18 inch / 6 x 30 mm). Here is one fuse source - <https://a.co/d/6S47kVk>
- **Timer is showing 6v** while connected to 12v battery
- **Timer vibrates or buzzes** and motor light comes on with no motor operation
- **Graduated battery indicator** (12v battery) at 2 or less bars
- **Slow or no motor operation with a proven motor**

Replace THE TIMER when -

- Buttons don't operate
- Bad or frozen LCD screen
- Red motor light on continuously

If the timer is bad or questionable you can order a replacement at the following (The TIMER comes with wire harness to connect to the battery) -

<https://westtexasfeedersupply.com/product/the-timer/>

https://www.amazon.com/Timer-Digital-Deer-Feeder/dp/B0046H28YY/ref=sr_1_5?dc

Note: The “Test” button is factory set to run for 5 seconds. To change the “Test” run time push the “Set Clock” button and you will see that “Run time” is visible for a few seconds. While “Run Time” is visible push “Run Time” to adjust the “Test” time from 1 – 20 seconds. Setting higher "Test" seconds gives a more accurate measure of feed.

- 3. Check the TIMER wiring** connectors for good contact and any oxidation.
- 4. Check wiring between battery and motor** for bare/broken spots which may be causing an electrical short. Even though we secure the wiring in flex conduit little goats and various critters can still crawl under the unit and wreak havoc!

You can purchase wiring/conduit directly from our supplier - McMaster Carr www.mcmaster.com

Electrical cable, SJEOOW,14ga 2 wire black, part# 7082K28 @ 25 feet. \$29.25

Flex 3/8" conduit, part# 74115K2 @ 10 feet. \$11.60

You must pick the specific length when ordering

These lengths will work for all of the Solar Feeders models

Call for more complete instructions and wiring diagram

- 5. Check the solar panel, wiring and voltage** coming from the solar panel to make sure it's working. A 12V solar panel typically outputs 14-20V depending on the sunlight conditions. It's rare for a solar panel to fail other than being physically damaged. If the panel is damaged, please call us for information on replacement.

6. **Check the spinner plate locking collar** located below the spinner plate to make sure it is secure. If the motor is operating but the spinner plate is not moving the collar may have come loose.

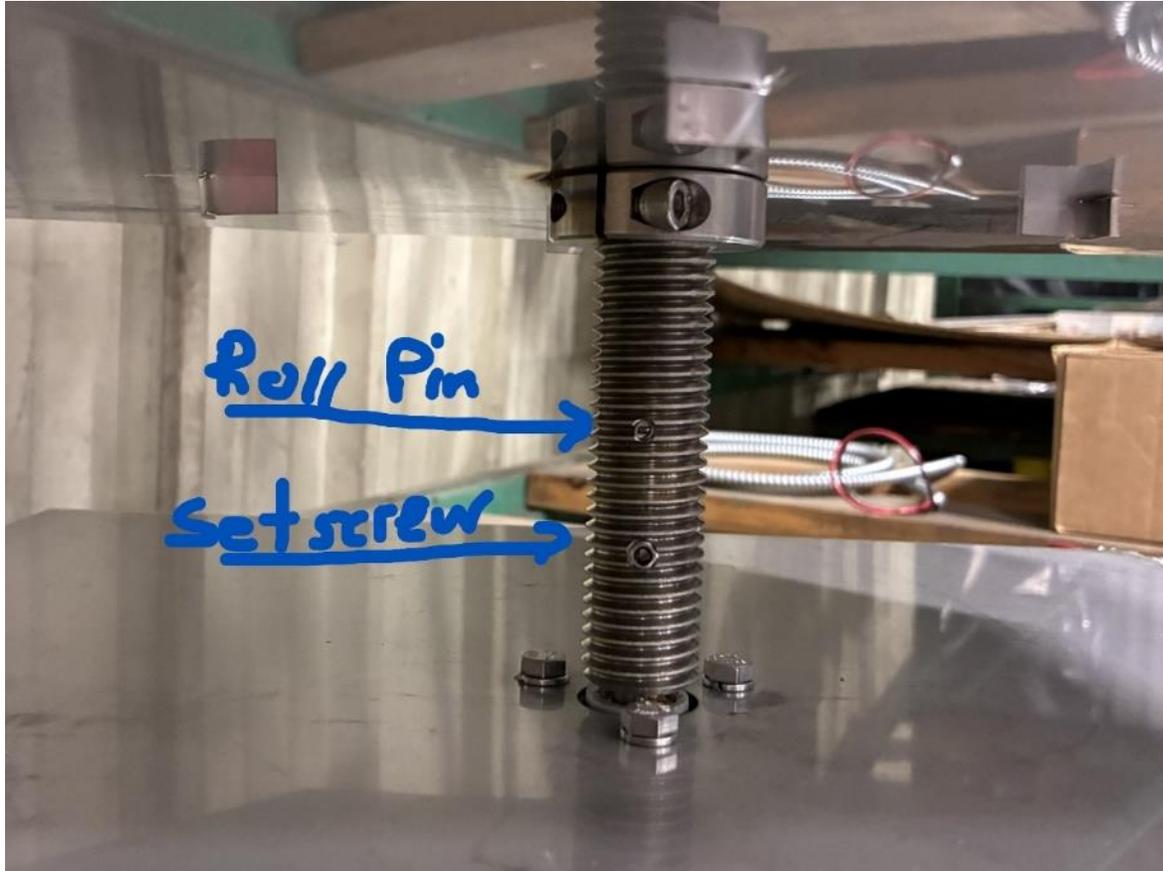
Remove the side access panel and check the collar set screw to make sure it is tight. If the collar is loose, the “spinner plate” will move on the threaded shaft. Spin it up or down to go back to a 2-inch gap and tighten the set screw with a 3/16 hex key drive (allen wrench). This set screw is a ¼-28 socket head cap screw.



7. Check the spinner plate and shaft roll pin and set screw

If the collar is tight then check the roll pin and set screw that connect the threaded shaft to the motor shaft. They might be sheared off or missing. Both roll pin and set screw should be visible. The spinner plate may be covering both at the 2" height adjustment so you may need to spin the plate up to gain clear access.

The set screw in the threaded shaft is a ¼-20x1/4" with a 1/8 hex key drive (allen wrench) as seen in the following diagram. **NOTE – the roll pin may be above or below the set screw depending on age of your feeder.**



NOTE: In the event that the spinner plate has separated from the collar weldments you will need to call us for a replacement. This is RARE but can happen. It will be obvious if the shaft is spinning and the plate is stationary or loose and wobbling.

Following are the replacement instructions -

Spinner plate replacement instructions:

Disassembly

- 1) Install the (3) 6mm x 50mm long bolts one at a time. (2 bolts would do the job.... Objective is to hold the motor in place and to orient the bolts for re-assembly).
- 2) From underneath the feeder, remove the cover plate for the motor enclosure. This will allow the motor to drop the full length of the 50mm long bolts.
- 3) Install the NEW spinner plate. (with the Allen wrench socket facing the opening) (sorry I missed that note for removal.)
 - a. FYI.....The spinner motor can be actuated with the controller test button as needed if the motor is secured and no obstructions.

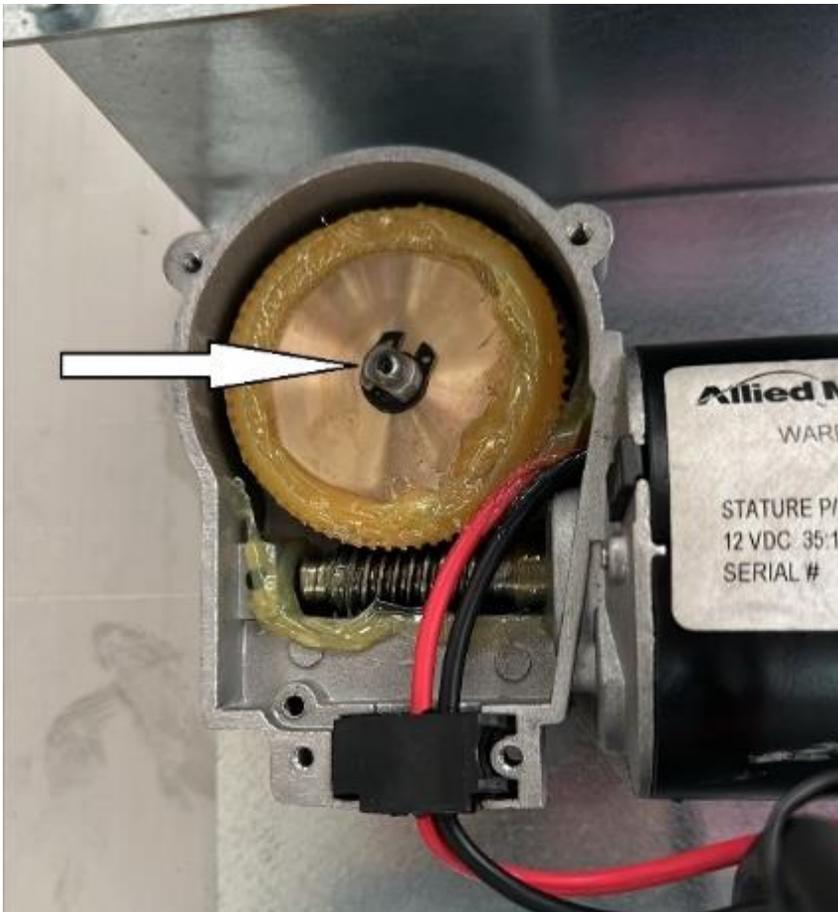
Assembly

- 4) Remove each of the 6mm x 50mm long bolts one at a time and replace each with the original bolts.
- 5) Tighten each of the (3) motor bolts.
- 6) Spin the spinner plate down to the desired clearance (approx. 2" top of plate to the bottom of the discharge).
- 7) Tighten the lock collar on the spinner plate.
- 8) From underneath the feeder, replace the motor enclosure cover plate.
- 9) Check that all components are secured and no obstructions.
- 10) Dry Test the spinner with the Timer test function.

8. Check the spinner motor

Go underneath the feeder and remove the sheet metal screws that hold the motor box cover. Examine the motor for evidence of burn out. Check & clean the motor connectors for corrosion or electrical short and connect the 12v battery directly to the motor to check it.

The problem MAY be a broken snap ring that secures the vertical spinner shaft to the gear assembly. To check unscrew the 4 Phillips head screws securing the plate to the box at the side of the motor. Remove the plate and check the snap ring that secures the vertical shaft to the gear.



If snap ring and gear/shaft assembly are intact ONLY then proceed to Replacing the motor.

9. Replacing the motor

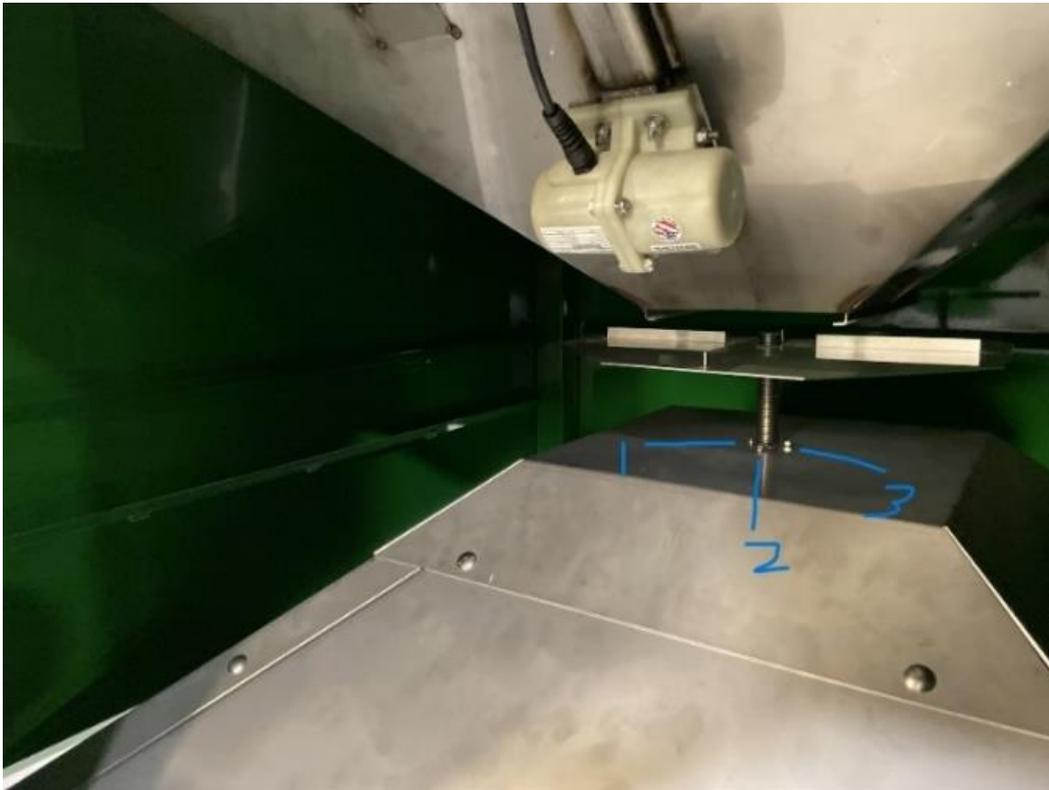
Disconnect the battery to prevent it from engaging while servicing

Loosen the spinner plate locking collar with a 3/16 hex key drive (allen wrench).

Spin the plate up and off the shaft ***[Plate may not come completely off at this point....the motor may need to be loosened and lowered some.....but moved up to access the 3 bolts will help].***

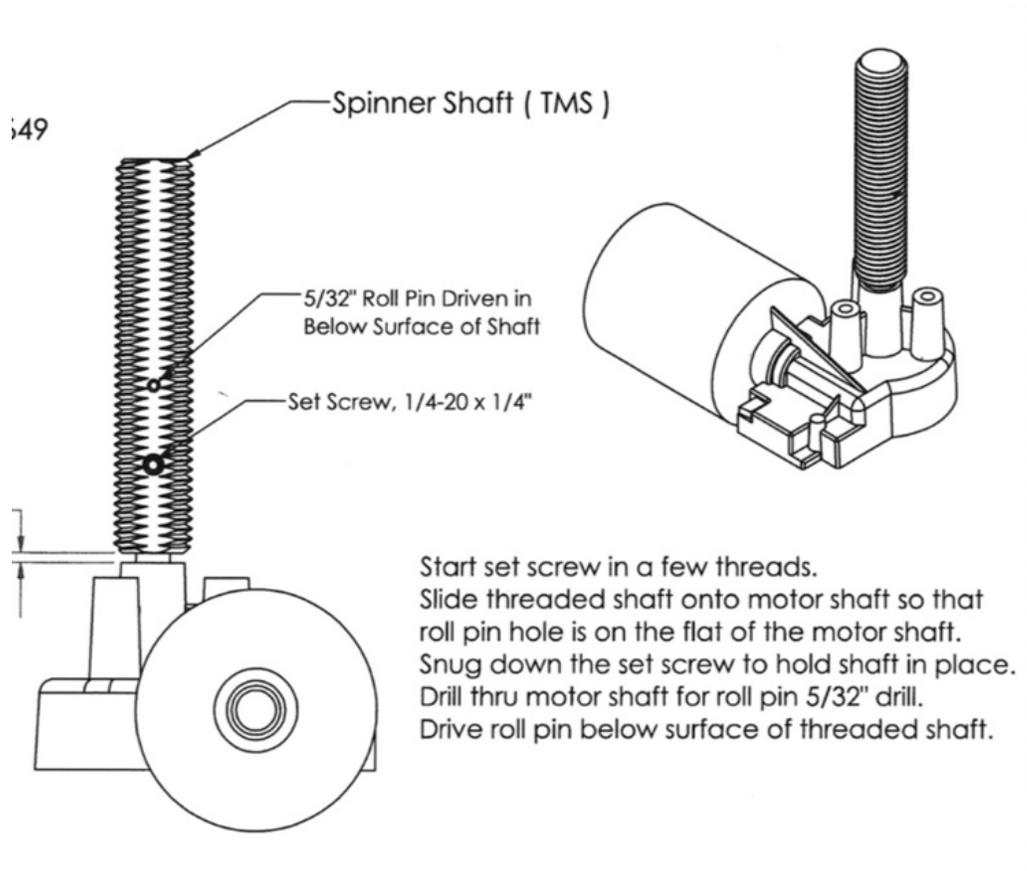
Next, go underneath the feeder and remove the sheet metal screws that hold the motor box cover.

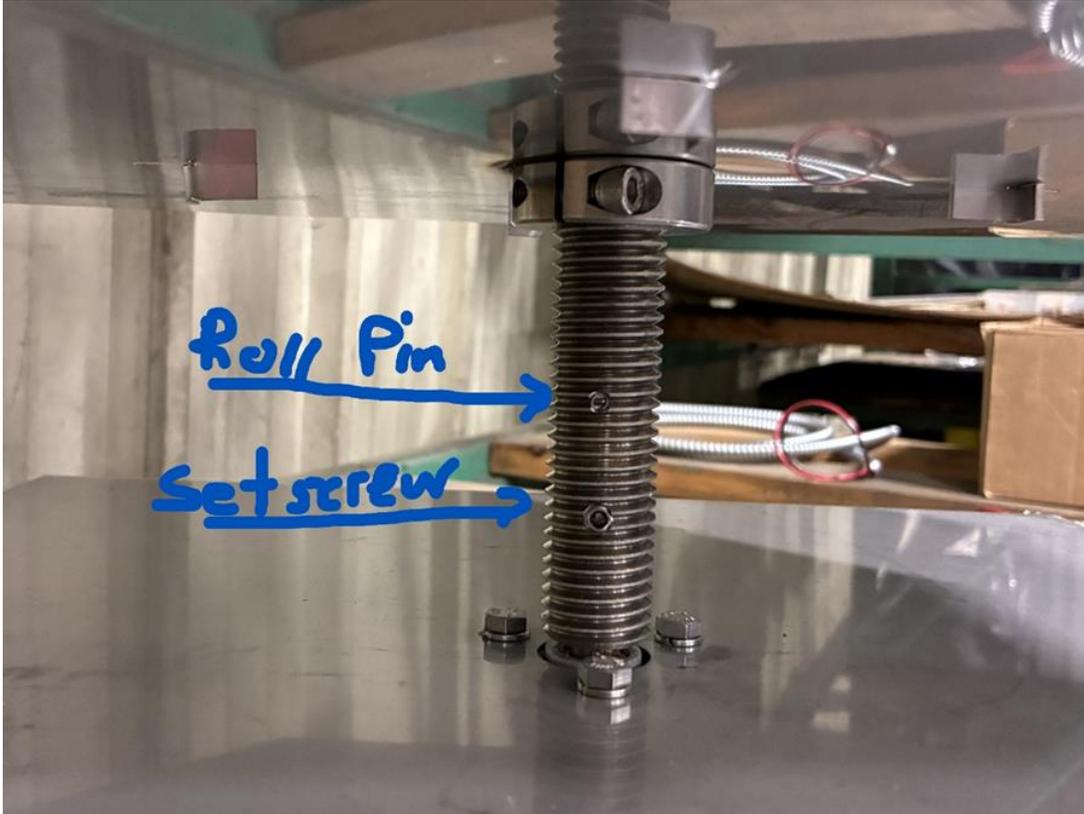
Use a 10mm wrench to loosen the 3 metric hex head bolts (see photo below) that surround the spinner shaft just below the spinner plate and the motor will drop out. You don't need to separate the threaded shaft from the motor shaft to drop it out of the bottom.



Remove the threaded shaft from the motor shaft (see illustration below) by loosening the set screw with a 1/8 hex key drive (allen wrench) and then use a small punch to remove the roll pin. Next fit the threaded shaft over the new motor shaft and use the roll pin hole as a guide to drill a 5/32" hole through the motor shaft (shaft is a soft metal). Secure threaded shaft to motor shaft w/roll pin and set screw and reverse the removal process.

NOTE – the roll pin may be above or below the set screw depending on age of your feeder.





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A new replacement motor can be purchased directly from the following website –

<https://www.surpluscenter.com/Brands/Stature-Electric/100-RPM-12-Volt-DC-Gearmotor-5-1649.axd>

Surplus Center

100 RPM 12 Volt DC Gearmotor Allied Motion RA-AFSL-30AN-35

Item number: 5-1649

Customer service: (800) 488-3407

10. Other replacement parts

Stabilizer leg & feed door pin - <https://www.huyett.com/snap-375-3000s>

Snap Pin Square Two Wire 3/8" x 3" Low Carbon Steel Zinc Clear