

Solar Feeders Portable Automatic Livestock Feeders

Troubleshooting Guide

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

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

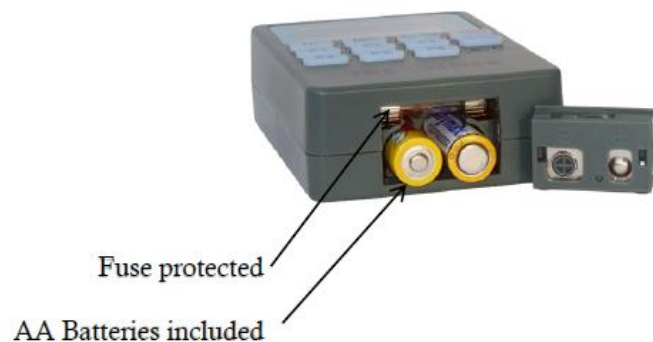
1. **Check the 12v battery** located behind the Timer (we recommend replacing it yearly).
The TIMER screen should indicate "12V" and battery indicator at bottom right side of screen showing at least 3 bars. If less replace with a 12v 8ah w/F1 connectors - <https://a.co/d/0UFNQnG>

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/6S47kVv>

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 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 treaded 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 1/4-28 socket head cap screw.

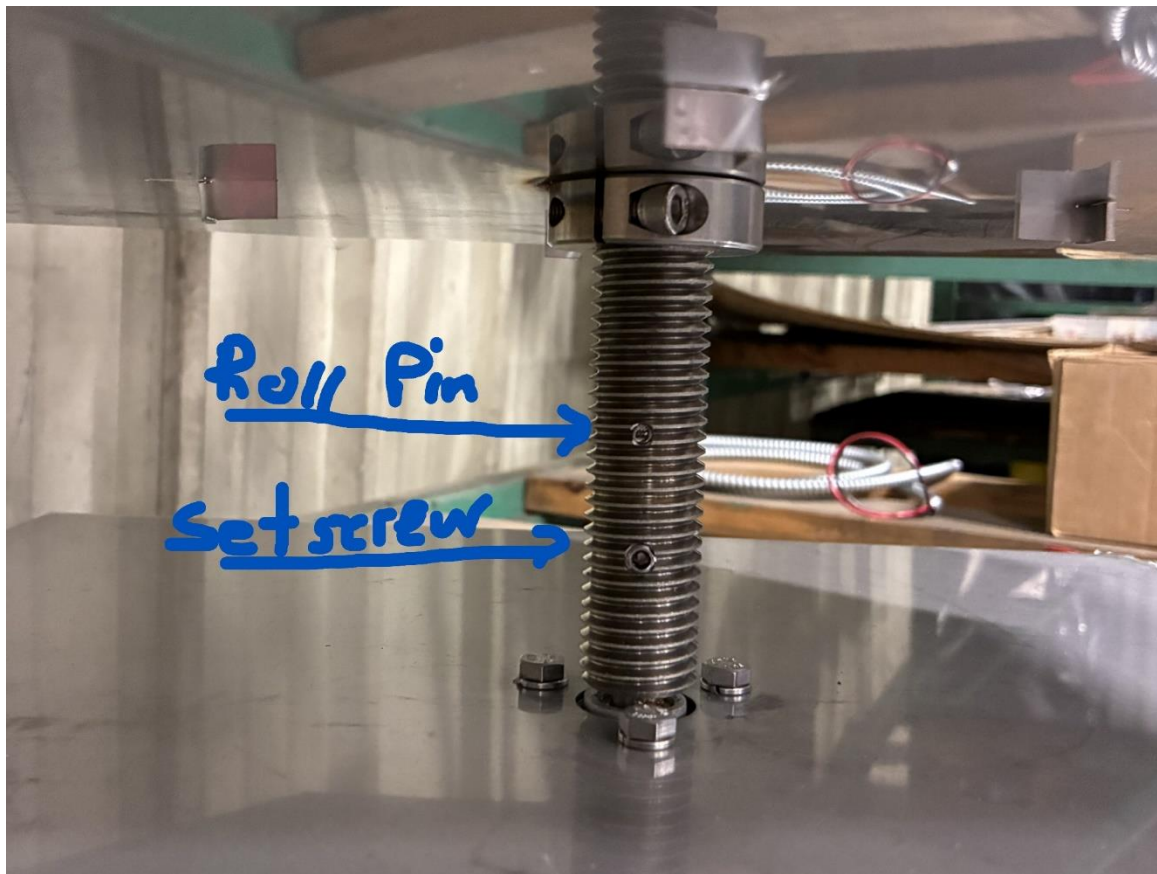




4. Check the spinner shaft roll pin and set screw

If the collar is tight then check the roll pin and set screw that connects 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 of them at the 2" height adjustment so you may need to move the plate up or down to gain clear access.

The set screw in the threaded shaft is a $\frac{1}{4}$ -20x $\frac{1}{4}$ " with a $\frac{1}{8}$ hex key drive (allen wrench). (see the following diagram)



5. **Check the 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 apart from being damaged. If you need to replace one please contact Solar Feeders.
6. **Check the solar panel and wiring**
Rarely a solar panel can be damaged due to hail, etc.
If the panel is damaged please call us for information on replacement
7. **Check the TIMER wiring** connectors for good contact and any oxidation.
8. **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 wreck 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 the 1000/1000G & 2500

9. **Check the spinner motor**

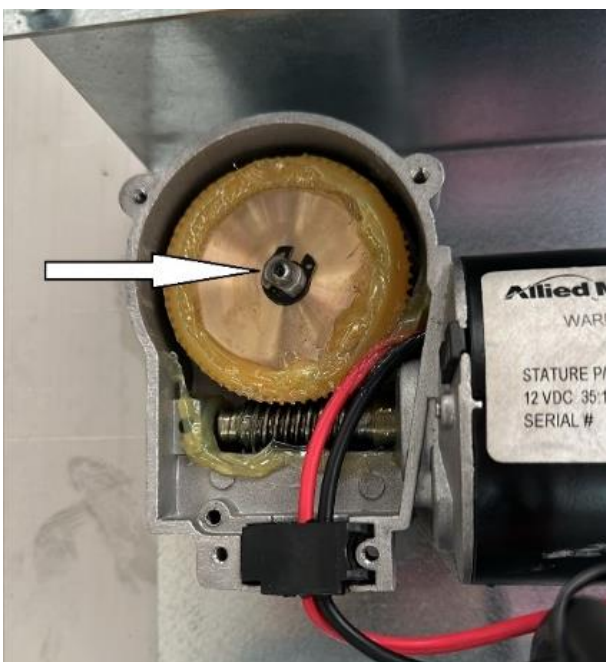
Go underneath the feeder and remove the sheet metal screws that hold the motor box cover.

Examine 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.

10. Replacing the motor

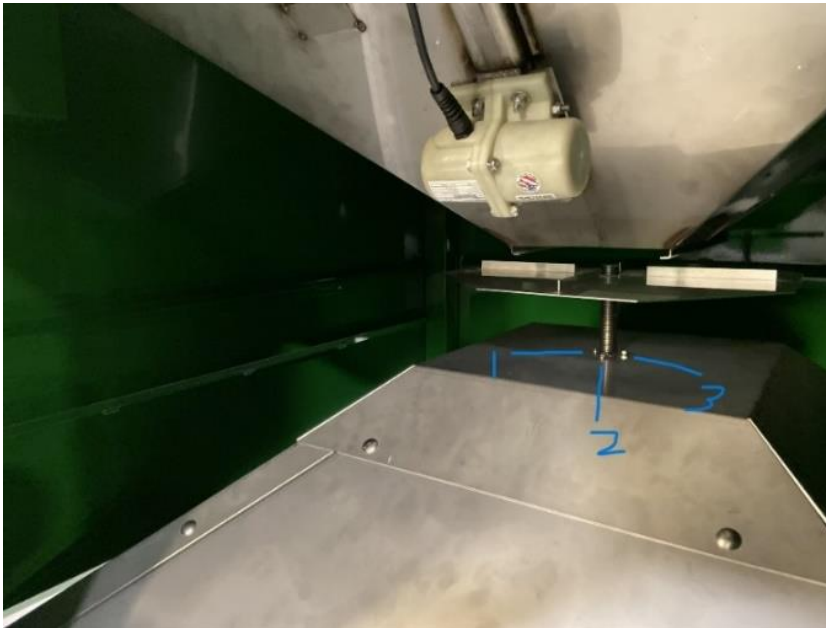
Disconnect the battery to prevent it from engaging while servicing

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

Spin the plate up and off of 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.

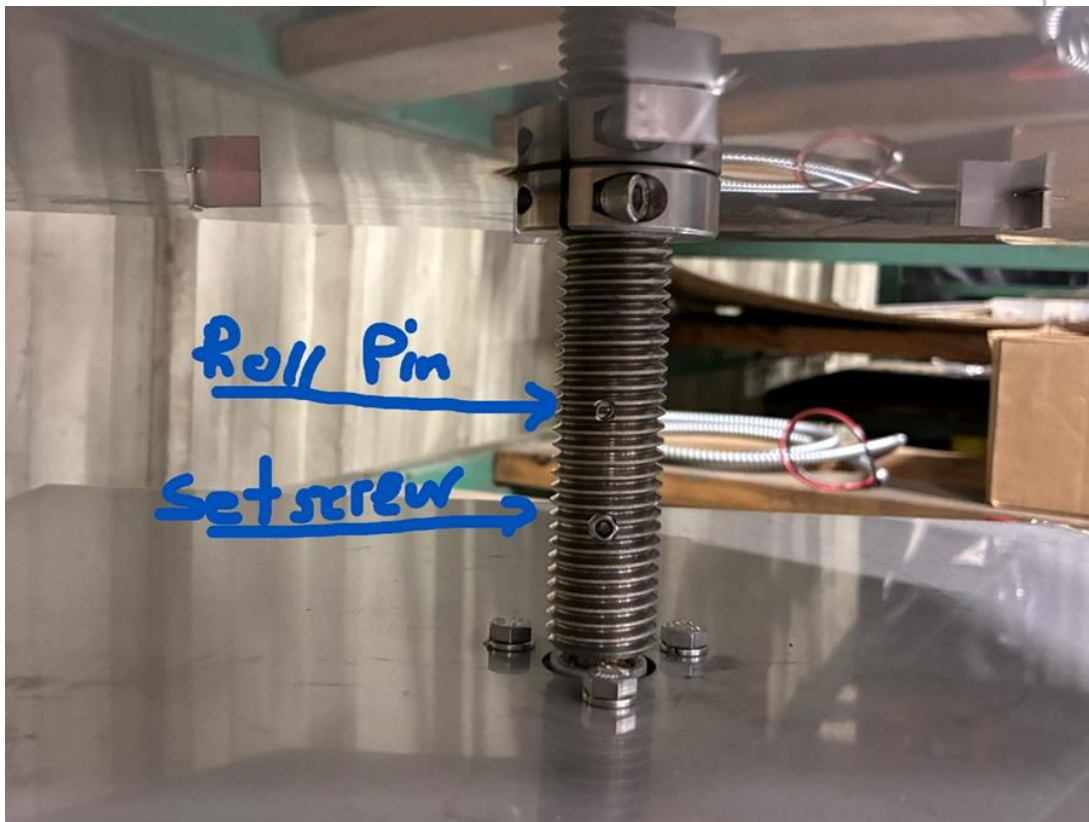
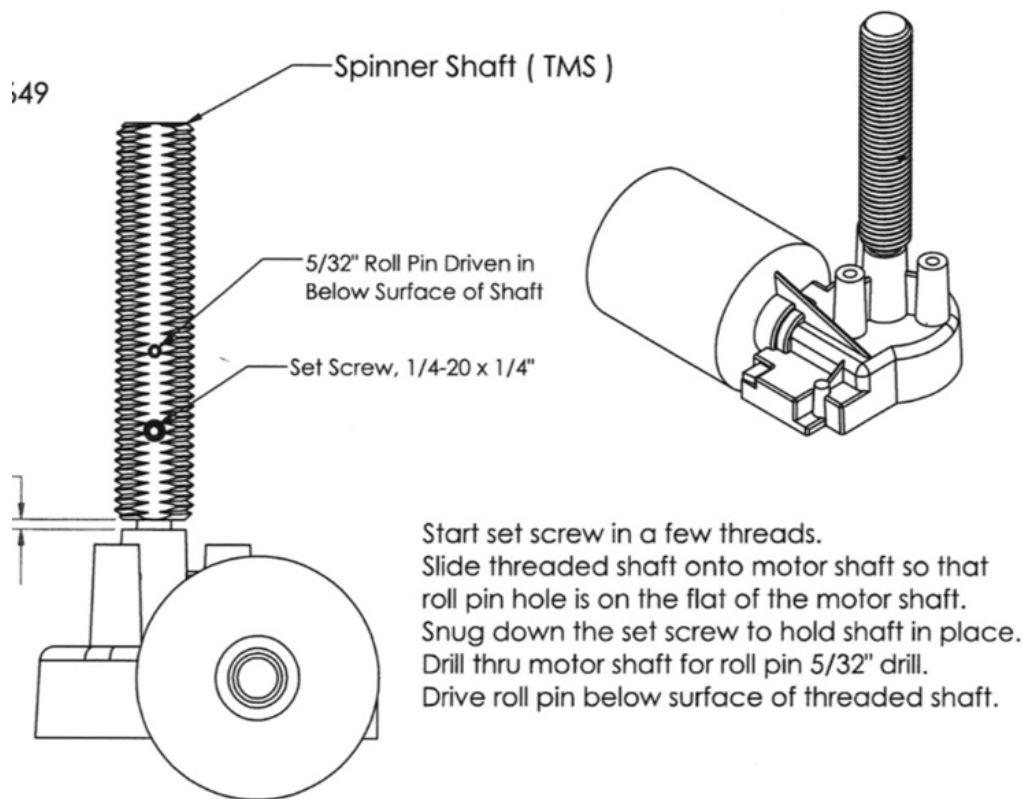
Use a 10mm wrench to loosen the 3 metrix hex head bolts (see photo below) that surround the spinner shaft just below the spinner plate and the motor will drop out. You don't need to separate the threaded shaft from the motor shaft to drop it out of the bottom.



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 fairly soft metal).

Secure threaded shaft to motor shaft w/roll pin and set screw and reverse the removal process.



A new replacement motor can be purchased direct 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

11. 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