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Manual for your Welker Cake Feeder

Calculator Counter Plug Kit



Mounting Your Caker:

Flatbed Model:

- You will need 4-3/8" x 1-1/2" bolts with large surface washers and nuts or 4-1/2" x 1-1/2" bolts with large surface washers and nuts. We recommend using 4 large surface washers on the bottom side of the flatbed to prevent your bolts from pulling through your flatbed.
- Place your caker on the flatbed to determine placement of your bolt holes.
- You will want the bolt to be on the inside of the cakers angle iron runner. Mark your hole placement,
- Drill 4 holes through your caker runner and the flatbed. Drop a bolt in each hole as you go to prevent your caker from moving as you drill.
- On the underside of the flatbed, attach your washers and nuts to each bolt and tighten. (Washers and nuts can be tack welded to the flatbed frame to facilitate easy removal and reinstallation of your caker in the future.)
- When caker in not on the flatbed leave the bolts in place to keep hole clean and dirt free.

Mounting your Cake in the Bed of your Pickup

Over the Side Caker:

- You will need 4-3/8" x 2" bolts with large surface washers and nuts or 1/2" x 2" bolts with large surface washers and nuts
- We recommend using 4 large surface washers on the bottom side of the pickup box to prevent your bolts from pulling through.
- Place your caker in position to determine placement of your bolt holes.
- Drill the 4 holes through your caker runner, the pickup box, and into the pickup frame, drop a bolt in each hole as you go to prevent your caker from moving as you drill.
- On the inside of the pickup frame, attach a washer and nut to each bolt and tighten.

We have 2 styles of mounting brackets you can use to mount your plugs to your headache. A Plug Plate is included with the wire Harness. **Plug Boxes are available for purchase.**



Pickup Side Big Plug Kit



You will only be wiring the pickup side wiring when you are installing your feeder.

Mount the Plug Plate on your headache rack, this plate can either be welded on or bolted on, in the vicinity of the motor end of your caker to where the male ends on the caker plug will easily reach the plate.

Mount both female (plugs) temporarily in the mount plate.

Run your **power cord** along the frame of your pickup to the engine compartment, secure in place.

A. Strip back the **Red Power Cord** a 3/8" and solder it to eyelet that is attached to the breaker. Attach the eyelet back onto the breaker terminal marked "AUX"

B. Attach the short wire bolted to the breaker terminal marked "BAT" to the pickup battery, and then mount the breaker in place under the hood in the engine compartment.

C. Run your push button cord and the counter cord from the cab of the pickup to the Plug Mount Plate.

D. Connect the wires to the silver female 4 prong plug as shown in the wiring diagram provided.

E. Secure the female plugs in your Plug Plate.

Calculator Counter**4 Prong Male/Female Plug**

Calculator Sensor	Letters for Terminal are at the Screw head
Black	R
Clear/ White	W
Push Button	
Black	B (Silver Terminal)
White	G

Calculator Counter



Our calculator counter is a system that counts revolutions and runs on a magnet reed switch. It is a less expensive alternative that we offer if you need a counter.

CALIBRATING THE COUNTER

Press the button to run the caker until feed begins to run down the spout.

1. Press the "reset" button on the counter. (Counter should read zero.)
2. Determine the empty weight of a 5 Gallon bucket, or similar container.
3. Place the bucket / container so the cake feeder will dispense feed into it.
4. **Press 1+ on the calculator** and push the button which runs the feeder and hold it until your bucket / container is full.
5. Weigh the bucket / container, then subtract the empty weight of the container to determine the weight of the feed dispensed.
6. Divide the weight (pounds) of the feed dispensed by the number displayed on the counter. The result will be the pounds of feed dispensed for every revolution of the counting mechanism.

For example: You have 300 head of cows you wish to feed 2.5 pounds per head. (A total of 750 pounds of feed.) You have a 5-gallon bucket that weighs 3 pounds empty. After filling the bucket, you weigh it and determine the weight of the bucket to be 38 pounds. You subtract the empty weight of the bucket (3 pounds) and determine there are 35 pounds of feed in the bucket. The number displayed on the counter (the number of revolutions it took to fill the bucket) is 7. You divide 35 by 7 and determine the calibration number to be 5. (The feeder is dispensing at 5 pounds of feed per revolution.) Therefore, to feed 750 pounds of feed, you will have to reset your counter to zero, and run the caker until the number displayed on the counter is 150.

I Need a New Belt!

Standard Belt Lengths are 102" 126" 150"

What we need to know before we can help you!!!

Do You have a Flatbed Feeder, or an Over the Side Feeder?

Do You Have a Square Tube Feeder or A Round Tube Feeder?



Square Tube Feeder



Round Tube Feeder



Over the Side Feeder



Square Tube Belt



Round Tube Belt



Over the Side Belt



I need a new belt:

What size belt do I need:

Do you have An Over-the-side Caker, or Flatbed Caker?

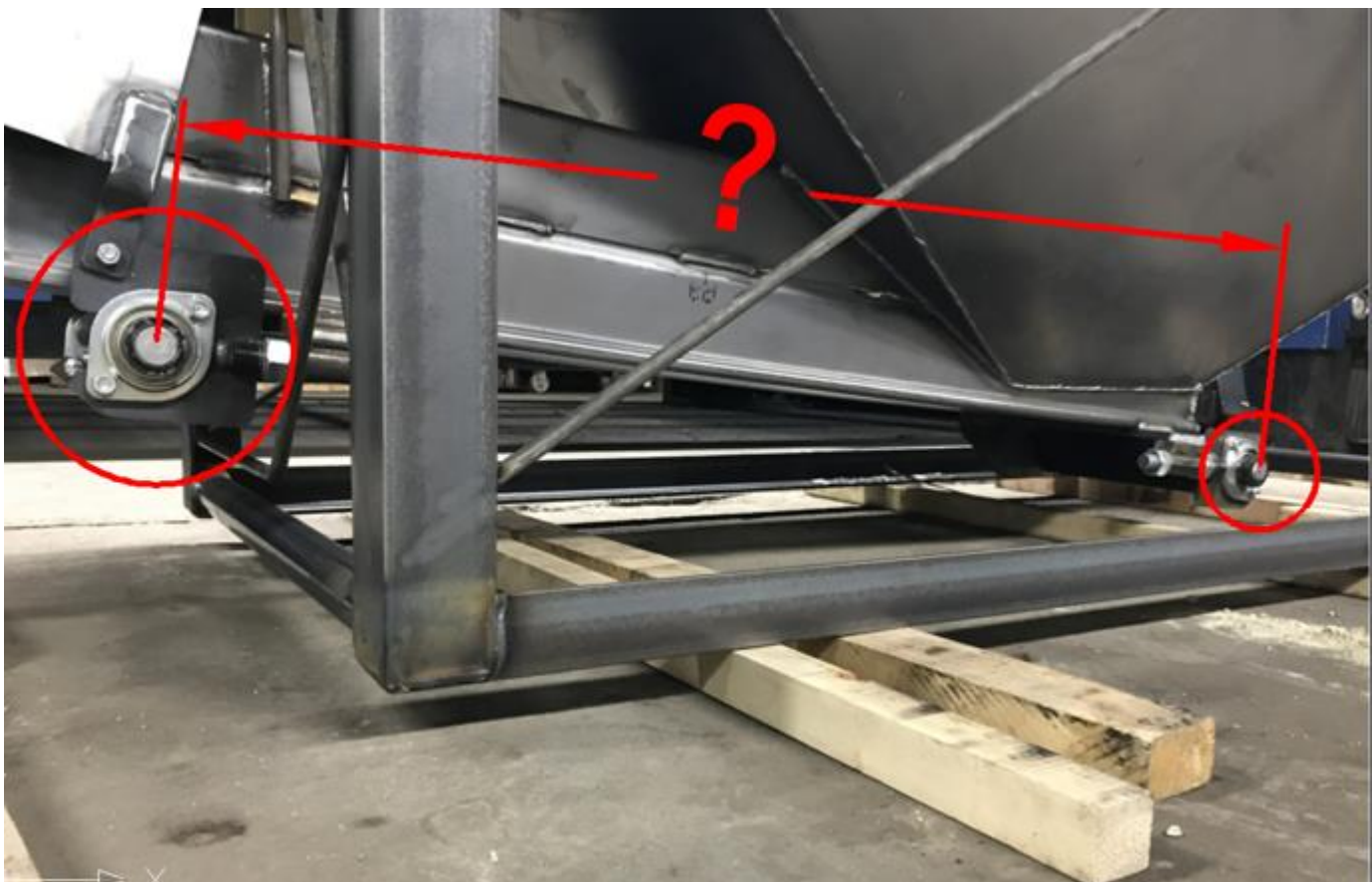
Do you have a square tube Feeder or Round tube feeder?

Over-the-side Square Tube feeders have a standard 102" belt that is cleated for the incline.

Measure Center of roller bearing in the front to the center of the roller bearing in the back, on the left side of the feeder.

Formula is Distance between roller bearings X 2 plus 6 inches. All

Belts are 9-7/8" wide.



Chute End to Motor End

Can I splice my broken belt?

WE do not recommend splicing your belt.

Both Square tube and round tube belt Splices take special tool to install properly

You are likely not going to have enough length after you splice your belt unless you add length into the belt this would require setting 2 New splices.

My Feeder is full how can I change or fix a broken belt?

If you can get to the splice point, you can try attaching the new belt to the splice point and carefully feeding it through to the other side.

Belt Tracking off center! (Not running Straight)

Your belt has been aligned correctly at installation.

As you use your feeder, your belt may start to shift to one side.

Make sure the drive roller is clear of any twine or other obstructions to prevent shifting.

Determine which side your belt is moving toward.

You may need to loosen or tighten the bearing cages adjustment nuts to work your belt back in to the center of your tube.

Take a 1 1/8" wrench to the 3/4" ready bolts on the bearing cages, loosen the nut on the bearing cage, on the side the belt is moving toward, and tighten, the nut on the bearing cage, on the side the belt is moving away from. This will cause the belt to travel back into place.

Over-the-side Square Tube feeders have a standard 102" belt that is cleated for the incline.

My Motor is losing power and running slowly and lugging down.

Check your bearings on your rollers, they should be clear of any twine, or wire or dirt.

If they are turning freely, what are you using for a hotwire?

We have found you really do need the Heavy Welding cable that was original to your caker to carry the proper voltage to the motor.

The Diode is an electrical shock absorber. We recommend all Cakers have a diode. This diode is attached to the solenoid.



Installing caker for the season and I can't get it to run.

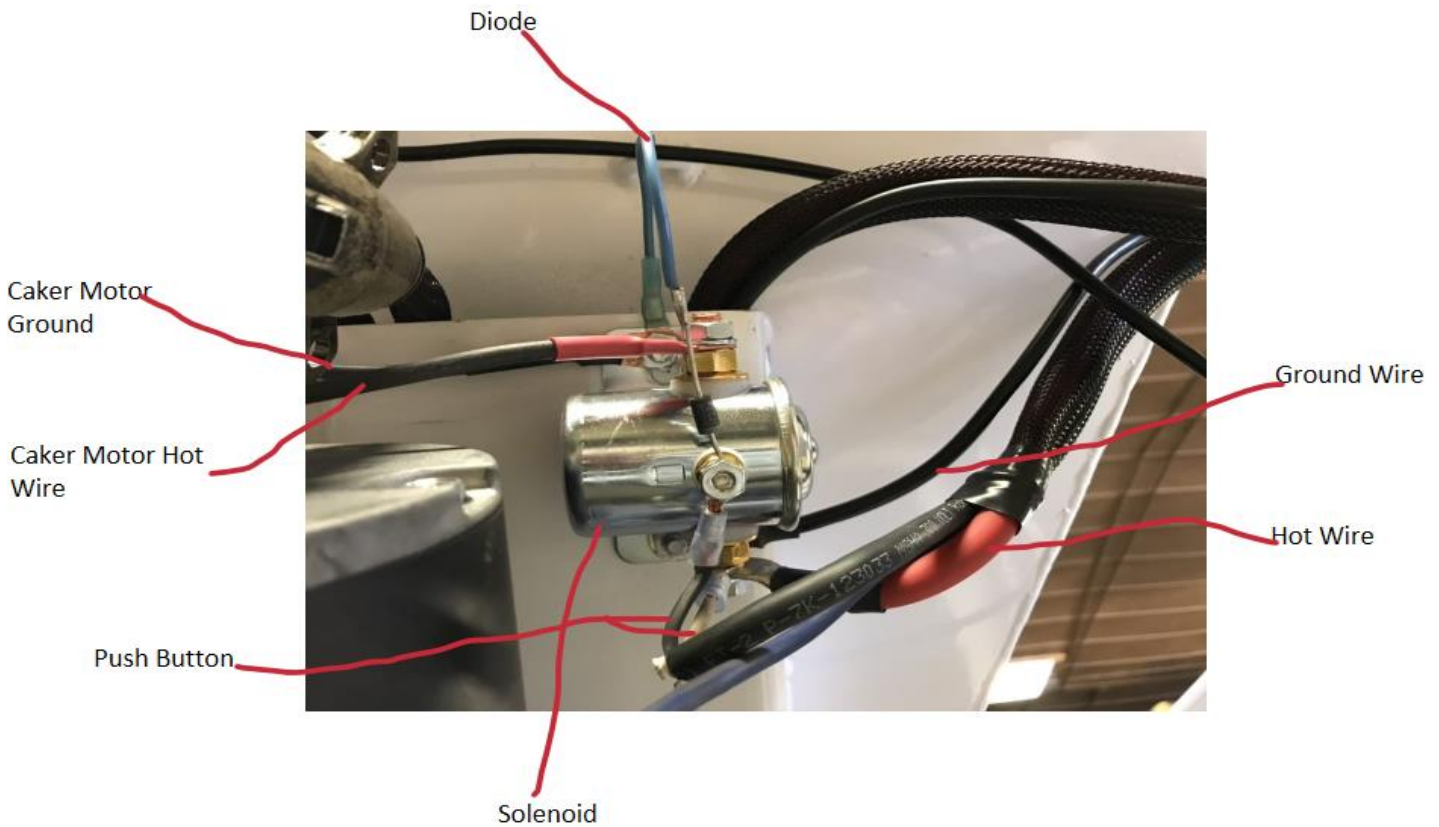
First test to make sure that the motor is in working condition.

To do this you need to disconnect the **Caker Hot Wire** from the solenoid and touch it to the post on the motor hot wire post.

If the motor runs, the motor is fine, and it could be the solenoid or the push button. Reconnect the hot wire to its original post.

Next test the **Push Button** by creating a jumper wire from the smallest post on the **Solenoid**, to the post on **Solenoid** where the **hot wire** from the battery connects.

Motor runs	Bad push button, or damage push button cord
Solenoid Clicks	Bad Ground
Nothing happens	Bad solenoid, Or no Ground.



Cake Feeder won't start solenoid only Clicks!

You most likely have an incomplete or bad ground.

Test this by taking a set of jumper cables, find a clean, rust and paint-free spot on the Caker connect both clamps from one end of the cables here, and then connect the opposite end of the cables to your pickup frame. If your caker begins working normally, you have a bad ground.

Check to ensure that your plugs are bolted securely where you have chosen to mount them. If the plugs are not secure, an incomplete ground can occur.

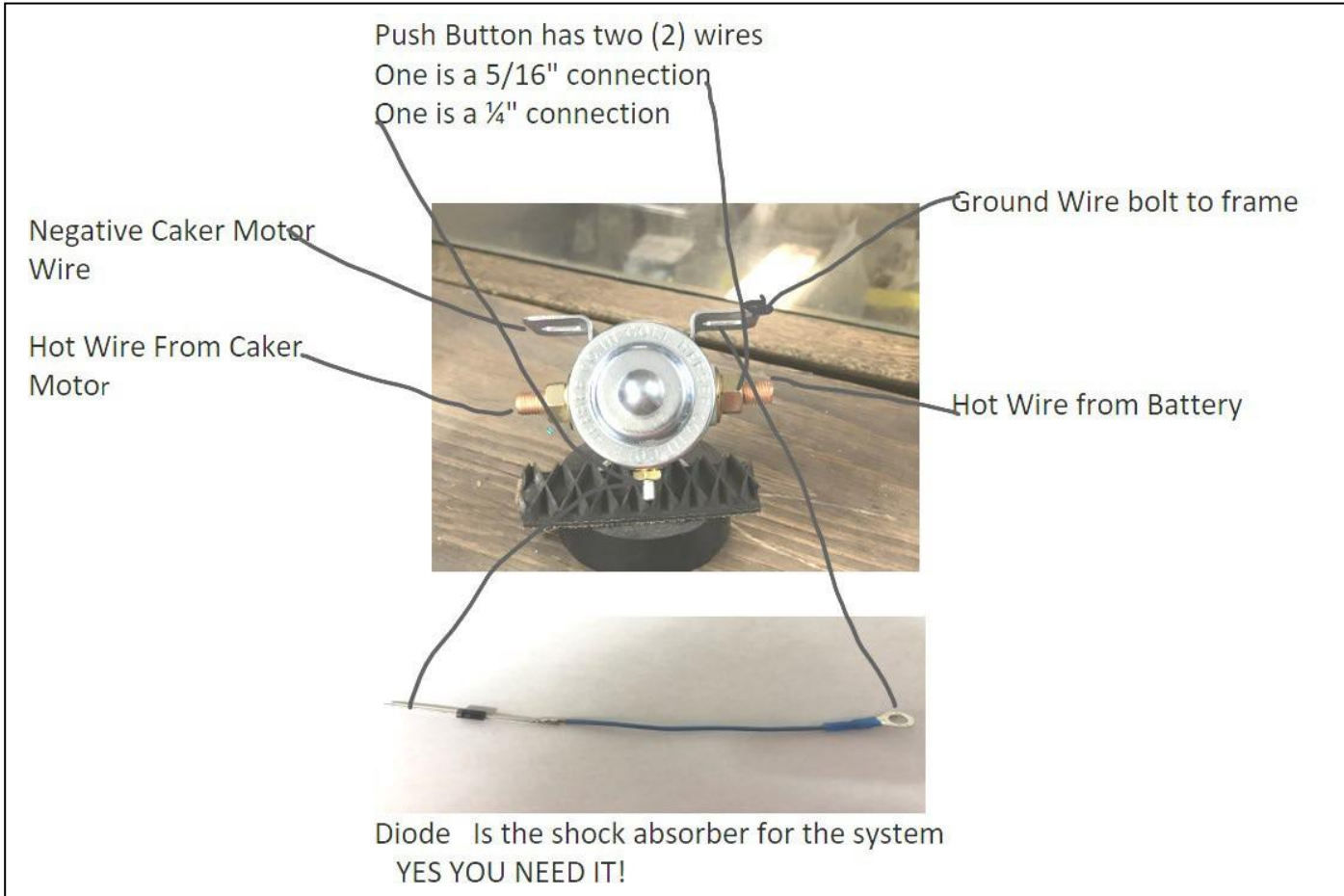
Check for any ice or mud, or rust build-up that could be impeding the ground.

To alleviate your bad ground issue, you can install a quick jumper wire on your female goldplug, if you have a plug kit. Simply put a new ground on with an eyelet and bolt it with the mounted plug, and the other end of the wire to your pickup frame. Your plugs, when connected, will ground back to your pickup.

My Push Button gets hot when I use it:

All the power for your system is going through your push button!

You have your solenoid Wired wrong.



1. Connect the Solenoid to the caker 2 1/4" bolts.
2. To the top 5/16" bolt on the solenoid connect the caker motor hot wire (**RED HEAT SHRINK ON EYELET**).
3. To the bottom 5/16" bolt on the solenoid connect **Heavy Red Wire** coming from the **Gold plug and the 5/16" eyelet from the push button wire**.
4. To the small 1/4" connection on the Solenoid connect the **wire end of the Diode** and the **small eyelet from the push button**.
5. To the top Solenoid frame bolt connect the **Diode Eyelet** and the Caker Motor GroundWire (**Black Heat Shrink**).

My Breaker keeps tripping!

This could mean you have a bare wire somewhere, in your pickup wiring or your caker wiring.

We use a 100AMP breaker for these feeders. We can send you the breaker itself, or the breaker including its 24" of wiring, eyelets included.

This Breaker we feel works the best



Calculator and sensor wire Problem

The Calculator Counter system is a revolution counting system. This system has a calculator that is converted to operate on a signal for 2 magnets located on your caker.

All Calculator Counter systems must have two magnets on the caker side, 1 with wires attached to the sensor wire, and one with no wires attached to the caker sprocket.

You will have a Sensor wire running from the caker, either through a 4-prong plug (plug Kit) or directly (Hard wired) wired into your truck cab.

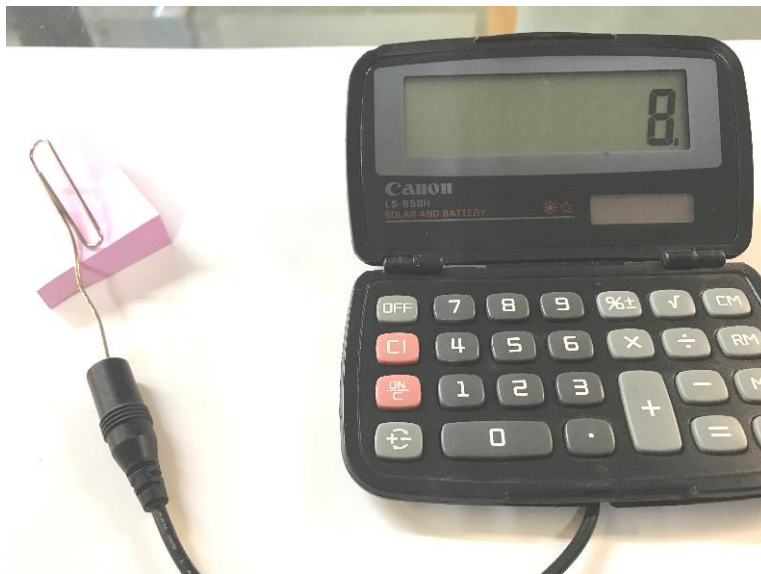
I cannot get my calculator to work, where do I look to find the problem?

First, we will need you to test your calculator to make sure the problem isn't the calculator itself.

To do this you will need to unplug your calculator from your sensor wire and clear out any numbers that happen to be displayed on the screen.

Next push 1 + and insert a small paper clip or screwdriver or a small metal object into the female pigtail attached to the calculator.

Wiggle paper clip/ screwdriver/ metal object around, if calculator counts, calculator is good. If it does not count the calculator is bad.



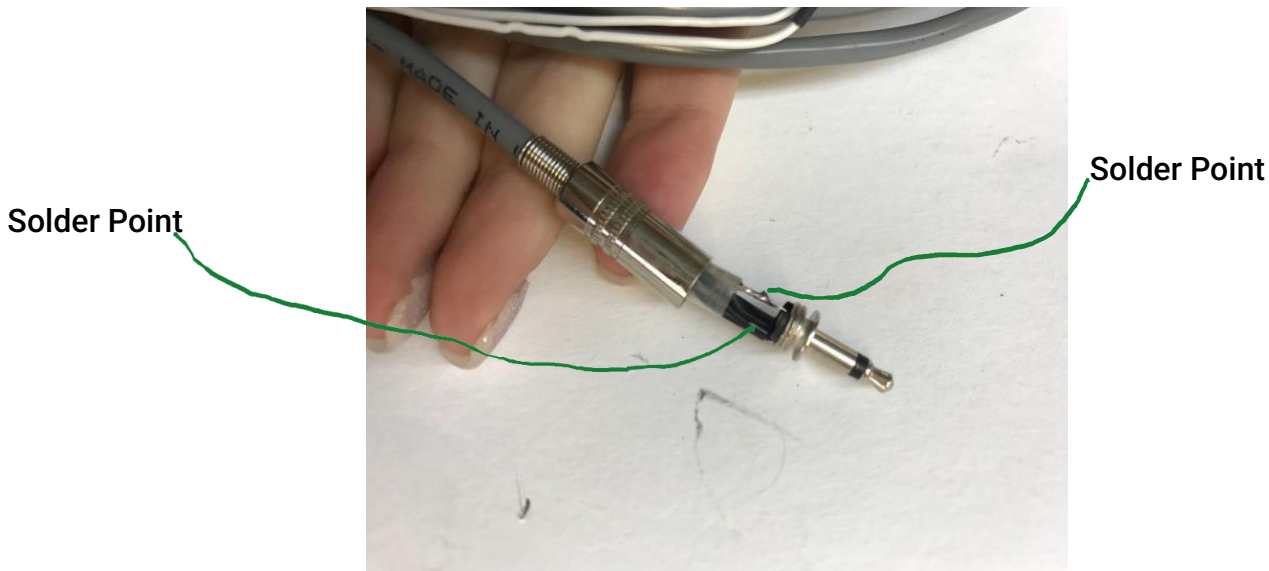
My calculator works fine, where do I look now?

Is your Calculator flashing when you run your caker?

If your calculator is flashing when you run your cake feeder you will need to, Cut the heat shrink on the silver male end of the sensor wire, unscrew the tip of the male plug, and check to see if the two soldered points on the inside of the plug are touching. (Some of the soldered points may be wrapped in black electrical tape, like shown below.)

The black tape is there to insulate and protect the solder points from touching and/or rubbing each other or the outer case.

If touching separate and wrap with black electrical tape so they two different points can no longer make contact and have no contact with outer case.



Does your calculator count for a while then throw a bunch of zeros or decimal points?

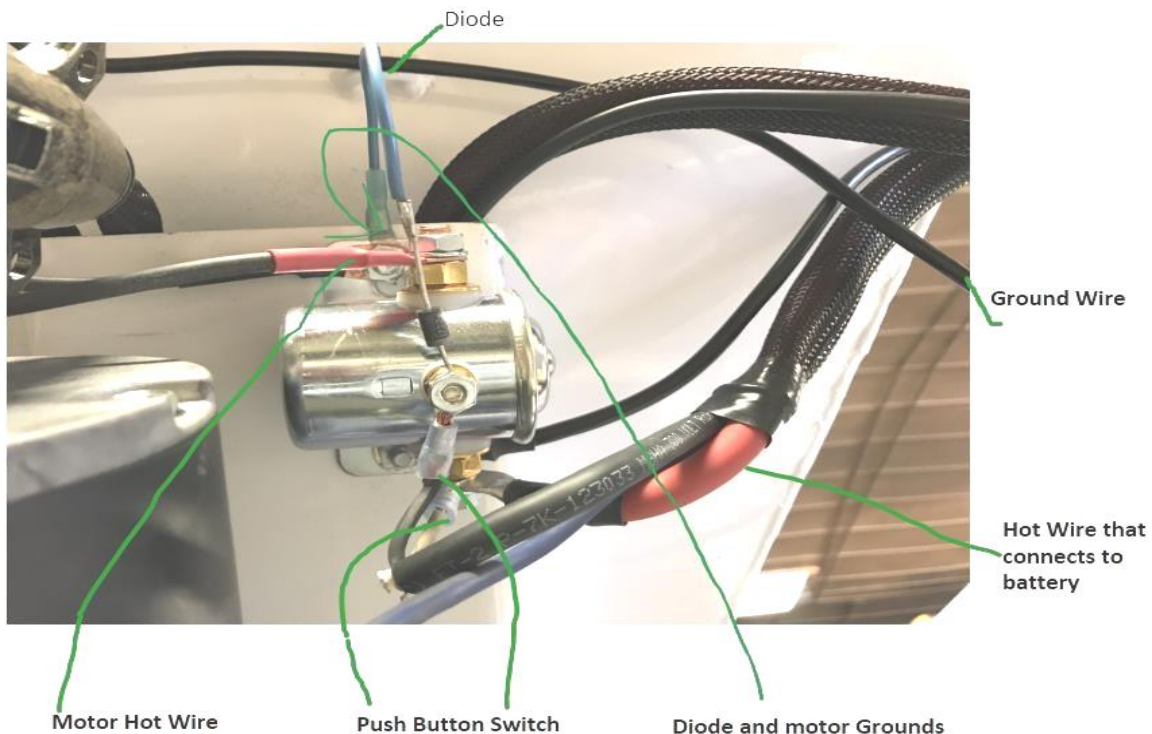
If this is happening to you, you may need a diode on your feeder.



Depending on how old your feeder is, it may not have a diode, or if it does have a diode, it may not be functioning properly and will need to be replaced.

The purpose of the diode is to break up the electric magnetic current that the solenoid throws out when the feeder is turned on and off (causing the zeros). See the picture below to see how the diode is attached to the solenoid.

If you do not have one, you need to put one on your solenoid!



Sensor Wire Diagnosing

Have you determined the problem is with the sensor wire?

You can easily determine which end of your sensor wire has the problem by testing with a multimeter.

Caker Side Test

First, push the push button until the two magnets line up.

Unplug your caker at the headache rack!

Insert your multimeter into the silver insert and the gold insert directly to the right of the silver insert on the male 4-prong plug.

If the multimeter beeps this is a closed circuit.

Plug your Caker into the headache rack.

Next

Move the magnets away from each other and test again. If no beep is heard this is an open circuit.

If **Both** test passes, that means, your caker side sensor wire is working properly.



Pickup side Sensor Wire Test

You will need to test the pickup side to find the problem.

To Test the **Pickup side** Sensor wire:

With your caker is still unplugged,

Plug you sensor wire into you calculator, push 1+ on the calculator,

Then on the Female 4-prong plug touch the silver post and a gold post directly to the right of it with pliers or something metal, this should make the calculator count.

If the calculator doesn't count, the problem is on the pickup side sensor wire.

There could also be a moisture problem in your magnets, if all of these tests, pass, it could possibly be a magnet problem, or a direct short somewhere in the sensor wire that is only triggered while the pickup is running or moving.

With these other issues it is much easier just to replace the whole sensor wire.

It is very important to keep the inside of your 4 prong plugs **Clean and Free** of dirt, Sometimes the problem can be as simple as dirty plugs.

Frequent Q/A:

- These feeders are not painted inside.
- Feeders run off a 3/4 HP 12-volt motor. We have them in stock, along with motor brushes, springs, etc.
- Ohio Motor will pull 67 Amps from your pickup system.
- **Older models can run off the smaller winch motors.** They are no longer available you will need to convert your caker to the Ohio motor and gearbox.

We keep sirens on hand in the office. Please follow the suggested on/off intermittence to avoid burning your siren up.

For any questions you may have, give us a call. Keep up with our website and Facebook page for details, deals, and other products we stock.

See more of our trouble shooting and parts pictures on our website:

www.welkermanufacturing.com

**Thank you all for your business with our small-town operation!
We work HARD for you!**

