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Manual for Your Welker Cake Feeder

Red Lion Digital Counter - Plug Kit

Mounting Your Caker On Your Bed

Flatbed Model:

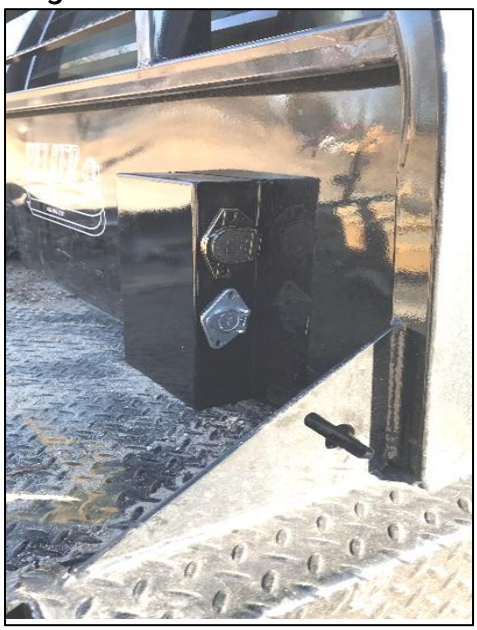
- You will need four 3/8" x 1-1/2" Bolts with large surface/fender washers and nuts or four 1/2" x 1-1/2" bolts with large surface washers and nuts. We recommend using four large fender washers on the bottom side of the flatbed to prevent the bolts from pulling through the flatbed.
- Place the caker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

Mounting Your Caker in the Box of Your Pickup

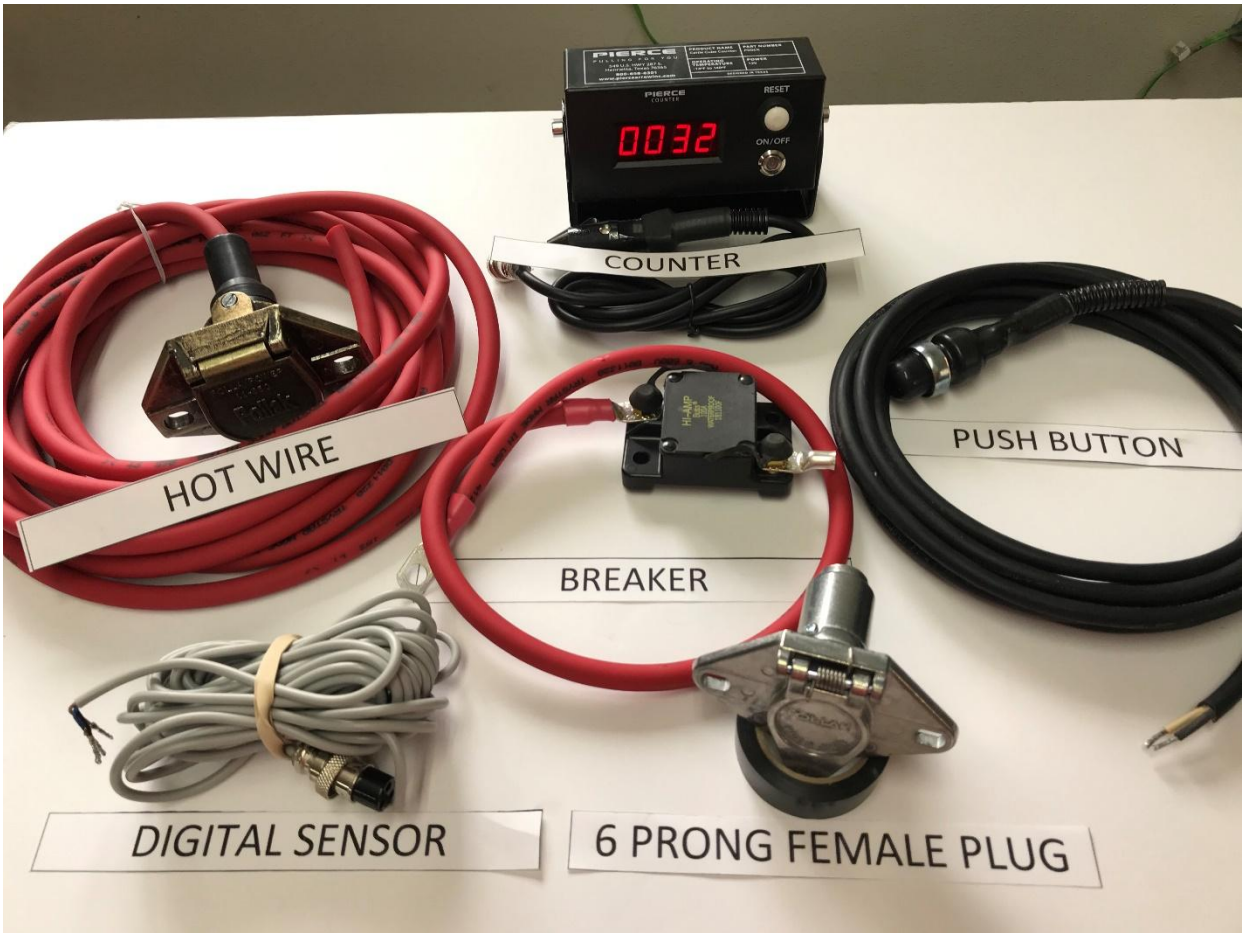
Over the Side Caker:

- You will need four 3/8" x 2" bolts with large surface/fender washers & nuts or four 1/2" x 2" bolts with large fender washers and nuts.
- We recommend using four large fender washers on the bottom side of the pickup box to prevent the bolts from pulling through.
- Place your caker in the desired position to determine placement of your bolt holes.
- Drill the four holes through your caker runner, the pickup box, and into the pickup frame, drop a bolt into each hole as you go to prevent the 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 two styles of mounting brackets you can use to mount the plugs to your headache rack. A Plug Plate is included with the wiring harness. **Plug Boxes are available for purchase.**



Pickup-Side Big Plug Kit



You will only be wiring the pickup-side wiring when installing the cake feeder.

Mount the Plug Plate on your headache rack, in the vicinity of the motor-end of your caker where the male ends/trailer plugs on the caker plug will easily reach the plate. The plate can be ether welded or bolted on.

Run the Hot Wire along the frame of your pickup to the engine compartment, then secure it in place. Then strip back the Hot Wire 3/8 of an inch; then solder it to the eyelet that is attached to the breaker. Attach the eyelet back onto the breaker terminal marked “AUX”. Proceed to attach the short wire bolted to the breaker terminal marked “BAT” to the pickup battery; mount the breaker in place under the hood in the engine compartment.

Run the push button cord & your counter sensor-wire from the front of the pickup cab back to the Plug Mount Plate. Connect the wires to the silver female 6-prong plug as shown in the wiring diagram provided on the next page. Finally; secure the female plugs in your Plug Plate.

Digital Counter	6-Prong Male / Female Plug
Digital Sensor	
Brown	**TM or T**
Black	**GD or G**
Blue	**LT or L**
Push Button	
Black	**AS or S**
White	**RT or R**

DIGITAL COUNTER SECTION

Our Red Lion Counter is a small display with a bracket that will be mounted in the cab of your pickup, typically on the dash. The digital read-out display is easy to read with a reset button (the **RST button on the right**. The display can also be changed from red to green. It includes a power cord that will already be attached to the back of the counter box that will be plugged in to your pickup's cigarette lighter along with the sensor wire. You will take the other end of the sensor wire into the female 6-prong plug that is mounted back on the flatbed/box.

This counter will only count revolutions, so it will need calibrated it to your feed output.

CALIBRATING THE COUNTER

Press the button to run the caker until the 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 a similar container (tare).
3. Place the bucket/container so the cake feeder will dispense feed into it.
4. Press the button which runs the feeder and hold it until your bucket/container is full.
5. Weigh the bucket/container, then subtract the tare 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 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.

Trouble Shooting for Digital Counter

The counter monitor will not light up

- The power cord to monitor might have a wire pulled loose. Check the connections on the back of the display to look for a loose/damaged wire. If this end is ok, a wire may be loose/damaged on the other end at the 6-prong plug.
- Your power point may not be getting power. Check the pickup fuses; also test your cigarette lighter with a test light or an OEM meter to make sure there is power.

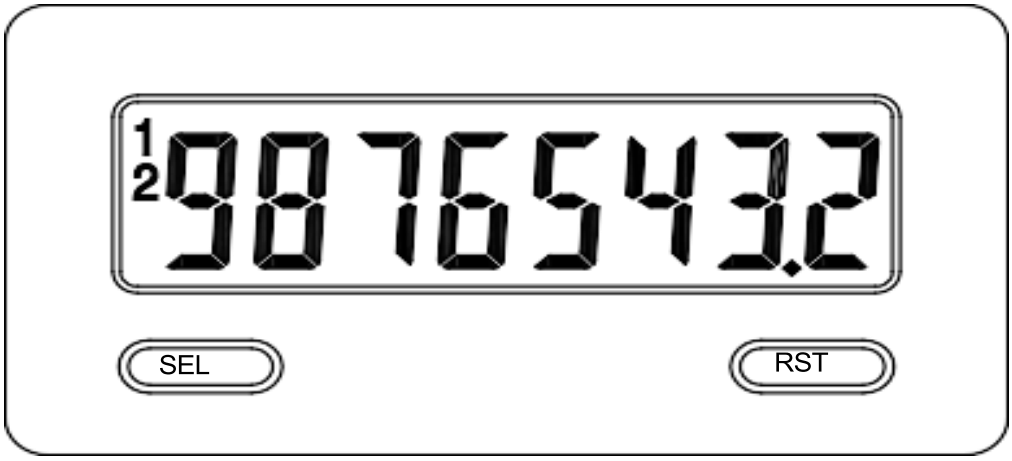
My counter display is fine but will not count

- The sensor needs to see the tab on the sprocket. The distance from the end of the sensor to the tab should be no more than 2 credit card thickness apart.

Does the light on the back of the sliver sensor on the caker side light up and blink each time the tab on the sprocket comes around?

- **Constant Light:** Means it is reading the sprocket instead of the tab on the sprocket. Adjust the Sensor Mount Bracket out towards the end of the sprocket so the sensor can see the tab but not the sprocket hub.
- **No Light:** No power. Take the silver plugs apart and make sure they are clean and free of dirt, cobwebs, and there are no bare wires touching. Then verify all your wires are connected. Also make sure you have no bare wires touching the metal outside casing.

Reviewing the Front Buttons & Display



KEY	DISPLAY MODE OPERATION	ENTERING PROGRAM MODE	PROGRAMMING MODE OPERATION
SEL	Index display through enabled values	Press and hold for 2 seconds to activate	Store selected parameter and index to next parameter
RST	Resets count display(s) and/or outputs		Advances through the program menu/ parameter value or selection Increments selected

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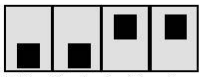
OPERATING MODE DISPLAY DESIGNATORS

"R" - To the left of the display is the rate value.
- Counter A has no designator.

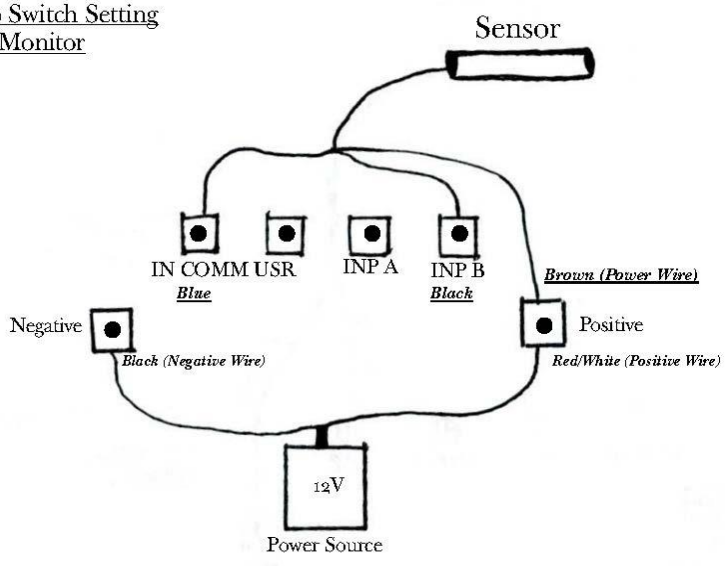
"b" - To the left of the display is the Counter B value (dual count or batch).
"1" and "2" - Indicates setpoint 1 and 2 output statu

Pressing the SEL button toggles the meter through the selected displays. If display scroll is enabled, the display will toggle automatically every four seconds between the rate and count values.



Dip Switch Setting for Monitor

Wiring Diagram for Red Lion Counters



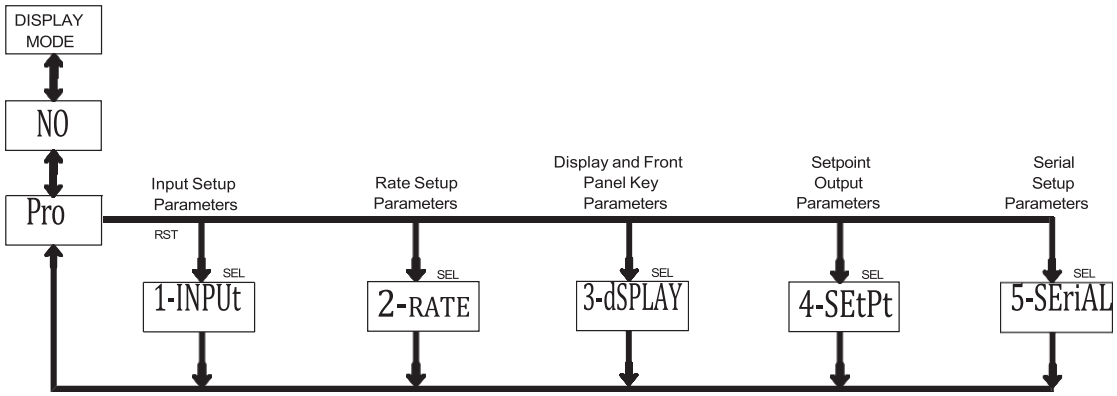
Programming the Display

PLEASE NOTE:

We do not recommend doing this without reading through the entire guide. There is also a factory reset option which will be shown on the next page. If a mistake is made while programming, especially if you are unsure of how to fix it, it is best to reset the counter settings then start fresh. If you have a question or are unsure of how to change a setting; the email for the office is: *weldermanufacturing@gpccom.net*. The phone number for the office is: (402) 966-2251. You may also access the full programming guide on our website: *welkermanufacturing.com*

OVERVIEW

PROGRAMMING MENU



PROGRAMMING MODE ENTRY (SEL KEY)

The meter normally operates in the Display Mode. No parameters can be programmed in this mode. The Programming Mode is entered by pressing and holding the **SEL** key.

MODULE ENTRY (SEL & RST KEYS)

The Programming Menu is organized into separate modules (shown above). These modules group together parameters that are related in function. The display will alternate between Pro & the present module. The **RST** key is used to select the desired module. The displayed module is entered by pressing the **SEL** key.

MODULE MENU (SEL KEY)

Each module has a separate module. The **SEL** key is pressed to advance to a particular parameter to be changed, without changing the programming of preceding parameters. After completing a module, the display will return to Pro NO. Programming may continue by accessing additional modules.

SELECTION / VALUE ENTRY

For each parameter, the display alternates between the present parameter and the selections/value for that parameter. The **RST** key is used to move through the selections/values for that parameter. Pressing the **SEL** key, stores and activates the displayed selection/value. This also advances the meter to the next parameter.

For numeric values, press the **RST** key to access the value. The right hand most digit will begin to flash. Pressing the **RST** key again increments the digit by one or the user can hold the **RST** key and the digit will automatically scroll. The **SEL** key will advance to the next digit. Pressing and holding the **SEL** key will enter the value and move to the next parameter.

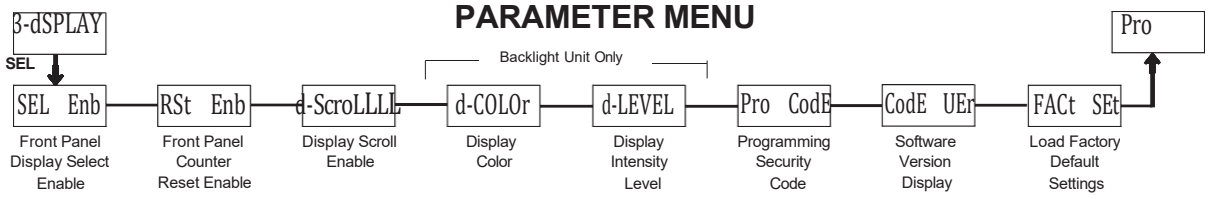
PROGRAMMING MODE EXIT (SEL KEY)

The Programming Mode is exited by pressing the **SEL** key with Pro NO displayed. This will commit any stored parameter changes to memory and return the meter to the Display Mode. (If power loss occurs before returning to the Display Mode, verify recent parameter changes.)

FACTORY SETTINGS

Factory settings may be completely restored in Module 3. This is useful when encountering programming problems. (please refer to the next page)

Module 3 – Display & Front Panel Key Parameters (3-dSPLAY)



In order to reset the display to the factory default settings, please read the following instructions:

Press the 'SEL' button on the left of the display for two-three seconds. Then; press the 'RST' button on the right of the display three (3) times. The display will read the following "3 – dSPLAY". Press the 'SEL' button.

Press the 'SEL' a total of seven (7) times. The display will read 'FACE SEL'; press the 'SEL' button once. The display should read 'rESET' and will go back to normal within a few seconds.

Setting the Display Color (red or green)

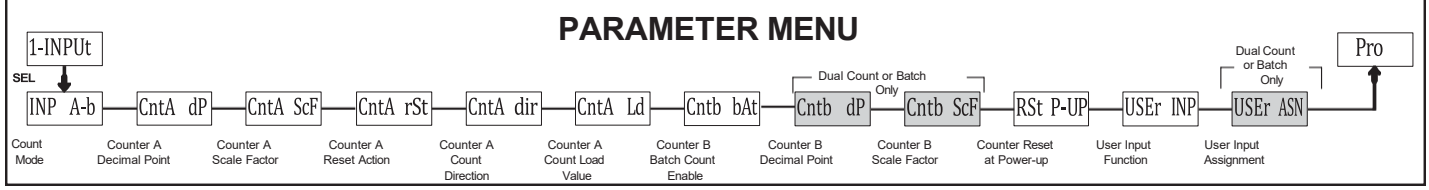
The default color setting on these displays is the backlit red. They can however be changed to a backlit green.

Press the 'SEL' button on the left of the display for two-three seconds. Then; press the 'RST' button on the right of the display three (3) times. The display will read the following "3 – dSPLAY". Press the 'SEL' button.

Press the 'SEL' button a total of three (3) times. Press the 'RST' button to toggle between the red or green display setting. Press the 'SEL' button.

Now: press the 'SEL' button a total of four more times to exit out of the settings & return to the display.

Input Setup Parameters (1-INPUt)



In order to set the rate (the number that is added to the display every time it 'counts'), please read the following instructions:

Press the 'SEL' button on the left of the display for two-three seconds. Then; press the 'RST' button on the right of the display one (1) time. The display will read the following "1 – INPUE". Press the 'SEL' button.

Press the 'SEL' two (2) times.

Press the 'RST' button once, then use it to set the desired number (pressing the 'SEL' button will move you to the next number. Press & hold for two-three seconds to exit when finished).

Press the 'SEL' button until you exit out of the settings (the display will read 'END') and return to the normal display.

I Need a New Belt!

Standard Belt Lengths are: 102", 126", & 150"
and all belts are 9-7/8” wide.
Here’s what we need to know before we can help you!

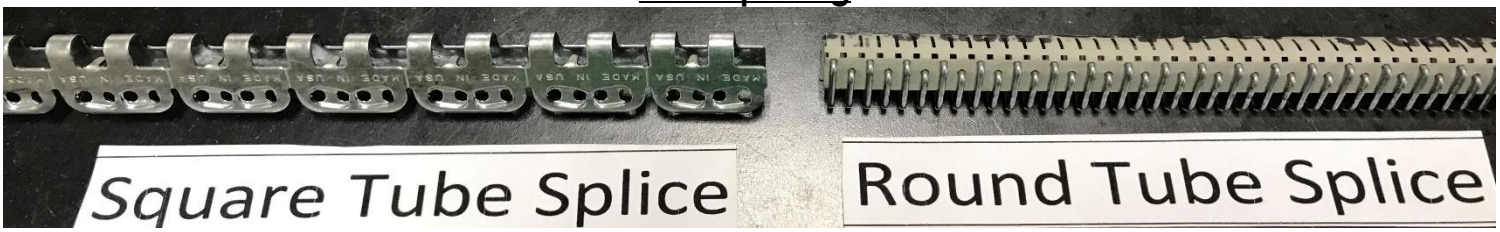
Do You have a Flatbed Feeder or an Over-The-Side Feeder?
Do You Have a Square Tube Feeder or a Round Tube Feeder?

Square Tube Feeder

Round Tube Feeder

Over-the-Side (OTS) Feeder

Belt-Splicing

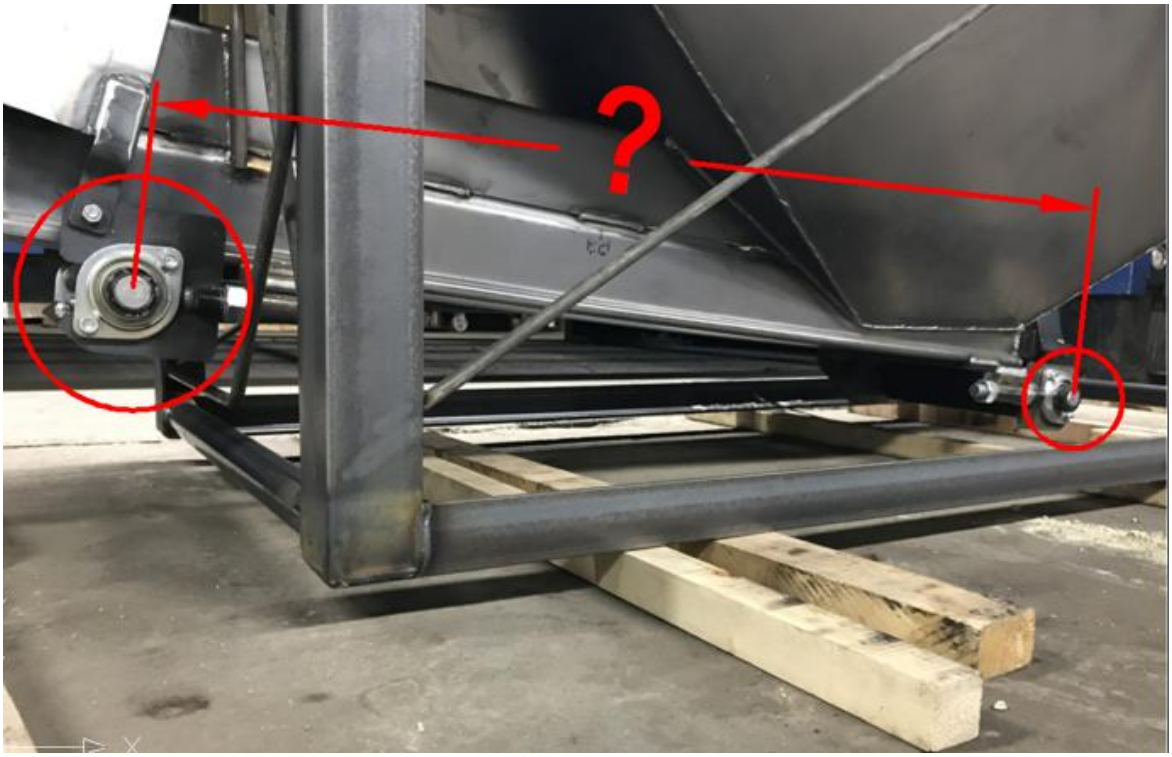


What size/type of belt do I need?

Do you have a flatbed caker, an over-the-side caker, or a UTV caker? Do you have a square-tube caker or an older round-tube caker?

Over-The-Side square-tube feeders have a standard 102” belt that is cleated for the incline. An over-the-side round-tube feeder should be a standard 102”. But be sure to measure anyway (see below).

Measure the 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, multiply by 2; & then add 6 inches.



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 a special tool to install properly!
Plus; you would likely not have enough length after you splice your belt unless you add length into the belt when adding the new splice. This would require setting two new splices instead of just one.

My cake feeder is full; how do I change or fix a broken belt?

If you can get to the splice point, to the chute end of your feeder, you can try attaching the new belt to the splice point and carefully feed the new belt through to the other side.

The Belt is Tracking Off Center! (not running straight)

Your belt was aligned correctly at installation. However; as you use your feeder, the belt may start to shift to one side or the other.
Make sure the drive roller is clear of any twine or other obstructions to prevent shifting.

Determine which side your belt is moving toward. The belt will shift away from the tight side. You may need to loosen or tighten the bearing cages adjustment nuts on opposite sides of your feeder to work your belt back into 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) then tighten the nut on the other bearing cage (on the side the belt is moving away from), this will help the belt travel back into place as well as run straight (if properly adjusted).

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. The Diode is attached to the solenoid.

Installing caker for the season & 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 **Hot Wire** on the caker from the solenoid and touch it to the Hot wire post on the motor.

If the motor runs the motor is fine, it may be the solenoid or the push button.

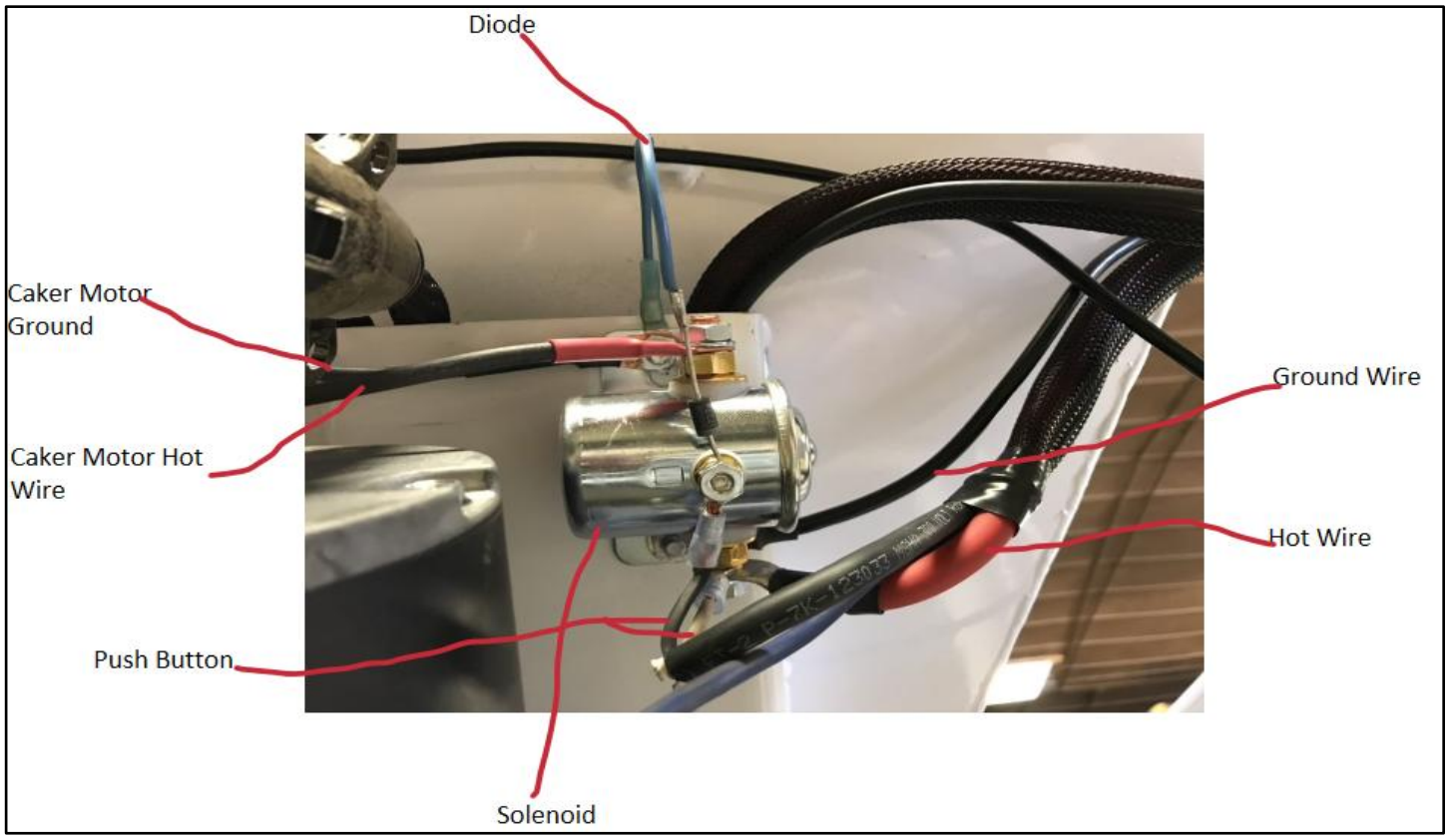
Reconnect the hot wire to its original post.

Next test the **push button** by creating a jumper wire from the smallest post on the **solenoid** to the post on the **solenoid** where the **hot wire** from the battery connects.

Motor runs: Bad push button, or damaged push button cord

Solenoid clicks: Bad Ground

Nothing happens: Bad Solenoid, or No Ground



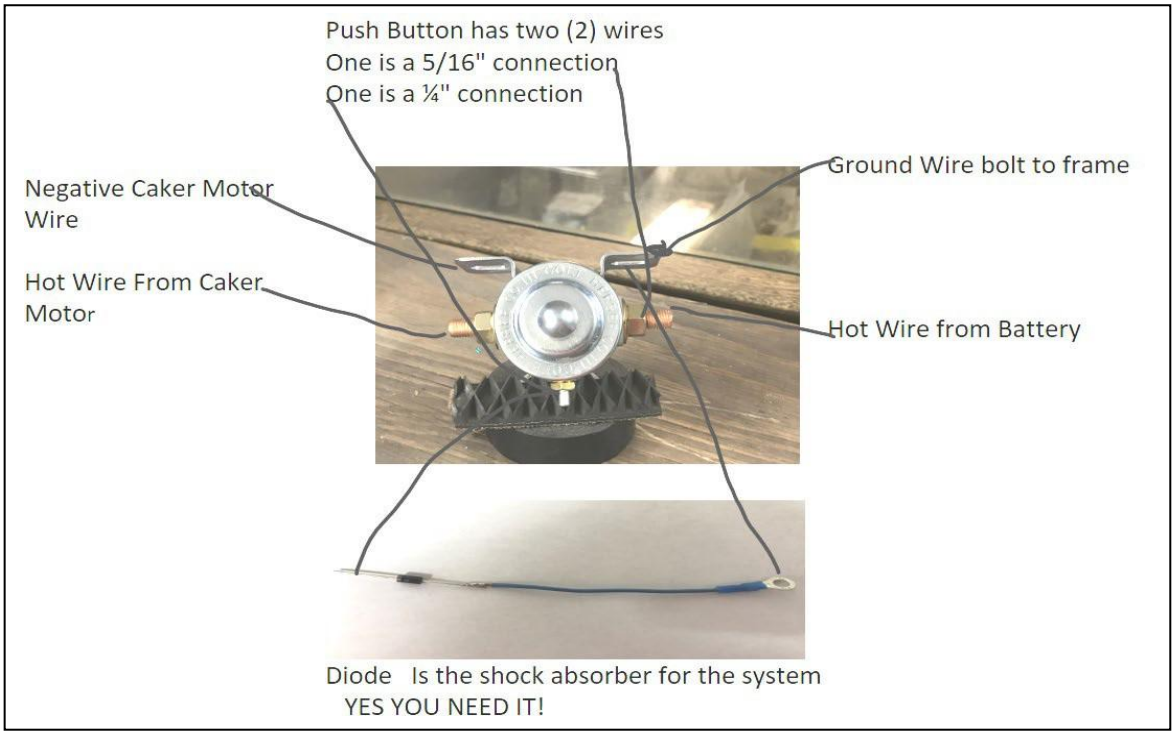
Cake Feeder won't start; solenoid only clicks!

You most likely have an incomplete or bad ground. Your first step is to test this by taking a set of jumper cables, then finding a clean, rust and paint-free spot on the caker. Connect both clamps from one end of the cables here, then connect the opposite end of the jumper cables to your pickup frame. If your caker then begins to work 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 as well.

To alleviate your bad ground issue, you can install a quick jumper wire on your female gold plug, 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!



- Connect the Solenoid to the caker 2 ¼" bolts.
- To the top 5/16" bolt on the solenoid connect the caker motor hot wire (**RED HEATSHRINK ON EYELET**).
- 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.**
- To the small ¼" connection on the Solenoid connect the **wire end of the Diode** and the **small eyelet from the push button.**
- To the top Solenoid frame bolt connect the **Diode Eyelet** and the Caker Motor Ground Wire **(Black Heat Shrink).**

My Breaker keeps tripping!

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

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

This is the Breaker we feel works the best!

Frequent Q/A:

Our Cake Feeders are not painted on the inside.

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

For any questions you may have, give us a call. Keep up with our website 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!