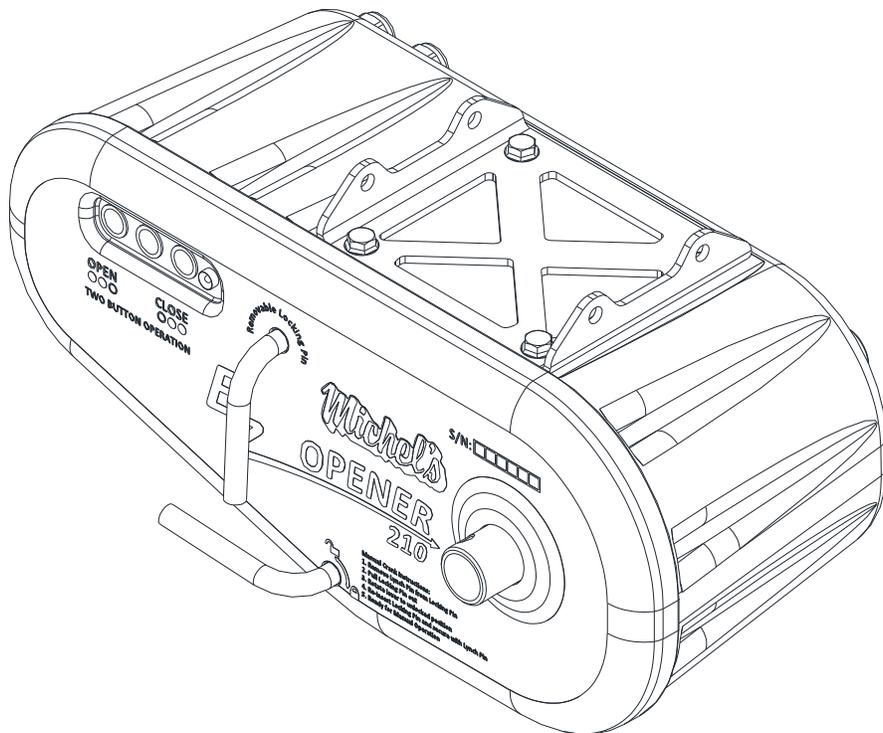


Michel's

EZ OPENER 210



Please Forward to End User

For user operation and setting limits refer to the R200 Remote Manual.

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Please read these instructions and the R200 Remote Instructions in their entirety before starting. **DO NOT disengage the motor OR run the motor until directed to do so.** Changing the position of the output shaft could cause damage to the chute opener and trailer or may prevent the chute from completely opening or closing.

1.0 Installing the Chute Opener

The chute openers can be mounted on either side of the trailer if there is a crank on that side already.

To install the chute openers, the top bearing and holders have to be removed and an additional plate welded to the trailer to support another bearing on the bottom of the shaft. The crank shaft will be cut at least once and will at least one u-joint installed to allow the chute opener to be mounted to the top support flange of the trailer. The chute opener with the crank shaft on the left of the chute will require two u-joints to properly install the opener.

First mark the crank shaft 10" up from the bottom bearing.

Mark center of the shaft onto the support flange that goes around the chute.

Buff the crank shaft smooth from your mark down 4" to allow you to slide another bearing on.

Weld the bearing plate to the trailer to allow another bearing to be mounted on. The plate will be butted up against the current plate with it flush to the outside of the support brace that runs along the shaft.



Cut the shaft at your 10" mark with a cut off wheel.



Remove the top bearing and remaining crank shaft from the trailer.

Slide one of the new bearings onto the cut shaft and secure with $\frac{1}{2}$ " bolts, washers, and nylon lock nuts. Once secured to the plate, secure the bearing to the shaft by tightening the set screws.

Slide one of the u-joints on the shortened shaft. Position the u-joint so the 1" shaft is flush with the inside of the collar.

Drill thru the $\frac{3}{8}$ " hole and secure with $\frac{3}{8}$ "x $2\text{-}1/4$ " bolts and nylon lock nut.

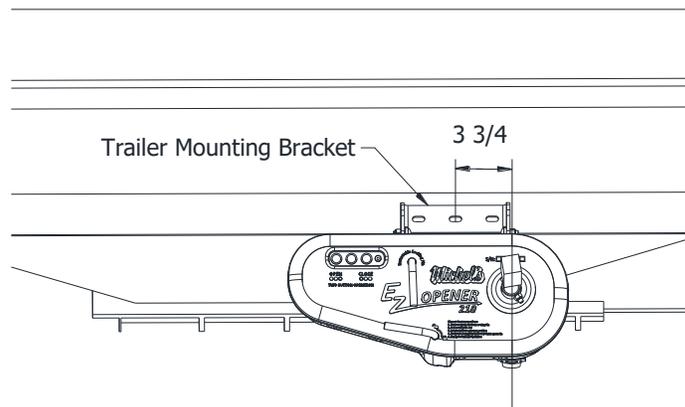
Cut the top mounting flat off the back of the support flange used to secure the top bearing to the trailer and the small locking tab on the front of the support flange that used to lock the chute closed.

Remove the top bearing and lock tab from the crank shaft. You may need to heat them up to remove them. IF you have to cut the shaft, cut between the bearing and lock tab so the crank shaft can be reused later.

Repeat for the other chute.

Install the chute opener that has the crank shaft on the right side of the chute first.

Use your mark on the support flange and make another mark $3\text{ }3/4$ " to the left of it. This mark will now be the center of the trailer mounting bracket.



Remove the trailer mounting bracket from the chute opener and clamp it to the trailer so the center hole of the trailer bracket is in line with your mark $3\text{-}3/4$ " off center. The trailer bracket should be flush with the bottom of the flange.

Drill (3) $\frac{3}{8}$ " holes through the existing holes in the trailer bracket through the hopper flange. Secure to the flange with (3) $\frac{3}{8}$ "x 1 " hex bolts and nylon lock nuts.

Lift the chute opener up the trailer mounting bracket and secure to the trailer with the (2) $\frac{3}{8}$ "x 1 " carriage head bolts and nylon lock nuts. Use the top holes on the chute opener closest to the front cover.

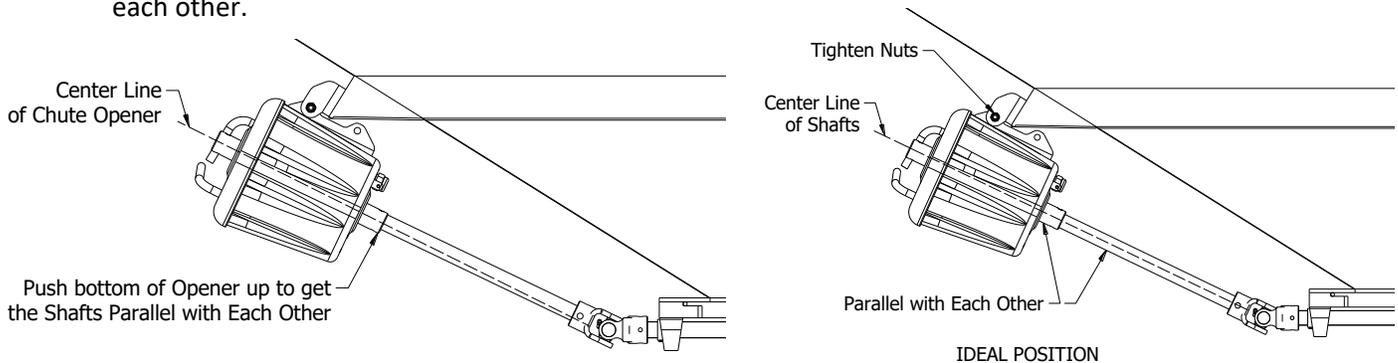


Take one of the crank shafts and insert it through the chute opener and into the u-joint that was previously installed. (see above picture)

If you cut the shaft, you may need to shorten it more. The shaft should not stick out the chute opener and should be recessed into the chute opener by 3". This will allow you to mount the remaining crank shaft into the chute opener to allow the use of the manual crank.

Secure the crank shaft to the u-joint so the shaft is flush with the inside of the collar. Drill thru the 3/8" hole and secure with a 3/8"x2-1/4" bolt and nylon lock nut. Another way is to drill a 3/8" hole through center of the shaft 1/2" in before sliding through the chute opener and u-joint. This allows for easier installation on the trailer.

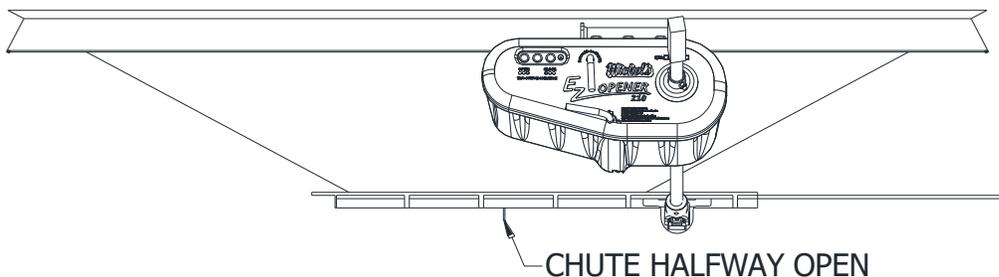
Tighten the (2) 3/8" carriage head bolts that hold the trailer bracket to the chute opener bracket. Try to position the chute opener so the crank shaft and the output shaft of the chute opener are parallel with each other.



Open the chute halfway.

Failure to do so could prevent you from not fully opening or closing your chutes initially.

Have the chute open halfway so the positioning sensor inside can be set correctly.



Failure to do so could prevent you from not fully opening or closing your chutes.

With the crank shaft positioned correctly, drill through the back hole of the output shaft of the chute opener and crank shaft with a 3/8" drill bit. Secure the chute or the crank shaft to prevent it from turning when drilling.

Secure the two together with a 3/8" Shoulder Bolt x 1-1/2" long and 5/16" nylon lock nut. Ensure you are using a bolt with the thread short enough to prevent squishing of the shaft when tightening.

Install the remaining chute opener with the crank on the left side of the chute.

Position the trailer mounting bracket on the support flange so it is flush with the bottom and the outside edge of the support flange. Clamp in position



Drill (3) 3/8" holes through the existing holes in the trailer bracket through the hopper flange. Secure to the flange with (3) 3/8" x 1" hex bolts and nylon lock nuts.

Lift the chute opener up the trailer mounting bracket and secure to the trailer with the (2) 3/8" x 1" carriage head bolts and nylon lock nuts. Use the top holes on the chute opener closest to the front cover.

Take the remaining crank shaft and cut a piece 17 3/4" long off the cut end.

Drill (2) 3/8" holes through the center of the shaft 1/2" in so they are parallel with each other.



Slide a u-joint on one end and secure together with a 3/8" x 2-1/4" bolt and nylon lock nut.

Slide the remaining end into the universal joint on the trailer and secure with a 3/8" bolt.

Drill a 3/8" hole in the center, 1/2" in, in the remaining crank shaft.

Slide the remaining shaft through the chute opener and into the u-joint.

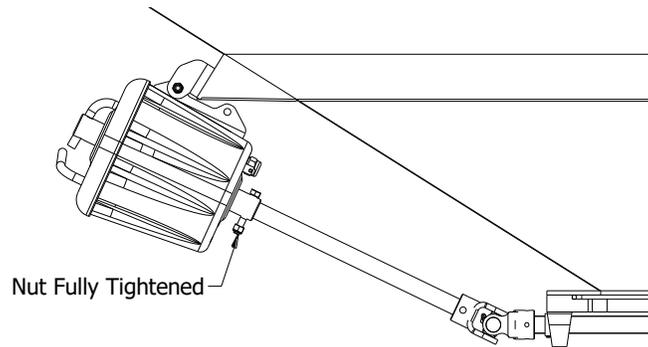
Secure the remaining crank shaft to the u-joint with a 3/8" bolt and nylon lock nut.

If you cut the shaft use the remaining piece that does not have the manual crank nut on it. It may need to be shortened to allow for the manual crank. It should be recessed in the chute opener by 3".

Lift the chute opener up to align the shafts as best as possible and tighten the 3/8" carriage bolts.

For the chute with the crank shaft on the left of it, fully close the chute as far as you can go.

Failure to do so could prevent you from not fully opening or closing your chutes initially.



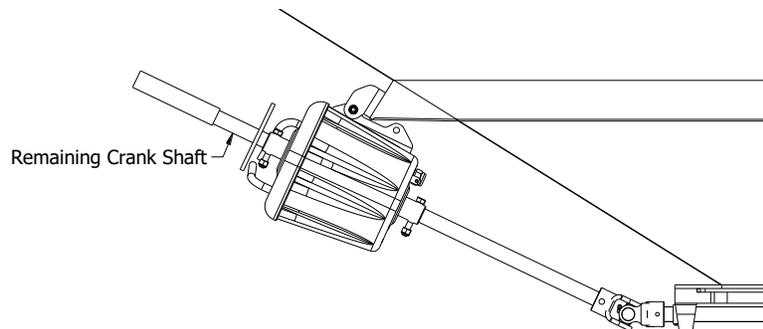
1.1 Manual Crank Option

Depending if the crank shaft was cut to remove the existing bearings, the crank shaft will be sticking out of the chute opener to use the manual crank.

If the shafts were cut, create a small stub shaft that will slide into the end of the chute.

Drill through the front / top hole in the output shaft of the chute opener and the crank shaft with a 3/8" bit.

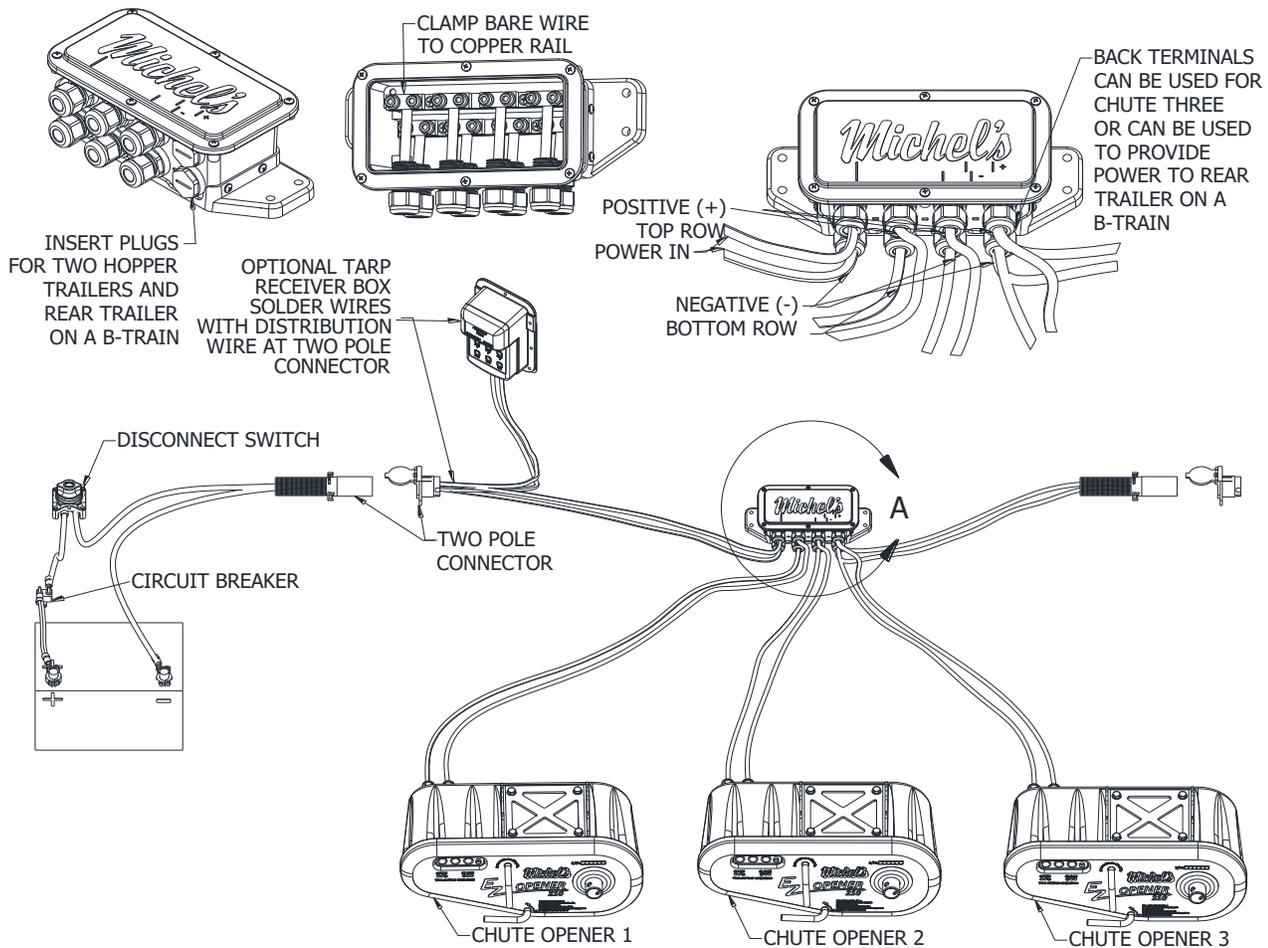
Secure the two together with a 3/8" Shoulder Bolt x 1-1/2" long and 5/16" nylon lock nut. Ensure you are using a bolt with the thread short enough to prevent squishing of the shaft when tightening.



2.0 Wiring the Chute Openers

The chute openers will have a power wire running from the battery to the junction box in the middle of the trailer. This wire will be a double 4 AWG wire.

If the chute openers are installed with a wireless tarp; the power will be split off the front trailer plug and the auger power will run off the junction box in the middle of the trailer instead of the clearance lights.



2.1 Wiring of the trailer

Drill a 2" hole at the front of the trailer for the 2 pole trailer socket. Depending on the trailer you will mount it through the front wall by the other plugs or into the 5th wheel area. If you are drilling into the 5th wheel area, remove the top cover to ensure you are not drilling into any electrical or air lines.

In the middle of the trailer mount the electrical junction box. The junction box will provide power to the chute openers mounted on the trailer. Mount the junction box on the same side of the chute openers and up in the slopes of the trailer as high as possible. Depending on the trailer you may need to mount it on the back of the support flange of the first hopper.

Secure the junction box with ¼" x 1" lag screws or ¼" bolts to the middle of the hopper. There is an aluminum plate supplied that can be used to help mount the junction box.

Run #4 double strand wire from the 2" hole to the junction box. Run the wire so it is out the way of pinch points and road debris. If you can run the wire in the side rail or along the existing electrical and air lines. Use the wire clips and plastic cable ties to secure the wire.

At the junction box solder a #4 3/8" solder lug on the positive wire (yellow or red) and a #4 5/16 solder lug on the negative wire. Once soldered slide a piece of ½" heat shrink over the end of the terminal and wire connections. Apply heat for the heat shrink to conform to the wire to seal the connection.

Secure the positive wire to a 3/8" post of the junction box so it comes out perpendicular with it and the negative wire to a 5/16" post.

At the front of the trailer, solder (2) #4 1/4" solder lugs on the ends to secure to the trailer socket. Use the supplied heat shrink to seal the solder connection.

Before securing the soldered wire ends to the trailer socket, slide the rubber boot over the wire. Secure the positive wire to the terminal marked 'POS' on the trailer socket and negative wire to the terminal marked 'NEG'.

Note: If a wireless tarp is also being installed you will also have a #6 wire running to the wireless tarp box on the front of the trailer. You will have both wires going through the rubber boot and connected to the trailer socket.

Secure the 2 pole trailer socket to the trailer with (2) 3/8"x 1-1/4" self-threading bolts. Depending on the trailer you may want to put a backing plate behind it if the front wall is thin.

For each chute opener run the #6 wire to the junction box. Follow existing electrical and air lines on the trailer to help make the installation as neat as possible. There is rubber grommets supplied to help aid the installation. A 1-1/16" hole is required for the rubber grommets to be installed in.

Once the wire from the chute opener is ran to the junction box, cut any extra wire off. Solder a #6 3/8" solder lug to the positive wire (RED) and a #6 5/16" solder lug to the negative wire. Apply the supplied heat shrink over the solder connections.

Secure the positive wires to the 3/8" posts of the junction box and the negative to the 5/16" posts. Position the wires to the junction box so they are perpendicular to it so the cover properly fits on.

Once all the wires are connected to the junction box, place the yellow lid on it by pushing the lid over the (2) posts sticking up.

2.2 Super B Wiring

If you are installing on a super b, run a #4 wire from the junction box of the front trailer to the front of the rear trailer. Follow the existing electrical and air lines to achieve a neat installation. Depending on the trailer it may allow it to run the wire in the side rail.

Secure the wire in place with wire clips and cable ties.

At the junction box solder a #4 3/8" solder lug to the positive wire (Yellow or Red) and a #4 5/16" solder lug to the negative wire. Apply the supplied heat shrink over the soldered connections.

Secure the positive wire to one of the 3/8" posts of the junction box and the negative wire to one of the 5/16" posts.

At the back of the trailer leave enough slack in the wire to allow the trailer to turn and pivot.

Solder on the 2 pole truck plug terminals to the #4 wire. Ensure you place the positive one (yellow or red) in the hole marked 'POS' and the negative wire in the hole marked 'NEG'.

Repeat the above steps to wire the rear trailer.

2.3 Wiring of the Highway Tractor

The highway tractor will need a power wire coming from the battery to the front of the trailer. An auto reset breaker and power disconnect will be spliced in the positive wire.

Mount the auto reset breaker in the battery box that is accessible for connecting the wires with ¼" x 1" lag screws.

Find a mounting spot for the power disconnect in either the bunk storage compartment or in the cab of the truck that is easily accessible and will be in a locked area to prevent tampering with. To install the wires to the switch, it cannot be secured yet.

Run a strand of #4 double strand wire from the battery to the front of the trailer. Ensure to leave enough slack to allow for turning.

Solder on the 2 pole truck plug terminals to the #4 wire. Ensure you place the positive one (yellow or red) in the hole marked 'POS' and the negative wire in the hole marked 'NEG'.

Solder a #4 ¼" solder lug to the positive wire (yellow or red) and apply the supplied heat shrink over the soldered connection.

Secure the positive wire to the post of the circuit breaker marked 'AUX'

Solder a #4 3/8" solder lug to the negative wire and apply the supplied heat shrink over the soldered connection.

Secure the negative wire to the negative post of the battery.

Run a strand of #4 wire from the battery to the power disconnect switch. There is (2) smaller grommets that can be used to seal the wire off when going into the cab. You will have to split the double strand wire to fit through it. To use the grommets you will need to drill an 11/16" hole.

At the switch solder (2) #4 3/8" solder lugs to the wire and apply the supplied heat shrink over the soldered connections.

Secure the wires to the switch and secure the switch to the truck with the (4) #8 x 1-1/2" sheet metal screws. Ensure you are not drilling into any electrical or to an outside wall since the screws will stick through.

At the battery solder a #4 ¼" solder lug to one end and apply the supplied heat shrink over the soldered connection. Hook the wire to the circuit breaker post marked 'BAT'.

The other end solder a #4 3/8" solder lug and apply the supplied heat shrink over the soldered connection. Carefully secure the wire end to the positive post of the battery.

Plug the 2 pole plug into the trailer socket to power up the chute openers.

Disconnect the power when not in use or traveling to prevent the chute openers from accidentally opening.

Once the chute openers are installed and wired, refer to the remote manual for operating instructions. The chute openers will need to be paired to the remote first, see section 3.1.1 of the remote manual. We STRONGLY recommend reading sections 1, 2, 3 and the sections of the products you have before operating.

Do not use the chute openers until the limits are properly set otherwise damage to the trailer or chute opener could occur. See section 5.2.1 of the remote manual.

For installation help, call Michel's Industries, 306-366-2184.

3.0 Manual Operation

If you lose power or motor failure you can disengage the motor and use the manual crank to operate the chutes.

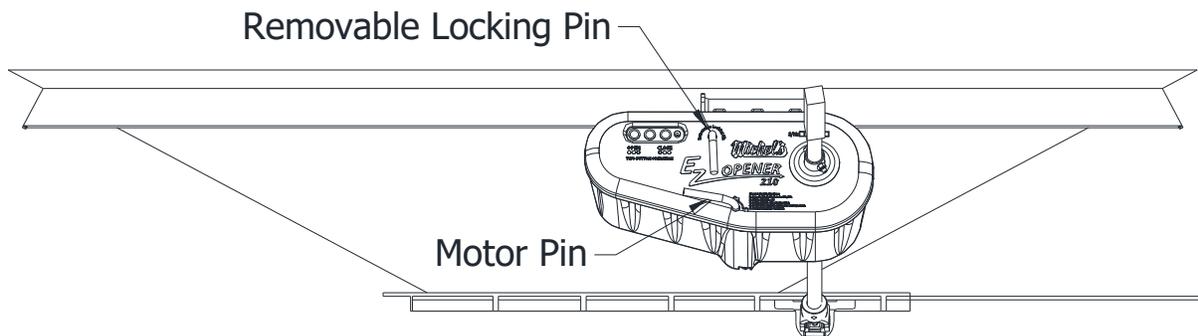
Remove the lynch pin from the backside of the locking pin.

Pull the locking pin out of the opener. You may need to apply pressure to crank shaft to eliminate the pressure off the gears inside to allow it to disengage.

Rotate the motor handle counter clockwise to disengage the motor.

You should now be able to turn the crank shaft manually.

Reinsert the locking pin to keep the motor disengaged and secure with the lynch pin.



Do not remove the 3/8" shoulder bolt that secures the crank shaft to the chute opener. If the crank shaft rotates while not secured to the chute opener output shaft, the limits will not be correct. With incorrect limits you could damage the trailer or chute opener.

4.0 Warranty

Michel's Industries Ltd provides a warranty on our products for a period of one year from date of purchase. Any parts returned to Michel's Industries LTD. will be shipped prepaid by the customer and will be returned F.O.B. St.Gregor, Sk. Canada. We will not assume responsibility for shipping, labor or travel expenses. Please Note: We reserve the right to make improvements; specifications are subject to change without notice.