USER MANUAL

# CONVEYOR CONTROL

## 1-PH #81691878

## 3-PH #81720037

# MENU

This is an interactive PDF. Click on an icon tile and navigate to a chapter of interest.



Users can advance or go back single pages by using quick navigation links shown below, right.

Users can navigate to the Menu by clicking on the Menu icon shown below, left.

# LEGAL & SAFETY

This manual contains technical information regarding Bayer SeedGrowth™ Equipment. Please read and understand these instructions completely before proceeding to install and operate the equipment. Bayer reserves the right to change specifications, models, components, or materials at any time without notice. For additional equipment information contact us at 1.800.634.6738. Please have this manual available when contacting Bayer.

Always use caution and common sense when working with any chemical. Read the product label and SDS carefully and follow their instructions exactly as described.

Optimal operating conditions for this piece of equipment requires an ambient temperature 32° F to +104° F (0° C to +40° C), relative humidity less than 90% (minimum condensation). Make necessary provisions to protect this piece of equipment against excessive dust, particles containing iron, moisture and against corrosive and explosive gases.

Our technical information is based on extensive testing and is, to the best of our current knowledge, true and accurate but given without warranty as the conditions of use and storage are beyond our control. Variables, such as humidity, temperature, change in seed size or variety and viscosity of chemical products can all affect the accuracy of the chemical application and seed coverage. To ensure the desired application rate and optimum seed coverage, check the calibration periodically throughout the day, and make adjustments as needed.

Any person who is involved in the installation or periodic maintenance of this equipment should be suitably skilled or instructed and supervised using a safe system of work. Isolate the treater before removing guards for maintenance.

# EXPOSURE CONTROL

**Always use caution and common sense when working with chemicals. Read the product label and SDS carefully and follow their instructions exactly as described. The following Personal Protective Equipment (PPE) recommendations and best practices help promote safe use in seed treatment.**

Note: Exposure Control signs and labels conform to the requirements of ANSI Z535.4 or ISO 3864.

### Wear protective clothing

Wear disposable or reusable coveralls with long sleeves.

### Hand protection required

Wear chemical-resistant gloves.

### Wear rubber boots

Wear chemical resistant rubber boots.

### Labels

Label recommendations and directions for handling must be followed, including treatment procedure (use of sticker) as well as the safety requirements.

### Treatment products

Keep products in a locked room that has been approved for crop protection products.

### Wear a mask

Wear respiratory protection.

### Eye protection required

Wear protective eyewear.

### Calibration

Seed treatment equipment must be checked and calibrated regularly to ensure accurate and safe application.

### Clean seed

Use well cleaned seed to avoid creation of polluted dust that will contaminate the machine, treating facility, workers, farmers and the environment during sowing.

### Cleaning

Use a vacuum to clean machines. Avoid using compressed air for cleaning.

### Laundry

Wash soiled reusable clothing separately. Workers must take a shower after each shift.

### Empty containers

Non-returnable empty containers must be triple rinsed before they can be disposed. For others the recommendation of the producer must be followed.

### Spillage

Spillage must be avoided; it must be thoroughly cleaned up to avoid contaminating the environment and waterways.

### Maintenance

Keep machinery clean between treating sessions.

# REFERENCE SYMBOLS

**Symbols and signal words are used to identify the level of hazard and help avoid personal injury.**

Note: Safety signs and labels conform to the requirements of ANSI Z535.4 or ISO 3864.

### Shock Hazard

Alerts that dangerous voltage may be present.

### Warning

Alerts that a hazard may cause serious injury or death.

### Caution

Alerts that a hazard may cause minor or moderate injury.

### Hand crush - moving parts

Alerts crushing is possible.

### Pinch point

Keep hands away from pinch points.

### Rotating shaft

Do not wear loose clothing around turning parts.

### Disconnect

Disconnect to de-energize before opening.

### Tools

Required tools for installation and maintenance.

### Use guards

Keep guards in place. Do not remove during operation.

### Parts

Required parts for installation and maintenance.

### Lifting

Requires two people to safely lift an item.

### Tip

Calls attention to special information.

### Lift points

Requires the use of proper rigging and lifting techniques based on the lift plan.

### Note

Emphasizes general information worthy of attention.

### Center of gravity

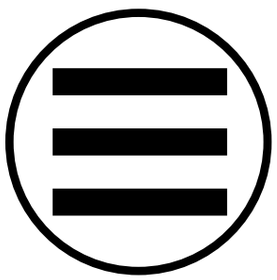
Indicates the center of gravity of the machine to help assist when rigging and lifting.

### Example

Provides a problem or exercise that illustrates a method or principle.

# PICTOGRAMS

Each Signifier displayed here is specific to this User Manual.


Menu

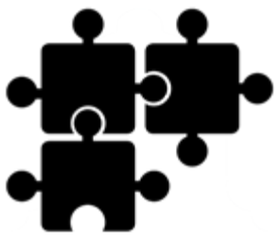

Previous

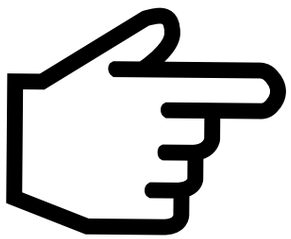

Advance


Installation


Operation


Like


System


Cursor Hand


Troubleshooting

# SYSTEM DIAGRAM

## CONVEYOR CONTROL PKG., REF.

Dry Weight
**41.1 LBS**

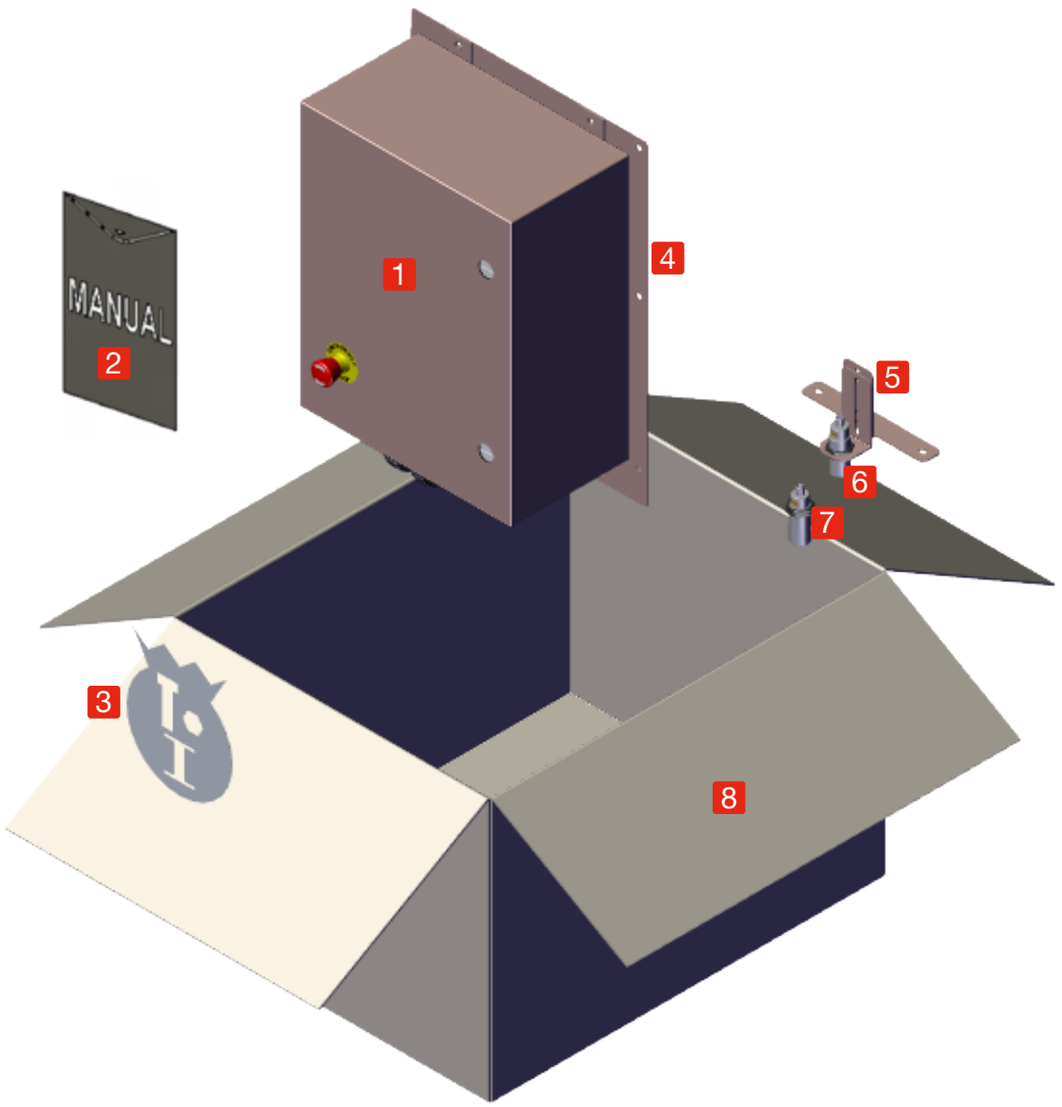
Sensor Capacitive
**04121337 [30mm]**

Cable 5 meter 3-pin m12 quick-connect
**04121256**

Designed to operate conveyors as well as both HI / LOW Capacitive surge Hopper sensors used in an RH seed treating system.

The Control Box can be mounted directly on a Treater frame as shown above or installed remotely.

1. Conveyor Control
2. User Manual
3. Installation Kit
4. Mount Plate
5. High Level Installation Kit
6. High Level Sensor
7. Low Level Sensor
8. Cardboard Box



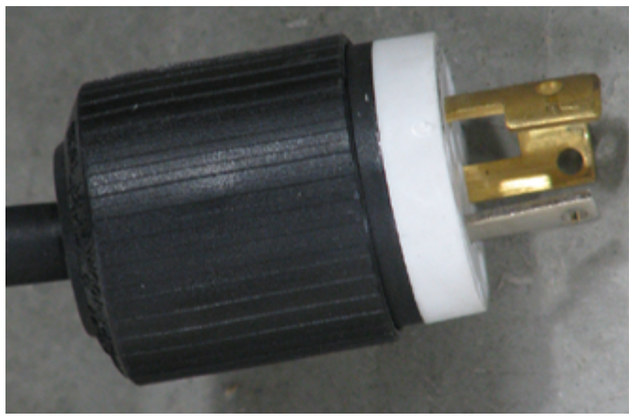
# INSTALLATION

### Required assembly tools

- 7/16” Wrench (1)
- Crescent Wrench (1)
- Anti-Seize Product

**Caution: Have a qualified electrician connect the conveyor control to an external 230VAC power supply.**

- **5HP / 230V / 1PH / 58FLA**
- **5HP / 230V / 3PH / 29FLA**

## Factory Supplied Parts & Inspection

**Step 1:** Two Male connectors are provided with the kit (located inside the Conveyor Control). Wire them to the INFEED and OUTFEED conveyor wire leads.

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### Factory supplied parts

#### Conveyor Control Package

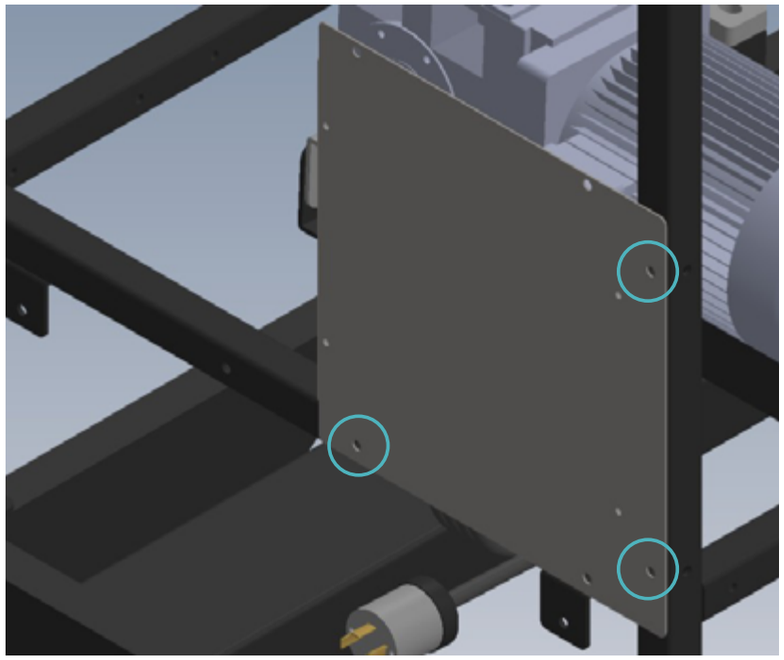
- Elevator Control Mount
- Conveyor Control (1PH or 3PH)
- Sensor Cables 3-pin, yellow (2)
- Sensor Capacitive (2)
- High Level Sensor brkt top
- High Level Sensor brkt btm
- Conveyor Control: user manual
- Installation Kit Pkg (bag 1)

#### Bag 1: Control Panel Mount

- 1/4-20 x 2 hex bolt ss (4)
- 1/4-20 x 1/2 hex bolt ss (2)
- 1/4” flat washer ss (6)
- 1/4-20 hex nut ss (6)

#### Bag 2: High Sensor Mount

- 1/4-20 x 1/2: carriage bolt:ss (2)
- 1/4-20 x 1/2 hex bolt ss (2)
- 1/4” flat washer ss (2)
- 1/4-20 hex nut ss (4)



## Control Panel Mount + Bag 1

**Step 1:** Locate the Elevator Control Mount on or near the treating head assembly.  Fasten in place using the following order: bolt+[Mount Plate+Frame]+washer+lock nut.  Use a 7/16” Socket Head Wrench to securely tighten in place.

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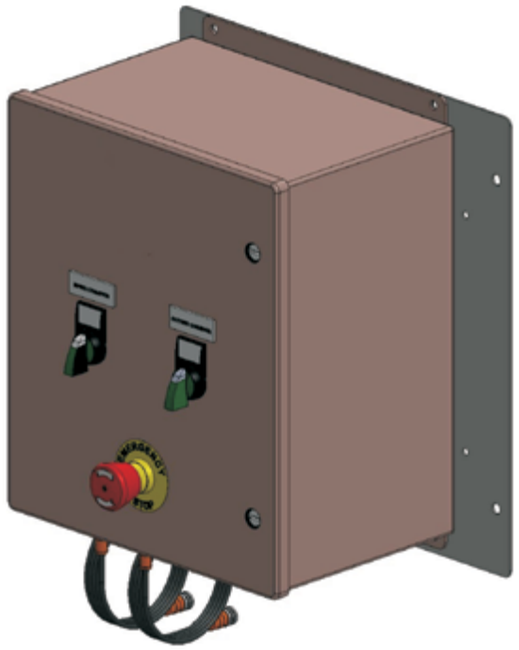
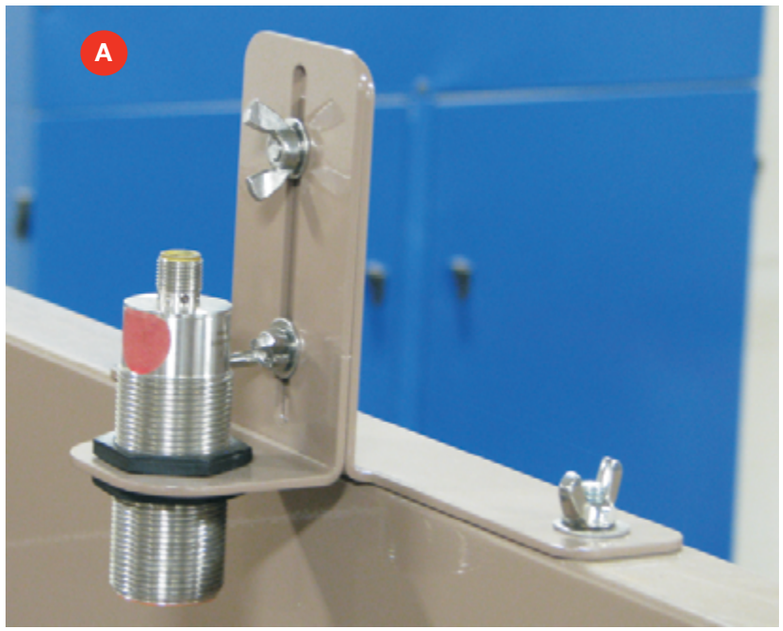
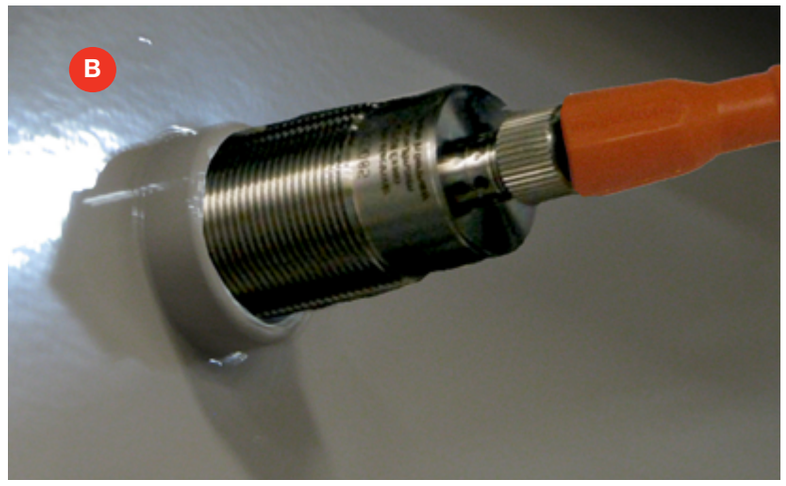
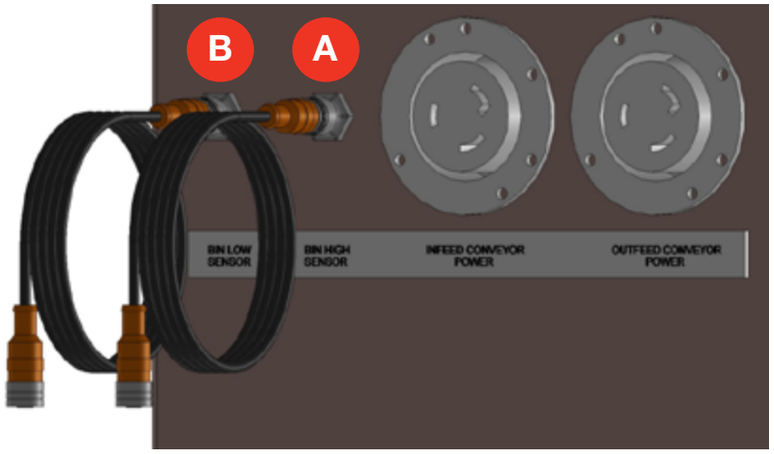


## High Sensor Mount + Bag 2

**Step 1:** Connect the High Level Sensor Assembly to the Hopper top (pre-drilled holes). Use a crescent wrench to remove the plastic plug on the side of the Hopper. Thread in the Low Level Sensor. Carefully connect the High and Low Level Sensor Cables to the end of each Sensor.




**Step 2:** Connect the High and Low level Sensor Cables to the bottom of the Conveyor Control.

Ensure **A HIGH SENSOR** (located on top of the inlet) is connected to the sensor connection on the bottom of the control box marked: **A BIN HIGH SENSOR**.

Connect **B LOW SENSOR** (located on the side of the hopper) is connected to the sensor connection on the bottom of the control box marked: **B BIN LOW SENSOR**.

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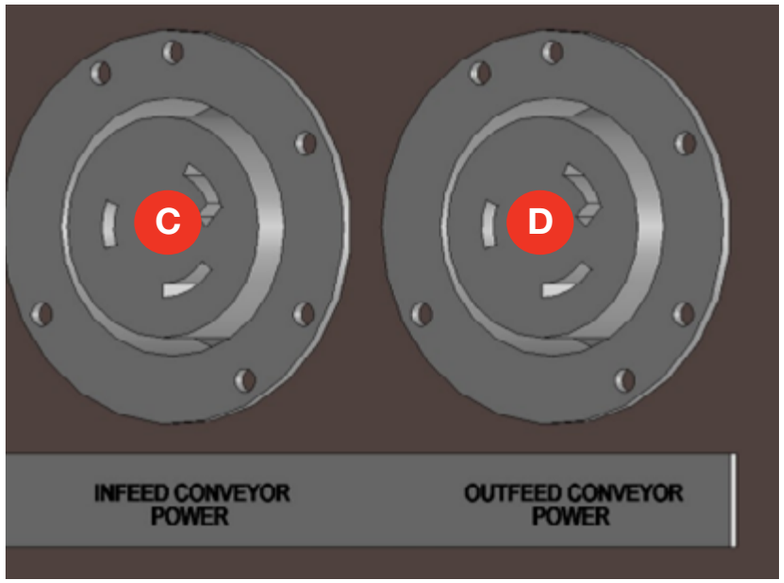
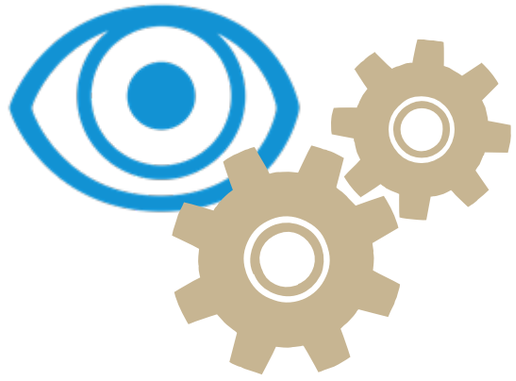


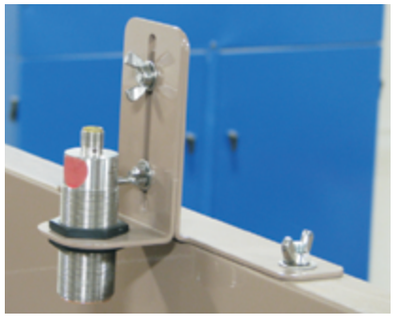

## Infeed & Outfeed Conveyors

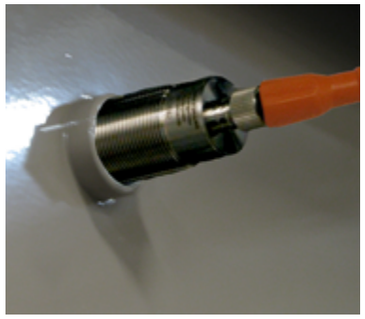
**Step 1:** Connect the inlet conveyor power cord to **C INFEED** power receptacle on the bottom of the Conveyor Control.

Connect the outlet conveyor power cord to **D OUTFEED** power receptacle on the bottom of the Conveyor Control. Ensure connectivity is correct!



# OPERATION





**Step 1:** The Conveyor Control uses high level and low level sensors (located on the hopper above the inlet) to initiate the inlet feed conveyor. Each sensor is equipped with a light, that when turned on indicates the sensor is working but the bin is empty. The light will turn off once the sensor sees material in the bin and activates the control.


**Step 2:** If the red Emergency Stop (E-STOP) button is pushed (depressed), both conveyors will automatically stop running. To activate the conveyors, turn the E-STOP button clockwise and pull slightly. Both conveyors will resume running.

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## Infeed Conveyor

Both the inlet (INFEED) and the outlet (OUTFEED) conveyors are powered by switches on the control box. The Active position will be indicated by the switch turning green.

**INFEED CONVEYOR**
The INFEED conveyor can be run in two modes: **MANUAL and AUTO**.

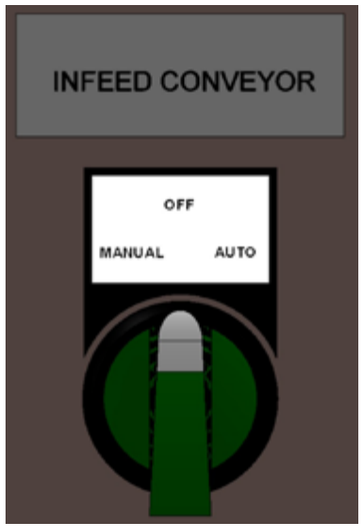
**MANUAL MODE**
The conveyor will run continuously until the switch is manually turned to the OFF position. It does not utilize the high level or low level sensors to operate.

**AUTO MODE**
The conveyor will start running if the low level sensor does not detect seed in the hopper and until the seed “head” reaches the high level sensor, then will shut off automatically. It will re-start once the low level sensor no longer detects seed present.

## Outfeed Conveyor

The OUTFEED conveyor runs when the switch is manually turned to the ON position and stopped when manually turned to the OFF position.

There is no automatic ON/OFF operation of the OUTFEED conveyor.




# TROUBLESHOOTING

| Symptom | Potential Fixes |
|---|---|
| Unable to Run Conveyors Manually: Power is connected, conveyor is switched to “On or Manual”, but switch doesn’t light-up & conveyor doesn’t run. | Verify E-Stop Button is not activated (reset E-Stop button by turning button clockwise & pulling slightly).<br>**Reference: E-Stop Button Positions:**<br>• Pulled Out: Normal Run Position<br>• Pushed In: E-stop activated: Drops all power flow |
| Unable to Run Conveyors Manually: Power is connected, conveyor is switched to “On or Manual”, switch lights-up, but conveyor doesn’t run. | Verify safety-reset switches on Motor Starters (MMP1 & MMP2), inside control, are not tripped.<br>**Reference Safety-reset switch positions:**<br>• Vertical: Run Position<br>• Diagonal: Tripped Position (Amperage Limit Reached)<br>• Horizontal: Off Position |
| Excessive tripping of Safety-Reset switch on Motor starters: Safety-Reset Switch on Motor Starters (MMP1 or MMP2), trip repeatedly. | Verify conveyor motor size does not exceed maximum rated HP for conveyor control. |
| Infeed Conveyor starts/stops excessively: Hopper fills normally to high-sensor and stops, but infeed conveyor restarts immediately when seed falls off high-sensor rather than waiting until it falls off low-sensor. | Verify low & high sensor cables are not reversed. |
| Sensor lights don’t come on: Sensor lights don’t come on even though there is seed in front of them. | Verify E-Stop button is not activated<br>**Reference: To Reset E-Stop button turn clockwise & pull slightly**<br>**Reference: E-Stop Button Positions:**<br>• Pulled Out: Normal Run Position<br>• Pushed In: E-stop activated: Drops all power flow<br>**Reference: Sensor Lights:**<br>• Light On: Seed present in front of sensor<br>• Light Off: Seed not present or no power to sensor ➲ |

| Symptom | Potential Fixes |
| --- | --- |
| Low Sensor Light Off: Conveyor switches are in off position, seed in hopper, high-sensor light is on, but low sensor light is off. | This is Normal Operation: Low-sensor light will only come on when infeed conveyor switch is in “Auto” position and seed is present. |
| Hopper Overfills: Infeed conveyor runs, hopper fills, but conveyor doesn’t stop before hopper overflows. | 1) Verify infeed conveyor switch is in “Auto” position, not “Manual”.<br>2) Verify seed pile in hopper fills evenly, such that the seed hits the high-sensor before overflowing the other side of the hopper.y |

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