



Proximity Hopper Level Control

Part No. 35790

CAUTION

The equipment may start automatically.

Disconnect electrical power prior to servicing the equipment.

Keep hands and tools clear of the auger at all times.

The Proximity Hopper Level Control is designed for use with any conveying system that carries free-flowing feed. The control automatically starts and stops the fill system as feed level against the Proximity Sensor changes.

Switches may be placed in more than one hopper to assure that no Hopper empties before the Control Unit Hopper requires feed. All switches must be wired in parallel so that any one switch can start the system.

Note: The Proximity Switch requires a constant 230 volt power supply between the black and the white wires.

WARNING: Make sure ALL power sources supplying your system are disconnected at the circuit breakers before performing any service work.

Installation

Install the Hopper Level Control in the last hopper at the end of the delivery system. Locate it low in the hopper so that it calls for feed frequently. This will cause the other hopper(s) be supplied with feed frequently. See Figure 1.

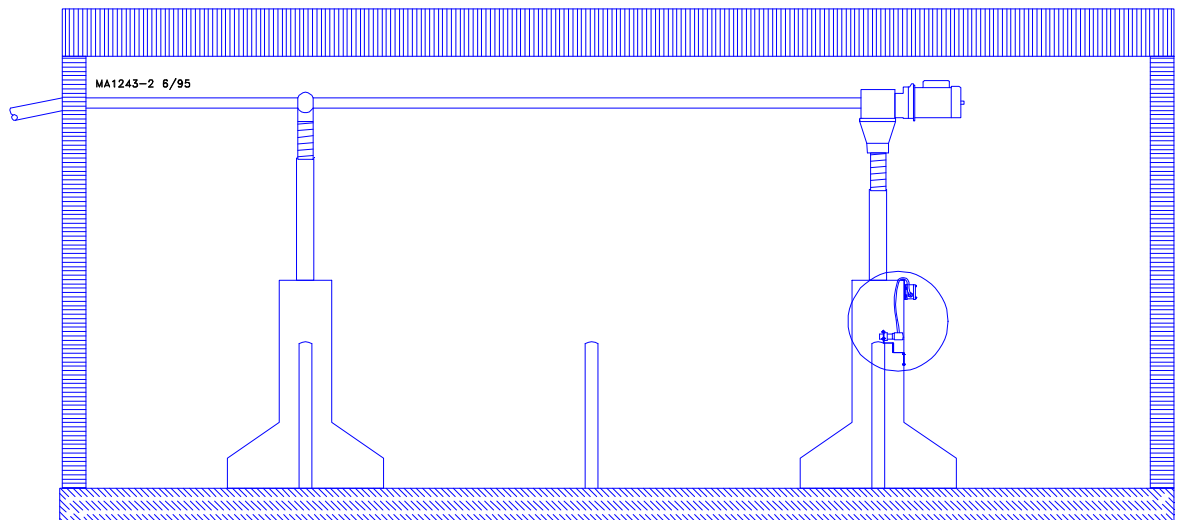


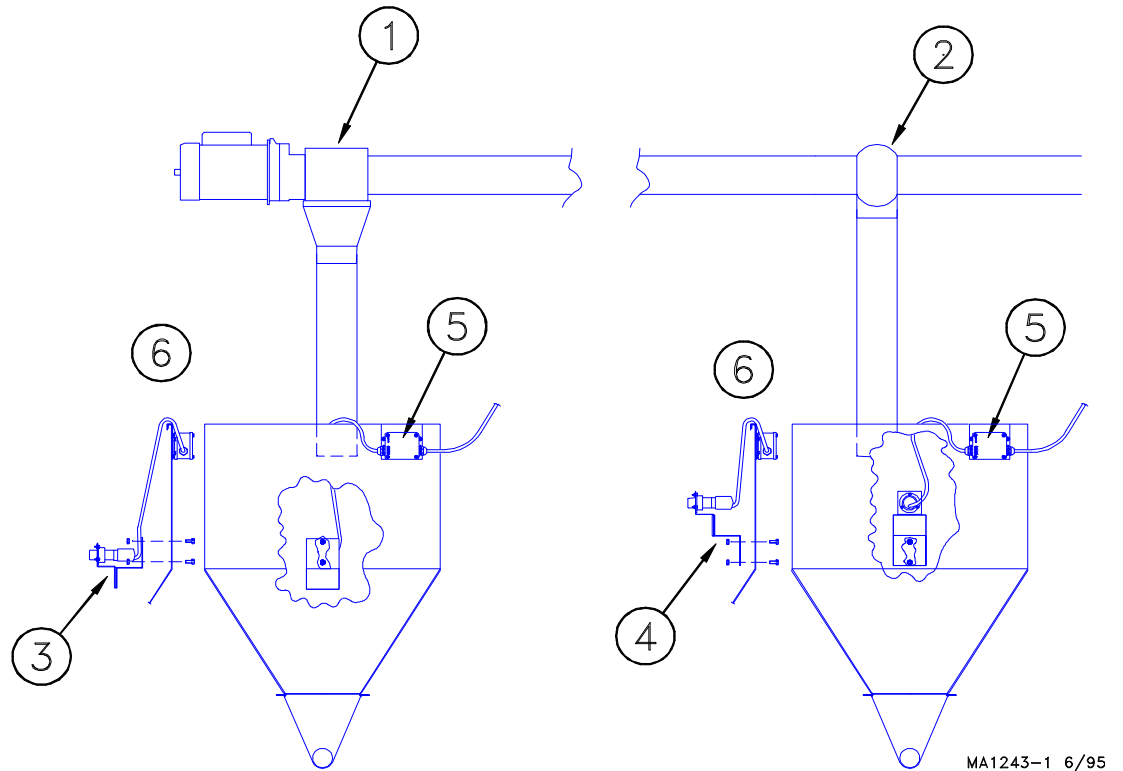
Figure 1. Mount the Hopper Level Control in the feeder or hopper directly below the Control Unit.

Use the Hopper Mount Bracket as a template to determine mounting hole locations. Drill holes for 1/4" hardware.

Secure the Hopper Mount Bracket to the side of the hopper, using 1/4-20 hardware supplied.

Note: The Hopper Mount Bracket in the last hopper should be installed to hold the Proximity Switch as shown below the Control Unit in Figure 2. The Hopper Mount Bracket located in the other hopper should be installed opposite to hold the Proximity Switch as shown below the Outlet Drop in Figure 2.

Slide the Switch Hanger (including the Proximity Switch) into the Hopper Mount Bracket.



Key

- 1 Control Unit
- 2 Outlet Drop
- 3 Install Hopper Mount Bracket with angle downward to hold Proximity Switch lower in hopper.
- 4 Install Hopper Mount Bracket with angle upward to hold Proximity Switch higher in hopper.
- 5 Relay Box hangs over top of hopper body.
- 6 Side View of Hopper Level Control in hopper.

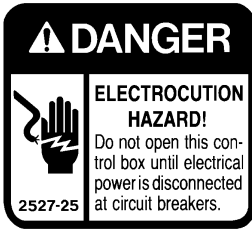
Description

Figure 2. Hopper Level Control Installation

Route the cord out through the top of the hopper.

Locate the Relay Box at the top of the hopper. The Relay Box includes a Bracket designed to hang over the top of the hopper. See Figure 2.

Route the cord from the Relay Box to the Fill System Control Unit. Excess cord should be coiled and wire tied (wire ties not included).



Wiring the Hopper Level Control

Wire the Hopper Level Control according to the applicable wiring diagram in this instruction.

Important

The wiring diagram decal (on the Switch) represents the switch in the non-powered condition. When power is applied the N.O. and N.C. contacts reverse.

Refer to the wiring diagrams in this instruction when wiring the Proximity Switch.

Operation

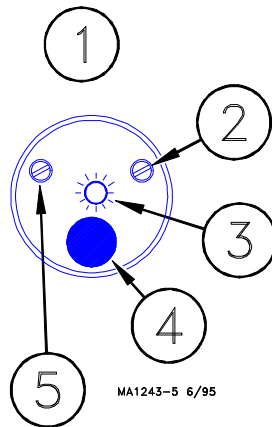
When the switch senses feed, the internal relay is activated immediately, stopping the system. When feed is removed, the delay is activated and prevents the system from starting until it has timed out.

Setting the Delay

The Proximity Switch includes an adjustable delay. The delay may be set from 1 second to 10 minutes.

- A. Use a small screw driver provided to turn the Delay Adjustment Screw (see Figure 3). Turn the screw counter clockwise until the light stays on. Turn the screw clockwise one complete revolution. This sets the delay to 1 second.
- B. To increase the delay, turn the Delay Adjustment Screw clockwise.

Watch the indicator light; quick flashes = shorter time delay, slow flashes = longer time delay.



Key

Description

- | | |
|---|---|
| 1 | Proximity Switch (End View) |
| 2 | Sensitivity Adjustment Screw |
| 3 | Light |
| 4 | Electrical Cord |
| 5 | Delay Adjustment Screw:
Turn clockwise to increase the delay.
Turn counter clockwise to decrease the delay. |

Figure 3.

Adjusting the Sensitivity

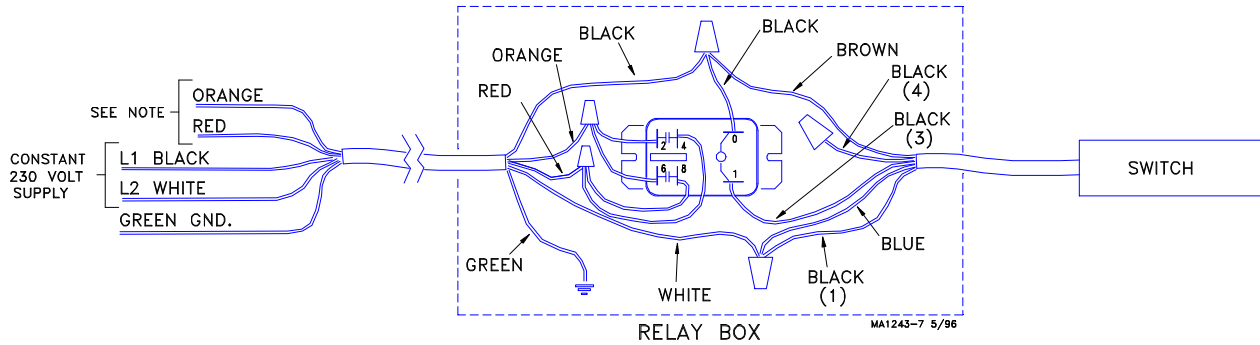
The Proximity Switch is shipped with the sensitivity preset at the factory. This setting is adequate for most feed types and conditions. However if the sensitivity does need to be adjusted, carefully follow these instructions:

- A. Allow power to be supplied to the switch for at least 15 minutes to properly warm the sensor. See the wiring diagrams in this manual.
- B. Set the Proximity Switch time delay to 1 second as specified above.
- C. Use a small screw driver to remove the caulk concealing the Sensitivity Adjustment Screw.
- D. Greater switch sensitivity is achieved by turning the Sensitivity Adjustment Screw clockwise.

Less switch sensitivity is achieved by turning the Sensitivity Adjustment Screw counterclockwise.

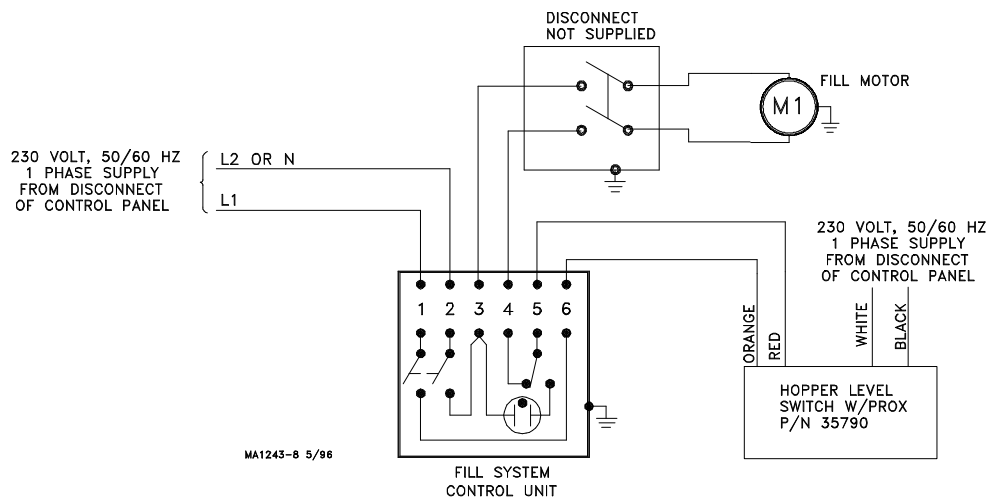
Note the screw orientation before beginning adjustment. Adjust the Sensitivity Adjustment Screw 1/4 turn, test switch, continue adjusting as required.

Wiring Diagram for Proximity Hopper Level Control

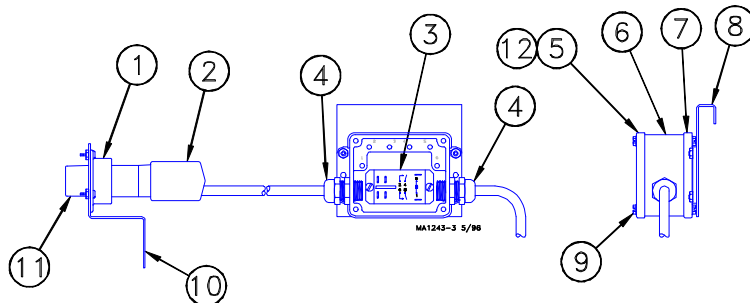


NOTE: WHEN FEED IS ABSENT, THE PROXIMITY SWITCH WILL CLOSE THE RELAY CONTACTS WHICH WILL COMPLETE THE CIRCUIT BETWEEN THE ORANGE AND WHITE WIRES. WHEN FEED IS PRESENT, THE RELAY CONTACTS WILL OPEN.

Proximity Switch Schematic



Proximity Hopper Level Control Parts List (Part No. 35790)



Item	Description	Part No.	Item	Description	Part No.
1	Mounting Collar	36395	7	Mounting Cover	36403
2	Cap	36467	8	Control Mount Bracket	36396
3	Relay	34733	9	Screw	6980
4	1/2" Liquid Tight Connector	23779	10	Switch Mounting Bracket	2911
5	Switch Box Cover	6776	11	Proximity Switch	34255
6	Switch Box (Machined)	36437	12	Gasket	6777

Contact your nearby Chore-Time distributor or representative for additional parts and information.

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