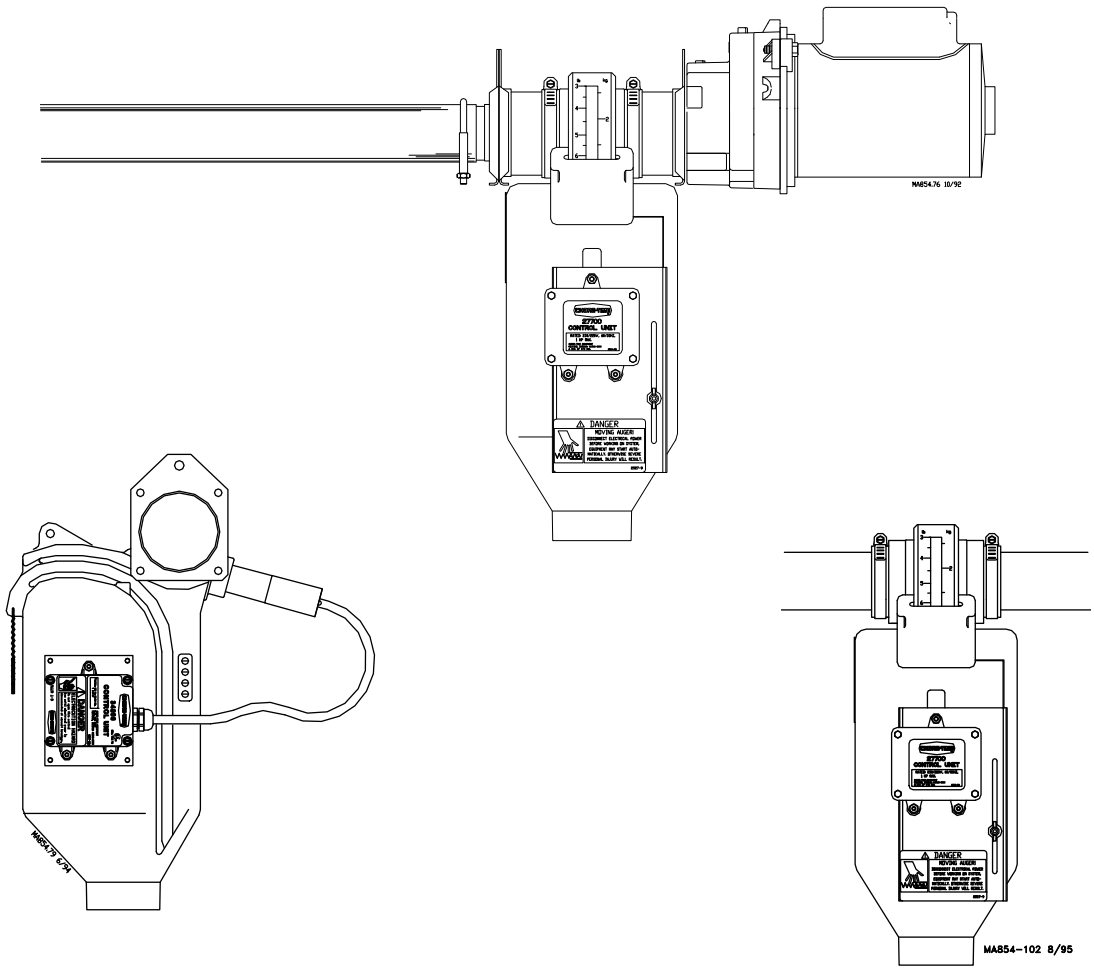
CHORE-TIME®

Drop Feeding

Installation & Operator's Manual



December 2017 **MA854H**

Warranty Information

Chore-Time Group, a division of CTB, Inc. ("Chore-Time") warrants new CHORE-TIME drop feeding components manufactured by Chore-Time to be free from defects in material or workmanship under normal usage and conditions, for One (1) year from the date of installation by the original purchaser ("Warranty"). If such a defect is determined by Chore-Time to exist within the applicable period, Chore-Time will, at its option, (a) repair the Product or Component Part free of charge, F.O.B. the factory of manufacture or (b) replace the Product or Component Part free of charge, F.O.B. the factory of manufacture. This Warranty is not transferable, and applies only to the original purchaser of the Product.

CONDITIONS AND LIMITATIONS

THIS WARRANTY CONSTITUTES CHORE-TIME'S ENTIRE AND SOLE WARRANTY AND CHORE-TIME EXPRESSLY DISCLAIMS ANY AND ALL OTHER WARRANTIES, INCLUDING, BUT NOT LIMITED TO, EXPRESS AND IMPLIED WARRANTIES, INCLUDING, WIHTOUT LIMITATION, WARRANTIES AS TO MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSES. CHORE-TIME shall not be liable for any direct, indirect, incidental, consequential or special damages which any purchaser may suffer or claim to suffer as a result of any defect in the Product. Consequential or Special Damages as used herein include, but are not limited to, lost or damaged products or goods, costs of transportation, lost sales, lost orders, lost income, increased overhead, labor and incidental costs, and operational inefficiencies. *Some jurisdictions prohibit limitations on implied warranties and/or the exclusion or limitation of such damages, so these limitations and exclusions may not apply to you. This warranty gives the original purchaser specific legal rights. You may also have other rights based upon your specific jurisdiction.*

Compliance with federal, state and local rules which apply to the location, installation and use of the Product are the responsibility of the original purchaser, and CHORE-TIME shall not be liable for any damages which may result from non-compliance with such rules.

The following circumstances shall render this Warranty void:

- Modifications made to the Product not specifically delineated in the Product manual.
- Product not installed and/or operated in accordance with the instructions published by the CHORE-TIME.
- All components of the Product are not original equipment supplied by CHORE-TIME.
- Product was not purchased from and/or installed by a CHORE-TIME authorized distributor or certified representative.
- Product experienced malfunction or failure resulting from misuse, abuse, mismanagement, negligence, alteration, accident, or lack of proper maintenance, or from lightning strikes, electrical power surges or interruption of electricity.
- Product experienced corrosion, material deterioration and/or equipment malfunction caused by or consistent with the application of chemicals, minerals, sediments or other foreign elements.
- Product was used for any purpose other than for the care of poultry and livestock.

The Warranty and Extended Warranty may only be modified in writing by an officer of CHORE-TIME. CHORE-TIME shall have no obligation or responsibility for any representations or warranties made by or on behalf of any distributor, dealer, agent or certified representative.

Effective: **April, 2014**

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Table of Contents

*Legend: C = Customer, D = Distributor, I = Installer

Safety Information

Caution, **Warning** and **Danger** Decals have been placed on the equipment to warn of potentially dangerous situations. Care should be taken to keep this information intact and easy to read at all times. Replace missing or damaged safety signs.

Using the equipment for purposes other than specified in this manual may cause personal injury or damage to the equipment.

Safety–Alert Symbol

This is a safety–alert symbol. When you see this symbol on your equipment, be alert to the potential for personal injury.

Signal Words

Signal words are used in conjunction with the safety–alert symbol to identify the severity of the warning.

DANGER ..... indicates an imminently hazardous situation which, if not avoided, **WILL** result in death or serious injury.

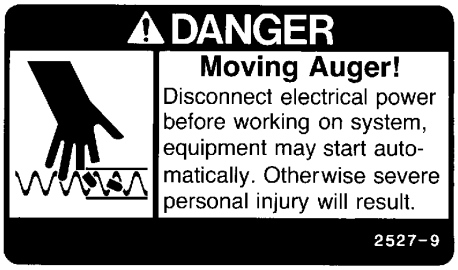
WARNING ..... indicates a potentially hazardous situation which, if not avoided, **COULD** result in death or serious injury.

CAUTION ..... indicates a hazardous situation which, if not avoided, **MAY** result in minor or moderate injury.

DANGER: Moving Auger

This decal is placed on the Control Unit.

Severe personal injury will result, if the electrical power is not disconnected, prior to servicing the equipment.



DANGER: Electrocution Hazard

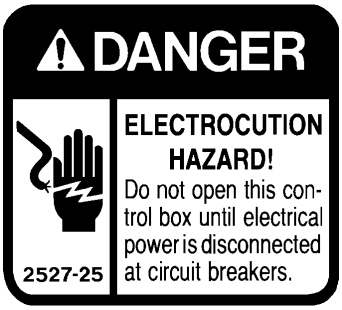
Disconnect electrical power before inspecting or servicing equipment unless maintenance instructions specifically state otherwise.

Ground all electrical equipment for safety.

All electrical wiring must be done by a qualified electrician in accordance with local and national electric codes.

Ground all non-current carrying metal parts to guard against electrical shock.

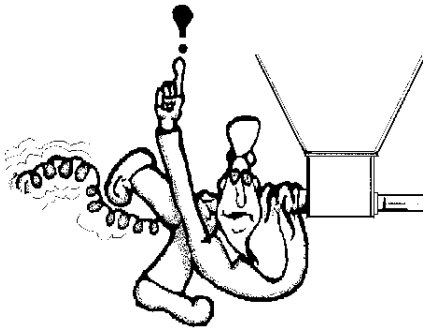
With the exception of motor overload protection, electrical disconnects and over current protection are not supplied with the equipment.



Safety Information

CAUTION

Use caution when working with the Auger--springing auger may cause personal injury.



Support Information

The Chore-Time Drop Feeding System is designed to dispense common livestock feed types. Using this equipment for any other purpose or in a way not within the operating recommendations specified in this manual will void the warranty and may cause personal injury and/or death.

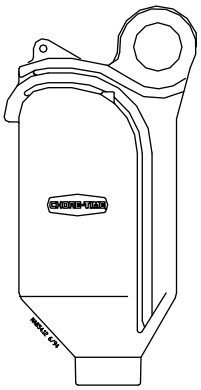
This manual is designed to provide comprehensive planning, installation, wiring, operation, and parts listing information. The Table of Contents on page 3 provides an convenient overview of the information in this manual. The Table of Contents also specifies which pages contain information for the sales personal, installer, and consumer (end user).

Tools needed to install your Drop Feeding System:

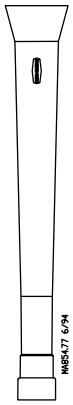
1. Regular Screwdriver
2. Allen Wrenches
3. Box-End Wrenches
4. Drive Ratchet and Sockets
5. File
6. 1-1/2" Holesaw (MULTIFLO, Model 55)
7. 2" or 2-1/4" Holesaw (Model 75, HMC)
8. Electrical Drill and Drill Bits
9. Cable Cutters
10. PVC Cement
11. PVC Cleaning Solvent
12. Wire Cutters
13. Wire Strippers
14. Adequate Size and Quantity of Electrical Wire
15. Saw to cut PVC Tubes
16. Another Person to Help!

Component Identification

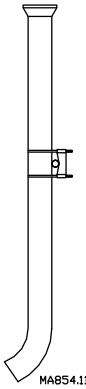
Drop Feeder



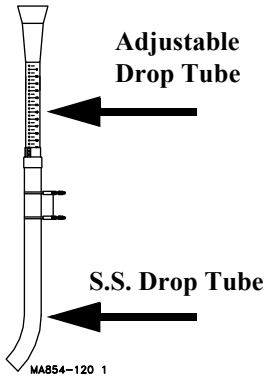
Tapered Drop Tube



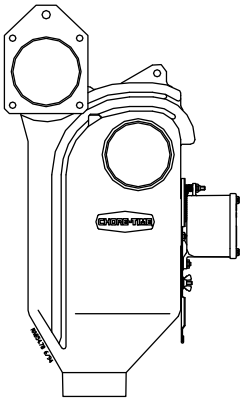
One Piece Plastic Drop Tube



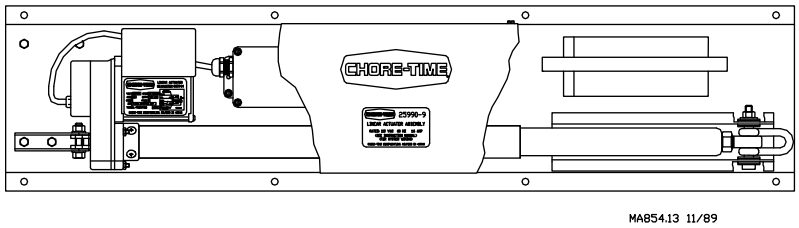
Two Piece Drop Tube



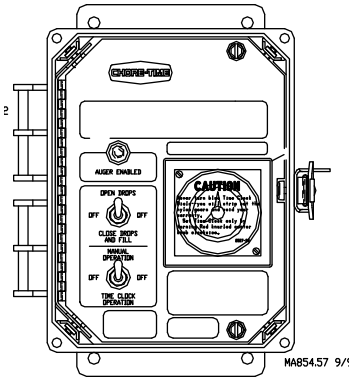
Mechanical Drop Feeder Control Unit



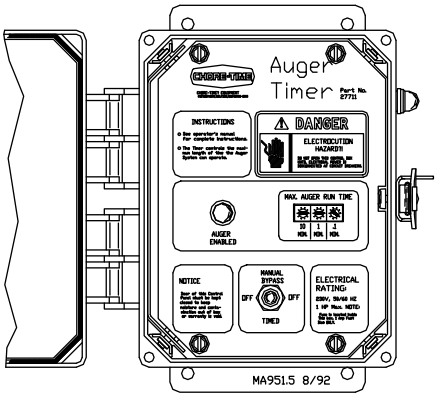
Linear Actuator--9" or 18" Stroke (Optional)



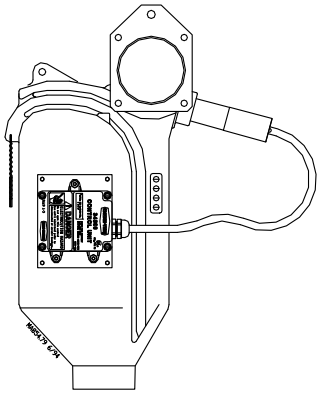
Control Panel (Optional)



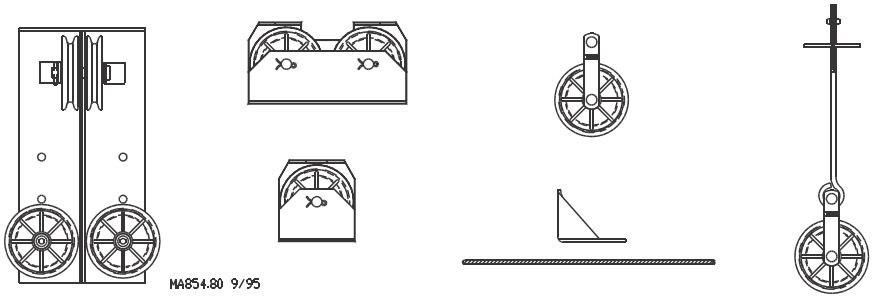
Auger Timer (Optional)



Proximity Drop Feeder Control Unit



Miscellaneous Cable Routing Components (Optional)



Drop Feeder General Information

The Drop Feeders may be used with the Model 55, Model 75, and High Moisture Corn FLEX-AUGER® Feed Delivery Systems, as well as Chore-Time's MULTIFLO® Circulating Feed Delivery System.

Read all instructions carefully before beginning to install the system. Careful planning to determine location and proper height of components is necessary. Refer to the listing on page 33 for additional instruction manuals that may relate to your Drop Feeding System. These manuals are included with the appropriate individual components, but may be ordered separately, if necessary.

For best operation and highest feed quality, fill the feeders shortly before feeding during periods of extremely cold or extremely warm temperatures. Allow the system to remain empty until shortly before the next feeding.

In freezing temperatures, empty the High-Moisture Corn FLEX-AUGER Fill System if it is to be unused for over 24 hours. Do not leave high-moisture corn in the Drop Feeders for more than 24 hours!

CHORE-TIME feed systems are designed to handle most common livestock and poultry feeds. However, CHORE-TIME cannot guarantee satisfactory operation with all formulations.

CHORE-TIME suggests you contact the technical service department concerning the use of new or unusual formulations.

Capacities and Specifications

The Model 55 FLEX-AUGER System has a delivery capacity of 15 pounds per minute or 6.8 kg/minute.

The Model 75 FLEX-AUGER System has a delivery capacity of 50 pounds per minute or 22.7 kg/minute.

The High-Moisture Corn FLEX-AUGER System has a delivery capacity of 50 pounds per minute or 22.7 kg/minute. Feed must not exceed a moisture content of 27% and a wet molasses content of 2%.

The MULTIFLO Delivery System has a delivery capacity of 15 pounds per minute or 6.8 kg/minute, when supplied by a Model 55. If the MULTIFLO is supplied by a Model 75 or HMC system, the delivery capacity of the MULTIFLO is 18 pounds per minute or 8 kg/minute.

Note: *All calculations are based on standard systems with standard power units, using feed with 40 pounds per cubic foot (640 kg/cu meter) density. If your feedstuff varies greatly, delivery capacities will vary also*.

The 6306 Trip Lever can operate a maximum of 30 Drop Feeders mounted in-line.

The 28990-9 Linear Actuator can operate a maximum of 120 feeder units.
The 28990-18 Linear Actuator can operate a maximum of 240 feeder units.
Refer to the Linear Actuator Installation Manual for additional information.

Planning The System

Advance planning is required to determine the location and proper height of the FLEX-AUGER and Drop Feeding system. Use the dimensions shown in **Figure 1**, **2**, & **3** to determine the proper height to install the system.

NOTE: *Height is especially important in cattle systems where a PVC Drop Tube is used with the feeder.*

Figures 3 through **9** show possible component locations and system layouts for the Drop Feeding Systems using a Manual Trip Lever or Linear Actuator.

Drop Tube Options

Three Drop Tubes are available for use with your Drop Feeding System, depending on the type of livestock, pens, crates, etc.

One-Piece Drop Tube for dairy applications: Refer to **Figure 1**.

Two Piece Drop Tube for dairy or hog applications: Refer to **Figure 2**.

Tapered Drop Tube for hog applications (crates or pens with feed tubes): Refer to **Figure 3**. The Tapered Drop Tube may be shorted, as required, to accommodate various fill system heights.

See the Drop Tube Installation section on pages 20 - 21.

Key	Description
1	Available in 48” (1.22 m) and 58” (1.47 m) lengths.
2	12” to 18” (305 to 457 mm)
3	One Piece Plastic Drop Tube

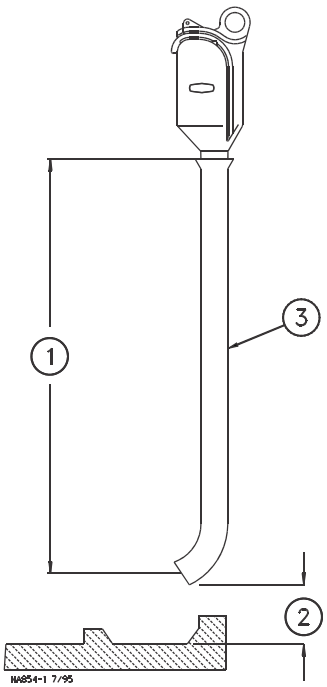


Figure 1. Dairy Installation (side view)

Key	Description
1	The Two Piece Drop Tube may be shortened to accommodate various heights of equipment. Maximum distance 58” or 1.47 m.
2	5” to 7” (127 to 178 mm)
3	Two Piece Drop Tube
4	Adjustable Drop Tube
5	Stainless Steel Drop Tube

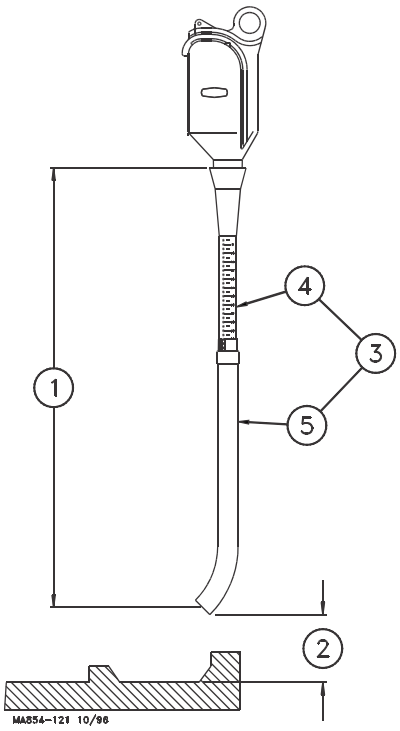


Figure 2. Dairy or Hog Installation (side view)

Key	Description
1	24” (61 cm)
2	5” to 7” (127 to 178 mm)

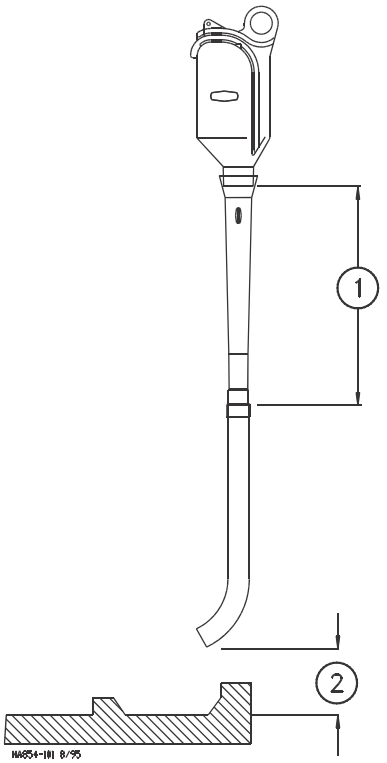


Figure 3. Tapered Drop Tube for Hog Installation (side view)

Manual Trip Lever Installations

The Manual Trip Lever (see **Figure 4**) has the capability of operating up to 30 Drop Feeders.

The Manual Trip Lever may be mounted at either end of the line. See **Figure 5**. Pulleys are supplied to route cable when the trip lever cannot be mounted directly in line with the feeders.

If possible, mount the trip lever outside the room where the livestock will be housed. This allows the operator to feed without being seen.

The optional Delay Relay Kit is used to delay the start of the Fill System long enough for the Drop Balls to be reseated in the Drop Feeders.
Refer to MA916 Delay Relay Kit Instruction for wiring and parts list information.

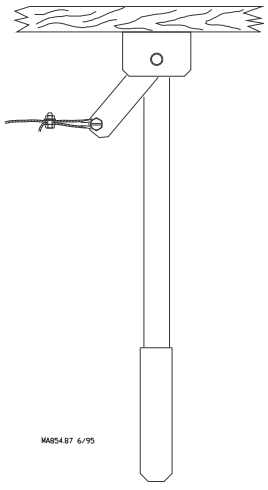
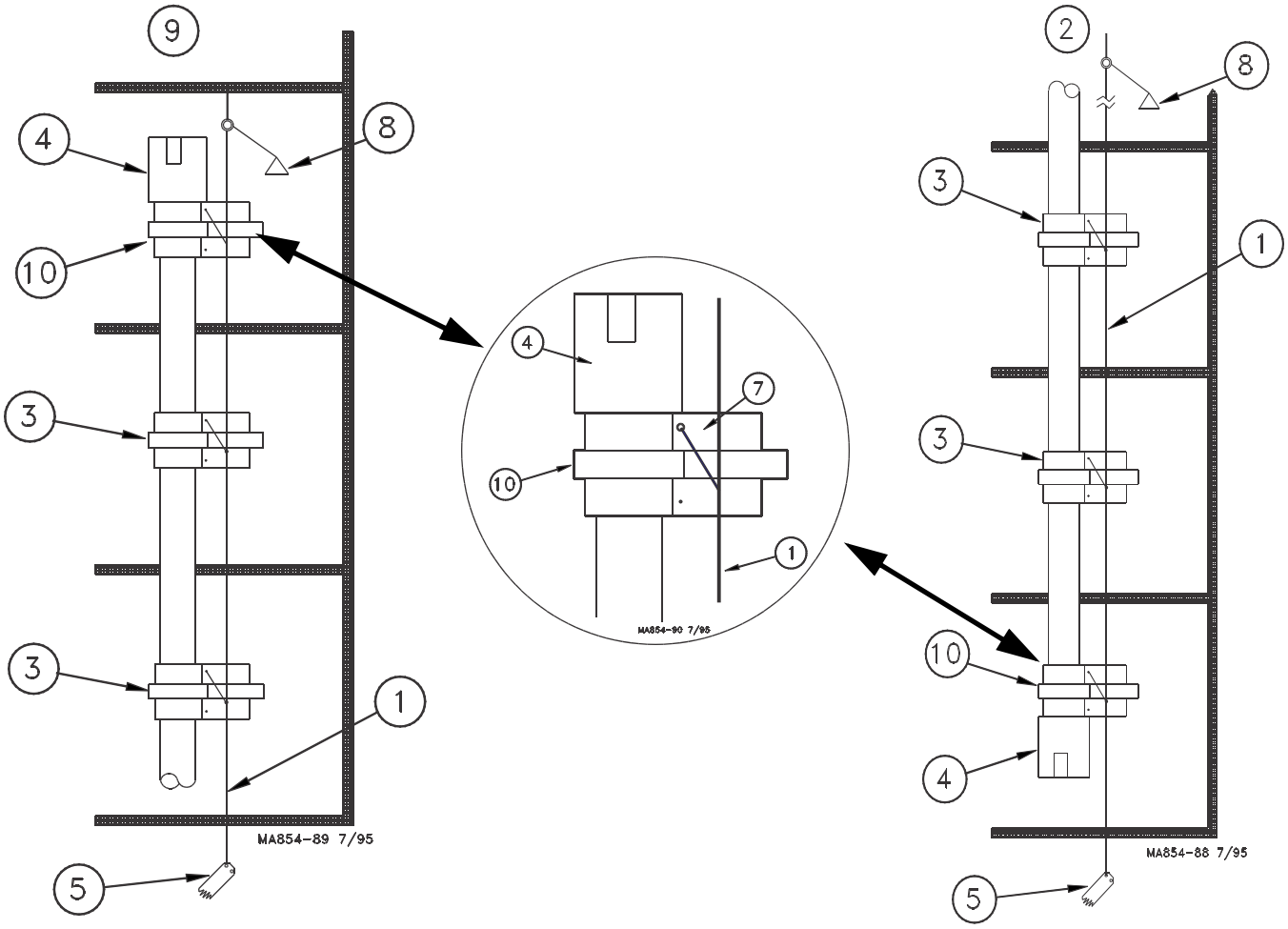


Figure 4. Manual Trip Lever (side view)



Key	Description
1	Cable
2	Control Unit at Trip Lever end of line.
3	Drop Feeder
4	Power Unit
5	Manual Trip Lever
7	Drop Ball Cord
8	Weight
9	Control Unit at opposite end of Trip Lever.
10	Control Unit

Figure 5. Drop Feeding System layout using Manual Trip Levers (top view).

Linear Actuator Installations

Note: *The Linear Actuator is optional and must be ordered separately. Information included in this manual is for planning and reference purposes only.*

The Linear Actuator Instruction Manual includes comprehensive planning, installation, parts listing, switch adjustment information, and wiring diagrams. The Linear Actuator Installation Manual is shipped with the Linear Actuator.

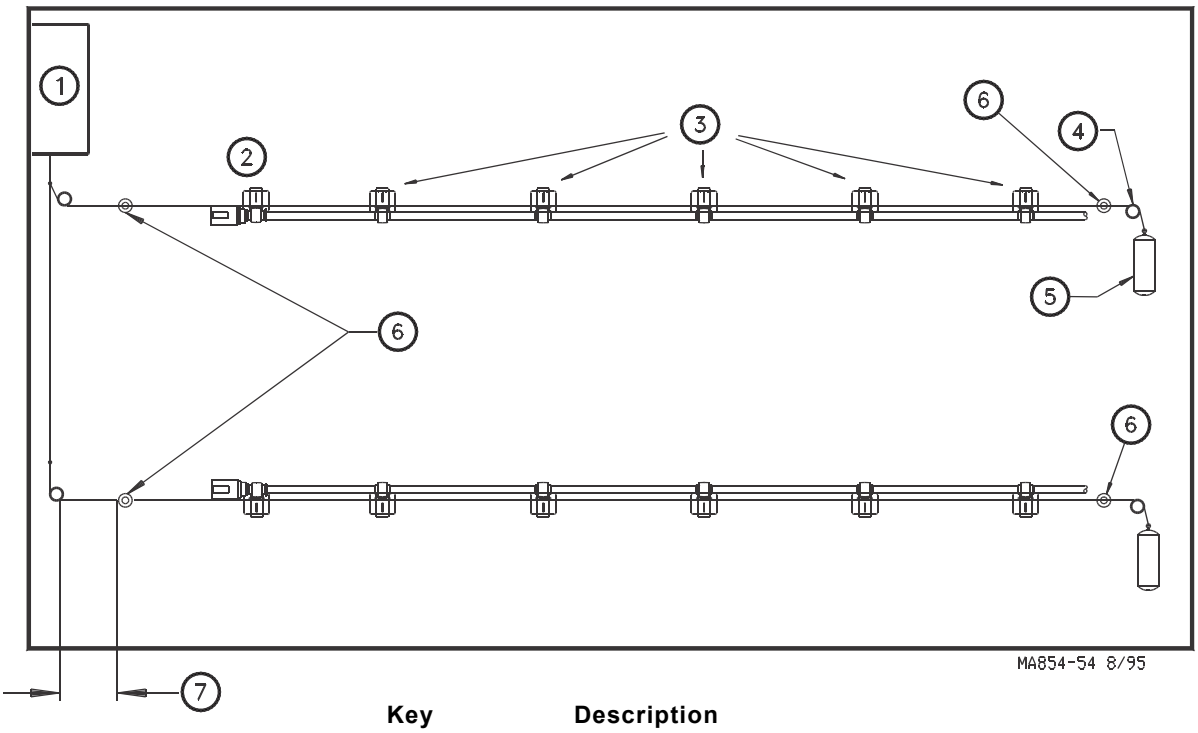
The 28990-9 Linear Actuator has the capability of operating up to 120 Drop Feeders.

The 28990-18 Linear Actuator has the capability of operating up to 240 Drop Feeders.

When installing a Linear Actuator, allow room at the end of the system for the weight kit to move freely.

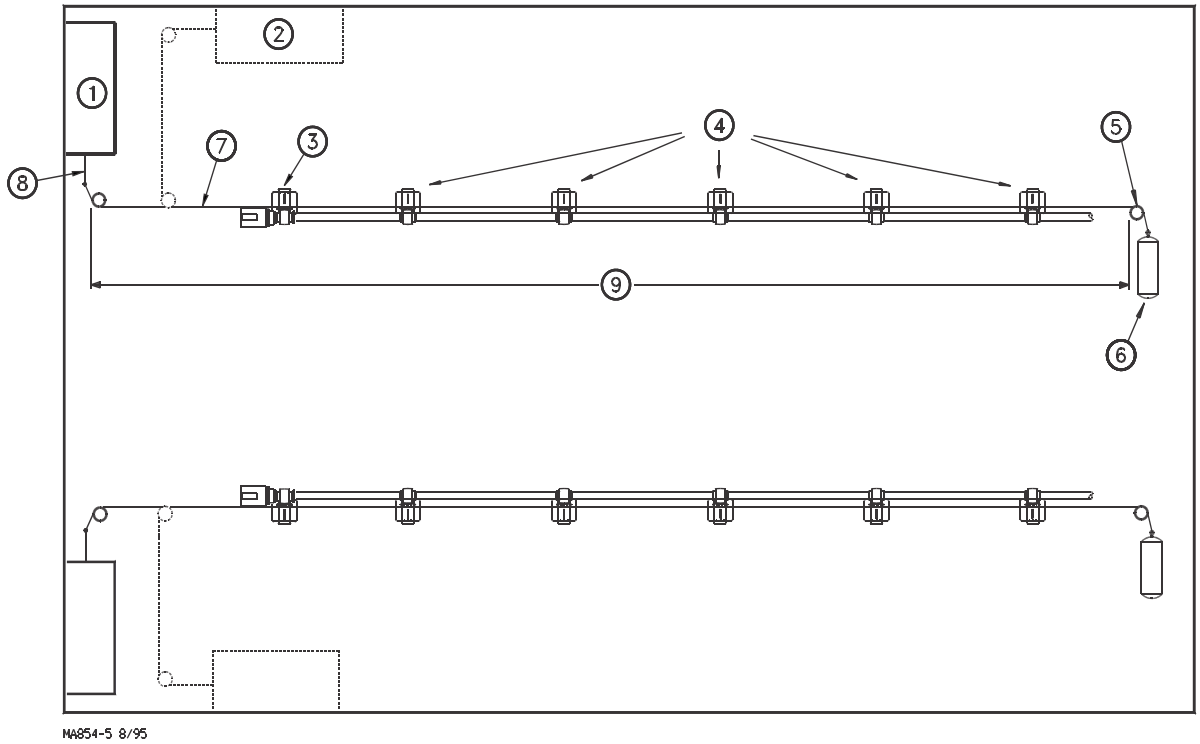
The Linear Actuator uses a 3/16" stainless steel master cable and a 1/8" stainless steel cable for the balance of the system, as shown in Figures 6 through 8. The maximum length of 1/8" stainless steel cable allowed per line is 200’ (61 m).

If installing a 28990-18 Linear Actuator, allow enough room to install the double-back cable hook-up, as specified in the Linear Actuator Installation Manual.



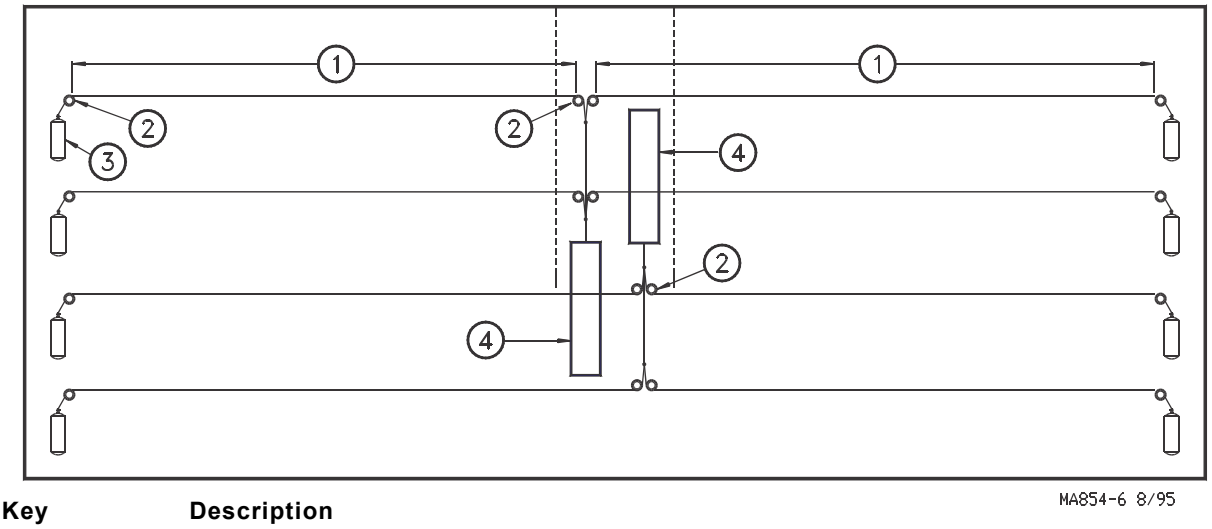
Key	Description
1	Linear Actuator
2	Drop Feeder Control Unit
3	Drop Feeder
4	Pulley
5	Weight
6	Anti-Cable Wrap Ball
7	This distance must be greater than cable travel.

Figure 6. Drop Feeding System layout using a Linear Actuator (top view).



Key	Description
1	Linear Actuator
2	Linear Actuator (optional location)
3	Drop Feeder Control Unit
4	Drop Feeder
5	Pulley
6	Weight
7	1/8” (3.1 mm) Stainless Steel Cable
8	3/16” (4.7 mm) Stainless Steel Cable
9	200’ (61 m) Maximum

Figure 7. Drop Feeding System layout using multiple Linear Actuators (top view)



Key	Description
1	200’ (61 m) Maximum
2	Pulley
3	Weight
4	Linear Actuator

Figure 8. Drop Feeding System layout using multiple Linear Actuators (top view)

Drop Feeder Assembly and Installation

Drop Feeder units are available for Model 55, Model 75, High Moisture Corn FLEX-AUGER, and MULTIFLO Feed Delivery Systems. **These units must be ordered for the appropriate system, they are not interchangeable.**

The Drop Feeders are shipped unassembled. Each feeder requires the following components:

(1) Drop Feeder Body (p/n 30361-0)

(1) Adjustment Slide (p/n 33884)

(1) Shut-Off Slide (p/n 26138)

(1) Drop Ball Assembly (p/n 6296)

(1) Hole Plug (p/n 9965)

Assemble the Drop Feeder

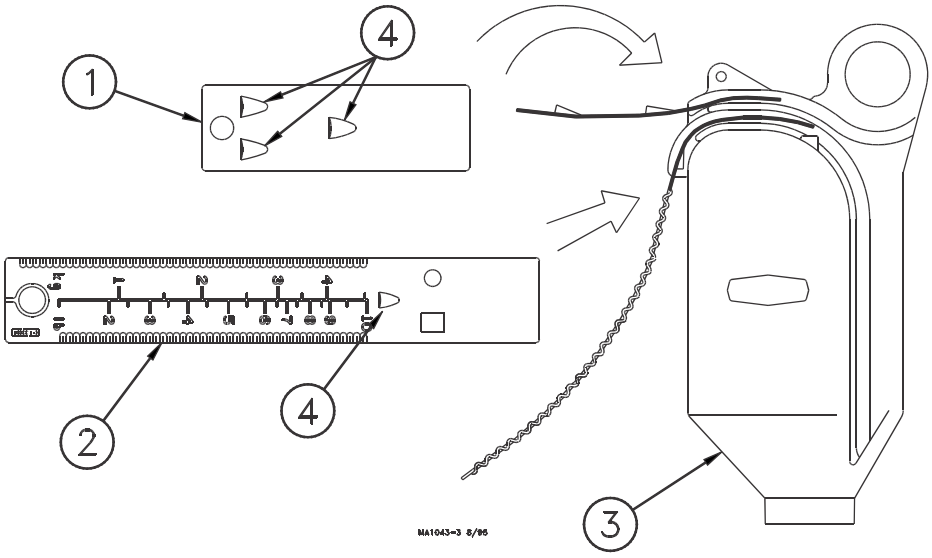
1. Install the Adjustment Slide, as shown in **Figure 9**.

   The Adjustment Slide must be installed with the printing in the *readable* position (and the tab stop down).

   During installation, the Adjustment Slide may want to jump into the upper track. It may be necessary to reach inside the feeder to help guide it into the proper track.

2. Install the Shut-Off Slide, as shown in **Figure 9**

   The Shut-Off Slide must be installed with the tab stops up.



Key	Description
1	Shut-Off Slide
2	Adjustment Slide
3	Drop Feeder
4	Tab Stop

Figure 9. Drop Feeder Assembly Procedure (side view)

3. Place the Drop Ball Assembly inside the feeder.
4. Route the Drop Ball Cord through appropriate hole in the top of the feeder.

   IMPORTANT: *The Drop Ball Cord must be routed so that it travels over the top of feeder during actuation. See* ***Figure 10****. If cable travel is to be in opposite direction, the Drop Ball Cord must be routed through the hole on opposite side of feeder.*
5. Insert the Hole Plug into the opening on the side of the feeder. The rib around the Hole Plug secures it in place.

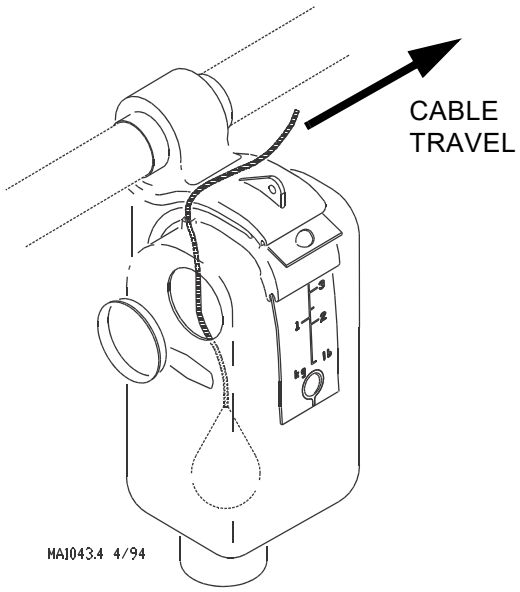


Figure 10. Drop Ball Cord Routing

Installation Procedure

Install the FLEX-AUGER® or MULTIFLO® Feed Delivery System according to installation instructions in the appropriate CHORE-TIME Installation Manual. See FLEX-AUGER Feed Delivery System Instruction Manual and MULTIFLO Feed Delivery Instruction Manual.

1. **NOTE:** *Drop Feeder units MUST BE INSTALLED ON THE TUBES PRIOR TO CEMENTING THE TUBES.*

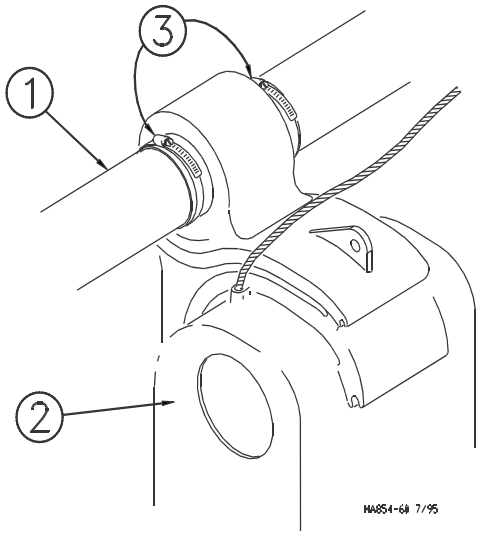
   Loosely assemble the system, slide the Drop Feeders into their approximate location. Make sure all the feeders are facing the same direction.

   Mark the tubes at each desired outlet hole location.
2. Drill the auger tubes at each Drop Feeder location, using a holesaw, hacksaw, or sabre saw.

   Outlet Hole Sizes

   Model 55 and MULTIFLO ..... 1-1/2" (38 MM)

   Model 75 and Model HMC.... 2" to 2-1/4" (50 to 57 MM)
3. After the tubes are drilled for the feeder units, slide the drop feeders over the PVC tubes and position one feeder over each outlet hole. Use the tube clamps supplied to secure the feeders in place on the tubes.
   See **Figure 11**.
4. Trial Fit all tube connections. Follow the directions in the FLEX-AUGER or MULTIFLO Installation Manual to assemble the tubes and elbows.



Key	Description
1	Auger Tube
2	Drop Feeder
3	Clamp

Figure 11. Secure the Drop Feeders.

Suspend the Feeders

The feeder line must be adequately supported as specified in the fill system installation manual. Screw hooks, "S" hooks, and chain are used to support the auger tubes. Support the auger tubes at 5’ (1.5 m) intervals along the length of the line. Horizontal elbows must be supported at two points, minimum. Keep the line as level and straight as possible.

Drop Tubes may provide some support for the Drop Feeders.

If Drop Tubes are not used with the Drop Feeders, “S” hooks, chain, and screw hooks (not supplied) should be used to provide additional support as shown in **Figure 12**.

Both methods of routing the chain shown in **Figure 12** are acceptable.

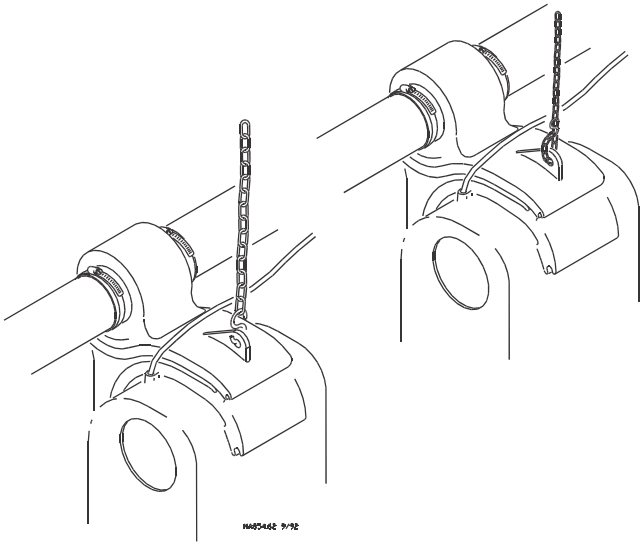
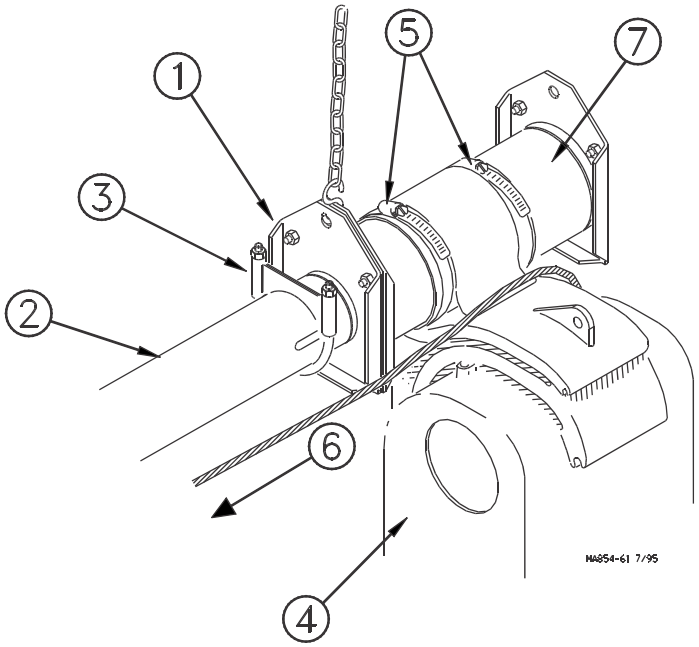


Figure 12. Support the Feeder

Control Unit Installation (with FLEX-AUGER Systems)

The Drop Feeder Control Unit may use a Mechanical Switch or a Proximity Switch. The Mechanical and Proximity Switch Drop Feeders install the same except where noted.

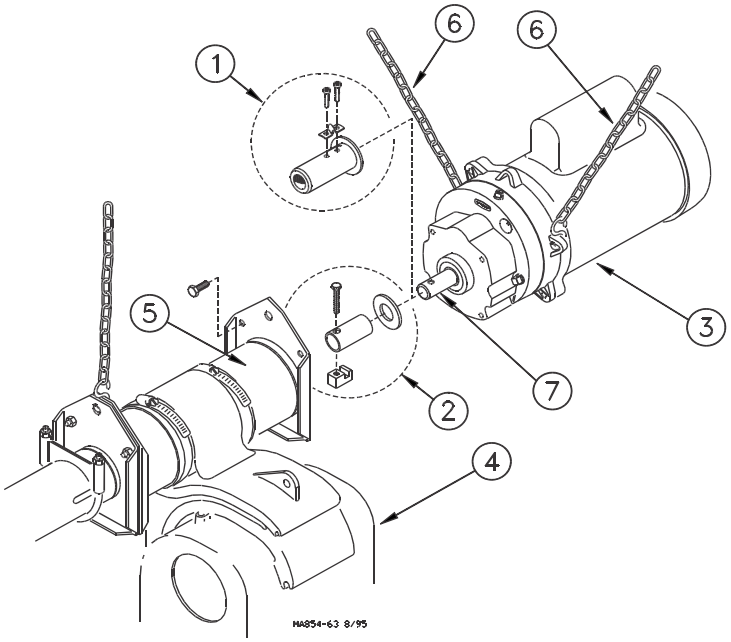
1. Remove the Hole Plug and insert the Drop Ball. Thread the Drop Ball Cord through the hole in the top of the feeder unit. The cord must run across the top of the feeder in the direction of cable travel, as shown in **Figure 10**.
2. Use (2) hose clamps supplied to fasten the Control Unit Drop Feeder to the Control Tube, as shown in **Figure 13**.
3. Install the Tube Anchor (using the hardware supplied with the Control Unit) on the end of the Control Tube toward the feeder line. See **Figure 13**.
4. Use the tube clamp supplied and fasten the Tube Anchor to the end of the feeder line. See **Figure 13**.



Key	Description
1	Tube Anchor
2	Auger Tube
3	Clamp
4	Drop Feeder
5	Hose Clamp
6	Cable Travel
7	Control Tube

Figure 13. Attach the Tube Anchor to the Control Unit.

5. Attach the Driver Assembly to the Output Shaft on the Gearhead using the hardware provided. See **Figure 14**.
6. Suspend the Power Unit / Gearhead Assembly.
   DO NOT BOLT THE CONTROL UNIT TO THE POWER UNIT AT THIS TIME.
   Use screw hooks, chain, and "S" hooks supplied to support the power unit/gearhead assembly. See **Figure 14**.



Key	Description
1	Model 75 & HMC Driver Components
2	Model 55 Driver Components
3	Power Unit
4	Drop Feeder Control Unit
5	Control Tube
6	Power Unit Support Chains
7	Output Shaft

Figure 14. Power Unit Assembly and Suspension.

7. **Proximity Drop Feeders ONLY**:

   Install the Proximity Sensor into the Collar in the back of the Control Unit Drop Feeder. See **Figure 15**. The end of the sensor should extend into the Drop Feeder approximately 1/8" (3 mm).

   Insert the Adjustment Studs inside the feeder box so that the threads extend through the holes to the outside of the box. Secure the Switch Box to the side of the Drop Feeder Control Unit, using the hardware and studs installed. See **Figure 16**.

Key	Description
1	Proximity Switch
2	Secure Proximity in Collar using Hose Clamp, supplied.

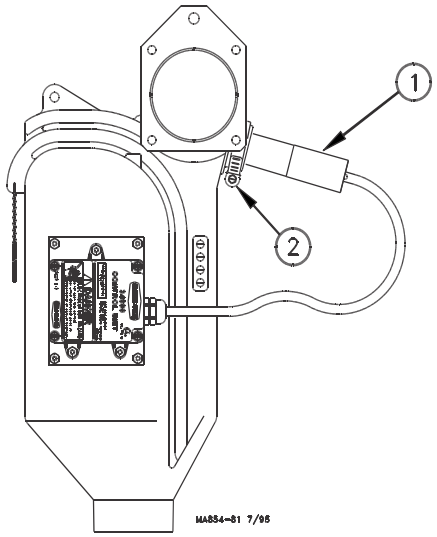


Figure 15. Proximity Switch Control Unit

Key	Description
1	Adjustment Stud
2	External Washer
3	10-24 Hex Nut
4	Drop Feeder Control Unit
5	Switch Box (for Proximity Switch)

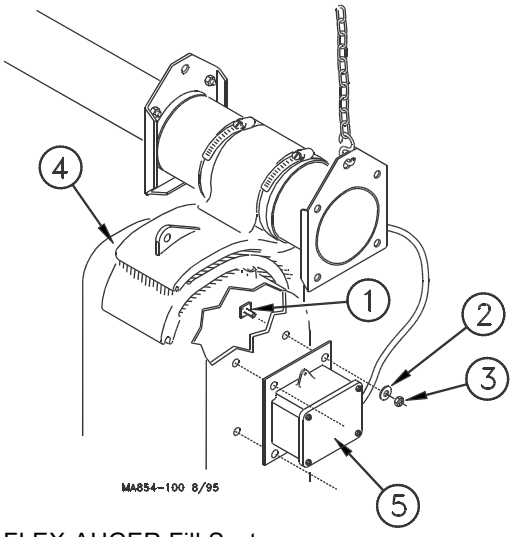


Figure 16. Proximity Switch Control Unit for FLEX-AUGER Fill Systems.

Control Unit Installation (with MULTIFLO Systems)

The Drop Feeder Control Unit may use a mechanical switch or a Proximity Switch. The Mechanical and Proximity Switch Drop Feeders install the same except where noted.

Locate the Drop Feeder Control Unit so that all feeder units fill prior to the Control Unit. Refer to the MULTIFLO Operator's Manual for system installation information.

Remove the hole plug and thread the Drop Ball Cord through the hole in the top of the feeder unit. The cord must run across the top of the feeder in the direction of cable travel.

The MULTIFLO Drop Feeder Control Unit is installed over the tube, using (2) hose clamps. **Figure 17** shows a Mechanical Switch Drop Feeder Control Unit properly installed.

Key	Description
1	MULTIFLO Mechanical Switch Control Unit
2	Adjustable Clamps
3	Auger Tube

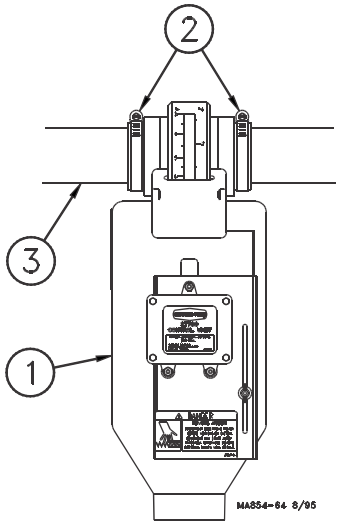


Figure 17. Mechanical Control Unit on a MULTIFLO Fill System (front view)

Proximity Drop Feeders ONLY:

Install the Proximity Sensor into the Collar in the back of the Control Unit Drop Feeder. See Figure 18. The end of the sensor should extend into the Drop Feeder approximately 1/8" (3 mm).

Insert the Adjustment Studs inside the feeder box so that the threads extend through the holes to the outside of the box. Secure the Switch Box to the side of the Drop Feeder Control Unit, using the hardware and studs installed. See **Figure 19**.

Key	Description
1	Proximity Switch
2	Secure Proximity in Collar using Hose Clamp, supplied.

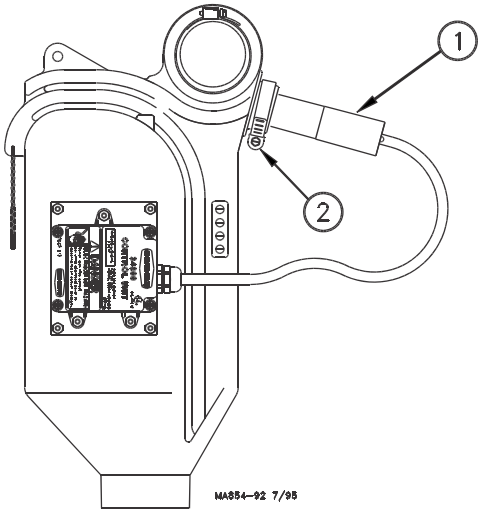


Figure 18. Proximity Switch Control Unit in a MULTIFLO Fill System (side view)

Key	Description
1	Adjustment Stud
2	External Washer
3	10-24 Hex Nut
4	Drop Feeder Control Unit
5	Switch Box (for Proximity Switch)

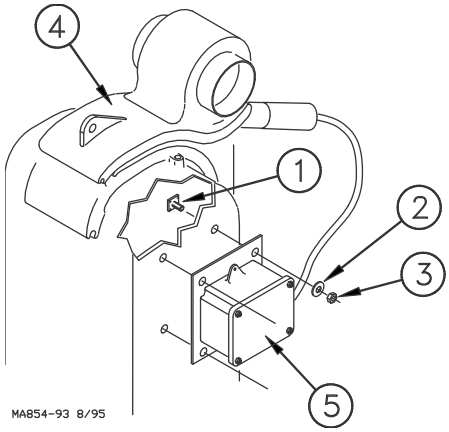
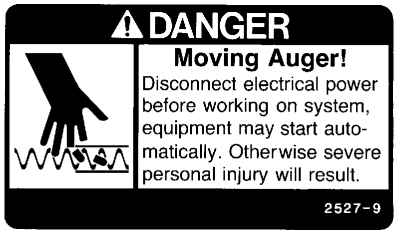


Figure 19. Proximity Switch Control Unit in a MULTIFLO Fill System.



Auger Installation

Use extreme caution when working with the auger. The auger is under tension and may spring causing injury. Always wear protective clothing and protective glasses when working with the auger.

Use extreme caution when pushing the auger into the auger tubes. Keep your hands away from the end of the auger tube to avoid injury.

FLEX-AUGER Systems Only: Install the Auger from the bin to the Control Unit. Thread the Auger into the Driver on the Control Unit as specified in the FLEX-AUGER Feed Delivery System Manual. Holes are provided in the Control Tubes to allow access to tighten the Driver Assembly hardware. Stretch (and braze if necessary) the auger as specified.

MULTIFLO Systems Only: Install the Auger as specified in the MULTIFLO Feed Delivery System Manual. Stretch and braze the auger as specified.

Drop Tube Installation

Three Drop Tubes are available for use with the Drop Feeding System.

For dairy applications, a durable One-Piece PVC Drop Tube is available in 48" and 58" (1.22 m and 1.47 m) lengths. See **Figure 20**.

Note: *These Drop Tubes should be mounted vertically or at angles less than 15 degrees.*

Key	Description
1	One-Piece PVC Drop Tube
2	Steel Pipe on stanchion or crate.
3	Horizontal Pipe Hardware Kit

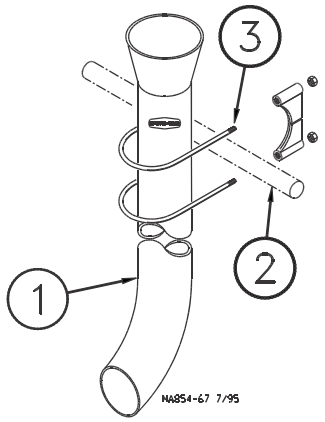


Figure 20. One-Piece Drop Tube Installation

For dairy/swine feeding systems, use the Two-Piece Drop Tube shown in **Figure 21**. The lower portion of the Two-Piece Drop Tube is galvanized steel. The Two-Piece Drop Tube has a combined length of 58" (1.47 m).

Note: *These Drop Tubes should be mounted vertically or at angles less than 15 degrees.*

Key	Description
1	Two-Piece Drop Tube
2	Steel Pipe on stanchion or crate.
3	Vertical Pipe Hardware Kit

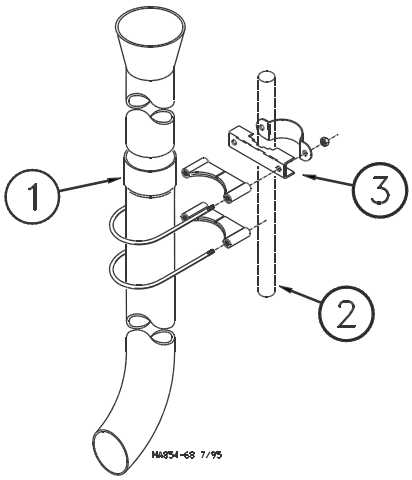


Figure 21. Two-Piece Drop Tube Installation

Mounting Kits are available for installation to partitions or stanchions with vertical or horizontal pipes.
***Note**: **Figure 20** shows how the Drop Tubes may be secured to a horizontal pipe. **Figure 21** shows how the Drop Tubes may be secured to a vertical pipe.*

In most installations, the Drop Tube comes in direct contact with the animals. It must be mounted securely.

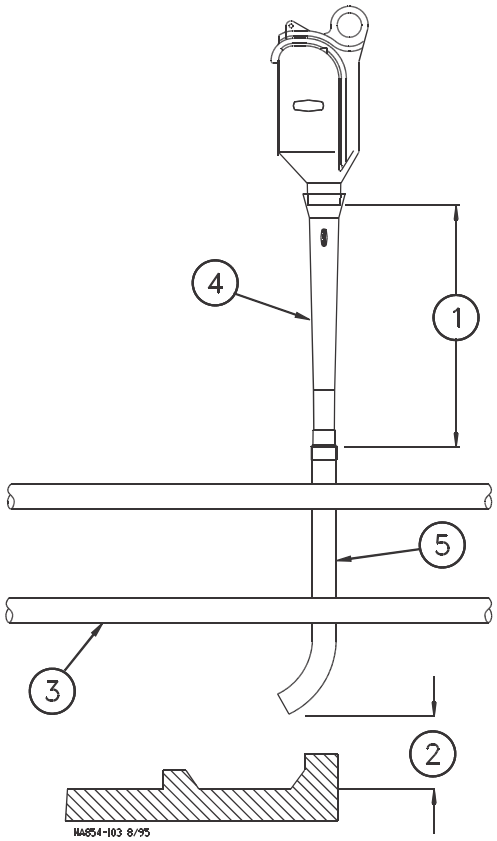
The Tapered Drop Tube is available for applications where each pen or stall has a 2-3/8" (6 cm) O.D. feed pipe. See **Figure 22**.

The Tapered Drop Tube may be used at full length, as shown in the **figure on the left.**

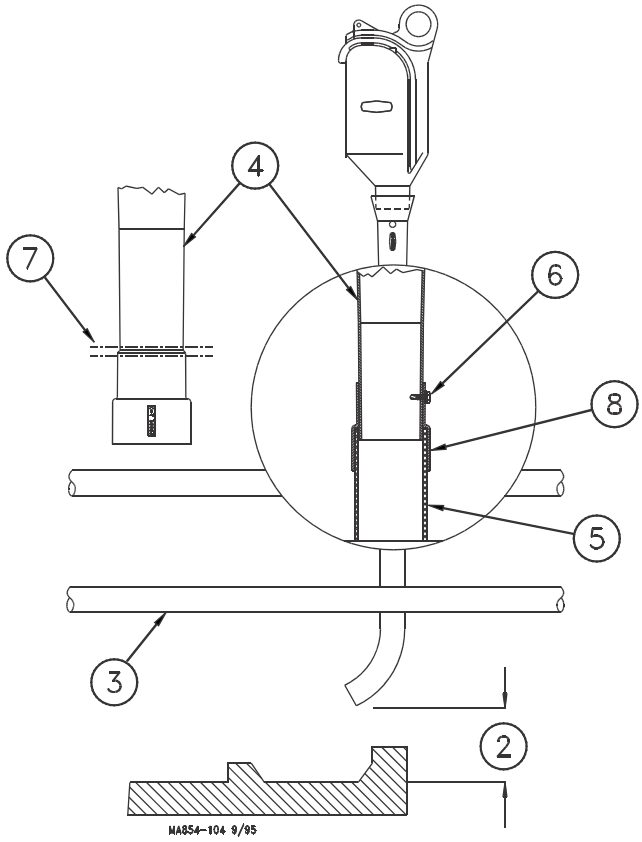
If the distance from the bottom of the feeder to the top of the feed pipe is 20 - 24 inches (51 - 61 cm), the Tapered Drop Tube may be cut and installed, as shown in the **figure on the right**.

If the feed pipe is not 2-3/8” (6 cm) diameter, it may be possible to cut the belled end off the Tapered Drop Tube and insert it into the feed pipe.

Full Length Tapered Drop Tube Installations



Reduced Length Tapered Drop Tube Installations



Key	Description
1	24” (61 cm)
2	5” to 7” (127 to 178 mm)
3	Pen or stall pipe
4	Tapered Drop Tube
5	Feed Pipe (not supplied by Chore-Time)
6	Secure with screw or adjustable clamp (not supplied)
7	Cut here
8	Install cut-off bell over feed pipe

Figure 22. Tapered Drop Tube Installation

Trip Lever Installation

One Trip Lever may be used with up to 30 Drop Feeders. Operating more than this may require too much force to move the lever, and the feed dropping action may not be satisfactory.

The lever may be installed at either end of the row of feeders. Two pulleys are supplied with the lever to route the cable around corners where required. When possible, mount the lever directly in-line with the row of feeders. Use the lag screws supplied to install the Trip Lever to a sturdy wall or partition. **Figure 23** shows the Manual Trip Lever installed.

If possible, locate the Trip Lever outside the room where the animals are confined. This location permits the operator to feed the animals without being seen.

Key	Description
1	Lag Screws
2	Trip Lever
3	1/8” (3 mm) S.S. Cable routed to Drop Feeders.

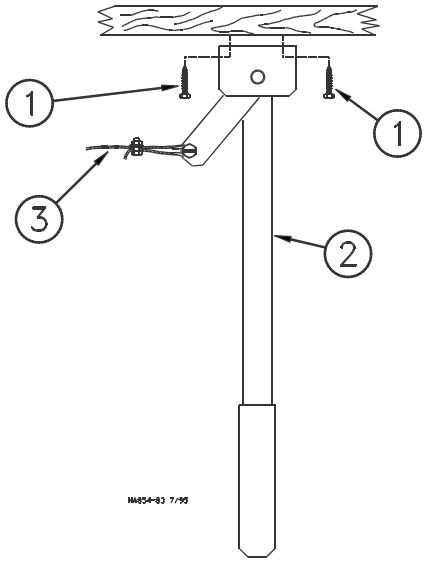


Figure 23. Trip Lever installed at end of line (side view).

1. Unroll the 1/8” (3 mm) Stainless Steel Cable the full length of the feeder line before attaching any of the feeders to the Trip Lever.
2. Loosely attach the end of the cable to the Trip Lever with hardware provided. **Figure 5**, on page 10, shows an example the of cable layout for a manual trip feeding system. Final adjustment and hookup to the Trip Lever should not be completed until all feeder cords are attached to the cable.
3. Assemble the 26051 Weight Kit according to the instructions on page 23.

   Fasten the Weight Kit to the end of the cable to keep the cable tight.
4. Begin at the end opposite the Trip Lever use a split-bolt clamp to attach each drop ball cord to the cable.

   The Drop Ball Cord must travel across the top of the feeder. See **Figure 5**.

   Make sure each ball is properly "seated" in the closed position and there is no slack in the cord.

5. Take up the cable slack between each Drop Feeder before clamping the next cord to the cable

   Note: *Be careful not to pull or "unseat" the Drop Balls that are already attached to the cable.*

6. Continue down the line until all feeders are attached to the cable. Remove cable slack between the last feeder and the Trip Lever. Attach the end of the cable to the Trip Lever. **Figure 24** shows a trip lever cable hook-up.

   Be sure to properly install the Thimble, as shown in **Figure 24**.

Key	Description
1	3/8-16 Split Bolt, Washer, & Hex Nut.
2	Cable
3	Thimble
4	Trip Lever Handle

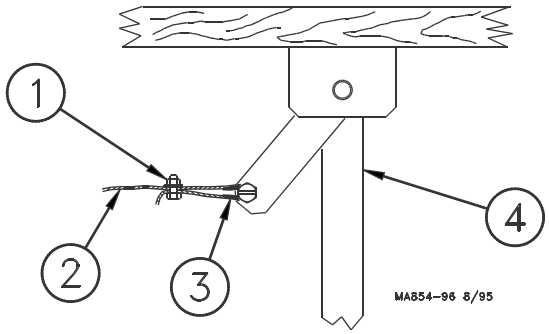


Figure 24. Trip Lever Cable Hook-Up (side view)

Weight Kit Assembly Instruction

1. Drill a 17/64" (6.7 mm) or 9/32" (7 mm) hole in center of one cap.
2. Assemble the cap and hardware as shown in **Figure 25**.
3. Cement the bottom cap in place, using PVC cement. Apply PVC cement according to the instruction with the cement to insure a good hold.
4. Fill tube with approximate 10 lbs. (4.5 kg) sand, rocks, or other high density material.
5. Cement the top cap in place. Allow the joints to dry prior to hanging the Weight Kit.

Key	Description
1	Eyebolt
2	1/4-20 Locknut
3	Flat Washer
4	Cap
5	Weight Tube

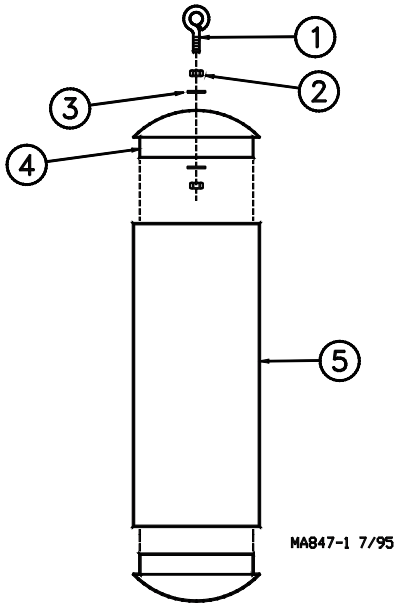


Figure 25. Weight Kit Assembly (side view)

Anti-Cable Wrap Ball

The Anti-Cable Wrap Ball is used to prevent cable twist as the cable moves.

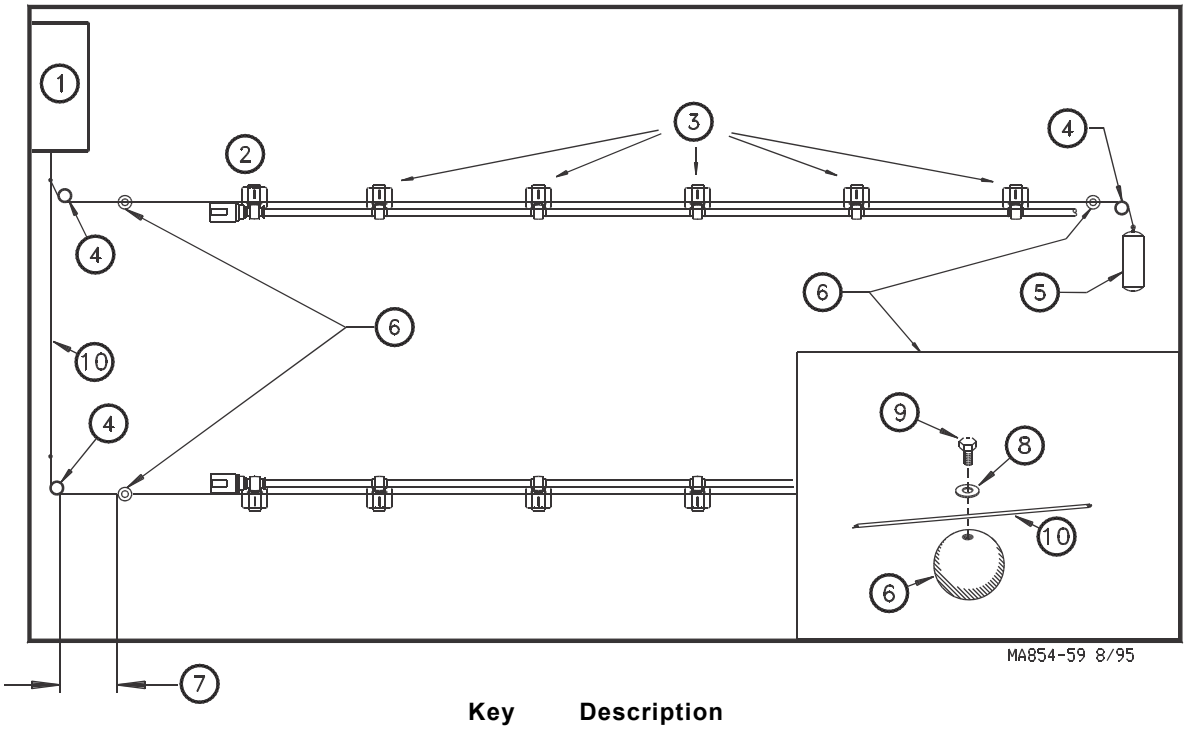
The Anti-Cable Wrap Ball is used in conjunction with CHORE-TIME Drop Feeding Systems to prevent cable twist as it moves back and forth through the pulleys.

One Anti-Cable Wrap Ball should be installed on each horizontal length of cable that runs between two pulleys. **Figure 26** shows a typical installation.

To install:

1. Determine distance of cable travel. The anti-cable wrap ball must be installed so that it will not interfere with the cable movement; i.e., it must be placed far enough from pulleys, suspension points, and other equipment so that it does not hit them when the cable moves.
2. Locate the Anti-Cable Wrap Ball(s) as shown in **Figure 26**.
3. Install the Anti-Cable Wrap Ball, as shown in **Figure 26**. Tighten securely so the ball does not slide on the cable.

   NOTE: *On long cable runs, it may be necessary to install two Anti-Cable Wrap Balls to prevent the cable from twisting.*



Key	Description
1	Linear Actuator
2	Drop Feeder Control Unit
3	Drop Feeder
4	Pulley
5	Weight
6	Anti-Cable Wrap Ball
7	Minimum distance must be greater than distance of cable travel.
8	Flat Washer
9	Split Bolt
10	Cable

Figure 26. Weight Kit Assembly

Intermediate Control Installation

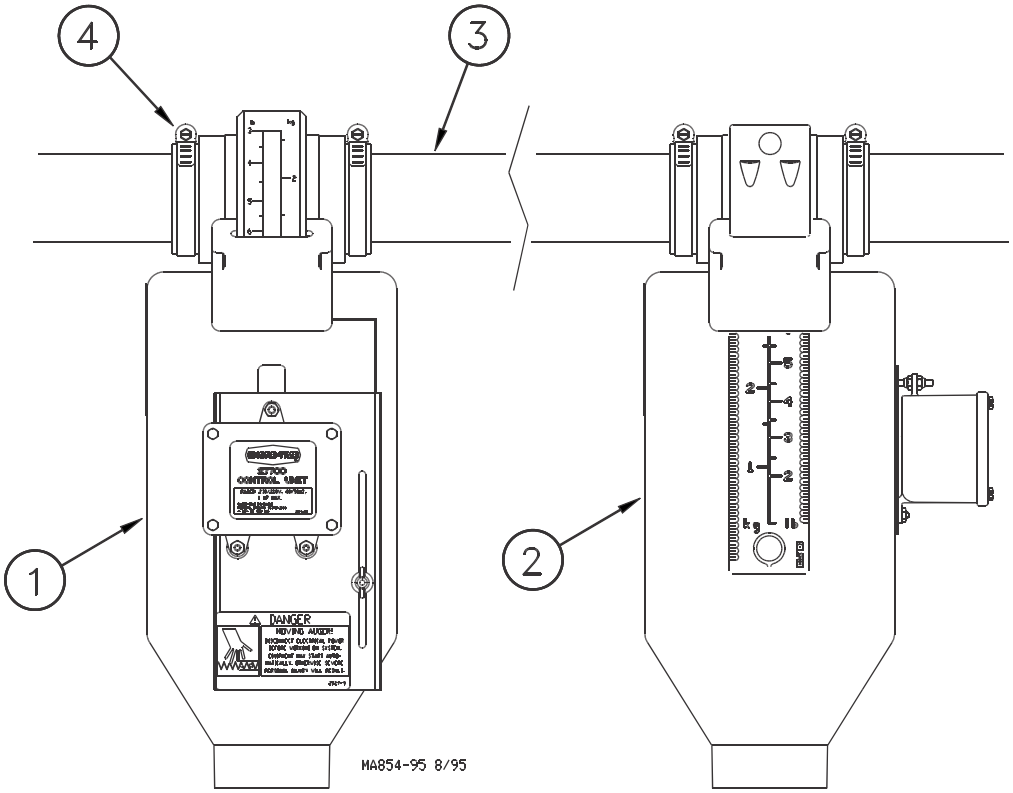
The Intermediate Control provides the user with the flexibility to fill only a partial row of feeders during population/depopulation times, etc.

The Intermediate Control is installed on the feeder line, similar to a standard Drop Feeder. However, the Intermediate Control includes a switch (mechanical or proximity) to operate the system.

The Intermediate Control is installed similar to the MULTIFLO Control Unit (See **Figures 17 - 19** on pages 18 & 19).

The mechanical (left) and Proximity (right) Intermediate Drop Feeders are shown properly installed in **Figure 27**.

The Intermediate Control should be wired with a bypass switch to allow it to be used as a standard Drop Feeder when the system is to be controlled by the End Control Unit.



Key	Description
1	Mechanical Intermediate Drop Feeder Control Unit
2	Proximity Intermediate Drop Feeder Control Unit
3	Auger Tube
4	Adjustable Clamp

Figure 27. Intermediate Control Installation (front view)

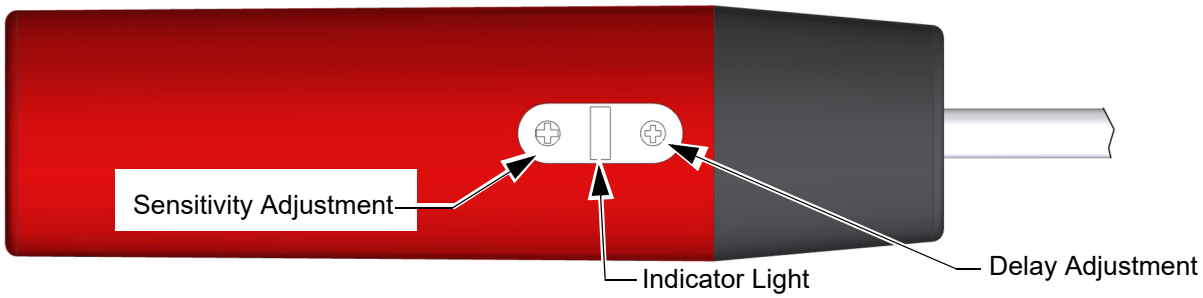
Setting the Proximity Switch Delay and Sensitivity

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

Use the small screwdriver provided to turn the Delay Adjustment. Turn the screw counterclockwise until the light stays on. Turn the adjustment screw clockwise one complete revolution. This sets the delay to 1 second.

To increase the delay, turn the adjustment screw clockwise.

Quick flashes = shorter time delay. Slow flashes = longer time delay



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.

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.

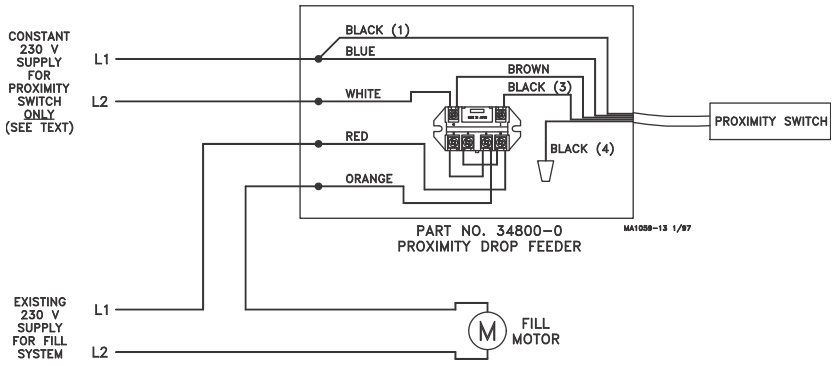
Installations using a Proximity Drop Feeder Control (part number 34800-0) instead of a mechanical Drop Feeder Control (part numbers 27700-0 or 30370-0) must be wired according to the wiring diagram provided.

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

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

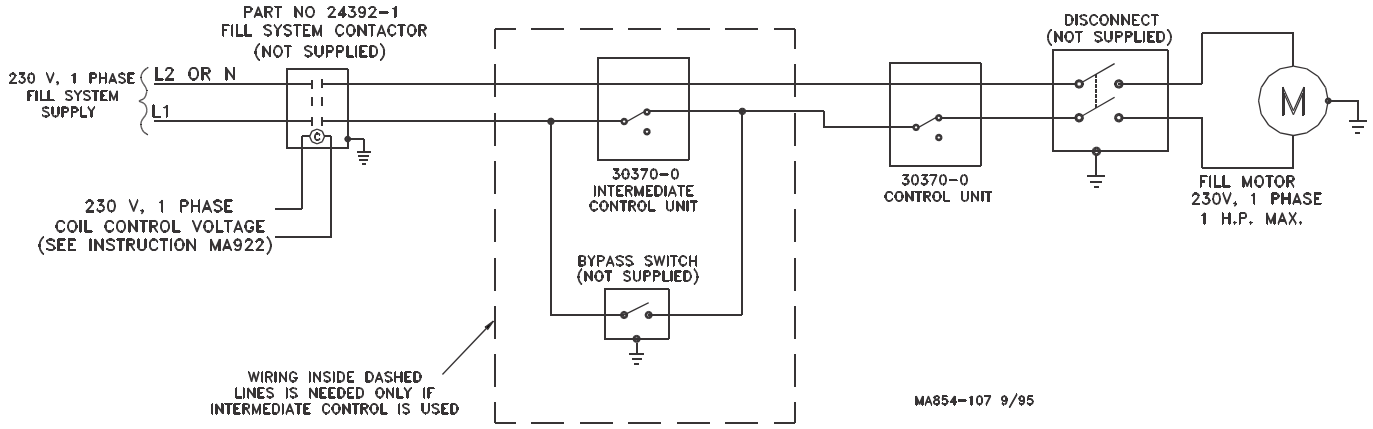
Internal Wiring forProximity Drop Feeder Control

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.



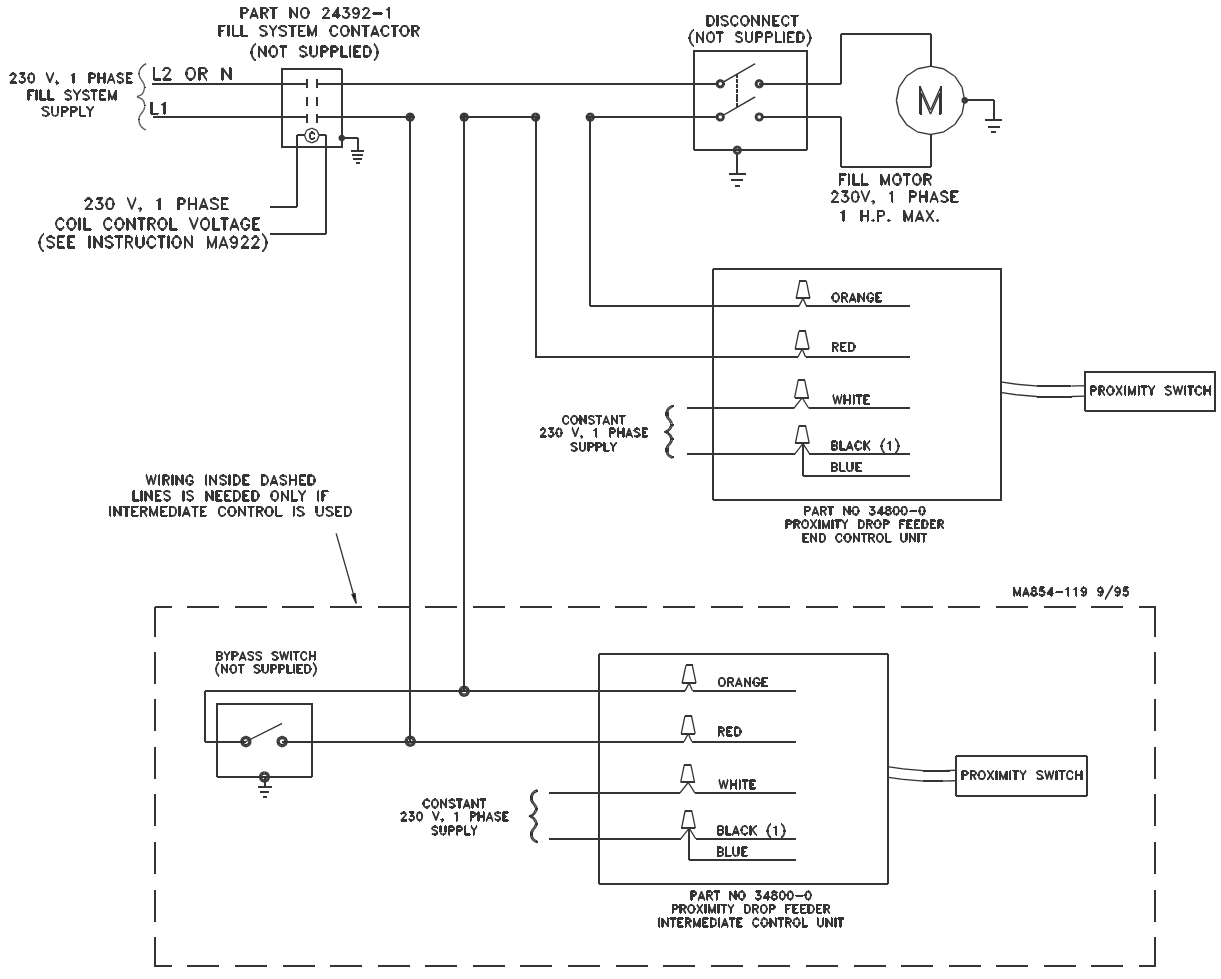
FLEX-AUGER® Drop Feeding System

Single Phase • 50/60 Hz • w/o Motor Starters • Mechanical Switch



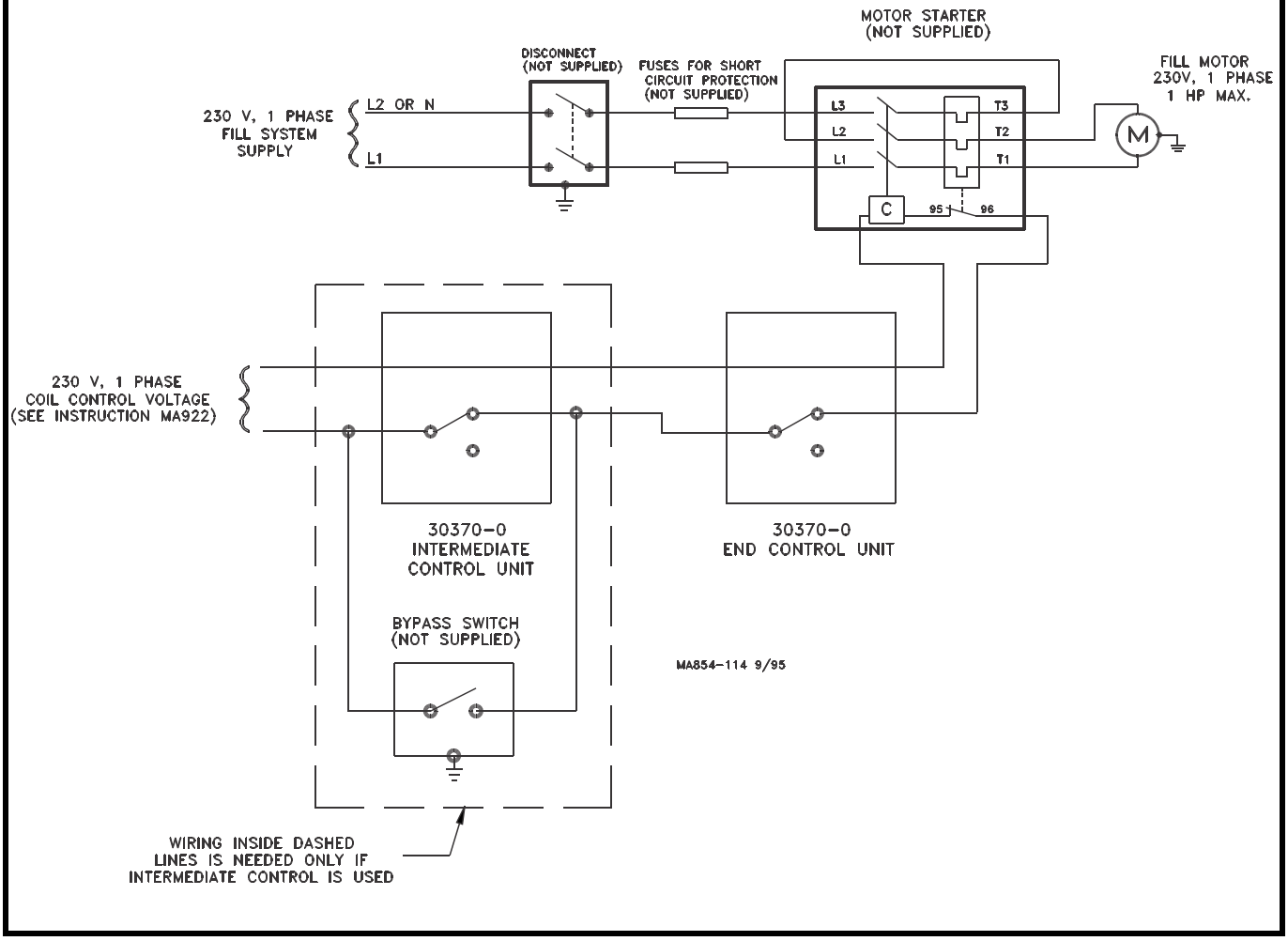
FLEX-AUGER® Drop Feeding System

Single Phase • 50/60 Hz • w/o Motor Starters • Proximity Switch



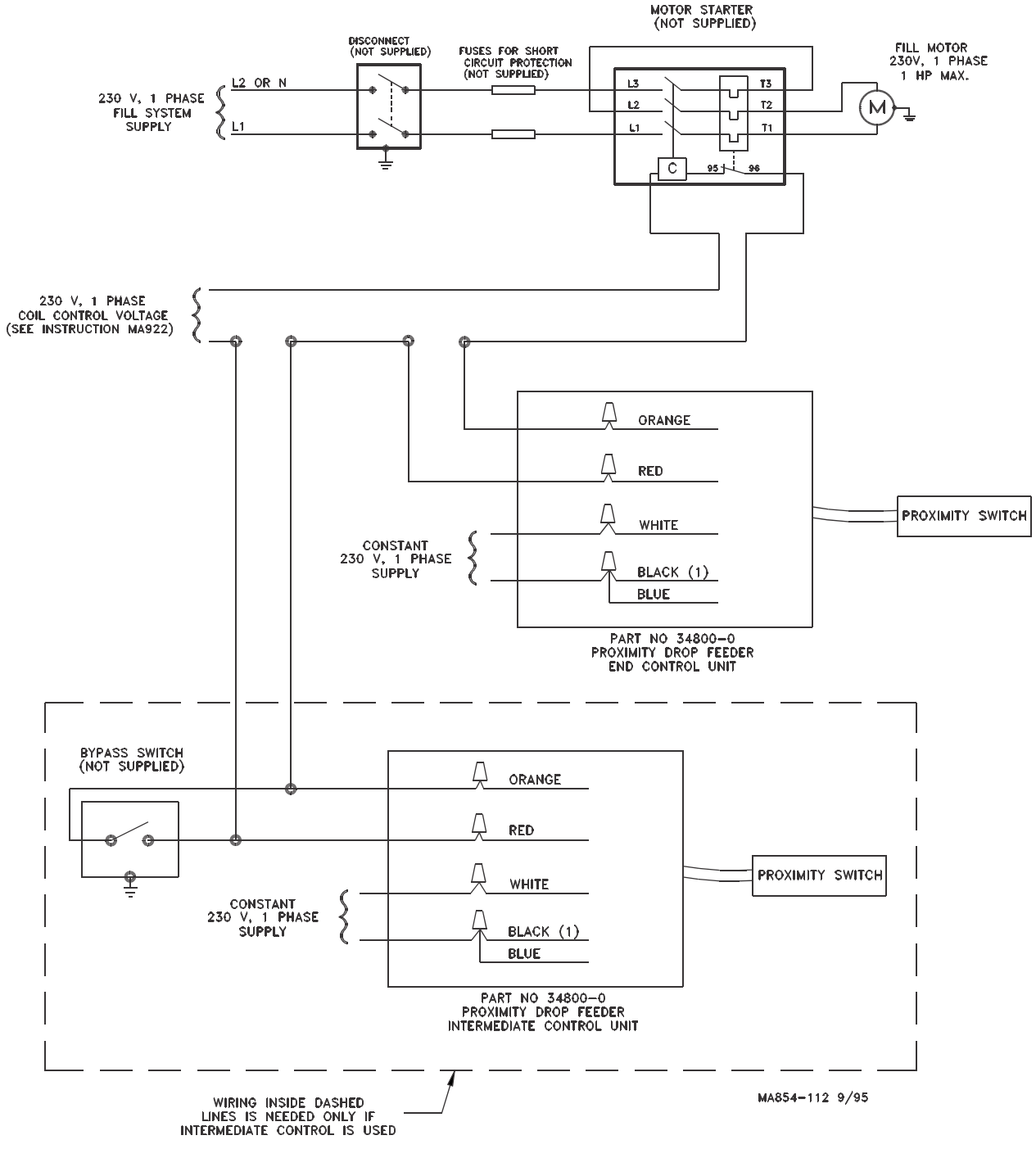
FLEX-AUGER® Drop Feeding System

Single Phase • 50/60 Hz • w/ Motor Starters • Mechanical Switch



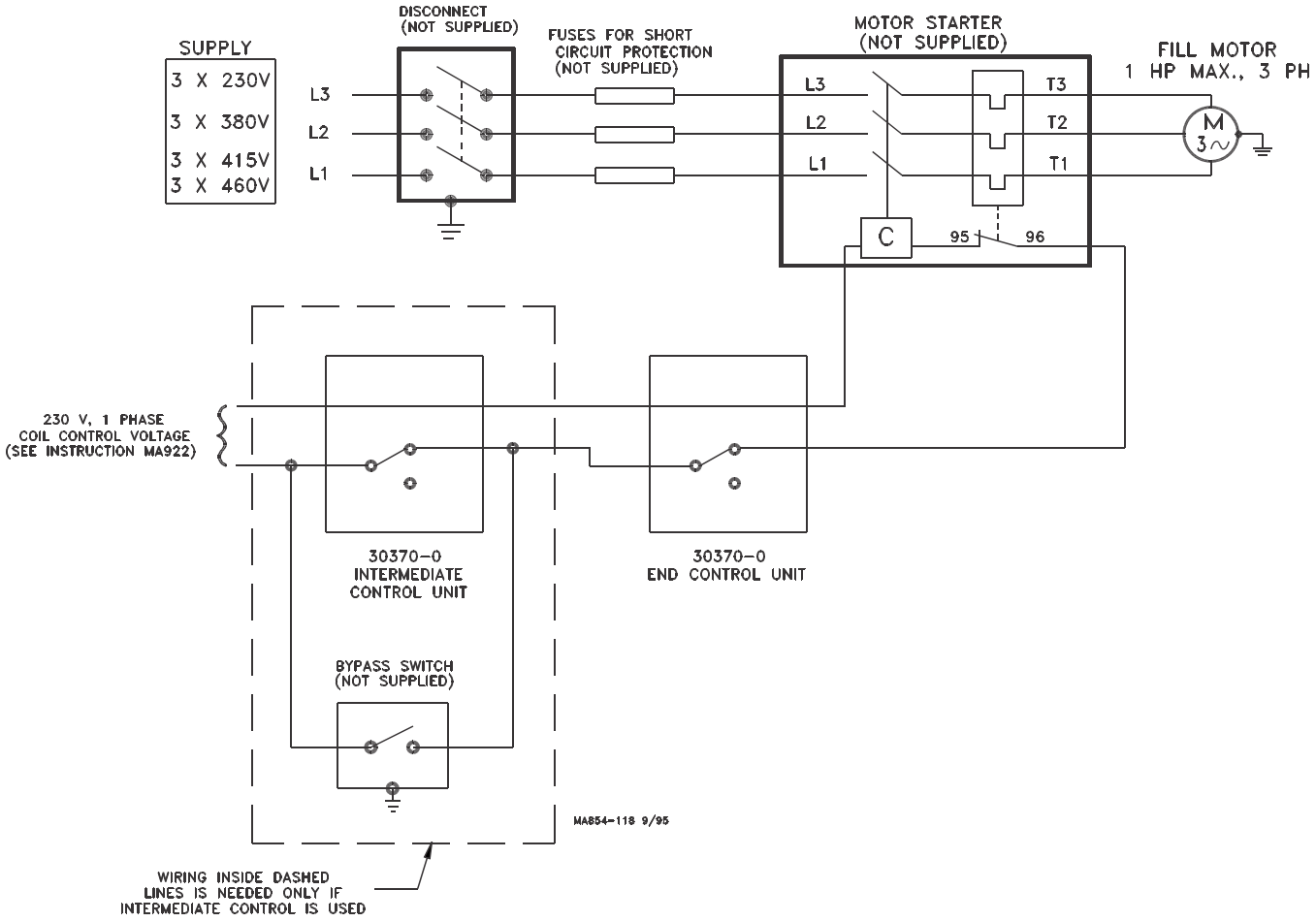
FLEX-AUGER® Drop Feeding System

Single Phase • 50/60 Hz • w/ Motor Starters • Proximity Switch



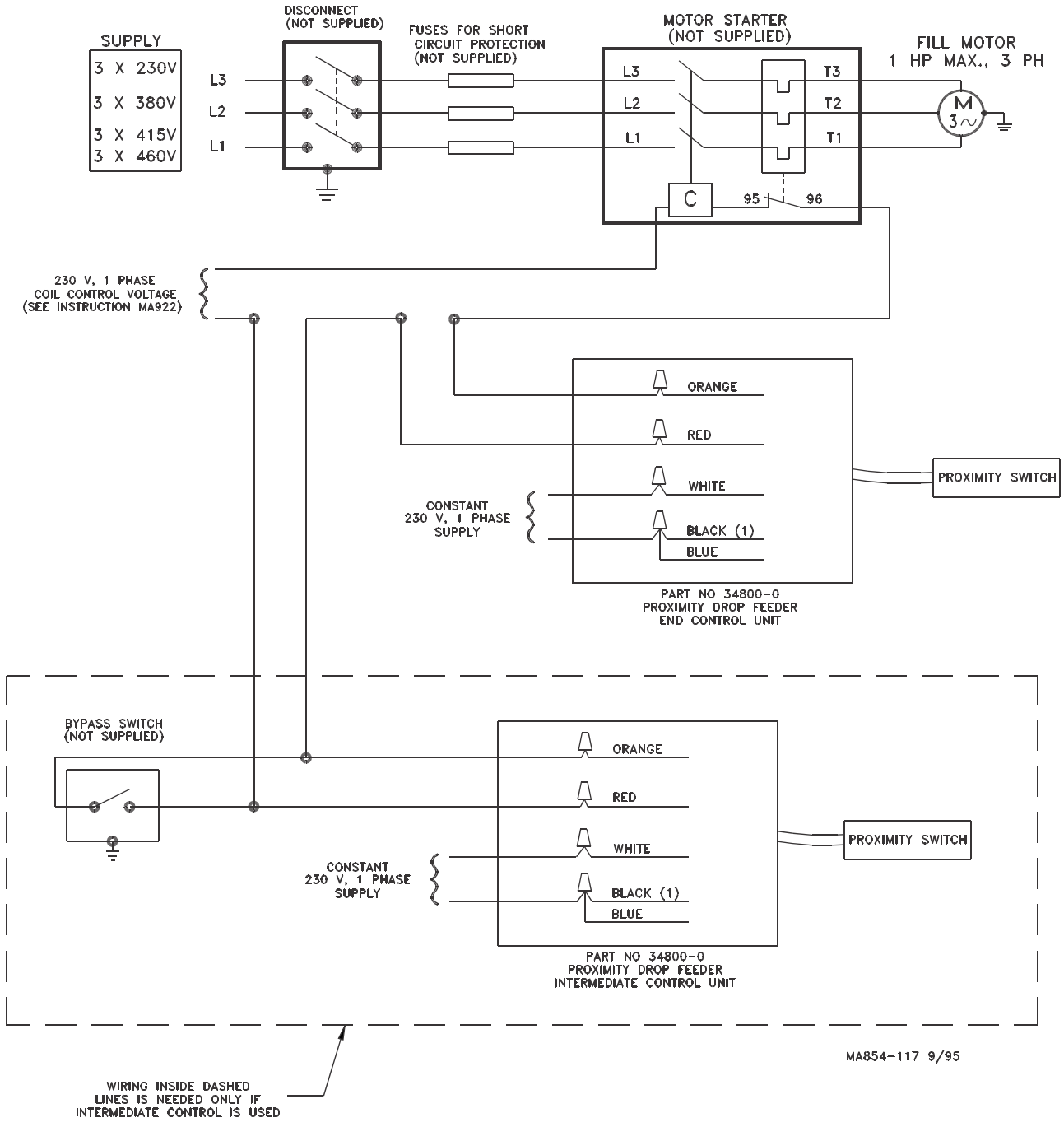
FLEX-AUGER® Drop Feeding System

Three Phase • 50/60 Hz • w/ Motor Starters • Mechanical Switch



FLEX-AUGER® Drop Feeding System

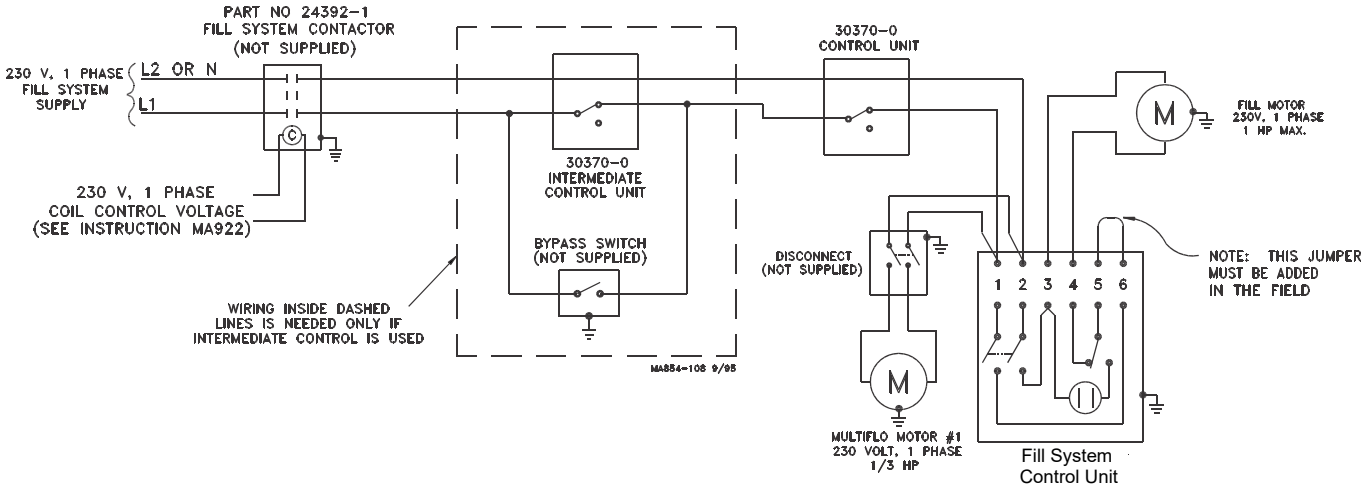
Three Phase • 50/60 Hz • w/ Motor Starters • Proximity Switch



MULTIFLO® Drop Feeding System

(with 1 H.P. or less)

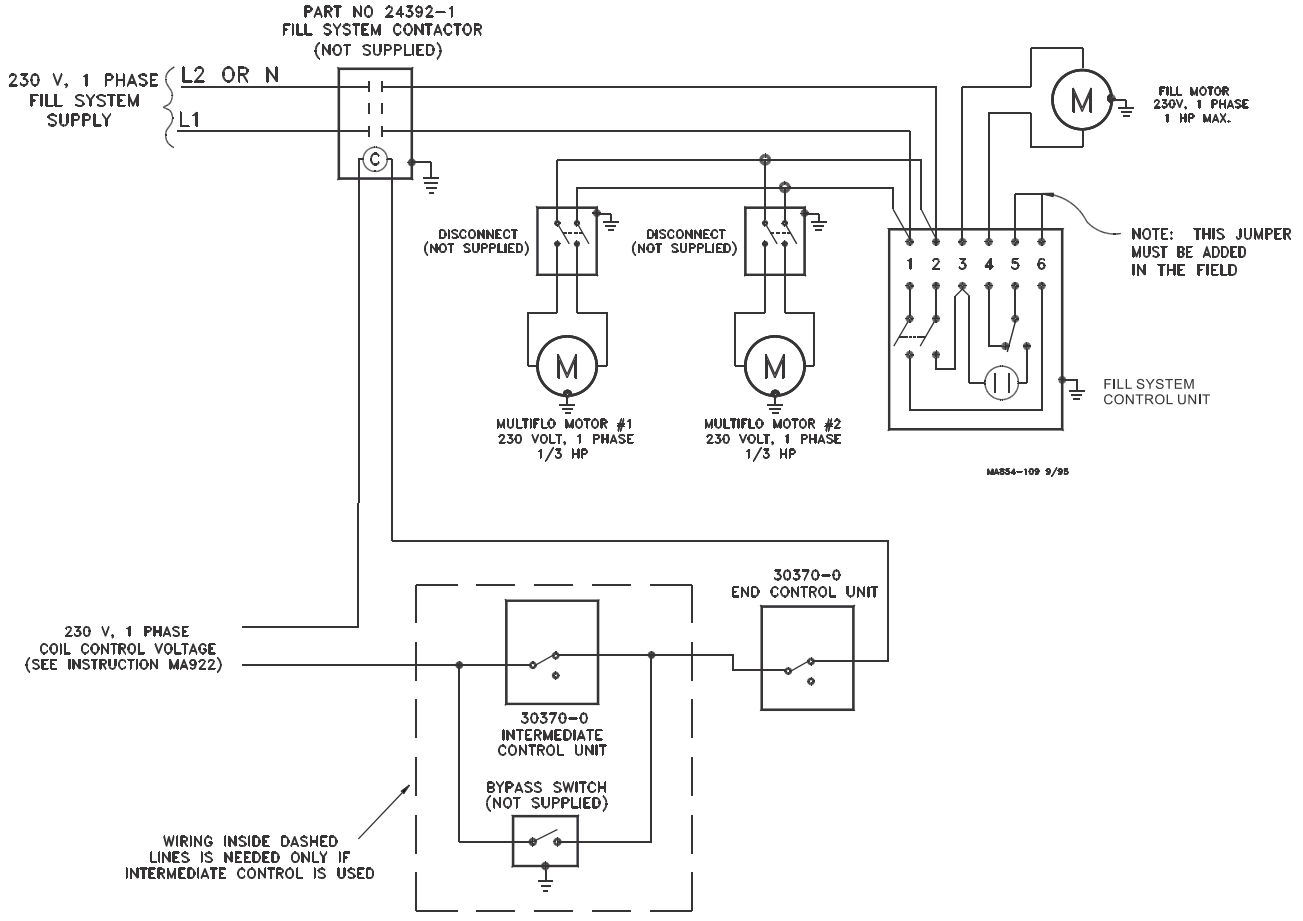
Single Phase • 50/60 Hz • w/o Motor Starters • Mechanical Switch



MULTIFLO® Drop Feeding System

(with more than 1 H.P.)

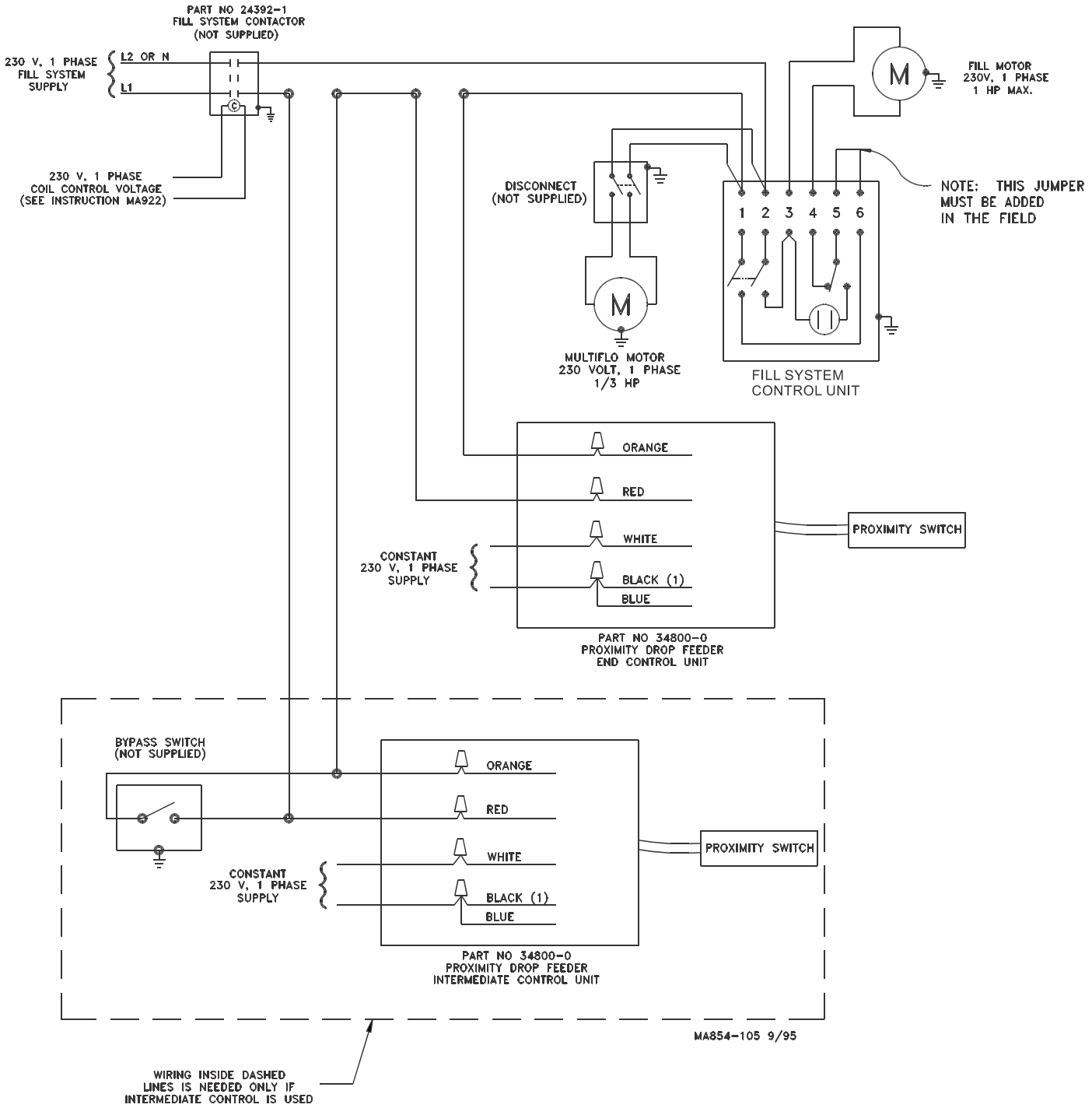
Single Phase • 50/60 Hz • w/o Motor Starters • Mechanical Switch



MULTIFLO® Drop Feeding System

(with 1 H.P. or less)

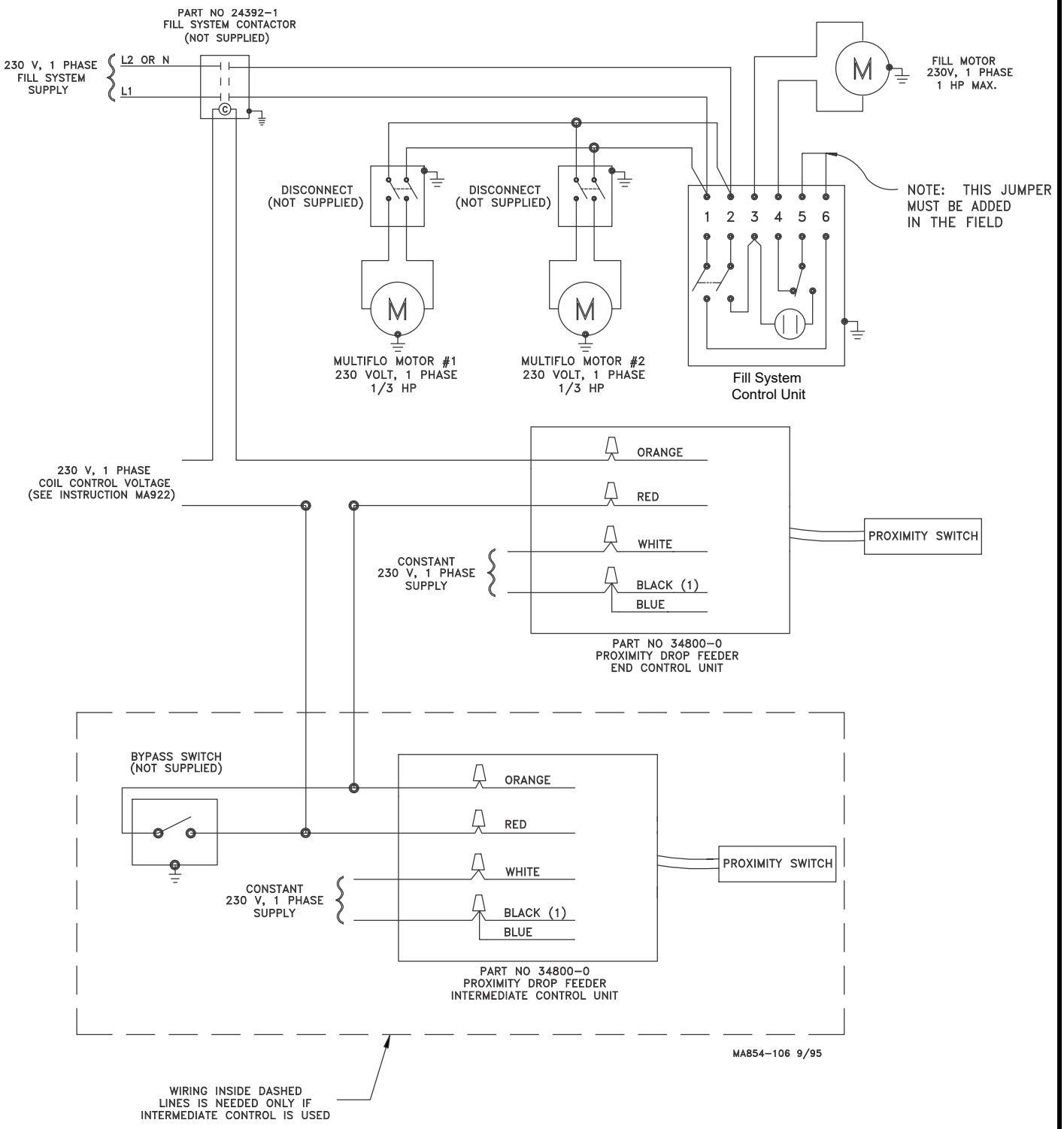
Single Phase • 50/60 Hz • w/o Motor Starters • Proximity Switch



MULTIFLO® Drop Feeding System

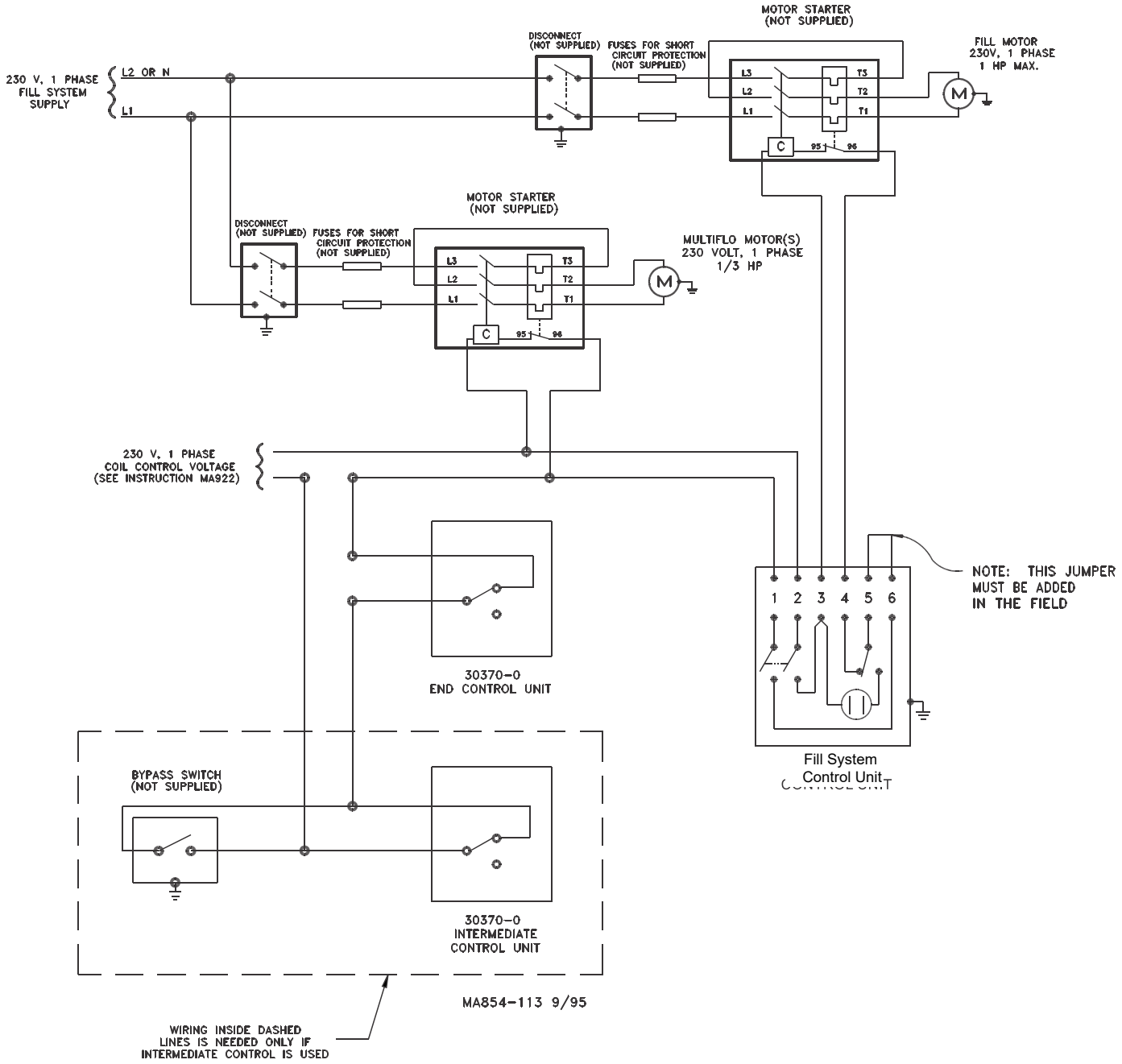
(with more than 1 H.P.)

Single Phase • 50/60 Hz • w/o Motor Starters • Proximity Switch



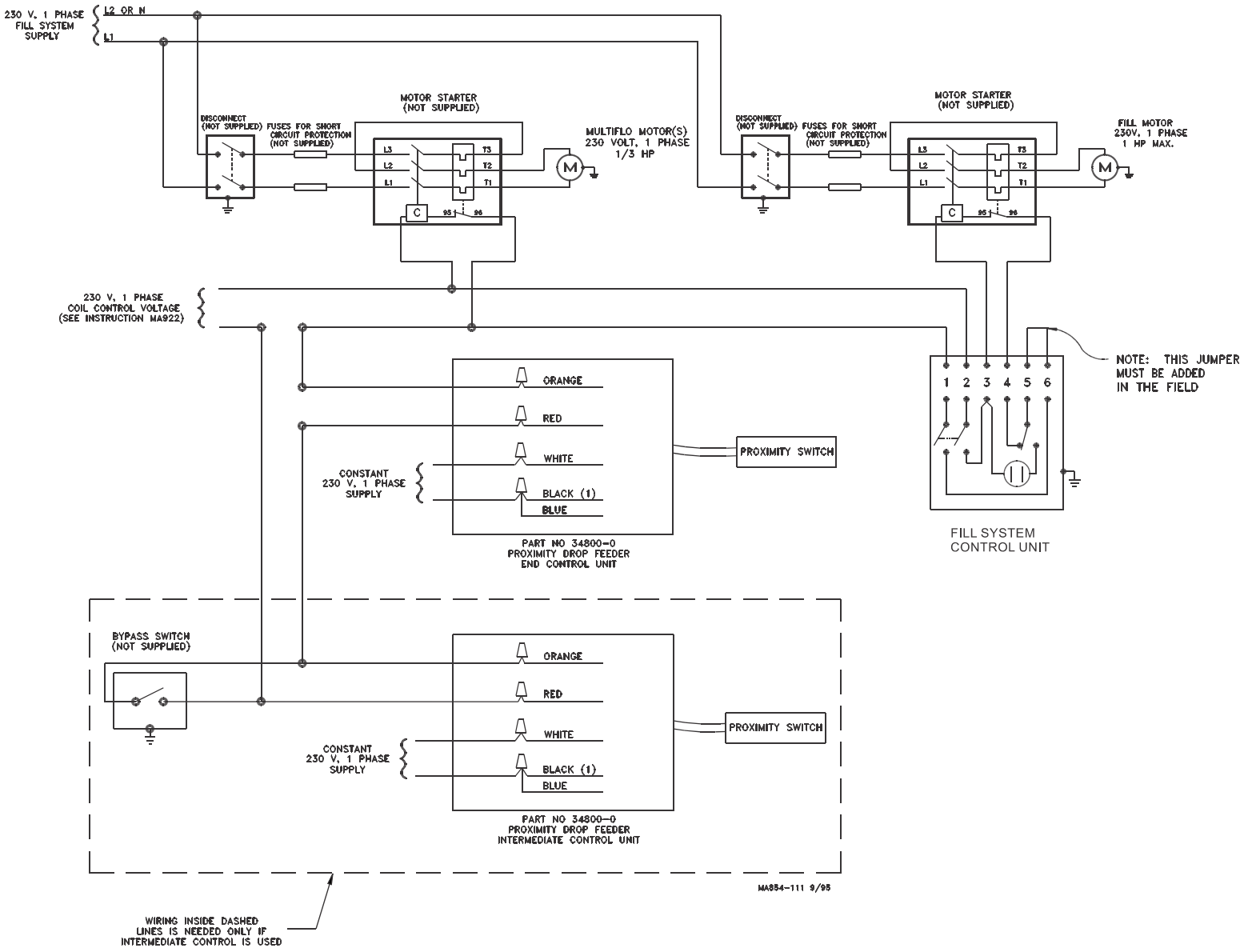
MULTIFLO® Drop Feeding System

Single Phase • 50/60 Hz • w/ Motor Starters • Mechanical Switch



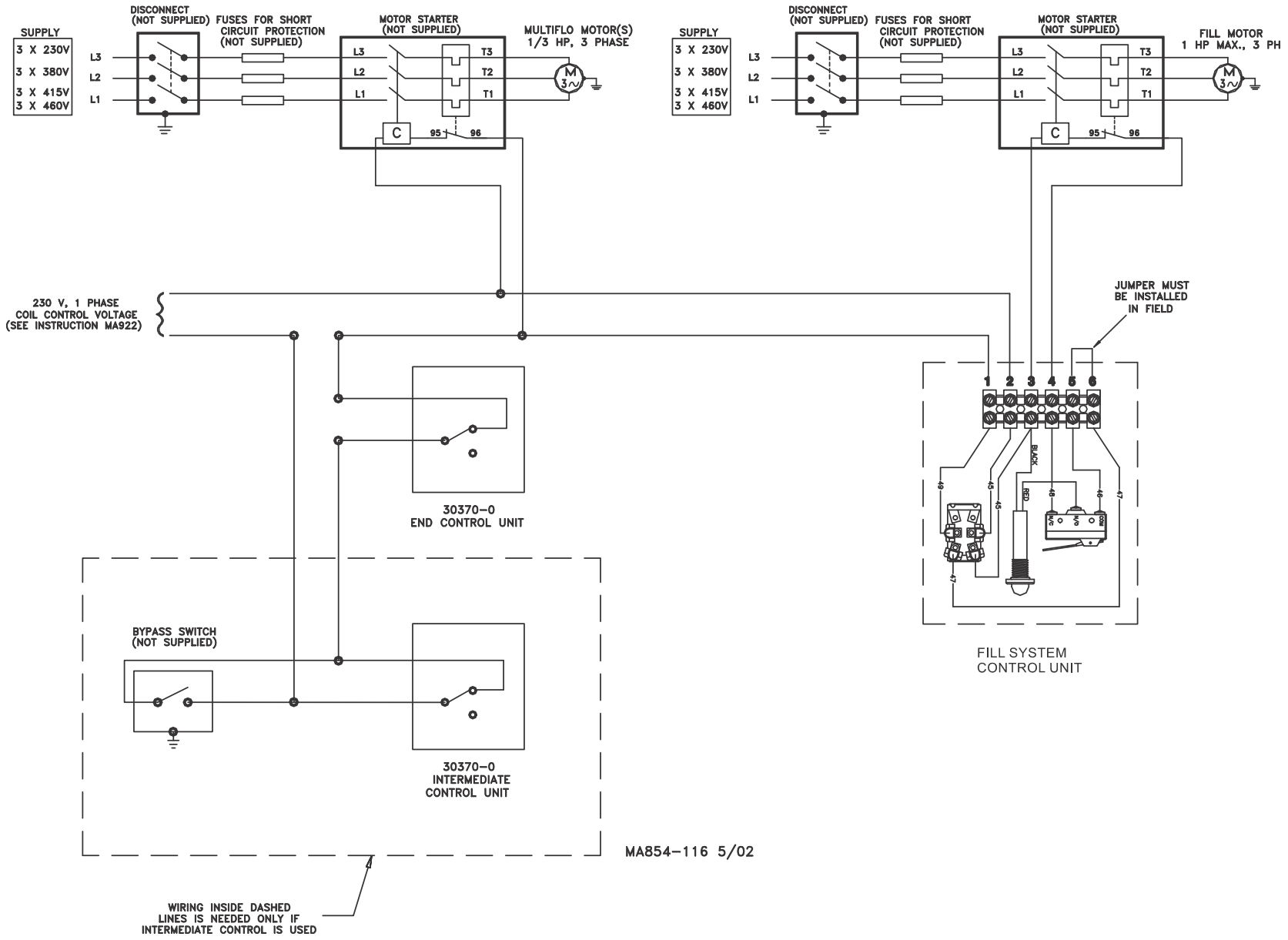
MULTIFLO® Drop Feeding System

Single Phase • 50/60 Hz • w/ Motor Starters • Proximity Switch



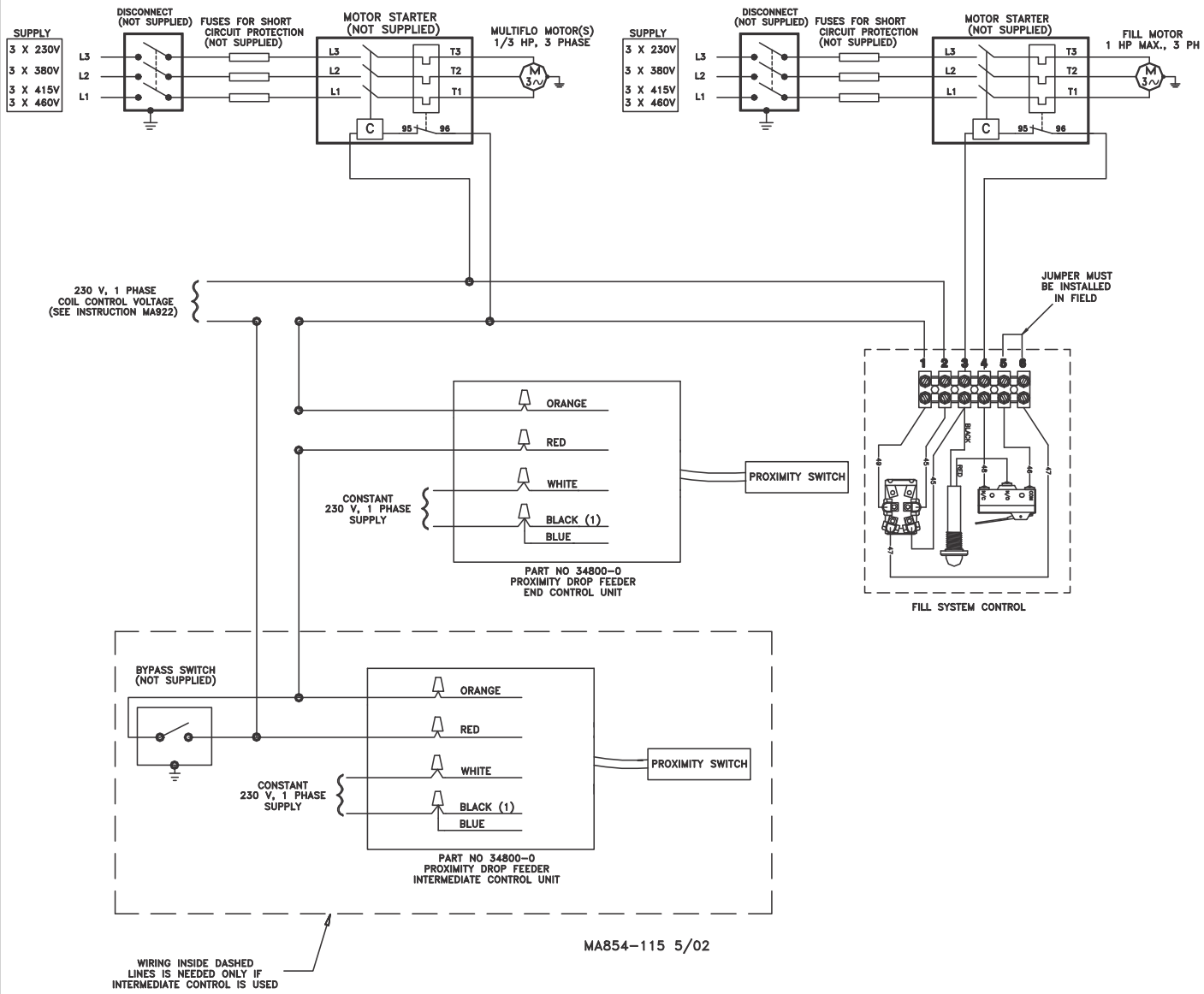
MULTIFLO® Drop Feeding System

Three Phase • 50/60 Hz • w/ Motor Starters • Mechanical Switch



MULTIFLO® Drop Feeding System

Three Phase • 50/60 Hz • w/ Motor Starters • Proximity Switch



Drop Feeder Drop Tube Options

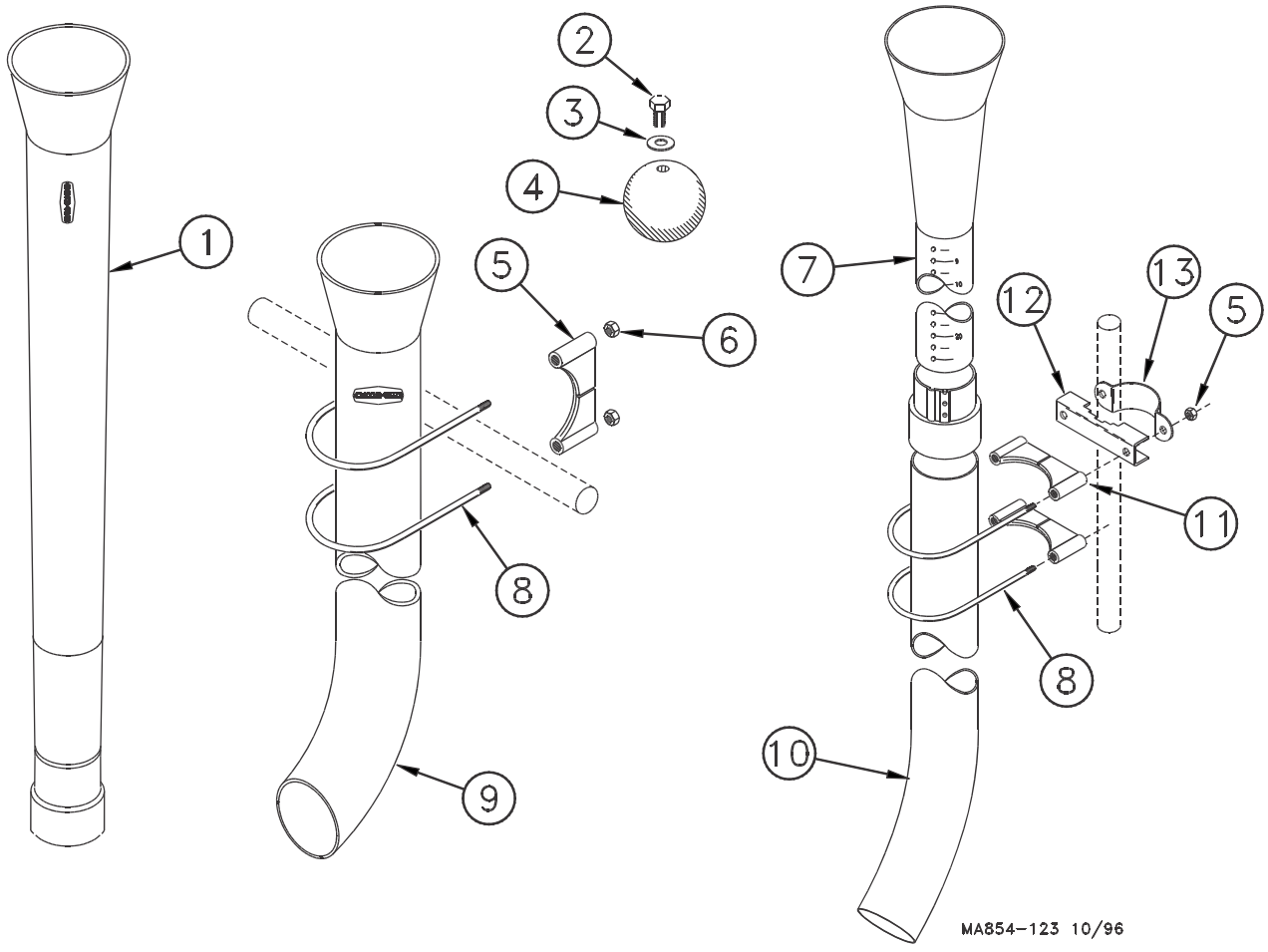
Key	Description	Part No.
1	Tapered Drop Tube	30053
2	3/8-16 Slotted Screw	6342
3	3/8" Washer	4967
4	Anti-Cable Wrap Ball	9717
5	Clamp	4135
6	1/4-20 Hex Nut	751
7	Adjustable Drop Tube	34408
8	1/4-20 "U" Bolt	6477
9	PVC Drop Tube--48" Length	8532-48
	PVC Drop Tube--58" Length	8532-58
10	Metal Drop Tube	38629
11	Tube Clamp Weldment	4139
12	Clamp Bracket	7821
13	Top Clamp	6630

Items 7 and 10 may be ordered as a 2 Piece Drop Tube under Part No. 38724.

Items 2, 3, and 4 are components of 9720 Anti-Cable Wrap Kit.

Items 6, 8, 11, 12, & 13 may be ordered as a Vertical Mounting Kit under Part No. 7566.

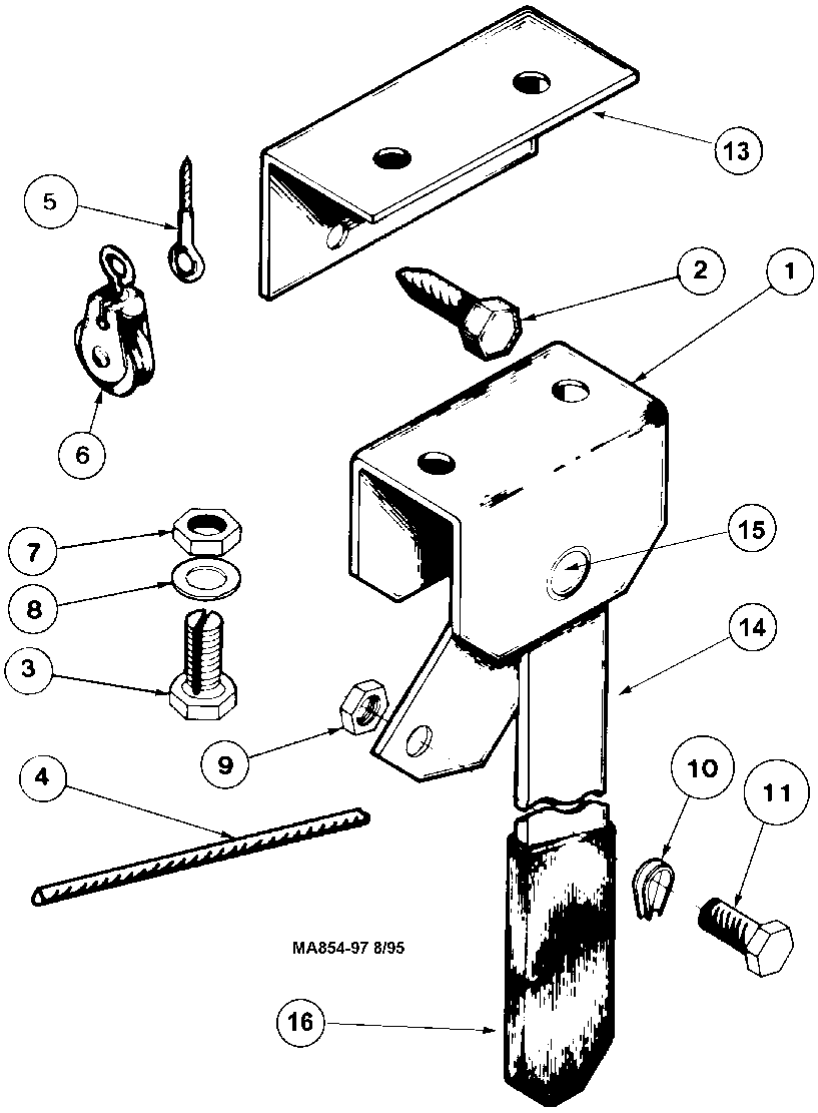
Items 5, 6, & 8 may be ordered as a Horizontal Mounting Kit under Part No. 6508.



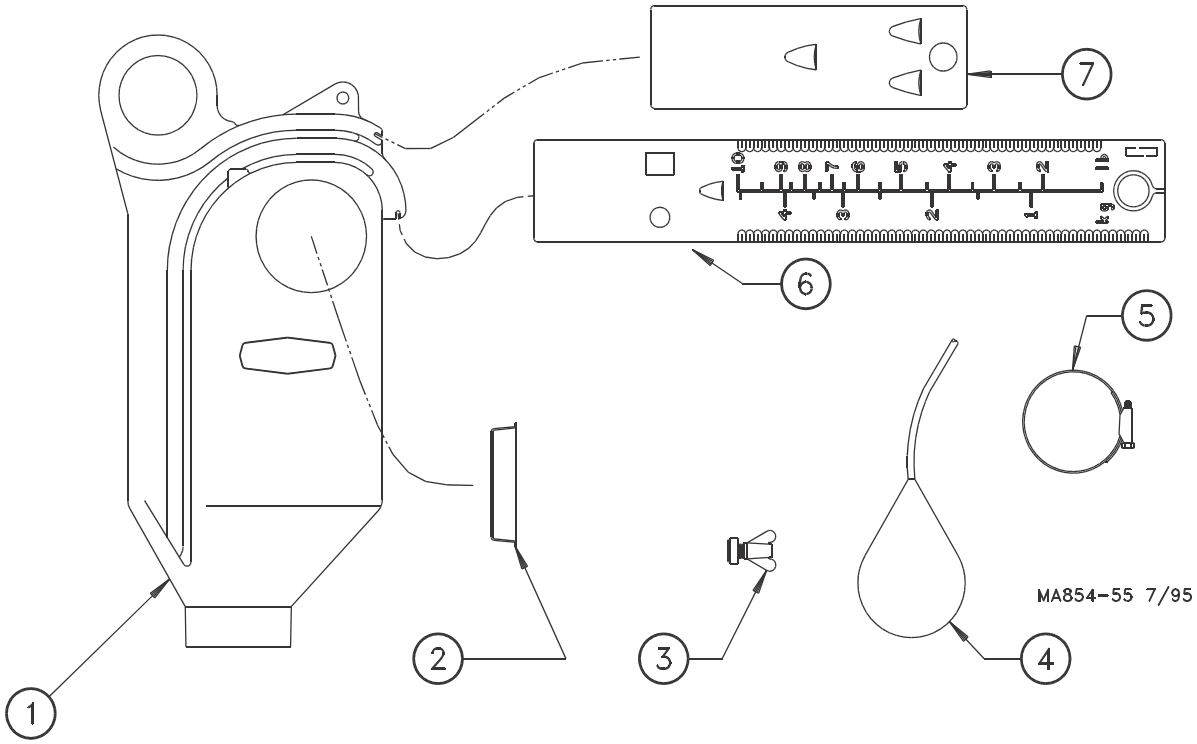
Miscellaneous Drop Feeder Components

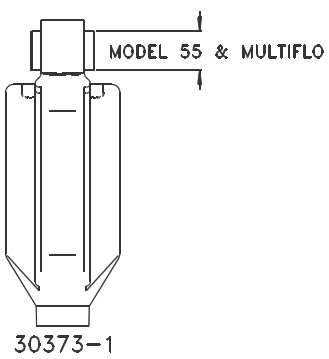
Key	Description	Part No.
1*	Trip Lever Body	4002
2*	5/16 x 2 Lag Screw	2050
3*	3/8-16 Slotted Screw	6342
4	1/8" Stainless Steel Cable	8580
5*	Screw Hook	1214
6*	Pulley	3004
7*	3/8-16 Hex Nut	1549
8*	3/8" Washer	4967
9*	5/16-18 Hex Nut	2145
10*	Thimble	6314
11*	5/16-18x1-1/2 Hex Head Screw	2150
13*	Mounting Plate	6313
14*	Lever Arm Weldment	6308
15*	Shaft	6312
16*	Handle Grip	6475

*These items may be ordered as an assembly under Part No. 6306.

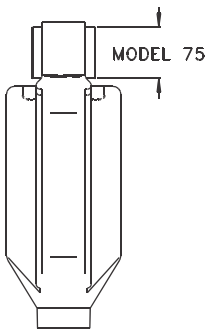


Plastic Drop Feeder Components

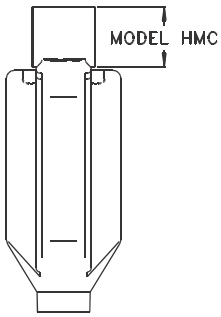




30373-1



30373-2



30373-3

Key	Description	Model 55/ Multiflo Part No.	Model 75 Part No.	Model HMC Part No.
1	Drop Feeder	30373-1	30373-2	30373-3
2	Hole Plug	9965	9965	9965
3	Cable Clamp	13057	13057	13057
4	Dump Ball Assembly	6296	6296	6296
5	Hose Clamp	8643	6183	6183
6	Adjustment Slide	33884	33884	33884
7	Shut-off Slide	26138	26138	26138

Complete Assembly for Model 55 FLEX-AUGER Drop Feeding System and MULTIFLO Drop Feeding System is CHORE-TIME Part No. **30361-1**.

Complete Assembly for Model 75 FLEX-AUGER Drop Feeding System is CHORE-TIME Part No. **30361-2**.

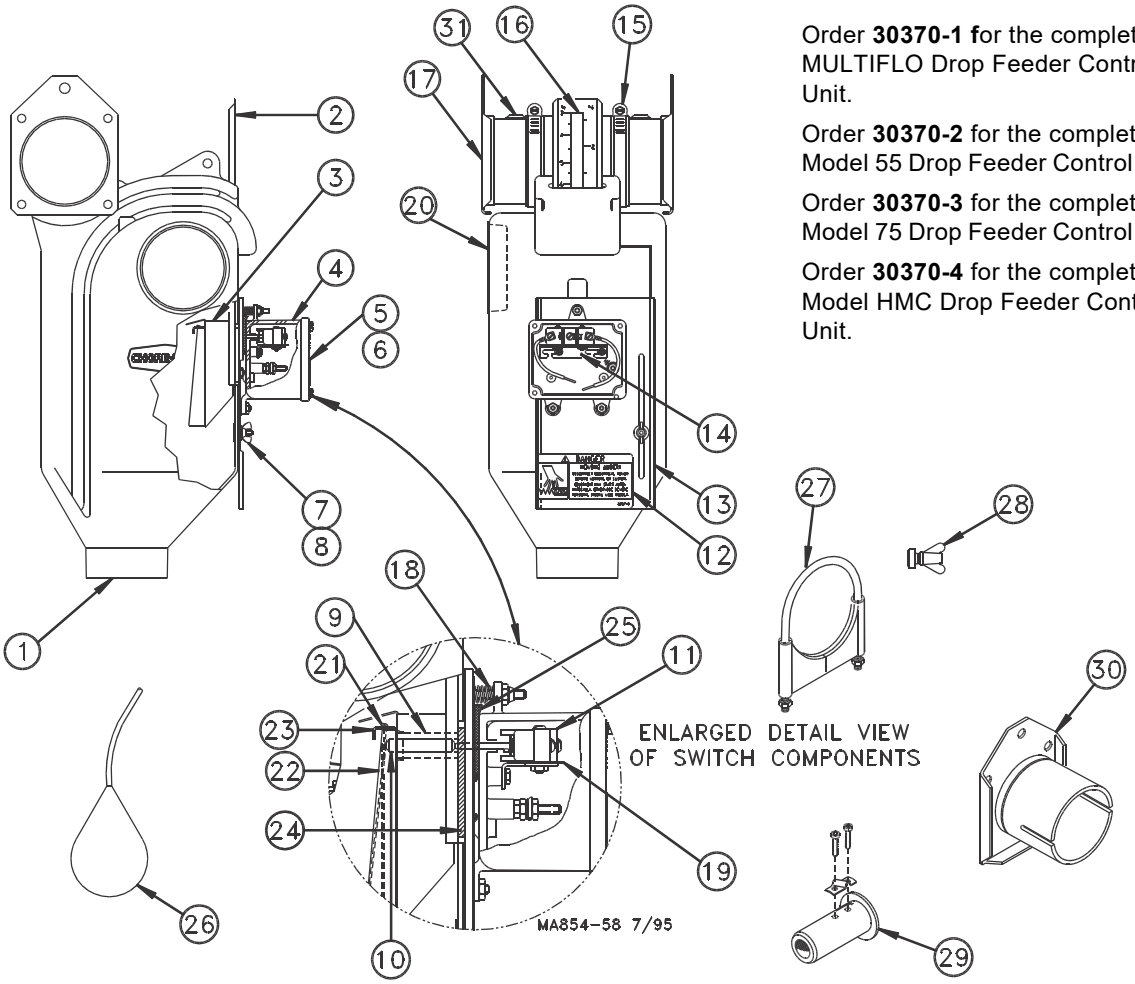
Assembly for HIGH MOISTURE CORN FLEX-AUGER Drop Feeding System is CHORE-TIME Part No. **30361-3**.

Mechanical Drop Feeder Control Units

(for FLEX-AUGER® & MULTIFLO® Systems)

Key	Description	Part No.	Key	Description	Part No.
1	Drop Feeder (MULTIFLO)	30373-4	19	Switch Insulation	1907-5
	Drop Feeder Model 55, 75, HMC)	30373-5	20	Hole Plug	9965
2	Brace	27705	21*	Paddle	27707
3	Diaphragm Mount Assembly	27795	22*	Paddle Cover	27708
4	Switch Box	7841	23*	Diaphragm Assembly	27702
5	Gasket	6777	--*	Mounting Bracket (for Diaphragm)	27709
6	Cover	6776	24	Spacer	27704
7	Adjustment Stud	27701	25	Gasket	6968-1
8	10-24 Wing Nut	23101	26	Dump Ball Assembly	6296
9	Sleeve	27699	27	Tube Clamp Kit (Model 55)	35726
10	Actuator Pin	27698		Tube Clamp Kit (Model 75)	6515
11	Actuator Switch	46091		Tube Clamp Kit (Model HMC)	6721
12	Danger Decal	2527-9	28	Cable Clamp	13057
13	Adjustment Plate	27706	29	Driver Assembly (Model 75, HMC)	6862
14	Switch Mount Bracket	46122	30	Tube Anchor (Model 55)	35531
15	Clamp (Model 55, 75, HMC)	6183		Tube Anchor (Model 75)	6518
	Clamp (MULTIFLO)	8643		Tube Anchor (Model HMC)	7862
16	Adjustment Decal	2526-269	31	Hole Plug	35862
17	Control Tube (Model 55, 75, HMC)	9963	--	Danger Decal	2527-35
18	Spring	6972			

*Components of Item # 3.



Order **30370-1 f**or the complete MULTIFLO Drop Feeder Control Unit.

Order **30370-2** for the complete Model 55 Drop Feeder Control Unit.

Order **30370-3** for the complete Model 75 Drop Feeder Control Unit.

Order **30370-4** for the complete Model HMC Drop Feeder Control Unit.

Proximity Drop Feeder Control Units

(for FLEX-AUGER® Systems only)

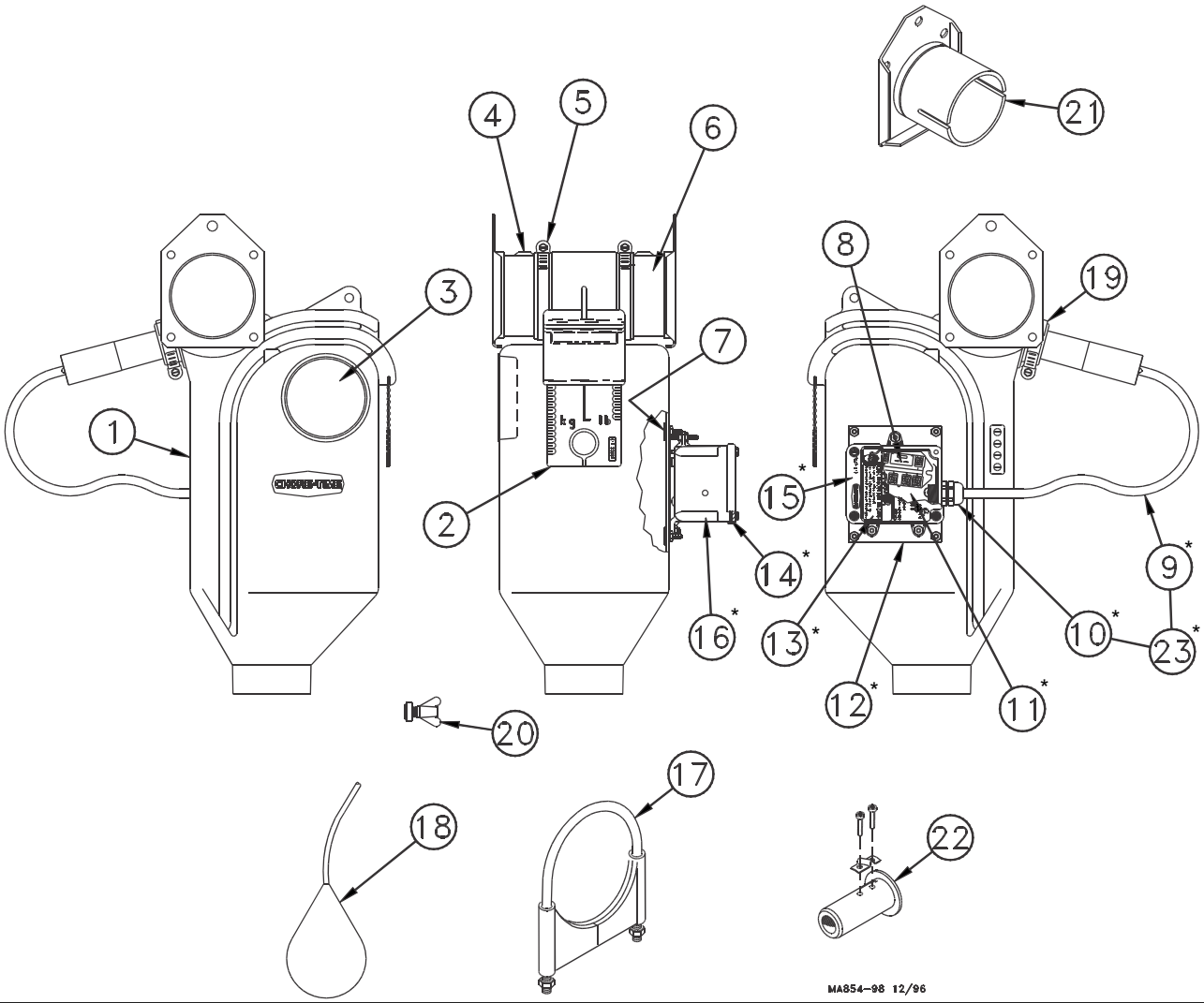
Key	Description	Part No.	Key	Description	Part No.
1	Drop Feeder Model 55, 75, HMC)	34856-8	15*	Switch Box Cover	6776
2	Adjustment Slide (Hot Stamped)	33884	16*	Switch Box	34858
3	Hole Plug	9965	17	Tube Clamp (Model 55)	35726
4	Hole Plug	35862		Tube Clamp (Model 75)	6515
5	Hose Clamp	6183		Tube Clamp (Model HMC)	6721
6	Control Tube	9963	18	Dump Ball Assembly	6296
7	Adjustment Stud	27701	19	Adjustment Clamp	3527
8	240 V. Relay	28904	20	Cable Clamp	13057
9*	Proximity Switch	34255	21	Tube Anchor (Model 55)	35531
10*	1/2” Liquid Tight Connector	23779		Tube Anchor (Model 75)	6518
11*	Box Plate	24321		Tube Anchor (Model HMC)	7862
12*	Relay Mount Plate	28701	22	Driver Assembly (Model 75, HMC)	6862
13*	Danger Decal	2529-426	23*	Proximity Switch Assembly	34857
14*	Gasket	6777			

Order **34800-10** for the complete (Proximity) Model 55 Drop Feeder Control Unit.

Order **34800-11** for the complete (Proximity) Model 75 Drop Feeder Control Unit.

Order **34800-12** for the complete (Proximity) Model HMC Drop Feeder Control Unit.

*Items may be purchased as a **46905** Switch Assembly



MULTIFLO® Drop Feeder Control Unit & Intermediate Drop Feeder Control Units

Key	Description	Part No.	Key	Description	Part No.
1	Drop Feeder (MULTIFLO, Mod. 55)	34856-5	10*	1/2” Liquid Tight Connector	23779
	Drop Feeder (Model 75)	34856-6	11*	Box Plate	24321
	Drop Feeder (Model HMC)	34856-7	12*	Relay Mount Plate	28701
2	Adjustment Slide (Hot Stamped)	33884	13*	Danger Decal	2529-426
3	Hole Plug	9965	14*	Gasket	6777
4*	Proximity Switch Assembly	34857	15*	Switch Box Cover	6776
5	Hose Clamp (MULTIFLO, Mod. 55)	8643	16*	Switch Box	34858
	Hose Clamp (Model 75, HMC)	6183	17	Dump Ball Assembly	6296
6	Cable Clamp	13057	18	Adjustment Clamp	3527
7	Adjustment Stud	27701			
8	240 V. Relay	28904			
9*	Proximity Switch	34255			

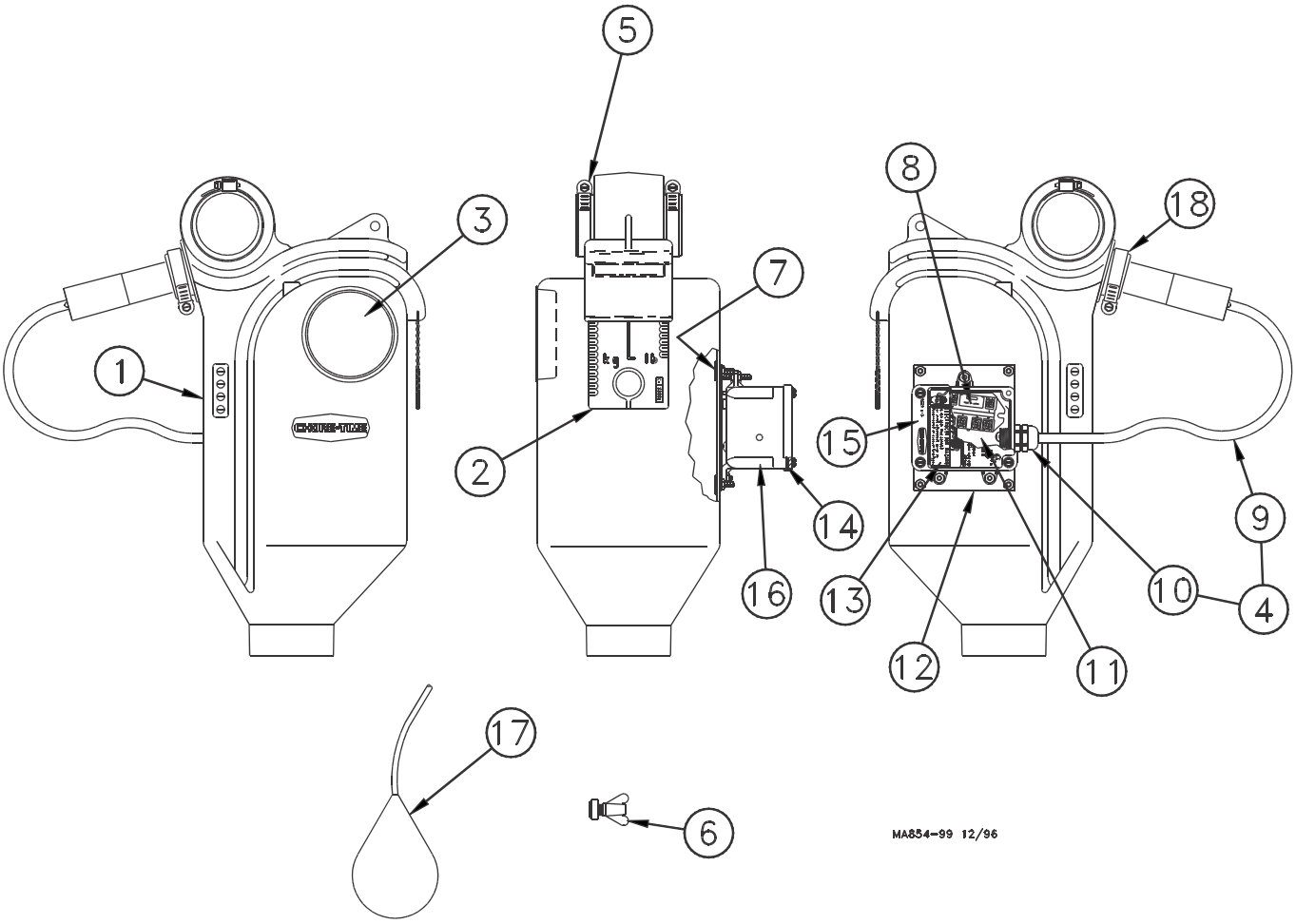
Order **34800-7** for the complete (Proximity) MULTIFLO Drop Feeder Control Unit.

Order **34800-7** for the complete (Proximity) Model 55 Intermediate Drop Feeder Control Unit.

Order **34800-8** for the complete (Proximity) Model 75 Intermediate Drop Feeder Control Unit.

Order **34800-9** for the complete (Proximity) Model HMC Intermediate Drop Feeder Control Unit.

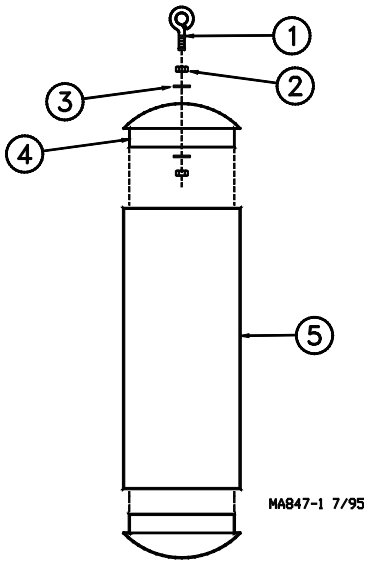
*Items may be purchased as a **46905** Switch Assembly



Weight Kit

Part No. 26051

Key	Description	Part No.
1	Eyebolt	22911
2	1/4-20 Locknut	1269
3	Flat Washer	3239
4	Cap	24926
5	Weight Tube	26052



Trouble Shooting Guide

Problem	Possible Cause	Corrective Action
Delivery System will not run.	No power to the system	Check circuits, fuses and on-off switches on equipment.
	Motor overloaded and stopped	Check for foreign material in line, push reset button.
	Control not calling for feed.	Check Control setting and function. See Control section in this manual.
	Motor defective	Replace motor.
Delivery System will not stop.	Switch incorrectly installed, out of adjust., or faulty	Repair or replace switch, check for power to switch.
	Ball Valves stuck unseated, allowing a feed spill.	Adjust cords to properly seat Ball Valves.
	Feed flow problem (feed bridged in bin, empty, etc.)	Check feed bin for bridging and feed.
Ball Valves do not lift when actuated.	Ball Valve Cords not properly attached to main cable.	Refer to applicable section in manual. Make sure cords are securely clamped to cable.
	Cable is stretching.	Pull excessive stretch out of the cable.
Poor feed dropout or unable to pull Trip Lever	Cable or cable clamps catching somewhere along line.	Adjust or remove interfering object(s).
	Too many Drop Feeders on one line.	See manual for max. feeders per line.
	Trip Lever not correctly installed.	Refer to Trip Lever Installation section in this manual. Pull should be in the direction of feeder line.
Ball Valves do not close	Cable wrap.	Install Anti-Wrap Balls near each end of cable line.
	Cable or cable clamps catching somewhere along line.	Adjust or remove interfering object(s).
	Cable tracked off pulleys	Reinstall cable on pulleys.
Linear Actuator will not start. See Linear Actuator Manual.	Control not calling for feed.	Check Control setting and function. See Control section in this manual.
	Switches (in Linear Actuator) out of adjustment or damaged.	Reset switches, according to page 45 of this manual. Replace switches if necessary. Reset new switches.
	Control Panel Failure	Repair or replace Control Panel
Drop Feeder Control not properly controlling sys.	Faulty wiring.	Refer to wiring diagrams in this manual.
	Defective Drop Feeder Control Unit Switches.	Repair or replace Drop Feeder Control.

For other problems associated with the Fill System. Refer to the Fill System Trouble-Shooting Guide.

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THANK-YOU for purchasing a Chore-Time Drop Feeding System.

MADE TO WORK.

BUILT TO LAST.®

Revisions to this Manual

Page No.	Description of Change	ECO
26	Updated Sensor Graphic (34255)	33284

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

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