

Warranty Information

Chore-Time Equipment, a division of CTB, Inc., ("Chore-Time") warrants each new CHORE-TIME® product manufactured by it to be free from defects in material or workmanship for one year from and after the date of initial installation by or for the original purchaser. If such a defect is found by the Manufacturer to exist within the one-year period, the Manufacturer will, at its option, (a) repair or replace such product free of charge, F.O.B. the factory of manufacture, or (b) refund to the original purchaser the original purchase price, in lieu of such repair or replacement. Labor costs associated with the replacement or repair of the product are not covered by the Manufacturer.

CONDITIONS AND LIMITATIONS

1. The product must be installed by and operated in accordance with the instructions published by the Manufacturer or Warranty will be void.

2. Warranty is void if all components of the system are not original equipment supplied by the Manufacturer.

3. This product must be purchased from and installed by an authorized distributor or certified representative thereof or the Warranty will be void.

4.Malfunctions or failure resulting from misuse, abuse, negligence, alteration, accident, or lack of proper maintenance shall not be considered defects under the Warranty.

5. This Warranty applies only to systems for the care of poultry and livestock. Other applications in industry or commerce are not covered by this Warranty.

The Manufacturer shall not be liable for any consequential or special damage 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.

THIS WARRANTY CONSTITUTES THE MANUFACTURER'S ENTIRE AND SOLE WARRANTY AND THIS MANUFACTURER EXPRESSLEY DISCLAIMS ANY AND ALL OTHER WARRANTIES, INCLUD-ING, BUT NOT LIMITED TO, EXPRESS AND IMPLIED WARRANTIES AS TO MERCHANTIBILITY, FIT-NESS FOR PARTICULAR PURPOSES SOLD AND DESCRIPTION OR QUALITY OF THE PRODUCT FURNISHED HEREUNDER.

Chore-Time Distributors are not authorized to modify or extend the terms and conditions of this Warranty in any manner or to offer or grant any other warranties for Chore-Time products in addition to those terms expressly stated above.

An officer of CTB, Inc. must authorize any exceptions to this Warranty in writing. The Manufacturer reserves the right to change models and specifications at any time without notice or obligation to improve previous models.

Effective 01/2002

Chore-Time Equipment A Division of CTB, Inc. P.O. Box 2000 * Milford, Indiana 46542-2000 * U.S.A. Phone (574) 658-4101 * Fax (574) 658-4171 Email: ctb@ctbinc.com * Internet: http//www.ctbinc.com

Thank You

The employees of Chore-Time Equipment would like to thank your for your recent Chore-Time purchase. If a problem should arise, your Chore-Time distributor can supply the necessary information to help you.

Table of Contents

| Торіс | Page | User |
|--|--|--|
| Warranty Information | 2 | C, D |
| Safety Information | 4-5 | C, I |
| General Information, Specifications & Capabilities | 6 | C, I |
| Supplier Information and Required Tools | 7 | I |
| Component Identification | 8 | C, D, I |
| Drop Feeder General Information Capacities and Specifications | 7 7 | C, I C, I |
| Planning the System Drop Tube Options Manual Trip Lever Installations Linear Actuator Installations | 7 - 12 8 - 9 9 - 10 1 - 12 | C, D, I C, D, I C, D, I C, D, I |
| Drop Feeder Assembly and Installation 1 Assemble the Drop Feeder 1 Installation Procedure 1 Suspend the Feeders 1 Control Unit Installation (with FLEX-AUGER Systems) 1 Control Unit Installation (with MULTIFLO Systems) 1 Auger Installation 1 Drop Tube Installation 2 Trip Lever Installation 2 Weight Kit Assembly Instruction 2 Anti-Cable Wrap Ball 1 Intermediate Control Installation 2 Proximity Switch Operation 2 | 3 - 25 3 - 14 14, 15 6 - 18 8 - 19 9 - 20 0 - 21 2 - 23 23 24 25 26 26 | |
| Wiring the System | 6 - 38 26 7 - 31 2 - 38 | |
| Parts List 3 Drop Feeder Drop Tube Options 3 Miscellaneous Drop Feeder Components 3 Plastic Drop Feeder Components 3 Mechanical Drop Feeder Control Units (for FLEX-AUGER & MULTIFLO) 3 Proximity Drop Feeder Control Units (for FLEX-AUGER Systems only) 3 MULTIFLO Drop Feeder Control Unit & Intermediate Drop Feeder Ctrl. Unit 3 Weight Kit (Part No. 26051) 3 Trouble-Shooting Guide 3 | 9 - 45 39 40 41 42 43 s 44 45 46 | C, D C, D C, D C, D C, D C, D C, D C, D |
| | | |

*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.

- DANGERindicates an imminently hazardous situation which, if not avoided, WILL result in death or serious injury.
- WARNINGindicates a potentially hazardous situation which, if not avoided, COULD result in death or serious injury.
- CAUTIONindicates 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.

A DANGER



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





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!



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.



Figure 1.



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.





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 doubleback cable hook-up, as specified in the Linear Actuator Installation Manual.



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



Figure 7. 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.



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)

- 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**.



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**.
- 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.



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.



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**.



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

Key Description

Key

1

2

- 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.

A DANGER



Moving Auger! Disconnect electrical power before working on system, equipment may start automatically. Otherwise severe personal injury will result. 2527-9

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.



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.
- 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.
- 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.



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

Weight Kit Assembly Instruction

Key

1

2 3

4

5

- 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.



Drop Feeder Installation Manual

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.



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.



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.





PROXIMITY SWITCH (END VIEW)





























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 Tube48" Length | 8532-48 |
| | PVC Drop Tube58" 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.





Mechanical Drop Feeder Control Units

(for FLEX-AUGER® & MULTIFLO® Systems)

| Key | Description | Part No. |
|-----|----------------------------------|----------|
| 1 | Drop Feeder (MULTIFLO) | 30373-4 |
| | Drop Feeder Model 55, 75, HMC) | 30373-5 |
| 2 | Brace | 27705 |
| 3 | Diaphragm Mount Assembly | 27795 |
| 4 | Switch Box | 7841 |
| 5 | Gasket | 6777 |
| 6 | Cover | 6776 |
| 7 | Adjustment Stud | 27701 |
| 8 | 10-24 Wing Nut | 23101 |
| 9 | Sleeve | 27699 |
| 10 | Actuator Pin | 27698 |
| 11 | Actuator Switch | 46091 |
| 12 | Danger Decal | 2527-9 |
| 13 | Adjustment Plate | 27706 |
| 14 | Switch Mount Bracket | 46122 |
| 15 | Clamp (Model 55, 75, HMC) | 6183 |
| | Clamp (MULTIFLO) | 8643 |
| 16 | Adjustment Decal | 2526-269 |
| 17 | Control Tube (Model 55, 75, HMC) | 9963 |
| 18 | Spring | 6972 |

| Кеу | Description | Part No. |
|-----|----------------------------------|----------|
| 19 | Switch Insulation | 1907-5 |
| 20 | Hole Plug | 9965 |
| 21* | Paddle | 27707 |
| 22* | Paddle Cover | 27708 |
| 23* | Diaphragm Assembly | 27702 |
| * | Mounting Bracket (for Diaphragm) | 27709 |
| 24 | Spacer | 27704 |
| 25 | Gasket | 6968-1 |
| 26 | Dump Ball Assembly | 6296 |
| 27 | Tube Clamp Kit (Model 55) | 35726 |
| | Tube Clamp Kit (Model 75) | 6515 |
| | Tube Clamp Kit (Model HMC) | 6721 |
| 28 | Cable Clamp | 13057 |
| 29 | Driver Assembly (Model 75, HMC) | 6862 |
| 30 | Tube Anchor (Model 55) | 35531 |
| | Tube Anchor (Model 75) | 6518 |
| | Tube Anchor (Model HMC) | 7862 |
| 31 | Hole Plug | 35862 |
| | Danger Decal | 2527-35 |

*Components of Item # 3.



Proximity Drop Feeder Control Units

(for FLEX-AUGER® Systems only)

| Кеу | 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.



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

| Кеу | Description | Part No. |
|-----|---------------------------------|----------|
| 1 | Drop Feeder (MULTIFLO, Mod. 55) | 34856-5 |
| | Drop Feeder (Model 75) | 34856-6 |
| | Drop Feeder (Model HMC) | 34856-7 |
| 2 | Adjustment Slide (Hot Stamped) | 33884 |
| 3 | Hole Plug | 9965 |
| 4 | Proximity Switch Assembly | 34857 |
| 5 | Hose Clamp (MULTIFLO, Mod. 55) | 8643 |
| | Hose Clamp (Model 75, HMC) | 6183 |
| 6 | Cable Clamp | 13057 |
| 7 | Adjustment Stud | 27701 |
| 8 | 240 V. Relay | 28904 |
| 9 | Proximity Switch | 34255 |

| Description | Part No. |
|-----------------------------|--|
| 1/2" Liquid Tight Connector | 23779 |
| Box Plate | 24321 |
| Relay Mount Plate | 28701 |
| Danger Decal | 2529-426 |
| Gasket | 6777 |
| Switch Box Cover | 6776 |
| Switch Box | 34858 |
| Dump Ball Assembly | 6296 |
| Adjustment Clamp | 3527 |
| | Description 1/2" Liquid Tight Connector Box Plate Relay Mount Plate Danger Decal Gasket Switch Box Cover Switch Box Dump Ball Assembly Adjustment Clamp |

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.





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 | Switch incorrectly installed, out of adjust., or faulty | Repair or replace switch, check for power to switch. | |
| stop. | 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. | e. 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 | Cable or cable clamps catching somewhere along line. | Adjust or remove interfering object(s). | |
| unable to pull Thp Level | 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 | Control not calling for feed. | Check Control setting and function. See Control section in this manual. | |
| Actuator 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 | Faulty wiring. | Refer to wiring diagrams in this manual. | |
| property controlling sys. | 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.



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

Contact your nearby Chore-Time distributor or representative for additional parts and information. Chore-Time Equipment, A Division of CTB, Inc. P.O. Box 2000, Milford, Indiana 46542-2000 U.S.A. Phone: 574-658-4101

Printed in the U.S.A.