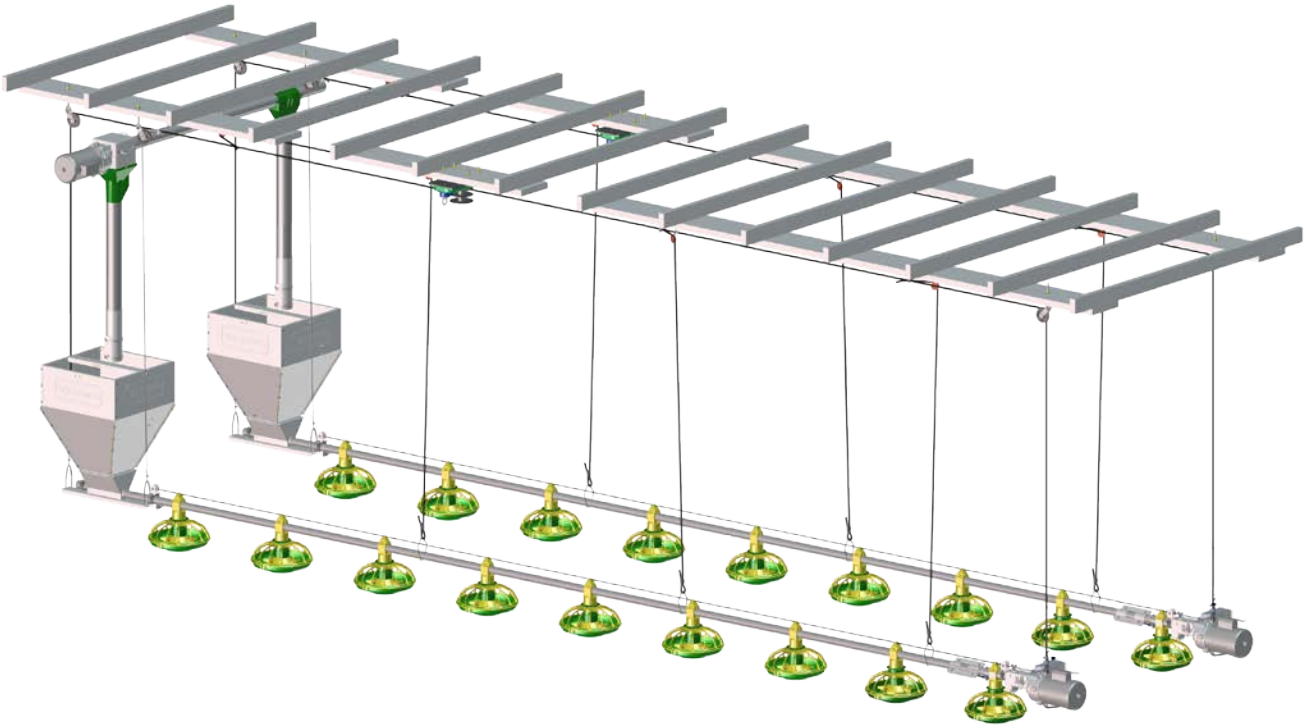
FUZE® ProLine Feeders
Control Pans
and Feed Line System

Installation & Operation Manual



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VAL PRODUCTS, INC. WARRANTIES

For Warranty claims information, please see the “Manufactured Products Standard Warranty” form QMS101 available from Val Products, Inc. by:

- Phone: 1-800-998-2526
- Email: marcom@val-co.com
- Online: http://val-co.it/warranty

Conditions and Limitations:

- Products and Systems involved in a warranty claim under the “Manufactured Products Standard Warranty” shall have been properly installed, maintained and operated under competent supervision, according to the instructions provided by Val Products, Inc.
- Malfunction or failure resulting from misuse, abuse, negligence, alteration, accident or lack of proper installation or maintenance shall not be considered a defect under the Warranty.

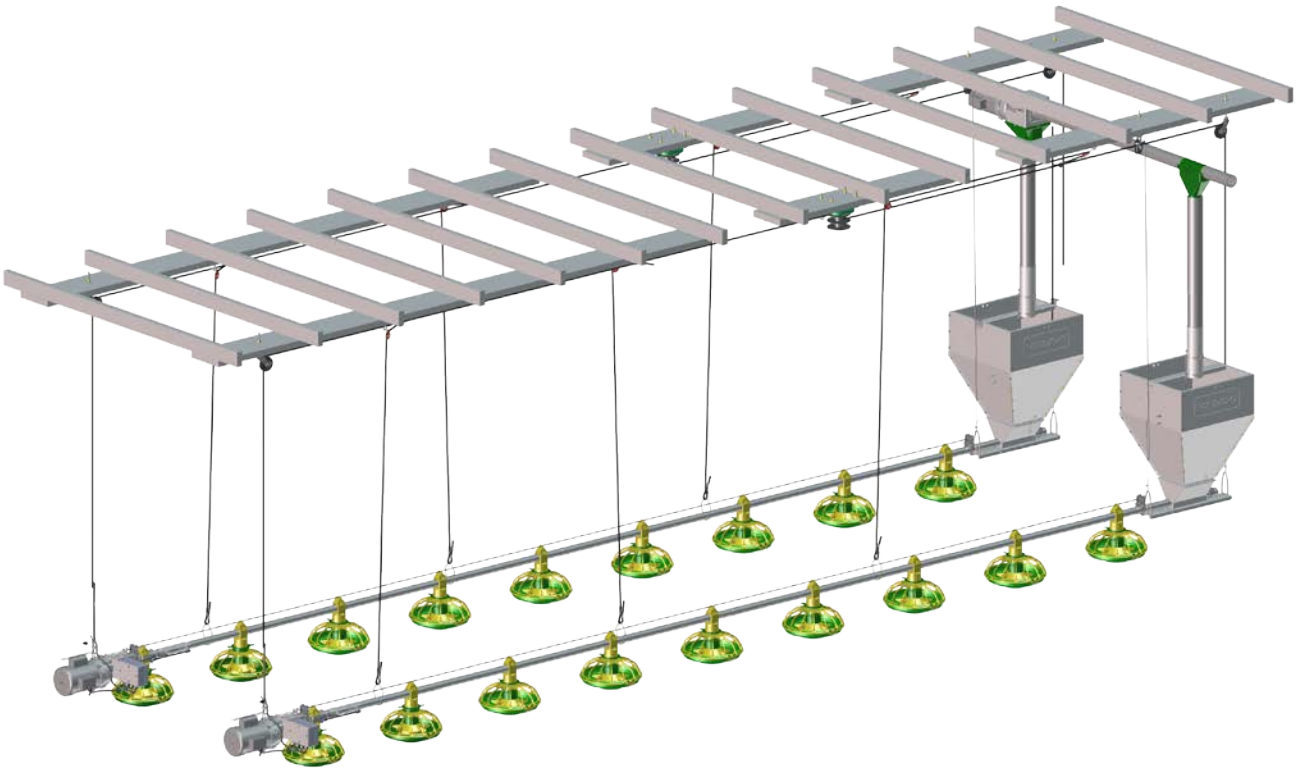
Symbols

Our concern is for your safety. The safety warnings are included in this manual as a guide to help and encourage the safe operation of your equipment. It is your responsibility to evaluate the hazards of each operation and implement the safest method of protecting yourself as owner and/or operator.

= NOTICE - Important information. Be sure to read.

= WARNING - The safety alert symbol is used on warning signs that describe the importance of a feature or explain a step that one should pay close attention to avoid problems or personal injury.

An Overview of FUZE® ProLine Pan Feeder System



Before you begin the installation of the FUZE® ProLine feeding system you should have already performed careful planning and ordered the equipment required (based on the number of birds and size of your bird house). For more information regarding the planning of your bird house please talk with your VAL-CO® representative.

Birds are sensitive to light, temperature, moisture and draught and will avoid places that do not maintain the average environment. Make sure that the control pan area keeps a consistent average temperature, has good ventilation and moisture level.

It is advisable to install a small spot light above the control pan and to keep the control pan free of litter and manure to attract birds. VAL-CO® part number 820022 is a universal bird attracting light for any feed system.

Feed Pan Features

VAL-CO® FUZE® ProLine pan feeders are ideal for broilers, turkey poults, layers and other poultry.

Designed for:

Saving production costs

- Enlarged feed windows will flood the pans more evenly to provide the best start from day one.
- Deep center feed "V" bottom of the pan promotes feed savings.
- Anti-rake fins on the feed tower will prevent billing of feed to reduce waste.
- Grill and pan form a feed saving lip to promote additional feed savings.
- Pan assembly made of engineered polymers that resist harboring bacteria to promote bird health.

Easy installation and convenience

- Removable top allows for easy pan assembly and installation on two-piece models.
- Easy and positive feed adjustment can be made from the outside.
- FUZE® ProLine pan offers ergonomically designed multi-spoke grills.
- Easier entrance and exit for the chicks.
- Easy to clean.

Versatile and interchangeable components

- FUZE® ProLine pan allows you to "build your own feeder".
- FUZE® ProLine pan offer choices in pan depth and diameter.
- FUZE® ProLine feed system may also be used with the Best Start and Best Start II Chick Feeders.

Durability

- Added material thickness in critical scratch (wear) area.
- All parts are fully UV stabilized to promote longer life.

VAL-CO® Best Start Chick Feeder

The Best Start Chick Feeder will save valuable time with your broiler chicks and breeder pullets. This kit is easily installed and less expensive than other automatic solutions. Simply snap the sturdy plastic pieces together around the feed pipe (already installed) and in less than a minute, you are ready for the chicks. This makes for an easy transition to FUZE® ProLine feeders. When the birds have graduated to pan feeders, just shut the feed off by rotating the assembly up and out of the way. The extender is easy to adjust for the amount of feed needed and for height from the floor or tray.

The feeder tray helps keep your feed clean. Together with the chick feeder, you can give the chicks all the feed they want and plenty of space to scratch. The chick feeder tray will keep the feed off the ground and keep it dry.

VAL-CO® Best Start II Chick Feeder

This chick brooding starter feeder is comprised of the basic feeder and an optional extension sleeve. The feeder extension sleeve is rugged, non-corrosive polymer construction. The fold away shut off design minimizes the chance of breakage by catch crews and winching systems. The feeder comes pre-assembled for installer convenience and fits virtually any style of feeder tube.

Winch System Installation

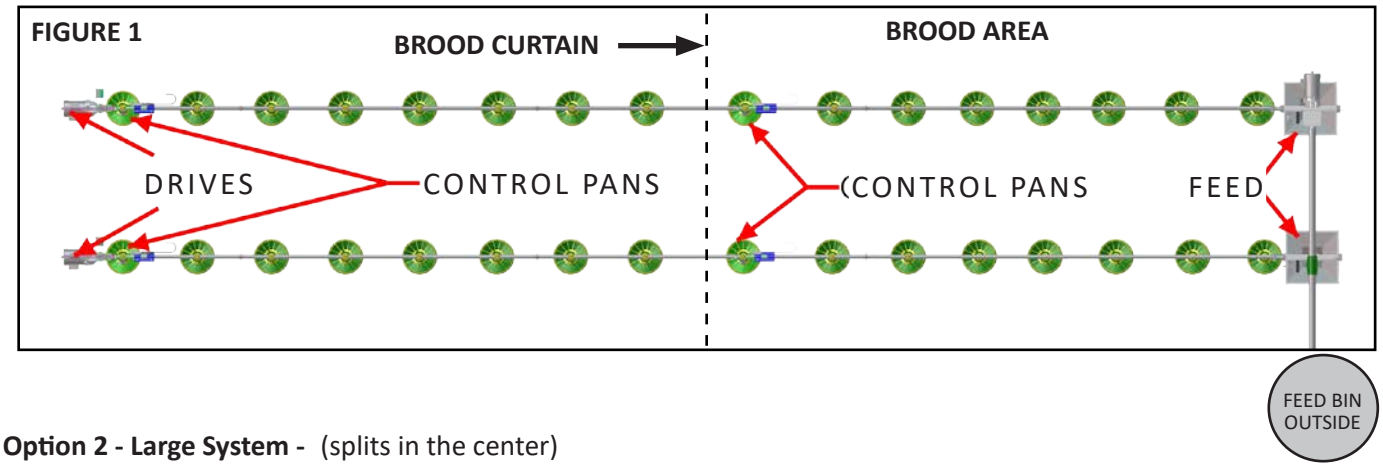
General Information

Please read ALL the instructions before installing the VAL-CO® FUZE® ProLine System. This manual will provide information on installing the VAL-CO® FUZE® ProLine feeders, winch system, hopper, auger/feed line and the anti-roost system. The system is designed in a straight line for using an auger with 9’ or 10’ ribbed or smooth tubes to deliver feed to the feed pans and a choice of hand or electric winches.

System Layout – Overviews

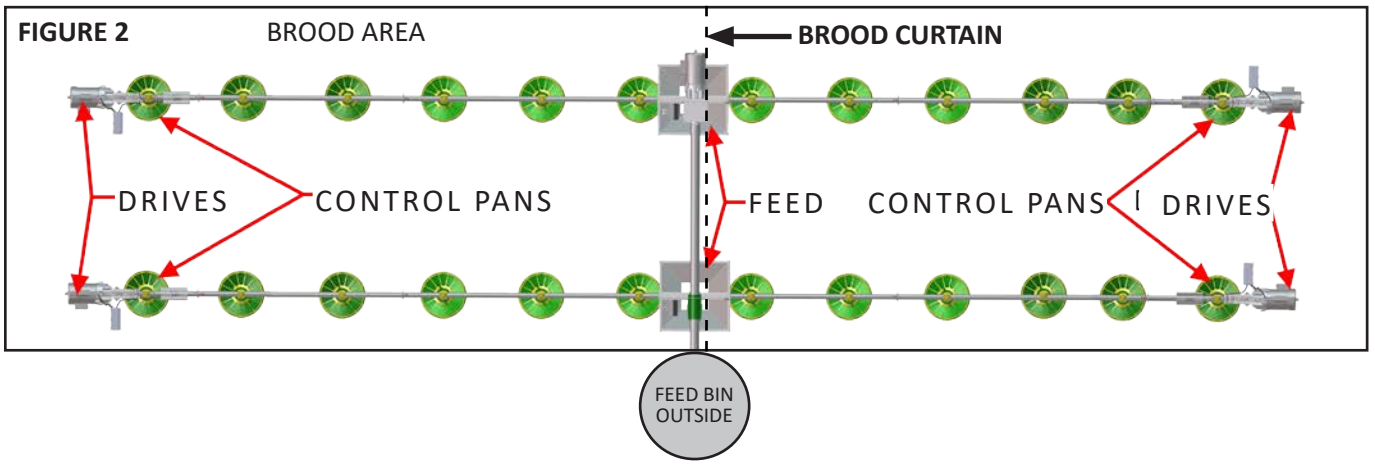
1. Select the house layout of less than < 350 feet (<107m) or greater than >350 feet (>107m)
2. Establish the location of the feed bin.
3. Pick a spot for the brood curtain.
4. Decide the location for the control pan units.
5. Establish a distance to the feeder line from the side walls.
6. Determine the distance from the feed hoppers to the end wall for a straight line feeding system.

Option 1 - Partial House Brooding



Option 2 - Large System - (splits in the center)

This will reduce the auger run-time and eliminate the need to use mid-line controls in partial house brooding.



1. Control pans are optional for the middle of the house when end control pan drive units are used.
2. The winch is usually placed in the middle of the feed line for either option.

Winch System/Suspension

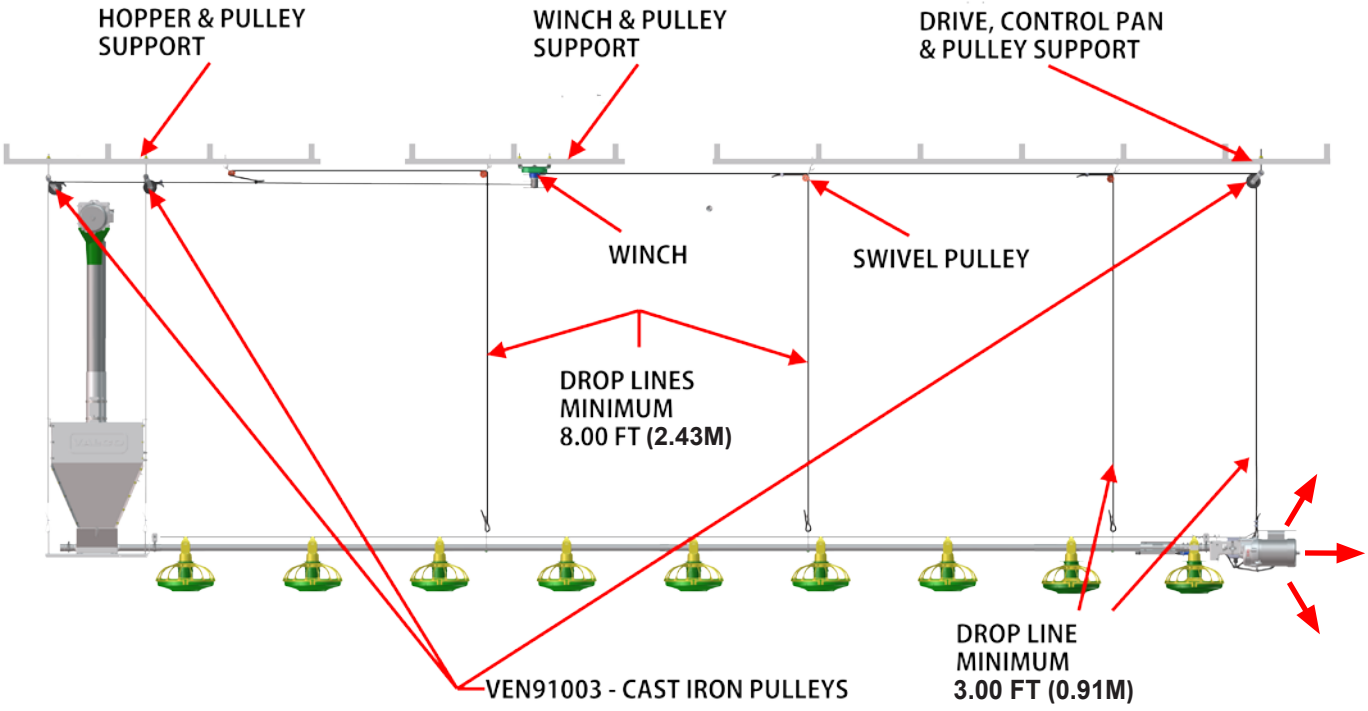
There are two (2) options (Option 1 on this page and Option 2 on the next page) for setting up the winch system.

1. Locate the best placement of the winch. ***The winch requires a support that will span at least 3 rafters In a wood frame house and at least 2 rafters in a steel house.***
2. Locate the placement of the control pan units and feed hopper. **A special support is required to suspend the drive heads and feed hoppers. Support is also needed at each joint or elbow. When planning BE SURE TO ALLOW ENOUGH ROOM AT THE END OF THE FEED LINE AROUND THE CONTROL PAN UNIT FOR BIRD FEEDING.**
3. Determine drop locations giving special attention to the placement of the hopper and control unit. The suspension system is based on a ceiling height of 14 feet (4.27m) with drop points every 8 ft (2.43m). **Special consideration for support must be used with 10 ft (3.05m) spacing.**
4. Determine and mark a straight line or use cable to locate placement of the screw hooks. **Use the offset of screw hooks where necessary.**

1. **Winch hardware kits are available.**
2. **Cast pulleys come with VEN91003 thru-bolts.**
3. **VEN91102 swivel pulleys use VEN91504C screw hooks.**
4. **Use 820156 universal winch mounting hardware kit.**

Option 1 – OVERVIEW (condensed)

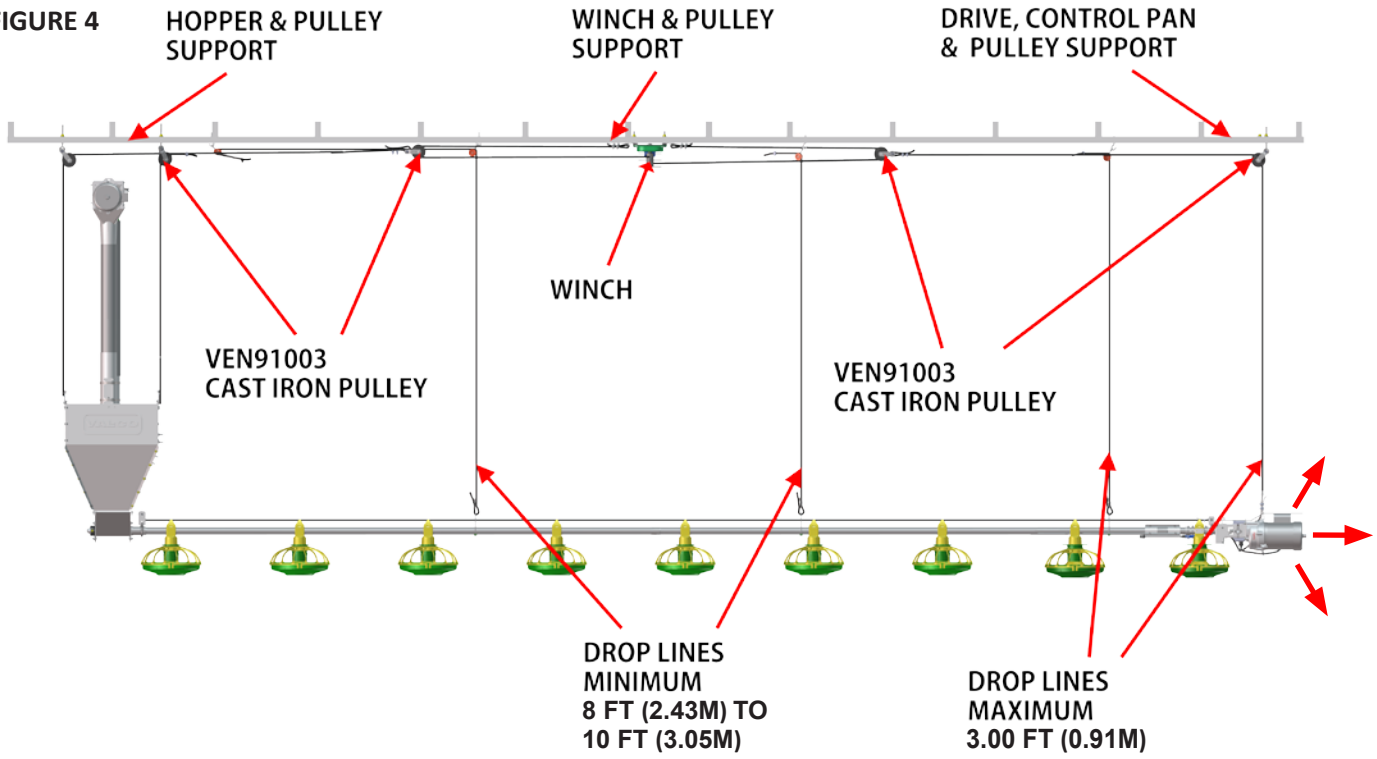
FIGURE 3



1. **The last feeder pan in the line (the control pan) is the most important feeder. It must be emptied first (each feeding) to start the next feed supply.**
2. **MAKE SURE THERE ARE ENOUGH BIRDS EATING FROM THIS PAN!**
3. **BE SURE TO: Leave a minimum of 5 FT. (1.52m) space beyond drive control pan unit for feeding.**

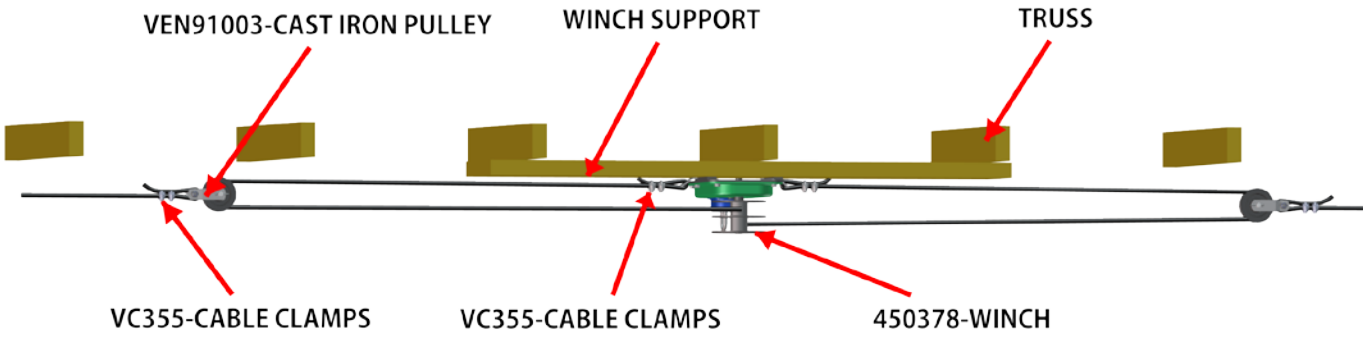
Option 2 – DOUBLE BACK OVERVIEW (condensed)

FIGURE 4



1. **The last feeder pan in the line (the control pan) is the most important feeder. It must be emptied first (each feeding) to start the next feed supply.**
2. **MAKE SURE THERE ARE ENOUGH BIRDS EATING FROM THIS PAN!**
3. **BE SURE TO: Leave a minimum of 5 FT. (1.52m) space beyond drive control pan unit for feeding.**

FIGURE 4A (Detailed view of Double Back Winching Overview)

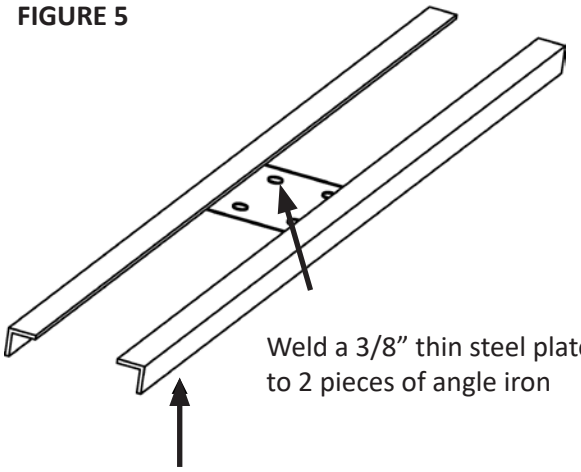


Handle CABLE with caution.
Wear safety glasses to protect your eyes and gloves to protect your hands from injury.

Winch Installation

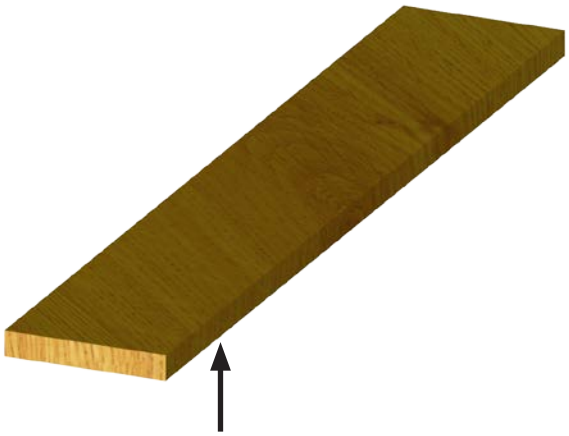
There are two types of winch supports, angle iron or wood.

FIGURE 5



Angle Iron Winch Support

FIGURE 6



Wood Winch Support

1. Bolt the fully assembled winch to the winch support, as shown in Figures 7 or 8. Use either a 2” x 8” wooden board that will span (3) trusses (required) or a 3/8” thin steel plate welded to (2) pieces of angle iron which are long enough to span (2) trusses.

FIGURE 7

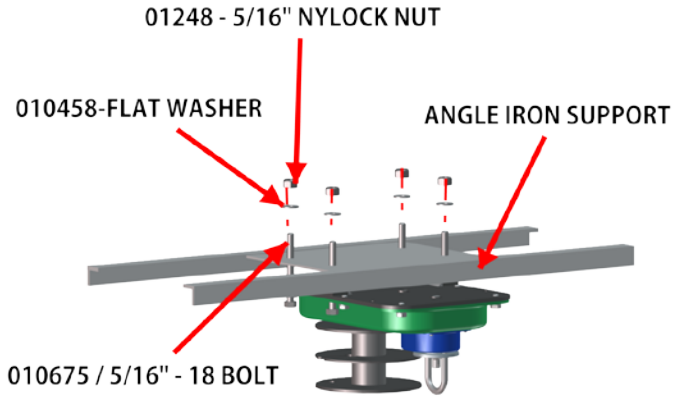
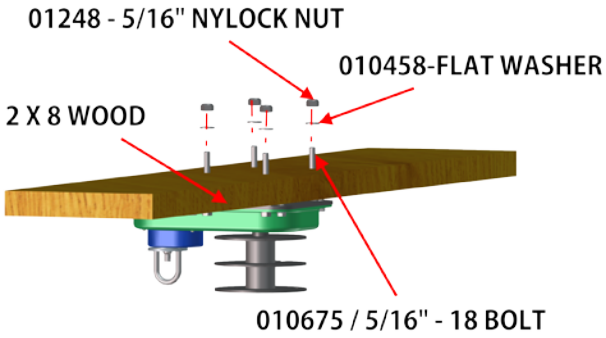


FIGURE 8



NOTICE

If you are using the double back system, install cable hooks, (not provided), between the mounting bolt and winch frame as shown in Figure 9 before you attach the winch to the winch support.

FIGURE 9

2. Make sure that the winch is secured to the winch support (angle iron or 2" x 8" wood board) and attach the winch support to ceiling/trusses at the center of the feeder line as shown in Figure 3 or 4 of previous pages. The winch support **MUST BE PARALLEL** to the feeder line and **MUST SPAN AT LEAST 3 RAFTERS IN A WOOD FRAME HOUSE AND 2 RAFTERS IN A STEEL FRAME HOUSE.** If the hopper is located at the center of the feeder line, place the winch a few feet offset from the center of the feeder line. **MAKE SURE HOWEVER; THAT THE WINCH DRUM IS DIRECTLY IN LINE WITH WHERE THE CABLE WILL BE INSTALLED.**

(condensed views, distance of rafters is less than actual)

FIGURE 10

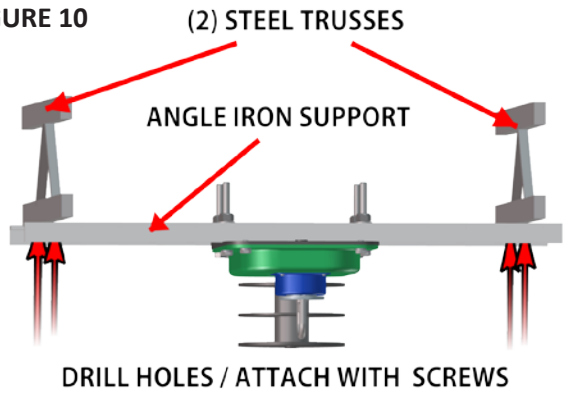
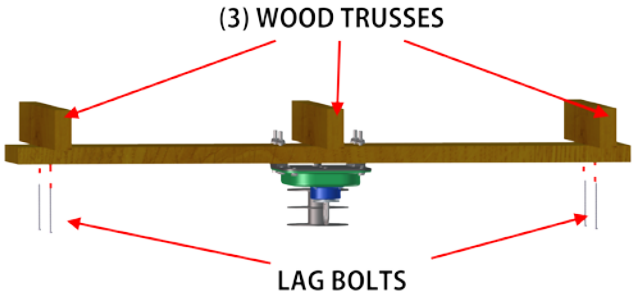


FIGURE 11



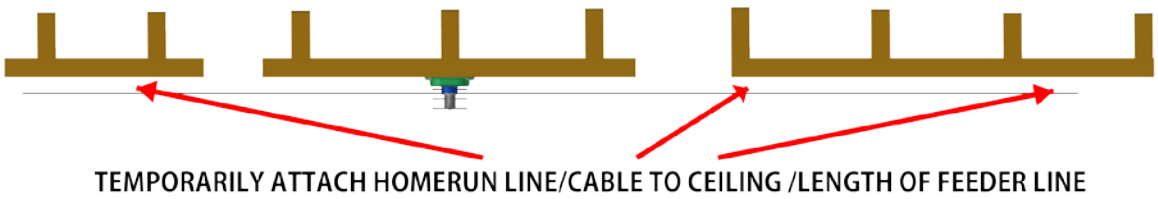
Installing the Winch Cable

Suspension systems are based on ceiling heights of 14' (4.27m) with drop points at approximately every 8' (2.43m).

DO NOT EXCEED 10 FT. (3.05m) BETWEEN SUSPENSION DROPS!
Adequate overhead structure must be provided to support the weight of Feeders, Hoppers, Control Pans, Drive units.

1. Extend the main/homerun line winch cable the full length of the feeder Line. Attach the cable temporarily to the ceiling with nails, staples, or some type of fasteners.

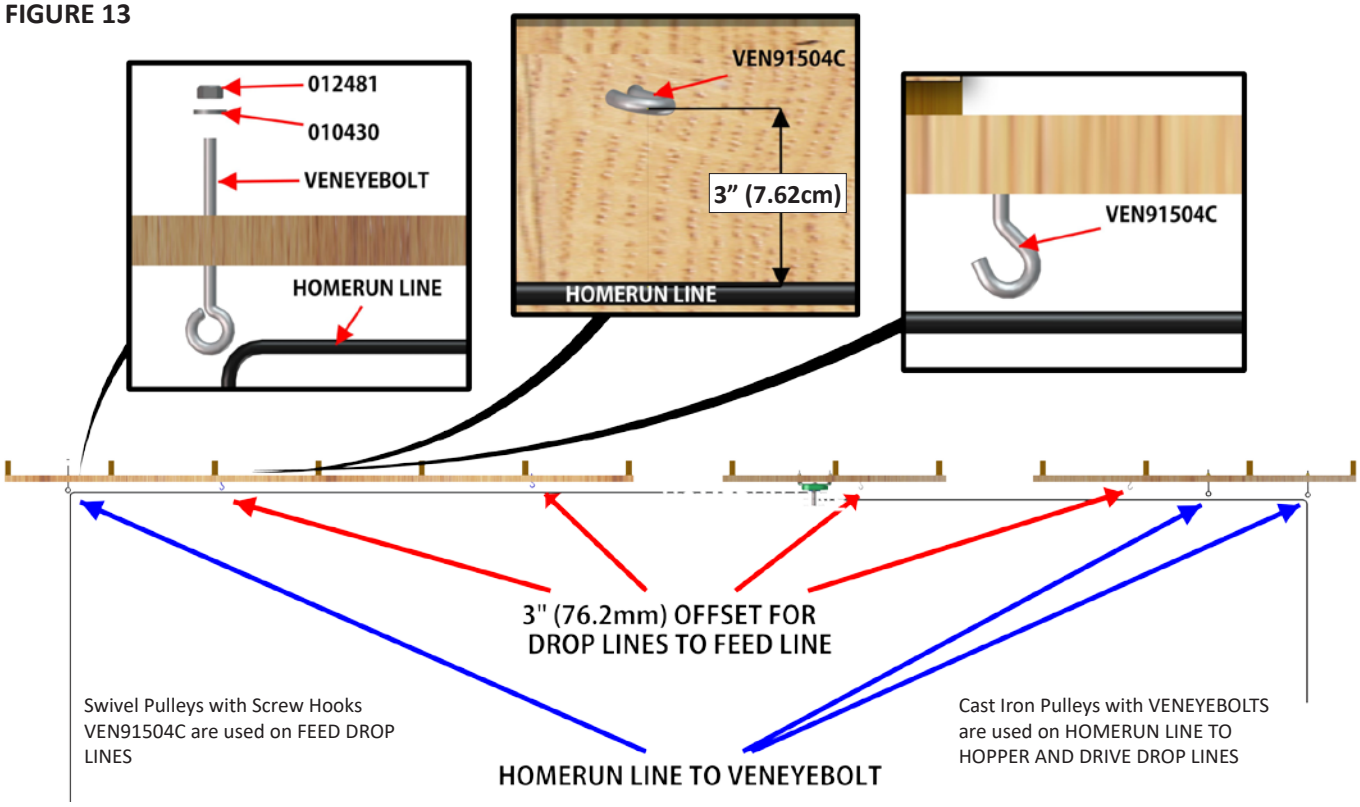
FIGURE 12



Screw Hook Installation

The recommended distance between each drop is 8 ft. (2.43m) on center.
Do not exceed 10 ft. (3.05m).

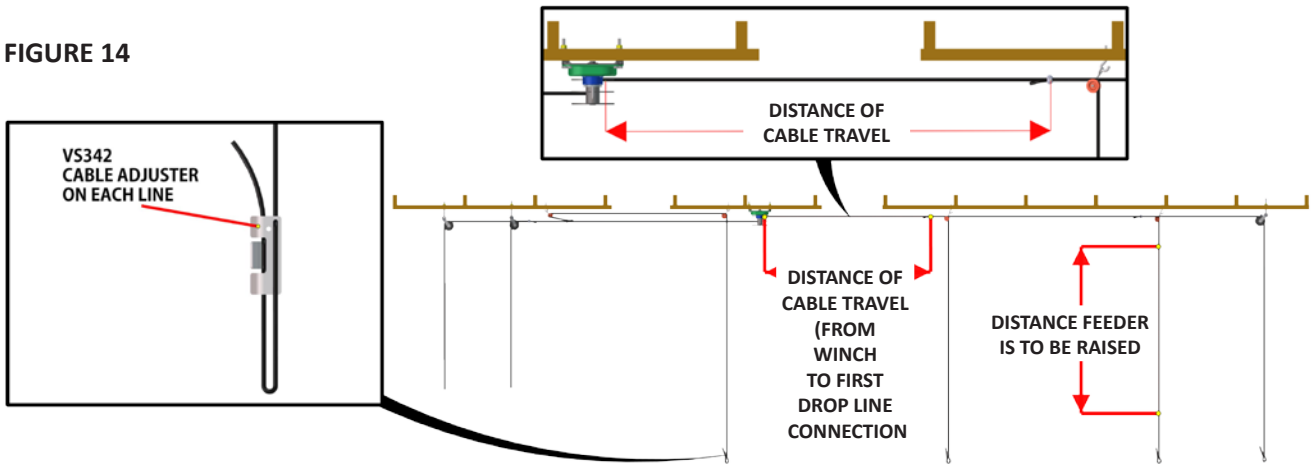
FIGURE 13



To prevent the cable clamps from catching the pulleys, offset the hooks 3” (7.62cm) to each side of the line if the distance the feeders are raised is greater than the distance between the drop spacing. To prevent the screw hooks from bending, be sure to screw the hooks into the trusses/supports the full length of the thread.

Drop Installation/Cable Travel

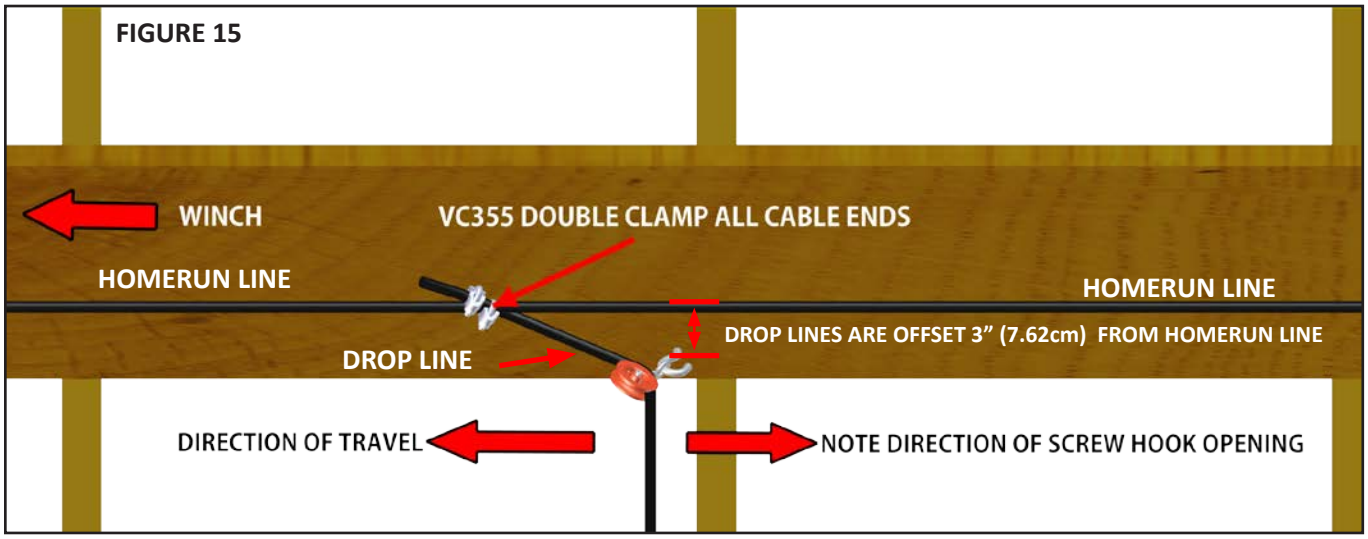
FIGURE 14



DROP LINE OFFSET DETAIL USING SCREW HOOKS
The direction of travel is determined when the winch raises the feeder line.
The screw hook openings MUST point away from the direction of travel.

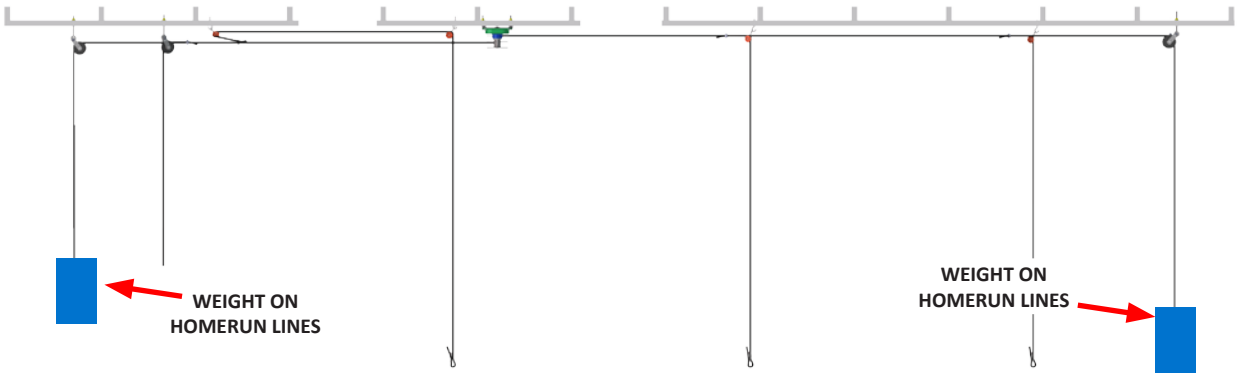
1. Insert a swivel pulley into each screw hook, as shown in Figure 15 below. Note direction of screw hook.
2. Thread the end of the 1/8” cable through the pulley toward the winch, as shown in Figure 15. Clamp this end to the homerun line/main winch cable about 6” (15.24cm) from the last pulley. Do this using a VC355 cable clamp, as shown in Figure 15.
3. Allow enough cable length for installation of the adjustment leveler. Sufficient cable is included to provide extension on drops located beneath and near the winch.
4. Begin Installing the suspension drops at the winch and proceed out-ward to the ends of the feeder line. Keep the main cable tight between the drops.

FIGURE 15



A weight might be used at the end of the Homerun Line cables to maintain tension in the line as shown below.

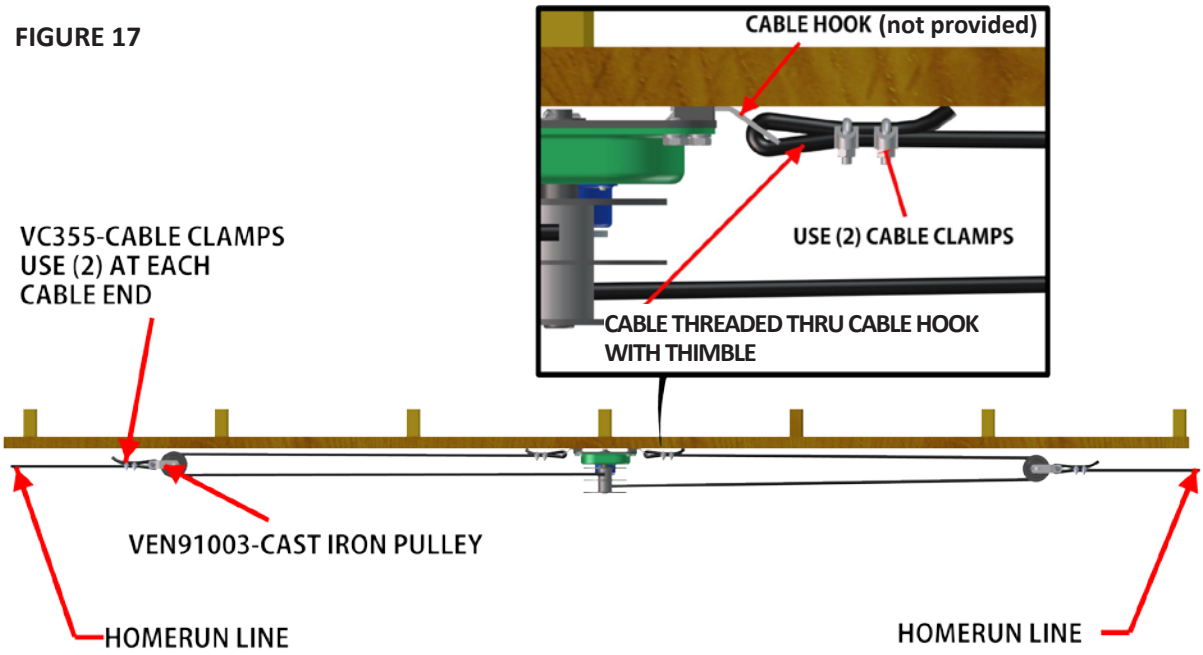
FIGURE 16



Double Back Cable Detail

1. Thread cable thru cable hook and clamp using (2) VC355 cable clamps, as shown in Figure 17 detailed view.
2. Run cable around cast iron pulley and back to winch. Cast iron pulleys should be attached to the homerun line, as shown in Figure 17.
3. Allow enough cable length for installation of the adjustment leveler. Sufficient cable is included to provide extension on drops located beneath and near the winch.
4. Begin Installing the suspension drops at the winch and proceed outward to the ends of the feeder line. Keep the main cable tight between the drops.

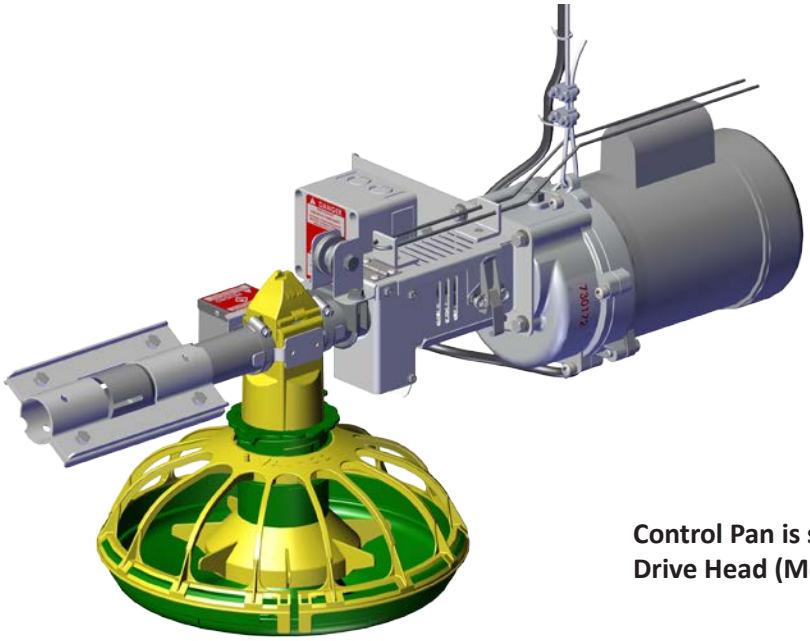
FIGURE 17



Feeders

Direct Drive/Control Pan/Port Tube Assembly

FIGURE 18

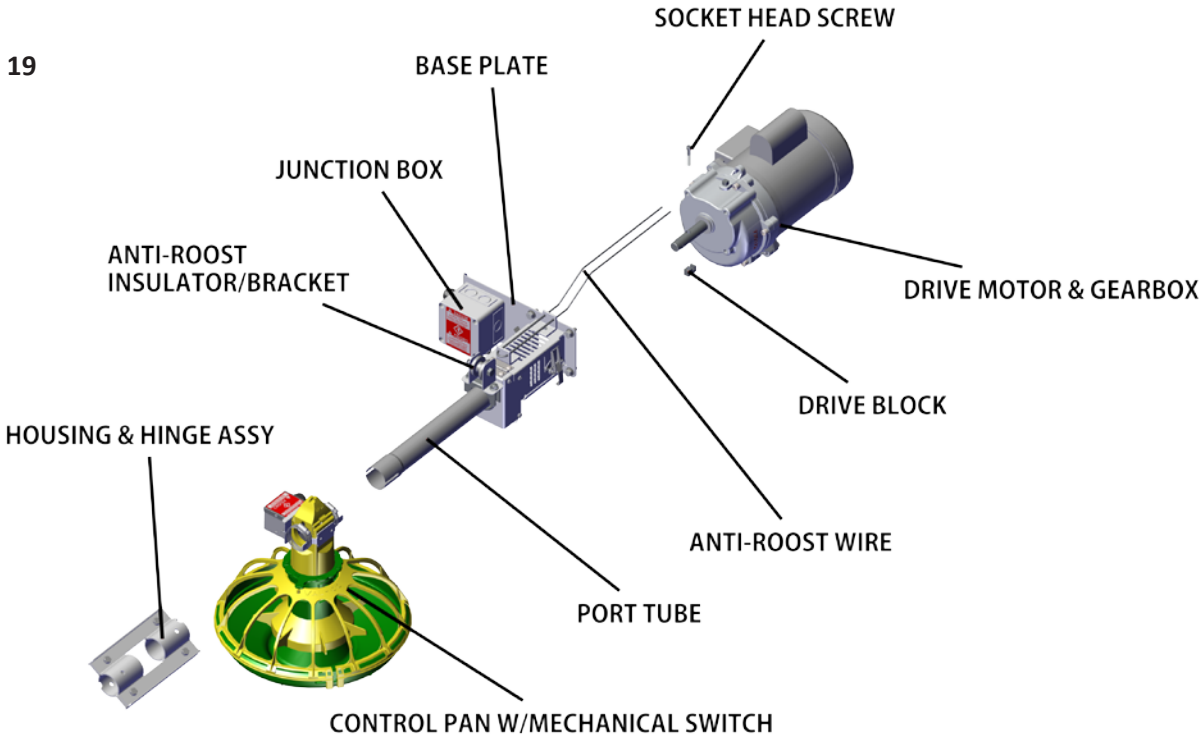


Control Pan is shown with Direct Drive Head (Motor) & Gearbox.

	Electrical enclosure contains the relay and a bag with the quick connects and grommets. There are no wires included for wiring to the motor or incoming supply.

Exploded View/End Control Pan / Direct Drive Head & Gearbox Unit

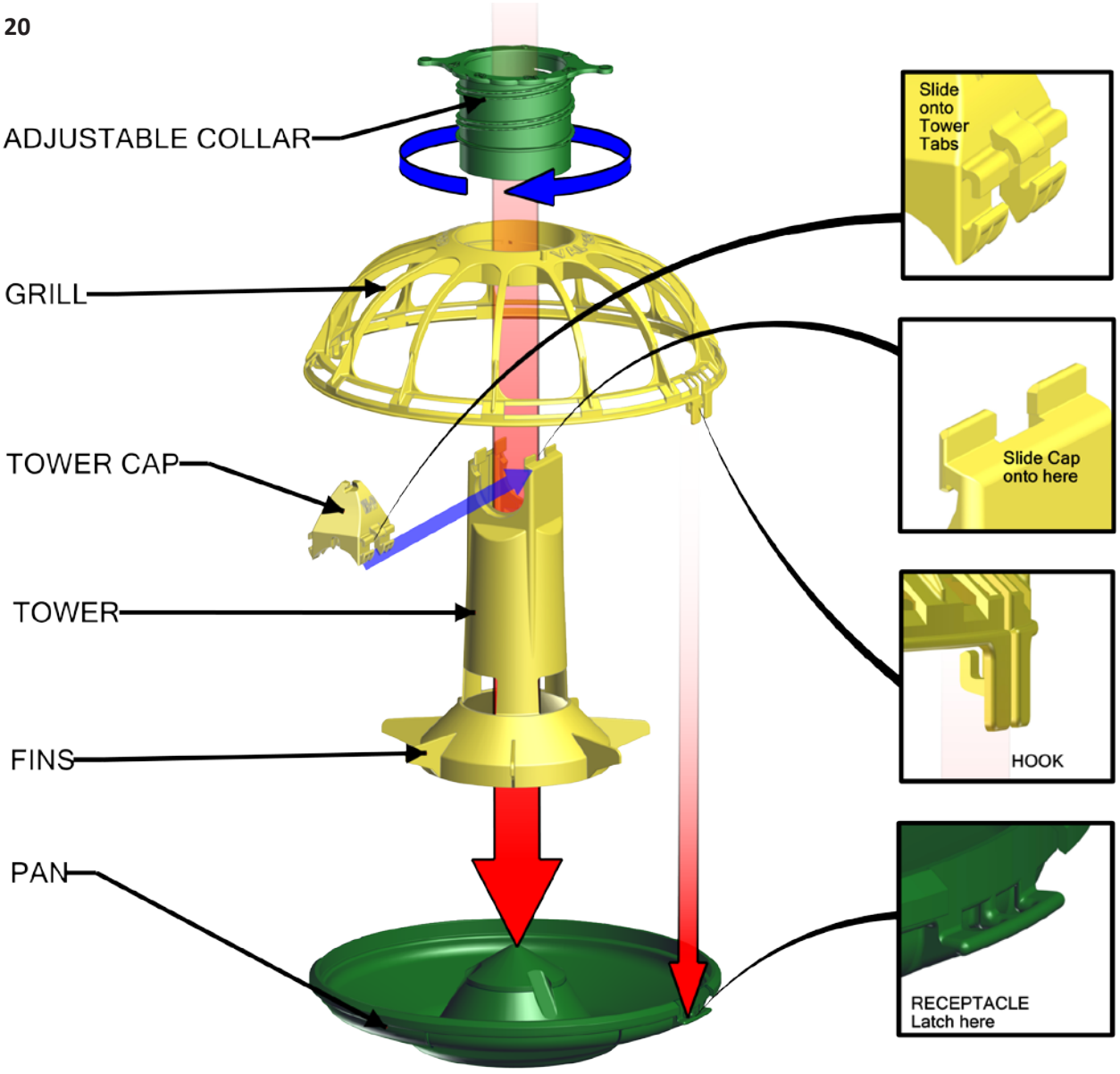
FIGURE 19



Feeders (FUZE® ProLine) - Assembly Overview

Verify that all the parts you ordered are included in the shipment. Assembly KITS are broken down by parts and can be found in the parts listings at the end of the manual.

FIGURE 20

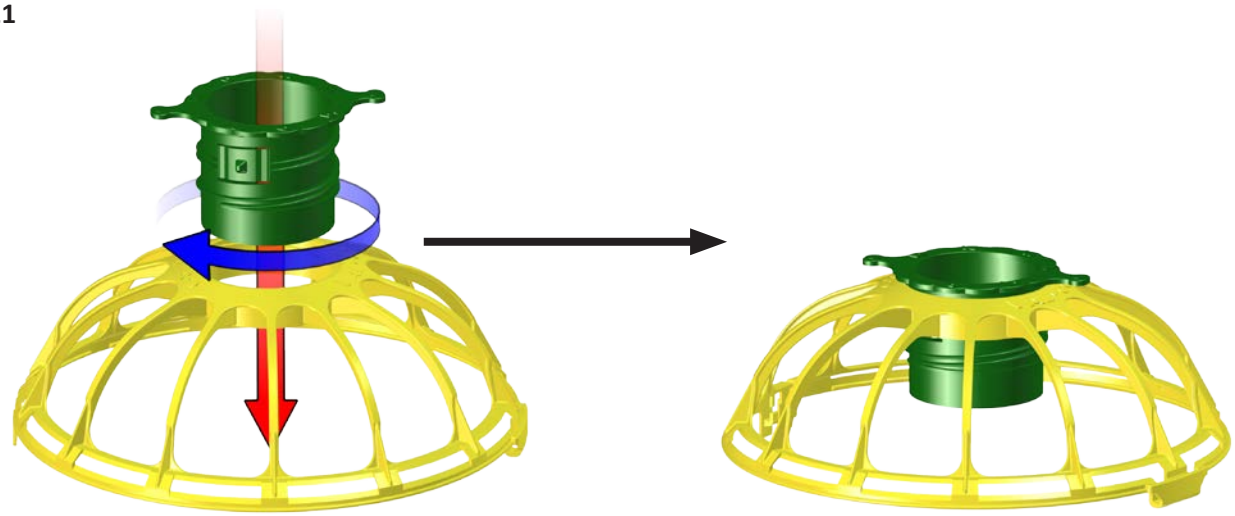


All VAL-CO® FUZE® Two Piece Feeders - Detailed

Assemble the adjustable collar to the grill, tower, and pan, then latch grill to pan as shown. The tower cap is the last part to be assembled when attaching to feed line tubes.

1. Turn adjustment collar (clockwise) into the top hole of the feeder grill, as shown in Figure 22. This can be done first or as a later step, with or without the tower in place.

FIGURE 21



2. Slip the tower through the grill with adjuster collar, as shown in Figure 22.
3. Center the tower base onto the feed pan, as shown in Figure 23. (Tower should be positioned as you see it in the drawing below through the adjuster collar hole).

FIGURE 22

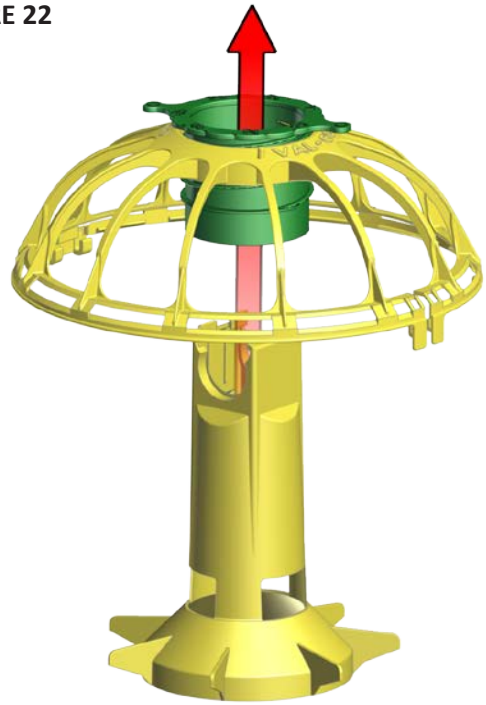
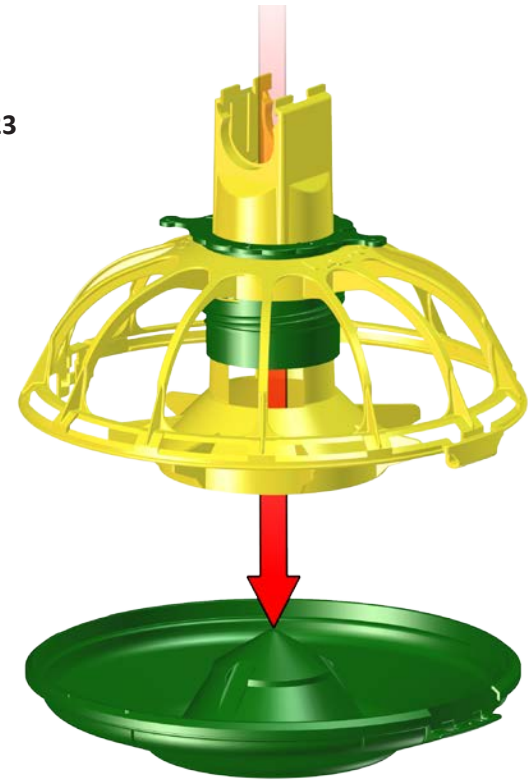
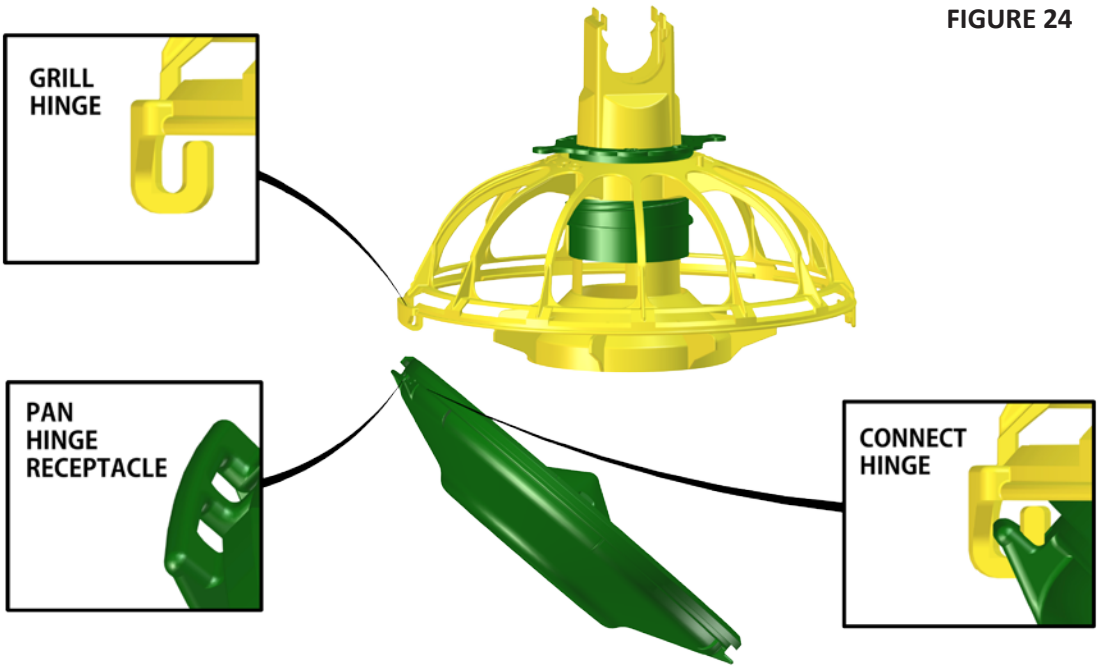


FIGURE 23



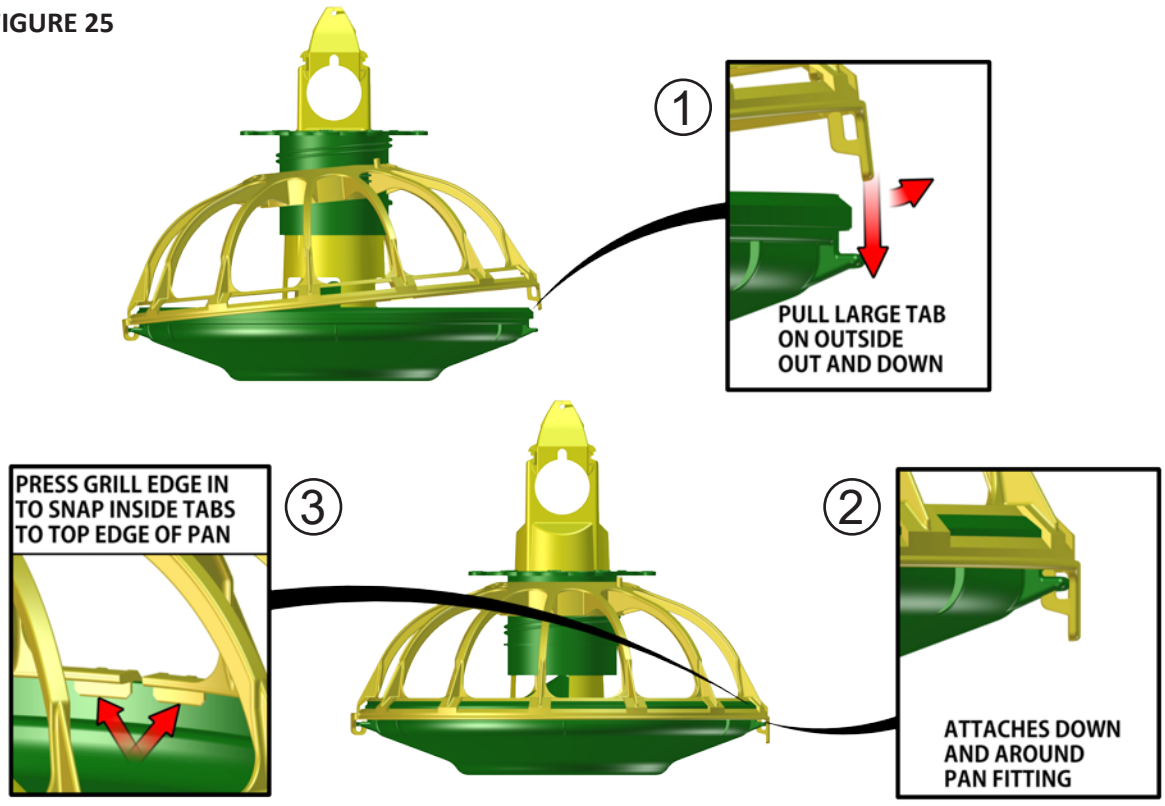
4. Attach the grill's built-in HINGE to the HINGE RECEPTACLE of the feeder pan by snapping together, as shown in Figure 24.

FIGURE 24



5. Snap the grill's closure hook down onto/over the hook receptacle on the pan until the hooks are properly secured, as shown in Figure 25. Top latches on grill should be located on the outside of the feed pan lip.

FIGURE 25



Check to make sure grill and pan assembly are snapped securely.

All VAL-CO® Two Piece Tower FUZE® Feeders - Detailed - continued

6. The tower cap should not be assembled until the feeders are to be placed on the feeder tubes. At that time, slide the tower cap into matching slots on the top of feeder tower, as shown in Figure 26 and detailed in Figure 27.

FIGURE 26

SLIDE TOWER CAP OVER TOP OF FEED TUBE AND ONTO FEEDER MATCH TABS TO TOWER CAP SLIDES

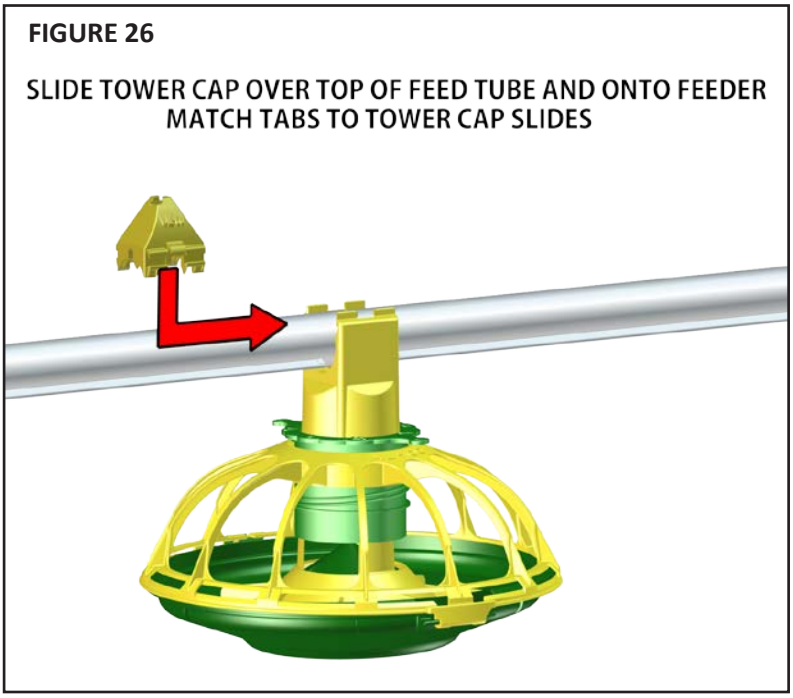
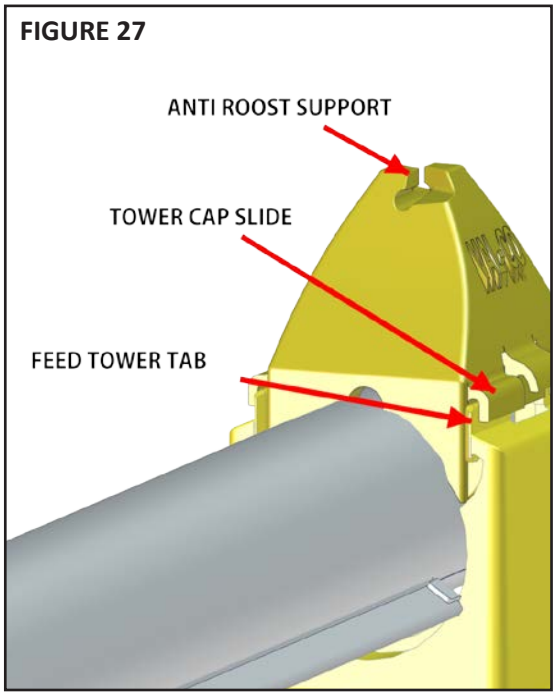


FIGURE 27

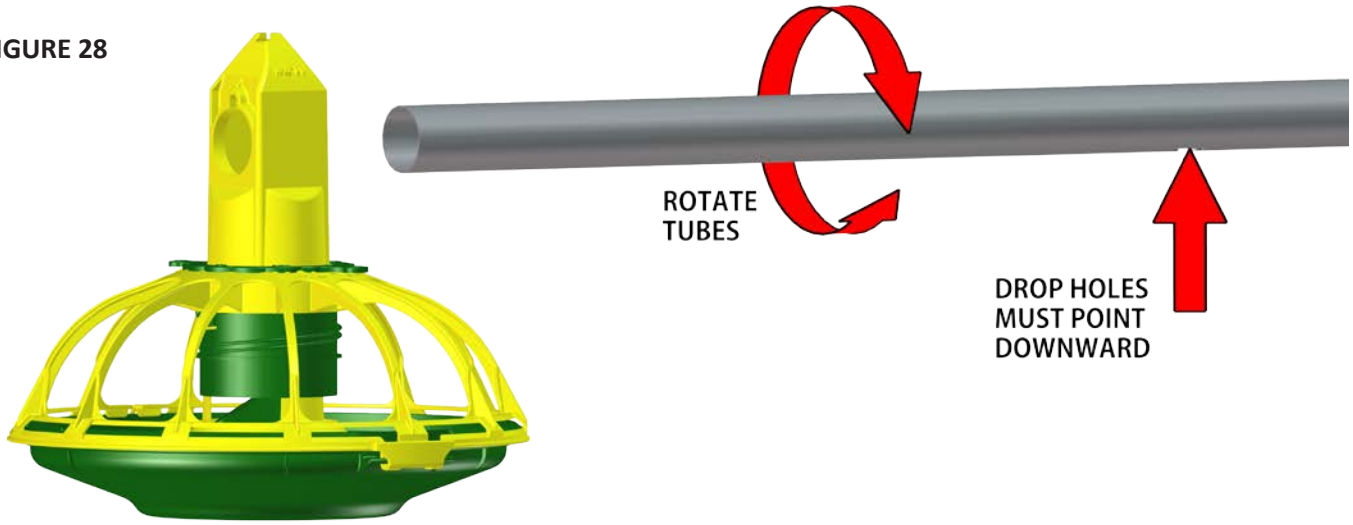


To remove feed assembly from feed tube at any time press center tabs on cap and slide off. Make sure that you have placed the feed tower directly under the drop hole in the feeder tube.

All VAL-CO® One Piece Tower FUZE® Feeders - Detailed

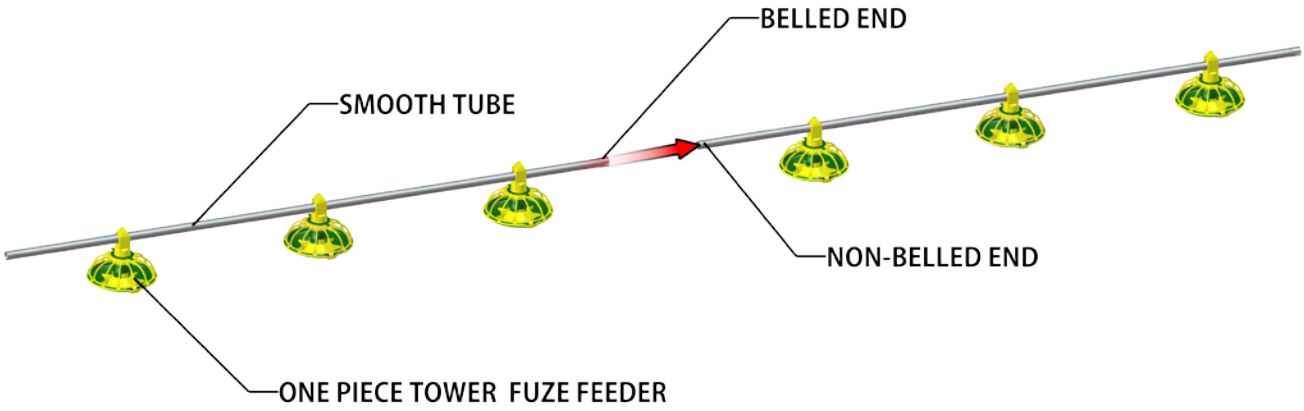
To install the one piece tower FUZE® feeders you simply slide them onto the feed tubes before you connect the tubes.

FIGURE 28



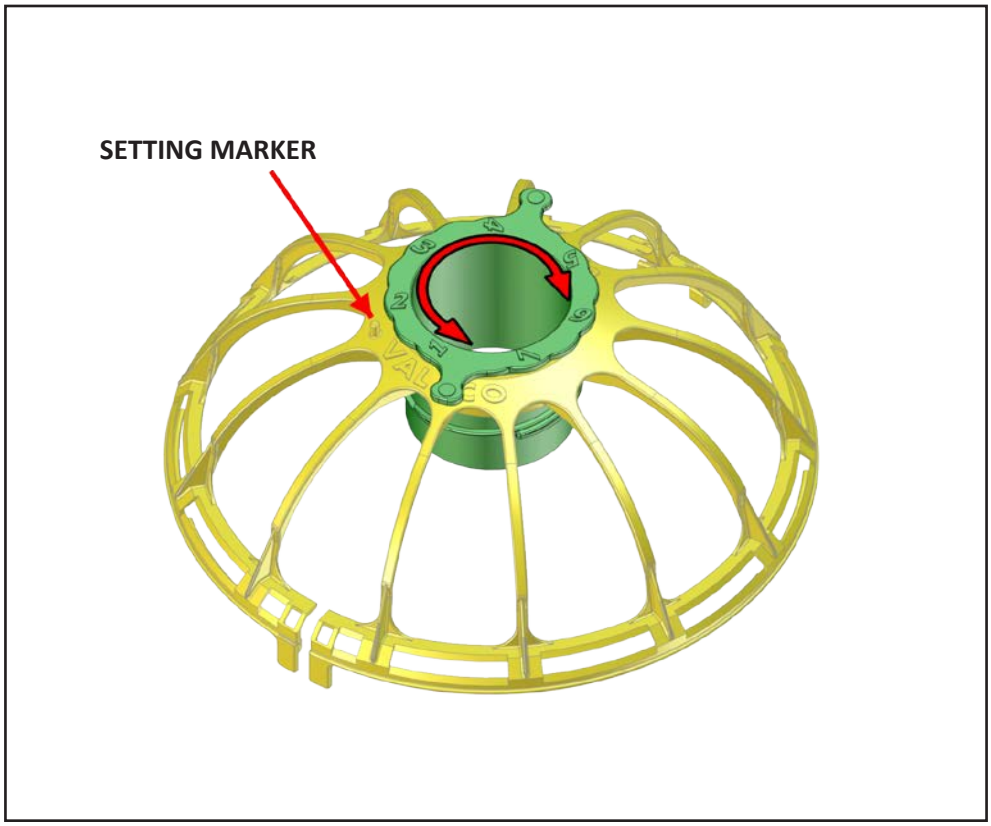
After sliding feeders onto feed tubes connect the feed tubes, belled end to non-belled end.

FIGURE 29



Adjusting the Feeder Settings for both Tower Assemblies

Adjust the adjuster collar to the desired position. The position you choose will depend on the kind of feed that you use and the age of the animals. This can be set or changed at any time.



Feed Line Assembly/Suspension

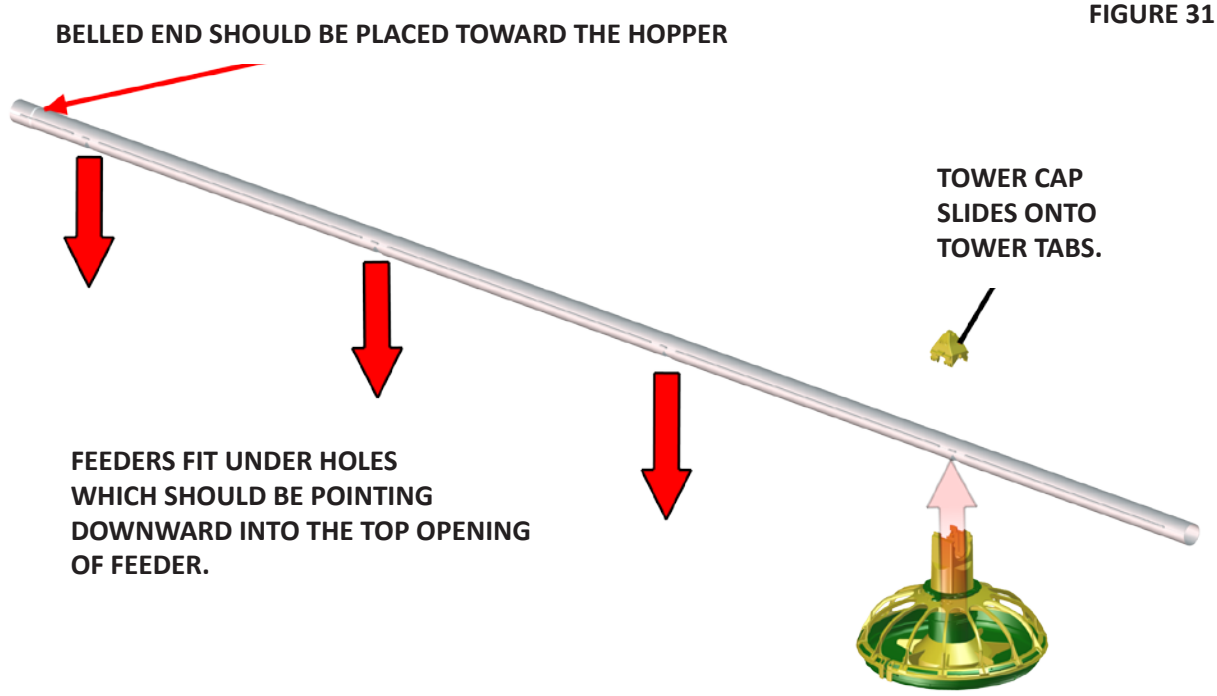
Feed Tubes

Either smooth smooth or ribbed tube can be used. See parts pages at the end of the manual for complete list of options. Smooth tubes require tabs be bent down to prevent pans from sliding.

FIGURE 30

1. Put the tubes with BELLED ends toward the hopper and feeders on the floor in line with where you want to suspend the feed tubes. Feeders should be mounted on the feed tube as the feed tubes are being put together. Be sure the holes of the feed tubes are pointing down toward the feeder tower. This will lock the assemblies in place on the tube and allow the feed to flow into the feeders as shown in Figure 31. **It is important to install all of the feeders on the tubes in the same orientation or direction.** See Figures 26 and 27 in previous section for detail on mounting the feeders with tower cap.

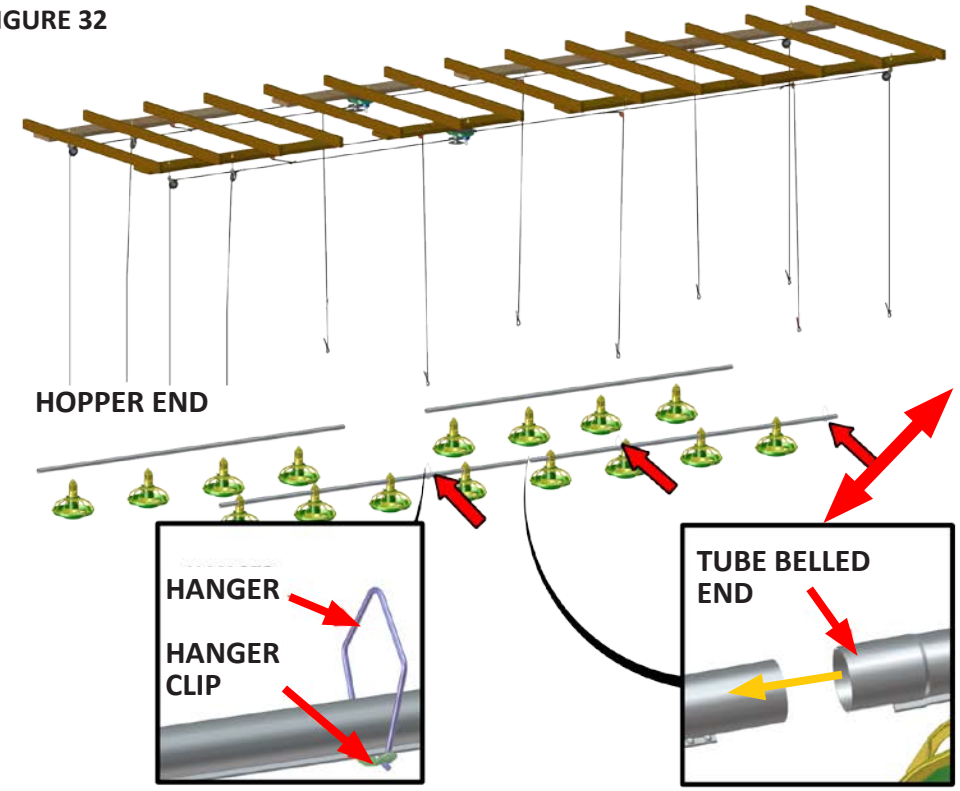
FIGURE 31



Feed Line Assembly/Suspension

2. To achieve secure and uniform feed drops throughout the system, place hangers, as shown in Figure 32 below. They may be installed by spreading the wire over the feed (auger) tubes then add clips or slipped on assembled with clip at each drop line as you install the feeders and before you connect the feed (auger) tubes. The spacing will be determined by your drop lines / truss spacing: 8’ (2.43m) minimum to 10’ (3.05m) maximum.
3. Connect the tubes as shown in Figure 30 and continue the entire length of the feeder line.

FIGURE 32



4. Every joint MUST be secured with either a 451042 anti-roost insulator tube clamp, as shown in Figure 33, or a 451040 tube clamp, as shown in Figure 34.

DO NOT TIGHTEN THE CLAMPS AT THIS TIME.

FIGURE 33

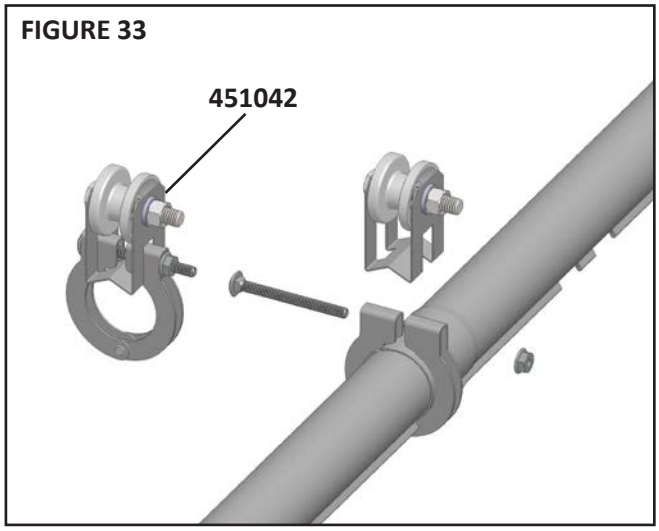
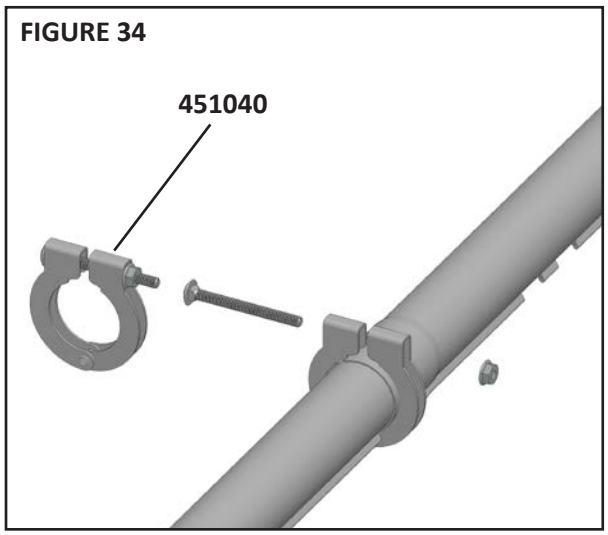


FIGURE 34

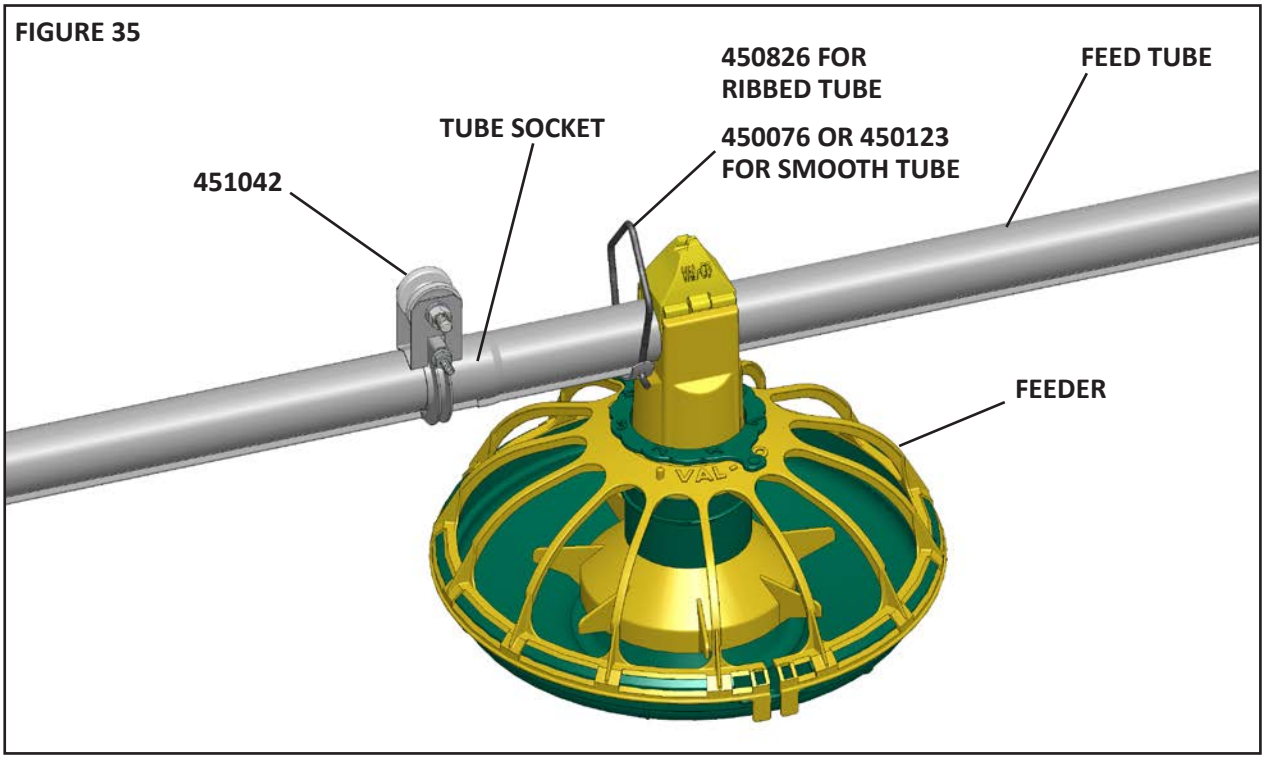


Shown without feeders for detail of tube clamps and placement on feed tube socket.

Feed Line Assembly/Suspension - continued

If you are using the anti-roost system, an insulator bracket & tube clamp assembly must be positioned on the tubes at every FIFTH JOINT or a MAXIMUM OF 50 FT. (15.24m) apart and tube clamps at all other joints. If you are NOT using the anti-roost system, place a tube clamp assembly at each joint. Push tube into belled end of next tube as far as possible.

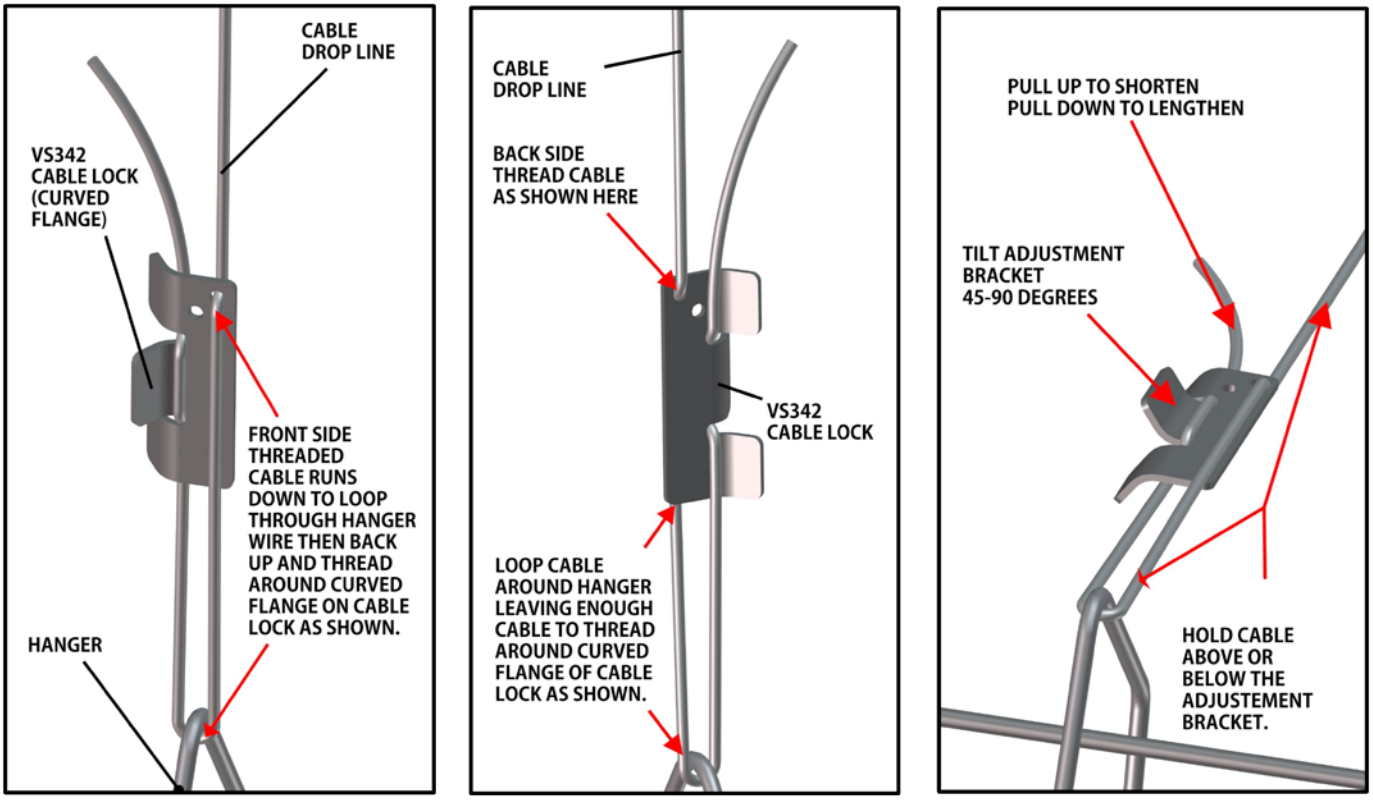
FIGURE 35



REMINDER: Make sure the outlet drop holes are downward when the hangers are installed, otherwise feed will not be allowed to drop into the feeder pans.

5. Install the cable locks now that you have installed/slipped the hangers on the feed tubes at the 8’ (2.43m) or 10’ (3.05m) spacing determined by the suspension drop lines. Figure 36 shows the proper installation of the hanger assembly to the cable lock.
6. Be sure the cable lock is within 6”(15.24cm) of the feeder line. Figure 36 shows how to thread cable through the hanger and cable lock.
7. To adjust the cable, hold the drop cable above or below the bracket, tilt bracket approximately 45-90 degrees and pull up on end of drop cable to shorten and pull down to lengthen. It is critical that you level the drop lines with feed tubes.

FIGURE 36



Either 450076 hanger wire with 010616 bolt and 012793 nut or 450123 hanger wire may be used on smooth feed tubes.

8. Continue the installation for all drops, check drop lines before raising feeder line. **The cable must be tracking properly on all pulleys before raising the feeder line.**

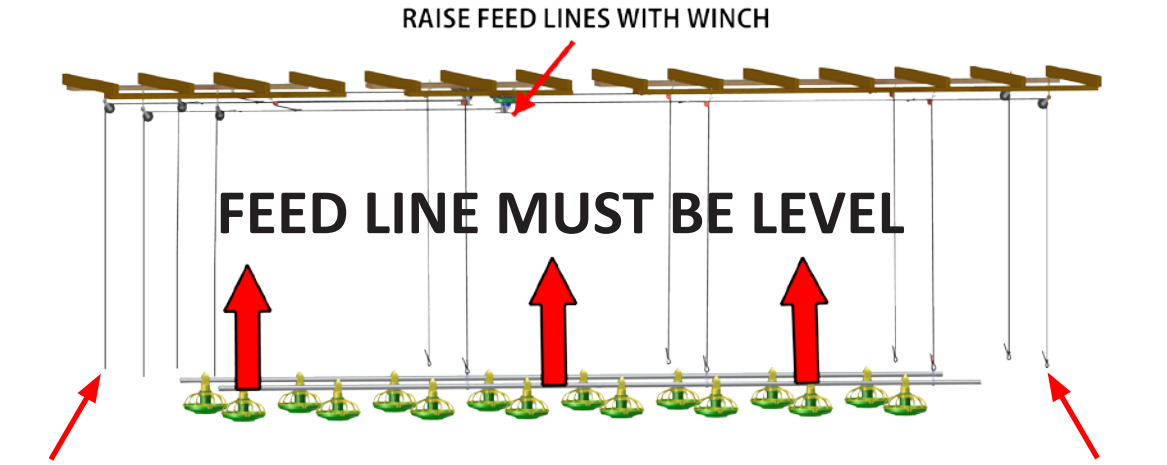
Feed Line Assembly and Suspension/Raising the Feed line

Now you are ready to test the feed line suspension system and raise it to a comfortable working height.

1 Once line is raised adjust feed (auger) lines with the cable locks and level. Measure from the floor or ceiling to level the system. This is to be done while the line is suspended.

2. Before tightening the clamp:
    - Make sure each tube is level. (Level from end to end. Make adjustments with cable locks on drop lines as detailed on previous page.)
    - Ensure that the end of each tube is fully inserted into the belled end of the next tube.
    - Make sure the tube clamps are located correctly.
3. Finally, tighten the tube clamps on the feeder tubes. Clamp the joints securely, **BUT DO NOT CRUSH THE TUBES**. Re-adjust all cable locks as needed and trim off the excess end of the cable.

FIGURE 37



RAISE TO A COMFORTABLE WORKING HEIGHT TO ATTACH DRIVE UNITS, HOPPERS AND BOOTS. (NOTE THAT THE HOMERUN LINES ARE IN PLACE READY FOR ADDITIONAL ATTACHMENTMENTS)

Hopper/Boot/Hopper Level Switch Assembly

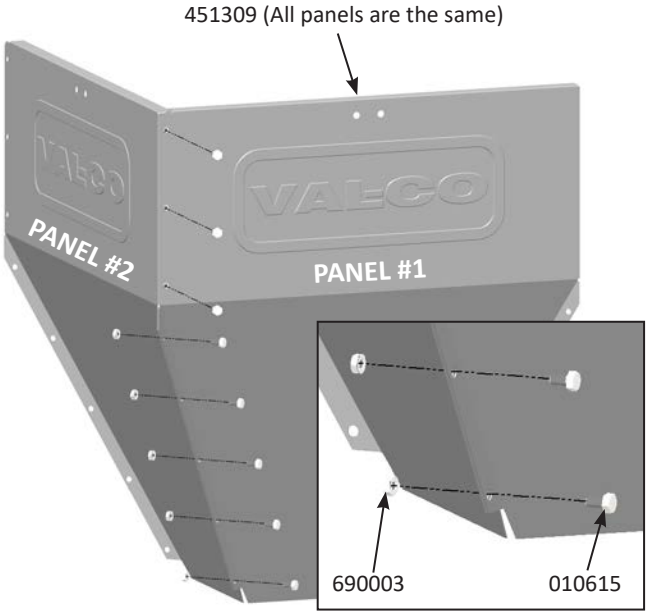
Typically the auger is installed from the hopper/boot end of the feed line, however, it may be installed from the control unit end first. It is a matter of personal preference or in the case of a mid-line control it is recommended that you begin at the boot with your auger installation instead of the end control unit. This manual will instruct the installation from the boot end first, therefore; we will start with the hopper/boot assembly. The order would be reversed if you choose to start with the control unit end.

Hopper Assembly

1. Assemble the 4 panels in order as shown in Figures 38, 39, 40, and 41 below. Wrap top flanged edge on panel #2 around the top edge of panel #1, then fasten with 1/4”-20 x 1/2” hex bolt and 1/4” kep nut.
2. Fasten the bottom ends of panels together with brackets, as shown in Figure 40.

FIGURE 38

FIGURE 39



3. Continue the same until all 4 panels are assembled.

FIGURE 40

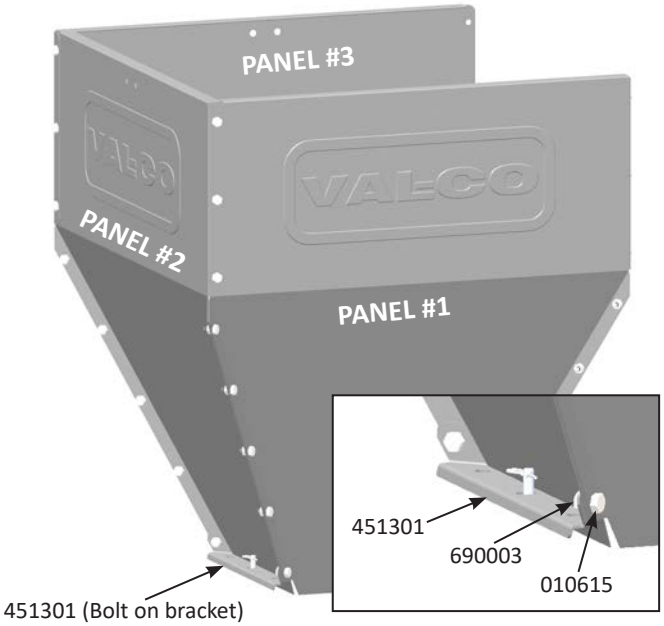
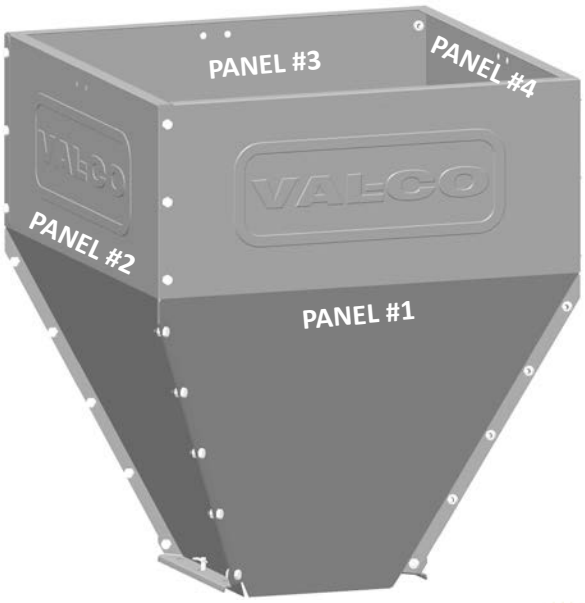


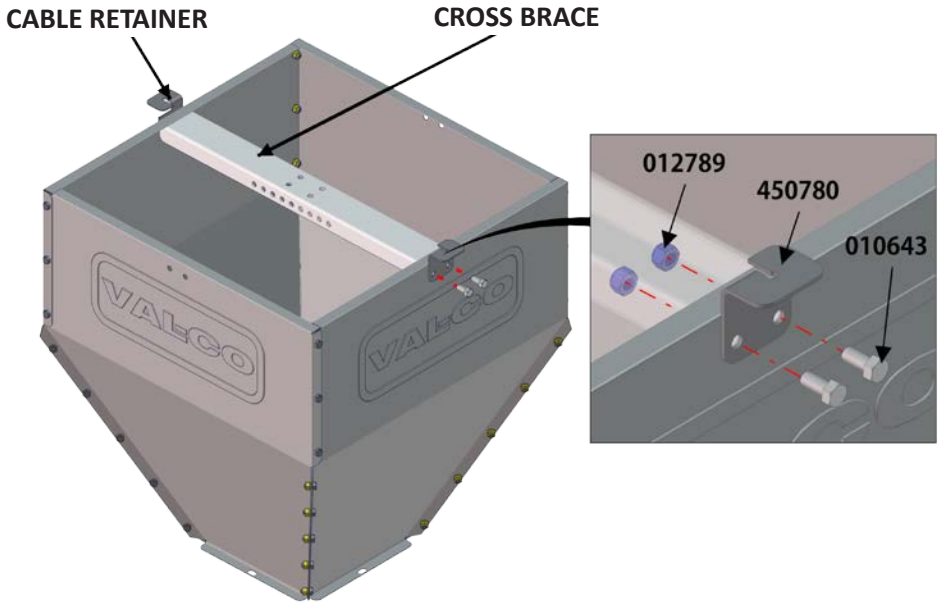
FIGURE 41



It is recommended to mount the boot to the feed hopper and thread the cables through the cable retainers after installing the hopper level switch for an easier installation.

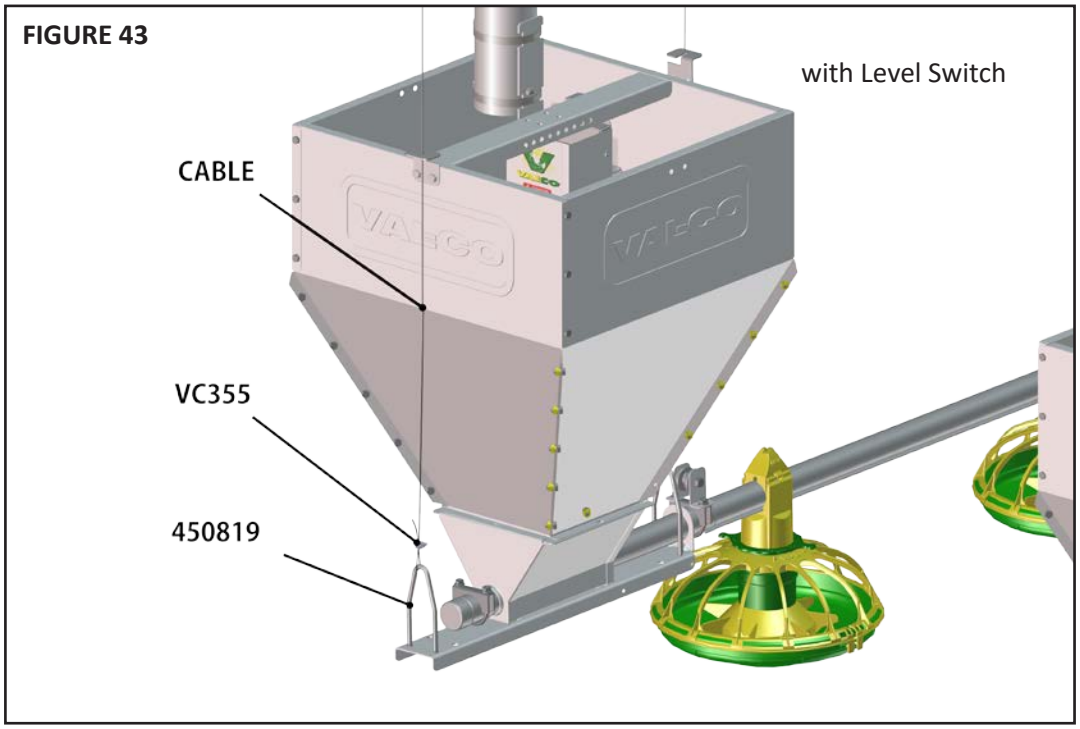
4. Figure 42 provides direction on how to assemble the cross brace and cable retainer with the 5/16” x 3/4” hex bolts and 5/16” nylock nuts on a ***100 lb. capacity hopper.***

FIGURE 42



5. Run cable through the cable retainer and attach to boot hanger using 450819 cable clamps shown in Figure 43.

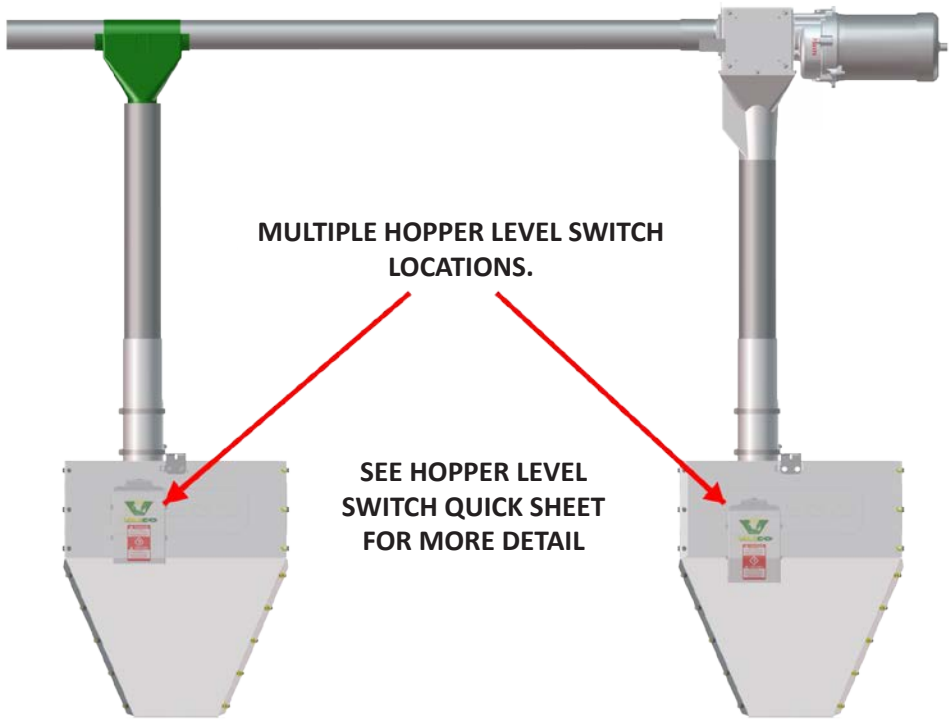
FIGURE 43



Hopper Level Switch Installation

1. Install the hopper level switch closest to the fill system motor and lower than other hopper level switches if you are using multiple hopper level switches. This will ensure that the feed level will be HIGHER in the other hoppers and will cause the system to start in order to maintain the feed level in every hopper and provide a reservoir of feed in the fill system in the case that another hopper calls for feed.
2. Position the feed drop tube to the center of the hopper to deliver feed near the top of the hopper and in front of the hopper level switch. The drop tubes and switches should be positioned high in the other hoppers so they fill but do not overflow as shown in Figure 45 on the next page.

FIGURE 44

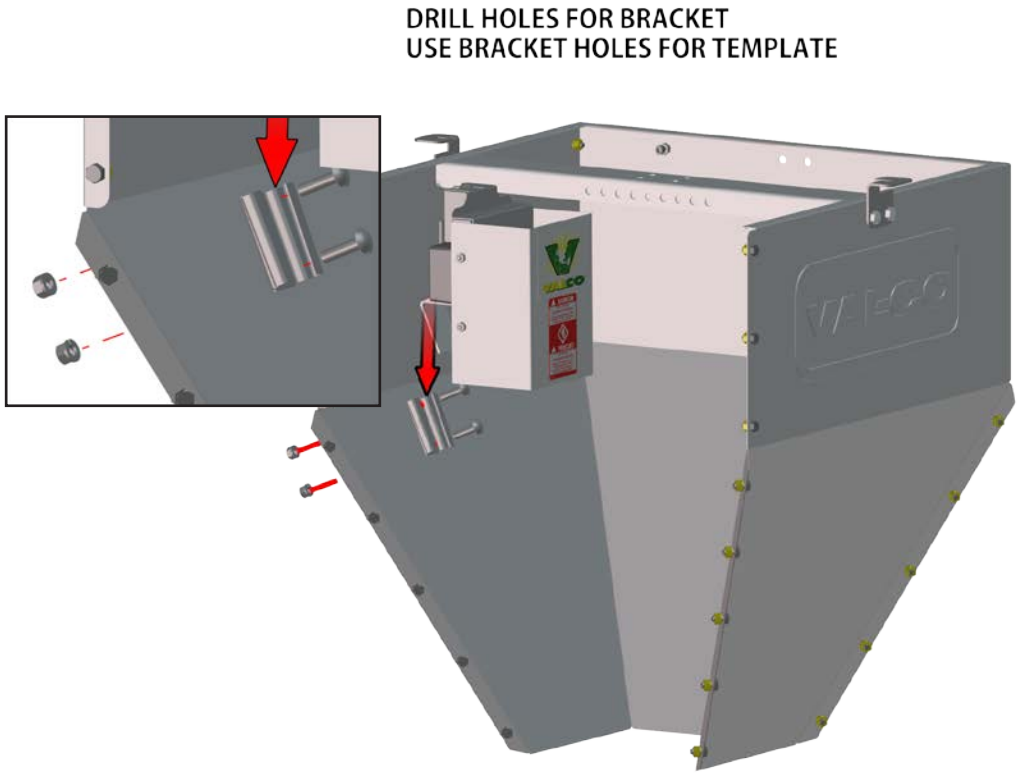


IMPORTANT! Be sure the last hopper level switch is positioned lower than other hopper level switches.

To ensure that no hoppers empty before the control unit hopper requires feed, the level switches (controls) may be placed in more than one hopper. When used in this manner, wire all switches in parallel so any one switch can start the system.

3. Locate the best position for the level switch as shown in Figure 44 and explained in step 1 on the previous page. Use a center punch and drill (2) 11/32" diameter holes through the panel of the hopper for the mounting bracket, as shown in Figure 45 below. Use the bracket as a guide (template) to determine the hole spacing. Secure using the 5/16"-18 3/4" hex bolts and 5/16"-18 lock nuts included.
4. Slide the 720020 hanger bracket on the back side of the level switch control sensor onto the 720023 mounting bracket which you just secured to the side panel of the hopper, as shown in Figure 45.
5. For optimum performance, the feed drop tube should be placed 5" (12.7cm) higher than the top edge of the switch shield and at least 1" (2.54cm) in front of the switch shield. This will allow the feed to fill the hopper, overflow the sensor and activate the level switch. THIS UNIT SHOULD ONLY BE WIRED TO A VAL-CO® DISCHARGE HEAD.

FIGURE 45

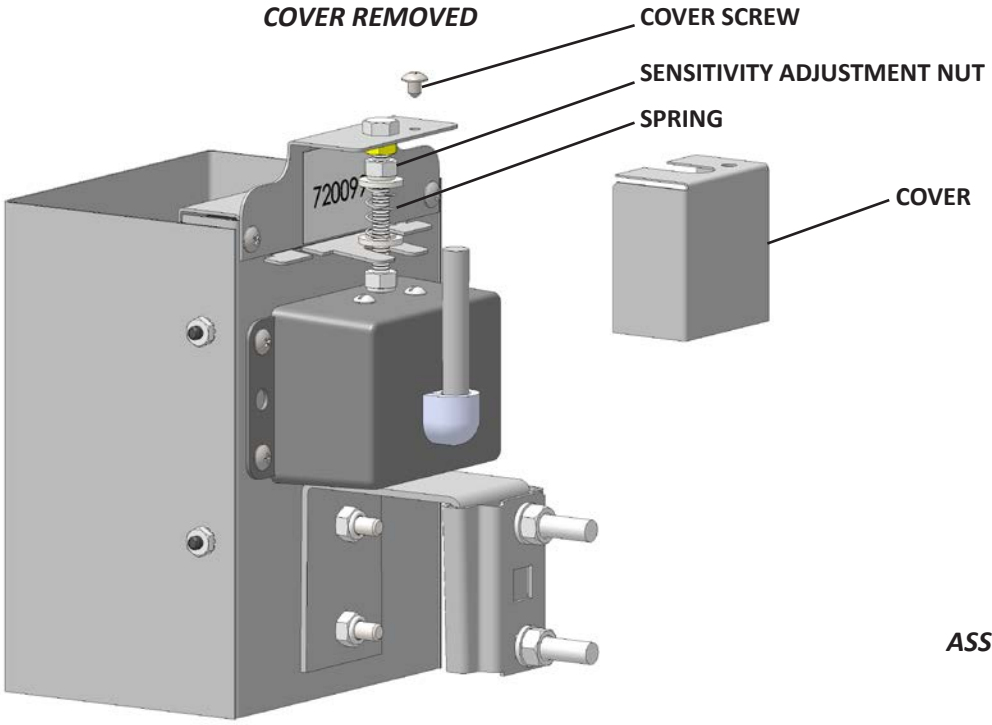


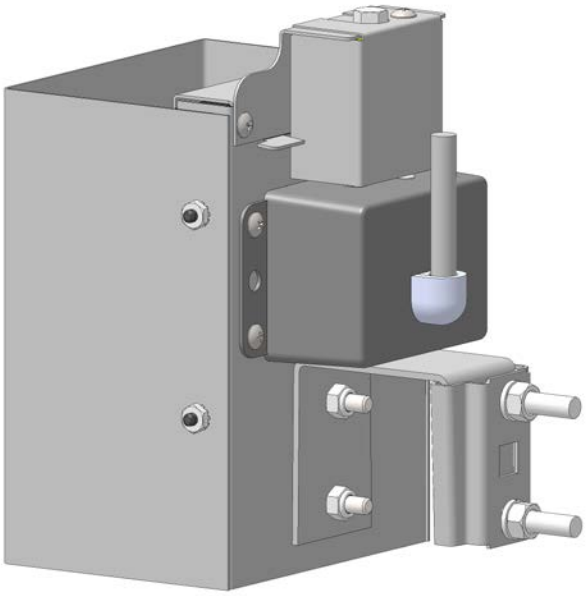
The Hopper Level Switch control may be removed for cleaning.

Adjustable Feed Hopper Switch - Sensitivity Adjustment

This Adjustable Feed Hopper Switch is set at the factory for sensitivity.
If additional adjustment is needed follow the steps below.

1. Loosen Cover Screw and remove Cover.
2. To decrease sensitivity, turn sensitivity adjustment nut clockwise to compress spring.
3. To increase sensitivity, turn sensitivity adjustment nut counter clockwise to relax spring.
4. Since movement of the nut has a considerable effect on sensitivity, adjust sensitivity in small increments of a quarter turn or less to start.

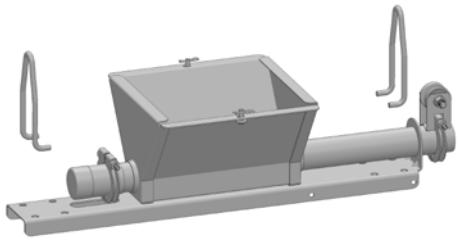




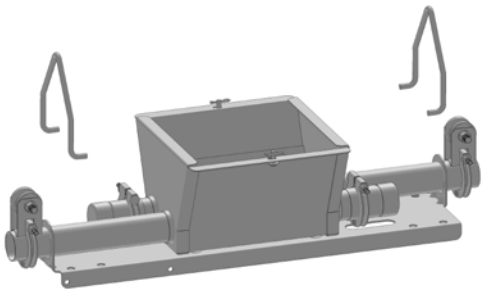
Boot/Hopper Assembly

1. The boot (single or double) is shipped pre-assembled as shown.

SINGLE BOOT PRE-ASSEMBLED

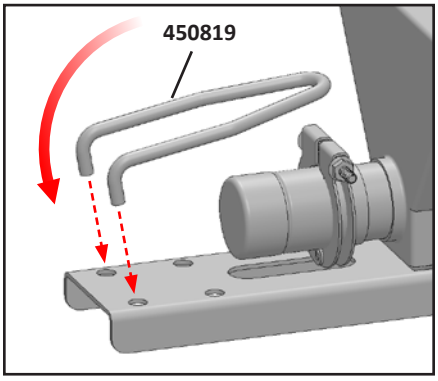


DOUBLE BOOT PRE-ASSEMBLED



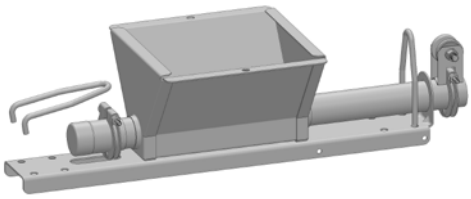
The boot is shipped assembled with the exception of the boot hangers.

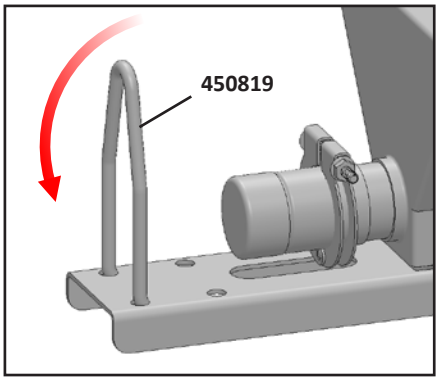
2. Attach the boot hangers to the boot base plate by slipping the hanger ends through the two holes on each end of the base plate, as shown in Figure 46.



HANGER ASSEMBLY STEP 1

FIGURE 46

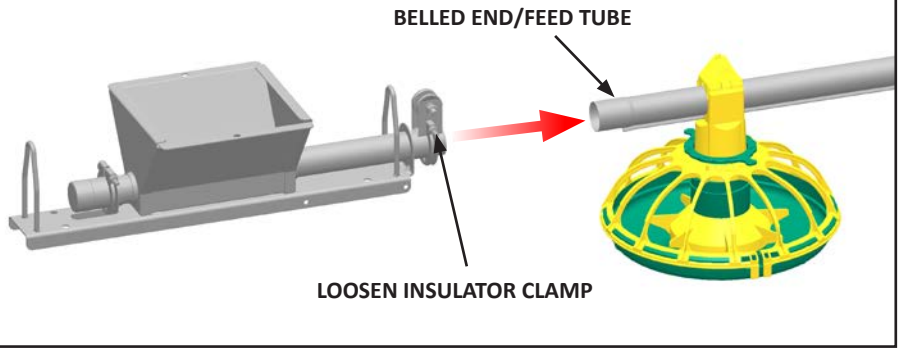




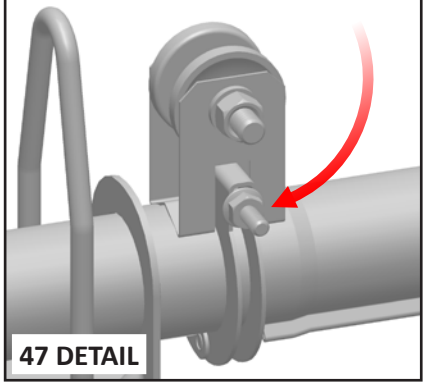
HANGER ASSEMBLY STEP 2

3. Postion the port tube(s) on the boot(s) so it can be inserted to the socket(s) / belled end(s) of the feed line. Loosen the insulator clamp to slide over the belled end and tighten when in place, as shown in Figure 47. Follow this same procedure for midline systems using double boot going both directions out from hopper.

FIGURE 47



TIGHTEN CLAMP OVER BELLED END



4. Attach hopper suspension cables to boot hanger with cable clamps, as shown in Figure 48.

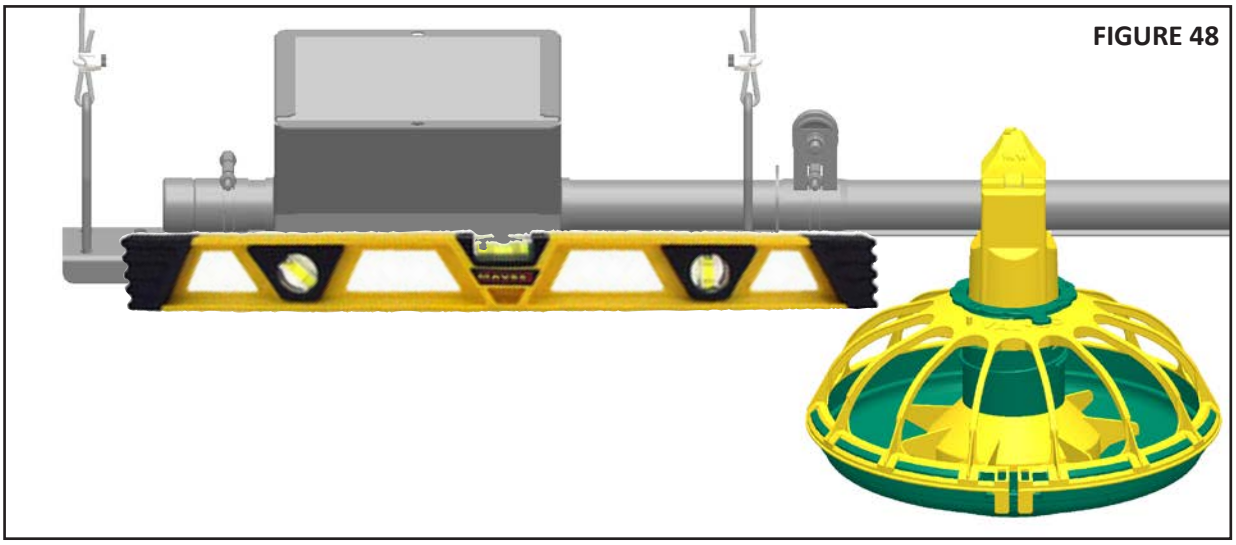
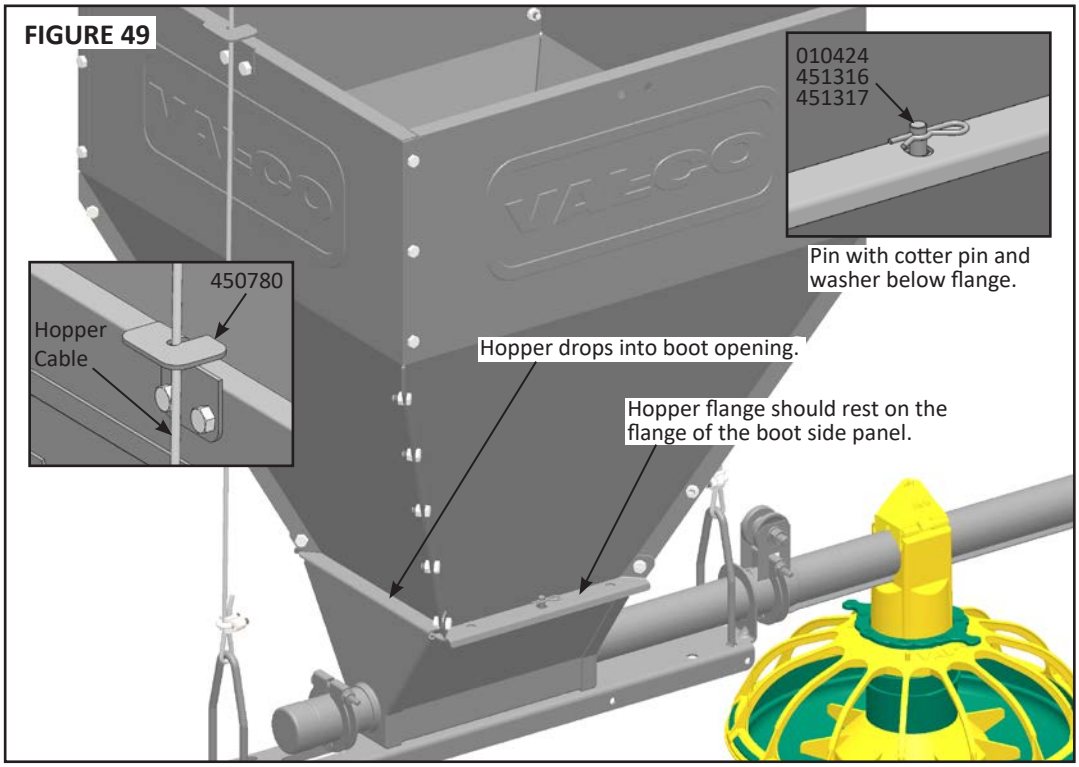


FIGURE 48

Feed boot must be level with the feed line!

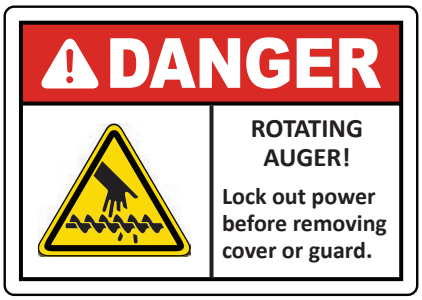
5. Assemble hopper to boot. Begin by dropping the hopper into the boot. Center hopper side flanges over boot side flanges, align holes in flanges and insert pins into holes to secure. Thread cable through both cable retainers on top of hopper, as shown in Figure 49.



Auger Installation

USE EXTREME CAUTION WHEN WORKING WITH THE AUGER!
The auger has tension and may spring which could cause personal injury.
Wear protective clothing, gloves, and safety glasses

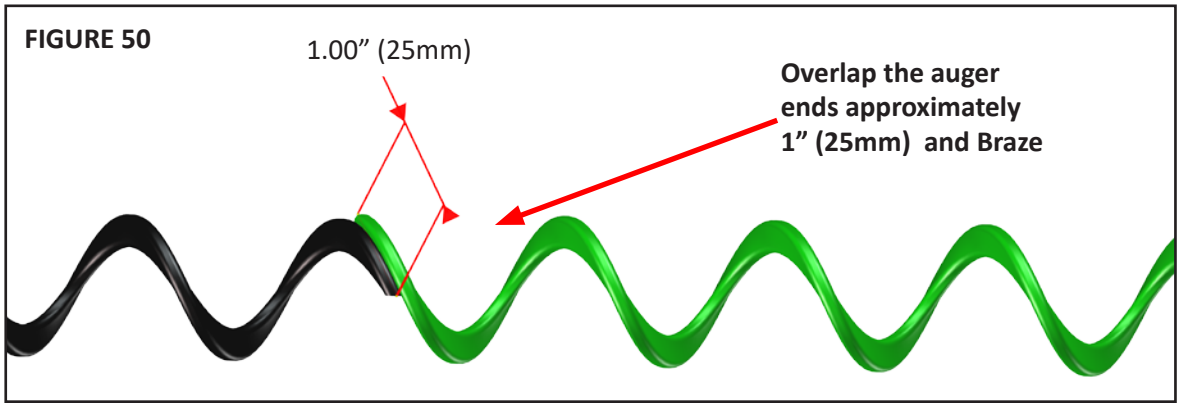
1. To avoid possible kinks in the auger, do not drop the roll when handling.
2. Inspect the auger carefully as it is installed.
3. Kinks must be removed and the auger brazed back together.
4. Cut the first 18” (45.72cm) and the last 18” (45.72cm) off of each roll of auger. Cut out any distorted or kinked auger sections and reconnect the auger as stated in the auger brazing section.



Auger Brazing

The auger should be brazed if it is necessary to splice or lengthen it. A bronze, flux coated rod is recommended. The ends of the auger should butt against each other with a 3/4” to 1” (19mm to 25mm) overlap. DO NOT THREAD INSIDE EACH OTHER. See Figure 50. The joint should be well filled with no sharp edges or rough corners to wear against the tube. To align the auger for brazing, lay it in an angle or channel iron and clamp it firmly in place. Use low heat. Allow the joint to air cool; rapid cooling will cause the auger to become brittle. Brazed joints should not be installed in a 45 degree elbow or in an inclined tube. Installing the brazed joint closer to the drive end of the auger run will help minimize feed flow restrictions.

FIGURE 50

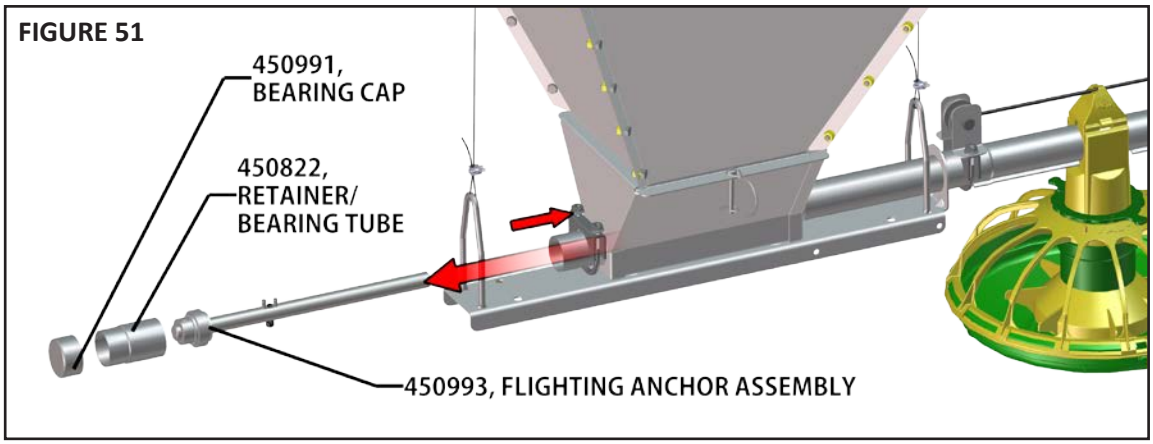


Removing the Flighting Anchor and Inserting the Auger

If you are inserting the auger from the boot end you will need to perform the following steps on removing the bearing flighting anchor assembly. ***Note: to replace the flighting anchor at anytime, remove as shown below being careful TO CLAMP THE AUGER WITH A VISE GRIP SO THAT IT DOES NOT SNAP BACK INTO THE FEED TUBES.***

1. Loosen tube clamp and slide toward hopper. Pull off the bearing cap, retainer and flighting anchor assembly, as shown in Figure 51.

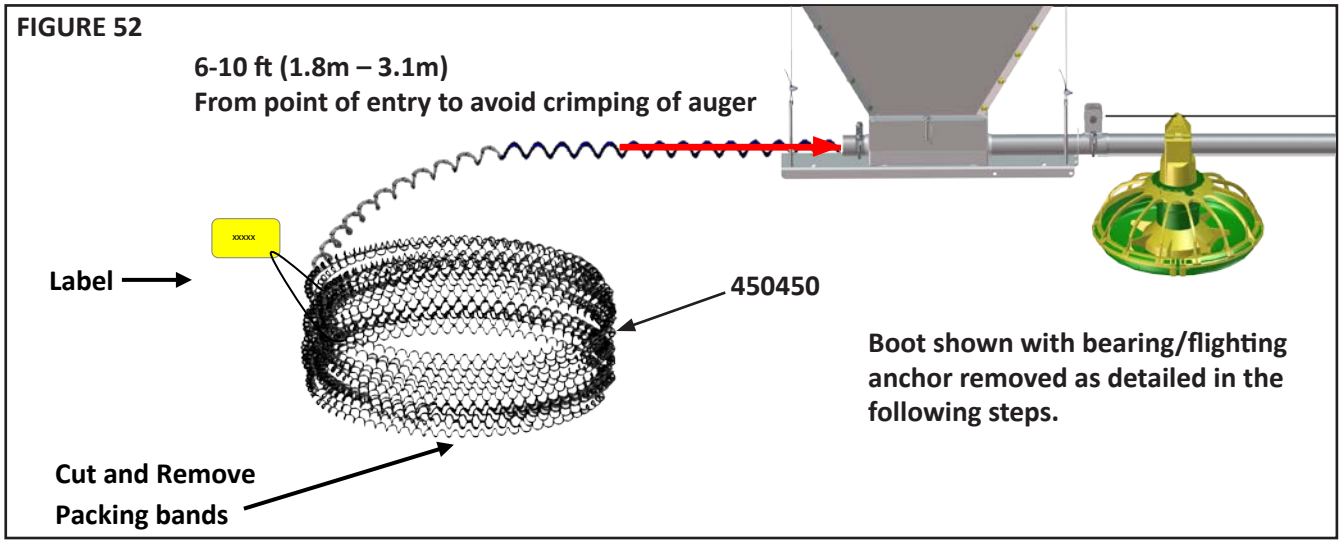
FIGURE 51



Handle AUGER with caution.
Wear safety glasses to protect your eyes and gloves to protect your hands from injury.

2. Place the coiled auger approximately 6 – 10 feet (1.8m – 3.1m) from the end of the boot.
3. Remove all wires and labels and uncoil the Auger from the outside of the roll. Push the auger into the end of the boot assembly, to the drive unit, using short strokes until it reaches through the port tube and housing assembly on the drive end and can be attached to the drive shaft on the direct drive unit.

FIGURE 52



For more information on installing auger properly, please scan the following QR Code:

or visit: val-co.it/aug-inst

Direct Drive Installation

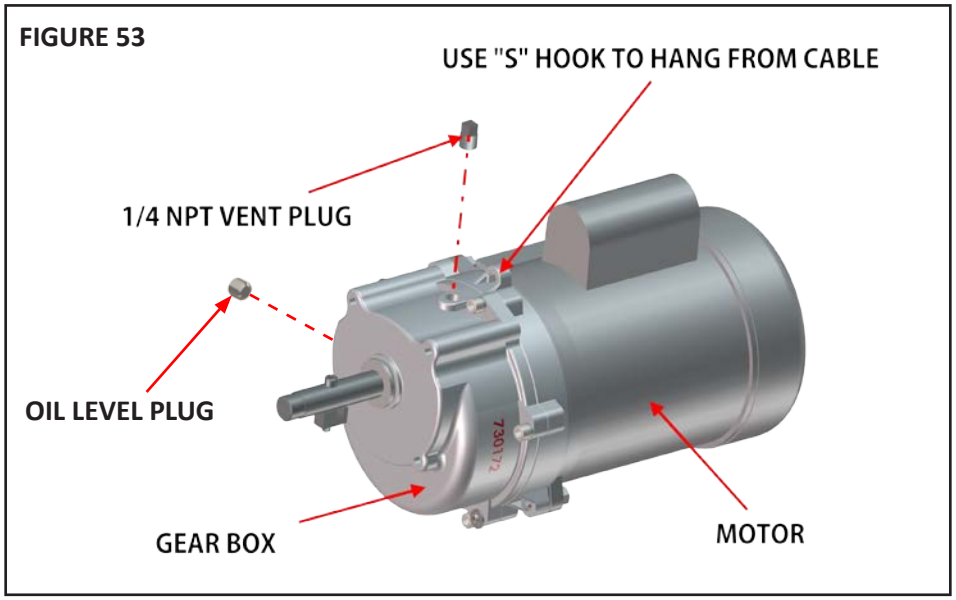
Before you hang the direct drive head & gearbox it is important to read all the information below.

1. Prepare the drive unit for installation as shown below for proper installation and performance.
   - **Before starting motor, remove vent plug.**
   - **Check oil.**
   - **Fill unit to oil level plug hole.**
   - **Replace 730141 vent plug.**

   Oil level plug is the pipe plug located in the middle portion of gear housing. Maintain oil level at the bottom of oil level plug hole.

Oil Type: Use one of the following equivalents: Mobil-lube HD 80w 90 *or* Shell-Spirax HD 80w 90.

FIGURE 53



2. Install 450696 auger shim onto the gearbox as shown in Figures 54 and 55. It may be necessary to rotate the auger shim to align the holes.

FIGURE 54

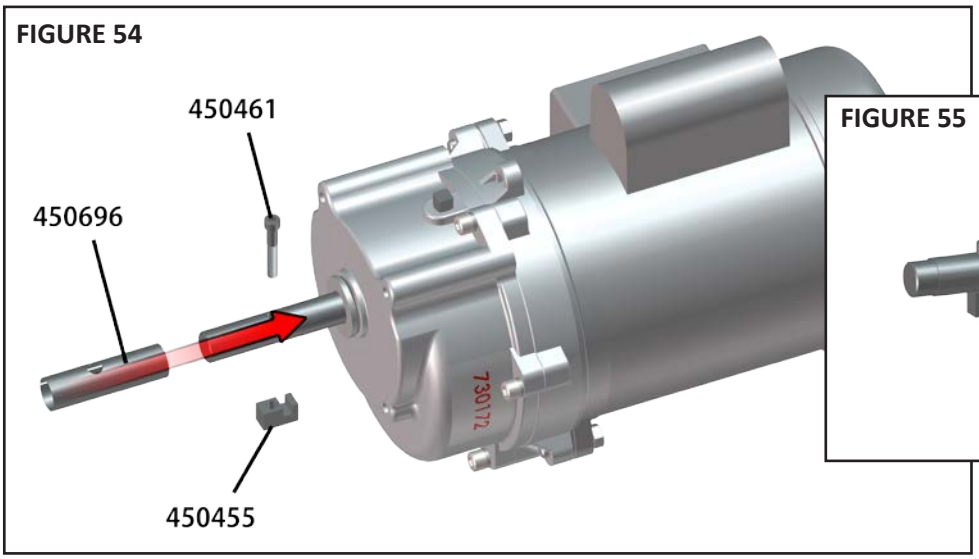
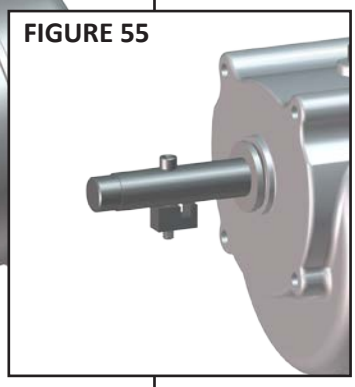


FIGURE 55

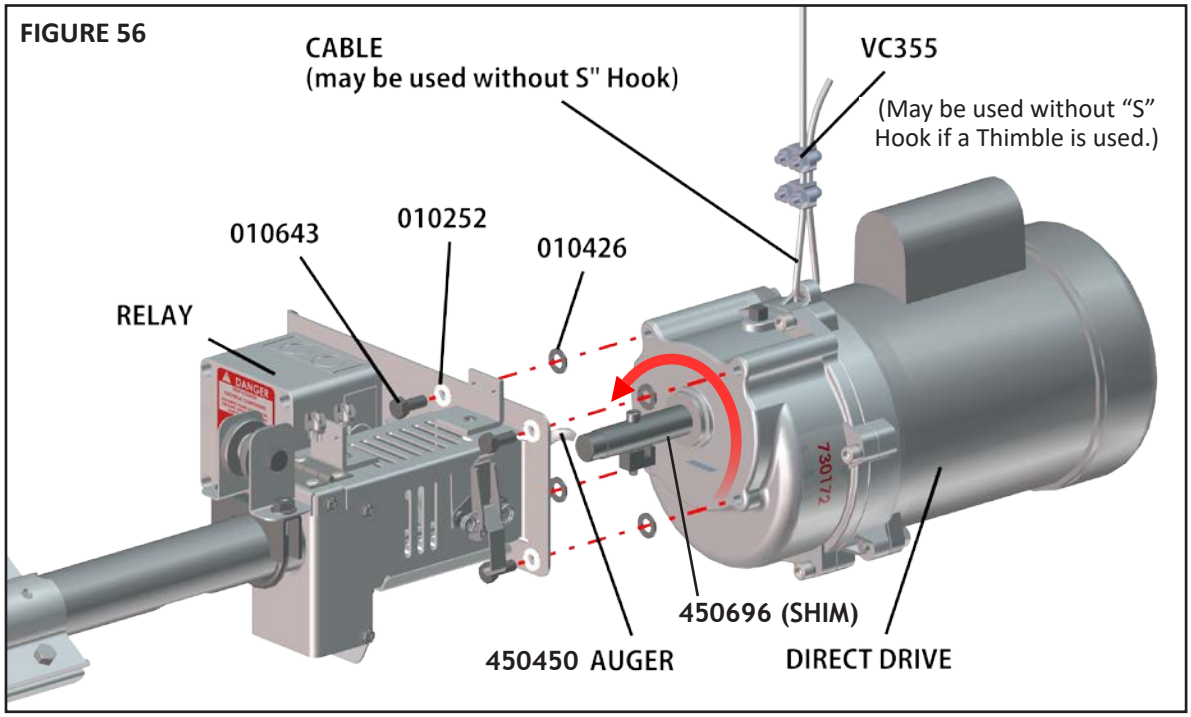


Direct Drive Installation - continued

3. Ensure that the motor is spinning the correct direction prior to attaching the gearbox shaft to the auger. The auger should rotate counter clockwise when looking towards the motor when standing at the hopper, as shown in Figure 56.

4. Attach the drive head and gearbox unit to the port tube assembly. (**BE SURE YOU HAVE PULLED ENOUGH AUGER TO CONNECT TO THE DRIVE SHAFT)** Use the (4) 010643 hex bolts, (4) 010252 split washers and (4) 010426 flat washers from the hardware bag, shown in Figure 56, to secure the port tube assembly to the drive unit.

FIGURE 56



NOTE: Arrow indicates proper direction that motor shaft should spin.

Attaching the Auger to the Direct Drive

Now that you have the auger inserted into the feed line from the boot end through the port tube assembly /housing assembly and have pulled enough auger to attach to the drive unit proceed with the following steps.

1. Unlatch spring latch by pulling down top of latch (top arrow) to release the bottom clamp (bottom arrow) of latch, as shown in Figure 57.
2. To access the 450461 socket head screw, swing the top lid of the port tube housing UP, as shown in Figure 58.
3. To access the 450455 retainer, swing the bottom plate of the port tube housing DOWN, as shown in Figure 59.
4. Secure the auger to the drive shaft using the 450461 socket head screw and the 450455 retainer included in the hardware bag, as shown in Figure 60. (Auger retainer may already be attached, if so remove and re-attach. **MAKE SURE THE AUGER IS POSITIONED THROUGH THE SLOT ON THE AUGER RETAINER AND SLIDE ALL THE WAY BACK AGAINST 012755 WASHER.**

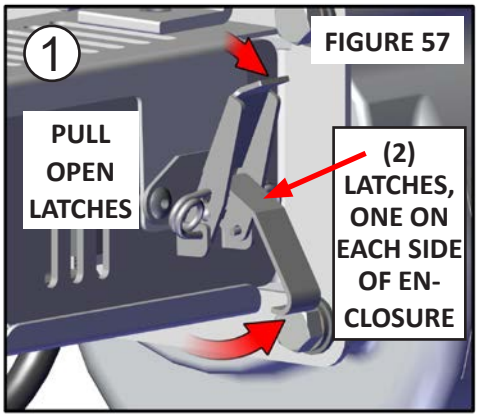
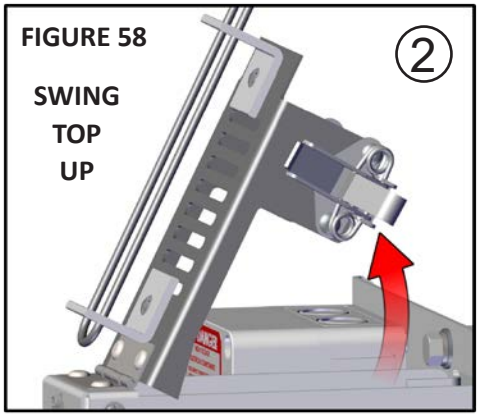


FIGURE 57



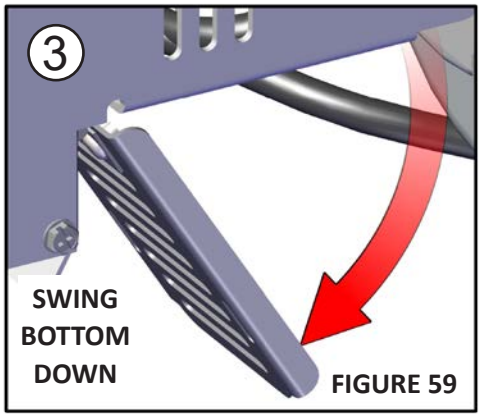


FIGURE 59

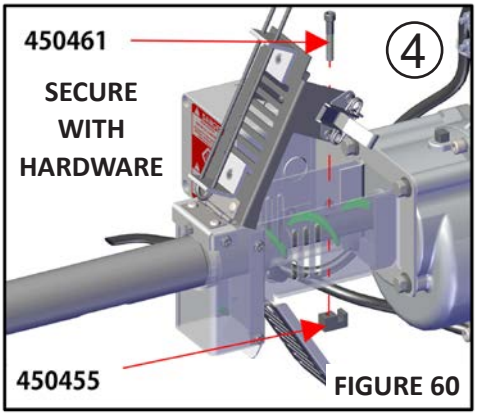


FIGURE 60

At this time, you may move to the opposite (hopper/boot) end to complete the auger installation or you may assemble the control pan unit at this time. For the purposes of saving time, you may interrupt the auger Installation process and assemble the control pan unit to the port tube/housing assembly.

Disconnect power to switch circuit before moving on to control pan installation.

Control Pan Installation is detailed on pages 41 through 43.

Attaching the Auger at Boot End

Now that the auger is attached to the drive shaft of the direct drive unit you may attach the auger on the boot end.

5. Pull the auger from the boot end until it begins stretching.
6. Allow the auger to relax.
7. Mark the auger at the end of the boot while the auger is relaxed in the tube, as shown in Figure 61**.**
   Stretch the auger 4-7 inches (102mm – 178mm) per 100 feet. Example: A 350 feet (107m) feed line requires approximately 24 inches (609mm) of stretch).
8. Beginning at the relaxed mark, pull and measure the required amount of stretch. Mark the auger at this point, as shown in Figure 62.

Be sure ALL POWER IS TURNED OFF before servicing this equipment!
Follow Lock Out Tag Out procedures!

FIGURE 61

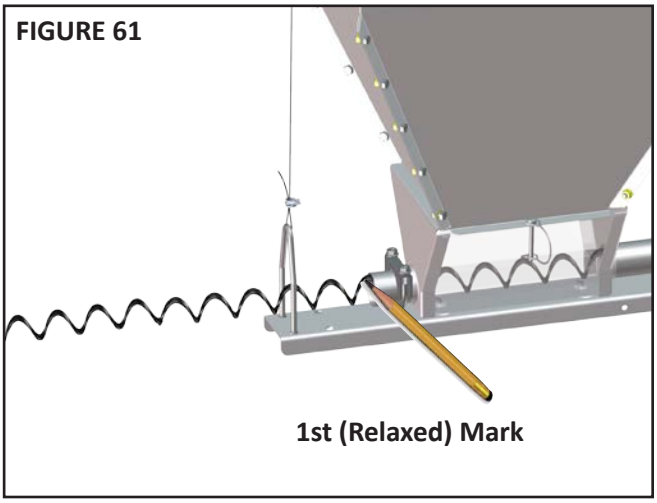
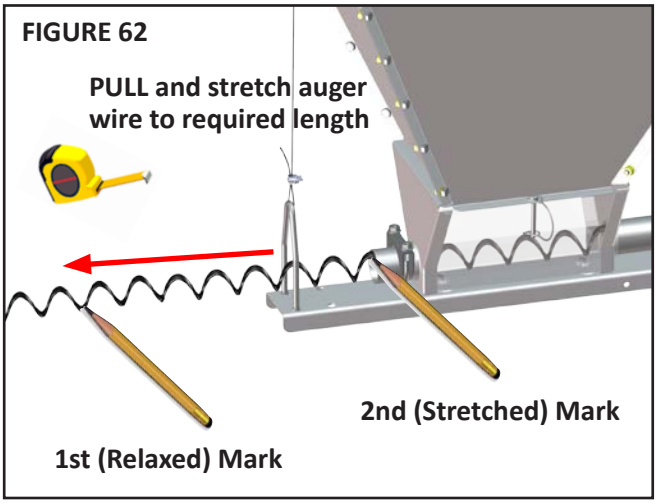
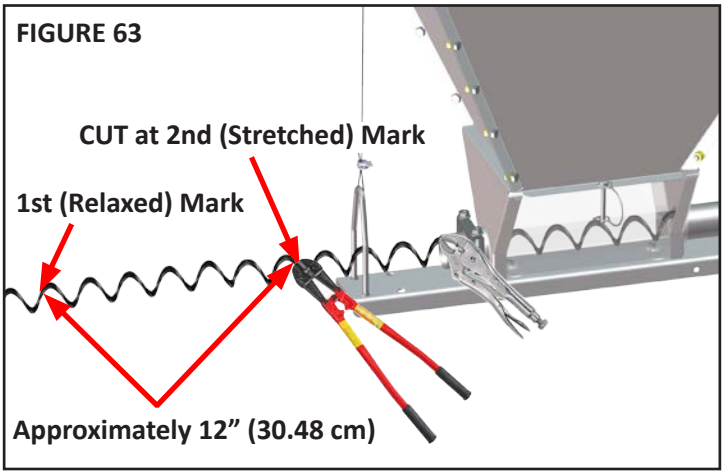


FIGURE 62



9. Pull the auger an additional 18” out past the 2nd (stretched) mark and clamp with locking pliers. Allow auger to pull back into the boot so that the pliers rest against the end of the boot, as shown in Figure 63.
10. Cut the auger at the stretched mark with a bolt cutter, as shown in Figure 63.

FIGURE 63



REMINDER: If more than one coiled roll of auger is required to reach the control pan unit sufficiently, you will need to braze the auger ends together at this point. (Brazing detailed in previous section.)

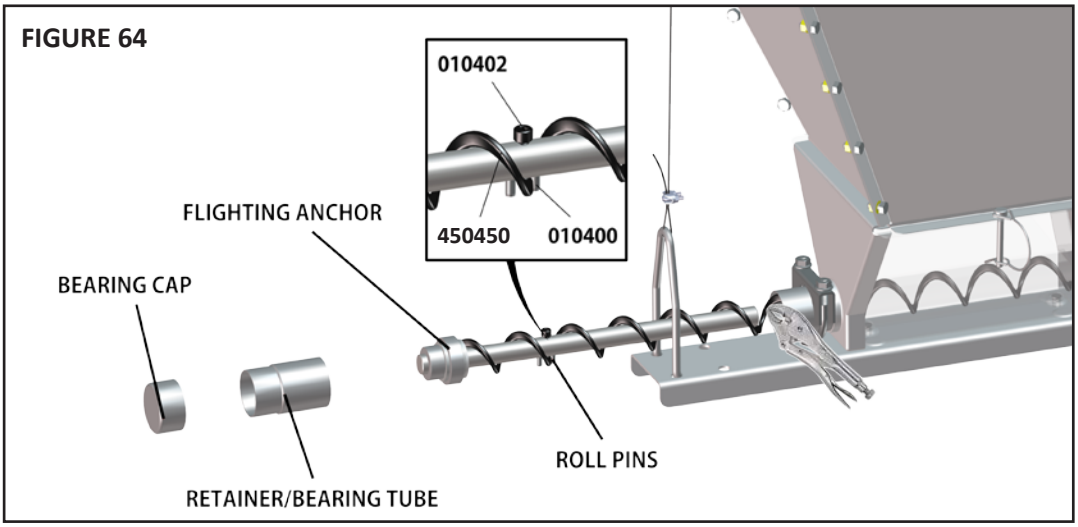
Attaching the Auger at Boot End - continued

11. Insert the flighting anchor shaft into the end of the auger while pliers are still attached as shown in Figure 64. Slide back into the boot and re-attach the bearing plate with bearing/flighting anchor.

12. Rotate the flighting anchor shaft assembly so that the auger moves between the two roll pins and reaches the backup washer at the head of the shaft, as shown in Figure 64. When the auger is in place, the socket head cap screw will need to be tightened to hold the auger securely.

13. Carefully remove the pliers as you hold the auger in place and gradually allow the shaft with the stretched auger to pull back into the boot. The flighting anchor shaft will be held in place by the pull of the auger and the bearing tube fitting.

FIGURE 64



Disconnect power to switch circuit before moving on to control pan installation.

End Control Pan with Mechanical Switch

The feeder portion; tower, collar, grill and pan, assemble the same as the FUZE® feeders, with the exception that the control pan is designed for a mechanical switch or proximity sensor. **IF YOU ARE USING A PROXIMITY SENSOR, DO NOT INSERT SENSOR UNTIL YOU HAVE THE CONTROL PAN FEEDER ASSEMBLED.**

Mount the control pan on the port tube vertically. (The control pan unit can be attached now or after the auger has been fully installed.) ***Both types of control pan assemblies are detailed on the following pages or refer to instructions with control pan shipment.***

1. Remove the FE1550 feeder tower cap from assembly by sliding it off. (If pre-assembled to the control pan.)
2. Lift the control pan onto the bottom of the port tube centered under the feed drop hole, as shown in Figure 65.

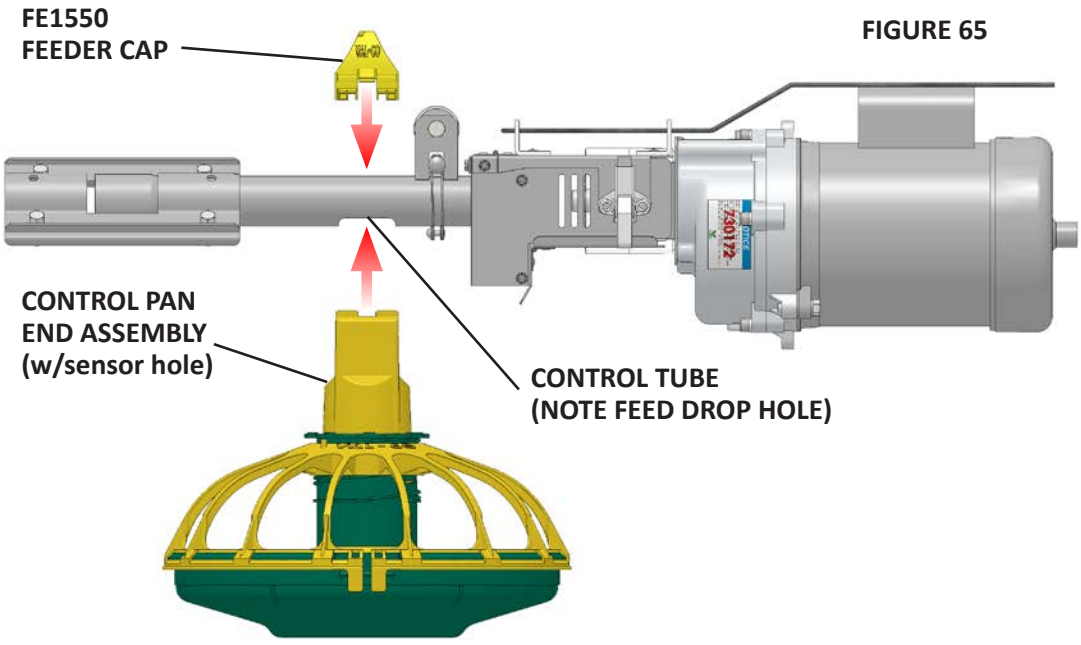


FIGURE 65

3. Squeeze tabs then slide the FE1550 feeder tower cap onto the feeder tower tabs as shown in Figure 66.
4. With the feeder tower hanging vertically, fasten the 820158 anti-swing bracket onto the port tube using (2) 451008 tube clamps as shown in Figure 67.

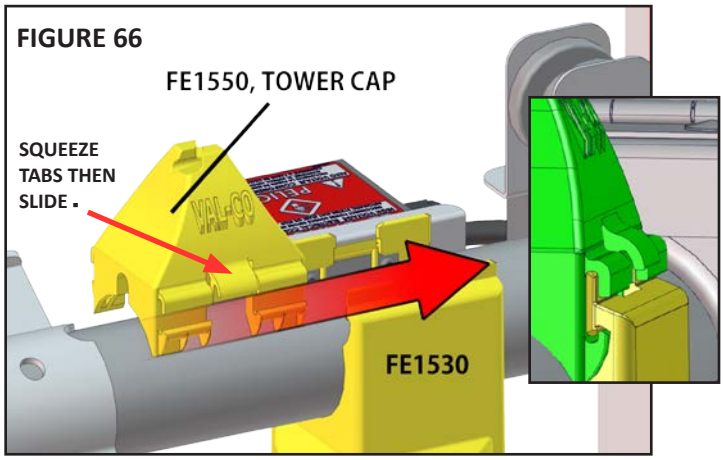


FIGURE 66

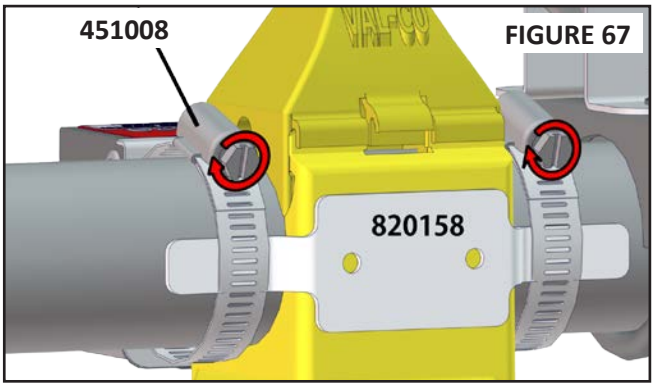


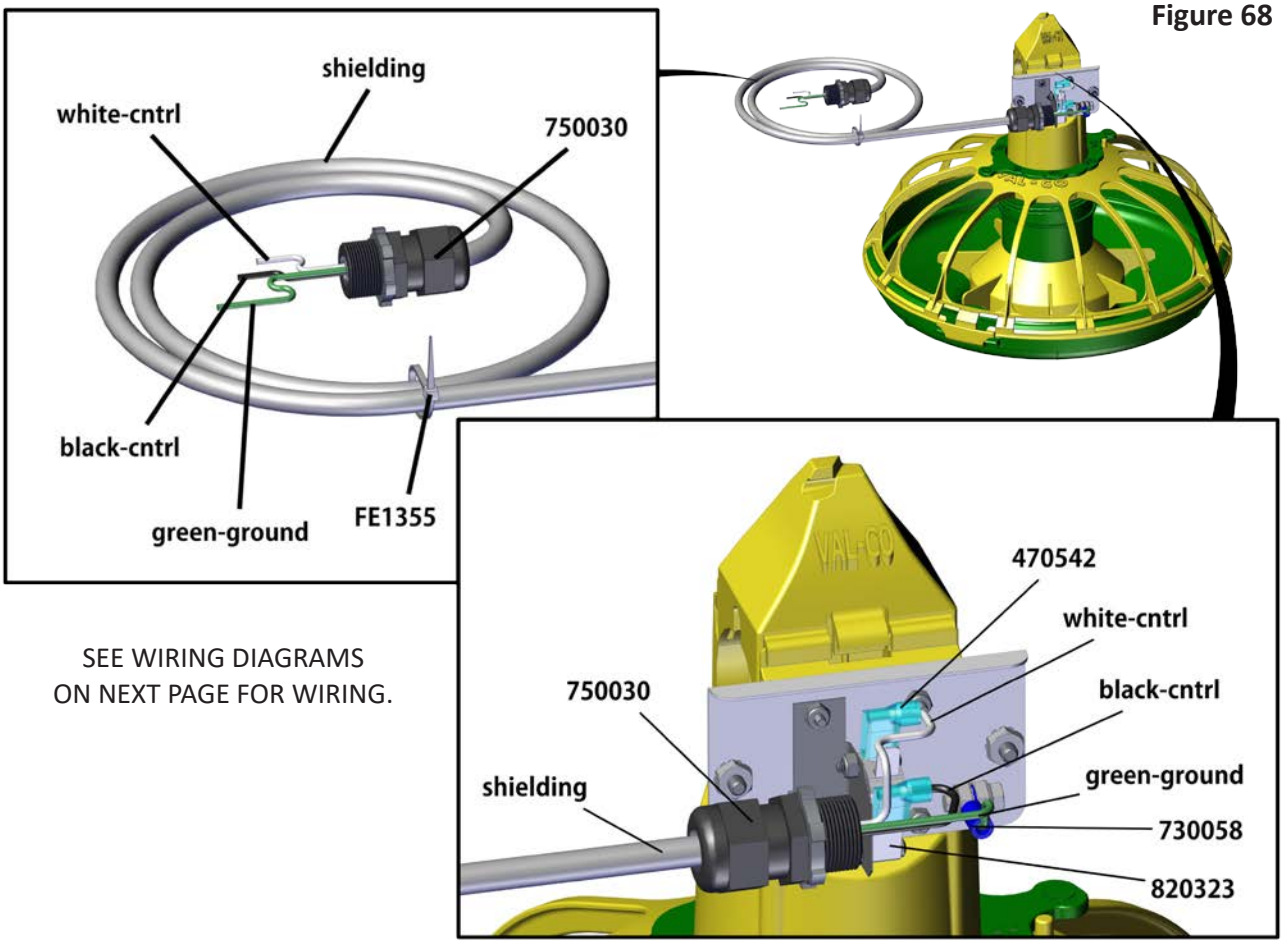
FIGURE 67

Tighten the 451008 tube clamps over the 820158 non-swing bracket tabs, as close to the control pan as possible.

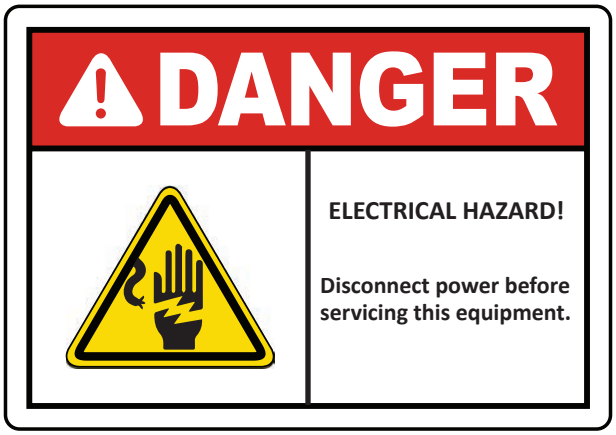
End Control Pan Mechanical Switch - continued

5. Route the wire from the switch and the motor into the junction box. Wire tie the cords away from the birds to prevent bird injury and wire damage. Connect wires as shown in the wiring diagrams on the next page.

Figure 68



SEE WIRING DIAGRAMS
ON NEXT PAGE FOR WIRING.

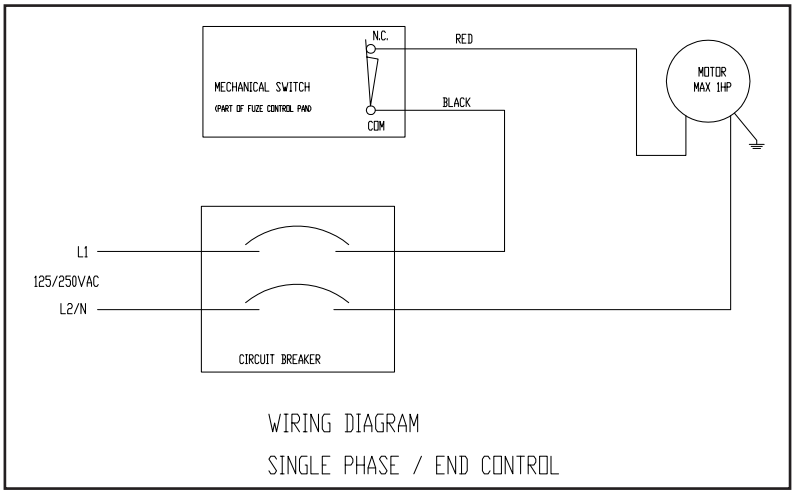


Do not route wires from motor and control switch that are attached to ceiling under sheet metal plate. They can get tangled and cut during winching.

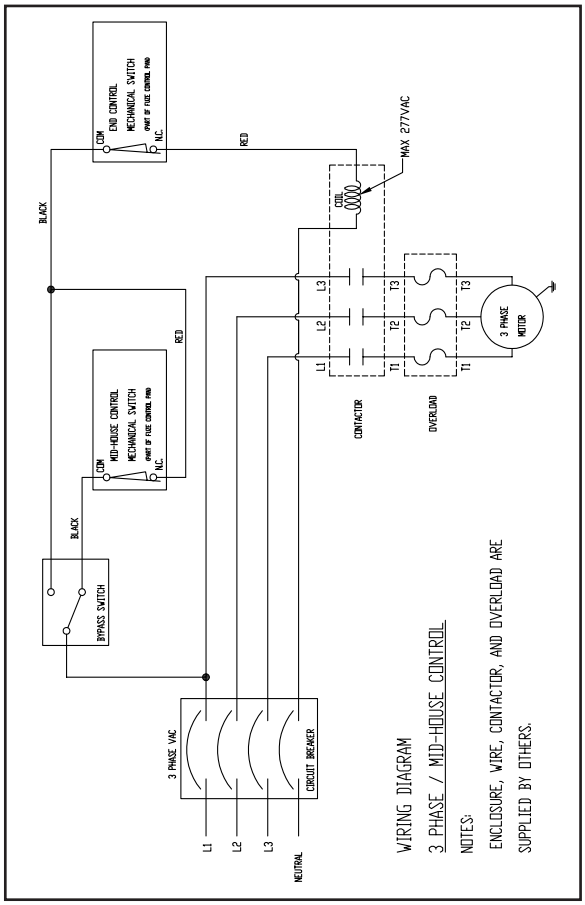
Sensitivity Adjustment is detailed on pages 44 and 45.

End Control Pan Mechanical Switch Wiring Diagrams

WIRING MUST BE DONE BY A LICENSED ELECTRICIAN.
ALL LOCAL CODES MUST BE FOLLOWED!

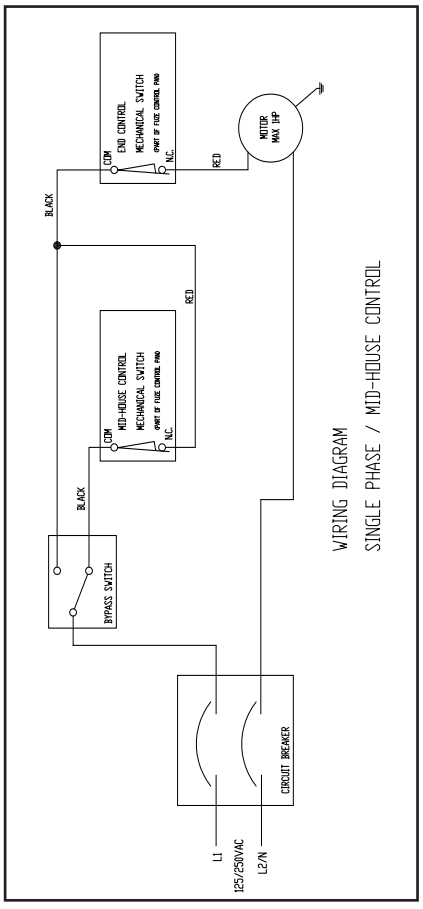


WIRING DIAGRAM
SINGLE PHASE / END CONTROL

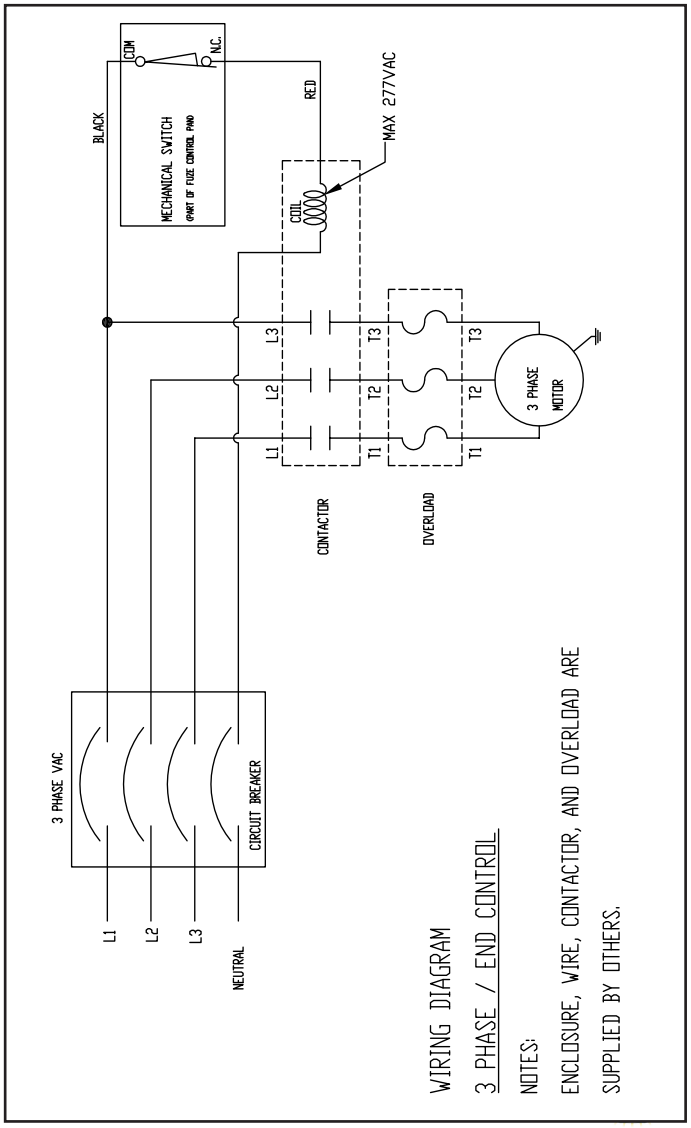


WIRING DIAGRAM
3 PHASE / MID-HOUSE CONTROL

NOTES:
ENCLOSURE, WIRE, CONTACTOR, AND OVERLOAD ARE SUPPLIED BY OTHERS.



WIRING DIAGRAM
SINGLE PHASE / MID-HOUSE CONTROL



WIRING DIAGRAM
3 PHASE / END CONTROL

NOTES:
ENCLOSURE, WIRE, CONTACTOR, AND OVERLOAD ARE SUPPLIED BY OTHERS.

ENCLOSURE, WIRE, CONTACTOR & OVERLOAD ARE TO BE SUPPLIED BY OTHERS.

RELAYS/COILS MUST BE INTEGRATED AS SHOWN.
MECHANICAL SWITCH MUST NOT BE USED TO DIRECTLY SWITCH MOTORS OVER 1 HP.

End Control Pan Mechanical Switch Sensitivity Adjustment

The switch sensitivity is adjusted from the factory to a range that will work for most feeds. It may be necessary for you to adjust for a specific feed type or when replacing the switch. Should your switch require adjustment from the factory setup, please follow the steps below.

1. Disconnect power to the switch circuit.
2. Remove the two 012408 hex nuts that attach the switch cover and gently pull the switch cover away from the mount to access the switch as shown in Figure 69.
3. Loosen the top switch mounting screw as shown in Figure 70.

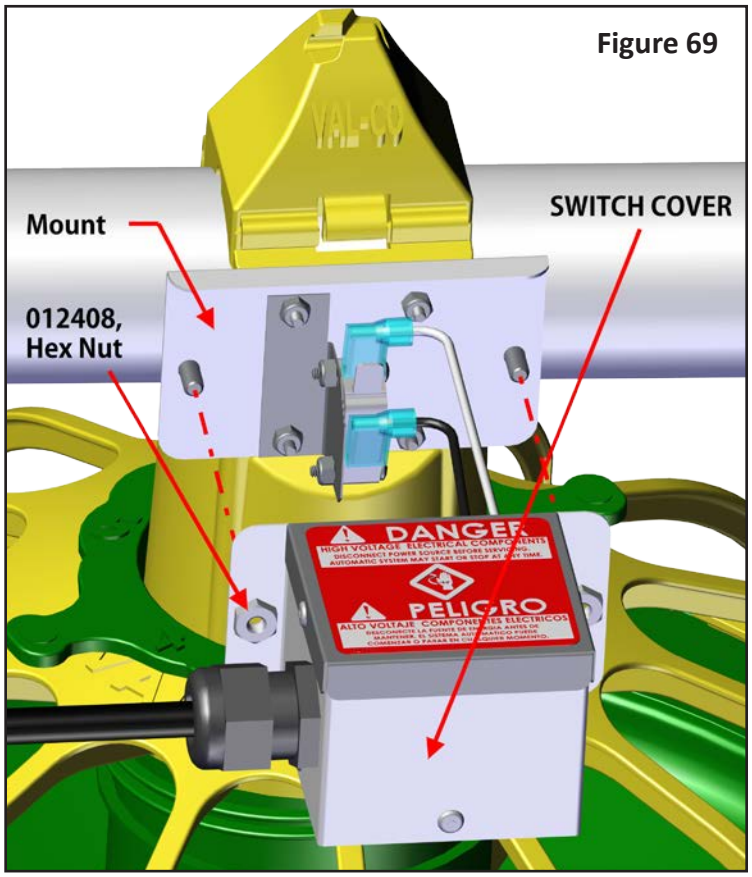


Figure 69

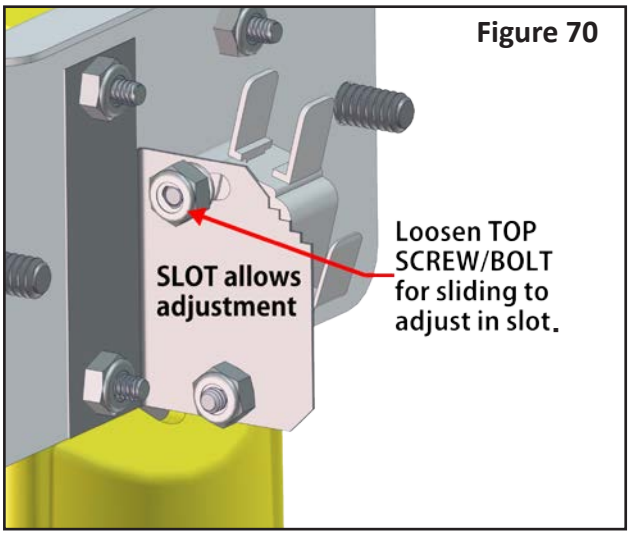


Figure 70

4. Rotate the top of the switch 1/32” (about 1/2 notch) as shown in Figure 71.
   a) Rotating the top of the switch toward the tower will decrease sensitivity (the tower will fill up more).
   b) Rotating the top of the switch away from the tower will increase sensitivity (the tower will fill up less).

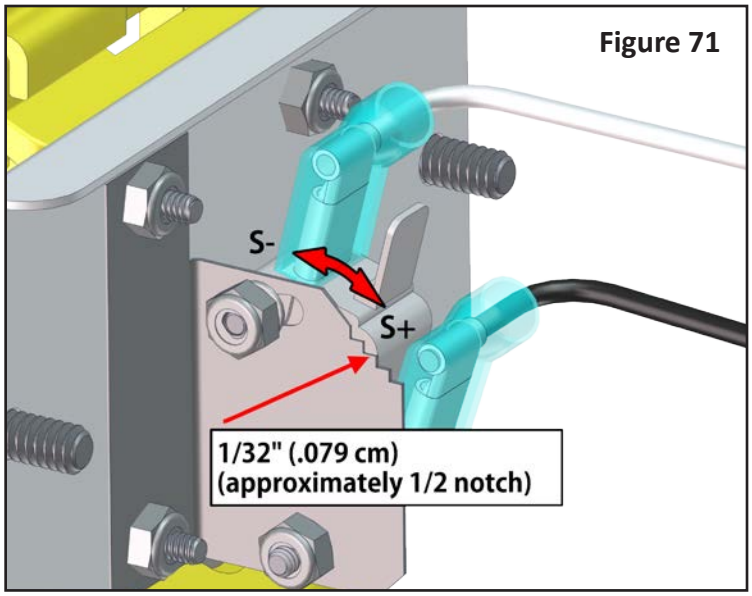


Figure 71

It does not take much rotation of the switch to greatly influence the sensitivity of the switch. It is better to move in 1/32” (0.079 cm) increments (about 1/2 notch).

5. Without moving the switch, tighten both switch mounting screws. DO NOT OVERTIGHTEN, as shown in Figure 72.
6. Run feed test and re-adjust if necessary.

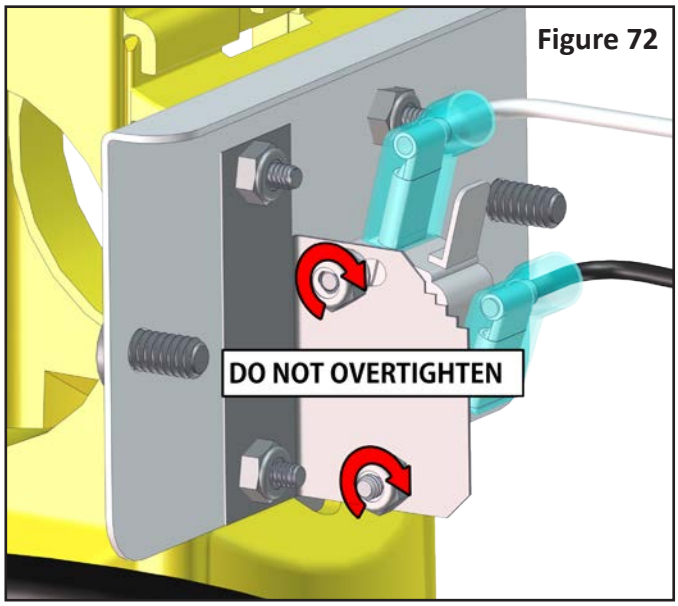


Figure 72

Do not route wires from motor and control switch that are attached to ceiling under sheet metal plate. They can get tangled and cut during winching.

End Control Pan Proximity Sensor

1. Remove the FE1550 feeder tower cap from assembly by sliding it off (if pre-assembled) the control pan.
2. Lift the control pan onto the bottom of the port tube centered under the feed drop hole. Orient the proximity switch mounting hole of feeder tower as shown in Figure 73 on the opposite side of drive unit.

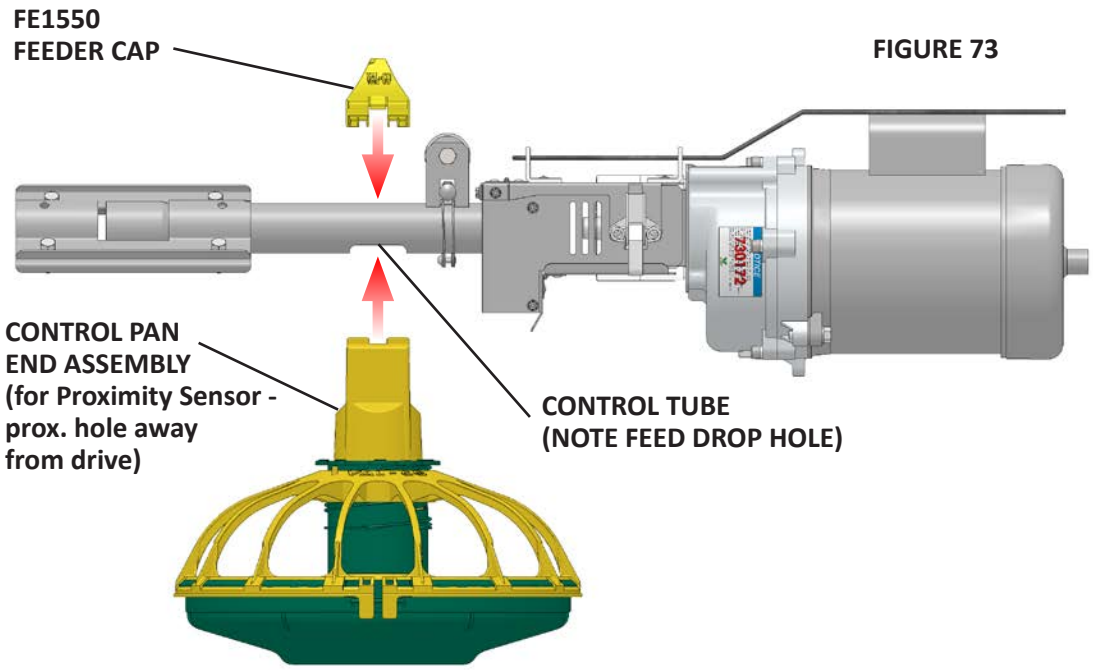
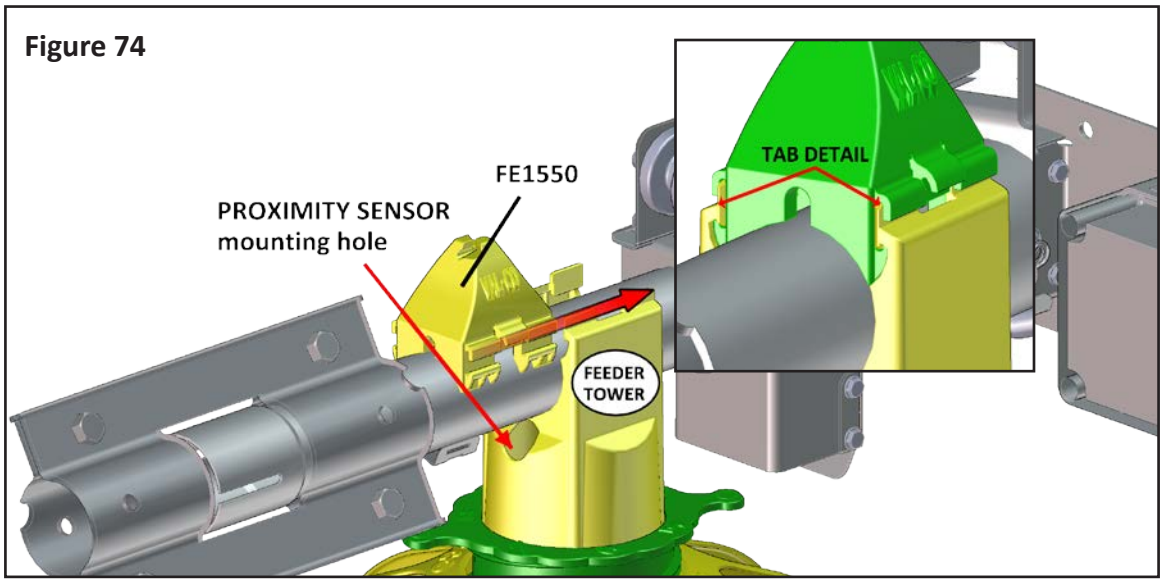


FIGURE 73

3. Slide the FE1550 feeder tower cap onto the feeder tower tabs as shown in Figure 74.



4. Fasten the (2) 451008 tube clamps onto the port tube, one on each side of the control pan, as shown in Figure 75.

Tighten the 451008 tube clamps over the 820158 non-swing bracket tabs and as close to the control pan as possible.

5. Attach the 750437 proximity sensor to the 820177 mounting bracket using the 455928 hose clamp, leaving 1.06” (1-1/6” or 2.69 cm) of the wiring end of the sensor beyond the bracket, as shown in Figure 76.

6. Mark the location of the insertion point with a magic marker. Draw a line 0.50” (1/2” or 12.7mm) from the other end of the sensor, as shown in Figure 73. This will be used to position the sensor into the feeder tower.

While still at the control pan/direct drive head unit end of the barn, you might want to hook up the power to save walking back to the end of the barn after the auger is assembled to the direct drive/control pan.

7. Insert the proximity sensor into the feed tower 0.50” (1/2” or 12.7mm) up to the marked witness line, as shown in Figure 77. Attach the sensor bracket to the feed supply tube with the 451008 hose clamp. Then connect the sensor wire to power source, as indicated in the wiring diagrams on the next page.

Figure 75

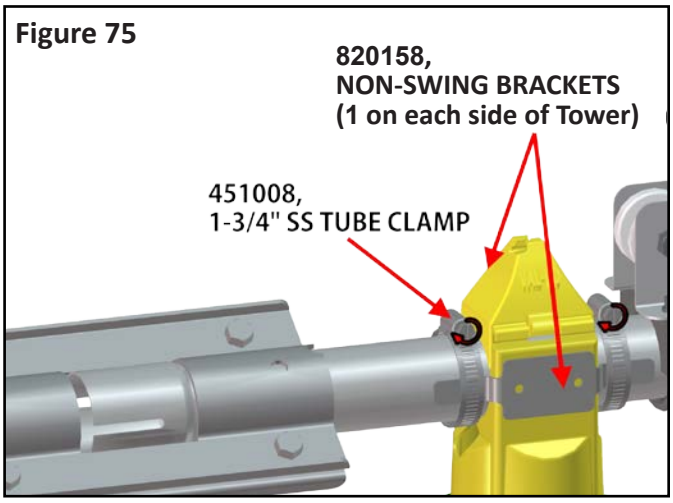


Figure 76

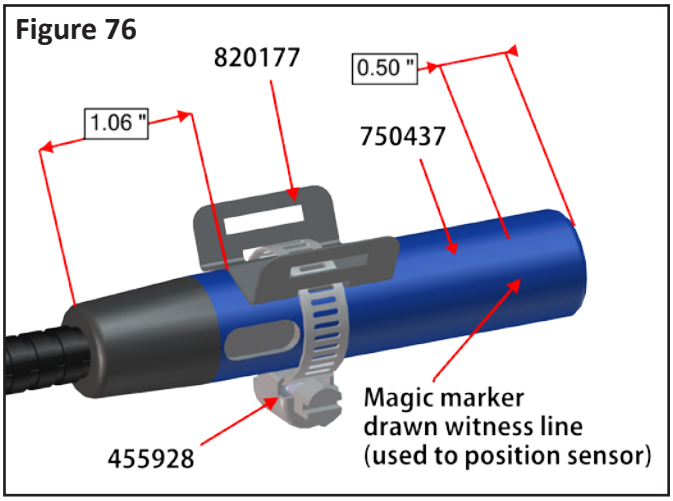
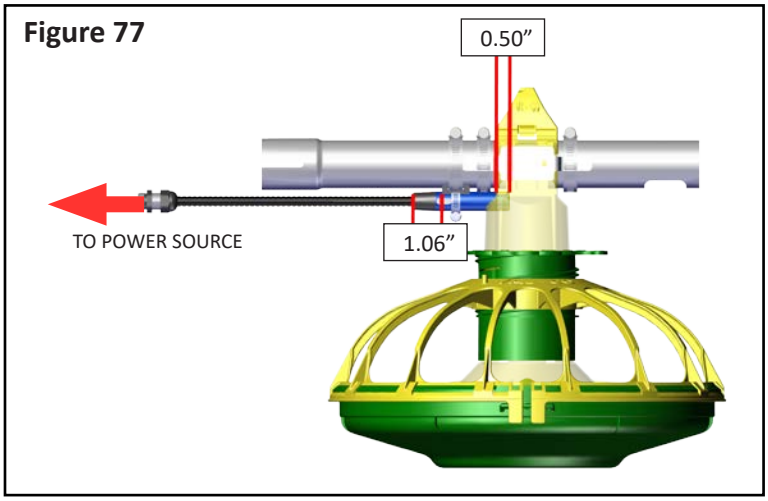
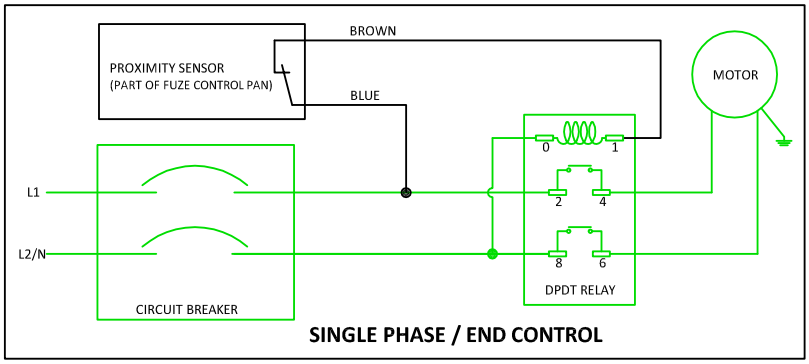


Figure 77

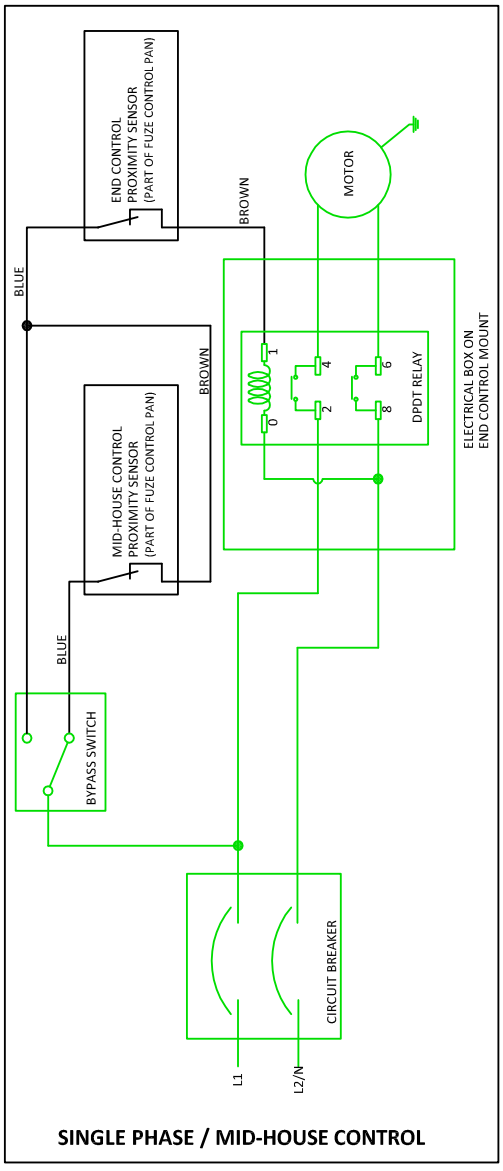


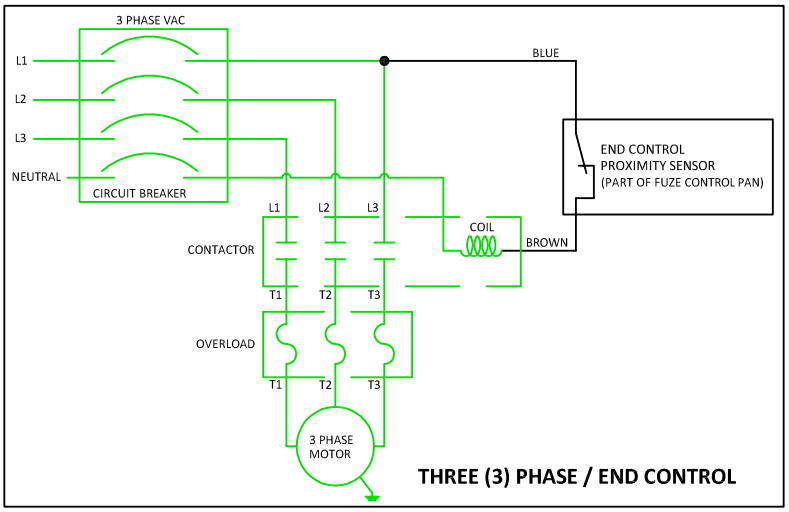
Sensor Sensitivity Adjustment is detailed on page 49.

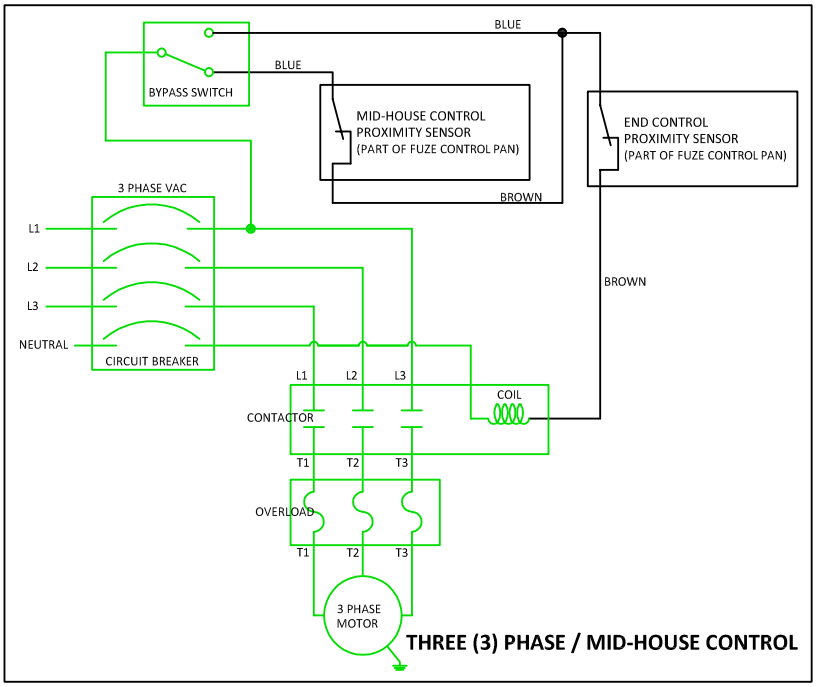
End Control Pan Proximity Sensor Wiring Diagram



RELAYS/COILS MUST BE INTEGRATED AS SHOWN. PROXIMITY SENSOR NOT TO DIRECT/SWITCH MOTOR LOAD.





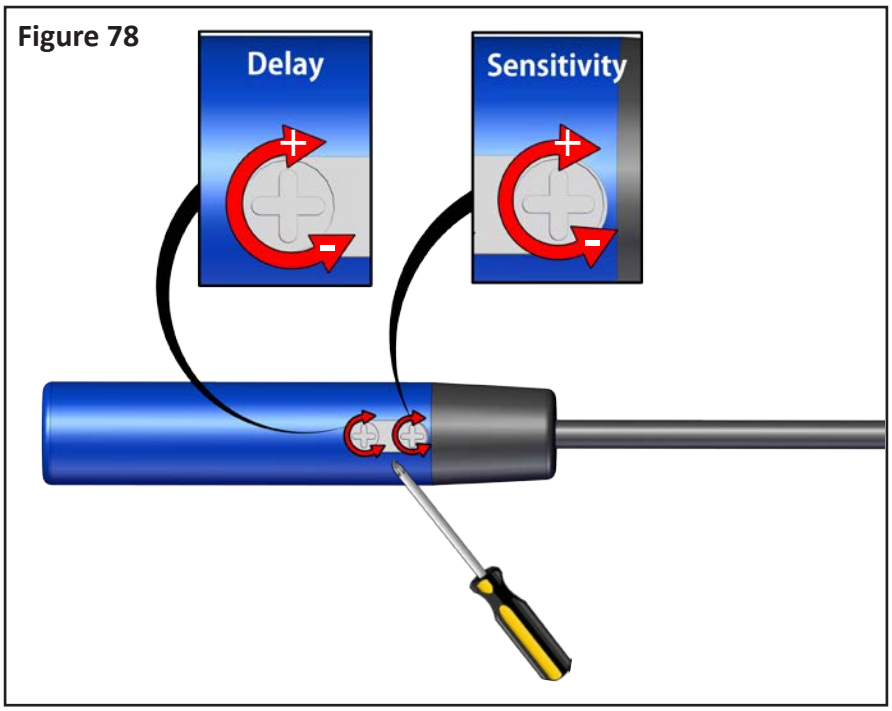


End Control Pan Proximity Sensor Adjustment

8. Use the small screwdriver, included with shipping, to adjust the SENSITIVITY on the sensor CCW until it can no longer be rotated. This will set the proximity to the least sensitive setting. Adjust the DELAY screw CW. This will set the sensor to the longest time delay, as shown in Figure 78.
9. When the feed in running line fills control pan tower and begins to bypass the control tower, quickly adjust SENSITIVITY screw CW until feed line motor stops, then turn a fraction more.
10. Vibrate the control pan to settle feed, adjust DELAY screw CCW to desired time of delay.
11. Repeat and adjust as necessary until desired setting is achieved. NOTE: Off time delay is adjustable from 1-60 seconds. Val-Co® recommends 60 second delay to prevent excessive feed line cycling.

Turn (once) 240 degrees trimmers-e.g. sensitivity and delay - see product label for details.

Figure 78



Be sure to use the small screwdriver included with the shipment of the proximity switch.

LED Indicaton	Sensor	Status	Feed Line
RED ON	Sensor output is ON	closed	No feed detected, motor ON
RED OFF	Sensor output is OFF	open	Feed detected, motor OFF
RED slow flashing	Sensor delay is active	still open	No feed detected, motor still OFF

Depending on feed and conditions, feed can sometimes build up on the proximity sensor and cause early shutoff. To remedy the situation, spray with static guard (available at most stores in the laundry section) before you install the sensor or as necessary. Once dry, reinstall the sensor into the FUZE® tower. Depending on your conditions, you may want to make this a routine maintenance check.

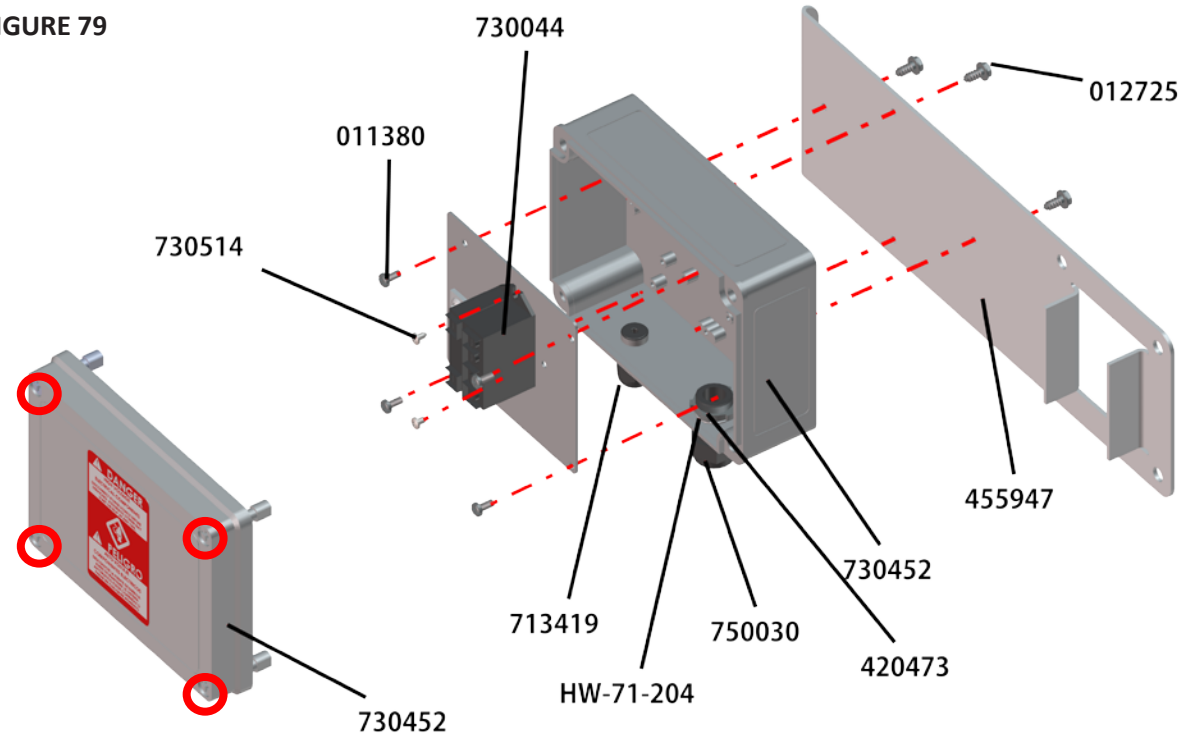
Wiring End Control/Drive Head/Gearbox Unit

WIRING MUST BE DONE BY A LICENSED ELECTRICIAN!

ALL LOCAL ELECTRICAL CODES MUST BE FOLLOWED!

1. Remove cover on relay enclosure by loosening the four (4) screws in each corner circled in red.
2. Remove ONLY THE NECESSARY knock-out(s) on the relay enclosure.
3. Install the water tight 750030 grommet(s) for power wires (as shown in Figure 85).
4. Install 713419 grommet for proximity sensor wire as shown in Figure 79.

FIGURE 79



5. Slide the proximity sensor wire through the 713419 grommet on top of the relay enclosure.

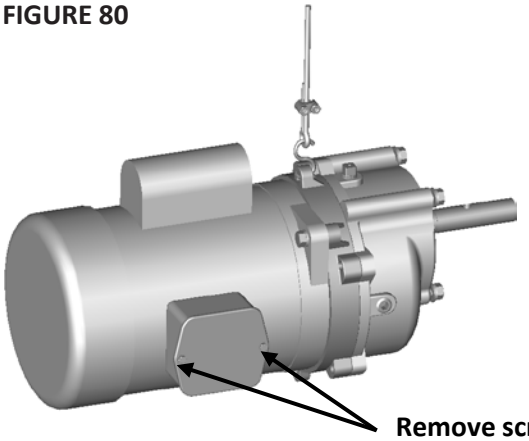
6. Connect the wire from the proximity sensor end control unit to relay 730044 and tighten grommet until wire has a snug fit. (Refer to pages 46 and 51 for wiring diagrams. The relay is standard with single phase applications. 3 phase units do not include relays and must be supplied by customer.

Wiring the Motor

Be absolutely sure all electricity is removed from the motor circuitry before wiring any AC motor. Open the circuit breaker that will supply the power. Tag the breaker to ensure power will not be accidentally restored to the circuit while you are installing or servicing the motor. ***Refer to pages 43 and 48 for wiring diagrams.***

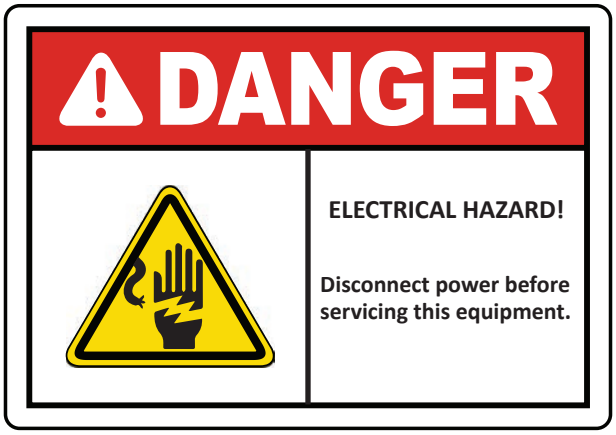
7. Connect the power wire(s) to the relay #2 and #8, as shown on pages 43 and 48.
8. Cut the flex conduit (not provided) to length.
9. Slide the power wires through the flex conduit.

FIGURE 80



- **Wire colors may vary according to motor**
- **Refer to tags on motor for wire placement.**
- **MOTOR MANUAL INCLUDED WITH MOTOR WILL GIVE YOU DETAIL ON MOTOR WIRING.**

Remove screws to expose motor wire connections.



10. Connect the power wires to the direct drive (motor) as detailed in the Motor Manual included with the motor.
11. Re-attach all covers.

Operation Guidelines (Broiler Feeding System)

Brood Stage, First (7-14) days:

1. Lower feeder to the floor until the pans are resting on the floor and causing the feed flood windows to open and still allow the winch cable lines to remain taut. Do not rest complete system weight on the pan assemblies. It is best to warm up the house and litter at least 24 hours before bird placement.

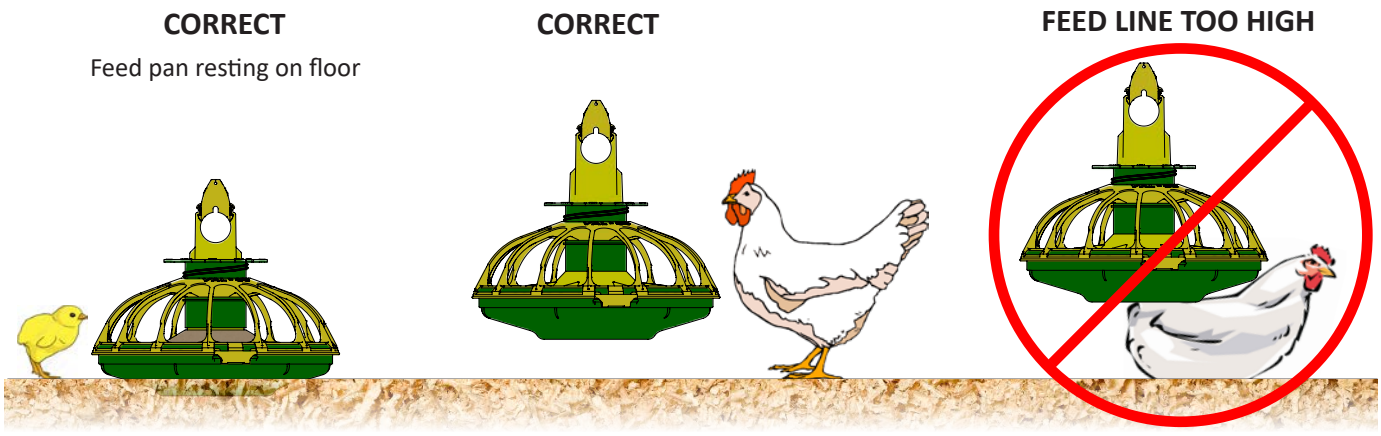
Do not operate the feeder on full automatic when the windows are open. Once pans are flooded, remove power from system until next flooding is required at controller or breaker panel. Running the feeder on automatic with windows open will lead to excess feed waste.

2. Operate the feeders manually 1-3 times per day for the first 7 to 14 days as necessary to keep the pans full of feed, but not so full as to have excessive feed levels that allow the birds to waste feed. If it is not possible to operate the feeding system manually then a time clock should be employed to operate the feeder at predetermined times and to limit the run time of the feeding system.
3. If it is necessary to flood again, re-flooding the system should be scheduled while the lights are off and the birds are bedded down. This will minimize bird activity in the pan while the feeder is running resulting in minimized feed waste.

Empty auger tubes can cause tube cracks.
Minimize the amount of time that the auger runs empty.

Grow-out Stage (7-14) days to Finish:

1. As the birds grow and become familiar with eating from the feeder pans it will become time to begin raising the feeder to the grow-out position.
2. As a starting point, set the feeder on the #4 adjustment position by rotating the grill on the collar to the desired position. Feed levels can be "fine tuned" from this setting as breed and type of feed might dictate.
3. Allow the birds to eat the feed down below the feed windows. This will facilitate the closing of the feed windows as the feeder is raised.
4. Use the winch to raise the feeding system to a height where the lip of the pan is level with the "full portion" of the chicken's breast. Again make adjustments to accommodate differences in breeds. It is important to initially raise the pans to just the point where they are no longer touching the floor. It may be noticed that some pans may appear "higher" or "lower". This is not a condition for concern as the birds will level the litter.
5. Continue to raise the feeder as necessary to maintain the same relative position of the feeder pan lip to the bird's breast until grow-out is completed.



These are to be used as general guidelines. Differences in breed, feed consistency, lighting, climate, and other external factors will dictate changes in these guidelines to individualize a broiler growing program to optimize feeding system performance.

Feeder Cleaning and Maintenance

End of Grow-Out

1. Empty all pans at the end of grow-out.
2. Auger all feed out of the tubes.
3. Winch up the complete feed system to remove the birds and manure.

Maintenance

1. To clean the installation winch up the feeder lines to a working height, see Figure 81.
2. Remove feed residue by turning pans on the tubes 180 degrees or by opening the feeder parts and dropping the pan to hang by hinge (in some cases, tie wraps) as shown in Figure 82 or removing the pans altogether.

RAISE TO COMFORTABLE WORKING HEIGHT FOR MAINTENANCE.

FIGURE 81

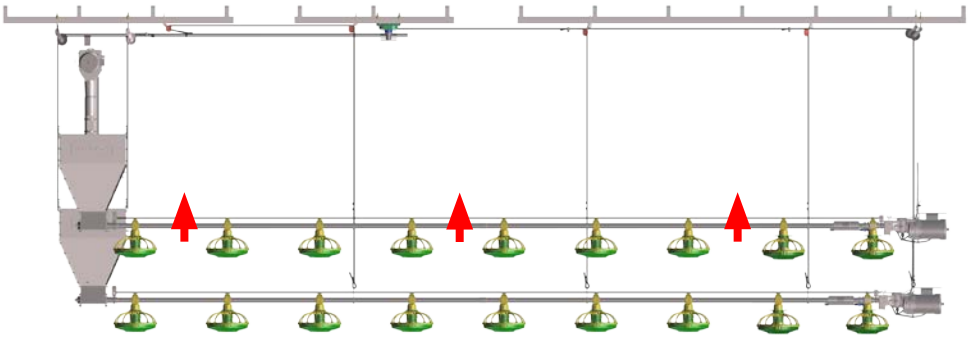
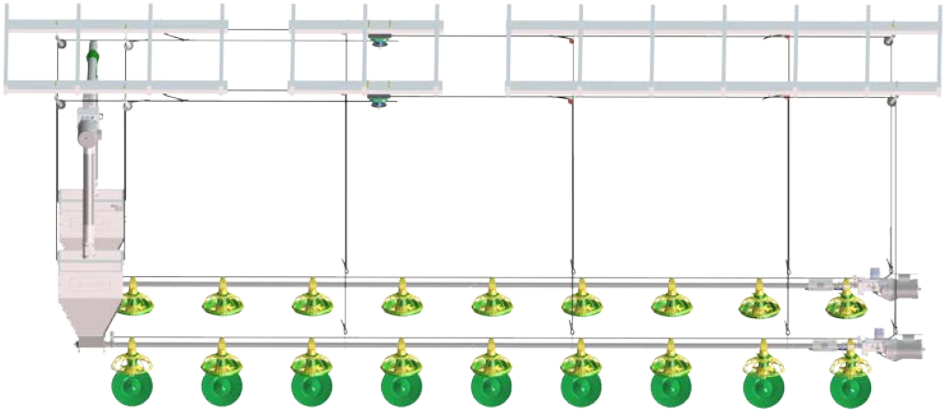


FIGURE 82



3. Clean with a high pressure cleaner.
4. After cleaning if you have not removed the pans and they are hanging by hinges make sure that all the water is tipped out of pan for proper drying.
5. To protect the hopper base from corrosion loosen the tube clamp and turn with the opening downwards before you use the high pressure cleaner.

DON'T FORGET TO COVER THE CONTROL PAN AND DRIVE UNIT WITH PLASTIC!

MAKE SURE NO WATER REMAINS IN HOPPER BASE OR IT WILL CORRODE!

Gaseous formaldehyde (formalin) liquid caustic soda or solution of caustic soda, hypochlorite or chlorine water cresols are very corrosive.

Troubleshooting Guide

Problem	Possible Cause	Corrective Action
None of the feeder lines will operate.	No power supplied to equipment.	Make sure required voltage is supplied.
		Inspect circuitry, reset circuit breaker, or fix.
Feeder line will not operate.	Power unit cord not plugged-in sufficiently to operate.	Check motor cord plug at control unit and control unit plug at outlet for connection.
	Motor cord wires are broken at plug or where cord enters motor.	Check cord for continuity. Replace if broken.
	Motor's thermal overload tripped.	If manual reset, push motor overload reset button.
	Control pan switch out of adjustment.	Adjust switch or replace if broken.
Motor overloads frequently.	Oil on new auger loads motor excessively when feed is carried for the first time.	Polish auger by running 50 lb (20 kg) increments of feed out to pans.
	Inadequate power reaching motors.	Check line voltage at motors. Check starting current draw at motors. Adequate wiring size is essential to feeder operation.
	Object caught in the auger; motor runs, stalls, then spins in reverse.	Check hopper boot, control unit and pan outlet holes for foreign objects. Remove obstruction.
Auger runs erratically.	Seized bearing at boot anchor.	Replace bearing. Slowly ease auger back into tube. Be careful not to damage the bearing when reinserting the auger.
	Insufficient stretch in auger.	Shorten the auger.
	Obstruction in the auger.	Remove obstruction.
Auger shortcycles (on/off).	Line torques at startup because auger is bent or kinked.	Repair or replace damaged auger.
	Low sensitivity feeder line control switch.	Adjust switch.
	Switch on wrong side.	Switch should be on right side of feed tube when standing behind motor.
	Auger line not level.	Adjust suspension to level line.
	Dented or bent tubes.	Replace as necessary.
Auger tube or boot wears out quickly (noisy feeder operation, excess vibration).	Auger is bent or kinked.	Repair or replace damaged auger.
	End of auger is riding up on anchor weldment.	Check auger to ensure welds are ground down and smooth, auger is straight.
	Bad weld.	Auger is bent or kinked.
Oil leaking out of seals on gear box.	Gear box vent plug not installed.	Replace shipping plug with vent plug.
	Defective gear box seal.	Replace seal.
Not enough feed supplied to the feeder pans.	Not enough time set on time clock.	Add more operating time to feeding period.
	Control pan switch out of adjustment.	Adjust switch.
Unequal feed distribution (empty pans/ full control pan, or feed bypassing control pan).	Improper feed tube rotation.	Make sure holes are in correct alignment.
	Clamps not tight enough.	Tighten clamps.
	Drag in line due to kinked auger.	Repair or replace damaged auger.
Broken tower caps.	Cap removed by hitting with hammer.	Remove tower caps by hand, no tools required.

Anti-Roost Installation

REMINDER: The anti-roost wire will not be installed when shipped. The insulator with bracket (451042) will be included.

The anti-roost wire must have an insulator at least every 50 feet (15.24m).
(Length ÷ 50 feet = number of insulators required)

Handle CABLE with caution.
Wear safety glasses to protect your eyes and gloves to protect your hands from injury.

1. Un-wrap the anti-roost wire as you need for installation. The wire is packaged in approximately 6” spools ordered by the foot, 500’, or 1000’ spools. Large spools may require a cable reel for easier handling.
2. Start at the hopper end of the line and form a loop or double loop around the anti-roost bracket and fasten with a 1/16” cable clamp, as shown in Figure 83.

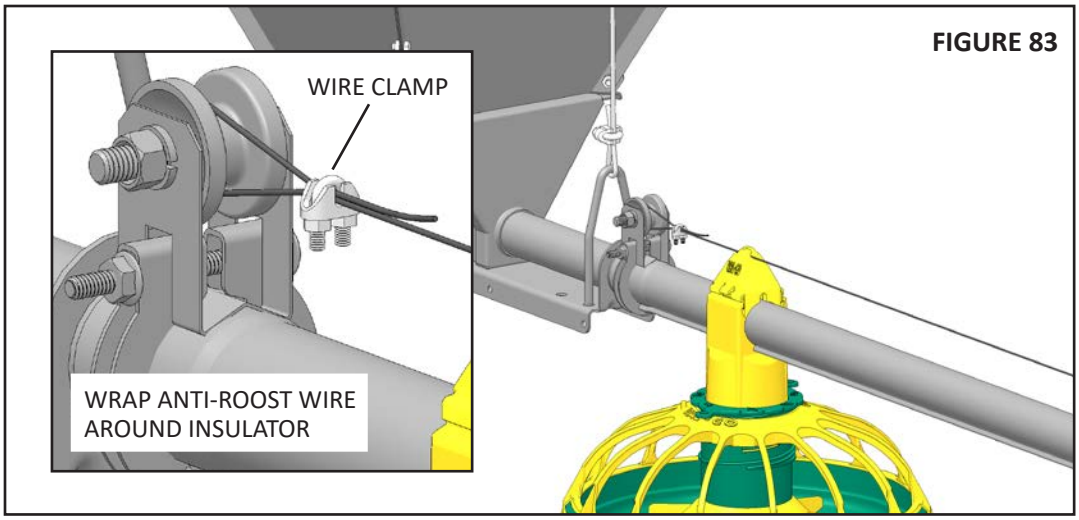


FIGURE 83

3. As you pull the anti-roost wire to the next anti-roost bracket, insert the wire from the insulator into the top of each tower cap, as shown in Figure 84.

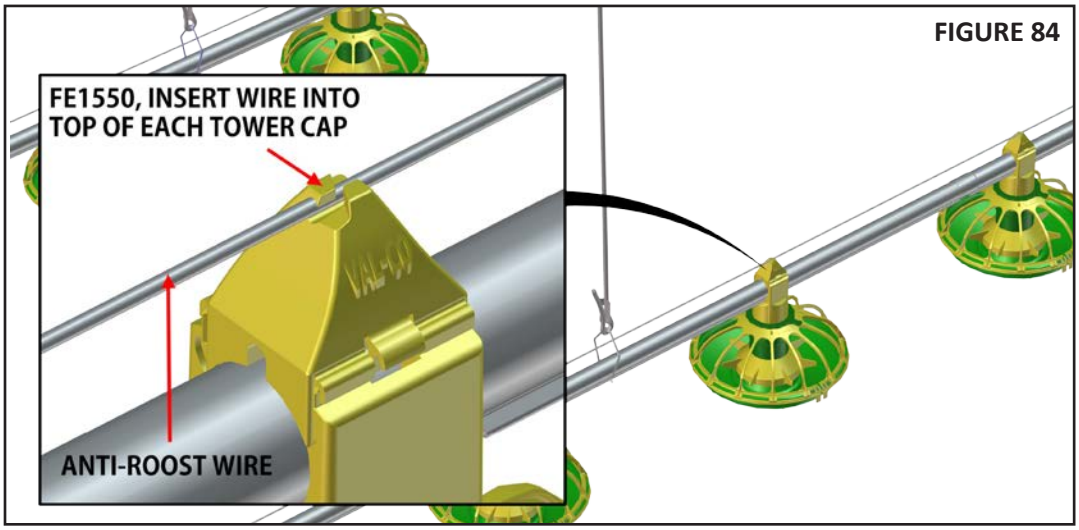


FIGURE 84

Anti-Roost Installation - continued

4. Attach the spring onto the center groove at the second (or next) anti-roost bracket, which will be at the **50 ft (15.24m)** length from the anti-roost clamp on the hopper end, as shown in Figure 85.
5. Thread the end of the wire through the end of the spring. Pull the wire tight so that there is 3/4" [20 to 25mm] of stretch in the spring. Clamp the anti-roost wire to form a loop and cut off any excess.
6. Now, start the next **50 ft (15.24m)** run of anti-roost wire by attaching the wire to the same insulator that you just attached the spring to. For best results, make a double loop around the anti-roost insulator in the center groove of the insulator and fasten with a 1/16" cable clamp just as you did at the hopper end.
7. Attach wire splice TO JUMP the shocking anti-roost wire, as shown in Figure 86.

FIGURE 85

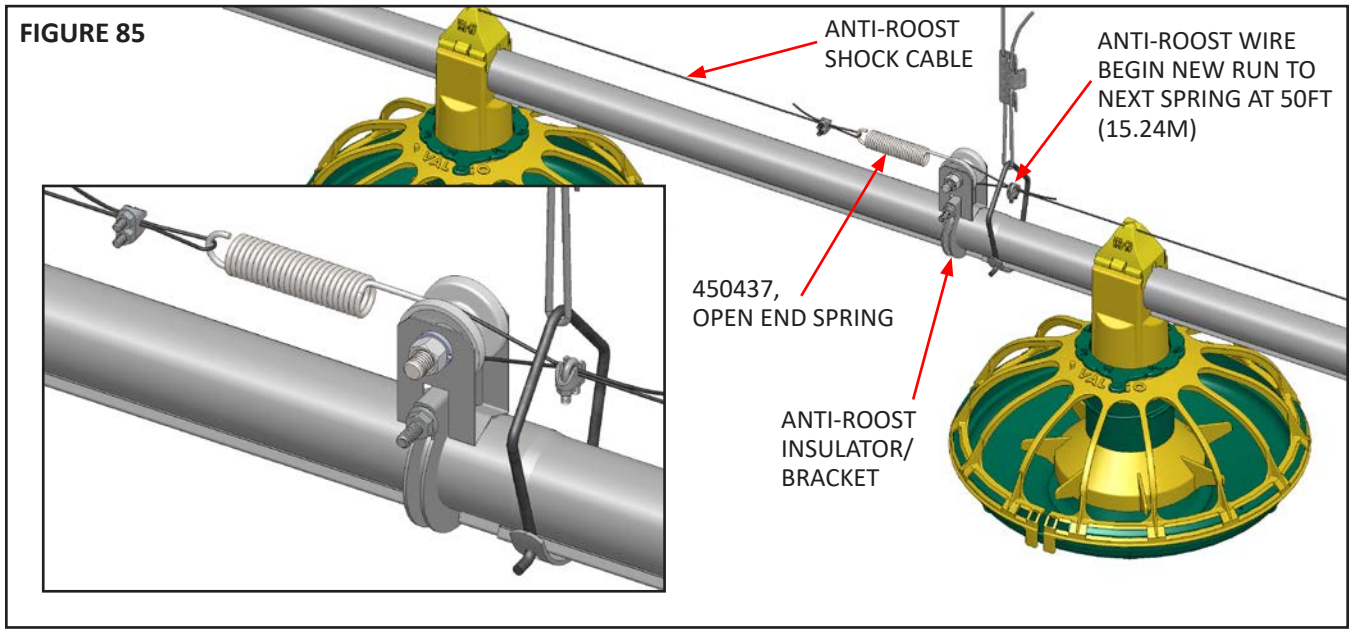
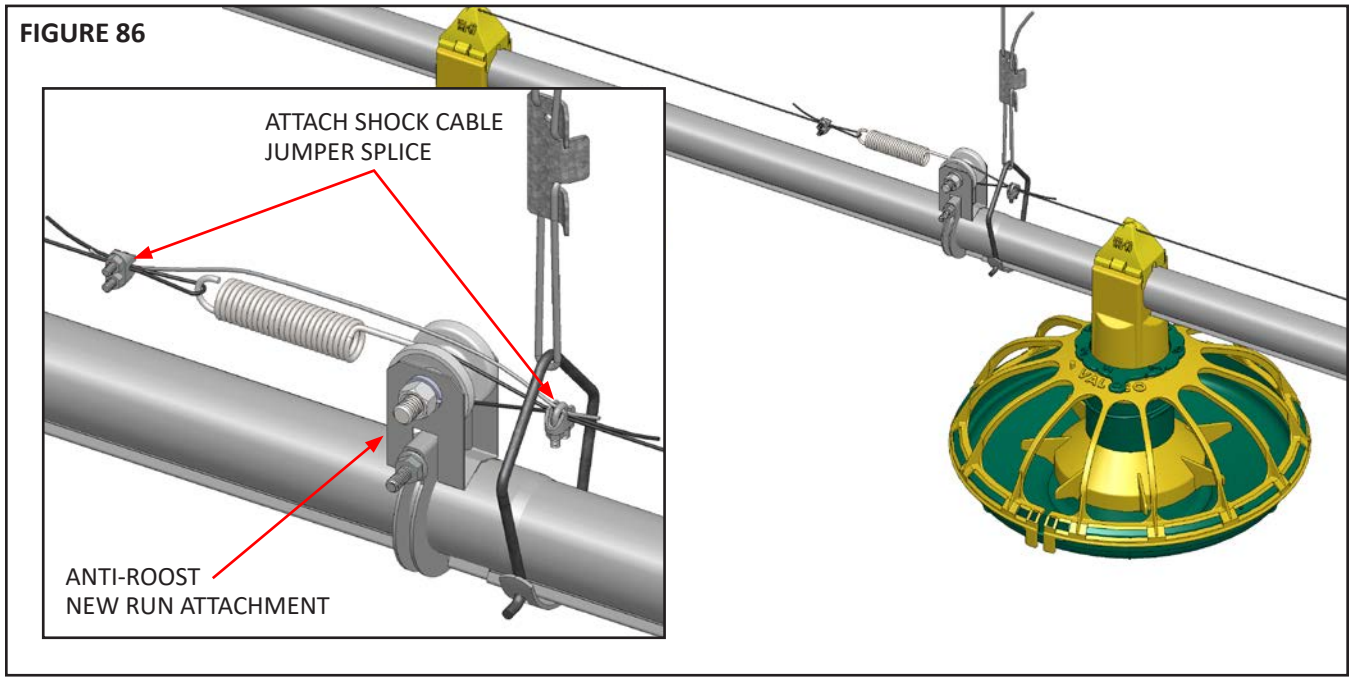


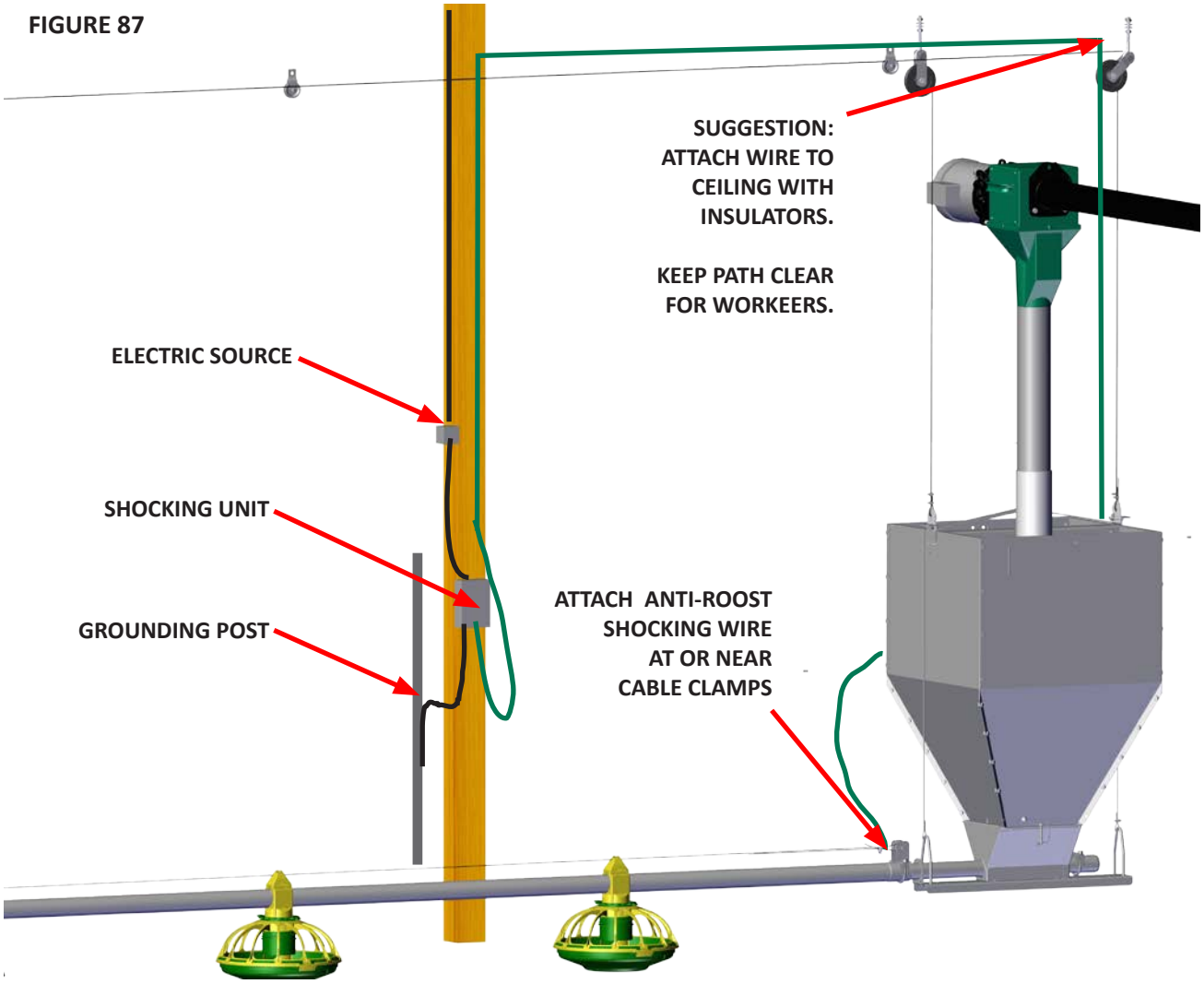
FIGURE 86



Anti-Roost Installation - continued

8. Run the anti-roost wire to the next anti-roost insulator as you did in step 4 on the previous page.
9. Repeat this installation until the anti-roost wire is installed along the entire feeder line.
10. Install the shocking unit. The shocking unit is used to power all anti-roost lines in a house. Route the shocking unit wire from the shocking unit to the anti-roost system. Secure the shocking unit wire to the anti-roost wire using a cable clamp.

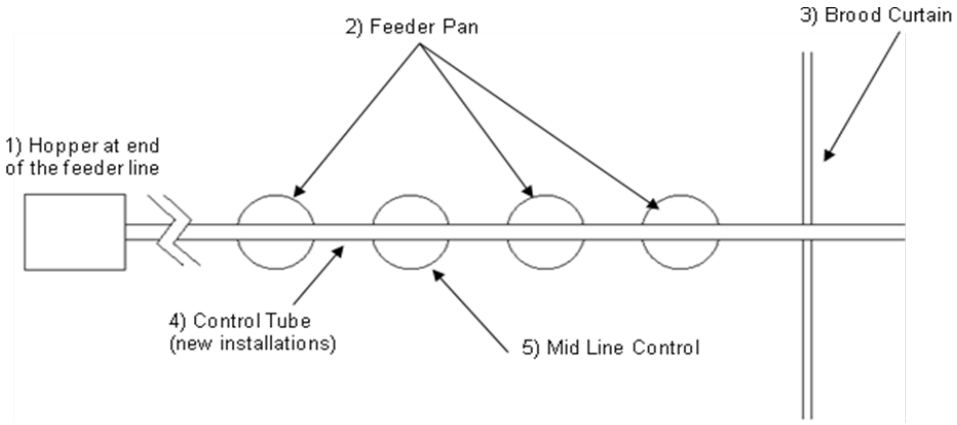
FIGURE 87



Mid-Line Control Installation

The mid-line control makes it possible to operate the feeding system when birds are confined away from the control unit on the end. VAL-CO® recommends placing the mid-house control feeder at least (2) pans away from the curtain of partition.

FIGURE 88



1. Remove the feeder pan at the location where the mid-house control will be installed. Enlarge the outlet hole to approximately 1” (25.4mm) diameter for the mid-house control, plus enlarge (2) outlet holes in front (to the hopper end) of the mid-house control. Use a (hole) cutter drill bit to enlarge hole size. Be sure there are no burrs inside the tube to catch the auger.
2. Mount the proximity control pan to the feed line.
3. Mount the 750671 control box to the rafters nearby.
4. Wire the control box. Use the toggle switch to select between controlling the line from the end proximity pan or the mid-line proximity pan.

Best Start Chick Feeder Installation

The Best Start feeders may be installed at any time. They easily snap over the specially designed feed tubes allowing for both FUZE® ProLine and Best Start chick feeders. If you are installing the Best Start or Best Start II chick feeders they require feed (auger) tubes with additional holes for mounting. Refer to parts page for Best Start Tube part numbers.

3 HOLE SMOOTH TUBE

1. Spread the FE310 SPOOL and slip onto the feed tube, as shown in Figure 89. (BE SURE THE HOLE IN THE SPOOL ALIGNS WITH THE FEED DROP HOLE IN THE FEED TUBE).
2. Then insert the FE300TAPSCREW into the hole along the side of the SPOOL provided and secure, as in Figure 89.
3. Slide the FE320 DROP onto the FE310 SPOOL, slightly spreading the DROP, over the center, between the flanges of the SPOOL, as shown in Figure 90.
4. Secure with FE300SCR and FE300NUT, as in Figure 91.
5. Slide the optional extender FE330 or the optional hooked extender FE350 and crown spreader FE360 onto the end of the FE320 DROP until it snaps into place.

FIGURE 89

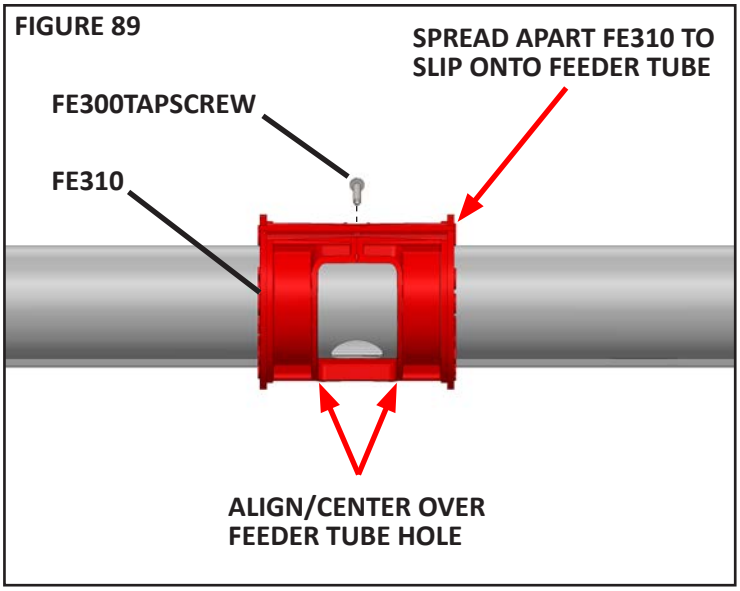


FIGURE 90

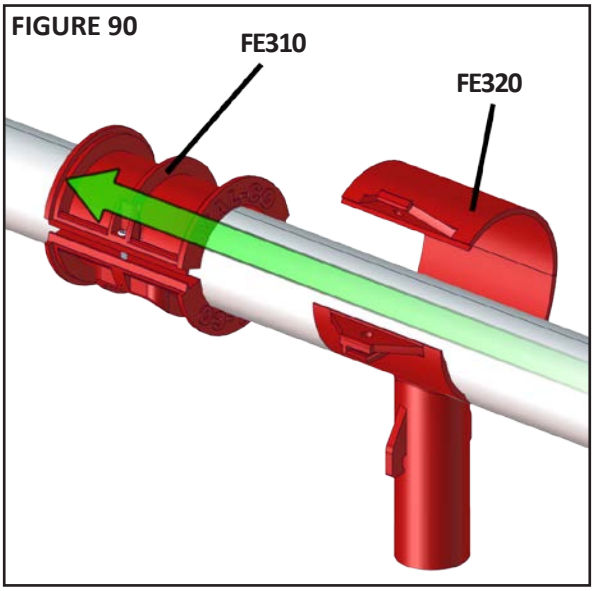


FIGURE 91

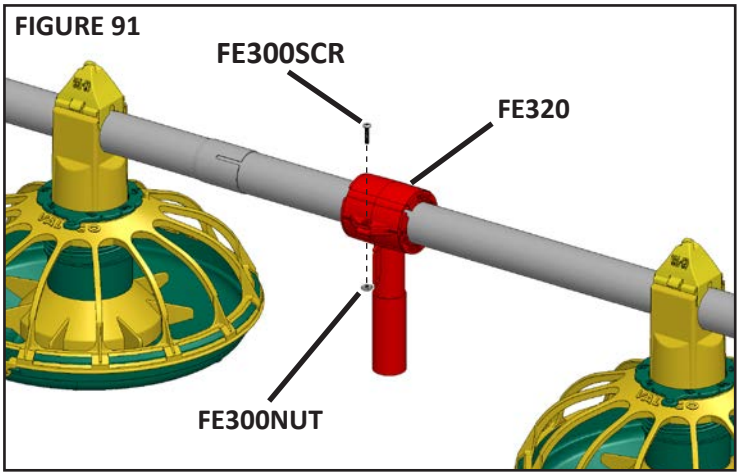
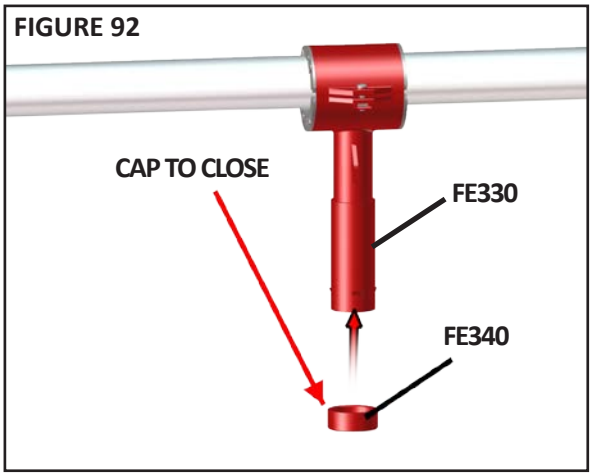


FIGURE 92



Best Start II Chick Feeder Installation

1. Place the rubber washer on the top side of the feed tube so it will be just under the top of the feeder where it splits, (may be centered or off center).
2. Slide the chick feeders onto the feed tube, as shown in Figure 93, then insert the 1” hex bolt into the top hole of the basic feeder (above the feed tube) and tighten with one of the nylock nuts, as shown in Figure 94. Then insert the 2-1/4” hex bolt into the bottom hole of the basic feeder (below the feed tube) and tighten with the nylock nut.
    a) ALTERNATELY: Spread the top of the feeder apart just far enough to snap over the feed tube, as shown in Figure 95 and tighten into place over the holes provided at the bottom side of the feed tubes.
3. Slide the optional standard extension on as far a possible, onto the end of the tapered feeder extension.

FIGURE 93

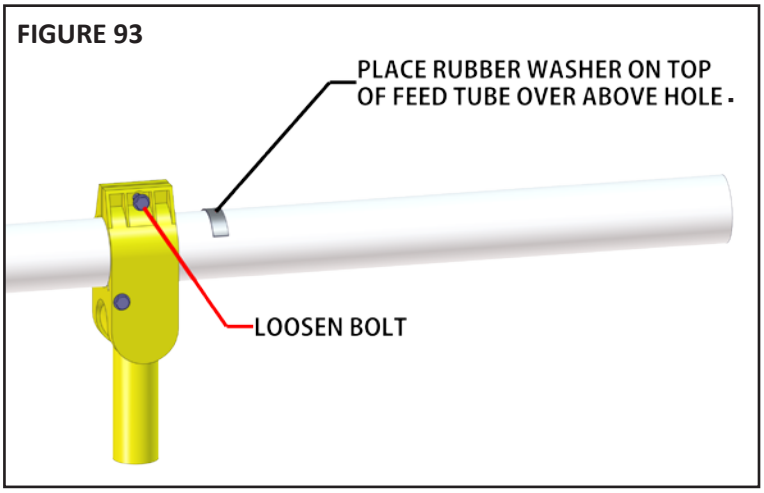


FIGURE 94

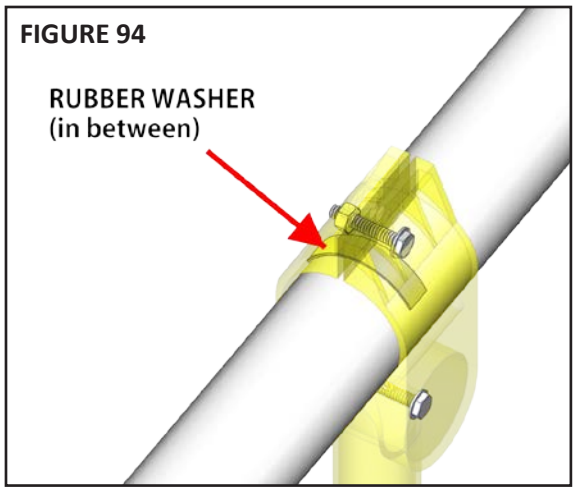


FIGURE 95

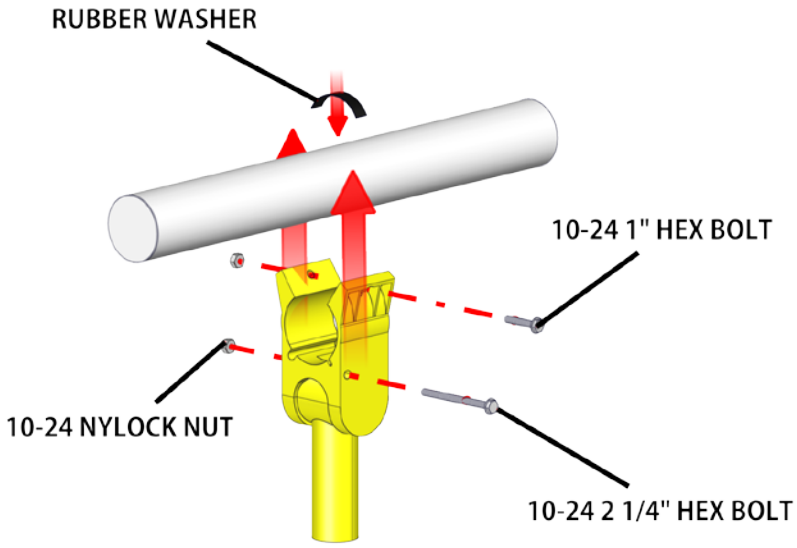
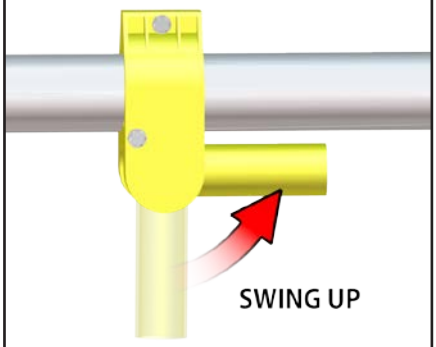


FIGURE 96



When birds have ready to graduate to FUZE® ProLine feeders, simply turn extension tube up, as shown in Figure 96.

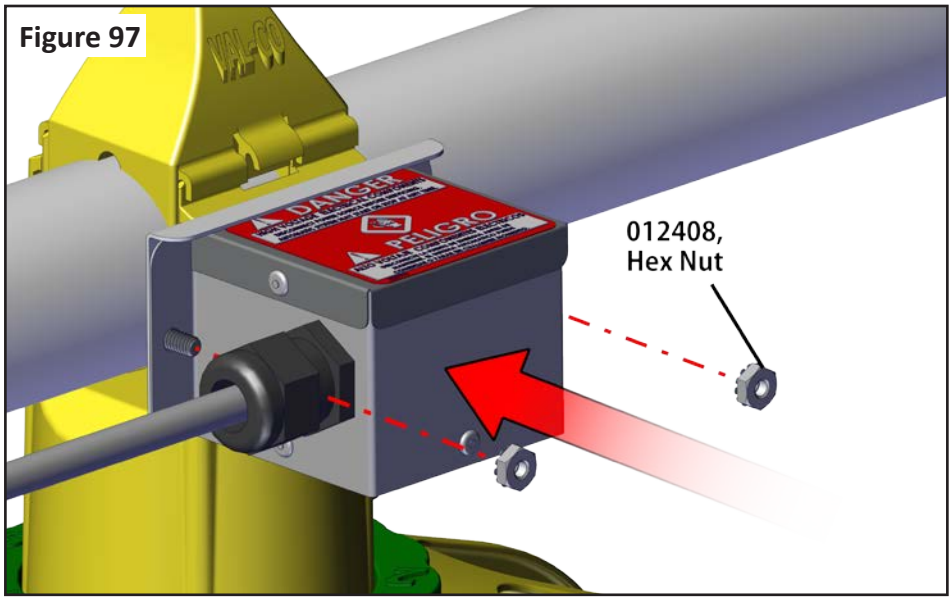
Mechanical Switch Replacement

Removing The Old Switch

Disconnect power to switch circuit.

1. Disconnect power to the switch circuit then empty all feed out of the tower and pan.
2. Remove the two 012408 nuts that attach the switch cover to the mount, as shown in Figure 97.

Figure 97



3. Gently pull the switch cover away from the mount and then disconnect electrical terminals from the switch as shown in Figure 98.
4. Remove the switch from the bracket, as shown in Figure 99.

Figure 98

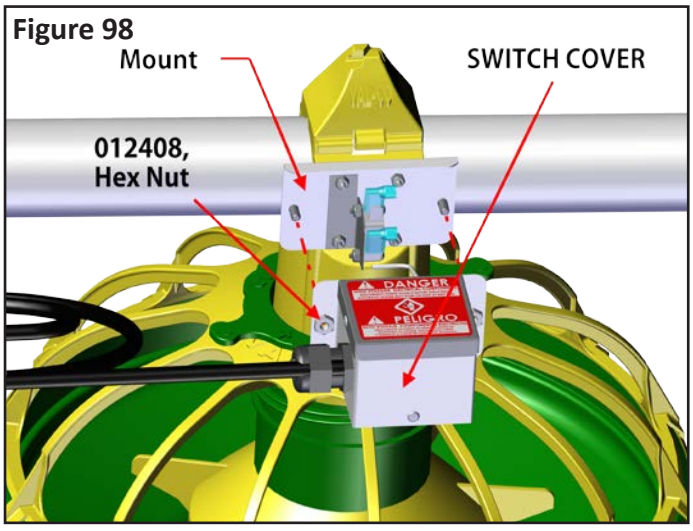
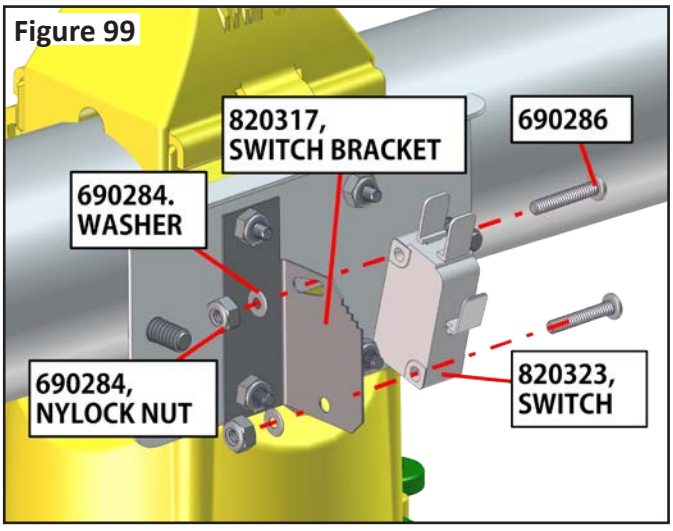


Figure 99



Installing The New Switch

5. Install the replacement switch, as shown in Figure 100.

6. Tighten the bottom screw until the switch can be rotated, but stays in place when you stop rotating it. Keep the top screw loose, as shown in Figure 101.

Figure 100

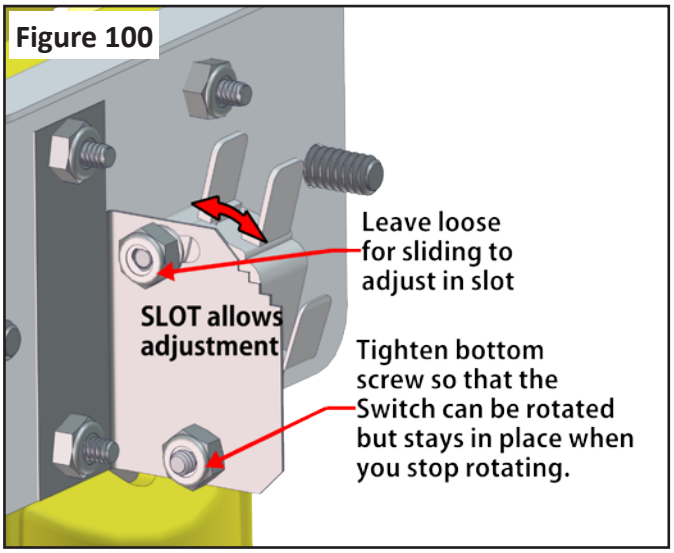
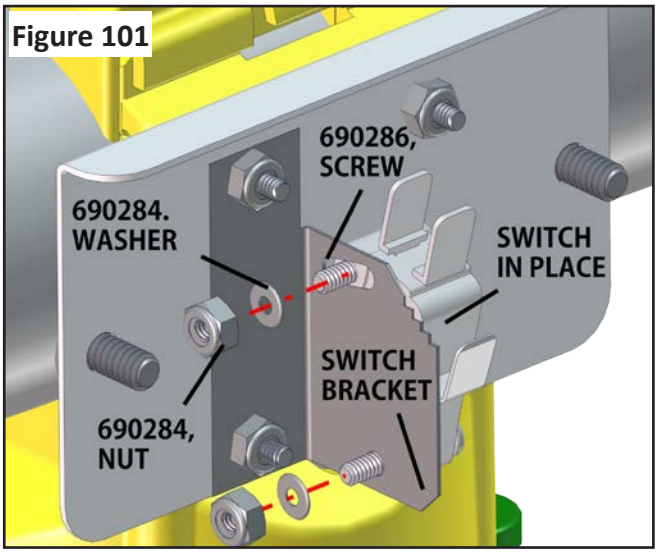


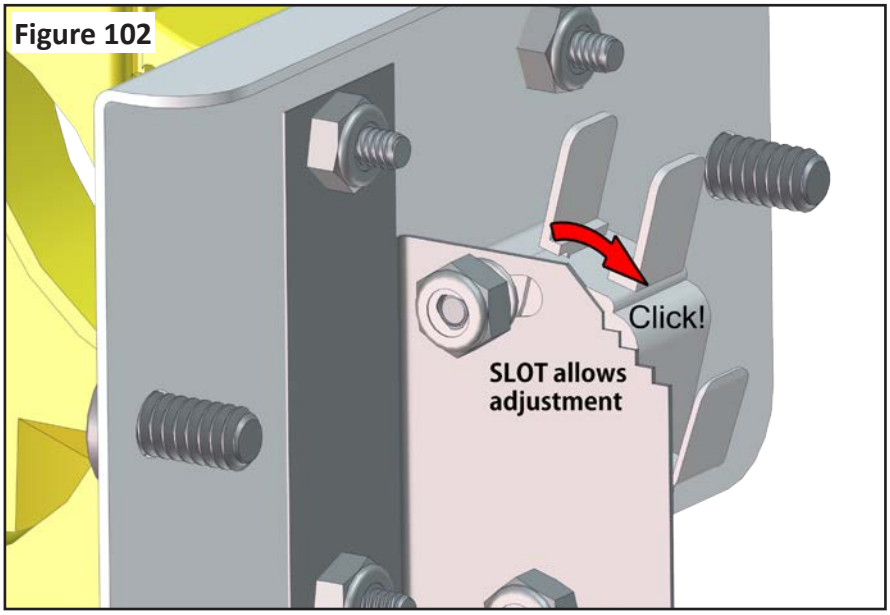
Figure 101



Switch Sensitivity Adjustment When Replacing The Mechanical Switch

7. To set switch sensitivity, loosen the top screw and slowly rotate the top of the switch AWAY from the tower until you hear the switch click as shown in Figure 102. **CONTINUE TO NEXT PAGE FOR FURTHER DETAILS.**

Figure 102



8. Then slowly rotate the top of the switch TOWARDS the tower until you hear the switch click again, as shown in Figure 103.

Figure 103

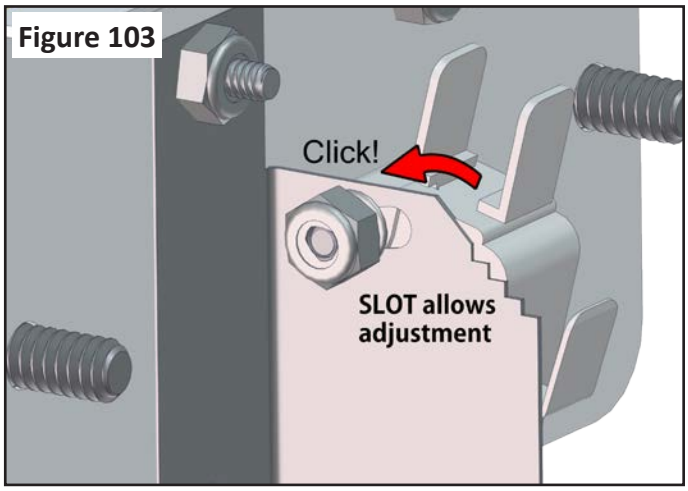
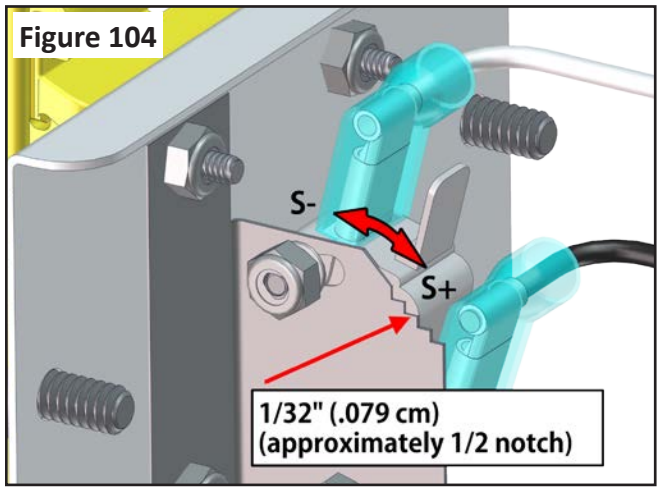
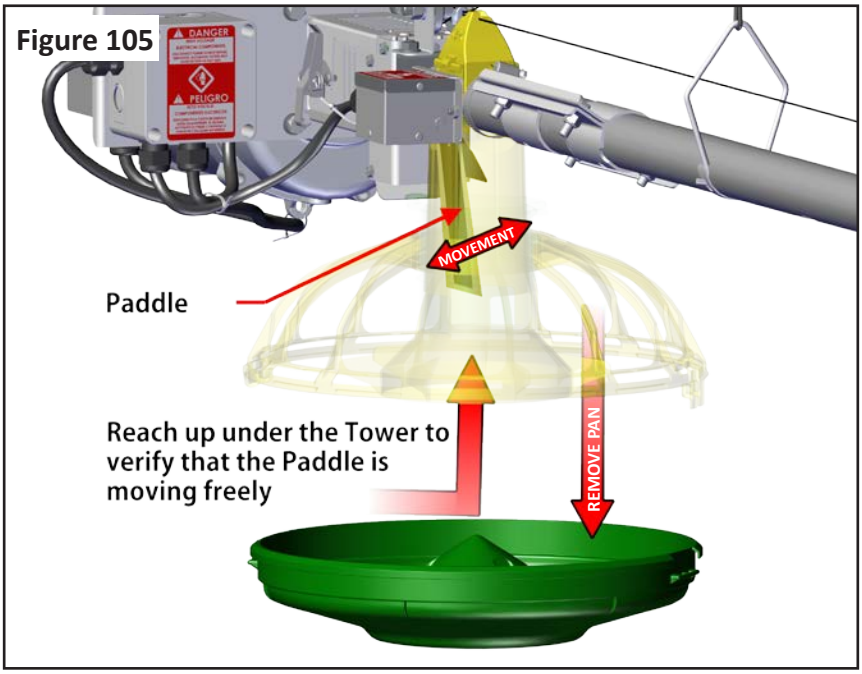


Figure 104



9. Continue to rotate the top of the switch towards the tower another 1/32” (about 1/2 notch). This should set the switch to typical factory setup. This is detailed in Figure 104.
    a) Rotating the top of the switch toward the tower will decrease sensitivity (the tower will fill up more).
    b) Rotating the top of the switch away from the tower will increase sensitivity (the tower will fill up less).
10. Without moving the switch, tighten both switch mounting screws. DO NOT OVERTIGHTEN.
11. Reach inside the bottom of the tower and move the paddle back to verify the paddle moves freely and opens and closes the switch, as shown in Figure 105.
12. Re-attach the switch cover. If further sensitivity adjustment is required, follow the steps in the Switch Sensitivity Adjustment section on previous pages.

Figure 105



It does not take much rotation of the switch to greatly influence the sensitivity of the switch. It is better to move in 1/32” (0.79mm) increments (about 1/2 notch).

Paddle Replacement (Mechanical Switch Control Pan)

Disconnect power to switch circuit.

1. Disconnect power to switch circuit then empty all feed out of the tower and pan.
3. Remove tower from feed line as shown in Figure 106.
4. Remove pan from grill as shown in Figure 107.

Figure 106

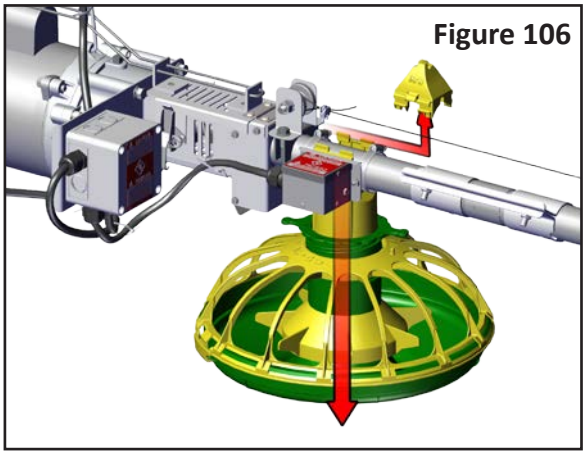
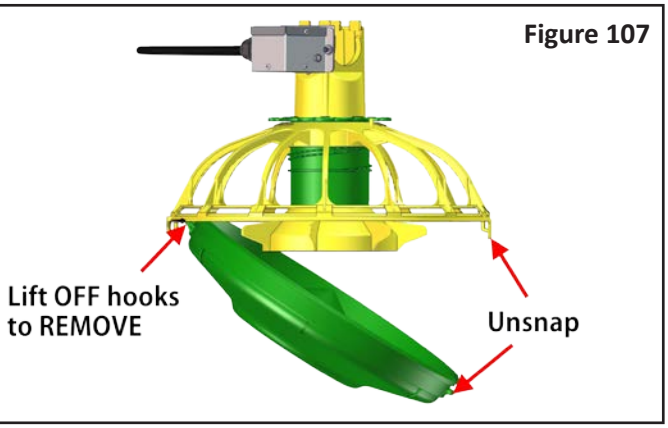


Figure 107



5. Remove the two nuts that attach the switch cover and gently pull the switch cover away from the mount to access the switch. Disconnect the terminals from the switch as shown in Figure 108.
6. Remove the two (2) 690282 screws holding the paddle assembly to the mounting bracket as shown in Figure 108.
7. Remove the paddle assembly from the tower as shown in Figure 109.
8. Remove the two screws from the paddle assembly as shown in Figure 110.
9. Replace the diaphragm and re-assemble.
10. Once the control pan is re-installed on the feed line, reset the switch to factory sensitivity. Adjust the sensitivity further if necessary, as show in the Switch Sensitivity Adjustment section on previous pages.

Figure 108

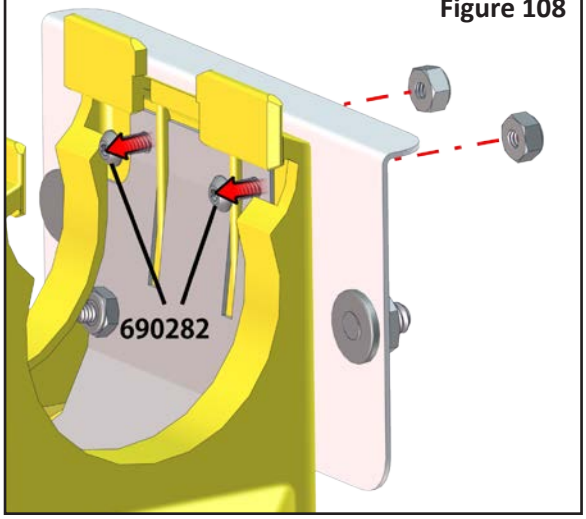


Figure 109

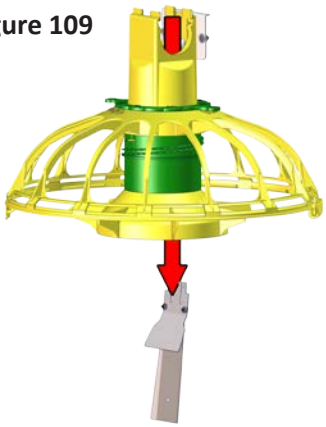
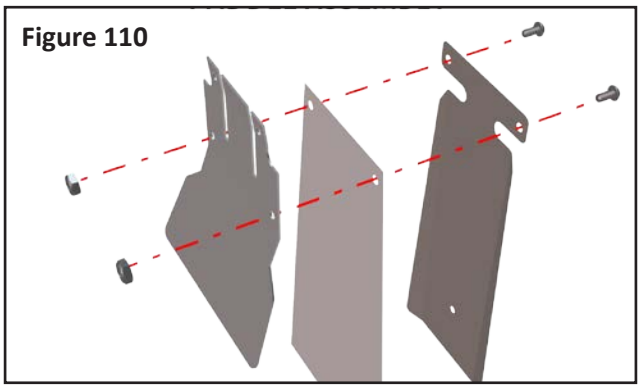


Figure 110



Parts Pages

Pan and Grill examples

Val-co® provides 2 FUZE® feeder pan types, the FUZE® ProLine RLS shallow pan assemblies and FUZE® ProLine RS standard pan assemblies.

RLS = SHALLOW PAN ASSEMBLY

RS - STANDARD PAN ASSEMBLY

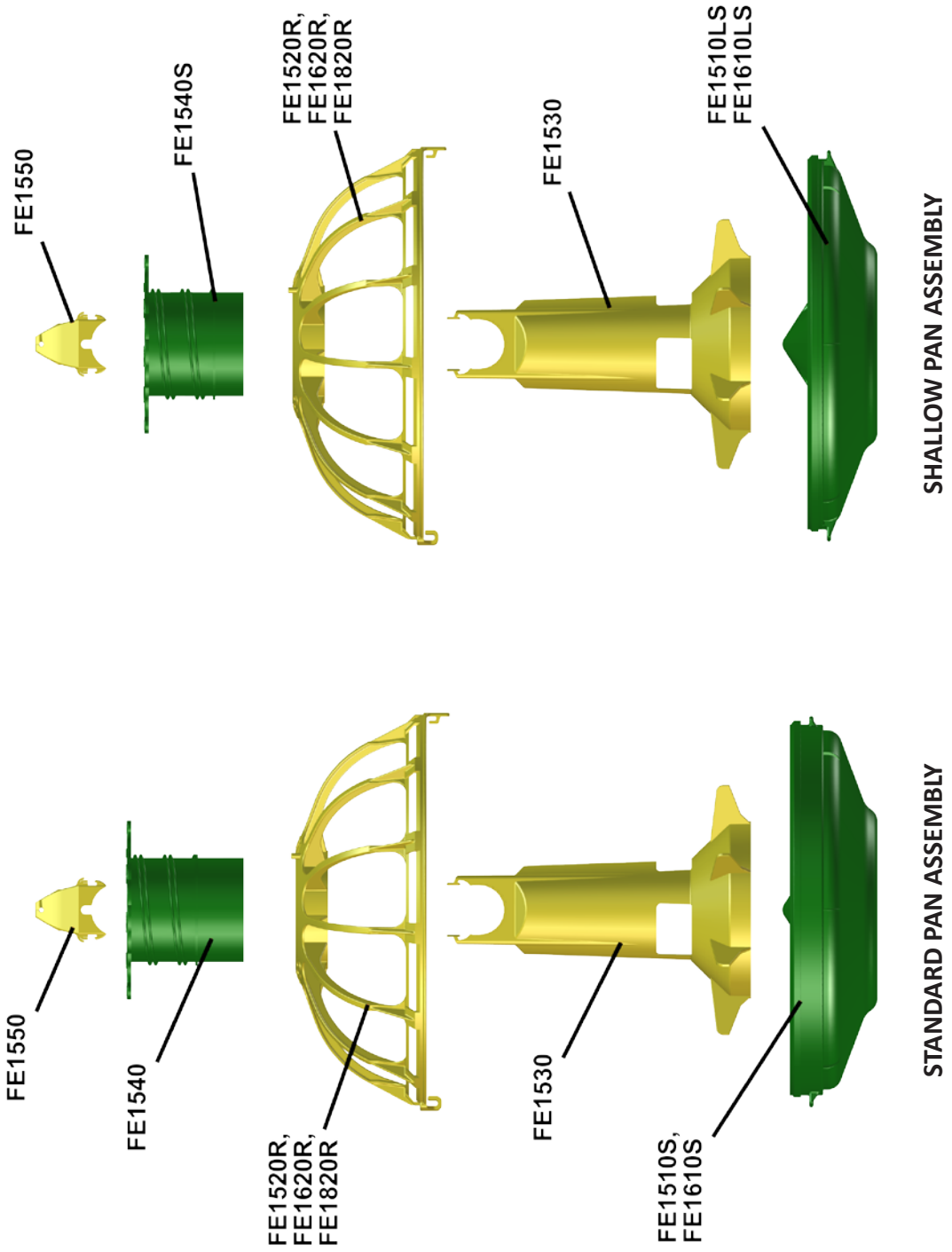
13" - 13 spoke GRILL

14" - 14 spoke GRILL

14" - 5 spoke GRILL

Exploded views and Part Lists are on the following pages.

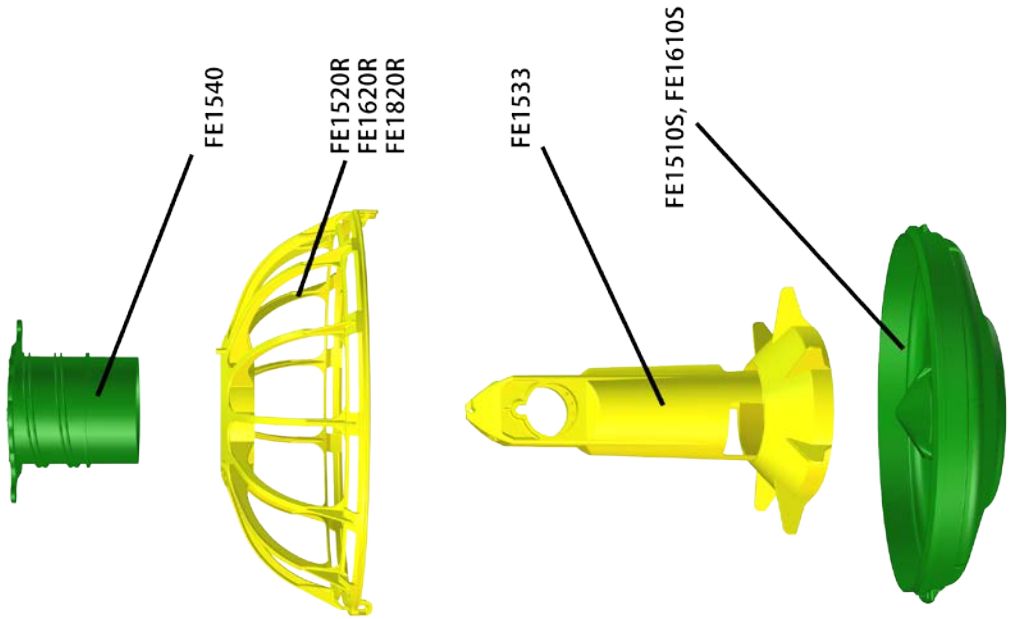
FUZE® ProLine Feeder Exploded View



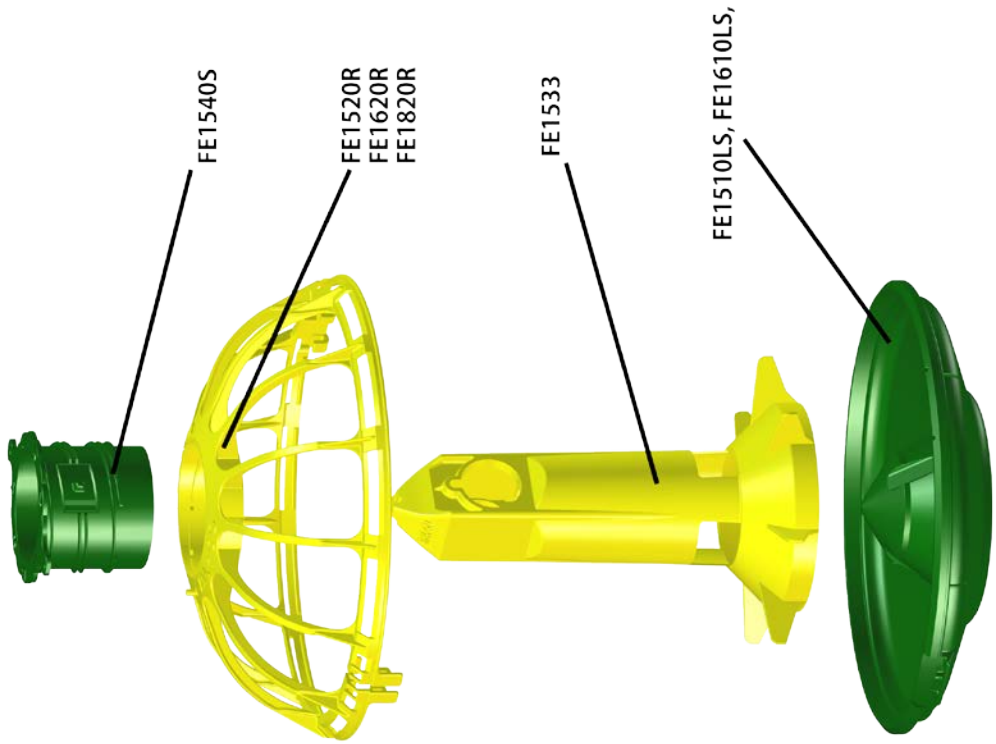
FUZE® ProLine Feeder Parts List

PART #	DESCRIPTION	QTY
FE1500RS, FE1500RLS, FE1600RS, FE1600RLS, FE1800RS, FE1800RLS - Shared Parts		
FE1530	FUZE® FEEDER TOWER	1
FE1550	FUZE® FEEDER TOWER CAP	1
FE1500 RS (STANDARD PAN) and FE1500RLS (SHALLOW PAN) parts specific to model		
FE1510S	13” FUZE® SLOTTED STANDARD PAN W/ HINGE & LOCK	1
FE1520R	13” FUZE® Pro GRILL SHALLOW PAN - 13 SPOKE W/ HINGE & LOCK	1
FE1540	FUZE® ADJ COLLAR - STANDARD PAN	1
FE1540S	FUZE® ADJ COLLAR - SHALLOW PAN	1
FE1600RS (STANDARD PAN) and FE1600RLS (SHALLOW PAN) parts specific to model		
FE1610S	14” FUZE® SLOTTED STANDARD PAN W/ HINGE & LOCK	1
FE1620R	14” FUZE® Pro GRILL SHALLOW PAN - 14 SPOKE W/ HINGE & LOCK	1
FE1540	FUZE® ADJ COLLAR - STANDARD PAN	1
FE1540S	FUZE® ADJ COLLAR - SHALLOW PAN	1
FE1800RS (STANDARD PAN) and FE1800RLS (SHALLOW PAN) parts specific to model		
FE1610S	14” FUZE® SLOTTED STANDARD PAN W/ HINGE & LOCK	1
FE1820R	14” FUZE® Pro GRILL SHALLOW PAN- 5 SPOKE W/ HINGE & LOCK	1
FE1540	FUZE® ADJ COLLAR - STANDARD PAN	1
FE1540S	FUZE® ADJ COLLAR - SHALLOW PAN	1

FUZE® ProLine (One Piece) Exploded View



RS-S = STANDARD PAN ASSEMBLY

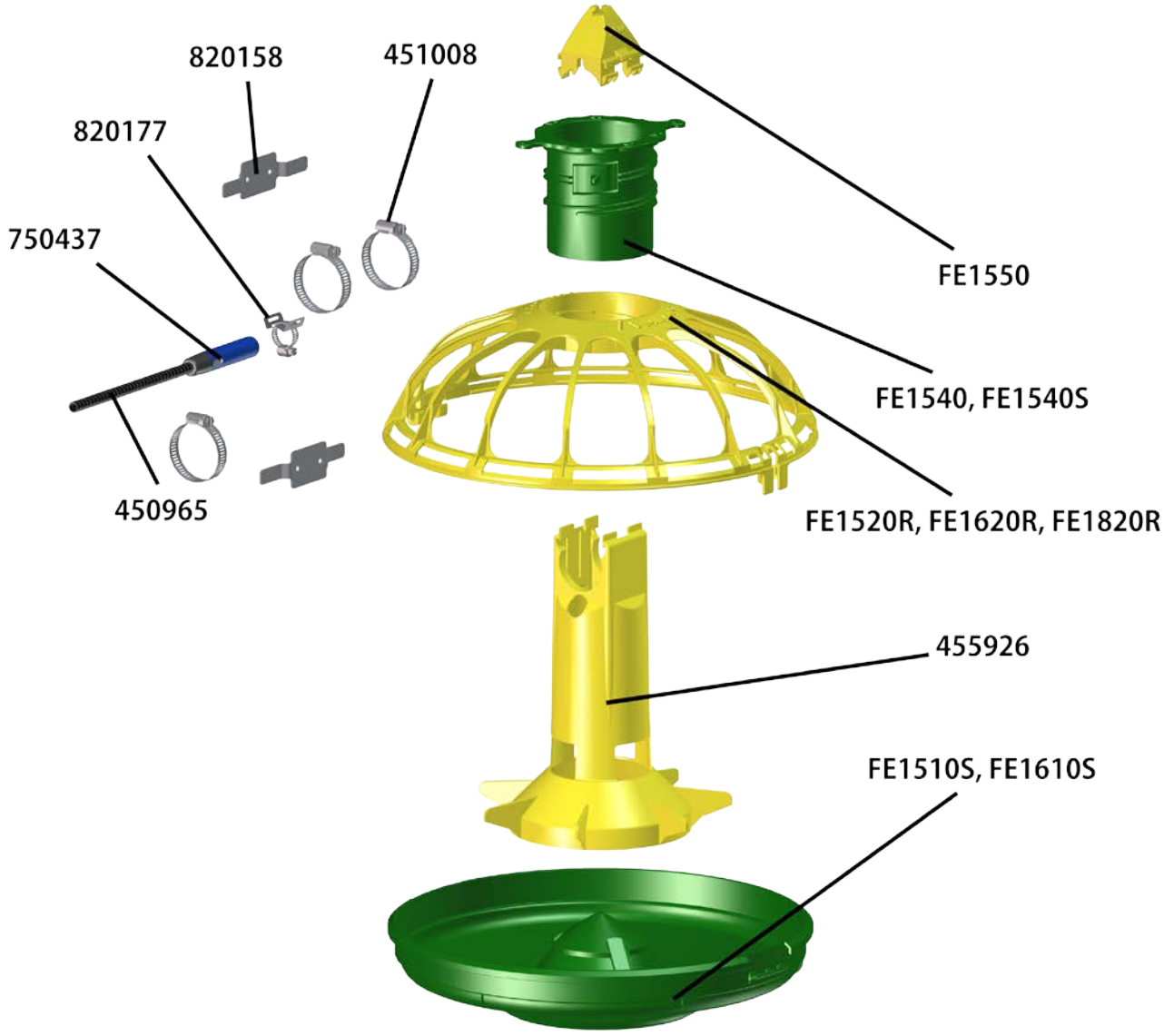


RLS-S= SHALLOW PAN ASSEMBLY

FUZE® ProLine Feeder (One Piece) Parts List

PART #	DESCRIPTION	QTY
FE1500RS-S, FE1500RLS-S, FE1600RS-S, FE1600RLS-S, FE1800RS-S, FE1800RLS-S - Shared Parts		
FE1533	FUZE® ONE PC TOWER	1
FE1540	FUZE® ADJ COLLAR-STANDARD PAN	1
FE1540S	FUZE® ADJ COLLAR-SHALLOW PAN	1
FE1500RS-S (STANDARD PAN) and FE1500RLS-S (SHALLOW PAN) parts specific to model		
FE1510S	13” FUZE® SLOTTED STANDARD PAN W/ HINGE & LOCK	1
FE1510LS	13” FUZE® SLOTTED SHALLOW PAN W/HINGE & LOCK	1
FE1520R	13” FUZE® Pro GRILL SHALLOW PAN - 13 SPOKE W/ HINGE & LOCK	1
FE1600RS-S (STANDARD PAN) and FE1600RLS-S (SHALLOW PAN) parts specific to model		
FE1610S	14” FUZE® SLOTTED STANDARD PAN W/ HINGE & LOCK	1
FE1610LS	14’ FUZE® SLOTTED SHALLOW PAN W/HINGE & LOCK	1
FE1620R	14” FUZE® Pro GRILL SHALLOW PAN - 14 SPOKE W/ HINGE & LOCK	1
FE1800RS-S (STANDARD PAN) and FE1800RLS-S (SHALLOW PAN) parts specific to model		
FE1610S	14” FUZE® SLOTTED STANDARD PAN W/ HINGE & LOCK	1
FE1610LS	14” FUZE® SLOTTED SHALLOW PAN W/HINGE & LOCK	1
FE1820R	14” FUZE® Pro GRILL SHALLOW PAN- 5 SPOKE W/ HINGE & LOCK	1

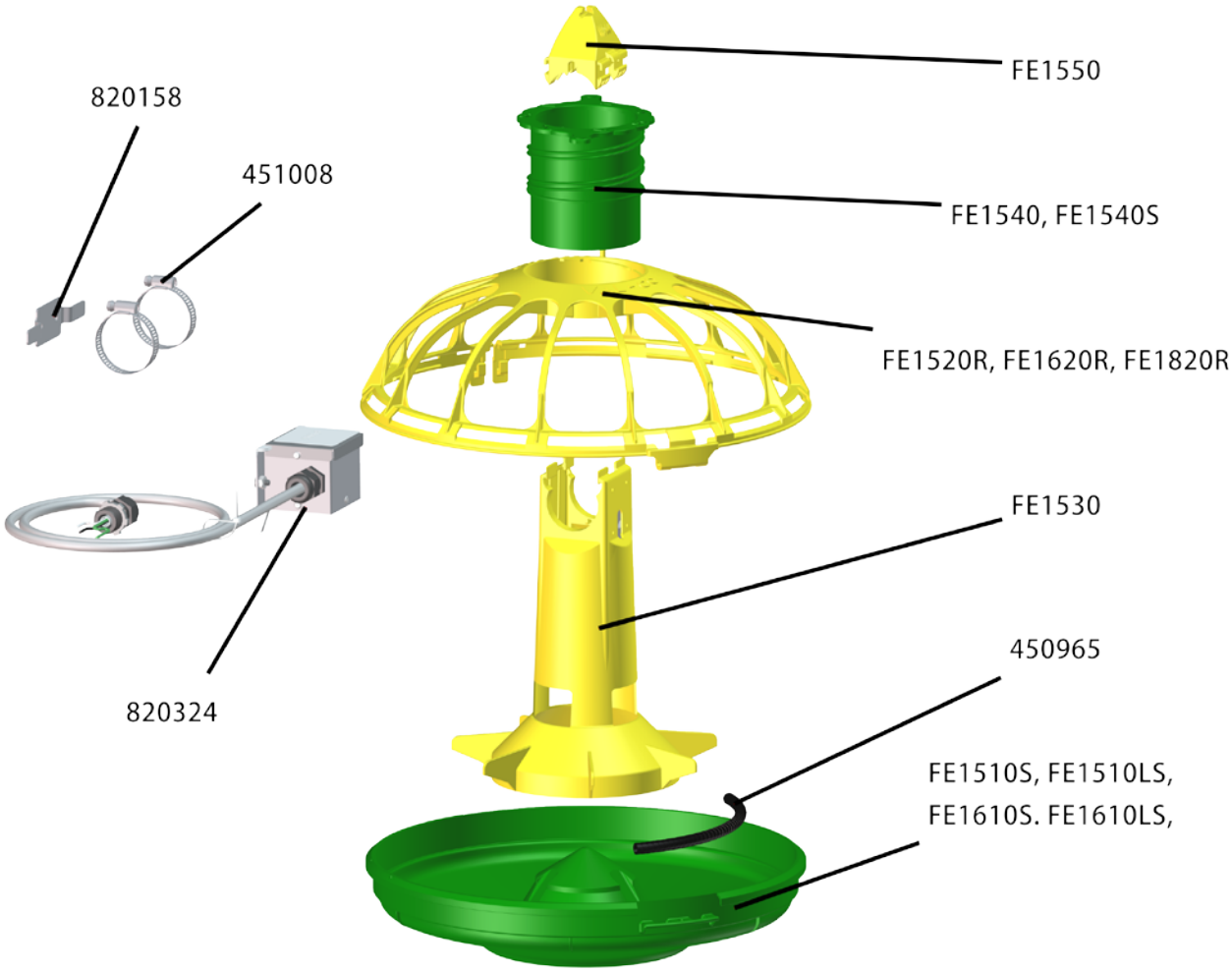
Exploded Control Pan with Proximity Switch



Control Pan with Proximity Switch Parts List

PART #	DESCRIPTION	QTY
Interchangeable Parts		
450965	3/8” CABLE COVER	2
451008	1-3/4” SS TUBE CLAMP	3
455926	FUZE® PROX CONTROL TOWER	1
455928	7/8” HOSE CLAMP	1
750437	SENSOR, PROXIMITY, DOL26	1
820158	FUZE® NON-SWING BRACKET	2
820177	BRACKET, PROX SENSOR MTG	1
FE1550	FUZE® FEEDER TOWER CAP	1
(parts specific to) 455919		
FE1540	FUZE® ADJ COLLAR - STANDARD PAN	1
FE1610S	14” FUZE® SLOTTED STANDARD PAN W/ HINGE & LOCK	1
FE1620R	14” FUZE® Pro GRILL - 14 SPOKE W/ HINGE & LOCK	1
(parts specific to) 455920		
FE1540	FUZE® ADJ COLLAR - STANDARD PAN	1
FE1510S	13” FUZE® SLOTTED STANDARD PAN W/ HINGE & LOCK	1
FE1520R	13” FUZE® Pro GRILL - 13 SPOKE W/ HINGE & LOCK	1
(parts specific to) 455921		
FE1540S	FUZE® ADJ COLLAR - SHALLOW PAN	1
FE1510LS	13” FUZE® SLOTTED SHALLOW PAN W/HINGE & LOCK	1
FE1520R	13” FUZE® Pro GRILL - 13 SPOKE W/ HINGE & LOCK	1
(parts specific to) 455922		
FE1540S	FUZE® ADJ COLLAR - SHALLOW PAN	1
FE1610LS	14” FUZE® SLOTTED SHALLOW PAN W/ HINGE & LOCK	1
FE1620R	14” FUZE® Pro GRILL - 14 SPOKE W/ HINGE & LOCK	1
(parts specific to) 455923		
FE1540	FUZE® ADJ COLLAR - STANDARD PAN	1
FE1610S	14” FUZE® SLOTTED STANDARD PAN W/ HINGE & LOCK	1
FE1820R	14” FUZE® Pro GRILL - 5 SPOKE W/ HINGE & LOCK	1
(parts specific to) 455924		
FE1540S	FUZE® ADJ COLLAR - SHALLOW PAN	1
FE1610LS	14” FUZE® SLOTTED SHALLOW PAN W/ HINGE & LOCK	1
FE1820R	14” FUZE® Pro GRILL - 5 SPOKE W/ HINGE & LOCK	1

Exploded Control Pan with Mechanical Switch



Control Pan with Mechanical Switch Parts List

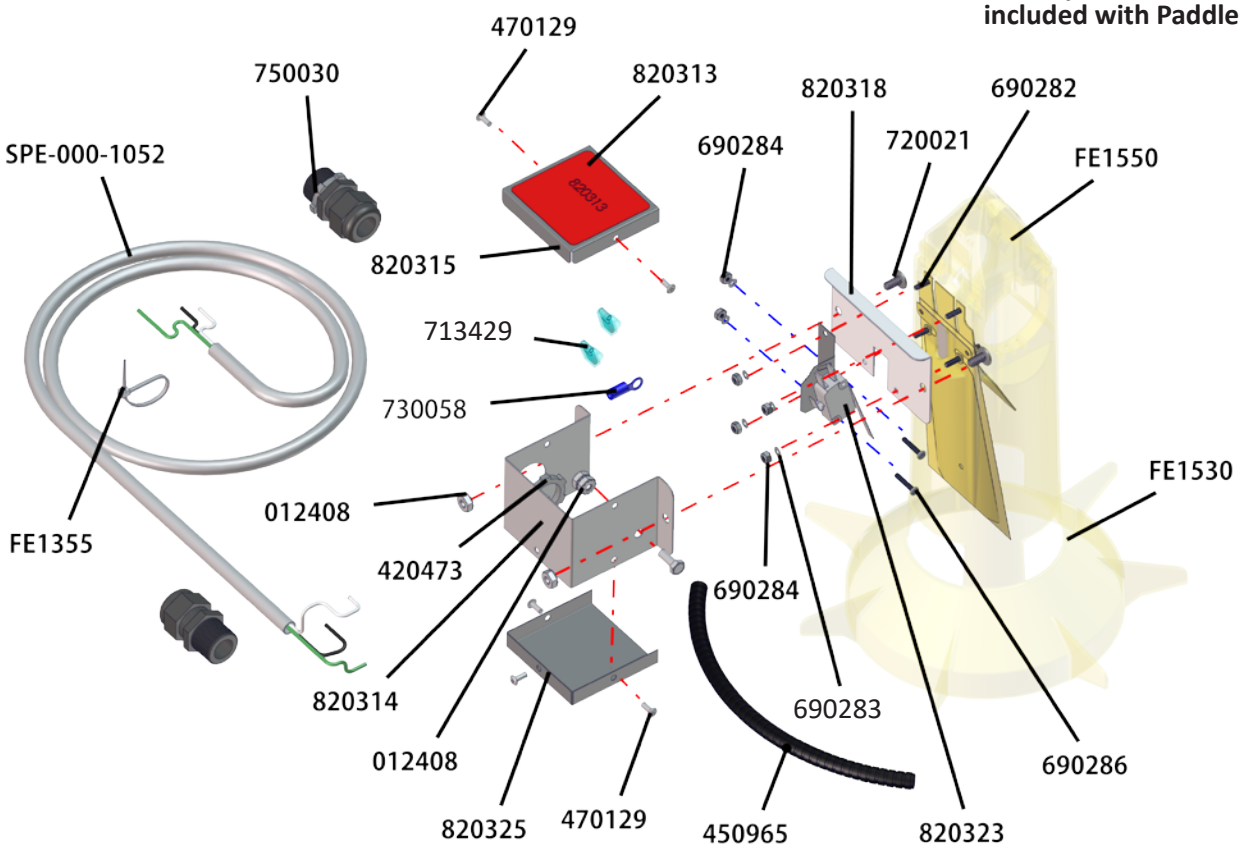
PART #	DESCRIPTION - CONTROL PANS	QTY
Interchangeable Components (all Mech. Switch models)		
450965	3/8” CABLE COVER	1
451008	1-3/4” SS TUBE CLAMP	2
820158	FUZE® NON-SWING BRACKET	1
820323	SWITCH, SPDT, 21A, 277VAC 1HP/125VAC, HP/250VAC	1
820319	TOWER, ADJ. SWITCH, FUZE® CONTROL PAN	1
820324	WIRING ASSY, FUZE® CNTL PAN, MECH SWITCH	1
FE1550	FUZE® FEEDER TOWER CAP	1
(parts specific to) 820327		
FE1510S	13” FUZE® SLOTTED STANDARD PAN W/HINGE & LOCK	1
FE1520R	13” FUZE® GRILL - 13 SPOKES W/ HINGE & LOCK	1
FE1540	FUZE® ADJ COLLAR - STANDARD PAN	1
(parts specific to) 820328		
FE1510LS	13” FUZE® SLOTTED SHALLOW PAN W/ HINGE & LOCK	1
FE1520R	13” FUZE® Pro GRILL - 13 SPOKE W/ HINGE & LOCK	1
FE1540S	FUZE® ADJ COLLAR - SHALLOW PAN	1
(parts specific to) 820329		
FE1610S	14” FUZE® SLOTTED STANDARD PAN W/HINGE & LOCK	1
FE1620R	14” FUZE® Pro GRILL - 14 SPOKE W/ HINGE & LOCK	1
FE1540	FUZE® ADJ COLLAR - STANDARD PAN	1
(parts specific to) 820330		
FE1610LS	14” FUZE® SLOTTED SHALLOW PAN W/ HINGE & LOCK	1
FE1620R	14” FUZE® Pro GRILL - 14 SPOKE W/ HINGE & LOCK	1
FE1540S	FUZE® ADJ COLLAR - SHALLOW PAN	1
(parts specific to) 820331		
FE1610S	14” FUZE® SLOTTED STANDARD PAN	1
FE1820R	14” FUZE® Pro GRILL - 5 SPOKE W/ HINGE & LOCK	1
FE1540	FUZE® ADJ COLLAR - STANDARD PAN	1
(parts specific to) 820332		
FE1610LS	14” FUZE® SLOTTED SHALLOW PAN W/ HINGE & LOCK	1
FE1820R	14” FUZE® Pro GRILL - 5 SPOKE W/ HINGE & LOCK	1
FE1540S	FUZE® ADJ COLLAR - SHALLOW PAN	1

Replacement Parts/Control Pan Mechanical Switch

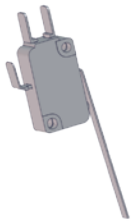
820333
PADDLE ASSY, ADJ SWITCH
FUZE® CONTROL PAN

Tower is shown in low opacity for orientation.

Tower parts are not included with Paddle Assy



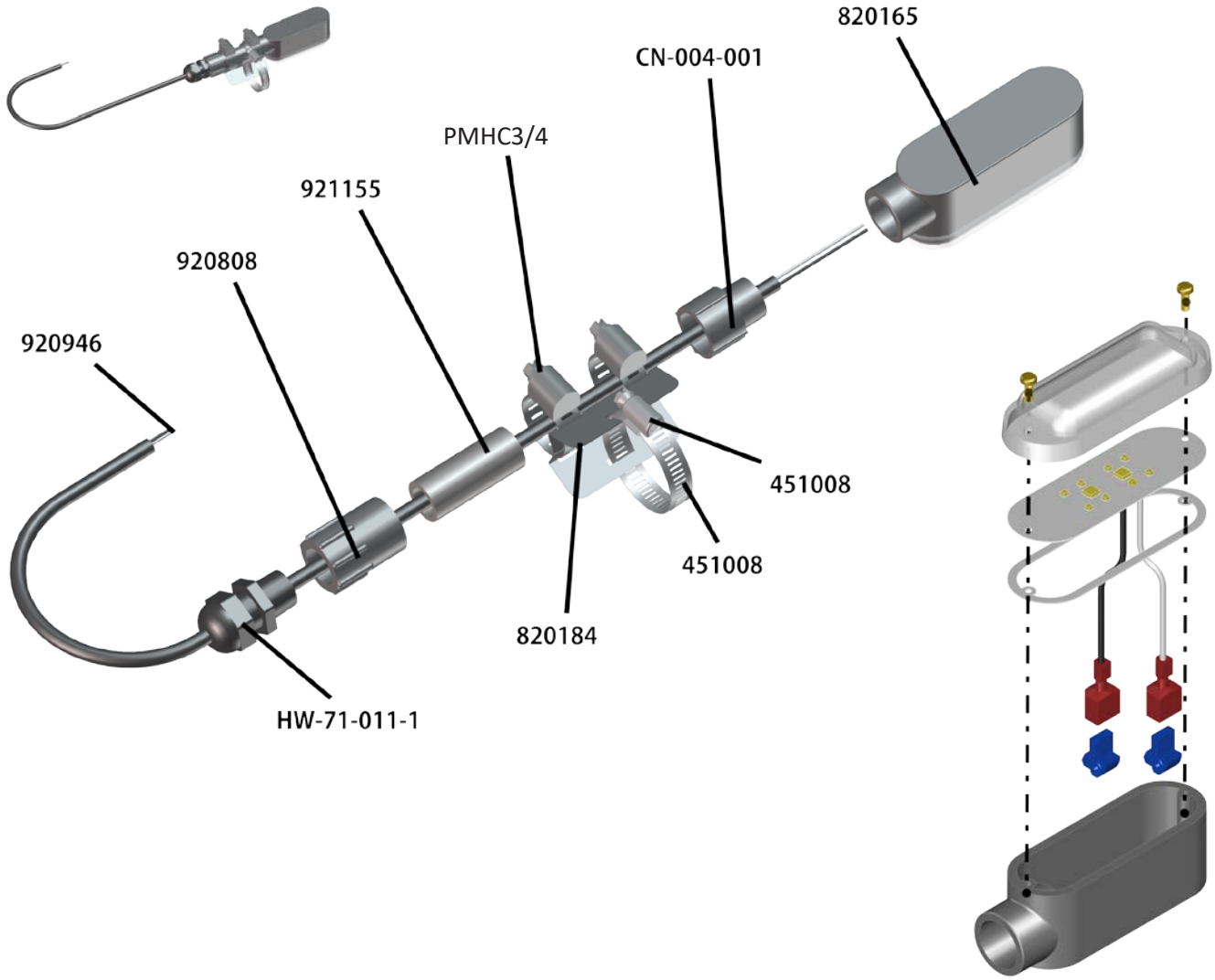
820323
SWITCH



820324
WIRING ASSEMBLY

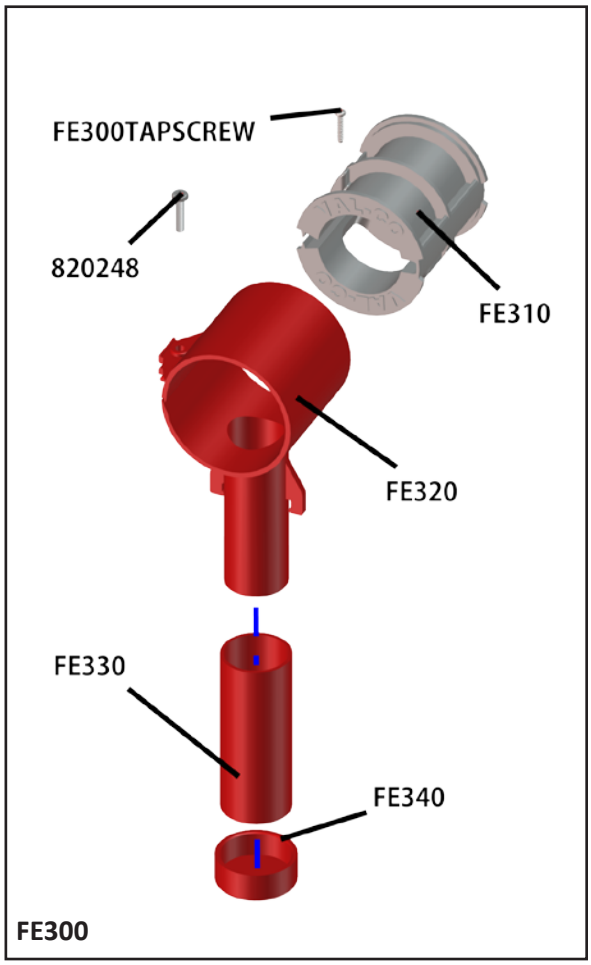
PART #	DESCRIPTION	QTY
REPLACEMENT PARTS (ordered as assemblies shown below)		
820323	SWITCH, SPDT, 21A, 277VAC, 1HP/125VAC, 2HP/250VAC	1
820324	WIRING ASSEMBLY, FUZE® CONTROL PAN, MECH SWITCH	1
820333	PADDLE ASSY, ADJ SWITCH FUZE® CONTROL PAN	1

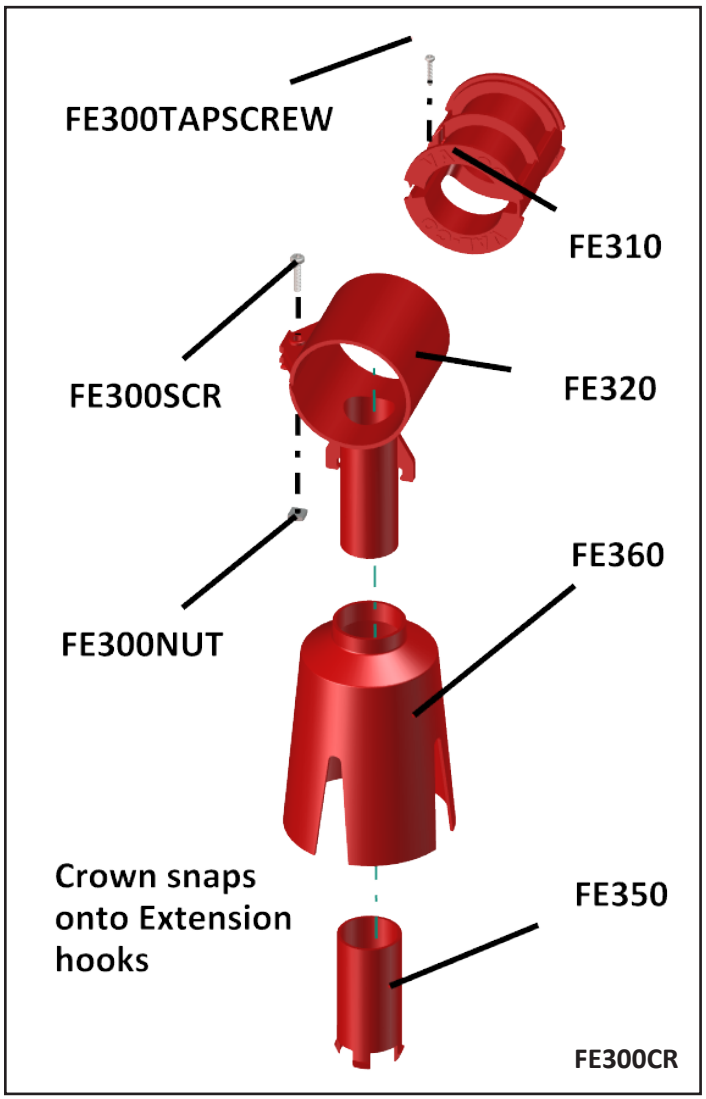
Bird Attracting LED light for Control Pans (Universal)



PART #	DESCRIPTION	QTY
820022 BIRD ATTRACTING LIGHT		
451008	1-3/4” SS TUBE CLAMP	1
820165	LIGHT, LED, CONTROL PAN	1
820184	BRACKET, LED FEEDER LIGHT MTG	1
920808	ADAPTER, 1/2”NPTF X SKT, SCH40 NON-METALIC	1
920946	CABLE, 18/2 18AWG, 10A, 300V, BLK, PVC JACKET, .29 OD	3
980057	CONNECTOR, ELECT, FLAG, FEM, .187 X.020, 22-18, FULLY INSULATED	2
921155	CONDUIT SCHEDULE 40 1/2” x 2”	1
CN-004-001	ADAPTER, 1/2”NPTM X SKT, SCH40 NON-METALIC	1
HW-71-011	STRAIN RELIEF CABLE DOME 1/2	1
PMHC3/4	TRIDON HOSE CLAMP 3/4”	2

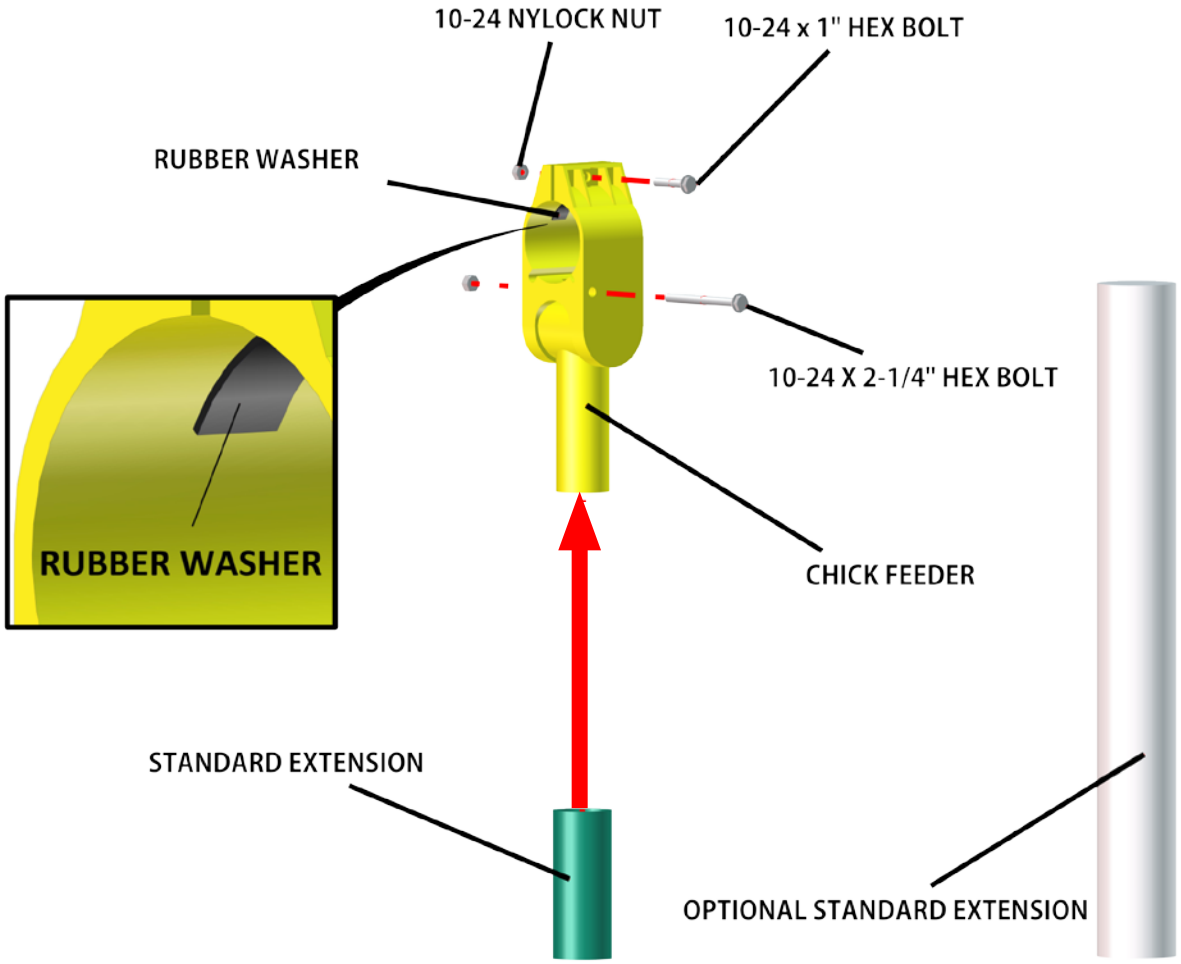
Best Start Chick Feeder (FE300, FE300CR)





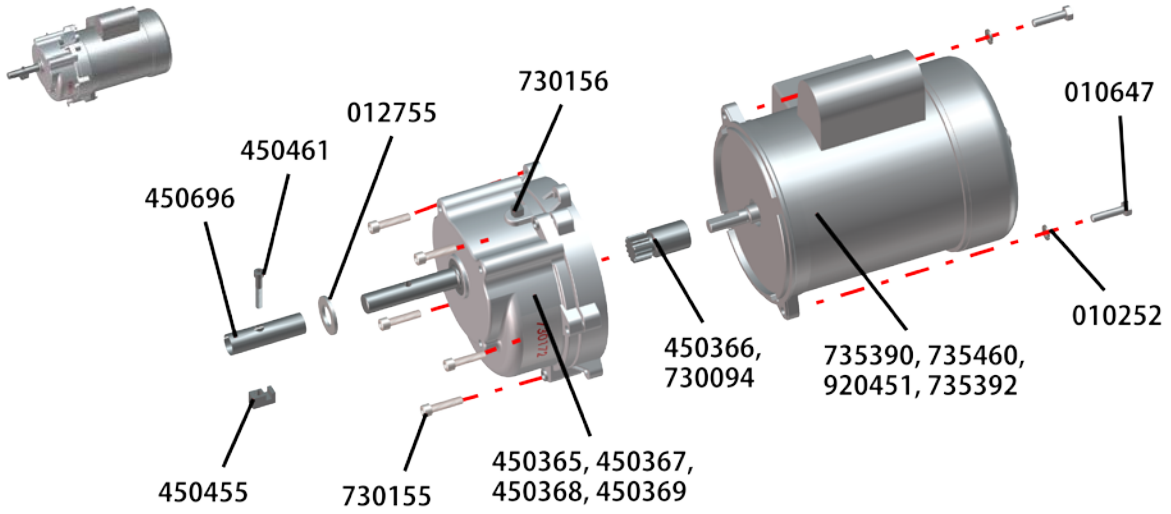
PART #	DESCRIPTION	QTY
Interchangeable Parts		
FE310	SPOOL FOR BEST START CHICK FEEDER	1
FE320	DROP FOR BEST START CHICK FEEDER	**1**
FE300NUT	#8-32 SQUARE NUT, 11/32”WD X 1/8” THR SS	**1**
FE300SCR	#8-32 x 3/4 “ PHILLIPS ROUND 188 SS	**1**
FE300TAPSCREW	NO.4 X 3/4”LONG PAN HD SHT METAL SCR SS	**1**
FE300 - BEST START CHICK FEEDER		
FE330	EXTENDER FOR BEST START CHICK FEEDER	1
FE340	CAP FOR EXT. FOR BEST START CHICK FEEDER	1
FE300CR - BEST START CHICK FEEDER W/CROWN SLEEVE		
FE350	HOOKED EXTENDER FOR BEST START FEEDER (USE WITH FE360)	1
FE360	CROWN SPREADER FOR BEST START FEEDER (USE WITH FE350)	1

Best Start Chick Feeder II (820005, 820006)



PART #	DESCRIPTION	QTY
820005	BEST START II CHICK FEEDER	1
820006	BEST START II CHICK FEEDER - OPTIONAL STAND. EXTENSION	1
820009	BEST START II CHICK FEEDER -OPTIONAL 6” EXTENSION BOX OF 50	1
All the above are shipped in quantities of 50 per box		
HARDWARE and WASHER (Included)		
No Val-Co equivalent Part #	10-24 x 1” Hex Bolt	50
No Val-Co equivalent Part #	10-24 x 2-1/4” Hex Bolt	50
No Val-Co equivalent Part #	10-24 Nylock Nut	100
No Val-Co equivalent Part #	RUBBER WASHER	50

Direct Drive and Gearbox Exploded view and Parts List

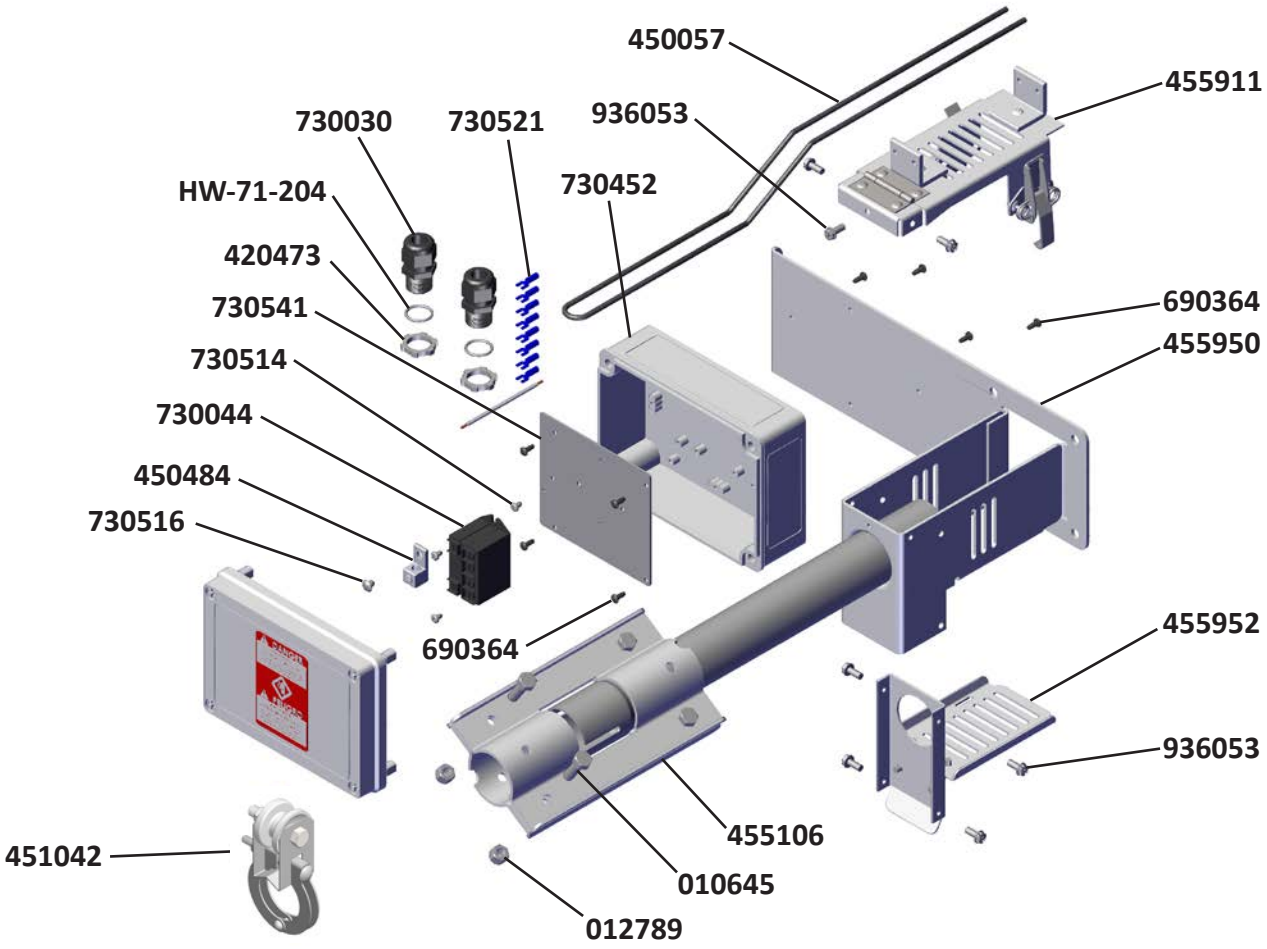


PART #	DESCRIPTION	QTY
450287 MOTOR/GEARBOX ASSY – 543/657 RPM 1P		
735390	MTR,.50HP,115/230V,50/60HZ,1P 1425/1725RPM,56N,SF1.00,IN.B	1
450369	GEARBOX, 2.63:1 RATIO, 3/4 SH 56N DIE CAST AL	1
450366	1/2” PINION DIE CAST- COMPLETE	1
450391 MOTOR/GEARBOX ASSY – 359 RPM 3P		
735460	MTR,.50HP,190/380&208-230/460V 50&60HZ,3P,1425/1725RPM,56N	1
450365	GEARBOX, 4.81:1 RATIO, 3/4 SH 56N, DIE CAST AL	1
450366	1/2” PINION DIE CAST- COMPLETE	1
450393 MOTOR/GEARBOX ASSY – 441 RPM 1P		
735390	MTR,.50HP,115/230V,50/60HZ,1P 1425/1725RPM,56N,SF1.00,IN.B	1
450368	GEARBOX, 3.91:1 RATIO, 3/4 SH 56N, DIE CAST AL	1
450366	1/2” PINION DIE CAST- COMPLETE	1
450395/MOTOR/GEARBOX ASSY – 441 RPM 3P		
735460	MTR,.50HP,190/380&208-230/460V 50&60HZ,3P,1425/1725RPM,56Y	1
450368	GEARBOX, 3.91:1 RATIO, 3/4 SH 56N, DIE CAST AL	1
450366	1/2” PINION DIE CAST- COMPLETE	1
450397/MOTOR/GEARBOX ASS**Y – 226 RPM 1P**		
735390	MTR,.50HP,115/230V,50/60HZ,1P 1425/1725RPM,56N,SF1.00,IN.B	1
450367	GEARBOX, 7.63:1 RATIO, 3/4 SH 56N, DIE CAST AL	1
450366	1/2” PINION DIE CAST- COMPLETE	1
451028/MOTOR/GEARBOX ASSY – 657 RPM 1P		
735392	MTR,1HP,115/208-230V,50/60HZ 1P,1725RPM,56Y,SF1.15,IN.B	1
450369	GEARBOX, 2.63:1 RATIO, 3/4 SH 56N, DIE CAST AL	1
730094	5/8” PINION (DIE CAST)	1
ADDITIONAL MOTOR MODELS AND INTERCHANGEABLE PARTS ON NEXT PAGE		

Direct Drive and Gearbox Exploded view and Parts List - continued

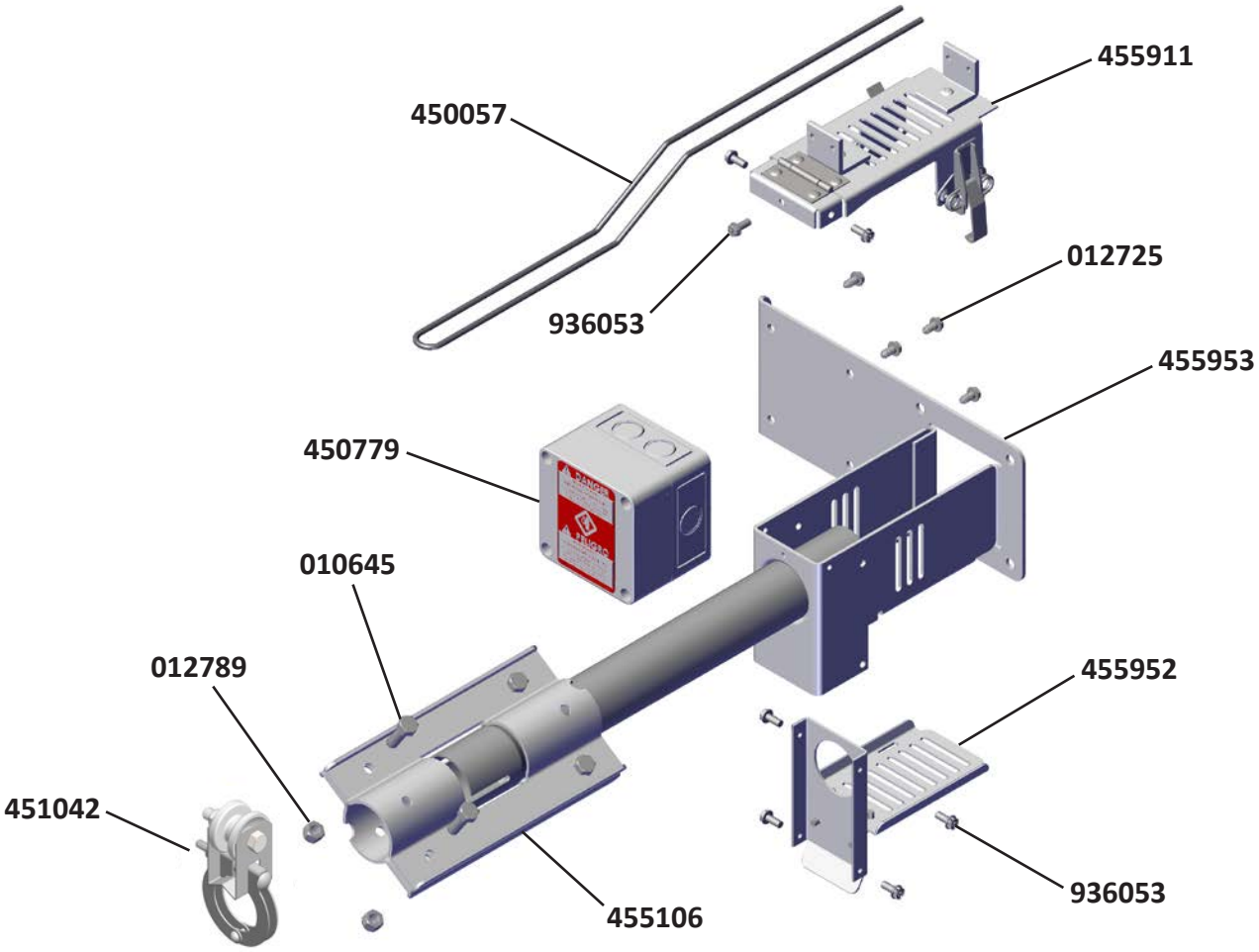
PART #	DESCRIPTION	QTY
451101/MOTOR/GEARBOX ASSY – 359 RPM 3P		
920451	MTR, 0.75HP, 380V, 60HZ, 3P 1720RPM, 56C, SF1.15, IN.F	1
730126	3-PHASE ADAPTER FACE PLATE	1
450365	GEARBOX, 4.81:1 RATIO, 3/4 SH 56N, DIE CAST AL	1
730094	5/8” PINION (DIE CAST)	1
451102/MOTOR/GEARBOX ASSY – 657 RPM 3P		
920451	MTR, 0.75HP, 380V, 60HZMPLETE, 3P 1720RPM, 56C, SF1.15, IN.F	1
730126	3-PHASE ADAPTER FACE PLATE	1
450369	GEARBOX, 2.63:1 RATIO, 3/4 SH 56N, DIE CAST AL	1
730094	5/8” PINION (DIE CAST)	1
460025/MOTOR/GEARBOX ASSY – 296/359 RPM 1P		
735390	MTR,.50HP,115/230V,50/60HZ,1P 1425/1725RPM,56N,SF1.00,IN.B	1
450365-PH	GEARBOX, 4.81:1 RATIO, 3/4 SH 56N, DIE CAST AL	1
450366	1/2” PINION DIE CAST- COMPLETE	1
Interchangeable Parts		
010252	WASHER, LOCK 5/16”MED SPLIT ZP	2
010647	5/16” X 1-1/4” HEX BOLT	2
012755	WASHER, FLAT, 3/4” SAE	1
450366	1/2” PINION DIE CAST- COMPLETE	1
450369	GEARBOX, 2.63:1 RATIO, 3/4 SH 56N, DIE CAST AL	1
450455	1/4-20 THREAD DRIVE BLOCK	1
450461	1/4-20 X 1-1/2” SOCKET HEAD SCREW	1
450696	.028 AUGER SHIM	1
730141	VENT PLUG	1

Drive End Control, 1PH, DPST Relay (455960)



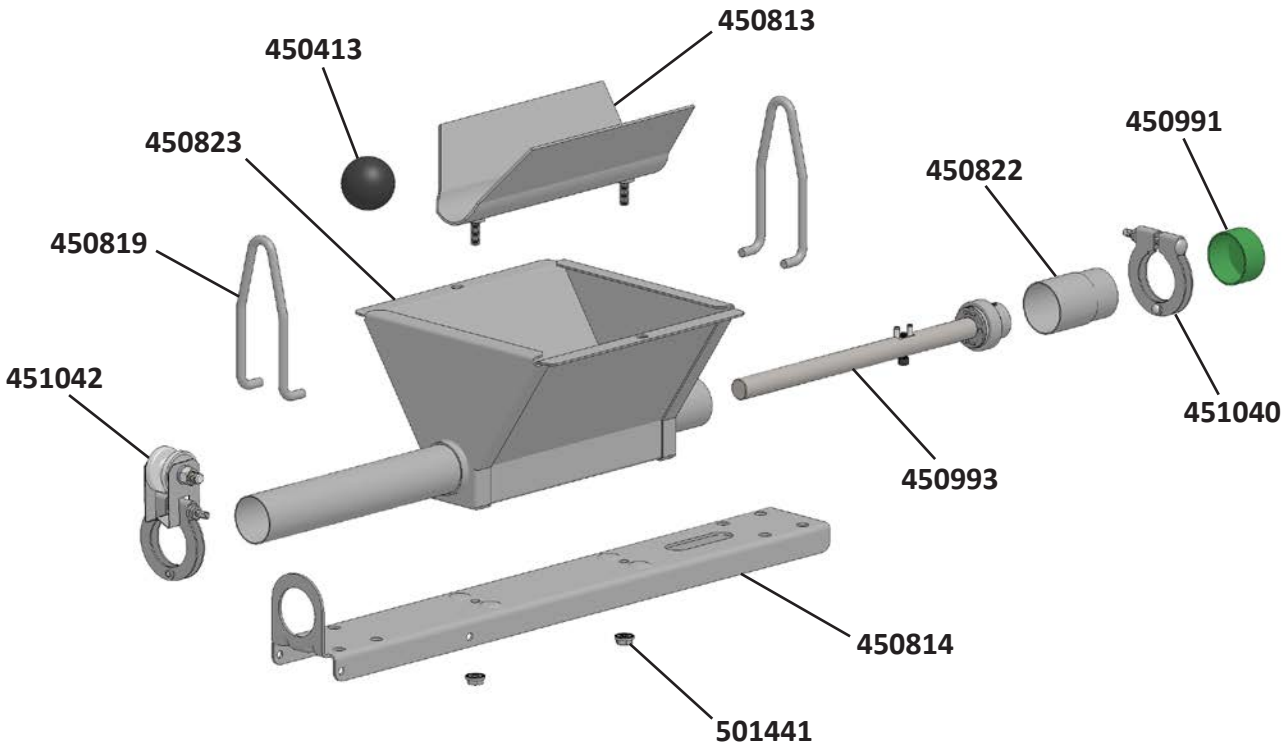
PART #	DESCRIPTION	QTY
DRIVE END CONTROL, 1PH, DPST RELAY (455960)		
010645	5/16” X 1” HEX BOLT	4
012789	5/16-18 NYLOCK NUT	4
420473	1/2” CONDUIT NUT	2
450057	ANTI-ROOST GUARD WIRE	1
450484	GROUND BLOCK	1
451042	ANTI-ROOST INSULATOR BRACKET ASSEMBLY	1
455106	BROILER DRIVE UNIT TUBE JOINER	2
455911	TOP PLATE ASSEMBLY	1
455950	1 PH DRIVE END WELDMENT	1
455952	BOTTOM GUARD AND SUPPORT	1
690364	#6-19 X 3/8” PPHMS SCREW	8
730044	POWER RELAY, DPST 25A 240V	1
730452	ENCLOSURE 5” X 7” X 3”	1
730514	6-32 X 1/4” PPH TRS SCREW	3
730516	10-32 X 1/4” PPH TRS SCREW	1
730521	TERMINAL, SPADE, 16-14AWG, #6	8
730541	MOUNTING PLATE, CONTROL BOX	1
750030	STRAIGHT-THRU GROMMET	2
936053	#10 X 1/2” SHEET METAL SCREW	7
HW-71-204	O-RING, 11/16” ID, 13/16” OD	2

Drive End Control, 1PH or 3PH, No Relay (455965)



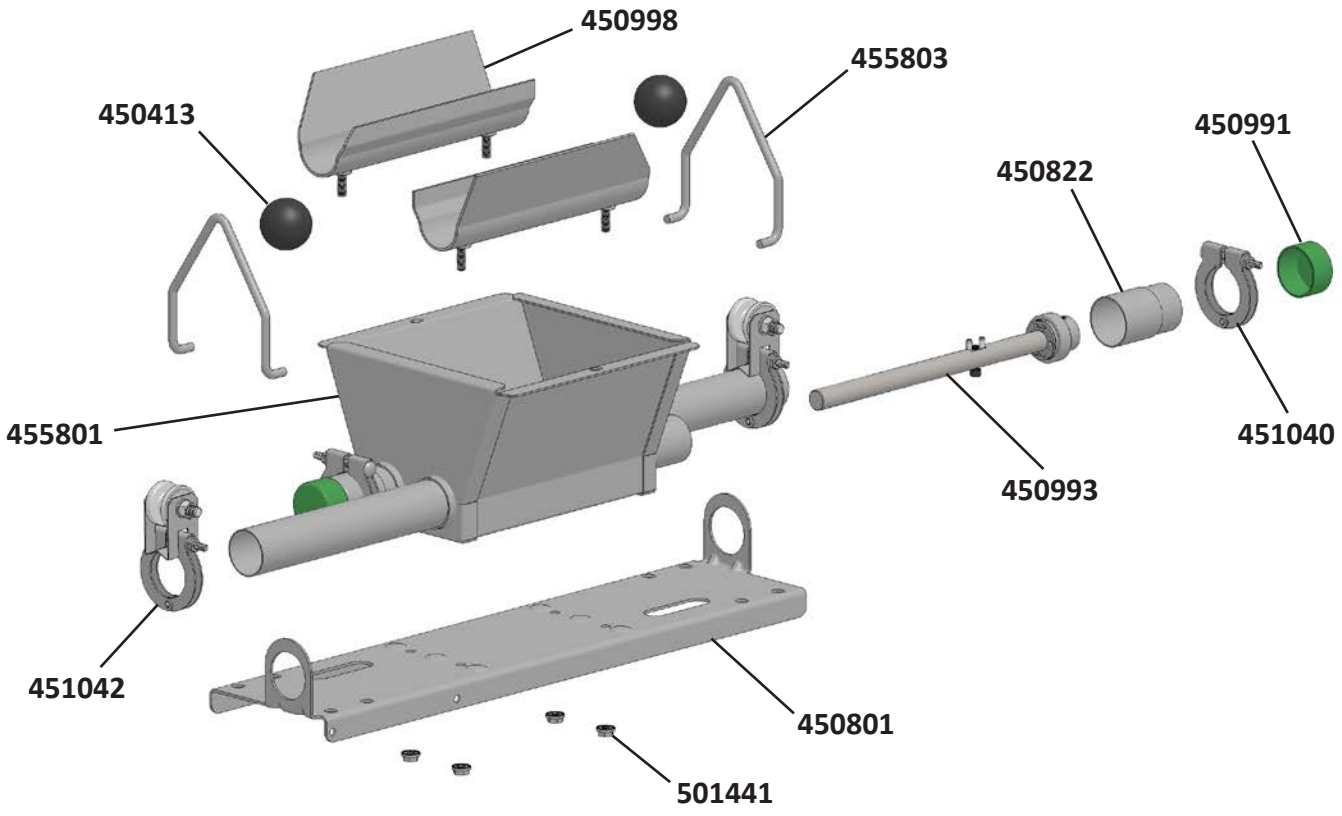
PART #	DESCRIPTION	QTY
DRIVE END CONTROL, 1PH OR 3 PH, NO RELAY (455965)		
010645	5/16” X 1” HEX BOLT	4
012725	#12 X 1/2” HEX HEAD SHEET METAL SCREW	4
012789	5/16-18 NYLOCK NUT	4
450057	ANTI-ROOST GUARD WIRE	1
450779	SQUARE ENCLOSURE, 3.7” X 3.7” X 3.19”	1
451042	ANTI-ROOST INSULATOR BRACKET ASSEMBLY	1
455106	BROILER DRIVE UNIT TUBE JOINER	2
455911	TOP PLATE ASSEMBLY	1
455952	BOTTOM GUARD AND SUPPORT	1
455953	3 PH DRIVE END WELDMENT	1
936053	#10 X 1/2” SHEET METAL SCREW	7

Single Boot Exploded (450810)



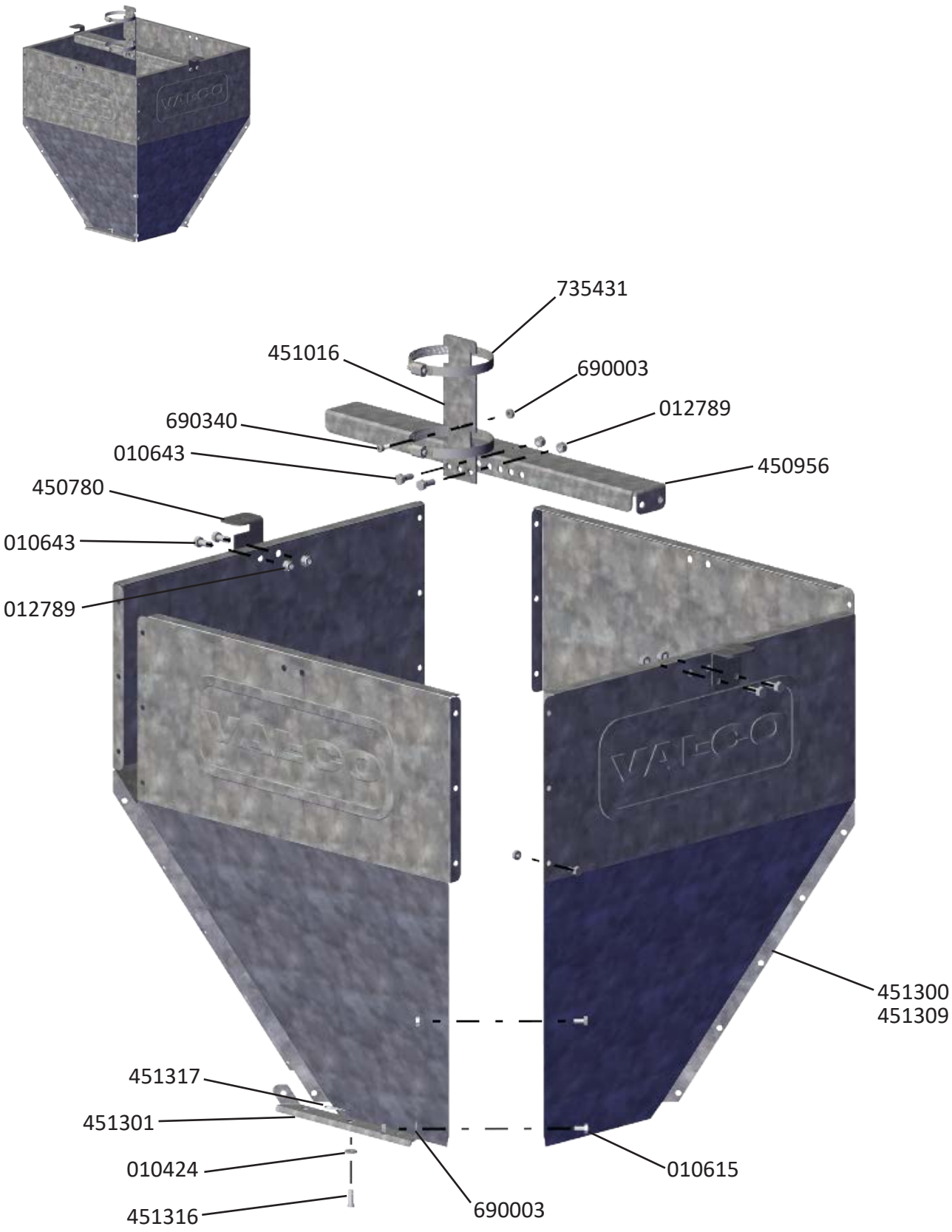
PART #	DESCRIPTION	QTY
	450810 SINGLE BOOT	
450413	AGITATOR BALL	1
450813	1.75” SGL BOOT LINER	1
450814	1.75” BOOT SUPPORT RAIL	1
450819	BOOT HANGER	2
450822	BEARING RETAINER TUBE	1
450823	1.75” BOOT HOUSING ASSY	1
450991	1-3/4” BEARING CAP	1
450993	1.75” FLGHT ANCHOR ASSY	1
451040	FEEDER TUBE CLAMP	1
451042	ANTI-ROOST INSULATOR BRACKET ASSEMBLY	1
501441	NUT, HEX FLANGE 5/16”-18, ZP JS500	2

Double Boot Exploded (450800)



PART#	DESCRIPTION	QTY
	450800 DOUBLE BOOT	
450413	AGITATOR BALL	2
450801	1.75" TWIN BOOT SUPPORT RAIL	1
450822	BEARING RETAINER TUBE	2
450991	1-3/4" BEARING CAP	2
450993	1.75" FLGHT ANCHOR ASSY	2
450998	1.75" TWIN BOOT LINER	2
451040	FEEDER TUBE CLAMP	2
451042	ANTI-ROOST INSULATOR BRACKET ASSEMBLY	2
455801	1.75" TWIN BOOT HSG ASSY	1
455803	TWIN BROILER BOOT HANGER	2
501441	NUT, HEX FLANGE 5/16"-18, ZP JS500	4

Hopper Exploded Drawing



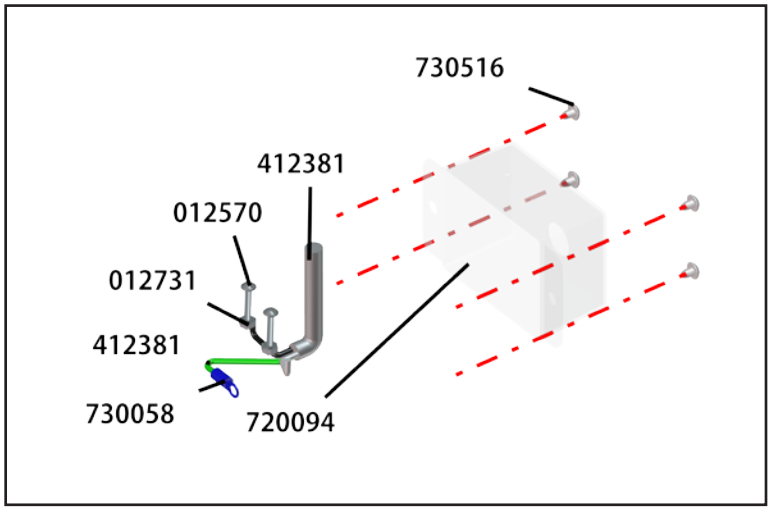
Hopper Parts List

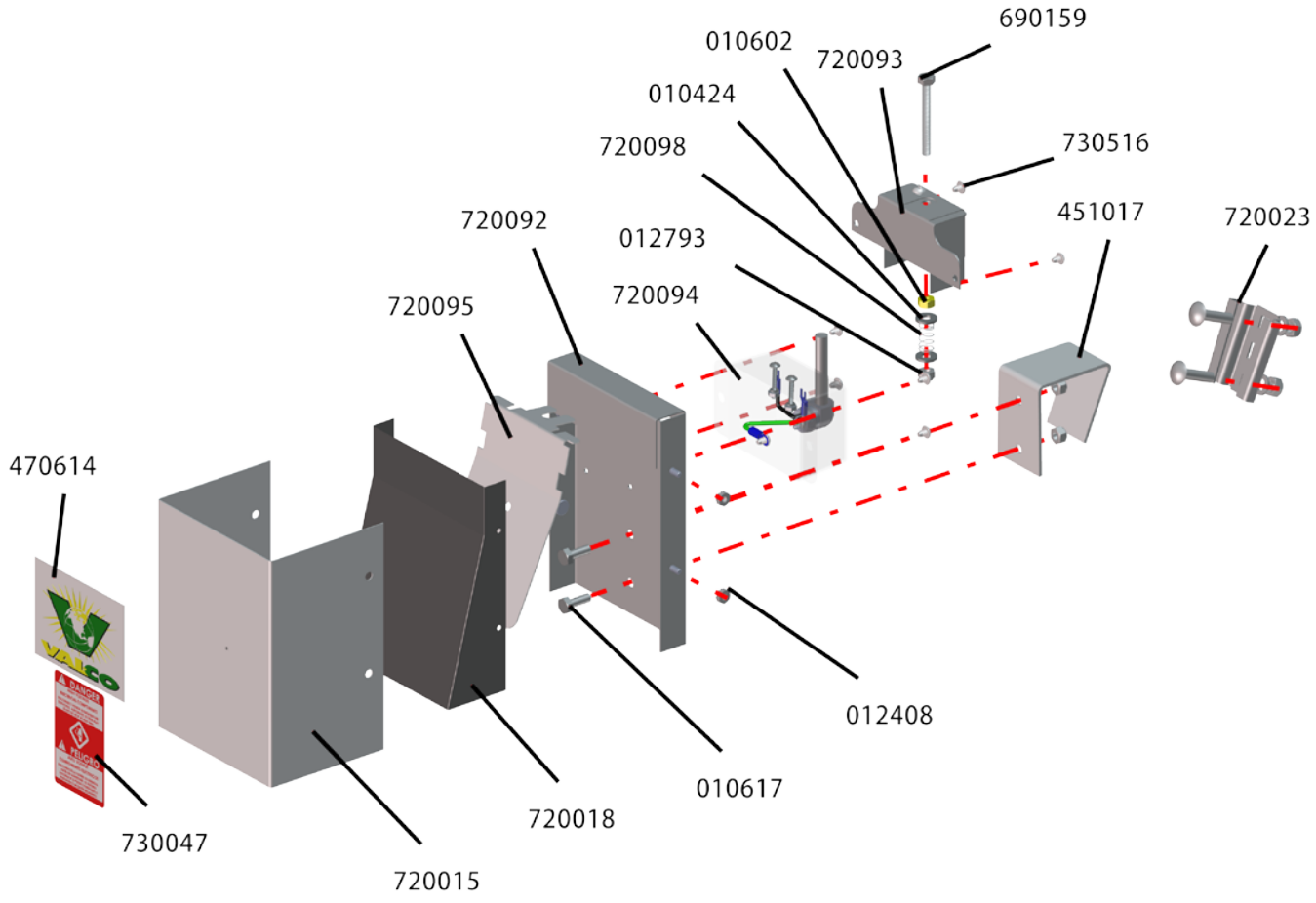
PART #	DESCRIPTION	QTY 451315	QTY 451320
451315 100 LB HOPPER / 451320 200 LB HOPPER			
451309	100 LB HOPPER PANEL	4	-
451300	200 LB HOPPER PANEL	-	4
450956	HOPPER CROSS BRACE	1	1
451301	HOPPER BOTTOM BRACE	2	2
451312	HARDWARE BAG, 100 LB HOPPER	1	-
451313	HARDWARE BAG, 200 LB HOPPER	-	1
010424	WASHER, FLAT, 1/4” X 9/16” ZP	2	2
010615	1/4-20 X 1/2” HEX HEAD BOLT ZP	33	37
010643	BOLT, HEX HEAD, 5/16-18 X 3/4” ZP	6	6
012789	5/16-18 NYLOCK NUT	6	6
450780	CABLE RETAINER	2	2
451016	SUPPORT, FEED HOPPER DROP TUBE	1	1
451316	CLEVIS PIN, 1/4” X 9/16” ZP	2	2
451317	COTTER PIN, 5/64” X 1.25” LG ZP	2	2
690003	NUT, KEP 1/4-20 ZP	35	39
690340	SCREW, 1/4-20 X 1/2 SHCS ZP	1	1
735431	4” SS DOWNSPOUT CLAMP	2	2

450804 Cover for 100 lb. & 200 lb. available

451022 Extension for 200 lb. hopper available to increase capacity

Hopper Level Switch Control Exploded view

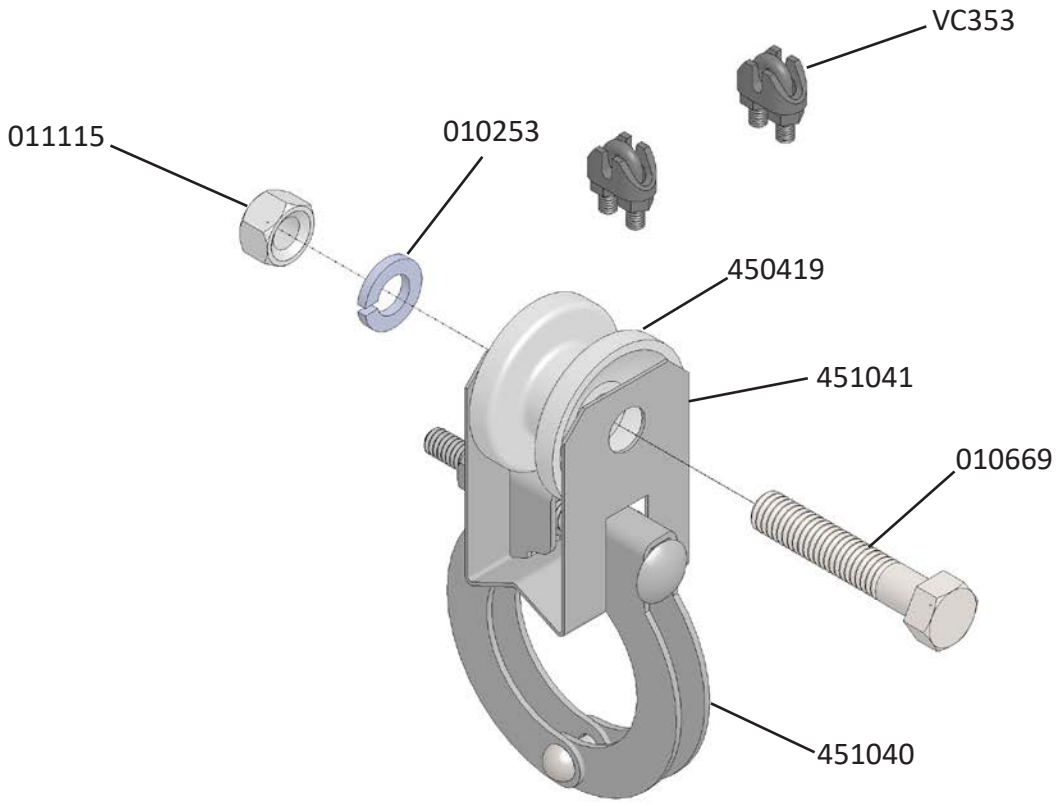




Hopper Level Switch Control Parts List

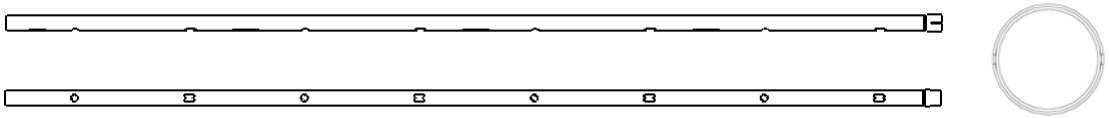
PART #	DESCRIPTION	QTY
	720097 HOPPER LEVEL SWITCH CONTROL	
010424	1/4” SAE FLAT WASHER	2
010602	NUT, HEX 1/4”-20 A FINISHED ZP	1
010617	1/4” X 3/4” HEX HEAD BOLT	2
012408	#10-24 HEX KEP LOCKNUT	4
012570	#6-32 X 1” RD HD MACHINE SCREW - SLOTTED	2
012731	#6-32 MACHINE NUT	2
012732	#6 LOCKWASHER	2
012793	1/4-20 NYLOCK NUT	4
412381	14/3 BLACK SJTOW WIRE	8
451017	HANGER BRACKET, 67 DEG	1
470614	4” X 3” VAL-CO DECAL	1
690159	SCREW, 1/4-20 X 2-1/4 HHTB ZP	1
720015	SWITCH SHIELD	1
720018	DIAPHRAM - 7” X 6.5”	1
720020	HANGER BRACKET, 90 DEG	1
720023	MOUNTING BRACKET	1
720092	BODY ASSY, ADJ SWITCH	1
720093	BRACKET, TENSIONER	1
720094	ELECTRIC BOX, ADJ SWITCH	1
720095	SWITCH PLATE, ADJ SWITCH	1
720096	COVER, TENSIONER	1
720098	SPRING, .028 X .437 X .75	1
720099	DECAL, SENSITIVITY ADJUSTMENT	1
720100	STRAIN RELIEF, 90 DEG FOR 14/3	1
730047	HIGH VOLTAGE WARNING LABEL	1
730058	#16-14 RING TERMINAL	1
730516	SCREW,10-32 X 1/4 PPH TRS ZP	8
730521	TERMINAL, SPADE, 16-14AWG, #6 BLUE	2
730989	MICRO SWITCH, SPDT 20A, 250VAC SCREW TERMINAL	1

Anti-Roost Insulator Bracket Assembly (451042)



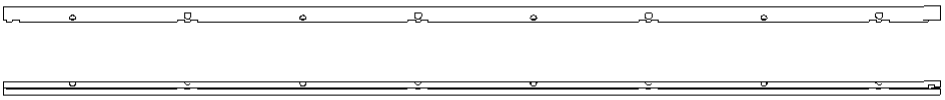
PART #	DESCRIPTION	QTY
451042 ANTI-ROOST INSULATOR BRACKET ASSEMBLY		
010253	3/8” SPLIT LOCK WASHER	1
010669	3/8” X 2” HEX BOLT	1
011115	3/8-16 HEX NUT	1
450015	INSULATOR BRACKET	1
450419	WIRE PULLEY INSULATOR	1
451040	FEEDER TUBE CLAMP	1
451041	ANTI-ROOST INSULATOR BRACKET	1
VC353	CLAMP, 1/16 CABLE, WIRE ROPE CLIP	2

Feed Tubes - Smooth Tube Parts List



PART #	DESCRIPTION
FEED TUBES - SMOOTH TUBES	
450224	9’ TUBE - 1 HOLE
450081	9’ TUBE - 2 HOLES
451033	9’ TUBE - 3 HOLES
450145	9’ TUBE - 4 HOLES
455076	9’ TUBE - 4 HOLES + 4 CENTERED BEST START HOLES
451047	10’ TUBE - 0 HOLES
450082	10’ TUBE - 2 HOLES
450083	10’ TUBE - 3 HOLES
450084	10’ TUBE - 4 HOLES
450072	10’ TUBE - 3 HOLES + 3 CENTERED BEST START HOLES
451032	10’ TUBE - 4 HOLES + 2 CENTERED BEST START HOLES
450099	10’ TUBE - 4 HOLES + 4 CENTERED BEST START HOLES
450945	12’ TUBE - 4 HOLES
450085	12’ TUBE - 5 HOLES
450064	12’ TUBE - 5 HOLES + 5 CENTERED BEST START HOLES
FEED TUBES - CONTROL SMOOTH TUBES	
455267	9’ TUBE - 1 HOLE
455269	9’ TUBE - 2 HOLES
455271	9’ TUBE - 3 HOLES
455202	9’ TUBE - 4 HOLES
455273	9’ TUBE - 4 HOLES + 4 CENTERED BEST START HOLES
455275	10’ TUBE - 2 HOLES
455277	10’ TUBE - 3 HOLES
455205	10’ TUBE - 4 HOLES
455279	10’ TUBE - 3 HOLES + 3 CENTERED BEST START HOLES
455281	10’ TUBE - 4 HOLES + 2 CENTERED BEST START HOLES
455283	10’ TUBE - 4 HOLES + 4 CENTERED BEST START HOLES
455285	12’ TUBE - 4 HOLES
455287	12’ TUBE - 5 HOLES
455289	12’ TUBE - 5 HOLES + 5 CENTERED BEST START HOLES

Feed Tubes - Ribbed Tube Parts List



PART #	DESCRIPTION
FEED TUBES - RIBBED TUBES	
455626	9’ TUBE - 3 HOLES
450920	9’ TUBE - 4 HOLES
455627	9’ TUBE - 3 HOLES + 3 CENTERED BEST START HOLES
451031	9’ TUBE - 4 HOLES + 2 CENTERED BEST START HOLES
450921	9’ TUBE - 4 HOLES + 4 CENTERED BEST START HOLES
451000	10’ TUBE - 0 HOLES
450908	10’ TUBE - 2 HOLES
450909	10’ TUBE - 3 HOLES
450910	10’ TUBE - 4 HOLES
450911	10’ TUBE - 3 HOLES + 3 CENTERED BEST START HOLES
455625	10’ TUBE - 4 HOLES + 2 CENTERED BEST START HOLES
450913	10’ TUBE - 4 HOLES + 4 CENTERED BEST START HOLES
451005	12’ TUBE - 3 HOLES
450924	12’ TUBE - 4 HOLES
450925	12’ TUBE - 5 HOLES
450926	12’ TUBE - 4 HOLES + 4 CENTERED BEST START HOLES
450928	12’ TUBE - 5 HOLES + 5 CENTERED BEST START HOLES
FEED TUBES - CONTROL RIBBED TUBES	
455628	9’ TUBE - 3 HOLES
455219	9’ TUBE - 4 HOLES
455629	9’ TUBE - 3 HOLES + 3 CENTERED BEST START HOLES
455630	9’ TUBE - 4 HOLES + 2 CENTERED BEST START HOLES
455223	10’ TUBE - 4 HOLES
455624	10’ TUBE - 4 HOLES + 2 CENTERED BEST START HOLES
455248	10’ TUBE - 4 HOLES + 4 CENTERED BEST START HOLES

Auger - Parts List

PART #	DESCRIPTION
	AUGER
450450-205	205’ ROLL - 1.438” O.D. AUGER
450450-225	225’ ROLL - 1.438” O.D. AUGER
450450-245	245’ ROLL - 1.438” O.D. AUGER
450450-265	265’ ROLL - 1.438” O.D. AUGER
450450-285	285’ ROLL - 1.438” O.D. AUGER
450450-305	305’ ROLL - 1.438” O.D. AUGER
450450-325	325’ ROLL - 1.438” O.D. AUGER
450450-345	345’ ROLL - 1.438” O.D. AUGER
450450-365	365’ ROLL - 1.438” O.D. AUGER
450450-385	385’ ROLL - 1.438” O.D. AUGER
450450-405	405’ ROLL - 1.438” O.D. AUGER
450450-425	425’ ROLL - 1.438” O.D. AUGER
450450-445	445’ ROLL - 1.438” O.D. AUGER
450450-465	465’ ROLL - 1.438” O.D. AUGER
450450-485	485’ ROLL - 1.438” O.D. AUGER
450450-505	505’ ROLL - 1.438” O.D. AUGER

Customer Service

Dealer Name: _____

Street / PO Box _____

City _____

State / Province _____

Zip / Postal _____

Phone _____

Fax _____

E-mail _____

Web site _____

Customer Service
210 E. Main Street
Coldwater, OH 45828
800.998.2526

North America:
Phone: 800.99VALCO (800.998.2526)
Fax: 419.678.2200
Email: sales@val-co.com

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