



Flexible Auger Feed Delivery System Installation & Operator's Manual

Model 740 (4.25")

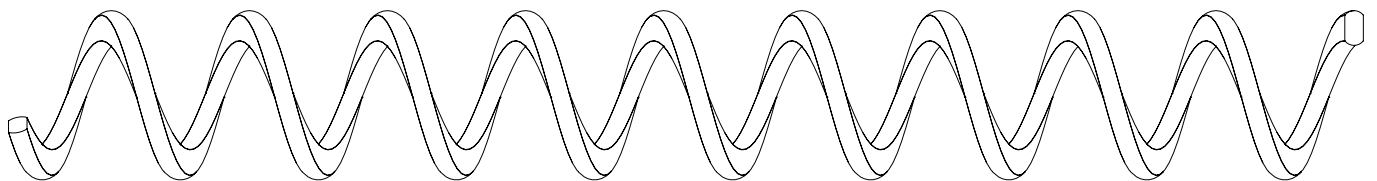
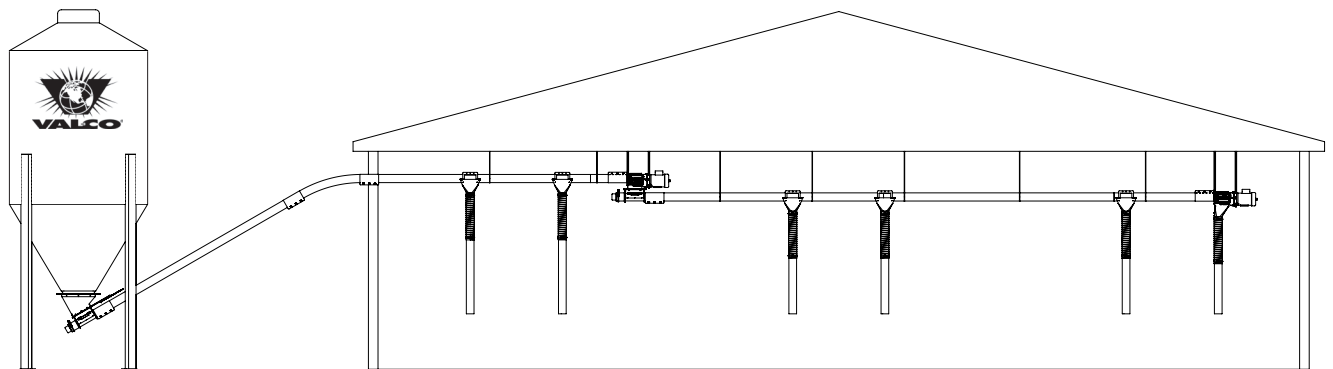
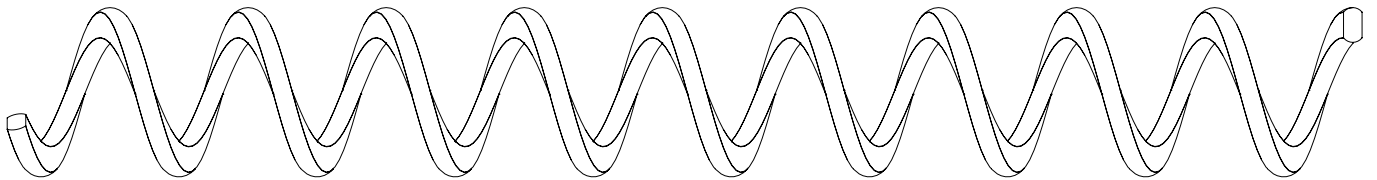


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VAL PRODUCTS, INC. WARRANTIES

MANUFACTURED PRODUCTS STANDARD WARRANTY:

Val Products, Inc. (Valco) warrants that Valco-manufactured products (other than the products subject to an extended warranty set forth below) will be free of defects in material and workmanship, when used in a usual and customary fashion, for a period of one (1) year from the date of original purchase from an authorized Valco distributor or three (3) years from the date of original purchase from Valco, whichever period expires first. If Valco is notified that such a defect exists within that time and, upon inspection, agrees that the product is defective, Valco will, at its option, (a) repair or replace (EXW Valco's plant) the defective product, or (b) refund to the original purchaser (Valco's distributor) the original purchase price paid for the defective product less any installation, shipping, or other charges associated with the original purchase. All defective products must be returned to a Valco designated location for evaluation. Valco's determination as to whether the product is defective is final. See the General Conditions and Limitations.

Product	<u>Extended¹ Warranty Coverage Period</u>	<u>Limited² Warranty Coverage Period</u>	<u>Total Warranty Coverage Period (Extended + Limited)</u>
VR & VBL series drinkers	5 years	5 years	10 years
VQ, VA & VBR series drinkers	2 years	3 years	5 years
Roll-formed Tube	3 years	7 years	10 years
Coreless auger ³	3 years	7 years	10 years
FUZE [®] feed pans	2 years	3 years	5 years
Fiberglass fan housings	Lifetime ⁴	na	Lifetime ⁴
Aluminum fan blades	Lifetime ⁴	na	Lifetime ⁴
Z-Fan [™] housings ⁵	7 years	na	7 years

Explanations/Conditions of above listed footnotes for VAL-CO warranties:

1. Extended Warranty Coverage: Valco warrants products subject to an extended warranty (above) will be free of defects in material and workmanship, when used in a usual and customary fashion, for the period of time as stated from the date of original purchase by an authorized Valco distributor. If Valco is notified that such a defect exists within that time and, upon inspection, agrees that the product is defective, Valco will, at its option, (a) repair or replace (EXW Valco's plant) the defective product, or (b) refund to the original purchaser the original purchase price paid for the defective product less any installation, shipping, or other charges associated with the original purchase. All defective products must be returned to a Valco designated location for evaluation. Valco's determination as to whether the product is defective is final. See the General Conditions and Limitations.
2. Limited warranty coverage products will be provided at a charge rate of 50% off the Valco list price at the time the warranty claim is made known to the company in writing and is subject to Valco's standard warranty policy conditions and limitations.
3. Coreless Auger warranty is voided if conveying materials with greater than 18% moisture content.
4. Lifetime warranty for fiberglass fan housings and cast aluminum blades is limited to products that prove to be defective in workmanship or material and become unusable over the life of the structure where the product was originally installed, provided that the product has remained undisturbed in its original installation location, and will be repaired or replaced, at Valco's option, at no charge (excluding labor of removal and installation and shipping), EXW Valco's plant.
5. Z-Fan housings are warranted for 7 years against rust through when employed in poultry housing ventilation applications only. Fan components excluding housing are covered by Valco's standard warranty.



VAL PRODUCTS, INC. WARRANTIES - continued

General Conditions and Limitations

1. The Product must be installed and operated in accordance with instructions published by Valco or the warranty will be void.
2. Warranty will be void if all components of the product or system are not original equipment supplied by the manufacturer.
3. Products not manufactured by Valco and supplied by outside manufacturers (such as, but not limited to, certain electrical motors, certain controls, gas valves, etc.) are warranted separately by the respective manufacturer and only to the extent of the manufacturer's warranty.
4. Valco feed bins are designed to be used with free-flowing agricultural feed materials with a density proximate to 40 pounds (18.15 kilograms) per cubic foot (.03 cubic meter). Soybean meal, meat scraps and other materials, both agricultural and industrial, are not free flowing and may significantly exceed recommended material density. Feed bin structural failure from their use will void this warranty.
5. Valco does not warrant against feed bin structural failure, or bin unloading components such as flexible auger transitions and boots that arises due to the addition of aftermarket devices attached to, or installed within or attached to the feed bin structure for the purpose of enhancing feed material flow and/or the elimination of feed bridging issues.
6. Warranty applies only to products used in applications as originally intended by Valco – other applications in industry or commerce are not covered by the Warranty. Valco products are expressly not designed or authorized for use in any applications where intended to sustain or support human life or any other application where the failure of the product could result in personal injury or death.
7. Malfunctions resulting from misuse, abuse, mismanagement, negligence, alteration, accident, lack of proper maintenance, lightning strikes, electrical power surges, or electrical power interruption shall not be considered defects under the Warranty. Corrosion, material deterioration and/or equipment malfunction caused by or consistent with the excessive additions of chemicals, minerals, sediments or other foreign elements with the product shall not be considered defects under the Warranty.
8. VALCO WILL NOT, UNDER ANY CIRCUMSTANCES, BE LIABLE FOR ANY KIND OF SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR CONTINGENT DAMAGES INCLUDING, BUT NOT LIMITED TO, LOST OR DAMAGED PRODUCT, GOODS OR LIVESTOCK, COSTS OF TRANSPORTATION, LOST SALES, LOST ORDERS, LOST INCOME, INCREASED OVERHEAD, LABOR AND INCIDENTAL COSTS AND OPERATIONAL INEFFICIENCIES. IN NO EVENT SHALL THE WARRANTY LIABILITY EXCEED THE INVOICED PRICE OF THE PRODUCT TO THE ORIGINAL PURCHASER.
9. THE WARRANTIES SET FORTH ABOVE CONSTITUTE VALCO'S ENTIRE AND SOLE WARRANTY. VALCO EXPRESSLY DISCLAIMS ANY AND ALL OTHER WARRANTIES INCLUDING, BUT NOT LIMITED TO, ANY AND ALL OTHER EXPRESS OR IMPLIED WARRANTIES AS TO THE MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR USE, DESCRIPTION OF QUALITY OF THE PRODUCT FURNISHED, AND ANY OTHER WARRANTY ARISING BY OPERATION OF LAW, CUSTOM OR USAGE.
10. Valco denies any authorization of any distributor, dealer, agent, or employee to modify, extend, or otherwise alter the conditions of any warranty in addition to, or in lieu of, those conditions and terms expressly stated above. Any exceptions not noted in the body of the Warranty must be authorized in writing by an officer of Valco. Valco reserves the right to change or delete models, or change specifications at any time without notice or obligation to improve previous products.

Effective April 1, 2020



Safety Information / Manual Symbols

CAUTION, WARNING, and DANGER decals have been placed on the equipment to warn of potentially dangerous situations. Care should be taken to keep these decals in good condition and readable at all times. Replace any missing or damaged decals. Using VAL-CO equipment for purposes other than those specified in the manual could cause serious personal injury or equipment damage. 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.



= WARNING - The safety alert symbol is always used on warning signs that involve your safety or has extra significance since it is describing the importance of a feature or explaining a step to which you should pay close attention to avoid problems.



= CAUTION - potential hazard, if ignored minor or moderate injury MAY occur.



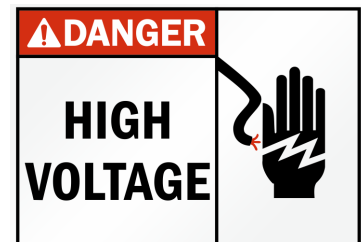
= WARNING - probable hazard, if ignored serious injury or death COULD occur.



= DANGER - imminent hazard, if ignored serious injury or death WILL occur.

DANGER - ELECTRICAL HAZARD

- Disconnect electrical power before inspecting or servicing equipment unless maintenance instructions specifically state otherwise.
- Ground all electrical equipment for safety.
- A qualified electrician must do all electrical wiring in accordance with local and National electrical codes.
- Ground all non-current carrying metal parts to guard against electrical shock.
- Motor overload protection, electrical disconnects and over current protection are not supplied with the equipment.



Danger - Moving Auger

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



= NOTE - take notice this may help you!



= CHECK - the details of all requirements, processes or procedures of instructions listed.



= IMPORTANT INFO. - be sure to read!



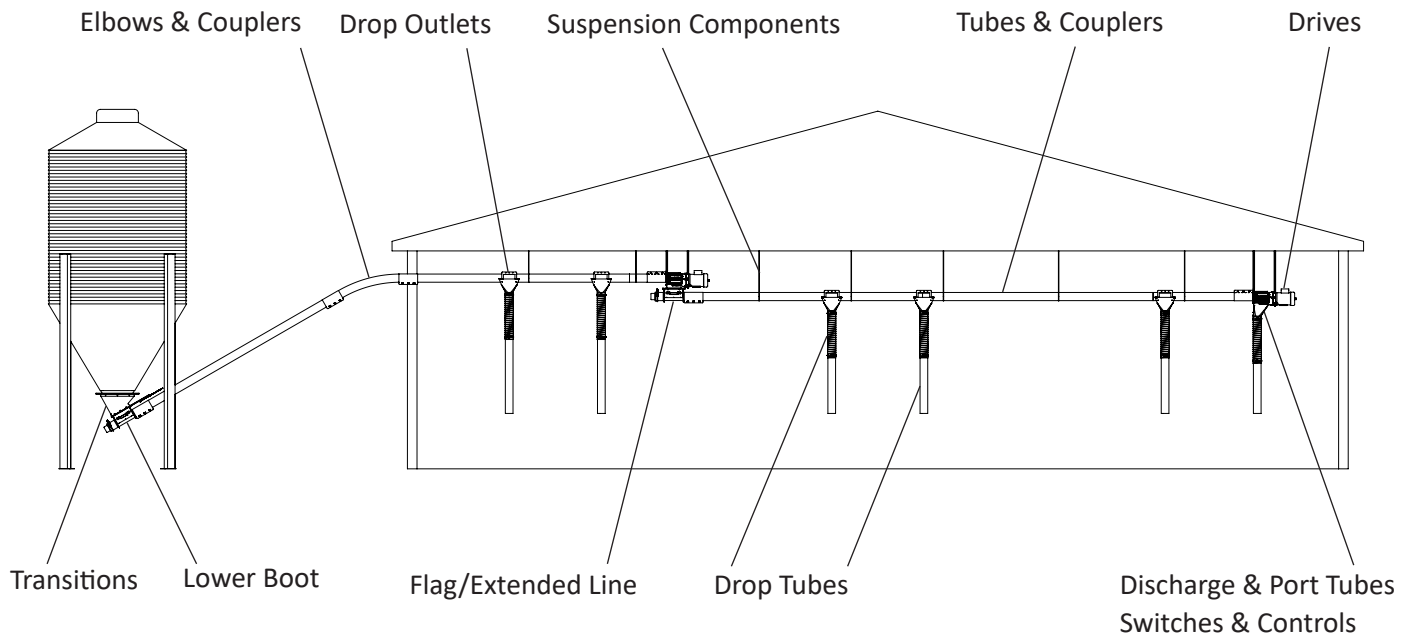
= STOP - before you go further check the details of all requirements, processes or procedures of instructions listed.



= PLAN - plan before continuing.



4" Flexible Auger Fill Systems - General Specifications



Model 740 Motor HP Requirements

Carrying capacities based on feed density of 40 lb./cu.ft

45° Entry System - 8' high max		
Max Length (Total Len. of System)	359 rpm (60Hz) 296 rpm (50Hz)	441 rpm (60Hz) 365 rpm (50Hz)
50'	0.75	1
100'	1	1.5
150'	1.5	2
180'	2	NA

Straight Extension System		
Max Length (Total Len. of System)	359 rpm (60Hz) 296 rpm (50Hz)	441 rpm (60Hz) 365 rpm (50Hz)
75'	0.75	1
135'	1	1.5
185'	1.5	2
205'	2	NA

Application Notes

Length is TOTAL length of system

359rpm: HP requirements are given with estimated delivery rate at 220 lb/min maximum.

Can vary down depending on restrictor setting. (Density 40lb/cu. ft.)

441 rpm: HP requirements are given with estimated delivery rate at 250 lb/min maximum.

Can vary down depending on restrictor setting. (Density 40lb/cu. ft.)

45° Entry System height restricted to 8'. For each additional ft, reduce max length by 5ft.

Reduce the line length by half for high moisture corn applications (18%-27%)

For each additional 90° of bend, reduce the max length by 30'

Reduce max length by 30' for angles steeper than 45°. Maximum incline angle 60°

For each additional pass-thru bin, reduce the line length by 50'

Maximum recommended run time per day is 4 hours

Maximum recommended particle size 3/16" x 1/2"

Feed moisture content is less than 18%

Steel tubes are 4.25" (108mm) outside diameter

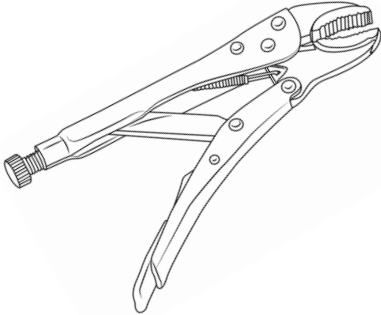
Flexible auger is 3.55" (90mm) outside diameter

Installation

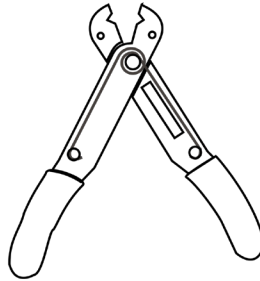
Tools

- *Vise-Grips*
- *Wire Strippers / Cutters*
- *Allen Wrench Set*
- *Phillips Screwdriver, #2*
- *Straight Screwdriver, 1/4"*
- *Drill with Hole Saw*
- *Driver/Socket/Wrench Set with 6" extension*
- *Open End Wrenches*
- *Adjustable Wrench*
- *Hack Saw or Miter / Chop Saw*

Vise-Grips



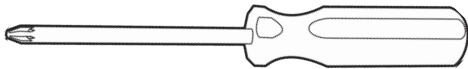
Wire Strippers / Cutters



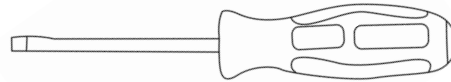
Allen Wrench Set



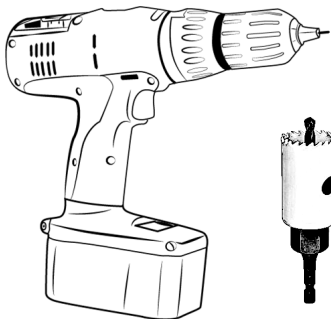
Phillips Screwdriver, #2



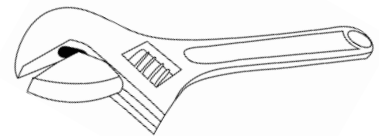
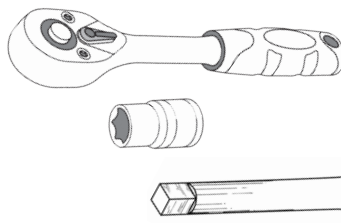
Straight Screwdriver, 1/4"



Drill, with Hole Saw

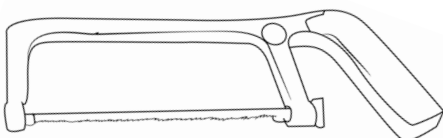


Socket Set, Open End Wrenches, and Adjustable Wrench

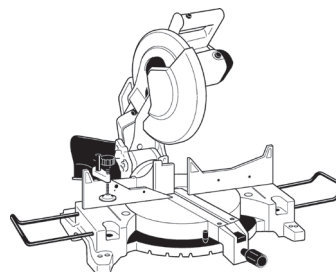


Miter / Chop Saw, with metal blade

Hack Saw



- or -



Planning Your VAL-CO Feed Delivery System

For the easiest and most trouble free system locate the feed bin in a direct line with the feed delivery system. Refer to the BIN POSITIONING in this instruction manual (page 12, figures 11 & 12) for bin placement according to the height at which the steel tube enters the building. Locate the bin so that the system does not have to convey feed at an angle of more than 60 degrees. A 45 degree entry should be considered standard.

Whenever possible lay out the system to run straight. Avoid problems with extra elbows and curves by locating the feed bin in line with feeders. One horizontal 90 degree turn is allowed inside the building. A 180 degree turn is NOT recommended by VAL-CO under any circumstances. If additional turns or elbows are needed, use flag hoppers, as shown on pages 10 & 11. NOTE: One (1) 90 degree elbow requires the same power as 30' of straight line; subtract 30' off VAL-CO recommended maximum length for each elbow.

Left hand turns in the system should be avoided at all times. If a left hand turn is the only alternative, be sure to reduce stretch by 1" per 50' at initial installation to reduce wear on the elbow. Reference page 23 for auger stretch procedure.

Plan your feed delivery system so the auger tubes are over the feeders as much as possible. To avoid bridging problems do not angle the drop tubes more than 45 degrees.

The discharge head must be located over a feeder that will require as much or more feed than any of the feeders in the line.

Do not position drop outlets on or just before an elbow. Drops should be located after an elbow to allow feed to cushion the auger through the elbow.

With the use of an extended length system the larger portion of outlet drops should be located on the longest portion of the feed line.

Typical System Installations

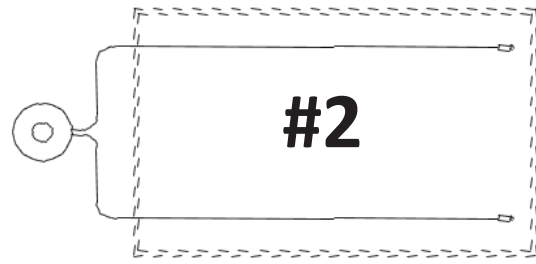
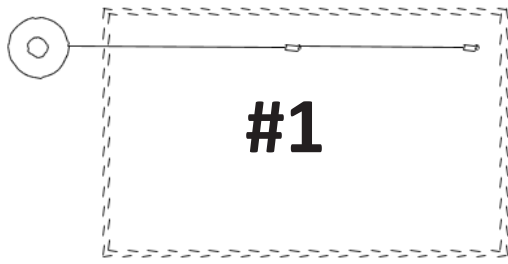
While VAL-CO feed delivery systems are available to meet most any need, there are some general guidelines to consider when planning the layout of your system.

On the following pages you will find some of the most common types of installations.

Proper planning to insure the correct installation of your feed delivery system will eliminate many problems that can occur later.

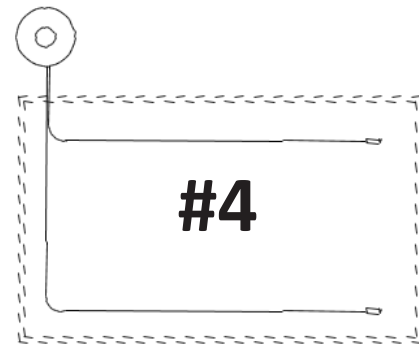
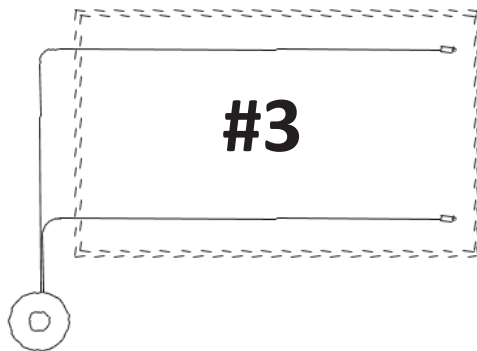
If you are unsure of the system that's correct for your needs, be sure to contact the VAL-CO distributor nearest you for any assistance needed.

System Installations - continued



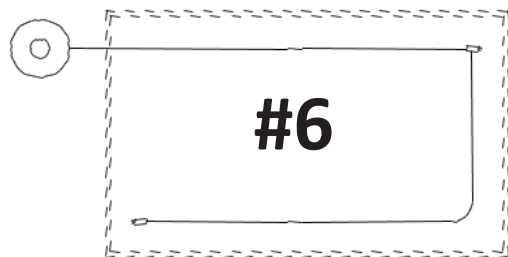
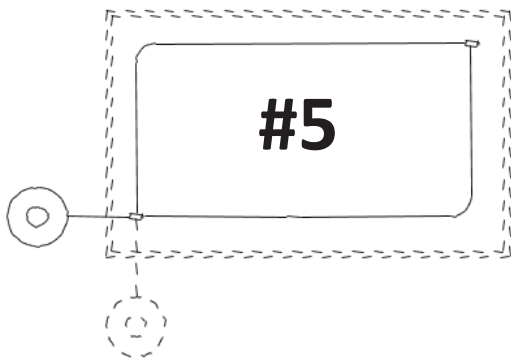
Systems #1 & #2 represent extended length systems. The power requirements for each part of the system should be equal.

System #3 utilizes two 90 degree right hand turns, making it a much more favorable installation instead of system #4 utilizing two left hand turns.



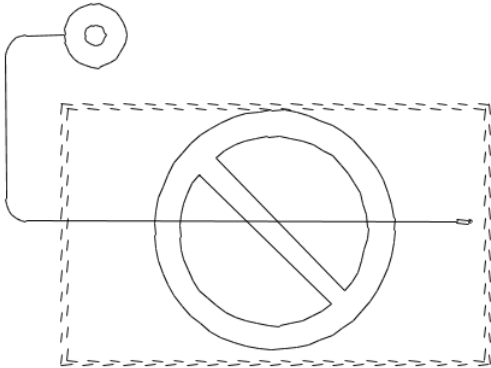
System #5 represents a circulating feed delivery system with options for bin placement. This system is used where a continuous supply of feed is needed.

System #6 is an extended length system with one additional 90 degree elbow. This system is acceptable but system's #2 & #3 would be recommended to reduce excessive run time.



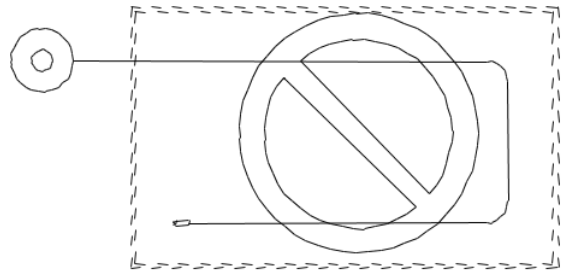
System Installations - continued

System #7 would not be recommended due to 180 degree left hand turns causing erratic auger operation.



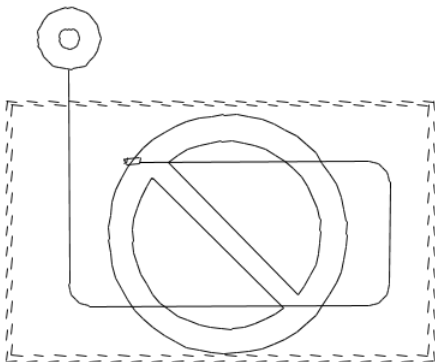
#7

System #8 should not be used because of 180 degree turns causing excessive elbow wear.



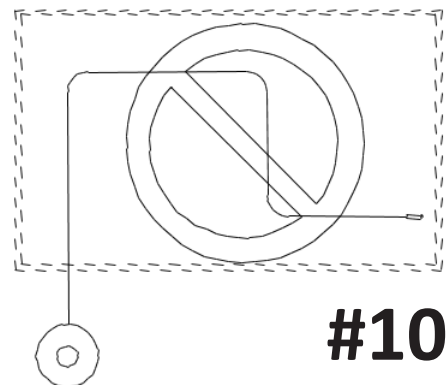
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System #9 would not be recommended due to 180 degree left hand turns.



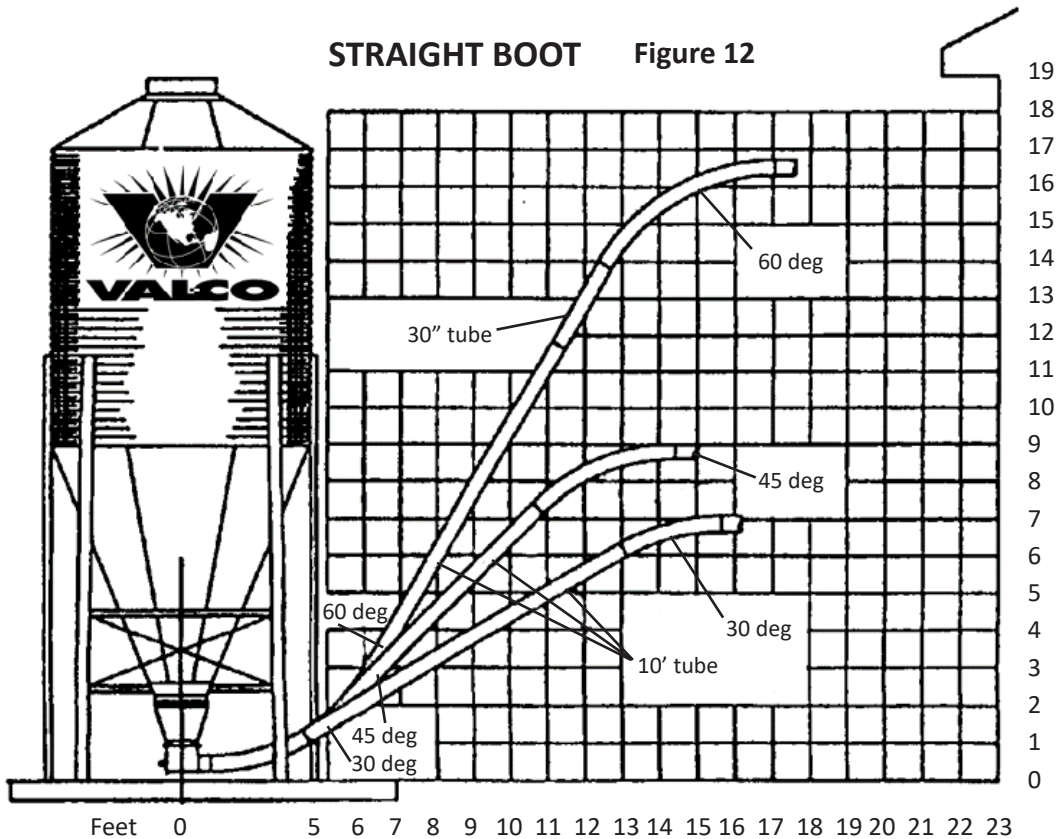
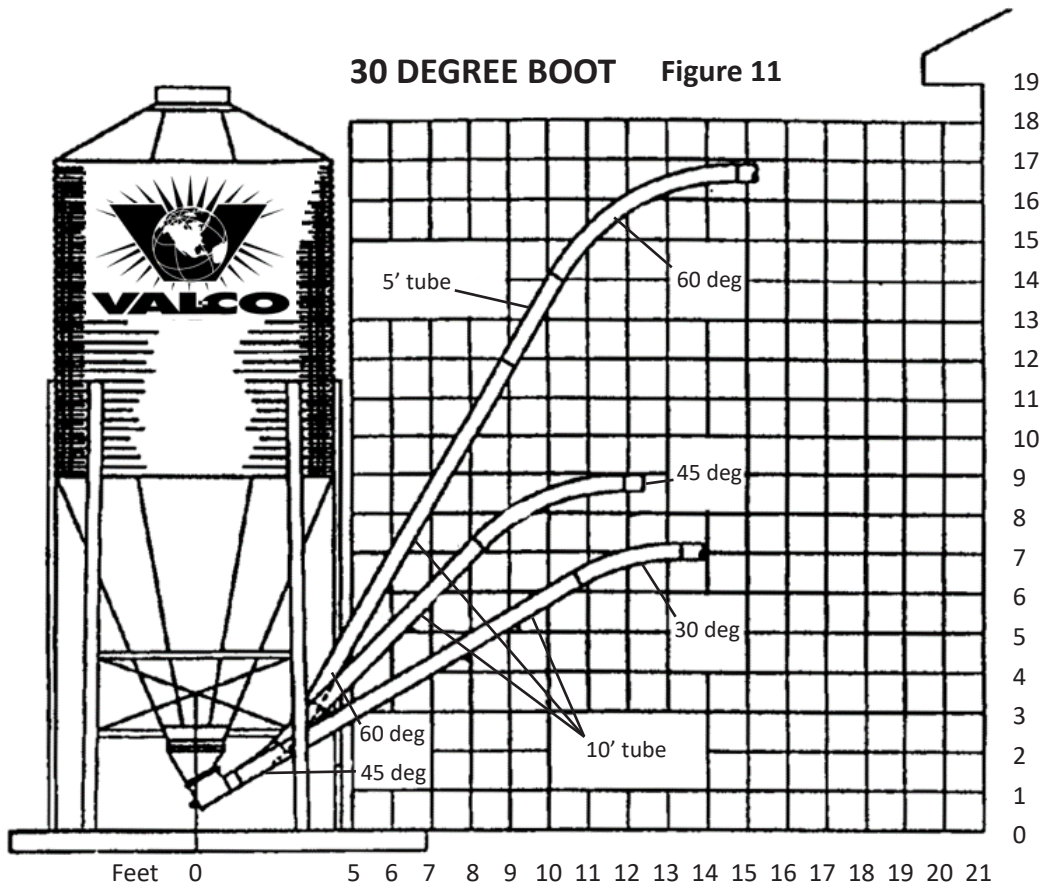
#9

System #10 would not be recommended because there are too many elbows causing auger vibration, motor stall, and excessive elbow wear.



#10

Bin Positioning



Installation Procedure

Read All Instructions Before Starting Installation of Feed System

STEP 1. BIN LOCATION

Use the images on pages 10 - 12 to determine the location of your bin. Pour a concrete pad in accordance with the instructions in your bin manual. Attempt to place the bin in a direct line with the auger system to simplify installation, however most entrance requirements can be accommodated.

STEP 2. BOOT INSTALLATION

Refer to pages 15 - 18 in this manual for boot installation. Proper use of hardware and a quality silicone caulking are key ingredients to the correct installation of all boots.

STEP 3. TUBE INSTALLATION (inside the building)

Determine the desired location for auger line in the building. For steel tube, install hanger bolts every 8-10 feet or less. If the building has a rafter spacing of more than 10 feet some type of bridging should be nailed between the rafters.

Additional support may be necessary at the discharge head and motor drive end of the system. Be CERTAIN that the suspension system is properly secured to the rafters or other structure and will safely support the weight of the feed line during operation.

STEP 4. TUBE INSTALLATION (outside the building)

Line up the auger tubes from the building entrance hole to the boot on the feed bin. If necessary cut a 45 degree elbow to achieve the required angle. Refer to page 12 BIN POSITIONING for standard entrance angles and page 19 TUBE INSTALLATION for the proper cutting of the tubes.

STEP 5. CONNECTING STEEL TUBES

Be sure all cut ends are square. Slide the outlet drop rotary gates onto the tubes before assembling the tubes. Slide the loose coupler over one end of the tube. Hang tubes end to end and then slide the coupler over the joint. Be sure joint is in the middle of the coupler. Tighten coupler bolts. Couplers and joints outside of the building will need caulked to be weather tight.

STEP 6. OUTLET DROP INSTALLATION

Determine locations where outlet drops are required. Cut openings in tubes and install outlet drops as per directions on page 21, OUTLET DROP INSTALLATION. Outlet drops should NOT be installed ON or JUST BEFORE formed tubes. IF AN OUTLET IS REQUIRED ON A FORMED TUBE FEED CARRYOVER SHOULD BE ALLOWED TO CUSHION THE AUGER THROUGH THE CURVE. Feed carryover can be accomplished by varying the size of the outlet hole in the tube.

STEP 7. AUGER SPLICING

The recommended method for splicing or lengthening the auger is by welding with a bronze, flux-coated rod. Lay the auger in an angle iron for alignment. Butt 2" of the ends of the auger to be joined and weld on both sides of the joint; DO NOT weld the flighting tips. Allow the weld to air cool, then file smooth to avoid auger tube wear. Refer to page 24 for further instruction. AN AUGER WELD JOINT SHOULD NOT BE INSTALLED IN A FORMED TUBE OR IN AN INCLINED TUBE. THE WELD JOINT SHOULD BE INSTALLED CLOSER TO THE DRIVE UNIT TO MINIMIZE FEED FLOW RESTRICTIONS.

Continued on next page.



Installation Procedure - continued

STEP 8. AUGER INSERTION

With the bearing and shaft off of the back of the boot, insert the auger through the boot and auger tubing. Work the auger up to the discharge head end of the suspended tubing. The excess auger length at the boot end should NOT be cut off at this time. Handle the auger carefully. Dropping the auger may cause it to kink. DO NOT install auger that has been kinked as it will wear a hole in the auger tubing at the spot of the kink.



USE EXTREME CAUTION WHEN HANDLING AUGER. THE AUGER IS UNDER TENSION AND MAY SPRING CAUSING SERIOUS INJURY. ALWAYS WEAR PROTECTIVE CLOTHING AND SAFETY GLASSES WHEN HANDLING THE AUGER.

STEP 9. DRIVE UNIT INSTALLATION

See page 22 for detailed instructions.

STEP 10. CUTTING AUGER (at boot end)

Auger must already be attached to the drive unit end. Auger should be stretched 8" for every 50' of length. Measure the stretch from the rear edge of the boot and cut at that point. See pages 23 & 24 for detailed instructions.

STEP 11. SHUTOFF SWITCHES

See page 25 for detailed instructions concerning VAL-CO shutoff switches.

STEP 12. START PROCEDURES

Reference page 29. New auger is coated with oil for protection against rust. The auger must be cleaned and polished before the system can handle a full load of feed. To clean and polish the auger turn the system on and let it run empty for several minutes. Then cycle 1/4 bushel of feed through the system; repeat this cycle several times, gradually increasing feed amount to one (1) bushel. Slowly increase the amount of feed into the system until the auger carries its full load.

STEP 13. TROUBLESHOOTING

See page 30 for TROUBLESHOOTING guide.

STEP 14. MAINTENANCE

See page 29 for MAINTENANCE instructions.



Boot Installation - Overview

The following pages describe instructions for the installation of slide valves for Straight End Boots, Straight Pass-Thru Boots, and 30 Degree Boots, as shown in Figure 13. Please read the entire manual to learn about slide valve orientation, hardware orientation, caulking instructions and replacement part numbers. It is very important all directions are followed for proper operation and weather resistance.

Proper use of hardware and silicone caulking is critical to the correct installation of VAL-CO boots and plastic transitions. Refer to pages 17 & 18 for proper hardware installation and caulking points. **USE ONLY 100% SILICONE OUTDOOR CAULKING.**

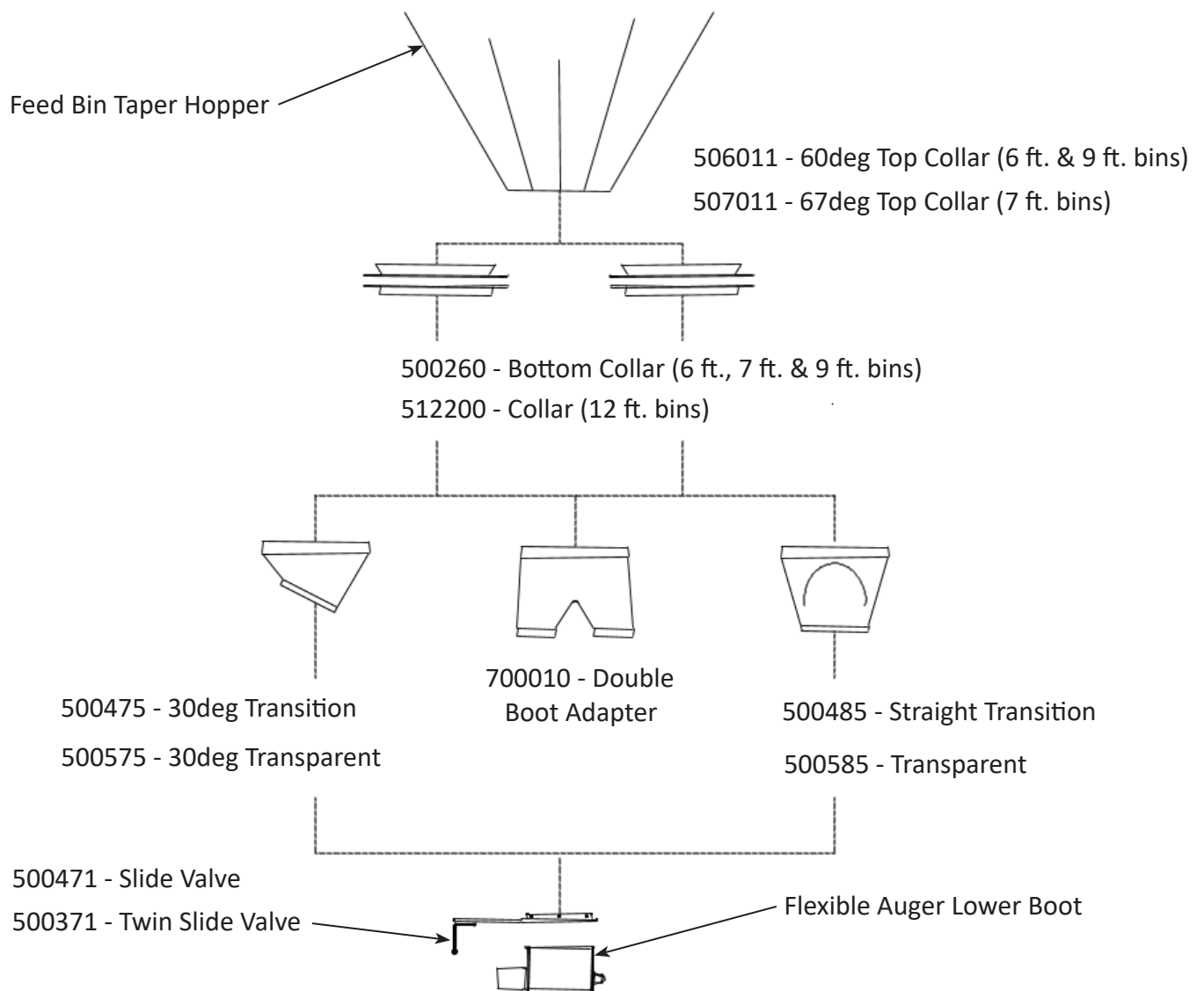


Figure 13

Slide Valve & Hardware Installation

Slide Valve Orientation

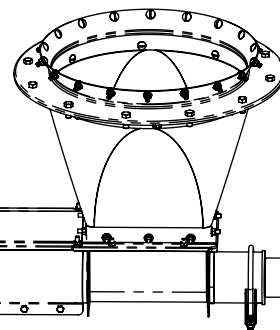
The slide valve should open in the same direction as the feed flows, to ensure optimal feed flow, as shown in Figure 14.

Straight, End Boot

Valve opens in same direction as feed flow.

Feed Flow

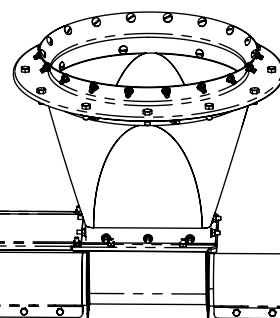
Figure 14



Straight, Pass-Thru Boot

Valve opens in same direction as feed flow.

Feed Flow



30 Degree Boot

Valve opens in same direction as feed flow.

Feed Flow

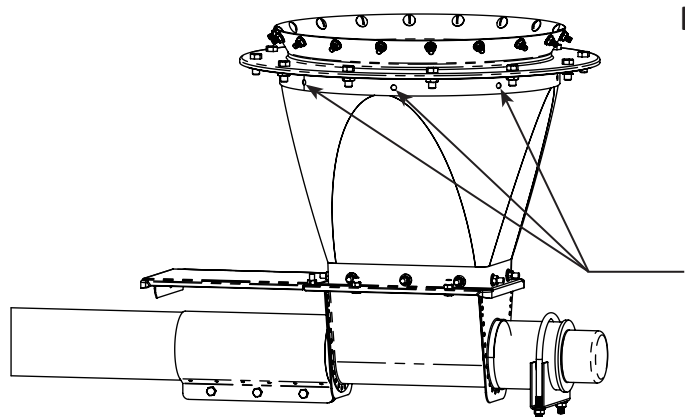
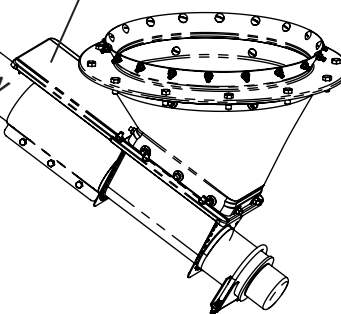


Figure 15

Drill Holes:

- Slide the plastic transition into the bottom collar until it seats against the top collar.
- Make sure the rectangular opening of the plastic transition is pointed in the desired direction auger will go.
- Use the bottom collar holes as guides to drill 11/32" (8.8 mm) diameter holes 8 times in the upper rim of the plastic transition, as shown in Figure 15.

Slide Valve & Hardware Installation - continued

Caulking Instructions:

- To ensure moisture does not seep inside boot, all joints and hardware holes must be caulked properly.
- Clean the locations where caulking is to be applied.
- Use rope caulk supplied with feed bin between collars.
- Use UV resistant silicone caulk and apply between all mating parts as shown.
- There must be bead of caulk sealing each hardware hole as shown in Figure 16, detail view.
- Reference Feed Bin & Flexible Auger Manuals for more information.

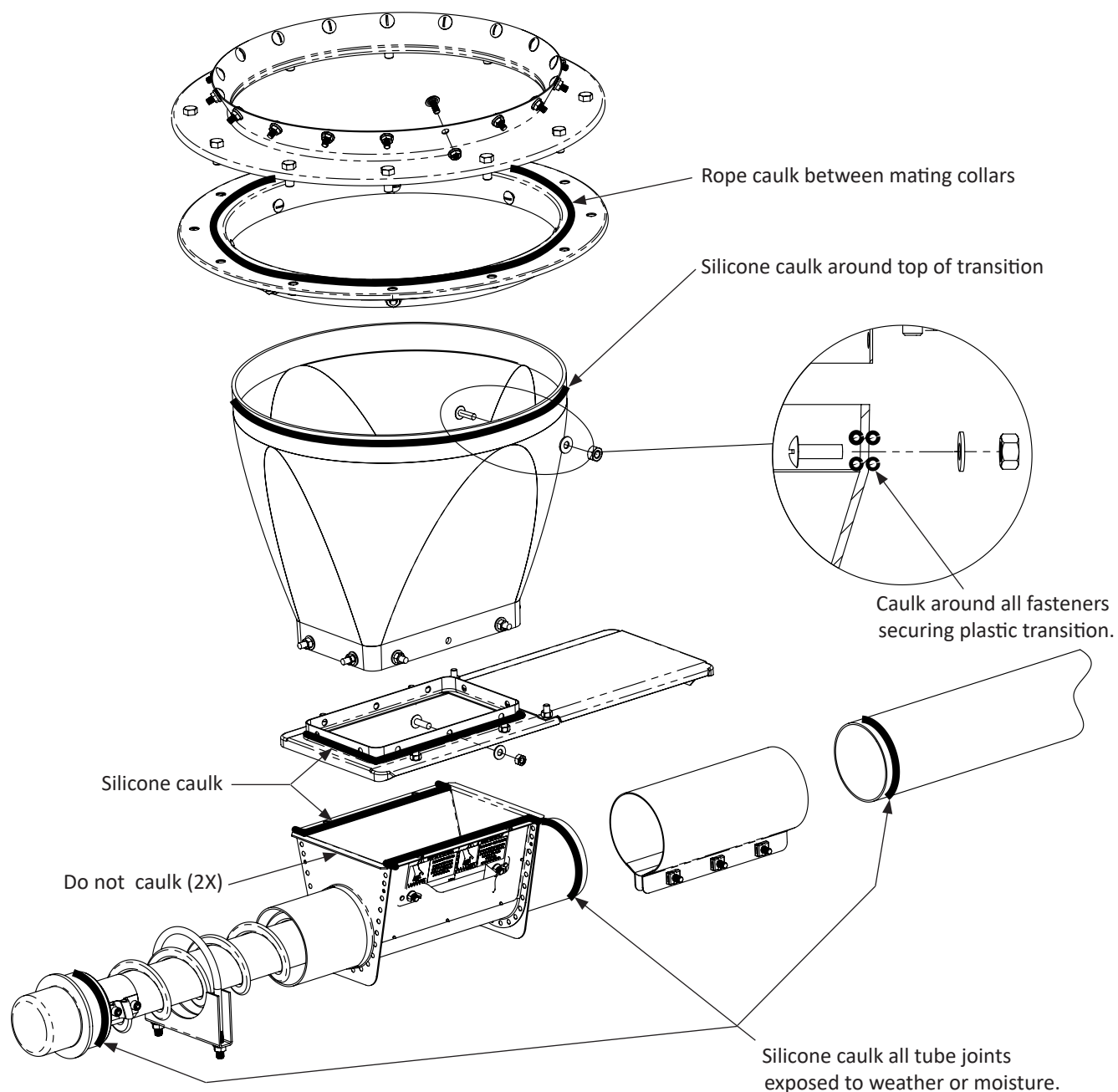


Figure 16

Slide Valve & Hardware Installation - continued

Hardware Instructions:

- All tapered sections of the feed bin should be secured with round head truss bolts.
- It is very important to install the round head inside the bin so feed will flow over. This includes the hardware of the collar to the bin, the bottom collar to the boot transition, and the slide valve to the lower boot, as shown in the detail views of Figure 17.
- Insert the slide into the transfer plate slot so that it is in working order before bolting the slide shield in place.
- Bolt the lower boot to the transfer plate using the hardware provided, as shown in Figure 17.

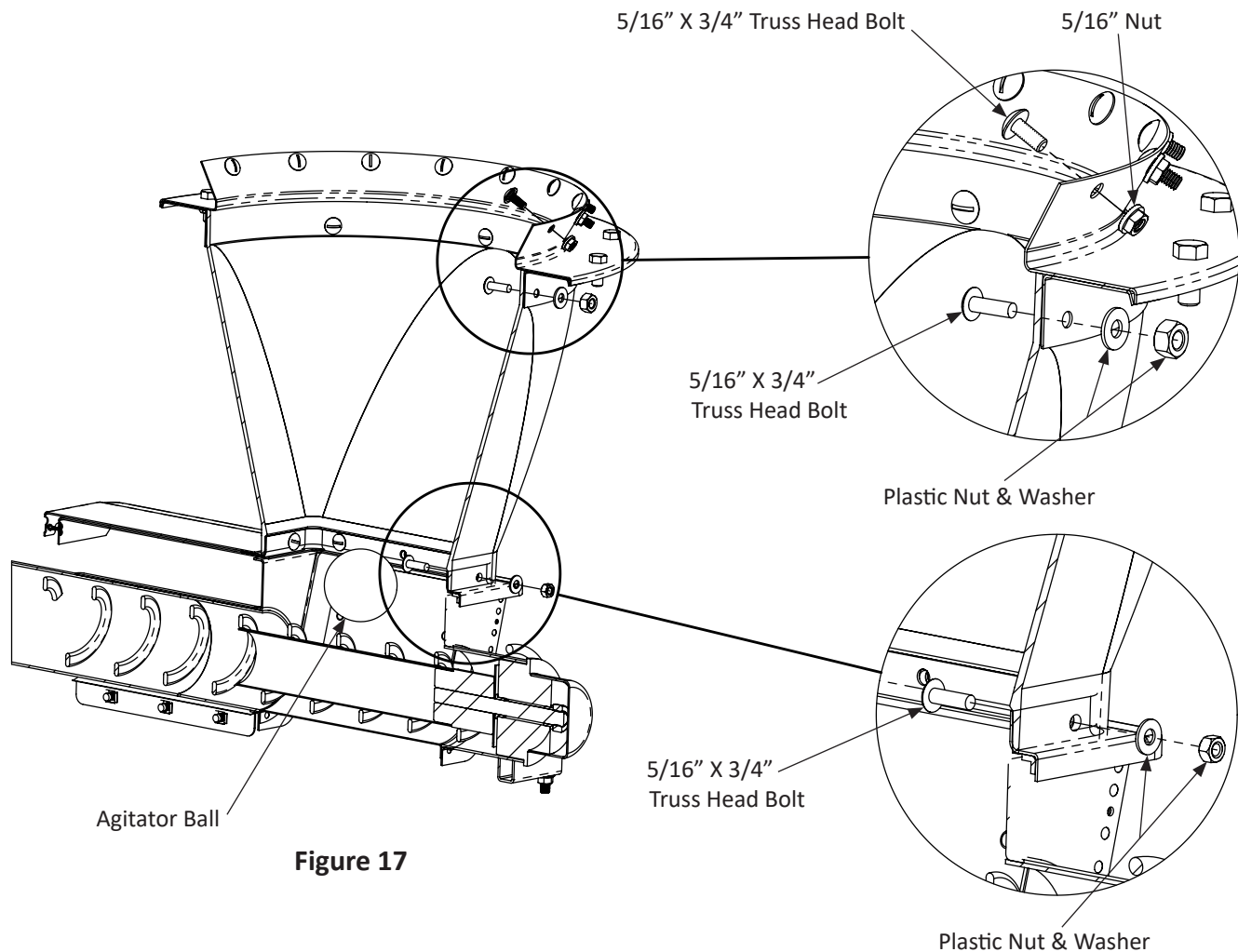


Figure 17



Agitator ball is **ONLY** supposed to be used in feed loads where feed bridging is a problem (hot feed, high moisture, high fat). Remove ball when feed is freely flowing. Leaving ball inside bin will result in premature wear!

NOTE: Straight, End Boot shown for reference. All hardware and slide valve instructions apply to all boots.

Auger Tube Installation

Use Chart A and Figure 18 to help determine where to cut an elbow according to the desired degree turn. Each elbow will turn 45 degrees at full length. All dimensions are measured along the long outside curve of the elbow.

DEGREE	740
15	16-3/8"
22.5	22-1/2"
30	32-1/2"
45	48-7/8"

Chart A

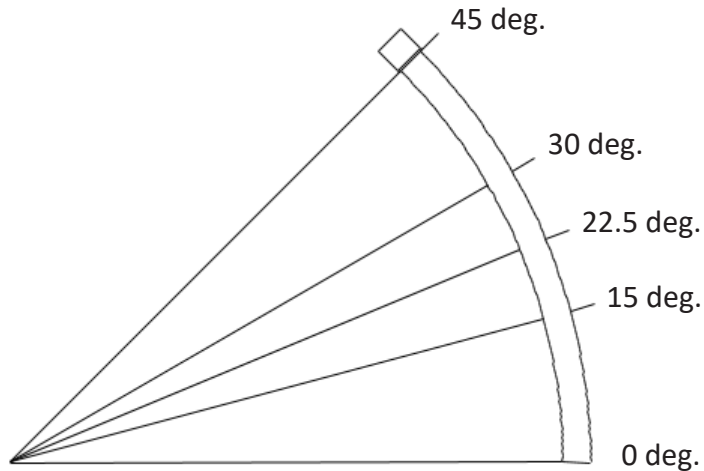


Figure 18

Be sure to cut ends square.

All tube joints that are exposed to moisture and weather must be caulked with 100% silicone outdoor caulking to waterproof.

Proper Auger Tube Connection

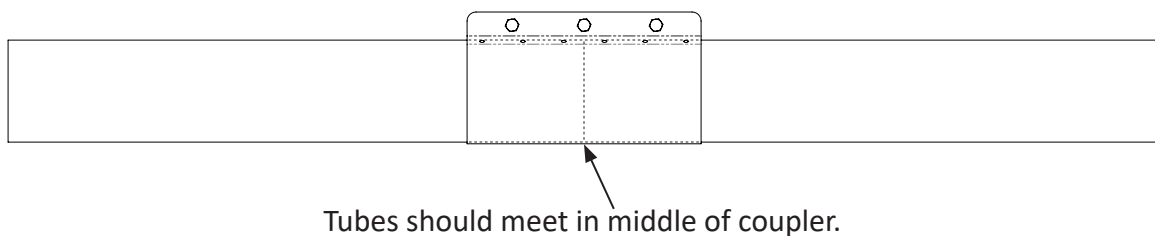


Figure 19

Supporting The System

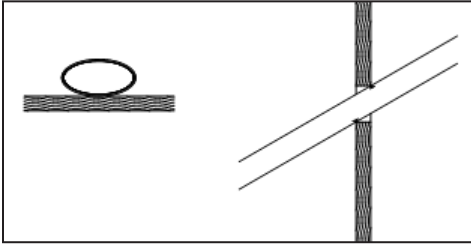


Figure 20

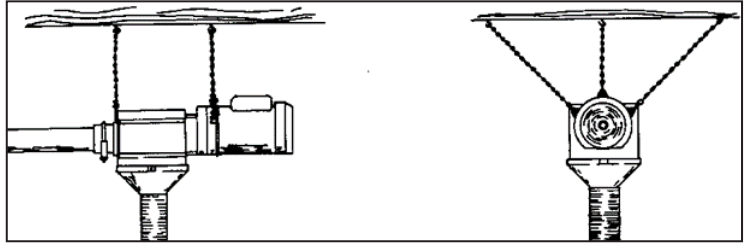


Figure 21

When the auger tube passes through a wall or partition the opening must be made large enough so that the auger tube can be supported without resting on any part of the wall. If the auger tube rests on a wall or partition it may flatten out or become kinked causing excessive wear. (Figure 20)

Drive units will require extra support to handle the twisting encountered when the motor starts and stops. Be sure to use the suspension points provided on the drive unit and on the discharge head to avoid problems caused by motor twist. (Figure 21)

Support the steel auger tubing every 8-10 feet using chain and "S" hooks fastened to the rafters in a building. If rafter spacing is over 10 feet some type of bridging must be used. (example: 2" x 4" nailed between rafters.)

The feed system should be restrained from swinging by wrapping chain completely around tubing and securing the chain with "S" hooks, as shown in Figure 22. Reference page 39 for part numbers.

If drop feeders, extension hoppers, outlet drops, or any other loads will be imposed on the system, additional support should be added at that point.

Horizontal elbows need to be supported in two (2) places, keep the line as straight and level as possible to avoid premature tube wear.

Outside the building the auger tube should be supported at least every 10 feet. The supports must be adequate to support the weight of the auger tubes when they are filled with feed.

Supports on the outside of the building must be designed to prevent weight loads from being transferred back onto the lower boot assembly, chain or cable from either the building or the feed bin will not necessarily accomplish this.

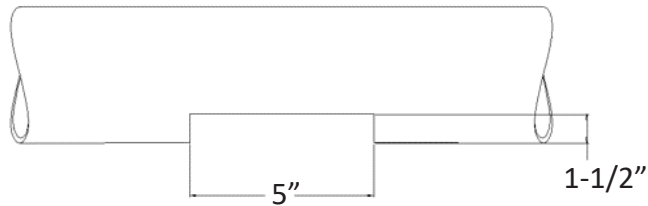
Figure 22



Outlet Drop Installation

Slide the rotary slide gate onto tubes before connecting tubes with couplers. Cut the outlet hole in the auger tube. A saber saw or sawzall should be used when total feed dropout is desired. Use a hole saw and drill to cut round carry over hole. NOTICE: Deburr all holes to ensure proper slide valve function. See Figure 23 below for appropriate hole sizes.

*Outlet hole notched for total feed dropout.



*Outlet hole when carry-over is acceptable.

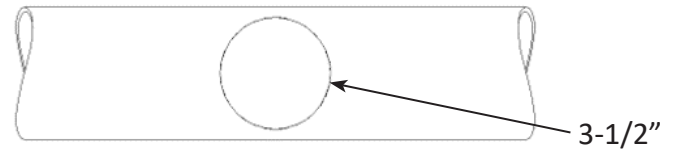


Figure 23

Insert the cord through the hole in the Rotary Feed Gate. Pull cord until it is centered and install zuma nuts on both sides of the tab. Slide the Indicator Balls on the cord ends, and knot the ends to ensure that the Indicator Balls will not fall off, as shown in Figure 24. The location of the colored balls should indicate if the gate is open or closed. If the green ball is lower than the red ball, the gate is open. If the red ball is lower than the green ball, the gate is closed.

Attach the Rotary Feed Gate assembly to the tube as shown in Figure 25. Affix the Drop Housing to the tube as indicated in Figure 26 and secure with clamps and supplied hardware. Bolt one end of clamp strap to drop housing and bend around tube, then bolt the other end of the clamp strap.

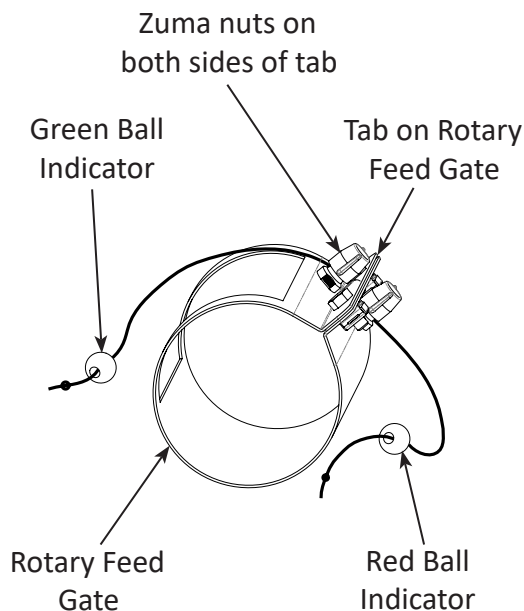


Figure 24

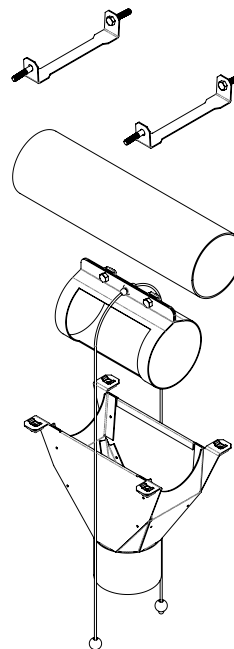


Figure 25

Form clamp straps around tube and bolt

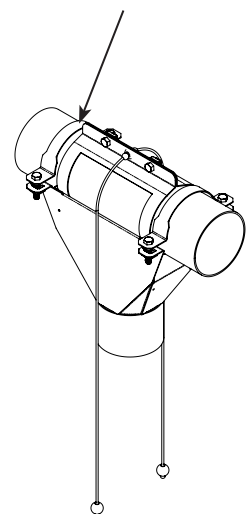


Figure 26

Drive Unit Installation

- Bolt the tube port to the discharge head with a 5/16" flat washer and 5/16" nut on each of the four 5/16" x 3/4" bolts.
- Mount the discharge head to the motor and gearbox assembly with four 5/16" x 3/4" bolts and four 5/16" flat washers provided.
- **CAUTION:** Gear reducer must be filled with oil before starting motor or serious and unwarranted damage will occur. Check to ensure oil level is up to oil level port, on side of gearbox.
- Remove plug from top of gearbox and install vent plug received in hardware bag with gearbox. Failure to install vent plug will cause unwarranted damage to occur.
- Oil: Use one of the following equivalents: Mobil-lube HD 80w 90, Shell-Spirax HD 80w 90.
- The discharge head and motor are typically wired at 220 volts. All wiring should be done by a qualified electrician. Refer to the wiring diagrams in this manual.
- Slide and clamp the VAL-CO tubing on the tube port.
- Suspend the discharge head and motor and gearbox assembly from the ceiling. Support holes are provided on the units.
- **NOTE:** The safety switch on the discharge head is provided as a back-up switch in case the hopper level switch does not operate properly. This switch is not intended to be used for controlling the auger system, but as a safety back-up switch only.

NOTICE

Before starting motor, remove vent plug.
Check oil. Fill unit to oil level plug hole.
Replace vent plug #730141.
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.
Use one of the following equivalents:
Mobil-lube HD 80w 90 Shell-Spirax HD 80w 90



Gearbox shipped with plug installed.
Remove plug & install vent.

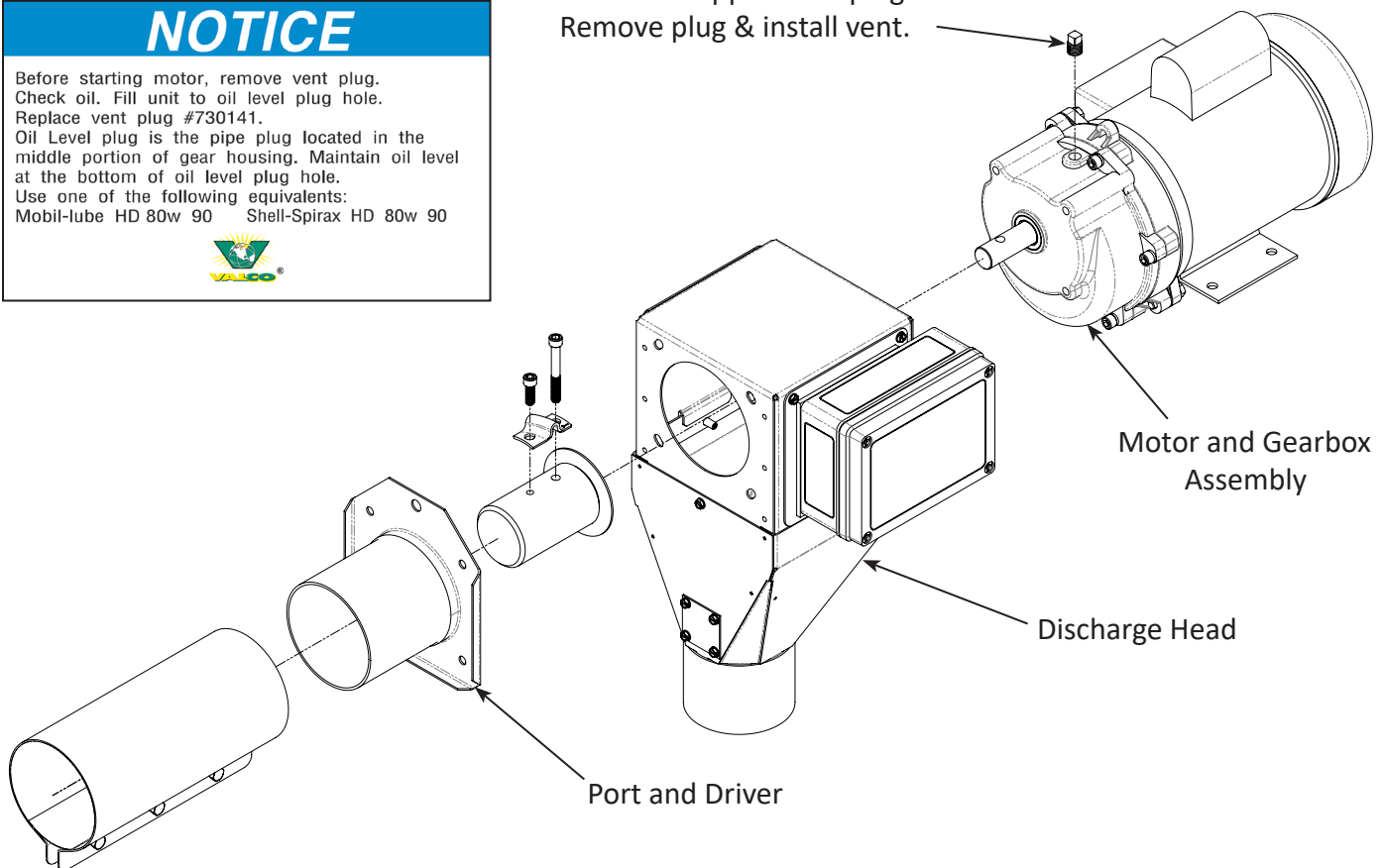


Figure 27

Auger Installation

1. Place the auger coil approximately 6-10 ft. (1.8m-3.1m) away from the end of boot, as shown in Figure 28.
2. Uncoil the auger from the outside of the roll. Inspect the auger carefully as it is installed. Kinks must be removed and the auger brazed back together. Push the auger into the boot being careful not to kink the auger.
3. Attach the auger to the drive end. Be sure to butt the auger all the way up against drive washer.
4. From the boot end, pull and release the free end of the auger a few times. This will ensure the auger is in its natural position. Place a mark at the end of the boot as shown in Figure 29.
5. Stretch the auger the correct amount by pulling out of the boot tube:
8" (20cm) per 50' (15m) of auger length

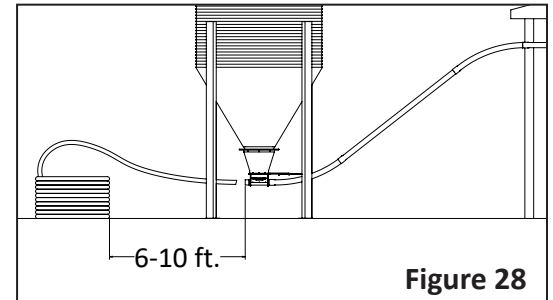


Figure 28

Make the cut mark at the proper stretch length, as shown in Figure 30. Stretch the auger an additional 8" for working room. Secure auger temporarily by clamping auger with Vise-Grips directly before boot entrance. Then cut the auger at cut mark with hacksaw, grinder, or bolt cutters.

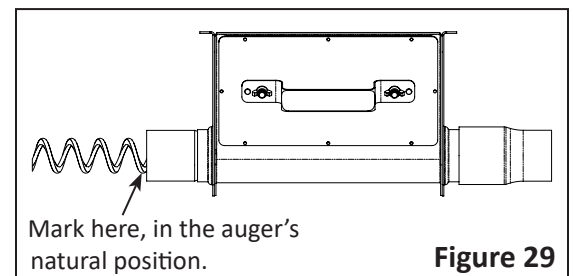


Figure 29

6. Slide the boot bearing shaft onto the auger and thread the auger inside the anchor, as shown in Figure 31. Tighten the square head set screw to secure auger.
7. Pull auger out of boot slightly to relieve pressure on Vise-Grip clamp. Release clamp from auger and carefully guide the bearing shaft into the boot tube.
8. Secure bearing in boot tube with tube clamp provided.

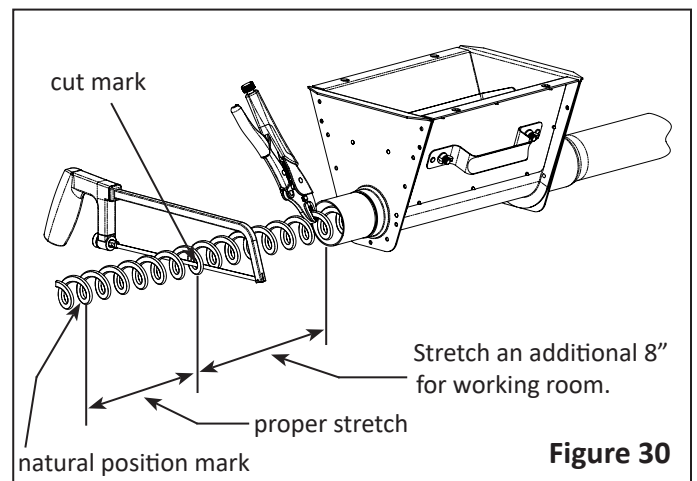


Figure 30

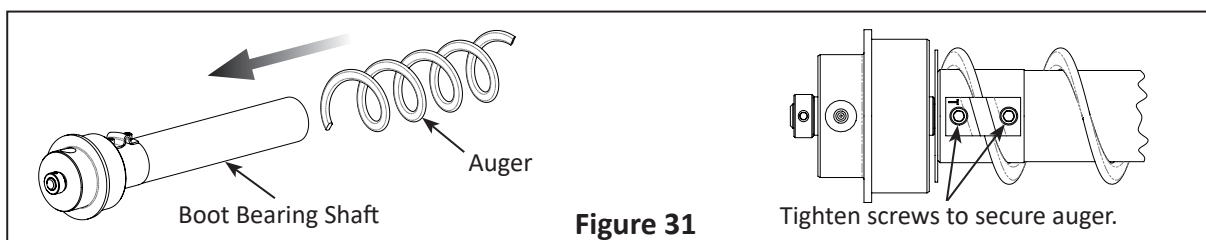


Figure 31



USE EXTREME CAUTION WHEN HANDLING AUGER. THE AUGER IS UNDER TENSION AND MAY SPRING CAUSING SERIOUS INJURY. ALWAYS WEAR PROTECTIVE CLOTHING AND SAFETY GLASSES WHEN HANDLING THE AUGER.

Auger Splicing

The recommended method for splicing or lengthening the auger is by welding with a bronze, flux-coated rod. Lay the auger in an angle iron for alignment, as shown in Figure 32. Butt 2" of the ends of the auger to be joined and weld on both sides of the joint, as shown in Figure 33. DO NOT weld the flighting tips. Allow the weld to air cool, then file smooth to avoid auger tube wear. Be sure to weld the auger together so the two pieces are aligned in a very straight line.

NOTICE: AUGER WELD JOINT SHOULD NOT BE INSTALLED IN A FORMED TUBE OR IN AN INCLINED TUBE. THE WELD JOINT SHOULD BE INSTALLED CLOSER TO THE DRIVE UNIT TO MINIMIZE FEED FLOW RESTRICTIONS.

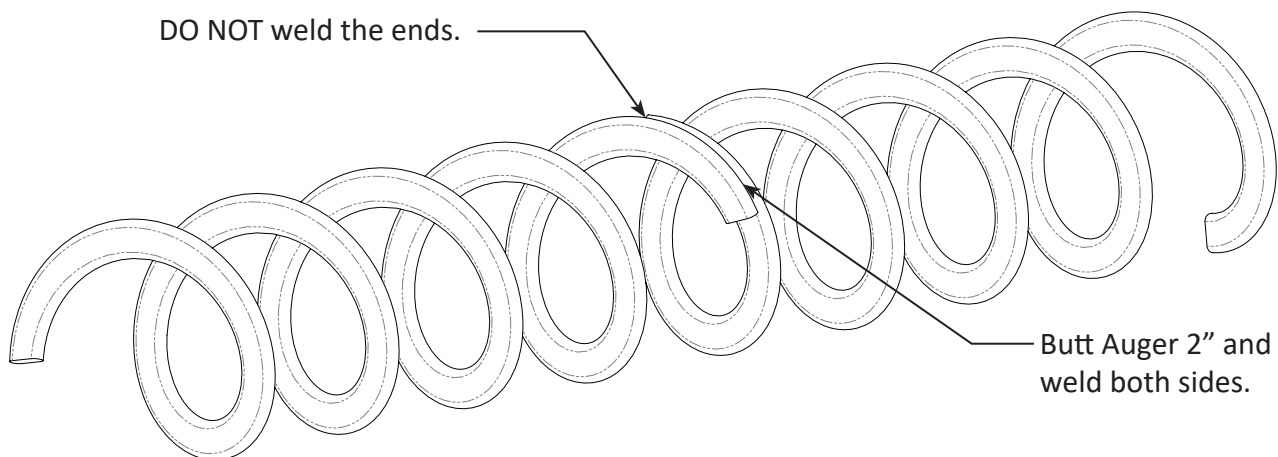
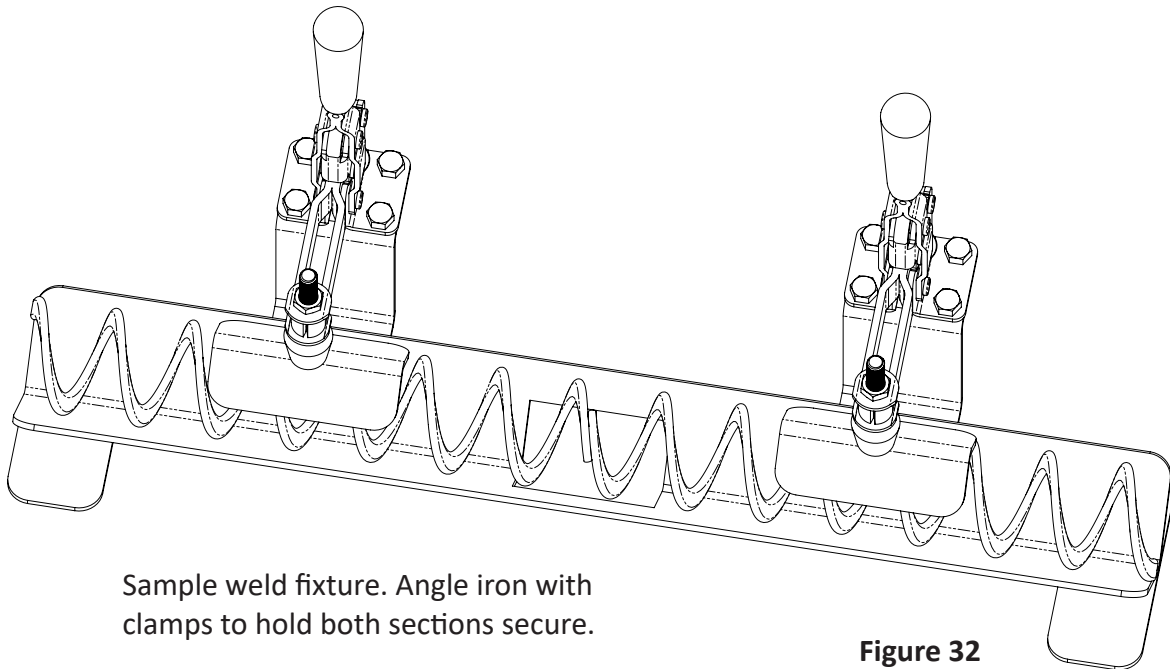


Figure 33

Feed Level Controls

Feed level controls should be installed below the discharge head to stop the auger when the last feeder is full.

- The proximity sensor should be installed in the downspout funnel below the discharge head, as shown in Figure 34.
- The hopper level switch should be installed in the hopper below the discharge head, as shown in Figure 35 (refer to the instructions packed with the hopper level switch for proper placement).

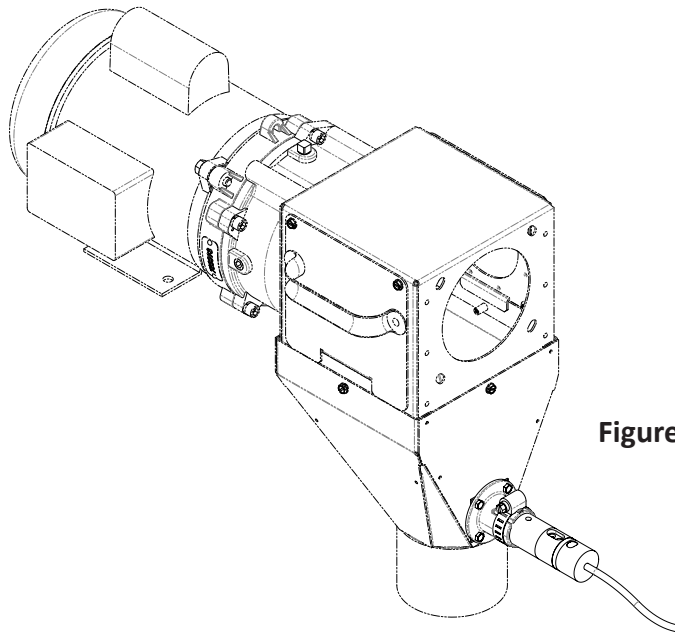
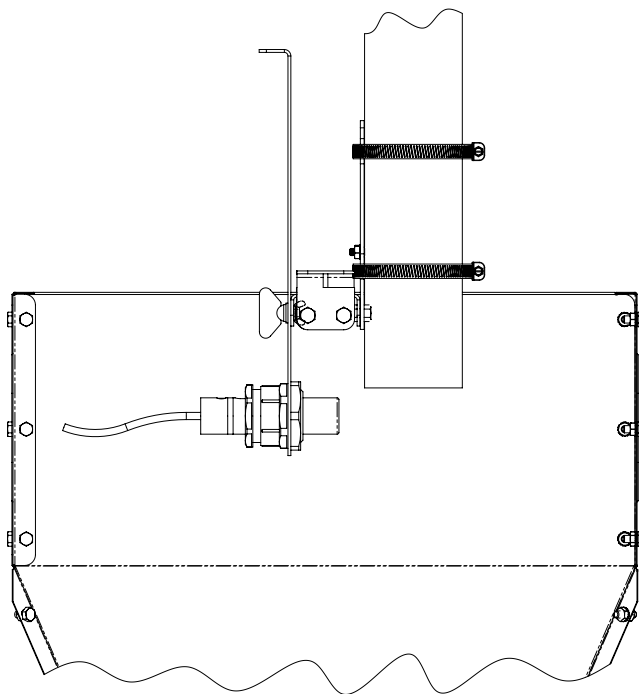
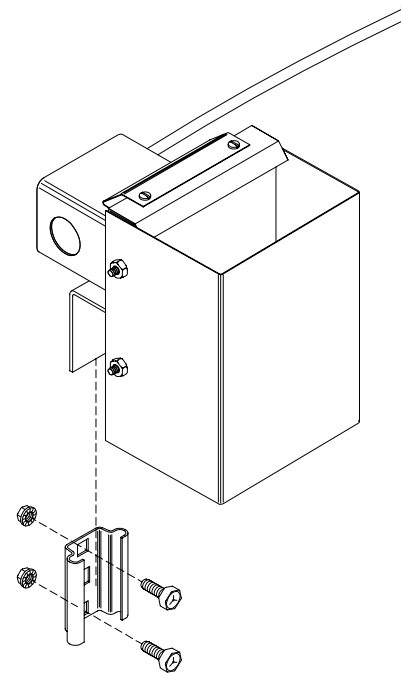


Figure 34

730465 Proximity Discharge Head Sensor



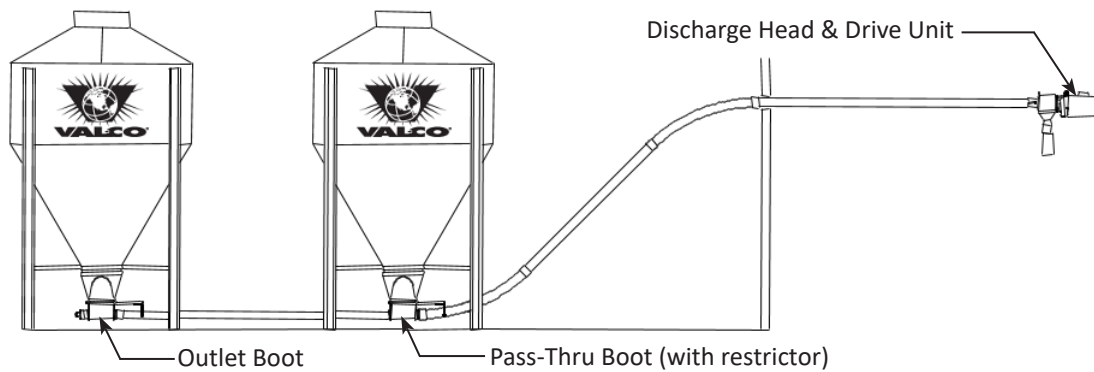
**460057 Proximity
Hopper Level Sensor**



**720097 Mechanical
Hopper Level Switch**

Figure 35

Pass-Thru Systems & Extended Length Systems



A pass-thru bin must have a restrictor installed in the boot, as shown in Figures 36 - 38.

The boots must be in alignment to prevent premature wearing on the system tubes. Install the auger starting at the first bin and through the second bin until it reaches the discharge head.

In pass-thru systems, do not have more than one bin open at the same time while the auger is running. If more than one slide valve is open at the same time, the auger will be overloaded and could jam.

Some variations of free flowing feed are known to flow into the boot at a higher rate than what the flexible auger system is designed to deliver. This condition can cause the auger to jam. Installed correctly, a pass-thru restrictor can prevent the auger from jamming. **Warning:** Failure to locate pass-thru restrictor tube and install correctly could result in damage to fill system.

Follow the instructions under the **AUGER INSTALLATION** section of this manual.

Step 1:

- If installing during new construction: Ensure proper auger stretch is attained, then continue to Step 2.
- Ensure that the power has been disconnected from the drive unit. Follow lock out tag out procedure.
- Pull bearing from end boot and secure auger with vice grip.
- Disconnect end bearing.

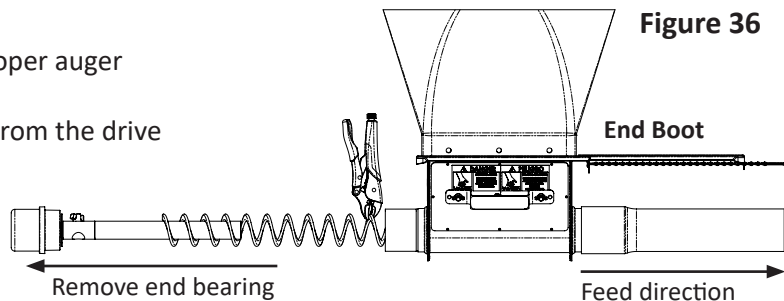


Figure 36

Step 2:

- Feed pass-thru restrictor into auger. Ensure tapered section is towards end bearing as shown.
- Tape 3/16" cable to pass-thru restrictor. Cable must be long enough to reach pass-thru boot. Use enough tape for a solid connection
- Using the cable, feed pass-thru restrictor into the auger until it reaches the pass-thru boot.

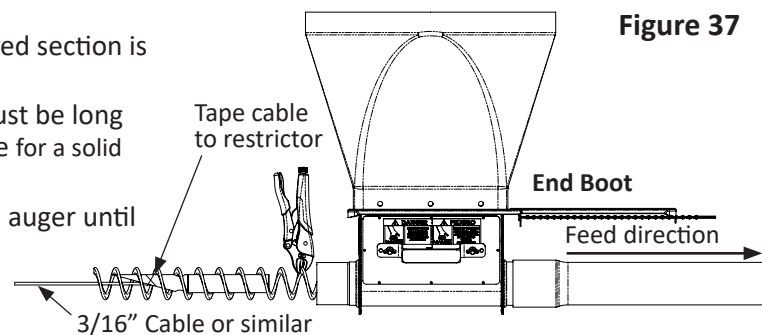


Figure 37

Step 3:

- Reinstall end bearing and remove vice grips.
- Adjust pass-thru restrictor such that the end of the tube is flush with the exit panel of the boot as shown.
- Install anchor and screw. Tighten screw on the pass-thru restrictor using 5/16" wrench.
- Ensure all boot doors are installed and secure before opening slide valves. Do not open both slide valves at the same time!

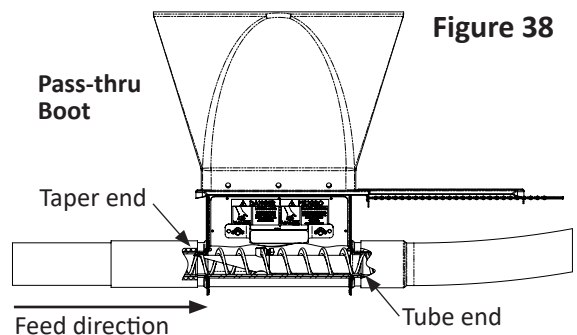
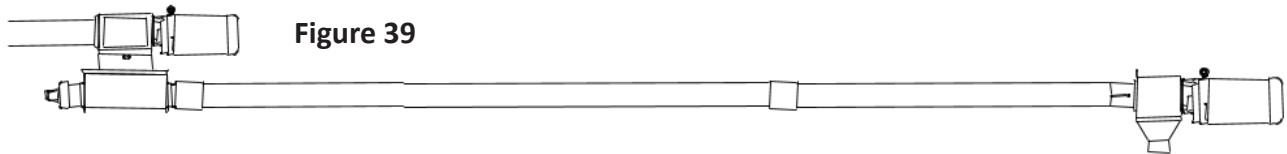


Figure 38

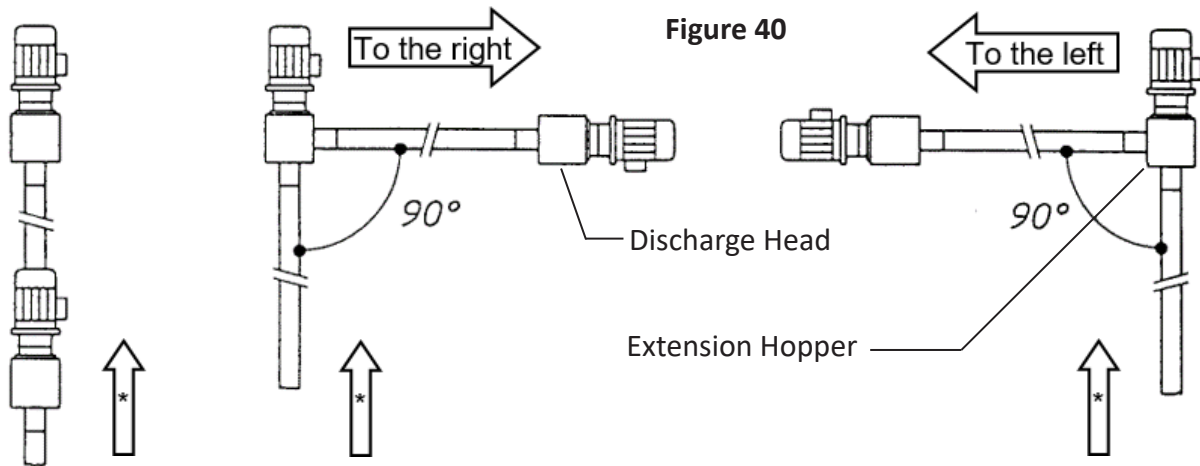
NOTE: Restrictor may need slight adjustment for desired delivery rate after installation.



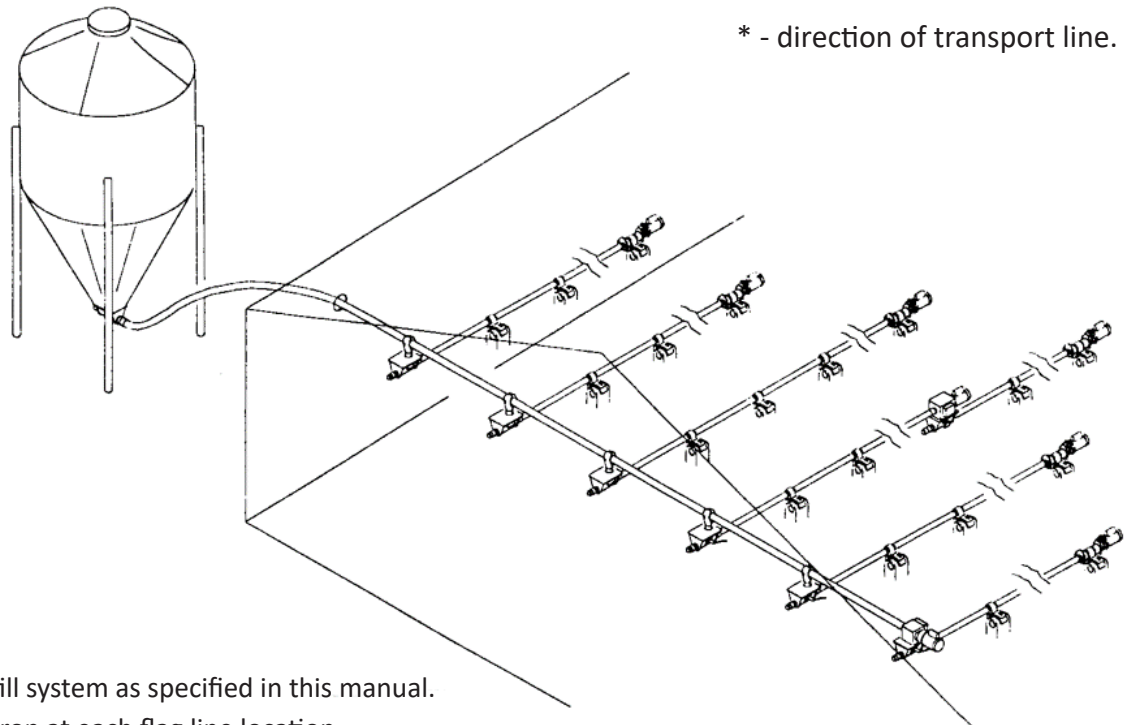
Flag Systems & Extended Length Systems



An extended length system installation is shown in Figure 39. Suspend the extended system the same way as a standard system at the discharge head. The auger should be installed using the instructions under the **AUGER INSTALLATION** section of this manual. The line can be turned 90 degrees left or right using an extension hopper, as shown in Figure 40.



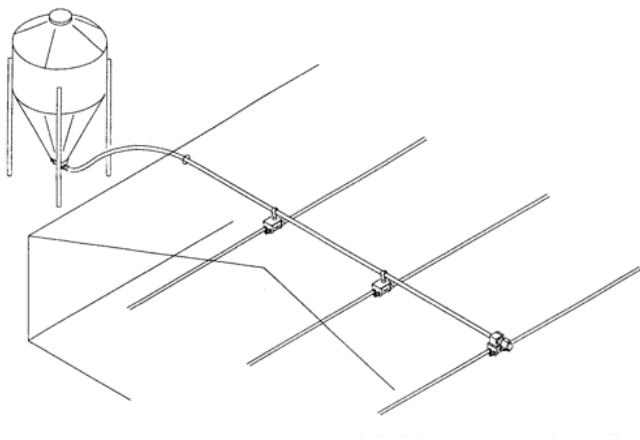
Flag Systems



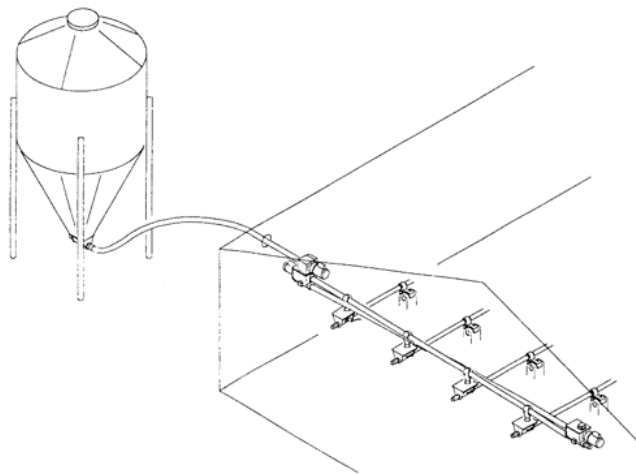
- Install the auger fill system as specified in this manual.
- Install an outlet drop at each flag line location.
- Remove the funnel from the discharge head.
- A transfer plate is needed to connect the discharge head to the last flag line.
- Secure the transfer plate to the discharge head using the hardware supplied for the funnel.
- Make sure the outlet end of the boot is directed toward the flag line.

Flag Systems (continued)

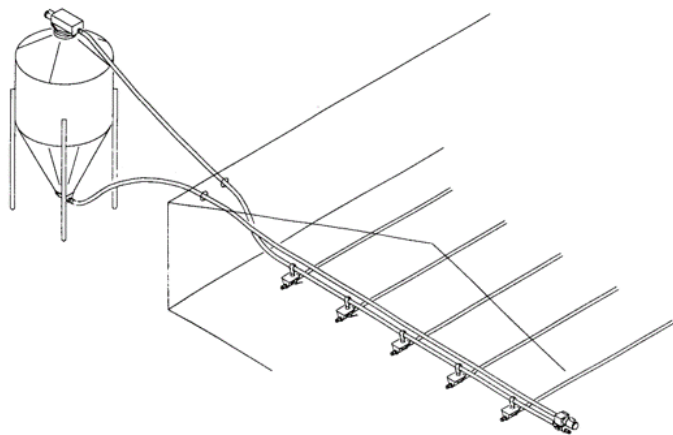
Alternate Layouts



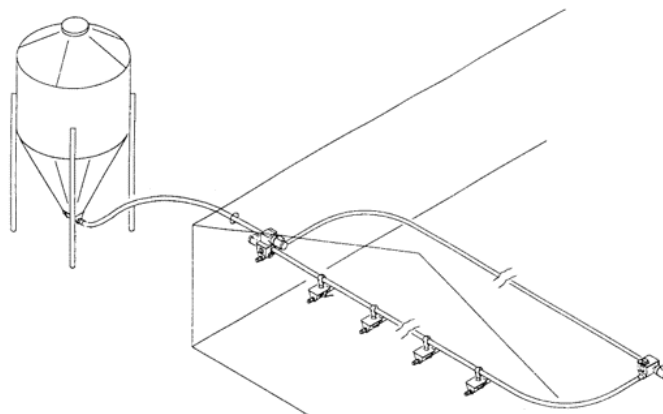
Twin Boot Flag System Layout



Return Flag System Layout



Return-to-Bin Flag System Layout



Circulating Flag System Layout

Start-Up Procedures

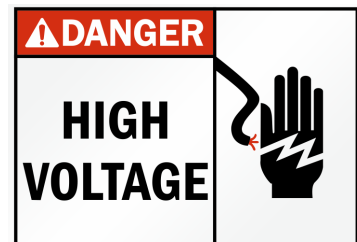
- ***It is important to allow the inside of the tubes and the auger to be polished by the moving feed before opening the slide valve the entire way. Otherwise the auger could overload and jam.*** New auger is coated with oil for protection against rust. The auger must be cleaned and polished before the system can handle a full load of feed. To clean the auger turn the system on and let it run empty for several minutes. Then cycle 1/4 bushel of feed through the system; repeat this cycle several times, gradually increasing feed amount to one (1) bushel. Slowly increase the amount of feed into the system until the auger carries its full load.
- In pass-thru systems, do not have more than one bin open at the same time while the auger is running. If more than one slide valve is open at the same time, the auger will be overloaded and could jam.
- Do not allow the auger to run empty. Premature wear and damage to components could result.
- After the system is broken-in and polished, slide the valve at least once a week will ensure the valve remains operable and free from feed debris.

Maintenance & Operating Recommendations

- Grease bearing at boot end every 30 days.
- Regularly check the system for loose hardware and tighten if necessary.
- Direct drive units - periodically check the oil level in the motor gear reducer. If necessary add lubricant so that the oil level reaches up to the side of the reducer and/or the bottom of the pipe plug.
- V-Belt drive units - periodically apply grease lubricant to the grease fitting on the bearing housing.
- The system tubes should be kept level. Sagging tubes will cause wearing at these points.
- Empty the feed from the system if the system is to set for a long period of time.

DANGER - HIGH VOLTAGE ELECTRICAL COMPONENTS

- Disconnect power source before servicing automatic system.
- May start or stop at any time.
- Failure to do so will result in serious injury or death.



Danger - Rotating Auger

Disconnect power before working on system. Auger starts automatically and severe personal injury will result.

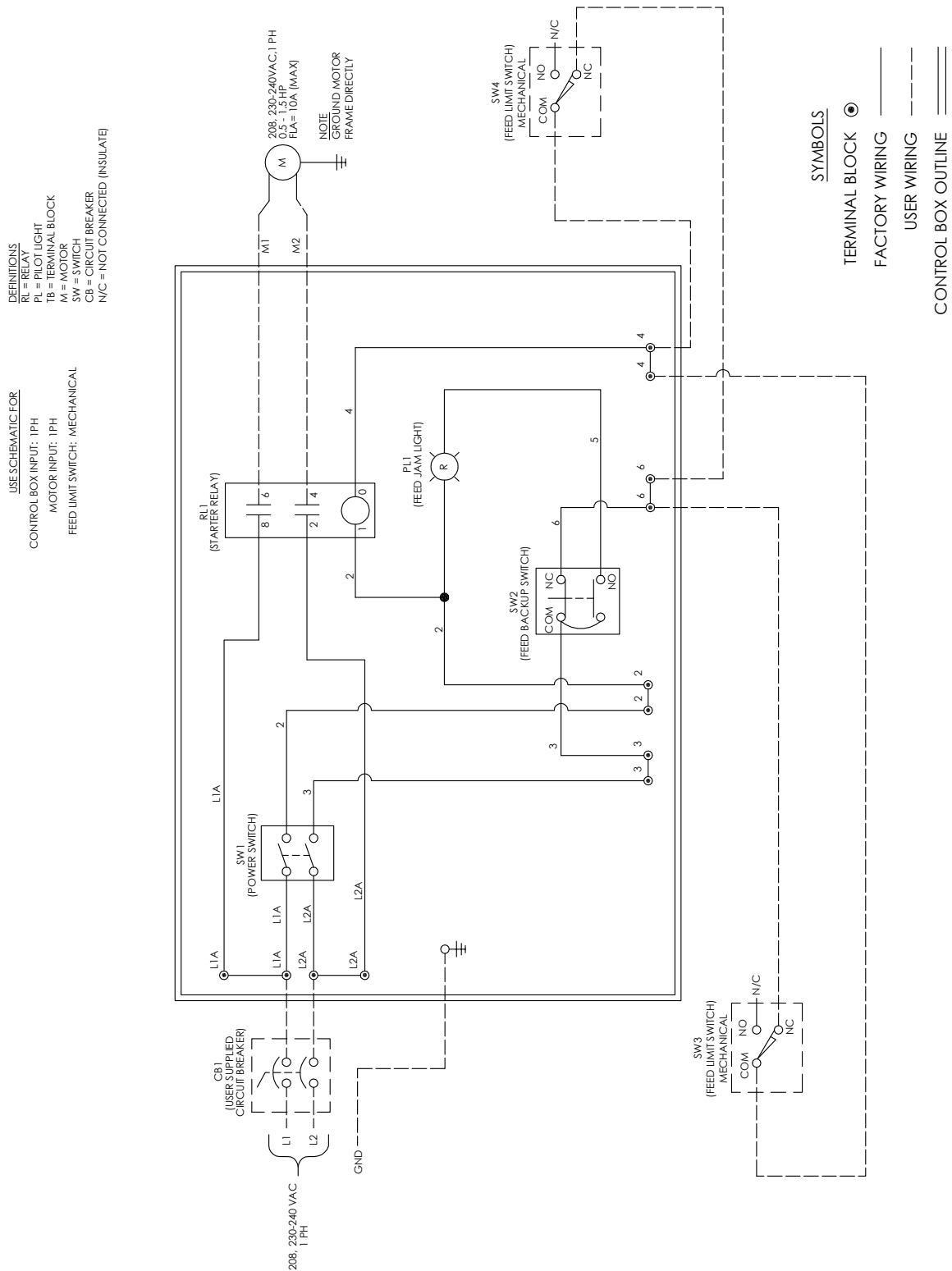
USE CAUTION when servicing or repairing your system. Follow all instructions and warnings when working with your fill system.

Troubleshooting Guide

Problem	Possible Cause	Corrective Action
Motor on drive unit will not run	No power supplied to motor.	Check motor reset button, (if furnished on motor). Check all circuits, wired joints, fuses, and on-off switches.
	Motor is overloaded and will not run.	Check for foreign material in system (nuts, bolts, etc.)
	Shutoff switch in boot is in off position due to lack of feed in boot.	Check bin for feed supply and for feed bridging.
	Discharge head safety switch is packed with feed and stuck in off position.	Remove packed feed. Verify switch operation and replace if necessary.
	Hopper shutoff switch is misadjusted or stuck in off position.	Check its operation and response and readjust if necessary. Replace defective switch.
	Motor wired for wrong voltage.	Check motor wiring diagram.
	Motor is defective.	Replace motor.
Motor overloads after short run	Motor horsepower too small for system.	Contact your dealer for required motor size for length of system.
	Motor is wired for 230 VAC and is running on 115 VAC.	See motor wiring diagram for correct wiring.
	Motor running in wrong direction (motor runs, stops, no feed moved).	Check motor wiring diagram for changing direction of motor.
	Foreign object in system (motor runs, binds, stops, auger spins backwards).	Remove foreign object (auger may have to be removed).
	Defective motor.	Replace motor.
	High moisture feed in system.	Avoid conveying wet feed. Clean auger and tubes.
	Pass thru bin does not have restrictor plates installed.	Install restrictor plates in all pass thru bins.
	End bin restrictor tube is cut too short.	Check/replace restrictor tube in end bin.
System does not run smoothly (excessive vibration and noise)	Auger too long.	Cut auger to correct length. After the first 1 to 6 months of operation, the auger may stretch. Excess auger length should be removed as described.
	Auger is kinked or poorly brazed.	See AUGER SPLICING if brazing seems to be the problem. If auger is kinked, replace kinked section, (do not run a brazed joint in a corner).
	Tubes are not straight and level.	Support auger tubes every 8-10 feet or less.
	Feed drop placed near corner.	Do not place drops directly before a corner.
	Boot bearing is worn.	Replace boot bearing.
Tubes wear through	Auger runs dry too often.	Install switch in boot to shut system off when empty.
	Auger kinked or poorly brazed.	Check AUGER SPLICING procedures. Never place a brazed section in a corner. If the auger is kinked, replace kinked section.
Motor runs but auger does not turn	Pinion in direct drive motor is broken.	Replace pinion and examine gears in gear reducer: if worn, replace gear reducer also. Refer to lubrication and maintenance instructions for direct drive.
	Worn out bearings in V-belt drive bearing housing from lack of lubricant.	Lubricate grease fitting at bearing housing periodically. Replace worn out bearings.
	Belt slips in belt drive.	Readjust belt for proper tension.
		Replace old worn out belt.
		New belt should be inspected for tightness after the first 2 or 3 weeks of operation, since most belt stretch will occur when the belts are new.
	Pin sheared in flighting driver.	Replace roll pin.

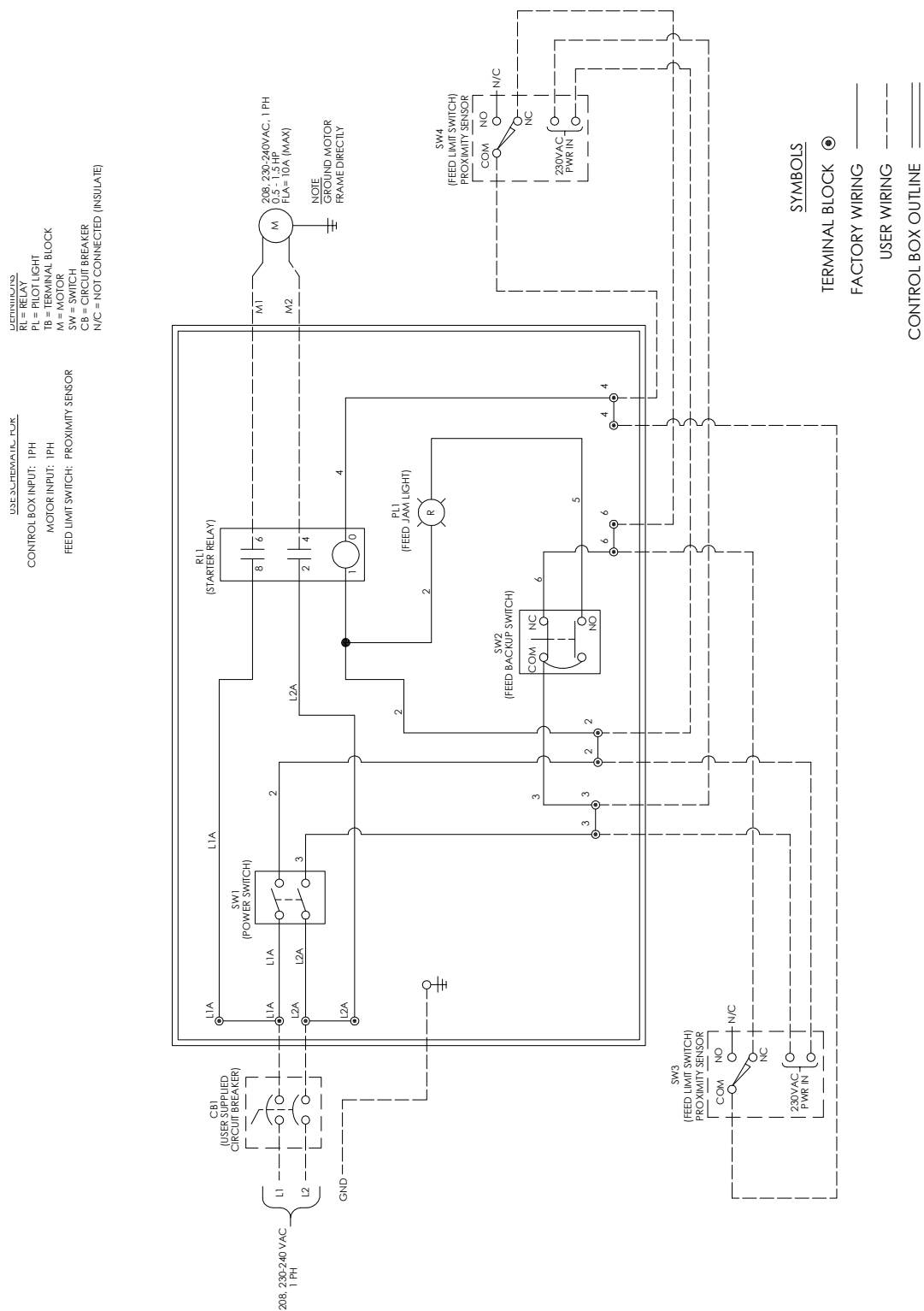
User Wiring

Discharge Head 1P, with Relay - Mechanical Hopper Switch



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

Discharge Head 1P, with Relay - Proximity Sensor




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

Discharge Head 1P, No Relay - Mechanical Hopper Switch



DEFINITIONS
 RL = RELAY
 PL = PILOT LIGHT
 TB = TERMINAL BLOCK
 M = MOTOR
 SW = SWITCH
 CB = CIRCUIT BREAKER
 N/C = NOT CONNECTED (INSULATE)

SYMBOLS

TERMINAL BLOCK  —

FACTORY WIRING —

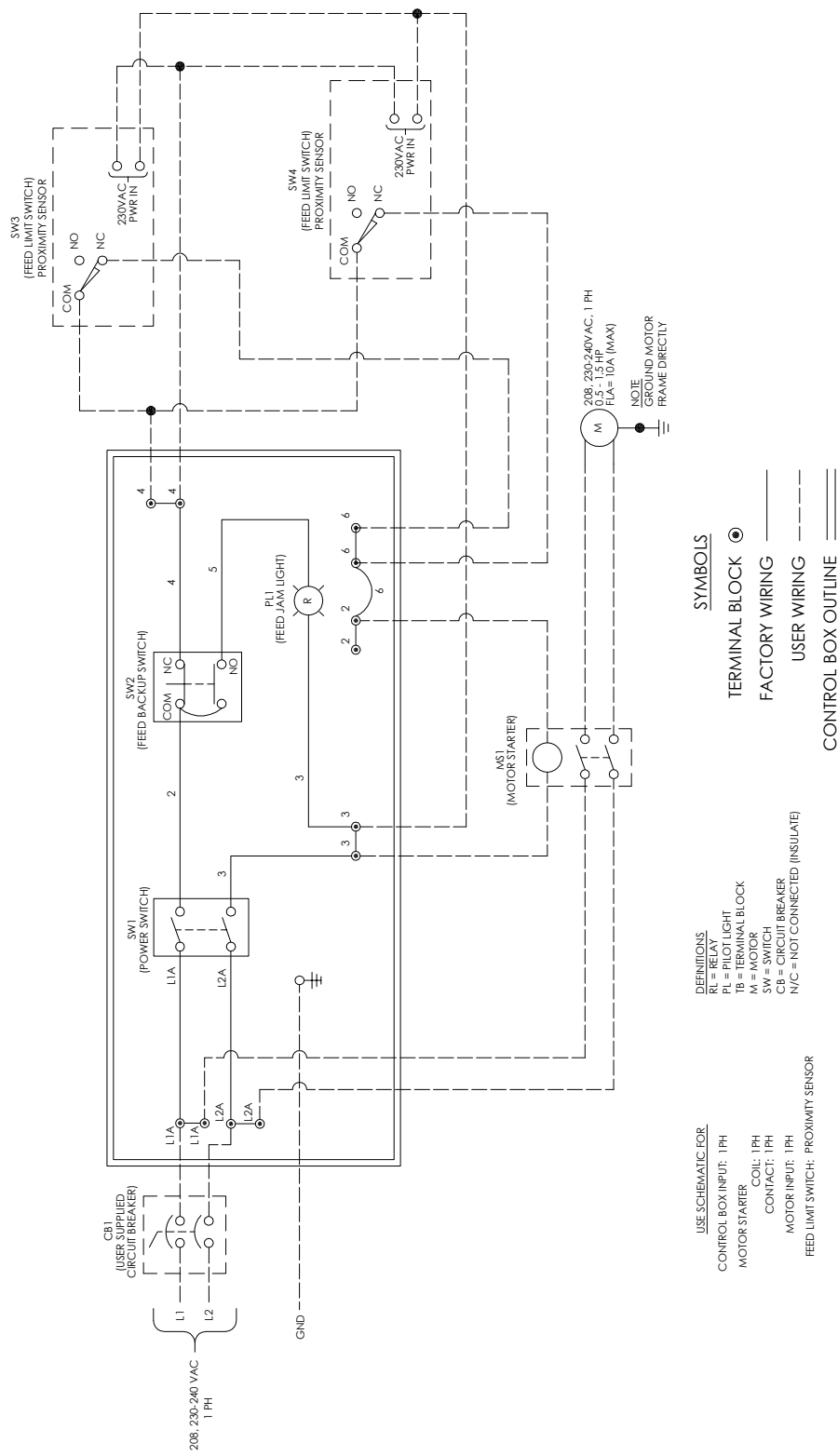
USER WIRING —

CONTROL BOX OUTLINE —



User Wiring

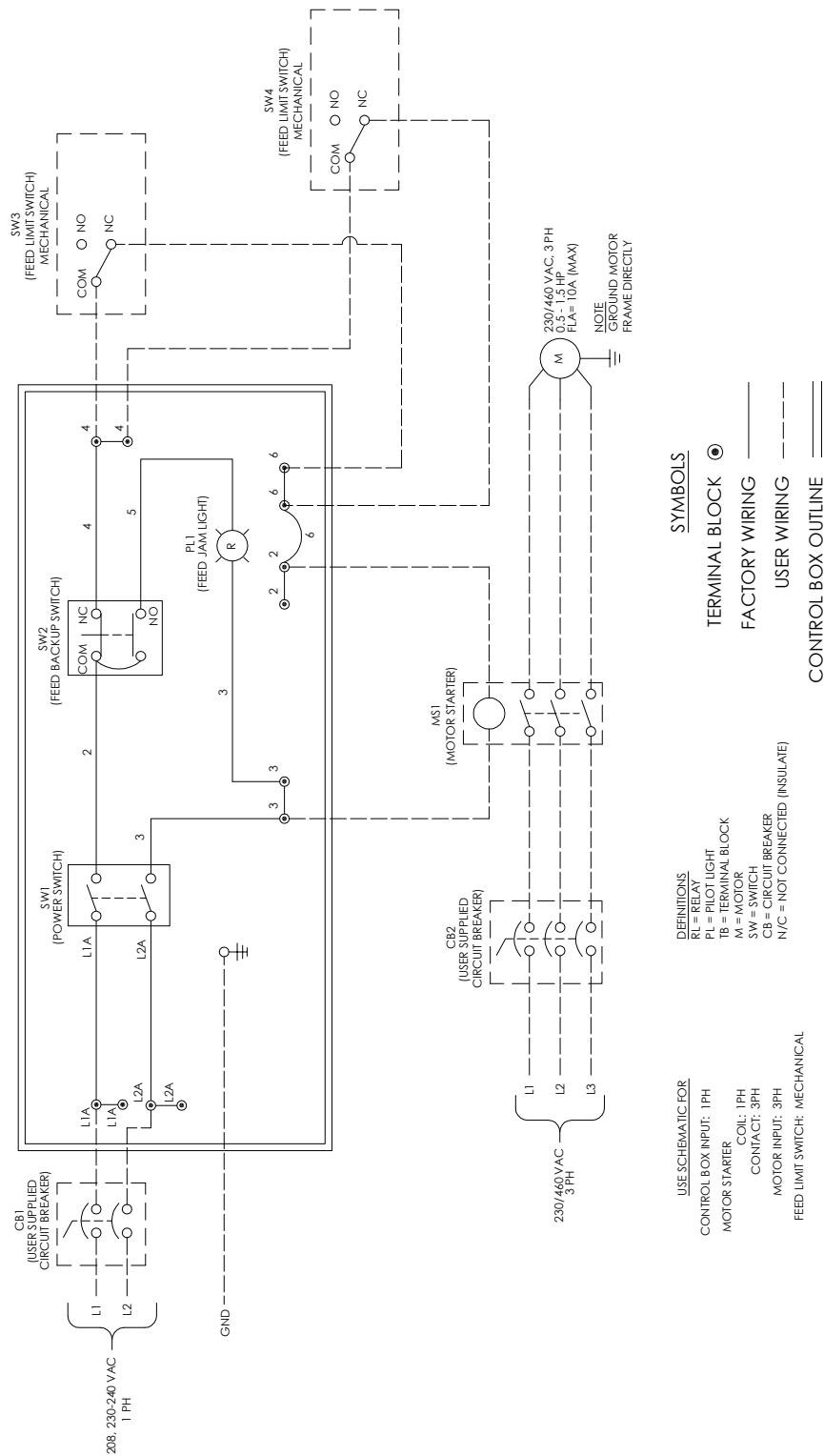
Discharge Head 1P, No Relay - Proximity Sensor



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

User Wiring

Discharge Head 3P, No Relay - Mechanical Hopper Switch

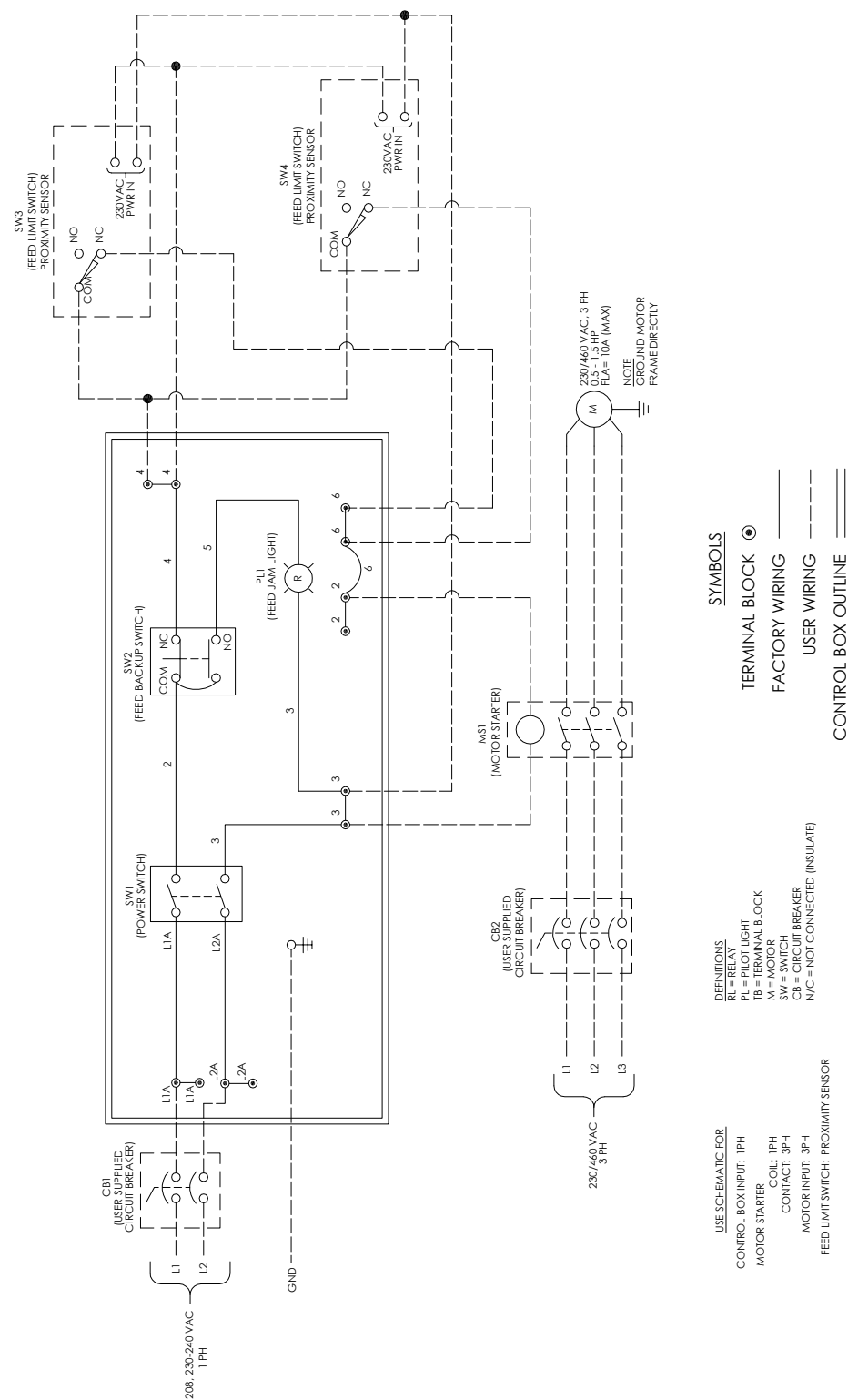


**WIRING MUST BE DONE BY A LICENSED ELECTRICIAN.
ALL LOCAL AND NATIONAL CODES MUST BE FOLLOWED!**



User Wiring

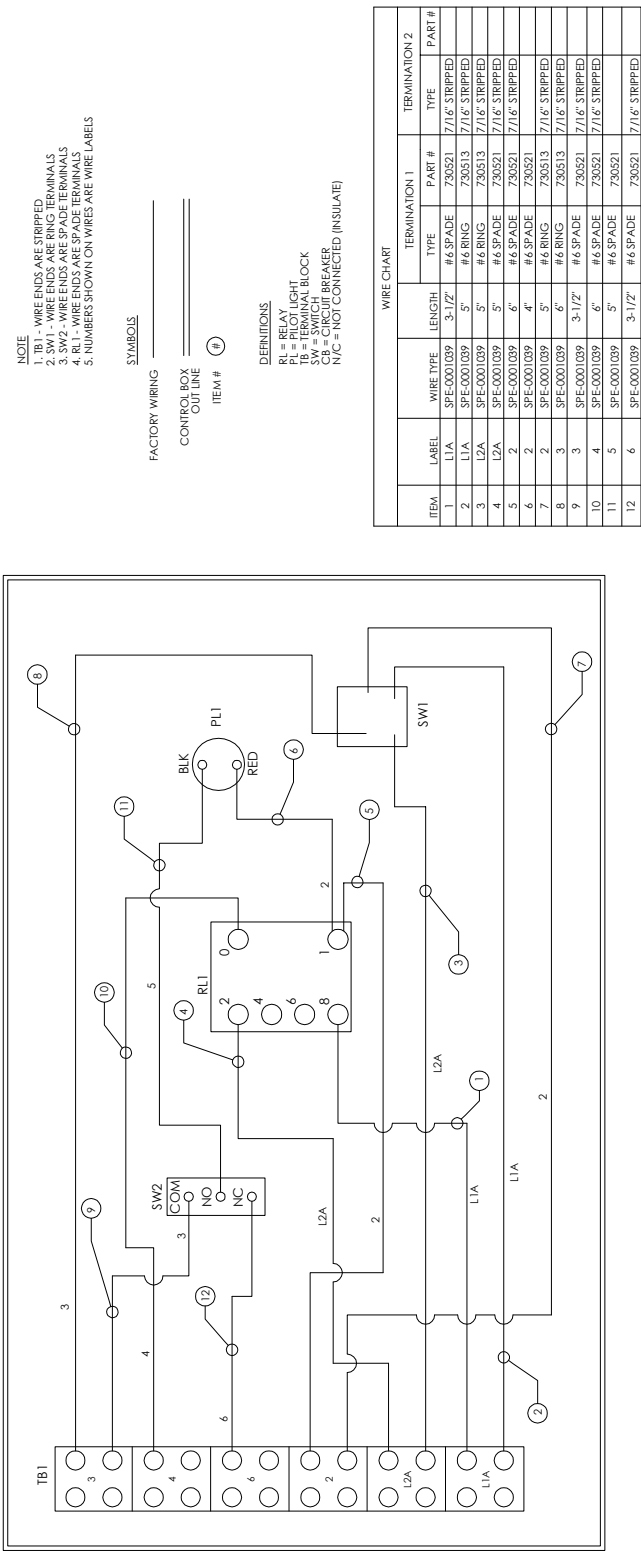
Discharge Head 3P, No Relay - Proximity Sensor



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

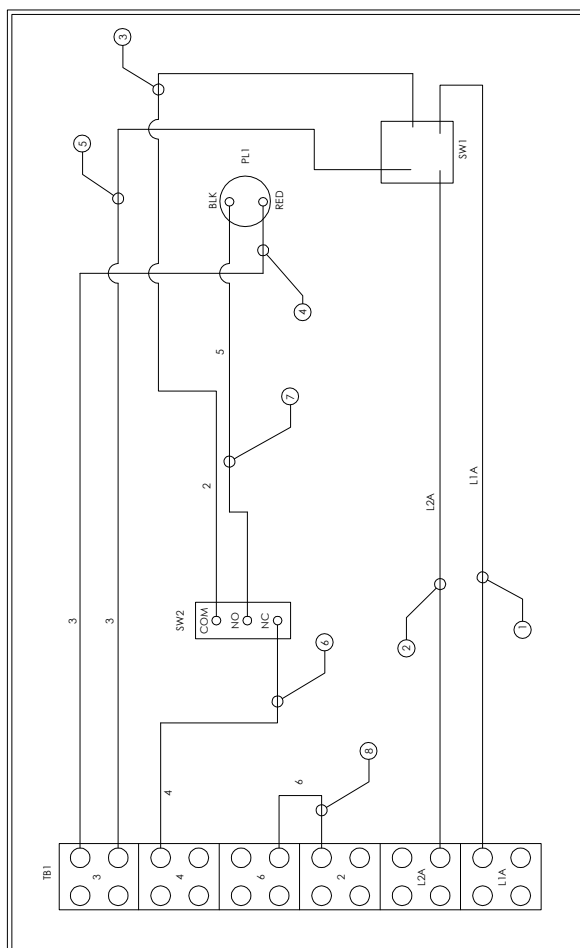
Factory Wiring

Discharge Head, with Relay



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

Discharge Head, No Relay



NOTE

1. TB1 - WIRE ENDS ARE STRIPPED
2. SW1 - WIRE ENDS ARE RING TERMINALS
3. SW2 - WIRE ENDS ARE SPADE TERMINALS
4. RL1 - WIRE ENDS ARE SPADE TERMINALS
5. NUMBERS SHOWN ON WIRES ARE WIRE LABELS

SYMBOLS

FACTORY WIRING _____
 CONTROL BOX OUT LINE _____
 ITEM # (#)

DEFINITIONS

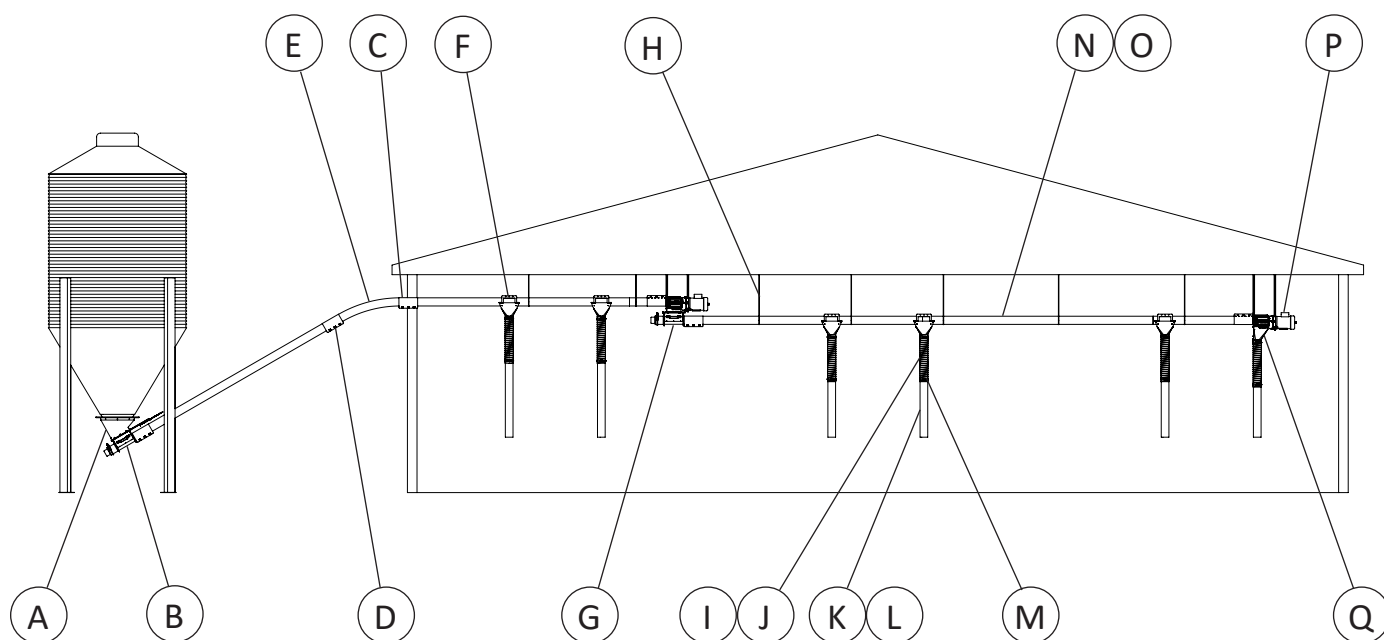
RL = RELAY
PL = PILOT LIGHT
TB = TERMINAL BLOCK
SW = SWITCH
CB = CIRCUIT BREAKER
N/C = NOT CONNECTED (INSULATE)

WIRE CHART				TERMINATION 1		TERMINATION 2	
ITEM	LABEL	WIRE TYPE	LENGTH	TYPE	PART #	TYPE	PART #
1	L1A	SPE-K001039	5'	#4 RING	730313	7176/ STRIPPED	
2	L2A	SPE-K001039	5'	#4 RING	730313	7176/ STRIPPED	
3	2	SPE-K001039	4'	#4 RING	730313	#6 SP AD	730521
4	3	SPE-K001039	6' TO 4.00"			7176/ STRIPPED	
5	3	SPE-K001039	6'	#4 RING	730313	7176/ STRIPPED	
6	4	SPE-K001039	5'	#4 STRAPE	730521	7176/ STRIPPED	
7	5	SPE-K001039	5'	#4 STRAPE	730521		



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

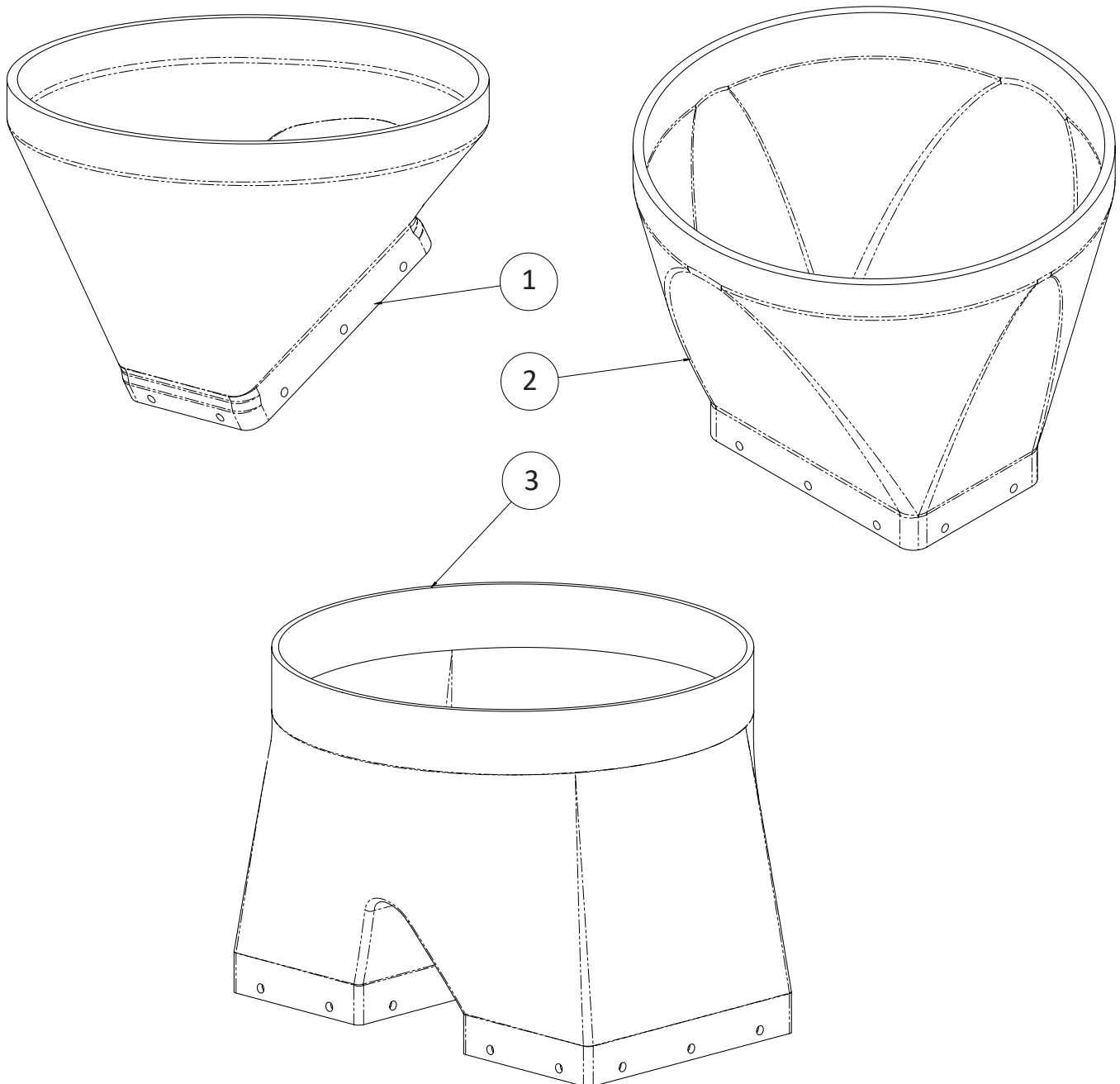
Feed Delivery System



KEY	DESCRIPTION	740
A	Plastic Transition	See page 40
B	Slide Valve & Boot Assembly	Slide Valve on page 41, Boots on page 42
C	Cover Plate	723012
	Universal Tube Gasket	735605
D	Coupler w/ Hardware	740469
E	45 Degree Elbow	740494
F	Drop w/ Shutoff	740534
G	Transfer Plate	500517 – Steel Discharge Head
H	Suspension Components:	
	5/16" x 3-1/2" Screw Hook	730441
	2/0 Double Loop Chain (foot)	820099
I	Flexible Plastic Tube, Gray	740483
J	Flexible Plastic Tube, Clear	740473
K	Rigid Plastic Tube	740520
L	Lower Drop Tube (Telescoping)	735421
M	Hose Clamp	740477
N	10' Straight Tube	740482
O	Flexible Auger	740440
P	Motor & Gearbox Assembly	See pages 51-54
Q	Discharge Head	Discharge Head on page 47, Port Tube on page 50

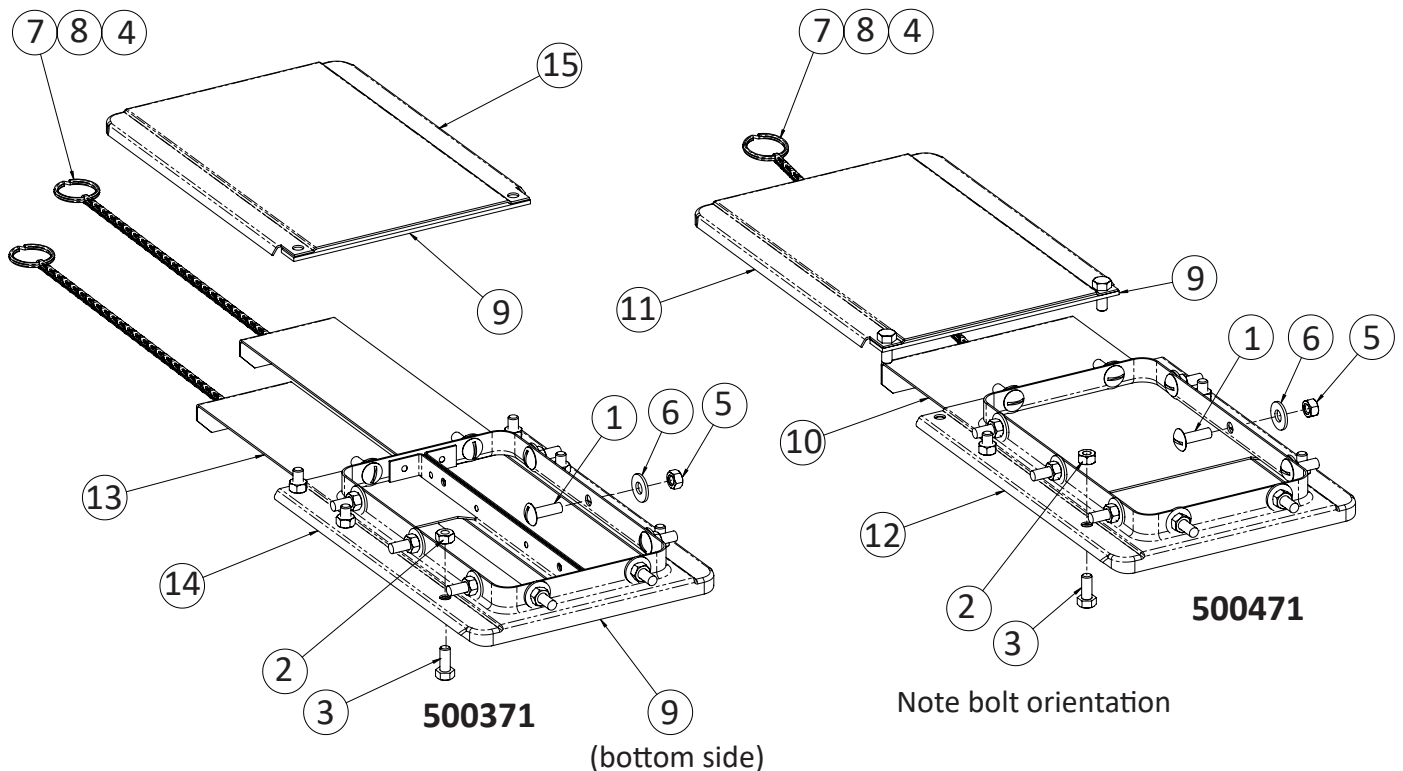
Upper Boot Transitions

ITEM #	PART #	DESCRIPTION
UPPER BOOT TRANSITIONS - PART NUMBERS		
1	500475	30 DEGREE PLASTIC UPPER BOOT TRANSITION - GREEN
	500575	30 DEGREE PLASTIC UPPER BOOT TRANSITION - CLEAR
2	500485	STRAIGHT PLASTIC UPPER BOOT TRANSITION - GREEN
	500585	STRAIGHT PLASTIC UPPER BOOT TRANSITION - CLEAR
3	700010	STRAIGHT DOUBLE PLASTIC UPPER BOOT TRANSITION - GREEN



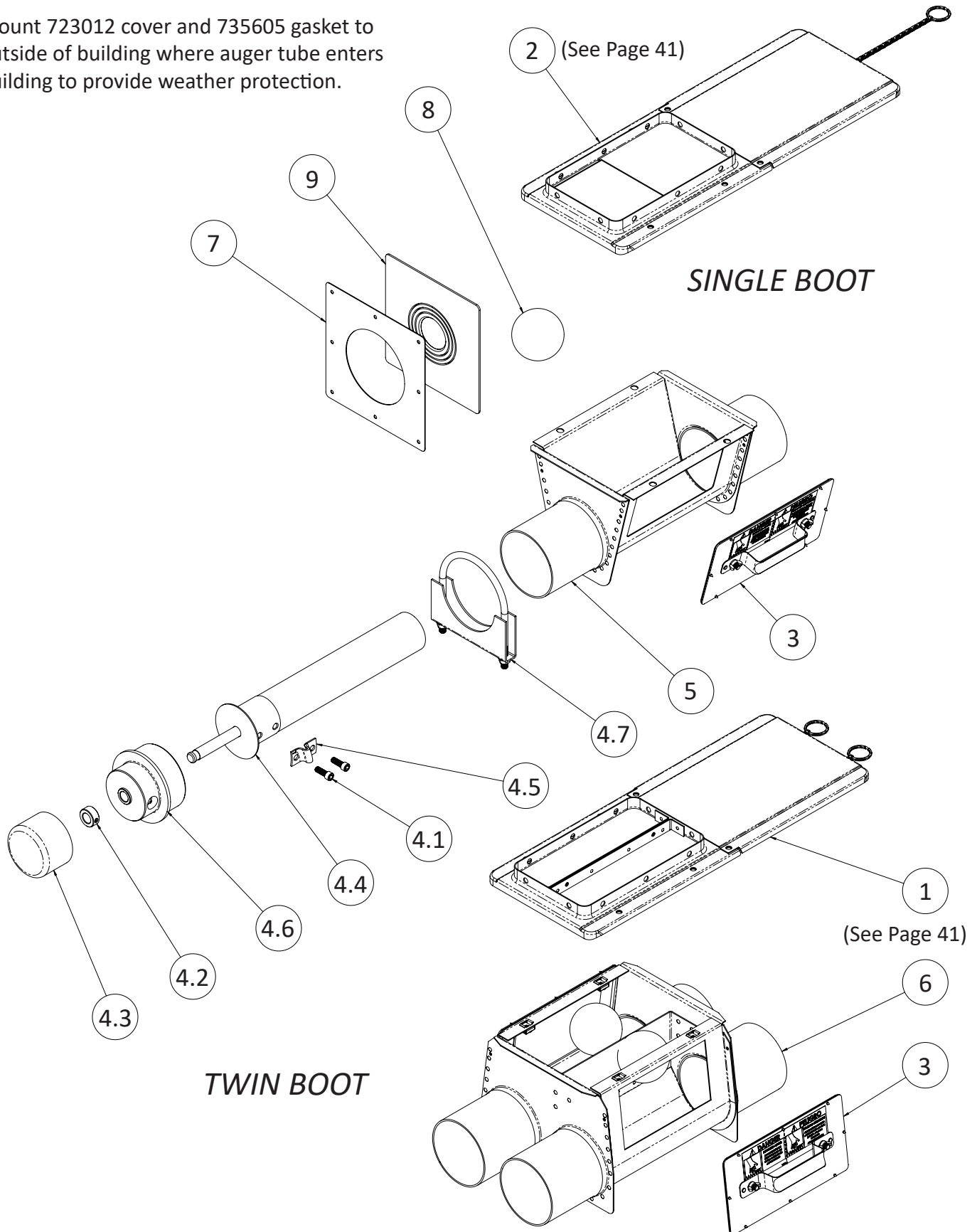
Single & Twin Slide Valves

ITEM #	PART #	DESCRIPTION	QTY
500471 & 500371 COMMON PARTS			
1	010544	5/16" X 1" LG TRUSS HEAD BOLT	18
2	010603	5/16" HEX NUT	6
3	010643	5/16" X 3/4" LG HEX BOLT	6
4	012660	7/64" X 3/4" COTTER PIN	1
5	012781	5/16" NYLON HEX NUT	18
6	012782	5/16" NYLON WASHER	18
7	500305	12" ZINC PLATED CHAIN	1
8	500306	CHAIN RING	1
9	500487	WEATHER STRIPPING, PER FT.	1.25 ft
500471 - SINGLE SLIDE VALVE			
10	500301	SINGLE SLIDE PLATE	1
11	500302	SINGLE SLIDE WEATHER SHIELD	1
12	500309	SINGLE TRANSFER PLATE	1
500371 - TWIN SLIDE VALVE			
13	500324	TWIN SLIDE PLATE	2
14	500374	TWIN TRANSFER PLATE (contains (2) 500324)	1
15	500587	TWIN SLIDE WEATHER SHIELD	1



Exploded View: Model 740 Boots For 4.25" (108mm) Fill Systems

Mount 723012 cover and 735605 gasket to outside of building where auger tube enters building to provide weather protection.



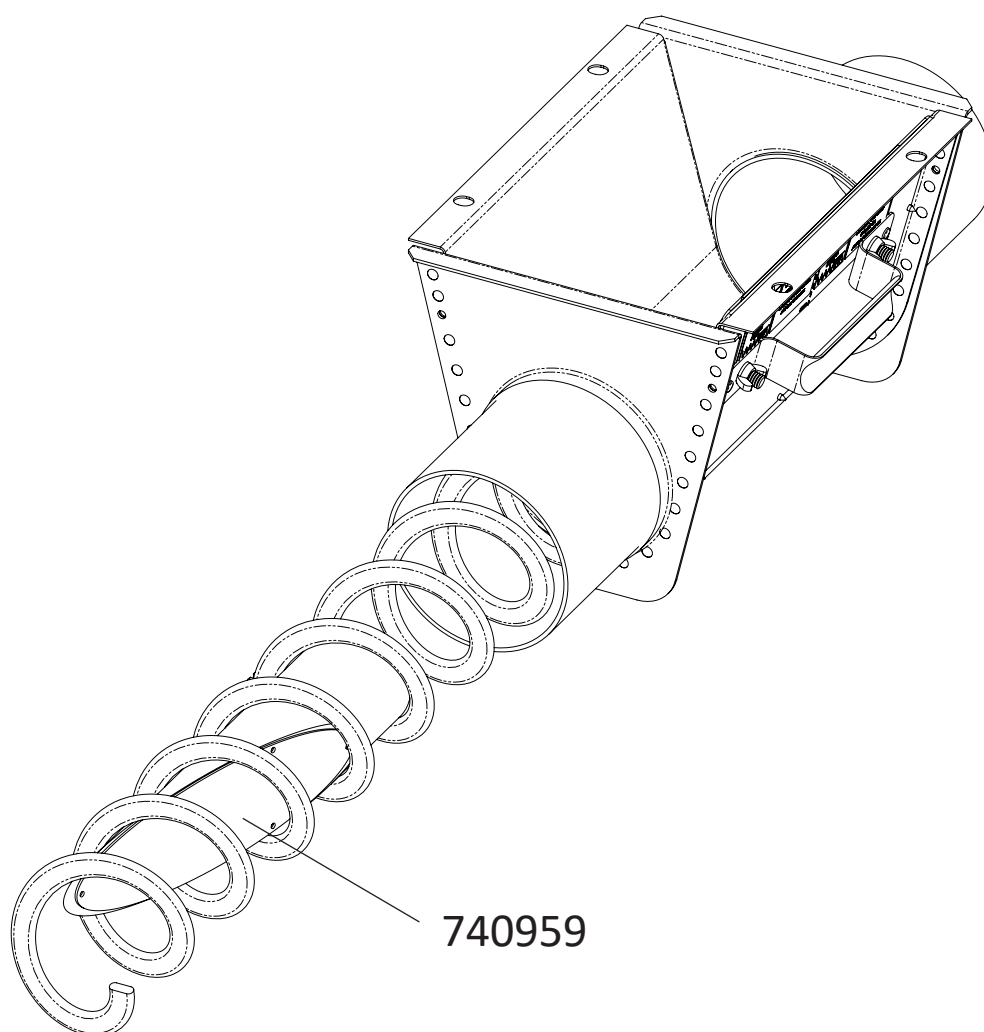
Parts List: Model 740 Boots For 4.25" (108mm) Fill Systems

PART #	DESCRIPTION
MODEL 740 BOOTS FOR 4.25" (108MM) FILL SYSTEMS - COMPLETE KITS	
740526	740 SINGLE OUTLET LOWER BOOT - W/ ANCHOR & BEARING KIT & SINGLE SV
740527	740 SINGLE OUTLET LOWER BOOT - W/ ANCHOR & BEARING KIT
740528	740 TWIN OUTLET LOWER BOOT - W/ ANCHOR & BEARING KIT & SINGLE SV
740529	740 TWIN OUTLET LOWER BOOT - W/ ANCHOR & BEARING KIT & SPLIT SV
740530	740 TWIN OUTLET LOWER BOOT - W/ ANCHOR & BEARING KIT
740531	740 SINGLE OUTLET PASS-THRU LOWER BOOT - W/ RESTRICTOR & SINGLE SV
740532	740 TWIN OUTLET PASS-THRU LOWER BOOT - W/ RESTRICTOR & SINGLE SV
740533	740 TWIN OUTLET PASS-THRU BOOT - W/ RESTRICTOR & SPLIT SV

ITEM #	PART #	DESCRIPTION
MODEL 740 BOOTS FOR 4.25" (108MM) FILL SYSTEMS - PARTS LIST		
1	500371	16" SPLIT BOOT SLIDE VALVE (see page 41 for components)
2	500471	16" BOOT SLIDE VALVE WITH HARDWARE (see page 41 for components)
3	704303	BOOT ACCESS DOOR ASSEMBLY
4	740474	4-1/4" AUGER SHAFT & BEARING KIT
4.1	011416	SHCS, 5/16-18 X 7/8"
4.2	713414	5/8" LOCKING COLLAR
4.3	735830	3.5" PLASTIC BEARING CAP
4.4	740451	BEARING SHAFT ASSEMBLY, 740
4.5	740456	FLIGHTING ANCHOR, 740
4.6	740457	BEARING HUB ASSEMBLY, 740
4.7	740459	4-5/8" TUBE CLAMP
5	740476	SGL PASS-THRU WELDMENT, 740
6	740518	TWIN BOOT PASS-THRU, 740
7	723012	COVER PLATE FOR UNIVERSAL TUBE ENTRY GASKET
8	724020	AGITATOR BALL
9	735605	UNIVERSAL TUBE ENTRY GASKET

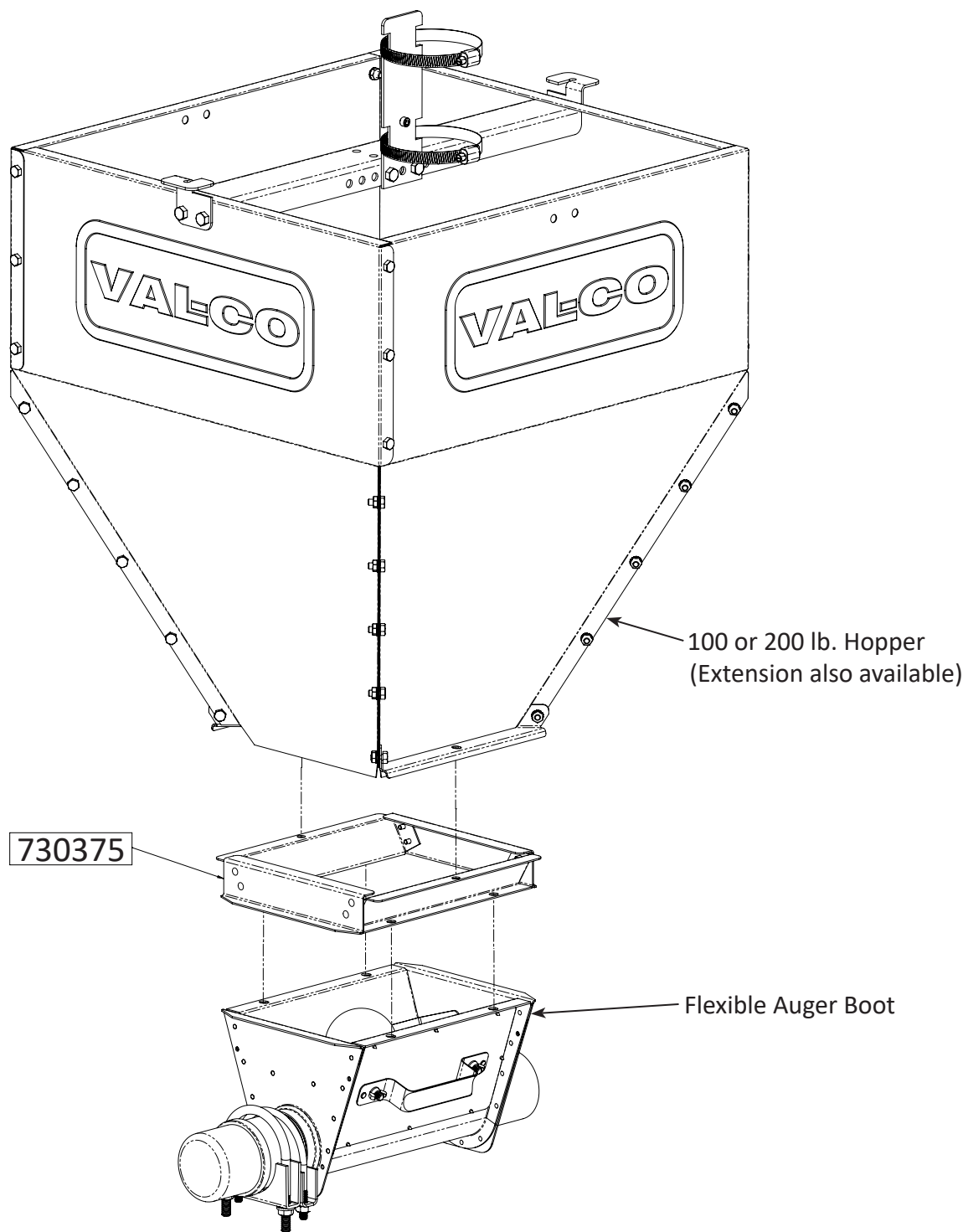
Boot Restrictor

PART #	DESCRIPTION
RESTRICTOR	
740959	740 PASSTHRU RESTRICTOR



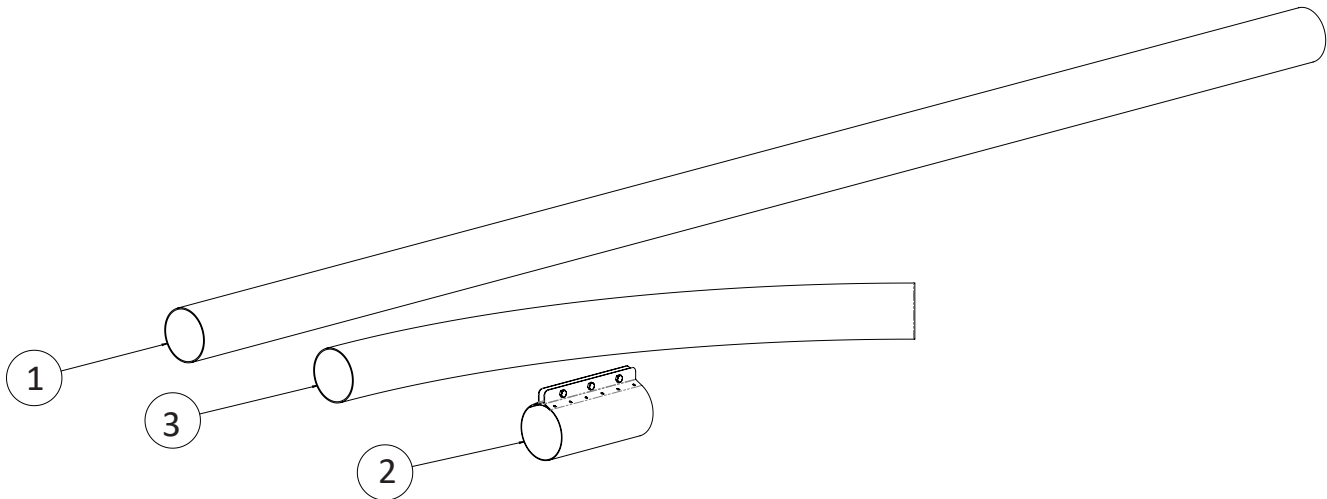
Lower Boot Adapter

PART #	DESCRIPTION
LOWER BOOT ADAPTER - PART NUMBERS	
730375	FEED HOPPER ADAPTER ASSEMBLY



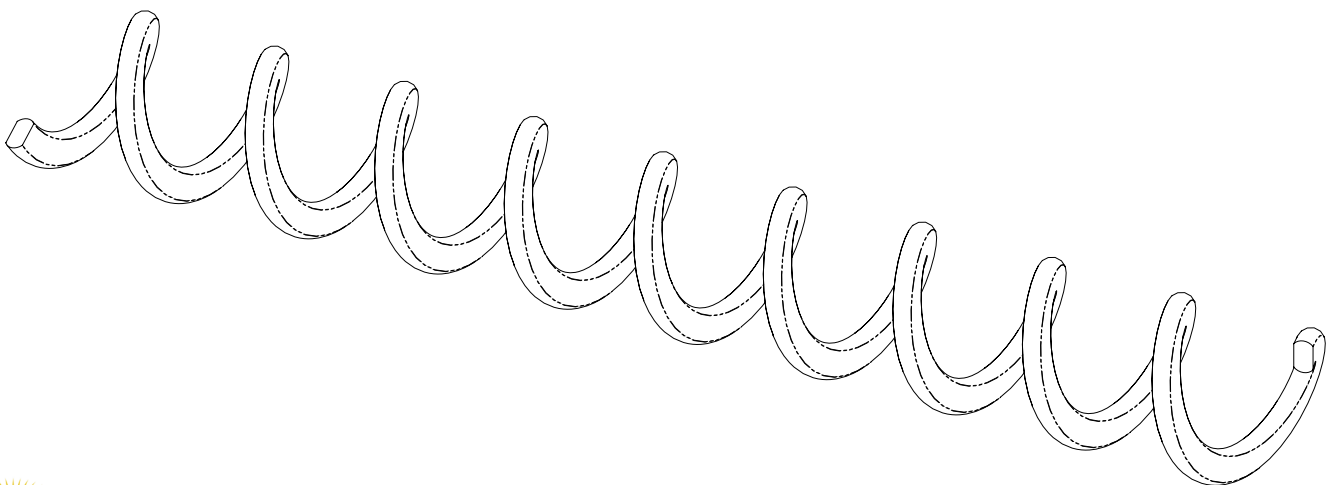
Tubes & Augers

ITEM #	PART #	DESCRIPTION
MODEL 740 - 4-1/4" STEEL TUBES		
1	740482	4.25" OD X 10' STRAIGHT STEEL PIPE
2	740469	740 COUPLER
3	740494	STEEL ELBOW, 4.25" 45 DEG



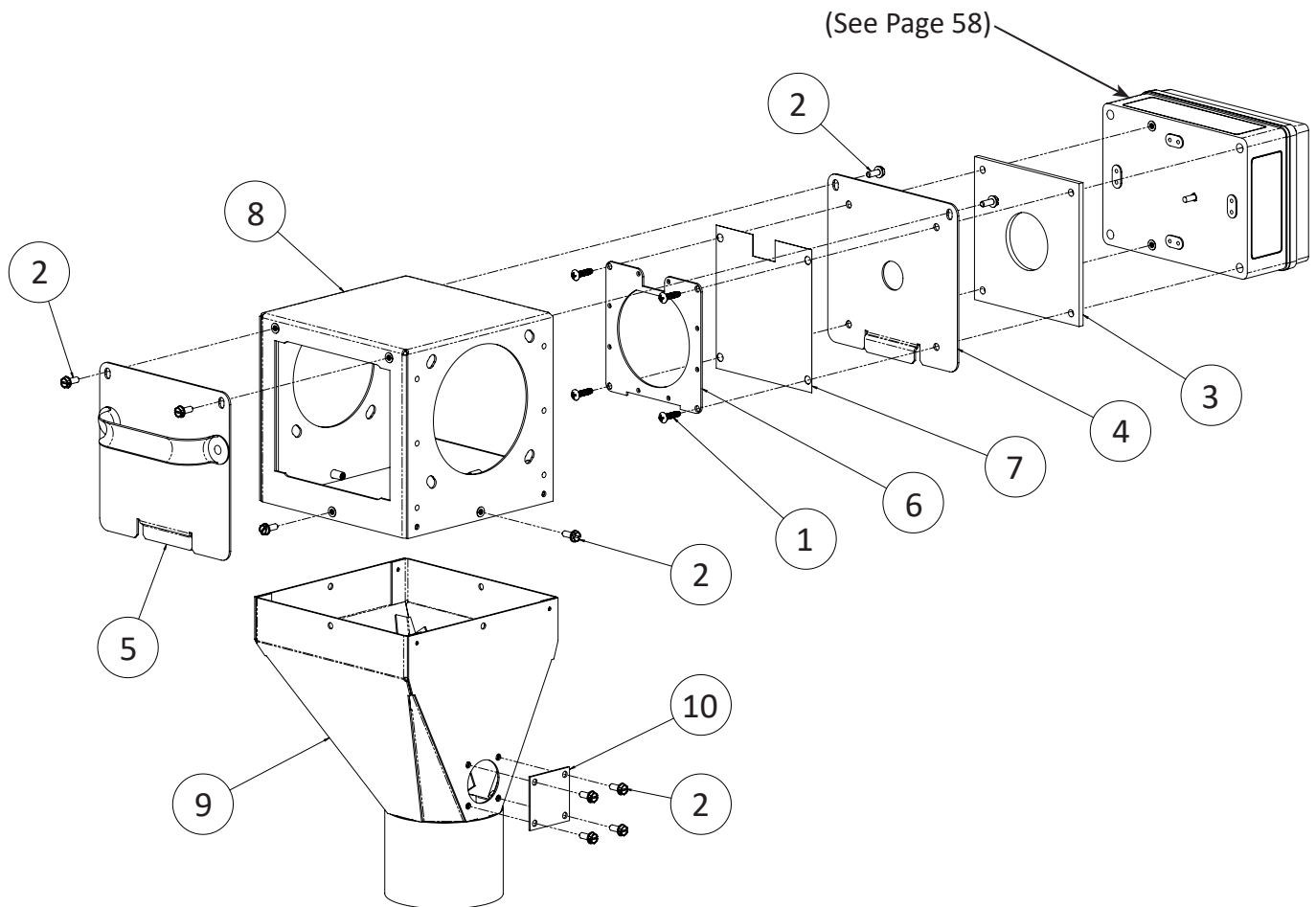
PART #	DESCRIPTION
AUGER - PART NUMBERS	
740440	FLEXIBLE AUGER, 3.553" OD

Auger is available in 10 ft. increments, from 40 ft. to 300 ft. To order, add a suffix to the base part number listed above of "-0000," specifying the desired auger length. For example: a 210 ft. roll of 740 auger would be 740440-0210. Augers are available in longer lengths. Please contact customer service for more info.



740466 Basic Steel Discharge Head

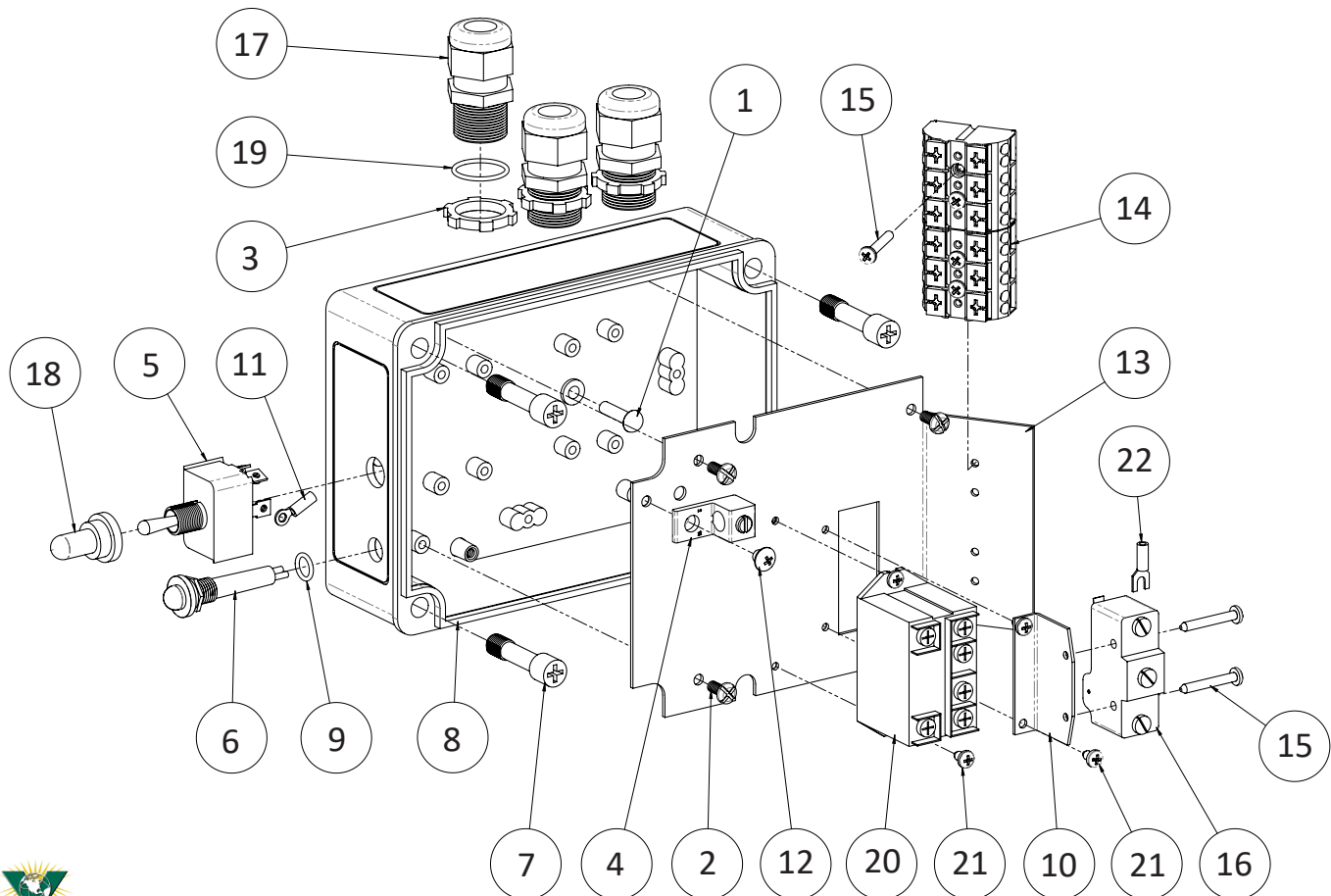
ITEM #	PART #	QTY	DESCRIPTION
730462 BASIC STEEL DISCHARGE HEAD - PARTS LIST			
1	011382	4	#10-24 X 3/4" SELF TAP SCREW
2	012675	12	#10-24 X 1/2" HEX SCREW
3	730046	1	DISCHARGE HEAD GASKET
4	730570	1	ENCLOSURE MOUNTING PLATE
5	730572	1	ACCESS DOOR ASSY
6	730573	1	DIAPHRAGM RETAINER
7	730765	1	CONTACT ASSEMBLY DISCHARGE CONTROL BOX
8	740461	1	DISCHARGE HEAD BODY, 740
9	740462	1	DISCHARGE HEAD FUNNEL
10	740543	1	PROX COVER PLATE



Discharge Head Control Box With Backup Mechanical Switch

ITEM #	PART #	QTY	DESCRIPTION
730501 & 730505 CONTROL BOXES - COMMON PARTS			
1	011165	1	3/16OD X 3/4L SOLID SS RIVET
2	011380	4	8-32 X 3/8 PH SCREW
3	420473	3	1/2" CONDUIT NUT
4	450484	1	GROUND BLOCK
5	723424	1	TOGGLE SWITCH, DPST, 10A, 250V
6	730043	1	RED LIGHT, 250V, 1/2W
7	730236	4	ENCLOSURE SCREW
8	730453	1	ENCLOSURE ASSY, DH CONTROL BOX
9	730502	1	3/8ID X 1/2OD BUNA-N O-RING
10	730503	1	MICRO SWITCH BRACKET
11	730513	4	16-14AWG, #6 BLUE RING TERMINAL
12	730516	1	10-32 X 1/4 PPH TRS ZP SCREW
13	730527	1	MOUNTING PLATE, DH CTRL BOX
14	730528	2	TERMINAL BLOCK, 3 POLE, 300V, 20A AWG 20-12, 4 CONN./POLE
15	730558	6	6-32 X 1" PPH TRS ZP SCREW
16	730989	1	MICRO SWITCH, SPDT 20A, 250VAC
17	750030	3	1/2" NPT STRAIGHT CORDGRIP
18	750657	1	TOGGLE SWITCH BOOT
19	HW-71-204	3	11/16 ID, 13/16 OD O-RING

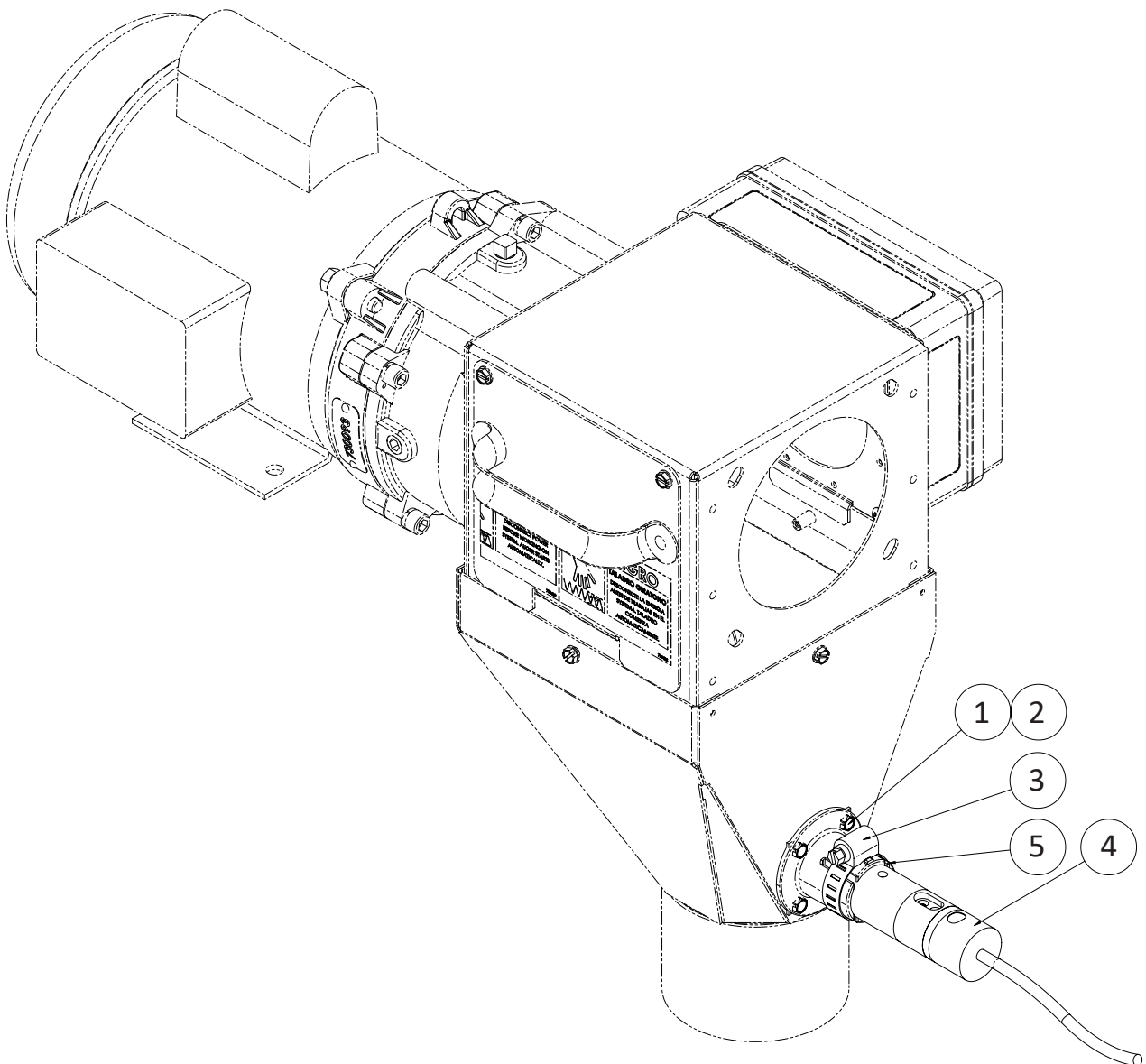
ITEM #	PART #	QTY	DESCRIPTION
730501 CONTROL BOX W/RELAY			
20	730044	1	DPST 25A, 240V POWER RELAY
21	730514	5	6-32 X 1/4 PPH TRS ZP SCREW
22	730521	8	16-14AWG, #6 BLUE SPADE TERMINAL
730505 CONTROL BOX WITHOUT RELAY			
21	730514	3	6-32 X 1/4 PPH TRS ZP SCREW
22	730521	3	16-14AWG, #6 BLUE SPADE TERMINAL



730465 Proximity Sensor & Mount

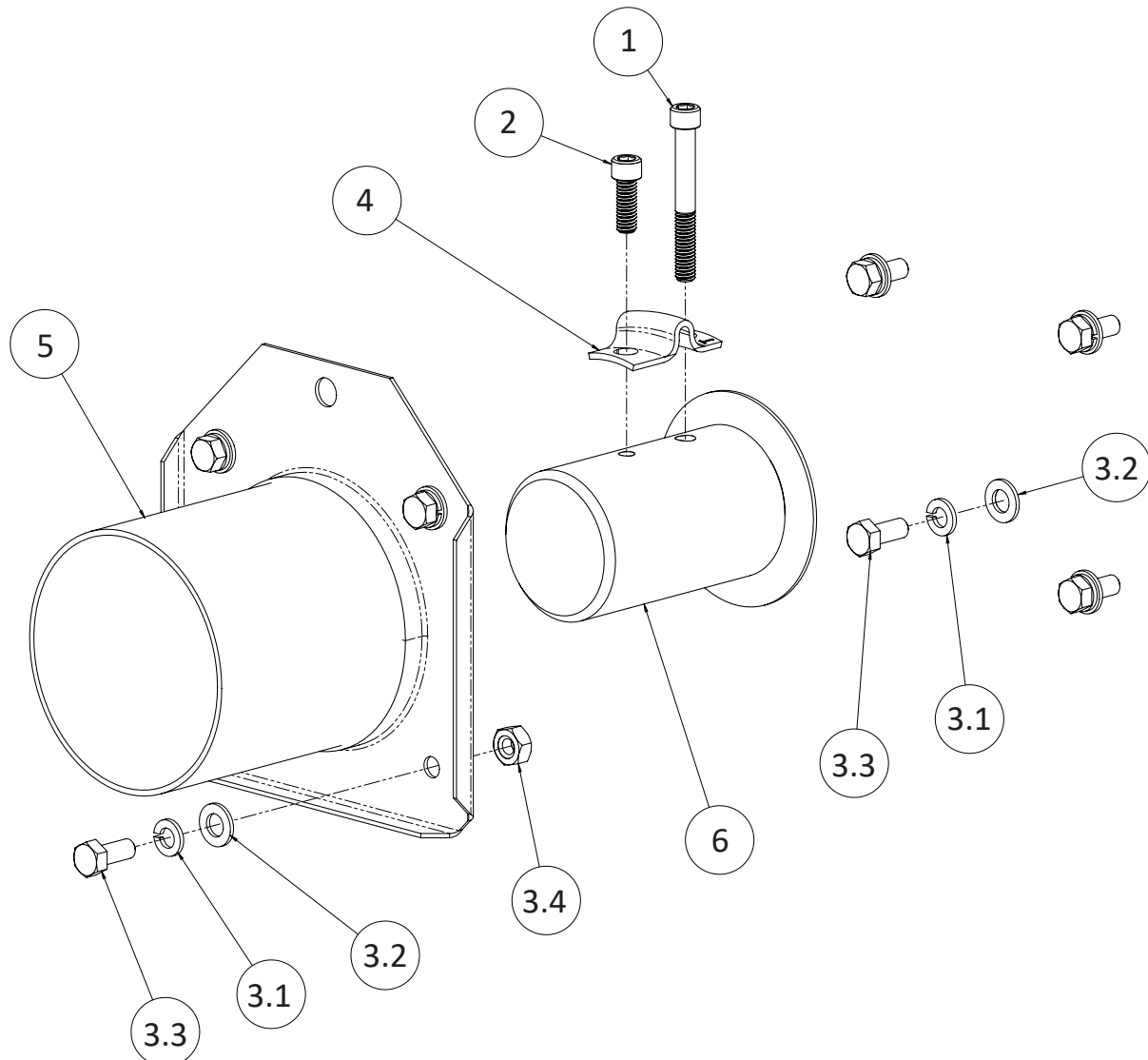
ITEM #	PART #	QTY	DESCRIPTION
730465 PROXIMITY SENSOR & MOUNT - PARTS LIST			
1	010408	4	#10-24 KEP NUT
2	012795	4	#10-24 X 1/2" UNSLOTTED HEX SCREW
3	730282	1	1-1/2" SS HOSE CLAMP
4	750418	1	PROXIMITY SWITCH, 44R-33, 90-265V
5	780055	1	PROXIMITY SENSOR BASE

Note: Proximity Sensor shown in context, assembled to Steel Discharge Head. Discharge Head, Motor & Gearbox shown for reference only.



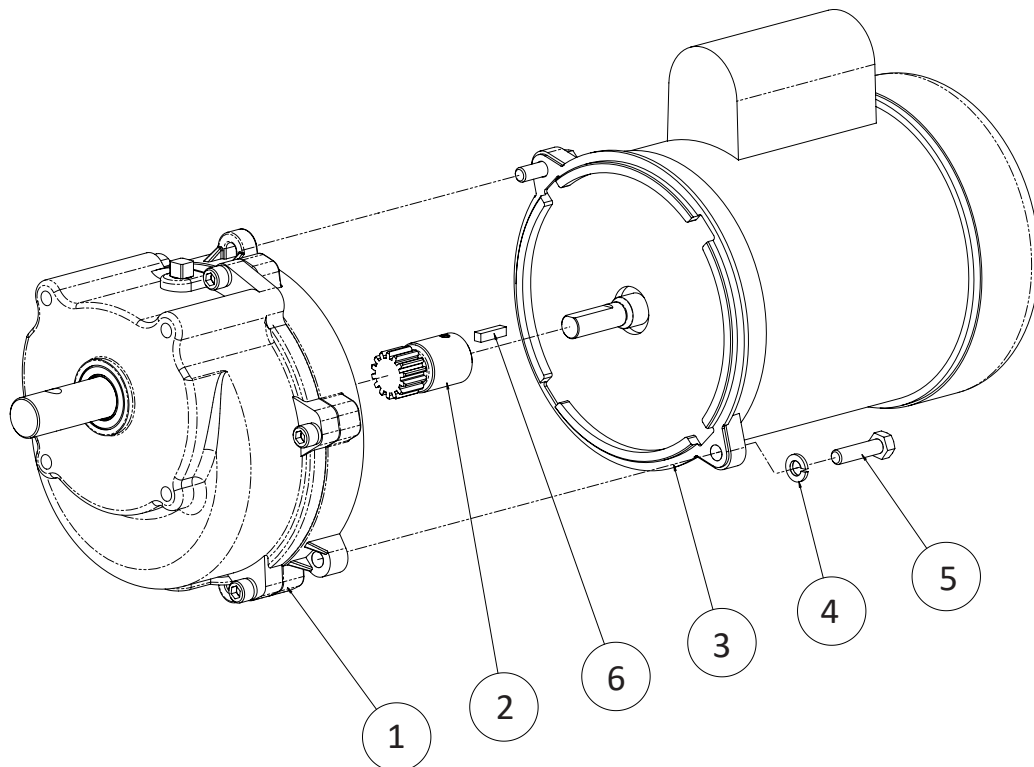
740490 Steel Port & Driver

ITEM #	PART #	QTY	DESCRIPTION
740490 STEEL PORT & DRIVER - PARTS LIST			
1	011415	1	5/16-18 X 2-1/2" SOCKET HEAD SCREW
2	011417	1	5/16-18 X 7/8" SOCKET HEAD SCREW
3	713195	1	DH TUBE HARDWARE BAG (bag not shown)
3.1	010252	8	5/16" SPLIT LOCKWASHER
3.2	010426	8	5/16" X 11/16" FLAT WASHER
3.3	010463	8	5/16-18 X 3/4" HEX BOLT
3.4	011114	4	5/16-18 HEX NUT
4	740456	1	FLIGHTING ANCHOR, 740
5	740492	1	TUBE & PORT PLATE, 740
6	740495	1	FLIGHTING DRIVER ASM, 740



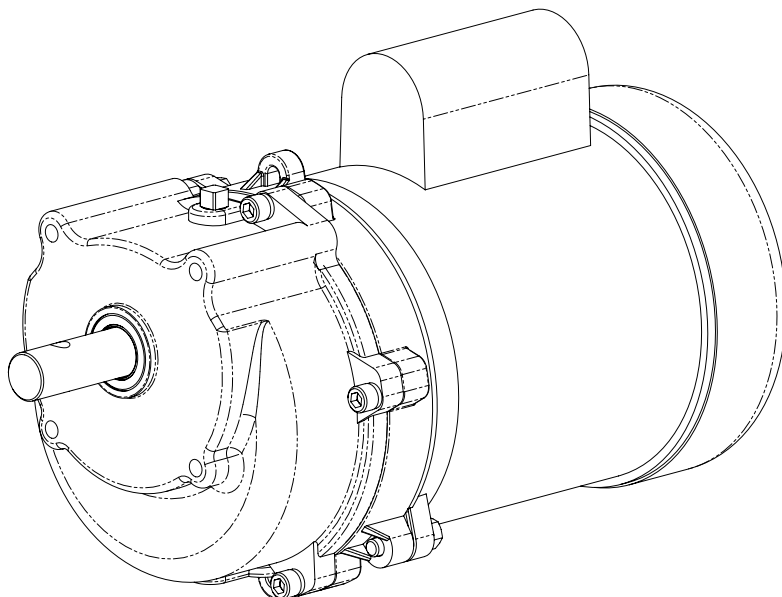
Single Phase Direct Drive Units

ITEM #	PART #	DESCRIPTION
SINGLE PHASE DIRECT DRIVE UNITS - PARTS LIST		
GEAR REDUCERS - DIE CAST ALUMINUM (DCA)		
1	730089	358 RPM GEAR REDUCER - DCA 7/8" OUTPUT SHAFT (296 RPM @ 50HZ)
	730093	266 RPM GEAR REDUCER - DCA 7/8" OUTPUT SHAFT (220 RPM @ 50HZ)
	730123	189 RPM GEAR REDUCER - DCA 7/8" OUTPUT SHAFT (156 RPM @ 50HZ)
	730124	441 RPM GEAR REDUCER - DCA 7/8" OUTPUT SHAFT (365 RPM @ 50HZ)
PINIONS - DIE CAST ALUMINUM (DCA) GEARBOXES		
2	450366	1/2" BORE PINION - DCA GEARBOX 2-1/8" LONG - 14 TEETH
	730094	5/8" BORE PINION - DCA GEARBOX 2-1/2" LONG - 14 TEETH
SINGLE PHASE MOTORS		
3	735390	1P MOTOR, .50HP, 115/230V, 50/60HZ, 1425/1725 RPM
	735391	1P MOTOR, .75HP, 115/230V, 50/60HZ, 1425/1725 RPM
	735392	1P MOTOR, 1.0HP, 115/208-230V, 50/60HZ, 1425/1725 RPM
	735393	1P MOTOR, 1.5HP, 115/208-230V, 60HZ, 1725 RPM
	735464	1P MOTOR, 1.0HP, 110/220V, 50HZ, 1500 RPM
	735465	1P MOTOR, 1.5HP, 110/220V, 50HZ, 1500 RPM
	735487	1P MOTOR, 2.0HP, 230V, 50HZ, 1425 RPM
	775064	1P MOTOR, 2.0HP, 115/208-230V, 60HZ, 1730 RPM
HARDWARE TO INSTALL GEAR REDUCER		
4	010252	5/16" SPLIT LOCK WASHER (QTY 2)
5	010647	5/16" X 1-1/4" HEX BOLT (QTY 2)
6	690339	3/16" X 3/4" LONG SQUARE KEY



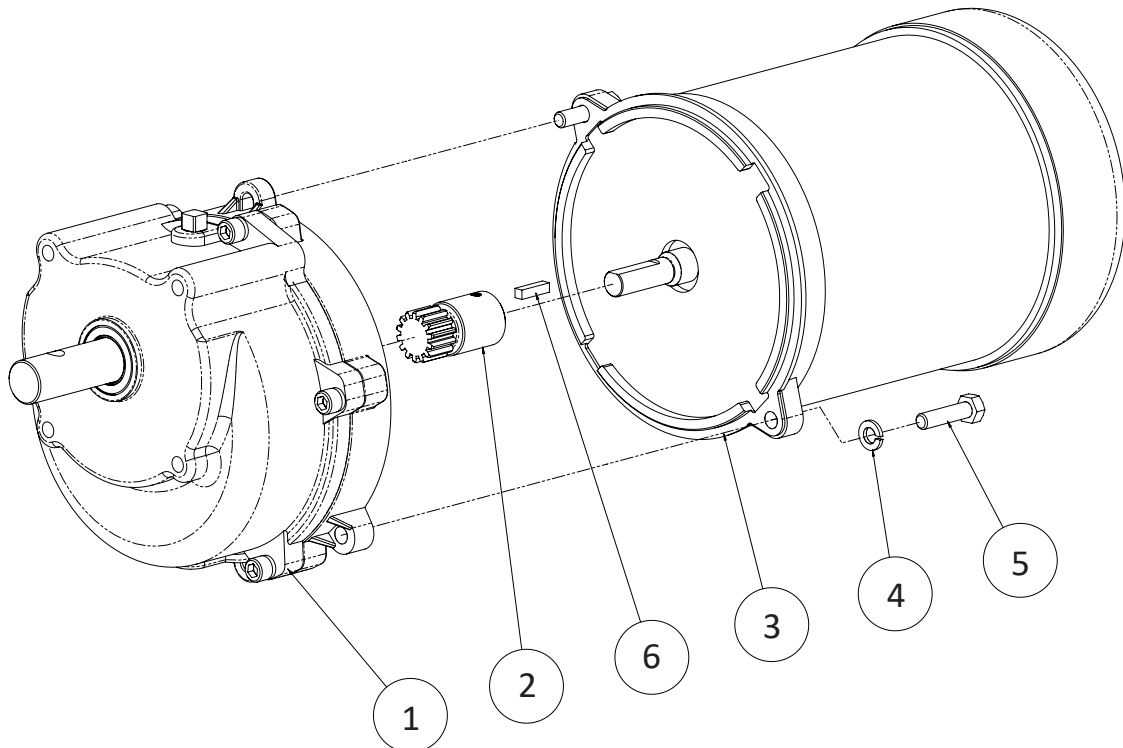
Single Phase Direct Drive Units - Parts Index

PART #	DESCRIPTION	GEARBOX	PINION	MOTOR	KEY
720325	DRIVE, .50HP,156/189RPM,7/8SH,115/230V,50/60H,1P	730123	450366	735390	-
720326	DRIVE,.75HP,156/189RPM,7/8SH,115/230V,50/60H,1P	730123	450366	735391	-
720327	DRIVE,1.0HP,189RPM,7/8SH,115/208-230V,60H,1P	730123	730094	735392	690339
720328	DRIVE,1.5HP,189RPM,7/8SH,115/230V,60H,1P	730123	730094	735393	690339
730315	DRIVE,.50HP,220/266RPM,7/8SH,115/230V,50/60H,1P	730093	450366	735390	-
730316	DRIVE,.75HP,220/266RPM,7/8SH,115/230V,50/60H,1P	730093	450366	735391	-
730317	DRIVE,1.0HP,266RPM,7/8SH,115/208-230V,60H,1P	730093	730094	735392	690339
730318	DRIVE,1.5HP,266RPM,7/8SH,115/230V,60H,1P	730093	730094	735393	690339
735342	DRIVE,1.0HP,365RPM,7/8SH,110/220V,50H,1P	730124	730094	735464	690339
735343	DRIVE,1.5HP,365RPM,7/8SH,110/220V,50H,1P	730124	730094	735465	690339
735360	DRIVE,.50HP,365/441RPM,7/8SH,115/230V,50/60H,1P	730124	450366	735390	-
735361	DRIVE,.75HP,365/441RPM,7/8SH,115/230V,50/60H,1P	730124	450366	735391	-
735362	DRIVE,1.0HP,441RPM,7/8SH,115/208-230V,60H,1P	730124	730094	735392	690339
735363	DRIVE,1.5HP,441RPM,7/8SH,115/230V,60H,1P	730124	730094	735393	690339
735380	DRIVE,.50HP,296/358RPM,7/8SH,115/230V,50/60H,1P	730089	450366	735390	-
735381	DRIVE,.75HP,296/358RPM,7/8SH,115/230V,50/60H,1P	730089	450366	735391	-
735382	DRIVE,1.0HP,358RPM,7/8SH,115/208-230V,60H,1P	730089	730094	735392	690339
735383	DRIVE,1.5HP,358RPM,7/8SH,115/230V,60H,1P	730089	730094	735393	690339
735527	DRIVE,1.0HP,296RPM,7/8SH,110/220V,50H,1P	730089	450366	735464	690339
735528	DRIVE,1.5HP,296RPM,7/8SH,110/220V,50H,1P	730089	450366	735465	690339
735532	DRIVE,1.0HP,220RPM,7/8SH,110/220V,50H,1P	730093	730094	735464	690339
735533	DRIVE,1.5HP,220RPM,7/8SH,110/220V,50H,1P	730093	730094	735465	690339
740504	DRIVE,2.0HP,359RPM,7/8SH,230V,60H,1PH	730089	730094	775064	-
740505	DRIVE,2.0HP,296/359RPM,7/8SH,230V,50H,1PH	730089	730094	735487	-
740508	DRIVE,2.0HP,441RPM,7/8SH,230V,60H,1PH	730124	730094	775064	-
740509	DRIVE,2.0HP,365/441RPM,7/8SH,230V,50H,1PH	730124	730094	735487	-



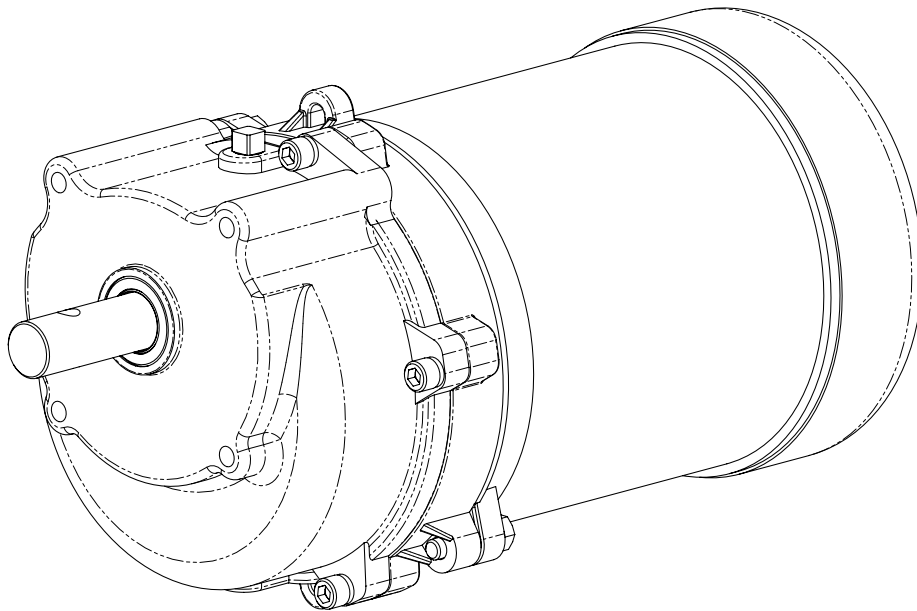
Three Phase Direct Drive Units

ITEM #	PART #	DESCRIPTION
THREE PHASE DIRECT DRIVE UNITS - PARTS LIST		
GEAR REDUCERS - DIE CAST ALUMINUM (DCA)		
1	730089	358 RPM GEAR REDUCER - DCA 7/8" OUTPUT SHAFT (296 RPM @ 50HZ)
	730093	266 RPM GEAR REDUCER - DCA 7/8" OUTPUT SHAFT (220 RPM @ 50HZ)
	730123	189 RPM GEAR REDUCER - DCA 7/8" OUTPUT SHAFT (156 RPM @ 50HZ)
	730124	441 RPM GEAR REDUCER - DCA 7/8" OUTPUT SHAFT (365 RPM @ 50HZ)
PINIONS - DIE CAST ALUMINUM (DCA) GEARBOXES		
2	450366	1/2" BORE PINION - DCA GEARBOX 2-1/8" LONG - 14 TEETH
	730094	5/8" BORE PINION - DCA GEARBOX 2-1/2" LONG - 14 TEETH
THREE PHASE MOTORS		
3	420285	3P MOTOR, 2.0HP, 208-230/460V, 60HZ, 1800 RPM
	735460	3P MOTOR, .50HP, 190/380&208-230/460V, 50&60HZ, 1425/1725 RPM
	735461	3P MOTOR, .75HP, 190/380&208-230/460V, 50&60HZ, 1425/1725 RPM
	735462	3P MOTOR, 1.0HP, 190/380&208-230/460V, 50&60HZ, 1425/1725 RPM
	735463	3P MOTOR, 1.5HP, 190/380&208-230/460V, 50&60HZ, 1425/1725 RPM
	780195	3P MOTOR, 2.0HP, 190/380&208-230/460V, 50&60HZ, 1465/1760 RPM
HARDWARE TO INSTALL GEAR REDUCER		
4	010252	5/16" SPLIT LOCK WASHER (QTY 2)
5	010647	5/16" X 1-1/4" HEX BOLT (QTY 2)
6	690339	3/16" X 3/4" LONG SQUARE KEY



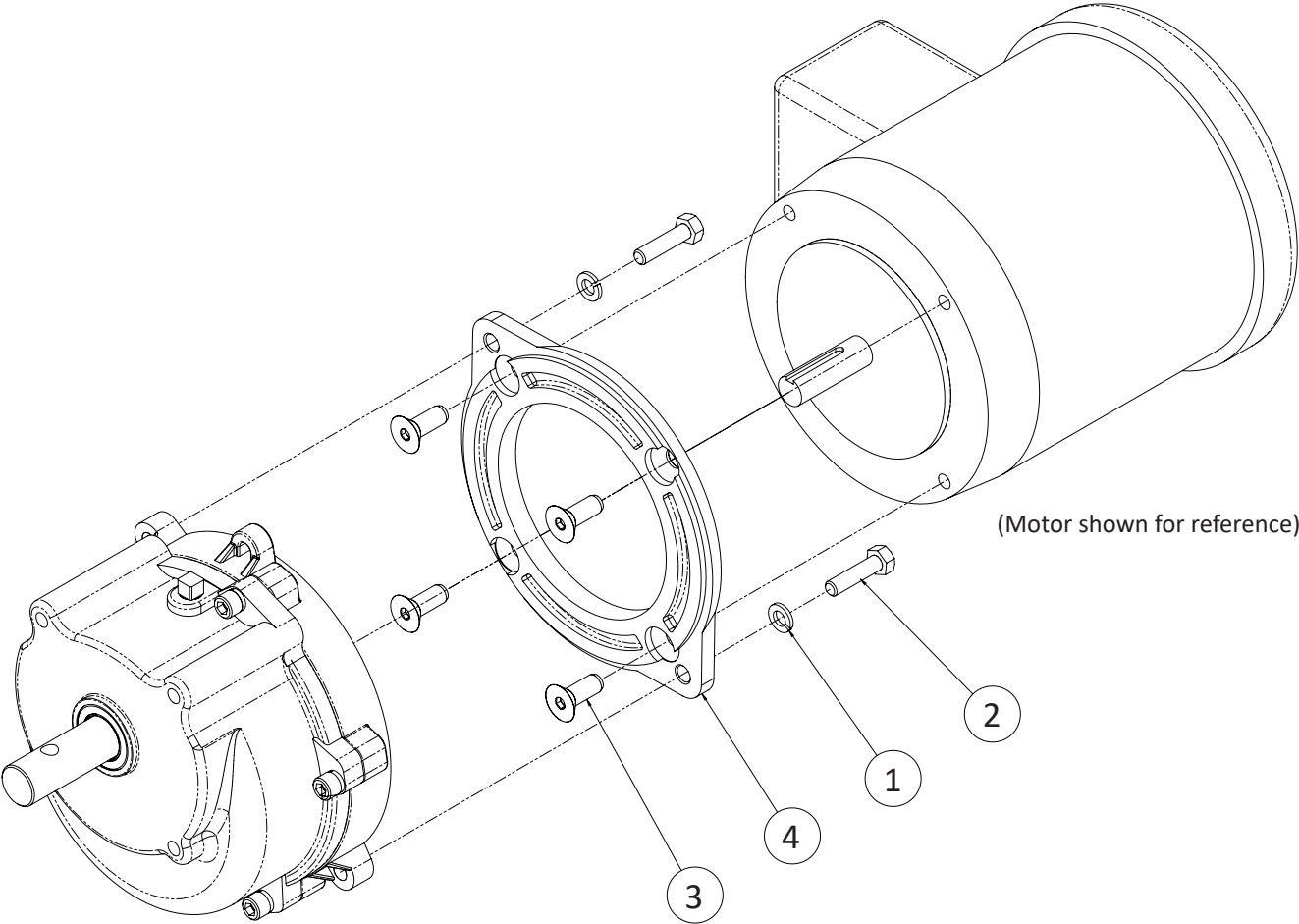
Three Phase Direct Drive Units - Parts Index

PART #	DESCRIPTION	GEARBOX	PINION	MOTOR	KEY
735330	DRIVE,.50HP,296/358RPM,7/8SH,190/380&208-230/460V,50&60H,3P	730089	450366	735460	-
735331	DRIVE,.75HP,296/358RPM,7/8SH,190/380&208-230/460V,50&60H,3P	730089	450366	735461	-
735332	DRIVE,1.0HP,296/358RPM,7/8SH,190/380&208-230/460V,50&60H,3P	730089	730094	735462	690339
735333	DRIVE,1.5HP,296/358RPM,7/8SH,190/380&208-230/460V,50&60H,3P	730089	730094	735463	690339
735510	DRIVE,.50HP,365/441RPM,7/8SH,190/380&208-230/460V,50&60H,3P	730124	450366	735460	-
735511	DRIVE,.75HP,365/441RPM,7/8SH,190/380&208-230/460V,50&60H,3P	730124	450366	735461	-
735512	DRIVE,1.0HP,365/441RPM,7/8SH,190/380&208-230/460V,50&60H,3P	730124	730094	735462	690339
735513	DRIVE,1.5HP,365/441RPM,7/8SH,190/380&208-230/460V,50&60H,3P	730124	730094	735463	690339
735515	DRIVE,.50HP,220/266RPM,7/8SH,190/380&208-230/460V,50&60H,3P	730093	450366	735460	-
735516	DRIVE,.75HP,220/266RPM,7/8SH,190/380&208-230/460V,50&60H,3P	730093	450366	735461	-
735517	DRIVE,1.0HP,220/266RPM,7/8SH,190/380&208-230/460V,50&60H,3P	730093	730094	735462	690339
735518	DRIVE,1.5HP,220/266RPM,7/8SH,190/380&208-230/460V,50&60H,3P	730093	730094	735463	690339
735520	DRIVE,.50HP,156/189RPM,7/8SH,190/380&208-230/460V,50&60H,3P	730123	450366	735460	-
735521	DRIVE,.75HP,156/189RPM,7/8SH,190/380&208-230/460V,50&60H,3P	730123	450366	735461	-
735522	DRIVE,1.0HP,156/189RPM,7/8SH,190/380&208-230/460V,50&60H,3P	730123	730094	735462	690339
735523	DRIVE,1.5HP,156/189RPM,7/8SH,190/380&208-230/460V,50&60H,3P	730123	730094	735463	690339
740506	DRIVE,2.0HP,359RPM,7/8SH,230/460V,60H,3PH	730089	730094	420285	-
740507	DRIVE,2.0HP,296/359RPM,7/8SH,230/460V,50/60H,3PH	730089	730094	780195	-
740510	DRIVE,2.0HP,441RPM,7/8SH,230/460V,60H,3PH	730124	730094	420285	-
740512	DRIVE,2.0HP,365/441RPM,7/8SH,230/460V,50/60H,3PH	730124	730094	780195	-



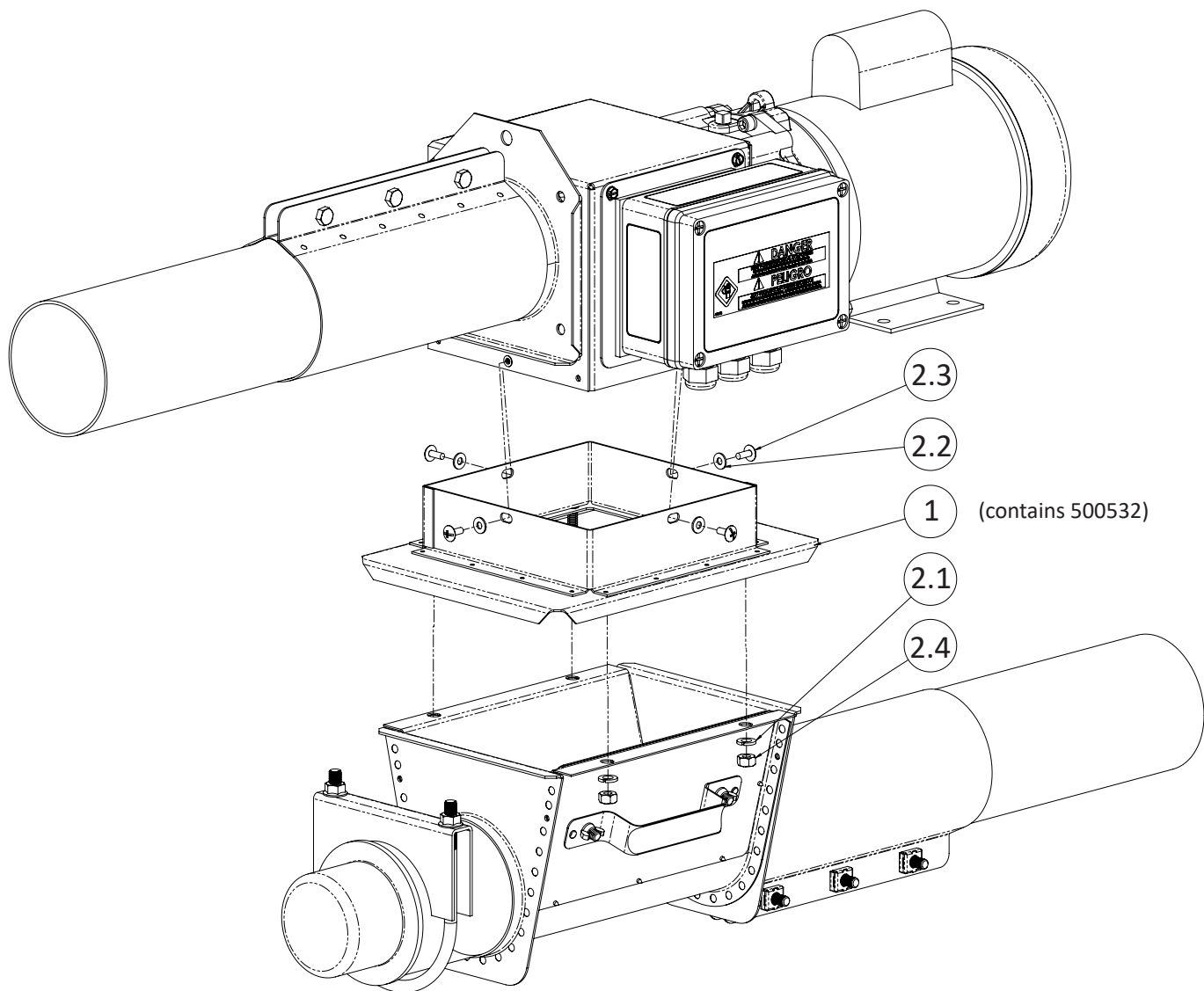
C56 Face Adapter To VAL-CO Gearbox

ITEM #	PART #	QTY	DESCRIPTION
C56 FACE ADAPTER TO VAL-CO GEARBOX - PART NUMBERS			
1	010252	2	5/16" SPLIT LOCK WASHER
2	010647	2	5/16" X 1-1/4" HEX BOLT
3	690347	4	3/8-16 X 1, FLAT HEAD BOLT
4	730126	1	3-PHASE ADAPTER FACE PLATE



Transfer Plate For Steel Discharge Head

ITEM #	PART #	QTY	DESCRIPTION
500517 TRANSFER PLATE FOR STEEL DISCHARGE HEAD - PART NUMBERS			
1	500517	1	TRANSFER PLATE ASSEMBLY (contains 500532)
2	500532	1	TRANSFER PLATE HARDWARE BAG
2.1	010252	4	5/16" SPLIT LOCK WASHER
2.2	010421	4	3/16" FLAT WASHER
2.3	010502	4	#10-24 X 1/2" SLOTTED SCREW
2.4	010603	4	5/16-18 HEX NUT



All-Out Drop

ITEM #	PART #	QTY	DESCRIPTION
740534 ALL-OUT DROP - PARTS			
1	011406	1	5/16-18 RETAINER NUT
2	740470	1	HARDWARE BAG (bag not shown)
2.1	010643	1	5/16-18 X 3/4" HEX BOLT
2.2	010648	1	5/16-18 X 1-1/2" HEX HEAD CAP SCREW
2.3	011406	1	5/16-18 RETAINER NUT
2.4	415441	2	RUBBER GROMMET
2.5	690291	2	#10-16 X 3/4" TEK SCREW
2.6	713110	2	1/8" DIA. X 120" CORD
2.7	730490	2	GREEN SHUTOFF BALL
2.8	730492	2	RED SHUTOFF BALL
2.9	740498	2	STRAP, 740 ALL OUT DROP
2.10	VCLAMP	2	YELLOW & BLUE ZUMA NUT
3	740480	1	ALL OUT DROP WELDMENT
4	740499	1	ROTARY GATE, 740

Not Shown:

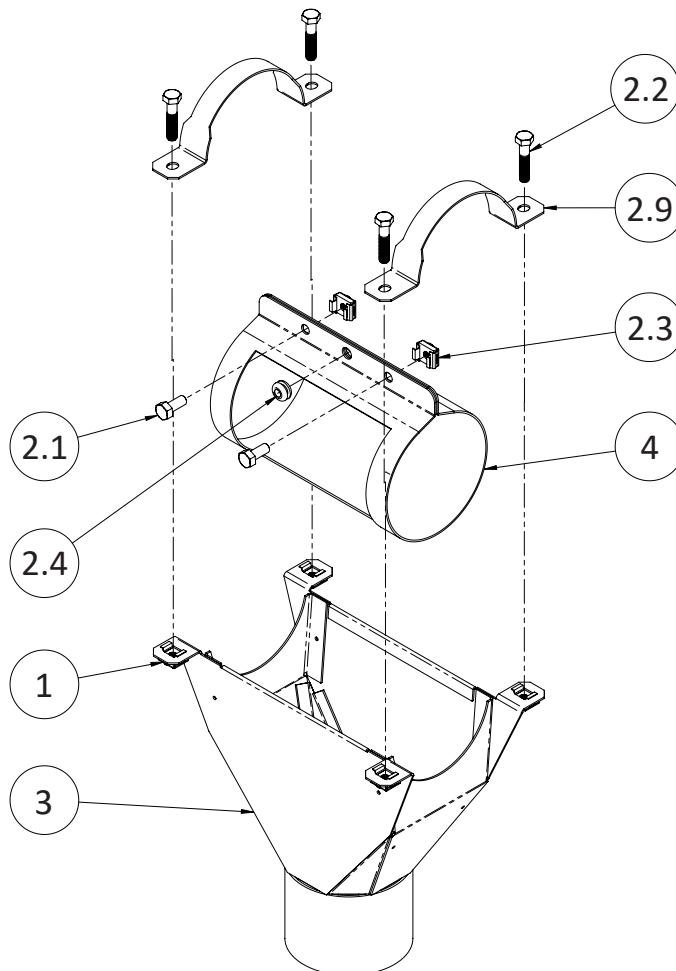
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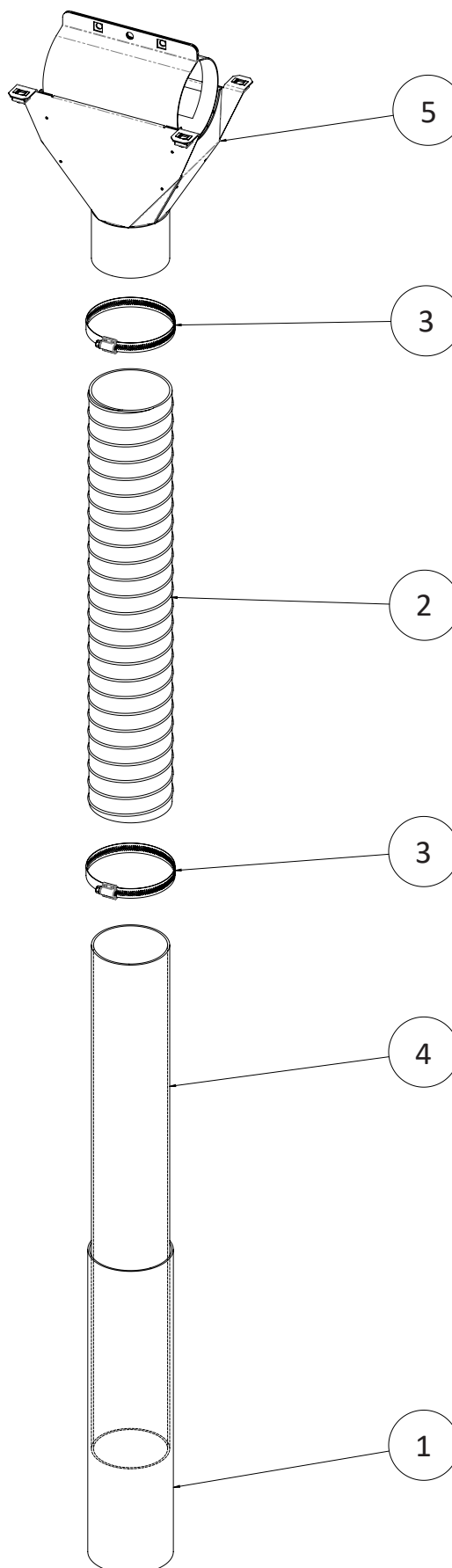
730492

VCLAMP



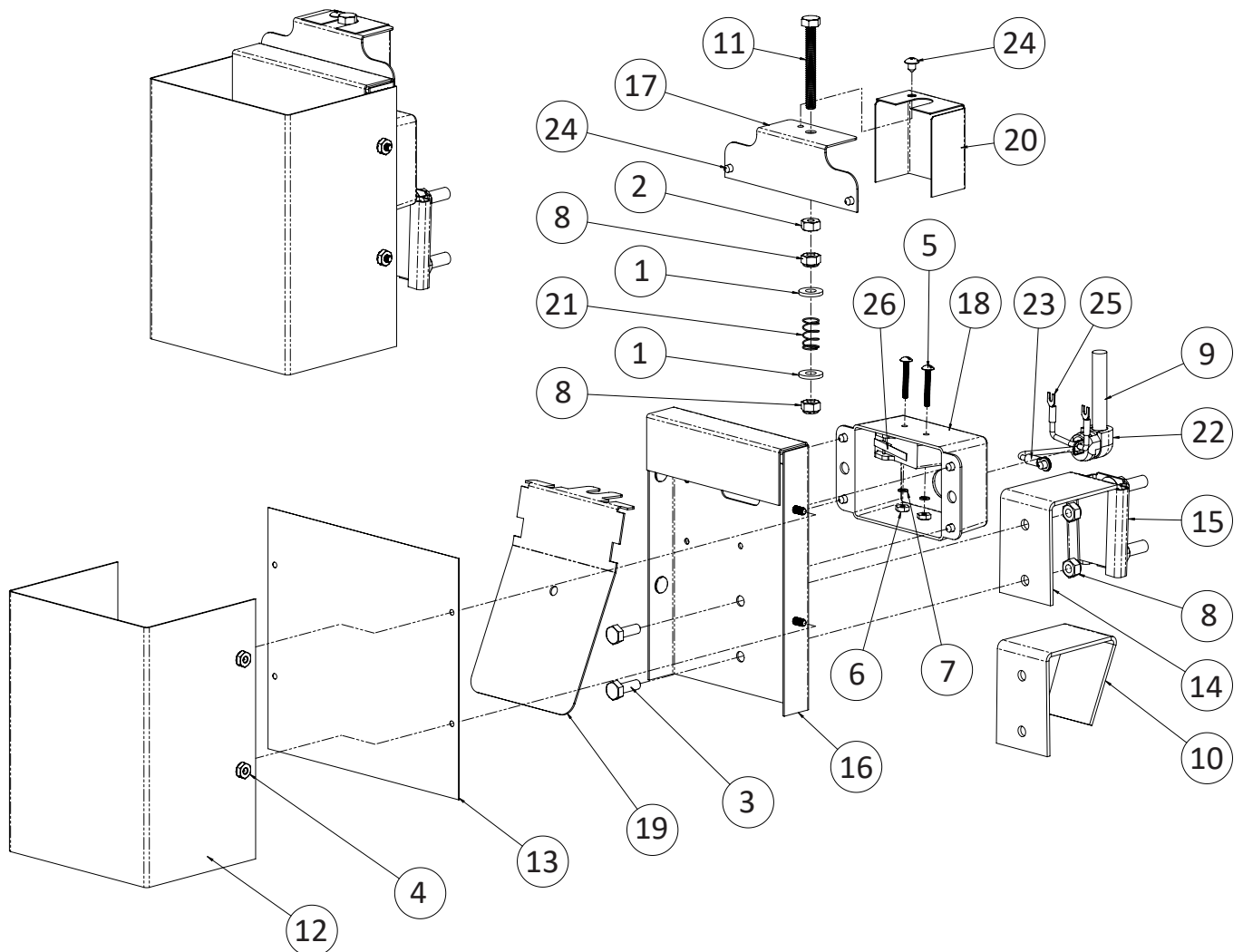
740 Discharge Head Drop Outlet & Downspout Tubes

ITEM #	PART #	DESCRIPTION
740 DROP OUTLETS - PARTS LIST		
1	735421	4.375" ID X 6' LONG LOWER DROP
2	740473	4" ID 1' FLEXIBLE DROP TUBE - CLEAR
	740483	4" ID X 25' FLEXIBLE DROP TUBE - GRAY
3	740477	3"-5" STAINLESS STEEL HOSE CLAMP
4	740520	4" OD X 10' LONG HDPE DROP TUBE
5	740534	4.25" ALL-OUT DROP WITH SHUTOFF



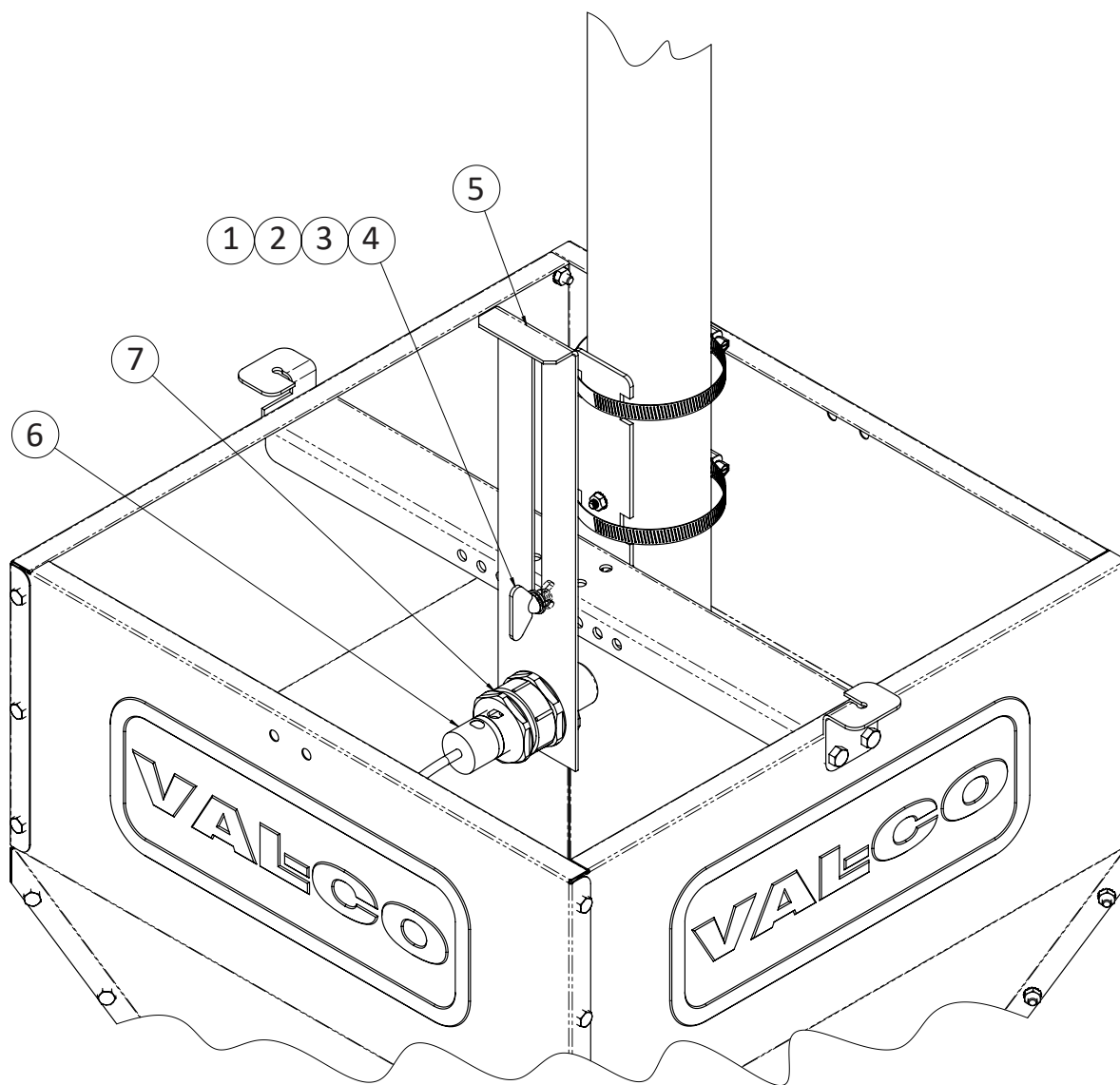
720097 Mechanical Hopper Level Switch

ITEM #	PART #	QTY	DESCRIPTION	ITEM #	PART #	QTY	DESCRIPTION
720097 MECH. HOPPER LEVEL SWITCH - PARTS LIST				720097 MECH. HOPPER LEVEL SWITCH - PARTS LIST			
1	010424	2	1/4" SAE FLAT WASHER	14	720020	1	90 DEG HANGER BRACKET
2	010602	1	1/4-20 FINISHED HEX NUT	15	720023	1	MOUNTING BRACKET
3	010617	2	1/4-20 X 3/4" HEX HEAD BOLT	16	720092	1	BODY ASSY, ADJ SWITCH
4	012408	4	#10-24 HEX KEP NUT	17	720093	1	TENSIONER BRACKET
5	012570	2	#6-32 X 1" RD HD SCREW	18	720094	1	ELECTRIC BOX, ADJ SWITCH
6	012731	2	#6-32 MACHINE NUT	19	720095	1	SWITCH PLATE, ADJ SWITCH
7	012732	2	#6 LOCKWASHER	20	720096	1	TENSIONER COVER
8	012793	4	1/4-20 NYLOCK NUT	21	720098	1	.028 X .437 X .75 SPRING
9	412381	8	14/3 BLACK SJTOW WIRE	22	720100	1	STRAIN RELIEF, 90 DEG FOR 14/3
10	451017	1	67 DEG HANGER BRACKET	23	730058	1	16-14AWG, #10 BLUE RING TERMINAL
11	690159	1	1/4-20 X 2-1/4 HHTB SCREW	24	730516	8	10-32 X 1/4 PPH SCREW
12	720015	1	SWITCH SHIELD	24	730521	2	16-14AWG, #6 BLUE SPADE TERMINAL
13	720018	1	7" X 6.5" DIAPHRAM	26	730989	1	MICRO SWITCH, SPDT 20A, 250VAC



460057 Proximity Hopper Level Control Switch

ITEM #	PART #	DESCRIPTION
460057 PROXIMITY HOPPER LEVEL CONTROL SWITCH - PART NUMBERS		
1	010252	5/16" SPLIT LOCK WASHER
2	010426	5/16" FLAT WASHER
3	010944	5/16-18 WING NUT
4	102019	5/16-18 X 3/4" THUMBSCREW
5	460023	PROXIMITY SWITCH BRACKET
6	750418	PROXIMITY SENSOR, DOL 33R 220V
7	750419	PLASTIC GLAND FOR PROXIMITY SWITCH



Customer Service

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How to contact my dealer:

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Zip / Postal _____

Customer Service

210 E. Main Street
Coldwater, OH 45828
800.998.2526

Phone _____

Fax _____

E-mail _____

Web site _____



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Fax: 419.678.2200

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Phone: (+1) 419.678.8731

Fax: (+1) 419.678.2200

Email: intl.sales@val-co.com

