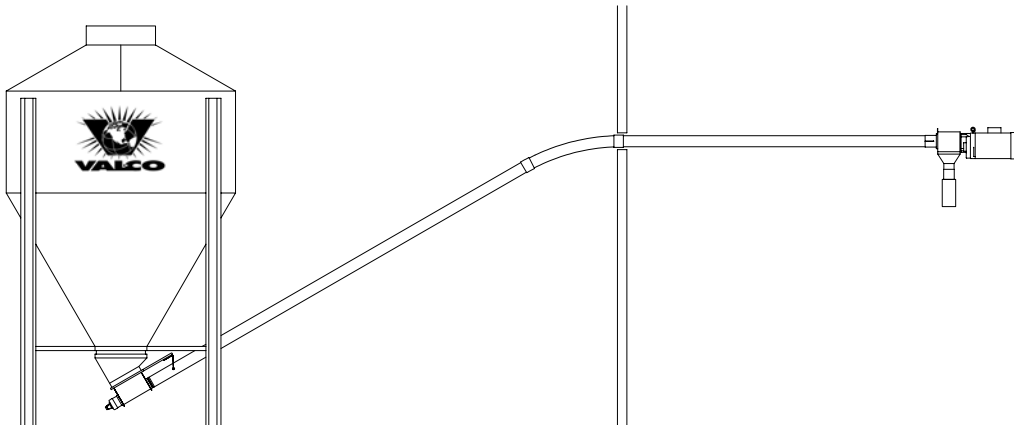




MODEL 720 (2.25") 730 (3.0") 735 (3.5")
FLEXIBLE AUGER
FEED DELIVERY SYSTEM
INSTALLATION & OPERATOR'S MANUAL





WARRANTY

VAL-CO warrants to the original purchaser that VAL-CO manufactured products will be free of defects in material and workmanship for one year from the date of purchase when used in usual and customary service.

VAL-CO will, at its option, (a) repair or replace, FOB the manufacturing point, product found to have a defect in material or workmanship when the defective product is returned prepaid for inspection within one year of the date of the retail sale, or (b) refund to the original purchaser the original purchase price, in lieu of such repair or replacement. All returned merchandise must be authorized and prepaid. VAL-CO will not be liable for any unauthorized expenses incurred in regard to any item presented for warranty adjustment. VAL-CO 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, costs of transportation, lost sales, lost orders, lost income, increased overhead, labor and incidental costs and operational inefficiencies) and the warranty liability will be limited to the invoiced price of the product from VAL-CO to the purchaser less the reasonable value of any use of the product by the purchaser.

Product must be installed and operated in accordance with instructions published by VAL-CO or warranty will be void. Products which are abused, misused, altered, neglected, damaged by accident, or installed different than instruction are not covered under this warranty. Products not manufactured by VAL-CO and supplied by outside manufacturers (such as electrical motors, certain controls, and other electrical components) are warranted separately by the respective manufacturer and only to the extent of the manufacturers warranty.

This warranty applies only to products used for the care of livestock and poultry-other applications in industry or commerce are not covered by this warranty. Products are not designed or authorized for use in applications intended to sustain or support human life or any other application where the failure of the product could cause personal injury or death. In the event that the customer purchase or uses VAL-CO products for any such unintended or unauthorized application, the customer shall indemnify and hold harmless VAL-CO and its officers, directors, employees, agents, affiliates, successors and assigns against all claims, costs, damages and expenses (including reasonable attorney and expert witness fees) arising out of or in connection with, directly or indirectly, any claim for property damage, personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that VAL-CO was negligent regarding the design or manufacture of the subject product.

All warranty claims must be made in writing to VAL-CO, PO Box 117, Coldwater, OH 45828, within 15 days of discovery. The rights and obligations of the purchaser may neither be assigned nor delegated with the written consent of an officer of VAL-CO.

VAL-CO reserves the right to make design or specification changes at any time without any contingent obligation to purchasers of products already sold.

VAL-CO is not responsible for any undertaking, representation, or warranty made by any dealer, distributor, or other persons, beyond those expressly set forth in this warranty.

No employee, agent, dealer or other person is authorized to give any warranties on behalf of VAL-CO or to assume for VAL-CO any other liability in connection with any of its products except in writing and signed by an officer of the company. Any exceptions not noted in the body of this warranty must be authorized in writing by an officer of the company.

This warranty constitutes VAL-CO's entire and sole warranty and VAL-CO expressly disclaims any and all other warranties. The obligations and liabilities of VAL-CO and the rights and remedies of the purchaser under this warranty re exclusive and in lieu of all other warranties, guarantees, obligations, liabilities, rights and remedies, express or implied, arising by law or otherwise, including but not limited to the implied warranty of merchantability, and implied or express warranty arising from the course of performance, course of dealing or usage or trade and any express or implied warranty of fitness for a particular purpose.

Implied warranties, when applicable, shall commence upon the same date as the express warranty presented here, and shall except for warranties of title, extend only the duration of the express warranty. Some states do not allow limitations on how long implied warranty lasts, so the above limitation may not apply to you. The only remedy provided under an applicable implied warranty and the express warranty shall be the remedy provided under the express warranty. Subject to the terms and conditions contained therein. VAL-CO shall not be liable for incidental and consequential losses and damages under the express warranty, any applicable implied warranty, or claims for negligence, except to the extent that this limitation is found to be unenforceable under applicable state law. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights and you may have other rights that vary from state to state.

FEED BIN DISCLAIMER

VAL-CO feed bins are designed for the storage of materials having a density of no more than 40 pounds per cubic foot. The feed bins are designed for the storage of free-flowing materials only; soybean meal, meat scraps, and certain other materials are not considered to be free-flowing and should not be stored in VAL-CO bins.

RECOMMENDATION/ADVICE DISCLAIMER

Recommendations, opinions, or advice given by VAL-CO regarding equipment, systems, or installation shall be accepted at the user's own discretion and shall not constitute any warranty or guarantee of such products or their performance. VAL-CO assumes no obligation or liability on account or any recommendation, opinions or advice as to the choice installation or use of products.

Before installation is made on any product or system, the user has the responsibility to research and comply with all federal, state and local codes which may apply to the location and installation.

GENERAL PRODUCT DISCLAIMER

VAL-CO products are designed and manufactured to provide reliable performance. Even reliable products may experience occasional failures due to variances in installation, environment, and the recognized life cycle of a product. Due to the possibility of failure, the user should provide adequate backup systems and an alarm or acknowledge willingness to accept the risk of loss.



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SAFETY INFORMATION

CAUTION, WARNING, and DANGER decals have been placed on the equipment to warn of potentially dangerous situations. Care should be taken to keep 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.

SAFETY - ALERT SYMBOL



This is a safety-alert symbol. When you see this symbol, be alert for the potential of personal injury. Val-Co equipment is designed to be installed and operated as safely as possible although hazards still exist.

SIGNAL WORDS

Signal words are used in conjunction with the safety-alert symbol to identify different types of hazards.

DANGER - identifies immediate hazards that WILL result in severe injury or death.

WARNING - identifies hazards or practices that COULD result in severe injury or death.

CAUTION - identifies hazards or practices that COULD result in minor injury or product or property damage.

DANGER - ELECTRICAL HAZARD

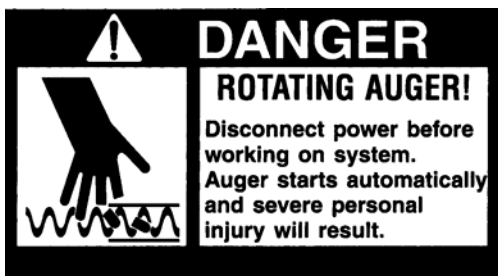
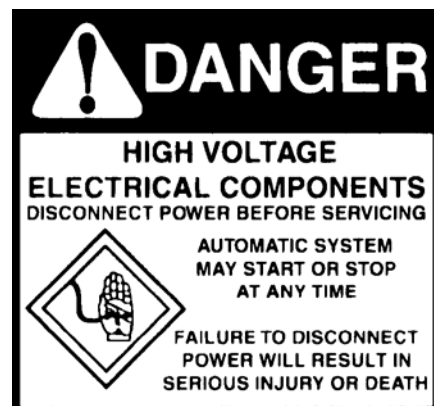
Disconnect electrical power before inspecting or servicing equipment unless maintenance instructions state otherwise.

Ground all electrical equipment for safety.

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

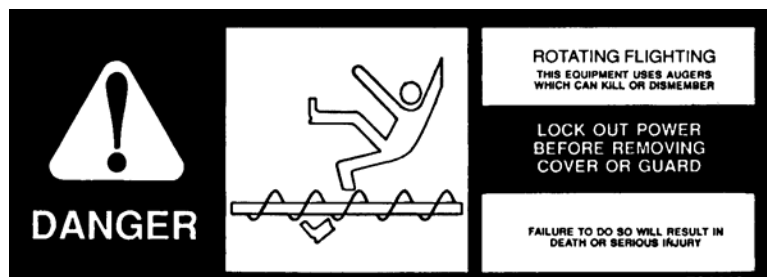
Ground all non-current carrying metal parts to guard against electrical shock.

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



DANGER - MOVING AUGER

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





VAL-CO FLEXIBLE AUGER SYSTEM GENERAL SPECIFICATIONS

MODEL 720 2.25" (55mm)

Used to convey dry ground feed and crumble type mash - maximum moisture content 18%. Maximum particle size 1/8" diameter x 1/2" long. System is not recommended for large pellets or shelled corn. PVC tubes are 2.25" outside diameter; flexible auger is 1.52" outside diameter. Approximate feed delivery rate is 15lbs. per minute or 900lbs. per hour based on 40lbs. per cubic foot feed density and a 358 rpm drive unit.

MODEL 730 3" (75mm)

Used to convey dry ground feed and crumble type mash - maximum moisture content 18%. Maximum particle size 1/8" diameter x 1/2" long. System is not recommended for large pellets or shelled corn. PVC tubes are 3.0" outside diameter; flexible auger is 2.38" outside diameter. Approximate feed delivery rate is 50lbs. per minute or 3000lbs. per hour based on 40lbs. per cubic foot feed density and a 358 rpm drive unit.

MODEL 735 HV 3.5" (90mm)

Used to convey dry ground feed and crumble type mash - maximum moisture content 18%. Maximum particle size 3/16" diameter x 1/2" long. System is not recommended for large pellets or shelled corn. PVC tubes are 3.50" outside diameter; flexible auger is 2.71" outside diameter. Approximate feed delivery rate is 100lbs. per minute or 6000lbs. per hour based on 40lbs. per cubic foot feed density and a 358 rpm drive unit.

MODEL 735 HM 3.5" (90mm)

Used to convey dry ground feed and crumble type mash - maximum moisture content 25%. Maximum particle size 3/8" diameter x 3/4" long. This system is recommended for large pellets and shelled corn. PVC tubes are 3.50" outside diameter; flexible auger is 2.38" outside diameter. Approximate feed delivery rate is 50lbs. per minute or 3000lbs. per hour based on 40lbs. per cubic foot feed density and a 358 rpm drive unit.

Auger boots, tubes hangers, feed drop outlets, downspout tubes, feed control switches, and other optional items are not included with the systems listed.

Size your system to make the maximum operating time four (4) hours per day.

A time clock or Val-co Auger Minder is recommended with all systems or prevent empty auger operation and other malfunctions.

Multiple bin pass-thru or tandem systems are recommended when extra feed storage or dual rations are required.

Extended length systems are complete with components to transfer from one feed line to another. Available with direct drive power units only.

All systems are normally wired for 230V, 60HZ, single phase operation. Additional motors are also available.

Standard drive unit (both v-belt & direct drive) is 358 rpm at 60 HZ, 368 rpm at 50HZ operation. Alternate speeds are also available.



INSTALLATION PROCEDURE

Read All Instructions Before Starting Installation of Feed System

STEP 1. BIN LOCATION

Using the chart on page 11 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 11 and 12 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. Install hanger bolts every four (4) feet or less. If the building has a rafter spacing of more than four (4) 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 11 BIN POSITIONING for standard entrance angles and page 14 TUBE INSTALLATION for the proper cutting of the PVC tubes. Up to this point all tubes are dry-fitted together.

STEP 5. CEMENTING PVC TUBES

Follow the directions on can for safe handling of PVC cement. Be sure to square off all cut ends. Before applying the PVC cement on tubes be sure all surfaces to be joined are cleaned. After joining tubes give them a twist to align them as they are joined to full depth. Hold tube and bell together for 30 seconds to insure proper seal.

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 16 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 3/4" to 1" 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. 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 con't.

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 17 for detailed instructions.

STEP 10. CUTTING AUGER (at boot end)

Auger must already be attached to the drive unit end. Auger should be stretched 2" for every 50' of length. Measure the stretch from the rear edge of the boot and cut at that point. See page 18 for detailed instructions.

STEP 11. SHUTOFF SWITCHES

See page 20 for detailed instructions concerning Val-Co shutoff switches.

STEP 12. START PROCEDURES

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 25 for TROUBLESHOOTING guide.

STEP 14. MAINTENANCE

DIRECT DRIVE - Periodically check the oil level in the motor gear reducer. Add lubricant if necessary

V-BELT DRIVE - Periodically apply grease lubricant to the grease fitting on the bearing housing.



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 page of this instruction manual for bin placement according to the height at which the PVC 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 extension hoppers. NOTE: One (1) 90 degree elbow requires the same power as 30' of straight line.

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 PAX 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.

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. (Normal auger stretch should be 2" per 50')

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 lay out of your system.

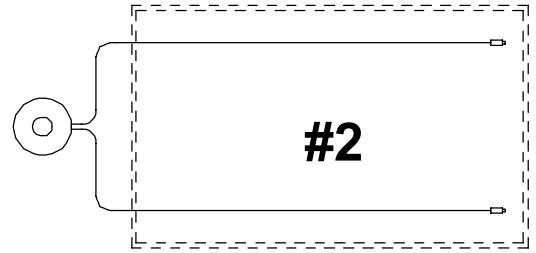
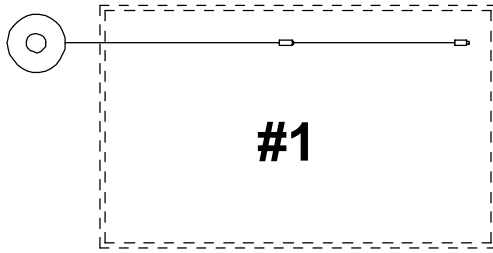
On the following pages you will find some of the most common types of installations.

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.

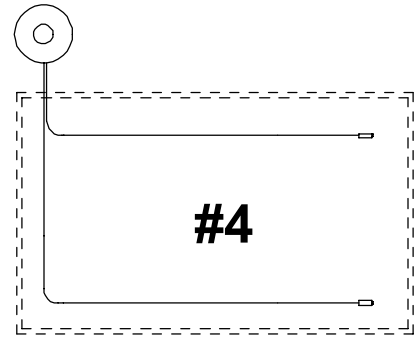
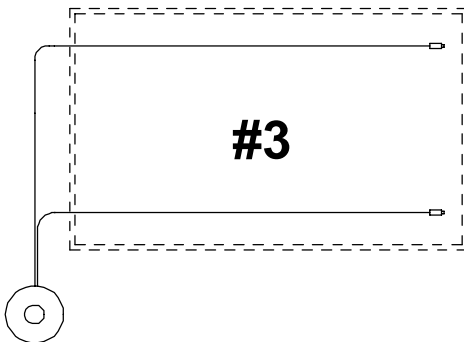


SYSTEM INSTALLATIONS



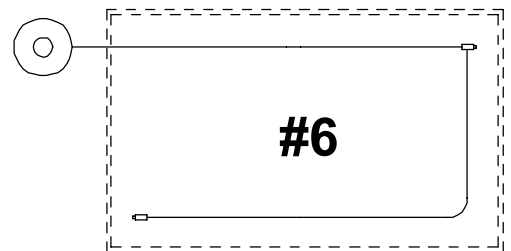
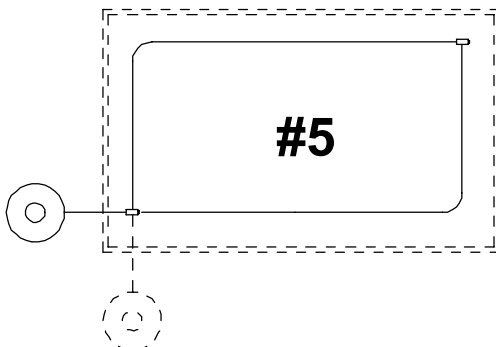
Systems #1 & #2 represent extended length systems. The power requirements for each part of the system should be equal.

System #3 utilizes two 90 degree right hand turns, making it a much more favorable installation in lieu 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.

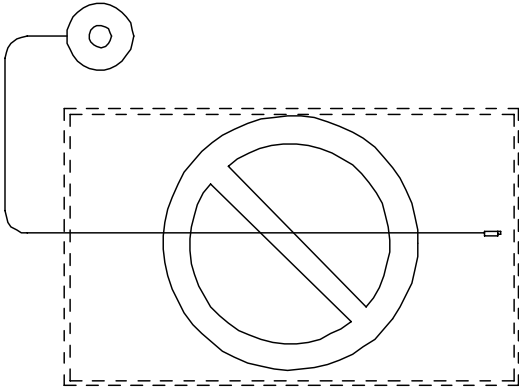
System #6 is an extended length system with one additional 90 degree elbow. This system is acceptable but system's #2 & #3 would be recommended to reduce excessive run time.





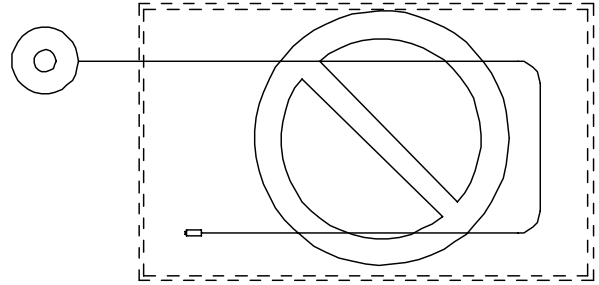
SYSTEM INSTALLATIONS

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



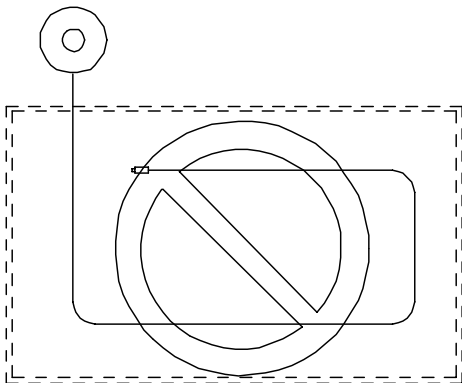
#7

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



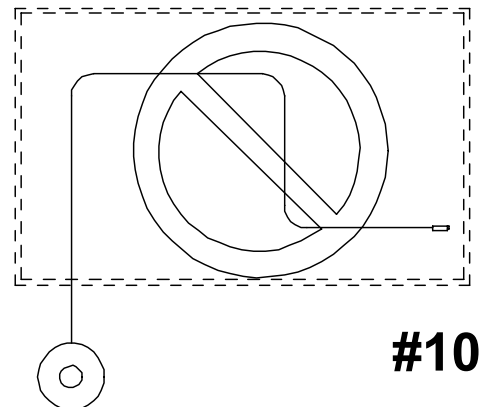
#8

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 excessive elbow wear.

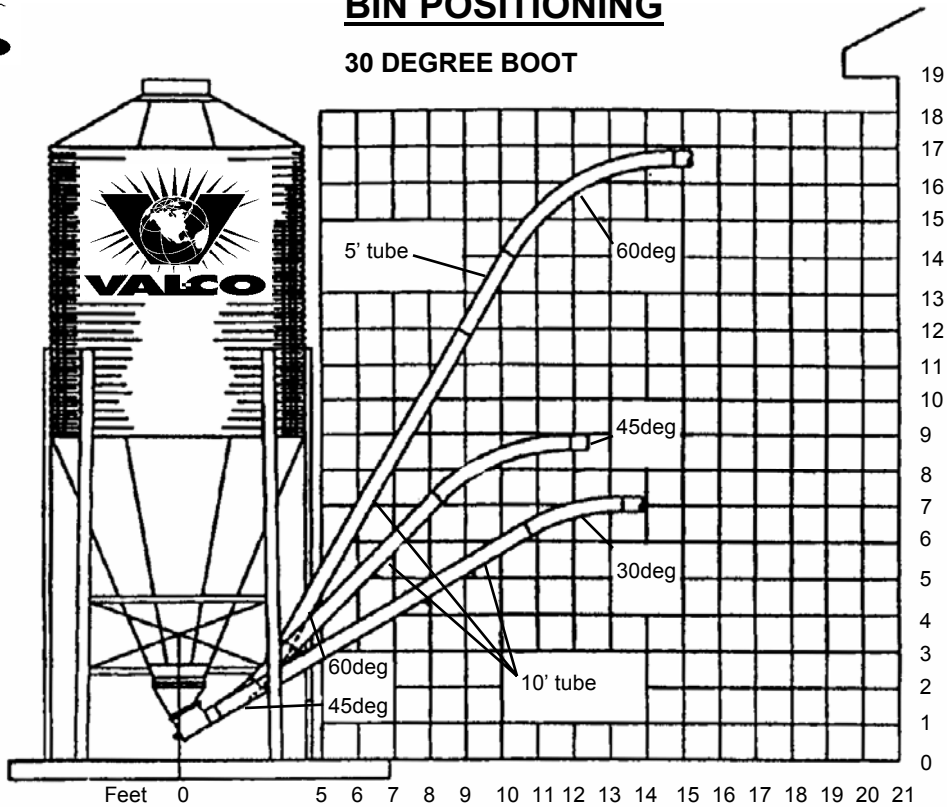


#10

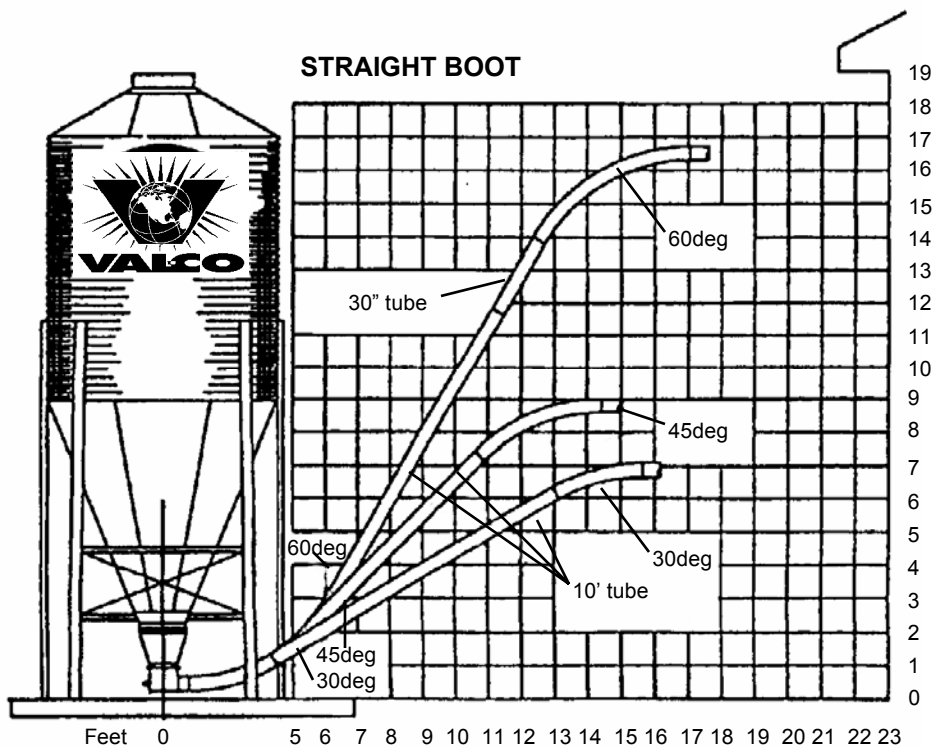


BIN POSITIONING

30 DEGREE BOOT

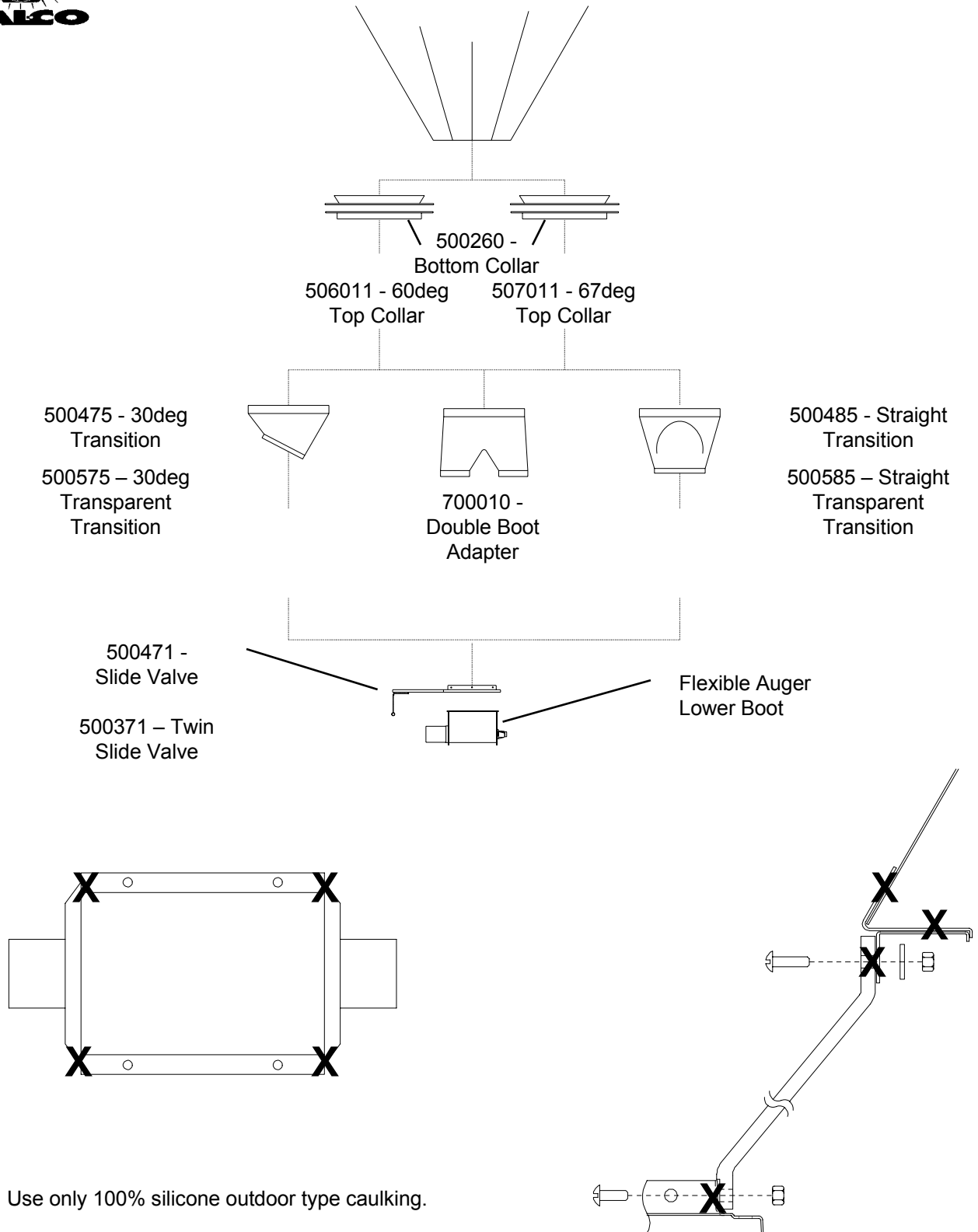


STRAIGHT BOOT





BOOT INSTALLATION



NOTE: Use only 100% silicone outdoor type caulking.

X - Denotes caulking point



BOOT INSTALLATION

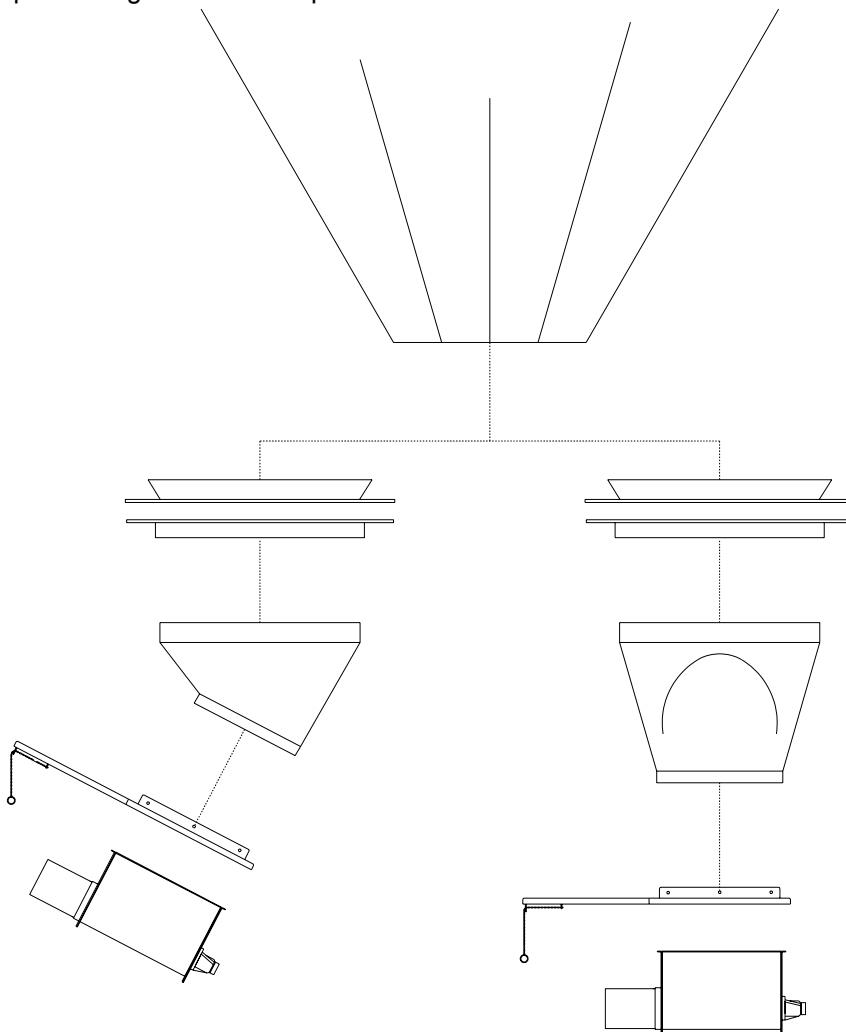
When installing either the 500475 - 30 degree plastic transition or the 500485 - straight plastic transition push the transition as far up into the bin collar assembly as it will go and turn it to line up with the direction that the auger will go.

Use the holes in the bin collar assembly as drilling guides and drill 11/32" holes in the upper rim of the plastic transition.

Proper use of hardware and silicone caulking is critical to the correct installation of Val-Co boots and plastic transitions. Refer to the drawing on the previous page for proper hardware installation and caulking points. **USE ONLY 100% SILICONE OUTDOOR CAULKING.**

Attach the transfer plate to the plastic transition. Use truss head bolts from the inside of the plate, with flat washers placed under the nuts.

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.

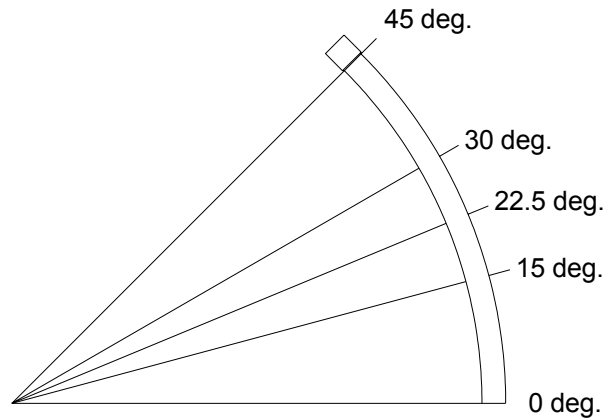




AUGER TUBE INSTALLATION

All dimensions are measured along the long outside curve of the elbow and DO NOT include the belled end of the elbow in measurement.

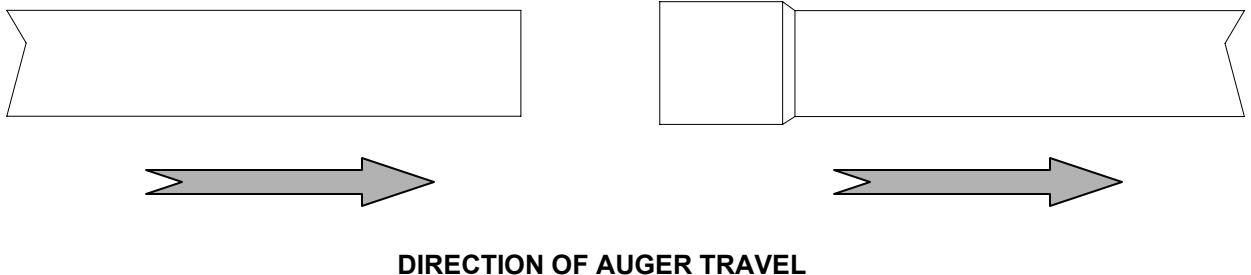
DEGREE	720	730	735
15	16.9/32"	16.1/2"	16.5/8"
22.5	24.7/16"	24.3/4"	24.15/16"
30	32.9/16"	33"	33.1/4"
45	48.7/8"	49.1/2"	49.7/8"



After cutting any PVC tubes be sure to square cut ends and clean them thoroughly before applying PVC cement. When applying PVC cement follow directions on the can for proper use.

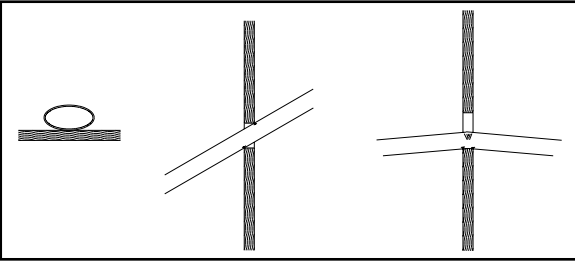
All tube joints that are exposed to moisture and weather must be caulked with 100% silicone outdoor caulking to waterproof them in addition to cementing the joint.

Proper Auger Tube Connection

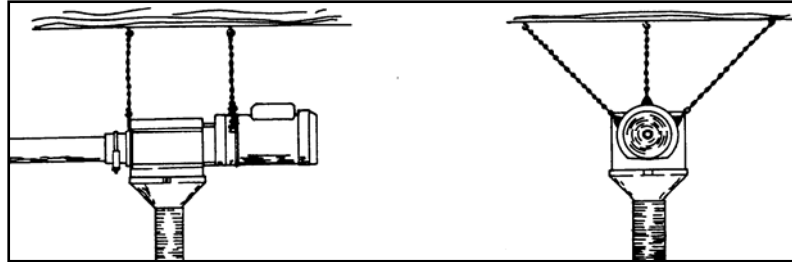




SUPPORTING THE SYSTEM



15a



15b

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 (every 4 feet). If the auger tube rests on a wall or partition it may flatten out or become kinked causing excessive wear. (15a)

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

Chain and "S" hooks are the best means of support to allow for expansion and contraction of the auger tubes.

The feed system should be restrained from swinging by wrapping chain completely around tubing and securing the chain with "S" hooks. (15c)

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.

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. (15b)

Horizontal elbows need to be supported in at least two (2) places and some cases three (3), 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 5 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.



15c



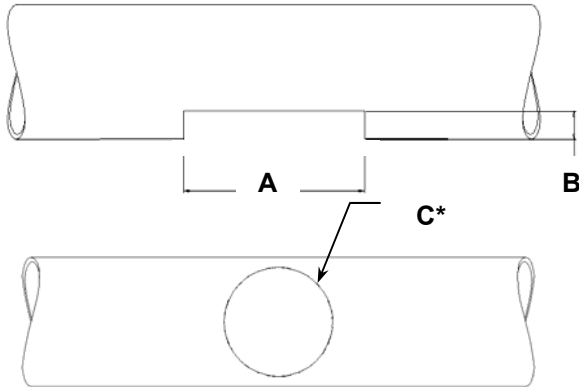
15d



OUTLET DROP INSTALLATION

Cut the outlet hole in the auger tube. A saber saw or hacksaw should be used when total feed dropout is desired. See the diagram and chart below for appropriate hole sizes for specific auger tube sizes. **IMPORTANT: THESE HOLE SIZES DO NOT APPLY TO DROP FEEDER INSTALLATIONS.** Refer to the volumetric drop manual (shipped with 770500 control drop) for appropriate drop feeder hole sizes.

*Outlet hole notched for total feed dropout.

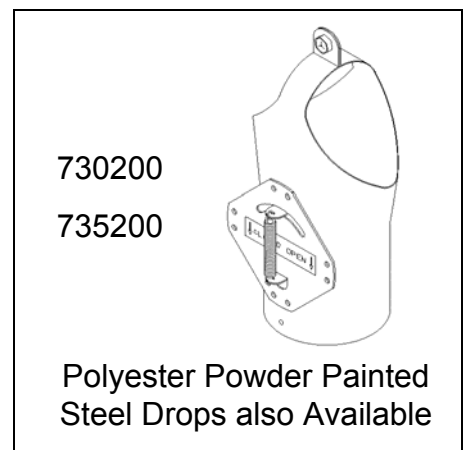
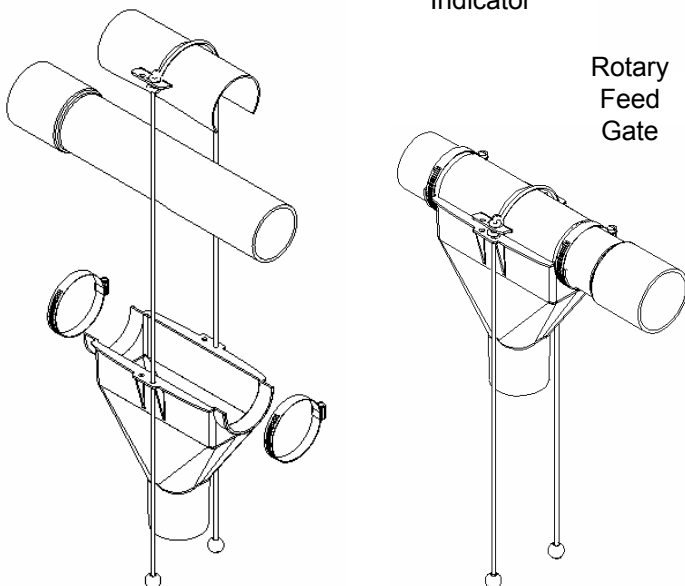
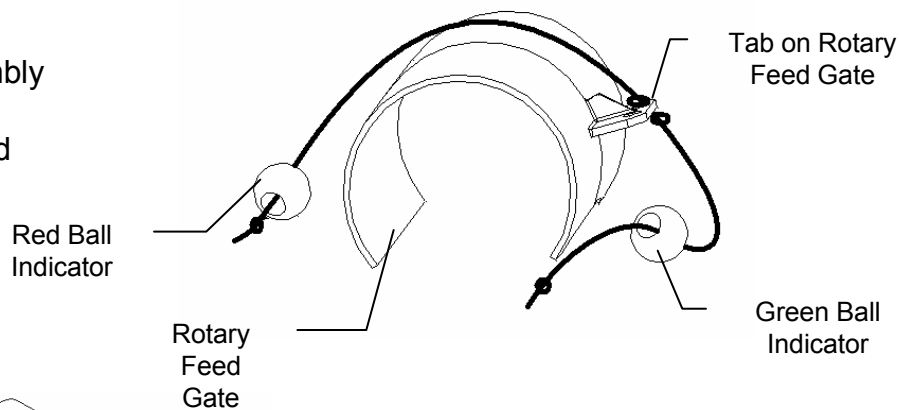


KEY	720	730	735
A	4	4	4
B	.625	.625	.625
C	1.5	2.5	3.0

*Outlet hole when carry-over is acceptable.

Insert the cord through the hole in the Rotary Feed Gate. Pull cord until it is centered and knot it on both sides of the tab. Slip cord through the holes located on either side of the Drop Housing. Then, slide the Indicator Balls on the cord ends, and knot the cord ends to ensure that the Indicator Balls will not fall off.

Attach the Rotary Feed Gate assembly to the tube as shown. Affix the Drop Housing to the tube as indicated and secure with stainless steel clamps.





DRIVE UNIT INSTALLATION

Bolt the tube port to the discharge head with a 5/16" flat washer 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.

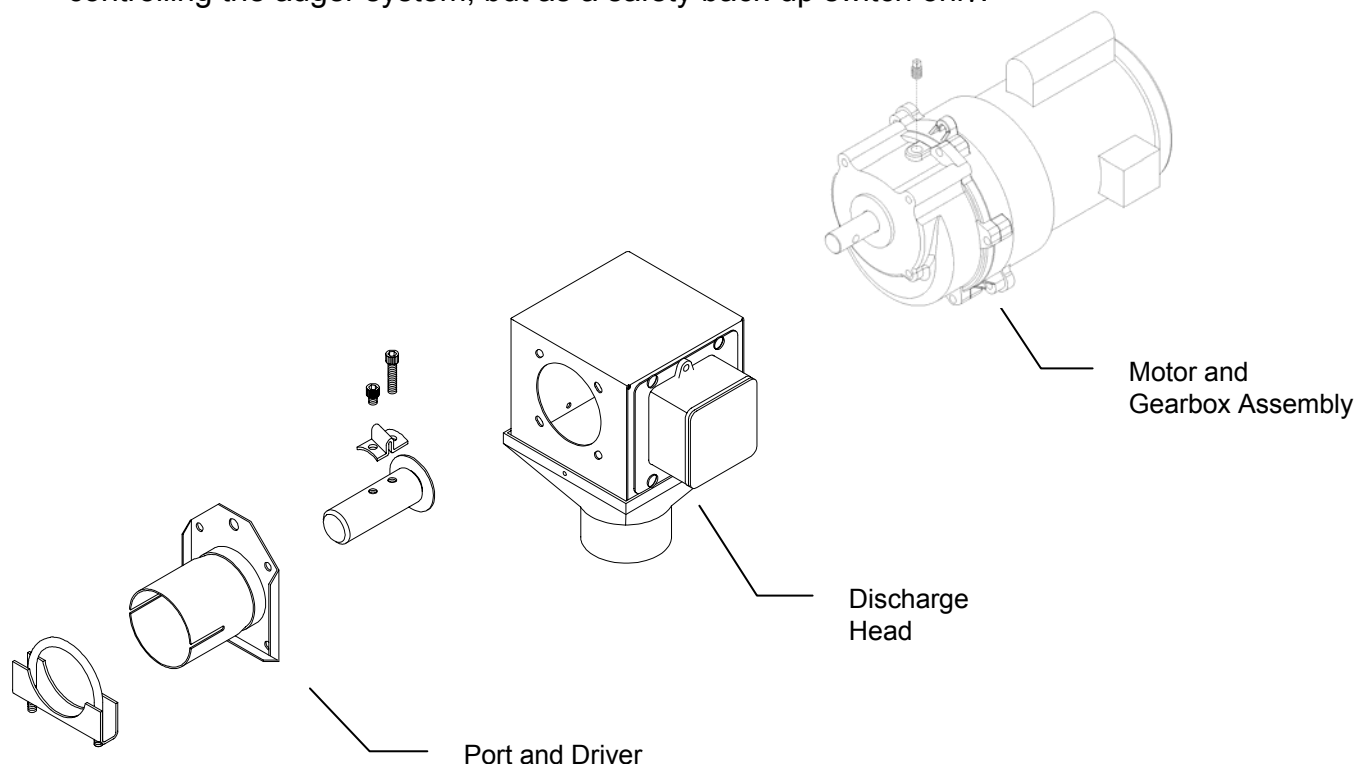
CAUTION: Gear reducer must be filled with oil before starting motor or serious and unwarranted damage will occur.

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 firmly 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.





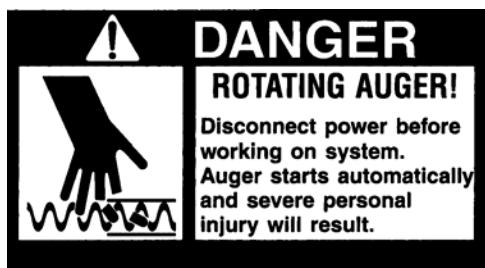
AUGER INSTALLATION

After the auger has been inserted in the tube and attached to the drive head, pull and release the free end of the auger gently a few times. This should be done to get the auger to relax into its natural position.

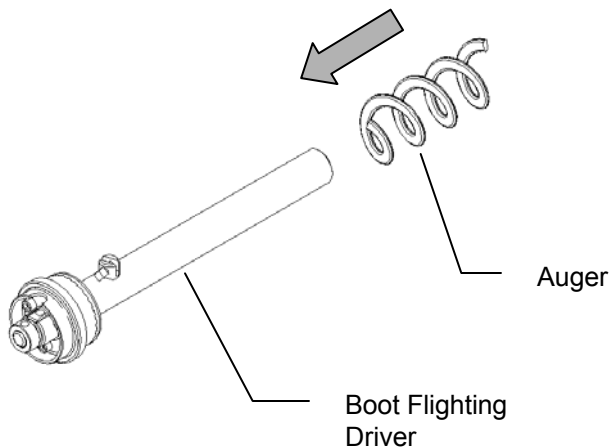
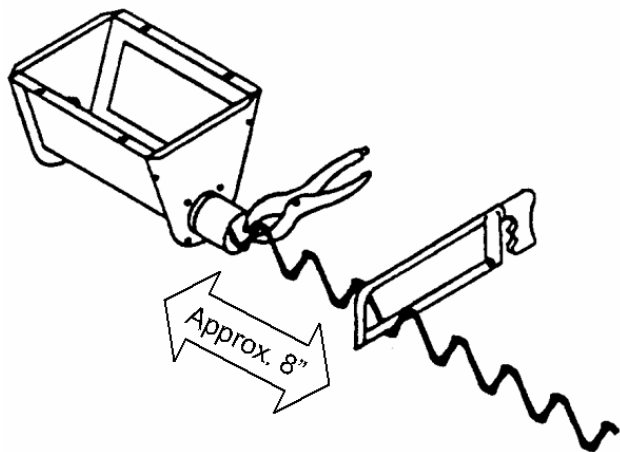
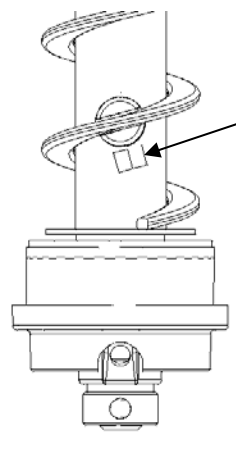
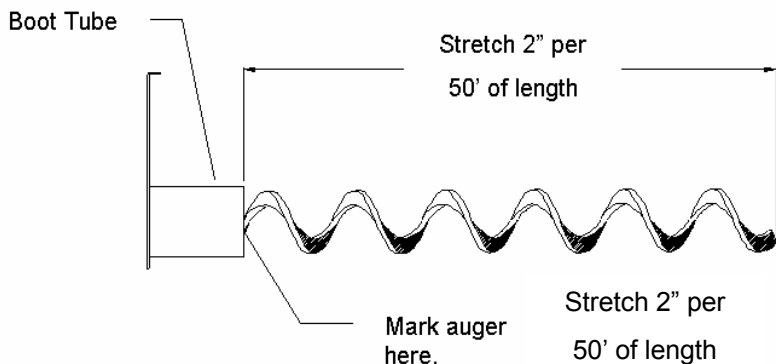
Stretch the auger 2" for every 50' of length and mark the auger at the boot tube.

NOTE: It is important to stretch the auger to prevent premature wearing of the tubes or damage to the fill system.

At the mark stretch the auger an additional 8" (approximately) for ease of cutting. After pulling the additional 8" clamp the auger at the boot tube. Be sure the clamp is secure. Cut the auger at the mark with a hacksaw or bolt cutters.



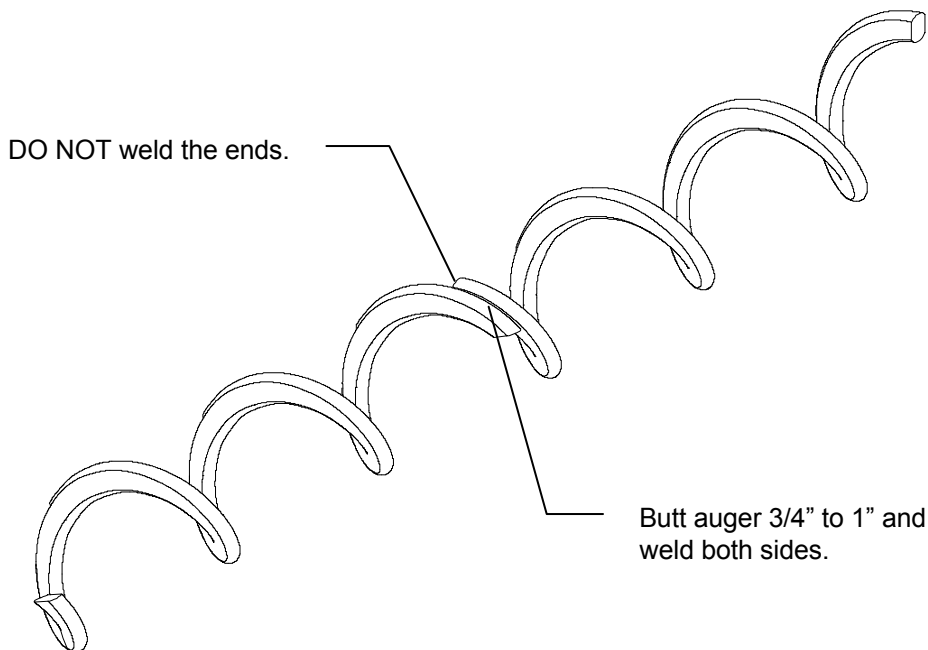
USE EXTREME CAUTION WHEN HANDLING AUGER. THE AUGER IS UNDER TENSION AND MAY SPRING CAUSING SERIOUS INJURY. ALWAYS WEAR PROTECTIVE CLOTHING AND SAFETY GLASSES WHEN HANDLING THE AUGER.



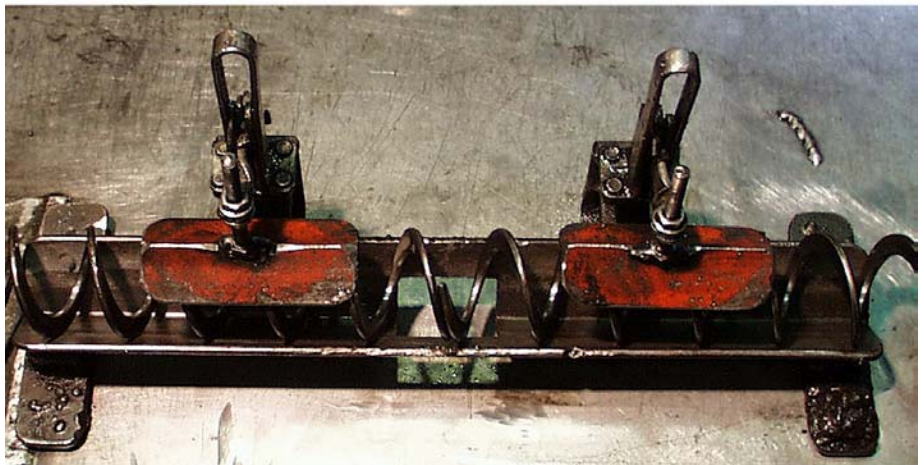


AUGER SPLICING

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. Butt $3/4"$ to $1"$ 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. 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.



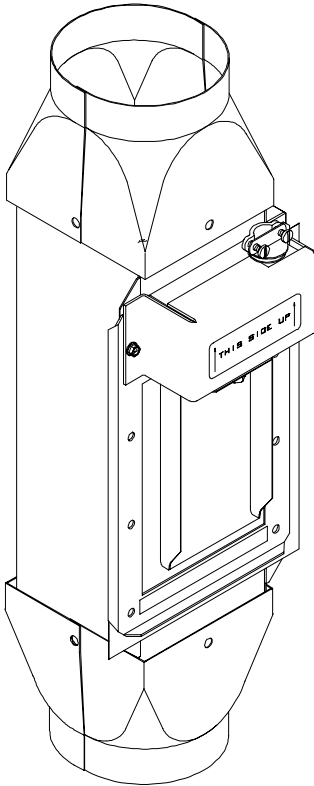
Sample weld fixture. Angle iron with clamps to hold both sections secure.



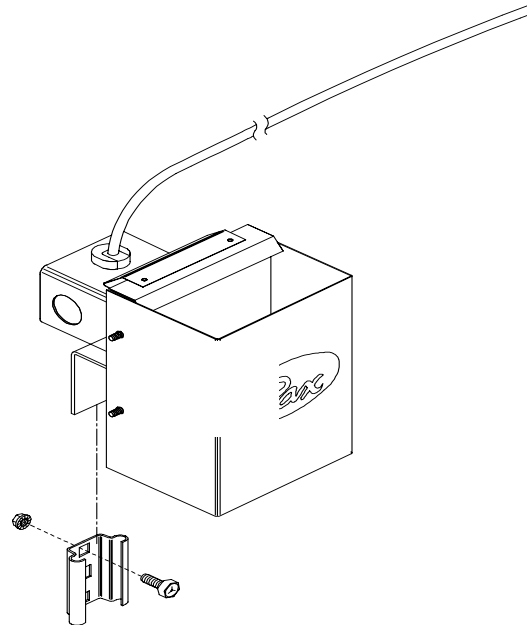


FEED LEVEL CONTROLS

The feed level controls should be installed below the discharge head to stop the auger when the last feeder is full. The downspout switch control should be installed on the downspout tube below the discharge head and the hopper level switch should be installed in the hopper below the discharge head (refer to the instructions packed with the hopper level switch for proper placement.)



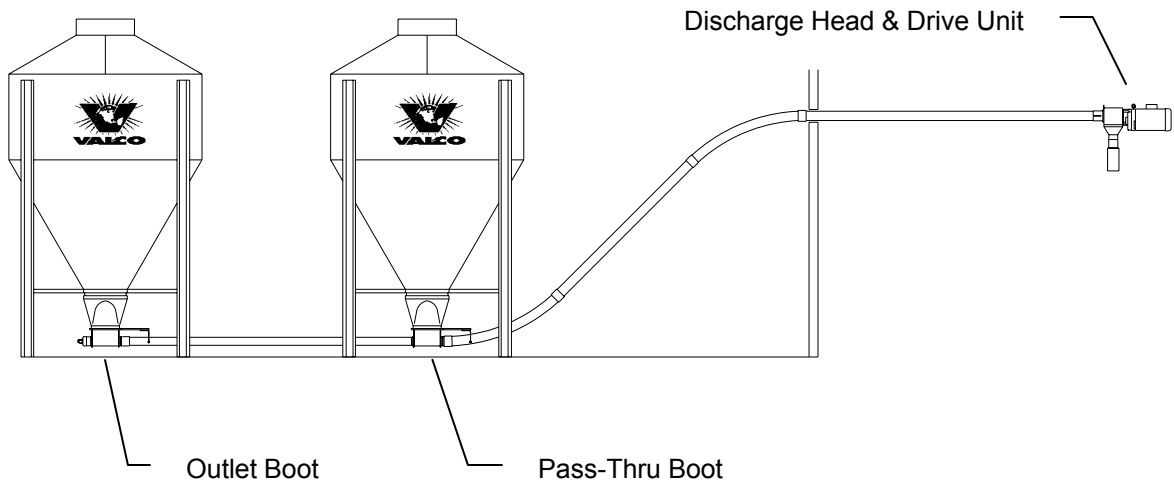
Downspout Switch



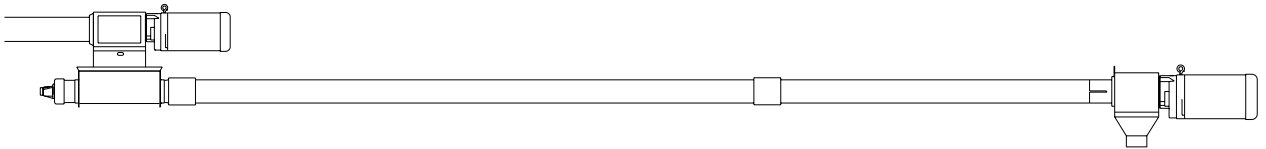
Hopper Level Switch



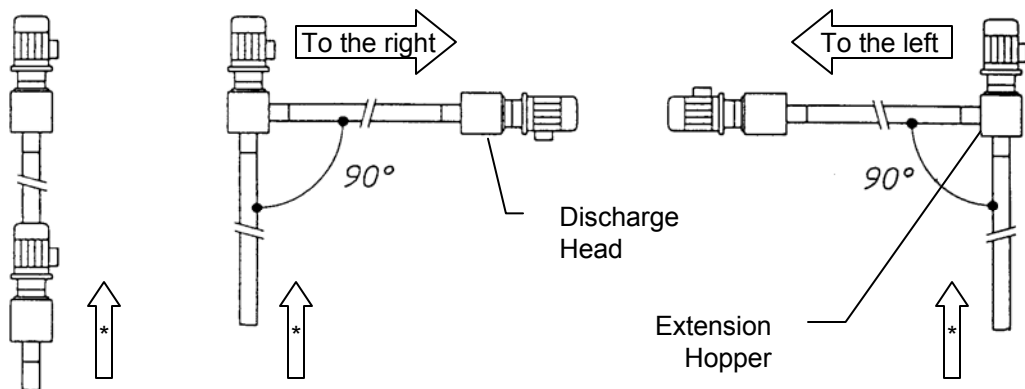
PASS-THRU SYSTEMS & EXTENDED LENGTH SYSTEMS



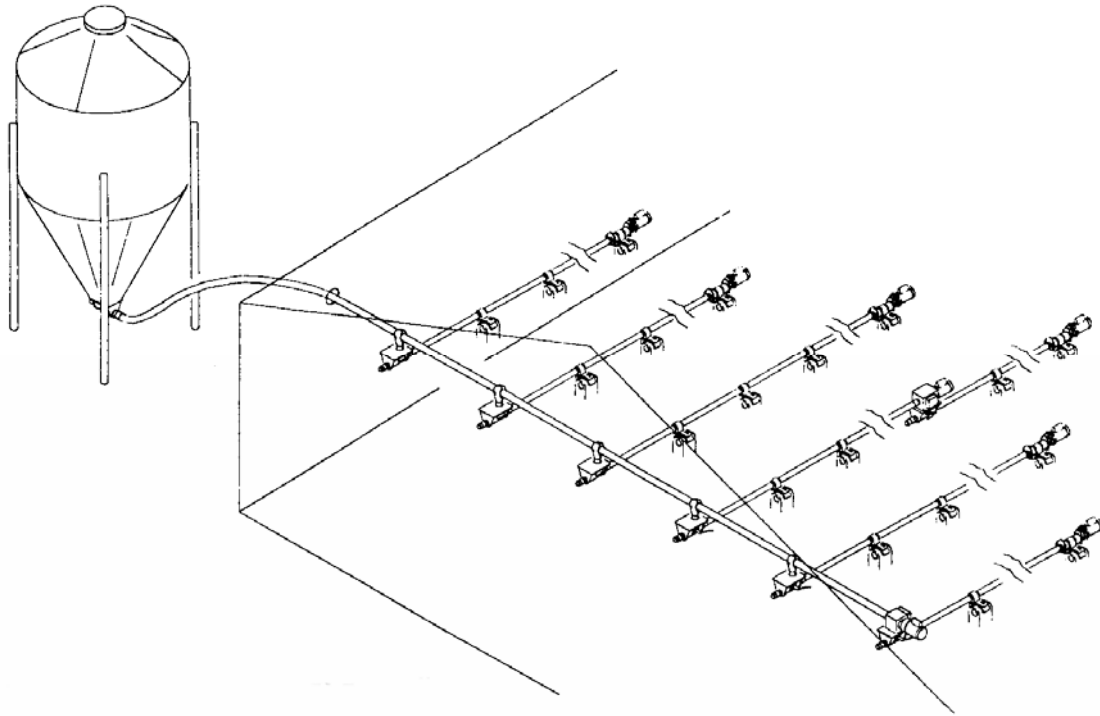
A pass-thru system installation. The boots must be in alignment to prevent undue wearing on the system tubes. Install the auger starting at the first bin and through the second bin until it reaches the discharge head. Follow the instructions under the **AUGER INSTALLATION** section of this manual.



An extended length system installation. 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.



* - direction of transport line.



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.

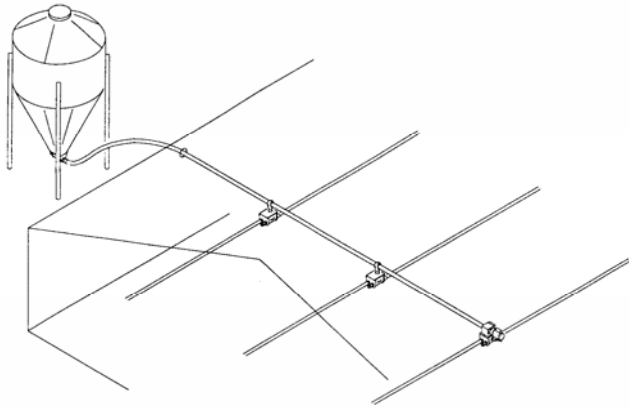
An extension hopper is needed to connect the discharge head to the last flag line.

Secure the extension hopper to the discharge head using the hardware supplied for the funnel.

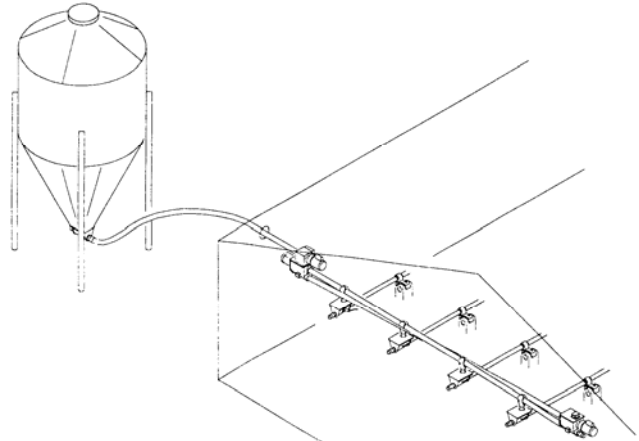
Make sure the outlet end of the boot is directed toward the flag line.



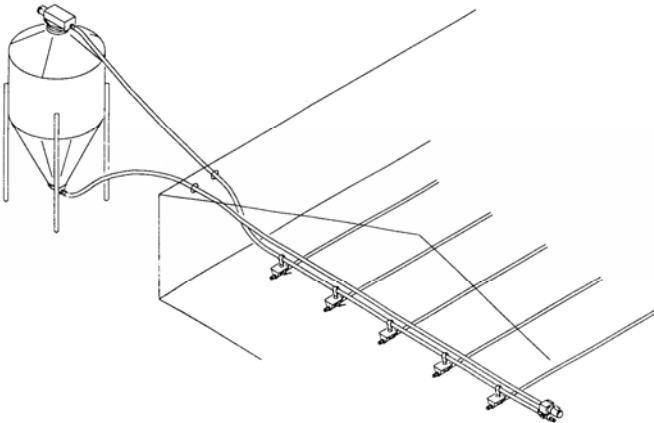
ALTERNATE FLAG SYSTEM LAYOUTS



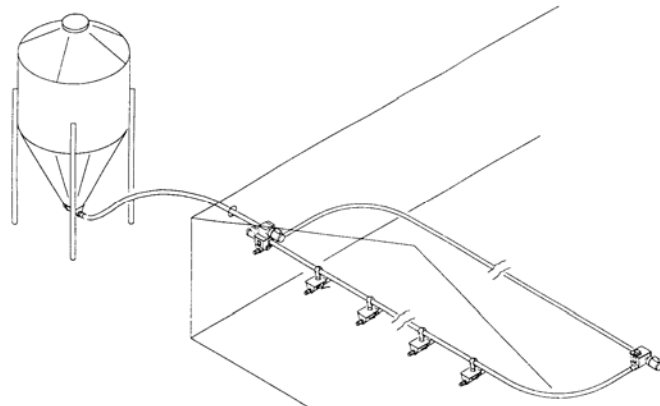
Twin Boot Flag System Layout



Return Flag System Layout



Return-to-Bin Flag System Layout



Circulating Flag System Layout



START-UP PROCEDURES

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.

MAINTENANCE & OPERATING RECOMMENDATIONS

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.



150115

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



DANGER

ROTATING AUGER!

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



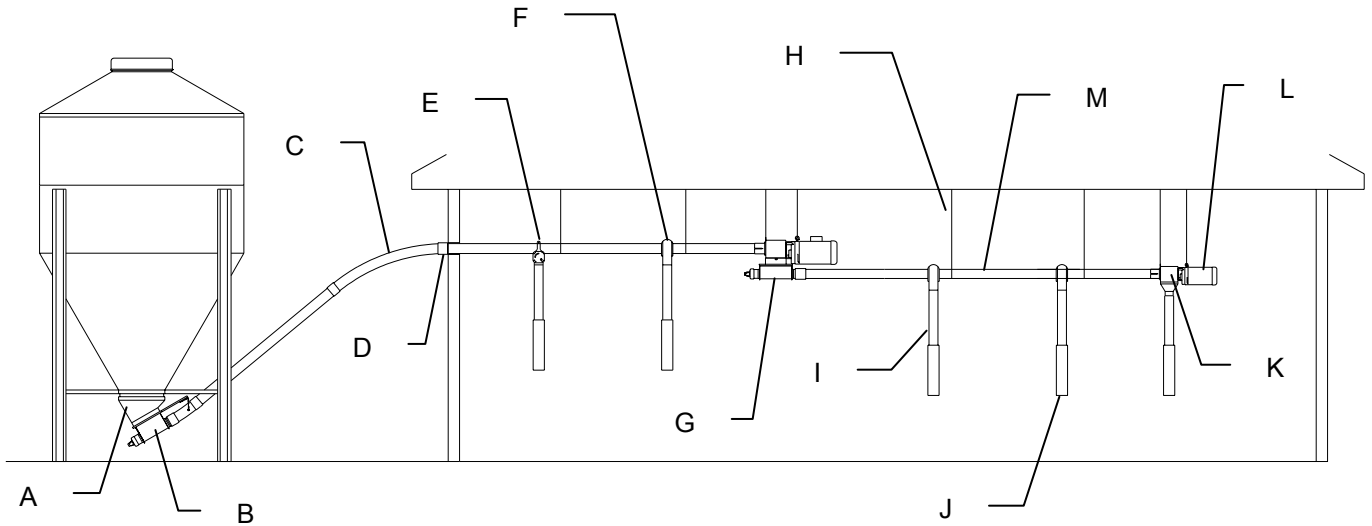


TROUBLESHOOTING GUIDE

TROUBLE	POSSIBLE CAUSE	CHECK THE FOLLOWING
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, small hand tools, 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 misadjusted and stuck in off position.	See adjustment procedure for discharge head.
	Automatic 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.
System does not run smoothly (excessive vibration and noise)	Auger too long.	Cut auger to correct length. After the first one to six months of operation, the auger may stretch (depending on length of system). 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 4 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 due to 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.



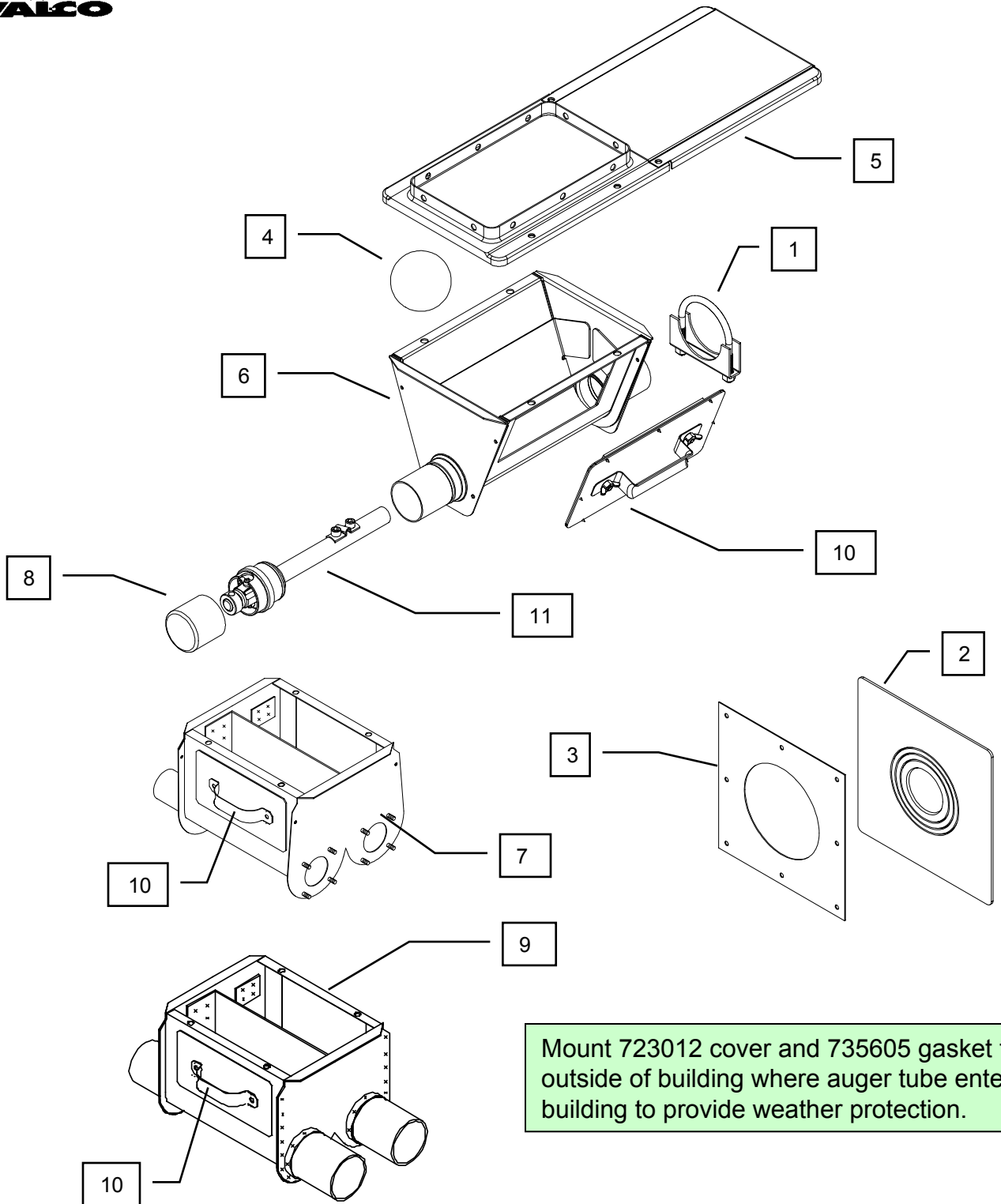
FEED DELIVERY SYSTEM



KEY	DESCRIPTION	MODEL 720	MODEL 730	MODEL 735
A	Plastic Transition	See BOOT INSTALLATION section		
B	Boot Assembly	See separate parts list		
C	45 Degree PVC Elbow	720498	730499	735499
D	Cover Plate	723012	723012	723012
	Universal Tube Gasket	735605	735605	735605
E	Steel Drop w/ Shutoff	N/A	730200	735200
F	Plastic Drop w/ Shutoff	720550	730550	735550
G	Transfer Plate	500517 – Steel Discharge Head 500590 – Poly Discharge Head	500517 – Steel Discharge Head 500590 – Poly Discharge Head	500517 – Steel Discharge Head 500590 – Poly Discharge Head
H	Suspension Components:			
	5/16" x 3.5" Screw Hook	730441	730441	730441
	Formed Hanger	720220	713220	735220
	#2 Hanger Chain (feet)	720024	720024	720024
I	Translucent Plastic Downspout Tube	730615	730615	735615
J	Telescoping Translucent Plastic Downspout Tube	730421	730421	735421
K	Discharge Head	See separate parts list		
L	Motor & Gearbox Assembly	See separate parts list		
M	10' Straight PVC Tube	720434	730434	735434
N/S	Flexible Auger	720440	730440	735440



MODEL 720 BOOTS FOR 2.25" (55mm) FILL SYSTEMS





MODEL 720 BOOTS FOR 2.25" (55mm) FILL SYSTEMS

720810 – 2.25" Single Outlet Lower Boot

720055 – 2.25" Twin Outlet Lower Boot

720070 – 2.25" Twin Direction Lower Boot

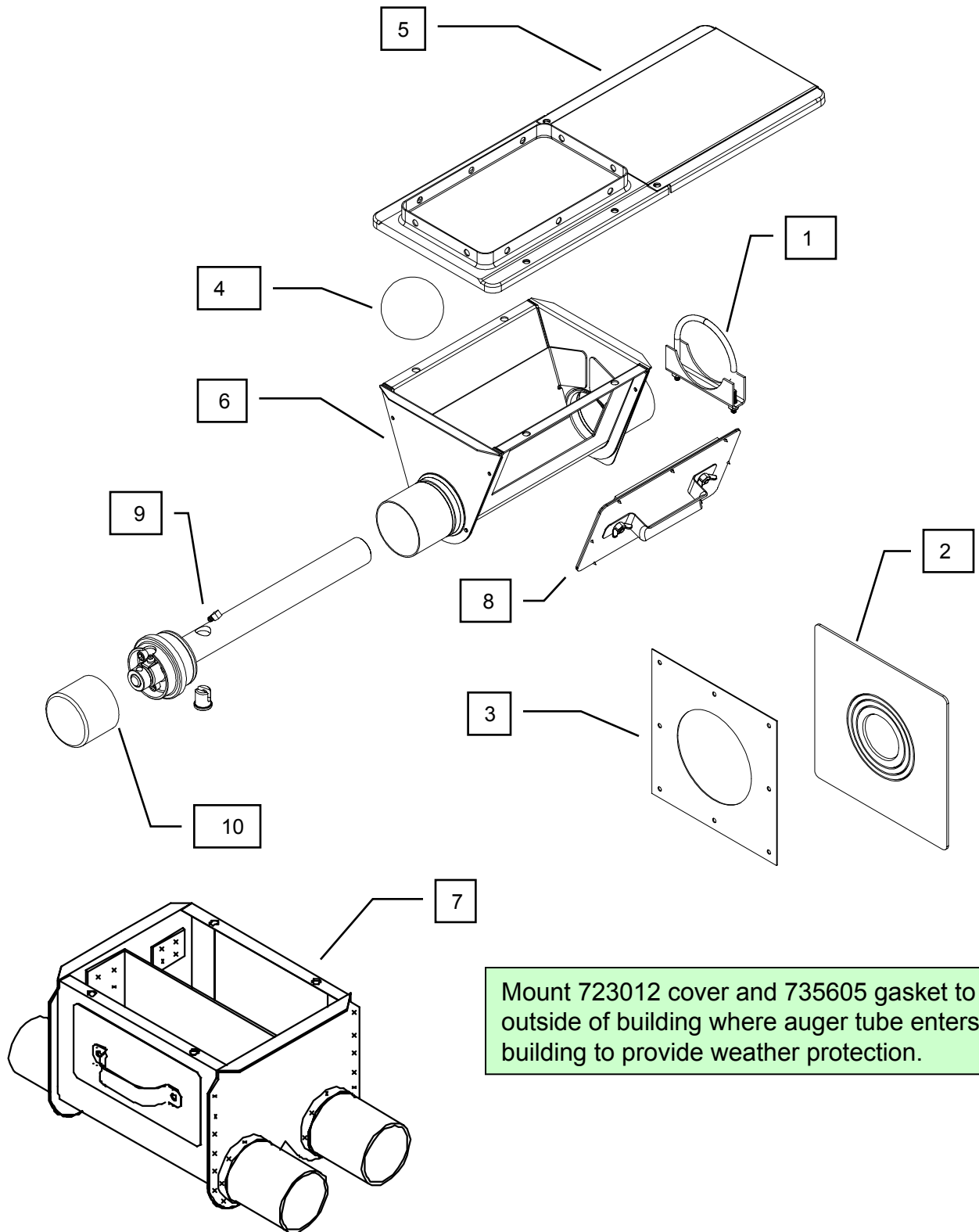
720835 – 2.25" Single Pass-Thru Lower Boot

720059 – 2.25" Twin Pass-Thru Lower Boot

KEY	PART #	DESCRIPTION
1	720004	2.25" Tube Clamp Assembly (PVC tube to boot port)
2	735605	Universal Tube Entry Gasket
3	723012	Cover Plate for Universal Tube Entry Gasket
4	724020	Agitator Ball
5	500471	16" Boot Slide Valve with Hardware
	500495	Slide Valve less Hardware Components: 500309 – Transfer Plate 500301 – Slide Plate 500302 – Slide Shield 500305 – 12" Chain Only 500306 – Chain Ring 012660 – 7/64" x 1/4" Cotter Pin
	500494	Hardware for Slide Valve Containing: 010643 – 5/16" x 3/4" Hex Bolt (6) 010544 – 5/16" x 1" Truss Head Bolt (18) 010603 – 5/16" Finished Full Nut (6) 012782 – 5/16" Nylon Washer (18) 012781 – 5/16" Nylon Hex Nut (18)
6	720807	Single Outlet and Pass-Thru Boot Housing less Access Door
7	720453	Twin Outlet Boot Housing less Access Doors
N/S	720062	Twin Direction Boot Housing less Access Doors
8	720833	2-1/4" Plastic Bearing Cap
9	720058	Twin Pass-Thru Boot Housing less Access Doors & Baffle
10	704303	Access Door Assembly Components: 723014 – Door with Handle 723017 – Door Plate 010944 – 5/16" Wing Nut (2)
11	720824	Shaft & Bearing Assembly Components: 720825 – 5/8" Bearing 713414 – 5/8" Locking Collar 720826 – Bearing Retainer 720831 – 1/4" –28 x 7/8" cap screw (3) (bearing to bearing retainer) 720806 – 1-7/8" O-ring 720822 – Flighting Driver 720412 – Flighting Anchor 730414 – 5/16" x 3/8" Cap Screw (2) (flighting anchor to driver) 012691 – 5/8" Flatwasher 720812 – 1-1/2" Expansion Washer



MODEL 730 BOOTS FOR 3" (75mm) FILL SYSTEMS



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



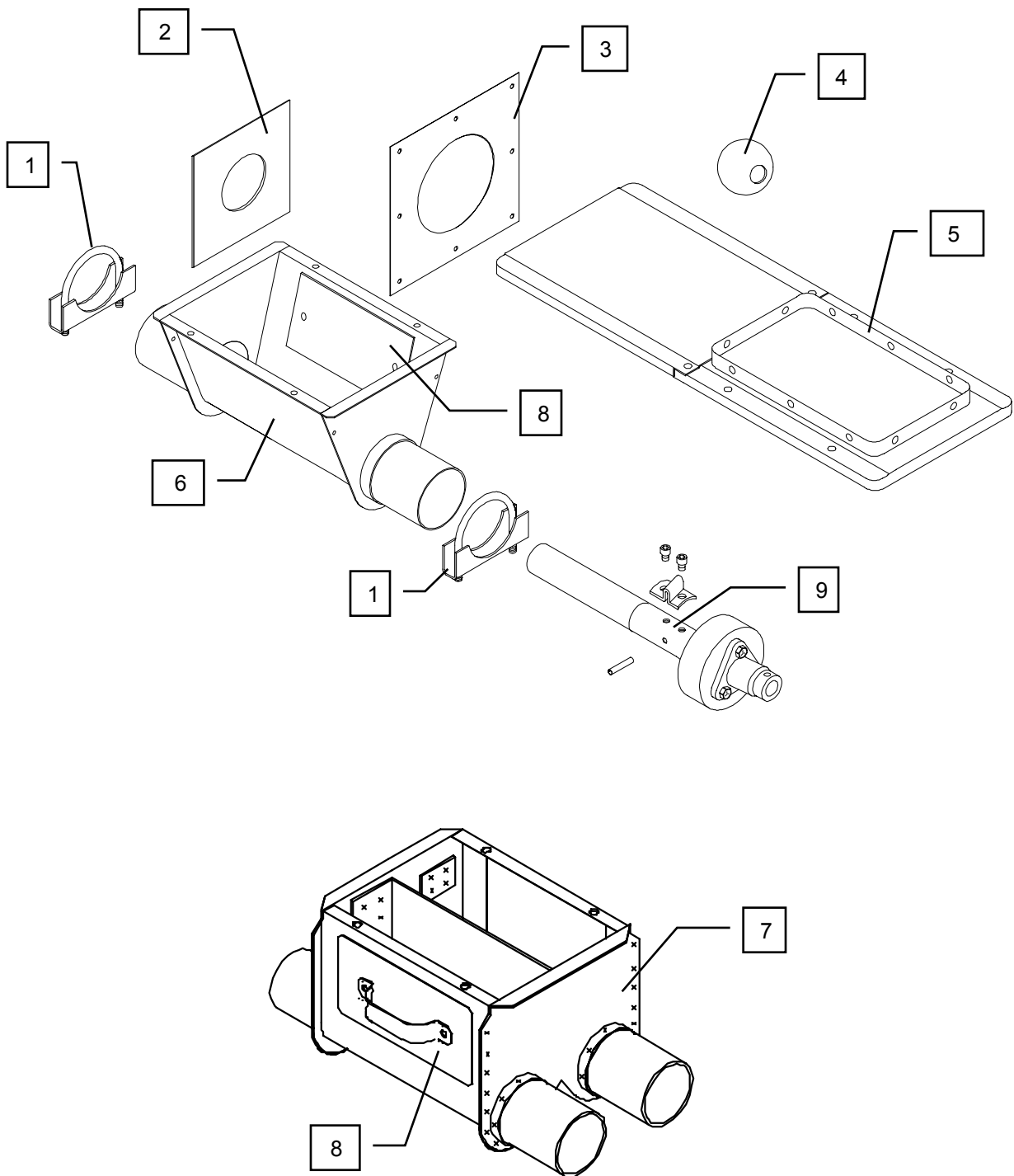
MODEL 730 BOOTS FOR 3" (75mm) FILL SYSTEMS

- 730810 – 3" Single Outlet Lower Boot**
730055 – 3" Twin Outlet Lower Boot
730070 – 3" Twin Direction Lower Boot
730835 – 3" Single Pass-Thru Lower Boot
730059 – 3" Twin Pass-Thru Lower Boot

KEY	PART #	DESCRIPTION
1	713197	3" Tube Clamp Assembly (PVC tube to boot port)
2	735605	Universal Tube Entry Gasket
3	723012	Cover Plate for Universal Tube Entry Gasket
4	724020	Agitator Ball
5	500471	16" Boot Slide Valve with Hardware
	500495	Slide Valve less Hardware Components: 500309 – Transfer Plate 500301 – Slide Plate 500302 – Slide Shield 500305 – 12" Chain Only 500306 – Chain Ring 012660 – 7/64" x 1/4" Cotter Pin
	500494	Hardware for Slide Valve Containing: 010643 – 5/16" x 3/4" Hex Bolt (6) 010544 – 5/16" x 1" Truss Head Bolt (18) 010603 – 5/16" Finished Full Nut (6) 012782 – 5/16" Nylon Washer (18) 012781 – 5/16" Nylon Hex Nut (18)
6	730807	Single Outlet Boot Housing (for both regular & pass-thru boot - access door not included)
7	723061	Twin Outlet Boot Housing (for both regular & pass-thru boot – access doors not included)
N/S	730060	Twin Direction Boot Housing less Access Doors
8	704303	Access Door Assembly Components: 723014 – Door with Handle 723017 – Door Plate 010944 – 5/16" Wing Nut (2)
9	730824	Shaft & Bearing Assembly Components: 730825 – 5/8" Bearing 730826 – 5/8" Bearing Retainer 713414 – 5/8" Locking Collar 730831 – 5/16"-24 x 7/8" Cap Screw (3) (bearing to bearing retainer) 501433 – 5/8" Flat washer 730804 – 2-7/8" O-Ring 730857 – 2.825" Expansion Ring 730809 – Flighting Driver 713422 – 5/16" x 1/2" Set Screw 730821 – Flighting Anchor 730414 – 5/16" x 3/8" Cap Screw (2) (flighting anchor to driver)
10	730833	3" Plastic Bearing Cap



MODEL 735HV BOOTS FOR 3.5" (90mm) HV FILL SYSTEMS





MODEL 735HV BOOTS FOR 3.5" (90mm) HV FILL SYSTEMS

735028 – 3.5" HV Single Outlet Lower Boot

735055 – 3.5" HV Twin Outlet Lower Boot

735070 – 3.5" HV Twin Direction Lower Boot

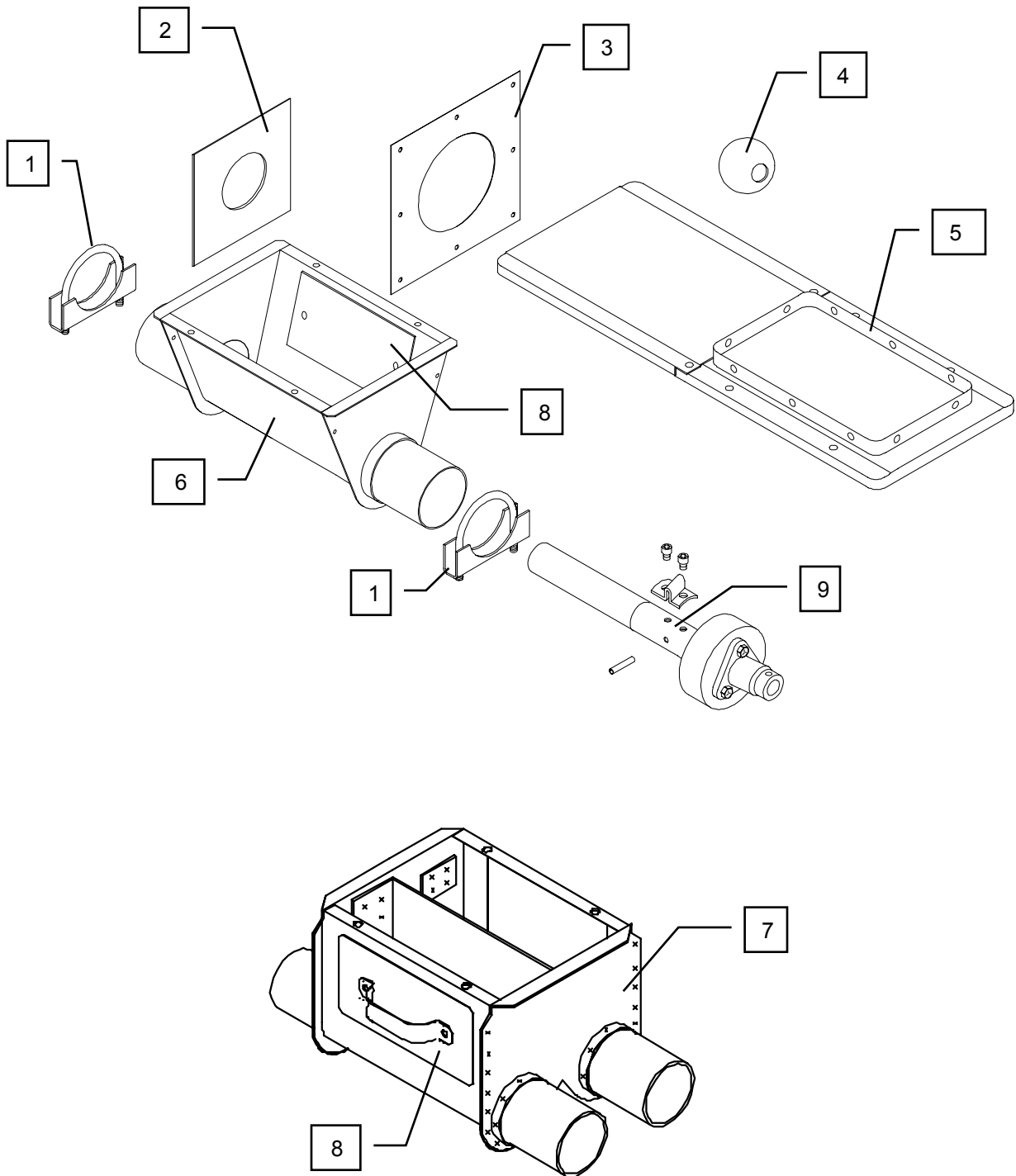
735051 – 3.5" HV/HM Single Pass-Thru Lower Boot

735059 – 3.5" HV/HM Twin Pass-Thru Lower Boot

KEY	PART #	DESCRIPTION
1	724402	4" Tube Clamp Assembly (PVC tube to boot port)
	724401	3.5" Tube Clamp Assembly (shaft & bearing to boot housing)
2	735605	Universal Tube Entry Gasket
3	723012	Cover Plate for Universal Tube Entry Gasket
4	724020	Agitator Ball
5	500471	16" Boot Slide Valve with Hardware
	500495	Slide Valve less Hardware Components: 500309 – Transfer Plate 500301 – Slide Plate 500302 – Slide Shield 500305 – 12" Chain Only 500306 – Chain Ring 012660 – 7/64" x 1/4" Cotter Pin
	500494	Hardware for Slide Valve Containing: 010643 – 5/16" x 3/4" Hex Bolt (6) 010544 – 5/16" x 1" Truss Head Bolt (18) 010603 – 5/16" Finished Full Nut (6) 012782 – 5/16" Nylon Washer (18) 012781 – 5/16" Nylon Hex Nut (18)
6	724022	Single Outlet Boot Housing (for both regular & pass-thru boot - access door not included)
7	724057	Twin Outlet Boot Housing (for both regular & pass-thru boot – access doors not included)
8	704303	Access Door Assembly Components: 723014 – Door with Handle 723017 – Door Plate 010944 – 5/16" Wing Nut (2)
9	735030	Shaft & Bearing Assembly Components: 724027 – Bearing Cap 720490 – 5/8" Bearing 713414 – 5/8" Locking Collar 010617 – 1/4" x 3/4" Hex Bolt (3) (bearing to bearing cap) 010251 – 1/4" Split Lockwasher (3) (bearing to bearing plate) 010602 – 1/4" Finished Hex Nut (3) (bearing to bearing plate) 713415 – 5/8" Boot Auger Shaft 735017 – Flighting Driver 730027 – 1/4" x 1.3/4" Expansion Pin 730412 – Flighting Anchor 730414 – 5/16" x 3/8" Cap Screw (2) (flighting anchor to driver)



MODEL 735HM BOOTS FOR 3.5" (90mm) HM FILL SYSTEMS





MODEL 735HM BOOTS FOR 3.5" (90mm) HM FILL SYSTEMS

735067 – 3.5" HM Single Outlet Lower Boot

735068 – 3.5" HM Twin Outlet Lower Boot

735090 – 3.5" HM Twin Direction Lower Boot

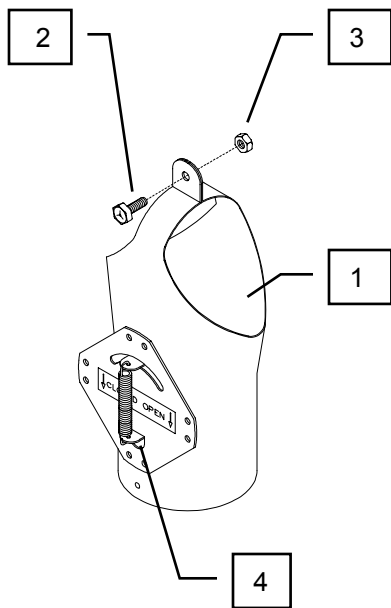
735051 – 3.5" HV/HM Single Pass-Thru Lower Boot

735059 – 3.5" HV/HM Twin Pass-Thru Lower Boot

KEY	PART #	DESCRIPTION
1	724402	4" Tube Clamp Assembly (PVC tube to boot port)
	724401	3.5" Tube Clamp Assembly (shaft & bearing to boot housing)
2	735605	Universal Tube Entry Gasket
3	723012	Cover Plate for Universal Tube Entry Gasket
4	724020	Agitator Ball
5	500471	16" Boot Slide Valve with Hardware
	500495	Slide Valve less Hardware Components: 500309 – Transfer Plate 500301 – Slide Plate 500302 – Slide Shield 500305 – 12" Chain Only 500306 – Chain Ring 012660 – 7/64" x 1/4" Cotter Pin
	500494	Hardware for Slide Valve Containing: 010643 – 5/16" x 3/4" Hex Bolt (6) 010544 – 5/16" x 1" Truss Head Bolt (18) 010603 – 5/16" Finished Full Nut (6) 012782 – 5/16" Nylon Washer (18) 012781 – 5/16" Nylon Hex Nut (18)
6	724022	Single Outlet Boot Housing (for both regular & pass-thru boot - access door not included)
7	724057	Twin Outlet Boot Housing (for both regular & pass-thru boot – access doors not included)
8	704303	Access Door Assembly Components: 723014 – Door with Handle 723017 – Door Plate 010944 – 5/16" Wing Nut (2)
9	735066	Shaft & Bearing Assembly Components: 724027 – Bearing Cap 720490 – 5/8" Bearing 713414 – 5/8" Locking Collar 010617 – 1/4" x 3/4" Hex Bolt (3) (bearing to bearing cap) 010251 – 1/4" Split Lockwasher (3) (bearing to bearing plate) 010602 – 1/4" Finished Hex Nut (3) (bearing to bearing plate) 713415 – 5/8" Boot Auger Shaft 735017 – Flighting Driver 730418 – 1/4" x 1.3/8" Expansion Pin 730412 – Flighting Anchor 730414 – 5/16" x 3/8" Cap Screw (2) (flighting anchor to driver)



STANDARD DROPS W/ SHUTOFF



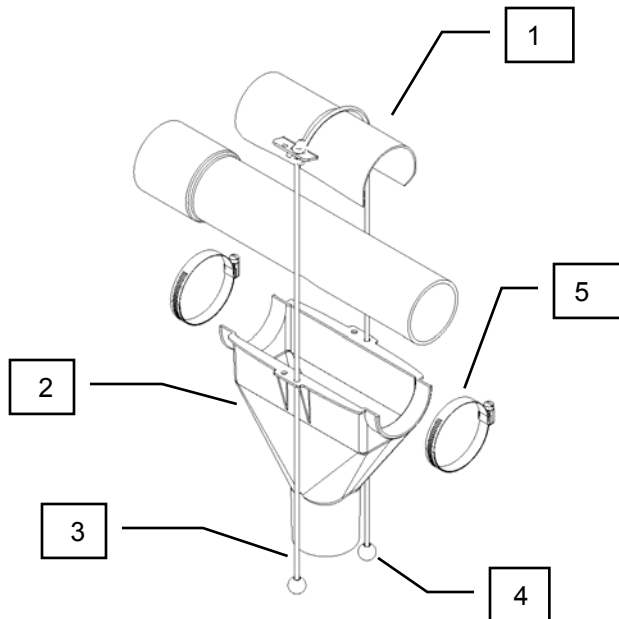
730200 – 3" Std. Steel Drop w/ Shutoff

735200 – 3.5" Std. Steel Drop w/ Shutoff

714100 – 4" Std. Steel Drop w/ Shutoff

KEY	PART #	DESCRIPTION
1	730101	3" Drop Body
	735202	3.5" Drop Body
	714101	4" Drop Body
2	010751	1/4" x 3/4" Hex Bolt (1)
3	010602	1/4" Finished Hex Nut (1)
4	713413	Stainless Steel Spring
N/S	713110	10' Nylon Cord

ALL OUT DROPS W/SHUTOFF



720550 – 2.25" All Out Plastic Drop w/ Shutoff

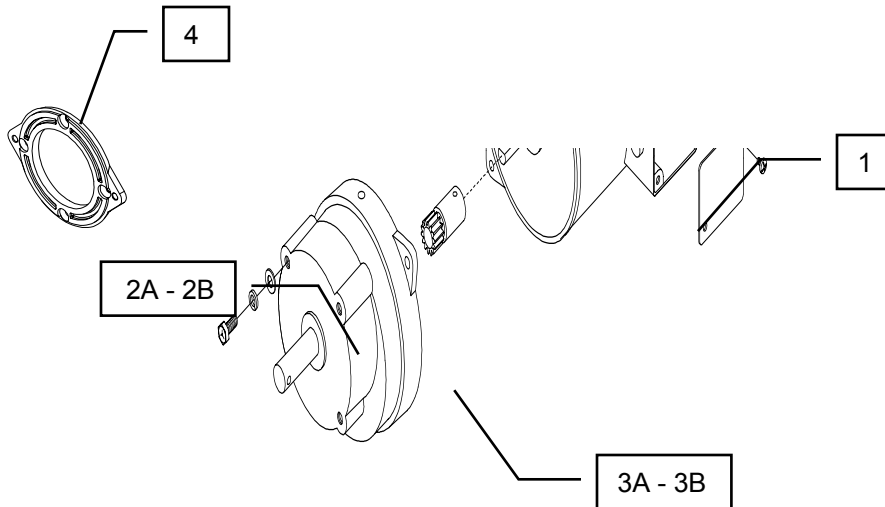
730550 – 3" All Out Plastic Drop w/ Shutoff

735550 – 3.5" All Out Plastic Drop w/ Shutoff

KEY	PART #	DESCRIPTION
1	Rotary Feed Gate	
	720551	For Model 720 – 2.25"
	730551	For Model 730 – 3"
	735551	For Model 735 – 3.5"
2	Drop Housing	
	720552	For Model 720 – 2.25"
	730552	For Model 730 – 3"
	735552	For Model 735 – 3.5"
3	713110	10' Drop Cord – For all Models
4	Indicator Balls – For all Models	
	730490	Green Indicator Ball
	730492	Red Indicator Ball
5	Stainless Steel Clamps	
	775095	For Model 720 – 2.25"
	730431	For Model 730 – 3"
	730445	For Model 735 – 3.5"
N/S	Complete Hardware Bag for Drop	
	720556	For Model 720 Drop
	720556	For Model 730 Drop
	720556	For Model 735 Drop



DIRECT DRIVE UNITS



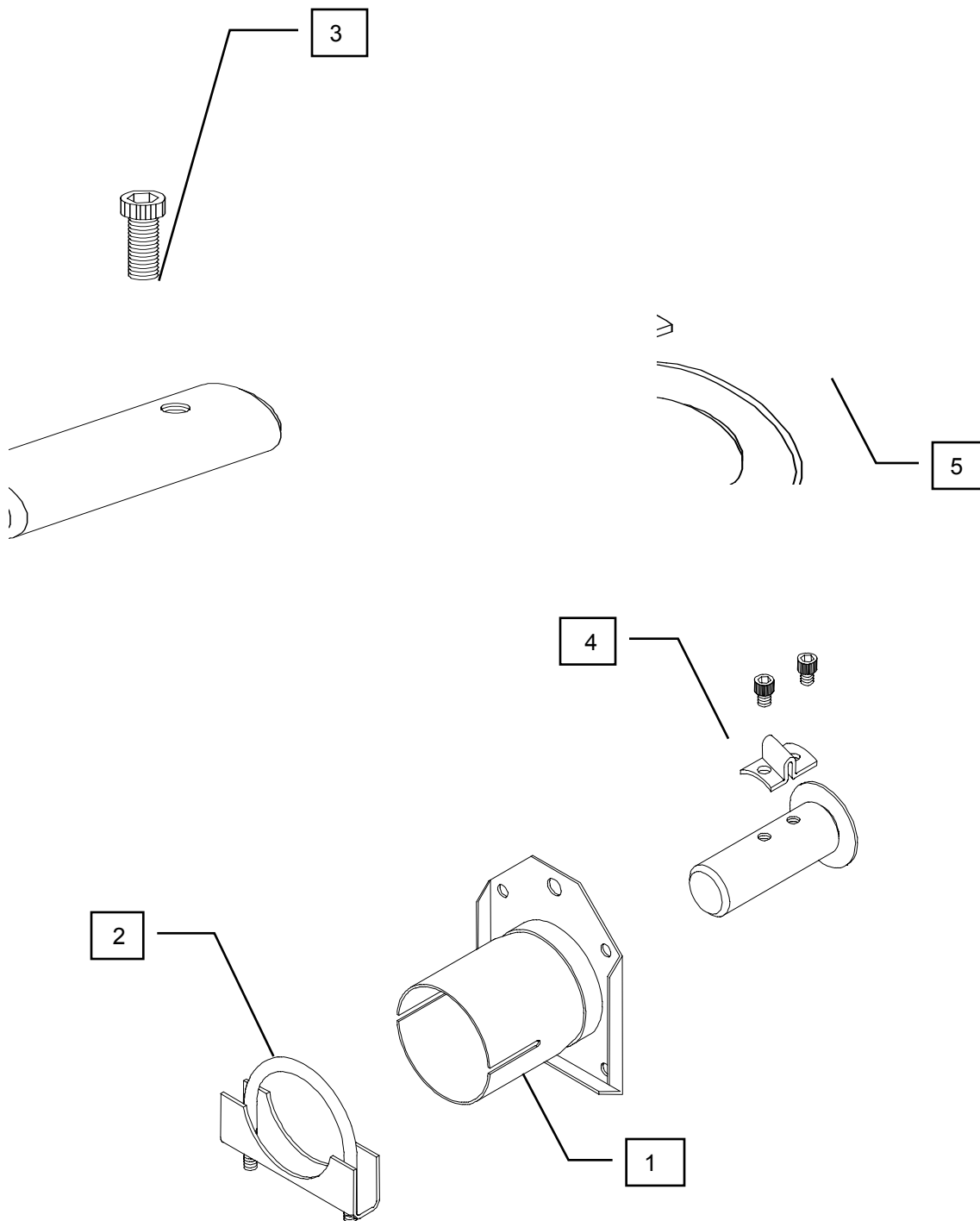
KEY	PART #	DESCRIPTION
1	Direct Drive Motor Only	
	See listing of motors	
2A	Gear Reducers – CI & Aluminum	
	730025	358 rpm Gear Reducer – Aluminum 7/8" Output Shaft (298 rpm @ 50 HZ)
	713412	358 rpm Gear Reducer – CI 5/8" Output Shaft – Limited Availability
	720320	190 rpm Gear Reducer – Aluminum 7/8" Output Shaft (159 rpm @ 50HZ)
	730045	266 rpm Gear Reducer – Aluminum 7/8" Output Shaft (221 rpm @ 50HZ)
	735312	250 rpm Gear Reducer – CI 7/8" Output Shaft (208 rpm @ 50HZ)
	735313	441 rpm Gear Reducer – Aluminum 7/8" Output Shaft (368 rpm @ 50HZ)
	Gear Reducers – Die Cast Aluminum (DCA)	
2B	730089	358 rpm Gear Reducer – DCA 7/8" Output Shaft (298 rpm @ 50HZ)
	730123	190 rpm Gear Reducer – DCA 7/8" Output Shaft (159 rpm @ 50HZ)
	730093	266 rpm Gear Reducer – DCA 7/8" Output Shaft (208 rpm @ 50HZ)
	730124	441 rpm Gear Reducer – DCA 7/8" Output Shaft (368 rpm @ 50HZ)

KEY	PART #	DESCRIPTION
3A	Pinions – CI & Aluminum Gearboxes	
	450297	1/2" Bore Pinion – Aluminum Gearbox 2.5/8" Long – 14 Teeth
	730026	5/8" Bore Pinion – Aluminum Gearbox 3.1/8" Long – 14 Teeth
	730370	1/2" Bore Pinion – CI Gearbox 2.1/4" Long – 14 Teeth
	720370	5/8" Bore Pinion – CI Gearbox 2.1/4" Long – 14 Teeth
	714415	1/2" Bore Pinion 1.3/4" Long – 12 Teeth
3B	Pinions – Die Cast Aluminum (DCA) Gearboxes	
	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
N/S	Hardware to Install Gear Reducer	
	010643	5/16" x 3/4" Hex Bolt (4 req.)
	010645	5/16" x 1" Hex Bolt (2 req.)
	010252	5/16" Split Lockwasher (6 req.)
4	730126	3PH Adapter Face Plate
N/S	415438	#2 Gearbox Vent Plug

MOTOR #	HP	VOLTAGE	HZ	PHASE
735390	.50	115/230 190/380	60 50	Single
735391	.75	115/230 190/380	60 50	Single
735392	1.0	115/230	60	Single
735393	1.5	115/230	60	Single
735460	.50	230/460	60	3
735461	.75	230/460	60	3
735462	1.0	230/460	60	3
735463	1.5	230/460	60	3
735464	1.0	190/380	50	Single
735465	1.5	190/380	50	Single



STEEL PORT & DRIVERS



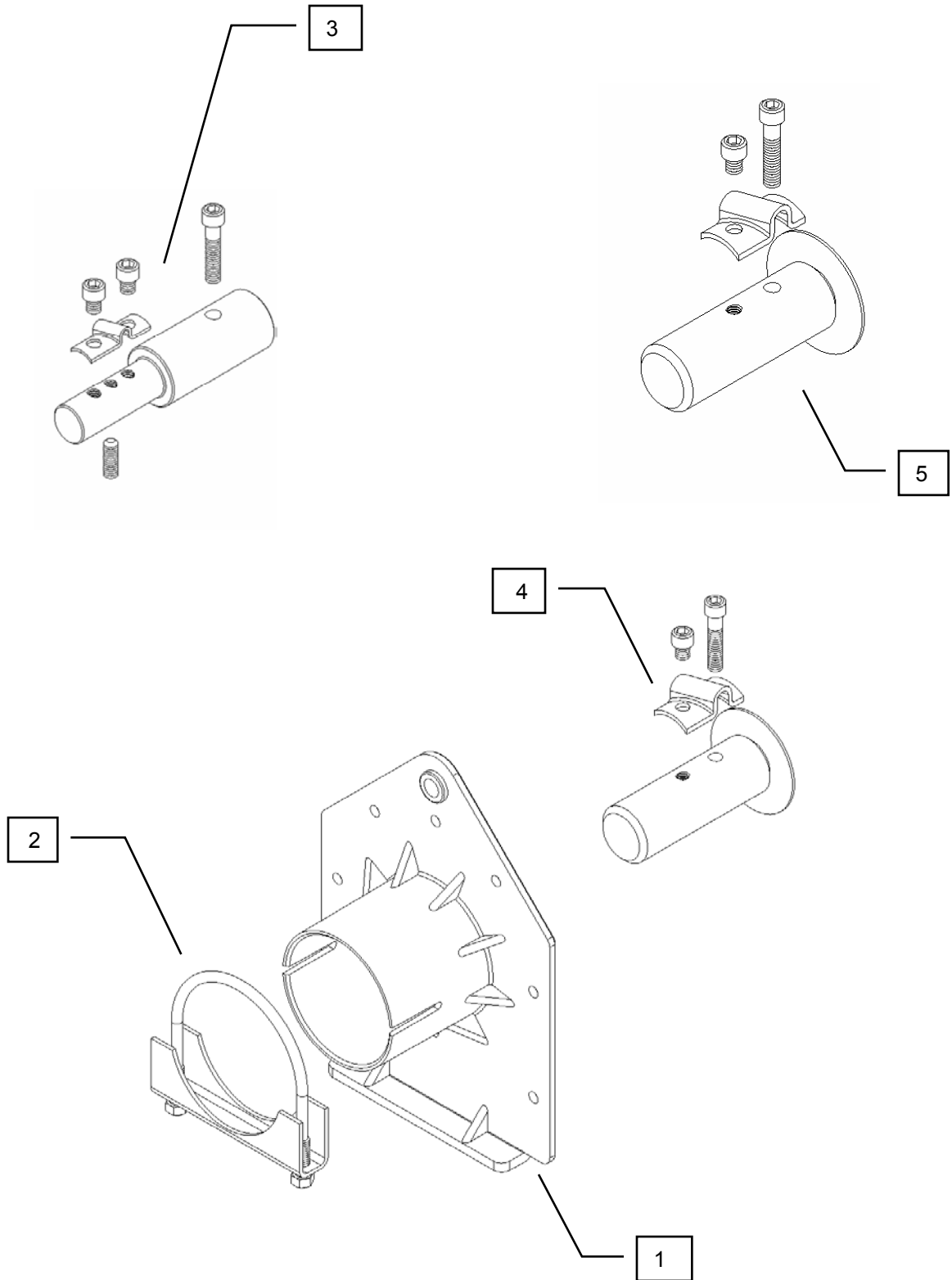


STEEL PORT & DRIVERS

KEY	PART #	DESCRIPTION
1	720034	2.25" Port Tube & Plate Assembly
	730034	3" Port Tube & Plate Assembly
	735035	3.5" Port Tube & Plate Assembly
	713195	Hardware Bag for Port Tube Plate
2	720004	2.25" Tube Clamp Assembly
	713197	3" Tube Clamp Assembly
	724401	3.5" Tube Clamp Assembly
3	Model 720 Anchor & Driver for Direct Drive Components:	
	720611	Flighting Driver – 7/8" Bore for 1.52" OD Auger
	720412	Flighting Anchor for 1.52" OD Auger
	730303	5/16" x 1.1/2" Cap Screw (1)
	730414	5/16" x 3/8" Cap Screw (2)
	730403	Knurled Set Screw (1)
4	Model 720 Anchor & Drive for V-Belt Drive Components:	
	720030	Flighting Driver – 5/8" Bore for 1.52" OD Auger
	720052	1/4" x 7/8" Expansion Pin (1)
	720412	Flighting Anchor for 1.52" OD Auger
	730414	5/16" x 3/8" Cap Screw (2)
	Model 730/735 HM Anchor & Driver for V-Belt Drive Components:	
	730410	Flighting Driver – 5/8" Bore for 2.38" OD Auger
	730412	Flighting Anchor for 2.38" & 2.71" OD Auger
	730414	5/16" x 3/8" Cap Screw (2)
	713418	1/4" x 1.1/4" Expansion Pin (1)
	Model 735 HV Anchor & Driver for V-Belt Drive Components:	
	735410	Flighting Driver – 5/8" Bore for 2.71" OD Auger
	730412	Flighting Anchor for 2.38" & 2.71" OD Auger
	730414	5/16" x 3/8" Cap Screw (2)
	714418	1/4" x 2" Expansion Pin(1)
5	Model 735 HV Anchor & Driver for Direct Drive Components:	
	735300	Flighting Driver – 7/8" Bore for 2.38" & 2.71" OD Auger
	730412	Flighting Anchor for 2.38" & 2.71" OD Auger
	730414	5/16" x 3/8" Cap Screw (1)
	735303	5/16" x 1.3/4" Cap Screw (1)
	Model 735 HM Anchor & Driver for Direct Drive Components:	
	730300	Flighting Driver – 7/8" Bore for 2.38" OD Auger
	730412	Flighting Anchor for 2.38" & 2.71" OD Auger
	730414	5/16" x 3/8" Cap Screw (1)
	730303	5/16" x 1.1/2" Cap Screw (1)



POLY PORT & DRIVERS



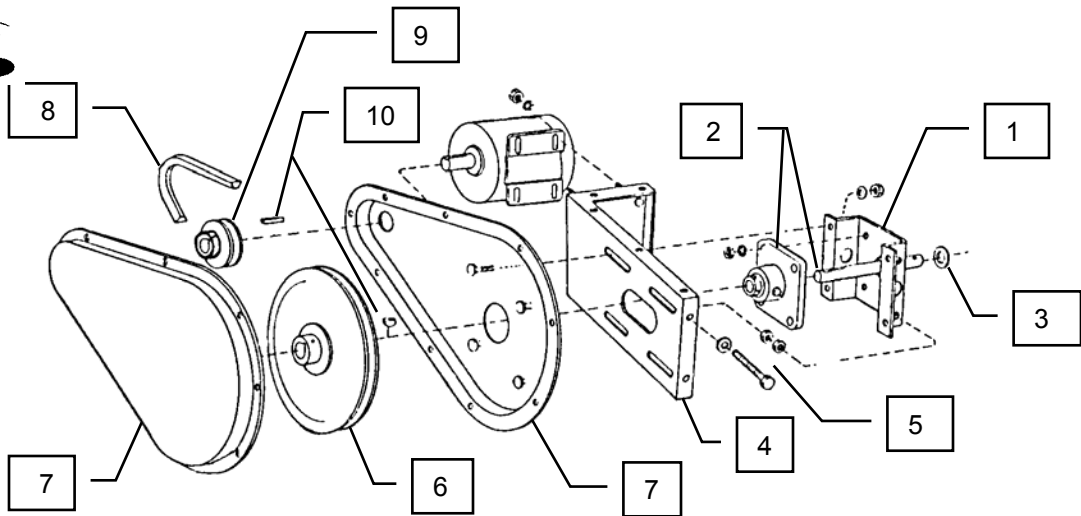


POLY PORT & DRIVERS

KEY	PART #	DESCRIPTION
1	730270	2.25" Poly Port Plate
	730269	3" Poly Port Plate
	730268	3.5" Poly Port Plate
2	720467	2.25" Tube Clamp Assembly
	713197	3" Tube Clamp Assembly
	724402	4" Tube Clamp Assembly
3	Model 720 Anchor & Driver For Direct Drive Components:	
	720611	Flighting Driver - 7/8" Bore For 1.52" OD Auger
	720412	Flighting Anchor For 1.52" OD Auger
	730303	5/16" x 1-1/2" Cap Screw (1)
	730414	5/16" x 3/8" Cap Screw (2)
	730403	Knurled Set Screw (1)
4	Model 730 Anchor & Driver For Direct Drive Components:	
	730300	Flighting Driver - 7/8" Bore For 2.38" OD Auger
	730417	Flighting Anchor For 2.38" & 2.71" OD Auger
	730303	5/16" x 1-1/2" Cap Screw (1)
	730414	5/16" x 3/8" Cap Screw (1)
5	Model 735 HV Anchor & Driver For Direct Drive Components:	
	735300	Flighting Driver - 7/8" Bore For 2.71" OD Auger
	730417	Flighting Anchor For 2.38" & 2.71" OD Auger
	735303	5/16" x 1-3/4" Cap Screw (1)
	730414	5/16" x 3/8" Cap Screw (1)
	Model 735 HM Anchor & Driver For Direct Drive Components:	
	730300	Flighting Driver - 7/8" Bore For 2.38" OD Auger
	730417	Flighting Anchor For 2.38" & 2.71" OD Auger
	730303	5/16" x 1-1/2" Cap Screw (1)
	730414	5/16" x 3/8" Cap Screw (1)



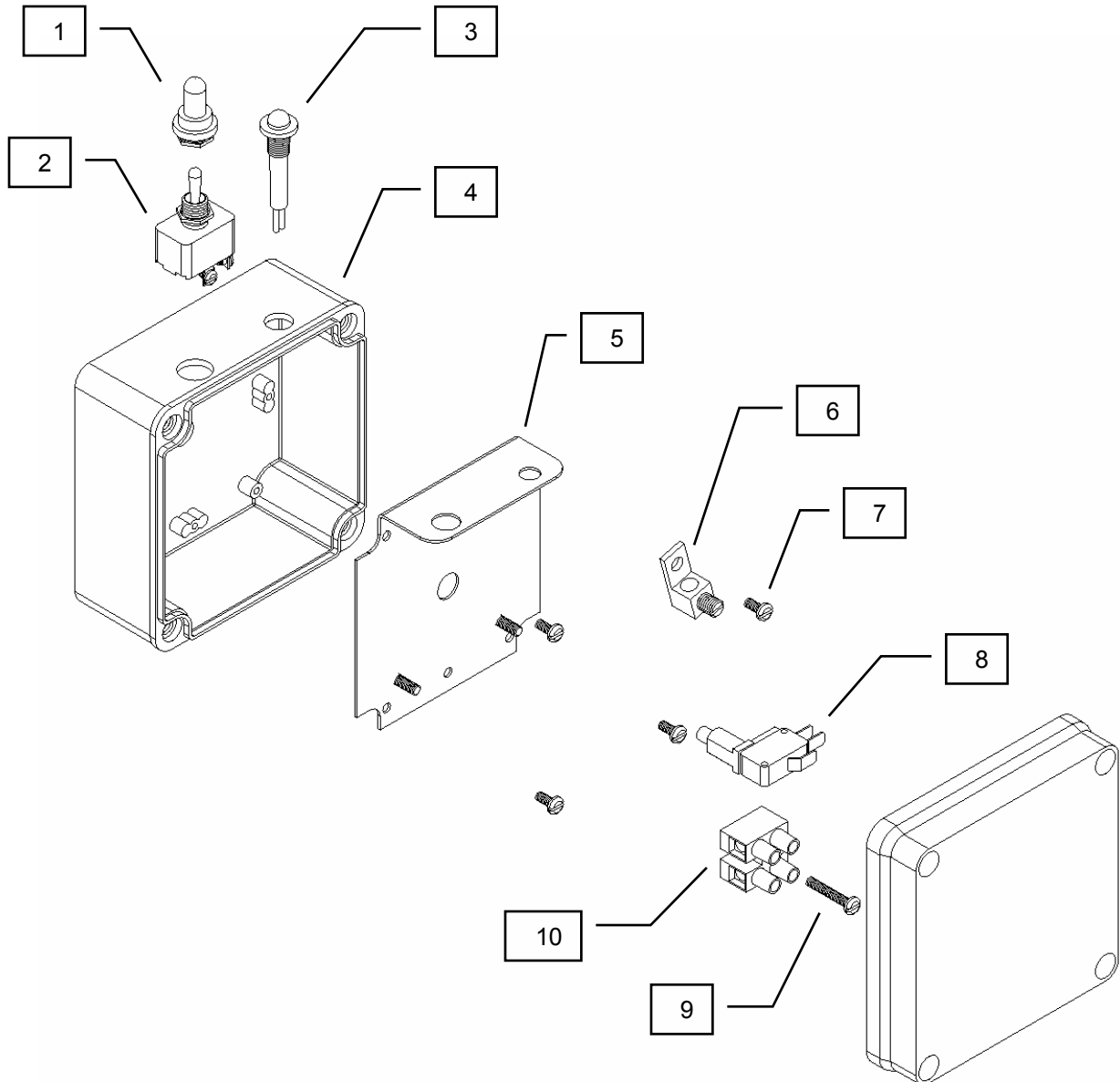
MODEL 713230 V-BELT DRIVE



KEY	PART #	DESCRIPTION
1	713236	Drive Base Plate
	010645	5/16" x 1" Hex Bolt (4 req.)
	010252	5/16" Lockwasher (4 req.)
	011114	5/16" Heavy Hex Nut (4 req.)
2	713239	CI Bearing Housing with Bearing & Drive Shaft Components:
		713409 – 5/8" Drive Shaft
		713404 – CI Bearing Housing Only
		713410 – 5/8" Ball Bearing
		713411 – 5/8" Bronze Bushing
		713405 – 5/16" Lubrication Fitting
3	500131	5/8" Nylon Washer
4	713237	Motor Mount
5	010655	5/16" x 4" Hex Bolt (2 req.)
	010427	5/16" x 7/8" Flat Washer (2 req.)
	011114	5/16" Heavy Hex Nut (4 req.)
6	713426	10.6" Driven Pulley – 5/8" Bore
7	713235	Outside Pulley Guard
	713238	Inside Pulley Guard
	010616	1/4" x 5/8" Hex Bolt (5 req.)
	012793	1/4" Nylon Insert Locknut
	010252	5/16" Lockwasher (4 req.)
	011114	5/16" Heavy Hex Nut (4 req.)
8	713424	47" B Section V-Belt
9	713425	2.2" Motor Pulley – 5/8" Bore
10	704406	#9 Woodruff Key
	713427	Motor Shaft Key
11	Farm Duty Motor (not included – order separately)	
	010252	5/16" Lockwasher (4 req.)
	011114	5/16" Heavy Hex Nut (4 req.)
N/S	713241	V-Belt Drive Small Parts Carton (includes bearing assembly, motor, pulley, & all hardware)
	713240	Hardware Bag Only for 713230



MODEL 730460 MECHANICAL CONTROL BOX

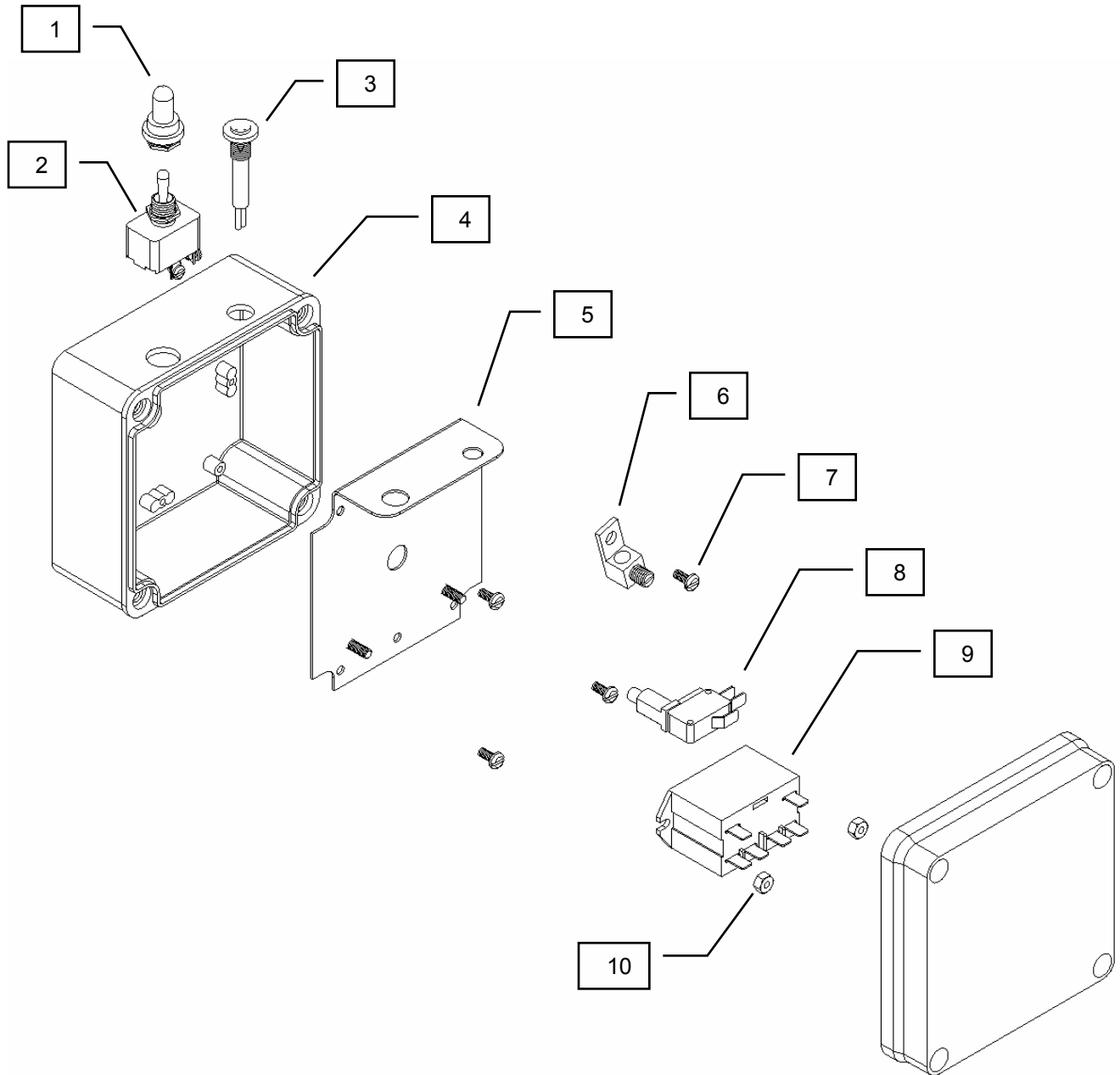




MODEL 730460 MECHANICAL CONTROL BOX

KEY	PART NO.	DESCRIPTION
1	750657	Toggle Switch Cover
2	723424	Toggle Switch
3	730043	Neon Lamp
4	730243	Electric Box With Holes
5	730241	Electric Box Adapter Plate
6	450484	Ground Block
7	011380	8-32 x 3/8 Self Tapping Screw (4)
8	730041	Snap Action Switch
9	011381	8-32 x 3/4 Self Tapping Screw (1)
10	730163	2 Hole Terminal Strip

MODEL 730461 RELAY CONTROL BOX



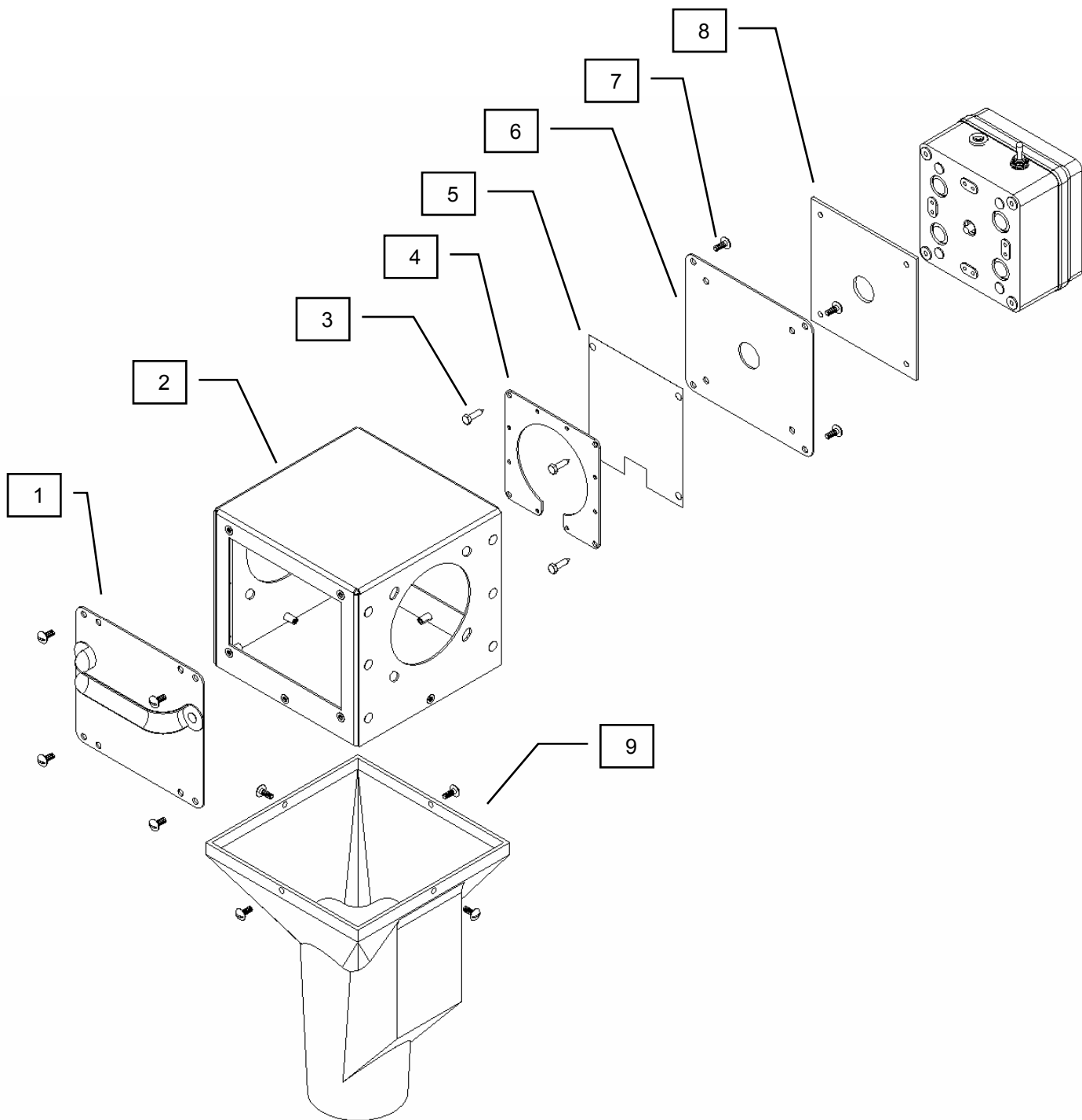


MODEL 730461 RELAY CONTROL BOX

KEY	PART NO.	DESCRIPTION
1	750657	Toggle Switch Cover
2	723424	Toggle Switch
3	730043	Neon Lamp
4	730243	Electric Box With Holes
5	730241	Electric Box Adapter Plate
6	450484	Ground Block
7	011380	8-32 x 3/8 Self Tapping Screw (4)
8	730041	Snap Action Switch
9	730246	Power Relay
10	012607	10-24 Hex Nut (2)



MODEL 730462 BASIC STEEL DISCHARGE HEAD



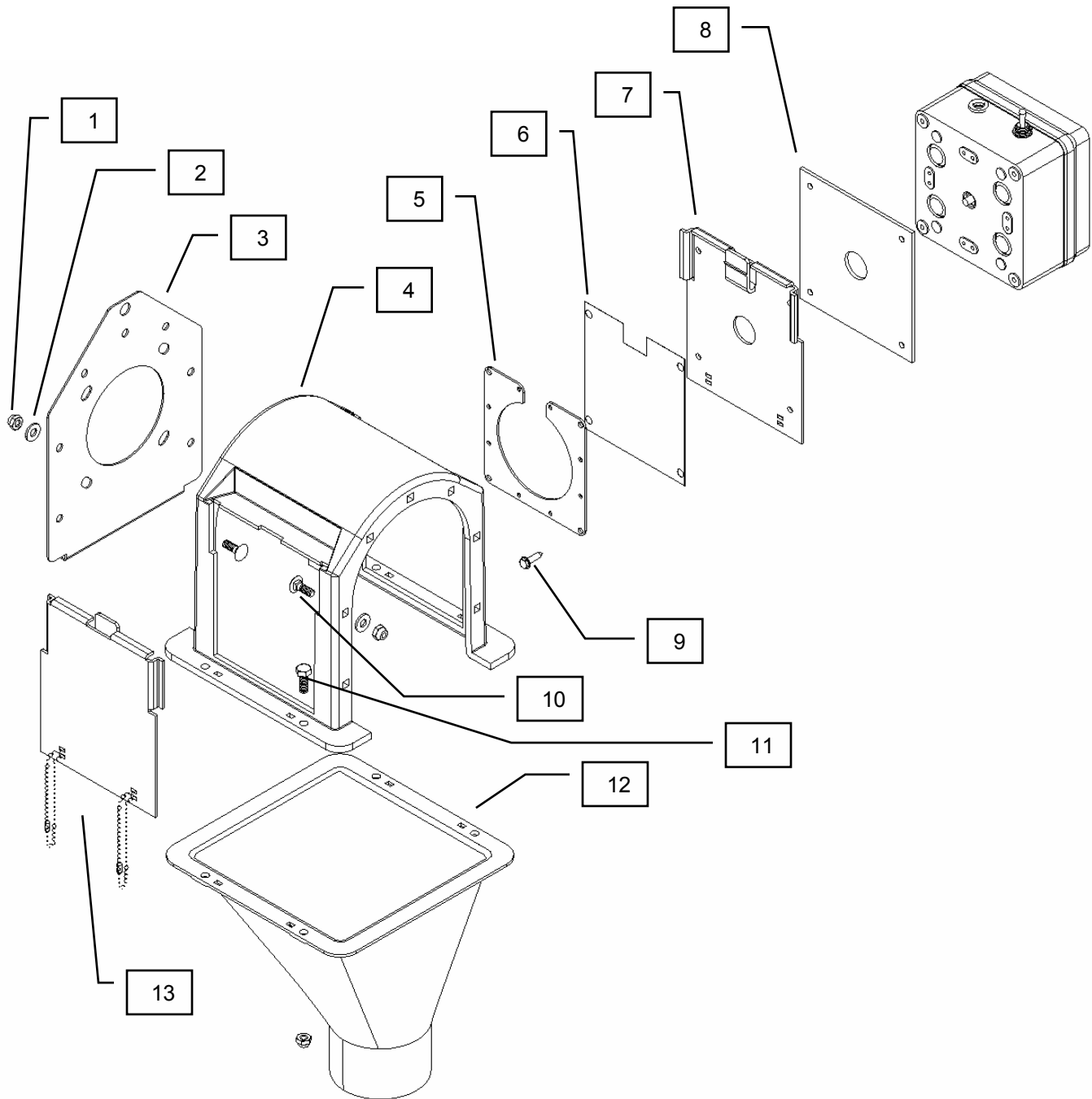


MODEL 730462 BASIC STEEL DISCHARGE HEAD

KEY	PART NO.	DESCRIPTION
1	730039	Access Door Assembly
2	730001	Discharge Head Housing
3	410634	#10 x 3/4 Sheet Metal Screw (4)
4	730276	Diaphragm Retainer
5	730765	Contact Assembly
6	730466	Enclosure Mounting Plate
7	010502	10-24 x 1/2 Truss Head Bolt (12)
8	730046	Neoprene Moisture Seal
9	730634	Plastic Funnel



MODEL 730463 BASIC POLY DISCHARGE HEAD



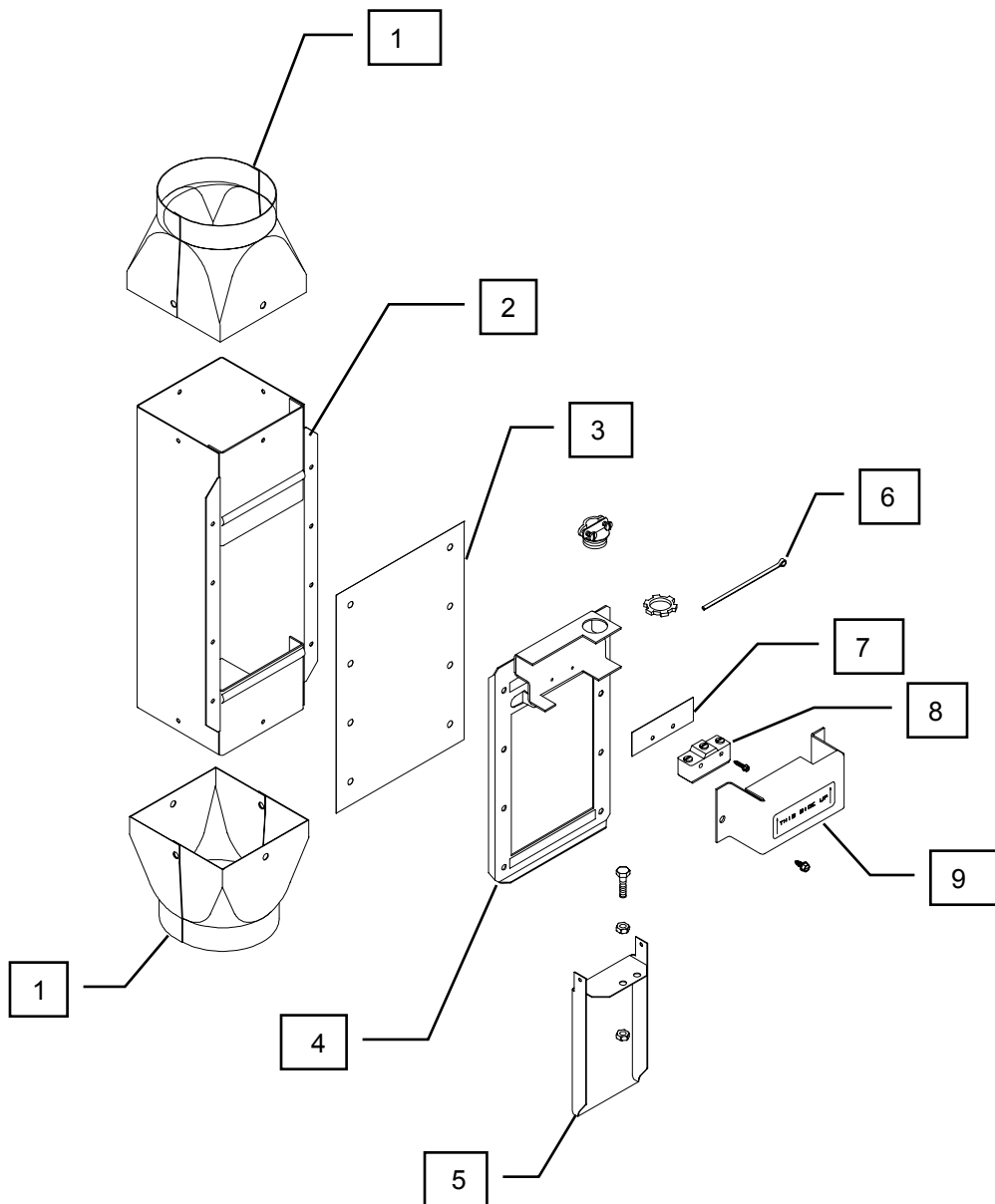


MODEL 730463 BASIC POLY DISCHARGE HEAD

KEY	PART NO.	DESCRIPTION
1	012793	1/4-20 Nylock Nut (18)
2	010424	1/4 Flat Washer
3	730274	Gearbox Mount
4	730267	Poly Discharge Head
5	730276	Diaphragm Retainer
6	730765	Contact Assembly
7	730271	Poly Electric Box Mount
8	730046	Noeprene Moisture Seal
9	410634	#10 x 3/4 Sheet Metal Screw (4)
10	011434	1/4 x 1 Carriage Bolt (14)
11	010617	1/4 x 3/4 Hex Bolt (4)
12	730273	Poly Funnel
13	730272	Poly Access Door
	011431	#6 Ball Chain (2.5')
	011432	#6 Ball Chain Connector (4)



MODEL 735280 DOWNSPOUT FEED CONTROL SWITCH



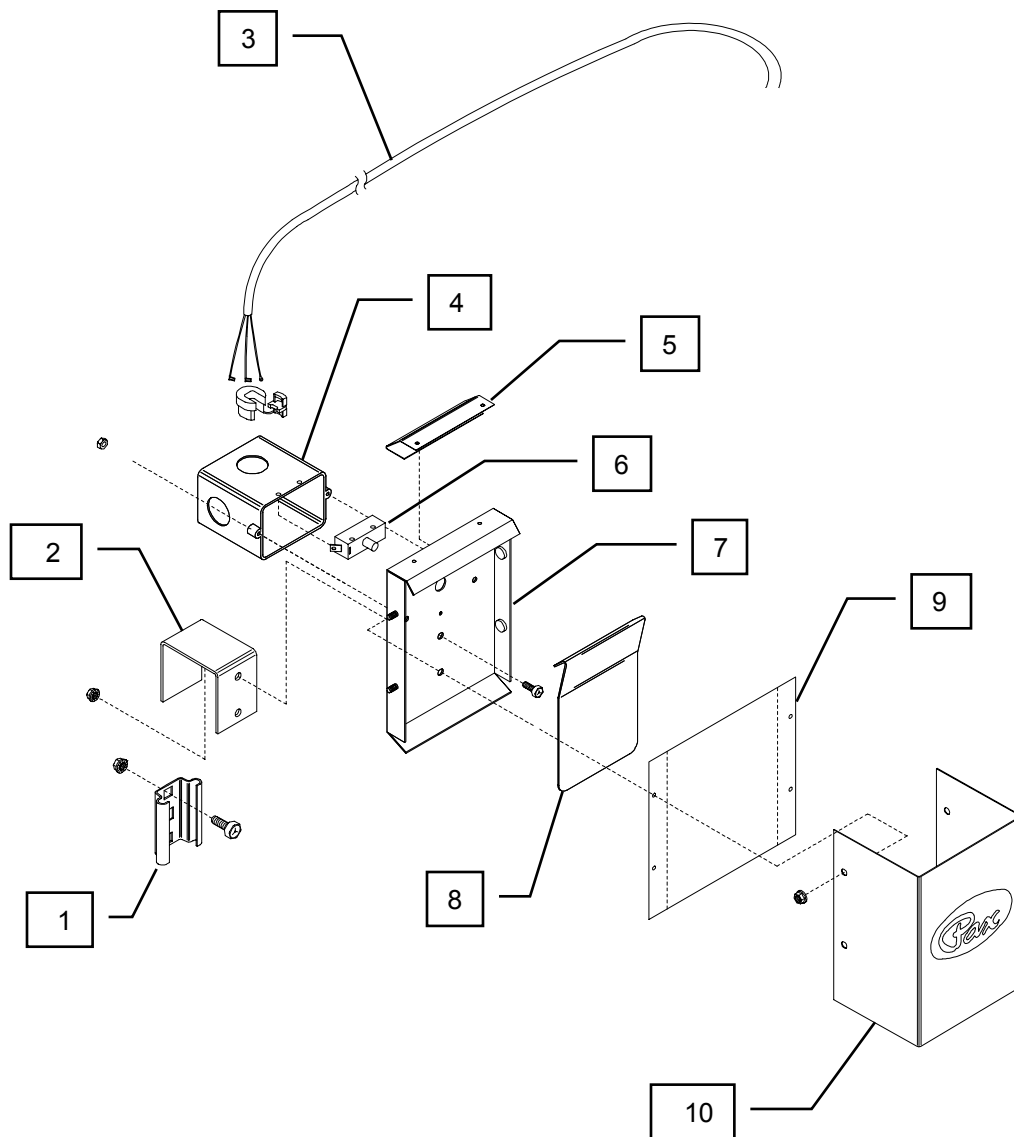


MODEL 735280 DOWNSPOUT FEED CONTROL SWITCH

KEY	PART #	DESCRIPTION
1	714285	4" Square to Round Adapter (2 req.)
	713285	3" Square to Round Adapter
	012752	#10 x 3/8" Slotted Self-Tapping Screw (4 req. per adapter)
2	714282	Switch Housing Assembly
N/S	650401	72" Cord & Plug Assembly
	450462	Spade Terminal (2 req.)
	350412	3/8" Neer Connector (1 req.)
	011416	#10-24 x 3/8" Hex Ground Screw
3	714294	Nylon Diaphragm
N/S	714297	Complete Retainer Plate, Bracket, & Switch Assembly (includes items 4, 5, 7, & 8 below)
	012752	#10 x 3/8" Slotted Self-Tapping Screw (8 req. to assemble to housing)
4	714288	Retainer Plate & Switch Bracket Assembly
5	714292	Switch Plate
	010619	1/4" x 1" Hex Bolt (1 req.)
	010602	1/4" Finished Hex Nut (1 req.)
6	735270	3.875" Switch Pin
7	714295	Mica Insulator
8	704418	Snap Action Switch
9	714291	Switch Cover



MODEL 720011 HOPPER LEVEL SWITCH





MODEL 720011 HOPPER LEVEL SWITCH

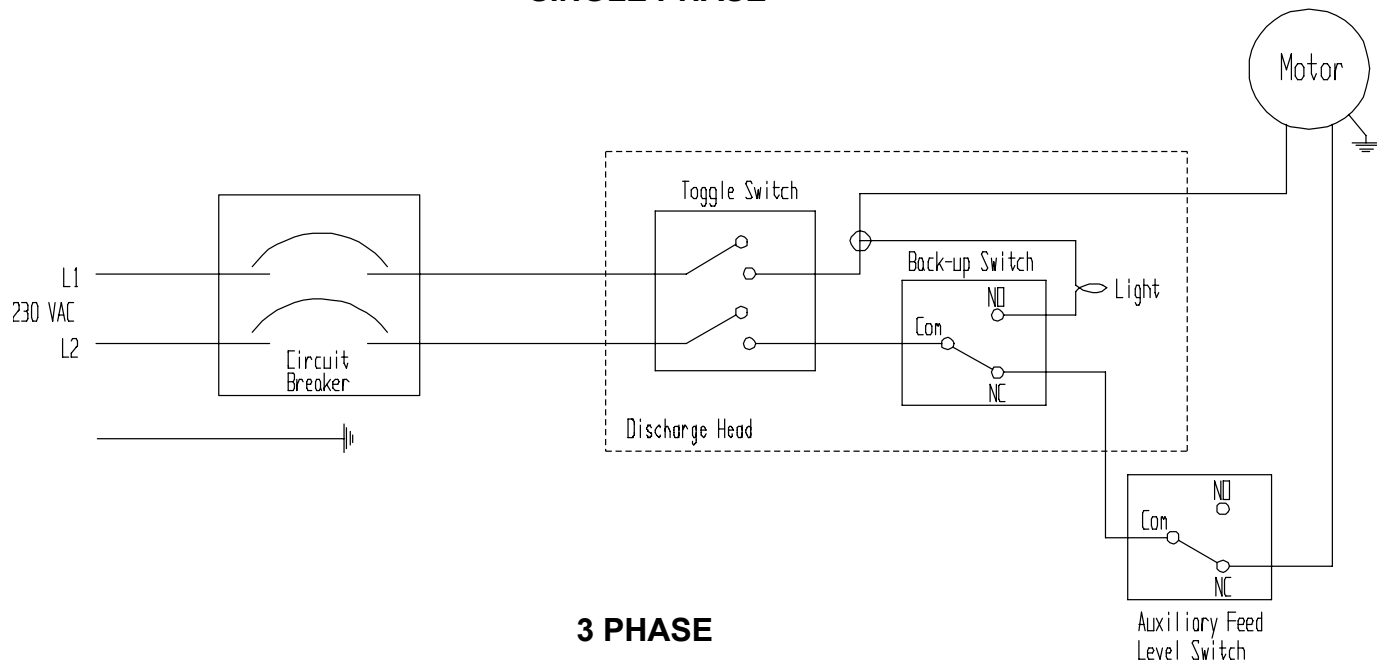
KEY	PART #	DESCRIPTION
1	720023	Mounting Bracket
	010643	5/16" x 3/4" Hex Bolt (2 req.)
	012789	5/16" Nylon Insert Locknut (2 req.)
2	720020	Hanger Bracket
	010617	1/4" x 3/4" Hex Bolt (2 req.)
	012793	1/4" Nylon Insert Locknut (2 req.)
3	412381	14/3 SJT Wire
	450404	Strain Relief (1 req.)
4	720016	Electric Box
	010744	#6-32 x 7/8" Truss Head Bolt (2 req.)
	012732	#6 Lockwasher (2 req.)
	012731	#6-32 Machine Nut (2 req.)
5	720014	Switch Plate Retainer
	720124	#7 x 3/8" Sheet Metal Screw (2 req.)
6	720017	Snap Action Switch
	010746	#6-32 x 7/8" Truss Head Bolt (2 req.)
	012732	#6 Lockwasher (2 req.)
	012731	#6-32 Machine Nut (2 req.)
7	720019	Switch Body
8	720013	Switch Plate
9	720018	7" x 6.5" Diaphragm
10	720015	Switch Shield
	011115	1/4" Hex Nut (4 req.)



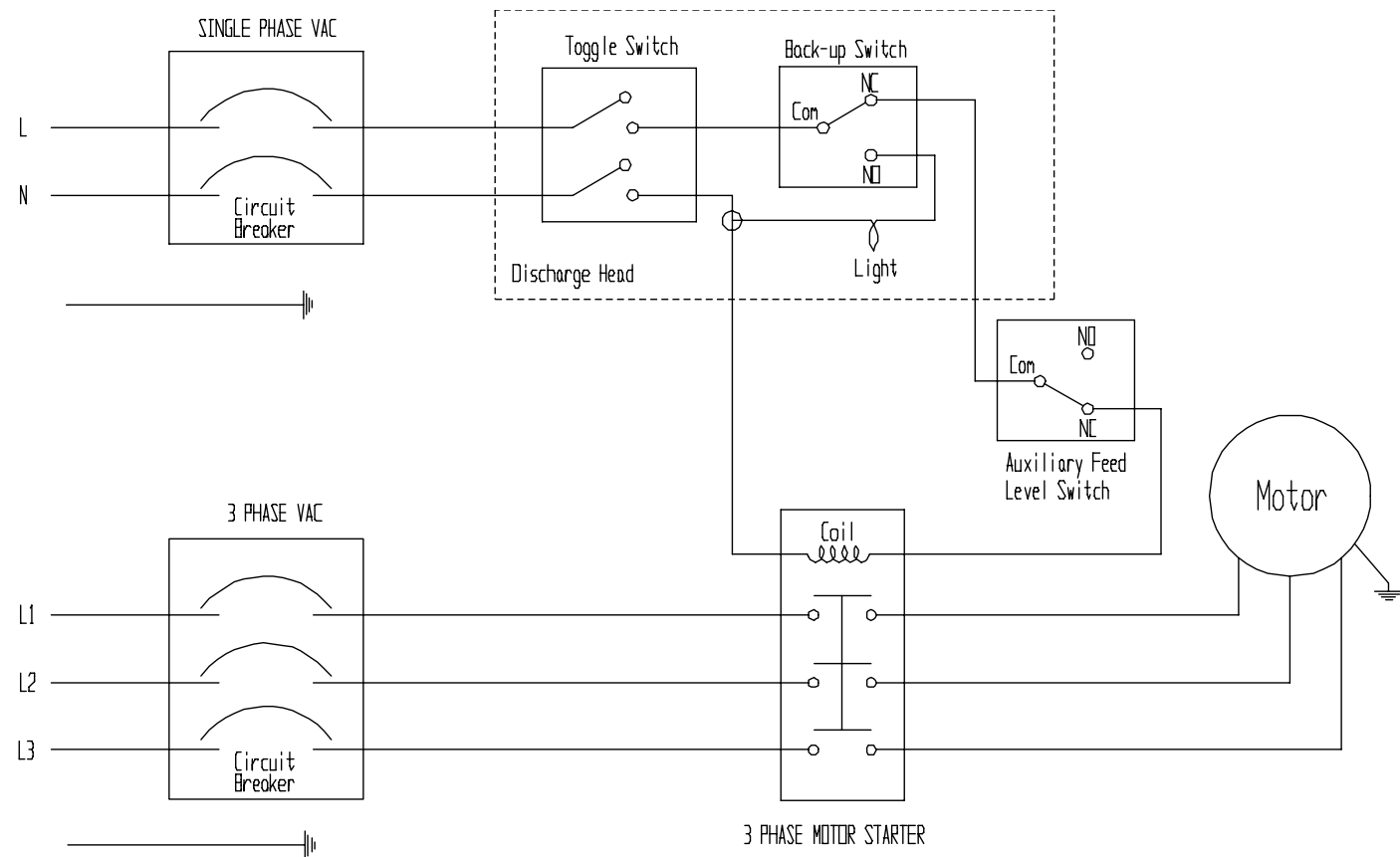
WIRING DIAGRAMS

MODEL 730460 MECHANICAL/3 PHASE CONTROL BOX

SINGLE PHASE



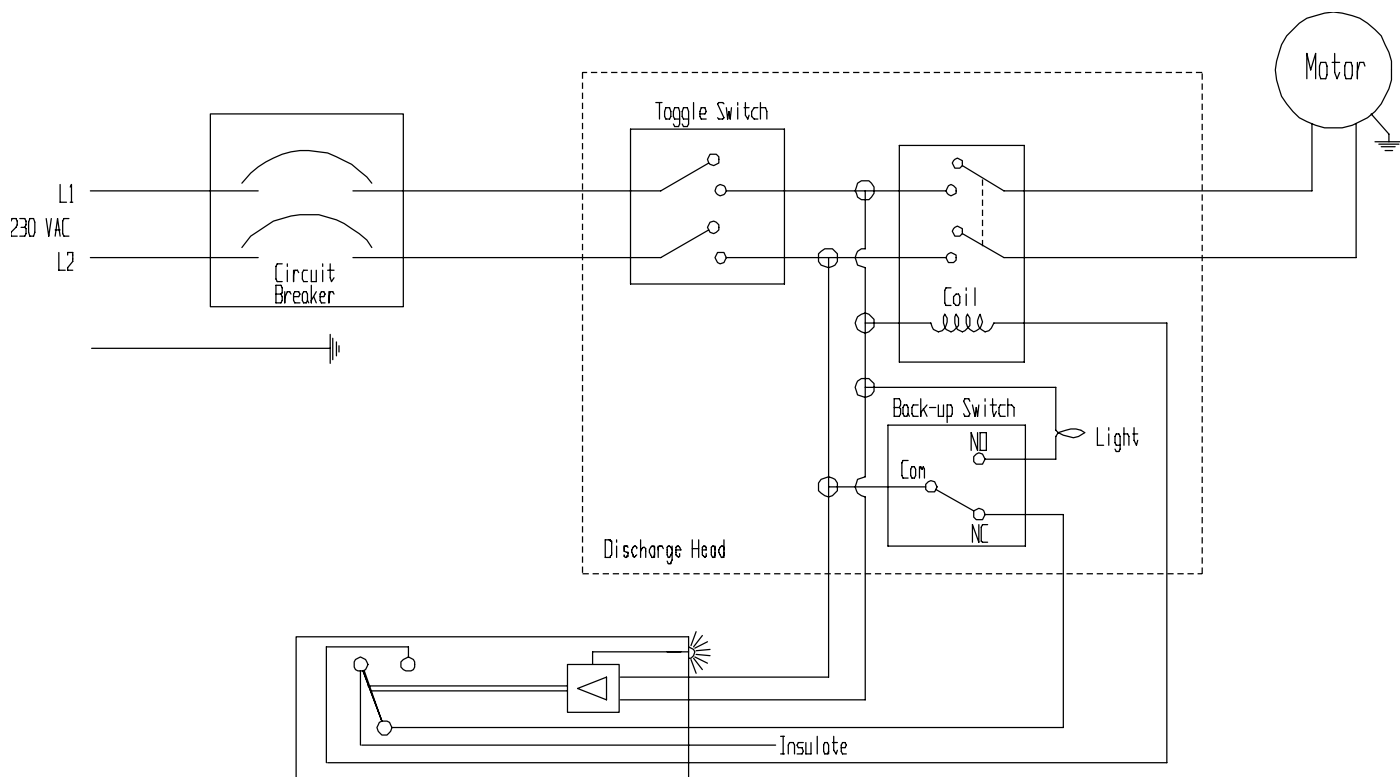
3 PHASE





WIRING DIAGRAMS

MODEL 730461 RELAY CONTROL BOX





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