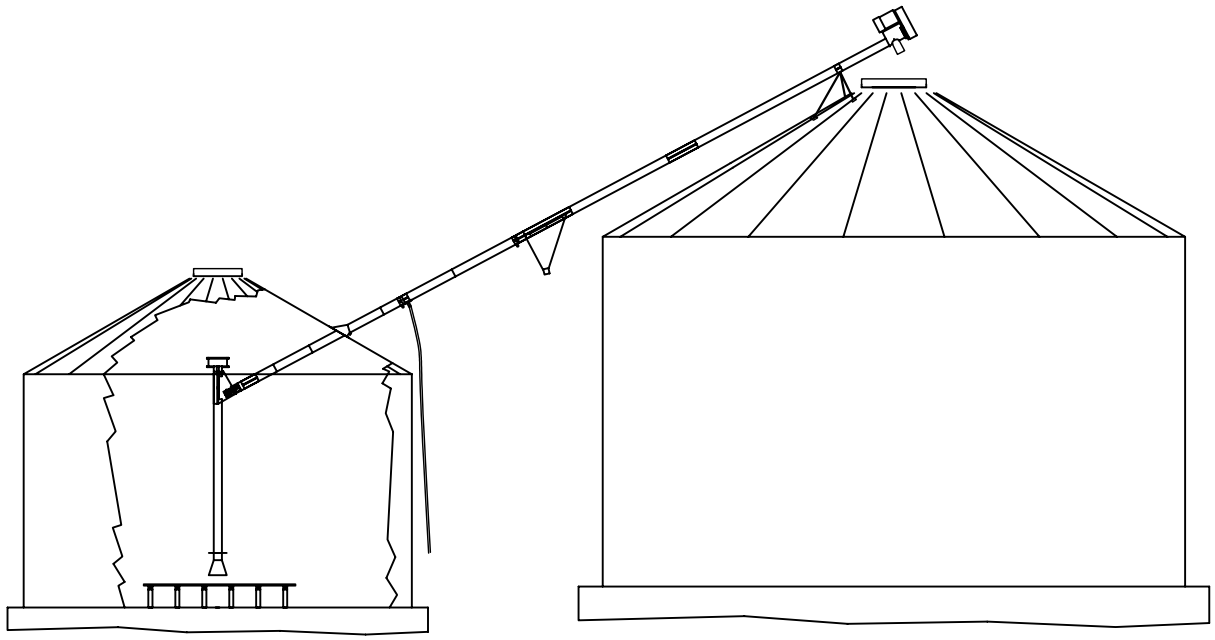
SHIVVERS

INSTALLATION INSTRUCTIONS



FOR

4" AND 6" CONTINUOUS FLOW AND AUXILIARY TRANSFER AUGERS

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Introduction

The Continuous Flow auger is the first transfer auger system coming out of the drying bin. One end connects to the Center Vertical auger in the drying bin, and the other end goes to the top of a storage bin. This manual covers installation of 4" or 6" diameter augers. There can be more than one Continuous Flow auger connected to the Center Vertical. If they exit the drying bin 180° apart, the boots can be bolted back to back. If the angle is other than 180°, the boots will need to be stacked (or modified in the field).

The Auxiliary Transfer Auger (sometimes called Horizontal Transfer Auger) is designed to transfer grain from the Continuous Flow Auger to a second cooling bin and possibly on to other bins. The special inlet Hopper Assembly has a Slide Gate which may be opened to allow grain to fall through the Hopper Assembly into the first cooling bin. A Drop Outlet Assembly may also be used in the middle of the auger which may be opened to drop grain into other storage bins.

Both the Continuous Flow and Auxiliary Transfer auger systems come with a downspout assembly that is placed at the motor end of the auger.

The 4" augers are recommended for most Circulator I (one sweep auger) and Circulator Jr. systems. The 4" augers are not available with hanger bearings.

The 6" augers are occasionally recommended for Circulator I systems where more capacity is needed or when future growth may lead to upgrading to a Circulator II. The 6" augers are recommended for most Circulator II (two sweep augers) systems. The 6" augers are available with or without hanger bearings. If hanger bearings are used, they are located every 10' along the auger. The hanger bearings can be relubricated.

The motor end of the auger system is called the "basic assembly". In 4" augers, it is available in 10' or 20' lengths. In 6" auger assemblies, it is available in 20' or 40' lengths. To get the required length, "extension assemblies" are used. They are available in 2.5', 5', 10', 15', or 20' lengths. There is also a 40' extension available only for 6" augers without hanger bearings. For 6" hanger bearing augers, extensions are available in 10' or 20' lengths (for shorter lengths just use a regular non-hanger bearing extension).

NOT included with the auger systems, but required, are a motor, motor pulley, overload heater elements, and the control circuit. See the appendix of this manual for recommendations on motor and motor pulley sizes. Other equipment may be required (such as a truss) or desired (such as a grain sample valve or a grain cleaner). They may be shown in this manual, but there should be complete instructions with each piece of equipment.

Safety Information

The user of this equipment must assume responsibility for his own safety and for the safety of those working with him.

If any items covered in this manual are not completely understood, or there is a concern with the safety of the product, contact Shivvers at the address shown on the front cover.

Read and understand the Operator's Safety Manual (P-10001), and all applicable operator's manuals, before working on Shivvers equipment.

Read and understand this manual completely before using this equipment.

Take note anytime this safety alert symbol appears. Your safety, and that of persons around you, is at stake.

The safety alert symbol will be accompanied by one of three signal words whose definitions are given as:

DANGER: Red and white. Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations, typically for machine components that, for functional purposes, cannot be guarded.

WARNING: Orange and black. Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.

CAUTION: Yellow and black. Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

Safety Information

Using a tagged padlock, lock off all sources of potential energy before beginning the installation!

All electrical wiring shall be installed in compliance with the latest addition of the ANSI/NFPA Standard 70, National Electrical Code, as a minimum requirement, and in compliance with local wiring codes as applicable.

Wiring must be done by a competent electrician. A licensed electrician is recommended, and must be used when required by local or state statutes.

The installation of this equipment will require special tools such as an oxy-acetylene torch (cutting torch), ladders, safety belts, power tools, and power cords with GFCI (ground fault circuit interrupter). The safe operation, use, and condition, of this equipment is the responsibility of the contractor, or persons involved in their use.

Avoid dusty conditions (especially on existing bins where grain has been stored), to prevent fires or explosions caused by combustion. Wear a dust mask.

Safety Decal Location

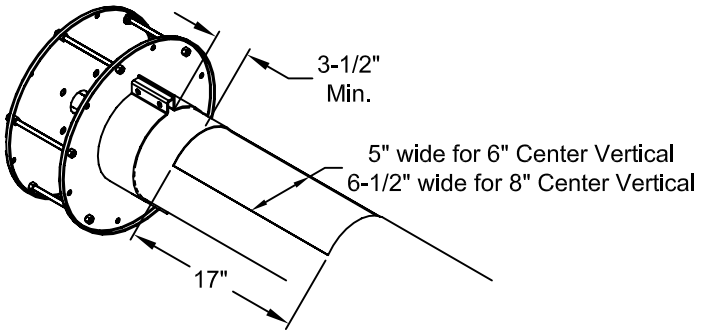
Located near discharge end of Continuous Flow and Auxiliary Transfer Augers (one on each side).

Installing Continuous Flow

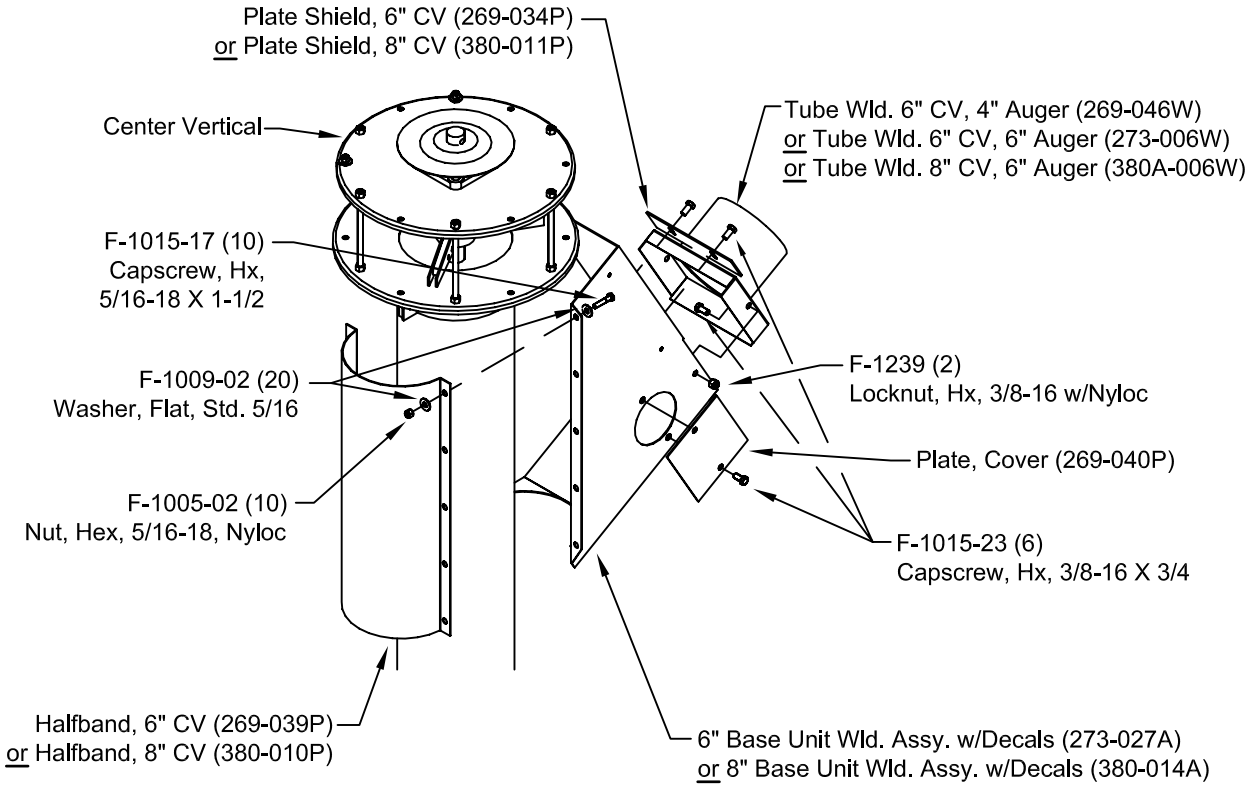
With these instructions, it is considered that the center vertical has previously been installed and trued.

For Regular Boot (Go to step 1B for High Angle Boot):

1A. Cut a hole in the Center Vertical tube for the Continuous Flow Boot 5" wide by 17" long for 6" Center Vertical, as shown. Cut a hole 6-1/2" wide by 17" long for 8" Center Vertical.

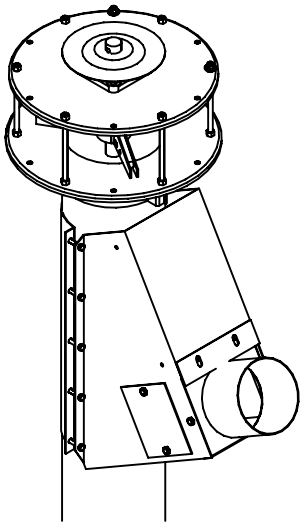


2A. Assemble the Continuous Flow Boot, as shown.

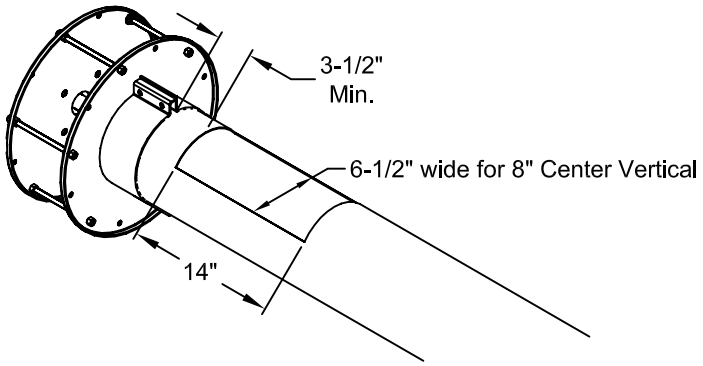


Installing Continuous Flow

3A. Center the Continuous Flow Boot over the hole you have just cut in the Center Vertical. Mount into place and fasten securely with the halfband and hardware (269-014A, Boot Sack) provided with the Continuous Flow Parts box. Continue to Step 4.



1B. For High Angle Boot only. Cut a hole in the Center Vertical tube for the Continuous Flow Auger High Angle Boot 6-1/2" wide by 14" long. The High Angle Boot can only be used with a 8" Center Vertical.

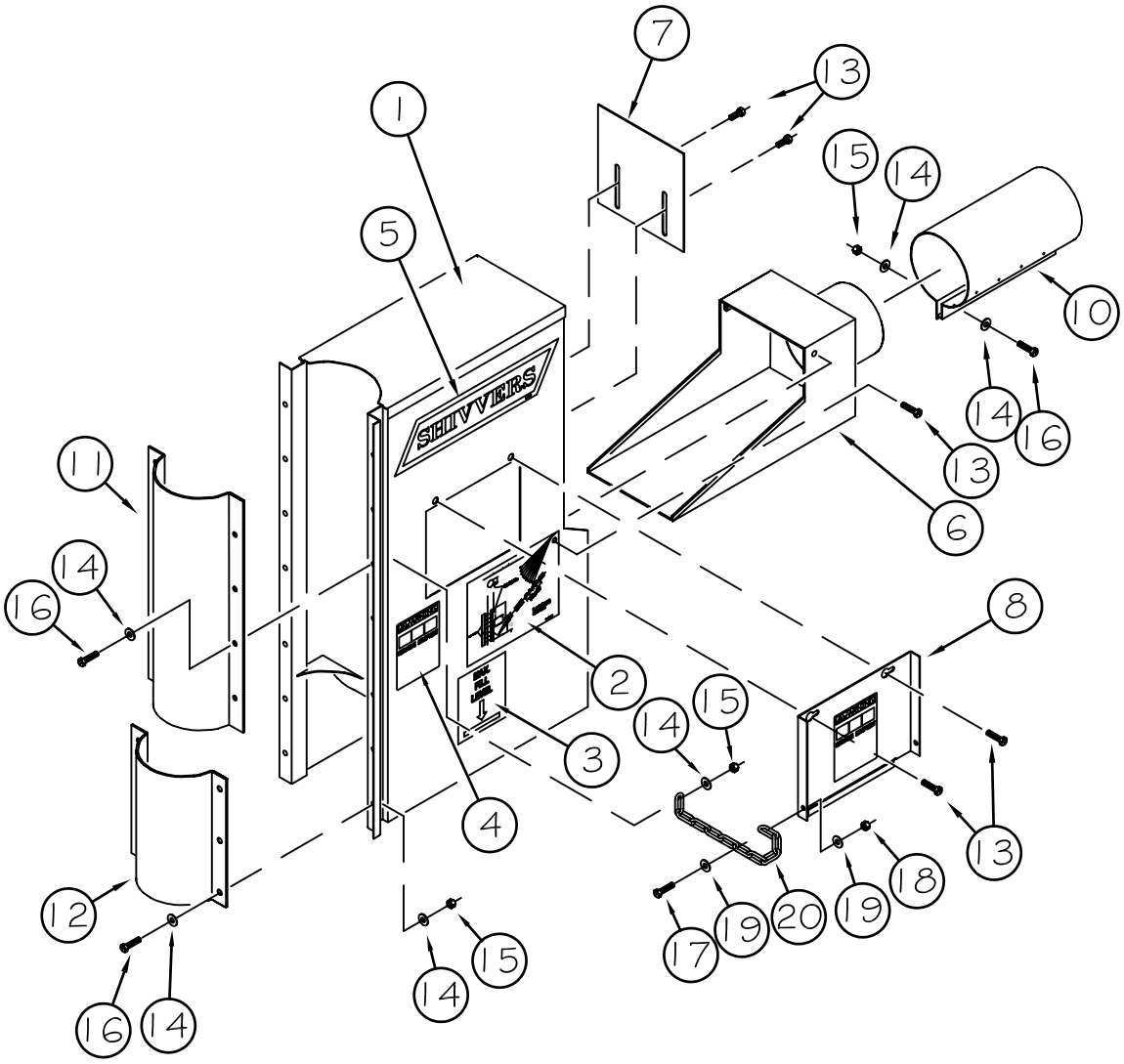


For High Angle Boot only
658P-001A, 8" CV, 6" Auger
658Q-001A, 8" CV, 8' Auger

Installing Continuous Flow

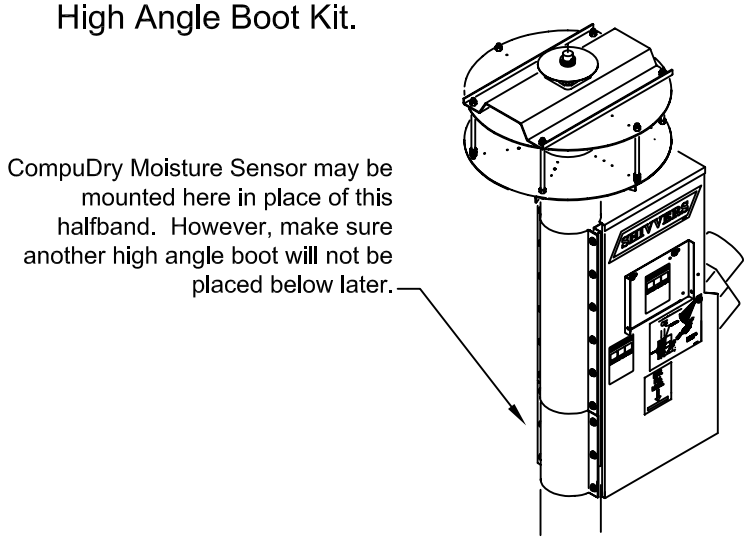
2B. Assemble the High Angle Boot, as shown.

ITEM	DESCRIPTION	QTY	PART NO.	ITEM	DESCRIPTION	QTY	PART NO.
1	HACV Boot, Boot Body Assy	1	658-030A	11	HACV Boot Half Band 8" X 22"	1	658-032P
2	Decal, Hi-Angle Cont. Flow Boot	1	P-11617	12	Bottom, 8" Half Band	1	597-362P
3	Decal, Max Fill Level	2	P-9134				
4	Decal, Warning - Rotating Equip	1	P-10223	A	HACV Boot Hardware Sack	1	658-046A
5	Decal, Shivvers, Large	2	P-8427	13	Capscrew, Hex, Washer, 3/8-16 X 1	6	F-1970
				14	Washer, Flat, Std, Steel, 3/8"	38	F-1009-03
6	HACV Boot, Tube Wld, 6"	1	658-042W	15	Locknut, Hex, 3/8-16 w/ Nyloc	19	F-1239
	HACV Boot, Tube Wld, 8"	1	658-044W	16	Capscrew, Hx, 3/8-16 X 1-3/4 Gr. 5	19	F-1015-28
7	HACV Boot, Upper Cover Plate	1	658-037P	17	Capscrew, Hx, 5/16-18 X 1 Gr. 5	1	F-1015-15
8	Clean-Out Door & Decal P-10223	1	263-027A	18	Nut, Hex, 5/16-18 UNC-2B Nyloc	1	F-1005-02
9	Plate, Cover, Side (Early Units)	-	269-040P	19	Washer, Flat, Std, Steel, 5/16"	2	F-1009-02
10	Sleeve, 6" X 12" Long	1	217-059P	20	Chain, 13" Long	1	222-031P
	Sleeve, 8" X 12" Long	1	243-006P				

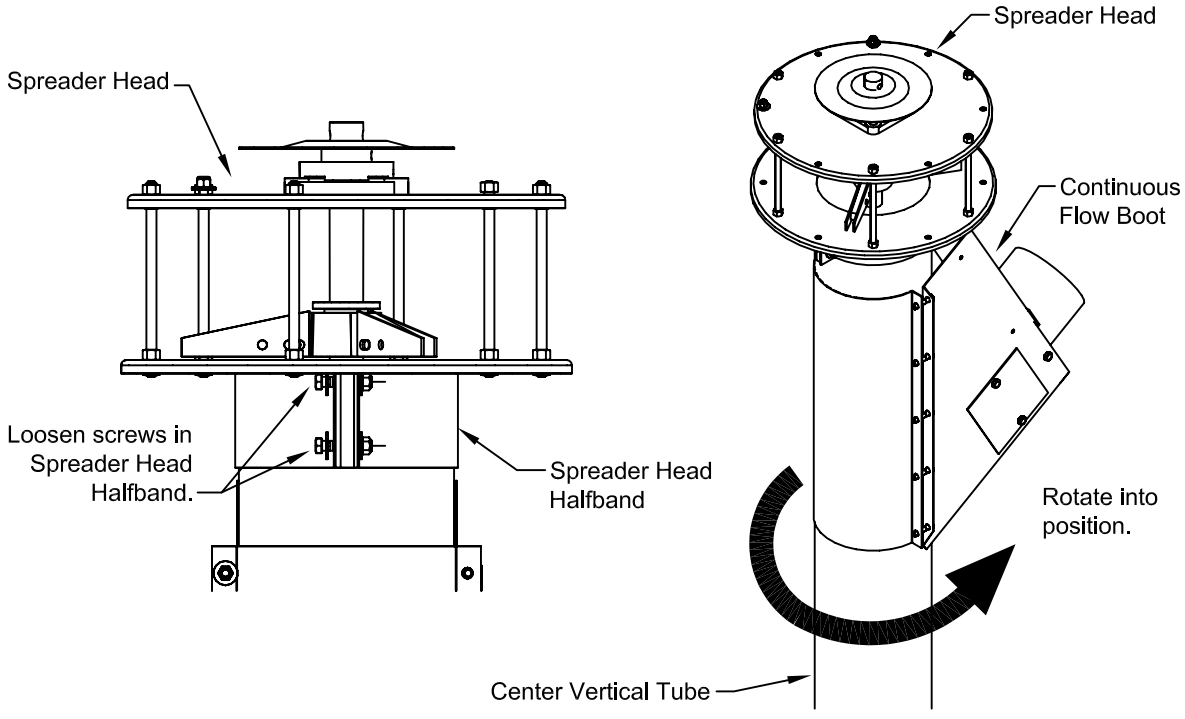


Installing Continuous Flow

3B. Center the High Angle Boot over the hole you have just cut in the Center Vertical. Mount into place and fasten securely with the halfbands and hardware included in the HACV Boot Hardware Sack, 658-046A, found in the High Angle Boot Kit.



4. If it is necessary to align the Continuous Flow Boot to the storage bin, loosen the 4 Bolts on the Center Vertical Spreader Head Halfband directly above the Continuous Flow Boot. Rotate the Center Vertical Tube so that the Continuous Flow Boot points in the proper direction for the Continuous Flow Auger to exit the bin roof to the storage bin.

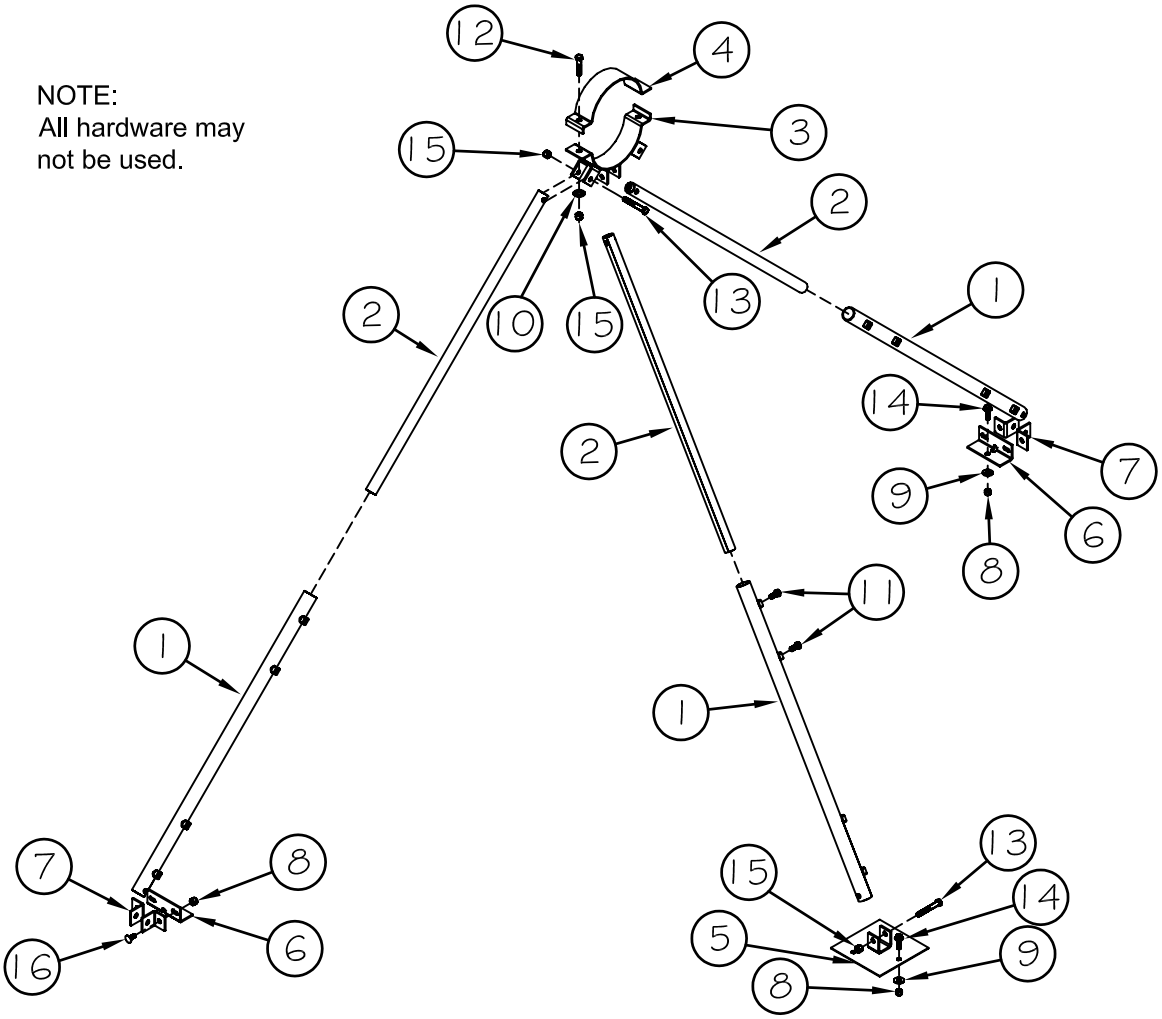


Installing Continuous Flow

5. Assemble the 30" Tripod Roof Brace and install on the roof of the storage bin. This location can be determined by aligning the Tripod Roof Brace in a straight line between the two roof caps. It should be located as close to the storage bin roof cap as possible.

ITEM	DESCRIPTION	QTY	PART NO.	ITEM	DESCRIPTION	QTY	PART NO.
1	Support Leg Wld., Outside	3	237-034W	A	Sack, Roof Brace (Tripod)	1	269-017A
2	Support Leg, Inside	3	237-035P	8	Nut, Hex 5/16-18 UNC-2B Nyloc	9	F-1005-02
3	4" Halfband Wld., Triple Earred	1	269-005W	9	Washer, Flat, Std, Steel, 5/16	5	F-1009-02
	6" Halfband Wld., Triple Earred		273-009W	10	Washer, Flat, Std, Steel, 3/8	2	F-1009-03
4	4" Halfband	1	269-020P	11	Capscrew, Hx, 3/8-16 X 3/4	10	F-1015-23
	6" Halfband		222-079P	12	Capscrew, Hx, 3/8-16 X 1-3/4	2	F-1015-28
5	Plate Wld., Square	1	269-006W	13	Capscrew, Hx, 3/8-16 X 2-1/2	7	F-1015-30
6	Plate, Rect. Foot	2	269-025P	14	Bolt, Bin w/ Washer, 5/16-18 X 1	5	F-1027-02
7	Support, Ear	4	269-024P	15	Locknut, Hex, 3/8-16 w/ Nyloc	9	F-1239
				16	Bolt, 5/16-18 X 3/4, Carriage	4	F-1671

NOTE:
All hardware may not be used.



Installing Continuous Flow

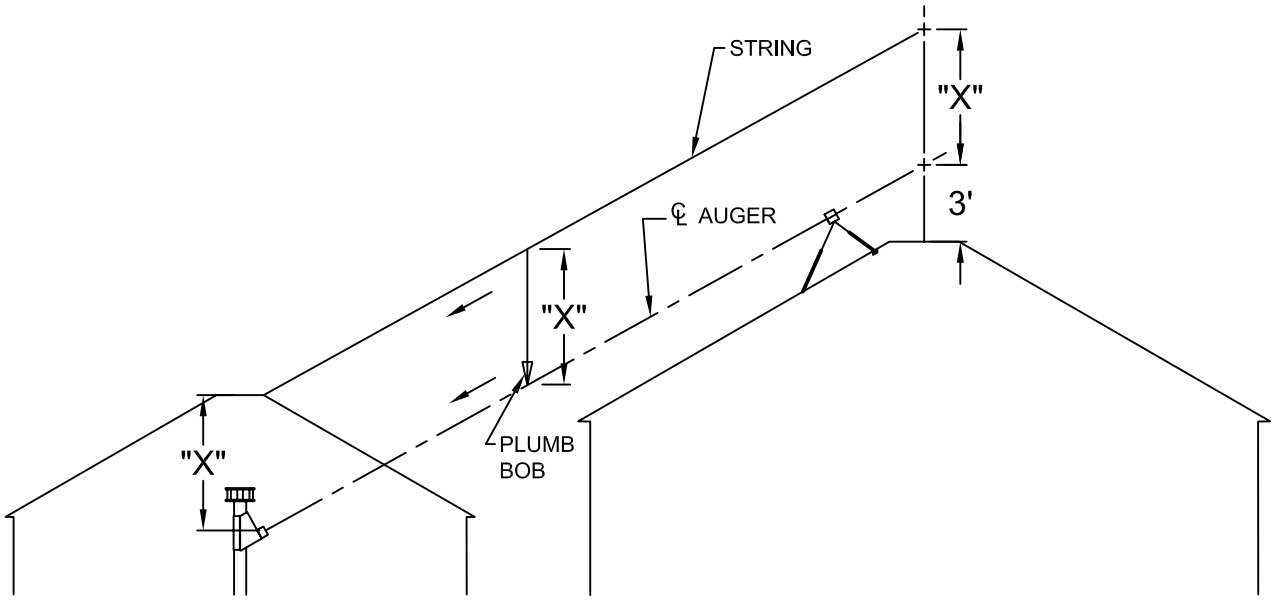
6. Drill a small hole in the drying bin roof for the Continuous Flow Auger to project through. To determine this exact hole location, we suggest one of the following procedures. Method C serves as a good check for Method A or B and should be used as such.

METHOD A : PLUMB BOB

Measure a vertical distance from the Continuous Flow Boot outlet to the drying bin roof opening. This distance is shown as "X" on the drawing.

Tie a string at the drying bin roof opening directly above the Continuous Flow Boot outlet. Stretch the string across to the storage bin roof to a point "X" plus 3 feet above the storage bin roof opening.

Tie a plumb-bob of length "X" to the string. Slide the plumb-bob down the string until it touches the drying bin roof. This should be the center of the elliptical hole. Drill a small hole at this point.



Installing Continuous Flow

METHOD B : CALCULATED

DETERMINATION OF CONTINUOUS FLOW AUGER ROOF OPENING WITH VARIED GEOMETRY

(SEE DIAGRAM ON NEXT PAGE)

UNKNOWNS **Measure all heights from top of the foundation (feet)**			
VALUES TO BE MEASURED ON SITE IN FEET	(SEE DIAGRAM)	EXAMPLE	
TOTAL HEIGHT OF DRYING BIN	TH	24	
TOTAL HEIGHT TO C.V. BOOT	TB	19	
TOTAL HEIGHT OF BIN SIDEWALL	TW	18	
TOP ROOF OPENING DIAMETER	RD	3	
DRYING BIN DIAMETER	BD	28	
TOTAL HEIGHT OF ADJACENT BIN	TA	30	
DESIRED DISTANCE ABOVE TOP OF STORAGE BIN	DA	3	
FOUNDATION DIFFERENCE FROM DRYING BIN TO STORAGE BIN	OFF	1	*
CENTER TO CENTER BIN DISTANCE	CC	40	

NOTE:
A Microsoft EXCEL spreadsheet program named CALCULATED METHOD.xls is available from SHIVVERS.

CALCULATED VALUES (feet)			
	(SEE DIAGRAM)	CALCULATED	
LENGTH OF AUGER	a	42.720	**
AUGER ANGLE	X	110.556	
DRYING BIN ROOF ANGLE (DEGREE ABOVE HORZ.)	P	25.641	
DISTANCE FROM EDGE OF ROOF OPENING TO ROOF HOLE	m	5.757	***
OR IF m IS GREATER THEN h, FIND VALUE FOR b.			
DISTANCE FROM TOP OF BIN WALL DOWN TO HOLE	b	NIL	****

* Positive or negative number.

** Distance from center of center vertical to center of discharge. (Cut back tube 12")
(subtract off .333' (4") for 6" Center Vertical.)
(subtract off .417' (5") for 8" Center Vertical.)

*** If auger exits bin roof, measure down from top edge of roof opening to auger hole.

**** If auger exits bin wall measure from top of bin wall down to auger hole.

$$a = \sqrt{(TA+DA+OFF-TB)^2 + (CC)^2}$$

$$X = 180 - ARCSIN(\frac{CC}{a})$$

$$P = ARCTAN\frac{(TH-TW)}{(BD-RD)/2}$$

$$E = 90 - P$$

$$F = 180 - X$$

$$s = \{ \sqrt{(\frac{0.5(RD)}{SIN(E)})^2 - (\frac{RD}{2})^2} \} + (TH-TW) - (TB-TW)$$

$$m = \frac{s * SIN(F)}{SIN(180 - (F+E))} - \frac{0.5(RD)}{SIN(E)}$$

$$h = \sqrt{(TH-TW)^2 + (\frac{BD-RD}{2})^2}$$

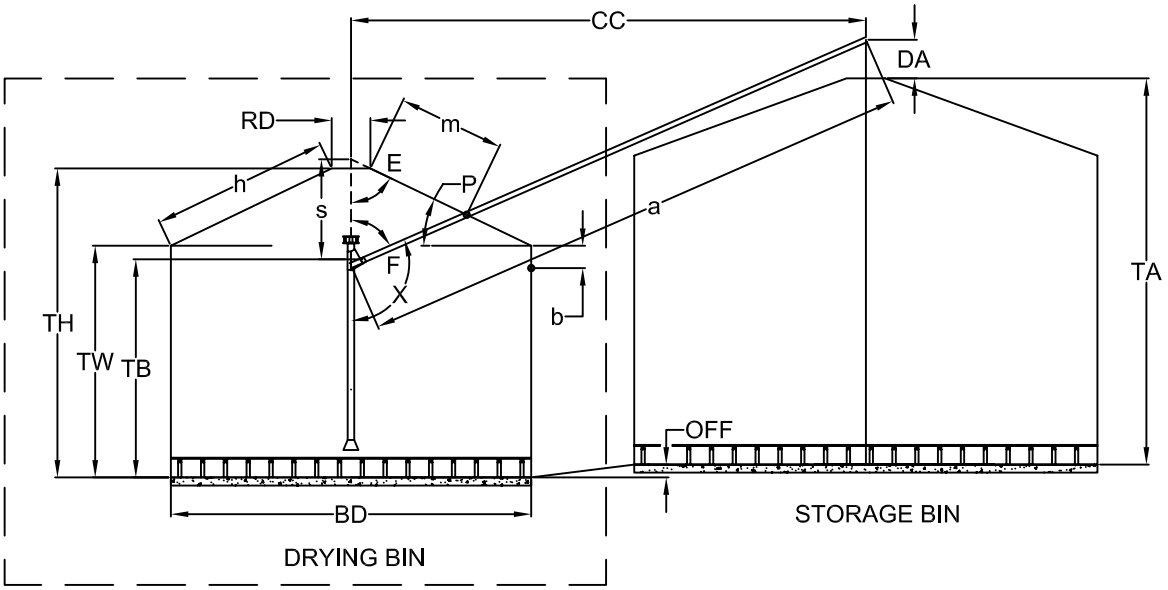
$$b = m - (h * \frac{SIN(180 - (F+E))}{SIN(F)})$$

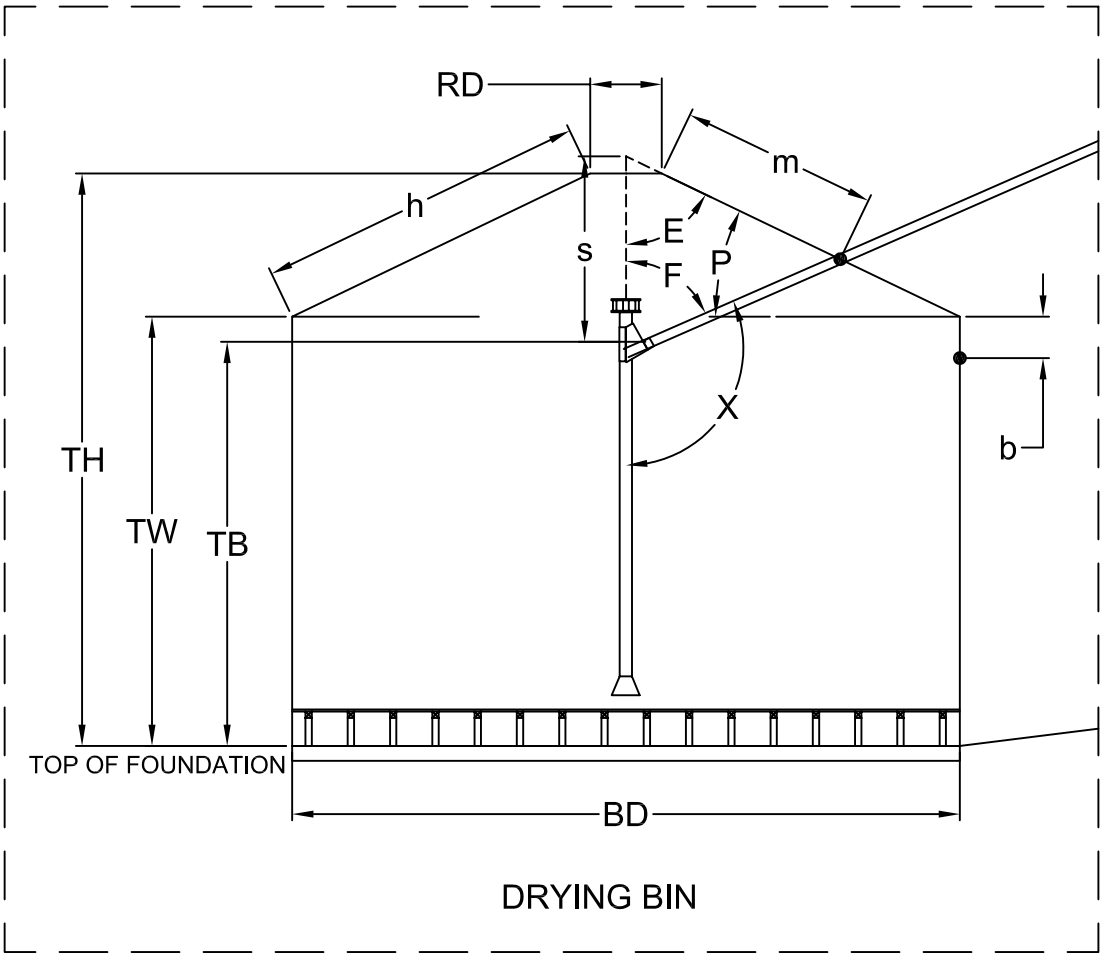
EXAMPLE
42.72
110.556
25.641
64.359
69.444
5.72
5.757
13.865
NIL

Inches	Decimal - ft.
1	0.083
2	0.167
3	0.250
4	0.333
5	0.417
6	0.500
7	0.583
8	0.667
9	0.750
10	0.833
11	0.917

Installing Continuous Flow

METHOD B : CALCULATED





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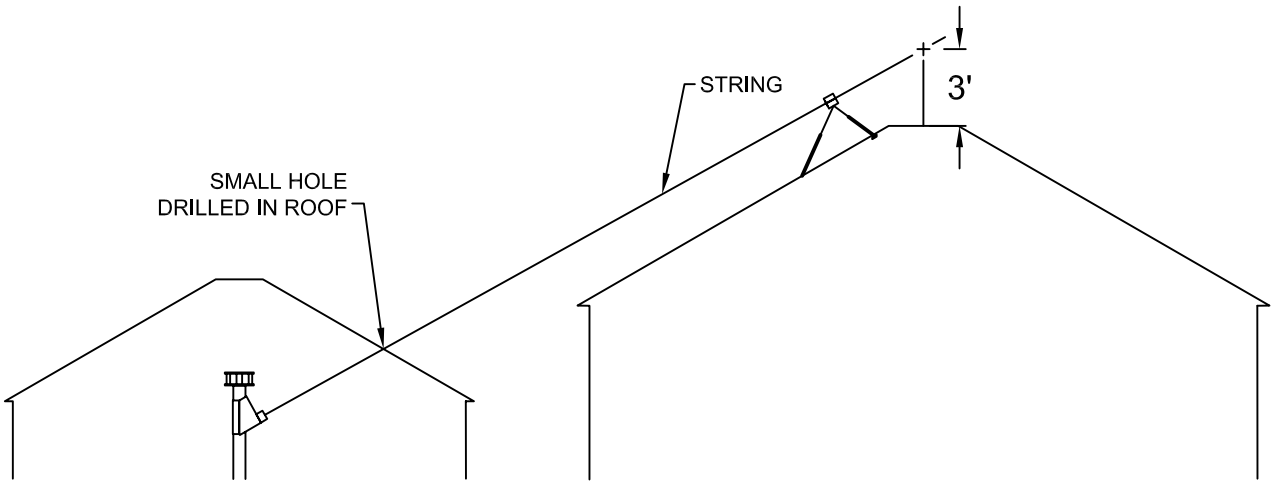
METHOD C : CHECK WITH STRING

Sight over the triple earred half band of the roof brace on the storage bin. Make a point on the drying bin roof where you estimate the auger will come through. Drill a hole at this point.

Stretch a string from the bottom of the triple earred half band through the drilled hole to the bottom point of the Continuous Flow Boot outlet. Observe the hole for deflection against the hole in the bin roof.

If the string is deflected against the hole, drill another hole closer to the exact location to remove the deflection. Repeat process until the string is not deflected against the hole.



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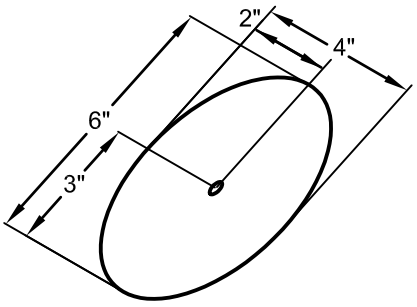
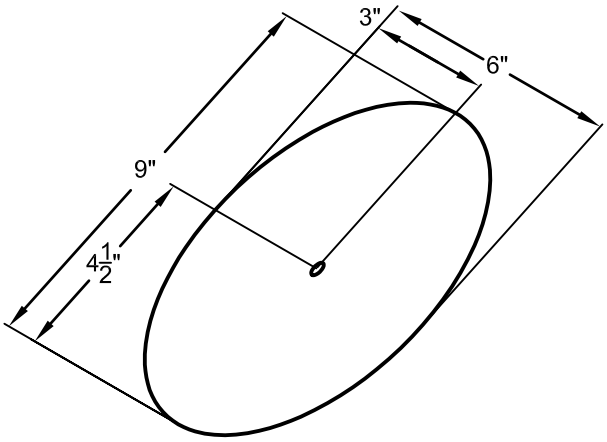
7. Cut the required hole for your Continuous Flow tube diameter using the dimensions shown below.

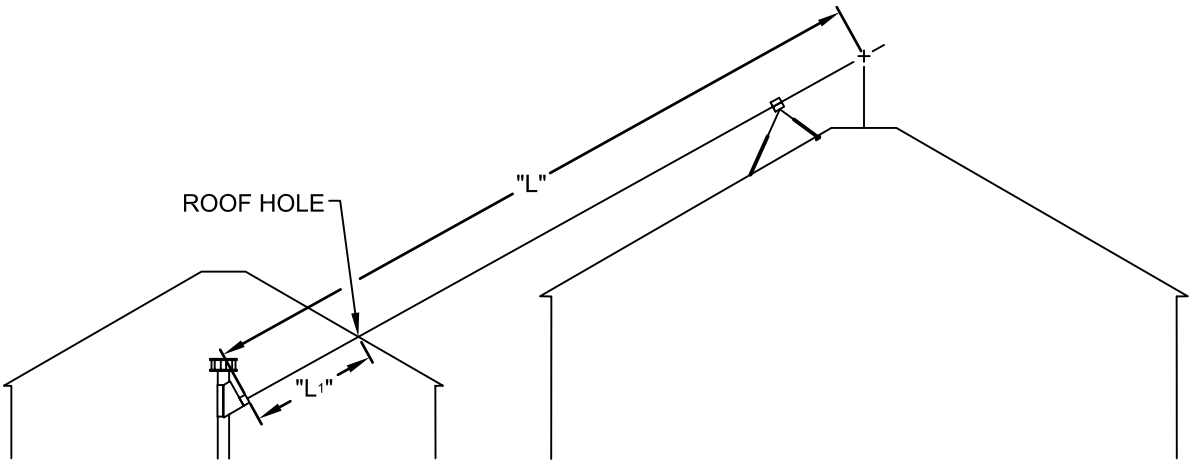


Elliptical Roof Hole for 4" Continuous Flow.

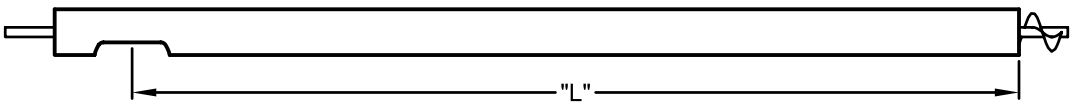


Elliptical Roof Hole for 6" Continuous Flow.

8. Measure the exact overall length for the Continuous Flow tube required. Measure this distance from the Continuous Flow Boot outlet, through the roof hole, over the Roof Brace and to the center of the roof opening in the storage bin. Note this length (L) and the length (L_1) from the Continuous Flow Boot outlet to the hole in the roof.



9. Measure the basic auger length.



This length needs to equal the length measured in Step 8. In most installations the auger will have to be lengthened or shortened.

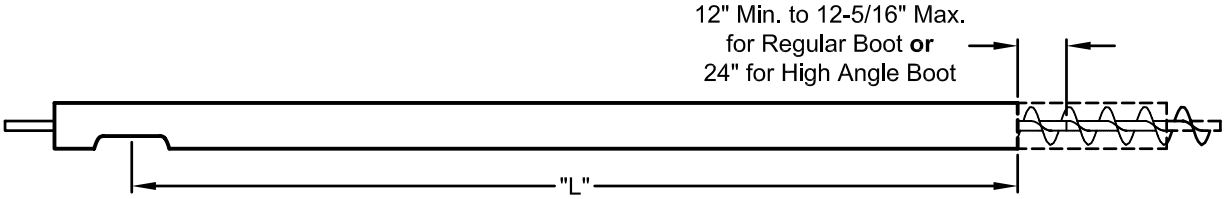
Installing Continuous Flow

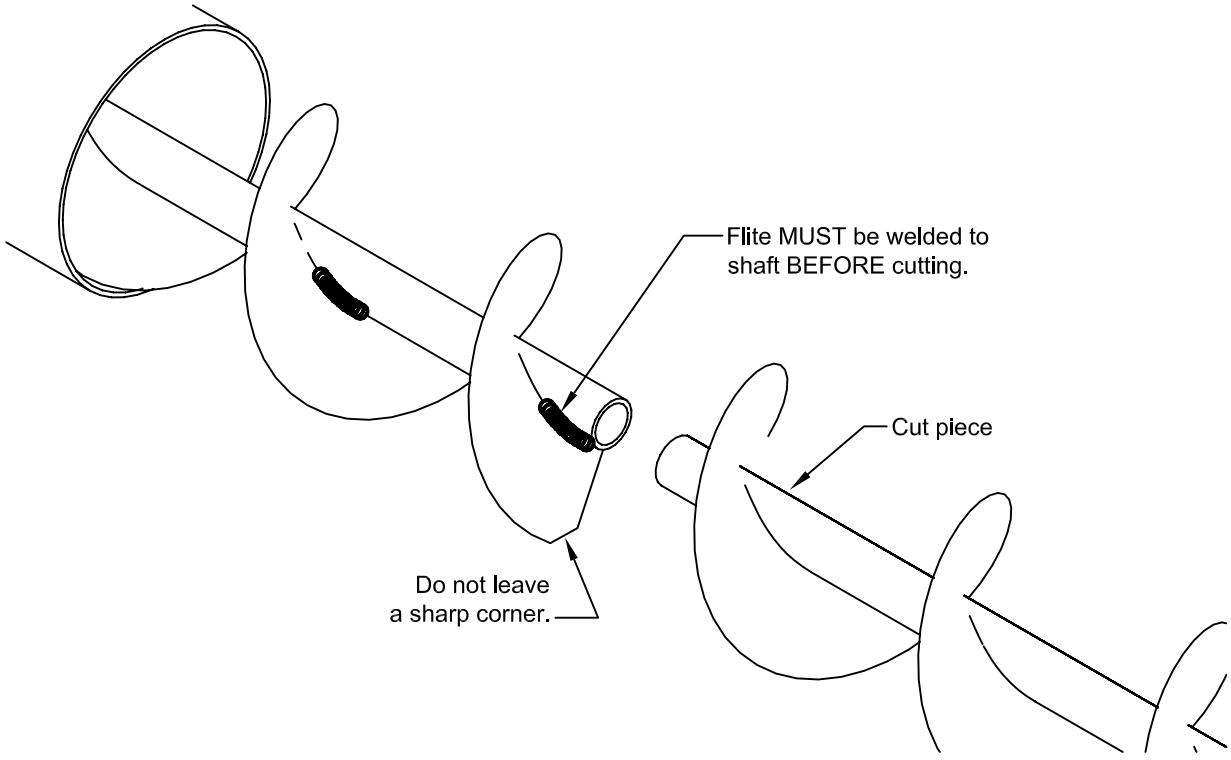
To obtain the exact length "L", it may be necessary to shorten extensions. Do so as follows:

TO SHORTEN:

Mark the required "L" length on the tube. Cut tube as squarely as possible to this length. DO NOT cut fliting yet.

Measure the correct length for the exposed portion of fliting (12" min. - 12-5/16" max. for Regular Boot or 24" for High Angle Boot). Weld the fliting to the shaft before trimming off excess length. The end of the fliting MUST be welded to the shaft. Cut the shaft and fliting off to maintain the 12" to 12-5/16" length exposure for Regular Boot or 24" length exposure for High Angle Boot.





Installing Continuous Flow

TO LENGTHEN:

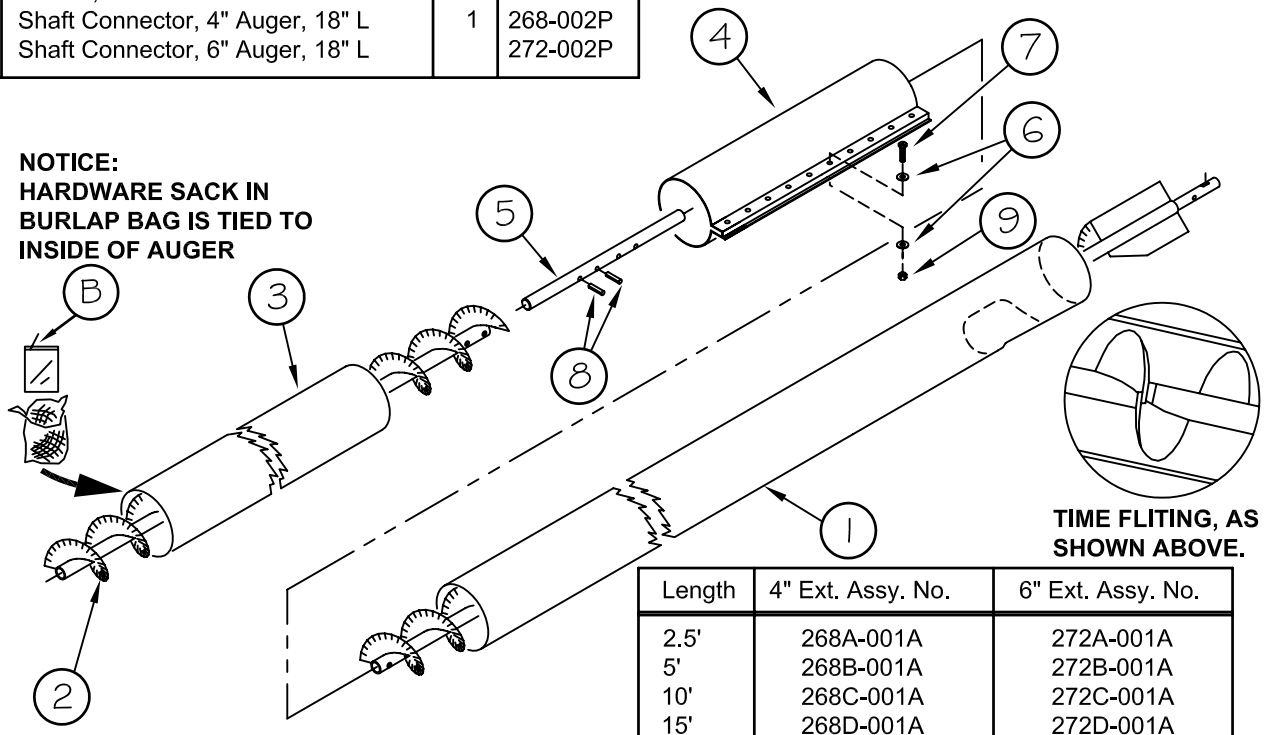
Determine that the seam joint will not fall within 2 feet to either side of the point the auger exits through the roof (length "L_1" in Step 8). Add extensions, as required, to obtain at least the total auger length ("L") required. If there will be a joint inside the drying bin, slide the Conical Roof Boot onto the auger before adding the extension. See Step 10. The extension auger fliting must be connected to the main auger fliting with the shaft and roll pins supplied. Do not attempt to use bolts in these fliting connectors, as grain blockage will result. All fliting must be timed (overlapped) so that there is an even flow of grain past the connection. Grind connection smooth if necessary.

BASIC AUGER ASSEMBLIES AND EXTENSION ASSEMBLIES (without Hanger Bearings)

ITEM	DESCRIPTION	QTY	PART NO.
1	10' Basic Auger Assembly, 4"	1	267B-001A
	10' Basic Auger Assembly, 6"		271C-001A
	20' Basic Auger Assembly, 4"		267A-001A
	20' Basic Auger Assembly, 6"		271A-001A
	40' Basic Auger Assembly, 6"		271D-001A
A	Basic Auger Ext. Assembly	1	See Chart
(2)	Auger Wld	1	-
(3)	Tube	1	-
(4)	Sleeve, 4"	1	268-006P
	Sleeve, 6"		272-005P
(5)	Shaft Connector, 4" Auger, 18" L	1	268-002P
	Shaft Connector, 6" Auger, 18" L		272-002P

ITEM	DESCRIPTION	QTY	PART NO.
6	Washer, Flat, Std, Steel 3/8	6	F-1009-03
7	Capscrew, Hx, 3/8-16 X 1-1/2	3	F-1015-27
8	Roll Pin, Spiral Spring, 3/8 X 1-1/2	2	F-1036-46
9	Locknut, Hex, 3/8-16 w/ Nyloc	3	F-1239
B	Hrdw. Sack, Continuous Flow Ext.	1	268-007A
(6)	Washer, Flat, Std, Steel 3/8	14	F-1009-03
(7)	Capscrew, Hx, 3/8-16 X 1-1/2	7	F-1015-27
(8)	Roll Pin, Spiral Spring, 3/8 X 1-1/2	2	F-1036-46
(9)	Locknut, Hex, 3/8-16 w/ Nyloc	7	F-1239

NOTICE:
HARDWARE SACK IN BURLAP BAG IS TIED TO INSIDE OF AUGER



TIME FLITING, AS SHOWN ABOVE.

Length	4" Ext. Assy. No.	6" Ext. Assy. No.
2.5'	268A-001A	272A-001A
5'	268B-001A	272B-001A
10'	268C-001A	272C-001A
15'	268D-001A	272D-001A
20'	268E-001A	272E-001A

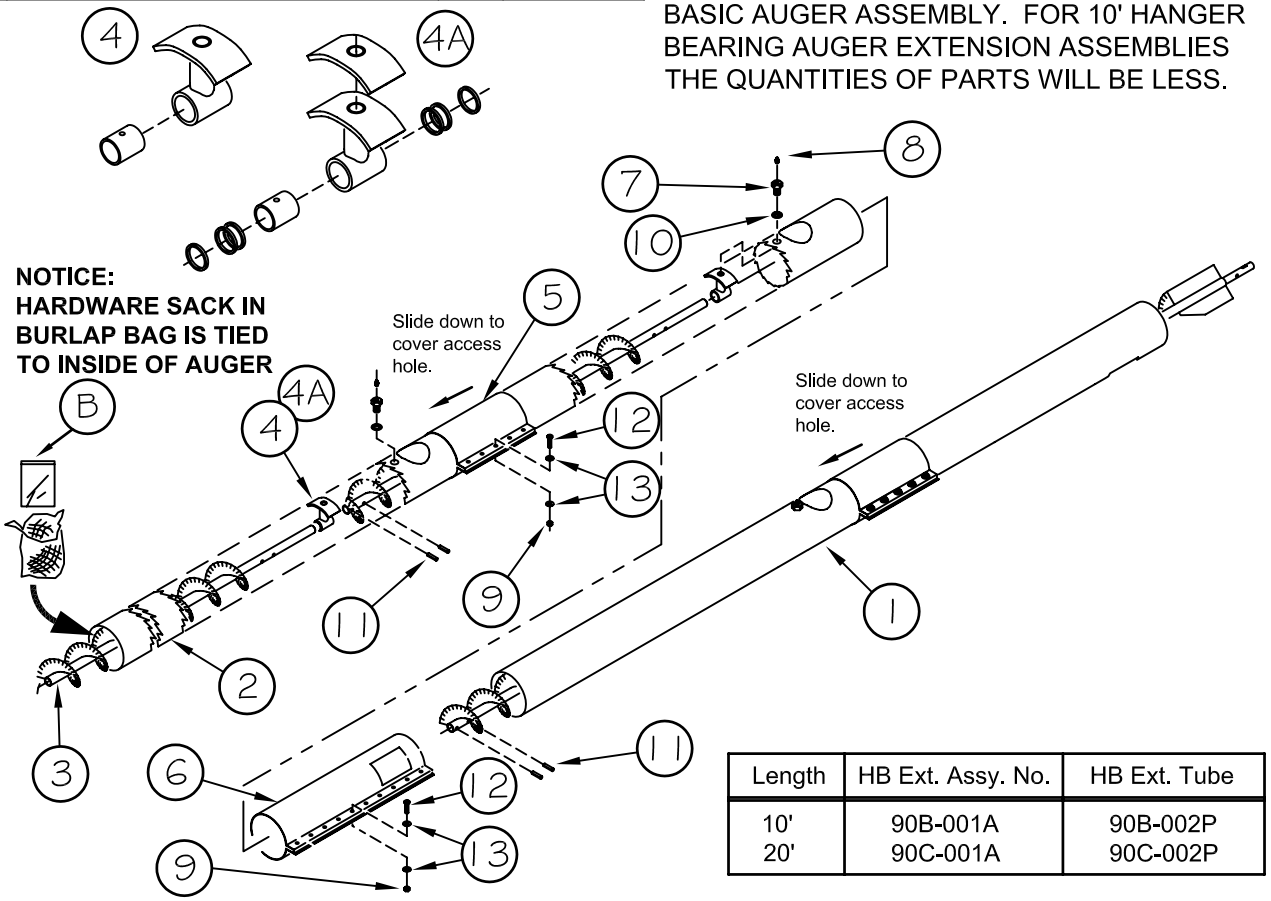
Installing Continuous Flow

HANGER BEARING AUGER ASSEMBLIES AND EXTENSION ASSEMBLIES

ITEM	DESCRIPTION	QTY	PART NO.
1	6" Basic H B Auger Assembly, 20'	1	89-001A
	6" Basic Sealed H B Auger Assy, 20'		89B-001A
A	6" H B Extension Assembly	1	See Chart
2	Tube	1	See Chart
3	Flite Wld, 10'	2	89-010W
4	Hanger Bearing Assembly	2	89-003A
4A	Sealed Hanger Bearing Assembly		89-021A
5	6" Sleeve, 12" Long (ONLY FOR 20')	1	217-059P
6	6" Sleeve, 24" Long	1	272-005P
7	Bolt with Hole	2	84-020P
8	Fitting, Grease, 1/4-28, Self Tap	2	H-1056
9	Locknut, Hex, 3/8-16 w/ Nyloc	8	F-1239

ITEM	DESCRIPTION	QTY	PART NO.
10	Lockwasher, Star Inside, 3/4"	2	F-1221
11	Roll Pin, Spiral Spring, 3/8 X 1-1/2	2	F-1036-46
12	Capscrew, Hx, 3/8-16 X 1-1/2	8	F-1015-27
13	Washer, Flat, Std, Steel, 3/8"	16	F-1009-03
B	Hrdw Sack, Cont. Flow Auger Ext.	1	268-007A
(9)	Locknut, Hex, 3/8-16 w/ Nyloc	7	F-1239
(11)	Roll Pin, Spiral Spring, 3/8 X 1-1/2	2	F-1036-46
(12)	Capscrew, Hx, 3/8-16 X 1-1/2	7	F-1015-27
(13)	Washer, Flat, Std, Steel, 3/8"	14	F-1009-03

NOTE: 20' HANGER BEARING AUGER EXTENSION IS SHOWN ALONG WITH THE 20' BASIC AUGER ASSEMBLY. FOR 10' HANGER BEARING AUGER EXTENSION ASSEMBLIES THE QUANTITIES OF PARTS WILL BE LESS.



Length	HB Ext. Assy. No.	HB Ext. Tube
10'	90B-001A	90B-002P
20'	90C-001A	90C-002P

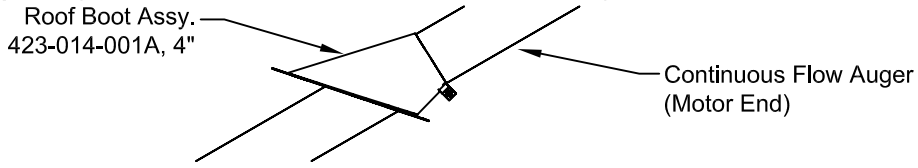
NOTE: All auger tubing must be butted tightly together and aligned before tightening the large connector sleeve. Proper alignment will help prevent premature excessive wear of the auger tubing.

Fasten Appropriate Extension Augers to the Basic Auger Assembly (See Step 9).

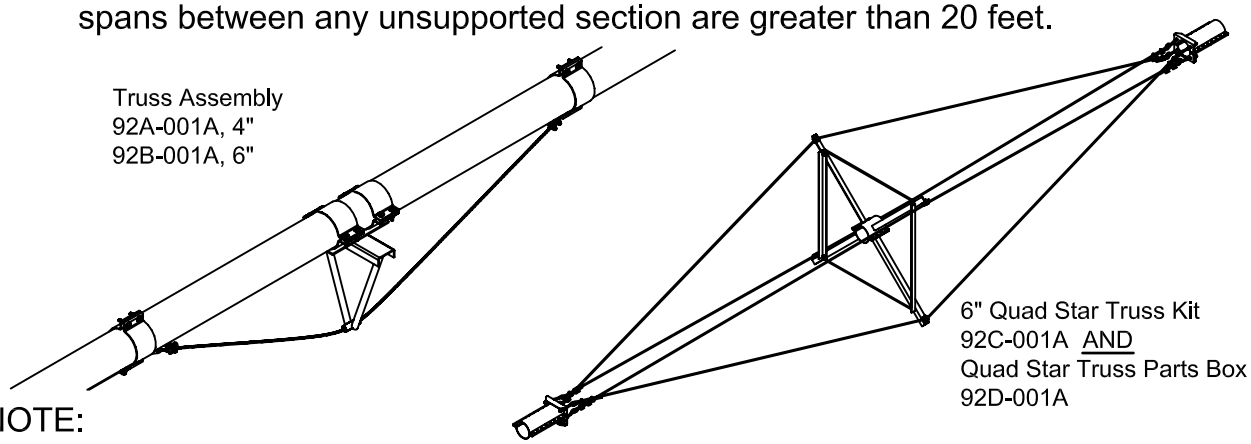
NOTE: Keep the flange on the sleeve lined up with the discharge hole in the Basic Auger Assembly.

Installing Continuous Flow

10. If installing a 4" auger, Slide the 4" Conical Roof Boot onto the Continuous Flow Auger. (6" Roof Boot can be installed later.)

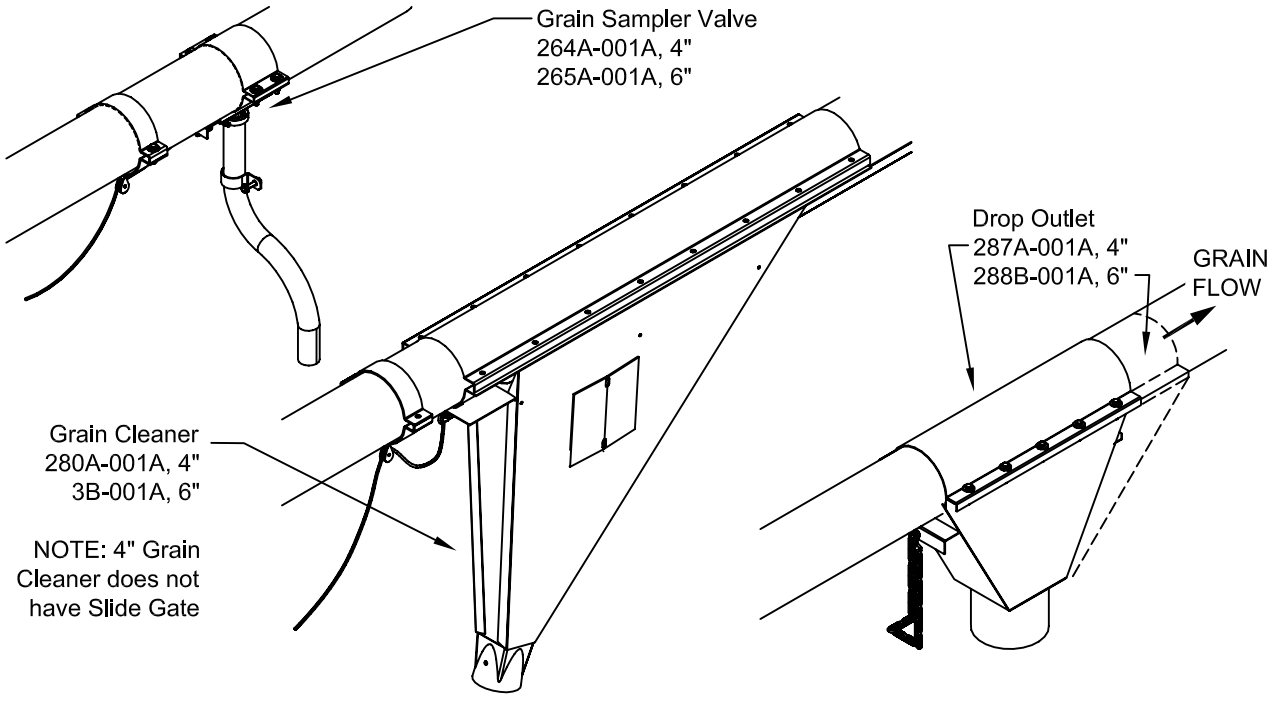


11. Install additional Roof Braces as required so that the auger is not unsupported for any span greater than 20 feet. (Refer to Step 5. Assemble Bipods in like manner.) A ground-based support or a truss assembly MUST be used where spans between any unsupported section are greater than 20 feet.



NOTE:

Install any Continuous Flow accessories (Grain Sampler Valve, Drop Outlets, Grain Cleaners, etc.) on the auger now, or after the auger is in place.



Installing Continuous Flow

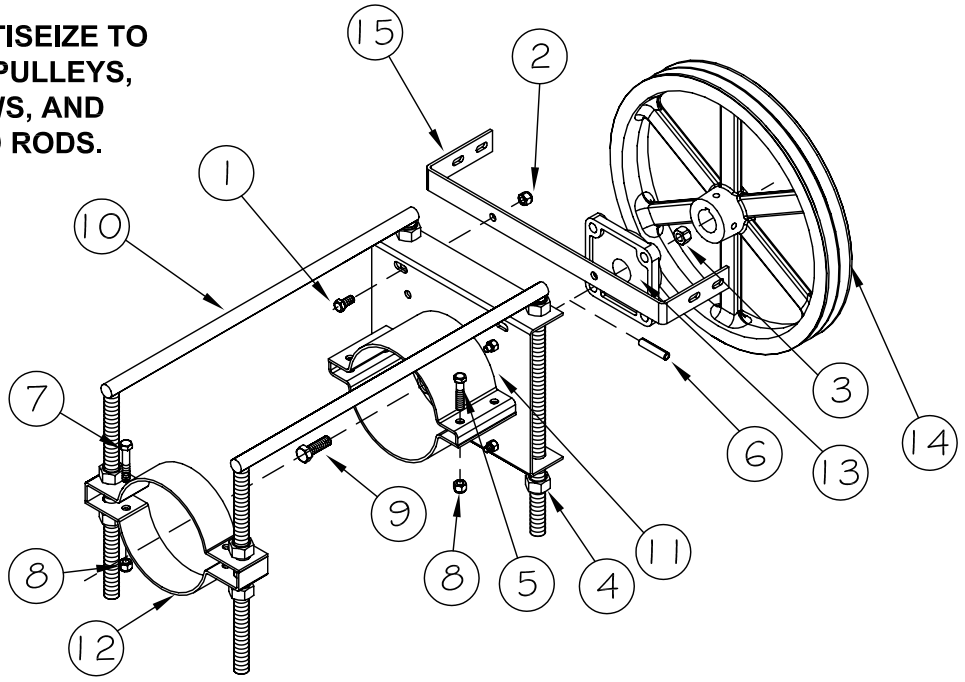
12. Attach the Motor Mount Drive Assembly to the Continuous Flow Auger now, or after the auger is in place. Bolt the bearing to the Mounting Plate from the Front Motor Mount Plate Assembly for the 6" Transfer Auger or the Plate Weldment for the 4" Transfer Auger, found in the Continuous Flow Parts Box. Be sure the grease zerk is pointing down and lined up with the access hole. Slide the bearing assembly over the auger shaft. Bolt the Mounting Plate Assembly (6") or Plate Weldment (4") to the auger tube. Install the roll pin into shaft. Slide the shaft until the roll pin rests against the bearing. Install the 2 Groove Aluminum Pulley.

ITEM	DESCRIPTION	QTY	PART NO.
* 1	Capscrew, Hx, 3/8-16 X 3/4	2	F-1015-23
* 2	Locknut, Hex 3/8-16 w/ Nyloc	2	F-1239
** 3	Nut, Hx 1/2-13, Stover Locknut	4	F-1005-05
** 4	Nut, Hex 3/4-10 UNC-2B	8	F-1011-07
** 5	Capscrew, Hx, 3/8-16 X 1-3/4	4	F-1015-28
** 6	Roll Pin, 3/8 Dia X 1.75	1	F-1036-47
** 7	Capscrew, Hx 3/8-16 X 2	2	F-1073
** 8	Locknut, Hex, 3/8-16 w/ Nyloc	10	F-1239
** 9	Capscrew, 1/2-13 X 1-1/2	4	F-1821

ITEM	DESCRIPTION	QTY	PART NO.
10	Leg Wld, Motor Mount, 6"	2	273-010W
	Leg Wld, Motor Mount, 4"		269-012W
11	4" Plate Wld, Front Motor Mount	1	269-007W
	6" Front Motor Mount Plate Assy		273-002A
12	4" Halfband, Motor Mount	2	269-041P
	6" Halfband, Stand		222-078P
13	Bearing, 4 Hole Flng 1-1/4 Bore	1	D-2002-02
14	12" 2 Groove Pulley	1	269-002A
	15" 2 Groove Pulley		335-002A
15	Bracket, Belt Shield	1	269-029P

* Belt Shield Sack, 269-016A
** Motor Mount Sack, 269-015A

NOTE:
APPLY ANTISEIZE TO BEARING, PULLEYS, SETSCREWS, AND THREADED RODS.

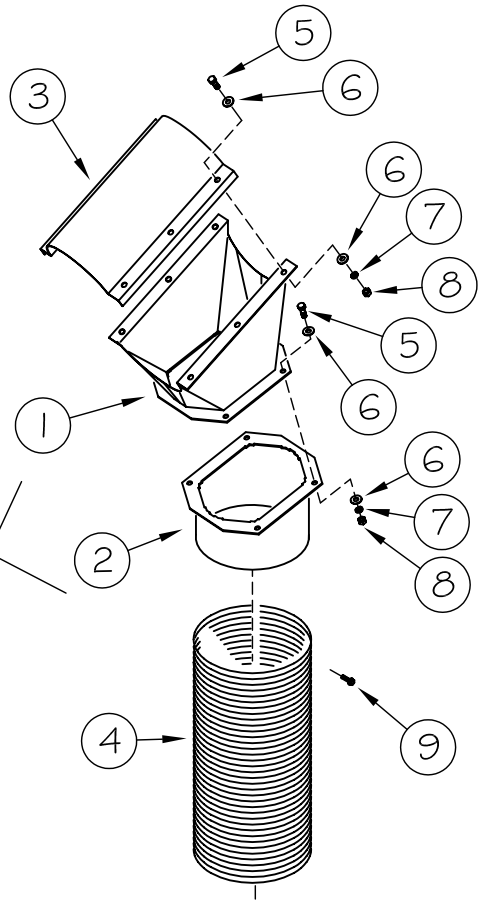


Installing Continuous Flow

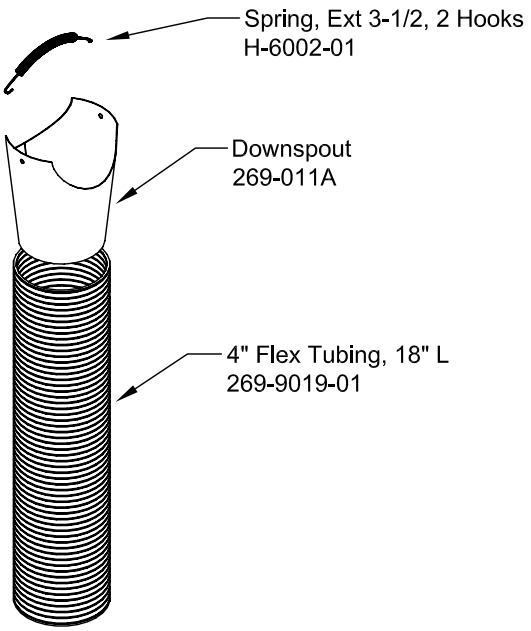
13. Attach the Downspout Assembly to the auger now, or after the auger is in place. The downspout assembly parts can be rotated to give different outlet angles.

6" CFTA DOWNSPOUT KIT: 0° OR 30°

ITEM	DESCRIPTION	QTY	PART NO.
1	CFTA-6", Spout Body Wld, 15°	1	273-054W
2	CFTA-6", Spout Tube Wld, 15°	1	273-058W
3	CFTA-6", Spout Half Band	1	273-039P
4	Flex Tube, 8" X 24"	1	263-037P
A	CFTA-6", Hdw Sack, 0-30° Spout Kit	1	273-060A
5	Capscrew, Hx, 5/16-18 X 1 Gr. 5	10	F-1015-15
6	Washer, Flat, Std, Steel, 5/16"	20	F-1009-02
7	Lockwasher, 5/16, Heavy Spring	10	F-1019-02
8	Nut, Hx Znc Pltd, 5/16-18 Nyloc	10	F-1005-02
9	Sheet Metal Screw, #8 X 1/2	6	F-1231



6" DOWNSPOUT ASSY.
(with 8" Flex Tubing)



4" DOWNSPOUT ASSY.

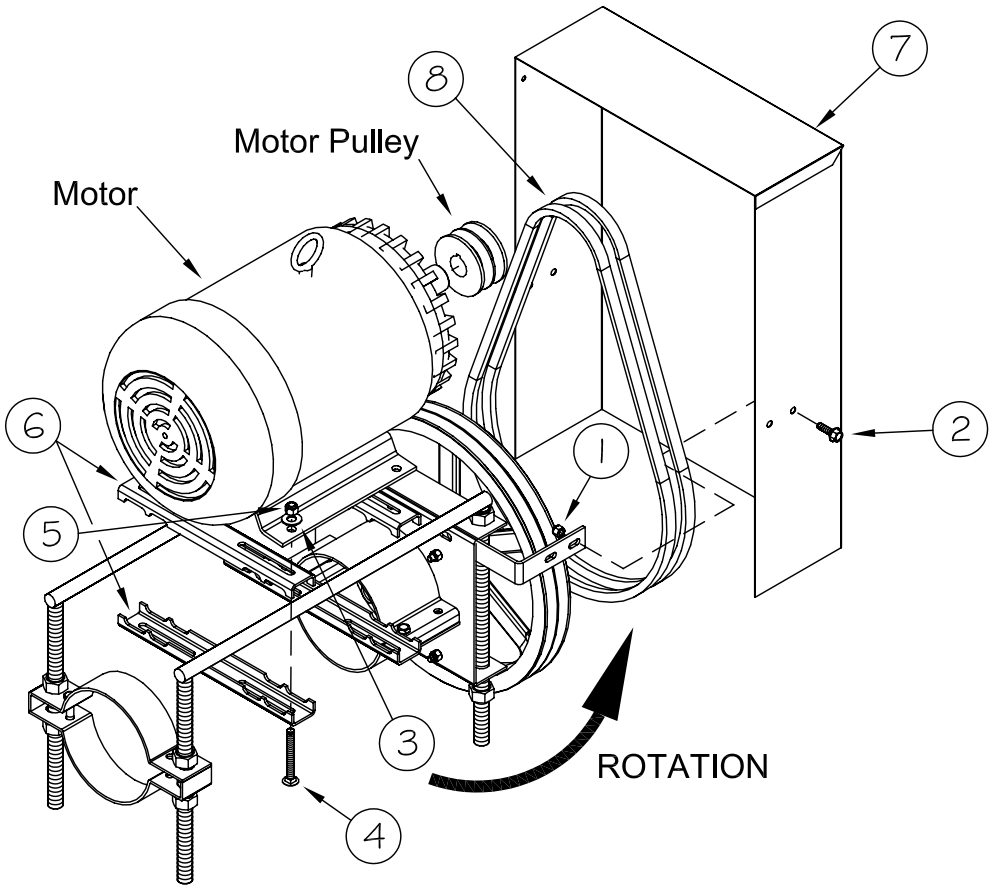
Installing Continuous Flow

14. Install motor, motor pulley, belts and belt shield, now or after auger is in place. Use hardware from the Belt Shield Sack (269-016A) and the Motor Mount Sack (269-015A). (See Appendix for recommended initial configurations.) Adjust threaded rods to tighten belts. Make sure the motor and pulleys stay in alignment. See controller manual for motor wiring instructions (P-11349 for CompuDry Command Center).

ITEM	DESCRIPTION	QTY	PART NO.
* 1	Nut, Hex, 5/16-18 UNC-2B Nyloc	4	F-1005-02
* 2	Bolt, Bin w/ Washer, 5/16-18 X 1	4	F-1027-02
** 3	Washer, Flat, Std, Steel 3/8"	4	F-1009-03
** 4	Bolt, Carriage, 3/8-16 X 3	4	F-1024-01
** 5	Locknut, Hex, 3/8-16 w/ Nyloc	4	F-1239
6	Motor Mount Channel	4	530-015P
7	Cont. Flow Belt Shield Assy	1	269-048A
8	V-Belt, Matched, #5L-51	2	D-3003-04
	V-Belt, Matched, #5L-48		D-3003-06
	V-Belt, BX54 w/ Kevler		D-3766

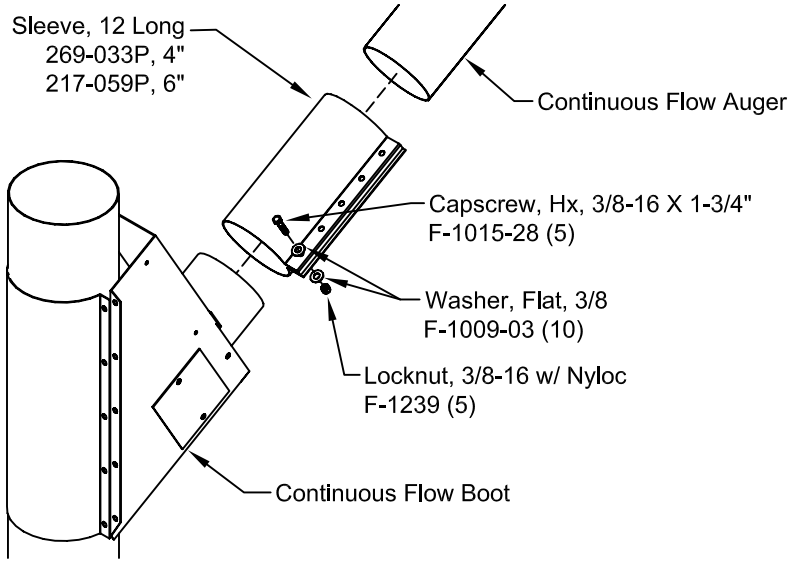
* Belt Shield Sack, 269-016A
** Motor Mount Sack, 269-015A

NOTE:
APPLY ANTISEIZE TO MOTOR PULLEY AND SETSCREW.



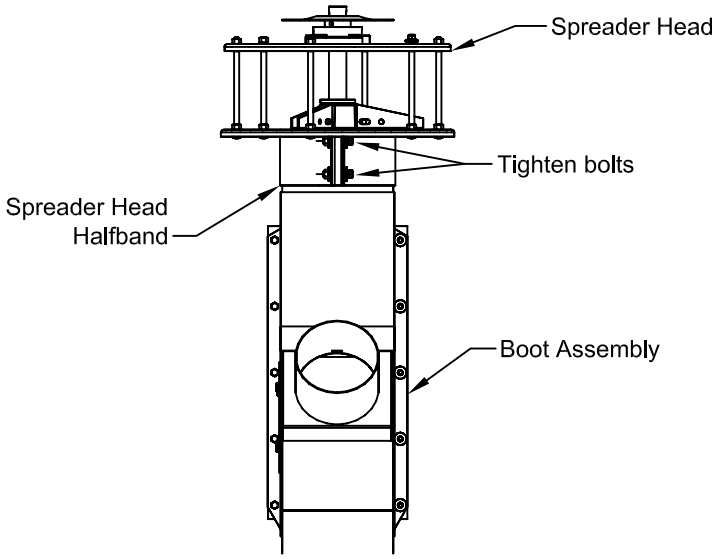
Installing Continuous Flow

15. Raise the Continuous Flow Auger and position it in place through the hole in the roof of the dryer bin. From inside the bin, slide the 12" sleeve onto the auger and fasten the Continuous Flow Auger in place. Be sure that the auger tube mounts flush against the Continuous Flow Boot tube.



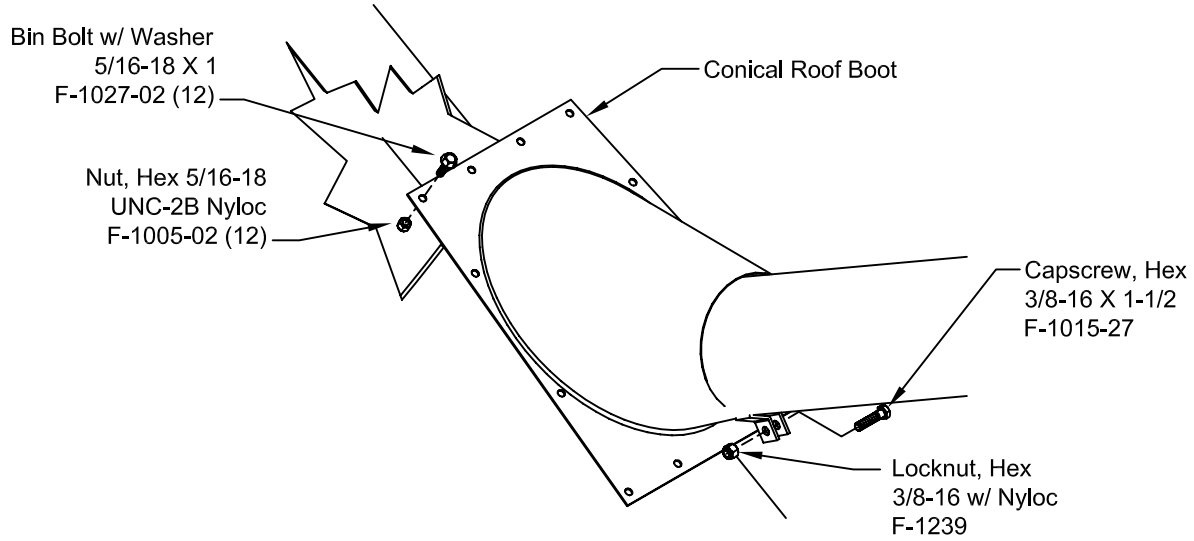
16. Tighten all roof brace halfbands securely in place to hold the Continuous Flow Auger.

17. Tighten the 4 bolts in the Center Vertical Spreader Head Halfband (above the boot assembly) on the Center Vertical if they were loosened earlier (from Step 4).

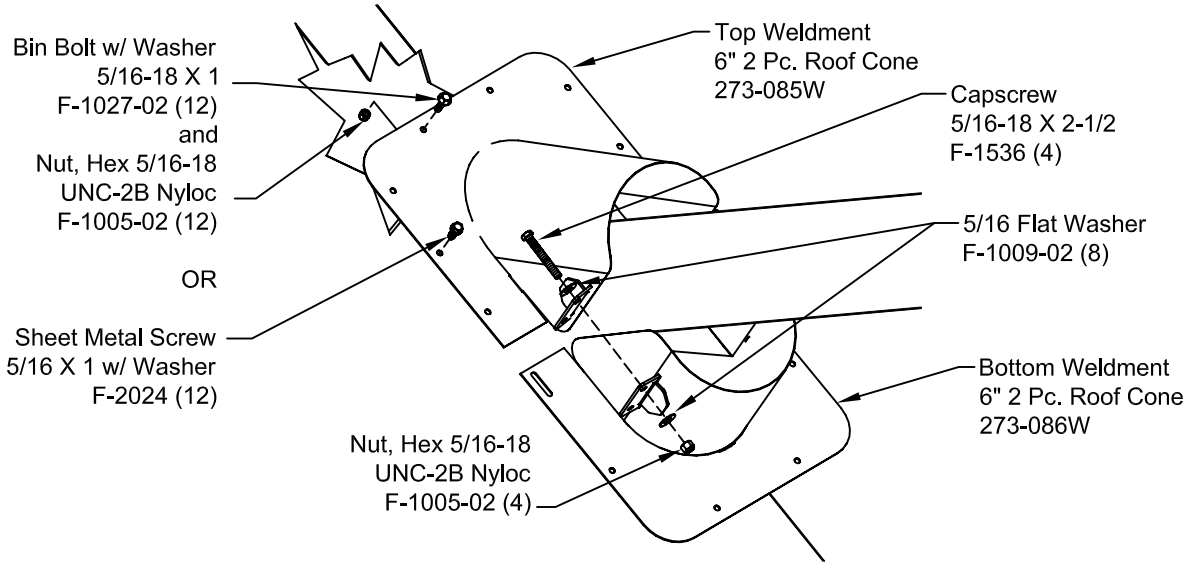


Installing Continuous Flow

18a. (4" Only - See 18b for 6") Slide the 4" Conical Roof Boot into position and fasten to the bin roof using hardware from 269-018A, Roof Plate Sack found in parts box. Apply caulking to seal the edges.



18b. (6" Only) Install the 2 Piece Roof Cone (423-373-001A) so that the long (slanted) piece is on top. Use the hardware from 273-092A, 2 Pc Roof Cone Hardware Sack found in parts box. Two types of fasteners are supplied for securing the roof cone to the bin roof. Use the supplied thum-seal to seal the edges and around the tube.



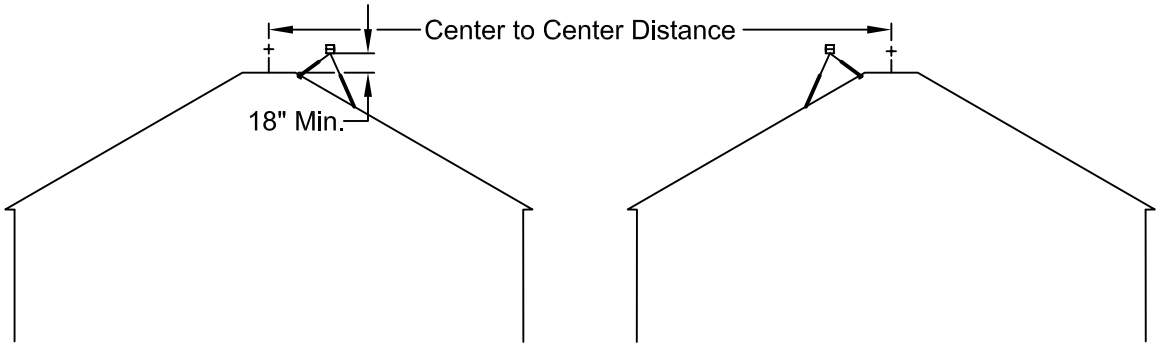
IMPORTANT:

Recheck all bolt connections on the Roof Brace (Double and Triple Earred) Halfbands, Support Legs, Extension Sleeves, Center Vertical Boot, and Center Vertical Spreader Head Halfbands for tightness.

19. Through the inspection hole in the Continuous Flow Boot check to make sure the Continuous Flow fliting is not hitting the Center Vertical fliting.

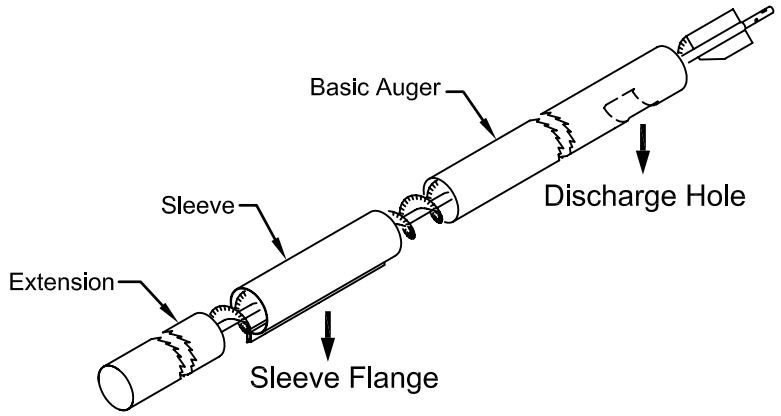
Installing Auxiliary Transfer

1C. Assemble two (2) 30" Tripod Roof Braces. See Step 5 in Continuous Flow section. Mount on top of storage bins as high as possible, without interfering with the roof cap, in a line between the center bin openings. Adjust legs so that the bottom of the "saddle" has a minimum of 18" clearance above the center of the bin openings.



2C. Measure the distance over the "saddle" from the center of one bin to the center of the other bin, as shown above. Remember this measurement for later use in Step 5C.

3C. Fasten appropriate Extension Augers to the Basic Auger Assembly. (See Step 9.) Note: Keep the flange on the sleeve lined up with the discharge hole in the Basic Auger Assembly.

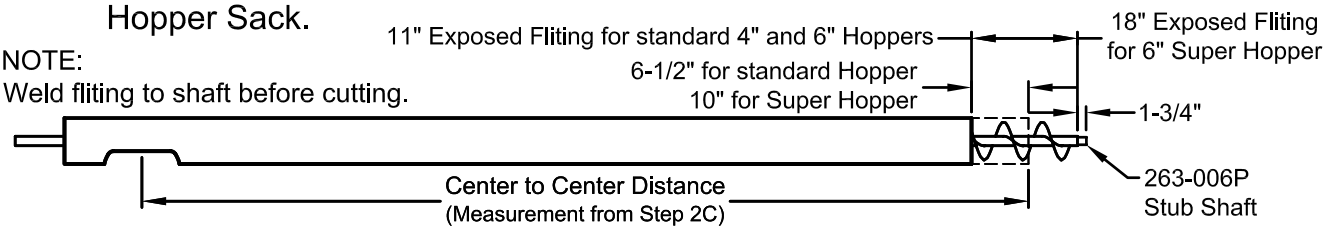


4C. Bolt the bearing to the Mounting Plate from the Front Motor Mount Plate Assembly for 6" Transfer Auger or the Plate Weldment for 4" Transfer Auger, found in the Continuous Flow Parts Box. Be sure the grease zerk is pointing down and lined up with the access hole. Slide the bearing assembly over the auger shaft. Bolt the Mounting Plate Assembly (6") or Plate Weldment (4") to the auger tube. Install the roll pin into shaft. Slide the shaft until the roll pin rests against the bearing. Install the 2 Groove Aluminum Pulley. (See Step 12.)

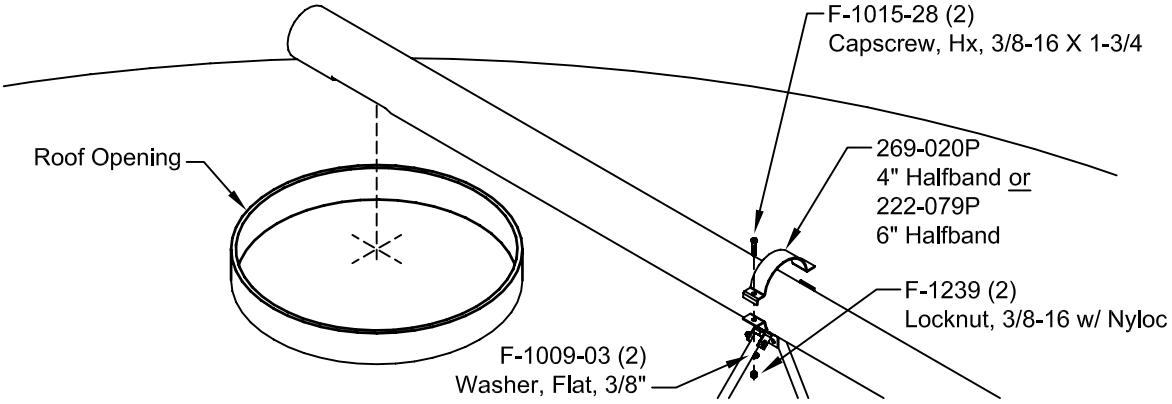
Installing Auxiliary Transfer

5C. Beginning at the center of the discharge hole measure down the distance measured from Step 2C. Cut the tube 6-1/2" **shorter** than that measurement for a standard 4" or 6" Hopper Assembly or 10" **shorter** for a Super Hopper Assembly. Cut fliting at exactly 11" **longer** than the tube for a standard 4" or 6" Hopper Assembly or 18" **longer** than the tube for a Super Hopper Assembly (See P-11000 Super Hopper Installation Manual for further directions). Bolt the Stub Shaft in the end of the fliting with approximately 1-3/4" exposed using hardware from Hopper Sack.

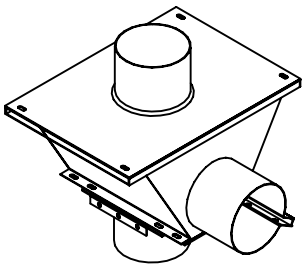
NOTE:
Weld fliting to shaft before cutting.



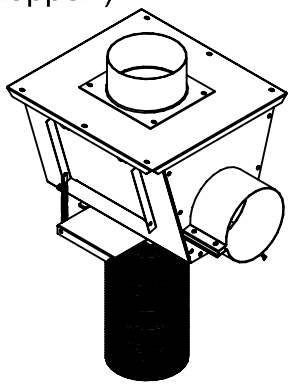
6C. Mount auger tube in the "saddle" on top of the bins, lining up the discharge hole directly over the center of the bin. Tighten the bolts in the Brace Leg Halfbands securely.



INSTALLING HOPPER: For Regular Hopper (Refer to P-11000 Super Hopper Installation Manual for installations using the Super Hopper.)



4" Hopper Assembly
262A-001A
OR
6" Hopper Assembly
263A-001A

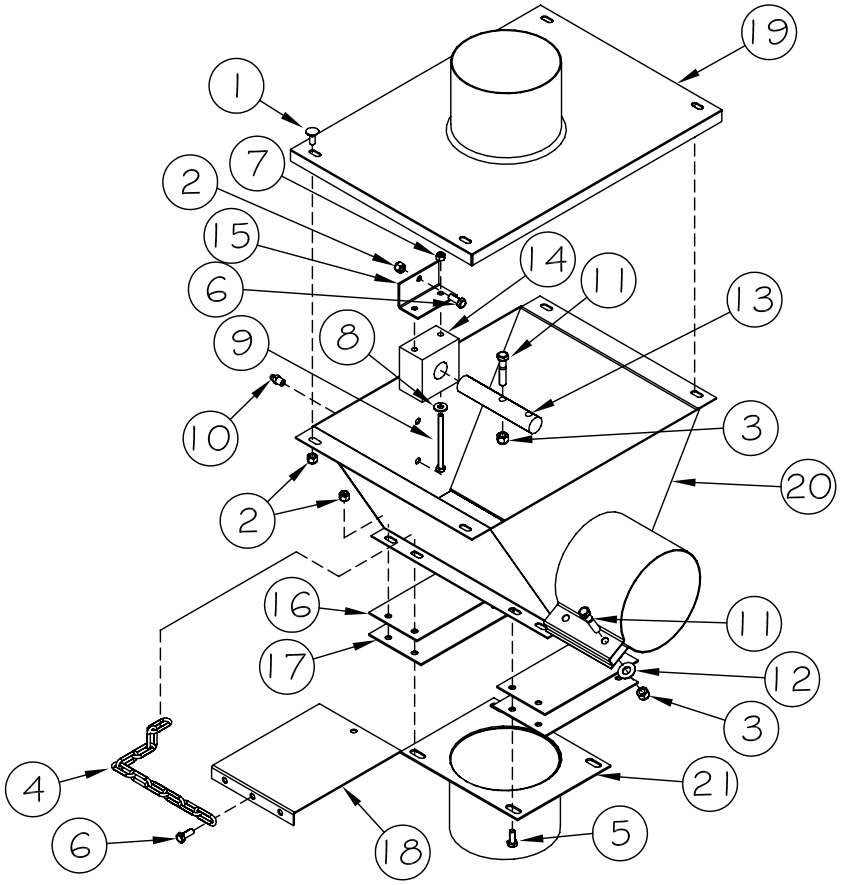


Super Hopper Assembly
(See P-11000 Manual)

Installing Auxiliary Transfer

7C. Install the Hopper Assembly on the intake end of the tube, sliding the 1" shaft into the Plastic Bearing.

ITEM	DESCRIPTION	QTY	PART NO.	ITEM	DESCRIPTION	QTY	PART NO.
A	Sack, Hopper Hdw 4" & 6"	1	262-002A	13	Shaft, Stub	1	263-006P
1	Bolt 5/16-18 X 3/4, Carriage	4	F-1671	14	Bearing	1	262-014P
2	Nut, Hx Znc Pltd, 5/16-18 Nyloc	14	F-1005-02	15	Bracket, Angle	1	262-015P
3	Locknut, Hex 3/8-16 w/ Nyloc	4	F-1239	16	Plate, Hopper, Btm	2	262-008P
4	Chain	1	222-031P	17	Plate, Gate Guide	2	262-007P
5	Capscrew, Hx, 5/16-18 X 3/4 Gr. 5	8	F-1546	18	Gate, Hopper	1	262-009P
6	Capscrew, Hx, 5/16-18 X 1 Gr. 5	2	F-1015-15	19	Top Wld, 6" Hopper	1	263-002W
7	Nut, Hx Znc Pltd, 1/4-20 Nyloc	2	F-1005-01		Top Wld, 4" Hopper		262-003W
8	Washer, Flat, Std, Steel 1/4"	2	F-1009-01	20	Body, 6" Hopper	1	263-059A
9	Capscrew, Hx, 1/4-20 X 3-1/2 Gr. 5	2	F-1020-01		Body, 4" Hopper		262-020A
10	Fitting, Grease, Striaght, 1/8 NPT	1	H-1010-03	21	Downspout Wld, 6"	1	262-006W
11	Capscrew, Hx, 3/8-16 X 1-3/4 Gr. 5	4	F-1015-28				
12	Washer, Flat, Std, Steel, 3/8"	2	F-1009-03				



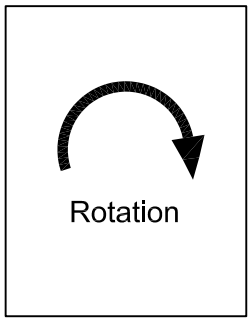
Installing Auxiliary Transfer

8C. Install additional Roof Braces as required so that the auger is not unsupported for any span greater than 20 feet. (Refer to Step 5 under Installing Continuous Flow.) A ground-based support or truss assembly MUST be used where spans between any unsupported section are greater than 20 feet. (Refer to Step 11 under Installing Continuous Flow for Truss assembly numbers.)

9C. Install Downspout, Motor Assembly, and Belt Shield Assembly onto the discharge end of the auger. (Refer to Steps 12, 13, and 14 under Installing Continuous Flow.)

Final Checklist

- ☐ 1. Make sure all hardware sacks were removed from inside the auger tube sections, before they were assembled.
- ☐ 2. Make sure auger fliting was welded to shaft before being cut to length.
- ☐ 3. Make sure all splices were timed correctly and are without gaps. Make sure supplied roll pins were used. Make sure tube splice sleeves are pointing down so water will not run into auger.
- ☐ 4. Make sure all augers are straight.
- ☐ 5. Make sure all augers are secured properly. (No sections unsupported for greater than 20', unless trussed.) Make sure auger fliting will not hit Center Vertical fliting.
- ☐ 6. For Continuous Flow Augers, re-check Center Vertical for plumb. Make sure Continuous Flow Auger isn't pushing against Center Vertical.
- ☐ 7. Make sure all nuts, bolts, and setscrews are tight.
- ☐ 8. Make sure there is a good seal where the Continuous Flow Auger goes through the drying bin roof.
- ☐ 9. Make sure belts and pulleys are in alignment and belts are tight.
- ☐ 10. Make sure factory supplied safety decals are readable. Replace them if they are not.
- ☐ 11. Check for proper motor size based on auger length and angle using chart in Appendix.
- ☐ 12. Make sure Belt Shields are in place.
- ☐ 13. For Hanger Bearing Augers, make sure all hanger bearing grease zerks are pointing up.
- ☐ 14. Check motor for proper rotation.



Looking at front of Belt Shield

Appendix

RECOMMENDED 4" DIAMETER TRANSFER AUGER CONFIGURATIONS

	Transfer Auger Angle From Horizontal Degrees	Transfer Auger Pulley Sizes	Length of Transfer Auger Motor Horsepower For Corn				
			0-20'	**21-30'**	**31-40'**	**41-65'**	**66-100'**
4" Transfer Auger Configuration	See Notes Below	See Notes Below	1	1.5	2	3	5

NOTES:

* 4" Transfer Augers use a 12" driven pulley.

* For extra steep inclines or applications with adverse conditions, use the next higher horsepower recommendations. Inclines over 30° are not recommended for 4" augers.

* Extra starting torque Farm Duty Motors should be used.

* A 3.25" O.D. 2 Groove Motor Pulley is recommended for 4" Continuous Flow Augers used with a Circu-Lator Jr. or Circu-Lator I equipped with a Standard Tapered Sweep Auger AND a 3.25" O.D. Circu-Lator Motor Pulley.

* A 4" O.D. 2 Groove Motor Pulley is recommended for 4" Continuous Flow Augers used with a Circu-Lator I equipped with a Hi Capacity Tapered Sweep Auger OR a 4" O.D. Circu-Lator Motor Pulley.

Appendix

RECOMMENDED 6" DIAMETER TRANSFER AUGER CONFIGURATIONS

CLII Capacity Configuration	Normal System Unload Rate	Transfer Auger Angle From Horizontal Degrees	Transfer Auger Pulley Sizes	Length of Transfer Auger Motor Horsepower For Corn				
				26-35'	**36-45'**	**46-60'**	**61-90'**	**91-120'**
Reg. Sweeps	450 BPH	0-30	3.25"	2	3	5	7.5	10
3-3/4" CL Pulley		**31-60**	**3.25"**	2	3	5	7.5	10
Hi-Cap Sweeps	545 BPH	0-30	3.25"	2	3	5	7.5	10
3-3/4" CL Pulley		**31-45**	**3.50"**	3	3	5	7.5	10
		46-60	**4.00"**	3	5	7.5	10	NA
Hi-Cap Sweeps	580 BPH	0-30	3.50"	3	5	5	7.5	10
4" CL Pulley		**31-45**	**3.75"**	5	5	7.5	7.5	10
		46-60	**4.25"**	5	5	7.5	7.5	NA
Ultra Hi-Cap	900 BPH	**0-15**	**4.00"**	3	5	5	7.5	10
Sweeps		**16-30**	**4.25"**	5	5	7.5	10	10
4" CL Pulley		30+	NA	NA	NA	NA	NA	NA
Ultra Hi-Cap	900 BPH	**0-15**	**4.00"**	3	5	5	7.5	10
Sweeps		**16-30**	**4.25"**	5	5	7.5	10	NA
Hi-Torque CL		30+	NA	NA	NA	NA	NA	NA

NOTES:

* 6" Transfer Augers use a 15" driven pulley.

* Installations in **Bold** above require a High Angle Continuous Flow Boot: 658P-001A 8" CV to 6" Auger.

* Lengths over 120' are not recommended. Horsepower may need to be increased if handling anything except corn. Extra starting torque Farm Duty Motors should be used.

* A 3.25" O.D. 2 Groove Motor Pulley is recommended for 6" Continuous Flow Augers used with ALL Sunflower and Rice Machines, ALL Circu-Lator II's, and Circu-Lator I's with BOTH Hi Capacity Tapered Sweep Auger AND 4" O.D. Circu-Lator Motor Pulley.

Appendix

2 Groove Motor Pulleys

CATALOG NO.	O.D.	I.D.	KEY SIZE	ASSY NUMBER	PULLEY NUMBER	KEY NUMBER
-	2-1/2"	7/8"	3/16	249H-001A	249H-004P	249Z-020P
-	2-1/2"	1-1/8"	1/4	249I-001A	249I-005P	249Z-018P
PLY-50L	2-3/4"	7/8"	3/16	50L-001A	50L-002P	249Z-020P
PLY-50M	2-3/4"	1-1/8"	1/4	50M-001A	50M-002P	249Z-018P
-	3-1/4"	5/8"	3/16	50K-001A	50K-002P	249Z-020P
PLY-249J	3-1/4"	7/8"	3/16	249J-001A	249J-006P	249Z-020P
PLY-249K	3-1/4"	1-1/8"	1/4	249K-001A	249K-007P	249Z-018P
PLY-249L	3-1/4"	1-3/8"	5/16	249L-001A	249L-008P	249Z-019P
PLY-249W	3-1/2"	1-1/8"	1/4	249W-001A	249W-029P	249Z-018P
PLY-249X	3-1/2"	1-3/8"	5/16	249X-001A	249X-030P	249Z-019P
PLY-249Y	3-3/4"	1-1/8"	1/4	249Y-001A	249Y-031P	249Z-018P
PLY-249Z	3-3/4"	1-3/8"	5/16	249Z-001A	249Z-032P	249Z-019P
PLY-249M	4"	7/8"	3/16	249M-001A	249M-009P	249Z-020P
PLY-249N	4"	1-1/8"	1/4	249N-001A	249N-010P	249Z-018P
PLY-249O	4"	1-3/8"	5/16	249O-001A	249O-011P	249Z-019P
PLY-249AA	4-1/4"	1-1/8"	1/4	249AA-001A	249AA-033P	249Z-018P
PLY-249AB	4-1/4"	1-3/8"	5/16	249AB-001A	249AB-034P	249Z-019P