

Extron Grain Spreading Solutions 45K BPH Grain Spreader

Assembly and Installation Guide



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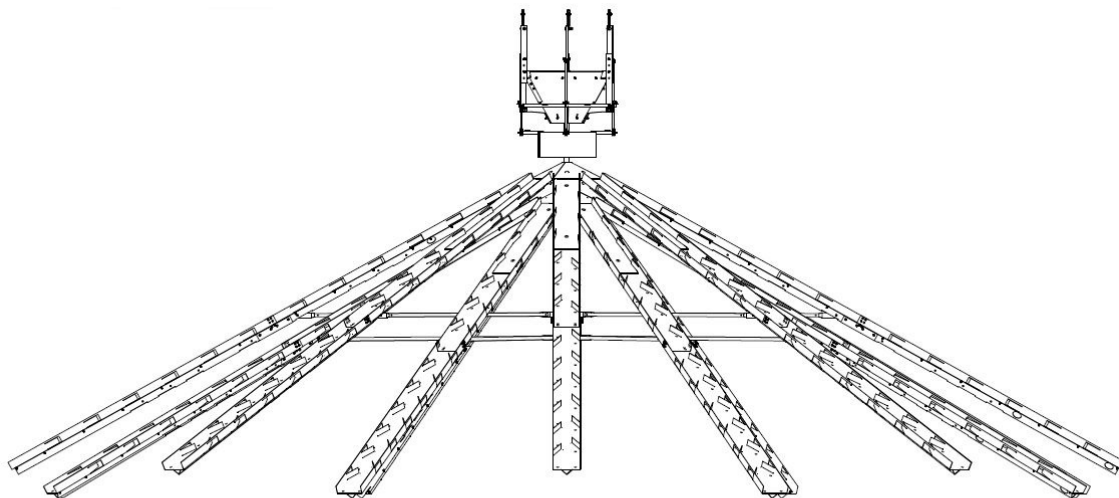
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1.0 Product Overview



Part No. N18081616T

Description: Extron 45K Grain Spreader

The Extron 45K Grain Spreader is intended for 60ft diameter or larger grain bins. Once installed, the spreader regulates and evenly distributes grain during bin-loading.

Features:

The spreader includes these primary components:

- A central assembly with a Hopper and Adjustable Leveling Band
- Grain distribution members and 16 chutes, each 16ft long
- Formed tabs in the chutes provide the even distribution during active loading
- Critical in-flow components are protected by Tivar® 1000 UHMW-PE liner material. This material meets FDA, USDA, and 3A Dairy Sanitation Guidelines for food processing and handling and is specifically intended to prolong the life of the spreader.

Benefits:

- The Adjustable Leveling Band provides directional control of the incoming grain
- Grain fines are spread out and the pods are buried
- The uniform distribution of grain provided by the Extron 45K Grain Spreader reduces the need for center coring and improves in-grain air flow which reduces energy used by fans that condition the stored grain.

2.0 Product Identification

N1808010710 HANGER ARM ASSEMBLY HARDWARE KIT

Description	QTY	UOM
BOLT #3/4-10X3IN. HEX HEAD GRADE 8 PARTIALLY THREADED	6	EA
LOCKNUT #3/4-10 HEX NYLON INSERT GRADE 8	6	EA

N1808010711 LEVELING BAND ASSEMBLY HARDWARE KIT

Description	QTY	UOM
NUT #1/2-13 HEX STEEL GRADE 2 GALV	12	EA
WASHER #1/2-1.062IN OD FLAT GALV	6	EA
LOCK NUT, #1/4-20 HEX NYLOCK STEEL GRADE 5 ZINC-PLATED	6	EA
BOLT, #1/4-20X1-1/2IN. HEX PARTIALLY THREADED STEEL GRADE 5	6	EA

N1808010712 CENTER ASSEMBLY HARDWARE KIT

Description	QTY	UOM
BOLT #1/2-13X4IN. HEX HEAD GRADE 8 PARTIALLY THREADED	6	EA
LOCKNUT #1/2-13 HEX NYLON INSERT GRADE 8	6	EA
CHAIN, 3/8 TRADE SIZE 1 FT, STEEL GRADE 100	1	EA

N1808010713 CHUTE ASSEMBLY HARDWARE KIT

Description	QTY	UOM
BOLT, #1/4-20X1/2 TRILOBULAR THREAD ROLLING	128	EA
LOCK NUT, #1/4-20 HEX NYLOCK STEEL GRADE 5 ZINC-PLATED	192	EA
BOLT #1/4-20X3/4IN. CARRIAGE STEEL GRADE 5 ZINC-PLATED	192	EA

N1808010714 CHUTE SUPPORT ARM ASSEMBLY HARDWARE KIT

Description	QTY	UOM
LOCKNUT #5/16-18, HEX NYLON INSERT GRADE 8	32	EA
BOLT #5/16-18X1IN. HEX FULLY THREADED GRADE 8	16	EA
BOLT #5/16-8X3-3/4IN. HEX PARTIALLY THREADED GRADE 8	16	EA
COTTER PIN #3/16IN. DIAMETER, 1IN. LONG	16	EA
PIN #11/16 X 5 CLEVIS	16	EA

3.0 Installation Overview

- Assemble the 45K Grain Spreader inside the empty bin
- Lift the spreader to the top of the bin
- Mount the spreader to the top of the bin
- Adjust the leveling band to optimize bin loading.

Description	Value
Fully-loaded Capacity	50 bushels
Approx. Self-Weight	2100 lbs.
Assembled Width	30 ft.
Assembled Height	13.1 ft.

4.0 Mechanical Installation

4.1 Hopper

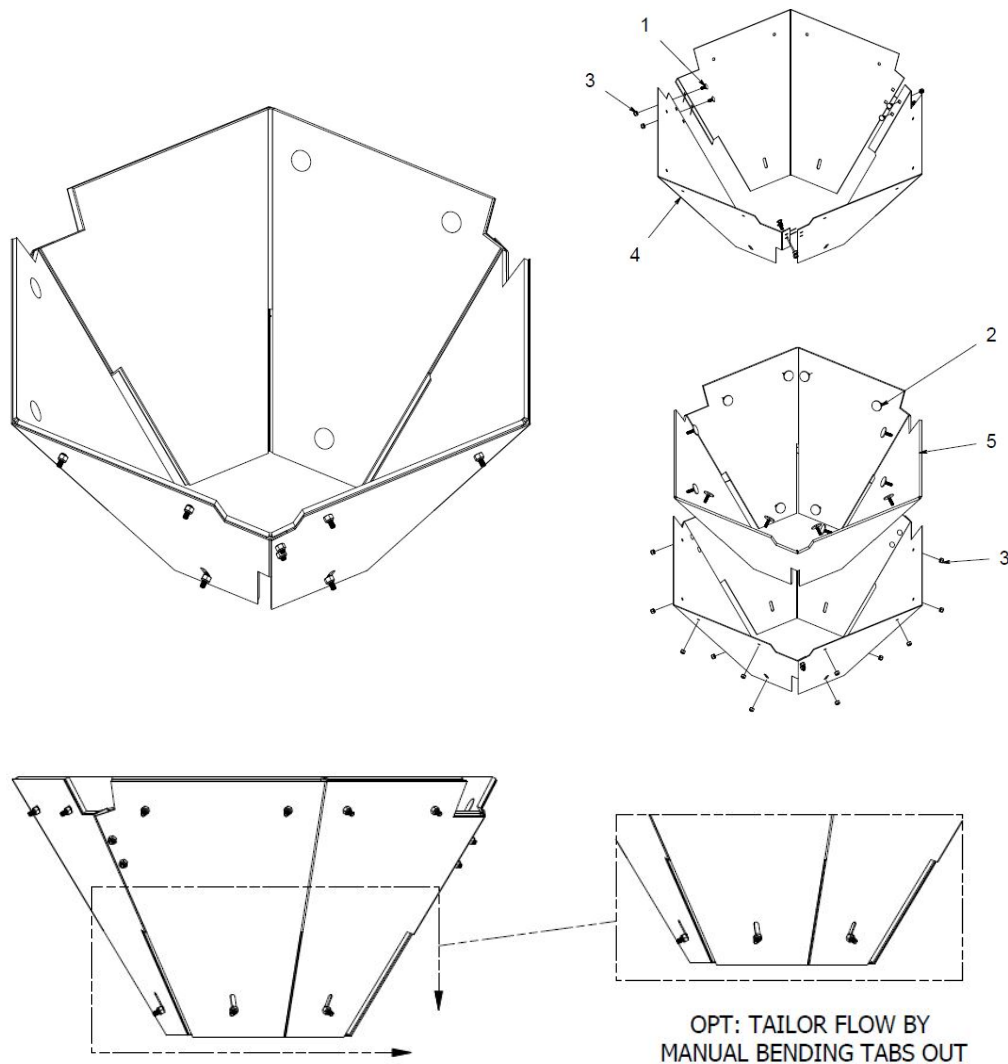


Figure 4-1. Hopper Assembly - Three Side Intake and Liner

- | | | | |
|---|--|---|---------------------------|
| 1 | BOLT #1/4-20X5/8IN. CARRIAGE STAINLESS STEEL | 4 | THREE SIDED INTAKE |
| 2 | BOLT, #1/4-20X1IN. LINER CAPPED BOLTS | 5 | HOPPER INTAKE LINER SHEET |
| 3 | LOCKNUT #1/4-20 NYLON INSERT STAINLESS STEEL | | |

1. Attach the three side intakes (4) together with the #1/4-20 carriage bolts (1) and #1/4-20 nylock nuts (3) to form the hopper.
2. Place the hopper liner (5) inside the Hopper Assembly and secure with the #1/4-20 Capped Bolts (2) and #1/4-20 nylock Nuts (3).

4.2 Hanger

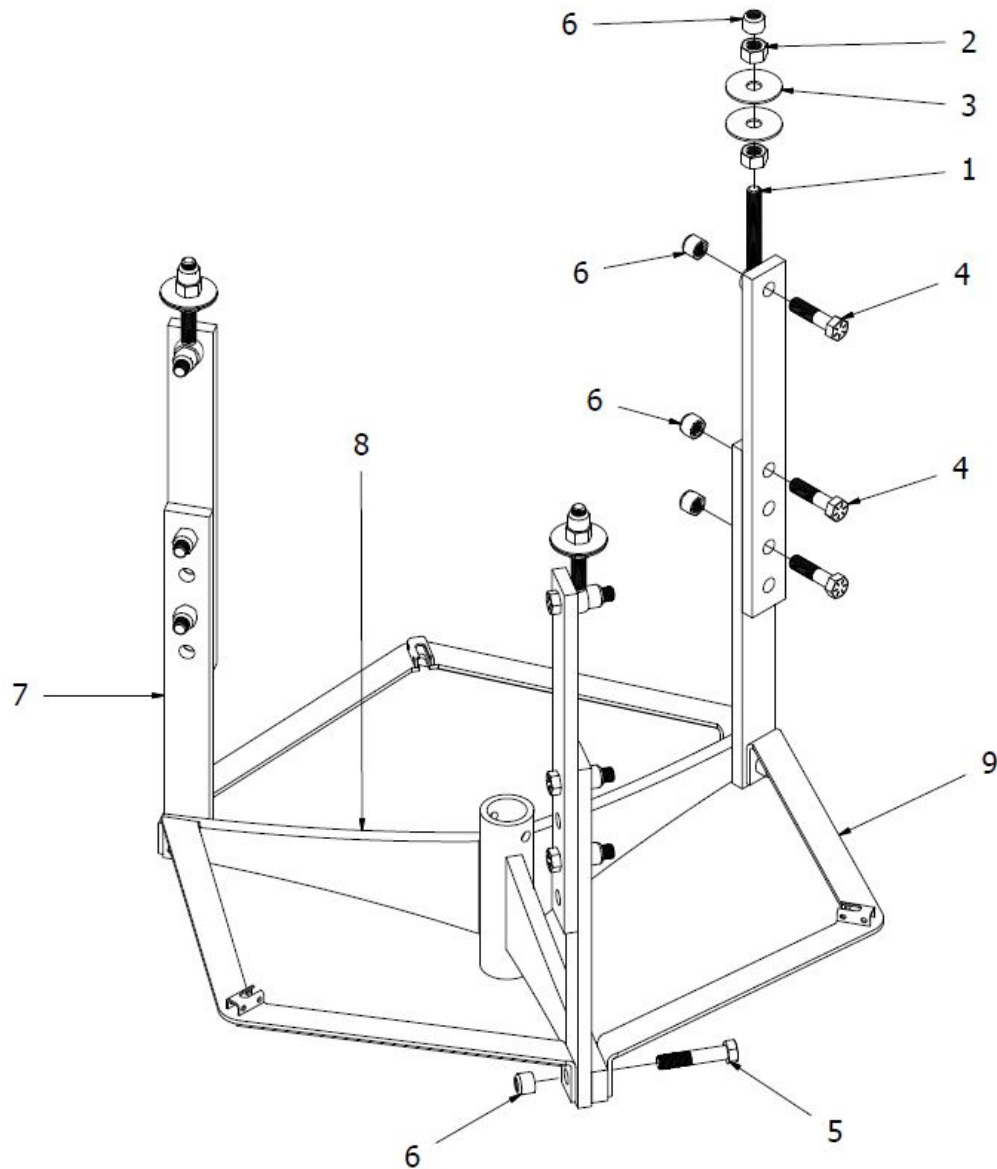


Figure 4-2. Assembling the Hanger

- | | |
|--|--------------------------------|
| 1 BOLT #3/4-10X6IN. FULLY THREADED ROD END | 6 LOCKNUT #3/4"-10 HEX GRADE 8 |
| 2 HEX NUT, #3/4-10 STEEL, GRADE 8 | 7 HANGER LOWER / UPPER ARM |
| 3 WASHER #3/4X3IN. OD FLAT STEE ZINC PLATED | 8 HANGER WELDMENT |
| 4 BOLT #3/4-10X3IN. HEX GRADE 8 PARTIALLY THREADED
BOLT #3/4"-10X3-3/4 IN HEX GRADE 8 PARTIALLY | 9 HANGER BELT WELDMENT |
| 5 THREADED | |

1. Place two 3/4 IN OD washers (3) between two #3/4-10 hex nuts (2) on each #3/4-10 Shank Rod End bolt (1), then place a nylock nut (6) at the end of the bolt.
2. Attach the Hanger Arms (7) together with the #3/4-10X3IN Bolt (4), #3/4-10 Lock Nut (6).
3. Attach the Shank Rod End (1) to the Hanger Arms with the #3/4-10X3IN. Bolt (4), #3/4-10 nylock Nut (6).
4. Position the Hanger Belt (9) so that the tabs are facing down. Pass a #3/4-10x3-3/4IN. Bolt (5) through the tab and the outside hole of the Hanger Weldment (8).
5. Place the Hanger Arm and another Hanger Belt through the bolt (5). Secure the bolt with a #3/4-10 locknut (6).

4.3 Leveling Band

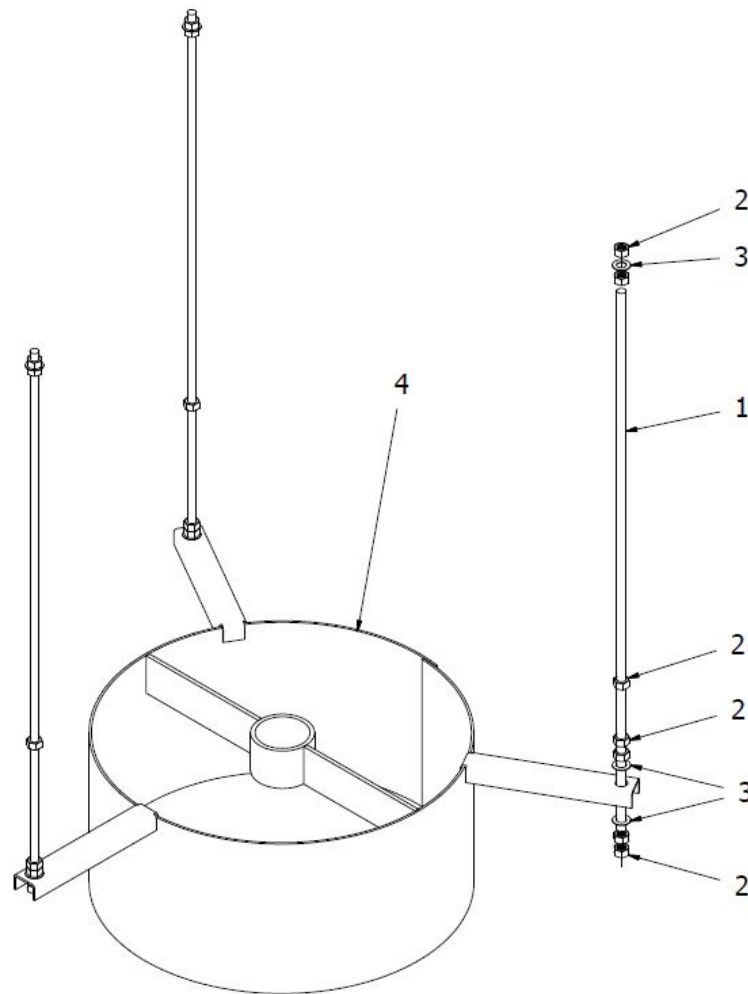


Figure 4-3. Assembling the Leveling Band

- | | | | |
|---|---------------------------------------|---|----------------------------------|
| 1 | ROD, #1/2-13X36IN THREADED STEEL GALV | 5 | WASHER #1/2-1.062IN OD FLAT GALV |
| 2 | NUT, #1/2-13 HEX STEEL GRADE 2 GALV | 6 | LEVELING BAND |

1. Secure the threaded rod (1) to the Leveling Band with double nuts (2) and washers (3) above and below the mounting bracket as shown.
2. Place one nut (2) near the center of each threaded rod; this nut will mate into the receiver on the Hanger Weldment Assembly.
3. Attach and fully tighten the two nuts and washer near the top of the threaded rod. This secured nut assembly is used to lift and to lower the Leveling Band through a spinning of the threaded rod.

4.4 Center Assembly

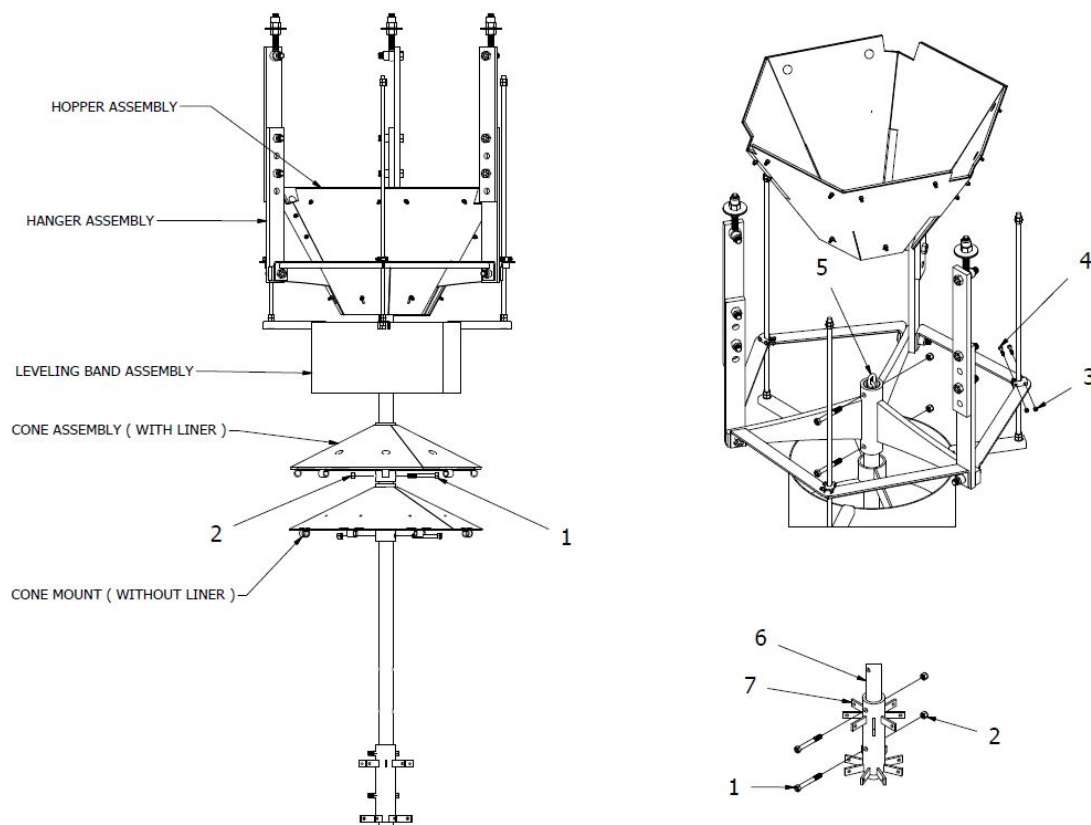
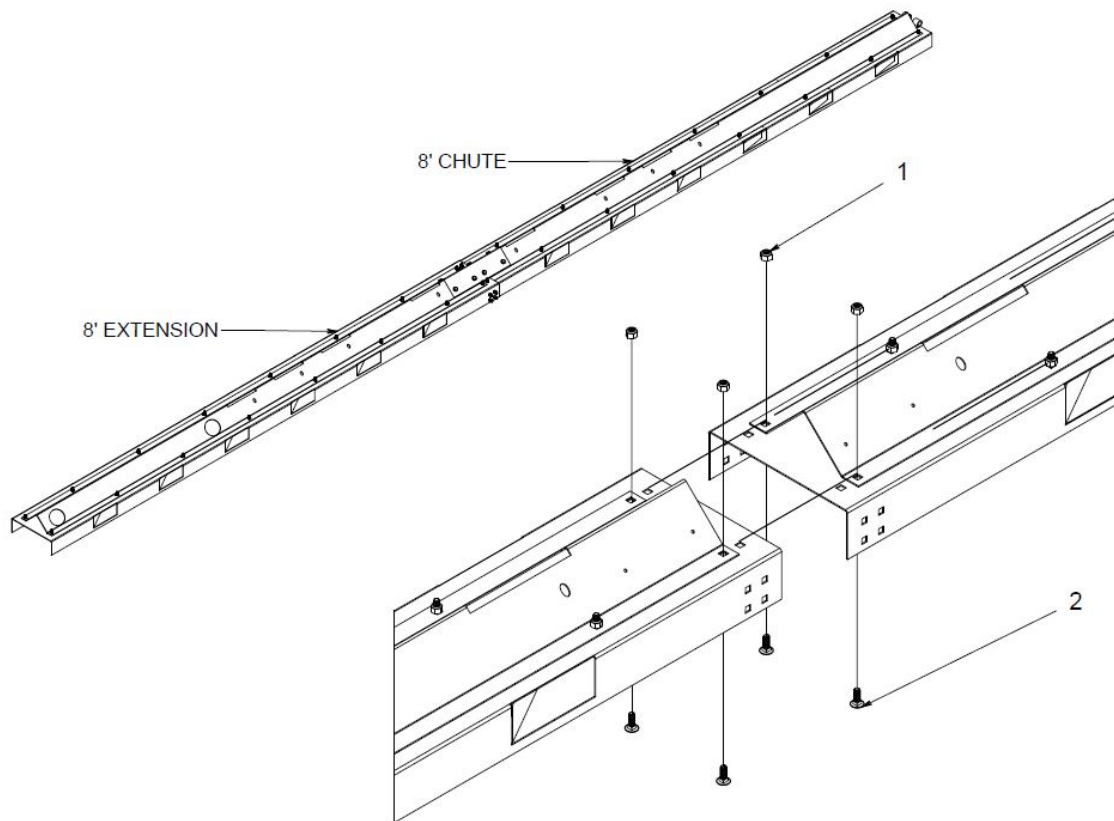


Figure 4-4. Assembling the Center Assembly

- | | |
|---|---|
| 1 BOLT #1/2-13X4IN HEX GRADE 8 PARTIALLY THREAD | 5 CHAIN, 3/8 TRADE SIZE 1 FT, STEEL GRADE 100 |
| 2 LOCKNUT #1/2'-13 HEX NYLON INSERT GRADE 8 | 6 SPIDER SUPPORT |
| 3 BOLT #1/4-20X1-1/2IN. HEX STEEL GRADE 5 | 7 SPREADER CENTER POLE |
| 4 NUT #1/4-20 HEX NYLOCK STEEL GRADE 5 | |

1. Attach spider support (6) to the bottom two holes of spreader center pole (7) using bolts (1) and nuts (2).
2. Place cone assembly and spreader cone mount to the center pole using bolts (1) and nuts (2).
3. Place leveling band assembly and hanger assembly on the spreader center pole.
4. Attach the hanger assembly and place two sections of chains (5) to the top of the center pole using the bolts (1) and nuts (2).
5. Adjust the center nut on the Threaded Rod, of the Leveling Band Assembly, until it aligns with the slot on the Hanger Belt, of the Hanger Assembly. Slide the nut into the slot and secure with #1/4-20x1-1/2IN bolt (3) and #1/4-20 nylock nut (4).

4.5 Chute Assembly



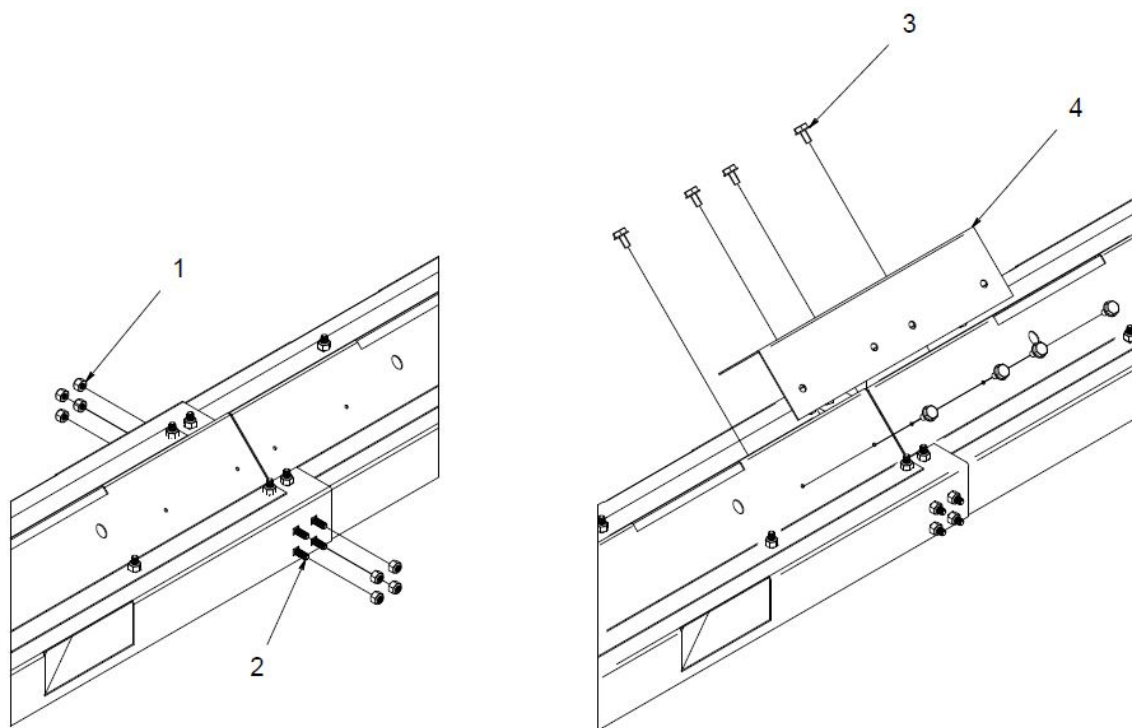
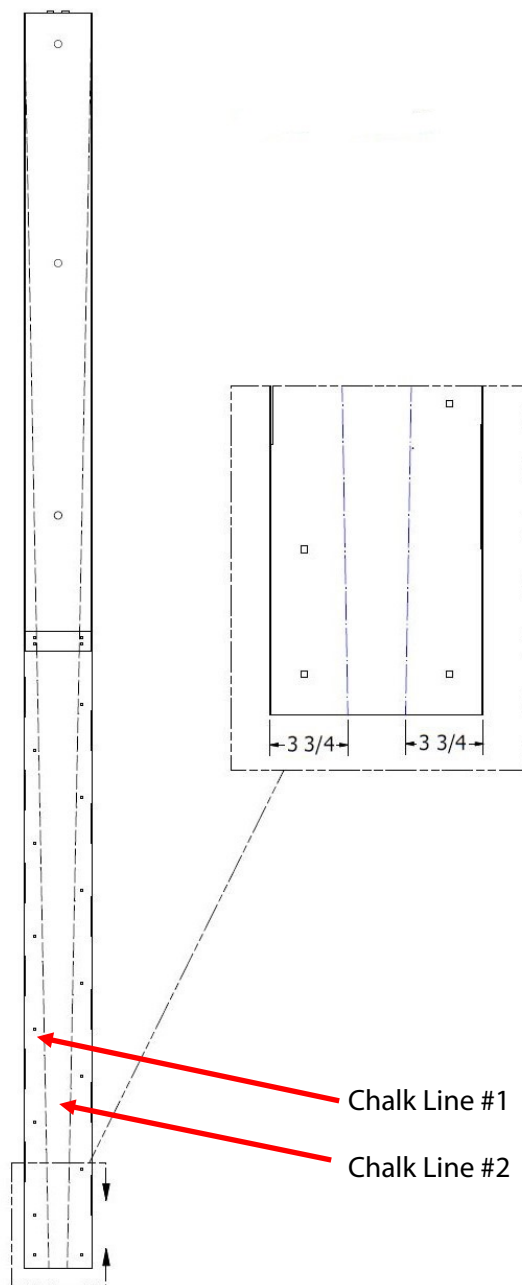


Figure 4-6. Attaching 8ft Chute with 8ft Extension

- | | | | |
|---|---|---|--|
| 1 | NUT #1/4-20 HEX NYLOCK STEEL GRADE 5 | 3 | BOLT #1/4-20X1/2 TRILOBULAR THREAD ROLLING |
| 2 | BOLT #1/4-20X3/4IN CARRIAGE STEEL GRADE 5 | 4 | ARM EXTENSION BRACE |

1. Attach the Chute and Extension together with the #1/4-20X5/8IN. carriage bolts (2) and #1/4-20 nylock nuts (1).
2. Place the brace (4) over the seam and install the self-drilling screw (3).

4.6 Chute Tab Forming



Chute without etched marks

1. Mark two dots 3-1/2 inches away from the bottom outside edges toward the center of the chute.
2. With a chalk line and, following this guide, snap two indicating lines along the full length of each fully-assembled 16ft chute as shown.
3. Manually press each tab inward until each tab aligns with the chalked line marking. Note that the tabs are formed at a greater angle along the chute length.

Chute with the etched marks

1. Manually press each tab inward until it aligns with the etch marking on the chute.

Figure 4-7. Forming Chute Tabs for 45K Grain Spreader Operation

4.7 Final Assembly

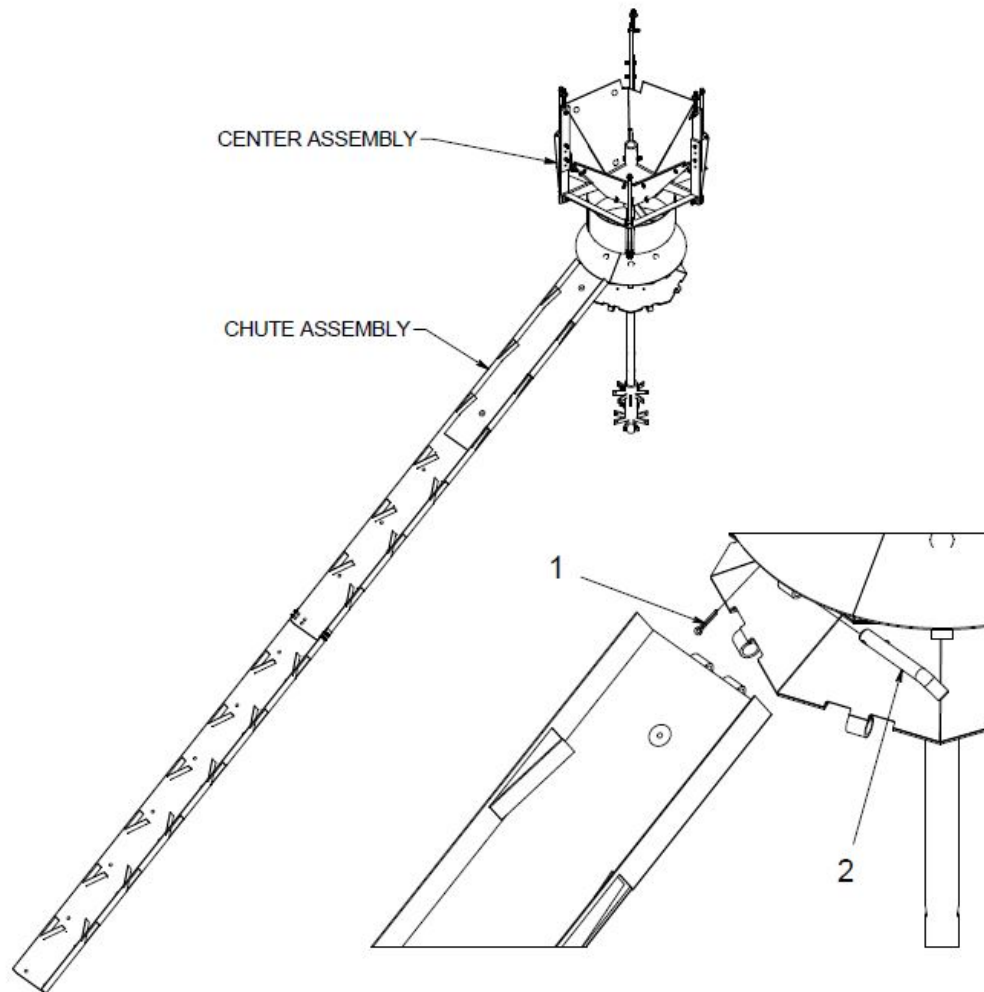


Figure 4-8. Attaching Chute to the Center Assembly

1 COTTER PIN, 3/16IN. DIA., 1IN. LONG

2 CLEVIS PIN, 11/16IN. DIA.X5IN.

1. Attach the chute assembly to the top cone (cone with liner) of the center assembly using the pin (2) to slide into the holes on the cone assembly and the top of the chute assembly.
2. Slide the cotter pin (1) to the end tip of the pin then bend the end tip of the cotter pin.
3. Repeat step 1 and 2 to install all the chute assemblies to top cone assembly (cone with liner), then attach the chute assemblies to the bottom cone mount (cone without liner).

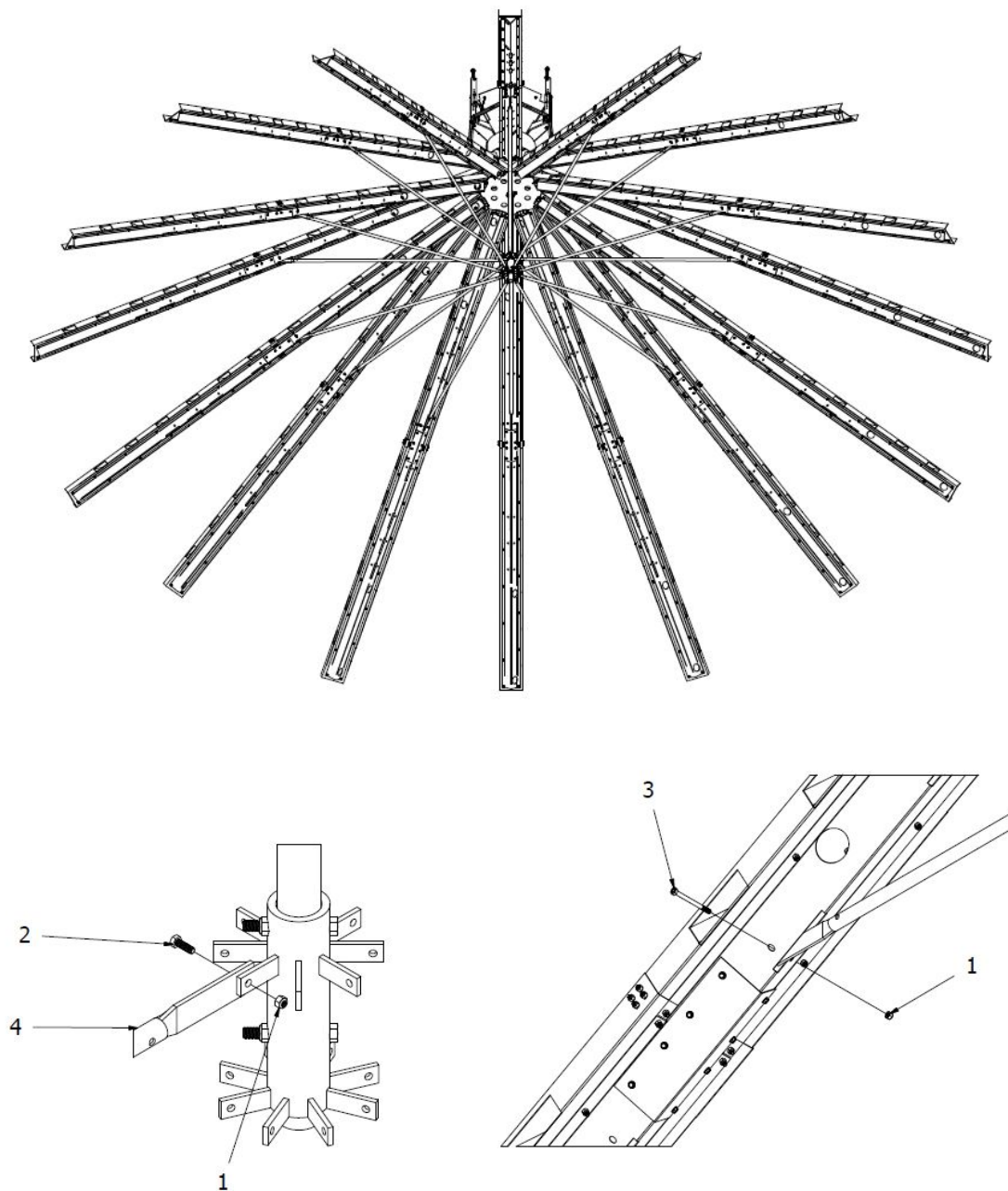


Figure 4-9. Installing the Support Rod to Center Assembly

- | | | | |
|---|---|---|------------------------------------|
| 1 | LOCKNUT #5/16-18 HEX NYLON INSERT GRADE 8 | 3 | BOLT #5/16-18X3-3/4IN. HEX GRADE 8 |
| 2 | BOLT #5/16-18X1IN. HEX GRADE 8 | 4 | SPREADER ARM SUPPORT |

1. Install arm supports (4) to the spider support using bolts (3) and locknuts (2).
2. Insert the end of the army support into slot on the underside of the chute assembly using bolt (3) and nut (1) to secure.

4.8 Installation Guideline

Lift the spreader into place and secure to the bin structure

5.0 Dimensions

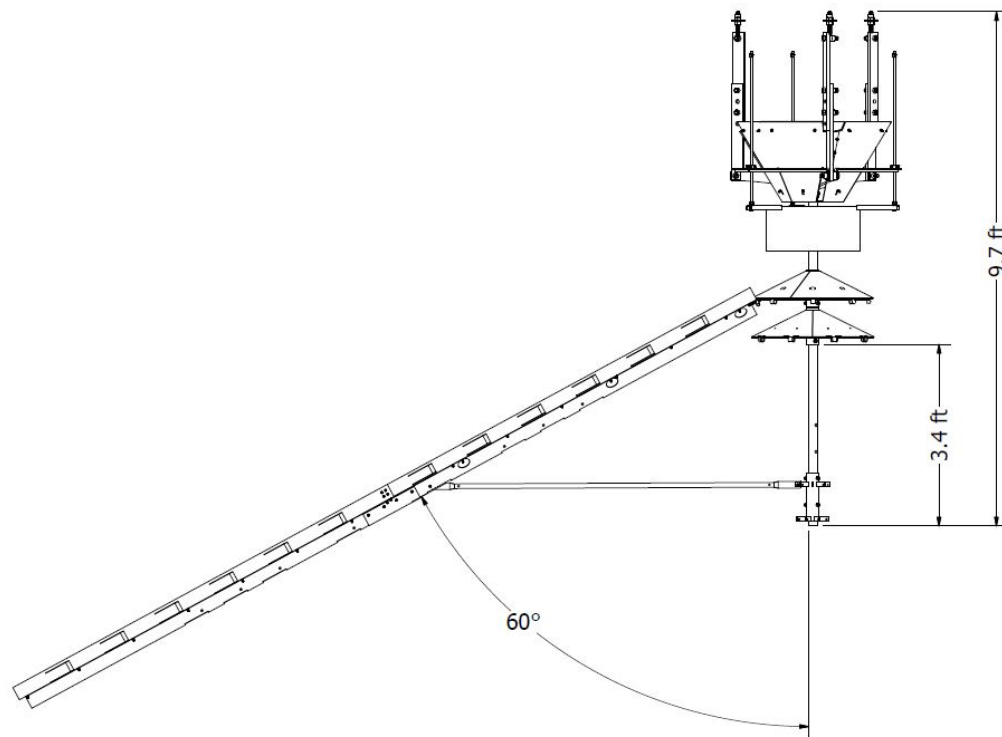


Figure 5-1 Sectional Dimension of 45K Grain Spreader

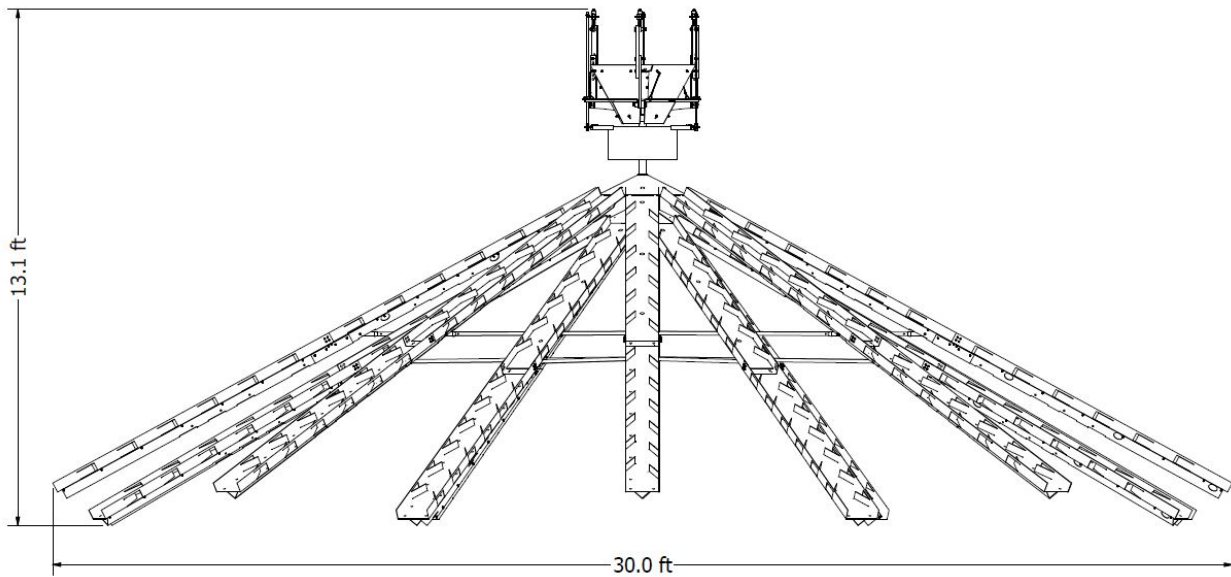


Figure 5-2. Overall Dimension of 45K Grain Spreader

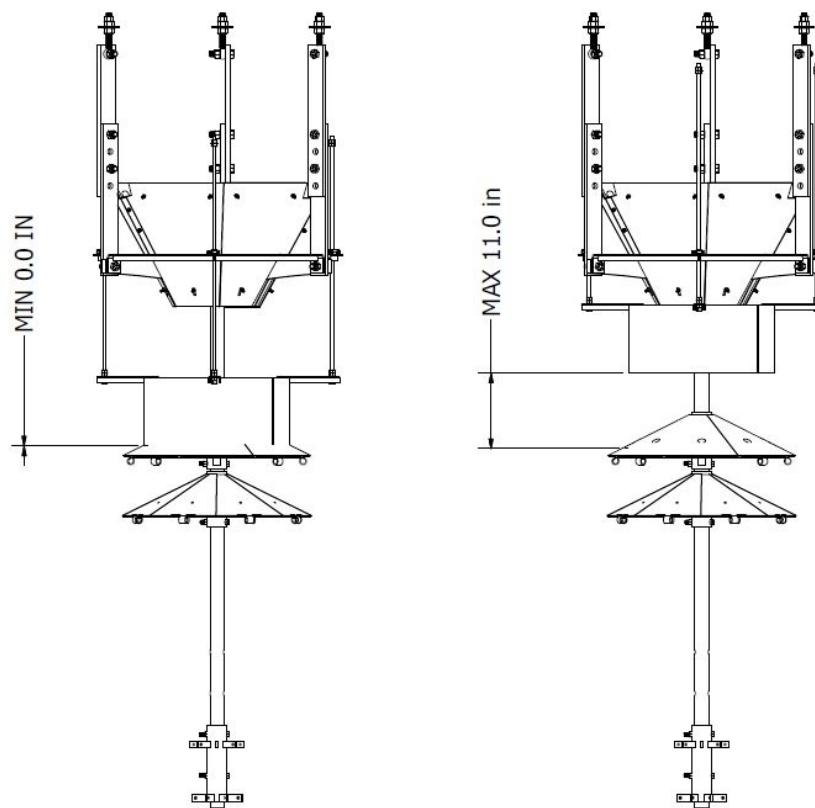


Figure 5-3 Leveling Band Adjustment Limits

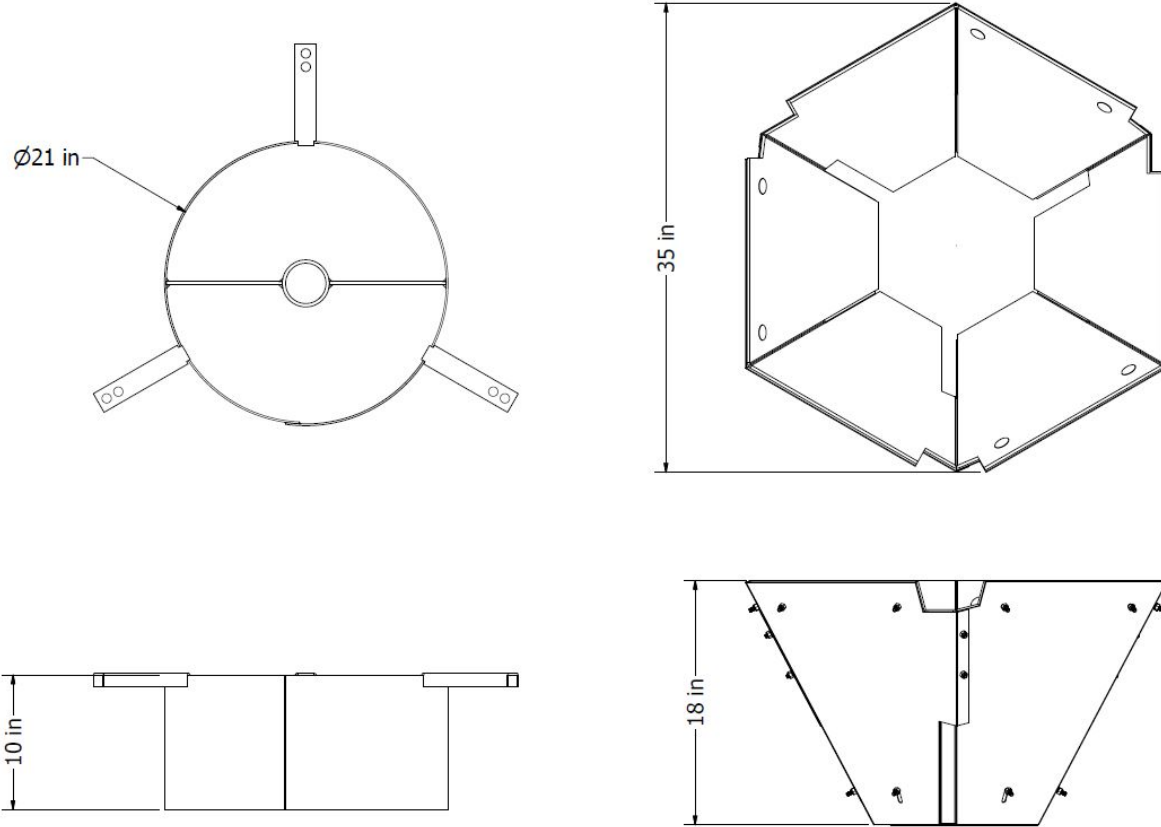


Figure 5-4 Leveling Band and Hopper Dimensions

6.0 Troubleshooting

Problem	Possible Causes
Uneven distribution of grain	Verify that the hopper is allowed to serve as a funnel to the grain distribution members.
	If incoming volume exceeds 24K Grain Spreader capacity, the grain will overflow the Hopper resulting in grain distribution that bypasses the spreader's chute system.
	If incoming volume is too far below 24K Grain Spreader capacity (i.e. the hopper is not a funnel), grain in-flow may prevent the Leveling Band and subsequent grain distribution members from effectively serving their intended functions.
Non-level grain in the bin	Stop the grain in-flow and adjust the Leveling Band to compensate

7.0 Warranty

Extron warrants to the original purchaser of the 45K Grain Spreader equipment and products manufactured by it and bearing its name to be free of defects in material and workmanship under normal use and service for a period of thirty (30) days from installation. This warranty is applicable only if the Extron product and/or equipment is installed, operated and maintained in accordance with factory recommendations and procedures.

In the event the Extron product and/or equipment is found to be defective within the above-stated period, Extron will repair or replace defective parts if the product or equipment is shipped prepaid to Extron's factory and if such product and/or equipment is found by Extron's inspection to be truly defective in workmanship or material. Extron will return-ship such repaired product and/or equipment prepaid within the continental United States. If Extron's inspection does not disclose any defect in workmanship or material, repairs will be made at a reasonable charge.

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