



69' Dura-Lok Plank and Support Manual

Owner's Manual

PNEG-1978 Version: 3.0

Date: 10-27-20



All information, illustrations, photos, and specifications in this manual are based on the latest information available at the time of publication. The right is reserved to make changes at any time without notice.

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1. Introduction

READ THIS MANUAL carefully to learn how to properly use and install equipment. Failure to do so could result in personal injury or equipment damage.

INSPECT the shipment immediately upon arrival. The customer is responsible for ensuring that all quantities are correct. The customer should report and note any damage or shortage on the bill of lading to justify their claim to the transport company.

THIS MANUAL SHOULD BE CONSIDERED a permanent part of your equipment and should be easily accessible when needed.

This warranty provides you the assurance that the company will back its products when defects appear within the warranty period. In some circumstances, the company also provides field improvements, often without charge to the customer, even if the product is out of warranty. Should the equipment be abused, or modified to change its performance beyond the factory specifications, the warranty will become void and field improvements may be denied.

Safety Guidelines

Safety guidelines are general-to-specific safety rules that must be followed at all times. This manual is written to help you understand safe operating procedures and problems that can be encountered by the operator and other personnel when using this equipment. Read and save these instructions.

As owner or operator, you are responsible for understanding the requirements, hazards, and precautions that exist and to inform others as required. Unqualified persons must stay out of the work area at all times.

Alterations must not be made to the equipment. Alterations can produce dangerous situations resulting in SERIOUS INJURY or DEATH.

This equipment must be installed in accordance with the current installation codes and applicable regulations, which must be carefully followed in all cases. Authorities having jurisdiction must be consulted before installations are made.

When necessary, you must consider the installation location relative to electrical, fuel and water utilities.

Personnel operating or working around equipment must read this manual. This manual must be delivered with equipment to its owner. Failure to read this manual and its safety instructions is a misuse of the equipment.

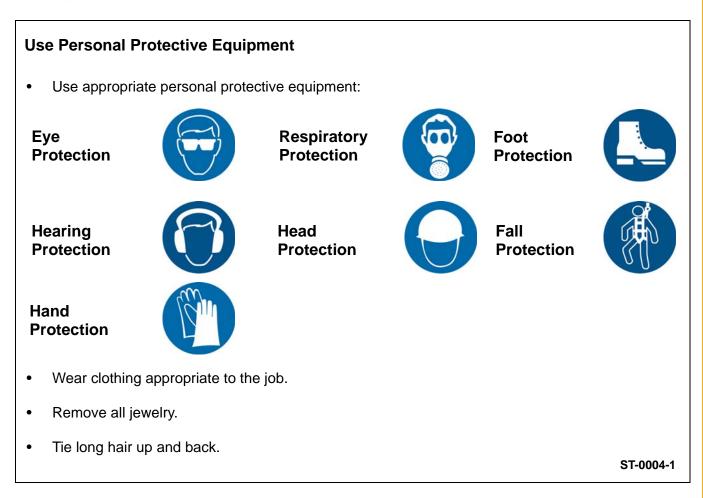
ST-0001-4

Cautionary Symbols Definitions

Cautionary symbols appear in this manual and on product decals. The symbols alert the user of potential safety hazards, prohibited activities and mandatory actions. To help you recognize this information, we use the symbols that are defined below.

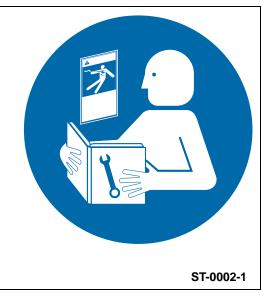


Safety Cautions



Follow Safety Instructions

- Carefully read all safety messages in this manual and safety signs on your machine. Keep signs in good condition. Replace missing or damaged safety signs. Be sure new equipment components and repair parts include the current safety signs. Replacement safety signs are available from the manufacturer.
- Learn how to operate the machine and how to use controls properly. Do not let anyone operate without instruction.
- If you do not understand any part of this manual or need assistance, contact your dealer.



2. Safety

Maintain Equipment and Work Area

- Understand service procedures before doing work. Keep area clean and dry.
- Never service equipment while it is operating. Keep hands, feet, and clothing away from moving parts
- Keep your equipment in proper working condition. Replace worn or broken parts immediately.

Prevent Roof Damage Due to Vacuum Pressure

- Roof damage can result from excessive vacuum or internal pressure from fans or other air moving systems. The manufacturer does not warrant this type of roof damage.
- Adequate ventilation or "makeup air" devices must be provided for all powered air handling systems.
- The manufacturer does not recommend the use of downward flow systems (suction).
- Severe roof damage can result from any blockage of air passages.
- Operating fans during high humidity or cold weather conditions can cause air exhaust or intake ports to freeze.



ST-0003-1



Sharp Edge Hazard

- This product has sharp edges, which can cause serious injury.
- To avoid injury, handle sharp edges with caution and always use proper protective clothing and equipment.



Safety Sign-Off Sheet

Below is a sign-off sheet that can be used to verify that all personnel have read and understood the safety instructions. This sign-off sheet is provided for your convenience and personal record keeping.

Date	Employee Name	Supervisor Name

ST-0007

3. Decals

The safety decals on your equipment are safety indicators which must be carefully read and understood by all personnel involved in the installation, operation, service and maintenance of the equipment.

To replace a damaged of missing decal, contact us to receive a free replacement.

GSI Decals

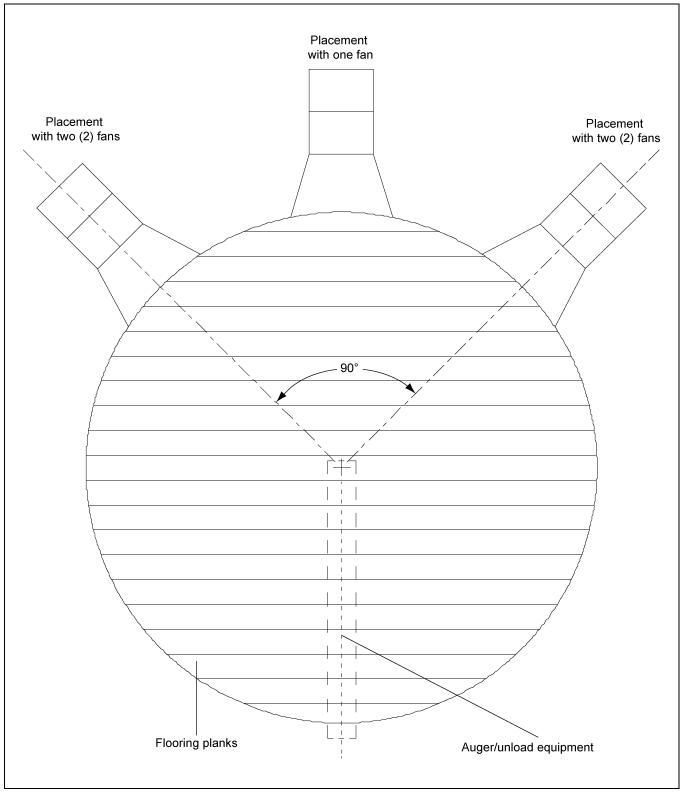
1004 E. Illinois St. Assumption, IL. 62510 Phone: 1-217-226-4421

Location	Decal #	Decals	Description
Located next to aeration system.	DC-969	CAUTION	Caution Vacuum Pressure
		Excessive vacuum (or pressure) may damage roof. Use positive aeration system. Make sure all roof vents are open and unobstructed. Start roof fans when supply fans are started. Do not operate when conditions exist that may cause roof vent icing.	

Location	Decal #	Decals	Description
On bin door covers	DC-GBC-1A	<image/> <image/> <image/> <image/> <image/> <image/> <image/> <image/>	Warning Keep Clear of Augers
On bin door covers	DC-GBC-2A	<image/>	Warning Unload Instructions

Fan Placement Diagram

For uniform air flow, place the fans in relation to the unloading tube as shown in *Figure 4A*. Floor planks should be perpendicular to the unloading tube.



Tie Bar Detail

- 1. Locate the tie bars between the rails. (Spaced evenly throughout the system.)
 - **NOTE:** Tie bars are to be placed at the end of monorail, at each splice and in the middle of the rail if it is over 16' long. (Not necessarily evenly spaced.) Rail spacing details on Page 27, detail tie bar placements in each layout.
- 2. A single #10 x 5/8" self-drilling screws may be used to fasten the tie bars at each end to the rails as necessary. (See Figure 4B.)

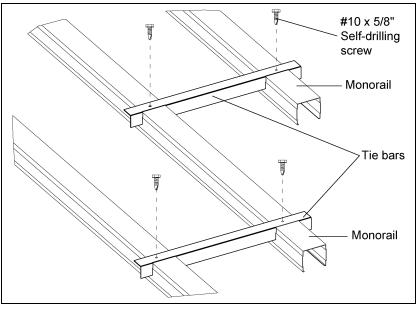


Figure 4B Tie Bar Detail

3. Tie bars should overlap and connect each rail to the next rail. Tie bars should be located along each side of a rail splice and around the perimeter of the bin, no more than 6" from the end of the rail. (See Figure 4C.)

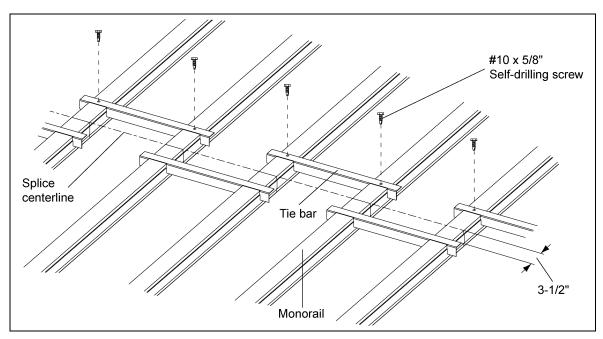


Figure 4C Tie Bar Dimension Detail

Tie Strap Detail

- 1. Tie straps should be used when a tie bar cannot be used to connect rails together due to special spacing of monorail. Tie strap should be connected to all three (3) rails using self-drilling screws. (See Figure 4D.)
- 2. Tie straps are to be located in the same places as a tie bar would be used.
- **NOTE:** Some tie straps will be used to support center well and intermediate well assembly. (See Figure 5F on Page 24 and Figure 5G on Page 25.)

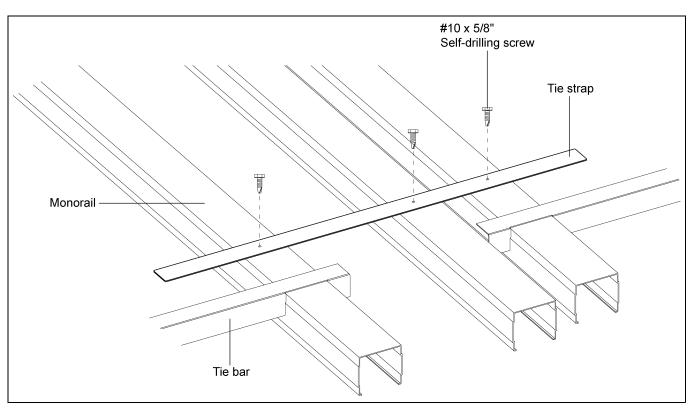


Figure 4D Strap Detail

Assembling Legs to Rail

- 1. Place two (2) corners of the monorail leg into the rails as shown.
- 2. By twisting the leg it will spread the rail enough to get the other corners inside.
- 3. The leg can then be pushed down into the rail until the tabs lock it into place. (See Figure 4E.)

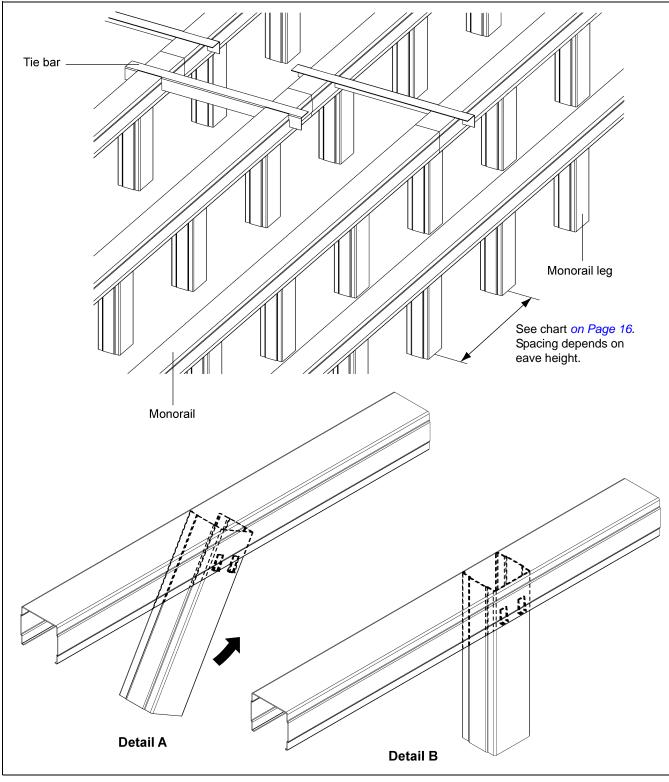


Figure 4E Assembly Leg Rail

4. Monorail Installation

4.00" Ring	2.66" Ring	Eave Height (ft.)	Rail Spacing	Reference Page	Leg Spacing	Leg Qty
16	22	59	17	See Page 27	16	2498
17	24	64	17	See Page 27	16	2498

Monorail "Rail and Leg Spacing"/"Full Floor Leg Quantity" for 69' Bin Diameter

Monorail Splice Detail

1. Insert the monorail leg (2) vertically at the joint between the ends of the monorails (1), centering the leg (2) on the splice as shown in *Figure 4F*.

NOTE: Lock the monorail leg (2) securely into the monorails (1) using the locking tabs (5).

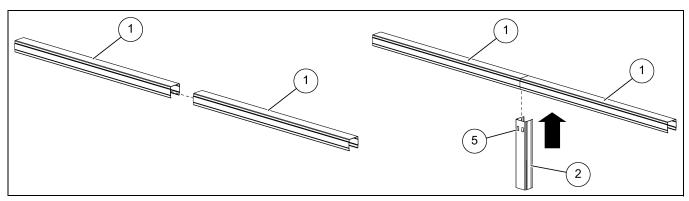


Figure 4F Installing the Monorail Leg

Ref #	Part #	Description		Ref #	Description
1	FL-403-1	Rails for Monorail Per Foot		5	Leg Locking Tabs
2*	FL-403-X	Monorail Leg	L		

2. Use the four self-tapping screws (3) to secure the monorails (1) to the monorail leg (2) as shown in *Figure 4G*. (**NOTE:** See the orientation of the monorail leg (2) in *Figure 4G*.)

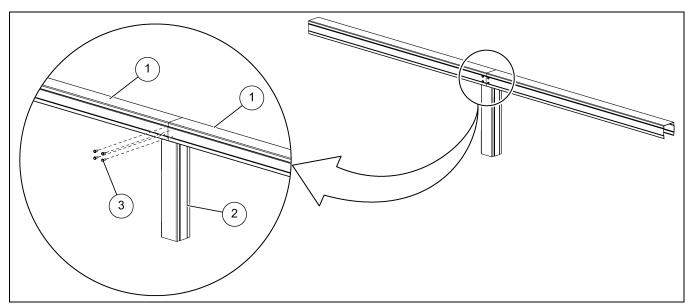


Figure 4G Installing the Screws in the Monorail

Ref #	Ref # Part # Description			
1	FL-403-1	Rails for Monorail Per Foot		
2*	FL-403-X	Monorail Leg		
3	S-280	Screw, SDS #10-16 x 5/8" HWH ZN		

* NOTE: "X" denotes the monorail leg part number extension.

Monorail Splice Detail (Continued)

3. Use the four self-tapping screws (3) and the monorail splice plate (4) on the other side of the monorail joint as shown in *Figure 4H*. (**NOTE:** See the orientation of the monorail leg (2) in *Figure 4H*.)

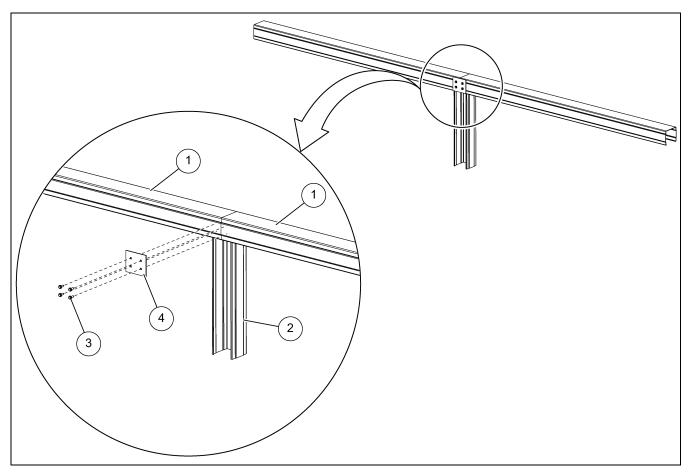


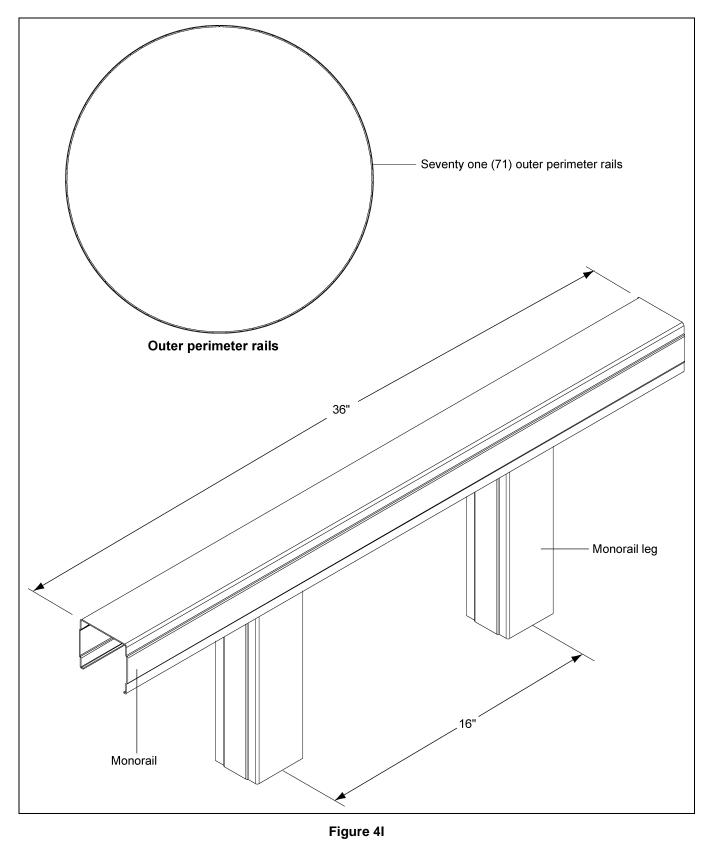
Figure 4H Installing the Monorail Splice Plate

Ref #	Part #	Description
1	FL-403-1	Rails for Monorail Per Foot
2*	FL-403-X	Monorail Leg
3	S-280	Screw, SDS #10-16 x 5/8" HWH ZN
4	FL-7415	Monorail Splice Plate

* NOTE: "X" denotes the monorail leg part number extension.

Outer Perimeter Rail Details

3' Sections of monorail should be placed around the perimeter of the bin. Monorail legs for perimeter rails should be spaced 16" apart on center. (See Figure 41.)



NOTES

Floor Splice Details

Some of the floor planks will need to be spliced together. (See Figure 5F on Page 24 and plank layout on Page 29 and plank length chart on Page 30.) Install plank length A first, then install the corresponding plank length B. Continue until floor is complete. Center and install two (2) splices (PCL-7009) at each plank splice location using self-drilling screws. Use eight (8) screws at the end of the splice for each plank, four (4) on each side. (See Figure 5A below and Figure 5B on Page 22.)

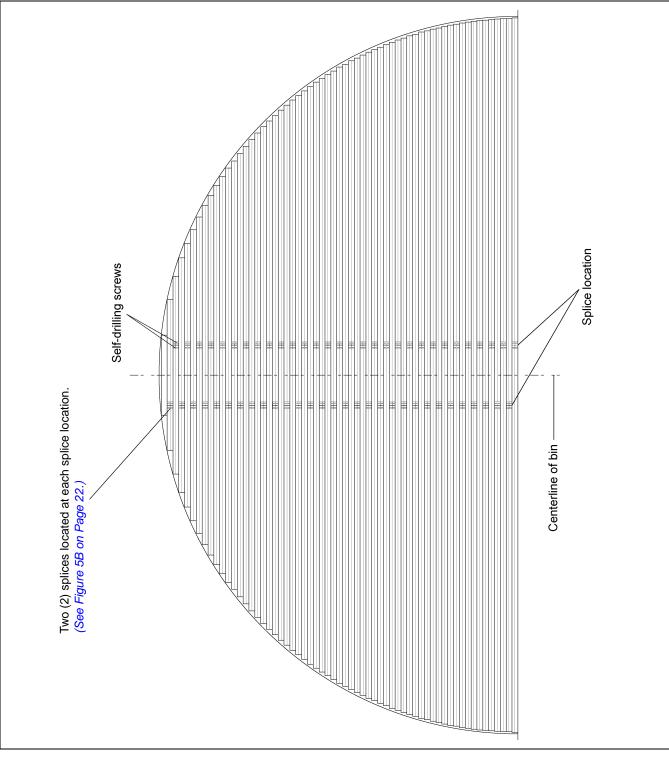


Figure 5A Floor Splice Layout

5. Flooring - Planks

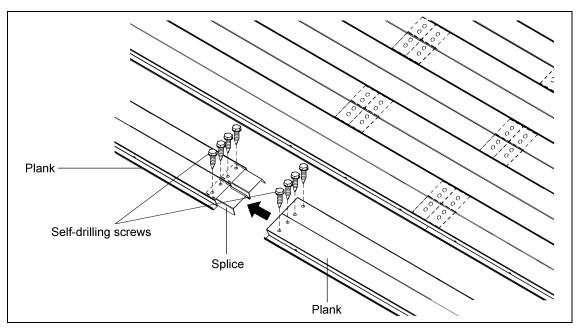
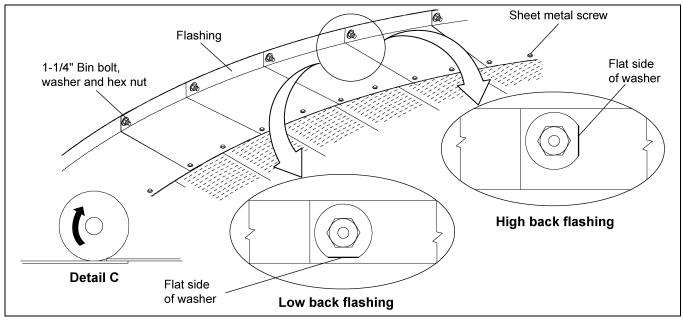


Figure 5B Splice Assembly View



Flashing Installation

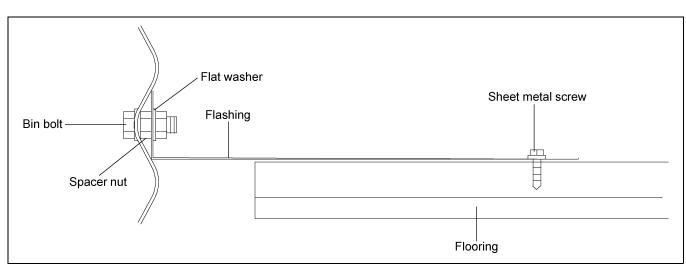


Formed Flashing Installation

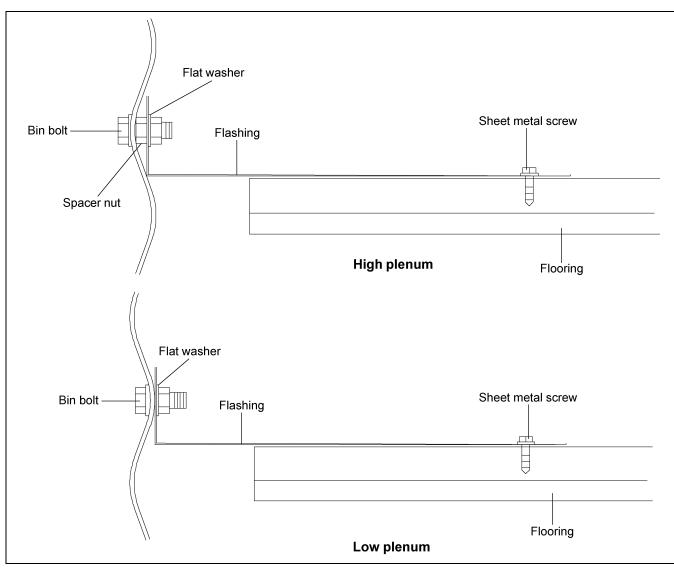
If bin sweep auger is to be used, overlap flashing such that rotation (usually clockwise) of the sweep will climb up on the next flashing section. (See detail C in *Figure 5C*.) This will prevent the rotating/slipping outer wheel of the sweep from catching on the flashing edges.

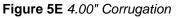
After the floor is in place, lay the flashing pieces on top of the floor place over the 1-1/4" bin bolts. See Figure 5D and Figure 5E on Page 23 to determine the correct sequence for placing the nuts and washers. Finger tighten the nuts. While holding flashing flat, fasten the flashing to the floor with sheet metal screws. Now tighten flashing nuts.

Flashing Installation (Continued)

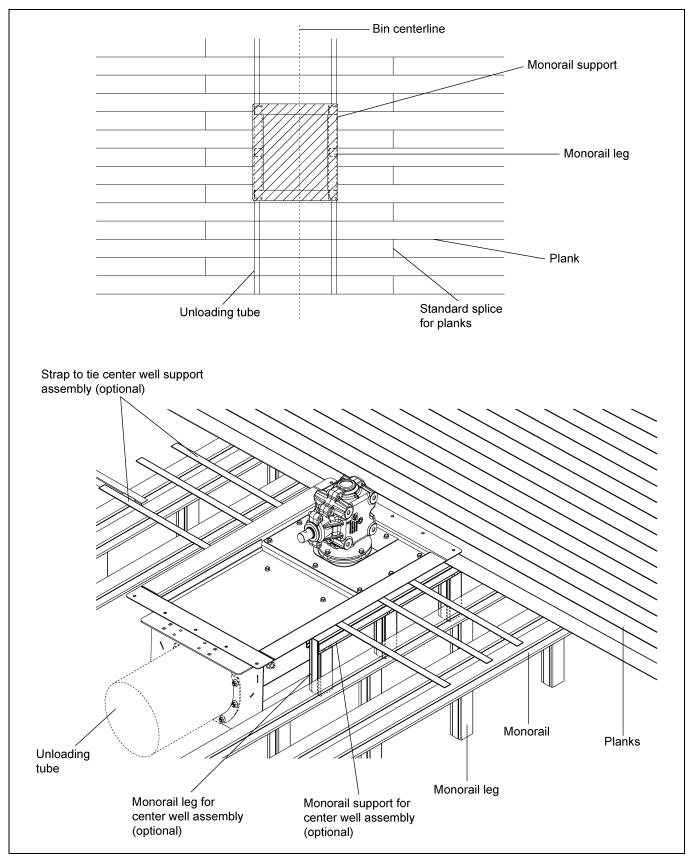








Center Well Assembly Details





Intermediate Well Assembly Details

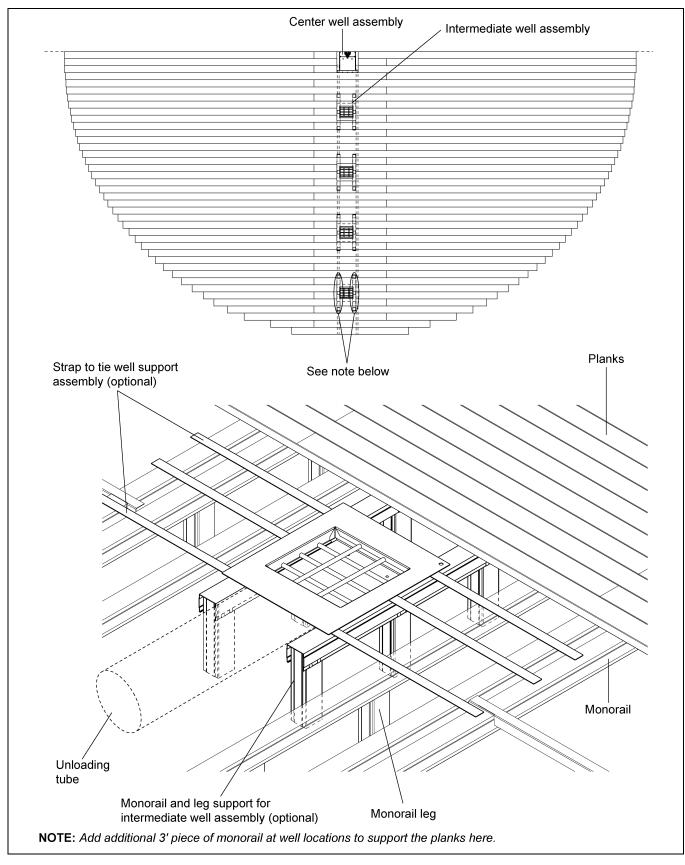
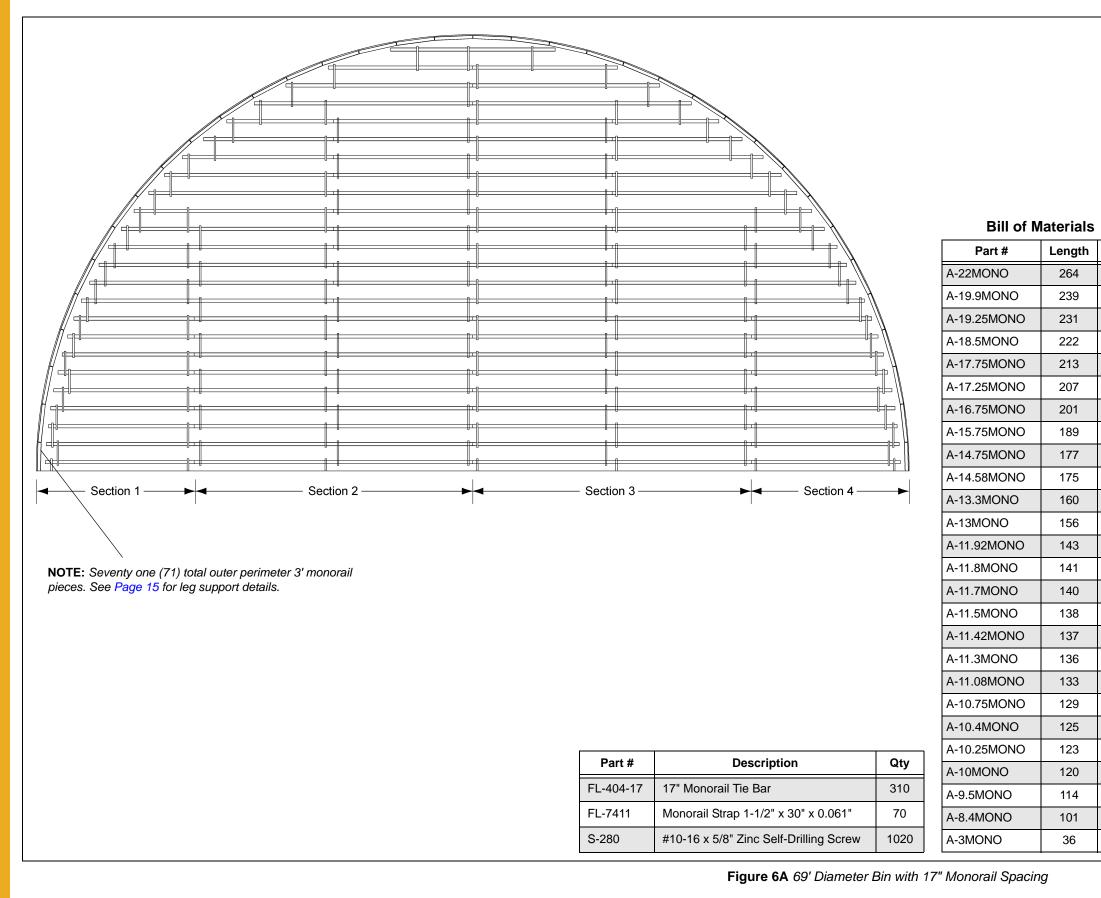


Figure 5G 69' Diameter Bin Intermediate Well Position

69'-17" Monorail Spacing Layout



69' Diameter 17" Spacing

Qty

21.03 m Diameter 43.18 cm Spacing

	Mea	surement i	n Inches		Measurement in Centimeters				6
Rail #	Section 1	Section 2	Section 3	Section 4	Rail #	Section 1	Section 2	Section 3	Section 4
1	141	264	264	141	1	358.14	670.56	670.56	358.14
2	140	264	264	140	2	355.60	670.56	670.56	355.60
3	138	264	264	138	3	350.52	670.56	670.56	350.52
4	136	264	264	136	4	345.44	670.56	670.56	345.44
5	133	264	264	133	5	337.82	670.56	670.56	337.82
6	129	264	264	129	6	327.66	670.56	670.56	327.66
7	125	264	264	125	7	317.50	670.56	670.56	317.50
8	120	264	264	120	8	304.80	670.56	670.56	304.80
9	114	264	264	114	9	289.56	670.56	670.56	289.56
10	239	264	239	0	10	607.06	670.56	607.06	0
11	231	264	231	0	11	586.74	670.56	586.74	0
12	222	264	222	0	12	563.88	670.56	563.88	0
13	213	264	213	0	13	541.02	670.56	541.02	0
14	201	264	201	0	14	510.54	670.56	510.54	0
15	189	264	189	0	15	480.06	670.56	480.06	0
16	175	264	175	0	16	444.50	670.56	444.50	0
17	160	264	160	0	17	406.40	670.56	406.40	0
18	143	264	143	0	18	363.22	670.56	363.22	0
19	123	264	123	0	19	312.42	670.56	312.42	0
20	101	264	101	0	20	256.54	670.56	256.54	0
21	207	207	0	0	21	525.78	525.78	0	0
22	177	177	0	0	22	449.58	449.58	0	0
23	137	137	0	0	23	347.98	347.98	0	0
24	156	0	0	0	24	396.24	0	0	0

Rail # Monorail floor support distances from center of bin **NOTE:** This depicts monorail spacings only. Leg spacing is dependant on eave height. See Page 16 for leg and rail spacing chart. Tie bar (See *Page 13* for installation detail.) Tie strap (See Page 14 for installation detail.) Monorail spacing from center of bin (in inches) 399-1/2-382-1/2-365-1/2-144-1/2-127-1/2-110-1/2-93-1/2 -59-1/2 -76-1/2 -42-1/2 -25-1/2 -8-1/2 -0 -



69'-17" Rail Spacing Layout

6. Layouts

69' Floor Bundle Layout

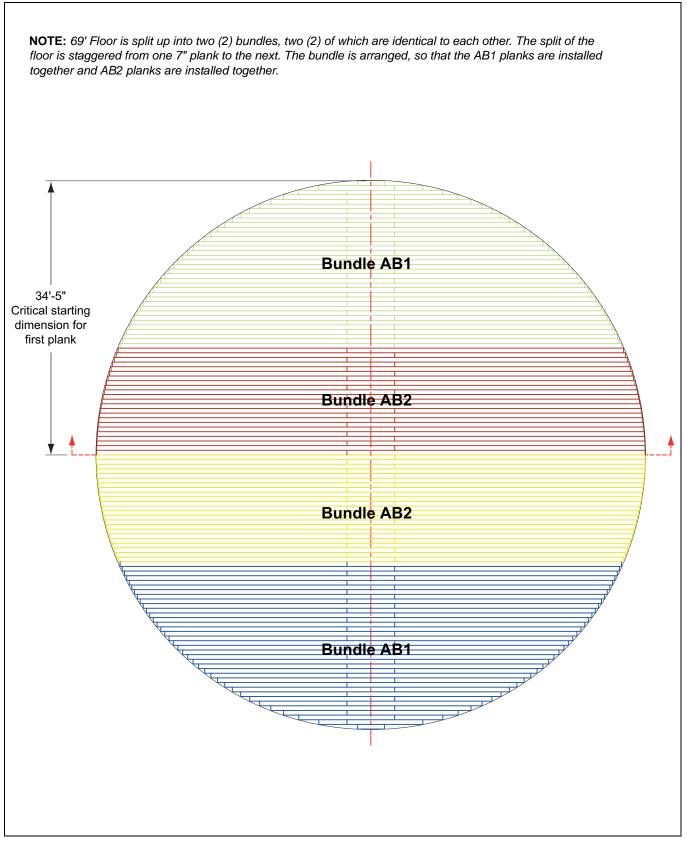
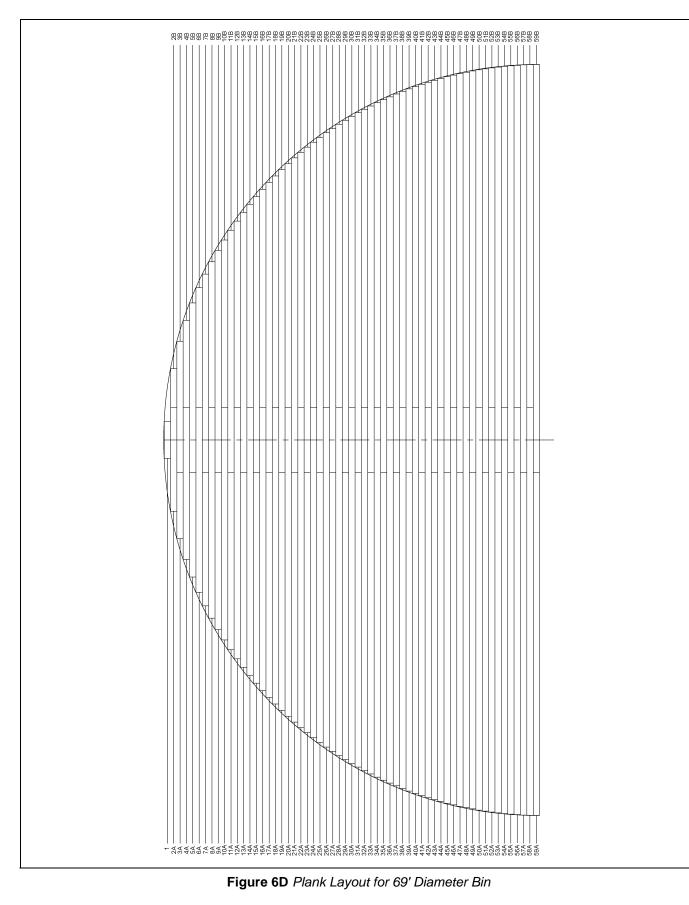


Figure 6C 69' Plank Layout Bundles

69' Plank Layout



69' Plank Layout for Manual

Plank #	Length Plank A	In Inch	In Metric	Plank #	Length Plank B	In Inch	In Metric
1	3' - 4-1/2"	40-1/2	102.87				
2A	9' - 6-1/2"	114-1/2	290.83	2B	3' - 6-1/2"	42-1/2	107.95
ЗA	6'-1/2"	72-1/2	184.15	3B	12'-1/2"	144-1/2	367.03
4A	13' - 11-1/2"	167-1/2	425.45	4B	7' - 11-1/2"	95-1/2	242.57
5A	9'-7"	115.00	292.10	5B	15'-7"	187.00	474.98
6A	16' - 11-1/2"	203-1/2	516.89	6B	10' - 11-1/2"	131-1/2	334.01
7A	12' - 2-1/2"	146-1/2	372.11	7B	18' - 2-1/2"	218-1/2	554.99
8A	19'-4"	232.00	589.28	8B	13'-4"	160.00	406.40
9A	14' - 4-1/2"	172-1/2	438.15	9B	20' - 4-1/2"	244-1/2	621.03
10A	21'-4"	256.00	650.24	10B	15'-4"	184.00	467.36
11A	16'-3"	195.00	495.30	11B	22'-3"	267.00	678.18
12A	23'-1"	277.00	703.58	12B	17'-1"	205.00	520.70
13A	17' - 10-1/2"	214-1/2	544.83	13B	23' - 10-1/2"	286-1/2	727.71
14A	24' - 7-1/2"	295-1/2	750.57	14B	18' - 7-1/2"	223-1/2	567.69
15A	19'-4"	232.00	589.28	15B	25'-4"	304.00	772.16
15A 16A	26'-0"	312.00	792.48	16B	20'-0"	240.00	609.60
17A	20' - 7-1/2"	247-1/2	628.65	17B	26' - 7-1/2"	319-1/2	811.53
18A	27'-3"	327.00	830.58	18B	21'-3"	255.00	647.70
19A	21' - 9-1/2"	261.50	664.21	19B	27' - 9-1/2"	333-1/2	847.09
20A	28' - 4-1/2"	340-1/2	864.87	20B	22' - 4-1/2"	268-1/2	681.99
21A	22' - 10-1/2"	274-1/2	697.23	21B	28' - 10-1/2"	346-1/2	880.11
22A	29' - 4-1/2"	352-1/2	895.35	22B	23' - 4-1/2"	280-1/2	712.47
23A	23' - 10-1/2"	286-1/2	727.71	23B	29' - 10-1/2"	358-1/2	910.59
24A	30'-4"	364.00	924.56	24B	24'-4"	292.00	741.68
25A	24'-9"	297.00	754.38	25B	30'-9"	369.00	937.26
26A	31'-2"	374.00	949.96	26B	25'-2"	302.00	767.08
27A	25'-7"	307.00	779.78	27B	31'-7"	379.00	962.66
28A	31' - 11-1/2"	383-1/2	974.09	28B	25' - 11-1/2"	311-1/2	791.21
29A	26'-4"	316.00	802.64	29B	32'-4"	388.00	985.52
30A	32'-8"	392.00	995.68	30B	26'-8"	320.00	812.80
31A	27'-0"	324.00	822.96	31B	33'-0"	396.00	1005.84
32A	33'-4"	400.00	1016.00	32B	27'-4"	328.00	833.12
33A	27'-8"	332.00	843.28	33B	33'-8"	404.00	1026.16
34A	33' - 11-1/2"	407-1/2	1035.05	34B	27' - 11-1/2"	335-1/2	852.17
35A	28' - 2-1/2"	338-1/2	859.79	35B	34' - 2-1/2"	410-1/2	1042.67
36A	34'-6"	414.00	1051.56	36B	28'-6"	342.00	868.68
37A	28'-9"	345.00	876.30	37B	34'-9"	417.00	1059.18
38A	35'-0"	420.00	1066.80	38B	29'-0"	348.00	883.92
39A	29' - 2-1/2"	350-1/2	890.27	39B	35' - 2-1/2"	422-1/2	1073.15
40A	35'-5"	425.00	1079.50	40B	29'-5"	353.00	896.62
41A	29' - 7-1/2"	355-1/2	902.97	41B	35' - 7-1/2"	427-1/2	1085.85
41A 42A	35'-10"	430.00	1092.20	41B 42B	29'-10"	358.00	909.32
42A 43A	30'-0"	360.00	914.40	42B	36'-0"	432.00	1097.28
43A 44A	36'-2"	434.00	1102.36	43B 44B	30'-2"	362.00	919.48
		364.00					
45A	30'-4"		924.56	45B	36'-4" 30' - 5-1/2"	436.00	1107.44
46A	36' - 5-1/2"	437-1/2	1111.25	46B		365-1/2	928.37
47A	30' - 7-1/2"	367-1/2	933.45	47B	36' - 7-1/2"	439-1/2	1116.33
48A	36'-9"	441.00	1120.14	48B	30'-9"	369.00	937.26
49A	30' - 10-1/2"	370-1/2	941.07	49B	36' - 10-1/2"	442-1/2	1123.95
50A	36' - 11-1/2"	443-1/2	1126.49	50B	30' - 11-1/2"	371-1/2	943.61
51A	31'-1/2"	372-1/2	946.15	51B	37'-1/2"	444-1/2	1129.03
52A	37' - 1-1/2"	445-1/2	1131.57	52B	31' - 1-1/2"	373-1/2	948.69
53A	31' - 2-1/2"	374-1/2	951.23	53B	37' - 2-1/2"	446-1/2	1134.11
54A	37' - 3-1/2"	447-1/2	1136.65	54B	31' - 3-1/2"	375-1/2	953.77
55A	31'-4"	376.00	955.04	55B	37'-4"	448.00	1137.92
56A	37' - 4-1/2"	448-1/2	1139.19	56B	31' - 4-1/2"	376-1/2	956.31
57A	31'-5"	377.00	957.58	57B	37'-5"	449.00	1140.46
58A	37' - 5-1/2"	449-1/2	1141.73	58B	31' - 5-1/2"	377-1/2	958.85
59A	31' - 5-1/2"	377-1/2	958.85	59B	37' - 5-1/2"	449-1/2	1141.73

Limited Warranty - N.A. Grain Products

The GSI Group, LLC. ("GSI") warrants products which it manufactures, to be free of defects in materials and workmanship under normal usage and conditions for a period of 12 months from the date of shipment (or, if shipped by vessel, 14 months from the date of arrival at the port of discharge). If, in GSI's sole judgment, a product is found to have a defect in materials and/or workmanship, GSI will, at its own option and expense, repair or replace the product or refund the purchase price. This Limited Warranty is subject to extension and other terms as set forth below.

Warranty Enhancements:

The warranty period for the following products is enhanced as shown below and is in lieu of (and not in addition to) the above stated warranty period. (Warranty Period is from date of shipment.)

	Product	Warranty Period
	Grain Bin Structural Design	
Storage	 Sidewall, roof, doors, platforms and walkarounds 	5 Years
	 Flooring (when installed using GSI specified floor support system for that floor) 	5 Teals
	 Hopper tanks (BFT, GHT, NCHT, and FCHT) 	
	Dryer Structural Design - (Tower, Portable and TopDry)	5 Years
	Includes (frame, portable dryer screens, ladders, access doors and platforms)	
Conditioning	All other Dryer parts including:	2 Years
conditioning	 Electrical (controls, sensors, switches and internal wiring) 	2 16015
	All Non-PTO Driven Centrifugal and Axial Fans	3 Years
	Bullseye Controllers	2 Years
	Bucket Elevators Structural Design	5 Years
Material Handling	Towers Structural Design	5 Years
Material Handling	Catwalks Structural Design	5 Years
	Accessories (stairs, ladders and platforms) Structural Design	5 Years

Conditions and Limitations:

THERE ARE NO WARRANTIES THAT EXTEND BEYOND THE LIMITED WARRANTY DESCRIPTION SET FORTH HEREIN; SPECIFICALLY, GSI DISCLAIMS ANY AND ALL OTHER WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE IN CONNECTION WITH: (I) ANY PRODUCT MANUFACTURED OR SOLD BY GSI, OR (II) ANY ADVICE, INSTRUCTION, RECOMMENDATION OR SUGGESTION PROVIDED BY AN AGENT, REPRESENTATIVE OR EMPLOYEE OF GSI REGARDING OR RELATED TO THE CONFIGURATION, INSTALLATION, LAYOUT, SUITABILITY FOR A PARTICULAR PURPOSE, OR DESIGN OF SUCH PRODUCTS.

The sole and exclusive remedy for any claimant is set forth in this Limited Warranty and shall not exceed the amount paid for the product purchased. This Warranty only covers the value of the warranted parts and equipment, and does not cover labor charges for removing or installing defective parts, shipping charges with respect to such parts, any applicable sales or other taxes, or any other charges or expenses not specified in this Warranty. GSI shall not be liable for any other direct, indirect, incidental or consequential damages, including, without limitation, loss of anticipated profits or benefits. Expenses incurred by or on behalf of a claimant without prior written authorization from the GSI warranty department shall not be reimbursed. This warranty is not transferable and applies only to the original end-user. GSI shall have no obligation or responsibility for any representations or warranties made by or on behalf of any dealer, agent or distributor. Prior to installation, the end-user bears all responsibility to comply with federal, state and local codes which apply to the location and installation of the products.

This Limited Warranty extends solely to products sold by GSI and does not cover any parts, components or materials used in conjunction with the product, that are not sold by GSI. GSI assumes no responsibility for claims resulting from construction defects, unauthorized modifications, corrosion or other cosmetic issues caused by storage, application or environmental conditions. Modifications to products not specifically delineated in the manual accompanying the product at initial sale will void all warranties. This Limited Warranty shall not extend to products or parts which have been damaged by negligent use, misuse, alteration, accident or which have been improperly/inadequately maintained.

Notice Procedure:

In order to make a valid warranty claim a written notice of the claim must be submitted, using the RMA form, within 60 days of discovery of a warrantable nonconformance. The RMA form is found on the OneGSI portal.

Service Parts:

GSI warrants, subject to all other conditions described in this Warranty, Service Parts which it manufactures for a period of 12 months from the date of purchase unless specified in Enhancements above. (Limited Warranty - N.A. Grain Products_ revised 01 October 2020) This equipment shall be installed in accordance with the current installation codes and applicable regulations, which should be carefully followed in all cases. Authorities having jurisdiction should be consulted before installations are made.



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