MERIDIAN®

OPERATOR'S MANUAL

SINGLE CORRUGATED BINS

www.meridianmfg.com

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DISCLAIMERS

Foundation Design

The foundations for the stiffened bin models are based on 4000 lbs. per sq. ft. (192 kPa) soil bearing capacity. All foundation designs use 3000 lbs. per sq. in. (21 MPa) ultimate compressive strength (after 28 days) for concrete and 43,5000 lbs. per sq. in. (300 MPa) re-bar. The foundation designs included in this manual are suggestions only, and will vary according to local soil conditions. Meridian will not assume any liability for results arising from their use.

IMPORTANT: Foundation should be uniform and level. Level should not vary by more than ¼" over a span of four feet under the bottom ring angle. Any variance from level must be shimmed under upright base assembly. If being utilized to support a full floor aeration system, this levelness requirement should extend across the complete floor area.

Method of Erection

The recommendations for erecting Meridian Grain Bins should be closely followed to achieve the full strength of the bin and to achieve adequate weather sealing. Warranty is void if the recommendations are not followed including but not limited to:

1. Wall sheets and/or uprights, which are not specified for a given tier, are used.
2. Foundations are found to be inadequate or out-of-level.
3. Anchor bolts (cast-in-place, drill-in, chemical type or other) are found to be inadequate.
4. Off-center loading or unloading is used. This does not apply to the use of approved side unloading systems.
5. Materials stored are not free-flowing or have a compacted bulk density greater than 55 lbs./ft3 (800 kg/m3)

If using Bin Jacks: Always lift on an upright. Choose a hoist with a suitable capacity for the expected empty bin deadload. Make sure the rated capacity of the hoist is not exceeded.

Design

These Meridian Grain Bins are designed for:

1. Non-corrosive, free-flowing materials up to 55 lbs./ft3 (880 kg/m3) average compacted bulk density.
2. Maximum horizontal gusted wind speed of 94 mph (151 km/h).
3. Seismic Zone 2a (U.B.C. 1997).
4. 15.0 lbs./ft2 (.72 kPa) roof snow load.
   24.0 lbs./ft2 (1.15 kPa) roof snow load when the optional roof stiffening rings are installed.
5. 4000 lbs. (17.8 kN) evenly distributed on peak ring for 15' - 24' bins.
   5000 lbs. (22.2 kN) evenly distributed on peak ring for 27' - 48' bins.

Site and Assembly

Unless otherwise specifically provided in writing, Meridian does not take responsibility for any defects or damages to any property, or injury to any persons, arising from or related to any site or assembly considerations, including but not limited to:

· Bin location and bin siting;

DISCLAIMERS

· Soil conditions and corresponding foundation requirements (note that the examples provided in manuals are for specifically stated soil conditions);
· Bin assembly (Meridian recommends the use of qualified bin installers; contact Meridian for information on installers in your area;
· Field modifications or equipment additions that affect the bin structure;
· Interconnections with neighbouring structures.
· Compliance with all applicable safety standards, including but not limited to fall restraint systems (ladders or other systems). Local safety authorities should be contacted as standards vary between jurisdictions.

Critical Assembly Requirements

1. Local code and jurisdictional requirements that are applicable to the grain bin installation must be adhered to.
2. Foundations must be designed for the loads being imparted to them, and for local soil conditions. Meridian foundations guidelines are for a set of stated conditions and may not be applicable to local conditions.
3. A foundation must provide uniform and level support to the grain bin structure being supported. Surface imperfections causing gapping must be remedied. This may involve, but not limited to - grouting under the bottom ring of a non-stiffened bin, and shimming under the uprights of a stiffened bin or under the legs of a hopper.
4. If extending an existing bin, ensure that the foundation is adequate for the increased loads that will be subjected to it.
5. If installing an existing bin on a hopper, ensure that the bin is designed for a hopper application, and that the foundation is capable of withstanding the substantial point loads that the hopper legs apply. If uprights are present, ensure that they are supported.
6. Ensure that the proper hardware is utilized for all bolted connections. Refer to the 'Hardware "Where Used" Chart' in the Installation Manual. If a shortage occurs do not substitute. Take the necessary steps to obtain the proper hardware. Ensure nuts are tightened to the required torque values as provided in the Installation Manual.
7. Refer to the appropriate Installation Manual to ensure a safe, proper structure, in particular but not exclusively for the wall sheet and upright layouts. **Do not deviate from the layouts provided.**
8. Ensure that an integral end-to-end overlap connection exists between mating uprights. Successive uprights must not overlap.
9. Vertical tolerances between uprights and wall sheets are tight. This can be affected by "jacking" techniques, which can allow the tolerance to grow or shrink depending on the technique used. The gapping between successive uprights must be monitored to ensure that upright holes align with bin sheet holes.
10. When installing roof stiffening rings, and if it is necessary to shorten the stiffening ring tubes, shorten them as little as possible. Initially the nuts on the expanders should be centered and as close together as possible. When tightening, share the amount of take-up between expanders such that the nuts remain centered, and the amount of engagement between all expanders on the same ring is equalized. On roofs with multiple stiffening rings, stagger the joints to avoid having more than one joint on the same roof sheet.
11. Before anchoring the bin to the foundation, ensure that the bin is round. The maximum variation from perfect roundness is 3/4" on the radius (see details in "wall sheet and bottom angle" section of the manual). Locate anchor bolts towards the outside of the anchor bolt holes (away from bin) to permit the incremental expansion that can occur with the initial filling.

DISCLAIMERS

Grain Bin Use

1. Do not off-center unload a grain bin. It is imperative to unload from the center of the bin first, until as much grain as possible has been removed, and only then proceed to unload from the next closest unload gate to the center. Continue utilizing the unload gates in succession from the center towards the outside. Gate control mechanisms should be clearly marked and interconnected to prevent an external gate from being opened first.
2. The only exception to center unloading is when a properly designed and installed side draw system is utilized. However, as bins tend to go out of round when employing side draws, the bin must be completely emptied before refilling.
3. When unloading a bin with a mobile auger through a properly designed auger chute, the entry end of the auger should be pushed into the center of the bin before the auger is engaged. Slower rates of flow are preferable and should not exceed the capacity of an 8” auger.
4. Ensure that the inner door panels of grain bin doors are completely closed and latched before filling the grain bin.
5. Never enter a loaded grain bin for any reason. Grain can be a killer.

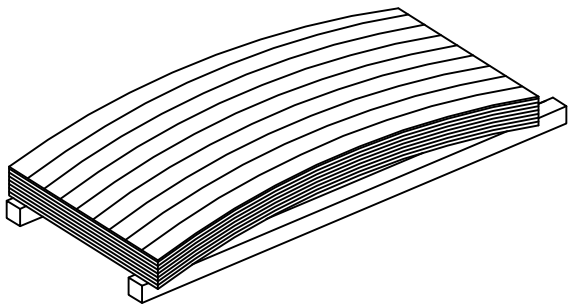
Product Storage

Rust on Galvanized Parts

1. White rust forms when moisture is allowed to collect on galvanized surfaces that have yet to develop the durable zinc oxide layer. This zinc oxide layer naturally occurs as the surface interacts with carbon dioxide, and is characterized over time by the dull grey appearance that weathered galvanized surfaces get.
2. Parts that are not well ventilated or well drained can collect water between surfaces and develop white rust.
3. White rust is not a structural concern if its development is stopped in the early stages. A light film or powdery residue can occur after a period of heavy rainfall or a short time of improper storage. If white rust has started to develop, separate parts and wipe off any moisture. Next, using a clean cloth, apply a thin layer of petroleum jelly or food-grade oil to the entire part.
4. If moisture is left on parts, this white rust can become more aggressive and turn into red rust. Red rust can cause degradation in the material and become a structural concern. Any parts that have red rust should be replaced immediately.

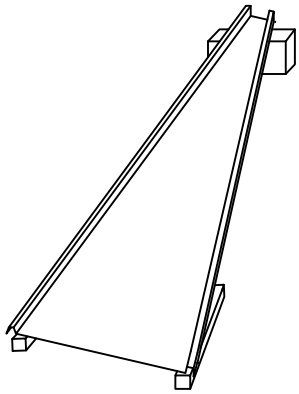
Storage Guidelines

1. Keep all bundles dry before assembly of the bin. Start assembly as soon as possible. Do not lay bundles on the bare ground, raise all bundles 6”-8” off the ground on wood blocks or timbers. Store curved wall sheets 'hump-up'. All other bundles material should be placed so that they are well sloped to promote good drainage.

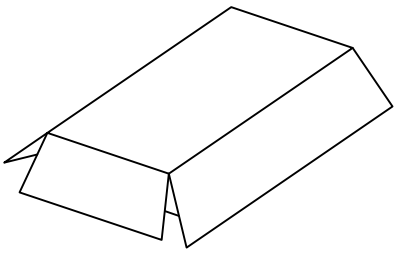


DISCLAIMERS

2. Roof sheets must be elevated at least 12” at the small end of the sheets.



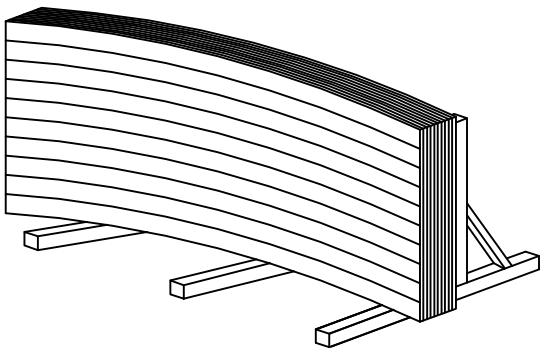
3. Temporary storage can be provided by erecting a simple framework supporting a waterproof tarp



4. All bin boxes, ladder boxes and hardware boxes should be stored inside. These are not waterproof, and will deteriorate in normal weather conditions, allowing moisture to contact the parts inside.

<u>If Parts Become Wet</u>

1. If goods become submerged or wet, the bundles should be opened as soon as possible, sheets or material separated and dried. Keep separated until assembly. Brace goods properly so as to avoid damage or injury from material falling when in storage.



2. Any boxed goods that become wet should be dried and stored in a new box that is free of moisture.

3. In addition to wiping down wallsheets, a food-grade oil can also be applied with a clean, lint-free cloth. This will assist in preventing any further moisture from contacting the galvanizing on the steel. Due to safety concerns with installation and use, Meridian does not recommend the use of oil on other parts such as roof sheets and safety ladders.

DISCLAIMERS

IMPORTANT NOTES

1. In order to maintain your wall sheets in good condition separate sheets and allow air circulation between them. Store sheets in a dry place. Do not store sheets with sheet ends pointing upwards.
2. To keep an even pressure on walls, the bin must always be unloaded from the centre.
3. Contact local power officials for minimum power line clearance.
4. See “Disclaimers - Design” for materials which can be store.
5. Tighten all bolts to the recommended torque setting (see Recommended Bolt Torques table in Appendix).
6. Do not locate grain bin close to high buildings, which might cause snow to fall onto or build up on the roof of the grain bin. Consider future expansion and allow space for loading and unloading of the bin. Your dealer and local government agricultural consultants can help you plan your storage system for maximum efficiency.

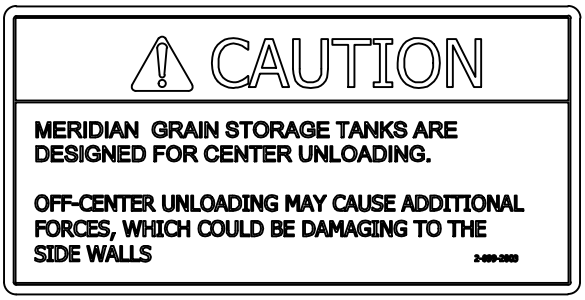
Shortages and Damaged Parts

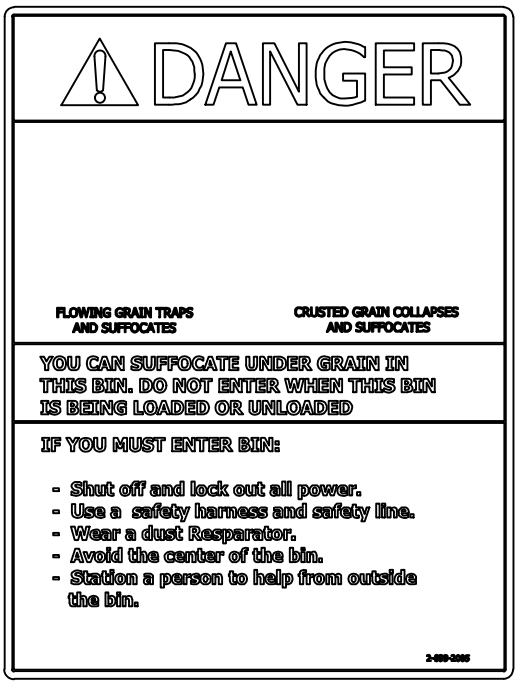
Report damaged parts or shortages immediately to the delivering carrier, followed by a confirming letter requesting inspection by the carrier, if required. Order any replacement parts immediately to ensure that assembly will not be held up by missing parts. All parts will be charged for and credit will be issued by part at fault - no credit will be issued if freight bill are signed as received in good condition.

Order Optional Equipment

Optional equipment such as unloading augers, aeration equipment, anchor bolts, foundation sealant, external ladders, safety cage and platforms, etc., should all be on site and checked before assembly starts. Plan your installation in advance. For details, see assembly instructions supplied with optional equipment.

List of Warning Decals:





DISCLAIMERS

Instructions For Cutting Openings In Meridian Wide Corr Grain Bins

A. General Rules for Cutting Openings

1. Never cut any uprights, roof ribs, or wall sheet bolted vertical seams to create an opening;
2. Openings shall be located so equipment being installed won't interfere with any bin components/accessories;
3. Openings shall be minimized as much as possible for structural integrity of grain bins;
4. Corners in openings shall be cut with minimum radius of 1/8” to reduce stress concentration;
5. Openings shall be sealed all the way around for all weather conditions;
6. Instructions shall be followed closely to avoid damage to bin structure;
7. Except cutting openings described below, any other modifications to Meridian bins shall be approved by a professional engineer.

B. Openings for Fan Transitions of Aeration Floors

1. Consult aeration floor installation instructions for information on Planning floor layout;
2. Openings shall be centered to a wall sheet in horizontal direction;
3. Opening shall be cut as tight as it can be for the transition to go through; and shall have no more than 1/4” gap on any side to the section of a fan transition going through a bin wall;
4. Opening height for fan transition shall be limited to 12.5” from bottom edge of a bottom wall sheet;
5. Opening width shall not exceed 46.5” for stiffened bins and 72.5” for unstiffened bins;
6. Vertical support shall be required to support load above opening;
7. Bottom angles may be cut flush to the sides of an opening to form part of an opening.

C. Openings for Unloading Augers of Wide Corr Bins with Full Floor Aeration

1. Consult aeration floor installation instructions for information on Planning floor layout;
2. Openings shall be centered to a wall sheet in horizontal direction;
3. Openings shall be cut as tight as it can be for unloading auger to go through and shall have no more than 1/4” gap to auger flange section on any side;
4. Opening height for any auger shall be limited to 12.5” from the bottom edge of a bottom wall sheet;
5. Vertical flange of a bottom angle may be cut flush to sides of an opening to form part of opening;

D. Openings for Roof Vents in Roof Sheets

1. Openings shall be centered between roof ribs and have 2.5” minimum distance between edge of opening and base of a roof rib;
2. Openings can be square, rectangular, or round;
3. Openings shall be the same size as the inlet opening of a vent being installed;
4. Any side of a square/rectangular opening shall have a maximum length of 18” and a circular opening shall have a maximum diameter of 24”

IMPORTANT

READ CAREFULLY BEFORE ASSEMBLY

1. CHECK YOUR SHIPMENT

Upon delivery, first check all parts and packages against the packing list. Your new GRAIN BIN is composed of many pieces which are carefully checked at the time of shipment; however, you should check your shipment with the packing slip in order to be sure your system is complete. Also carefully check for parts that might have been damaged in transit. (Do not begin installation with parts missing, for this can only cause trouble.) When you are satisfied that all parts are in good condition, lay the parts out for convenient access, then carefully read and understand this manual before proceeding with erection.

2. SHORTAGE AND DAMAGED PARTS

Report damaged parts or shortages immediately to the delivery carrier, followed within ten days by a confirmation letter requesting inspection by that carrier, if required. Order necessary parts immediately to ensure that erection will not be held up by missing parts. All parts will be charged for and credit will be issued by the party at fault. No credit will be issued if delivery invoices are signed and received in good condition.

3. SHIPMENT STORAGE

If considerable time is involved between delivery and erection time, INSIDE STORAGE IS RECOMMENDED. Improperly stored galvanized steel quickly develops wet storage stains, sometimes called "white rust".

Check for moisture between pieces. If they are wet, open the bundles, seperate pieces and dry off. Never lay steel directly on earth. Raise with blocks or timbers.

4. WARNING

A. ROOF DAMAGE

The manufacturer cannot warrant any roof damages due to excessive vacuum or internal pressure caused by fans or other air moving systems. Adequate roof ventilation and/or air circulation devices should be provided for all powered air handling systems.

Severe roof structural damage can result from any blocking of air passages. Running fans during certain high humidity /cold weather conditions can cause freezing over air exhaust or intake ports.

IMPORTANT: The maximum weight to be supported by and/or suspended from the roof is 2,500 lbs (1134kg).

B. BINS WITH STIRRING DEVICES

The effect of stirring devices is not certain. Sometimes additional loads imposed can cause bin or floor failure. If high-moisture grain is loaded too deep and too fast, any unstiffened bin wall can overload. Observe the following installation and operation procedures if your bin is to be equipped with a stirring device.

1. Read stirring device owner's manual and follow all instructions set forth by the manufacturer.

2. Install the switch for your stirring device in the bin near the roof manhole opening so that the unit can be observed while starting.

3. Run the unit one complete revolution after one ring of grain has been put into the bin, to see that the unit is operating correctly.

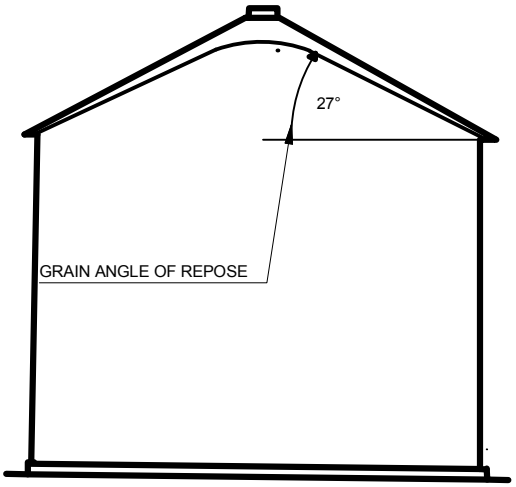
4. Operate the stirring device continuously while filling and drying to avoid compacted grain around the vertical screws.

5. If it becomes necessary to stop a stirring device with laterally moving screws, attempt to stop it with the vertical screws nearest the center of the bin (away from sidewall). Should the device stop or stall for any reason and remain inoperable for any length of time, the auger carriage should be supported to the grain surface before restarting. The vertical augers should be turned by hand (with a pipe wrench) before power is applied.

6. For best results, fill bin to one-half the final intended depth. Dry this grain to desired moisture percentage and continue filling (use filling rates specified by stirring device manufacturer). Do not overfill bin. Filling should be stopped at bottom of top ring or 30" (762mm) below the track.

7. The preceeding steps are general instructions which apply to major types of stirring devices. Since there are several different manufacturers, it is important that you read the operator manual thoroughly for specific instructions applicable to your machine.

NOTE: Drying in bins over 5 rings high is not recommended.

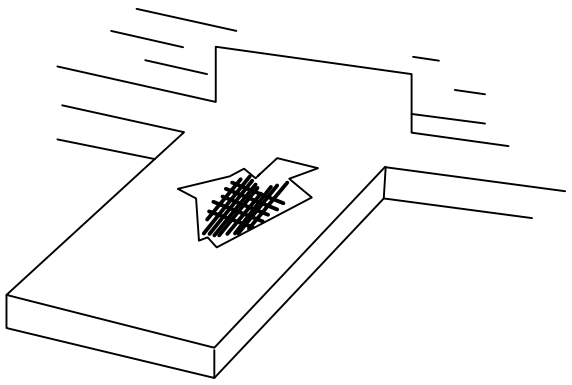


NOTE: All instructions given in this manual shall be construed as recommendations only; because the actual installation may vary according to local conditions, the manufacturer assumes no liability for results arising from the use of such recommendations.

5. INSTALLATION

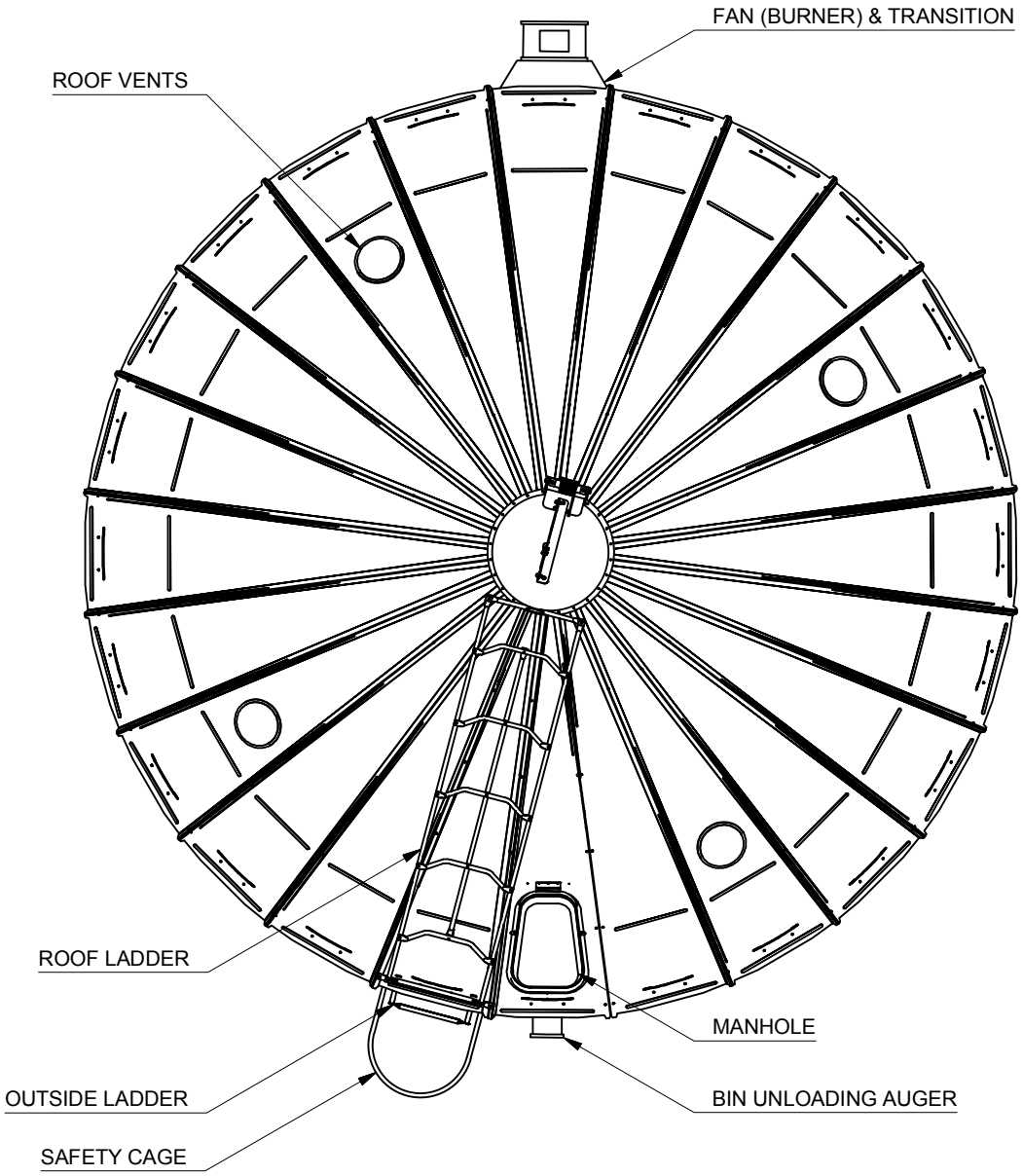
A. FOUNDATION

All foundations must be designed on a firm levelled and well drained soil bearing at least 3,000 lbs/ft2 (14646 kg/m2). Reinforced concrete must have a minimum compressive strength of 3,000 psi (20.7MPA) after 28 days.Seperate leaflets are available, giving full information and specifications for any type or size of bin foundation.



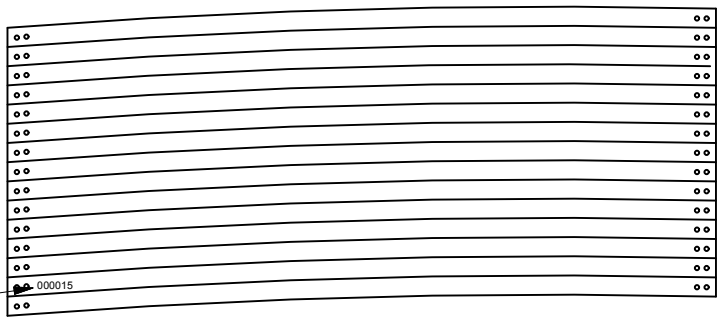
B. ACCESSORIES LOCATION

Below is a typical layout showing suggested location of bin accessories. The air moving unit and unloading auger are on opposite sides of the bin to allow good air flow. When locating the roof manhole be sure the ladder will not interfere with other bin accessories below. Roof vents should be spaced evenly around the roof.



SIDEWALL SHEET ASSEMBLY

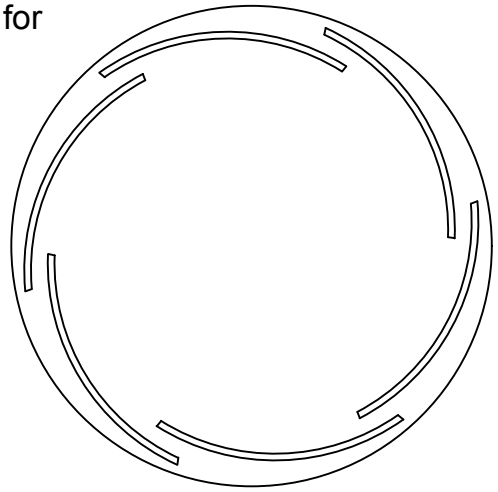
On your standard bin sheet, the gauge of the sheet is stamped on the inside, bottom left hand corner.



INSIDE VIEW

Note: Assembling flat bottom bins the gauge stamp must be in the bottom left hand corner.

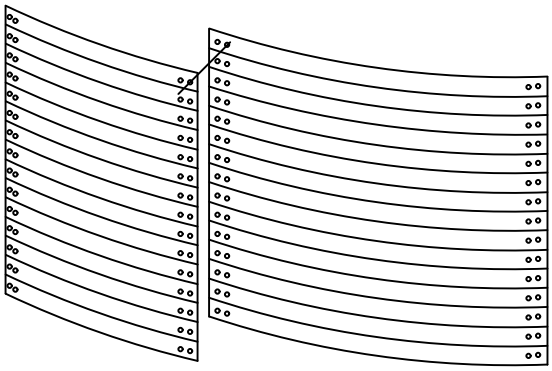
Hopper cone bins the same EXCEPT the last bottom ring. The sheet has to be turned upside down so the extra holes are to the bottom for mounting the hoppercone ring.



Position your sheets as follows: if you are standing inside the bin, the edge of the sheet on your **LEFT** will be on the **INSIDE**, and the edge of the sheet on **RIGHT** will be on the **OUTSIDE**.

CAULKING

Wipe off any oil or dirt from the seams where caulking will be used. Apply a continuous strip of caulking to the weather edge on the outside of the holes on the vertical seams and along the bottom edge from the corner approximately 9" out.

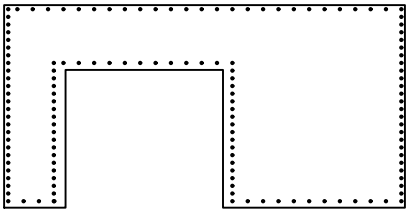


OUTSIDE VIEW

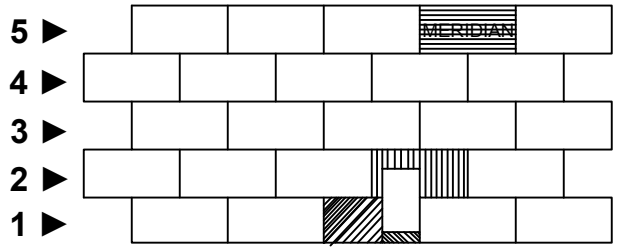
SIDEWALL SHEET DIAGRAMS
LOW PROFILE DOOR

THE FOLLOWING DIAGRAMS ARE FOR
15FT - 21FT DIA. GRAIN BINS WITH
THE LOW PROFILE BIN DOOR

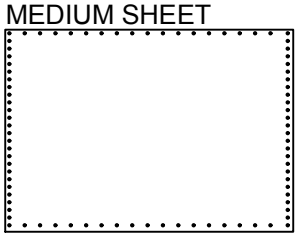
DOOR SHEET



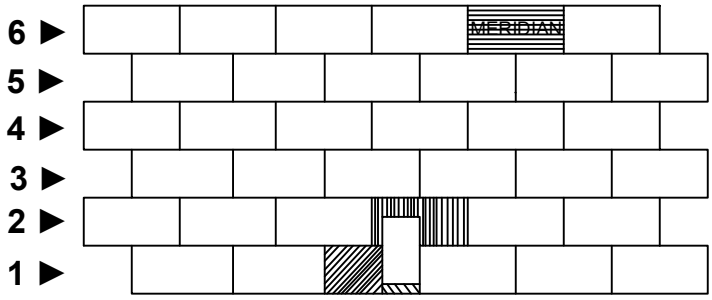
15FT LOW PROFILE DOOR



MEDIUM SHEET

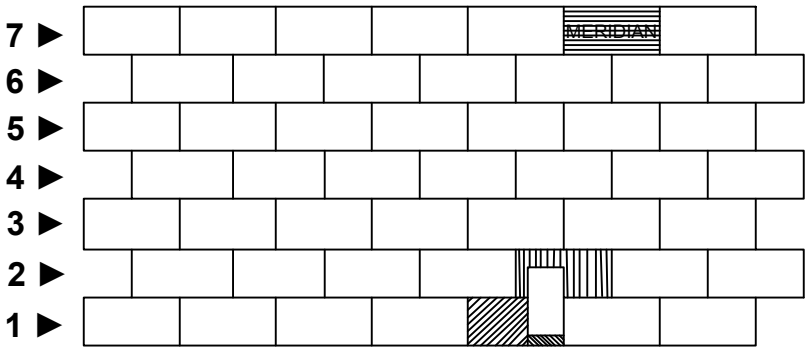


18FT LOW PROFILE DOOR



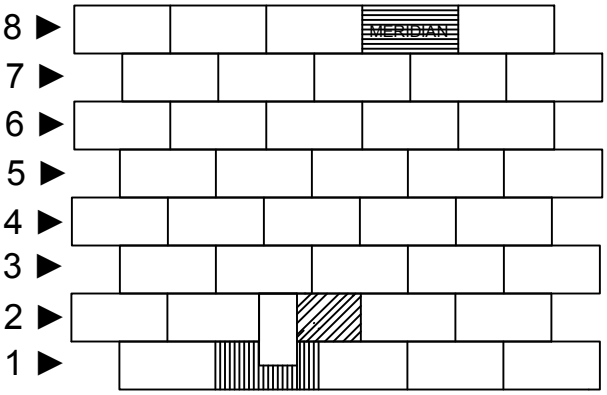
UNDER DOOR FILL SHEET

21FT LOW PROFILE DOOR



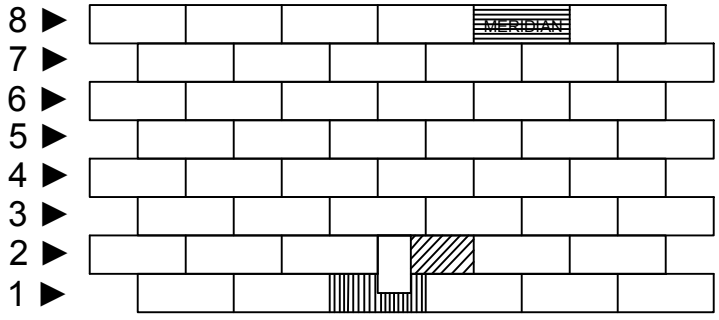
SIDEWALL SHEET DIAGRAMS
STANDARD DOORS

► BIN STANDARD BINS ● 15'0" (4.57m) DIA.



STEEL GAUGE CONVERSION TABLE	
GAUGE	mm
22	0.853
20	1.005
18	1.310
17	1.460
16	1.613
15	1.803
14	1.994
13	2.372
12	2.753

► BIN STANDARD BIN ● 18'0" (5.47m) DIA.



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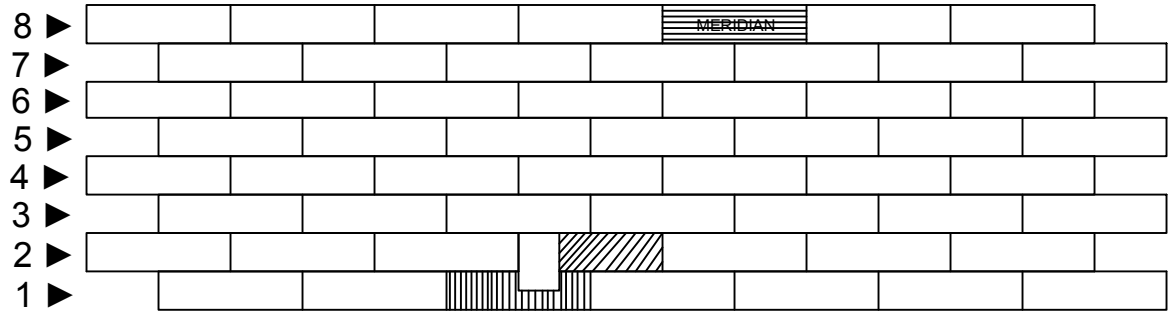
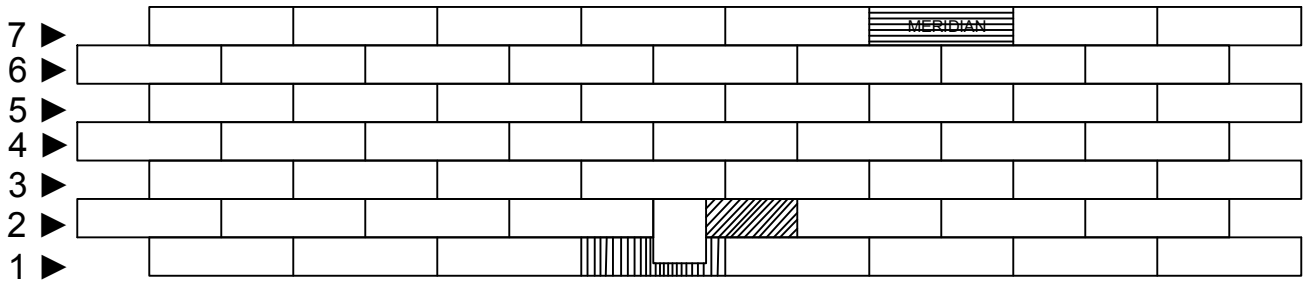
SIDEWALL SHEET DIAGRAMS
STANDARD DOORS

► BIN STANDARD BINS ● 21'0" (6.4m) DIA.



► BIN STANDARD BIN ● 24'0" (7.31m) DIA.



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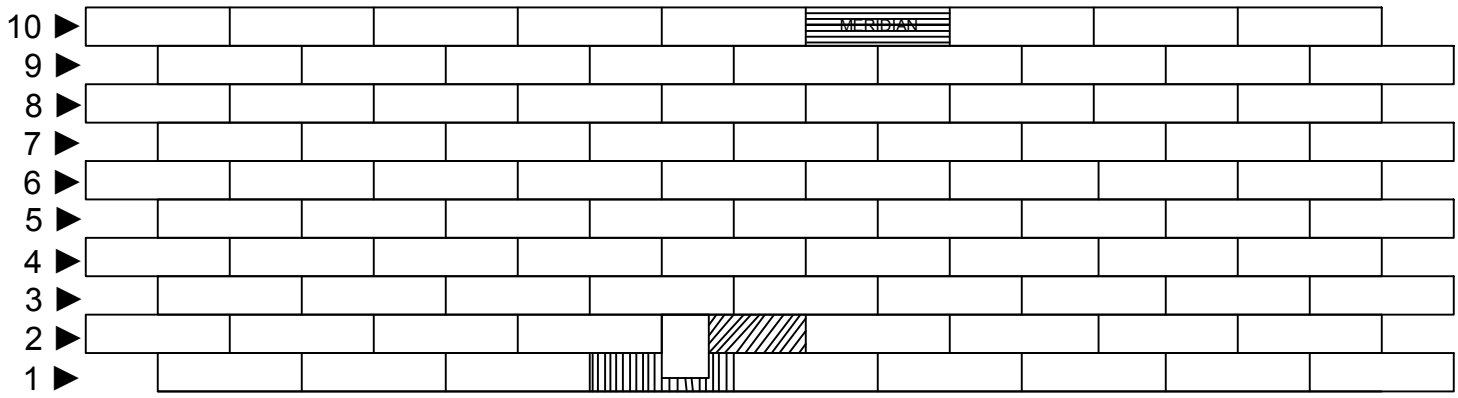
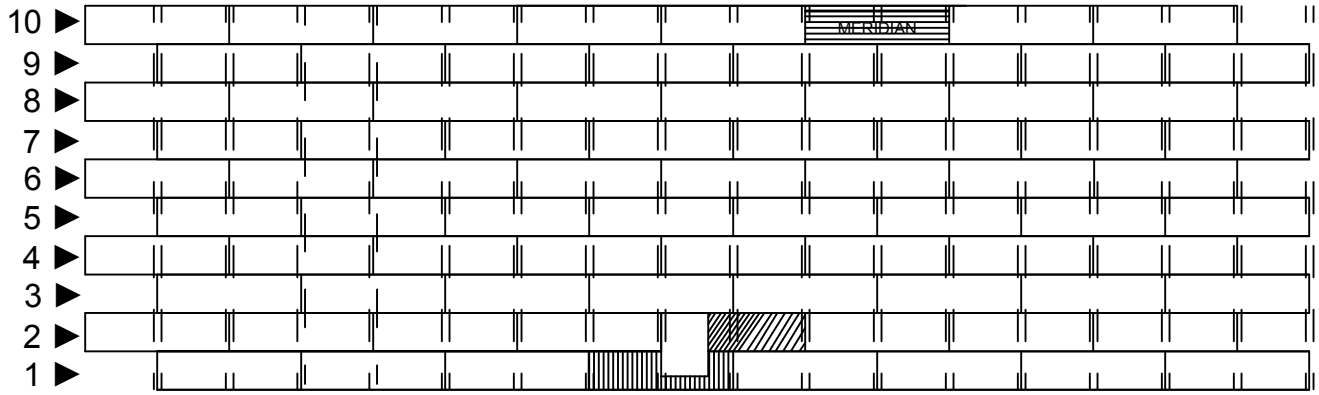
SIDEWALL SHEET DIAGRAMS
STANDARD DOOR

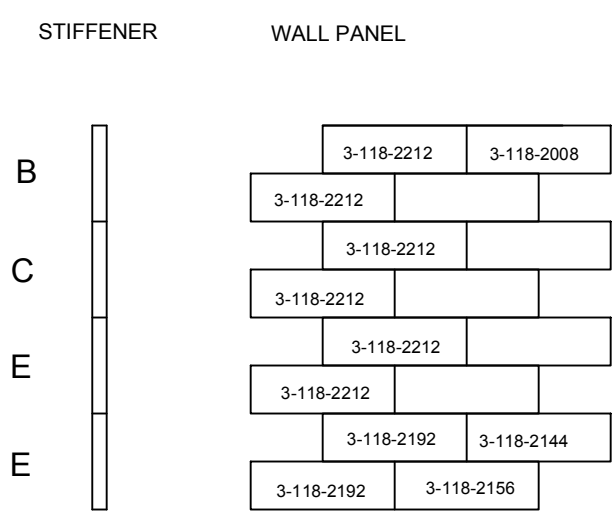
► BIN STD BIN - 27'0" (8.23m) DIA. BIN



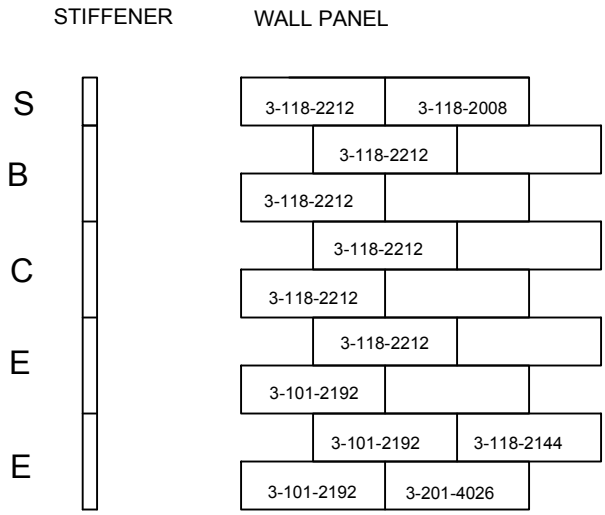
► BINS WITH STIFFENERS



WALL SHEET AND UPRIGHT LAYOUT MODEL - 18'



4-218-3008



4-218-3009

NOTE: ALL SHEET SEAMS ARE CENTERED TO THE NEXT LAYER

Note:

1. Each Tier requires 6 wall Sheets; a Crawl door, indicated by 3-118-2144 above and a decal sheet 3-118-2208

2. Each tier requires 12 uprights, 1 on every seam as shown on Page A8. All Stiffeners are two sheets high except the "S" stiffener.

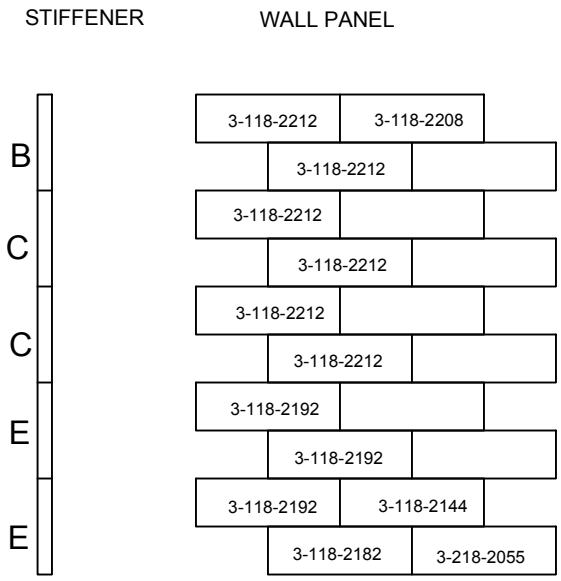
3. All Gauge stamps are on the bottom left hand corners of wall sheets as indicated on Page A4.

4. The 8ga up rights are joined by 8ga couplers (3-201-2428)
   The 10ga up rights are joined by 10ga couplers (3-201-2348)
   The 14ga up rights are joined by 14ga couplers (3-201-2352)
   The ¼in up rights are joined by ¼in couplers (3-201-2350)

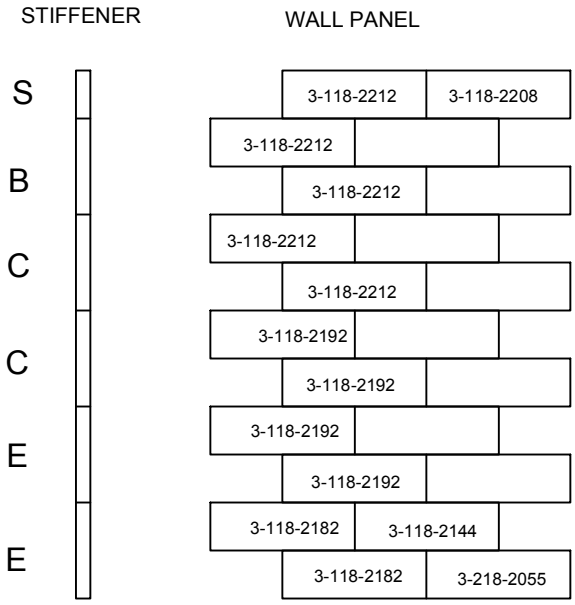
5. All Uprights are connected to the Base by 14ga Angle Brackets (3-218-3004)

	Alpha Character	Part Number	Gauge	Width Of Section (in)
Stiffners	E	3-201-2432	8	4.5
	C	3-201-2433	10	4.5
	B	3-201-2435	14	4.5
	S	3-201-2436	14	4.5
	Z	3-201-2339	1/4in	4.5

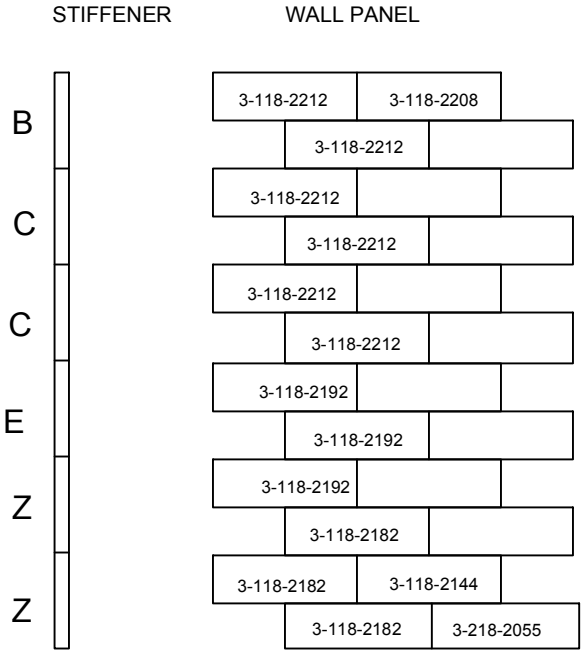
WALL SHEET AND UPRIGHT LAYOUT MODEL - 18'



4-218-3010

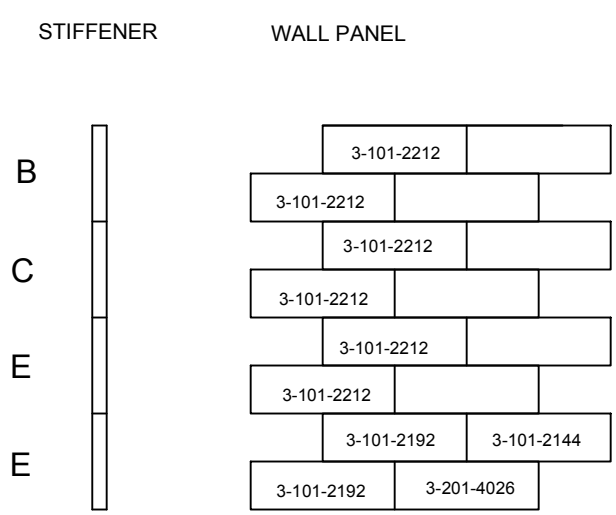


4-218-3011

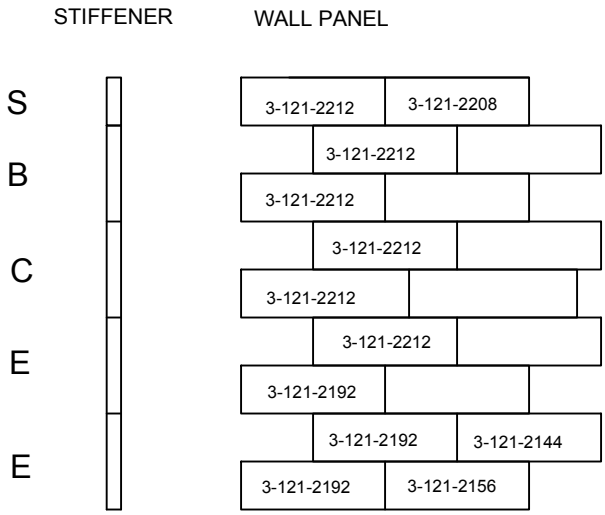


4-218-3012

WALL SHEET AND UPRIGHT LAYOUT MODEL - 21'



4-221-3008



4-221-3009

Note:

1. Each Tier requires 7 wall Sheets; a Crawl door, indicated by 3-101-2144 above and a decal sheet 3-101-2208

2. Each tier requires 14 uprights, 1 on every seam as shown on Page A8. All Stiffeners are two sheets High except the "S" stiffener.

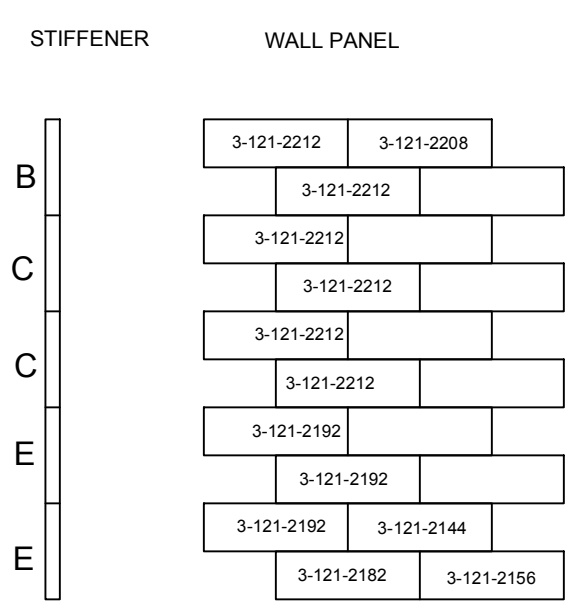
3. All Gauge stamps are on the bottom left hand corners of wall sheets as indicated on Page A4.

4. The 8ga up rights are joined by 8ga couplers (3-201-2428)
   The 10ga up rights are joined by 10ga couplers (3-201-2429)
   The 14ga up rights are joined by 14ga couplers (3-201-2430)
   The ¼in up Rights are joined by ¼in couplers (3-201-2431)

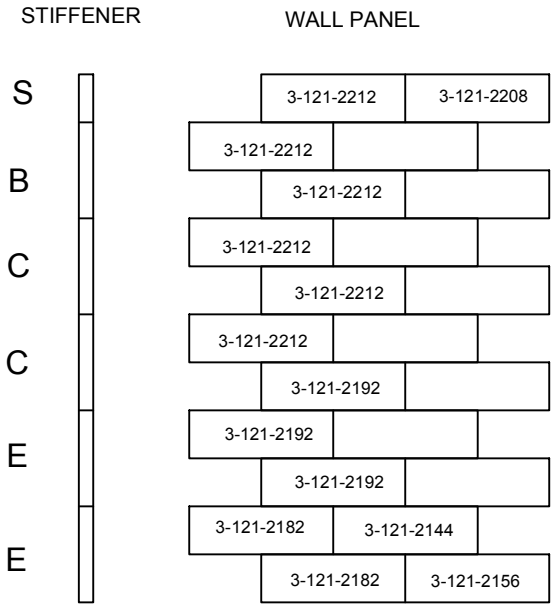
5. All Uprights are connected to the Base by 14ga Angle Brackets (3-221-3004)

	Alpha Character	Part Number	Gauge	Width Of Section (in)
Stiffners	E	3-201-2432	8	4.5
	C	3-201-2433	10	4.5
	B	3-201-2435	14	4.5
	S	3-201-2436	14	4.5
	Z	3-201-2339	1/4in	4.5

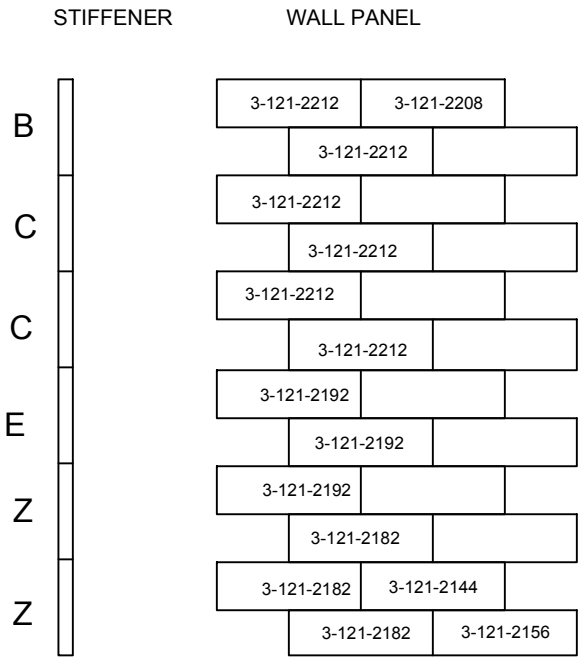
WALL SHEET AND UPRIGHT LAYOUT MODEL - 21'



4-221-3010

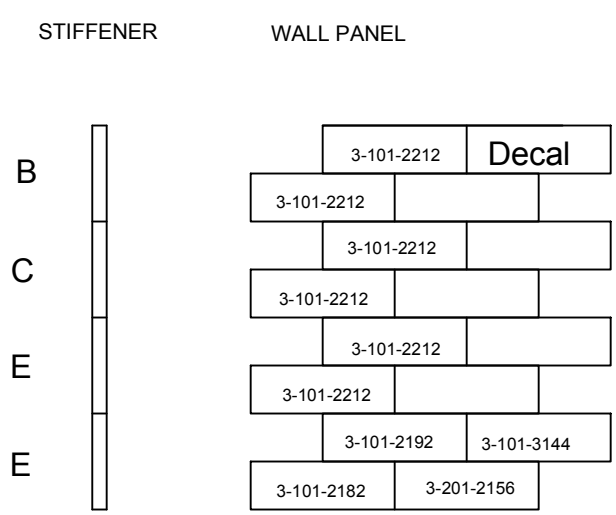


4-221-3011

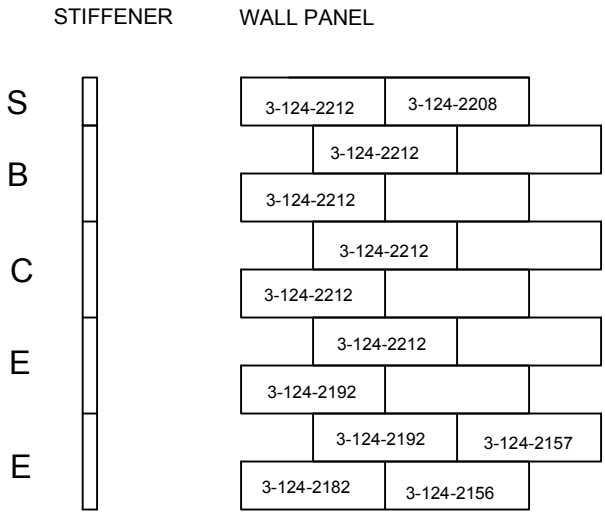


4-221-3012

WALL SHEET AND UPRIGHT LAYOUT MODEL - 24'



4-224-3008



4-224-3009

Note:

1. Each Tier requires 8 wall Sheets; a Crawl door, indicated by 3-101-2144 above and a decal sheet 3-124-2208

2. Each tier requires 16 uprights, 1 on every seam as shown on Page A8. All Stiffeners are two sheets high except the "S" stiffener.

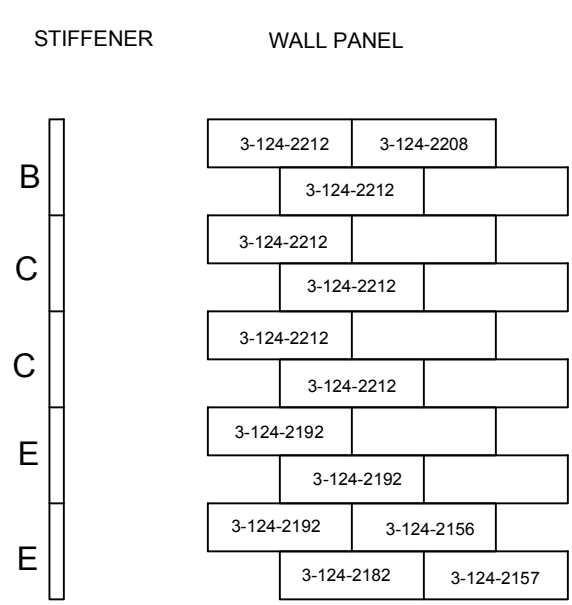
3. All Gauge stamps are on the bottom left hand corners of wall sheets as indicated on Page A4.

4. The 8ga up rights are joined by 8ga couplers (3-201-2428)
   The 10ga up rights are joined by 10ga couplers (3-201-2428)
   The 14ga up rights are joined by 14ga couplers (3-201-2430)
   The ¼in up Rights are joined by ¼in couplers (3-201-2431)

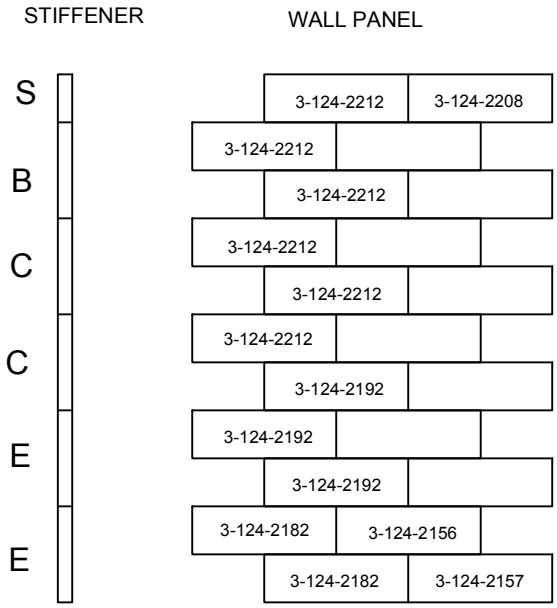
5. All Uprights are connected to the Base by 14ga Angle Brackets (3-224-3004)

	Alpha Character	Part Number	Gauge	Width Of Section (in)
Stiffners	E	3-201-2432	8	4.5
	C	3-201-2433	10	4.5
	B	3-201-2435	14	4.5
	S	3-201-2436	14	4.5
	Z	3-201-2339	1/4in	4.5

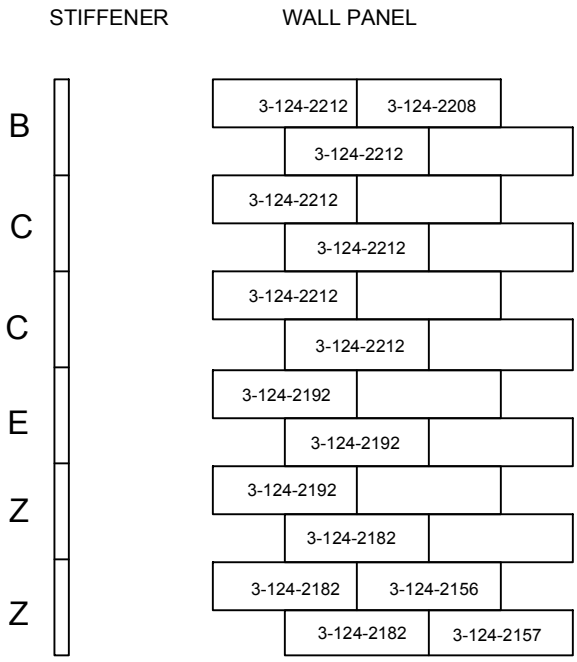
WALL SHEET AND UPRIGHT LAYOUT MODEL - 24'



4-224-3010

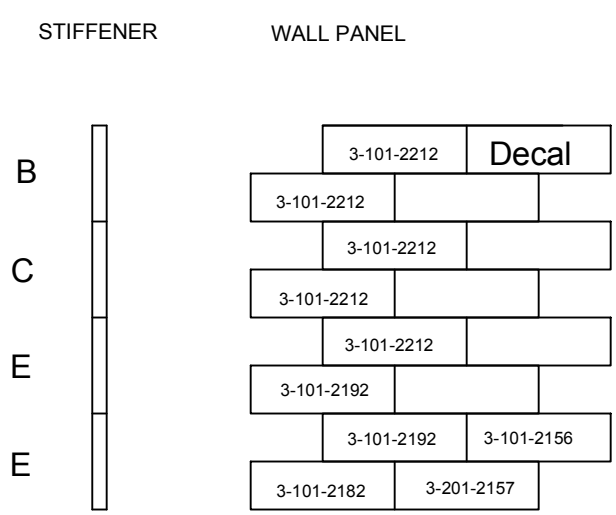


4-224-3011

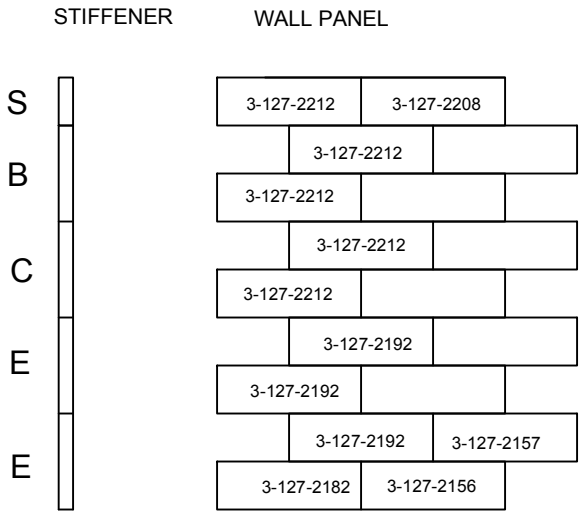


4-224-3012

WALL SHEET AND UPRIGHT LAYOUT MODEL - 27'



4-227-3008



4-227-3009

Note:

1. Each Tier requires 9 wall Sheets; a Crawl door, indicated by 3-101-2144 above and a decal sheet 3-127-2208

2. Each tier requires 18 uprights, 1 on every seam as shown on Page A8. All Stiffeners are two sheets high except the "S" stiffener.

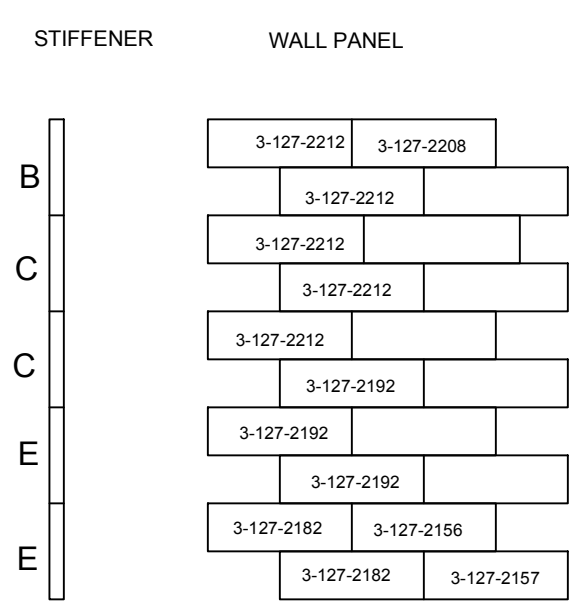
3. All Gauge stamps are on the bottom left hand corners of wall sheets as indicated on Page A4.

4. The 8ga up rights are joined by 8ga couplers (3-201-2428)
   The 10ga up rights are joined by 10ga couplers (3-201-2429)
   The 14ga up rights are joined by 14ga couplers (3-201-2430)
   The ¼in up Rights are joined by ¼in couplers (3-201-2431)

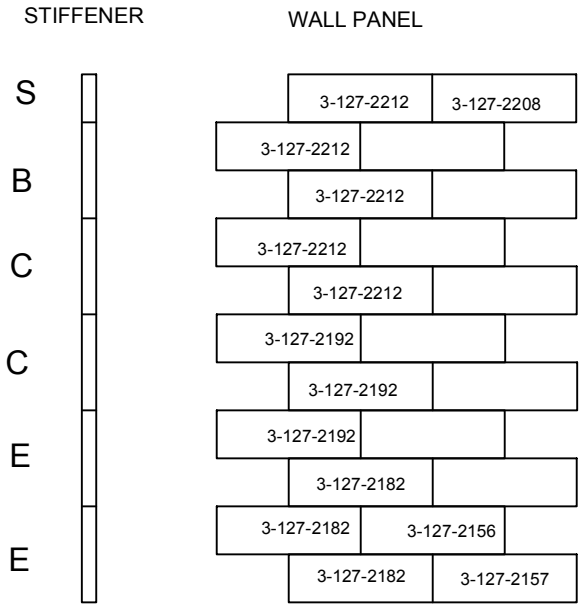
5. All Uprights are connected to the Base by 14ga Angle Brackets (3-227-3004)

	Alpha Character	Part Number	Gauge	Width Of Section (in)
Stiffners	E	3-201-2432	8	4.5
	C	3-201-2433	10	4.5
	B	3-201-2435	14	4.5
	S	3-201-2436	14	4.5
	Z	3-201-2339	1/4in	4.5

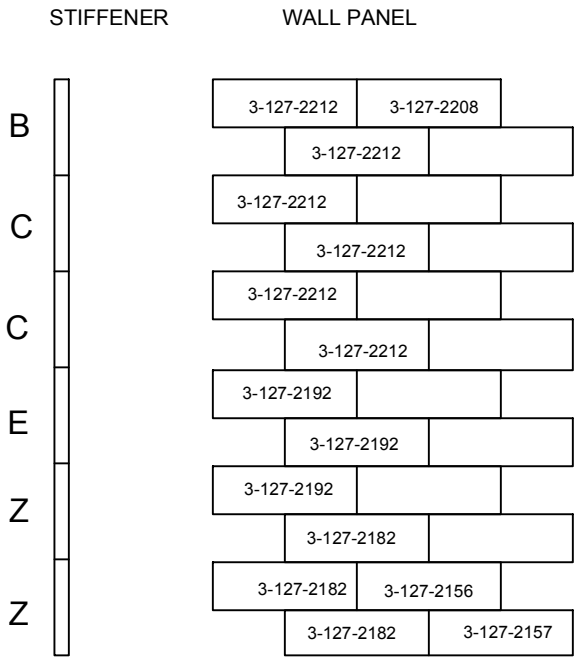
WALL SHEET AND UPRIGHT LAYOUT MODEL - 27'



4-227-3010

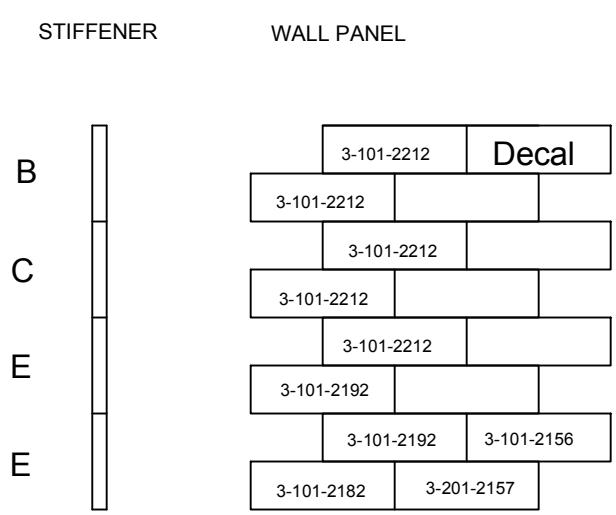


4-227-3011

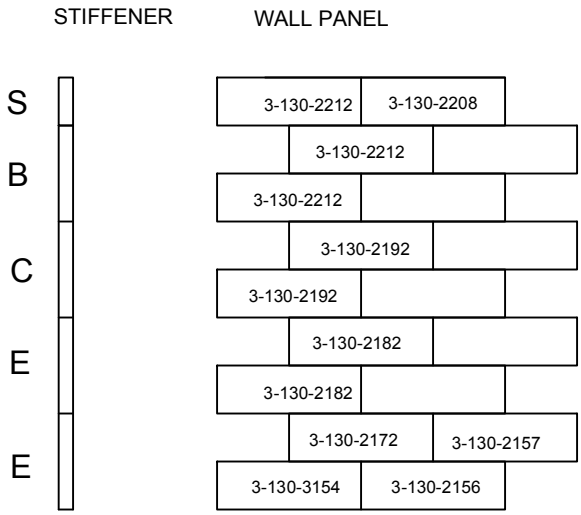


4-227-3012

WALL SHEET AND UPRIGHT LAYOUT MODEL - 30'



4-230-3008



4-230-3009

Note:

1. Each Tier requires 10 wall Sheets; a Crawl door, indicated by 3-101-2144 above and a decal sheet 3-130-2208

2. Each tier requires 20 uprights, 1 on every seam as shown on Page A8. All Stiffeners are two sheets high except the "S" stiffener.

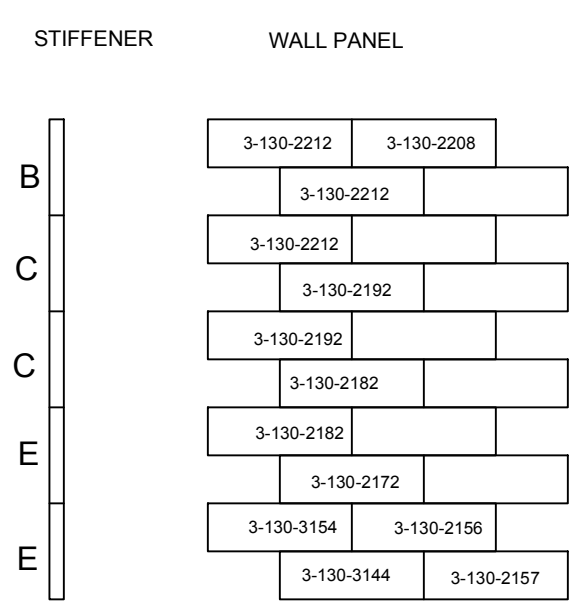
3. All Gauge stamps are on the bottom left hand corners of wall sheets as indicated on Page A4.

4. The 8ga up rights are joined by 8ga couplers (3-201-2349)
   The 10ga up rights are joined by 10ga couplers (3-201-2348)
   The 14ga up rights are joined by 14ga couplers (3-201-2352)
   The ¼in up Rights are joined by ¼in couplers (3-201-2350)

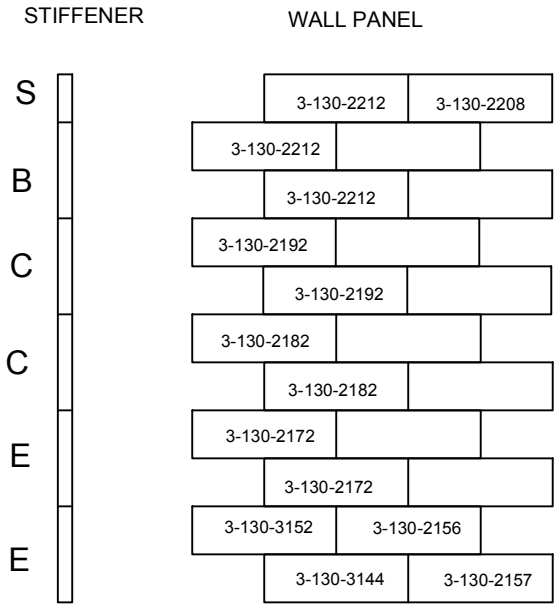
5. All Uprights are connected to the Base by 14ga Angle Brackets (3-230-3004)

	Alpha Character	Part Number	Gauge	Width Of Section (in)
Stiffners	E	3-201-2343	8	4.5
	C	3-201-2340	10	4.5
	B	3-201-2342	14	4.5
	S	3-201-2344	14	4.5
	Z	3-201-2339	1/4in	4.5

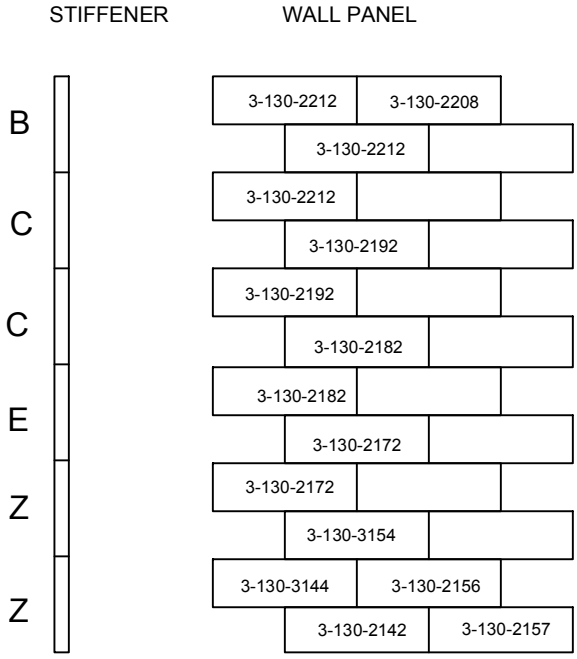
WALL SHEET AND UPRIGHT LAYOUT MODEL - 30'



4-230-3010

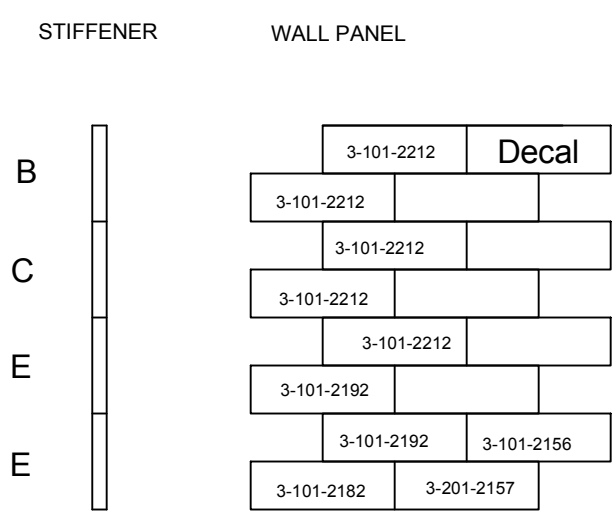


4-230-3011

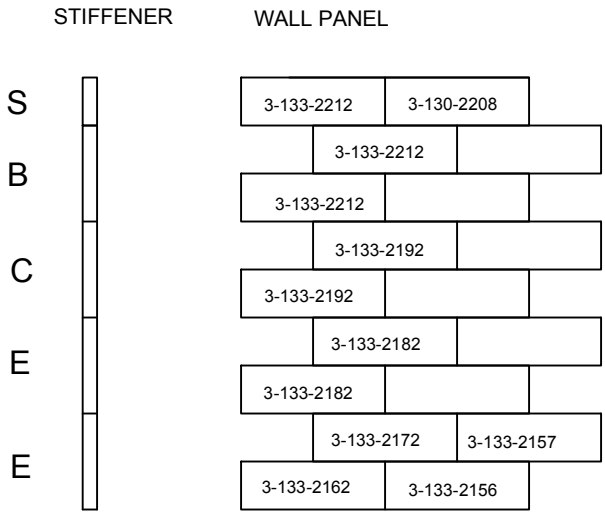


4-230-3012

WALL SHEET AND UPRIGHT LAYOUT MODEL - 33'



4-233-3008



4-233-3009

Note:

1. Each Tier requires 11 wall Sheets; a Crawl door, indicated by 3-101-2144 above and a decal sheet 3-133-2208

2. Each tier requires 22 uprights, 1 on every seam as shown on Page A8. All Stiffeners are two sheets high except the "S" stiffener.

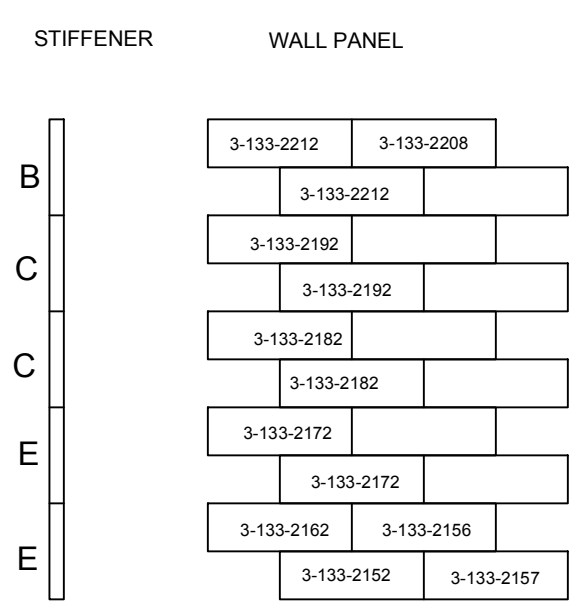
3. All Gauge stamps are on the bottom left hand corners of wall sheets as indicated on Page A4.

4. The 8ga up rights are joined by 8ga couplers (3-201-2349)
   The 10ga up rights are joined by 10ga couplers (3-201-2348)
   The 14ga up rights are joined by 14ga couplers (3-201-2352)
   The ¼in up Rights are joined by ¼in couplers (3-201-2350)

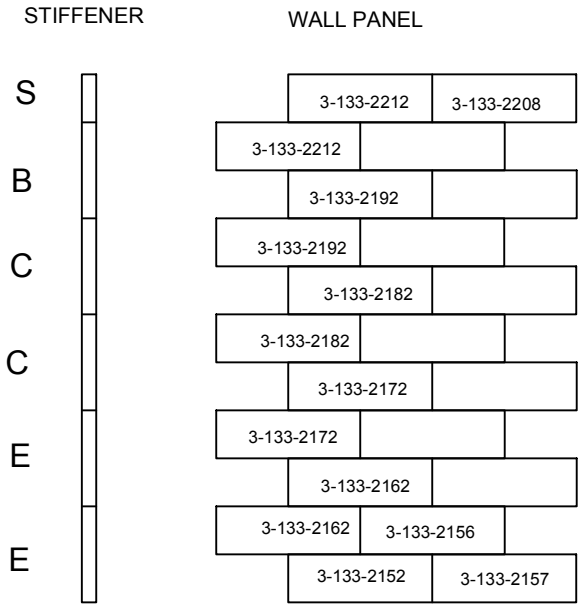
5. All Uprights are connected to the Base by 14ga Angle Brackets (3-233-3004)

	Alpha Character	Part Number	Gauge	Width Of Section (in)
Stiffners	E	3-201-2343	8	4.5
	C	3-201-2340	10	4.5
	B	3-201-2342	14	4.5
	S	3-201-2344	14	4.5
	Z	3-201-2339	1/4in	4.5

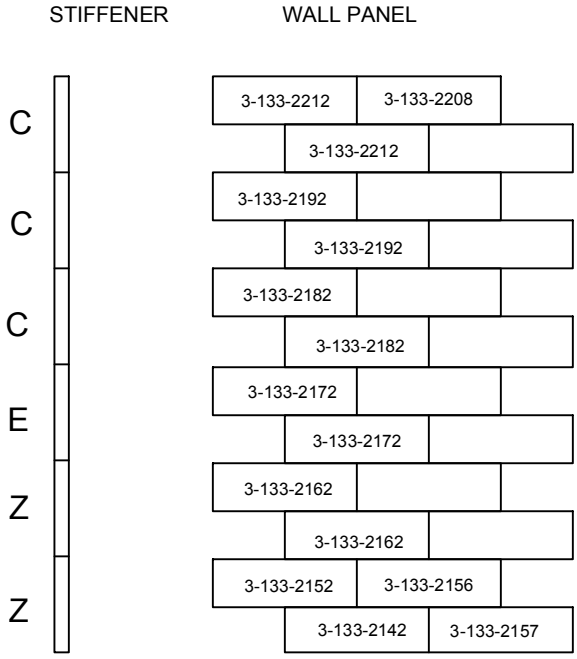
WALL SHEET AND UPRIGHT LAYOUT MODEL - 33'



4-233-3010

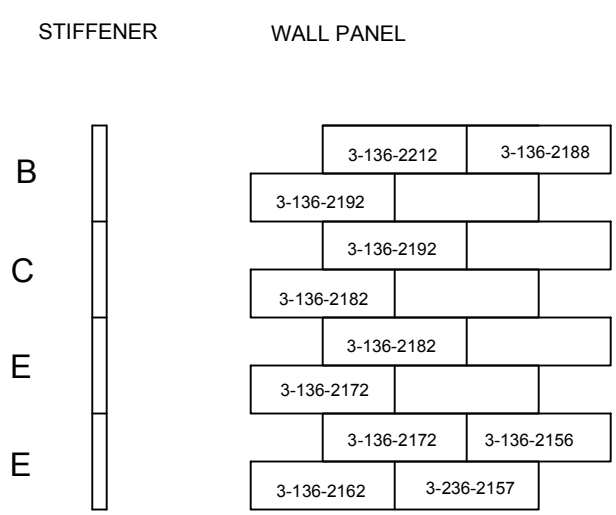


4-233-3011

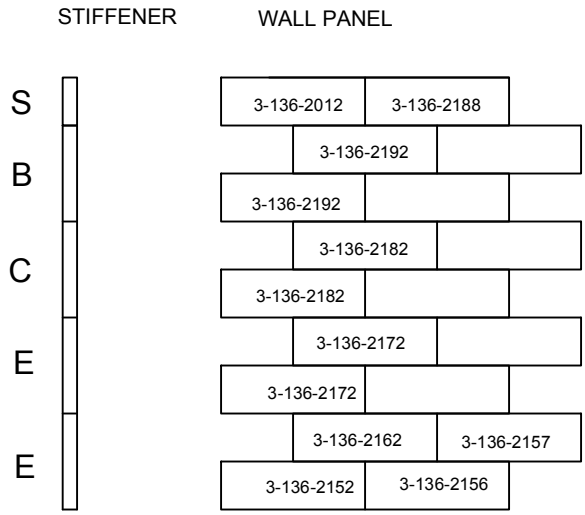


4-233-3012

WALL SHEET AND UPRIGHT LAYOUT MODEL - 36'



4-236-3008



4-236-3009

Note:

1. Each Tier requires 12 wall Sheets; a Crawl door, indicated by 3-101-2144 above and a decal sheet 3-136-2188

2. Each tier requires 24 uprights, 1 on every seam as shown on Page A8. All Stiffeners are two sheets high except the "S" stiffener.

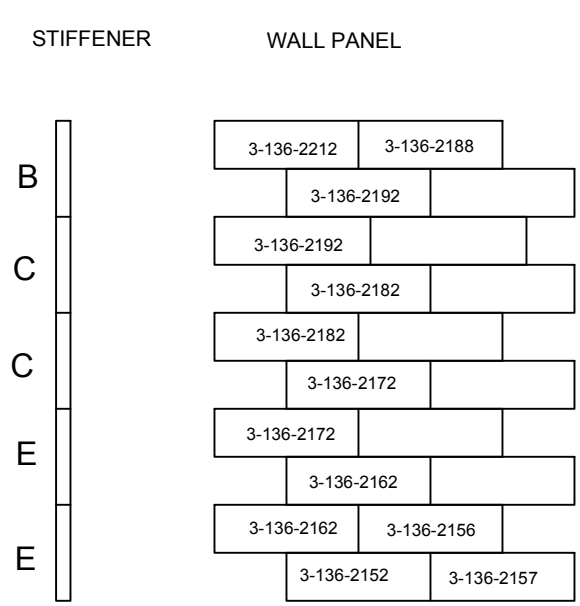
3. All Gauge stamps are on the bottom left hand corners of wall sheets as indicated on Page A4.

4. The 8ga up rights are joined by 8ga couplers (3-201-2349)
   The 10ga up rights are joined by 10ga couplers (3-201-2348)
   The 14ga up rights are joined by 14ga couplers (3-201-2352)
   The ¼in up Rights are joined by ¼in couplers (3-201-2350)

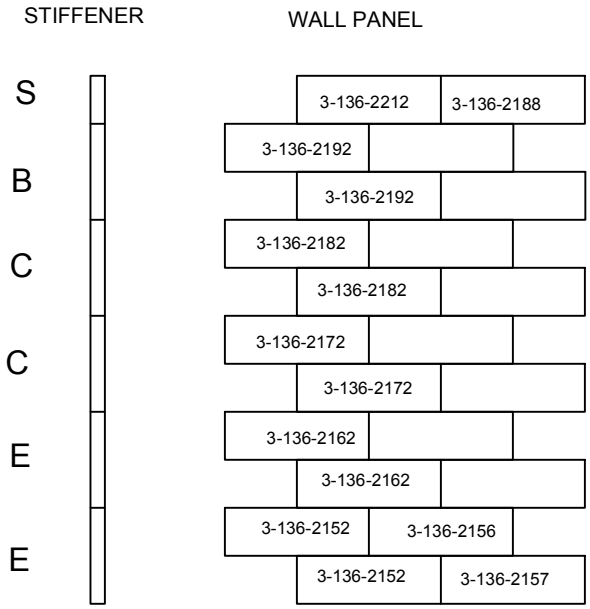
5. All Uprights are connected to the Base by 14ga Angle Brackets (3-236-3004)

	Alpha Character	Part Number	Gauge	Width Of Section (in)
Stiffners	E	3-201-2343	8	4.5
	C	3-201-2340	10	4.5
	B	3-201-2342	14	4.5
	S	3-201-2344	14	4.5
	Z	3-201-2339	1/4in	4.5

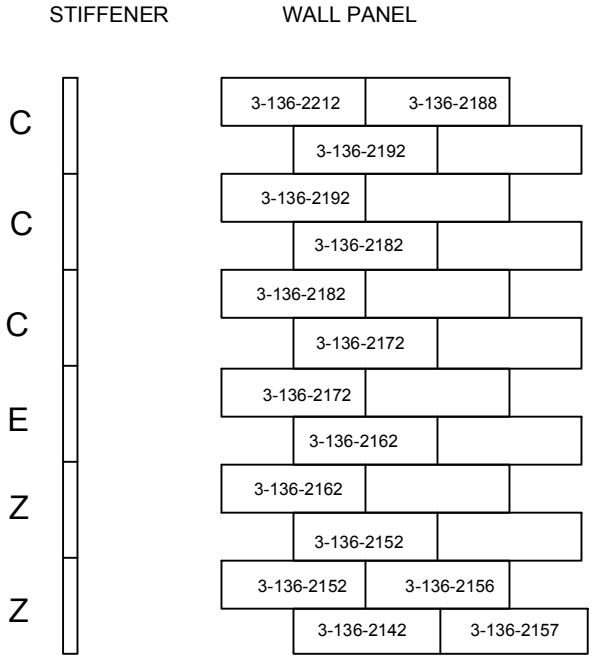
WALL SHEET AND UPRIGHT LAYOUT MODEL - 36'



4-236-3010

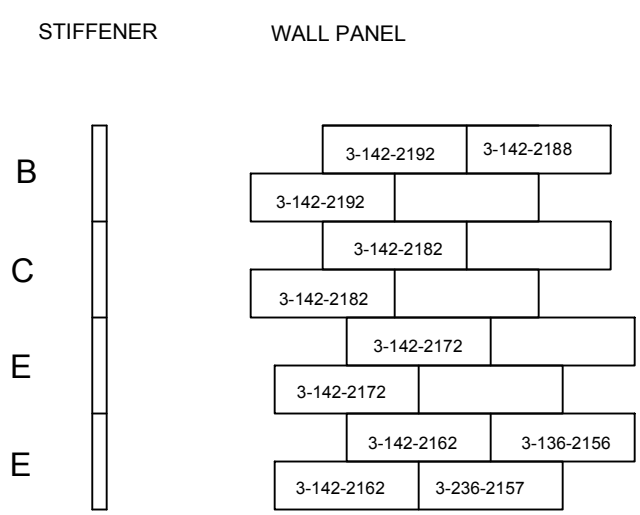


4-236-3011

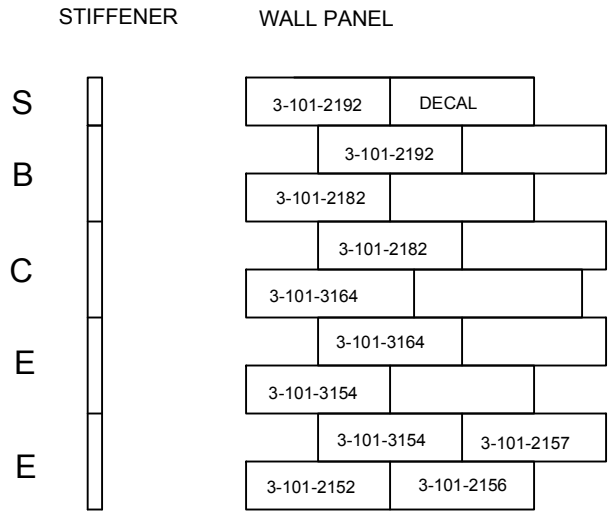


4-236-3012

WALL SHEET AND UPRIGHT LAYOUT MODEL - 42'



4-242-3008



4-242-3009

Note:

1. Each Tier requires 14 wall Sheets; a Crawl door, indicated by 3-101-2144 above and a decal sheet 3-142-2188

2. Each tier requires 28 uprights, 1 on every seam as shown on Page A8. All Stiffeners are two sheets high except the "S" stiffener.

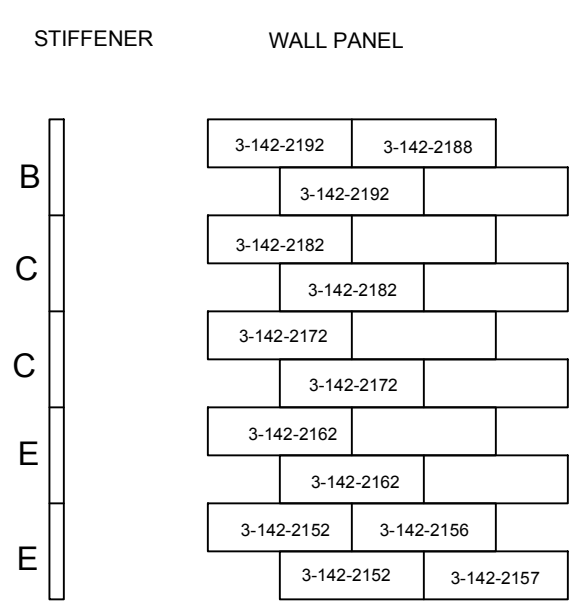
3. All Gauge stamps are on the bottom left hand corners of wall sheets as indicated on Page A4.

4. The 8ga up rights are joined by 8ga couplers (3-201-2349)
   The 10ga up rights are joined by 10ga couplers (3-201-2348)
   The 14ga up rights are joined by 14ga couplers (3-201-2352)
   The ¼in up Rights are joined by ¼in couplers (3-201-2350)

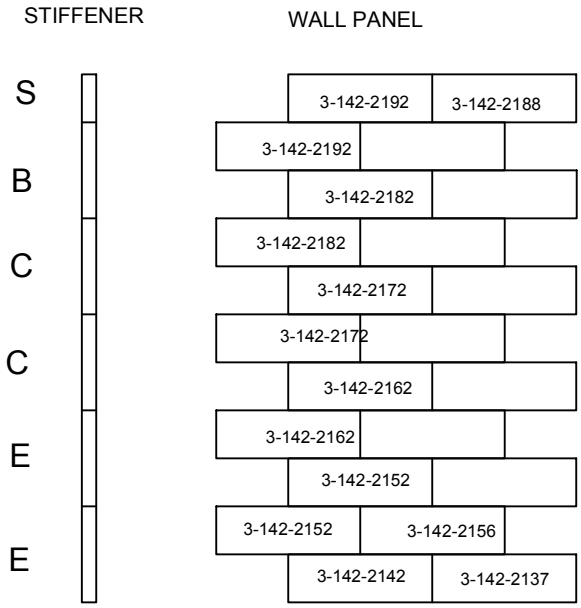
5. All Uprights are connected to the Base by 14ga Angle Brackets (3-242-3004)

	Alpha Character	Part Number	Gauge	Width Of Section (in)
Stiffners	E	3-201-2343	8	4.5
	C	3-201-2340	10	4.5
	B	3-201-2342	14	4.5
	S	3-201-2344	14	4.5
	Z	3-201-2339	1/4in	4.5

WALL SHEET AND UPRIGHT LAYOUT MODEL - 42'



4-242-3010



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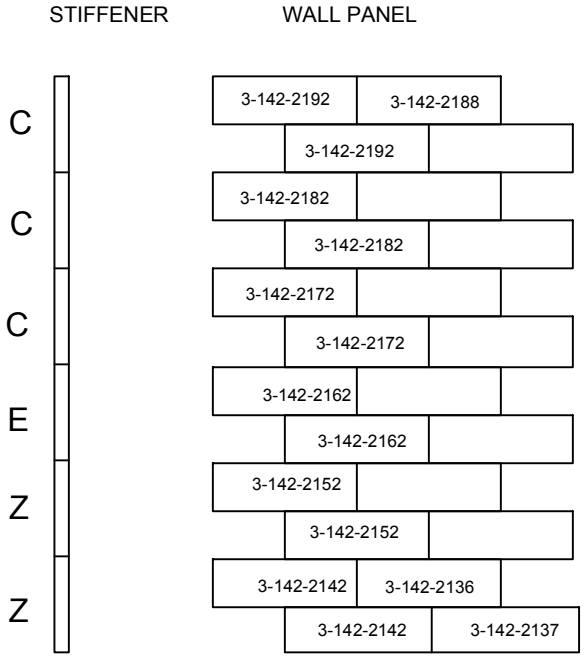

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BIN ROUNDNESS

It is imperative that the bin be as perfectly round as possible. The use of a string anchored and centered on the concrete foundation to scribe a circle is required (see chart below for calculated radiuses. These Radiuses are ¾" smaller than the wall sheet radius at the bottom, so that the scribed circle can be seen during assembly). A perfectly placed ring of sheets should be ¾" on the outside of this line all the way around. This should be the first step in assembling the bin. The maximum amount that the bin can be out of round is 0.75" on the radius, when measured from the center of the bin. in addition the wall sheets must form a smooth circle with no flat or elongated portions. Before anchoring the bin to the foundation, Insure again that the bin is round, within tolerence. Locate anchor bolt towards the outside of the anchor bolt holes (away from the bin) to Permit the incremental expansion that can occur with the initial filling.

NOMINAL BIN DIA. IN FEET	SCRIBE RADIUS
15	7 ft 4.01in.
18	8 ft 10.68 in.
21	10 ft 4.58 in.
24	11 ft 10.49 in.
27	13 ft 4.39 in.
30	14 ft 10.30 in.
33	16 ft 4.20 in.
36	17 ft 10.11 in.
42	20 ft 9.92 in.

ROOF ASSEMBLY - SMALL DIAMETER 12'-27'

1. Prior to construction, plan the orientation of the bin, including the location of the Meridian Logo, unloading devices, grain level indicator and ladder location. Each can affect the location of the inspection hatch and the roof ladder location.

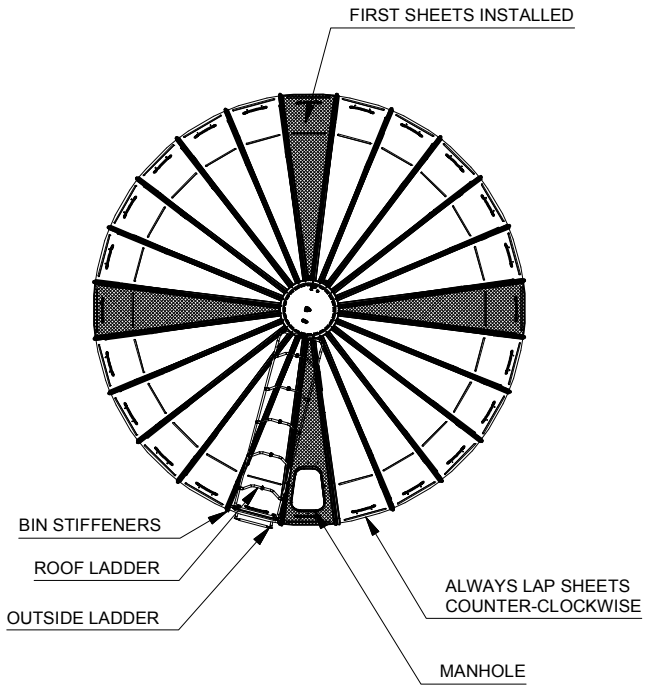
2. Bolt the Roof Rim to the sidewall using 3x8" x 3/4" hex bolts and nuts. A continuous strip of caulking must be applied to the roof rim corrugated edge before assembling roof panels. Only for drying bins is the caulking unneccesary and special open-eave spacers should be used.

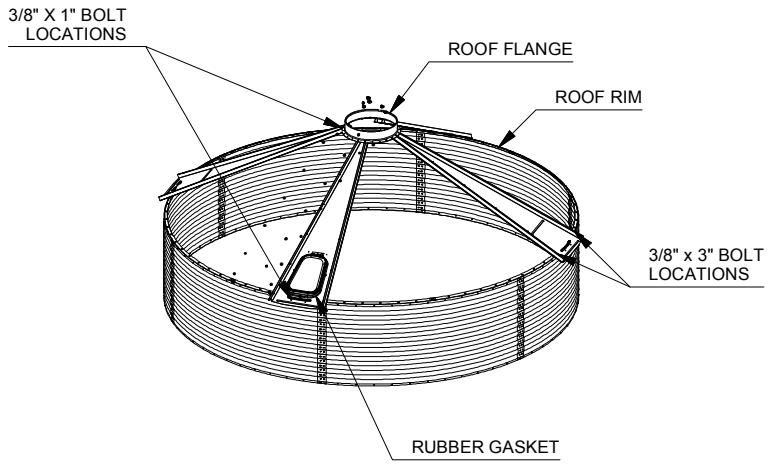
3. Temporarily support the roof while starting assembly. Assemble the first four roof panels to the roof rim with 3/8" x 1" hex bolts, nuts and washers. Split the sheets into four quadrants.

4. Once the four roof panels are in place, assemble the roof flange using 3/8" x 1" hex bolts and nuts.Next add panels to each section using the same overlapping pattern each time until all panels are installed, ie. left roof panel is always under the right. Bolt each roof panel together using 3/8" x 1" hex bolts and nuts. Where the eaves meet the roof rim use 3/8" x 3" hex bolts, washers and nuts but do not tighten until the roof is completely assembled. Add plastic inserts at eaves and foam closures around the roof flange before tightening.

5. Ensure you assemble the roof ladder on the first roof panel to the left or right of the manhole cover. When doing so a neoprene washer (not Supplied) must be placed in between the roof stiffeners and the ladder to ensure a proper seal from moisture.

IMPORTANT: <u>BIN JACKS</u> Have bin jacks evenly spaced around the bin. Use one jack per wall sheet. Each jack should have a capacity 5 times the expected load.





ROOF ASSEMBLY - LARGE DIAMETER 30'-42'

Pre-determine the location of manhole, roof vents along with roof ladder, before beginning roof assembly. Install them as the roof is being assembled.

1. Bolt roof rim to sidewall using 3/4" (19mm) dia. bolts and hex. nuts.

IMPORTANT: A continuous strip of caulking must be applied on roof rim corrugated edge.

2. Before beginning roof sheet assembly, build a center support to hold the roof flange in place at the proper height as shown in Fig. 2, during roof erection. Refer to the table fig 4. for proper roof support height according to different bin diameters.

3. For best results in erecting the roof, first secure the roof flange on center support, then divide roof area in four equal sections and install one roof sheet in each section (shown in Fig. 6) using 1" (25mm) bolts, flat washers, plastic inserts, foam closures and hex nuts to fasten sheets to roof rim; 1" (25mm) bolts are also used for roof flange assembly.

4. Once these four sheets are in place, add sheets to each section, making sure to use the same overlap pattern (shown in Fig. 7), until all sheets are installed. Bolt sheets together with 1" (25mm) bolts.
DO NOT TIGHTEN BOLTS UNTIL ROOF IS COMPLETELY ASSEMBLED.

NOTE: The roof manhole cover is completely assembled at the factory Fig. 5.

IMPORTANT: <u>BIN JACKS</u> Having jacks evenly spaced around the bin. Use one jack per wall sheet. Each jack should have a capacity 5 times the expected load.

ROOF SAFETY RING

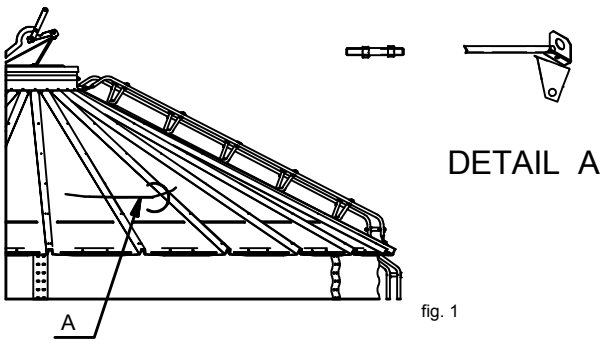


fig. 1

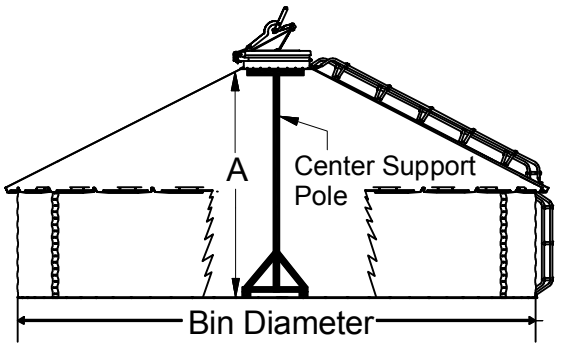


fig. 2

ROOF SAFETY RING CHART			
DIA.	LOCATION	EXT. RING TUBES	INT. RING TUBES
30' (8.23m) Opt.	6 Hole	6 - 18' Ø	-
33' (10.06m) Opt.	7 Hole	7 - 21' Ø	-
36' (10.97m)	8 Hole	8 - 24' Ø	-
42' (12.80m)	8 Hole	8 - 24' Ø	8 - 24' Ø

fig. 3

BIN DIA.	A
30'	144" (3.66m)
33'	150" (3.81m)
36'	161" (4.09m)
42'	181" (4.60m)

fig. 4

5. Be sure to install ladder rungs as you assemble the roof sheet placed on left side of manhole (use 1" (25mm) bolts).

NOTE: When assembling such pieces as roof ladder rungs a neoprene washer (not supplied) must be placed between the roof and the piece you are adding. This will insure a more protective seal against moisture.

6. Do not forget to caulk and place sealing foams between the roof flange and the top part of roof sheets. Sealing caps also must be inserted under sheet ribs at roof eave. At this point assembly of the roof is completed. Securely tighten all bolts and make sure roof is completely watertight.

7. ROOF SAFETY RING
To determine the location of the safety ring, start at the peak end of the roof panels and count each hole separately (See Fig. 3). Install the appropriate brackets (fig. 1). When you have completely assembled both rings, but before expanding, tighten all roof bolts and ring brackets. Now, extend expansion bolts around the roof until the ring raises the roof to show a slight crown.

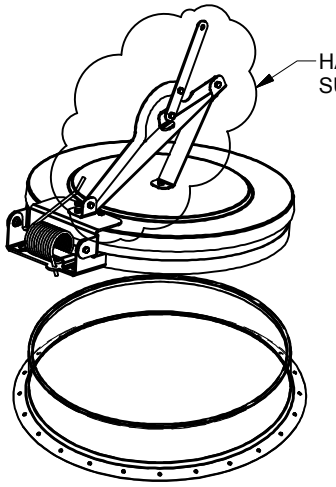


fig. 5

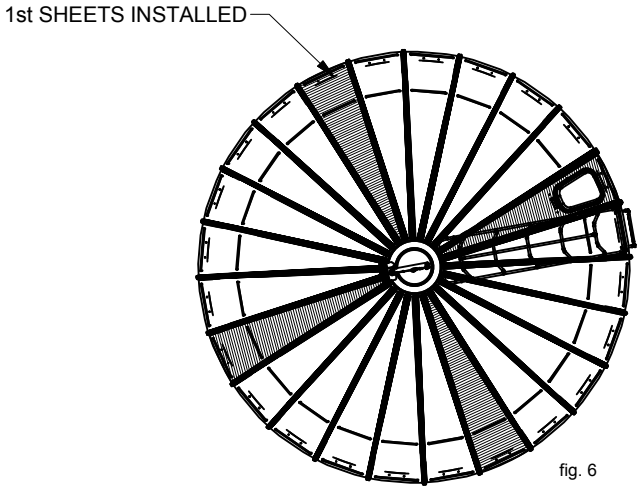


fig. 6

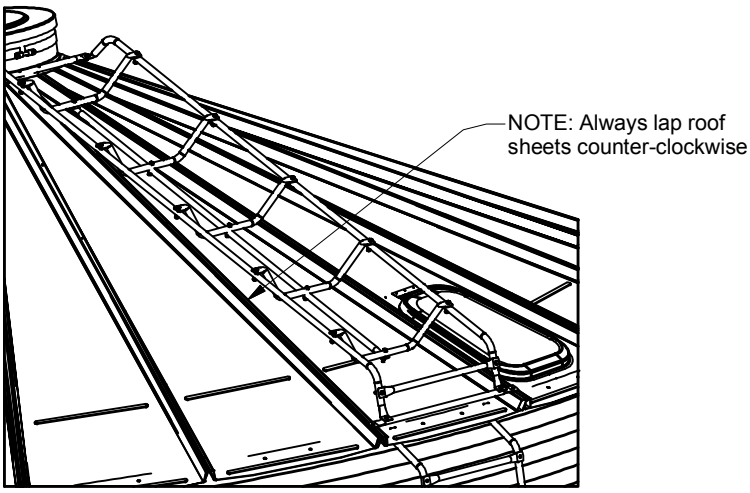


fig. 7

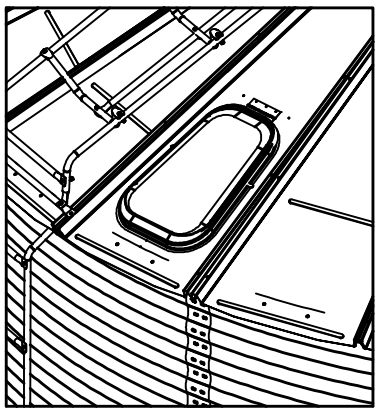


fig. 8

REMOTE ROOF CAP ASSEMBLY

1. Ensure the rubber gasket is first put on the Roof Flange for a water tight seal.
NOTE: Gasket is only applied to 30'-42' bins.

2. All moving parts use a ⅜" x 1" bolt and nylon lock nut while stationary parts use a ⅜" hex nut.

3. Start by bolting the Upper Plate to the Roof Cap and then that assembly gets bolted to the Cap Clamp. (In factory)

4. Insert the short prong of the spring into the hole in the Cap Clamp and thread the Spring Holder through the Spring. Losely bolt down the one side of the Spring Holder closest to the Cap Clamp. Pull The long prong of the spring over top of the Upper Plate and bolt down and tighten the other end of the Spring Holder. (In factory)

5. The next steps be sure to not fully tighten all the bolts until it is fully assembled. Bolt the Lift Bracket to the Upper Plate and to the Z-Brace. Also bolt the Z-Brace to the Roof Cap.
(On setup site)

6. Now bolt the Short Link to the higher portion of the Lift Bracket making sure that the half moon cut out is facing up and the extruded lip is facing away from the center. (On Setup Site)

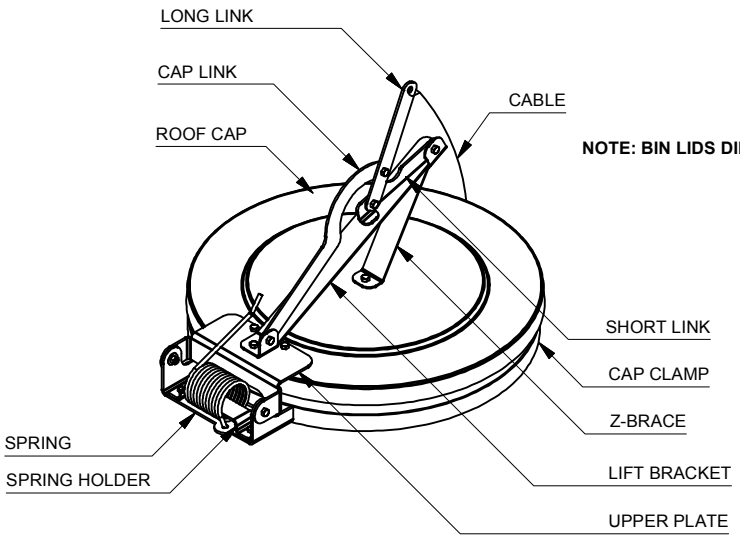
7. Bolt the Cap Link to the Lift Bracket with the straight edge at the bottom and the Cap Link concave down. (On setup site)

8. Next bolt the Long Link to the Cap Link on the side away from the center of the Roof Cap and to the middle hole of the Long Link. Find the next closest hole and bolt the Short Link to that hole. (On setup site)

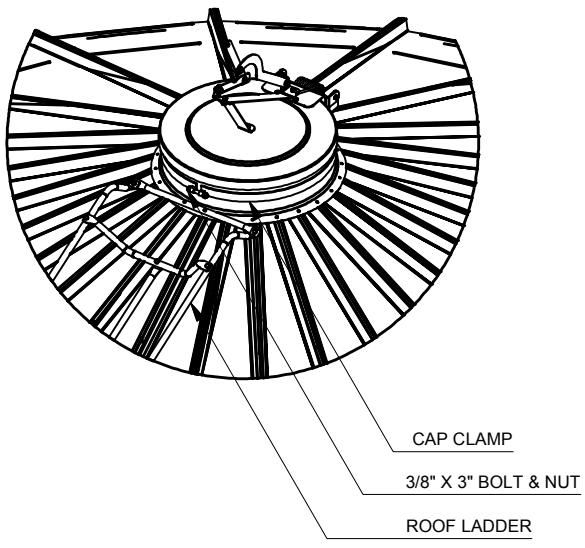
9.Tighten all the bolts on the assembly and position the Roof Cap Assembly on the Roof Flange. Make sure to position the Roof Cap so it opens away from the unloading device and away from the Roof Ladder. (On setup site)

10. Attach Cable to Eyelet at the end of the Handle on The Roof Cap, run the Cable through the eyelet on the Roof Rim Bracket to the Base. (On setup site)

11. Tighten the Cap Clamp with a ⅜" x 3" hex bolt and nut.



NOTE: BIN LIDS DIFFER FOR BIGGER BINS



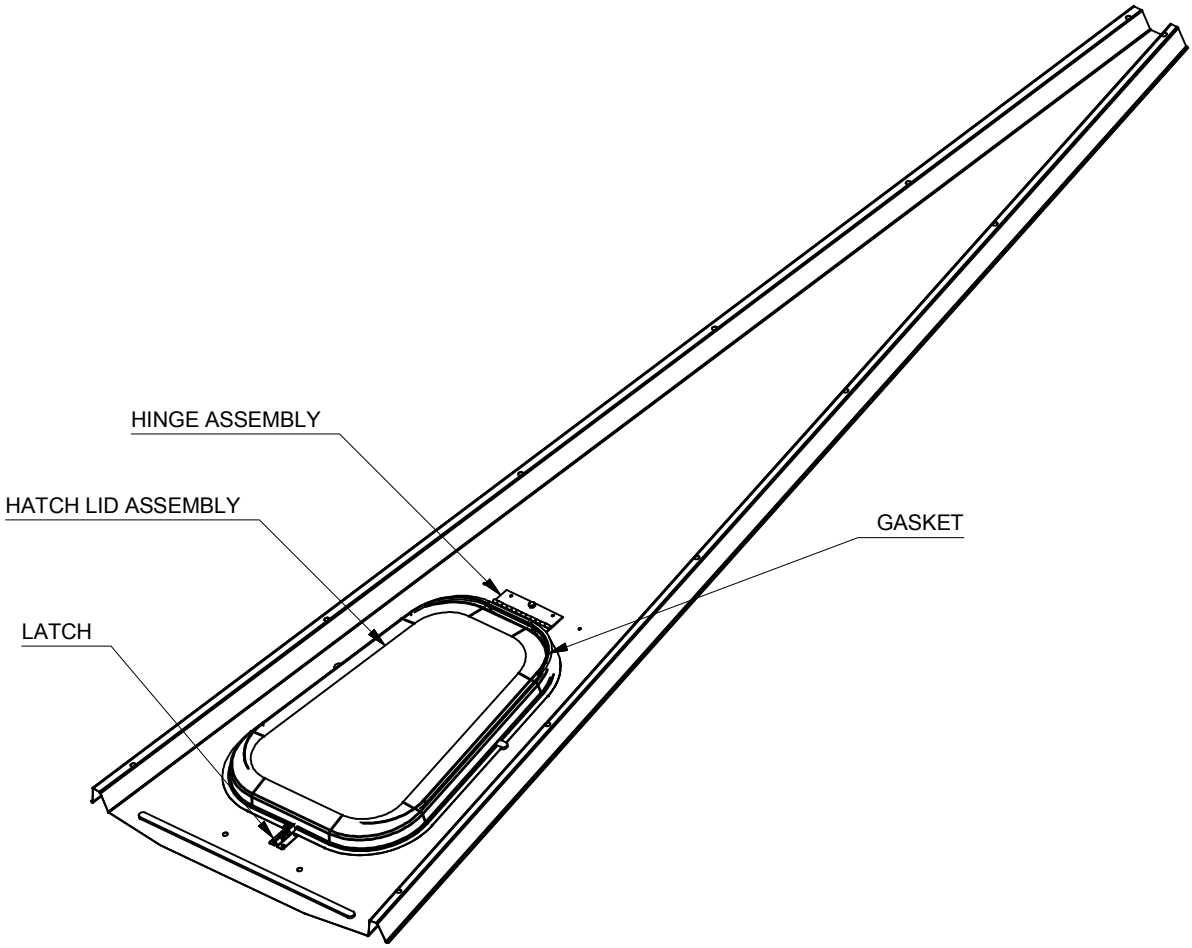
INSPECTION HATCH DETAILS

1. Inspection hatch is assembled in the plant.

2. Place inspection hatch gasket around the lip of inspection hatch opening. Trim the gasket to fit if necessary.

3. Rivet on hatch lid assembly with pop rivets provided for the roof. For best seal results , the heads should be on the underside of the roof panel, with the sealing washers pressed against the roof panel.

4. Pop Rivet on the latch. The latch is positioned on the center hole of the roof panel and bolts.



ROOF LADDER ASSEMBLY

1. The Roof Panels containing the Roof Ladder should be located either to the left or right of the Manhole and in line with the outside ladder. The ladder should be assembled while the roof is still at ground level for ease.

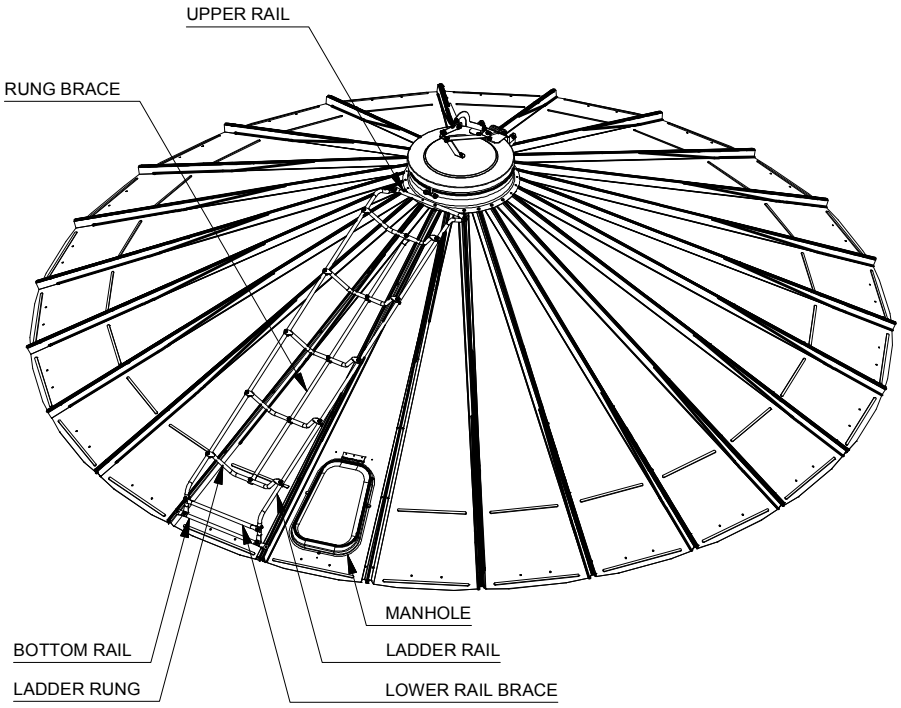
2. First bolt the two ladder rails to the Upper and Bottom Rail using 3/8" x 1 1/2" hex bolts and nuts orientating the five holes on the highest part of the bar towards the Upper Rail.

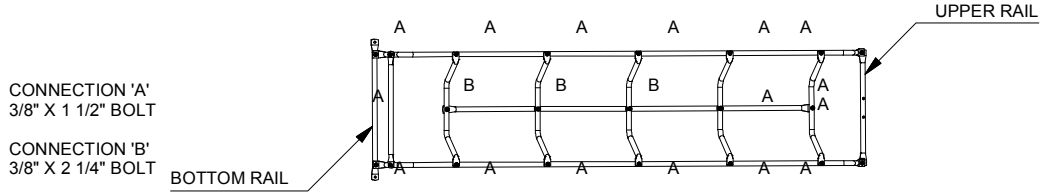
3. Once the Ladder Rails are in place bolt the Ladder Rungs to the Ladder Rails concave up using the holes by the Upper Rail first and working your way down. Use 3/8" x 1 1/2" hex bolts and nuts.

4. Next bolt the rung brace to the five ladder rungs using 3/8" x 1 1/2" bolts at the end rungs and 3/8" x 2 1/4" bolts on the middle three rungs.

5. Now bolt the lower rail brace to the ladder rail using 3/8" x 1 1/2" bolts towards the bottom of the roof panel.

6. Finally bolt the Roof Ladder Assembly to the Roof Panel by bolting the Upper Rail to the Roof Flange while the bottom one gets bolted to the eaves on the Roof Panels.





NOTE LADDER DIAGRAM IS JUST AN EXAMPLE, LADDERS ARE DIFFERENT FOR EACH BIN

RAISING BIN

IMPORTANT: The number of jacks to be used is best determined by experience. Factors such as bin size, soil compaction, wind velocity and jack design are to be considered when deciding how many to use. If in doubt, use one jack per vertical seam.

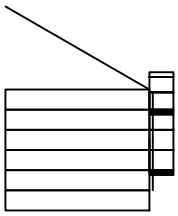
Securely fasten jack brackets to sidewall using bin bolts. Now raise the bin just high enough to assemble the next ring. When lifting the bin, crank all jacks at an equal rate. This will prevent bowing previously assembled rings and make easier hole alignment. To the inside of the top ring, bolt the next ring. Be sure to stagger the sheets, to select the proper gauge material and to properly apply caulking on seams.

Lower the bin on foundation after assembling and tightening bolts of each new ring. Rebolt jack brackets to the lowest ring, raise bin and continue ring additions until you are ready for door installation.

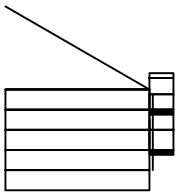
SAFETY CAGE & LADDER

Placement of sidewall ladder and safety cage must be centered directly under the roof ladder and installed as you raise the bin.

Field drilling will be required for first safety cage band installation on sidewall and also for ladder brackets bottom holes. Do not forget to insert neoprene washers between bin wall and ladder and cage components.



4-202-4005: Ladder
4-202-4505: Cage



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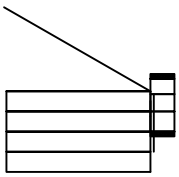
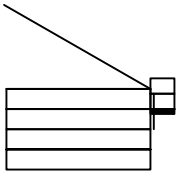
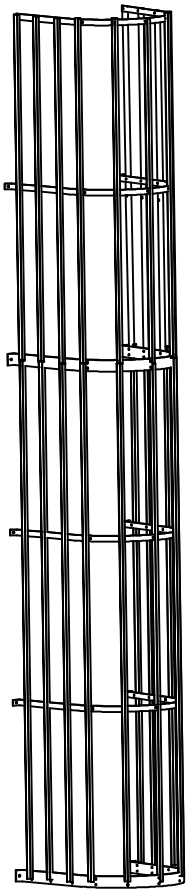
4-202-4504: Cage



4-202-4003: Ladder
4-202-4503: Cage



4-202-4002: Ladder
4-202-4502: Cage



Top Band

Single Band

Double Band

DOOR INSTALLATION

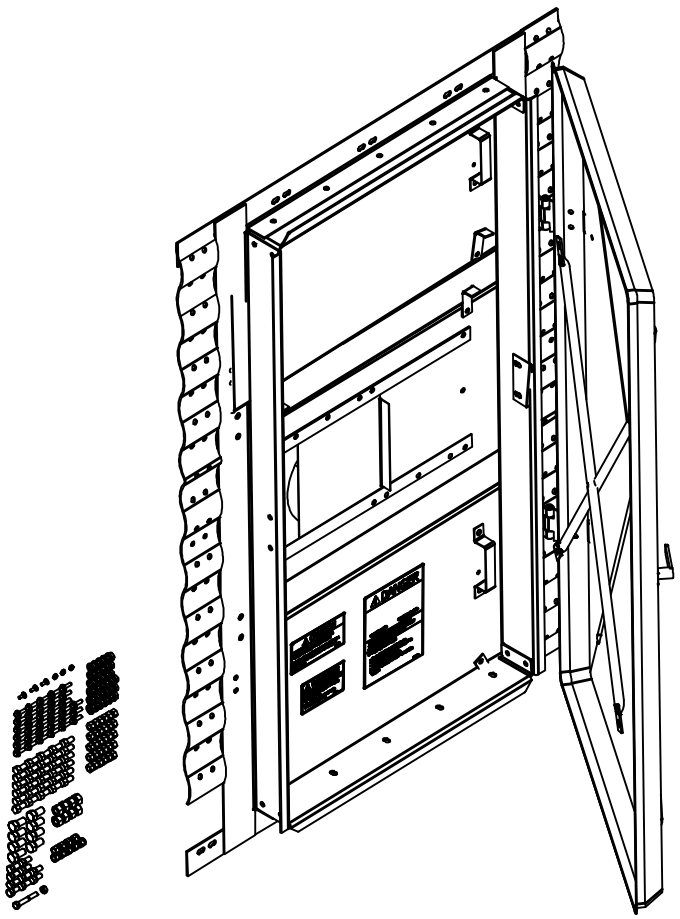
- All doors are completely assembled at the factory. The installation of the door on the bin sidewall should be made after or during the addition of the bottom rings. see bin diagrams for door proper placement. Page A4-A8

- Door corrogated frame is installed from inside the bin.

- Before inserting any type of door, apply a double layer of caulking along all verticals and horizontal seams.

- Set the door frame into the opening of the bin and slide corrugated bolt edges under sidewall sheet.

- Next insert all bolts, tighten and check for complete water tightness, add caulking if necessary.



DOOR INSTALLATION - LOW PROFILE

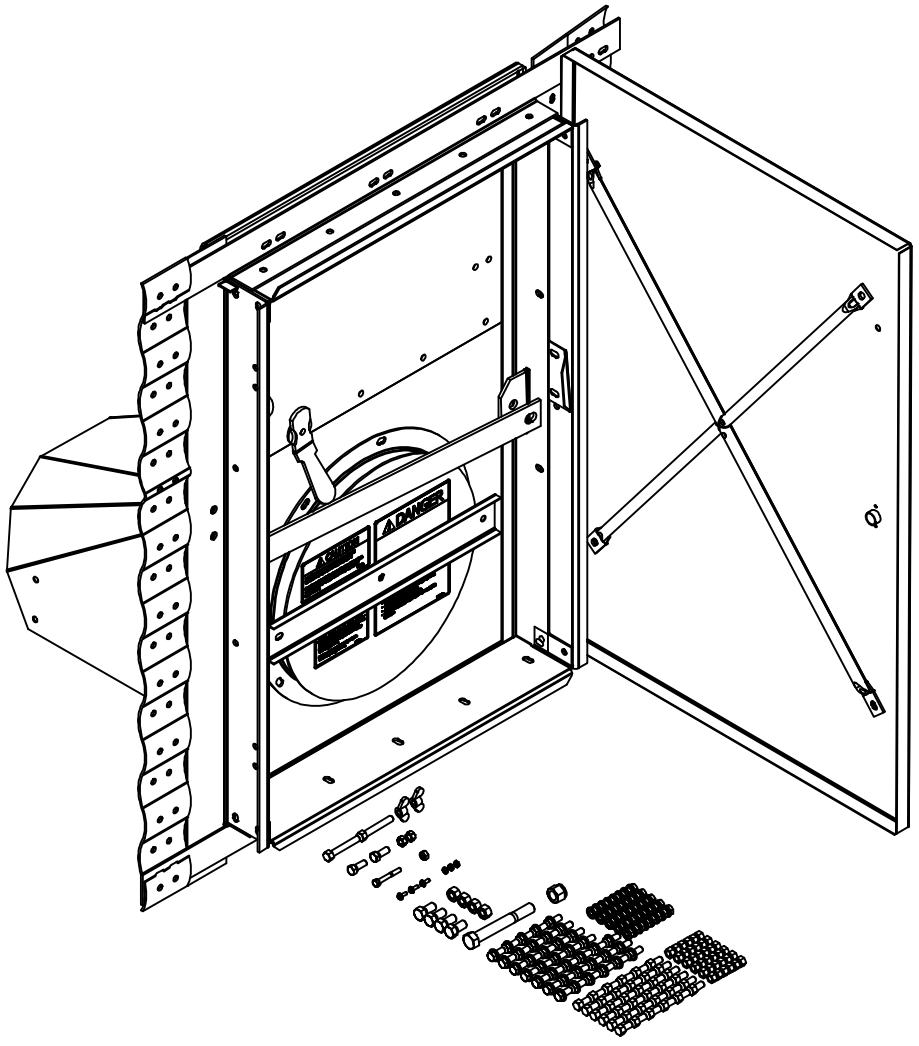
- All doors are completely assembled at the factory. The installation of the door on the bin sidewall should be made after or during the addition of the bottom rings. See bin diagrams for proper door placement page A5 - A8.

- Door corrogated frame is installed from inside the bin.

- Before inserting any type of door, apply a double layer of caulking along all vertical and horizontal seams.

- Set the door frame into the opening of the bin and slide the corrogated bolt edges under the side wall sheets.

- Next insert all bolts, tighten and check for complete water tightness.



BASE

BASE ANGLE

Install the base angle ring to the lower edge of bottom sidewall rim with 1" (25mm) dia. bolts. After this is done, raise the bin high enough to apply the optional foundation sealing strip or a heavy layer of black mastic (coal-tar) to base angle underside.

ANCHOR PLATES

Bolt anchor plates at vertical seams as illustrated, using 1" (25mm) dia. bolts and hex nuts. Standard anchor bolts are supplied to secure the bin on foundation.(shown in Fig. 9. Grout any open spaces along the base to insure a good seal between bin and foundation.

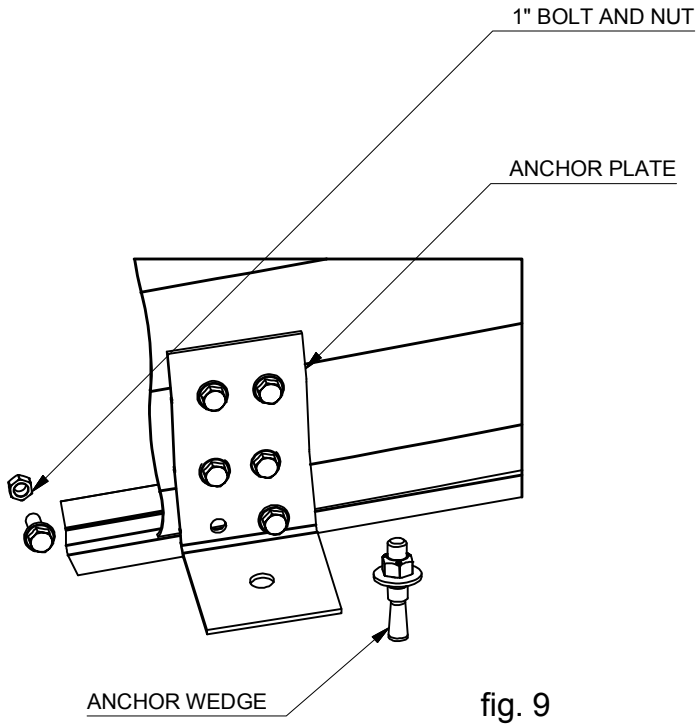


fig. 9

NOTE: ANCHOR WEDGE DIFFERS BETEEN SMALLER AND BIGGER BINS

BOTTOM FLOOR SHEETS

For grain bins equipped with complete floors, sidewall sheet installation should be made according to sidewall sheet diagrams. Page A4 - A8
Special bottom ring for floor should be installed as shown on the following illustration Fig. 10, to assure proper fitting. Factory pierced holes for floor flashing assembly should be located near concrete foundation.

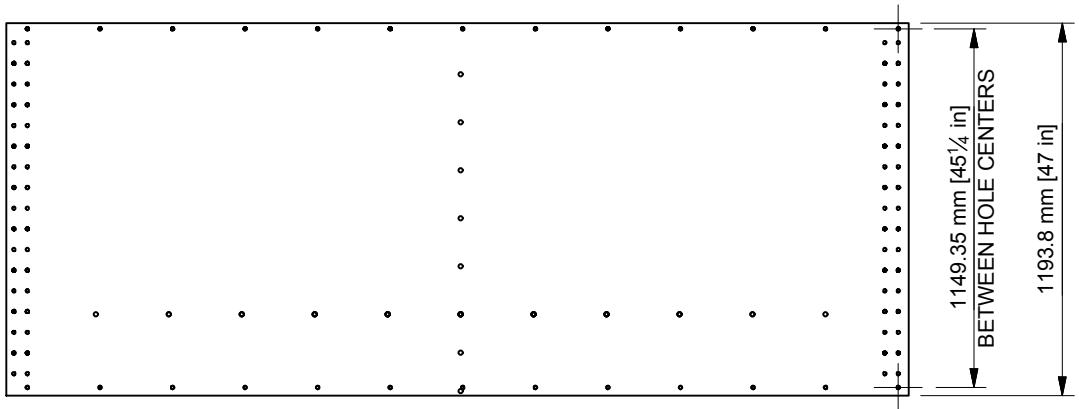


fig.10

SIDEWALL STIFFENERS

All 24' (7.31m) and 27' (8.23m) dia. bins, eight rings and taller require stiffeners to strengthen sidewalls. Stiffeners are installed as you raise the bin, on each vertical seam. See diagrams in sidewall assembly (dashed lines represent stiffener location, page A8). Each stiffener covers two rings. Bins with odd number rings have a single stiffener on the top ring. Refer to fig. 12 for stiffener correct placement according to gauge.
When installing bottom stiffeners, in some cases, stiffener anchor plate bases may not rest on the foundation (due to unlevel concrete etc.). Spacing shims should be used to fill the opening between anchor plate base and concrete.

IMPORTANT: If shims are not used where required, the downward pressure on the stiffeners will not be transferred directly to the foundation and bin failure could result.
On bins with complete floors, a stiffener is installed right in the middle of transition entrance collar. The bottom stiffener must be precisely cut on the field so that the assembly rests on top of entrance collar.

NOTE:
The anchor bolts at the upright locations should be chosen so they can handle the loads imposed on them and that the head, either alone or with large diameter heavy washers, is large enough to sufficiently cover the anchoring slot provided in the base plate. the base plate should not be able to pull up over the nut.

One ½" x 3" (minimum embedment) anchor bolt needs to be installed into every slot into the bottom angle (6 per angle) to ensure the bin is fixed round at the bottom.

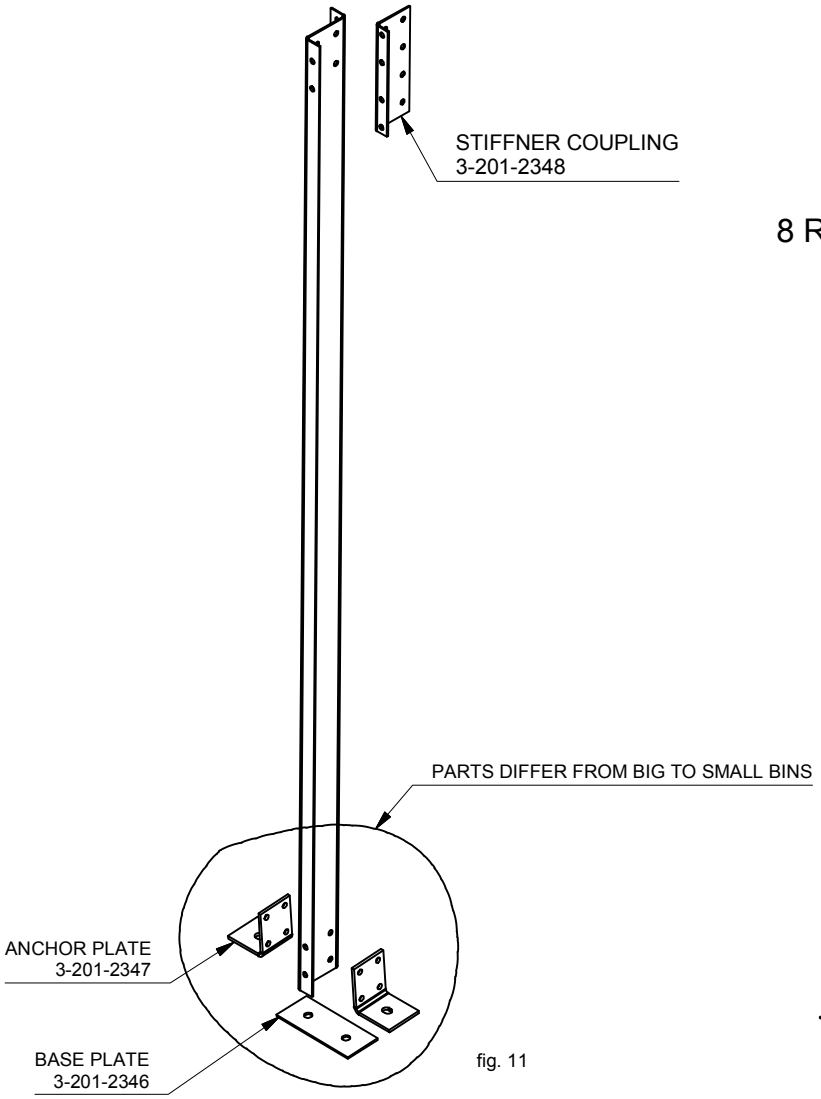


fig. 11

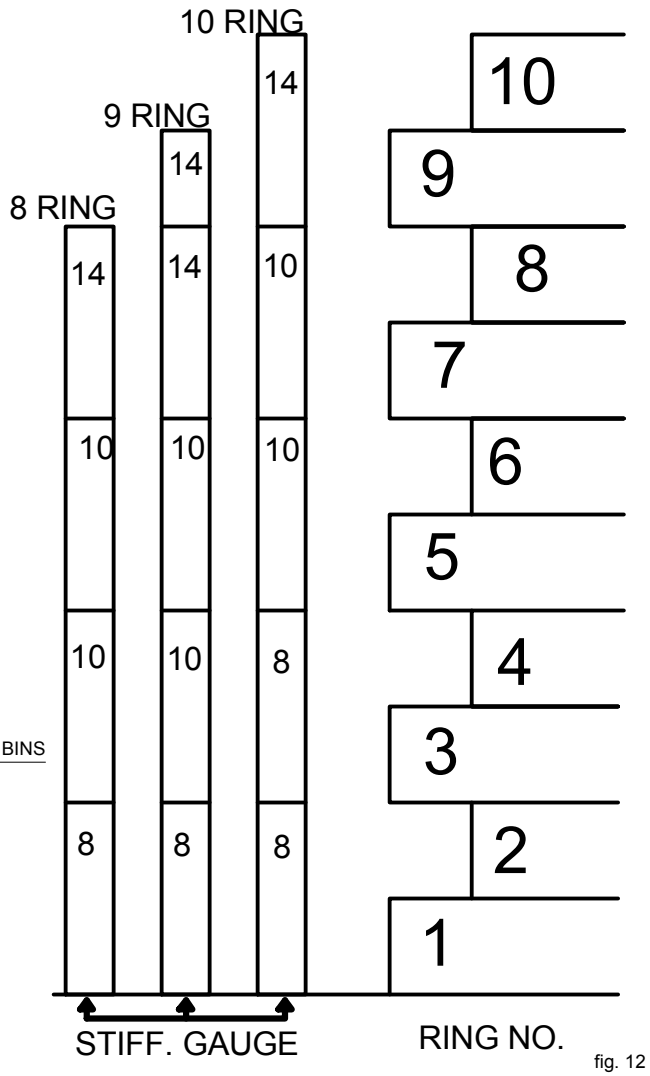


fig. 12

15' - 36' GRAIN BIN FOUNDATION

NOTE: This foundation is unsuitable to bins equipped with aeration system.

IMPORTANT

All foundation specifications shall be interpreted as recommendations only. Because of the many variable conditions in actual installation, the manufacturer assumes no liability for results arising from the use of such recommendations. However these minimum standards must be respected to assure bin warranty applicability.

FOUNDATION SPECIFICATIONS

1. All foundations must be designed on a leveled soil bearing 3,000lb/sq. ft. (14,646kg/m2). When in doubt, consult a local civil engineer.

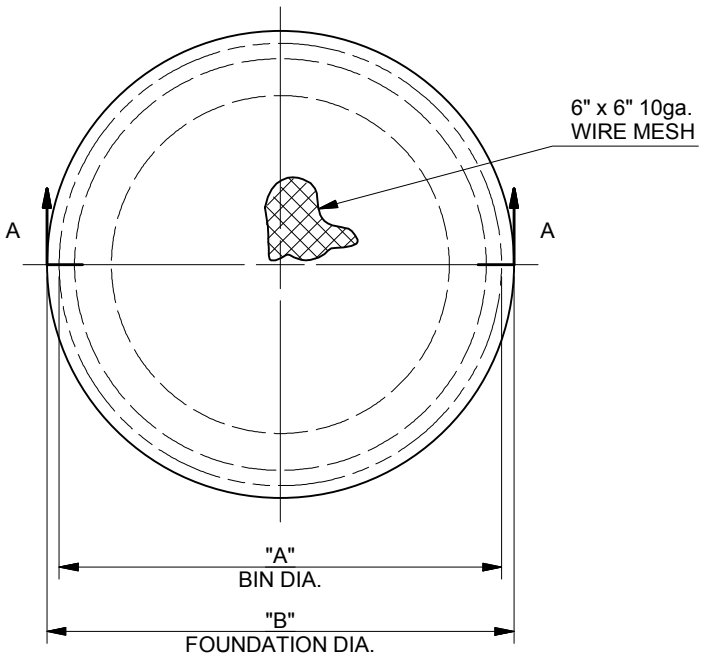
2. All soil or organic material on the site of the foundation must be excavated and replaced by porous frost-proof material to provide proper draining under foundation and reduce frosting problems (gravel, sand, ballast, crushed stone). This underlying basis is then compacted and covered with polyethylene plastic which will act as a moisture barrier.

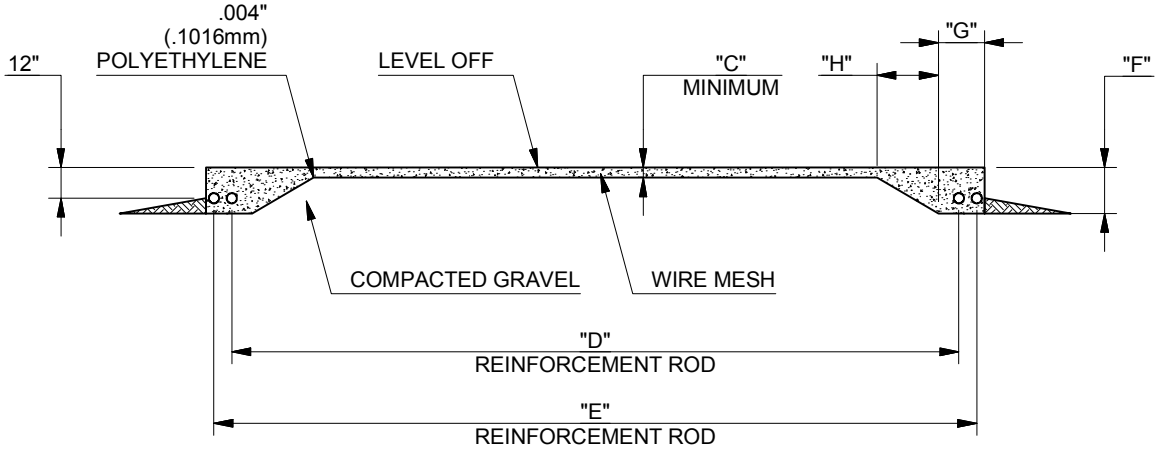
3. Once the forms have been prepared, begin the placement of reinforcement rods in your foundation (see foundation drawing details). These reinforcement rods offer their greatest strength when they have been joined together, either by weld or wire. 6" x 6" (15.24 x 15.24cm) wire mesh, covering the entire area of the foundation, completes preparation before beginning concrete pouring.

4. Concrete must have a minimum compressive strength of 3,000lb/sq. in. (20.7MPa) after 28 days.

5. Foundation surface must be level. Sloped floors cannot be used in drying bins.

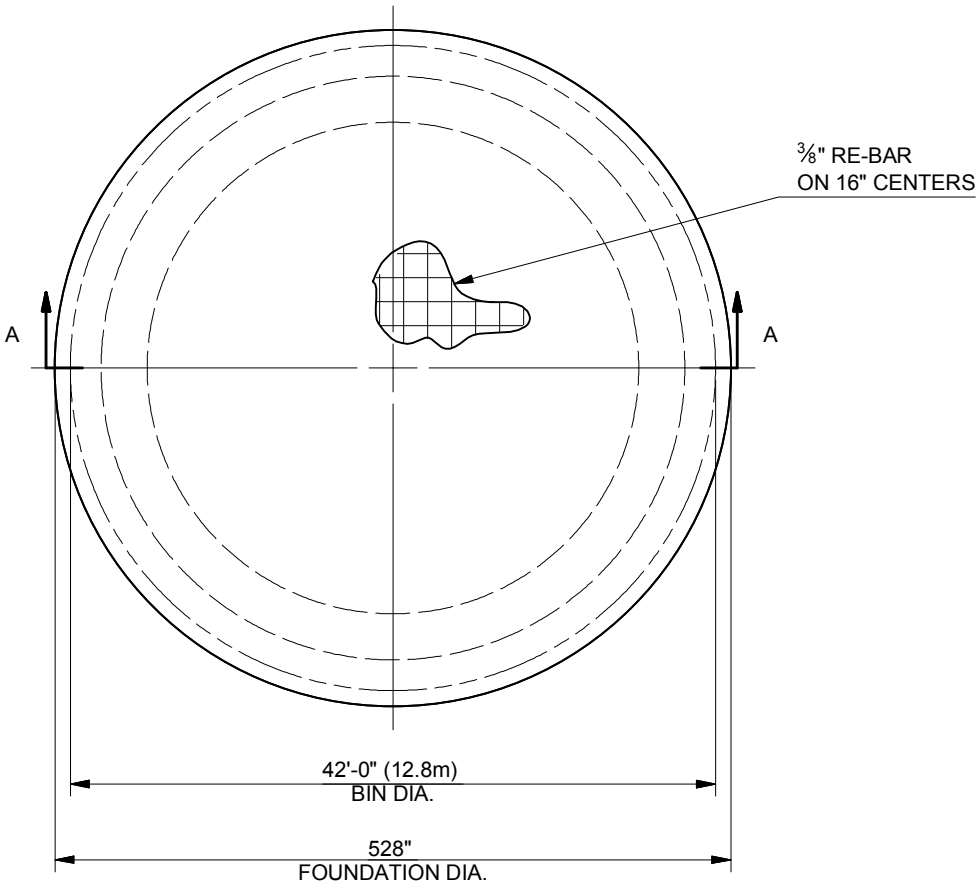
6. If, for one reason or another, bin cannot be erected immediately, component parts, especially ring sheets, should be stored in a dry location. The infiltration of a small film of water between piled ring sheet can leave a hard to remove whitish stain on the steel; although they do not impair sheets galvanized coating

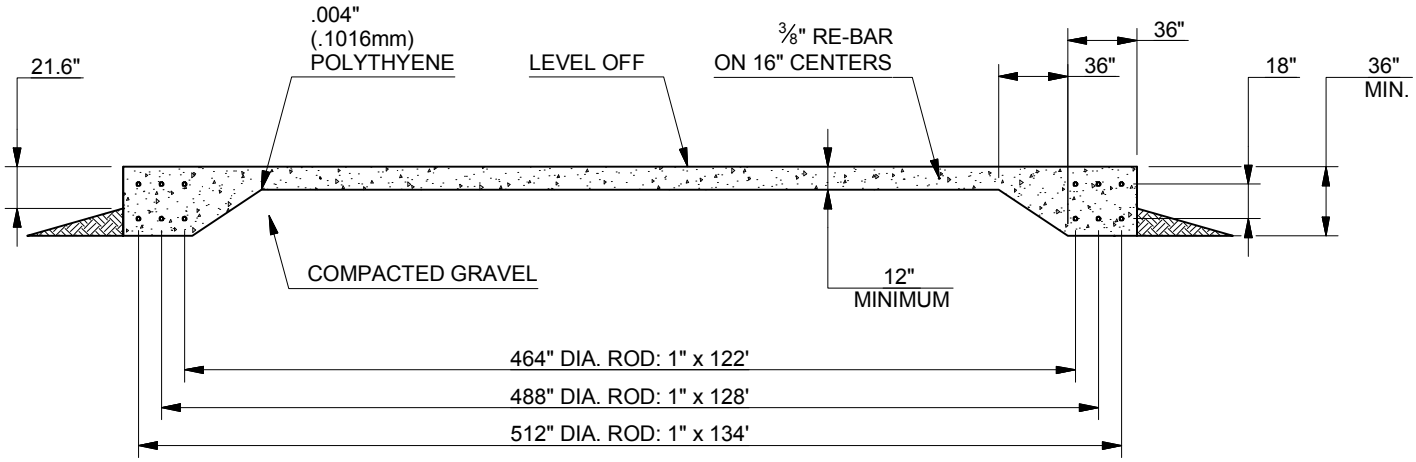




SECTION A-A

Bin Dia. "A"	Man. No.	Fdn Dia "B"	"C" (Minimum)	Dia "D"	Dia "E"	Rod Size "D"	Rod Size "E"	"F"	"G"	"H"	Concrete Quantity (Approx.)
15'-0" (4.57m)	2-0899-04633	196"	4"	176"	190"	4" x 50'	4" x 54'	18"	18"	24"	7.25yd^3
18'-0" (5.49m)	2-0889-04635	232"	4"	212"	226"	4" x 58'	4" x 62'	18"	18"	24"	9.25yd^3
21'-0" (6.40m)	2-0889-04637	268"	4"	248"	262"	4" x 68'	4" x 72'	18"	18"	24"	11.5yd^3
24'-0" (7.32m)	2-0889-04639	304"	4"	284"	298"	4" x 77'	4" x 81'	18"	18"	24"	14yd^3
27'-0" (8.23m)	2-0899-04641	340"	4"	320"	334"	4" x 87'	4" x 91'	18"	18"	24"	16.5yd^3
30'-0" (9.14m)	2-0899-04643	376"	4"	356"	370"	4" x 96'	4" x 100'	18"	18"	24"	19.25yd^3
33'-0" (10.06m)	2-0899-04645	412"	6"	392"	406"	3/4" x 106'	3/4" x 110'	20"	18"	24"	28yd^3
36'-0" (10.97m)	2-0899-04647	448"	6"	428"	448"	3/4" x 114'	3/4" x 118'	20"	18"	24"	32yd^3


⅜" RE-BAR
ON 16" CENTERS
A
A
42'-0" (12.8m)
BIN DIA.
528"
FOUNDATION DIA.


.004"
(.1016mm)
POLYTHYENE
LEVEL OFF
⅜" RE-BAR
ON 16" CENTERS
36"
36"
18"
36"
MIN.
21.6"
COMPACTED GRAVEL
12"
MINIMUM
464" DIA. ROD: 1" x 122'
488" DIA. ROD: 1" x 128'
512" DIA. ROD: 1" x 134'

SECTION A-A

42' GRAIN BIN FOUNDATION

NOTE: This foundation is unsuitable to bins equipped with aeration system.

IMPORTANT

All foundation specifications shall be interpreted as recommendations only. Because of the many variable conditions in actual installation, the manufacturer assumes no liability for results arising from the use of such recommendations. However these minimum standards must be respected to assure bin warranty applicability.

FOUNDATION SPECIFICATIONS

1. All foundations must be designed on a leveled soil bearing 3,000lb/sq. ft. (14,646kg/m2). When in doubt, consult a local civil engineer.

2. All soil or organic material on the site of the foundation must be excavated and replaced by porous frost-proof material to provide proper draining under foundation and reduce frosting problems (gravel, sand, ballast, crushed stone). This underlying basis is then compacted and covered with polyethylene plastic which will act as a moisture barrier.

3. Once the forms have been prepared, begin the placement of reinforcement rods in your foundation (see foundation drawing details). These reinforcement rods offer their greatest strength when they have been joined together, either by weld or wire. $\frac{3}{8}$" re-bar on 16" centers, covering the entire area of the foundation, completes preparation before beginning concrete pouring.

4. Concrete must have a minimum compressive strength of 3,000lb/sq. in. (20.7MPa) after 28 days.

5. Concrete approximative quantity for this foundation is 95.25yd3 (72.82m3).

6. Foundation surface must be level. Sloped floors cannot be used in drying bins.

7. If, for one reason or another, bin cannot be erected immediately, component parts, especially ring sheets, should be stored in a dry location. The infiltration of a small film of water between piled ring sheet can leave a hard to remove whitish stain on the steel; although they do not impair sheets galvanized coating.

STANDARD BIN UNSTIFFENED

Dia.	Standard Bin Unstiffened	12' Floor Bin	Sidewall Gauge									
			1	2	3	4	5	6	7	8	9	10
15' 0" (4.57 m)	4-215-2003	4-315-2103	18	20	20							
	4-215-2004	4-315-2104	17	18	20	20						
	4-215-2005	4-315-2105	15	17	18	20	20					
	4-215-2006	4-315-2106	14	15	17	18	20	20				
	4-215-2007	4-315-2107	13	14	15	17	18	20	20			
	4-215-2008	4-315-2108	12	13	14	15	17	18	20	20		
18' 0" (5.49m)	4-218-2003	4-318-2103	18	20	20							
	4-218-2004	4-318-2104	16	17	20	20						
	4-218-2005	4-318-2105	15	17	18	20	20					
	4-218-2006	4-318-2106	14	15	16	18	20	20				
	4-218-2007	4-318-2107	13	14	15	16	18	20	20			
	4-218-2008	4-318-2108	12	13	14	15	16	18	20	20		
21' 0" (6.40m)	4-221-2003	4-321-2103	17	20	20							
	4-221-2004	4-321-2104	15	17	20	20						
	4-221-2005	4-321-2105	14	16	18	20	20					
	4-221-2006	4-321-2106	13	14	16	18	20	20				
	4-221-2007	4-321-2107	12	13	14	16	18	20	20			
	4-221-2008	4-321-2108	12	13	13	14	16	18	18	20		
24' 0" (7.32m)	—	—	—	—	—	—	—	—	—	—	—	—
	4-224-2004	4-324-2104	15	17	18	20						
	4-224-2005	4-324-2105	14	16	17	18	20					
	4-224-2006	4-324-2106	13	14	16	17	18	20				
	4-224-2007	4-324-2107	12	13	14	16	17	18	20			
	—	—	—	—	—	—	—	—	—	—	—	—
27' 0" (8.23m)	—	—	—	—	—	—	—	—	—	—	—	—
	4-227-2004	4-327-2104	15	17	18	20						
	4-227-2005	4-327-2105	14	15	17	18	20					
	4-227-2006	4-327-2106	13	14	15	17	18	20				
	4-227-2007	4-327-2107	12	13	14	15	17	18	20			
	—	—	—	—	—	—	—	—	—	—	—	—

STANDARD BIN UNSTIFFENED

Dia.	Standard Bin	12' Floor Bin	Sidewall Gauge									
			1	2	3	4	5	6	7	8	9	10
30' 0" (9.14 m)	4-230-2004	—-	14	15	17	18						
	4-230-2005	—-	14	15	16	17	18					
	4-230-2006	—-	13	14	15	16	17	18				
	4-230-2007	—-	12	13	14	15	16	17	18			
	—	—-	—	—	—	—	—	—	—-	—	—	—
	—	—-	—	—	—	—	—	—	—-	—	—	—
33' 0" (10.06)	4-233-2004	—-	14	15	17	18						
	4-233-2005	—-	14	15	16	17	18					
	4-233-2006	—-	13	14	15	16	17	18				
	4-233-2007	—-	12	13	14	15	16	17	18			
	—	—-	—	—	—	—	—	—	—-	—	—	—
	—	—-	—	—	—	—	—	—	—-	—	—	—
36' 0" (10.97m)	4-236-2004	—-	14	15	17	18						
	4-236-2005	—-	14	15	16	17	18					
	4-236-2006	—-	13	14	15	16	17	18				
	4-236-2007	—-	12	13	14	15	16	17	18			
	—	—-	—	—	—	—	—	—	—-	—	—	—
	—	—-	—	—	—	—	—	—	—-	—	—	—
42' 0" (12.80m)	4-242-2004	—-	14	15	17	18						
	4-242-2005	—-	13	14	15	17	18					
	4-242-2006	—-	12	13	14	15	17	18				
	4-242-2007	—-	12	12	13	14	15	17	18			
	—	—-										
	—	—-										

STANDARD BIN STIFFENED

Dia.	Standard Bin Stiffened	Sidewall Gauge											
		1	2	3	4	5	6	7	8	9	10	11	12
18' 0" (5.49m)	4-218-3008	18	18	20	20	20	20	20	20				
	4-218-3009	18	18	18	20	20	20	20	20	20			
	4-218-3010	17	18	18	18	20	20	20	20	20	20		
	4-218-3011	17	17	18	18	18	20	20	20	20	20	20	
	4-218-3012	17	17	17	18	18	18	20	20	20	20	20	20
	—	-—	—-	—	——	—	-—	—	—	—-	—	——	—
21' 0" (6.40m)	4-221-3008	18	18	20	20	20	20	20	20				
	4-221-3009	18	18	18	20	20	20	20	20	20			
	4-221-3010	17	18	18	18	20	20	20	20	20	20		
	4-221-3011	17	17	18	18	18	20	20	20	20	20	20	
	4-221-3012	17	17	17	18	18	18	20	20	20	20	20	20
	—	-—	—-	—	——	—	-—	—	—	—-	—	——	—
24' 0" (7.32m)	4-224-3008	17	18	20	20	20	20	20	20				
	4-224-3009	17	18	18	20	20	20	20	20	20			
	4-224-3010	17	18	18	18	20	20	20	20	20	20		
	4-224-3011	17	17	18	18	18	20	20	20	20	20	20	
	4-224-3012	17	17	17	18	18	18	20	20	20	20	20	20
	—	-—	—-	—	——	—	-—	—	—	—-	—	——	—
27' 0" (8.23m)	4-227-3008	17	18	18	20	20	20	20	20				
	4-227-3009	17	18	18	18	20	20	20	20	20			
	4-227-3010	17	17	18	18	18	20	20	20	20	20		
	4-227-3011	17	17	17	18	18	18	20	20	20	20	20	
	4-227-3012	16	17	17	17	18	18	18	20	20	20	20	20
	—	-—	—-	—	——	—	-—	—	—	—-	—	——	—

STANDARD BIN STIFFENED

Dia.	Standard Bin Stiffened	Sidewall Gauge											
		1	2	3	4	5	6	7	8	9	10	11	12
30' 0" (9.14m)	4-230-03008	16	17	17	18	18	20	20	20				
	4-230-3009	15	16	17	17	18	18	20	20	20			
	4-230-3010	14	15	16	17	17	18	18	20	20	20		
	4-230-3011	14	15	16	16	17	17	18	18	20	20	20	
	4-230-3012	13	14	15	16	16	17	17	18	18	20	20	20
33' 0" (10.06m)	4-233-3008	15	16	17	17	18	18	20	20				
	4-233-3009	14	15	16	17	17	18	18	20	20			
	4-233-3010	14	15	16	16	17	17	18	18	20	20		
	4-233-3011	14	15	15	16	16	17	17	18	18	20	20	
	4-233-3012	13	14	15	15	16	16	17	17	18	18	20	20
36' 0" (10.97m)	4-236-3008	15	16	16	17	17	18	18	20				
	4-236-3009	14	15	16	16	17	17	18	18	20			
	4-236-3010	14	15	15	16	16	17	17	18	18	20		
	4-236-3011	14	14	15	15	16	16	17	17	18	18	20	
	4-236-3012	13	14	14	15	15	16	16	17	17	18	18	20
42' 0" (12.08m)	4-242-3008	15	15	16	16	17	17	18	18				
	4-242-3009	14	15	15	16	16	17	17	18	18			
	4-242-3010	14	14	15	15	16	16	17	17	18	18		
	4-242-3011	13	14	14	15	15	16	16	17	17	18	18	
	4-242-3012	13	13	14	14	15	15	16	16	17	17	18	18

HOPPER MOUNT UNSTIFFENED

Dia.	Hopper Cone Mount Unstiffened	Sidewall Gauge									
		1	2	3	4	5	6	7	8	9	10
12' 0" (3.66m)	4-212-2202	18	20								
	4-212-2203	16	18	20							
	4-212-2204	16	17	18	20						
	4-212-2205	15	16	17	18	20					
	—	—	—	—	—	—	—	—	—	—	—
15' 0" (4.57m)	4-215-2203	16	18	20							
	4-215-2204	16	17	18	20						
	4-215-2205	15	16	17	18	20					
	4-215-2206	13	14	15	17	20	20				
	4-215-2207	12	13	13	14	15	18	20			
18' 0" (5.49m)	4-218-2203	17	18	20							
	4-218-2204	16	17	18	20						
	4-218-2205	15	16	17	18	20					
	4-218-2206	13	14	15	17	20	20				
	4-218-2207	12	13	13	14	15	18	20			
21' 0" (6.40m)	4-221-2203	16	18	20							
	4-221-2204	15	16	18	20						
	4-221-2205	14	15	16	18	20					
	4-221-2206	13	14	15	17	18	20				
	4-221-2207	12	13	13	14	15	18	20			
24' 0" (7.32m)	4-224-2203	16	18	20							
	4-224-2204	15	16	18	20						
	4-224-2205	14	15	16	18	20					
	4-224-2206	13	14	15	16	18	20				
	—	—	—	—	—	—	—	—	—	—	—
27' 0" (8.23m)	4-227-2203	16	18	20							
	4-227-2204	15	16	18	20						
	4-227-2205	14	15	16	18	20					
	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—

HOPPER MOUNT STIFFENED

Dia.	Hopper Cone Mount Stiffened	Sidewall Gauge									
		1	2	3	4	5	6	7	8	9	10
12' 0" (3.66m)	4-212-3205	16	17	18	18	20					
	4-212-3206	15	16	17	18	18	20				
	4-212-3207	14	15	16	17	18	18	20			
	4-212-3208	13	14	15	16	17	18	18	20		
	4-212-3209	13	13	14	15	16	17	18	18	20	
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15' 0" (4.57m)	4-215-3205	16	17	18	18	20					
	4-215-3206	15	16	17	18	18	20				
	4-215-3207	14	15	16	17	18	18	20			
	4-215-3208	17	18	18	20	20	20	20	20		
	4-215-3209	17	18	18	18	20	20	20	20	20	
	4-215-3210	17	18	18	18	20	20	20	20	20	20
18' 0" (5.49m)	4-218-3205	16	17	18	18	20					
	4-218-3206	15	16	17	18	18	20				
	4-218-3207	14	15	16	17	18	18	20			
	4-218-3208	17	18	18	20	20	20	20	20		
	4-218-3209	17	18	18	18	20	20	20	20	20	
	4-218-3209	17	18	18	18	20	20	20	20	20	20
21' 0" (6.40m)	4-221-3205	16	17	18	18	20					
	4-221-3206	15	16	17	18	18	20				
	4-221-3207	14	15	16	17	18	18	20			
	4-221-3208	17	18	18	20	20	20	20	20		
	4-221-3209	17	18	18	18	20	20	20	20	20	
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24' 0" (7.32m)	4-224-3205	16	17	18	18	20					
	4-224-3206	15	16	17	18	18	20				
	4-224-3207	14	15	16	17	18	18	20			
	4-224-3208	17	18	18	20	20	20	20	20		
	4-224-3209	17	18	18	18	20	20	20	20	20	
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HOPPER MOUNT STIFFENED

Dia.	Hopper Cone Mount Stiffened	Sidewall Gauge									
		1	2	3	4	5	6	7	8	9	10
27' 0" (8.23m)	4-227-3205	16	17	18	18	20					
	4-227-3206	15	16	17	18	18	20				
	4-227-3207	14	15	16	17	18	18	20			
	4-227-3208	13	14	15	16	17	18	18	20		
	4-227-3209	12	13	14	15	16	17	18	18	20	
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AERATION BIN UNSTIFFENED

Dia.	Aeration Bin Unstiffened	Sidewall Gauge									
		1	2	3	4	5	6	7	8	9	10
15' 0" (4.57)	4-315-2103	18	20	20							
	4-315-2104	17	18	20	20						
	4-315-2105	15	17	18	20	20					
	4-315-2106	14	15	17	18	20	20				
	4-315-2107	13	14	15	17	18	20	20			
18' 0" (5.49)	4-318-2103	18	20	20							
	4-318-2104	16	17	20	20						
	4-318-2105	15	17	18	20	20					
	4-318-2106	14	15	16	18	20	20				
	4-318-2107	13	14	15	16	18	20	20			
21' 0" (6.40m)	4-321-2103	17	20	20							
	4-321-2104	15	17	20	20						
	4-321-2105	14	16	18	20	20					
	4-321-2106	13	14	16	18	20	20				
	4-321-2107	12	13	14	16	18	20	20			
24' 0" (7.32m)	---	---	---	---	---	---	---	---	---	---	---
	4-324-2104	15	17	18	20						
	4-324-2105	14	16	17	18	20					
	4-324-2106	13	14	16	17	18	20				
	4-324-2107	12	13	14	16	17	18	20			
27' 0" (8.23m)	---	---	---	---	---	---	---	---	---	---	---
	4-327-2104	15	17	18	20						
	4-327-2105	14	15	17	18	20					
	4-327-2106	13	14	15	17	18	20				
	4-327-2107	12	13	14	15	17	18	20			

AERATION BIN UNSTIFFENED

Dia.	Aeration Bin Unstiffened	Sidewall Gauge									
		1	2	3	4	5	6	7	8	9	10
30' 0" (9.14m)	4-330-2104	14	15	17	18						
	4-330-2105	14	15	16	17	18					
	4-330-2106	13	14	15	16	17	18				
	4-330-2107	12	13	14	15	16	17	18			
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33' 0" (10.06m)	4-333-2104	14	15	16	18						
	4-333-2105	14	15	16	17	18					
	4-333-2106	13	14	15	16	17	18				
	4-333-2107	12	13	14	15	16	17	18			
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36' 0" (10.97m)	4-336-2104	14	15	17	18						
	4-336-2105	14	15	16	17	18					
	4-336-2106	13	14	15	16	17	18				
	4-336-2107	12	13	14	15	16	17	18			
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42' 0" (12.80m)	4-342-2104	14	15	17	18						
	4-342-2105	13	14	15	17	18					
	4-342-2106	12	13	14	15	17	18				
	4-342-2107	12	12	13	14	15	17	18			
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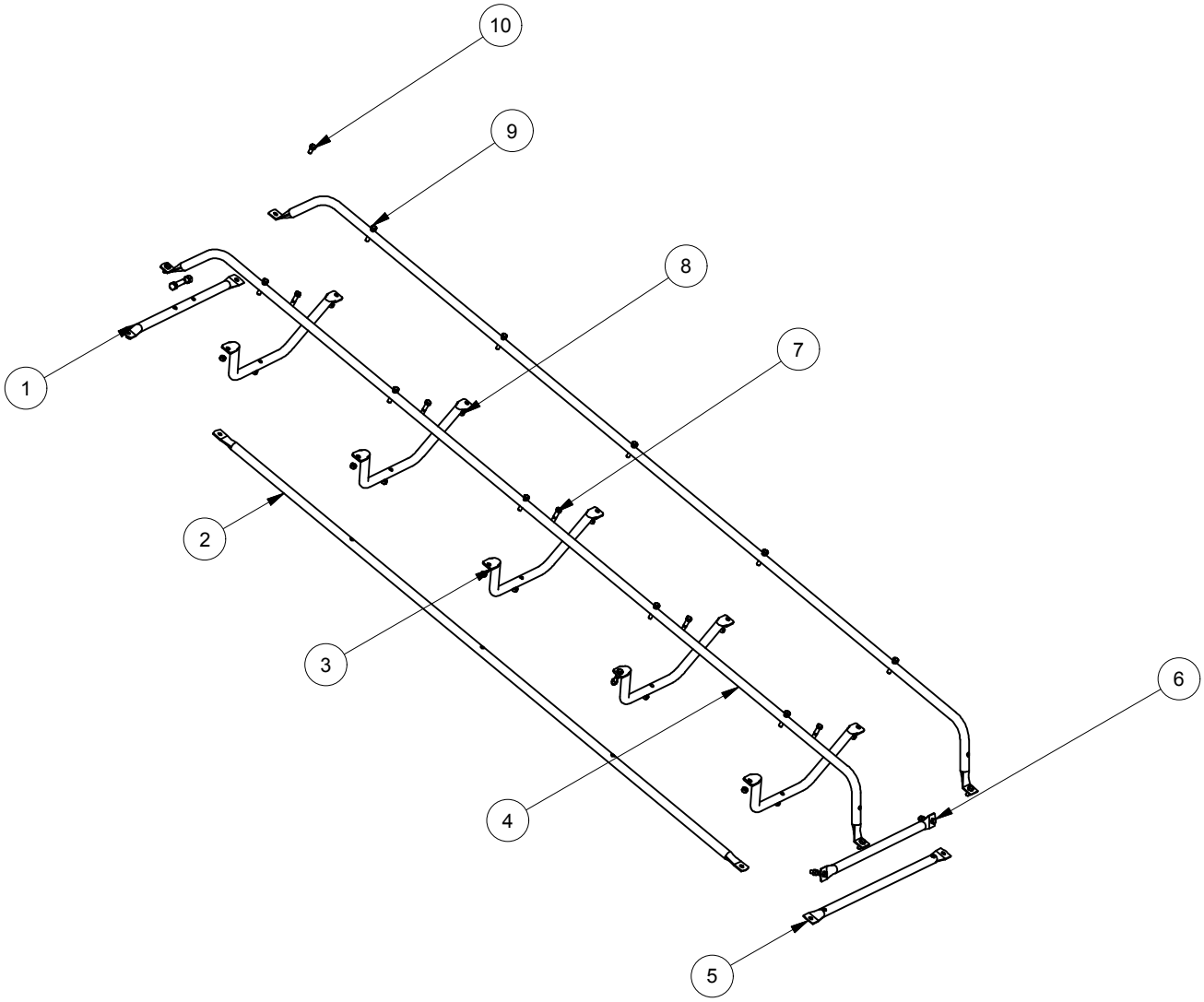
AERATION BIN STIFFENED

Dia.	Aeration Bin Stiffened	Sidewall Gauge											
		1	2	3	4	5	6	7	8	9	10	11	12
18' 0" (5.48)	4-318-3108	18	18	20	20	20	20	20	20				
	4-318-3109	18	18	18	20	20	20	20	20	20			
	4-318-3110	17	18	18	18	20	20	20	20	20	20		
	4-318-3111	17	17	18	18	18	20	20	20	20	20	20	
	4-318-3112	17	17	17	18	18	18	20	20	20	20	20	20
21' 0" (6.40m)	4-321-3108	18	18	20	20	20	20	20	20				
	4-321-3109	18	18	18	20	20	20	20	20	20			
	4-321-3110	17	18	18	18	20	20	20	20	20	20		
	4-321-3111	17	17	18	18	18	20	20	20	20	20	20	
	4-321-3112	17	17	17	18	18	18	20	20	20	20	20	20
24' 0" (7.32m)	4-324-3108	17	18	20	20	20	20	20	20				
	4-324-3109	17	18	18	20	20	20	20	20	20			
	4-324-3110	17	18	18	18	20	20	20	20	20	20		
	4-324-3111	17	17	18	18	18	20	20	20	20	20	20	
	4-324-3112	17	17	17	18	18	18	20	20	20	20	20	20
27' 0" (8.23m)	4-327-3108	17	18	18	20	20	20	20	20				
	4-327-3109	17	18	18	18	20	20	20	20	20			
	4-327-3110	17	17	18	18	18	20	20	20	20	20		
	4-327-3111	17	17	17	18	18	18	20	20	20	20	20	
	4-327-3112	16	17	17	17	18	18	18	20	20	20	20	20

AERATION BIN STIFFENED

Dia.	Aeration Bin Stiffened	Sidewall Gauge											
		1	2	3	4	5	6	7	8	9	10	11	12
30' 0" (9.14m)	4-330-3108	16	17	17	18	18	20	20	20				
	4-330-3109	15	16	17	17	18	18	20	20	20			
	4-330-3110	14	15	16	17	17	18	18	20	20	20		
	4-330-3111	14	15	16	16	17	17	18	18	20	20	20	
	4-330-3112	13	14	15	16	16	17	17	18	18	20	20	20
33' 0" (10.06m)	4-333-3108	15	16	17	17	18	18	20	20				
	4-333-3109	14	15	16	17	17	18	18	20	20			
	4-333-3110	14	15	16	16	17	17	18	18	20	20		
	4-333-3111	14	15	15	16	16	17	17	18	18	20	20	
	4-333-3112	13	14	15	15	16	16	17	17	18	18	20	20
36' 0" (10.97 m)	4-336-3108	15	16	16	17	17	18	18	20				
	4-336-3109	14	15	16	16	17	17	18	18	20			
	4-336-3110	14	15	15	16	16	17	17	18	18	20		
	4-336-3111	14	14	15	15	16	16	17	17	18	18	20	
	4-336-3112	13	14	14	15	15	16	16	17	17	18	18	20
42' 0" (12.80m)	4-342-3108	15	15	16	16	17	17	18	18				
	4-342-3109	14	15	15	16	16	17	17	18	18			
	4-342-3110	14	14	15	15	16	16	17	17	18	18		
	4-342-3111	13	14	14	15	15	16	16	17	17	18	18	
	4-342-3112	13	13	14	14	15	15	16	16	17	17	18	18

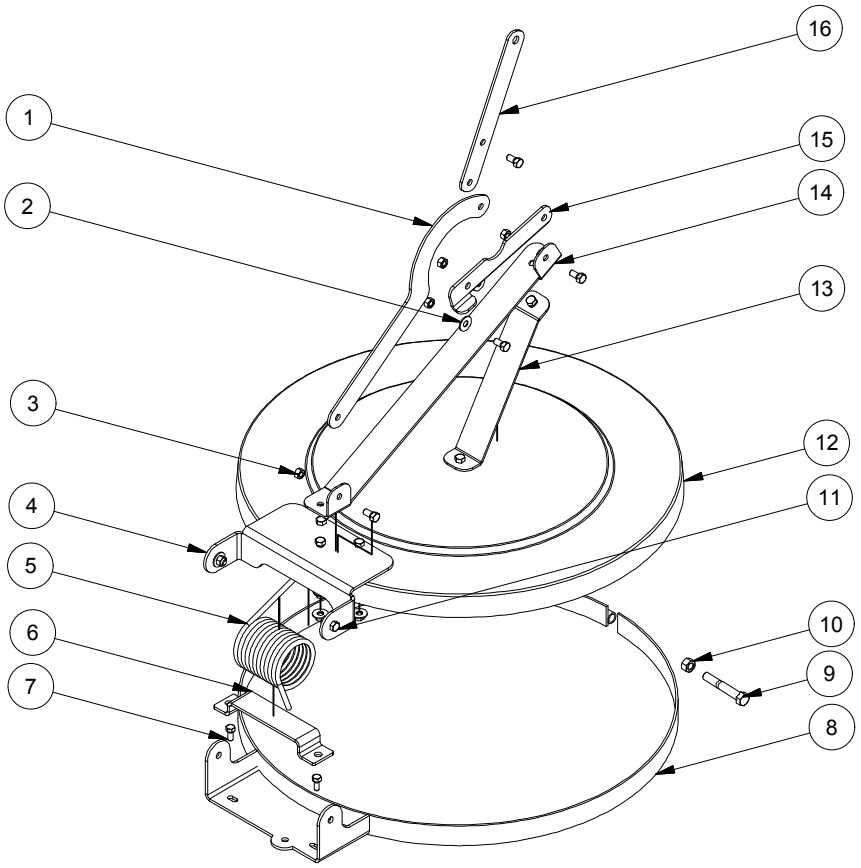
ROOF LADDER



NOTE: SHOWN HERE IS AN 18' BIN LADDER PART 3 QTY VARIES FOR SMALLER AND BIGGER BINS
ALSO PART 2 & 4 VARIES FOR BIGGER AND SMALLER BINS

BIN			
REF #	PART #	QUANTITY	DESCRIPTION
1	996604	1	Upper Rail Brace
2	996608	1	Rung Brace
3	996405	5	Ladder Rung Roof
4	996606	2	Ladder Rail
5	996607	1	Bottom Rail Brace
6	996404	1	Lower Rail Brace
7	13-0702-06032	5	Hex Cap Screw - 3/8 x 2"
8	13-0725-00006	20	Hex Nuts - 3/8
9	13-0702-06028	13	Hex Cap Screw - 3/8 x 1 3/4"
10	13-0702-06012	2	Hex Cap Screw - 3/8 - 3/4"

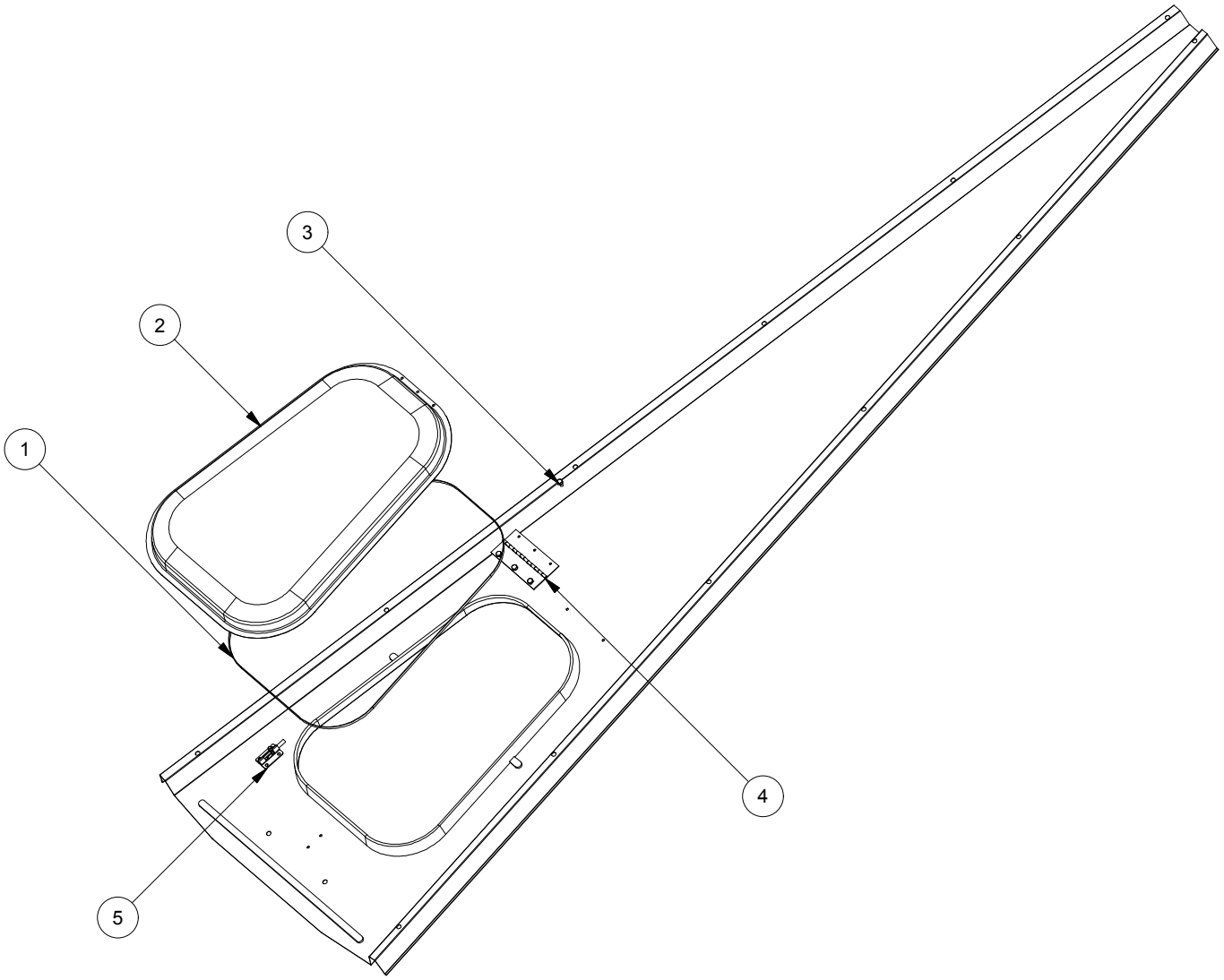
REMOTE ROOF CAP



NOTE: PART NUMBERS VARY FOR 30'-42' BINS

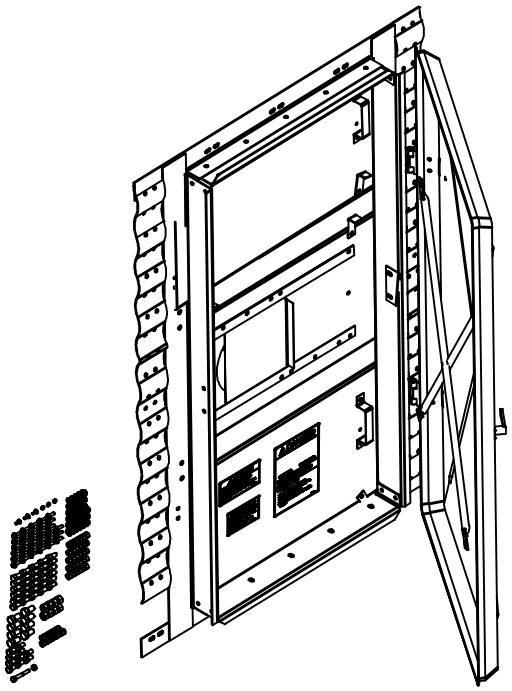
BIN			
REF #	PART #	QUANTITY	DESCRIPTION
1	217758	1	Cap Link
2	13-0735-00006	4	Plain Washer - 3/8"
3	13-0723-00006	6	Nylon Lock Nuts - 3/8"
4	217753	1	Upper Plate
5	217759S	1	Roof Cap Spring
6	217756	1	Spring Holder
7	13-0702-05012	2	Hex Cap Screw - 3/8 x 1"
8	215214S	1	Cap Clamp
9	13-0702-06048	1	Hex Cap Screw - 3/8 x 3"
10	13-0725-00008	8	Hex Nuts - 3/8"
11	13-0702-06016	11	Hex Cap Screw - 3/8 x 1"
12	215213	1	Cap Tank Roof
13	217751	1	Z - Brace
14	217755	1	Lift Bracket
15	217754	1	Short Link
16	217757	1	Long Link

INSPECTION HATCH



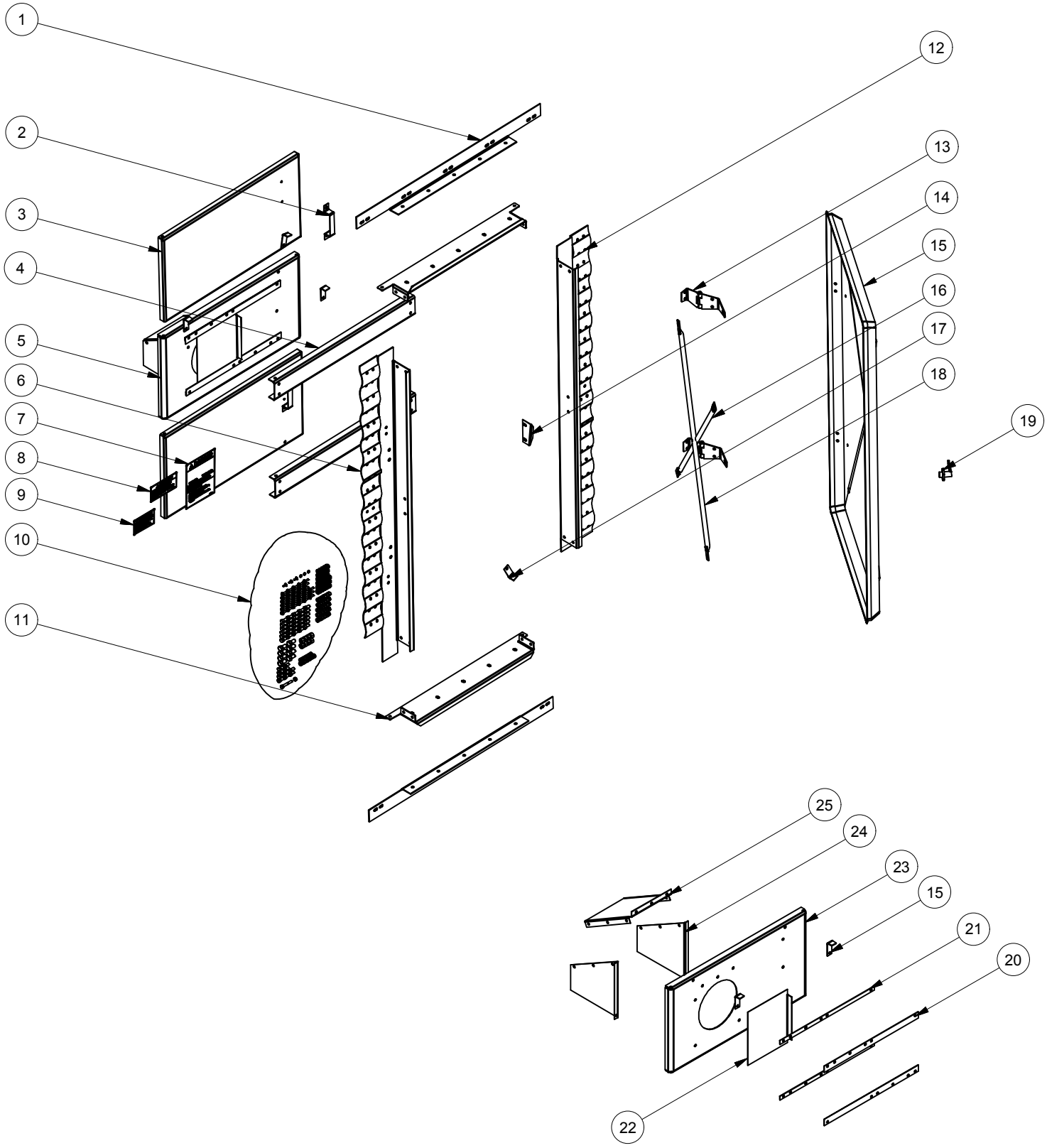
BIN			
REF #	PART #	QUANTITY	DESCRIPTION
1	3-203-0093	1	Manhole & Lid Rubber Gasket
2	3-201-2016	1	Man-Hole Cover
3	3-732-1025	10	3/16" Rivet - Bin Roof Sheet
4	3-201-2015	1	Hinge - Bin Manhole
5	3-201-2018	1	Latch Barrel Bolt

DOOR - STANDARD

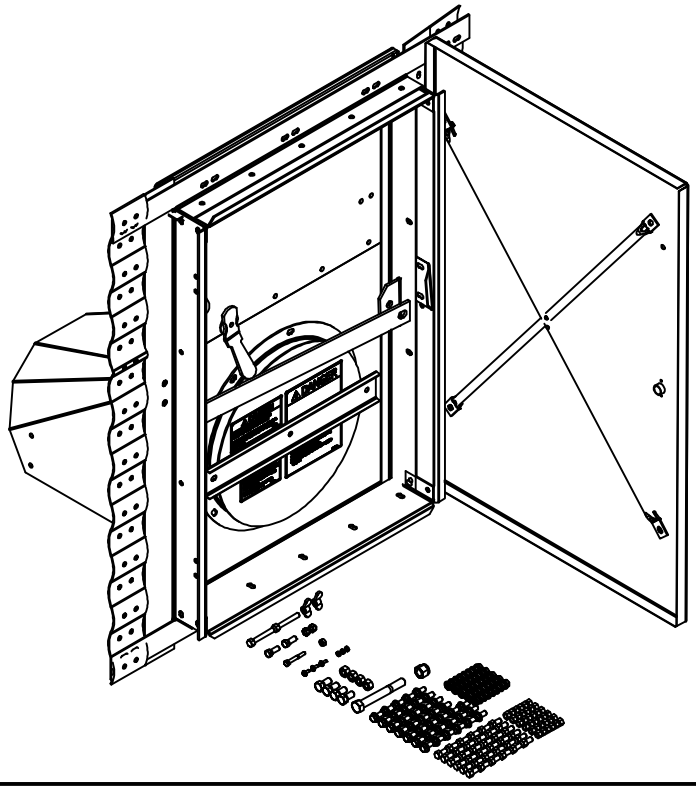


BIN			
REF #	PART #	QUANTITY	DESCRIPTION
1	3-201-2306	2	Door Flashing - 10ga
2	3-738-9107	2	Handle
3	3-201-2323	2	Inner Door Panel
4	3-201-2310	2	Reinforcing Bar - Bin Std Door
5	3-201-2320	1	Inspection Hatch
6	3-201-2304	1	Door Jamb - RH - 10Ga
7	2-899-2005	1	Decal - Suffocation
8	2-899-2003	1	Decal - Cautiom
9	2-899-2004	1	Decal Bin - Aeration - Small
10	3-201-2301	1	Hardware Bag - Bin Door - Standard
11	3-201-2308	2	Door Frame - Top&Bottom
12	3-201-2302	1	Door Jamb - LH - 10Ga
13	3-201-2318	2	Hinge
14	3-201-4007	1	Door Catch
15	3-201-2317	1	Door Outer
16	3-201-2315	1	Dented Stiffner - Bin Door
17	3-201-2324	2	Pressure Latch
18	3-201-2314	1	Reinforcing Bar - Bin Std Door
19	1-738-9104	1	Door Handle - Outer Door, Bin
20	3-201-2326	2	Inspection Port Slide
21	3-201-2327	2	Slide - 3/4"
22	3-201-2328	1	Sliding Door
23	3-201-2325	1	Inspection Panel
24	3-201-2331	1	Inpection Port Hood - RH
25	3-201-2330	1	Inspection Port Hood - LH
26	3-201-2329	1	Inspection Port Hood - Top

DOOR - STANDARD

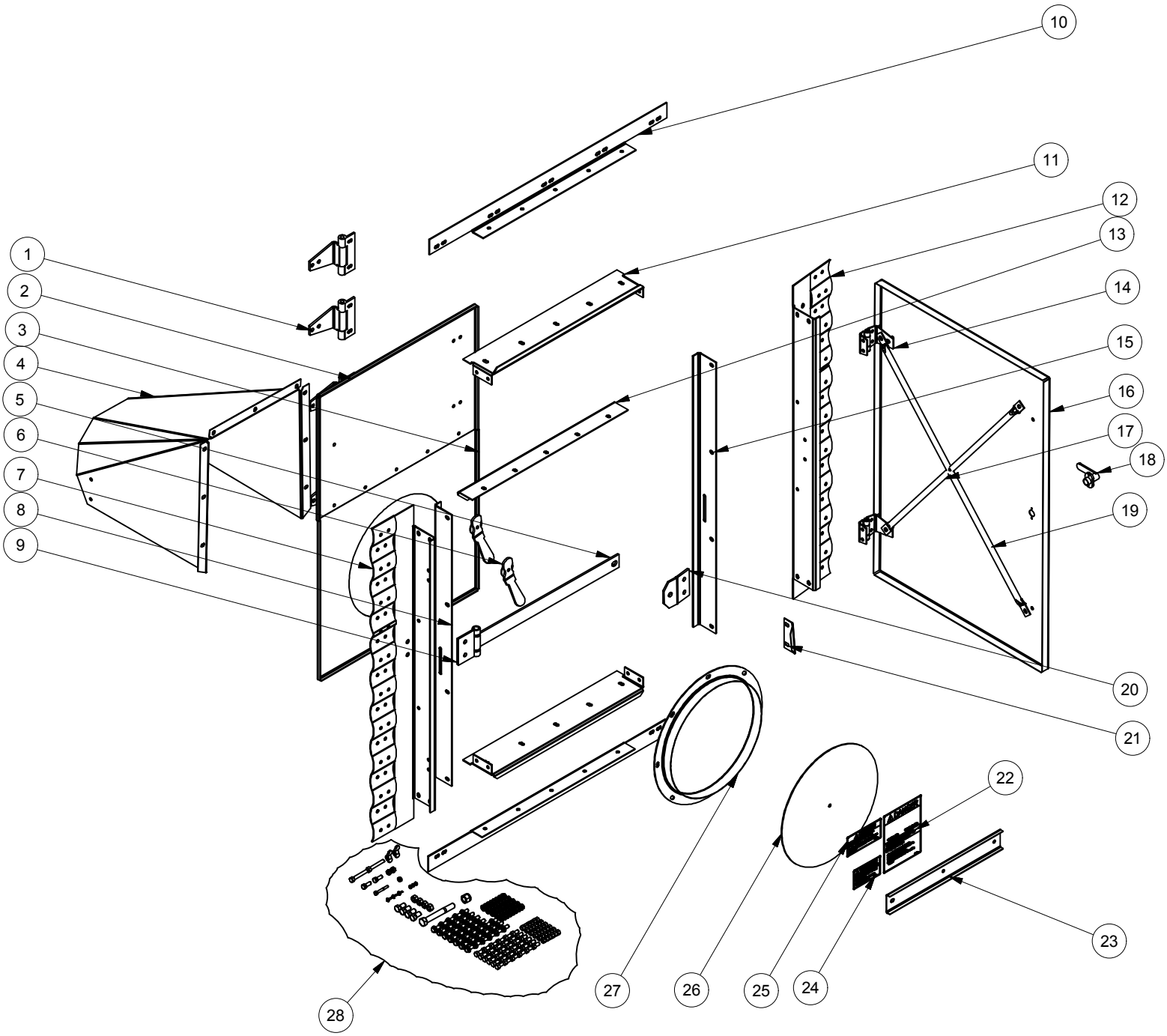


DOOR - LOW PROFILE

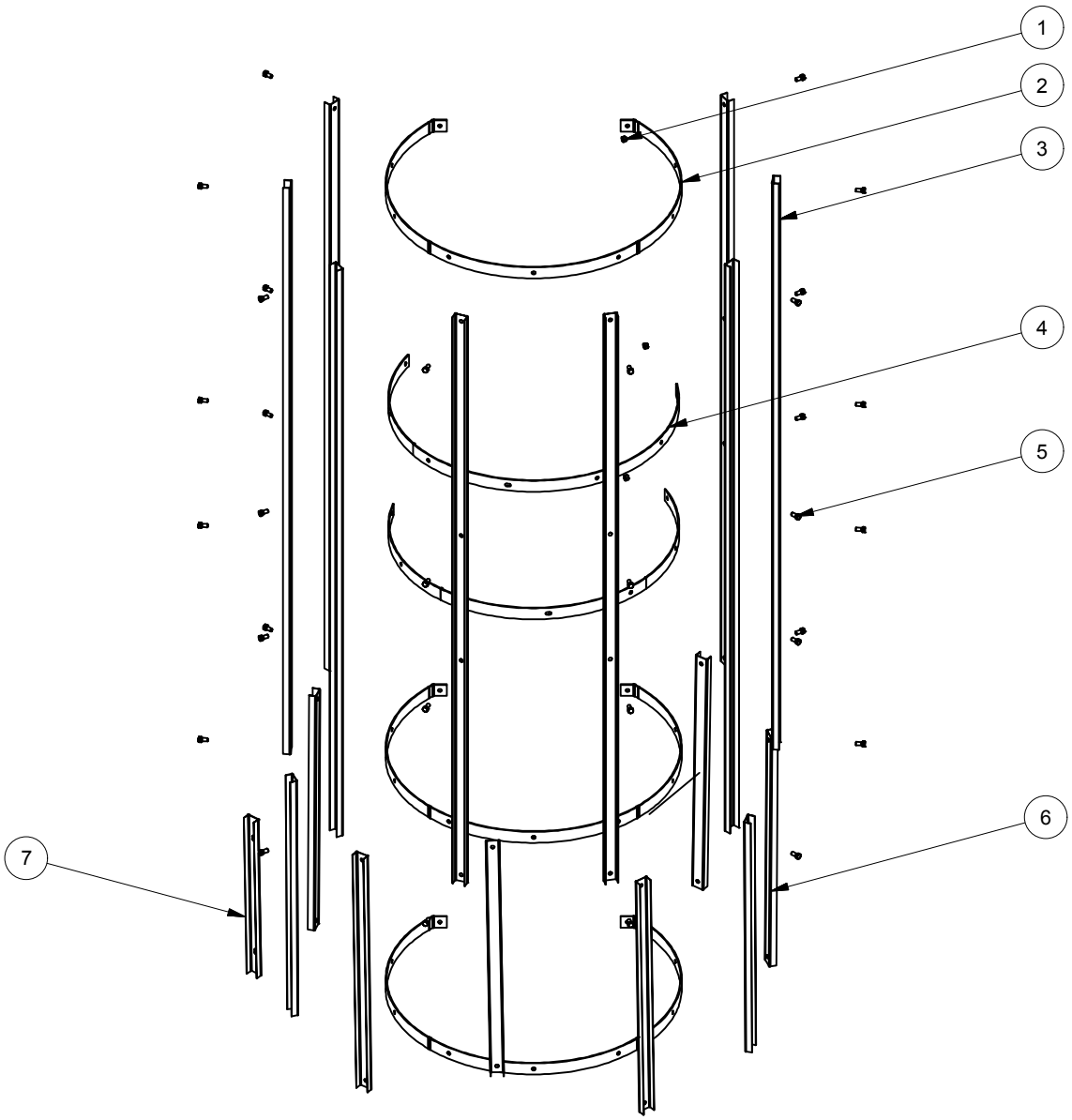


BIN			
REF #	PART #	QUANTITY	DESCRIPTION
1	3-201-4017	4	Hinge - Inner Door
2	3-201-4015	1	Top Inner Door
3	3-201-4013	1	Auger Chute Door
4	3-201-4019	1	Chute Auger
5	3-201-4009	1	Tie Bar
6	3-201-4016	2	Inner door latch
7	3-201-4000	1	Door Frame LH
8	3-201-4004	1	Door Filler LH
9	3-201-4008	1	Tie Bar Hinge
10	3-201-2306	2	Auger Chute Bracket
11	3-201-4002	2	Door Frame (Top & Bottom)
12	3-201-4001	1	Door Frame LH
13	3-201-4018	1	Inner Door Stiffner
14	3-201-4003	2	Hinge - Door Outer
15	3-201-4005	1	Door Filler RH
16	3-201-4020	1	Outer Door
17	3-201-2314	1	Reinforcing Bar - Bin Std Door
18	1-738-9104	1	Door Handle - Outer Door, Bin
19	3-201-2315	1	Dented Stiffner - Bin Door
20	3-201-4006	1	Bracket Tie Bar
21	3-201-4007	1	Door Catch
22	2-899-2005	1	Decal Bin - Suffocation
23	3-201-4010	1	Auger Chute Bracket
24	2-899-2004	1	Decal Bin - Aeration - Small
25	2-899-2003	1	Decal - Cautiom
26	3-201-4011	1	Auger Chute Filler
27	3-201-4012	1	Auger Chute Angle
28	3-201-4027	1	Hardware Bag - Bin Door - Low Profile

DOOR - LOW PROFILE



SAFETY CAGE



BIN			
REF #	PART #	QUANTITY	DESCRIPTION
1	3-729-0356	75	Hex Nuts - 3/8 Heavy Finished
2	3-202-2067	8	81" horizontal Support
3	3-202-2068	14	77" Vertical Support
4	3-202-2071	2	61.5"" horizontal Support
5	13-0702-06012	75	Hex Cap Screw - 3/8 x 3/4"
6	3-202-2069	7	31.5"" Vertical Support
7	3-202-2070	14	21"" Vertical Support

ROOF KITS

Dia.	P/N	QTY.	Description
12' (3.66m)	3-212-2000R		Kit Roof - 12'
	3-212-2000	23	Standard Roof Sheet - 12'
	3-212-2004	1	Assembly, Manhole Roof Sheet - 12'
	3-212-2050	2	Stiffner, bin roof - 16Ga -12'
15' (4.57m)	3-215-2000R		Kit Roof - 15'
	3-215-2000	23	Standard Roof Sheet - 15'
	3-215-2004	1	Assembly, Manhole Roof Sheet - 15'
	3-215-2050	2	Stiffner, bin roof - 16Ga -15'
18' (5.49m)	3-218-2000R		Kit Roof - 18'
	3-218-2000	23	Standard Roof Sheet - 18'
	3-218-2004	1	Assembly, Manhole Roof Sheet - 18'
	3-218-2050	2	Stiffner, bin roof - 16Ga - 18'
21' (6.4m)	3-221-2000R		Kit Roof - 21'
	3-221-2000	23	Standard Roof Sheet - 21'
	3-221-2004	1	Assembly, Manhole Roof Sheet - 21'
	3-221-2050	2	Stiffner, bin roof - 16Ga - 21'
24' (7.32m)	3-224-2000R		Kit Roof - 24'
	3-224-2000	23	Standard Roof Sheet - 24'
	3-224-2004	1	Assembly, Manhole Roof Sheet - 24'
	3-224-2050	2	Stiffner, bin roof - 16Ga - 24'
27' (8.23m)	3-227-2000R		Kit Roof - 27'
	3-227-2000	23	Standard Roof Sheet - 27'
	3-227-2004	1	Assembly, Manhole Roof Sheet - 27'
	3-227-2050	2	Stiffner, bin roof - 16Ga - 27'
30' (9.14m)	3-230-2000R		Kit Roof - 30'
	3-230-2000	29	Standard Roof Sheet - 30'
	3-230-2004	1	Assembly, Manhole Roof Sheet - 30'
	3-230-2050	2	Stiffner, bin roof - 16Ga - 30'
33' (10.06m)	3-233-2000R		Kit Roof - 33'
	3-233-2000	32	Standard Roof Sheet - 33'
	3-233-2004	1	Assembly, Manhole Roof Sheet - 33'
	3-233-2050	2	Stiffner, bin roof - 16Ga - 33'
36' (10.97m)	3-236-2000R		Kit Roof - 36'
	3-236-2000	35	Standard Roof Sheet - 36'
	2-236-2004	1	Assembly, Manhole Roof Sheet - 36'
	3-236-2050	2	Stiffner, bin roof - 16Ga - 36'
42' (12.80m)	3-242-2000R		Kit Roof - 42'
	3-242-2000	41	Standard Roof Sheet - 42'
	2-242-2004	1	Assembly, Manhole Roof Sheet - 42'
	2-246-2050	2	Stiffner, bin roof - 16Ga - 42'

ROOF RIM BUNDLES

Dia.	P/N	Description
12'	3-212-3002	Roof Rim Bundle 12' Dia
15'	3-215-3002	Roof Rim Bundle 15' Dia
18'	3-218-3002	Roof Rim Bundle 18' Dia
21'	3-221-3002	Roof Rim Bundle 21' Dia
24'	3-224-3002	Roof Rim Bundle 24' Dia
27'	3-227-3002	Roof Rim Bundle 27' Dia
30'	3-230-3002	Roof Rim Bundle 30' Dia
33'	3-233-3002	Roof Rim Bundle 33' Dia
36'	3-236-3002	Roof Rim Bundle 36' Dia
42'	3-242-3002	Roof Rim Bundle 42' Dia

Parts #	Page	Ref.	Parts #	Page	Ref.
215213	D2	12	3-201-2314	D4	18
217751	D2	13	3-201-2314	D6	17
217753	D2	4	3-201-2315	D4	16
217754	D2	15	3-201-2315	D6	19
217755	D2	4	3-201-2317	D4	15
217756	D2	6	3-201-2318	D4	13
217757	D2	17	3-201-2320	D4	5
217758	D2	1	3-201-2323	D4	3
996404	D1	6	3-201-2324	D4	17
996405	D1	3	3-201-2325	D4	23
996604	D1	1	3-201-2326	D4	20
996606	D1	4	3-201-2327	D4	21
996607	D1	5	3-201-2328	D4	22
996608	D1	2	3-201-2329	D4	26
13-0702-04008	D3	3	3-201-2330	D4	25
13-0702-05012	D2	7	3-201-2331	D4	24
13-0702-06012	D1	10	3-201-4000	D6	7
13-0702-06012	D2	16	3-201-4001	D6	12
13-0702-06012	D1	10	3-201-4002	D6	11
13-0702-06014	D2	11	3-201-4003	D6	14
13-0702-06028	D1	9	3-201-4004	D6	8
13-0702-06032	D1	7	3-201-4005	D6	15
13-0702-08052	D2	9	3-201-4006	D6	20
13-0723-00006	D2	3	3-201-4007	D4	14
13-0725-00006	D1	8	3-201-4007	D6	21
13-0725-00008	D2	10	3-201-4008	D6	9
13-0735-00006	D2	2	3-201-4009	D6	5
1-738-9104	D4	19	3-201-4010	D6	23
215214S	D2	8	3-201-4011	D6	26
217759S	D2	5	3-201-4012	D6	27
2-889-2003	D4	8	3-201-4013	D6	3
2-889-2003	D6	25	3-201-4015	D6	2
2-889-2004	D4	9	3-201-4016	D6	5
2-889-2004	D6	24	3-201-4017	D6	1
2-889-2005	D4	7	3-201-4018	D6	13
2-889-2005	D6	22	3-201-4019	D6	4
3-201-2015	D3	5	3-201-4020	D6	16
3-201-2016	D3	2	3-201-4027	D6	28
3-201-2018	D3	5	3-202-2067	D8	2
3-201-2302	D4	12	3-202-2068	D8	3
3-201-2304	D4	6	3-202-2069	D8	6
3-201-2306	D4	1	3-202-2070	D8	7
3-201-2306	D6	10	3-202-2071	D8	4
3-201-2308	D4	11	3-203-0093	D3	1
3-201-231	D4	10	3-729-0356	D8	1
3-201-2310	D4	4	3-738-9107	D4	2

BIN CAPACITY SPECS

SINGLE CORRUGATED FLAT BOTTOM BINS - UNSTIFFENED

BIN DIAMETER FT (m)	NUMBER OF TIERS	CAPACITY (BU)	CAPACITY TONNES (WHEAT & SOYBEANS)	CAPACITY TONNES (CORN)	CU.FT	CU.M	WALL HEIGHT* FT-IN (m)	FILLER CAP HEIGHT FT-IN (m)	LBS	KGS
15 (4.57)	3	1897	52	48	2361	66.9	11'5" (3.48)	15'7" (4.75)	1883	854
15 (4.57)	4	2462	67	62	3064	86.8	15'2" (4.62)	19'4" (5.78)	2385	1082
15 (4.57)	5	3027	82	77	3767	106.7	19' 0" (5.79)	23'1" (7.04)	2986	1354
15 (4.57)	6	3592	98	91	4070	126.6	22'9" (6.93)	26'10" (8.18)	3616	1640
15 (4.57)	7	4157	113	105	5173	146.5	26'6" (8.08)	30'8" (9.35)	4442	2015
15 (4.57)	8	4724	129	120	5879	166.5	30'04" (9.25)	34'5" (10.49)	5560	2522
18 (5.49)	3	2784	76	71	3464	98.1	11'5" (3.48)	16'5" (5.01)	2253	1022
18 (5.49)	4	3598	98	91	4477	126.8	15'2" (4.62)	20'2" (6.15)	2958	1342
18 (5.49)	5	4412	120	112	5490	155.4	19' 0" (5.79)	23'11" (7.29)	3567	1618
18 (5.49)	6	5226	142	133	6503	184.1	22'9" (6.93)	27'9" (8.46)	4421	2005
18 (5.49)	7	6040	164	153	7516	212.8	26'6" (8.08)	31'6" (9.6)	5362	2432
18 (5.49)	8	6854	187	174	8529	241.5	30'04" (9.25)	35'3" (10.75)	6679	3030
21 (6.4)	3	3860	105	98	4804	136	11'5" (3.48)	17'3" (5.26)	2706	1227
21 (6.4)	4	4968	135	126	6182	175.1	15'2" (4.62)	21'1" (6.43)	3541	1606
21 (6.4)	5	6076	165	154	7561	2141	19' 0" (5.79)	24'1" (7.57)	4268	1936
21 (6.4)	6	7184	195	182	8940	253.2	22'9" (6.93)	28'7"(8.71)	5361	2432
21 (6.4)	7	8292	226	211	10319	292.2	26'6" (8.08)	32'4" (9.86)	6673	3027
21 (6.4)	8	9400	256	239	11697	331.2	30'04" (9.25)	36'2" (11.03)	8190	3715
24 (7.32)	4	6582	179	167	8191	231.9	11'5" (3.48)	21'11" (6.68)	4044	1834
24 (7.32)	5	8029	218	204	9992	282.9	15'2" (4.62)	25'8" (7.83)	4922	2233
24 (7.32)	6	9476	258	241	11792	333.9	19' 0" (5.79)	29'6" (8.99)	6213	2818
24 (7.32)	7	20923	297	277	13593	384.9	22'9" (6.93)	33'3" (10.14)	7669	3479
27 (8.23)	4	8455	230	215	10522	297.9	11'5" (3.48)	22'11" (6.99)	5120	2322
27 (8.23)	5	10286	280	261	12800	362.5	15'2" (4.62)	26'9" (8.16)	6319	2866
27 (8.23)	6	12117	330	308	15079	427	19' 0" (5.79)	30'6" (9.3)	7801	3539
27 (8.23)	7	13948	380	354	17358	491.5	22'9" (6.93)	34'3" (10.44)	9396	4262
30 (9.14)	4	10584	288	269	13171	373	11'5" (3.48)	23'9" (7.24)	6608	2997
30 (9.14)	5	12845	349	326	15985	452.6	15'2" (4.62)	27'7" (8.41)	7902	3403
30 (9.14)	6	15106	411	284	18799	532.3	19' 0" (5.79)	30'11" (9.43)	9067	4113
30 (9.14)	7	17367	473	441	21612	612	22'9" (6.93)	35'1" (10.70)	10873	4932
33 (10.06)	4	12980	353	330	16153	457.4	11'5" (3.48)	24'4" (7.42)	7637	3464
33 (10.06)	5	15718	428	399	19560	553.9	15'2" (4.62)	28'2" (8.59)	8870	4023
33 (10.06)	6	18456	502	469	22968	650	19' 0" (5.79)	31'11" (9.73)	10592	4804
33 (10.06)	7	21194	577	538	26375	746.9	22'9" (6.93)	35'8" (10.87)	12576	5704
36 (10.97)	4	15658	426	398	19486	551.8	11'5" (3.48)	25'8" (7.7)	8565	3885
36 (10.97)	5	18912	515	480	23535	666.4	15'2" (4.62)	29'1" (8.87)	9847	4467
36 (10.97)	6	22166	603	563	27585	781.1	19' 0" (5.79)	32'10" (10.01)	11726	5319
36 (10.97)	7	25420	692	646	31634	895.8	22'9" (6.93)	36'7" (11.15)	13887	6299
42 (12.8)	4	21884	595	556	27234	71.2	15'2" (4.62)	26'11" (8.21)	10767	4884
42 (12.8)	5	26314	716	668	32747	927.3	19' 0" (5.79)	30'9" (9.38)	12954	5876
42 (12.8)	6	30744	837	781	38259	1083.4	22'9" (6.93)	34'6" (10.52	15470	7017

BIN CAPACITY SPECS

SINGLE CORRUGATED FLAT BOTTOM BINS - STIFFENED

BIN DIAMETER FT (m)	NUMBER OF TIERS	CAPACITY (BU)	CAPACITY TONNES (WHEAT & SOYBEANS)	CAPACITY TONNES (CORN)	CU.FT	CU.M	WALL HEIGHT* FT-IN (m)	FILLER CAP HEIGHT FT-IN (m)	LBS	KGS
18 (5.49)	8	6854	186	174	8529	241.5	30'4" (9.25)	35'3" (10.75)	5878	2666
18 (5.49)	9	7688	209	195	9542	270.2	34'1" (10.39)	39'0" (11.89)	6554	2973
18 (5.49)	10	8452	231	215	10515	298.9	37'10" (11.53)	42'9" (13.03)	7461	3384
18 (5.49)	11	9266	253	236	11568	327.6	41'7" (12.68)	46'6" (14.18)	8197	3718
18 (5.49)	12	10111	275	257	12581	356.3	45'4" (13.82)	50'3" (15.32)	9481	4301
21 (6.4)	8	9400	256	239	11698	331.2	30'4" (9.25)	36'2" (11.03)	6857	3110
21 (6.4)	9	10508	286	267	13077	370.3	34'1" (10.39)	39'11" (12.17)	7641	3466
21 (6.4)	10	11616	316	295	17789	353.2	37'10" (11.53)	43'8 (13.31)	8696	3944
21 (6.4)	11	12724	346	323	15834	448.4	41'7" (12.68)	47'5" (14.46)	9546	4330
21 (6.4)	12	13832	376	351	17213	487.4	45'4" (13.82)	51'2" (15.6)	11045	5010
24 (7.32)	8	12370	337	314	15394	353.9	30'4" (9.25)	37'0" (11.28)	7959	3610
24 (7.32)	9	13817	376	351	17195	486.9	34'1" (10.39)	40'9" (12.42)	8854	4016
24 (7.32)	10	15264	415	388	18995	537.8	37'10" (11.53)	44'6" (13.57)	9981	4527
24 (7.32)	11	16711	455	424	20796	588.9	41'7" (12.68	48'3" (14.71)	11704	5309
24 (7.32)	12	18158	494	461	22597	639.9	45'4" (13.82)	52'0" (15.85)	12664	5744
27 (8.23)	8	1579	429	401	19636	556	30'4" (9.25)	38'1" (11.61)	9463	4292
27 (8.23)	9	17610	479	447	21915	620.6	34'1" (10.39)	41'10" (12.75)	10468	4748
27 (8.23)	10	19441	529	494	24193	685.1	37'10" (11.53)	45'7" (13.9)	11520	5361
27 (8.23)	11	21272	579	540	26472	749.6	41'7" (12.68	49'4" (15.04)	12923	5862
27 (8.23)	12	23103	629	587	28751	814.1	45'4" (13.82)	53'1" (16.18)	14885	6743
30 (9.14)	8	19628	534	498	24426	691.7	30'4" (9.25)	38'11" (16.18)	11670	5293
30 (9.14)	9	21889	596	556	27240	771.4	34'1" (10.39)	42'8" (13.01)	13097	5941
30 (9.14)	10	24150	657	613	30054	851	37'10" (11.53)	46'5" (14.15)	14946	6779
30 (9.14)	11	26411	719	671	32867	930.7	41'7" (12.68	50'2" (15.29)	16235	7364
30 (9.14)	12	28672	780	728	35681	1010.4	45'4" (13.82)	53'11" (16.44)	18941	8591
33 (10.06)	8	23932	651	606	29782	843.3	30'4" (9.25)	39'0" (12.04)	13585	6162
33 (10.06)	9	26670	726	677	33190	939.8	34'1" (10.39)	43'3" (13.19)	15230	6935
33 (10.06)	10	29408	800	747	36597	1036.3	37'10" (11.53)	47'0" (14.33)	17041	7730
33 (10.06)	11	32146	875	816	40004	1132.8	41'7" (12.68	50'9" (15.47)	18580	8428
33 (10.06)	12	34884	949	886	43411	1229.3	45'4" (13.82)	54'6" (16.62)	21840	9906
36 (10.97)	8	28674	780	728	35683	1010.4	30'4" (9.25)	40'5" (12.32)	15443	7005
36 (10.97)	9	31928	869	811	39733	1125.1	34'1" (10.39)	44'2" (13.47)	17303	7849
36 (10.97)	10	35182	957	894	43782	1239.8	37'10" (11.53)	47'11" (14.61)	19342	8773
36 (10.97)	11	38436	1046	976	47832	1357.3	41'7" (12.68	51'8" (15.75)	24884	11289
36 (10.97)	12	41690	1135	1059	51881	1469.1	45'4" (13.82)	55'5" (16.90)	19448	8821
42 (12.8)	7	35174	957	893	43772	1239.5	28'9" (8.45)	38'3" (11.66)	18002	8166
42 (12.8)	8	39604	1078	1006	49285	1395.6	30'4" (9.25)	42'1" (12.83)	21595	9795
42 (12.8)	9	44034	1198	1118	54798	1551.7	34'1" (10.39)	45'10" (13.97	24189	10972
42 (12.8)	10	42846	1319	1231	60311	1707.8	37'10" (11.53)	49'7" (15.12)	26693	12108
42 (12.8)	11	52894	1439	1343	65826	1864	41'7" (12.68	53'4" (16.26)		
42 (12.8)	12	57324	1560	1456	71337	2020	45'4" (13.82)	57'1" (17.4)	30970	14048

BIN CAPACITY SPECS

SINGLE CORRUGATED HOPPER BOTTOM BIN - UNSTIFFENED

BIN DIAMETER FT (m)	NUMBER OF TIERS	CAPACITY (BU)	CAPACITY TONNES (WHEAT & SOYBEANS)	CAPACITY TONNES (CORN)	CU.FT	CU.M	WALL HEIGHT* FT-IN (m)	FILLER CAP HEIGHT FT-IN	LBS	KGS
12 (3.66)	3	1187	32	30	1477	450.19	11'5" (3.48)	14'9"	1542	699
12 (3.66)	4	1548	42	39	1926	587.04	15'2" (4.62)	18'6"	1984	900
12 (3.66)	5	1908	52	48	2374	723.6	19'0" (5.79)	22'3"	2474	1122
15 (4.57)	3	1897	52	48	2361	719.6	11'5" (3.48)	15'7"	1905	864
15 (4.57)	4	2462	67	62	3064	933.9	15'2" (4.62)	19'4"	2454	113
15 (4.57)	5	3027	82	77	3767	1148.2	19'0" (5.79)	23'1"	3062	1389
15 (4.57)	6	3592	98	91	4470	126.6	22'9" (6.93)	26'10"	4006	1817
15 (4.57)	7	4157	113	106	5173	146.5	26'6" (8.08)	30'8"	5303	2405
18 (5.49)	3	2784	76	71	2464	751.1	11'5" (3.48)	16'5"	2320	1052
18 (5.49)	4	3698	98	91	4477	1364.6	15'2" (4.62)	20'2"	2975	1349
18 (5.49)	5	4411	120	112	5489	1673.1	19'0" (5.79)	23'11"	3702	1679
18 (5.49)	6	5226	142	133	6503	184.1	22'9" (6.93)	29'9"	4890	2218
18 (5.49)	7	6040	164	153	7516	212.8	26'6" (8.08)	31'6"	6445	2923
21 (6.4)	3	3860	105	98	4804	1464.3	11'5" (3.48)	17'3"	2816	1277
21 (6.4)	4	4968	135	126	6182	1884.3	15'2" (4.62)	21'1"	3662	1661
21 (6.4)	5	6076	165	154	7561	2304.6	19'0" (5.79)	24'10"	2584	2079
21 (6.4)	6	7184	196	182	8940	253.2	22'9" (6.93)	28'7"	5810	2635
21 (6.4)	7	8292	226	211	10318	292.2	26'6" (8.08)	32'4"	7498	3401
24 (7.32)	3	5136	140	130	6397	1947.98	11'5" (3.48)	18'4"	3281	1488
24 (7.32)	4	6582	179	167	8191	3496.62	15'2" (4.62)	21'11"	4246	1926
24 (7.32)	5	8029	218	204	9992	3045.6	19'0" (5.79)	25'8"	5304	3406
24 (7.32)	6	9476	258	241	11791	3330.9	22'9" (6.93)	29'6"	6887	3124
27 (8.23)	3	8455	230	215	10522	3207.11	15'2" (4.62)	22'11"	5120	2322.39
27 (8.23)	4	10286	280	261	128800	3901.44	19'0" (5.79)	26'9"	6319	2866.25
27 (8.23)	5	12117	330	308	15079	4593.08	22'9" (6.93)	30'6"	7802	3538.92

BIN CAPACITY SPECS

SINGLE CORRUGATED HOPPER BOTTOM BIN - STIFFENED

BIN DIAMETER FT (m)	NUMBER OF TIERS	CAPACITY (BU)	CAPACITY TONNES (WHEAT & SOYBEANS)	CAPACITY TONNES (CORN)	CU.FT	CU.M	WALL HEIGHT* FT-IN (m)	FILLER CAP HEIGHT FT-IN	LBS	KGS
15 (4.57)	6	3594	98	91	4472	1363.1	22'9" (6.93)	26'10"	3849	1746
15 (4.57)	7	4159	113	106	5176	1577.7	26'6" (8.08)	30'8"	4613	2092
15 (4.57)	8	4724	128	120	5879	1792	30'4" (9.25)	34'5"	5512	2500
15 (4.57)	9	5289	144	134	6582	2006.2	34'5" (10.49)	38'2"	6395	2901
15 (4.57)	8	4724	129	120	5879	166.5	30'4" (9.25)	34'5"	4187	1899
15 (4.57)	9	5289	144	134	6582	186.4	34'1" (10.39)	38'2"	5054	2292
15 (4.57)	10	5854	159	149	7285	206.3	37'10" (11.53)	42'0"	5144	2333
18 (5.49)	6	5227	142	133	6505	1982.72	22'9" (6.93)	27'9"	4622	2097
18 (5.49)	7	6041	164	153	7518	2291.5	26'6" (8.08)	31'6"	5555	2520
18 (5.49)	8	6854	186	174	8529	2599.6	30'4" (9.25)	35'3"	6630	3007
18 (5.49)	9	7667	209	195	9541	2908.1	34'5" (10.49)	39'0"	7689	3487
18 (5.49)	8	6854	187	174	8529	241.5	30'4" (9.25)	42'9"	5628	2666
18 (5.49)	9	7668	209	195	9542	270.2	34'1" (10.39)	28'7"	6417	2973
18 (5.49)	10	8482	231	215	10555	299	37'10" (11.53)	32'4"	6958	3384
21 (6.4)	6	7186	195	182	8941	2725.2	22'9" (6.93)	36'2"	5730	2599
21 (6.4)	7	824	226	211	10321	3145.8	26'6" (8.08)	39'11"	6883	3167
21 (6.4)	8	9401	256	239	11699	3565.9	30'4" (9.25)	36'2"	8157	3718
21 (6.4)	9	10508	286	267	13077	3985.9	34'5" (10.49)	39'11"	9615	4361
21 (6.4)	8	9400	256	239	11697	331.2	30'4" (9.25)	43'8"	6857	3110
21 (6.4)	9	10508	286	267	13076	370.3	34'1" (10.39)	29'6"	7641	3466
21 (6.4)	10	11616	316	295	14454	409.3	37'10" (11.53)	33'3"	8696	3944
24 (7.32)	6	9478	258	241	11795	3595.11	22'9" (6.93)	37'0"	6600	2994
24 (7.32)	7	10925	297	277	13596	4144.1	26'6" (8.08)	40'9"	8028	3641
24 (7.32)	8	12371	337	314	15395	4692.4	30'4" (9.25)	37'0"	9484	4302
24 (7.32)	9	13822	376	351	17201	5242.9	34'5" (10.49)	40'9"	11101	5035
24 (7.32)	8	12370	337	314	15392	435.9	30'4" (9.25)	37'0"	7959	3610
24 (7.32)	9	13817	376	351	17193	486.9	34'1" (10.39)	40'9"	8854	4016
24 (7.32)	10	15264	415	388	18993	537.8	37'10" (11.53)	44'6"	9981	4527
27 (8.23)	7	15779	429	401	19636	5985.05	30'4" (9.25)	38'1"	9463	4292.34
27 (8.23)	8	17610	479	447	21915	6679.7	34'1" (10.39)	41'10"	10468	4748.2
27 (8.23)	9	19441	529	494	24193	7374.09	37'10" (11.53)	45'7"	11520	5361.46

BIN WALL HARDWARE 'WHERE USED' CHART

CONNECTION LOCATION	3/8" X 3/4" Flange Bolt and Hex Nut	3/8" x 1" Flange Bolt and Hex Nut	3/8" x 1 1/4" Flange Bolt and Hex Nut	3/8" x 3" Flange Bolt and Hex Nut	3/8" Flat Washer
BOLT Part Number	13-0702-06012	13-0702-06016	13-0702-06020	13-0702-06048	13-0736-00006
NUT Part Number	13-0725-00006	13-0725-00006	13-0725-00006	13-0725-00006	
UPRIGHT to WALL SHEET to ROOF CONNECTION UPRIGHT (outside stiffened bins)			x		x
HORIZONTAL AND VERTICAL WALL SHEET SEAMS					
WALL SHEET 3-142-2192 TO 3-142-2182	x				
WALL SHEET 3-142-2182 TO 3-142-2172	x				
WALL SHEET 3-142-2172 TO 3-142-2162	x				
WALL SHEET 3-142-2162 TO 3-142-2152	x				
WALL SHEET 3-142-2152 TO 3-142-2142	x				
VERTICAL WALL SHEET CONNECTIONS WITH UPRIGHT STIFFNERS					
3-201-2432 8ga UPRIGHT STIFFENER		x			
3-201-2433 10ga UPRIGHT STIFFENER		x			
3-201-2434 14ga UPRIGHT STIFFENER		x			
3-201-2436 14ga UPRIGHT STIFFENER		x			
3-201-2339 1/4in UPRIGHT STIFFENER		x			
STIFFENER COUPLER to STIFFENER UPRIGHT to WALL PANEL			x		
ROOF RING TO ROOF PANEL				x	
LOW PROFILE DOOR TO WALL PANELS	x				
HIGH PROFILE DOOR TO WALL PANELS	x				
WALL PANEL to HOPPER MOUNT RING to HOPPER			x		
FLOOR ANGLE to STIFFNER UPRIGHT to WALL PANEL			x		
ROOF PANELS		x			

IMPORTANT

CHECK TO MAKE SURE THAT THE PROPER TORQUE HAS BEEN APPLIED TO ALL BOLTS AND THAT THE RECOMMENDED ASSEMBLY PROCEDURE HAS BEEN FOLLOWED.

RECOMMENDED TORQUE VALUES FOR BOLTS

BOLT DIAMETER	BOLT GRADE	GRADE MARK	RECOMMENDED TORQUE		
			in-lb	ft-lb	N-m
5/16"	Grade 8.2		300	25	33
3/8"	Grade 8.2		520	43	58
7/16"	Grade 8.2		840	70	95

Periodically check bolt assembly with an accurate torque wrench to ensure that above torque specifications are maintained. A properly tightened bolt will compress sealing washer noticeably.
For Proper Sealing, do not overtighten wall seam connections. Sealing is not critical on uprght slice connections; these connections should be tightened securely to prevent loosening.

Hold bolt head securely when tightening the nut to prevent damage to the sealing washer.

ALWAYS TIGHTEN THE NUT, NOT THE BOLT

Avoid bin assembly at temperatures below -10°C (14°F) if possible. Erection in low temperatures does not ensure strong, well sealed connections. Do not substitute bolts in place of those supplied by Meridian.

WARRANTY

1. The manufacturer guarantees its products against any defects in materials or workmanship for a period of twelve (12) months from the date of purchase, provided that the said products are set up according to its instructions and recommendations and also that the said products are operated and used in proper conditions and according to its instructions and recommendations.

2. The manufacturer's responsibility and obligations under this warranty shall be limited to replacement of parts and shall not extend to parts, equipment or accessories that are component parts of manufacturer's products but that are manufactured by other manufacture's. Those manufacture's warranty will apply to such parts, equipment or accessories. Any parts set up by reason of the application of this warranty shall be amenable to the terms of this warranty except that the period of twelve (12) months applicable to such parts shall be peremptory and that upon termination of the said period, warranty shall be null and void, for any purpose whatsoever with the respect to said parts substituted to it before the termination of the said period of twelve (12) months.

3. This warranty shall not extend to loss and damage to content of the products, neither to property or loss of revenue. Moreover it shall not extend to bodily injuries, including death, sustained by any person or animal.

4. The purchaser shall give notice to the manufacturer, without delay, of any damage or defects to its products that he may ascertain before they be set up, otherwise this warranty will not apply to such damage or defects.

5. Any modification or incorporation whatsoever made to products, except those authorized or recommended by the manufacturer, shall void this warranty; this warranty shall not apply to damages resulting from improper installation or erection of products by purchaser.

6. This warranty is the sole and only warranty and it is in lieu of any other warranty, express or implied, statutory or not.

7. Any claim under this warranty shall be notified in writing to the manufacturer's head office within thirty (30) days from the failure.

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Printed in Canada (11/14)