

FARM GRAIN BIN

4.00" CORRUGATION

OWNER'S MANUAL

Manual# PNEG-1094

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PNEG-1094



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

Safety Sign-Off Sheet

It is necessary for the employer to train the employee in the safe operating and safety procedures for this equipment. We included this sign-off sheet for your convenience and personal record keeping. All unqualified persons are to stay out of the work area at all times. A person who has not read this manual and does not understand all operating and safety instructions is not qualified to operate this equipment.

DATE	EMPLOYER'S SIGNATURE	EMPLOYEE'S SIGNATURE
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SAFETY GUIDELINES

This manual contains information that is important for you, the owner/operator, to know and understand. This information relates to protecting **personal safety** and **preventing equipment problems**. It is the responsibility of the owner/operator to inform anyone operating or working in the area of this equipment of these safety guidelines. To help you recognize this information, we use the symbols that are defined below.

Please read the manual and pay attention to these sections. Failure to read this manual and its safety instructions is a misuse of the equipment and may lead to serious injury or death.



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.



DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

CAUTION

CAUTION used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.

NOTE

NOTE indicates information about the equipment that you should pay special attention to.

General Safety Statement

Our principal concern is your safety and the safety of others associated with grain handling equipment. This manual is to help you understand safe operating procedures and some problems which may be encountered by the operator and other personnel.

As owner and/or operator, it is your responsibility to know what requirements, hazards and precautions exist and inform all personnel associated with the equipment or in the area. Safety precautions may be required from the personnel. Avoid any alterations to the equipment. Such alterations may produce a very dangerous situation, where serious injury or death may occur.

You should consider the location of the bin site relative to power line locations or electrical transmission equipment. We recommend you contact your local power company to review your installation plan or for information concerning required equipment clearance. Clearance of portable equipment that may be taken to the bin site should be reviewed and considered as well. Any electrical control equipment in contact with the bin should be properly grounded and installed in accordance with National Electric Code provisions and other local or national codes.

This product is intended for the use of grain storage only. Any other use is a misuse of the product!



This product has sharp edges! These sharp edges may cause serious injury. To avoid injury, handle sharp edges with caution and use proper protective clothing and equipment at all times.

Sidewall bundles or sheets must be stored in a safe manner. The safest method of storing sidewall bundles is laying horizontally with the arch of the sheet upward or over like a dome. Sidewall sheets stored on edge must be secured in a way that they cannot fall over and cause injury. Care should be taken in the handling and movement of sidewall bundles.

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

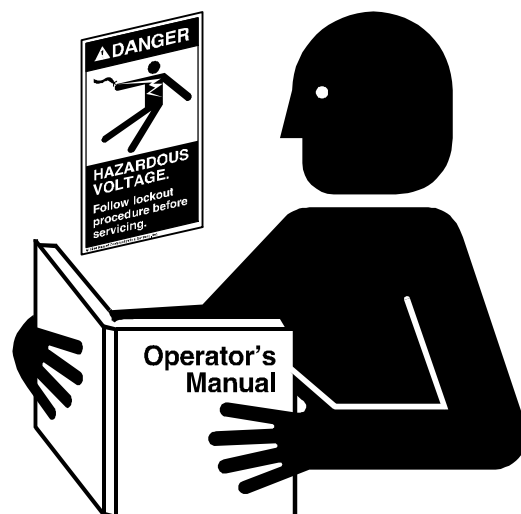
FOLLOW SAFETY INSTRUCTIONS

Carefully read all safety messages in this manual and on your machine safety signs. Keep signs in good condition. Replace missing or damaged safety signs. Be sure new equipment components and repair parts include the current safety signs. Replacement safety signs are available from the manufacturer.

Learn how to operate the machine and how to use controls properly. Do not let anyone operate without instruction.

Keep your machinery in proper working condition. Unauthorized modifications to the machine may impair the function and/or safety and affect machine life.

If you do not understand any part of this manual and need assistance, contact your dealer.



PRACTICE SAFE MAINTENANCE

Understand service procedures before doing work. Keep area clean and dry.

Never lubricate, service, or adjust machine while it is in operation. Keep hands, feet, and clothing from all rotating parts.

Keep all parts in good condition and properly installed. Fix damage immediately. Replace worn or broken parts. Remove any build up of grease, oil, or debris.

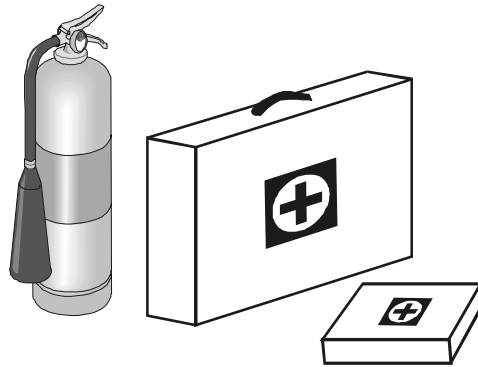


PREPARE FOR EMERGENCIES

Be prepared if fire starts.

Keep a first aid kit and fire extinguisher handy.

Keep emergency numbers for doctors, ambulance service, hospital, and fire department near your telephone.



WEAR PROTECTIVE CLOTHING

Wear close fitting clothing and safety equipment appropriate to the job.

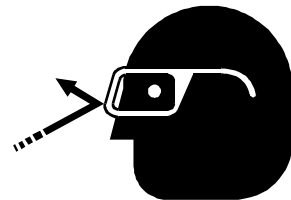
Safety glasses should be worn at all times to protect eyes from debris.

Wear gloves to protect your hands from sharp edges on plastic or steel parts.

A respirator may be needed to help prevent breathing potentially toxic fumes and dust.

Wear hard hat and steel toe boots to help protect your head and toes from falling debris.

Eye Protection



Gloves



Steel Toe Boots



Respirator

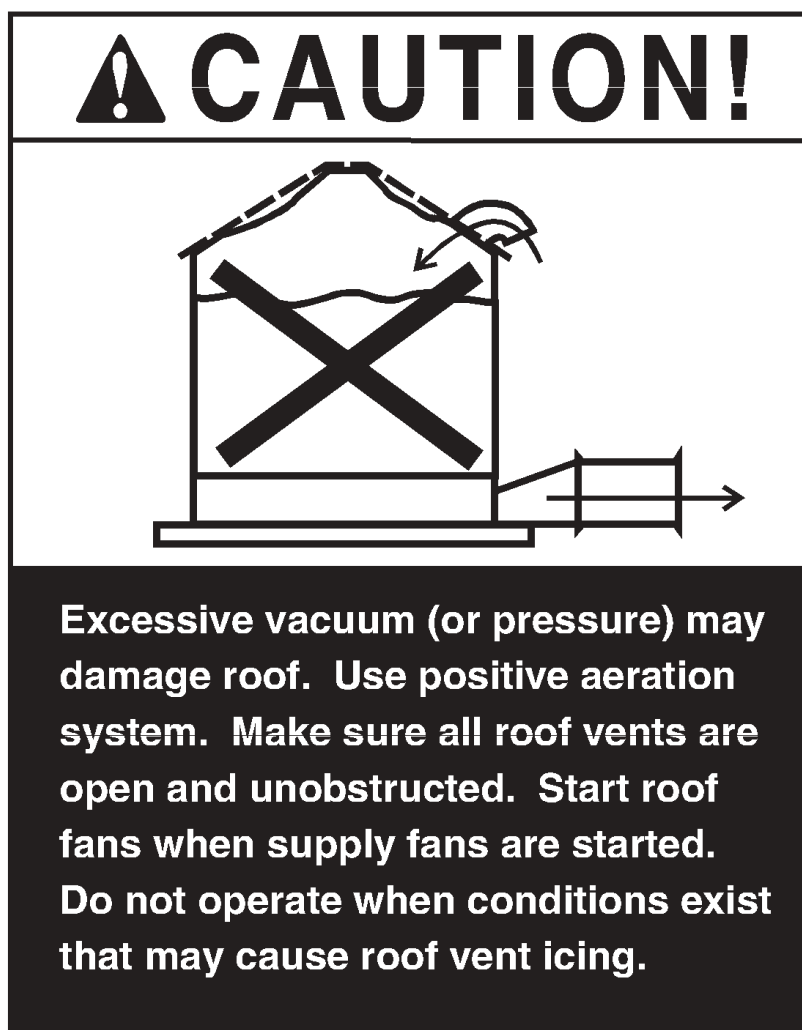


Hard Hat



CAUTION!

THE MANUFACTURER DOES NOT WARRANT ANY ROOF DAMAGE CAUSED BY EXCESSIVE VACUUM OR INTERNAL PRESSURE FROM FANS OR OTHER AIR MOVING SYSTEMS. ADEQUATE VENTILATION AND/OR "MAKEUP AIR" DEVICES SHOULD BE PROVIDED FOR ALL POWERED AIR HANDLING SYSTEMS. THE MANUFACTURER DOES NOT RECOMMEND THE USE OF DOWNWARD FLOW SYSTEMS (SUCTION). SEVERE ROOF DAMAGE CAN RESULT FROM ANY BLOCKAGE OF AIR PASSAGES. RUNNING FANS DURING HIGH HUMIDITY/COLD WEATHER CONDITIONS CAN CAUSE AIR EXHAUST OR INTAKE PORTS TO FREEZE.



ATTENTION: The decal shown below should be present on the inside of the outside door cover of the two ring, 24" porthole door cover and roof manway cover. If a decal has been damaged or is missing in any of these locations contact the manufacturer for a free replacement decal.

DECALS

P.O. Box 20
1004 EAST ILLINOIS STREET
ASSUMPTION, IL. 62510-0020
(217)-226-4421



ATTENTION: The decal shown below should be present on the outside of the outside door cover of the two ring, 24" porthole door cover and roof manway cover. If a decal has been damaged or is missing in any of these locations contact the manufacturer for a free replacement decal.

DECALS

P.O. Box 20
1004 EAST ILLINOIS STREET
ASSUMPTION, IL. 62510-00020
(217)-226-4421



WARNING



DON'T



DO

UNLOADING INSTRUCTIONS:

1. Use **CENTER FLOOR OUTLET ONLY** until **NO** grain remains above this outlet.
2. Side floor outlets to be used **ONLY** when above condition is satisfied.
3. Lock all side floor outlets to avoid accidental premature use.
4. See manufacturers instructions for proper use of factory supplied sidedraw (wall) discharge systems.

**Failure to heed these warnings
could result in serious injury, death,
structural damage or collapse of tank.**

DC-GBC-2A

Properly Store Grain Bin/Silo Materials Prior to Construction to Prevent Wet Storage Stain:

Wet storage stain (rust) will develop when closely packed bundles of galvanized material such as sidewall and roof sheets have moisture present from any source. Roof and sidewall bundles should be inspected on arrival for the presence of moisture. If moisture is present, moisture must not be permitted to remain between the sheets. In the case of moisture presence, sheets or panels should be separated immediately, wiped down, dried and sprayed with a light oil or diesel fuel.

Where possible, sidewall bundles, roof sheets and other closely packed materials should be stored in a dry, climate controlled building. Storage inside a dry building should be done if at all possible. Where outdoor storage is unavoidable, the materials should be raised out of contact from the ground or vegetation. Stacking and spacing materials should not be corrosive or wet. Materials must be protected from the weather. Weather protection that permits more air movement around the bundles is best.

The storage method of the roof bundles and sidewall sheets may also help minimize moisture presence. Roof bundles should be stored inclined. The bundles should be stored and secured in a safe & stable manner. Turning the sidewall bundles over and storing with the center of the dome “up” like a arch is an option. Sidewall bundles may be stored on edge, **however these bundles should be secured in such as way as they cannot fall over and cause injury.**

Should “white rust” or “wet storage stain” occur, contact the manufacturer immediately concerning methods to minimize the adverse effect upon the galvanized coating.

Introduction

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

INSPECT the shipment immediately upon arrival. The Customer is responsible for ensuring that all quantities are correct. Report any damage or shortages by recording a detailed description on the Bill of Lading to justify the Customer's claim from the Transport Firm. Our responsibility for damage to the equipment ends with acceptance by the delivering carrier. Save all paperwork and documentation furnished with any of the equipment/components.

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

WARRANTY is provided as part of the company's support program for customers who use and maintain their equipment as described in the manual. The warranty is explained on the warranty page located on the inside back cover of this manual.

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

BINS WITH STIRRING DEVICES

Selecting the Appropriate "Series" Grain Bin

Grain storage tanks are offered in more than one structural series for specific uses. In order to maintain the warranty, the appropriate "series" grain bin must be used. Consult the sales catalog or contact the Engineering Department for current recommendations. Especially note that use of any stirring device with 3 or more vertical screws may require a heavier than "standard" series bin. Any recirculating device or systems should be used in the "recirculating" series bins. Recirculating devices include products such as the Grain Flow, Foreway, Shivers units, or similar devices.

WARNING

Additional loads on grain bin sidewalls, roofs and floors can be created by stirring devices. If high-moisture grain is loaded too deep and too fast, any bin wall can be overloaded. Observe the following installation and operation procedures if your bin is to be equipped with a stirring device.

General Instructions for Stirring Devices

1. Read owner's manual for your stirring device and follow all instructions set forth by the manufacturer.
2. **IMPORTANT:** Install the switch for your stirring device near the roof manway opening so that the unit can be observed while stirring.
3. Make sure there are no obstructions (such as protruding ladders).
4. Run the unit one complete revolution after about 3 ft. of grain has been put into the bin, to see that the unit is operating correctly.
5. Operate the stirring device continuously while filling and drying to avoid compacted grain around the vertical screws.
6. If it becomes necessary to stop the stirring device with laterally moving screws, attempt to stop it with the vertical screws nearest to the center of the bin (away from the side wall). Should a device stop or stall for any reason and remain inoperative for any length of time, the auger carriage should be supported to the grain surface before restarting. The vertical auger should be turned by hand (with a pipe wrench) before the power is applied.
7. For best results, fill the bin to one-half the final intended depth. Dry grain to 16% and continue filling (use filling rates specified by stirring device manufacturer). If necessary to fill to the top without stopping, reduce the filling rate and drying air temperature so that the stirring rate can keep up with the drying rate.
8. Do not overfill bin. Filling should be stopped at the bottom of the top ring or 30" below the track.
9. The preceding steps are **general** instructions which apply to the major types of stirring devices. Since there are several different manufacturers, it is important that you read your operator's manual thoroughly for specific instructions applicable to your machine.

FOUNDATION RECOMMENDATIONS

These foundation recommendations are of a general nature. Site conditions, system requirements, etc. may result in foundation construction requirements not covered by this manual.

Selecting the Proper Site Location

1. The selected site should be level, firm, and free from underlying debris. The soil bearing capacity should be equal or greater than required by the footing specifications.

2. The concrete foundation surface must be level. If some fill is required, it should be watered and tamped thoroughly to prevent uneven settling from the weight of the bin.

3. Naturally, the site must allow convenient access for easy loading and unloading, plus provide additional space for future units.

4. Also consider the positioning of handling equipment, availability of electricity, and the placement of fans, heaters, and gas tanks.

Scribe the Diameter

(See Figure 1.)

1. Having determined the center of the site, drive a small 2 x 4 in the ground to mark the center point of the foundation. The top of the stake should be the same height as the finished foundation will be.

2. Using one large spike, nail a straight 2 x 4 (approximately 2 ft. longer than the radius of the bin) to the top of the center spike. The swiveling 2 x 4 will act as a compass, enabling you to scribe the correct diameter of your foundation and later locate the anchor and stiffener bolt locations. *(Note: Making the 2 x 4 two feet longer than the radius allow the 2 x 4 to also be used as a leveling device and for pulling concrete).*

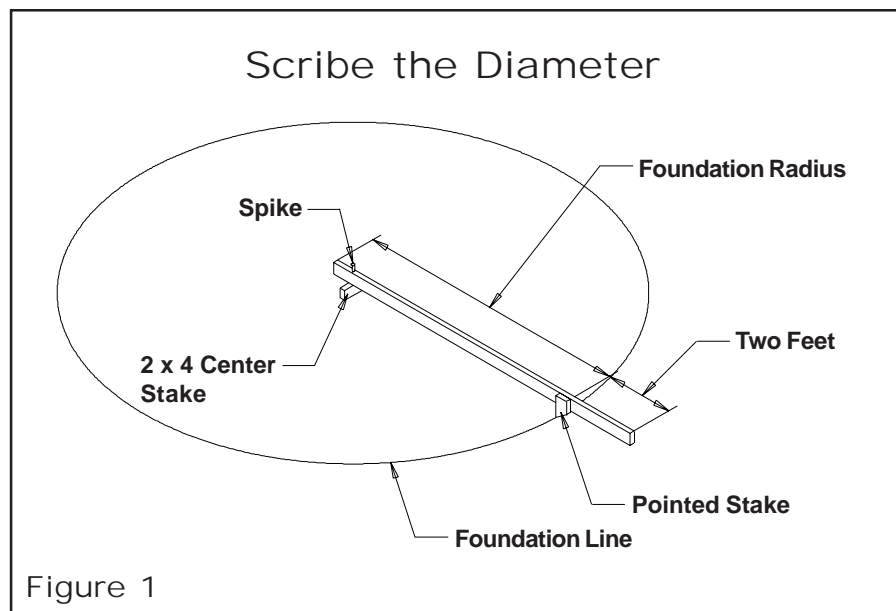


Figure 1

FOUNDATION FORMS

Foundation Form Options

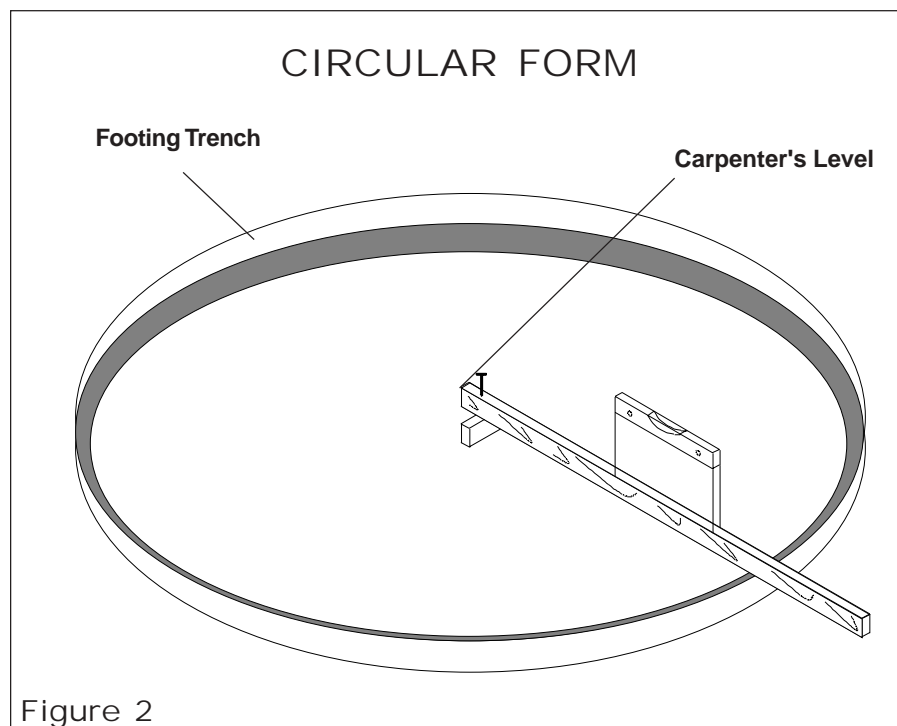
There are two styles of foundation forms commonly used for unstiffened farm bins. The first is the **Circular Form** shown in Figure 2. The second style of foundation is the **Octagon Form** made of 2" x 8" boards set into a square with the corners blocked off to form an octagon. (See Figure 3 on page 17.) This eight sided form will approximate a circle and is easy to construct.

Preparing the Foundation Forms

1. Having scribed the diameter of your foundation, proceed by digging the foundation's footing. This consist of a large circular trench dug inside the foundation line, (Refer to foundation charts on pages 18-26).
2. Once the footing has been dug, you are ready to build the forms. It is important that your forms be rigid enough to hold its shape against the poured concrete.

3. Also, the foundation must be flat. Sloped floors cannot be used in drying bins. A carpenter's level placed on top of your compass 2 x 4 will enable you to set the top of the forms to match the top of the center stake.

4. Check the form work with a transit to insure a uniform elevation for the entire foundation. The foundation should be level within 1/8" on non-stiffened tanks and 1/4" on stiffened tanks at bin wall perimeter. Stiffened tanks must be shimmed level. Provisions for unloading system trenches, air ducts, etc. should be made as required by the particular grain system used.



NOTE: All foundation specifications shall be construed as recommendations only. Because of the many variable conditions in actual installation, manufacturer assumes no liability for results arising from the use of such recommendations.

Placing the Reinforcement

1. Once the forms and trench have been prepared, begin the placement of reinforcement rods and mesh at various levels in your foundation's footing. *(See the appropriate charts and drawings for your bin to determine requirements and positions of the reinforcement on pages 18-26).* Reinforcement rods should be properly lapped by wiring.

2. Next, place a minimum of 2" of compacted sand on the inside section of the foundation to provide a good base for the concrete and protect against rodents.

3. The sand should then be covered with 4 mil polyethylene plastic which will act as a moisture barrier.

4. Two layers of 6" x 6" wire mesh should then be added to the entire area of the foundation slab or the entire foundation for monolithic systems to complete your preparation of the bin's foundation.

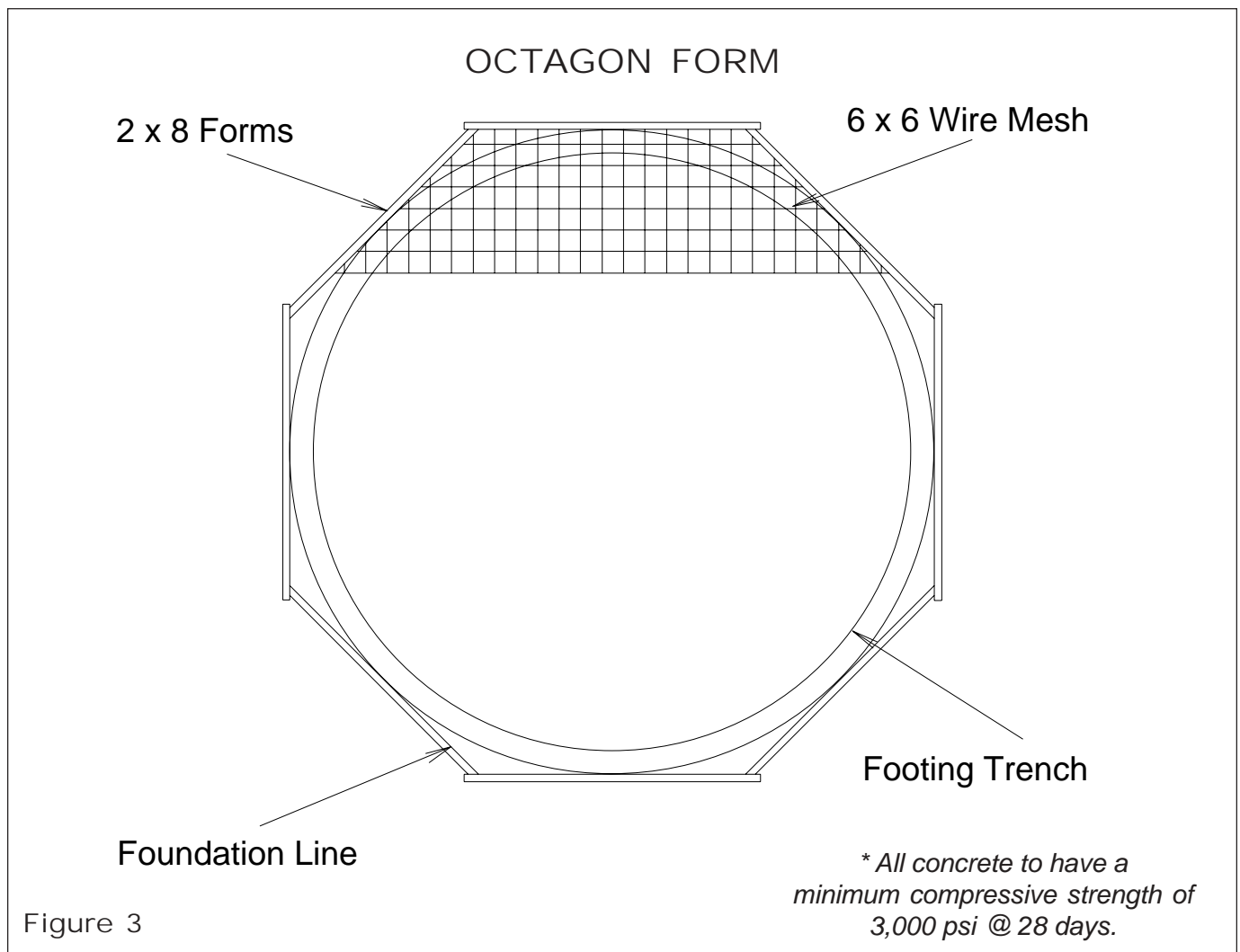


Figure 3

PLACEMENT OF THE FAN PAD: TRANSITIONS, FANS, & HEATERS ONLY

Vane Axial Fan Pad

If a fan or fan and heater combination is to be installed, refer to Figure 4, below, to determine the concrete pad size.

1. The top of this pad should be level with the top of the bin's foundation.

2. Recommended pad thickness is 4" minimum.

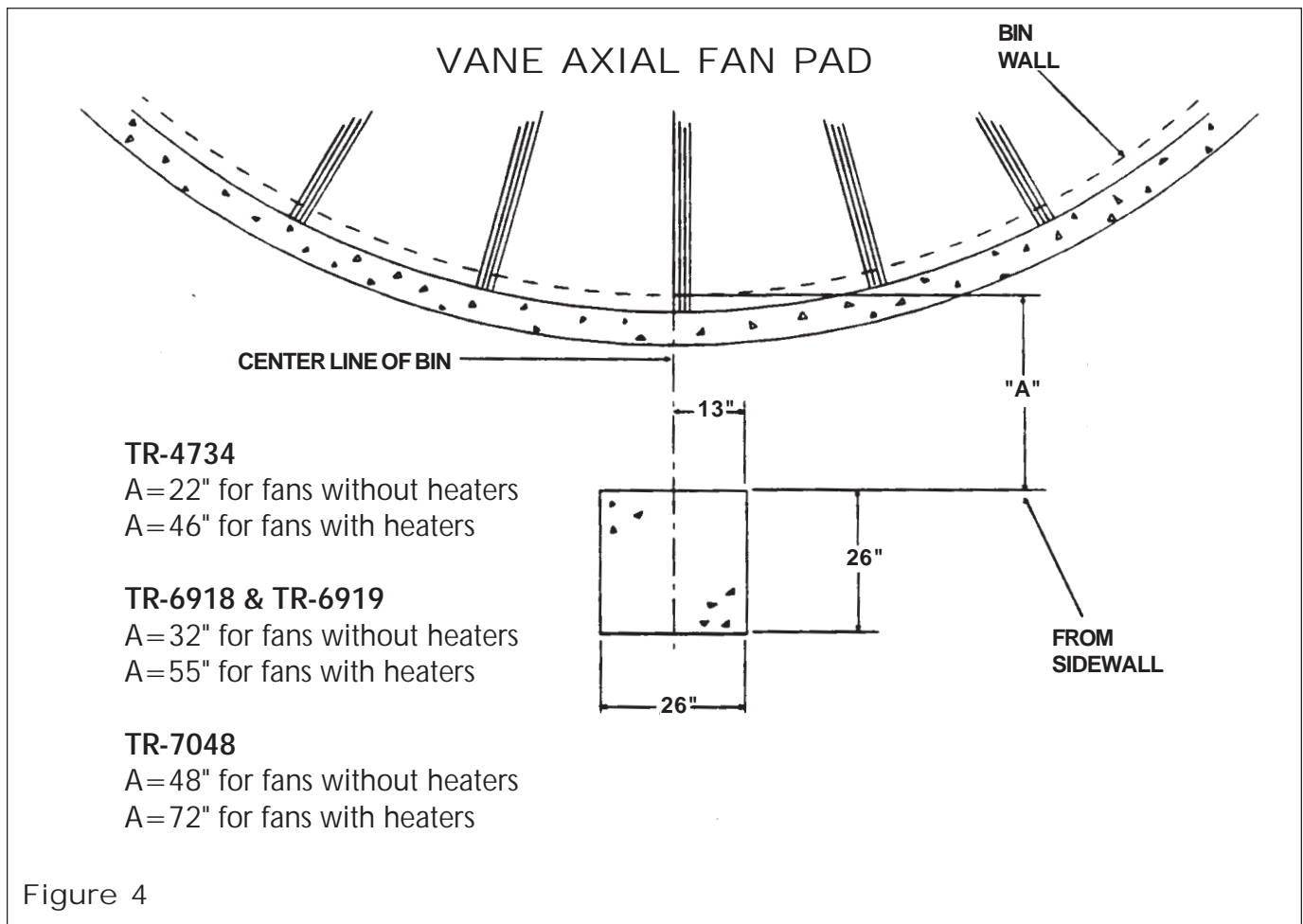
3. Front of pad should be perpendicular to bin wall.

4. Pad for heater not required, but if it is to be added, pour the pad to cover both locations.

For fans and transitions used in aeration duct system applications, reference the transition and aeration installation instructions.

CAUTION

Fan Pad and Fan must be level and smooth for proper operation. Vibration problems can result from improper fan leveling.



PLACEMENT OF THE FAN PAD: TRANSITIONS, FANS, & HEATERS ONLY

CENTRIFUGAL FAN PAD

1. Fan pad should be poured 2" below the top of bin foundation for all centrifugal fans.

2. The pad for heaters is not required.

3. If a downwind heater is to be installed at a later date, then it would be recommended to pour a fan pad 48" wide and 84" long.

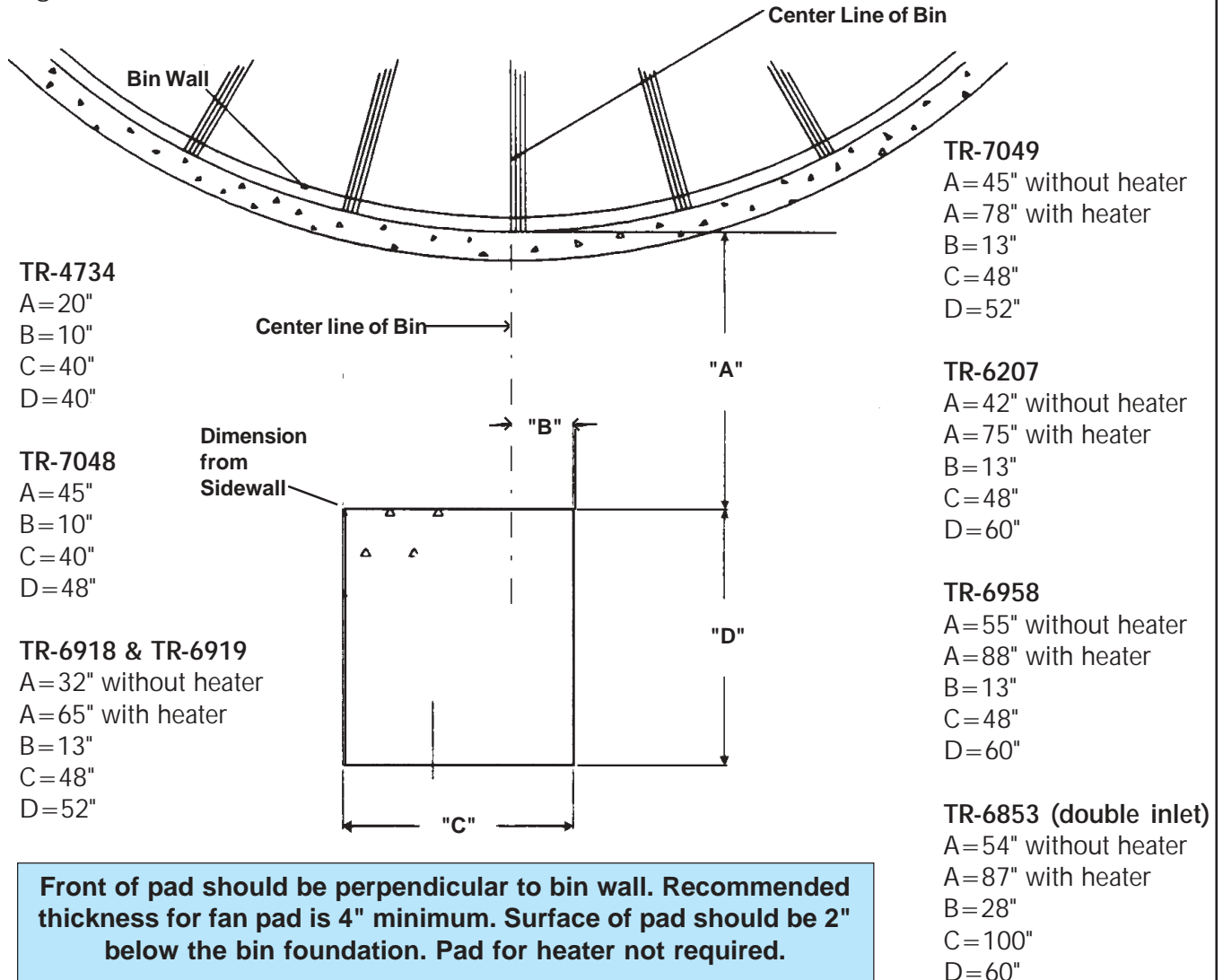
4. Fan discharge should be centered on center line of bin.

CAUTION

Fan Pad and Fan must be level and smooth for proper operation. Vibration problems can result from improper fan leveling.

Figure 5

CENTRIFUGAL FAN PAD



ANCHOR BOLT PLACEMENT

1. Having poured and leveled the concrete, use the center stake and straight 2 x 4 again to find the bolt circle radius for the outside hold down brackets.
2. Select a starting point and stretch a premeasured chord ("E" Chord Distance in Figure 7) along the imaginary circle formed by the bolt circle radius. This will give you the bolt locations on the bolt circle radius.
3. Take into consideration the placement of these bolts so as not to interfere with the positions of bin doors and transitions. (Refer to the following Anchor Bolt Chart for necessary radii and chord lengths.) Take your time and work carefully since accuracy is important.

NOTE: The top edge of slab where the bin wall sets must be held to within 1/8" of level.

B-5217 - 5/8" ANCHOR BOLT ASSEMBLY

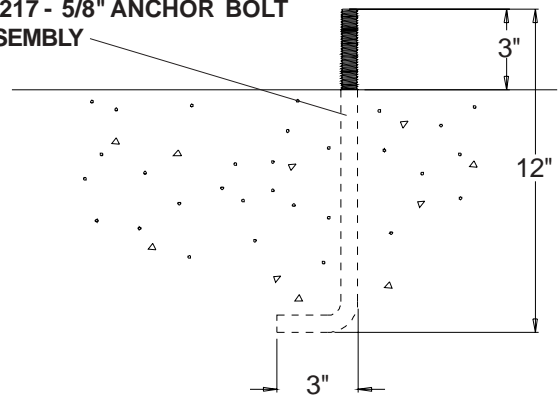
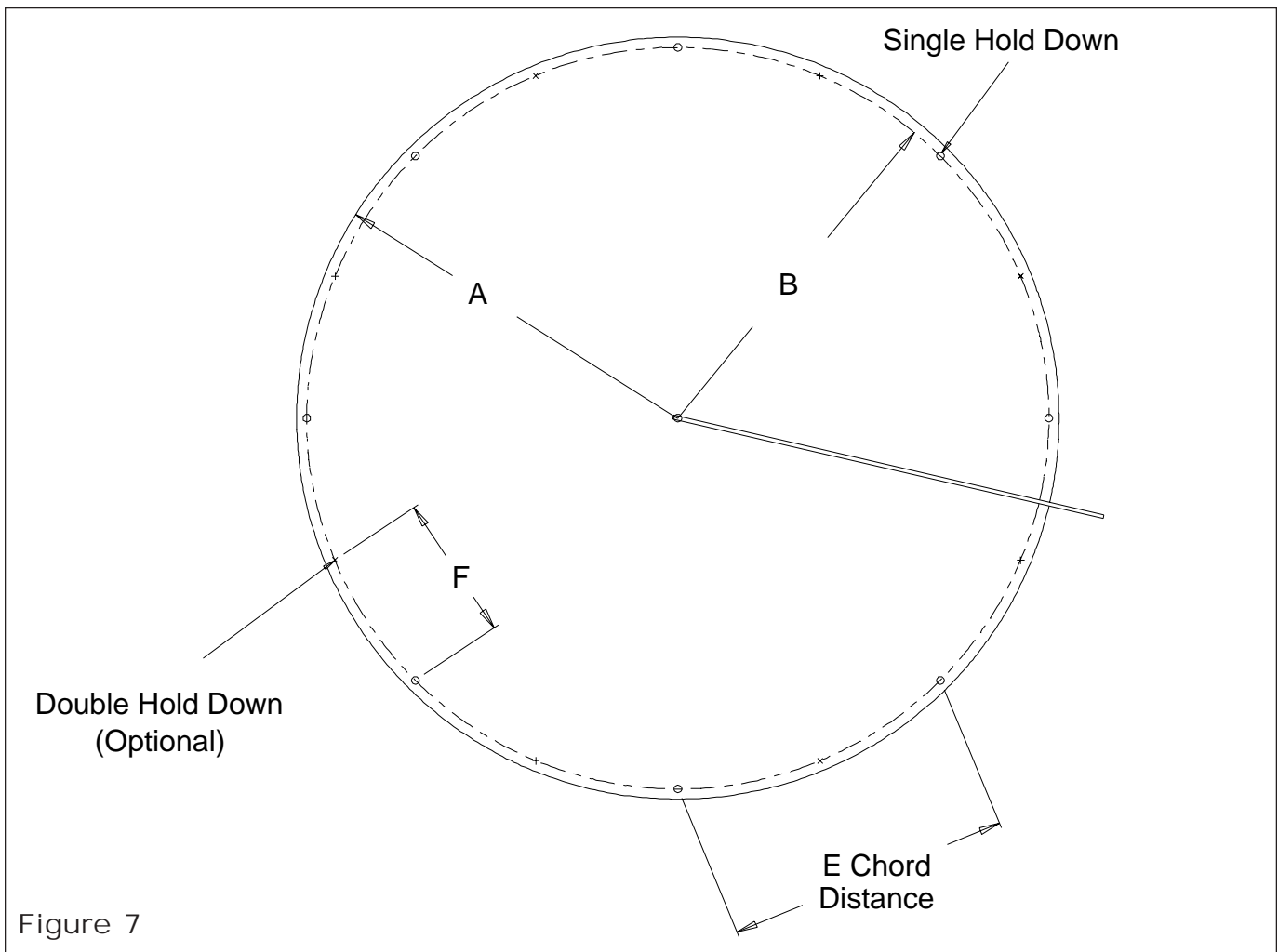


Figure 6
ANCHOR BOLT DETAIL (Typical)



OUTSIDE BIN HOLD DOWN CHARTS (4.00" CORRUGATION)

Outside bin hold down should be used on all non-stiffened bins. When anchoring the bin, be sure the vertical seams of the bin align with the U-Bolts in the foundation. They may be anchored to the foundation using either the U-Bolt and J-Bolt combination or the single anchor bolt except on the 42' and larger bins.

NOTE: All non-stiffened 42' and larger bins should use single anchor bolts not the U-Bolt/J-Bolt combination. (Double U-Bolt / J-Bolt may be used on non-stiffened 42' and larger bins as an option. Extra hold downs required with this option.)

SINGLE ANCHOR BOLT CHART

Bin Dia.	"B" Bolt Circle Radius	3-9 Rings Except on 42,48 and 60 ft. Dia.	
		No. of Anchors	"E" Chord Distance
12'	6'-2.7/16"	4	8'-9.1/4"
15'	7'-8.5/16"	5	9'-0.9/16"
18'	9'-2.1/4"	6	9'-2.1/4"
21'	10'-8.1/8"	7	9'-3.3/16"
24'	12'-2.1/16"	8	9'-3.13/16"
27'	13'-7.15/16"	9	9'-4.1/8"
30'	15'-1.7/8"	10	9'-4.3/8"
33'	16'-7.3/4"	11	9'-4.9/16"
36'	18'-1.11/16"	12	9'-4.11/16"
42'	21'-1.1/2"	14	9'-4.13/16"
48'	24'-1.5/16"	16	9'-4.7/8"

Optional Double Hold Down Anchors	
No. of Anchors	"F" Chord Distance
8	4'-9"
10	4'-9.1/16"
12	4'-9.1/16"
14	4'-9"
16	4'-9"
18	4'-8.15/16"
20	4'-8.7/8"
22	4'-8.7/8"
24	4'-8.13/16"
28	4'-8.3/4"
32	4'-8.11/16"

U-BOLT/J-BOLT COMBINATION CHART

Bin Dia.	"B" Bolt Circle Radius	3-9 Rings Except on 42,48 and 60 ft. Dia.	
		No. of Anchors	"E" Chord Distance
12'	6'-3.1/4"	4	8'-10.7/16"
15'	7'-9.1/4"	5	9'-1.1/2"
18'	9'-3.1/16"	6	9'-3.1/16"
21'	10'-8.15/16"	7	9'-3.15/16"
24'	12'-2.7/8"	8	9'-4.3/8"
27'	13'-8.3/4"	9	9'-4.11/16"
30'	15'-2.11/16"	10	9'-4.7/8"
33'	16'-8.9/16"	11	9'-5"
36'	18'-2.7/16"	12	9'-5.1/16"
42'	21'-2.5/16"	28	4'-8.15/16"
48'	24'-2.1/8"	32	4'-8.7/8"

Optional Double Hold Down Anchors	
No. of Anchors	"F" Chord Distance
8	4'-9.5/8"
10	4'-9.9/16"
12	4'-9.1/2"
14	4'-9.3/8"
16	4'-9.5/16"
18	4'-9.1/4"
20	4'-9.3/16"
22	4'-9.1/16"
24	4'-9.1/16"

REINFORCEMENT BAR PROPERTIES

Bar Designation Number	Weight Per Foot (lb.)	Standard Nominal Dimensions	
		Diameter [in. (mm.)]	Cross Sectional Area (sq. in.)
3	0.376	0.375 [9]	0.11
4	0.668	0.500 [13]	0.2
5	1.043	0.625 [16]	0.31
6	1.502	0.750 [19]	0.44
7	2.044	0.875 [22]	0.6
8	2.67	1.000 [25]	0.79

Notes: - Lap all circumferential bars 35 diameters and stagger all laps in plan 3'-0".

- All reinforcement bar estimates do not include end laps.

- | | | |
|--|---|---|
| <p>1. The Foundation Design is based on a minimum allowable soil bearing capacity of 3000 PSF. Bearing capacity of the soils should be determined by geotechnical investigation and be of uniform bearing capacity.</p> <p>2. The Foundation site must be free of vegetation and debris and well drained</p> | <p>3. The Foundation must be founded below the frost line, or place on non expansive frost free fill.</p> <p>4. All material used for backfill inside the ring wall should be clean, well graded, crushed rock or a sand gravel mixture. Backfill should be placed in 6" lifts, 95% compaction.</p> | <p>5. All reinforcement must meet the requirements of ASTM A615 Grade 60 deformed bars.</p> <p>6. Lap all circumferential bars 35 bar diameters and stagger all laps in plans 3'-0". Estimates do not include end laps.</p> <p>7. Concrete must have a minimum compressive strength of 3000 psi at 28 days, 6-8% air entrainment, 4" slump.</p> |
|--|---|---|

FROST FREE PADS

(Refer to Figure 9 on page 24.)

Diameter of Bin: 18'

Corrugation: 4.00"

Ring No.	B	N	Outside Radius	Sq. Ft. Mesh 6X6 - 6/6	Optional #4** 18" x 18" grid(ft)	Length #6 Bar(ft)	Total Cu. Yds. Concrete
6	1 ft. 0 in.	2	9 ft. 6 in.	600	400	200	8
8	1 ft. 7 in.	2	9 ft. 9 in.	600	400	200	9

Diameter of Bin: 21'

Corrugation: 4.00"

Ring No.	B	N	Outside Radius	Sq. Ft. Mesh 6X6 - 6/6	Optional #4** 18" x 18" grid(ft)	Length #6 Bar(ft)	Total Cu. Yds. Concrete
6	1 ft. 1 in.	2	10 ft. 11 in.	800	500	200	10
8	1 ft. 8 in.	2	11 ft. 3 in.	800	500	200	12

Diameter of Bin: 24'

Corrugation: 4.00"

Ring No.	B	N	Outside Radius	Sq. Ft. Mesh 6X6 - 6/6	Optional #4** 18" x 18" grid(ft)	Length #6 Bar(ft)	Total Cu. Yds. Concrete
6	1 ft. 1 in.	2	12 ft. 5 in.	1000	600	200	12
8	1 ft. 9 in.	2	12 ft. 9 in.	1000	600	200	15
9	2 ft. 6 in.	3	13 ft. 2 in.	1000	600	400	18

Diameter of Bin: 27'

Corrugation: 4.00"

Ring No.	B	N	Outside Radius	Sq. Ft. Mesh 6X6 - 6/6	Optional #4** 18" x 18" grid(ft)	Length #6 Bar(ft)	Total Cu. Yds. Concrete
6	1 ft. 2 in.	2	14 ft. 0 in.	1200	700	200	16
8	1 ft. 10 in.	2	14 ft. 4 in.	1200	700	200	18
9	2 ft. 7 in.	3	14 ft. 7 in.	1200	700	500	21

Diameter of Bin: 30'

Corrugation: 4.00"

Ring No.	B	N	Outside Radius	Sq. Ft. Mesh 6X6 - 6/6	Optional #4** 18" x 18" grid(ft)	Length #6 Bar(ft)	Total Cu. Yds. Concrete
6	1 ft. 2 in.	2	15 ft. 6 in.	1400	900	200	19
8	1 ft. 10 in.	2	15 ft. 10 in.	1400	900	200	21
9	2 ft. 8 in.	3	16 ft. 1 in.	1400	900	500	25

FROST FREE PADS

(Refer to Figure 9 on page 24.)

Diameter of Bin: 33'

Corrugation: 4.00"

Ring No.	B	N	Outside Radius	Sq. Ft. Mesh 6X6 - 6/6	Optional #4** 18" x 18" grid(ft)	Length #6 Bar(ft)	Total Cu. Yds. Concrete
6	1 ft. 3 in.	2	17 ft. 0 in.	1700	1100	300	22
8	1 ft. 11 in.	2	17 ft. 4 in.	1700	1100	300	25
9	2 ft. 9 in.	3	17 ft. 6 in.	1700	1100	600	29

Diameter of Bin: 36'

Corrugation: 4.00"

Ring No.	B	N	Outside Radius	Sq. Ft. Mesh 6X6 - 6/6	Optional #4** 18" x 18" grid(ft)	Length #6 Bar(ft)	Total Cu. Yds. Concrete
6	1 ft. 3 in.	2	18 ft. 6 in.	2000	1300	300	26
8	2 ft. 0 in.	2	18 ft. 11 in.	2000	1300	400	30
9	2 ft. 10 in.	3	19 ft. 0 in.	2000	1300	600	33

Diameter of Bin: 42'

Corrugation: 4.00"

Ring No.	B	N	Outside Radius	Sq. Ft. Mesh 6X6 - 6/6	Optional #4** 18" x 18" grid(ft)	Length #6 Bar(ft)	Total Cu. Yds. Concrete
6	1 ft. 4 in.	2	21 ft. 7 in.	2700	1800	300	34
8	2 ft. 1 in.	3	21 ft. 11 in.	2700	1800	700	39
9	3 ft. 1 in.	4	22 ft. 2 in.	2700	1800	900	44

Diameter of Bin: 48'

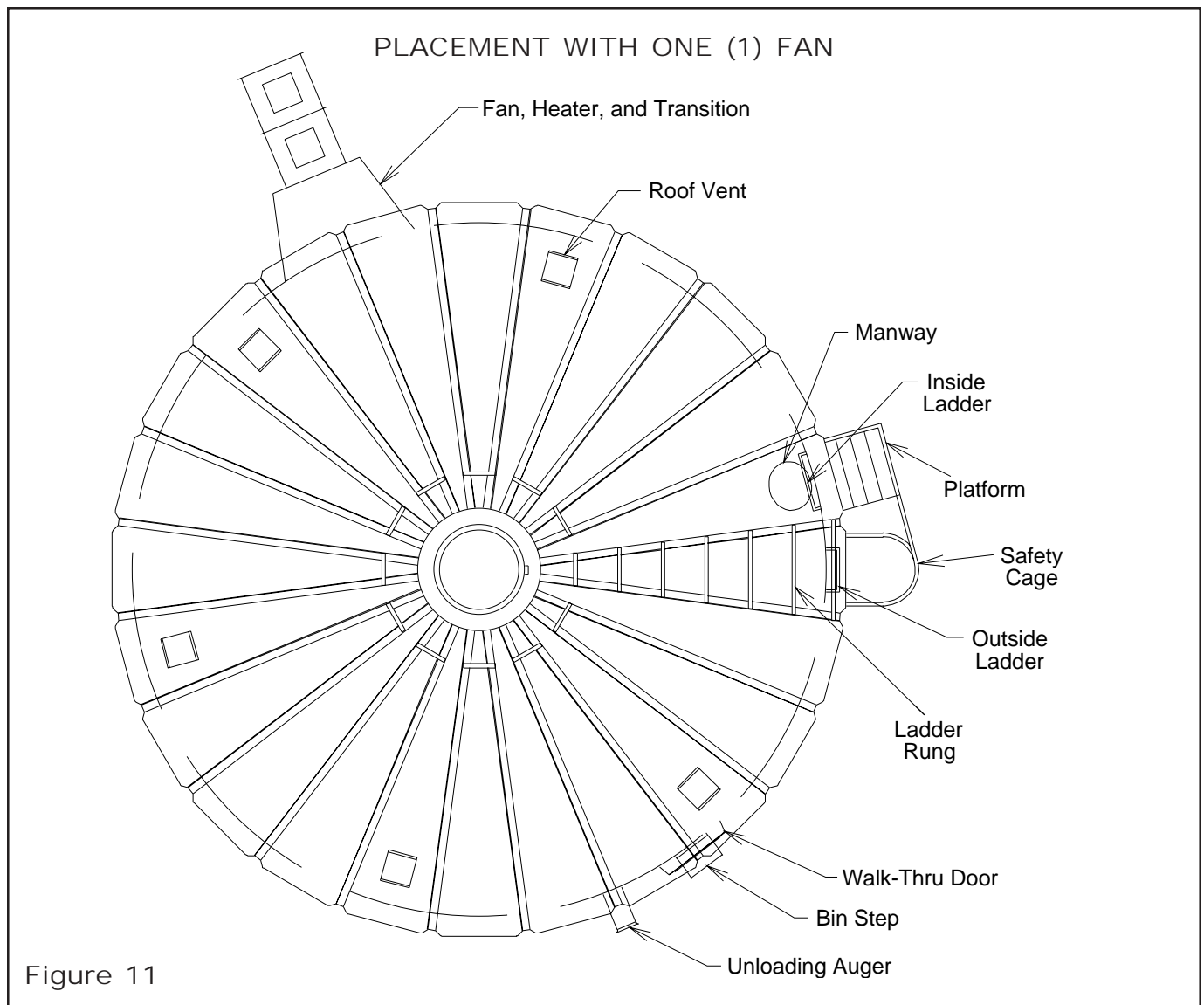
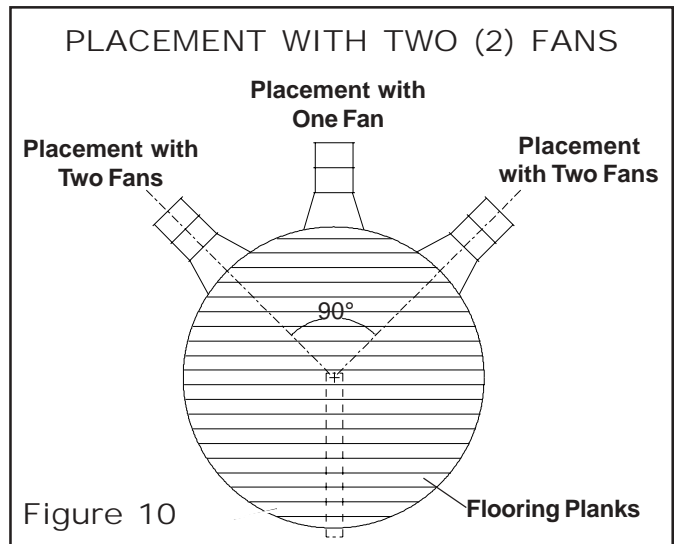
Corrugation: 4.00"

Ring No.	B	N	Outside Radius	Sq. Ft. Mesh 6X6 - 6/6	Optional #4** 18" x 18" grid(ft)	Length #6 Bar(ft)	Total Cu. Yds. Concrete
6	1 ft. 5 in.	2	24 ft. 6 in.	3500	2300	400	43
8	2 ft. 3 in.	3	24 ft. 11 in.	3500	2300	800	49
9	3 ft. 3 in.	4	25 ft. 2 in.	3500	2300	1100	55

LOCATION OF ACCESSORIES

1. On this page are typical bin layouts showing suggested location of bin accessories. Figure 11 shows the fan and unloading auger on opposite sides of the bin to allow good air flow. When locating the manway, be sure the ladder will not interfere with the other bin accessories below. Roof vents should be spaced evenly around the roof.

2. Figure 10 shows two fans should be placed at a 90° angle to each other.

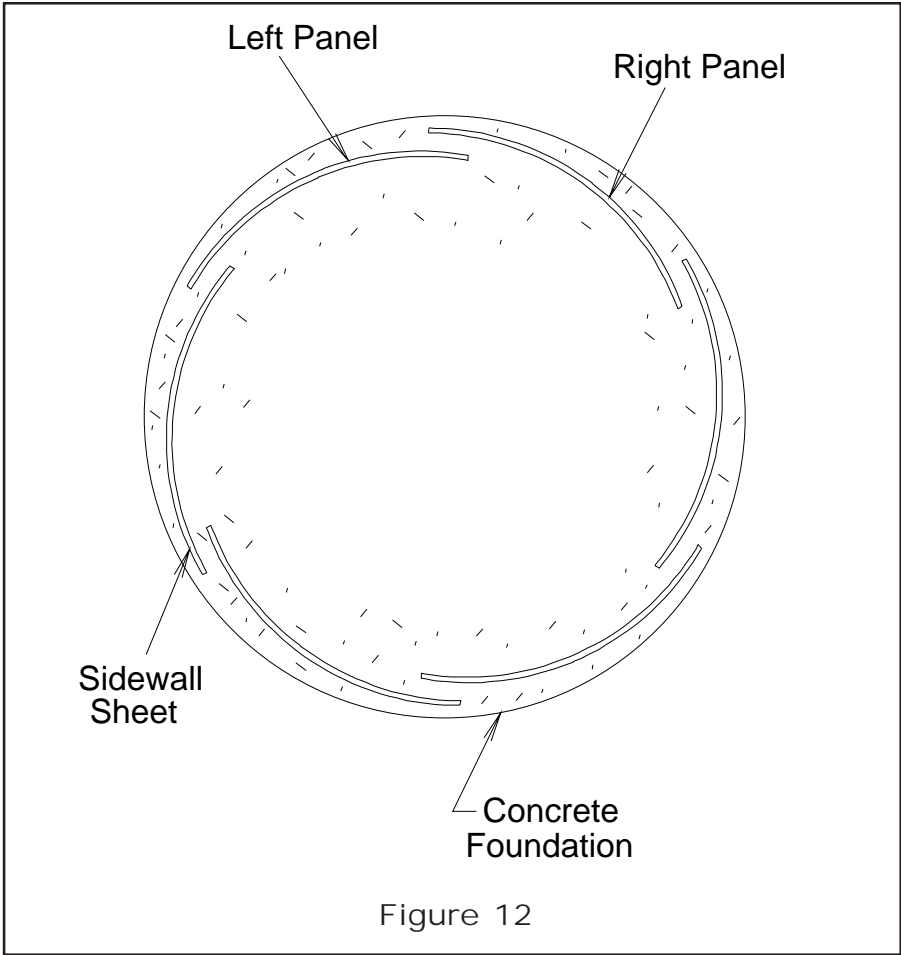


SIDEWALL ERECTION INSTRUCTIONS

Gauge Color Code

- 1. Before bolting the sidewall sheets together, check that you have the proper gauge steel for the first ring. The higher gauge numbers denote the thinner materials. *(For example, 22 gauge material is thinner than 14 gauge.)*
- 2. In erecting most grain bins the thinnest material usually goes on top, therefore the first sidewall ring you assemble will be the top ring of your bin.
- 3. Check the various gauges of your bin with the Color Code Chart and begin building accordingly. **REMEMBER.....** Assemble the top ring first.

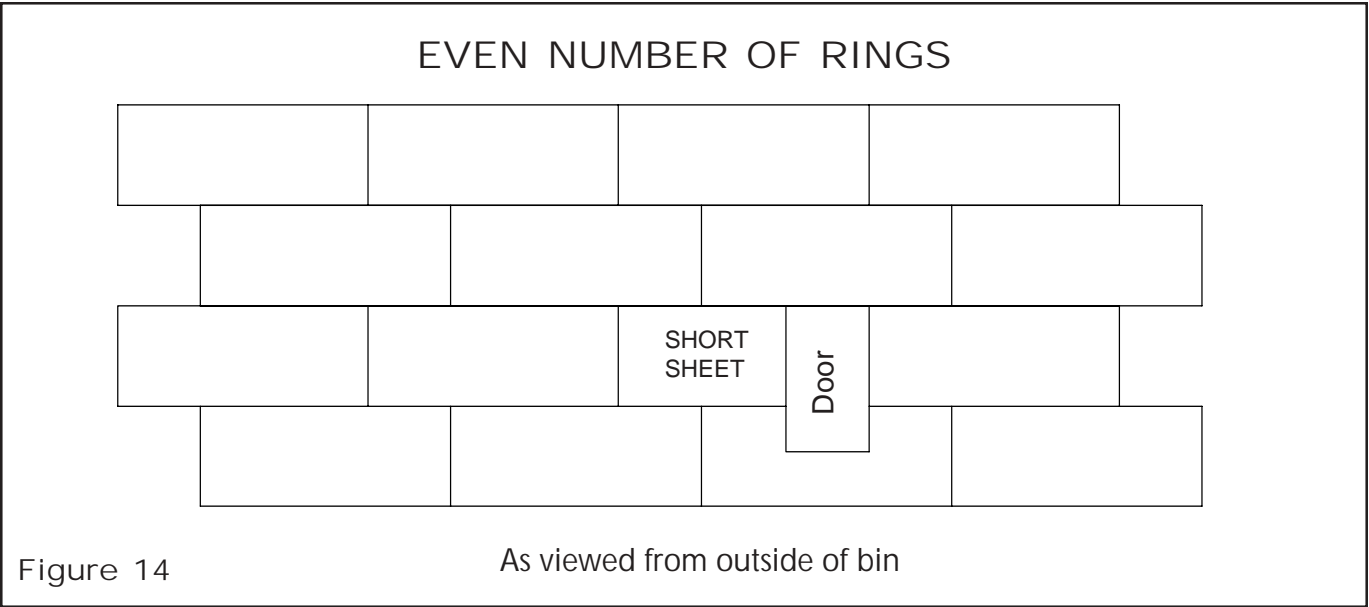
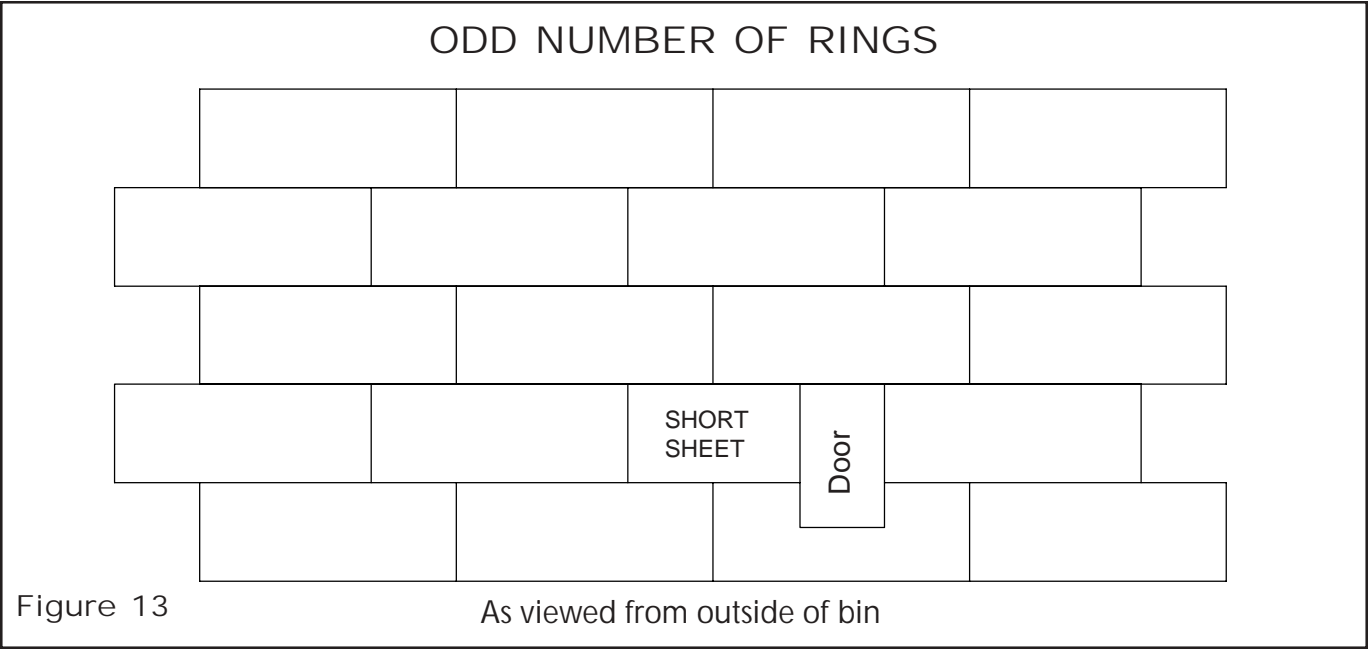
GAUGE	COLOR CODE
20	Red
19	Black/Yellow
18	Orange
17	Pink/Light Blue
16	Blue
15	Brown/Red
14	Green
13	Yellow/Blue
12	Black
11	Pink
10	Light Blue
9	Blue/Orange
8	Yellow



DOOR PLACEMENT

Give some thought before starting your bin on location of the door and other accessories. Proper placement of lifting jacks in relationship to the anchor bolts could make a difference on

odd or even ring bins. (See layouts below)
Note the walk-thru door must be centered between two anchor bolts. The sidewall sheets are staggered 1/3 from end to end.

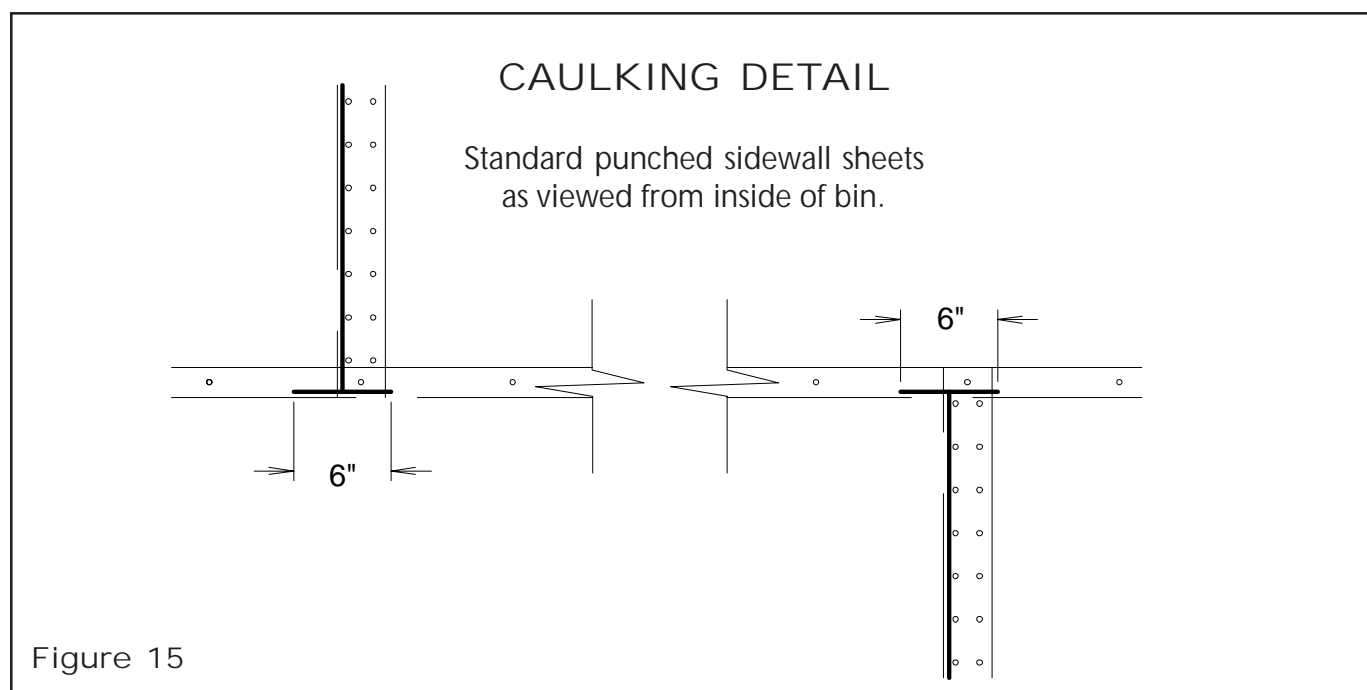


CAULKING SIDEWALL SHEET SEAMS

1. Apply one strip of caulking near the outside edge of the outer sheet, refer to illustration below. A strip of caulking 6" long, should be placed along the horizontal seams.
2. Before bolting the next ring in place, apply one strip of caulking 6" long on the front of the underlapped sheet at each joint.
3. Also, a 6" strip of caulking is to be placed along lower horizontal edge of lapping sheet at every vertical seam lap. This will fill the space that occurs between the holes caused by the overlapped sheets.
4. Using correct size bin bolts throughout, begin assembling sidewall sheets end to end (overlapping the same way throughout) until the ring is completed. All body sheet bolts are to be installed with the bolt head and its neoprene washer to the outside, and the nut on the inside. **Do not tighten bolts until all sheets are assembled and form a complete ring.**

5. Remember to attach lifting straps at the bottom of the vertical seams while bolting the sheets together. These straps, coupled to the jacks will enable you to later elevate your bin.
6. Now tighten the bolts in sequence, starting from the center and working to the edge in both directions. This permits the sidewall sheets to draw-up evenly. Complete one ring and stop.
7. You are now ready to assemble the roof. Refer to the roof erection manual for roof assembly instructions located in roof hardware box.

Note: The rope caulking is installed before each sheet is assembled. There is sufficient caulking for all vertical seams on storage and drying bins. Wipe sheet clean where caulking is to be applied.



HARDWARE

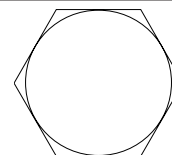
Identifying Bolt Grades

⚠ CAUTION

UNDER NO CONDITION SHALL ANY OTHER BOLTS BE SUBSTITUTED FOR THOSE SUPPLIED BY THE MANUFACTURER

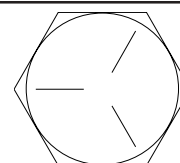
Grade 2 Bolts

- Grade 2 bolts are designated with a plain head. Grade 2 bolts will not be used in this grain bin.



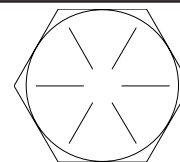
Grade 5 Bolts

- Grade 5 bolts are designated by 3 slash marks on the head. All 5/16" diameter bolts are to be Grade 5 or higher.



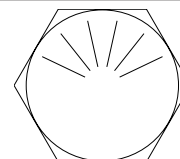
Grade 8 Bolts

- Grade 8 bolts are designated by 6 slash marks evenly spaced out around the head of the bolt.



Grade 8.2 Bolts

- Grade 8.2 bolts are designated by 6 slash marks on the head in a sunrise pattern. All 3/8" diameter bolts are to be Grade 8 or 8.2.



NOTE: Do not tighten bolts to exceed the torque specifications listed to the right.

BOLT SIZE	TORQUE (ft. lb.)	
	MINIMUM	MAXIMUM
5/16"-18	15	20
3/8"-16	35	42
7/16" - 14	65	72
1/2" - 13	95	105

HARDWARE USAGE

20 gauge - 15 gauge sidewall sheets, use 5/16" x 3/4" bolts and nuts. (S-275) [44pcs.]

14 gauge and 13 gauge sidewall sheets, use 5/16" X 3/4" bolts and nuts. (S-275) [66pcs.]

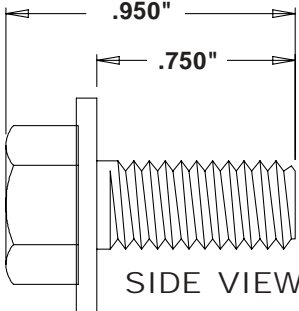
12 gauge - 8 gauge sidewall sheets, use 3/8" X 1" bolts and nuts. (S-455) [66pcs.]

- Use 5/16" bolts and nuts when joining 13 to 12 gauge on horizontal seams.
- Use 5/16" x 1-1/4" (S-277) for attaching floor flashing to the sidewall.

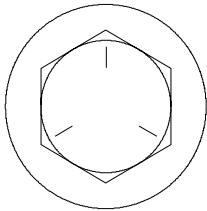
BOLT USAGE (REFER TO PAGE 31 & 32 FOR COMPLETE BOLT USAGE.)

S-275

.3125" x .750" Bolt Pre-assembled with a Steel Backed Neoprene Washer



SIDE VIEW

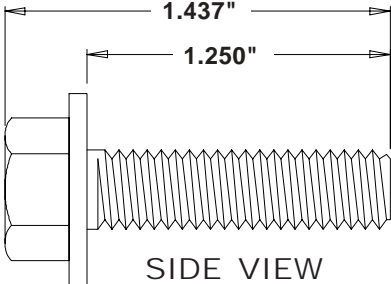


TOP VIEW
(Grade 5)

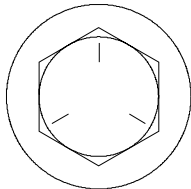
This bolt is used to connect horizontal and vertical seams for 14 gage and thinner sidewall sheets to each other, and to bolt the stiffeners to the sidewall sheets. It is also used in attaching roof panels to the top sidewall sheet and attaching roof panels and flashing to the center collar.

S-277

.3125" x 1.250" Bolt Pre-assembled with a Steel Backed Neoprene Washer



SIDE VIEW

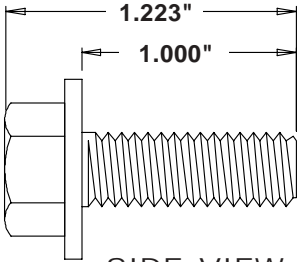


TOP VIEW
(Grade 5)

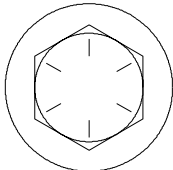
This bolt is primarily used to connect roof panels together where they overlap. It is also used at the bottom of the flat bottomed bins to attach the base angle to the sidewall sheet.

S-455

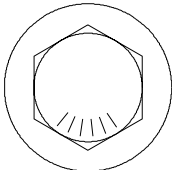
.375" x 1.000" pre-assembled with a steel backed neoprene washer.



SIDE VIEW



(GRADE 8)



(GRADE 8.2)

TOP VIEW

This bolt is used in horizontal and vertical seams for 12 gage and thicker laminate sidewall to attach the sheets to each other.

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PNEG-1094 Farm Grain Bin - 4" Corrugation

LIFTING JACK USAGE

General Lifting Jack Instructions

1. Give some thought before starting your bin, to the location of door and other accessories. Proper placement of lifting jacks in relationship to anchor bolts could make a difference on odd or even ring bins. Walk-thru door is centered between two stiffener anchor bolts. The sidewall sheets are also staggered 1/3 from end to end.

2. Anchor all jacks securely with metal stakes and cable.

3. Now raise the bin just high enough to assemble the next ring. When lifting your bin, **crank all jacks at an equal rate**. This will prevent bowing previously assembled rings and

make for easier hole alignment. (See figure 16)

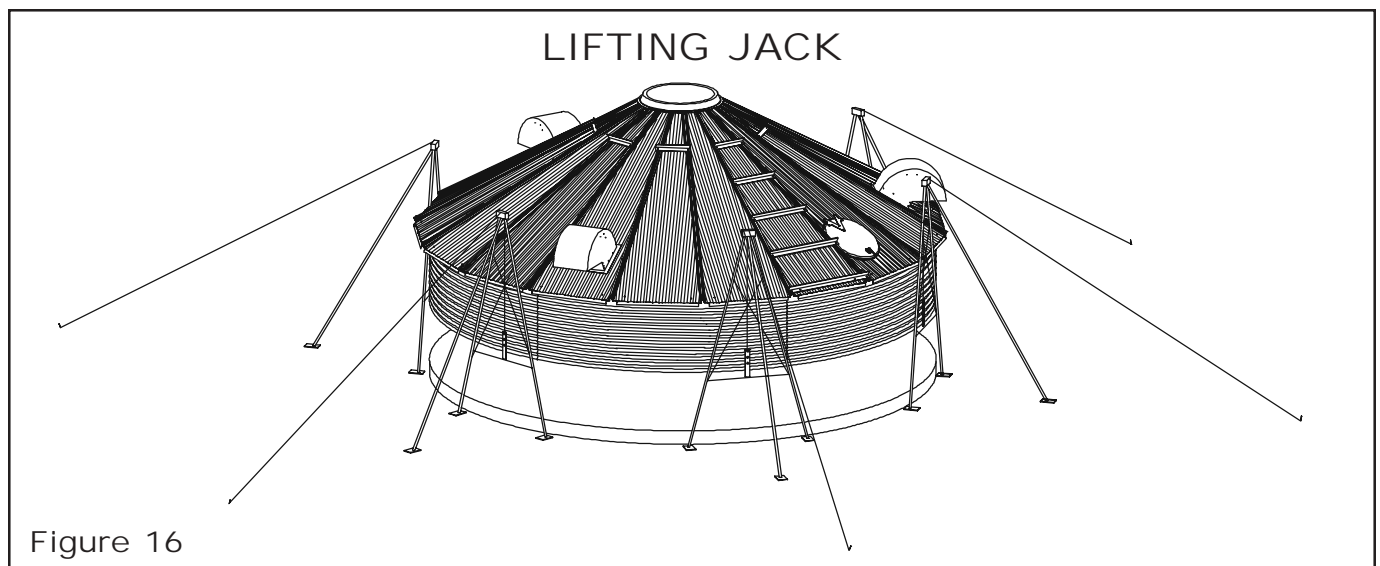
4. To the **inside** of the first ring, bolt the next ring. Be sure to **stagger** the sheets and select the proper gauge material.

5. Lower the bin onto the foundation after assembling and tightening bolts on the new ring or rings.

6. Now rebolt the lifting straps to the lowest ring in place thus far. Continue ring additions until you are ready for door installation.

NOTE: The number of lifting jacks required is best determined by personal experience. Factors such as bin size, soil compaction, wind velocity, jack design, etc. are all to be considered when deciding how many to use. If in doubt, use one jack on every vertical seam. Be sure to use Heavy Duty jacks for commercial installation.

NOTE: Add inside and outside ladders to bin walls as you continue to raise the bin. (Refer to the manual supplied with your ladder.)



SIDEWALL GAUGES

4.00" STANDARD BIN SIDEWALL GAUGES

UNDERLINING DENOTES TWO RING DOOR LOCATION

MODEL NO.	BIN DIAMETER	NO. OF RINGS	1-	2-	3-	4-	5-	6-	7-	8-	9
WS	15	3	<u>16</u>	<u>20</u>	20						
WS	15	4	<u>16</u>	<u>18</u>	20	20					
WS	15	5	<u>16</u>	<u>17</u>	18	20	20				
WS	18	3	<u>16</u>	<u>20</u>	20						
WS	18	4	<u>16</u>	<u>17</u>	20	20					
WS	18	5	<u>15</u>	<u>16</u>	18	20	20				
WS	18	6	<u>13</u>	<u>14</u>	16	17	18	20			
WS	18	7	<u>12</u>	<u>13</u>	14	16	17	18	20		
WS	18	8	<u>12</u>	<u>12</u>	13	14	16	17	18	20	
WS	18	9	<u>11</u>	<u>12</u>	12	13	14	16	17	18	20
WS	21	3	<u>16</u>	<u>18</u>	20						
WS	21	4	<u>15</u>	<u>17</u>	20	20					
WS	21	5	<u>14</u>	<u>16</u>	17	20	20				
WS	21	6	<u>13</u>	<u>14</u>	16	17	20	20			
WS	21	7	<u>12</u>	<u>13</u>	14	16	17	18	20		
WS	21	8	<u>12</u>	<u>12</u>	13	14	16	17	18	20	
WS	21	9	<u>11</u>	<u>12</u>	12	13	14	16	17	18	20
WS	24	3	<u>16</u>	<u>18</u>	20						
WS	24	4	<u>16</u>	<u>17</u>	20	20					
WS	24	5	<u>14</u>	<u>15</u>	17	20	20				
WS	24	6	<u>13</u>	<u>14</u>	15	17	20	20			
WS	24	7	<u>12</u>	<u>13</u>	14	15	17	18	20		
WS	24	8	<u>11</u>	<u>12</u>	13	14	15	17	18	20	
WS	24	9	<u>11</u>	<u>11</u>	12	13	14	15	17	18	20
WS	27	3	<u>16</u>	<u>17</u>	20						
WS	27	4	<u>14</u>	<u>16</u>	17	20					
WS	27	5	<u>14</u>	<u>15</u>	17	18	20				
WS	27	6	<u>13</u>	<u>14</u>	15	17	18	20			
WS	27	7	<u>12</u>	<u>13</u>	14	15	17	17	18		
WS	27	8	<u>11</u>	<u>12</u>	13	14	15	17	17	18	
WS	27	9	<u>11</u>	<u>11</u>	12	13	14	15	17	17	18
WS	30	4	<u>14</u>	<u>16</u>	17	20					
WS	30	5	<u>14</u>	<u>14</u>	17	18	20				
WS	30	6	<u>13</u>	<u>13</u>	14	16	17	18			
WS	30	7	<u>12</u>	<u>13</u>	13	14	15	17	18		
WS	30	8	<u>11</u>	<u>12</u>	13	13	14	15	17	18	
WS	30	9	<u>11</u>	<u>11</u>	12	13	13	14	15	17	18
WS	33	4	<u>14</u>	<u>15</u>	17	20					
WS	33	5	<u>14</u>	<u>14</u>	17	17	20				
WS	33	6	<u>13</u>	<u>13</u>	14	16	17	18			
WS	33	7	<u>12</u>	<u>13</u>	13	14	15	17	18		
WS	33	8	<u>11</u>	<u>12</u>	13	13	14	15	17	18	
WS	33	9	<u>10</u>	<u>11</u>	12	13	13	14	15	17	18

4.00" STANDARD BIN SIDEWALL GAUGES

UNDERLINING DENOTES TWO RING DOOR LOCATION

MODEL NO.	BIN DIAMETER	NO. OF RINGS	1-	2-	3-	4-	5-	6-	7-	8-	9-
WS	36	4	<u>14</u>	<u>15</u>	17	18					
WS	36	5	<u>14</u>	<u>14</u>	17	17	18				
WS	36	6	<u>13</u>	<u>13</u>	14	16	17	18			
WS	36	7	<u>12</u>	<u>13</u>	13	14	15	17	18		
WS	36	8	<u>11</u>	<u>12</u>	13	13	14	15	17	18	
WS	36	9	<u>10</u>	<u>11</u>	12	13	13	14	15	17	18
WS	42	4	<u>14</u>	<u>15</u>	17	18					
WS	42	5	<u>13</u>	<u>14</u>	15	17	18				
WS	42	6	<u>12</u>	<u>13</u>	14	15	17	18			
WS	42	7	<u>11</u>	<u>12</u>	13	14	15	17	18		
WS	42	8	<u>11</u>	<u>11</u>	12	13	14	15	17	18	
WS	42	9	<u>10</u>	<u>11</u>	11	12	13	14	15	17	18
WS	48	4	<u>14</u>	<u>14</u>	17	17					
WS	48	5	<u>13</u>	<u>14</u>	14	17	17				
WS	48	6	<u>12</u>	<u>13</u>	14	14	17	17			
WS	48	7	<u>11</u>	<u>12</u>	13	14	14	17	17		
WS	48	8	<u>10</u>	<u>11</u>	12	13	14	14	17	17	
WS	48	9	<u>8</u>	<u>10</u>	11	12	13	14	14	17	17

4.00" HEAVY BIN SIDEWALL GAUGES

UNDERLINING DENOTES TWO RING DOOR LOCATION

MODEL NO.	BIN DIAMETER	NO. OF RINGS	1-	2-	3-	4-	5-	6-
WH	18	5	<u>14</u>	<u>16</u>	17	18	20	
WH	18	6	<u>13</u>	<u>14</u>	16	17	18	20
WH	21	5	<u>14</u>	<u>16</u>	17	18	20	
WH	21	6	<u>13</u>	<u>14</u>	16	17	18	20
WH	24	5	<u>14</u>	<u>15</u>	17	18	20	
WH	24	6	<u>13</u>	<u>14</u>	15	17	18	20
WH	27	5	<u>14</u>	<u>15</u>	16	17	20	
WH	27	6	<u>13</u>	<u>14</u>	15	16	17	20
WH	30	5	<u>14</u>	<u>14</u>	15	17	18	
WH	30	6	<u>13</u>	<u>13</u>	14	15	17	18
WH	33	5	<u>13</u>	<u>14</u>	15	17	18	
WH	33	6	<u>12</u>	<u>13</u>	14	15	17	18
WH	36	5	<u>13</u>	<u>14</u>	15	17	18	
WH	36	6	<u>12</u>	<u>13</u>	14	15	17	18

4.00" RECIRCULATING BIN SIDEWALL GAUGES

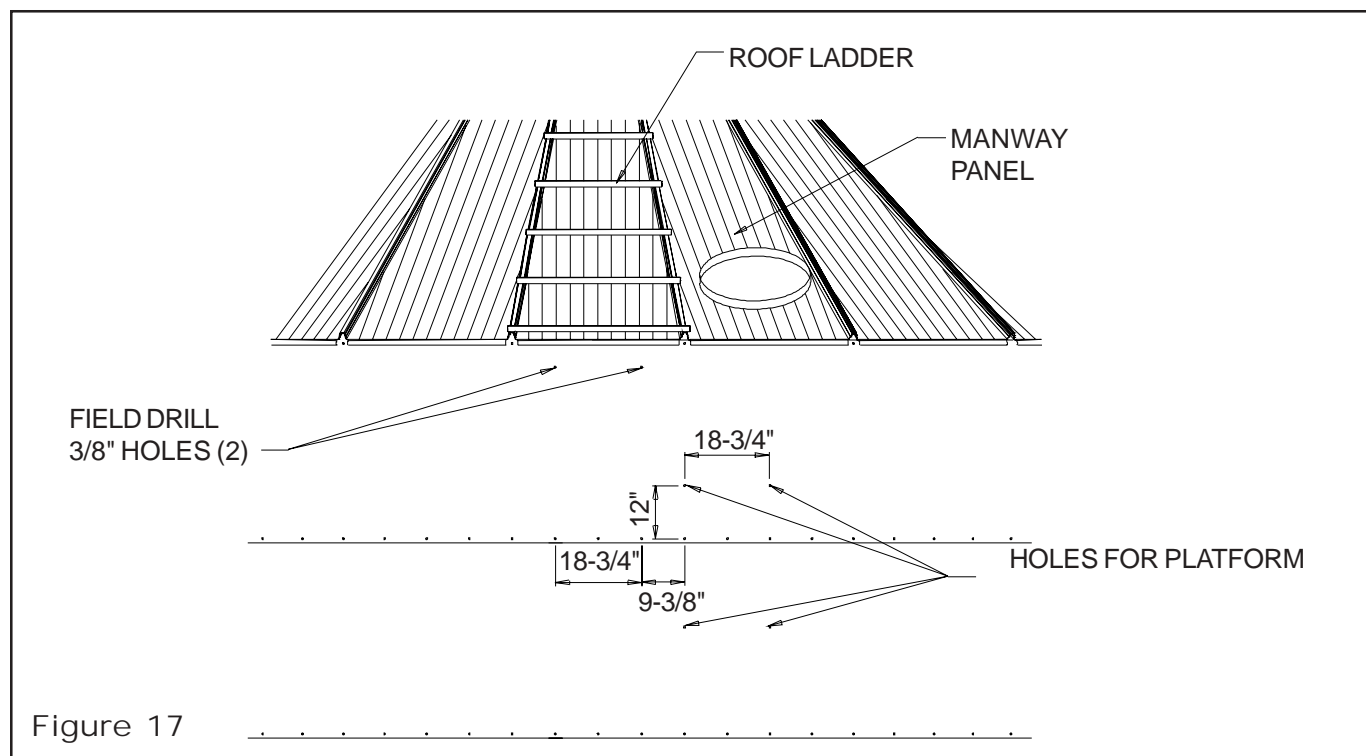
UNDERLINING DENOTES TWO RING DOOR LOCATION

MODEL NO.	BIN DIAMETER	NO. OF RINGS	1-	2-	3-	4-	5-	6-
WR	18	5	<u>13</u>	<u>14</u>	16	18	20	
WR	18	6	<u>12</u>	<u>13</u>	14	16	18	20
WR	21	5	<u>13</u>	<u>14</u>	16	18	20	
WR	21	6	<u>12</u>	<u>13</u>	14	16	18	20
WR	24	5	<u>13</u>	<u>14</u>	15	17	20	
WR	24	6	<u>12</u>	<u>13</u>	14	15	17	18
WR	27	5	<u>13</u>	<u>14</u>	15	17	20	
WR	27	6	<u>12</u>	<u>13</u>	14	15	17	18
WR	30	5	<u>13</u>	<u>14</u>	15	17	18	
WR	30	6	<u>12</u>	<u>13</u>	14	15	17	18
WR	33	5	<u>13</u>	<u>14</u>	14	17	18	
WR	33	6	<u>12</u>	<u>12</u>	13	14	17	18
WR	36	5	<u>13</u>	<u>14</u>	14	17	18	
WR	36	6	<u>12</u>	<u>12</u>	13	14	17	18
WR	42	5	<u>12</u>	<u>13</u>	14	15	17	
WR	42	6	<u>11</u>	<u>12</u>	13	14	15	17
WR	48	5	<u>11</u>	<u>12</u>	13	15	17	
WR	48	6	<u>10</u>	<u>11</u>	12	13	15	17

STARTING LOCATION OF LADDERS

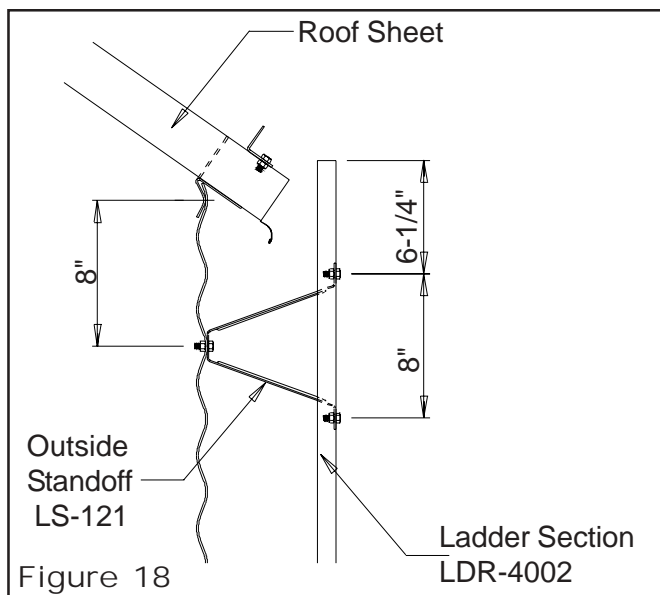
Ladder placement is very critical as to assure proper fit of all parts later on as safety cage is bolted in place. Locate the proper place for roof ladder and manway, this will establish the location of ladder. Ladder must be centered directly below the roof ladder. Refer to the diagram shown below for proper location of field drilled holes (3/8" dia.). Holes must be

18-3/4" apart and 8" below the top horizontal row of holes directly in line with the holes pre punched in the horizontal seam. Diagram also shows the proper holes to be used for the platform mounting angle. Platform must be located 9-3/8" to the right of the ladder holes. All of these dimensions are very critical to assure proper fit of all parts!



LADDER PLACEMENT

Ladder placement on the grain bin is very important at this time. Refer to diagram at the left and follow the correct dimensions as shown. Ladder standoff must be located 8" below the horizontal seam. Check your ladder to make sure the ladder rung dimples are to the top surface. Attach ladder to the standoff using the hole located 6-1/4" from the top end of the ladder section use 5/16" x 3/4" bin bolts for these connections. Now all standoffs must be located in horizontal seams (repeating every 44").



PLATFORM SUPPORT ASSEMBLY

When starting the platform support, you must attach the mounting angle to the sidewall of the grain bin. Refer to Figure 17 on previous page for the correct holes to be used by the platform. Attach the angle using 5/16" x 3/4" bolts and nuts, tighten at this time. Next, bolt the support angle to the mounting angle again using the proper holes. Take the brace angle and bolt it to the support angle and the mounting angle, as shown in Figure 19. Use 5/16" x 3/4" bolts and nuts for all connections.

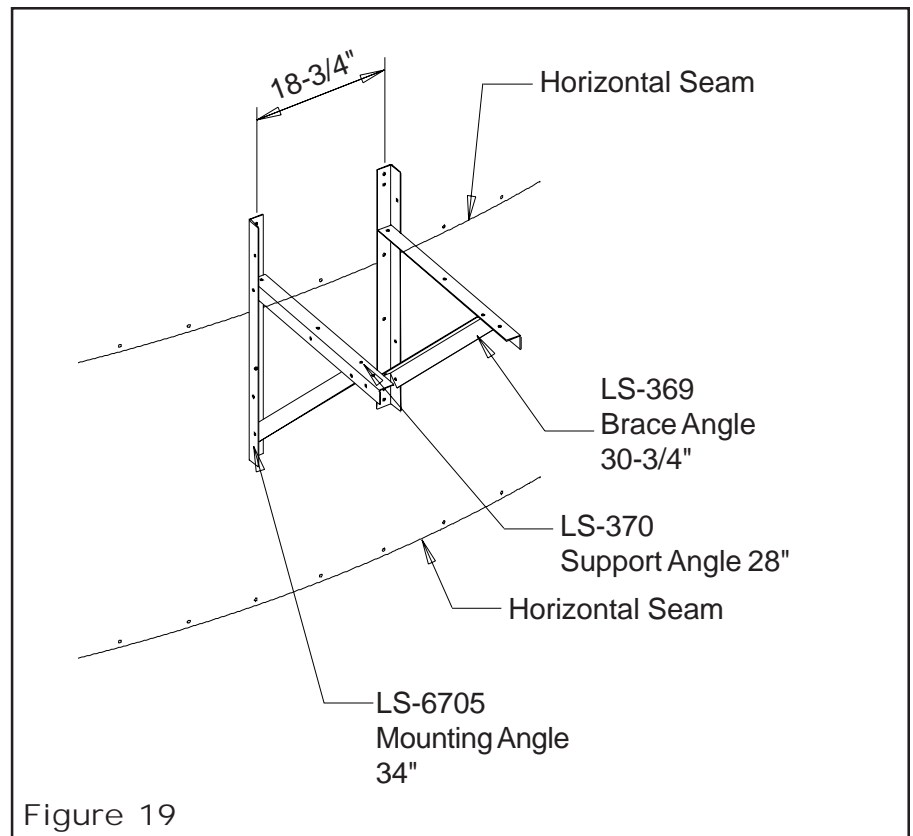


Figure 19

PLATFORM AND HANDRAIL ASSEMBLY

Start by attaching the platform itself to the platform support using 5/16" x 3/4" truss head bolts and nuts. Place all vertical angles in place making sure to place the vertical entrance angle to the left front corner of the platform. After all vertical angles are in place, attach the front and side handrails as shown in the diagram at left. Use 5/16" x 3/4" bolts and nuts for all connections.

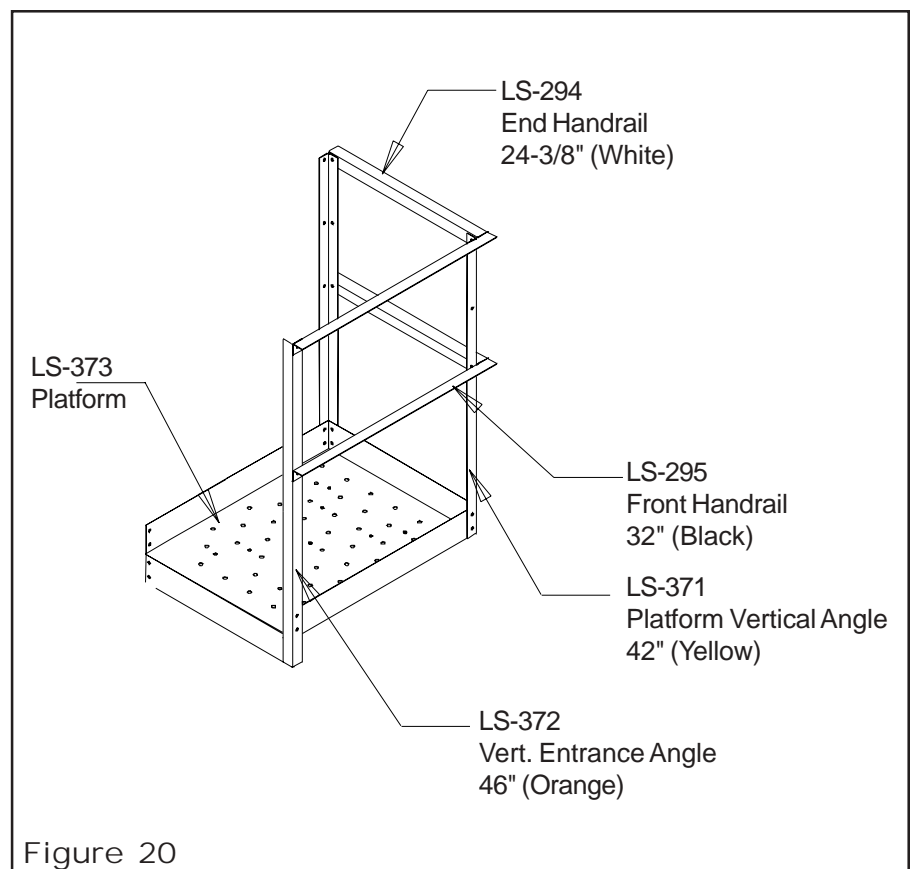
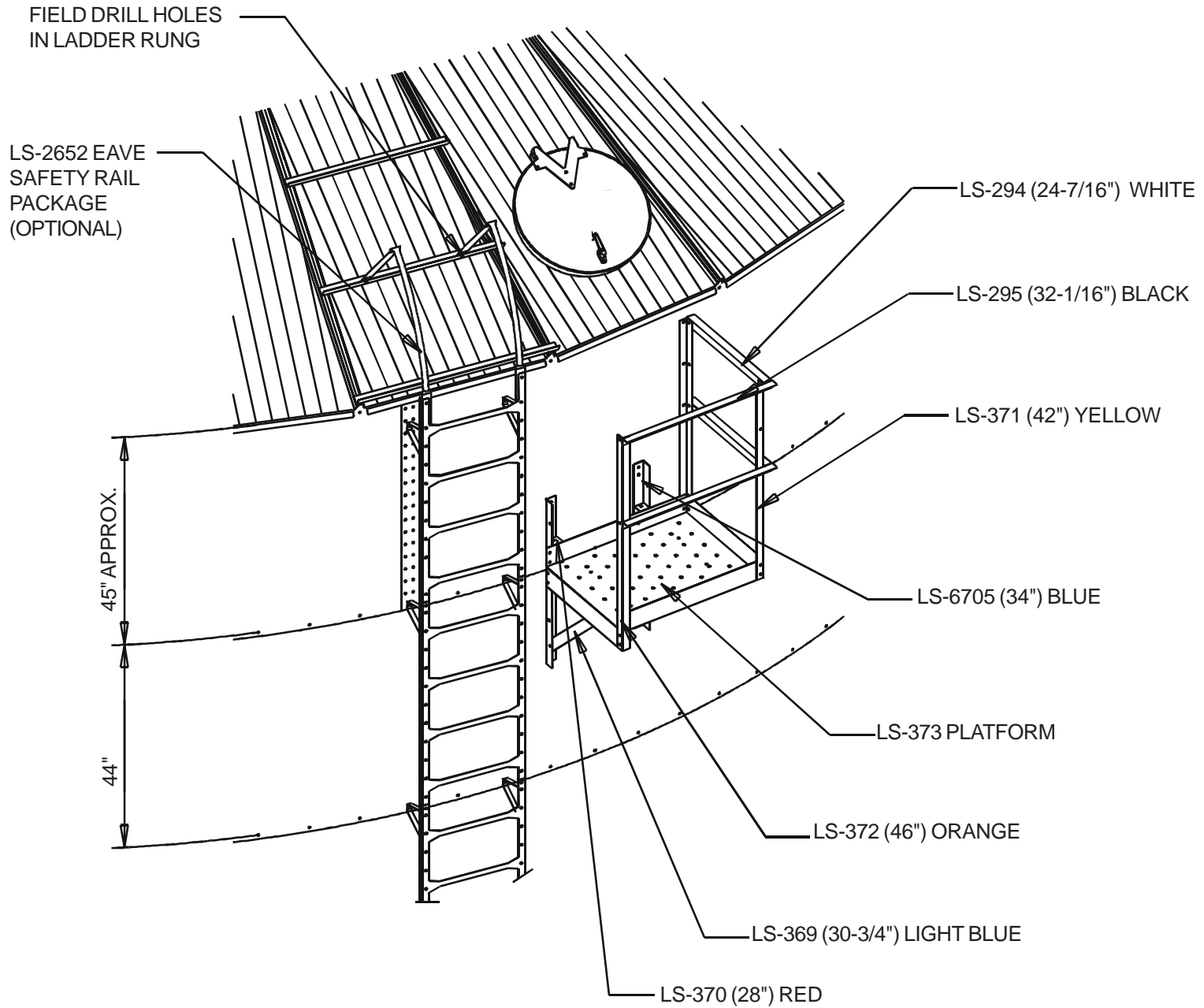


Figure 20

LADDER AND SAFETY RAIL DETAIL



TWO RING DOOR INSTALLATION

Before starting to install, be sure the correct door has been received. (See chart at right.) Note that one ring doors are standard with some sizes of bins/silos. Refer to page 47 for round access door installation instructions.

Two Ring Door Installation Instructions
(Refer to Figure 23 on page 42.)

1. Remove inner door panels (19-21), and outer door cover (1). Apply double row of rope caulk along door flanges, noting how door and bin sheets lap. The **top** of the door frame goes to the **inside** of the sidewall and the **bottom** of the door frame goes to the **outside** of the sidewall sheet. With inner door panels and outer door cover removed set door frame into opening.

Insert a bolt at the four corners of door frame and sidewall, but do not tighten until completing step #2.

2. Reinstall inner door panels (19-21) at original locations. Close latch bars (12) to lock panels in place. Be sure that panels are fully seated over all bearing pins (17). Install inner panel hinge assemblies (8-10) per illustration instructions with hinges. **Note: Do not distort door frame with use of alignment or drift punches - if necessary, drill or ream holes to insert bolts in door frame. Now tighten frame bolts starting at center and working toward top and bottom on each side.**

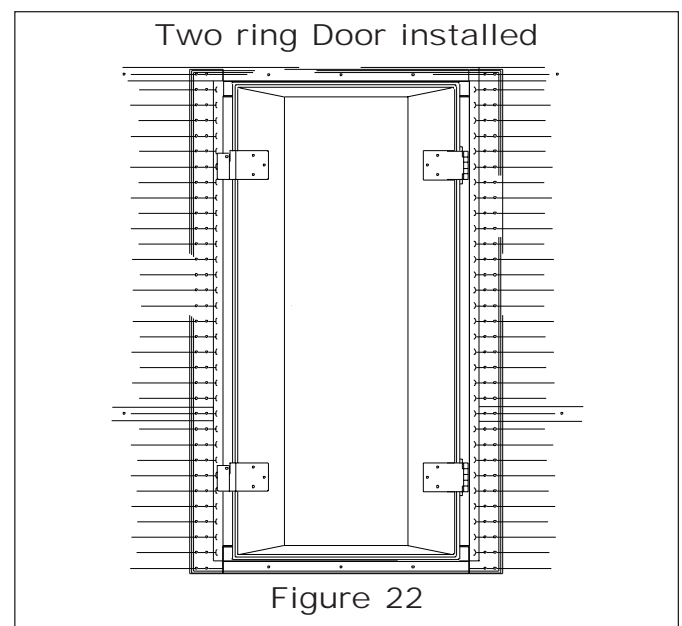
3. Keep inner panels latched and loosen all bearing pin bolts (17). Retighten all bearing pin bolts. This makes loading on pins uniform for easier operation of panels.

4.) If some latch bars (12) are loose or require excessive force to lock, loosen hex socket capscrews and adjust in or out until latch bars operate smoothly. Check that the panels are fully seated over all bearing pins.

4.00" Corrugation	
WD-6241 WD-6245	12' - 27' Bins/Silo's
WD-6242 WD-6246	30' - 42' Bins/Silos - Maximum height of 9 rings 48' - Maximum height of 8 rings
WD-6244 WD-6248	48' Bins/Silos - 9 rings
Optional Auger Hood 2-Ring	
WD-6243 WD-6247	12' - 24' Bins/Silos - with auger hood panel.

5.) Reinstall outer door cover (1). Adjust outer door hinges and latches as required.

6.) Assemble door hold back as shown on next page. Open door cover (1) until it approaches the bin wall. Hook retaining bracket (5) over lower latch (2) mount and position the door hold back bracket (24) against bin wall in a valley. Drill a 3/8" hole through the bin wall and bolt the door hold back bracket (24) to the bin. If needed, install the door hold back extension (25) to door hold back bracket (24).



2-RING DOOR ASSEMBLY

WD-6241 & WD-6245 (12' - 27' Dia. Bins)
 WD-6242 & WD-6246 (30' - 42' Dia. Bins)
 (48' Dia. Bins Up to 8 Rings)

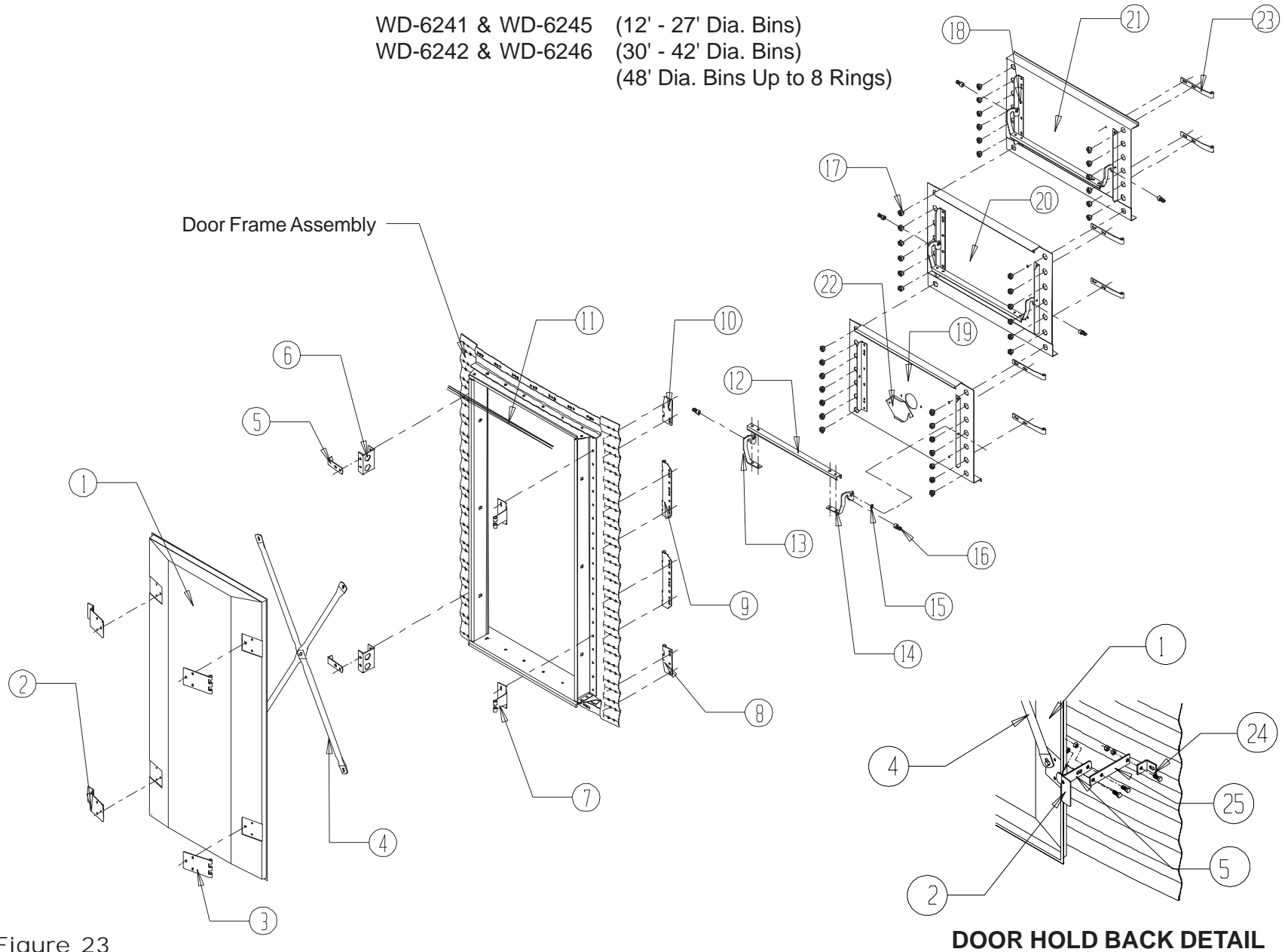


Figure 23

PARTS LIST FOR 2-RING DOORS

WD-6241 & WD-6245 (12' - 27' Dia. Bins)

WD-6242 & WD-6246 (30' - 42' Dia. Bins)

(48' Dia. Bins Up to 8 Rings)

KEY	DESCRIPTION	PART NUMBER	PART NUMBER	QUANTITY	QUANTITY
		12'-27' BIN DIA.	30'-60' BIN DIA.	12'-27' BIN	30'-60' BIN
		4.00" CORR.	4.00" CORR.	DIAMETER	DIAMETER
1	OUTER DOOR COVER	WD-039	WD-039	1	1
2	OUTER COVER LATCH BRACKET	WD-2854	WD-2854	2	2
3	OUTER COVER HINGE BRACKET	WD-225	WD-225	2	2
4	DOOR COVER BRACE SECTION	WD-035	WD-035	4	4
5	DOOR RETAINER	WD-033	WD-033	3	3
6	OUTER COVER LATCH MOUNT BASE	WD-6124	WD-6124	2	2
7	OUTER COVER HINGE BASE	WD-6066	WD-6066	2	2
8	BOTTOM INNER DOOR HINGE	WD-6055	WD-6055	1	1
9	MIDDLE INNER DOOR HINGE	WD-6056	WD-6056	2	2
10	TOP INNER DOOR HINGE	WD-6054	WD-6054	1	1
11	RUBBER TRIM SEAL STRIP	S-4380	S-4380	2.1/4 FT.	2.1/4 FT.
12	LATCH BAR	WD-6039	WD-6039	3	3
13	INNER PANEL LATCH - RIGHT HAND	WD-6037	WD-6037	3	3
14	INNER PANEL LATCH - LEFT HAND	WD-6038	WD-6038	3	3
15	1/2" X 1" HEX SOCKET CAPSCREW	S-7160	S-7160	6	6
16	LATCH BUSHING	WD-6040	WD-6040	6	6
17	LONG BEARING PIN	WD-6079	WD-6079	38	38
18	INNER PANEL REINFORCING ANGLE	WD-6125	WD-6125	6	6
19	BOTTOM INNER DOOR PANEL	WD-6128	WD-6128	1	1
20	MIDDLE INNER DOOR PANEL	WD-6127	WD-6127	1	1
21	TOP INNER DOOR PANEL	WD-6126	WD-6126	1	1
22	BOTTOM INNER DOOR PORT HOLE COVER	WD-6028	WD-6028	1	1
23	INNER DOOR HINGE STRAP	WD-6053	WD-6053	6	6
24	DOOR HOLD BACK BRACKET	WD-1302	WD-1302	1	1
25	DOOR HOLD BACK EXTENSION	WD-6110	WD-6110	1	1

HEAVY 2-RING DOOR ASSEMBLY

WD-6244 & WD-6248
(48' Dia. Bins 9 Rings)

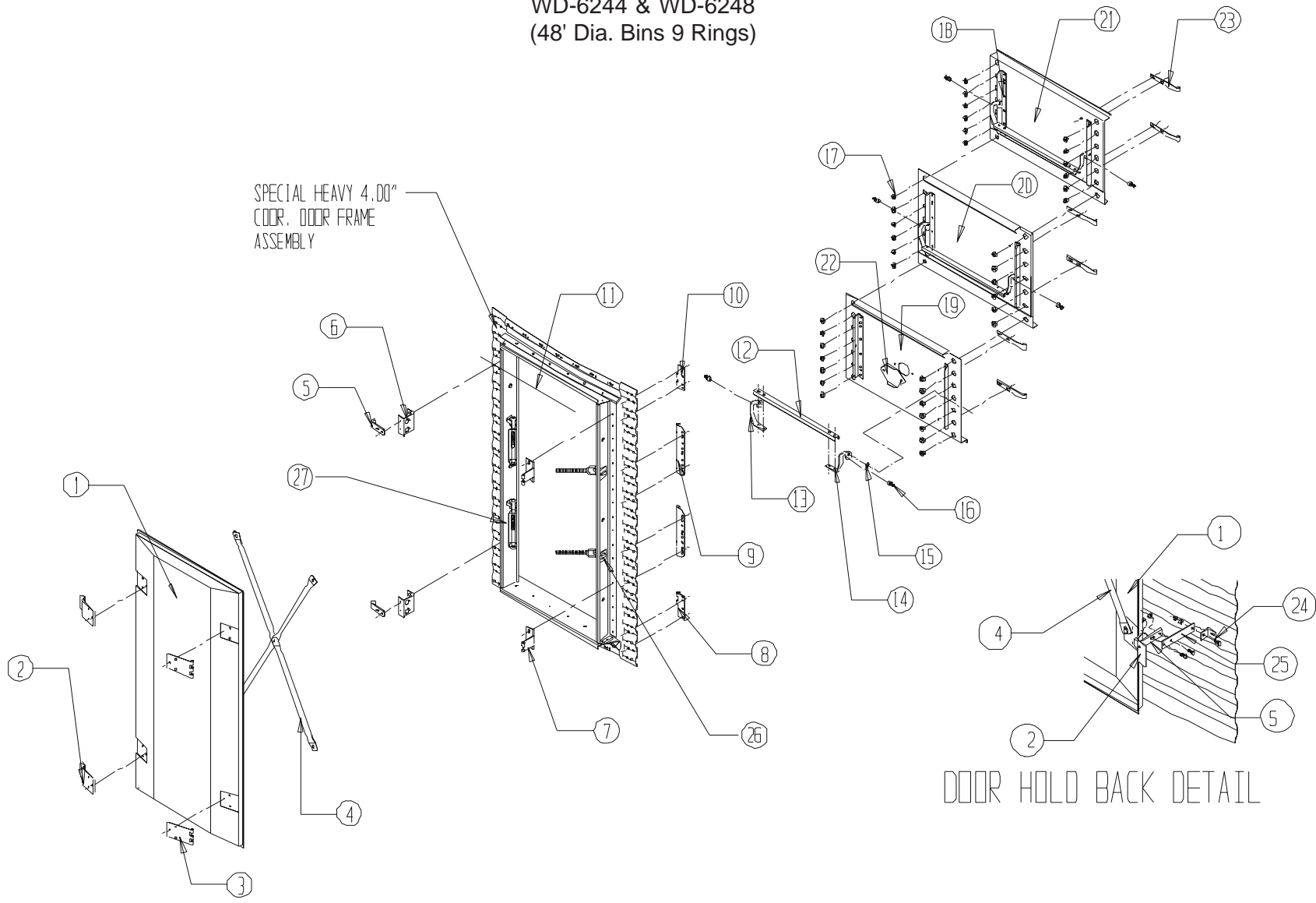


Figure 24

PARTS LIST FOR HEAVY 2-RING DOORS

WD-6244 & WD-6248
(48' Dia. Bins 9 Rings)

Key	Description	Part No.	Part No.	Quantity	Quantity
		12'-27' Bin DIA.	30'-60' Bin DIA.	12'-27' Bin Diameter	30'-60' Bin Diameter
		4.00" Corr.	4.00" Corr.		
1	Outer Door Cover	WD-039	WD-039	1	1
2	Outer Cover Latch Bracket	WD-2854	WD-2854	2	2
3	Outer Cover Hinge Bracket	WD-225	WD-225	2	2
4	Door Cover Brace Section	WD-035	WD-035	4	4
5	Door Retainer	WD-033	WD-033	3	3
6	Outer Cover Latch Mount Base	WD-6124	WD-6124	2	2
7	Outer Cover Hinge Base	WD-6066	WD-6066	2	2
8	Bottom Inner Door Hinge	WD-6055	WD-6055	1	1
9	Middle Inner Door Hinge	WD-6056	WD-6056	2	2
10	Top Inner Door Hinge	WD-6054	WD-6054	1	1
11	Rubber Trim Seal Strip	S-4380	S-4380	2.1/4"ft	2.1/4"ft
12	Latch Bar	WD-6039	WD-6039	3	3
13	Inner Panel Latch - Right Hand	WD-6037	WD-6037	3	3
14	Inner Panel Latch - Left Hand	WD-6038	WD-6038	3	3
15	Latch Bushing	WD-6040	WD-6040	6	6
16	1/2" x 1" Hex Socket Capscrew	S-7160	S-7160	6	6
17	Long Bearing Pin	WD-6079	WD-6079	38	38
18	Inner Panel Reinforcing Angle	WD-6125	WD-6125	6	6
19	Bottom Inner Door Panel	WD-6140	WD-6140	1	1
20	Middle Inner Door Panel	WD-6141	WD-6141	1	1
21	Top Inner Door Panel	WD-6139	WD-6139	1	1
22	Bottom Inner Door Port Hole Cover	WD-6028	WD-6028	1	1
23	Inner Door Hinge Strap	WD-6053	WD-6053	6	6
24	Door Hold Back Bracket	WD-1302	WD-1302	1	1
25	Door Hold Back Extension	WD-6110	WD-6110	1	1
26	Turnbuckle Latch Weldment	WD-6147	WD-6147	4	4
27	Turnbuckle 5/8" x 9"	D32-003	D32-003	2	2

OPTIONS FOR TWO RING DOORS

Inner Door Auger Hood

12' (3.66 M) - 24' (7.32 M)
Diameters Only

1. Remove bolts, lockwashers and nuts along each side of large square opening on the inner door panel.
2. Position auger shield as shown in Figure 25 and bolt to underside of top angle with bolt heads under shield. Replace bolts, lockwashers, and nuts through inner door panel and auger shield. (See Figure 25.)
3. Attach inner door panel to inner bin door and outer door panel to the outer bin door.

Bin Step

1. Attach the left and right sides to the sides of the bin step using four (4) 5/16" x 3/4" Gr.5 hex head bin bolts & nuts. (See Figure 26.)
2. Center assembled step under bin door and use it as a template to field drill the holes in the side wall sheet on the ridges of the corrugation.

CAUTION

Unloading grain through door opening may cause grain bin failure if not done properly! Unloading directly through the door opening should be limited to grain bins no larger than 24' (7.32M) diameter and grain depths no greater than 18' (5.49M). Unloading from the door opening should be done only with use of an auger hood with the auger inserted through the opening all the way to the center of the bin.

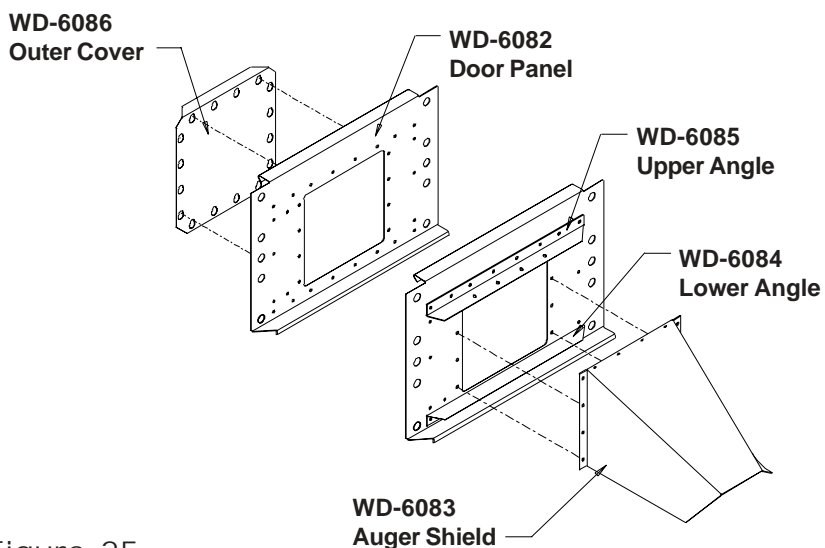


Figure 25

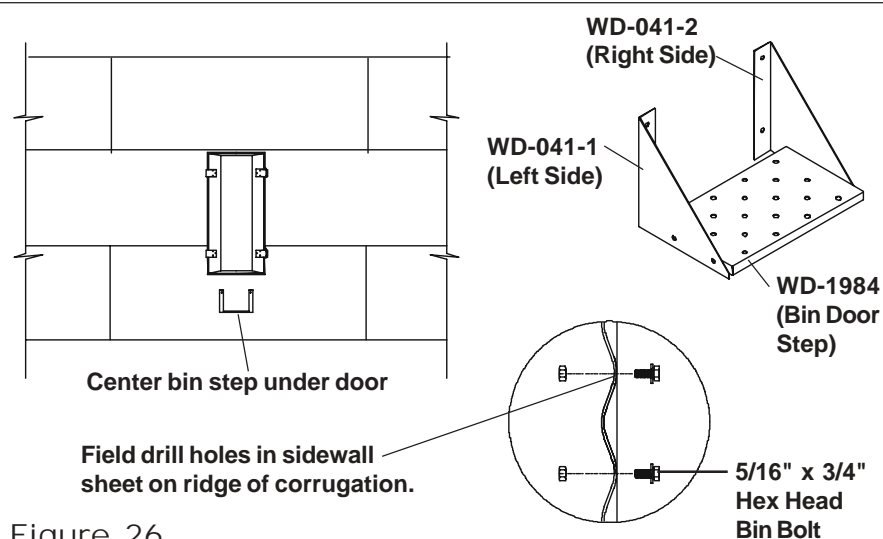


Figure 26

ROUND ACCESS DOOR WELDMENT ASSEMBLY

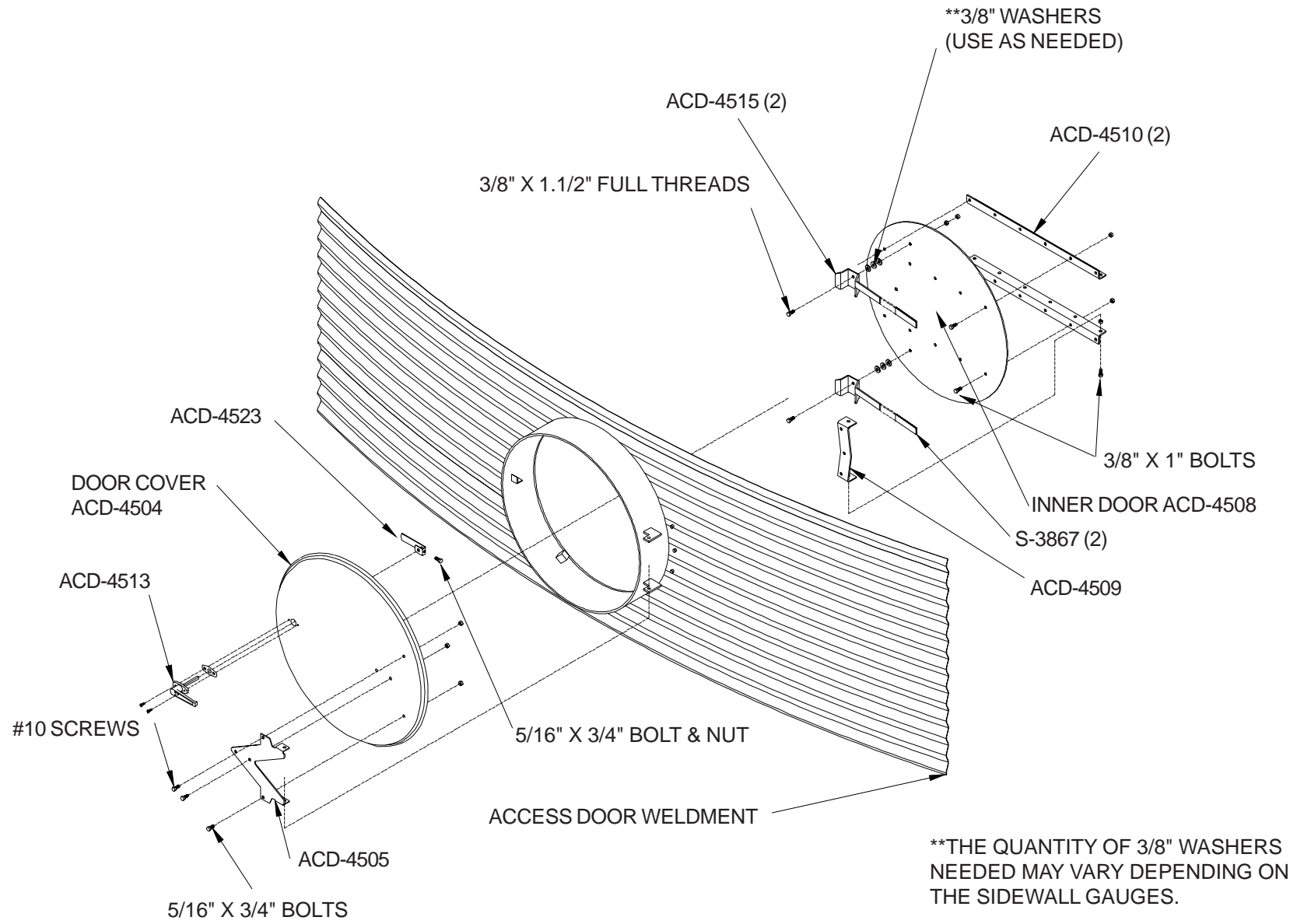
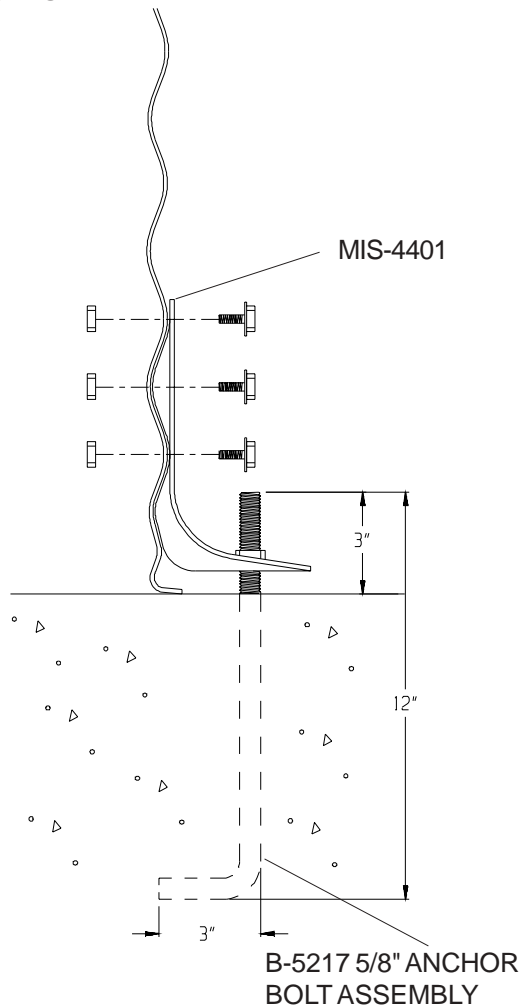


Figure 27

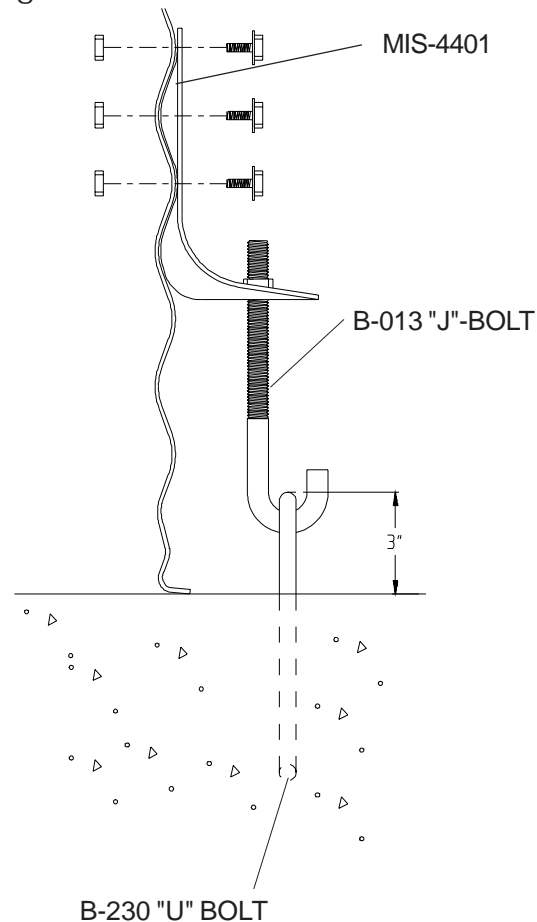
OUTSIDE BIN HOLD DOWN DETAILS (4.00" CORRUGATION)

Figure 28



SINGLE ANCHOR BOLT

Figure 29



"U" BOLT / "J"-BOLT
COMBINATION

Outside Hold Downs

Outside bin hold downs should be used on all non-stiffened bins. When anchoring the bin, be sure the vertical seams of the bin align with the U-Bolts in the foundation.

They may be anchored to the foundation using either the U-Bolt and J-Bolt combination or the single anchor bolt, except on being 42' diameter and larger bins.

NOTE: All non-stiffened 42' and larger bins should use single anchor bolts, not the U-Bolt /J-Bolt combination. (Double U-Bolt / J-Bolt may be used on non-stiffened 42' and larger bins as an option.)

BASE ANGLE INSTALLATION

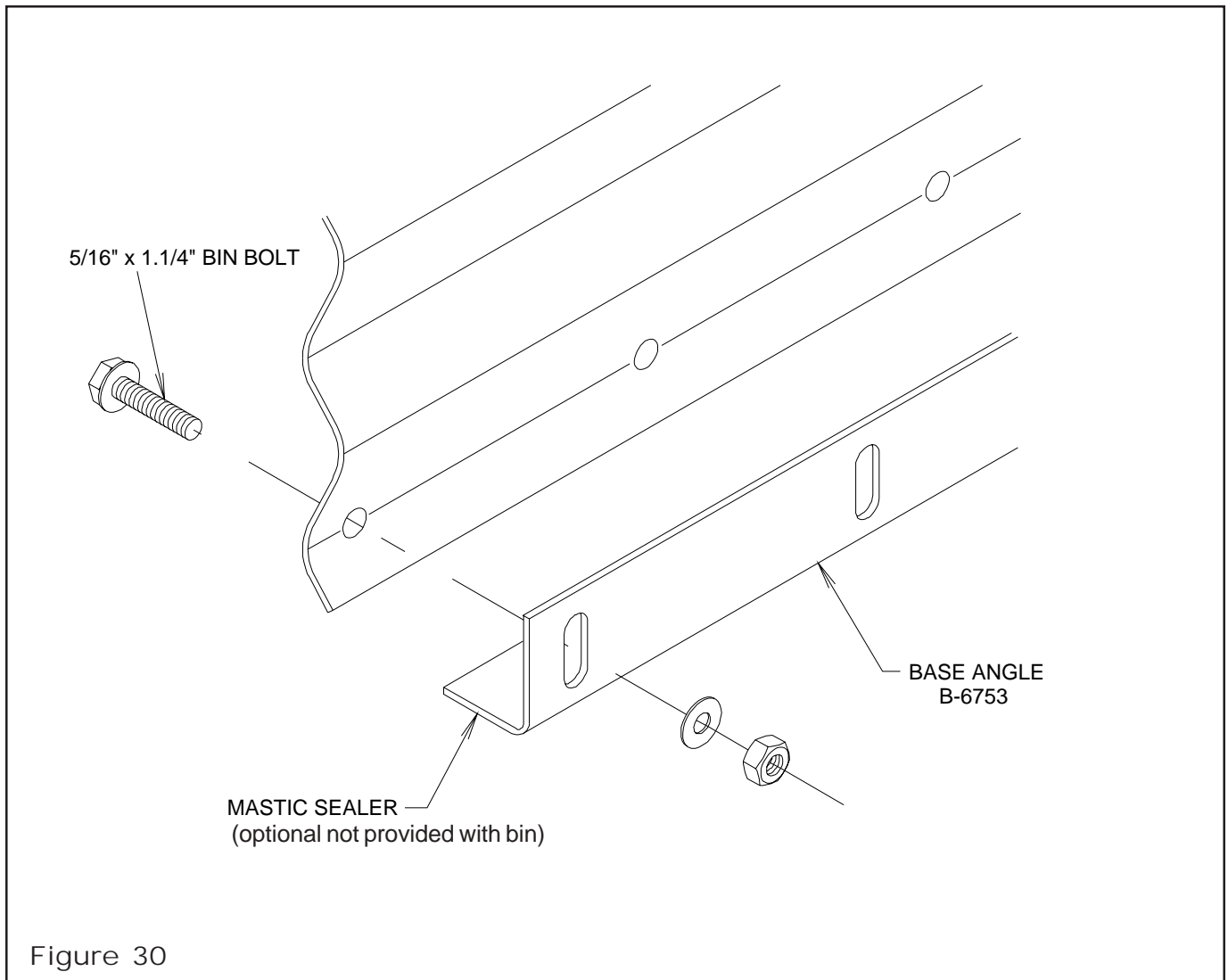
A bolt on base angle is standard on 8 gauge Unstiffened base rings sheets and all Farm-Com base rings. Install the base ring angle as shown below.

1. Once the door frame has been placed and secured, continue adding necessary sidewall ring(s).
2. To the lower edge of the final bottom ring, attach the base angle ring. (Bolt on base angle

where applicable.) Before lowering the bin, apply mastic sealer to the entire underneath side of the base angle. (See below)

3. Next, lower the bin onto the foundation and check for an adequate seal.

4. Sealing the base of the bin after final construction is done by various methods and materials. However, provisions should be made to seal the base of the bin to prevent moisture from coming into the bin.



NOTES

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07/21/98

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