

MERIDIAN[®]

SMOOTHWALL BIN



OWNER'S MANUAL

SIGN-OFF FORM

Meridian Manufacturing Inc. follows the general Safety Standards specified by the American Society of Agricultural Engineers (ASAE), and the Occupational Safety and Health Administration (OSHA). Anyone who will be using or maintaining the bin must read and clearly understand ALL Safety and Maintenance information presented in this manual.

Review this information annually, before the season start-up.

Make these periodic reviews of SAFETY and USAGE a standard practice for all of your equipment.

This form is provided for your record keeping to show that all personnel who will be working with the equipment have read and understand the information in this manual. Copy this page to continue record.

[illegible]

PRODUCT REGISTRATION FORM



Attention Dealers:

You can register products online through the Dealer Login: <http://dealers.meridianmfg.com/login/>

It is mandatory to register your product in order to qualify for future warranties that may arise. Knowingly falsifying information on this form will result in the voiding of the product warranty.

You may scan/photograph this completed form (must be legible), email it to: register@meridianmfg.com

A copy of this form may also be mailed to Meridian Manufacturing Inc.

Buyer's Name _____	Dealer's Name _____
Address _____	Address _____
City, Prov/State _____	City, Prov/State _____
Postal/Zip Code _____	Postal/Zip Code _____
Phone Number _____	Phone Number _____

Note: Registering a product in multiple entry format is only allowed when the product has the same model number and the same dealer, however each serial number must be legibly listed for each unit. Delivery dates for a multiple entry must be within a one month time frame.

Product Information: _____

Model Number _____ Serial Number _____

Invoice Date _____

Important: Please send this form to the Meridian Manufacturing Inc. location which built this product being registered. If you require further assistance call you're dealer or the Meridian® outlet nearest to your location.

We want to thank you for purchasing a Meridian® manufactured product. Whether this is your first Meridian® purchase or you have been a customer for years, you are now part of the Meridian® community of customers and we appreciate your business.

It is important that you now complete the product registration information and this form indicating you have received delivery. This registration and information is necessary to ensure you have access to warranty and product updates in the event it be required in the future.

Registration can be completed by using this form or visiting your dealer who will complete the form online. You will be given access to the Meridian® Community and become eligible for updates, special offers and prizes.

Again, thank you for choosing Meridian.

I have thoroughly instructed the buyer on the above described equipment. The review included the content of this manual, equipment care, adjustments, safe operation and warranty policy.

Date _____ Dealer's Signature _____

The above equipment and this manual have been received by me. I have been thoroughly instructed as to care, adjustments, safe operation and applicable warranty policy.

Date _____ Buyer's Signature _____

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Section 1: INTRODUCTION

Thank you for choosing a Meridian® Smoothwall Bin.

This equipment has been designed and manufactured to meet the exacting standards for such equipment in the agricultural industry.

Keep this manual for future reference. Call your dealer or distributor, or our office, if you need assistance, information, additional/replacement copies, or a digital version of this document.

Information provided herein is of a descriptive nature. Meridian Manufacturing Inc. reserves the right to modify the equipment design and specifications without any preliminary notice.

Performance quality may depend on the material being handled, weather conditions and other factors.

Bin specifications, features and available options may vary depending on the region.

SERIAL NUMBER

The serial number is located above the safety decals on the hopper leg where the crank is attached.

Have the serial number available when communicating with the dealer or factory and requesting service or asking for information.

Use the space provided for easy reference:

Bin Model No: _____

Bin Serial No: _____

Auxiliary Equip: _____

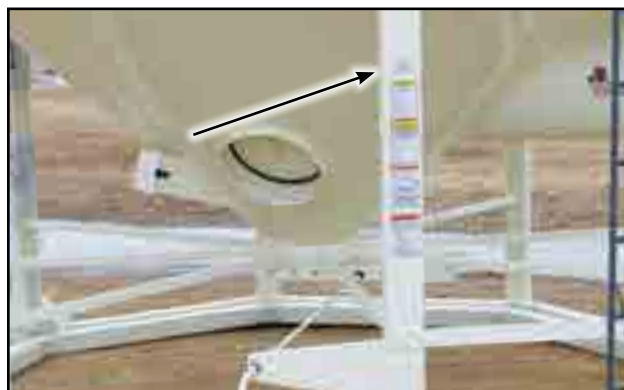


Fig 1 - Serial number location on hopper leg



Meridian® continuously enhances its product offering through product improvements and new product innovations. Marketplace feedback, technological innovation, new materials and manufacturing methods, and a philosophy of continuous improvement constantly challenge the company to develop new and better ways of addressing market needs. Meridian is committed to innovation and reinvestment and as a result, the company maintains a portfolio of patents and intellectual property. For more information on our patents please see our website:

www.meridianmfg.com/patents

Section 2: SAFETY

3 Big Reasons why safety is important to you:

- Accidents Disable and Kill
- Accidents Cost
- Accidents Can Be Avoided

The Safety Alert Symbol means:

**ATTENTION!
BECOME ALERT!
YOUR SAFETY IS INVOLVED!**

The Safety Alert Symbol identifies important safety messages on the bin and in this manual.

The following signal words are used in this manual to express the degree of hazard for areas of personal safety.

When you see the symbol and/or the signal words described below, obey the accompanying message to avoid possible injury or death.



Indicates a hazardous situation that, if not avoided, will result in death or serious injury. This signal word is limited to the most extreme situations. Typically for machine components which, for functional purposes, cannot be guarded.



Indicates a hazardous situation, if not avoided, could result in death or serious injury. This word identifies hazards that are exposed when guards are removed. It may be used to alert against unsafe practices.



Indicates a hazardous situation, if not avoided, could result in minor or moderate injury. It may be used to alert against unsafe practices.



Indicates practices or situations which may result in the malfunction of, or damage to equipment.



Safety instructions (or equivalent) signs indicate specific safety-related instructions or procedures.

2.1 SAFETY ORIENTATION

YOU are responsible for the SAFE usage and maintenance of your Meridian® Smoothwall Bin. Be sure that everyone who will maintain or work around it, is familiar with the safety, maintenance procedures.

This manual will take you step-by-step through your working day. It will alert you to all the safe practices that should be adhered to while using the bin.

It has been said, "The best safety feature is an informed, careful worker" Good safety practices not only protect you but also the people around you. Make these practices a dynamic part of your workday.

Most accidents can be prevented. Do not risk injury or death by ignoring good safety practices.

- Bin owners must give instructions to employees before allowing them to use the bin.
 - Procedures must be reviewed annually thereafter, as per OSHA (Occupational Safety and Health Administration) regulation 1928.57.
- Develop a comprehensive safety program for your work area.
- The most important safety device is a SAFE worker. It is their responsibility to understand all safety and usage instructions in this document, and to follow them.
- An untrained worker exposes himself and bystanders to possible serious injury or death.
- Think SAFETY! Work SAFELY!

2.2 GENERAL SAFETY

- You are responsible for the safe use and maintenance of this bin. Good safety practices not only protects you but also those around you. All accidents can be avoided.



- Use this bin for its intended purpose only.
- This bin is not intended for use by children.

2.3 EQUIPMENT SAFETY GUIDELINES

- Safety of the workers and bystanders is one of the main concerns when designing and developing this fuel tank. However, every year many accidents occur which could have been avoided by a few seconds of thought, and a more careful approach to handling equipment.
- DO NOT allow personnel to use this tank until they have read this manual. They should have a thorough understanding of the safety precautions.
 - Review the safety instructions with all users annually.
- DO NOT modify the tank in any way without written permission from the manufacturer. Any unauthorized modification of the fuel tank will void the warrant

2.4 SAFETY DECALS

- Keep safety decals clean/legible at all times.
- Replace safety decals that are missing or have become illegible.
- All safety decals have a part number in the lower right hand corner. Use this part number when ordering replacements.
- Safety decals are available from your authorized distributor, dealer's parts department or from the factory.

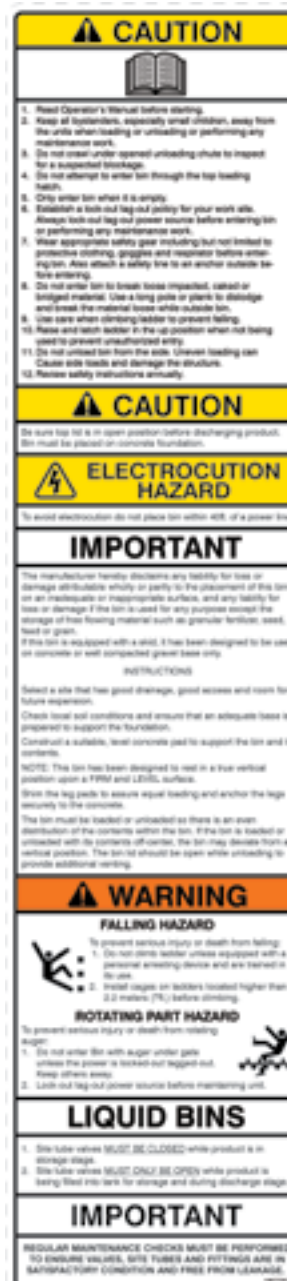
2.4.1 Applying Decals:

1. Be sure the application area is clean and dry. Ensure the surrounding temperature is above 10°C (50°F).
 - a. Remove all dirt, grease, wax from surface.
 - b. Clean with a non-ammonia based cleaner.
 - c. Wipe the clean surface with isopropyl alcohol on paper towel, and allow to dry.
2. Determine the exact position before you remove the backing paper.
3. Peel a small portion of the split backing paper.
4. Align the decal over the specified area. Use a squeegee to carefully press the small portion, with the exposed adhesive backing, into place.
5. Slowly peel back the remaining paper and carefully smooth the rest of the decal into place.
6. Small air pockets can be pierced with a pin and smoothed out using the squeegee, or a piece of sign backing paper.

2.5 DECAL LOCATION

Safety decals are attached to the structure in a visible and convenient location for readability. A safe workplace requires that you familiarize yourself with the information on the decals.

Fig 2 - Safety decal



19977SK-70

2.6 WORK PREPARATION

- Work only in daylight or good artificial light.
- Clear working area of stones, branches or hidden obstacles that might be hooked or snagged, causing injury or damage.
- Be sure all machinery is in a stable position, is adjusted and in good operating condition.
- Ensure that all safety guards and
- Install and secure all guards on auxiliary loading/unloading equipment be using it.
 - Safety decals must be in good condition.
- Before starting, inspect all equipment for any loose bolts, worn parts, cracks, leaks or frayed belts. Make the necessary repairs.
- **PROLONGED EXPOSURE TO LOUD NOISE MAY CAUSE PERMANENT HEARING LOSS!**

Agricultural equipment can often be noisy enough to cause permanent, partial hearing loss. We recommend that you wear hearing protection on a full-time basis if the noise in the operator's position exceeds 80 db.





Noise over 85 db on a long-term basis can cause severe hearing loss.

Noise over 90 db adjacent to the operator over a long-term basis may cause permanent, total hearing loss.


Note:


Hearing loss from loud noise (tractors, chain saws, radios, etc.) is cumulative over a lifetime without hope of natural recovery.

2.7 MAINTENANCE SAFETY

- Create a Lock-Out Tag-Out program for the auxiliary equipment used to load and unload the bin.
- These bins can store a variety of products and each site is different. It is important to develop an applicable maintenance program to suit your specific work place.
- Do not crawl under the opened unloading chute to inspect for a suspected blockage.
 - Product could suddenly break loose and cause facial and/or eye injury.
- If you enter the bin:
 - Lock out the power sources for all equipment.
 - Have a responsible person close at hand in case of an emergency.
- Use personal protective equipment (PPE) such as eye, hand, breathing and hearing protectors, when performing any service or maintenance work. 
- Enter the empty bin with extreme caution:
 - Wear protective clothing, and a properly filtered respirator mask to protect against chemical vapour or residual dust.
 - Connect a safety line to yourself and have a responsible, trained person outside in case of an emergency.
- A fire extinguisher and first aid kit should be kept readily accessible while performing maintenance on this equipment. 
- Periodically tighten all bolts, nuts and screws and check that all cotter pins are properly installed to ensure the bin and auxiliary equipment are secure.

2.8 OPERATING SAFETY

- Make sure that anyone who will be using the bin or working on or around it reads and understands all the operating, maintenance and safety information in the owner's manual.
- Keep all bystanders, especially children, away from the bin when loading or unloading is being done, or when authorized personnel are carrying out maintenance work.
- Do not crawl under the opened unloading chute to inspect for a suspected blockage. Caked or impacted product could suddenly break loose and cause facial and/or eye injury.
- Do not attempt to enter the bin through the top loading hatch. This opening is designed for loading the bin only and not for human entry.
- Use the optional roof manhole only for entry into the bin and only when the bin is empty for cleaning purposes.
- If you enter the bin, ensure that there is no possibility that the loading or unloading auger could be started up.
 - Lock out the power sources for all equipment.
 - Have a responsible person close at hand in case of an emergency.
- Enter the empty bin with extreme caution. Wear protective clothing, goggles and a properly filtered respirator mask to guard against chemical vapour or residual dust.
 - Connect a safety line to yourself and have a responsible, trained person outside, holding the line, in case of an emergency.
- Do not enter the bin to break loose impacted, caked or bridged material. You could fall through the bridged material if you are trying to clear it from the top. Or have it cave in on you from the bottom. Either situation could result in you being buried in the falling material and suffocating.

- If material is bridged or caked causing a blockage. Use a long pole, a length of board to break the material loose.
- Be very careful when climbing up or down the exterior ladder. Remove excess mud or other material from your footwear that could cause slipping.
- Make sure the safety section of the access ladder is raised and latched in place to prevent children and other unauthorized persons from climbing up on the bin.
- The optional roof manhole should not be used to load or unload material. This will cause the material to be off-centre, either piling up or emptying unevenly to one side of the bin. This uneven stressing of the bin could cause structural damage.

2.9 LOCK-OUT TAG-OUT SAFETY

- Establish a formal Lock-Out Tag-Out program for your work site.
- Train all operators and service personnel before allowing them to work around the area.
- Provide tags on all auxiliary equipment and a sign-up sheet to record tag-out details.



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Section 3: SITE AND INSTALLATION

WARNING

- Read and understand the owner's manual.
- Clear the area of bystanders, especially children, before starting.
- Prepare the base carefully to be sure the bin is supported evenly to prevent tipping.
- Stay away from power lines when lifting or moving the bin. Electrocution can occur without direct contact.
- Move the bin on a calm day or light breeze. The bin is a large, hard-to-handle object that can easily be caught and moved by the wind.
- Use extra care when moving bin. Never move a bin with product in it.
- Use only an approved hoist, crane or other lifting system when positioning bin.
- Secure, anchor the base when positioned.

3.1 BIN LOCATION

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 siting.
 - Soil conditions and corresponding foundation requirements.
 - 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.
- It is important that you, the customer, plan the work site to minimize or eliminate the need to move the bin once positioned.
- We recommend that you consult a civil engineer regarding the chosen site, the soil load bearing capacity, proper method of construction and type of concrete pad.
 - Clear area of bystanders, especially children.
 - Use only hoists, or cranes with sufficient lift capacity and reach for the bin being positioned.
 - Do not move/transport bin(s) when it is windy.
 - Ensure the bin is positioned on a base that has been properly prepared to support the weight and loads of the bin when filled.
 - Electrocution can occur without direct contact. Do not place bin within 40 ft from power lines.

3.2 BIN FOUNDATION

Although the bin base can be temporary, it is recommended that a permanent concrete base be constructed so it can support and carry the weight and load of the bin full of stored material.

The foundation specifications included in this manual are suggestions only, and may not be applicable to your local soil conditions.

Meridian Manufacturing Inc. will not assume any liability for results arising from their use.

1. Gravel Base (Temporary Skid Base for Smoothwall Bins):

Meridian® strongly advises you to consult a civil engineer regarding the site you choose. A professional engineer will check the soil conditions and soil load bearing capacity. They can use the bin's empty and full weights (each product has a different weight) to advise on preparing the proper base.

If a temporary skid is attached, the bin must be placed on a minimum of 10 inches of compacted granular fill. The entire bearing area of the skid should rest evenly on this area. The fill should be in an area with proper type of soil and good drainage to provide a firm base.

The foundation should be uniform and level. It should not vary by more than 1/4" over a span of four feet.

IMPORTANT:

This should be only a temporary base.
It is highly recommended that a good concrete pad be used as a permanent base.

2. Concrete Slab (Permanent Base):

We recommend that you consult a civil engineer regarding the site you choose, the soil conditions, and soil load bearing capacity. A professional engineer can advise on the proper method of construction and type of concrete slab for your needs.

The best type of base, and the one we recommended, is a concrete slab that is located on well drained, level ground that is capable of supporting the concrete slab and a full bin under all environmental conditions.

The design of a concrete slab is based on varied load bearing specifications for the different sized liquid bins. Meridian® is not responsible for damage caused by an inadequate concrete slab. It is the responsibility of the owner to ensure that good construction practices are followed to obtain the required load carrying capacity for the slab. A concrete slab built to the proper performance specifications will ensure a long, trouble-free life for the storage system.

Meridian® can provide your engineer with the required information, such as bin design and leg reactions (wind and weight load).

The bin must be bolted to the slab so that all the legs sit evenly and are firmly in contact with the concrete. If the concrete is uneven, full "leg base plate" shims can be used.

3.3 BIN DESIGN

The bin, and the grade of steel used, must be designed for the product being stored inside. It is your responsibility to inform Meridian Manufacturing Inc. about what product you are planning to store in the bin, and receive approval to do so.

3.4 CONCRETE SLAB CONSTRUCTION

The following information provides specifications and general guidelines for construction of concrete slabs for supporting bins.

It is very important that close attention be given to site preparation and soil conditions in order to provide a good base for the concrete slab.

Items to be aware of include but are not limited to the following:

1. Soil Conditions:

Sod and other organic material must be removed before laying down the gravel fill. Positive drainage must be provided to drain excessive moisture away from the concrete slab.

The concrete slab is designed for load stresses on soils with minimum allowable soil bearing capacity of 1500 psf.

The engineer is not responsible for concrete slab performance on soils with lower than specified bearing capacity or soils that are unsuitable for supporting a concrete pad.

Soil conditions should be assessed on the basis of soil tests, or of the performance history of similar structures in your local area.

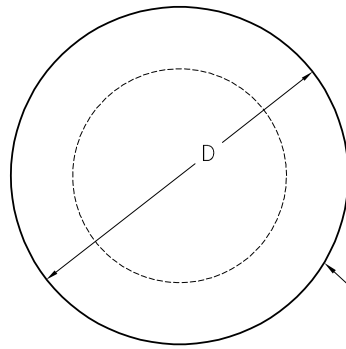
2. Slab Structures:

The following specifications must be followed to construct a concrete slab to meet the load and stress carrying requirements:

- The concrete must have a minimum 28 day strength of 3000 psi (1361 kg).
- Use sulphate resistant cement where required by soil conditions.
- Do not pour concrete on frozen ground or in an excavation that contains ice, snow, excessive moisture or when the air temperature is below 4°C (40°F).

3. Foundation Specifications:

- d. All foundations must be designed on leveled soil with a bearing capacity of 3,000 psf (14,646 kg/m²). When in doubt, consult a local engineer or architect.
- e. 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 acts as a moisture barrier.
- f. Once the forms have been prepared, begin the placement of reinforcement rods in the foundation (see foundation drawing details). The reinforcement rods offer their greatest strength when they have been joined together, either by weld or wire. 6 x 6" (15.24 x 15.24 cm) wire mesh or 10M (#3) at 12" O/C each way covering the entire area of the foundation, completes preparation before beginning concrete pouring.
- g. Concrete must have a minimum compressive strength of 3,000 psi (20.7 MPa) after 28 days.
- h. Approximative concrete volume quantities found in the corresponding table.
- i. Foundation surface must be level. Columns must be shimmed in uneven circumstances.
- j. Follow general concrete best practices and guidelines. Wait a minimum of 7 days to install the bins on concrete. It is recommended to wait 28 days until filling the combo hopper bin, to ensure full concrete strength is achieved.



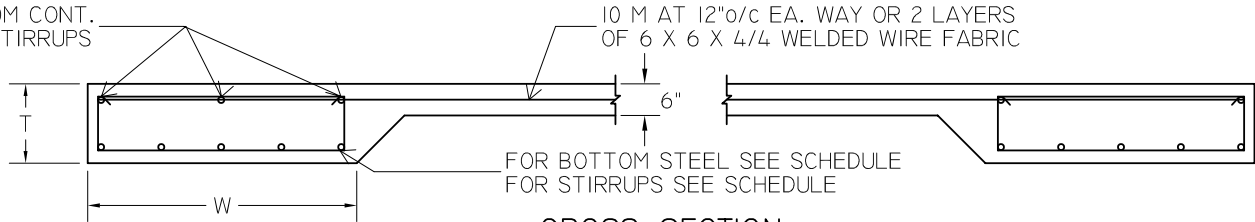
PLAN

NOTES:

- REINFORCING STEEL TO BE DEFORMED BARS WITH A MINIMUM YIELD STRENGTH OF 40KSI (300MPa)
- CONCRETE TO HAVE A MINIMUM 28 DAY STRENGTH OF 3000PSI (20MPa)
- FOUNDATIONS TO BE BASED ON FIRM GROUND WITH A MINIMUM BEARING CAPACITY OF 3000PSF (140KPa) & MINIMUM MODULUS OF SUBGRADE REACTION OF 200 PSI/IN (54 MPa/m)
- ALL ORGANICS, TOP SILT, AND SOFT GROUND BENEATH FOUNDATIONS MUST BE REMOVED AND REPLACED WITH COMPACTED GRANULAR FILL, SUITABLE TO THE ABOVE LISTED BEARING CAPACITY OF 3000PSF.
- BASED ON STORED PRODUCT DENSITY OF 50PCF (800KG/M³)
- DESIGN WIND PRESSURE: 14 PSF (0.67 KPa).
- SEISMIC DESIGN NOT CONSIDERED.

CONCRETE SLAB & FOUNDATION

3-10M CONT.
USED W/STIRRUPS



CROSS SECTION

FOUNDATION SCHEDULE

BIN MODELS	D	T	W	BOTTOM STEEL	STIRRUPS	CONC. (M³)
1830 - 1835 OUTSET LEGS	21'-6"	20"	4'-0"	4-20M @ 14" o/c	10M @ 12" o/c	13.9
1830 - 1835 INSET LEGS	19'-6"	20"	4'-0"	4-20M @ 14" o/c	10M @ 12" o/c	11.9
1810 - 1825 OUTSET LEGS	21'-0"	18"	3'-6"	4-20M @ 12" o/c	10M @ 12" o/c	11.5
1810 - 1825 INSET LEGS	19'-0"	18"	3'-6"	4-20M @ 12" o/c	10M @ 12" o/c	9.8
1625 - 1630	19'-0"	18"	3'-6"	4-20M @ 12" o/c	10M @ 12" o/c	9.8
1610 - 1620	18'-6"	16"	3'-0"	3-20M @ 15" o/c	10M @ 12" o/c	8.0
1525 - 1530	18'-6"	18"	3'-6"	4-20M @ 12" o/c	10M @ 12" o/c	9.4
1510 - 1520	18'-0"	16"	3'-0"	3-20M @ 15" o/c	10M @ 12" o/c	7.6
1410 - 1420	16'-6"	16"	3'-0"	3-20M @ 15" o/c	10M @ 12" o/c	6.6
1305 - 1325	14'-6"	16"	3'-0"	3-20M @ 15" o/c	10M @ 12" o/c	5.4
1205 - 1215	14'-0"	14"	2'-6"	3-15M @ 12" o/c	10M @ 12" o/c	4.2
1010 - 1015	12'-0"	12"	2'-6"	3-15M @ 12" o/c	N/A	2.8
910 - 915	11'-0"	10"	2'-6"	3-15M @ 12" o/c	N/A	2.0
808 - 812	10'-0"	10"	2'-6"	3-15M @ 12" o/c	N/A	1.7
705 - 710	9'-0"	8"	2'-6"	3-15M @ 12" o/c	N/A	1.2
GM2030 - 2035	23'-6"	20"	4'-0"	4-20M @ 14" o/c	10M @ 12" o/c	16.0
GM5300 - 7500 OUTSET LEGS	21'-0"	18"	3'-6"	4-20M @ 12" o/c	10M @ 12" o/c	11.5
GM5300 - 7500 INSET LEGS	19'-0"	18"	3'-6"	4-20M @ 12" o/c	10M @ 12" o/c	9.8
GM3000 - 6000	18'-6"	16"	3'-0"	4-20M @ 10" o/c	10M @ 12" o/c	8.0
GM2300	16'-0"	16"	2'-6"	3-15M @ 12" o/c	10M @ 12" o/c	6.0
GM1000	14'-0"	10"	2'-6"	3-15M @ 12" o/c	N/A	3.1

DISCLAIMER:

MERIDIAN MANUFACTURING INC PROVIDES THESE CONCRETE GUIDELINES AS A COURTESY TO OUR CUSTOMERS. IT IS THE RESPONSIBILITY OF THE CUSTOMER TO ATTAIN APPLICABLE PERMITS THROUGH THEIR LOCAL ZONING AND PERMITTING OFFICE IN ADDITION TO CONTACTING A LOCAL CONTRACTOR/ENGINEER FAMILIAR WITH THE AREA SOIL BEARING PRESSURE. ENGINEERED DRAWINGS, IF REQUIRED, ARE THE RESPONSIBILITY OF THE CUSTOMER. MERIDIAN WILL NOT BE HELD LIABLE FOR FAILURE OF A CONCRETE FOUNDATION, INCLUDING (BUT NOT LIMITED TO) SLIDING, SLOPE OR OVERTURNING FAILURE. CONSULTING WITH A LOCAL ENGINEER IS STRONGLY RECOMMENDED.

DATE ORDERED:

DATE APPROVED:

DRAWN BY: *ADD*

DATE DRAWN: 08/21/17

CHECKED BY:

DATE CHECKED:



www.meridianmfg.com

CUSTOMER:

BIN FOUNDATION PLANS

MODEL #:

SALES ORDER#:

SERIAL#:

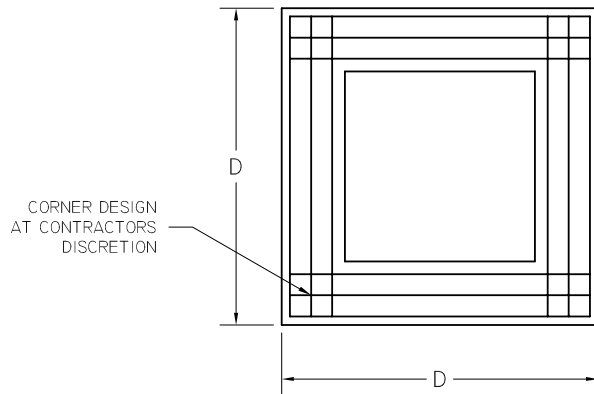
REVISION:

PROJECT NO:

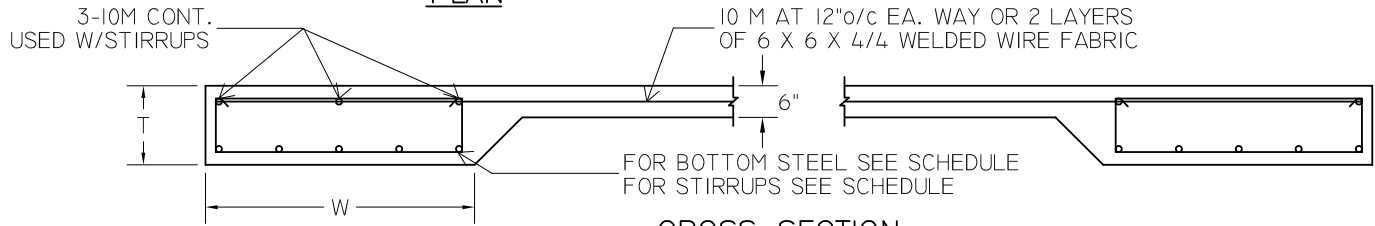
SCALE:

NONE

BIN WGT:



PLAN



CROSS SECTION

NOTES:

- REINFORCING STEEL TO BE DEFORMED BARS WITH A MINIMUM YIELD STRENGTH OF 40ksi (300MPa)
- CONCRETE TO HAVE A MINIMUM 28 DAY STRENGTH OF 3000PSI (20MPa)
- FOUNDATIONS TO BE BASED ON FIRM GROUND WITH A MINIMUM BEARING CAPACITY OF 3000PSF (140kPa) & MINIMUM MODULUS OF SUBGRADE REACTION OF 200 PSI/IN (54 MPa/M)
- ALL ORGANICS, TOP SILT, AND SOFT GROUND BENEATH FOUNDATIONS MUST BE REMOVED AND REPLACED WITH COMPACTED GRANULAR FILL, SUITABLE TO THE ABOVE LISTED BEARING CAPACITY OF 3000PSF.
- BASED ON STORED PRODUCT DENSITY OF 50PCF (800Kg/M³)
- DESIGN WIND PRESSURE: 14 PSF (0.67 kPa).
- SEISMIC DESIGN NOT CONSIDERED.

FOUNDATION SCHEDULE

BIN MODELS	D	T	W	BOTTOM STEEL	STIRRUPS	CONC. (M ³)
1830 - 1835 OUTSET LEGS	20'-0"	20"	4'-0"	4-20M @ 14" o/c	10M @ 12" o/c	15.0
1830 - 1835 INSET LEGS	18'-0"	20"	4'-0"	4-20M @ 14" o/c	10M @ 12" o/c	12.7
1810 - 1825 OUTSET LEGS	20'-0"	18"	3'-6"	4-20M @ 12" o/c	10M @ 12" o/c	12.9
1810 - 1825 INSET LEGS	18'-0"	18"	3'-6"	4-20M @ 12" o/c	10M @ 12" o/c	10.9
1625 - 1630	18'-0"	18"	3'-6"	4-20M @ 12" o/c	10M @ 12" o/c	10.9
1610 - 1620	17'-4"	16"	3'-0"	3-20M @ 15" o/c	10M @ 12" o/c	8.7
1525 - 1530	17'-4"	18"	3'-6"	4-20M @ 12" o/c	10M @ 12" o/c	10.3
1510 - 1520	17'-0"	16"	3'-0"	3-20M @ 15" o/c	10M @ 12" o/c	8.5
1410 - 1420	15'-6"	16"	3'-0"	3-20M @ 15" o/c	10M @ 12" o/c	7.3
1305 - 1325	13'-0"	16"	3'-0"	3-20M @ 15" o/c	10M @ 12" o/c	5.5
1205 - 1215	13'-0"	14"	2'-6"	3-15M @ 12" o/c	10M @ 12" o/c	4.6
1010 - 1015	11'-6"	12"	2'-6"	3-15M @ 12" o/c	N/A	3.2
910 - 915	10'-6"	10"	2'-6"	3-15M @ 12" o/c	N/A	2.3
808 - 812	9'-6"	10"	2'-6"	3-15M @ 12" o/c	N/A	2.0
705 - 710	8'-6"	8"	2'-6"	3-15M @ 12" o/c	N/A	1.3
GM2030 - 2035	22'-0"	20"	4'-0"	4-20M @ 14" o/c	10M @ 12" o/c	17.4
GM5300 - 7500 OUTSET LEGS	20'-0"	18"	3'-6"	4-20M @ 12" o/c	10M @ 12" o/c	12.9
GM5300 - 7500 INSET LEGS	18'-0"	18"	3'-6"	4-20M @ 12" o/c	10M @ 12" o/c	10.9
GM3000 - 6000	18'-0"	16"	3'-0"	4-20M @ 10" o/c	10M @ 12" o/c	9.3
GM2300	15'-6"	16"	2'-6"	3-15M @ 12" o/c	10M @ 12" o/c	6.9
GM1000	13'-0"	10"	2'-6"	3-15M @ 12" o/c	N/A	3.4

DISCLAIMER:

MERIDIAN MANUFACTURING INC PROVIDES THESE CONCRETE GUIDELINES AS A COURTESY TO OUR CUSTOMERS. IT IS THE RESPONSIBILITY OF THE CUSTOMER TO ATTAIN APPLICABLE PERMITS THROUGH THEIR LOCAL ZONING AND PERMITTING OFFICE IN ADDITION TO CONTACTING A LOCAL CONTRACTOR/ENGINEER FAMILIAR WITH THE AREA SOIL BEARING PRESSURE. ENGINEERED DRAWINGS, IF REQUIRED, ARE THE RESPONSIBILITY OF THE CUSTOMER. MERIDIAN WILL NOT BE HELD LIABLE FOR FAILURE OF A CONCRETE FOUNDATION, INCLUDING (BUT NOT LIMITED TO) SLIDING, SLOPE OR OVERTURNING FAILURE. CONSULTING WITH A LOCAL ENGINEER IS STRONGLY RECOMMENDED.

DATE ORDERED:

DATE APPROVED:

DRAWN BY: ADD

DATE DRAWN: 08/21/17

CHECKED BY:

DATE CHECKED:



www.meridianmfg.com

CUSTOMER:

BIN FOUNDATION PLANS

MODEL #:

SALES ORDER#:

SERIAL#:

REVISION:

PROJECT NO:

SCALE:

BIN WGT:

NONE

3.5 INSTALLATION

Care must be used when moving, lifting and installing the bin. Installation instructions include but are not limited to:

- Clear the area of bystanders, especially small children.
- Have at least one other trained and responsible person to assist and who, in case of an emergency or accident, can provide assistance or seek assistance.
- Stay away from power lines when lifting or moving the bin. Do not place a bin within 40 ft from power lines.

Electrocution can occur without direct contact.

- Never move a bin that has product in it. The legs, base and supporting structure are not designed with sufficient strength to carry the combined mass. Any structural damage occurring during the move, can lead to more problems or damage when the bin is filled at its final position.
- Do not use tow hooks on a temporary skid base to pull the bin with any product inside. Because of the inherent high centre of gravity and the pulling force that would be concentrated at the tow hooks, the bin would tip over, creating a safety hazard.
- If the unit must be pulled, make sure that it is completely empty and that the area that it will be pulled over is firm, level and contains no obstructions. Proceed with extra caution. The bin is top heavy, having a high centre of gravity and can tip easily.
- Use only a crane, hoist or lift with sufficient load carrying and reach capacity. It must have the appropriate stability to raise, move, position and lower the bin.

- It is recommended that installing the bin be done on a calm day or one with light winds. A bin is a large, hard-to-handle object that can easily be caught and moved by the wind.

Note:

It is easier to position the top lid before placing the bin than after.

- Determine where the auger or conveyor will be when loading the bin. The position of this equipment will determine the rotation of the top lid, covering the loading hatch, at the peak of the bin. The lid will need to be opened and out of the way of the loading equipment.
 - Loosen the lid clamping bolts and rotate it to the required position prior to securing the bin into its permanent position.
 - Tighten the clamping bolts to their specified torque and tie the rope to the lid handle.
- Be sure the base cannot move.
 - Stake the skid plate when equipped with a temporary base.
 - Bolt the base to the permanent concrete pad.

If the base can move, it can lift or slide which leads to tipping.



Fig 3 - Unloading bin

Section 4: OPERATION

WARNING

- Read and understand the owner's manual, and all safety decals, before using.
- Keep all bystanders, especially small children, away when loading/unloading or performing any maintenance work.
- Do not crawl under opened unloading chute to inspect for a suspected blockage.
- Do not attempt to enter bin through the top loading hatch.
- Only enter bin when it is empty.
- Establish a Lock-Out Tag-Out policy for your work site. Always lock-out tag-out power source before entering bin or performing any maintenance work.
- Climbing ladder with care to prevent falling.
- Raise and latch ladder in the up position when not being used to prevent unauthorized use.
- Do not load/unload bin from the side. It can cause side loads and damage the structure.
- Wear appropriate safety gear including but not limited to protective clothing, goggles and respirator before entering bin. Also attach a safety line to an anchor outside before entering.
- Do not enter bin to break loose impacted, caked or bridged material. Use a long pole or plank to dislodge and break the material loose while outside bin.

This Meridian® Smoothwall Bin has been designed and engineered for loading capacities up to 62 lb per cubic foot. The GrainMax series holds up to 50 lb per cubic foot and are recommended for grain storage only.

Many features incorporated into this bin are the result of suggestions made by customers like you.

It is the responsibility of the owner and users to be familiar with the bin(s) and all the auxiliary loading/unloading equipment before starting. By following the recommended procedures, a safe working environment is provided for the workers and bystanders in the work site.

Hazard controls and accident prevention are dependent upon the personnel working with and maintaining the equipment. Their awareness, concern, prudence and proper training are crucial.

By following these instructions, in conjunction with a good maintenance program, your bin will provide many years of trouble-free storage.

4.1 COMPONENTS AND CONTROLS

Bin specifications, components and available options may vary depending on the region. The location of components and options may vary and change without notice.

Unloading Chute with Slide Gate:

The unloading chute at the base of the bin comes with a rack and pinion slide gate assembly. A crank is used to work the gate. There is 24" of clearance below the slide gate.



Fig 4 - Slide gate attached below unloading chute



Fig 5 - Crank for slide gate

Vented Top Lid:

The top lid, covering the 25" loading hatch at the peak, is vented and spring-loaded. The ventilation avoids a vacuum forming when unloading, which may cause implosion.

A rope is attached to the lid and extends down to the ground, and tied to a leg. Pull the rope to open the lid, release it to close.



Fig 6 - Top lid with rope

⚠ WARNING

FALLING HAZARD

Use extreme caution when climbing.

Always raise the retractable ladder section
and latch in place when not in use.
This will avoid unauthorized use.

Sidewall and Roof Ladder:

Each Bin is designed and built with a ladder that
reaches the loading hatch, at the top of the bin.



Fig 7 - Ladders

Retractable Ladder Section:

The access ladder has a moveable safety section
located at ground level. This is designed to slide
up out of reach of children and latch into place.



Fig 8 - Retractable ladder section

4.2 OPTIONAL COMPONENTS

The location of options may vary and change without notice. Not all options may be available in all regions.

Ladder Cage and Handrails:

This cage surrounds the ladder and hand rails can be added to reduce the chance of falling.



Fig 9 - Ladder cage and handrails

Fall Arrest System:

Wear a safety harness while climbing the bin.



Fig 10 - Fall arrest system

Top Lid Lever:

A lever is available to easily open the roof lid. Attach it to the hopper leg and tie the rope to it.



Fig 11 - Top lid lever

Poke Hole:

This access hole allows you to get a pole or stick into the bin to dislodge any bridged material.

Bottom Manway:

This access hole is located in the bottom cone and provides access to the interior of the bin. Do not use it to dislodge bridged material inside the bin.



Fig 12 - Poke Hole and bottom manway

Roof Manhole:

A manhole in the roof, is available. It can be used as an inspection port and an entrance to the interior of bin if there is an interior ladder.



Fig 13 - Roof manhole

Roof Vent:

A roof vent allows for added ventilation. They are available in baffled and non-baffled version.



Fig 14 - Roof vent

Bean Ladder:

This ladder hangs down the centre of bin and directs the product to flow down the ladder to the bottom of bin reducing damage to seed.

It is particularly recommended for pulse crops of all kinds and reduces splits from handling.

Note:

Bean ladder must be removed if the bin will be used for fertilizer storage or any other product that is prone to bridging.



Fig 15 - Bean ladder

Auger Boot:

This boot allows an auger to be mounted below the unloading chute for easy and convenient unloading.



Fig 16 - Auger boot

Pail Spout:

This spout allows you to take a small sample from the bin without spilling any product. It is equipped with a small hand-operated slide gate to control the size of the sample. A pail works well to collect the sample.

LevALERT® Bin Level Indicator:

LevALERTs are available for installation on the sidewall of the bin. The indicator turns a bright yellow colour when the product inside the bin reaches that point or is above it.

LevALERTs can be installed at any time, and are available with an optional proximity switch to control lights, alarms, etc.

View Glass:

View Glass(es) are available and can be installed into the sidewall to view the product inside.

View Glasses are best ordered and installed from the factory.

Single, Double or Triple Skid:

Skid bases are available to bolt to the hopper legs. This is important when the bin is placed on a temporary gravel base.

Utility Auger:

A utility auger is available for convenient unloading. It is available in 4, 6, 8 and 10 inch diameters. The tube is a standard 16 foot length, and extensions are available.



Fig 17 - Pail chute



Fig 18 - View glass and LevALERT® Indicator



Fig 19 - Triple skid



Fig 20 - Utility auger

Additional Options:

- Leg Extensions
- Touch-Up Paint
- Grain or Feed Boot
- Pneumatic Fill System
- Non-Vented Top Lid
- Safety Fill
- Transitions
- 12", 14", and 18" Gooseneck Vents
- Moisture and Temperature Cables
- Fan Mounting Bracket
- Lift Hooks

Note:

A variety of control systems and switches are available to be used with your storage system for loading and unloading.

Always have a licensed electrician provide the power and controls for your system. All wiring should comply with the ANSI/NFPA 70 electrical requirements.

Paint (Internal):

All fertilizer bins come standard with a polyester powder coat finish interior. This powder coat finish protects the interior metal surface when coming in contact with corrosive materials. If fertilizer, potash or any other corrosive material will be placed in the bin, it must have the powder coat finish paint on the inside to prevent damage to the metal surface.

Always inspect the interior surface for damage before filling with corrosive material. Clean and repaint if any damage is found. Warranty will be null and void on any unpainted or poorly maintained bin.

IMPORTANT:

Always follow all paint application safety instructions when maintaining the bin.

4.3 MERIDIAN AIRMAX® AERATION SYSTEMS

One of these AirMax™ Aeration systems may have come with your bin, to condition the product stored inside.

NOTICE

CORROSIVE MATERIAL HAZARD

Do not store fertilizer in a bin containing an aeration system.

4.3.1 AirMax™ Horizontal Aeration System:

The horizontal aeration tube is inserted through the fan mount. Then the fan can be installed.

- Bolt the in-line fan to the mount in a way that the electrical lines can be routed conveniently.

The aeration tube is removable, to facilitate cleaning of the screen.

- Remove the fan, then unfasten the bolts and carefully pull the tube out of the bin.
- Once the tube is removed, replace the cover plate to prevent moisture and pests from entering the bin.

Horizontal Aeration Disclaimer:

Remove the horizontal aeration tube if fertilizer will be stored in the bin. If left inside, it could limit or void the warranty if the cause of a claim is deemed to be from the storage of fertilizer.

4.3.2 AirMax™ Vertical Aeration System:

The internally mounted unit has a hollow duct design formed by a self-cleaning perforated metal screen.

- The Sectional unit is patented. It is intended to be assembled and installed inside an existing bin.
- Bolt the centrifugal fan to the mount on the hopper bottom.



Fig 21 - Horizontal AirMax™ Aeration tube



Fig 22 - AirMax™ In-Line fan

Fig 23 - Vertical Aeration
-One-Piece



Fig 24 - Vertical Aeration
-Sectional



Fig 25 - AirMax™ Centrifugal fan

4.3.3 AirMax™ 360 Aeration System:

The patented Meridian AirMax® 360 surrounds the full circumference inside the hopper cone. It forces air into the centre of the grain cavity, which is necessary for even grain conditioning.

With no perforations, there are no screens to remove when changing seed varieties, resulting in virtually no cleaning or cross-contamination.

Bolt the fan vertically, onto the inlet mount in a way that the electrical lines can be routed conveniently.

Table 1 - AirMax™ 360 Fan Inlet Size

BIN SIZE	INLET SIZE
16 Feet	18" Dia.
18 Feet	24" Dia.

AirMax™ 360 Warranty Disclaimer:

The storage of fertilizer in a bin equipped with AirMax™ 360 could limit or void the warranty if the cause of a claim is deemed to be from the storage of fertilizer.

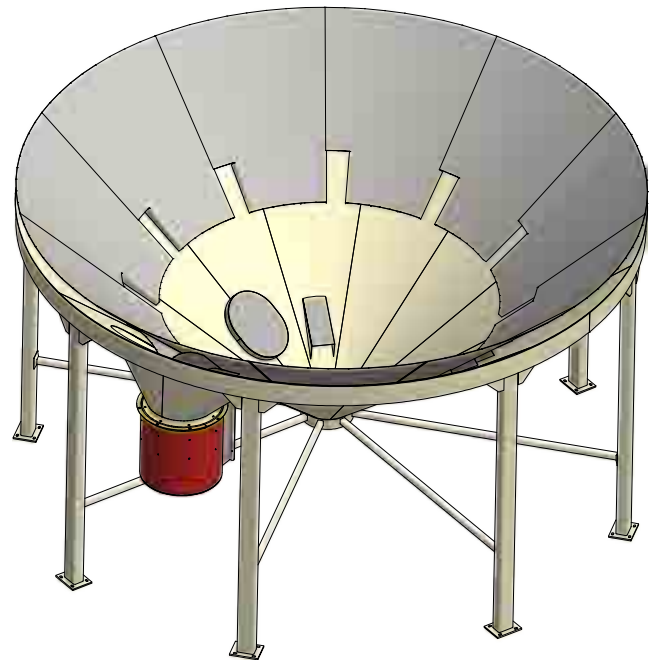


Fig 26 - AirMax™ 360 illustration



Fig 27 - AirMax™ 360 fan mount



Fig 28 - AirMax™ continuous air ducts

Table 2 - Meridian AirMax® Specifications

Models	Max Bin Size (Bushels) ¹	Recommended Hopper Bin Size ²	Dimensions	Dia. I.D.	Weight (LB)	Screen Surface (Inches)	Inlet Size and Type	Height into Grain Cavity 35° Cone ³	Height into Grain Cavity 40° Cone ³	Height into Grain Cavity 55° Cone ³
Vertical Aeration – One Piece										
V3004	3500	14' & 16' bins up to 3500 bushels. Models 1615, GM3 and smaller	30" x 4'	20"	385	6299	9" x 14" Rect	n/a	86"	n/a
V3006	5000	14' & 16' bins up to 5000 bushels. Models 1625, GM5 and smaller	30" x 6'	20"	440	9656	9" x 14" Rect	n/a	110"	n/a
V3008	6000	14' & 16' bins up to 6000 bushels. Models 1630, GM6 and smaller	30" x 8'	20"	525	13132	9" x 14" Rect	n/a	134"	n/a
V4504	7000	14', 16' & 18" bins up to 7000 bushels. Models 1825, GM64 and smaller	45" x 4'	30"	580	9301	14" x 17" Rect	n/a	95"	n/a
Vertical Aeration – Sectional (Designed for Retrofitting Existing Hopper Bins and High-Flow Applications) ⁴										
VS3004	5000	All bins up to 5000 bushels	30" x 4'	20"	420	5245	9" x 14" Rect	80"	86"	99"
VS3006	8000	All bins up to 8000 bushels	30" x 6'	20"	500	7990	9" x 14" Rect	104"	110"	123"
VS4504	15000	All bins up to 15000 bushels	45" x 4'	30"	600	7925	14" x 17" Rect	88"	95"	116"
VS4506	20000	All bins up to 20000 bushels	45" x 6'	30"	745	12100	14" x 17" Rect	112"	119"	140"
Horizontal Aeration (Removable for Fertilizer Storage and Available for Retrofitting Existing Bins)										
H1808	5000	14' & 16' bins up to 3300 bushels. Models 1615, GM3 and smaller	18" x 8'	n/a	155	3478	18" Rnd	38"	44"	n/a
H2408	6500	14', 16' & 18' bins up to 5000 bushels. Models 1625, 1820, GM500 and smaller	24" x 8'	n/a	235	4660	24" Rnd	44"	50"	n/a
H2410	6500	14', 16' & 18' bins up to 6500 bushels. Models 1630, 1825, GM6, GM64 and smaller	24" x 10'	n/a	285	6284	24" Rnd	51"	59"	n/a
H2410-HD	8,500	Up to 18' diameter	24" x 10'	24"	360	6284	24" Rnd	51"	59"	n/a
H2412-HD	11,000	Up to 20' diameter	24" x 12'	24"	425	7908	24" Rnd	58"	68"	n/a

1. Recommended bushel capacities for Meridian AirMax® system.

2. Recommended bin model(s) for maximum grain drying and aeration results.

3. Distance from gate to top of aeration mechanism.

4. The AirMax™ Sectional system is an exclusive and unique aeration product allowing installation of vertical aeration in existing hopper bins. This unit is built heavier than the one-piece AirMax™, withstanding weights up to 20,000 bushels.

4.4 LIQUID HOPPER BIN

Meridian's Liquid hopper bins are the ultimate storage solution, delivering versatility and innovation for a multitude of agricultural and commercial requirements. In addition to storing all the dry flowable products of the fertilizer series, these bins are designed, engineered and coated to store a whole range of liquid products such as liquid fertilizer and liquid feed supplements.

These bins look identical to the fertilizer bins, differing significantly however:

- Bottom flange plate assembly
- Heavier gauge steel
- Welded inside and out
- Four coats of powder chemistry
- Leak tested

3/4 inch Sight Tube with Auto Shut-off Valve:

The sight tube shows the quantity of liquid inside the tank. Measurements are approximate, and are shown in Imperial and US gallons

Push the spring-loaded valve down to allow liquid into the sight tube to measure the quantity inside the tank. When the valve is released, liquid is restricted from entering the tube.



Fig 30 - Liquid hopper bin



Fig 29 - liquid valve



Fig 31 - Heavy duty flange bottom

4.5 LOADING

The bin(s) are designed to be easy to load or fill with product. A list of general guidelines to be followed include but are not limited to:

- A spring-loaded, vented top lid covers the loading hatch and can be opened from the ground by pulling on the rope provided. The spring loading will automatically close the lid when the cord is released. The venting of the lid allows the bin to "breathe", avoiding vacuum lock when unloading.
- The top lid is designed so that it can be rotated to open in any direction that will work favorably with your particular installation.

Before erecting the bin, decide on the opening direction and make the adjustment. This will be more convenient than waiting until the bin is set in place.

- The bin should always be centre-loaded and unloaded to prevent uneven stresses on the bin caused by material piling up on one side and emptying from the other. Over-stressing in this manner will cause eventual structural damage.
- The loading hatch at the peak of the bin is designed so that the product will centre-load the bin.
- The unloading chute at the base of the hopper cone is designed to centre-unload product.
- Do not, under any circumstances, use the optional roof manhole as loading port. If it is used, the product will pile unevenly, creating a situation that could cause damage to the bin.



Fig 32 - Loading the bin

4.6 UNLOADING

The standard hopper bin is designed with two feet of clearance at the bottom of the cone to provide room for unloading equipment. Use auxiliary unloading equipment as appropriate for your storage system.

A general list of guidelines to be followed include but are not limited to:

- Open the Top Lid while unloading to prevent vacuum damage to the bin.
- To unload product from the bin, use the crank to open the slide gate assembly on the unloading chute. The emptying rate of the bin is determined by how far the slide gate is opened.

Optional permanent auger mounts and auger boots to enclose the unloading chute can be ordered to complement the functioning of your storage bin.

The slide gate assembly is optional on Meridian Manufacturing Inc.'s feed bin line.

- Do not, under any circumstances, use the optional bottom manway as an unloading port. If it is used, the product will empty unevenly, creating a situation that could cause damage to the bin.
- Do not crawl under an opened unloading chute to inspect for a suspected blockage. Caked or impacted product could suddenly break loose and cause facial, body and/or eye injury.
- Do not attempt to enter the bin through the loading hatch at the peak. This opening is designed for loading the bin only and not for human entry.

- When unloading fertilizers, make sure that the product does not cake or cling to the sidewall, or empty to one side. Bridging may also occur. This usually occurs when hot product such as mixed potash is loaded into the bin and then cools, causing a moisture build-up due to condensation.

If this happens, an uneven stress is generated on the bin structure and could cause structural damage.

To remove the build-up or bridging:

- Bang on the side of the bin with a rubber mallet to break the product loose.
- Use a long pole or piece of wood through the manhole to chip the caked product free.

- Use the bottom manway to enter the bin only when it is empty, for cleaning purposes.
- If you enter the bin, make sure that there is no possibility that the loading/unloading auger could be started up.

Lock-Out Tag-Out the power sources to all auxiliary equipment and have a responsible, trained person close at hand to keep unauthorized individuals away from the work area.

- Enter the empty bin with extreme caution. Wear protective clothing, goggles for eye protection and a properly filtered respirator mask for lung protection.

It is also good safety practice to connect a safety line to yourself and a secure attachment point outside the bin before entering the enclosed area. Have a responsible, trained person outside to assist in case of an emergency.



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Section 5: INDUSTRIAL USAGE

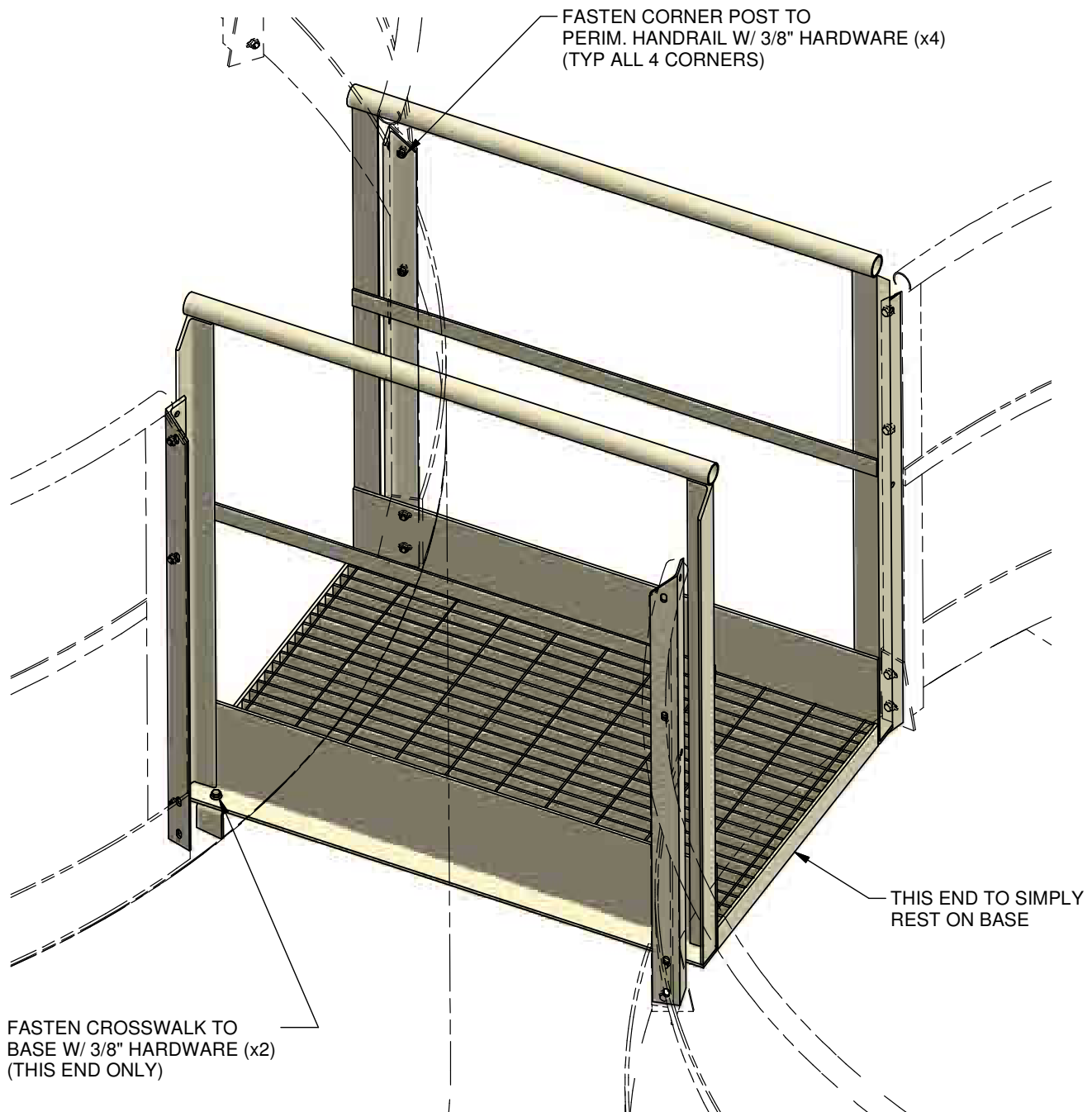
WARNING

- Read and understand the owner's manual, and all safety decals, before using.
- Do not attempt to enter bin through the top loading hatch.
- Have Meridian® or knowledgeable personnel to assembly and install catwalks, stairs, etc.
- Only enter bin when it is empty.
- Use cranes to lift and support equipment while installing.
- Climbing ladder with care to prevent falling.
- Do not crawl under opened unloading chute to inspect for a suspected blockage.
- Wear personal protective equipment (PPE) while assembling and installing. Especially when working at heights.

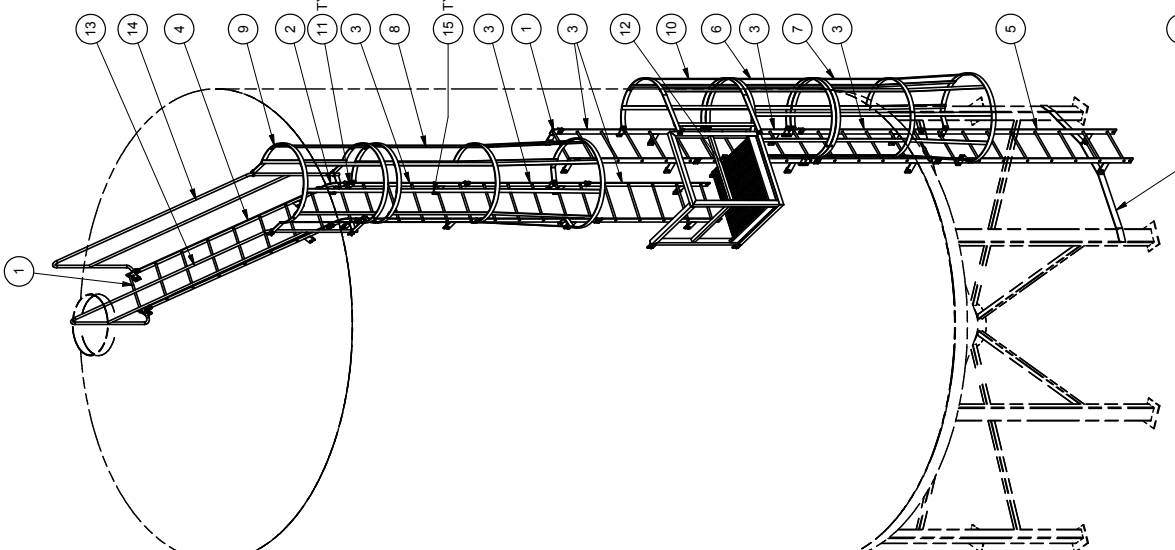
Our bins are built with industrial gauge steel. Meridian® offers a range of structural options to make your site efficient and safe. Talk to our Industrial team for more information.



CROSSWALK INSTALLATION (12" - 32" SPAN) PART #40669

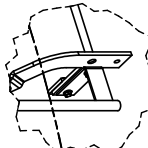


LADDER SYSTEM INSTALLATION



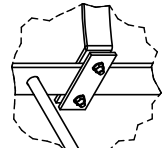
HANDRAIL MOUNTING
1. PLACE HANDRAIL ON OUTSIDE OF RECEIVERS
2. MOUNT WITH 3/8" x 1 1/2" FLANGED HEX BOLT & NUT (SEE DETAIL B)

DETAIL B
SCALE 1 / 12

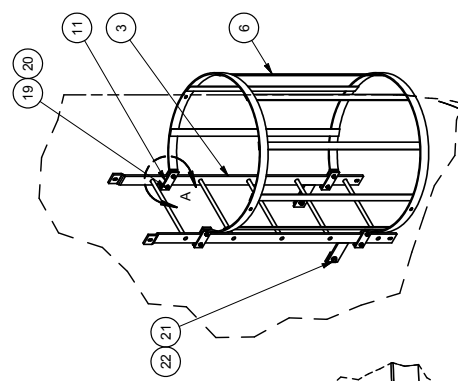


HANDRAIL CAGE MOUNTING
1. PLACE CAGE ENDS ON OUTSIDE OF HANDRAILS
2. MOUNT WITH CAGE U-BOLTS & NUTS
3. ENSURE BOTTOM U-BOLTS ARE PLACED ABOVE HANDRAIL MOUNTING TABS

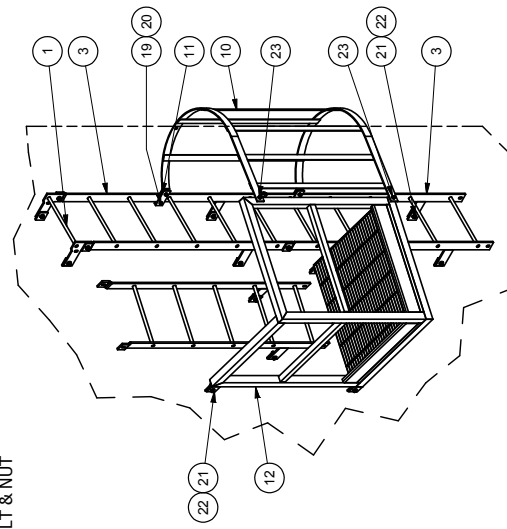
DETAIL A
SCALE 1:8



STD CAGE MOUNTING
1. PLACE CAGE ENDS ON OUTSIDE OF LADDER SIDERAILS
2. PLACE BOLT BRACKETS ON INSIDE OF LADDER SIDERAILS
3. MOUNT WITH 3/8" x 1 1/2" FLANGED HEX BOLT & NUT
4. ENSURE PARTS ARE NOT INTERFERING WITH LADDER RUNGS (SEE DETAIL A)



PLATFORM & CAGE MOUNTING
1. PLACE PLATFORM IN TABS
2. MOUNT WITH 1/2" x 1 1/2" HEX BOLT & NUT
3. PLACE CAGE ENDS ON OUTSIDE OF SW LADDER AND PLATFORM
4. MOUNT WITH 3/8" x 1 1/2" FLANGED HEX BOLT & NUT ONTO LADDER WITH MOUNT BRKT ON LADDER INSIDE
5. MOUNT WITH 3/8" x 1" SELF-TAPPING SCREWS TO PLATFORM



ITEM	QTY	MASS	PART #	DESCRIPTION
1	2	7.341 lbmass	31641	INDUSTRIAL ROOF RECEIVER, GRAY
2	1	12.469 lbmass	31640	INDUSTRIAL SIDEWALL RECEIVER, GRAY
3	6	45.659 lbmass	31645	5FT INDUSTRIAL LADDER, GRAY
4	1	62.419 lbmass	31647	7FT INDUSTRIAL LADDER, GRAY
5	1	70.799 lbmass	31648	8FT INDUSTRIAL LADDER, GRAY
6	1	49.704 lbmass	31652	42" INDUSTRIAL CAGE, GRAY
7	1	81.145 lbmass	31653	78" INDUSTRIAL CAGE, GRAY
8	1	94.562 lbmass	31654	102" FLARED INDUSTRIAL CAGE, GRAY
9	1	48.306 lbmass	31655	INDUSTRIAL HANDRAIL CAGE, GRAY
10	1	39.482 lbmass	31656	INDUSTRIAL PLATFORM CAGE, GRAY
11	14	0.893 lbmass	31658	CAGE BOLT BRACKET, GRAY
12	1	139.006 lbmass	43126	REST PLATFORM, LASHA, LEFT SIDE
13	1	19.993 lbmass	31246	HANDRAIL 7' LH ASSEMBLY, GREY
14	1	19.993 lbmass	31254	HANDRAIL 7' RH ASSEMBLY, GREY
15	25	0.612 lbmass	22155	LADDER BRACKET, 2 1/2" LG
16	1	17.248 lbmass	28943	LEG LADDER BRACKET, 16"
17	1		19323	29/16"-18 UNC x 3/4" PIPE U-BOLT
18			19318	NUT, HEX, FLANGED, 5/16-18 UNC
19			19578	BOLT, HEX, FLANGED, 3/8-16 UNC X 1.5
20			19564	NUT, HEX, FLANGED, 3/8-16 UNC
21			19575	BOLT, HEX, FLANGED, 1/2-13 UNC X 1.5
22			19595	NUT, HEX, FLANGED, 1/2-13 UNC
23			19579	SCREW, FLANGED, SELF-TAPPING, 3/8-16 UNC X 1.5

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MATERIAL:

COMMON BIN PARTS

PART WEIGHT: 982.22 lbmass

PROJECT NAME:

INDUSTRIAL LADDER SYSTEM (INSTALLATION INSTRUCTIONS)

MERIDIAN

DRAWN BY: **BP** DATE: 6/13/2012
B - SIZE
CHECKED BY: **ADD** CHECKED BY DATE: SCALE: REV: A

PERIMETER HANDRAIL INSTALLATION

1. Install handrail "Section B" (includes 2 posts) to roof tabs.
2. Fasten adjoining handrail "Section A" to handrail "Section B" and then to roof tab.
3. Install remaining "Section A" handrails.
4. Once all sections are installed, fasten the grab bars to the handrail sections.

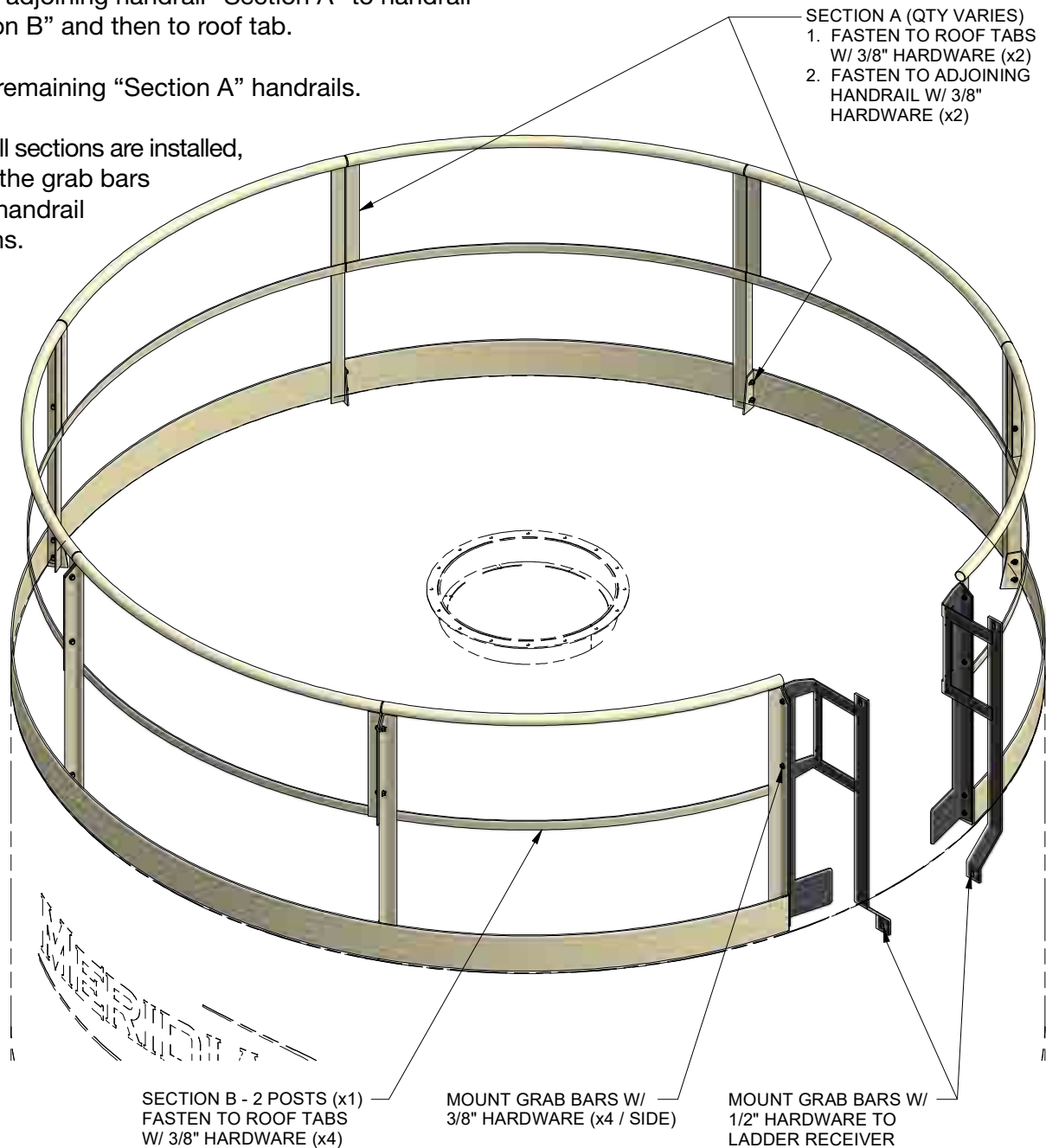


Table 3 - Perimeter Handrail Installation

QTY	PART #	DESCRIPTION
1	40672	PERIMETER HANDRAIL 16' PKG, BONE WHITE
1	40673	PERIMETER HANDRAIL 14' PKG, BONE WHITE
1	40674	PERIMETER HANDRAIL 13'-6" PKG, BONE WHITE
1	40675	PERIMETER HANDRAIL 12' PKG, BONE WHITE
1	40676	PERIMETER HANDRAIL 10' PKG, BONE WHITE
1	40677	PERIMETER HANDRAIL 9' PKG, BONE WHITE
1	40678	PERIMETER HANDRAIL 8' PKG, BONE WHITE

Section 6: SERVICE AND MAINTENANCE

WARNING

- Read and understand the owner's manual, and all safety decals, before using.
- Establish a Lock-Out, Tag-Out policy for your work site. Always Lock-Out Tag-Out equipment before entering bin or performing any maintenance work.
- Only enter the bin when it is empty.
- Wear appropriate personal protective equipment (PPE), for the task you are performing.
- Do not attempt to enter bin through the loading hatch at the peak.
- Attach a safety line to an anchor outside before entering.

Each customer's site is different, and store a variety of product. You must develop a service and maintenance program specific to your location and circumstances. You are responsible to ensure that your smoothwall bin(s) are compatible with the product which you wish to store.

By following a careful service and maintenance program for your bin(s), you will enjoy many years of trouble-free storage.

IMPORTANT:

If you enter the bin, make sure that there is no possibility that loading could start up. Lock-Out, Tag-Out the auxiliary equipment. A responsible, trained person must be close at hand for assistance.

WARNING

CONFINED SPACE HAZARD

Wear protective clothing, and a properly filtered respirator mask. Connect a safety line to yourself and have a responsible, trained person outside to assist in an emergency.

6.1 CONCRETE SLAB INSPECTION

Check the foundation conditions regularly. Cracks that are more than 1/8 inch wide in the concrete slab indicate significant movement.

Always consult with a professional engineer when foundation problems arise. If severe cracking exists, slab levels should be taken to determine whether any area of the slab is sinking independently.

Subsoil conditions should be monitored to ensure against bearing capacity losses.

6.2 BIN INSPECTION

- It is important to check that the top lid vent, and any other air vent(s) are open and clear of obstructions.

Ventilation prevents a vacuum from forming during unloading or emptying, which may cause the bin to implode.

- Inspect welded seams.
- Tighten all bolts to their specific torques.
- Inspect and adjust all plugs, fittings and valves as required.
- Exterior enamel paint kits are also available to touch up scrapes and minor dent marks.
- When the bin is empty:
 - Inspect the welded seams inside.
 - Inspect all internal components.
 - Inspect the painted bin for bare metal areas where the paint has worn.

A special epoxy paint kit is available and it is highly recommended that only this type of paint be used.

It is especially necessary that any bare metal be painted before storing fertilizer or any other corrosive commodities. Exposed metal will corrode quickly. A special epoxy repair kit for the interior is available through your Meridian dealer.

6.3 LIQUID HOPPER BIN FLANGE BOTTOM TIGHTENING PROCEDURE

Flange bottom joints require proper tightening to avoid leaking. Apply **Loctite® LB 8150**, or equivalent, anti-seize lubricant to the bolt threads. Then, torque each nut to **55 ft-lb**.

This is the procedure for tightening the bolts:

6.3.1 Flange Condition Pre-Check:

- Check conditions of flange faces for scratches, dirt and scale.
- Check for corrosion pitting and tool marks.
- Inspect the gasket seating surfaces.
- Check the areas on the flange where the nuts will seat, it should be flat and free from pitting and excessive wear.
- Ring Type Joint (RTJ) grooves must be kept clean, corrosion free & undamaged.

Contact your Supervisor or Quality Control if you find any uncertainties.

6.3.2 Flange Alignment:

Visually examine the flange alignment to ensure that it fits well. While aligning the flanges make sure that there are no residual stresses in the joint.

IMPORTANT:

Using heat correction for the alignment of flanges is strictly prohibited.

- Flange faces should be parallel and aligned.
- The flange bolt holes should be in line so that the bolts will pass freely.



Fig 33 - Flange bottom on hopper

6.3.3 Nut and Bolt/Stud Checks:

- Visually examine nuts and bolts/studs before using them to ensure that they are free from defects such as corrosion and damaged threads.

Do not use fasteners with damaged threads.

- Check the length of the bolts to avoid short bolting or excessive threads. Meridian® supplies flange bolts with sufficient length to allow the use of bolt tensioning equipment or spades, spacers, drip rings and wafer valves, and the associated extra gaskets.
- Visually examine nuts and bolts/studs after cleaning to ensure they are free from burrs. They should be cleaned using a wire brush to remove any dirt on the threads.
- The nut and bolt material grades should be correctly identified before they are used.
- Nuts and bolts can only be reused if it is known that they have not been overloaded or exceeded their yield point.
- When threading the nut onto the bolt, the nut identification marking must always point outwards.

6.3.4 Gasket Check:

- Do not use sealing compound, grease or other paste or adhesive on gasket or flange faces.
- Clean gasket seating face using a wire brush.
- Visually examine the gasket, before installation, to assure they are free from defects.
- Make sure the material is as specified, look for any possible defects or damage in the gasket such as folds or creases.
- All Soft material gaskets should be replaced with new ones whenever an opened joint is to be closed again.
- Spiral-wound gaskets should be used only once.
- While inserting the gasket, do not force it into the gasket seat between the mating flange faces. Once the gasket is placed, bring the mating flanges together carefully without knocking the gasket out of place. Install all bolts and hand tighten the nuts.

6.3.5 Flange Bottom Bolt Torque Sequence:

ALWAYS TIGHTEN THE NUT, NOT THE BOLT!

Note:

Bolts should only be torqued if they are fitted into clearance holes.

Apply Loctite® LB 8150, or equivalent, anti-seize lubricant to the bolt threads. Then, use a torque wrench to tighten the nuts to **55 ft-lb**. If the bolt head is torqued rather than the nut then the torque value should be increased to compensate for the additional friction.

The specified method of bolt tightening is equally applicable to coated, galvanized and ungalvanized bolts.

Torque the nuts or bolts in a “CRISS-CROSS”, then a “CIRCULAR” sequence using two torquing passes as described below:

- Tighten all nuts by hand as far as possible.
- See Figures 26 to 29 for torque sequence.
- **PASS 1:** Torque the nuts to **55 ft-lb**.
Torque in the correct sequence to a 100% of the final torque value. Check that gasket is getting compressed uniformly.
- **PASS 2:** Repeat torquing the nuts using the final torque value in a “CIRCULAR” manner until no further rotation of the nut is observed.



Fig 34 - 12 Bolt sequence



Fig 35 - 16 Bolt sequence



Fig 36 - 20 Bolt sequence



Fig 37 - 24 Bolt sequence



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Section 7: TROUBLESHOOTING

This section contains a list of common problems, causes and offers quick solutions to those issues.

Problem

Possible Cause	Possible Solution
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Product leaks out around slide gate



Gate seal may be open allowing product leak out around the edges between the slide gate plate and the frame.



Adjust the roller heights to improve the seal between the slide gate plate and inside frame.

- Rollers are mounted in jagged slots. Remove roller bolts and place them into the next position.
- **Note:** With more seal comes more friction when opening/closing the slide gate.



Adjust the crank shaft, moving it up slightly, to avoid the front of the slide plate from flexing down.

Top lid lever doesn’t work

The pin, at the base of the lever, may have been bent, because it wasn’t fully retracted before the lever was pulled.

- Replace the pin.
- Be sure the pin is fully retracted before pulling the lever.



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Section 8: REFERENCE

For information not included here, or for a digital copy of this manual, please call your dealer, or Meridian Manufacturing Inc. directly for assistance. Visit our website at: www.meridianmfg.com.

8.1 FEED BIN SPECIFICATIONS

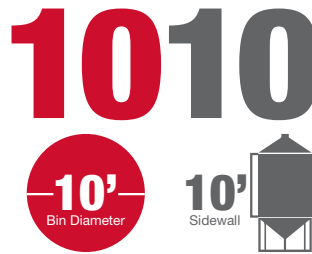


Table 4 - Western Canada

MODEL	DESCRIPTION	APPROX. BUSHELS	CUBIC FEET	IMP. TONS	METRIC TONNES	BIN HEIGHT	REC. AUGER
705	7' Diameter 60° Bottom Cone	254	299	6	5.4	14' 11"	33'
708		351	414	8.3	7.5	17' 11"	33'
710		417	491	9.8	8.9	19' 11"	39'
808	8' Diameter 55° Bottom Cone	460	542	10.8	9.8	18' 1"	33'
810		545	642	12.8	11.7	20' 1"	39'
812		630	742	14.8	13.5	22' 1"	39'
910	9' Diameter 55° Bottom Cone	710	836	16.7	15.2	21' 2"	39'
912		817	962	19.2	17.5	23' 2"	39'
915		980	1,153	23.1	20.9	26' 2"	46'
1010	10' Diameter 55° Bottom Cone	901	1,060	21.2	19.2	22' 3"	39'
1012		1,034	1,217	24.3	22.1	24' 3"	46'
1015		1,234	1,452	29	26.4	27' 3"	46'

Table 5 - Eastern Canada

MODEL	DESCRIPTION	APPROX. BUSHELS	CUBIC FEET	IMP. TONS	METRIC TONNES	BIN HEIGHT	REC. AUGER
705	7' Diameter 60° Bottom Cone	255	300	6	5.4	14' 3"	33'
708		353	415	8.3	7.5	17' 3"	33'
710		419	492	9.9	8.9	19' 3"	33'
712		470	557	11.4	10.4	21' 3"	33'
715		568	673	13.7	12.5	24' 3"	39'
805	8' Diameter 55° Bottom Cone	332	394	7.9	7.2	14' 7"	33'
808		462	543	10.9	9.9	17' 6"	33'
810		547	644	12.9	11.7	19' 6"	33'
812		633	744	14.9	13.5	21' 6"	39'
815		757	897	17.9	16.3	24' 7"	39'
905	9' Diameter 55° Bottom Cone	440	521	10.4	9.5	15' 8"	33'
908		601	712	14.2	12.9	18' 8"	33'
910		712	838	16.8	15.2	20' 6"	33'
912		820	965	19.3	17.5	22' 6"	39'
915		983	1156	23.1	21.0	25' 6"	46'
1010	10' Diameter 55° Bottom Cone	903	1063	21.3	19.3	21' 8"	39'
1012		1037	1220	24.4	22.1	23' 8"	39'
1015		1237	1455	29.1	26.4	26' 8"	46'
1020		1572	1849	37.0	33.0	31' 8"	53'
1215-55 1215-55 HD	12' Diameter 55° Bottom Cone	1851	2178	43.0	39.0	30' 0"	51'
1220-55 1220-55 HD		2315	2743	54.0	49.0	35' 0"	61'
1225-55 1225-55 HD		2792	3309	66.1	60.0	40' 0"	71'

Table 6 - Central USA

MODEL	DESCRIPTION	APPROX. BUSHELS	CUBIC FEET	IMP. TONS	METRIC TONNES	BIN HEIGHT	LEGS
605	6' Diameter 60° Bottom Cone	178	209	4	3.6	13' 1"	4
608		250	294	6	5.4	16' 1"	4
610		298	350	7	6.4	18' 1"	4
612		346	407	8	7.2	20' 1"	4
805	8' Diameter 60° Bottom Cone	351	413	8	7.2	15' 6"	4
808		479	564	11	10.0	18' 6"	4
810		564	664	13	11.8	20' 6"	4
812		650	765	15	13.6	22' 6"	4
908	9' Diameter 60° Bottom Cone	629	740	15	13.6	19' 8"	4
910		737	867	17	15.4	21' 8"	4
912		845	994	20	18.1	23' 8"	4
915		1007	1185	24	21.8	26' 8"	4
1010	10' Diameter 60° Bottom Cone	938	938	22	19.9	22' 11"	4
1012		1071	1071	25	22.7	24' 11"	6
1015		1271	1271	30	27.2	27' 11"	6

8.3 GRAINMAX BIN SPECIFICATIONS

GM4000

GRAINMAX **APROX. 4,000**
SERIES **BUSHEL**

Table 7 - Western Canada

MODEL	DESCRIPTION	APPROX. BUSHEL	CUBIC FEET	IMP. TONS	METRIC TONNES	BIN HEIGHT	REC. AUGER
GM2300	14' Diameter 40° Bottom Cone	2,296	2,702	67	61	26' 5"	46'
GM3000	15' 6" Diameter 40° Bottom Cone	3,037	3,573	89	81	28' 9"	53'
GM4000		3,836	4,514	112	102	33' 9"	59'
GM5000		4,636	5,455	136	123	38' 9"	66'
GM6000		5,434	6,394	159	145	43' 9"	72'
GM3000	16' Diameter 40° Bottom Cone	3,258	3,833	95	86	28' 11"	53'
GM4000		4,109	4,835	120	109	33' 11"	59'
GM5000		4,962	5,838	145	132	38' 11"	66'
GM6000		5,813	6,839	170	155	43' 11"	72'
GM5300	18' Diameter 40° Bottom Cone	5,312	6,250	156	141	35' 6"	59'
GM6400		6,392	7,520	188	170	40' 6"	66'
GM7500		7,470	8,789	219	199	45' 6"	79'
2025		8,028	9,445	236	214	41' 10"	66'
2030	20' Diameter 40° Bottom Cone	9,361	11,013	275	249	46' 10"	79'
2035		10,693	12,580	314	285	51' 10"	85'

Table 8 - Eastern Canada, Northeastern USA

MODEL	DESCRIPTION	APPROX. BUSHEL	CUBIC FEET	IMP. TONS	METRIC TONNES	BIN HEIGHT	REC. AUGER
1310GM	13' Diameter 45° Bottom Cone	1533	1816	45	41	21' 6"	41'
1315GM		2093	2480	62	56	26' 6"	51'
1320GM		2653	3194	78	71	31' 6"	61'
1325GM		3212	3807	95	86	36' 6"	71'
1330GM		3772	4471	112	101	41' 6"	71'
1335GM		4332	5135	128	116	46' 6"	81'
1412GM	13' 6" Diameter 40° Bottom Cone	1881	2213	55	50	24' 1-13/16"	51'
1420GM		2854	3358	84	76	31' 9-13/16"	61'
1425GM		3463	4074	102	92	36' 9-13/16"	71'
1430GM		4071	4790	120	109	41' 9-13/16"	71'
1435GM		4680	5506	137	125	46' 9-13/16"	79'

Table 9 - Central USA

MODEL	DESCRIPTION	APPROX. BUSHEL	CUBIC FEET	IMP. TONS	METRIC TONNES	BIN HEIGHT	REC. AUGER
1208GM	12' Diameter 40° Bottom Cone	1064	1252	39	35	18' 8"	36'
1412GM	13' 6" Diameter 40° Bottom Cone	1881	2213	69	63	23' 9"	46'
1420GM		2854	3358	104	94	31' 9"	56'
1425GM		3462	4073	126	114	36' 9"	61'
1615GM	16' Diameter 40° Bottom Cone	3264	3840	98	89	28' 11"	53'
1620GM		4118	4845	124	112	33' 11"	66'
1625GM		4973	5851	149	135	38' 11"	66'

Table 10 - Northwestern USA

MODEL	DESCRIPTION	APPROX. BUSHEL	CUBIC FEET	IMP. TONS	METRIC TONNES	BIN HEIGHT	REC. AUGER
GM3000-US	15' 6" Diameter 40° Bottom Cone	3043	3580	90	82	28' 9"	51'
GM4000-US		3845	4323	114	103	33' 9"	61'
GM5000-US		4646	5466	138	125	38' 9"	71'
GM6000-US		5413	6368	162	147	43' 2"	71'

8.4 LIQUID HOPPER BIN SPECIFICATIONS

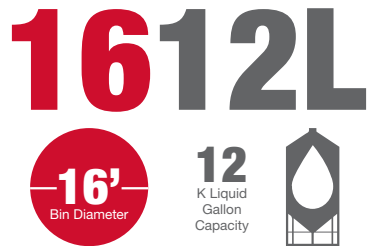


Table 11 - Western Canada

MODEL	DESCRIPTION	APPROX. BUSHELS	CUBIC FEET	US GALLONS	IMP. GALLONS	IMP. TONS*	METRIC TONNES*	BIN HEIGHT	REC. AUGER
1212L	12' Diameter 45° Bottom Cone	1,476	1,737	12,995	10,821	68	62	23' 8"	39'
1412L	14' Diameter 40° Bottom Cone	2,084	2,452	18,344	15,275	97	88	25' 4"	46'
15.512L	15' 6" Diameter 40° Bottom Cone	2,556	3,008	22,504	18,739	119	108	25' 9"	46'
15.515L		3,037	3,573	26,731	22,259	141	128	28' 9"	53'
15.517L		3,357	3,950	29,552	24,608	156	142	30' 9"	53'
15.520L		3,836	4,513	33,764	28,115	179	162	33' 9"	59'
1612L	16' Diameter 40° Bottom Cone	2,745	3,230	24,165	20,122	128	116	25' 11"	46'
1615L		3,258	3,833	28,677	23,879	152	138	28' 11"	53'
1617L		3,599	4,235	31,685	26,384	168	152	30' 11"	53'
1620L		4,109	4,835	36,174	30,122	192	174	33' 11"	59'

*Based on 12.75 lbs./Imp. Gal.

Table 12 - Eastern Canada, Northeastern USA

MODEL	DESCRIPTION	CUBIC FEET	US GALLONS	LITRES	METRIC TONNES	BIN HEIGHT	REC. AUGER
1220L	12' Diameter 45° Bottom Cone	2647	19790	74913	69.9	31' 9"	53'
1320L	13' Diameter 45° Bottom Cone	3144	23515	89014	115.1	32' 6"	53'
1330L		4471	33440	126584	163.8	42' 6"	66'
1335L		5135	38410	145398	188.1	47' 6"	72'
1412L	13' 6" Diameter 40° Bottom Cone	2213	16930	64087	81.1	23' 10"	39'
1415L		2642	20149	76272	96.8	26' 10"	46'
1420L		3358	25500	96528	123.0	31' 10"	53'
1425L		4072	30851	116784	149.3	36' 10"	59'
1430L		4790	36203	137043	175.t	41' 10"	66'

Table 13 - Central USA

MODEL	DESCRIPTION	APPROX. BUSHELS	CUBIC FEET	IMP. GALLONS	LITRES	IMP. TONS	METRIC TONNES	BIN HEIGHT
1220L	12' Diameter 45° Bottom Cone	2249	2646	19793	74925	82	74.4	30' 8"
1412L	13' 6" Diameter 40° Bottom Cone	1924	2264	16396	62066	70	63.5	23' 10"
1415L		2290	2694	20153	76288	84	76.2	26' 10"
1420L		2898	3409	25501	96532	106	96.7	31' 10"
1612L	16' Diameter 40° Bottom Cone	2825	3323	24858	94098	103	93.4	25' 9"
1615L		3338	3927	29376	111200	122	110.7	28' 9"

Table 14 - Northwestern USA

MODEL	DESCRIPTION	APPROX. BUSHELS	CUBIC FEET	IMP. GALLONS	LITRES	IMP. TONS	METRIC TONNES	BIN HEIGHT
1512L	16' Diameter 40° Bottom Cone	2561	3013	22542	85331	93	85	25' 9"
1515L		3043	3580	26777	101362	111	101	28' 9"
1517L		3363	3957	29600	112049	123	111	30' 9"
1520L		3845	4523	33834	128075	140	127	33' 9"

8.5 MULTI-PURPOSE BIN SPECIFICATIONS

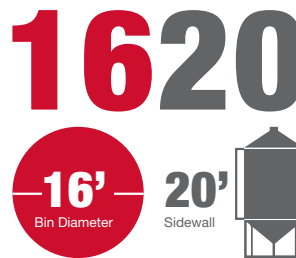


Table 15 - Western Canada

MODEL	DESCRIPTION	APPROX. BUSHELS	CUBIC FEET	IMP. TONS	METRIC TONNES	BIN HEIGHT	REC. AUGER
1205	12' Diameter 45° Bottom Cone	804	947	29	26	16' 8"	33'
1208		1,093	1,286	39	36	19' 8"	39'
1210		1,284	1,511	46	42	21' 8"	39'
1212		1,476	1,737	53	48	23' 8"	39'
1215		1,763	2,075	64	58	26' 8"	46'
1410	14' Diameter 45° Bottom Cone	1,823	2,145	66	60	23' 4"	39'
1412		2,084	2,452	76	68	25' 4"	46'
1415		2,476	2,913	90	81	28' 4"	53'
1417		2,737	3,220	99	90	30' 4"	53'
1420		3,128	3,681	114	103	33' 4"	59'
15610	15' 6" Diameter 40° Bottom Cone	2,237	2,632	81	74	23' 9"	41'
15612		2,556	3,008	93	84	25' 9"	46'
15615		3,037	3,573	110	100	28' 9"	53'
15617		3,357	3,950	122	111	30' 9"	53'
15620		3,836	4,513	139	126	33' 9"	59'
15625		4,636	5,455	169	153	38' 9"	66'
15630		5,434	6,394	198	179	43' 9"	72'
1610	16' Diameter 40° Bottom Cone	2,405	2,830	87	79	23' 11"	46'
1612		2,746	3,231	100	90	25' 11"	46'
1615		3,258	3,833	118	107	28' 11"	53'
1617		3,599	4,235	131	119	30' 11"	53'
1620		4,109	4,835	149	136	33' 11"	59'
1625		4,961	5,837	180	164	38' 11"	66'
1630		5,813	6,839	212	192	43' 11"	72'
1810	18' Diameter 40° Bottom Cone	3,155	3,712	115	104	25' 6"	46'
1815		4,233	4,981	154	140	30' 6"	53'
1820		5,312	6,250	193	175	35' 7"	59'
1825		6,392	7,520	233	211	40' 6"	66'
1830		7,470	8,789	272	247	45' 6"	79'

Table 16 - Eastern Canada, Northeastern USA

MODEL	DESCRIPTION	APPROX. BUSHELS	CUBIC FEET	IMP. TONS	METRIC TONNES	BIN HEIGHT	REC. AUGER
1208	12' Diameter 45° Bottom Cone	1095	1288	40	36	19' 8"	36'
1210		1287	1514	47	43	21' 8"	41'
1212		1479	1740	54	49	23' 8"	46'
1215		1768	2080	64	58	26' 8"	51'
1220		2233	2647	79	72	31' 9"	56'
1225		2710	3212	97	88	36' 9"	65'
1230		3187	3777	115	104	41' 9"	71'
1310	13' Diameter 45° Bottom Cone	1533	1816	53	48	22' 6"	41'
1312		1757	2082	61	55	24' 6"	46'
1315		2093	2480	74	67	27' 6"	51'
1320		2653	3144	94	85	32' 6"	56'
1325		3212	3807	115	104	37' 6"	65'
1330		3772	4471	136	123	42' 6"	71'
1335		4332	5135	155	141	47' 6"	81'
1412	13' 6" Diameter 40° Bottom Cone	1881	2213	68	62	23' 9-13/16"	46'
1415		2246	2642	82	74	26' 9-13/16"	46'
1420		2854	3358	103	93	31' 9-13/16"	56'
1425		3462	4072	125	113	36' 9-13/16"	61'
1430		4071	4790	147	133	41' 9-13/16"	71'
1435		4680	5506	169	153	46' 9-13/16"	79'

Table 17 - Ontario

MODEL	DESCRIPTION	APPROX. BUSHELS	CUBIC FEET	IMP. TONS	METRIC TONNES	BIN HEIGHT	REC. AUGER
1315	13' Diameter 45° Bottom Cone	2093	2480	74	67	27' 6"	46'
1317		2317	2745	82	74	29' 6"	53'
1320		2653	3144	93	85	32' 6"	53'
1322		2877	3409	103	93	34' 6"	59'
1325		3212	3807	115	104	37' 6"	59'

Table 18 - Central USA

MODEL	DESCRIPTION	APPROX. BUSHEL	CUBIC FEET	IMP. TONS	METRIC TONNES	BIN HEIGHT	REC. AUGER
1205	12' Diameter 40° Bottom Cone	776	913	28	25	15' 8"	36'
1208		1064	1252	39	35	18' 8"	36'
1210		1256	1478	46	42	20' 8"	41'
1212		1448	1704	53	48	22' 8"	46'
1215		1737	2044	63	57	25' 8"	51'
1217		1930	2270	70	64	27' 8"	51'
1220		2218	2609	81	73	30' 8"	56'
1410	13' 6" Diameter 40° Bottom Cone	1637	1926	60	54	21' 9"	41'
1412		1881	2213	69	63	23' 9"	46'
1415		2246	2642	82	74	26' 9"	46'
1417		2489	2928	91	83	28' 9"	51'
1420		2854	3358	104	94	31' 9"	56'
1425		3462	4073	126	114	36' 9"	61'
1428		3872	4503	140	127	39' 9"	71'

Table 19 - Northwestern USA

MODEL	DESCRIPTION	APPROX. BUSHEL	CUBIC FEET	IMP. TONS	METRIC TONNES	BIN HEIGHT	REC. AUGER
1510	15' 6" Diameter 40° Bottom Cone	2241	2636	82	74	23' 9"	41'
1512		2561	3013	93	85	25' 9"	46'
1515		3043	3580	111	101	28' 9"	51'
1517		3363	3957	123	111	30' 9"	56'
1520		3845	4523	140	127	33' 9"	61'
1525		4646	5466	169	154	38' 9"	71'
1530		5448	6410	199	180	43' 9"	71'

8.6 SEEDMAX BIN SPECIFICATIONS

Table 20 - Western Canada

MODEL	DESCRIPTION	APPROX. BUSHELS	CUBIC FEET	BIN HEIGHT	REC. AUGER
1412SM	14' Diameter 45° Bottom Cone	2088	2451	26' 6"	55'
1420SM		2301	2759	28' 6"	60'
1615SM	16' Diameter 40° Bottom Cone	3264	3840	31' 0"	51'
1620SM		4119	4845	36' 0"	60'
1625SM		4973	5851	41' 0"	65'
1815SM	18' Diameter 40° Bottom Cone	4243	4991	31' 6"	51'
1820SM		5324	6263	36' 6"	61'
1825SM		6406	7536	41' 6"	71'

Table 21 - Eastern Canada, Northeastern USA

MODEL	DESCRIPTION	APPROX. BUSHELS	CUBIC FEET	BIN HEIGHT	REC. AUGER
1208SM	12' Diameter 40° Bottom Cone	1064	1252	20' 3/16"	36'
1212SM		1448	1704	24' 3/16"	45'
1313SM	13' Diameter 40° Bottom Cone	1882	2214	25' 6"	50'
1322SM		2898	3409	34' 6"	65'
1330SM		3800	4471	42' 6"	75'
1412SM	13' 6" Diameter 40° Bottom Cone	1881	2213	25' 1-13/16"	50'
1420SM		2854	3358	33' 1-13/16"	65'
1428SM		3828	4503	41' 1-13/16"	70'
1430SM		4071	4790	43' 1-13/16"	75'

8.7 QUICK-WEIGH HOPPER BIN SPECIFICATIONS

Table 22 - Western Canada

MODEL	DESCRIPTION	CAPACITY	CLEARANCE	HEIGHT	UNITS
801QW	8' Diameter 35° Bottom	5000 lb	3' 0"	6' 9-1/2"	100
801QW		5000 lb	8' 6"	12' 2-1/2"	100
801QW		5000 lb	11' 6"	15' 3-1/2"	100
805QW		15000 lb	3' 0"	10' 9-1/2"	300
805QW		15000 lb	8' 6"	16' 3-1/2"	300
805QW		15000 lb	11' 6"	19' 3-1/2"	300
1005QW	10' Diameter 35° Bottom	25000 lb	3' 0"	12' 10"	500
1005QW		25000 lb	8' 6"	18' 4"	500
1005QW		25000 lb	11' 6"	21' 4"	500

8.8 DUMP HOPPER BIN SPECIFICATIONS

Used with underbin conveyer seed sites

Table 23 - Western Canada

MODEL	DESCRIPTION	CAPACITY	CLEARANCE	HEIGHT	UNITS
801DH	8' Diameter 35° Bottom	5000 lb	3' 0"	6' 10"	100
801DH		5000 lb	4' 4"	8' 2"	100
805DH		15000 lb	11' 6"	19' 4"	300
805DH		15000 lb	3' 0"	10' 10"	300
801DH		5000 lb	11' 6"	15' 3-1/2"	100
805DH		15000 lb	8' 6"	16' 3-1/2"	300
1005DH	10' Diameter 35° Bottom	25000 lb	3' 0"	12' 10"	500
1005DH		25000 lb	11' 6"	21' 4"	500
1005DH		25000 lb	8' 6"	18' 4"	500

8.9 STEEP CONE BIN SPECIFICATIONS

1610-55

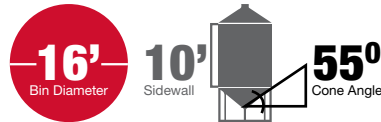


Table 24 - Western Canada

MODEL	DESCRIPTION	APPROX. BUSHELS	CUBIC FEET	IMP. TONS	METRIC TONNES	BIN HEIGHT	REC. AUGER
1208-55	12' Diameter 55° Bottom Cone	1178	1382	39	25	22'	46'
1210-55		1371	1607	45	29	24'	46'
1212-55		1563	1833	52	33	26'	46'
1215-55		1851	2171	61	39	29'	53'
1410-55	14' Diameter 55° Bottom Cone	1928	2297	65	42	26'	46'
1412-55		2187	2605	73	47	28'	53'
1415-55		2576	3065	86	56	31'	59'
1417-55		2835	3372	95	61	33'	66'
1420-55		3224	3833	108	70	36'	66'
15.510-55	15' 6" Diameter 55° Bottom Cone	2447	2917	82	53	28'	53'
15.512-55		2765	3293	93	60	30'	59'
15.515-55		3242	3858	109	70	33'	66'
15.517-55		3559	4235	119	77	35'	66'
15.520-55		4036	4800	135	87	38'	66'
15.525-55		4830	5741	161	104	43'	72'
15.530-55		5621	6678	188	121	48'	85'
1610-55	16' Diameter 55° Bottom Cone	2638	3144	88	57	28'	53'
1612-55		2976	3545	100	64	30'	59'
1615-55		3484	4147	117	75	33'	66'
1617-55		3823	4548	128	83	35'	66'
1620-55		4330	5150	145	93	38'	66'
1625-55		5177	6153	173	112	43'	72'
1630-55		6019	7152	201	130	48'	85'

Table 25 - Eastern Canada, Northeastern USA

MODEL	DESCRIPTION	APPROX. BUSHELS	CUBIC FEET	IMP. TONS	METRIC TONNES	BIN HEIGHT	REC. AUGER
1208-55	12' Diameter 55° Bottom Cone	1178	1386	38.9	25.1	21' 10"	41'
1210-55		1371	1612	45.2	29.2	23' 10"	41'
1212-55		1563	1839	51.5	33.3	25' 10"	46'
1215-55		1851	2178	61.1	39.4	28' 10"	51'
1220-55		2315	2743	76.9	49.6	33' 10"	61'
1225-55		2792	3309	92.8	59.9	38' 10"	71'
1230-55		3269	3874	108.6	70.1	43' 10"	71'
1310-55	13' Diameter 55° Bottom Cone	1648	1939	54.4	35.1	24' 11"	46'
1312-55		1874	2205	62.0	40.0	26' 11"	51'
1315-55		2213	2603	73.0	47.1	29' 11"	56'
1320-55		2777	3267	91.6	59.1	34' 11"	61'
1325-55		3341	3930	110.2	71.1	39' 11"	71'
1330-55		3905	4594	128.8	83.1	44' 11"	71'
1412-55	13' 6" Diameter 55° Bottom Cone	2012	2397	67.4	43.5	27' 7"	46'
1415-55		2401	2825	79.4	51.2	30' 7"	51'
1420-55		3008	3539	99.5	64.2	35' 7"	56'
1425-55		3615	4253	119.6	77.2	40' 7"	61'
1430-55		4221	4967	139.7	90.1	45' 7"	71'

Table 26 - Central USA

MODEL	DESCRIPTION	APPROX. BUSHELS	CUBIC FEET	IMP. TONS	METRIC TONNES	BIN HEIGHT
1217-55	12' Diameter 55° Bottom Cone	2043	2403	74	67	30' 9"
1220-55		2331	2742	85	77	33' 9"
1225-55		2812	3308	103	93	38' 9"
1410-55	13' 6" Diameter 55° Bottom Cone	2116	2116	66	60	25' 4"
1412-55		2402	2402	74	67	27' 4"
1415-55		2406	2831	88	80	30' 4"
1417-55		2650	3118	97	88	32' 4"
1420-55		3015	3547	110	100	30' 11"
1425-55		3624	4263	132	120	35' 11"
1430-55		4232	4979	154	140	40' 11"

Table 27 - Northwestern USA

MODEL	DESCRIPTION	APPROX. BUSHELS	CUBIC FEET	IMP. TONS	METRIC TONNES	BIN HEIGHT	REC. AUGER
1510-55	15' 6" Diameter 55° Bottom Cone	2484	2923	91	82	27' 11"	51'
1512-55		2805	3300	102	93	29' 11"	56'
1515-55		3286	3866	120	109	32' 11"	61'
1517-55		3607	4244	132	119	34' 11"	61'
1520-55		4088	4810	149	135	37' 11"	71'
1525-55		4890	5753	178	162	42' 11"	71'
1530-55		5692	6697	208	188	47' 11"	81'

8.10 EXPLANATION OF CALCULATIONS

Bushel capacities are approximate:

- Feed bin capacities are based on 40 lb/ft³.
- All fertilizer bins, steep cone bins and liquid bins capacities are based on 62 lb/ft³.

To select the most appropriate bin size for your storage, please follow these steps:

- Determine product density (lb/ft³).
- Convert the total tonnage being stored to "lb", then divide by the density. The result is the cubic foot capacity you require.
- **Note:** 1 MT (tonne) = 1.10 US ton = 0.98 Imp ton.

Example - You need to store 100 MT (tonne) of urea fertilizer with a density of 48 lb.

(100 MT = 110.2 US ton = 98.4 Imp ton)

$100 \times 2204 = 220,400 / 48 = 4592$ (Min. ft³ required)

Best model selection would be a 1620 or 1815.

To calculate a bins holding capacity of a specific product, follow these steps:

- Determine product density (lb/ft³).
- Multiply the bins cubic foot capacity by the product density, then divide by 2204.

Example - Your fertilizer blend weights 57 lb/ft³ and your purchasing a model 1625 fertilizer bin.

Model 1625 = 5851 ft³ x 57 lb = 333,507 lb / 2204 = 151 MT.

Your new 1625 will hold about 151 MT of your specific fertilizer blend.

(151 MT (tonne) = 166.5 US ton = 148.6 Imp ton)

EXTENDED MATERIALS AND WORKMANSHIP WARRANTY

Meridian Manufacturing Inc. (hereinafter referred to as Meridian) hereby warrants the bin(s) sold by it to be free from any defect in material or workmanship under normal use and service for a period of five (5) years from the date of shipment. Meridian's Warranty is as follows: ten (10) years on structural integrity, one (1) year paint for liquid and commercial storage bins from the date of shipment to owner and in the manner referred to in paragraph 2 herein.

THIS WARRANTY IS SUBJECT TO THE FOLLOWING LIMITATIONS, PROVISIONS AND CONDITIONS:

1. This warranty does not apply:
 - a. To any product sold by Meridian where it is used in areas exposed to corrosive or aggressive conditions including salt water, acids, alkaloid, ash, cement dust, animal waste or other corrosive chemicals from either inside or outside the bin.
 - b. For failures or defects arising out of damage during shipment or during storage on site.
 - c. To materials replaced or repaired under this warranty except to the extent of the remainder of the applicable warranty.
 - d. To damage resulting from misuse, negligence, accident or improper site preparation by others.
 - e. If the product has been altered or modified by others.
 - f. If in the case of coating failures the failure is the result of damage, lack of proper maintenance or failure to remove road salt or other contaminants that may have come in contact with the bin surface.
 - g. If the product has not been erected and installed strictly in accordance with Meridian's manuals and instructions.
2. The obligation of Meridian under this warranty shall not arise unless Meridian is notified and this warranty is presented together with a written statement specifying the claim or defect within thirty (30) days after the failure is first detected or made known to the owner and within five (5) years for general and coating claims and ten (10) years for structural claims, from the shipment date. Meridian, in its sole discretion shall determine if the claim is valid and whether correction of the defect or failure shall be made by repair or replacement of the materials.
3. The obligation of Meridian hereunder extends only to the original owner and to the Meridian dealer to whom the materials may have been initially sold. This warranty shall not be subject to any assignment or transfer without the written consent of Meridian.
4. The customer shall acknowledge that it has made its own independent decision to approve the use of the supplied materials and also the specific fabrication and construction procedures utilized to complete the bin, and has satisfied itself as to the suitability of these products for this particular application.
5. The foregoing sets forth the only warranties applicable to said materials and said warranties are given expressly and in lieu of all other warranties, expressed or implied, statutory or otherwise, of merchantability or fitness for a particular purpose and all warranties which exceed or differ from said warranties herein are disclaimed by Meridian.
6. The owner's sole and exclusive remedy against Meridian shall be limited to the applicable warranty set forth herein and the endorsements, if any, issued together with this document and no other remedy (including but not limited to the recovery of assembly or disassembly costs, shipping costs, direct, incidental, special, indirect or consequential damages for lost profits, lost sales, injury to person or property or any other loss, whether arising from breach of contract, breach of warranty, tort, including negligence, strict liability or otherwise) shall be available to the owner or Meridian Dealer or any other person or entities whether by direct action or for contribution or indemnity or otherwise.
7. The financial obligation of Meridian under this warranty shall be limited to the repair or replacement of the product as originally supplied and in no event shall exceed the original cost of the product supplied.
8. Meridian shall not have any obligation under any warranty herein until all accounts for materials, installation and erection of the said product thereof and for labor and other work performed by Meridian or its dealers have been paid in full by the owner.

Register your product at: www.meridianmfg.com
For warranty information send an email to: warranty@meridianmfg.com

WARRANTY REQUEST PROCEDURE

- The product must be registered with Meridian Manufacturing Inc.
- The purchaser must contact the dealer, from where the unit was purchased, immediately upon discovery of any defects.
- A completed Warranty Request Form must be submitted by the dealer to Meridian's warranty representative for review and any subsequent course of action.
 - Warranty requests must be completed with ALL required information in order it to be considered for approval.
 - Send photographs of the entire piece of equipment, and of the specific area of concern.
- Warranty repair work will only be performed by Meridian or an approved representative of Meridian. Warranty work completed prior to Meridian's approval will NOT be honoured. Failure to follow procedure may affect any or all of this warranty.
- All warranty requests will be adjudicated at the sole discretion of Meridian and in accordance with the terms and conditions of the warranty.



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Lethbridge, AB: (800) 661-1436
Storm Lake, IA: (800) 437-2334
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