

TWISTER

BIN LADDERS

14'-44' BINS ASSEMBLY MANUAL



Read this manual before using product. Failure to follow instructions and safety precautions can result in serious injury, death, or property damage. Keep manual for future reference.

Part Number: BNL-10008 R2

Revised: 8/4/09

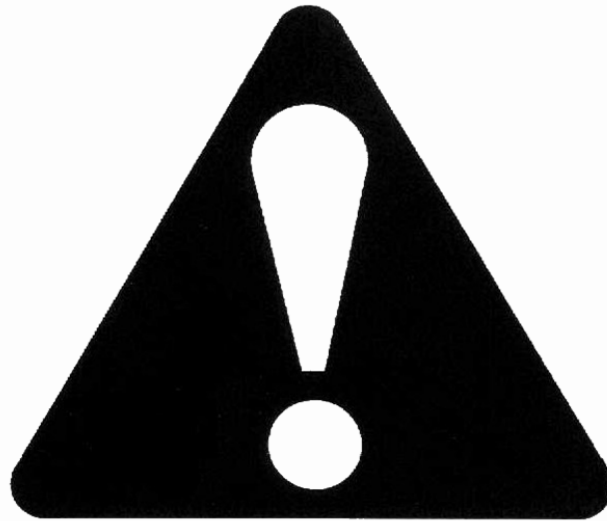
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1. Safety First



The Safety Alert symbol identifies important safety messages on the product and in the manual. When you see this symbol, be alert to the possibility of personal injury or death. Follow the instructions in the safety messages.

Why is SAFETY important to you?

Three big reasons:

- Accidents disable and kill.
- Accidents cost.
- Accidents can be avoided.

SIGNAL WORDS

Note the use of the signal words **DANGER**, **WARNING**, **CAUTION**, and **NOTICE** with the safety messages. The appropriate signal word for each message has been selected using safety as a guideline.

This Safety Alert symbol means ATTENTION, BE ALERT!, YOUR SAFETY IS INVOLVED.

DANGER

DEFINITION: Indicates an imminently hazardous situation that, if not avoided, will result in serious injury or death. This signal word is limited to the most extreme situations.

WARNING

DEFINITION: Indicates a hazardous situation that, if not avoided, could result in serious injury or death.

CAUTION

DEFINITION: Indicates a hazardous situation that, if not avoided, may result in minor or moderate injury.

NOTICE

DEFINITION: Indicates a potentially hazardous situation that, if not avoided, may result in property damage.

YOU are responsible for the **SAFE** use and maintenance of your product. **YOU** must ensure that you and anyone else who is going to work around the product be familiar with all procedures and related **SAFETY** information contained in this manual.

Remember, **YOU** are the key to safety. Good safety practices not only protect you, but also the people around you. Make these practices a working part of your safety program.

- Product owners must give instructions to employees before allowing them to operate or use the product.
- The most important safety device on this product is a **SAFE** user or operator. It is the user/operator's responsibility to read and understand **ALL** safety instructions in the manual and to follow them. All accidents can be avoided.
- A person who has not read and understood all safety instructions is not qualified to operate or use the product. Untrained users/operators expose themselves and bystanders to possible serious injury or death.

- Do not modify the product in any way. Unauthorized modification may impair the function and/or safety, and could affect the life of the product. Any modification to the product voids the warranty.
- Use this product for its intended purposes only.
- Think SAFETY! Work SAFELY!

1.1. GENERAL SAFETY

Important: *The general safety section includes instructions that apply to all safety practices. Any instructions specific to a certain safety practice (e.g. assembly safety), can be found in the appropriate section.*



- Read and understand all safety instructions, safety decals, and manual(s) before assembling or operating equipment.
- Only trained, competent people shall operate or use the product. An untrained operator is not qualified to operate equipment.
- Have a first-aid kit available for use should the need arise, and know how to use it.
- Provide a fire extinguisher for use in case of an accident. Store in a highly visible place.
- Do not allow children, spectators, or bystanders within the work area.



- Wear appropriate protective gear. This list includes, but is not limited to:

- a hard hat
- protective shoes with slip-resistant soles
- protective goggles
- hearing protection



- For powered products: before servicing, adjusting, or repairing, unplug, place all controls in neutral or off position, stop the engine or motor, remove ignition key or lock out power source, and wait for all moving parts to stop.
- Review safety information initially and annually with all personnel who will be using the product.
- Follow good shop practices:
 - Keep service area clean and dry.
 - Be sure electrical outlets and tools are properly grounded.
 - Use adequate light for the job at hand.



1.2. ASSEMBLY SAFETY

- Have 2 people handle the heavy, bulky components.
- Stay away from overhead power lines and other obstructions during assembly. Contact with power lines can cause electrocution.
- Tighten all fasteners to their specified torque before using the equipment.
- Do not work in high winds.

2. Assembly

WARNING

Before continuing, please reread the safety information relevant to this section at the beginning of this manual. Failure to follow the safety instructions can result in serious injury, death, or property damage.

2.1. BIN LADDERS

2.1.1. SIDEWALL LADDER

Note: *A hopper-to-ground ladder is supplied only with the use of Twister Cones.*

1. Install the sidewall ladder aligned with the roof ladder.
2. Assemble the ladder one section at a time as the sidewalls are assembled; see bin manual.

Note: *For easier assembly, a counterweight may be used on the opposite side of the ladder to keep the bin level when lifting with a crane.*

3. Refer to the following figures for detailed assembly information.

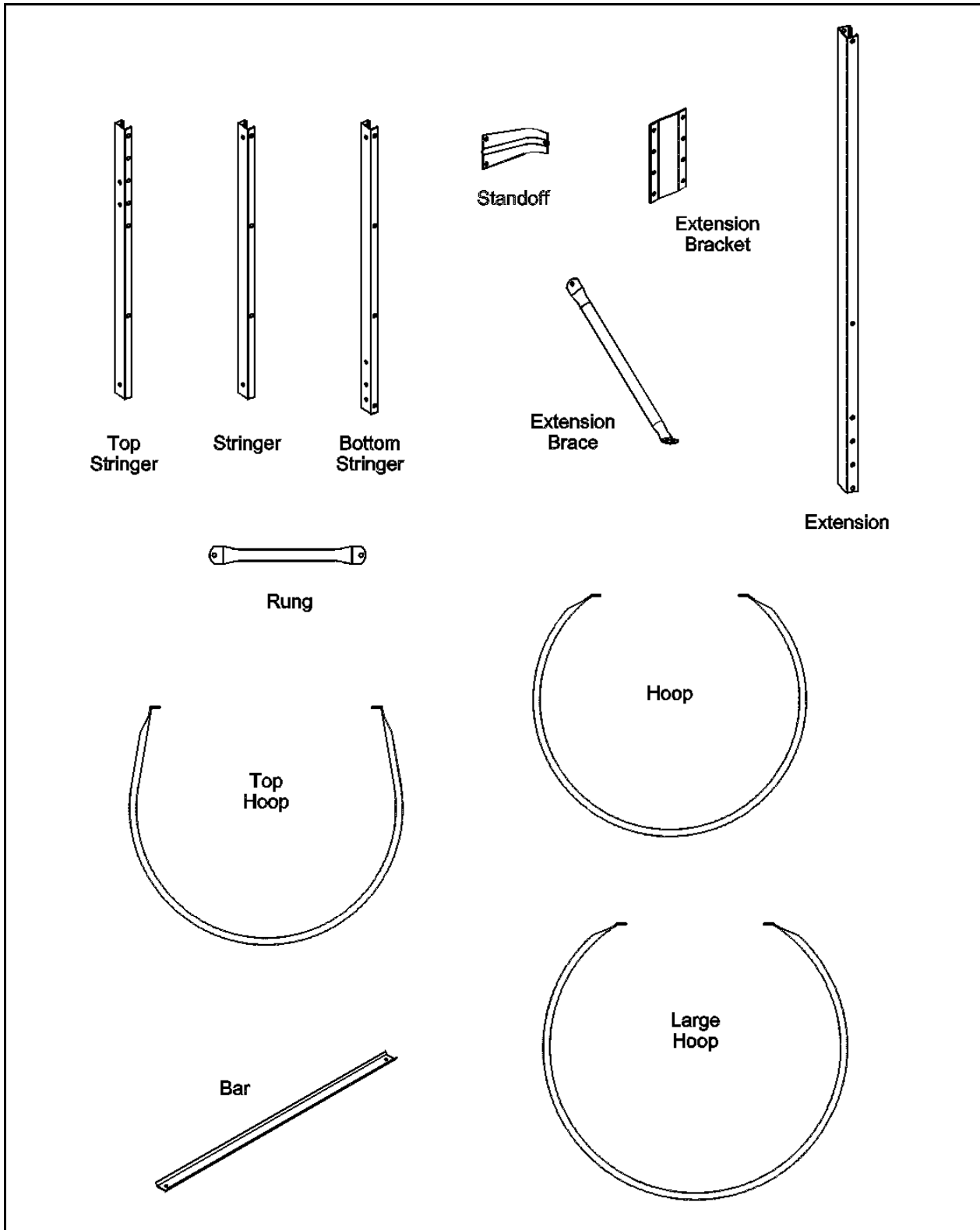


Figure 2.1 Ladder Parts

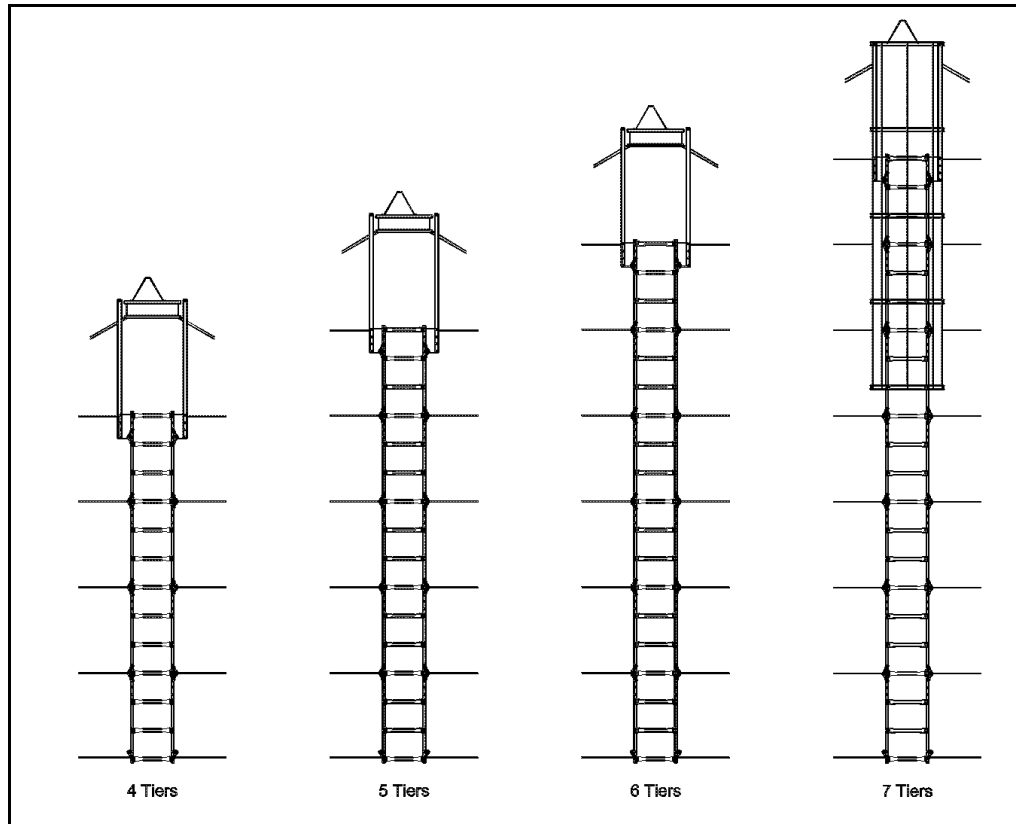


Figure 2.2 Ladder Layout for 14' Flat Bins

Table 2.1 14' Hopper Bottom Ladder Parts

Item	Description	Qty
1	14' HOPPER STRINGER	2
2	14' HOPPER STANDOFF	2
3	RUNG	8
4	14H LADDER SMALL SUPPORT	1
5	14H LADDER LARGE SUPPORT	1
6	3/8" X 3/4" BIN BOLT	20
7	3/8" FLANGE NUT	20

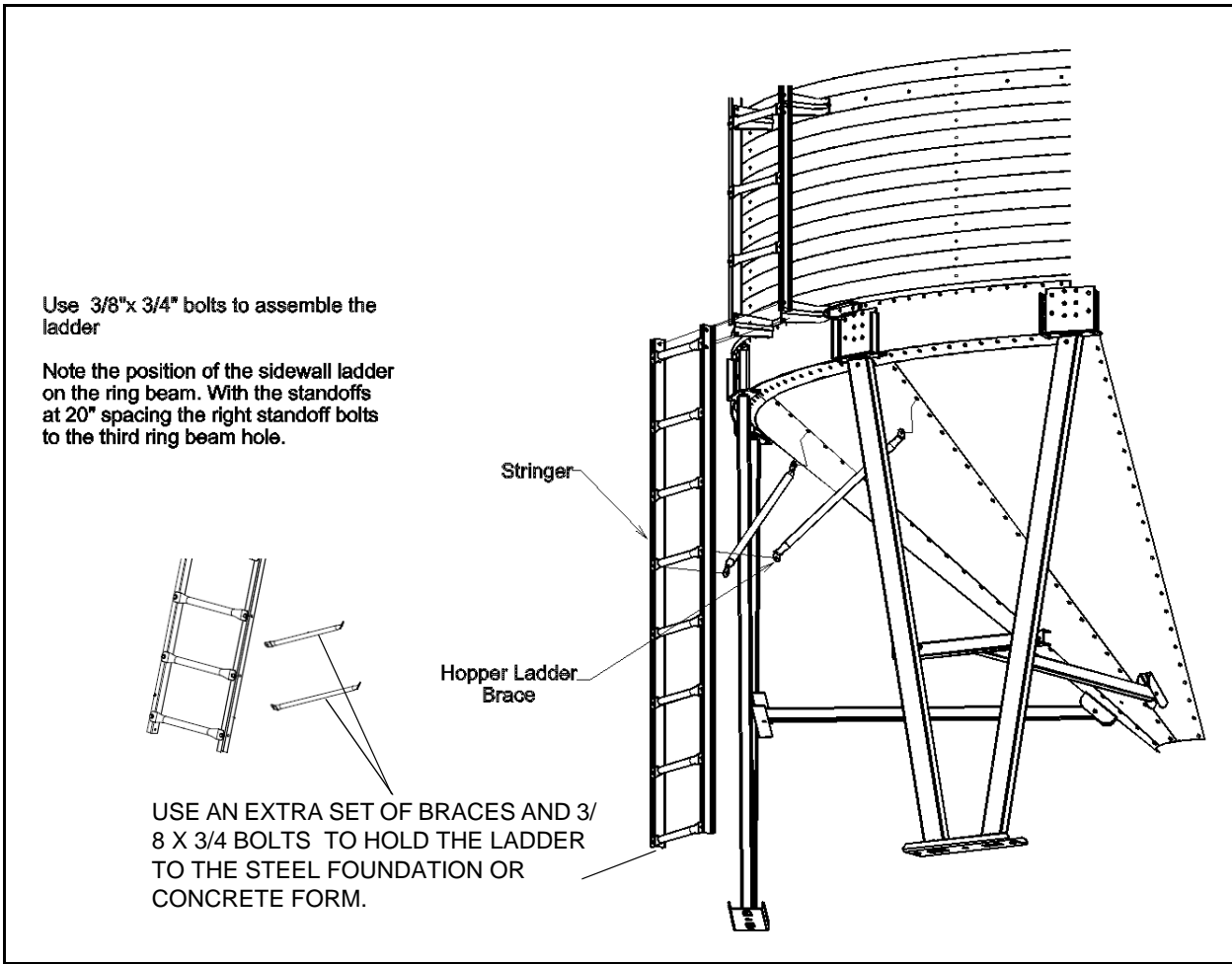


Figure 2.3 14' Hopper Ladder

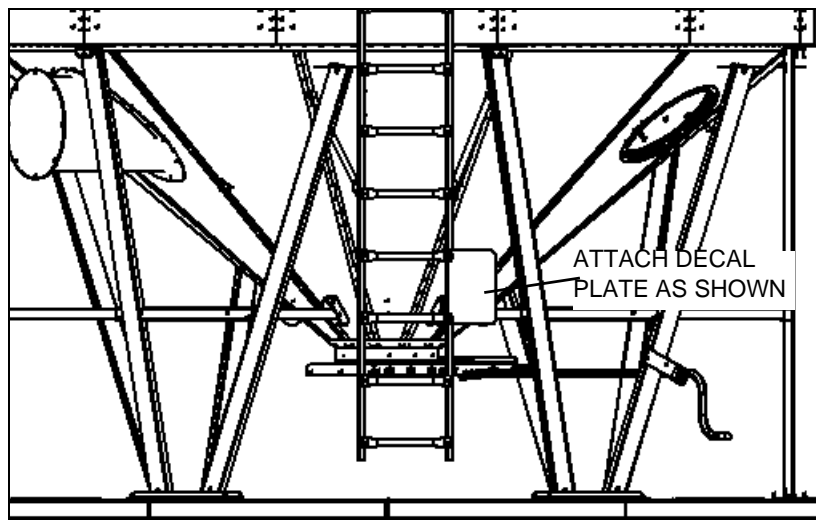


Figure 2.4 14' Hopper Bin Decal Plate Location

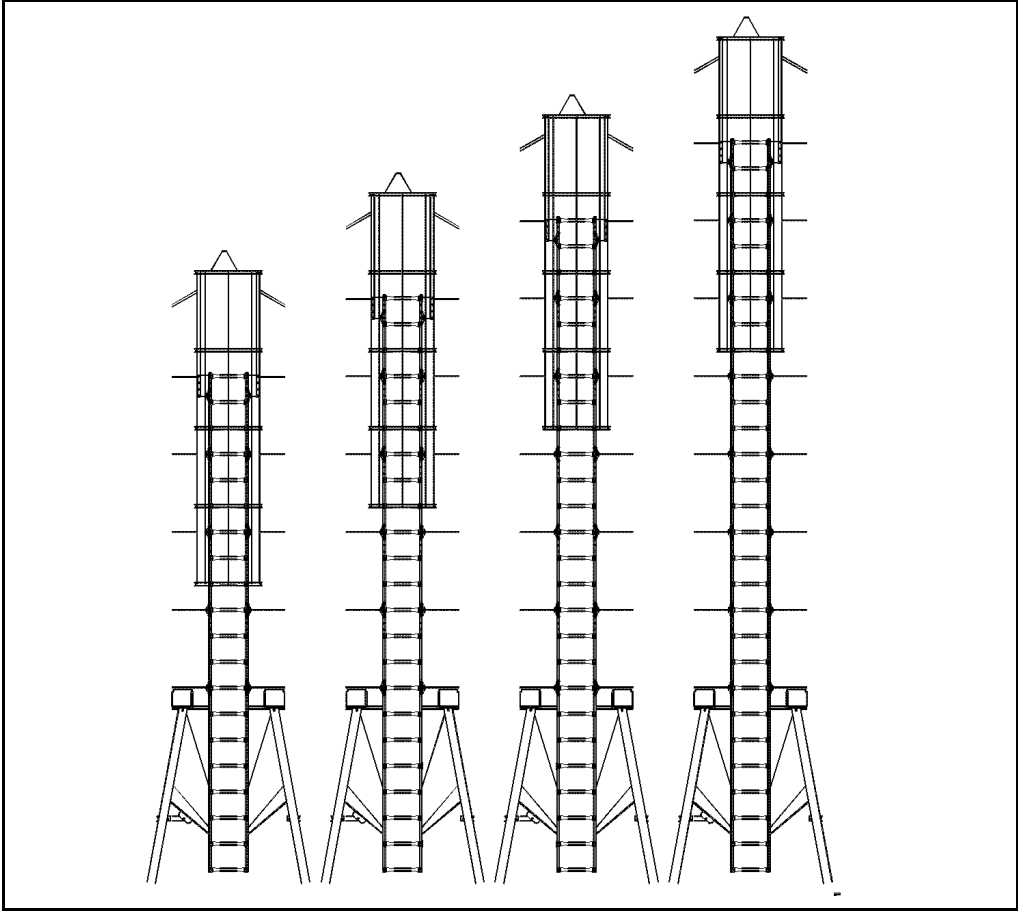


Figure 2.5 Ladder Layout for 14' Hopper Bin

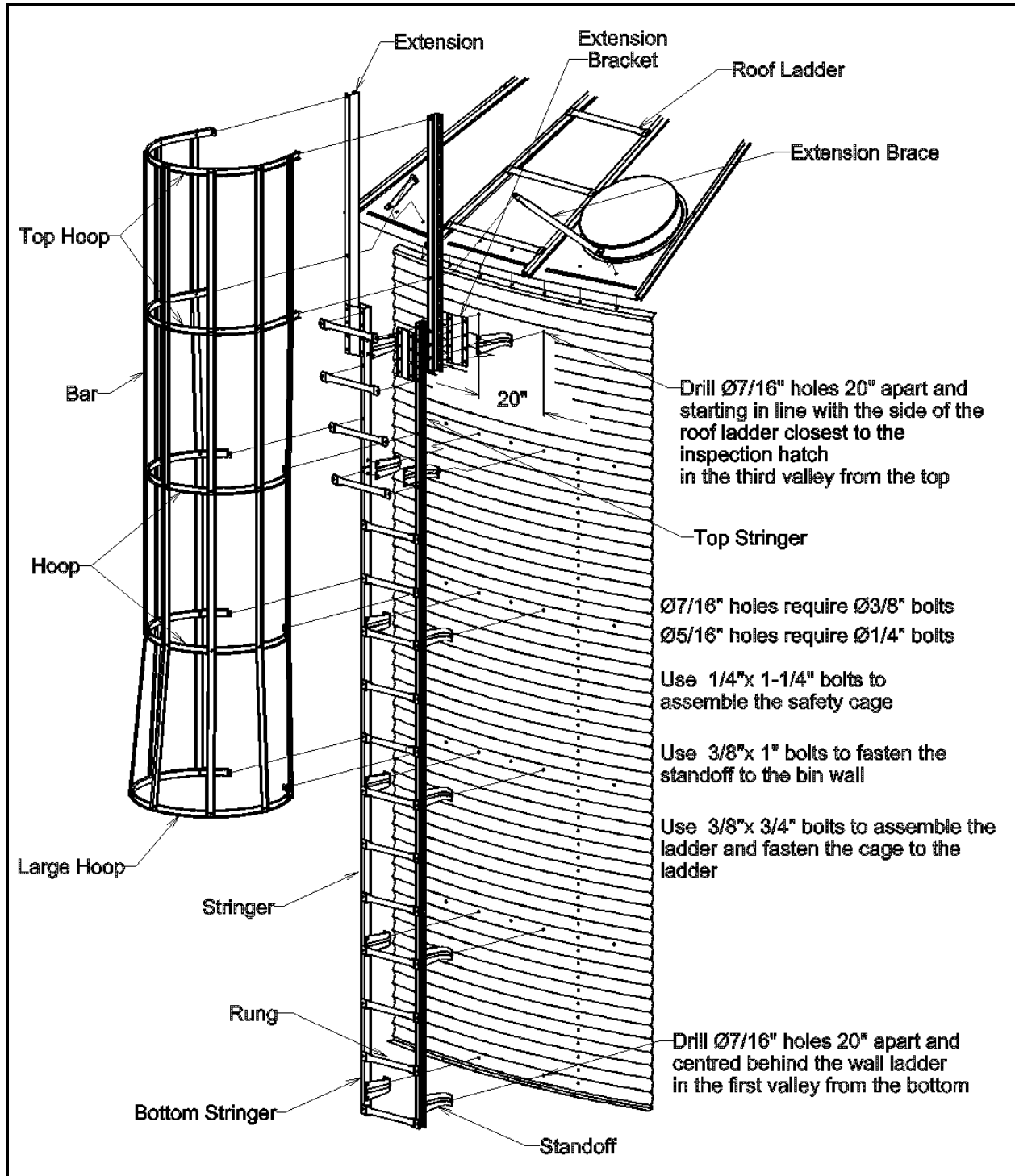


Figure 2.6 Bin Wall Ladder

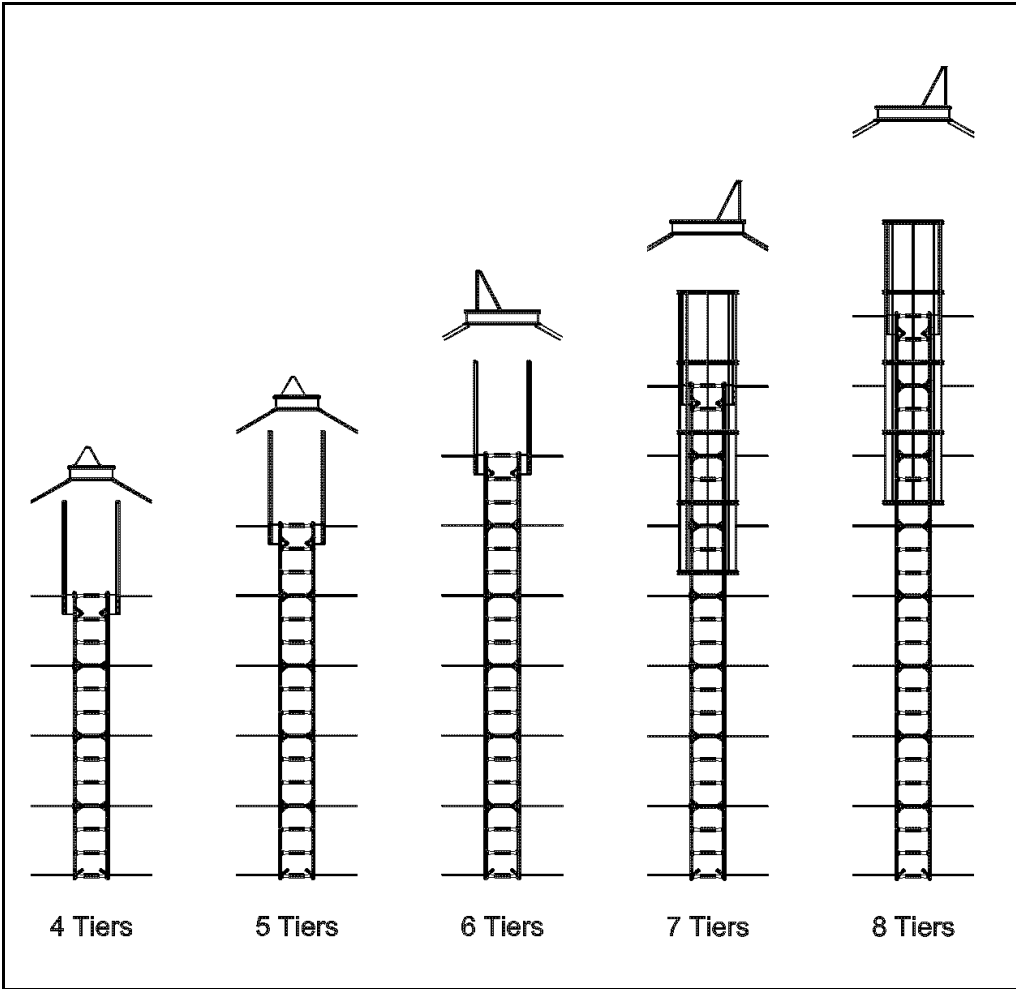


Figure 2.7 Ladder Layout for 19-22' Flat Bins

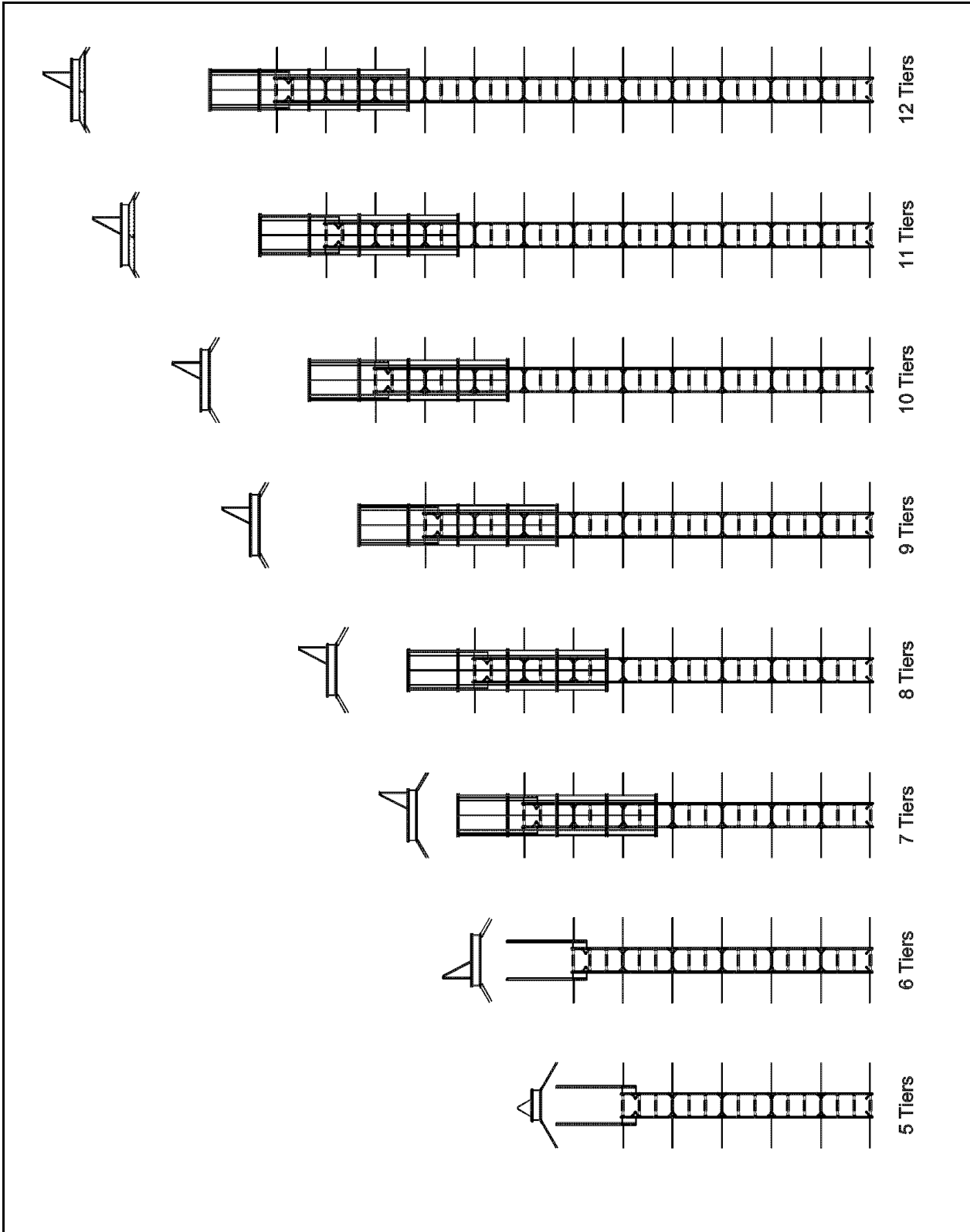


Figure 2.8 Ladder Layout for Flat Bins

Table 2.2 19' Hopper Bottom Ladder Parts

Item	Description	Qty
1	BOTTOM STRINGER	2
2	TOP STRINGER	2
3	STANDOFF	6
4	RUNG	10
5	HOPPER LADDER BRACKET	3
6	3/8" X 3/4" BIN BOLT	40
7	3/8" FLANGE NUT	40
8	4" X 4" U-BOLT	6
9	1/2" FLANGE NUT	12

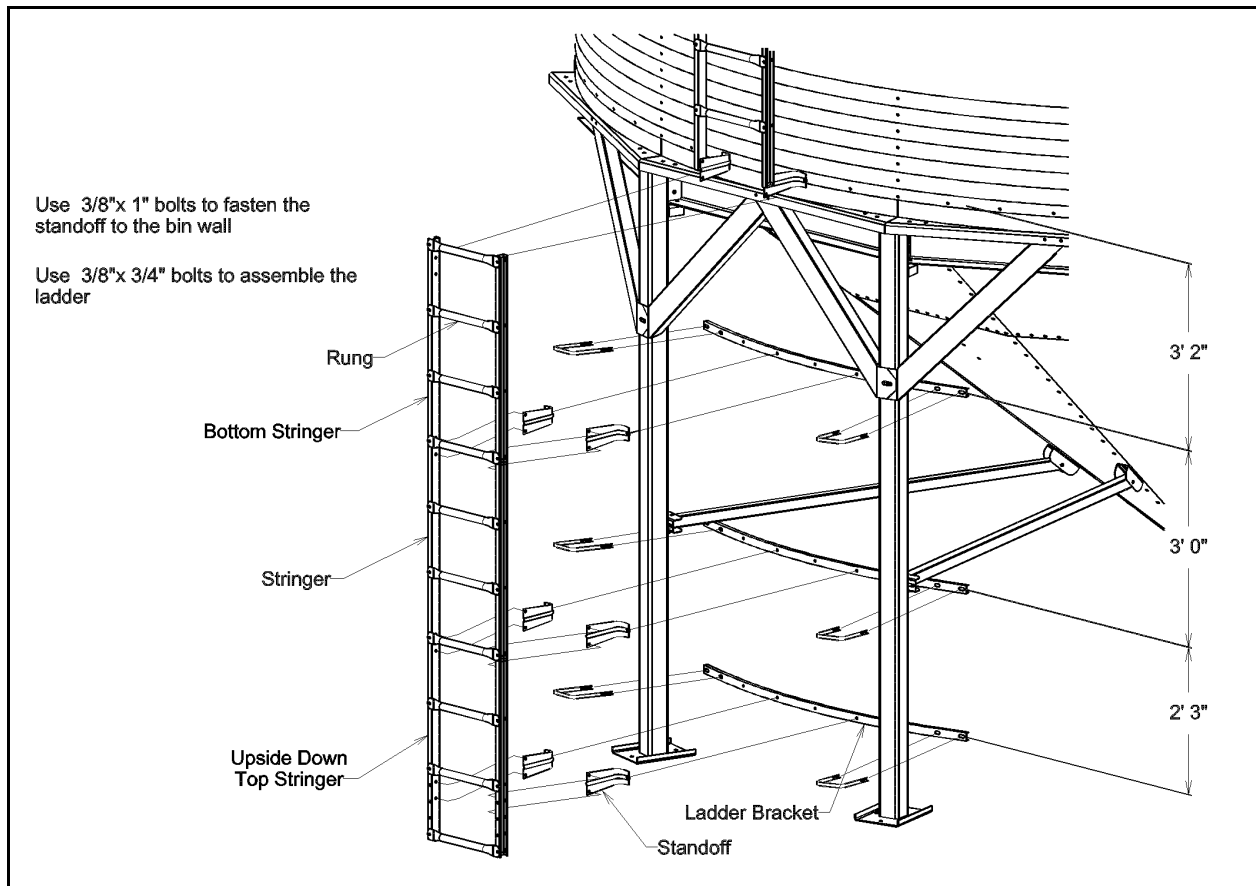


Figure 2.9 19' Hopper Ladder

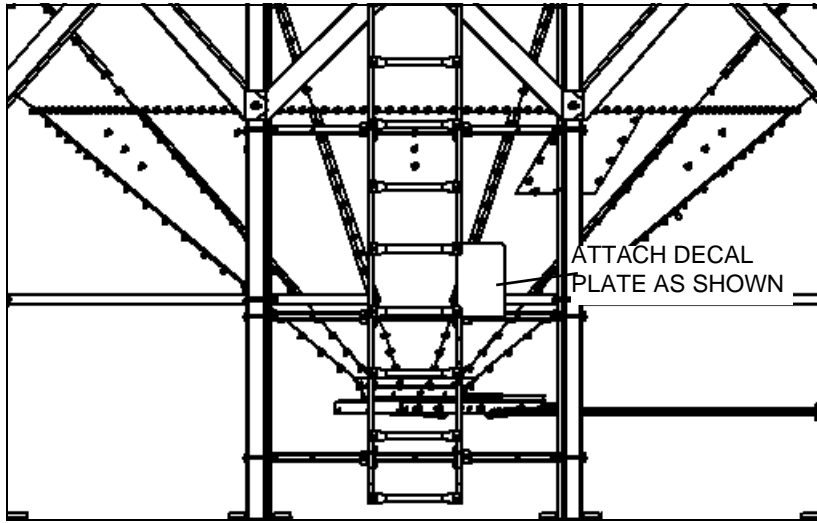


Figure 2.10 19' Hopper Bin Decal Plate Location

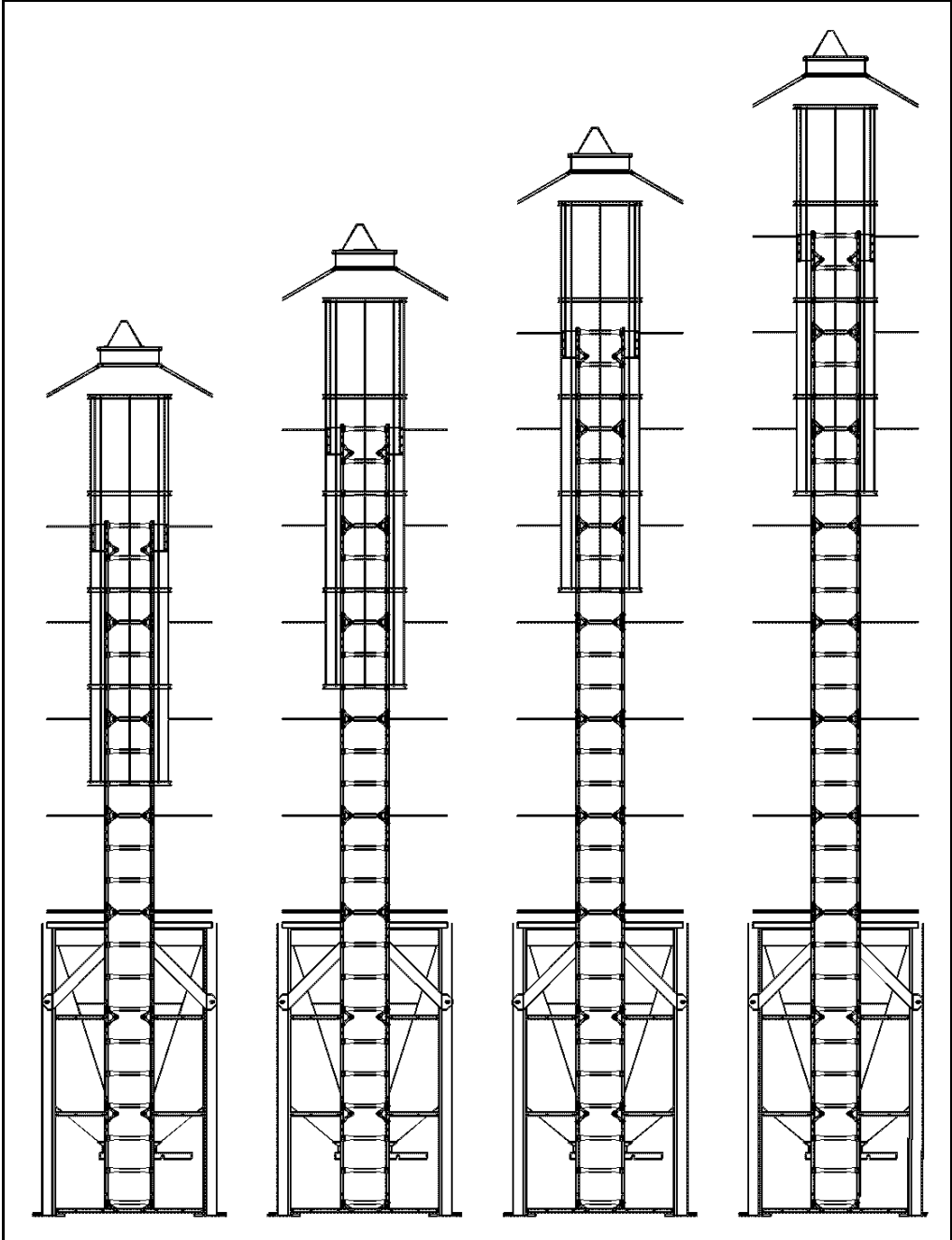


Figure 2.11 Ladder Layout for 19' Hopper Bin

Table 2.3 22' Hopper Bottom Ladder Parts

Item	Description	Qty
1	BOTTOM STRINGER	2
2	TOP STRINGER	2
3	22' HOPPER STRINGER EXTENSION	2
4	STANDOFF	6
5	RUNG	11
6	HOPPER LADDER BRACKET	3
7	3/8" X 3/4" BIN BOLT	42
8	3/8" FLANGE NUT	42
9	5" X 5" U-BOLT	6
10	1/2" FLANGE NUT	12

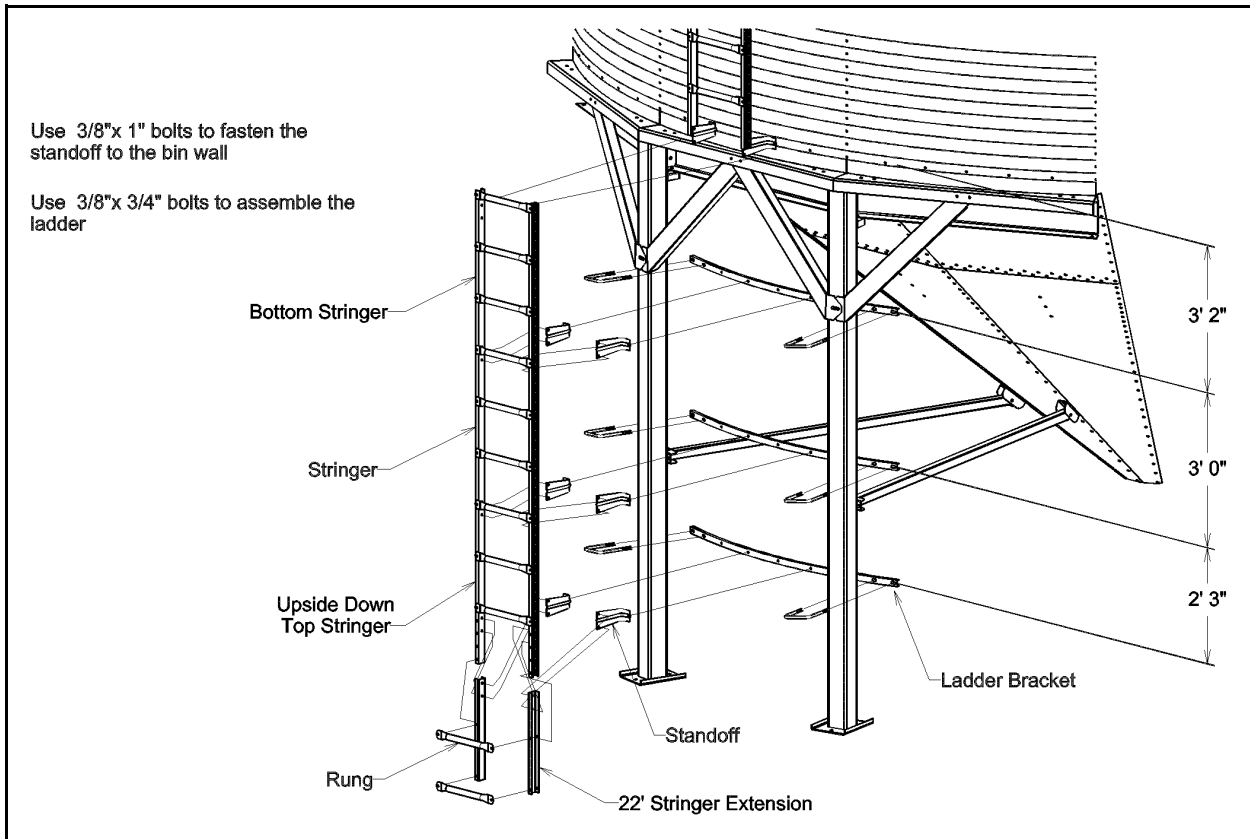


Figure 2.12 22' Hopper Ladder

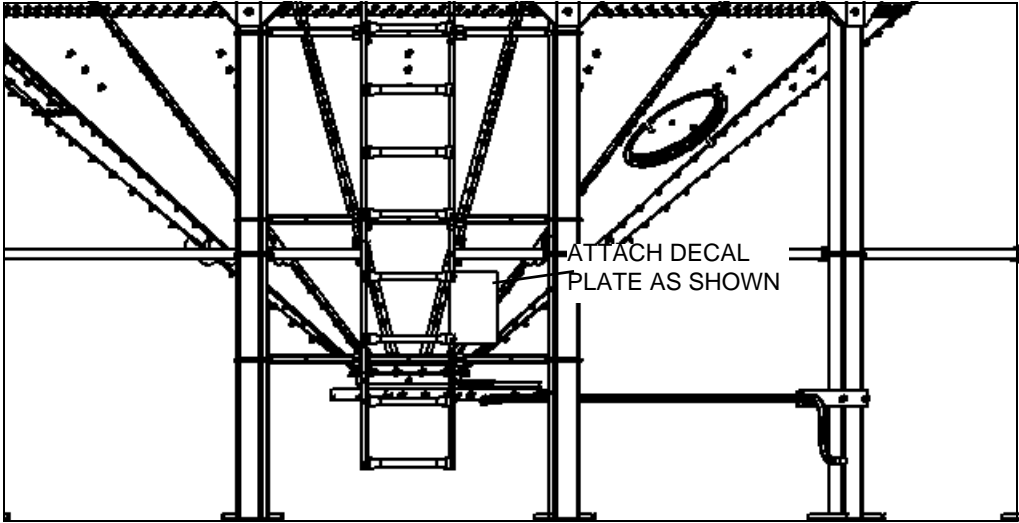


Figure 2.13 22' Hopper Bin Decal Plate Location

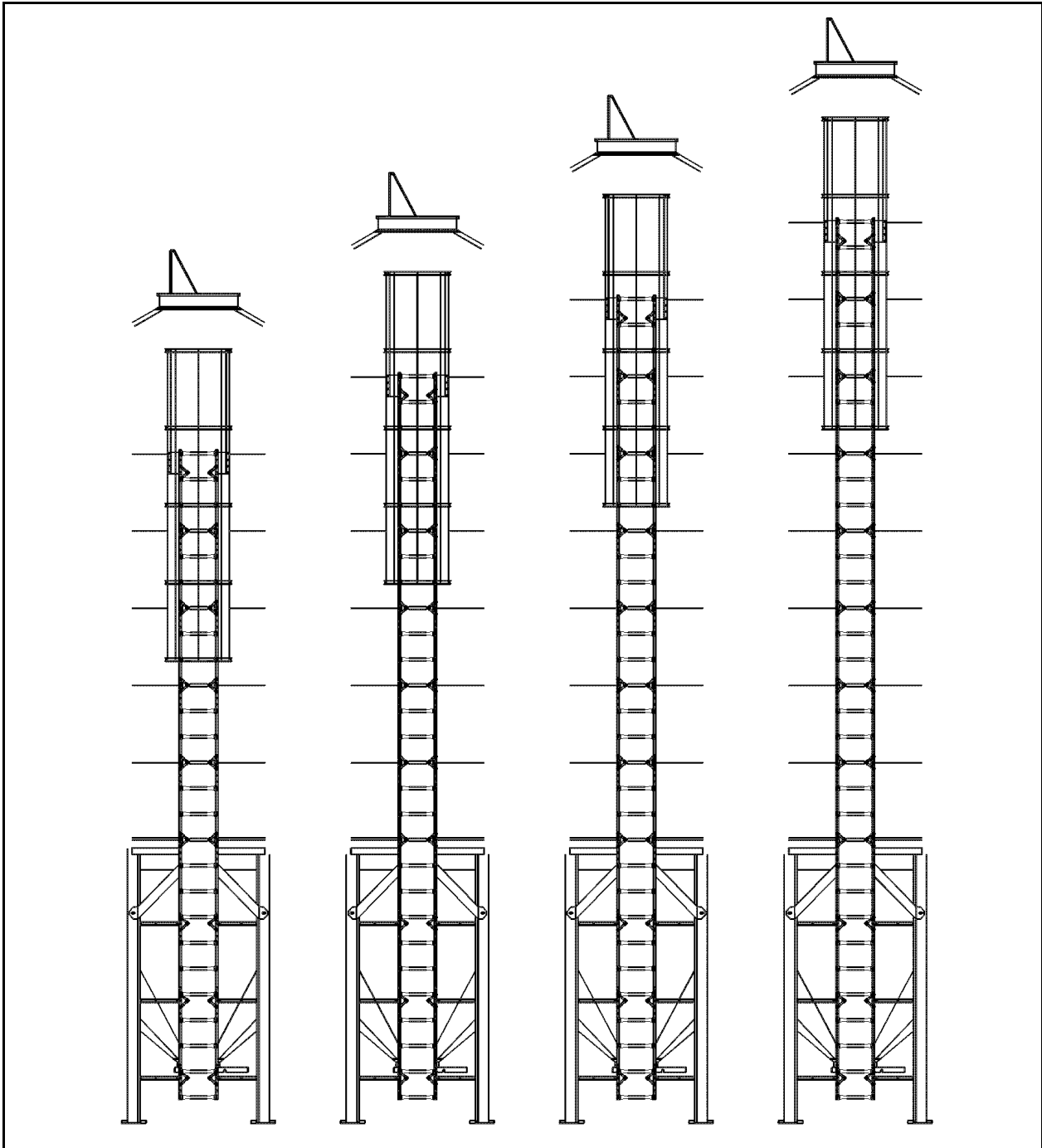


Figure 2.14 Ladder Layout for 22' Hopper Bin

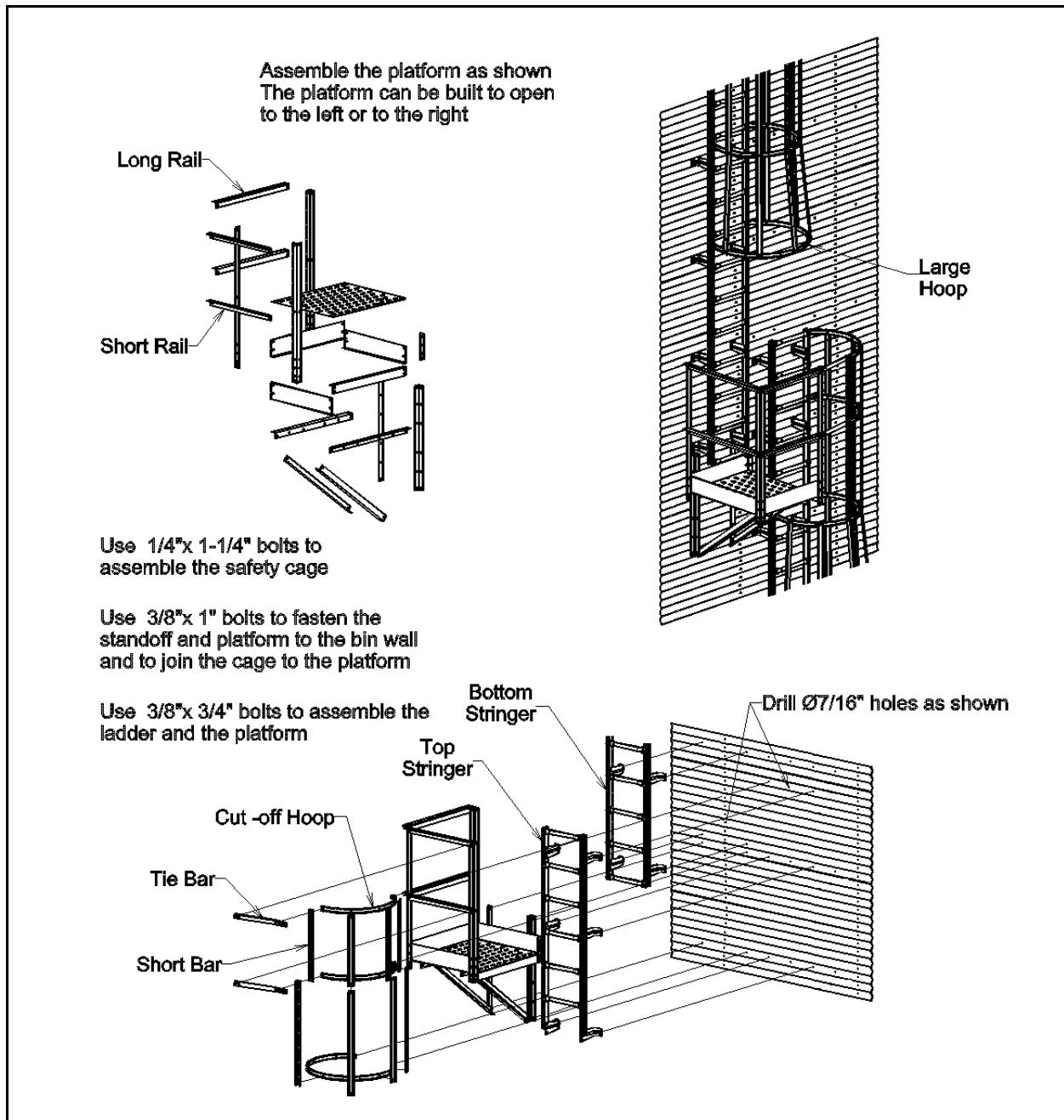


Figure 2.15 Optional Bin Wall Ladder Platform

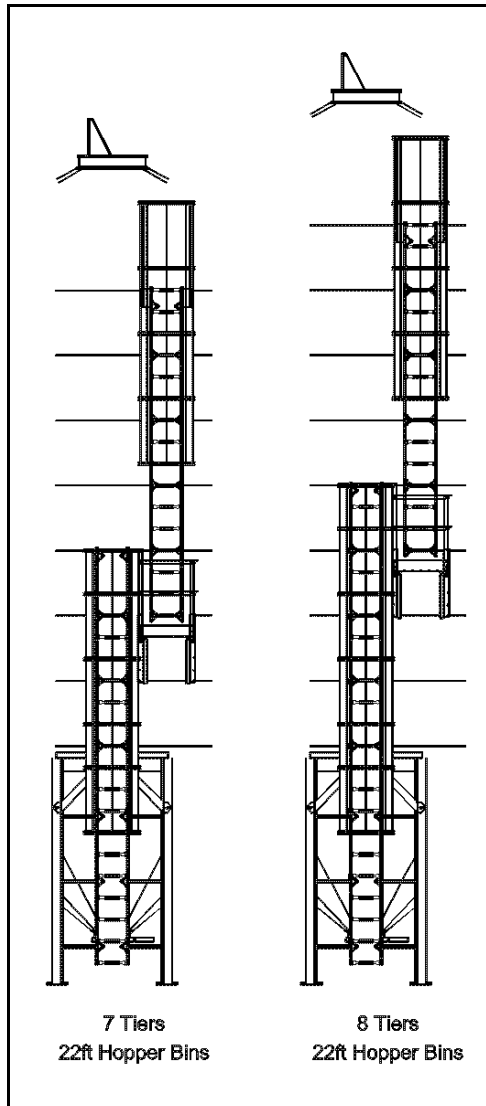


Figure 2.16 Ladder Layouts with Optional Platform

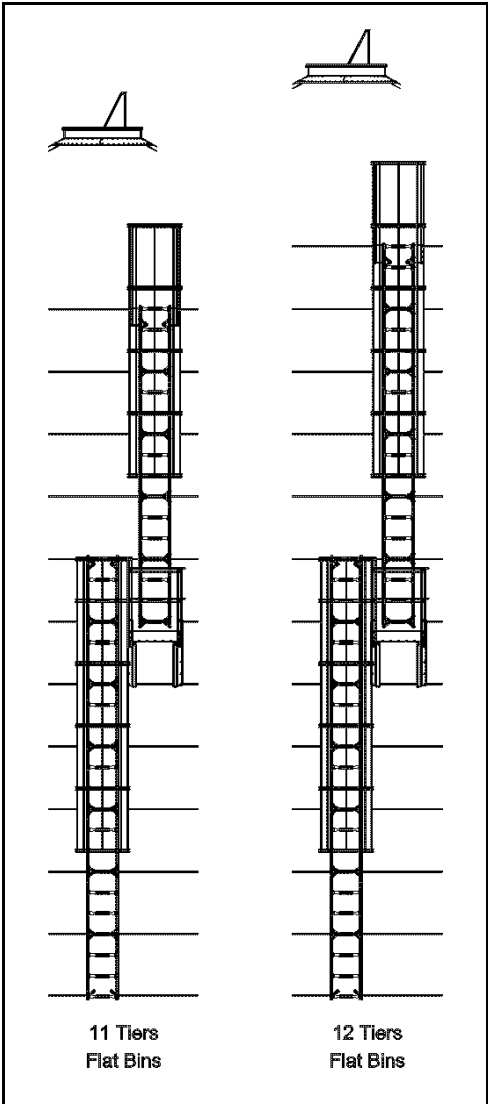


Figure 2.17 Ladder Layouts with Optional Platform

LIMITED WARRANTY

TWISTER warranties all bins, hoppers, and hopper bin combinations to be free from defects in materials and workmanship, and will replace any structural parts that have failed when they are returned to our plant within one year of purchase from an authorized dealer or distributor. (In North America the warranty can be extended to five years when the warranty card is filled out and returned to *TWISTER* by the customer.) Trim items and moving parts such as springs, weather-stripping, etc. are covered by a one-year warranty from the date of purchase. Unloading equipment is covered by warranty for a period of one year after purchase. *TWISTER* will be responsible for the supply only of replacement parts and not for the installation of replacement goods or for any other consequent damages.

DISCLAIMERS

All *TWISTER* grain bins, hoppers, and hopper bin combinations are designed for:

- The storage of free-flowing grains weighing up to 55 lb/ft³.
- An allowable concentrated load on the filler cap throat of 125 lb per roof sheet.

TWISTER grain bins, hoppers, and hopper bin combinations are not suitable for the storage of granular materials such as fertilizer or for use in wet grain applications.

If this bin is to be used for storage of non-cereal grains or for natural air drying, more stiffeners or door modifications may be required. Contact your *TWISTER* Dealer for more information or phone *TWISTER* directly.

IMPORTANT NOTES

The following items are not covered by warranty:

- Damage resulting from improper erection, installation procedures or misuse of the product, or damages resulting from Acts of God, accident, or negligence by the user.
- Defects or damage caused by the improper handling or storage of materials prior to erection, including storage stain. Most components of the bin have a coating of mill oil when they are shipped from the factory. This will help to retard the development of storage stain for a short while, but if the bins are to be stored for a long period of time, water must be prevented from getting between the sheets. If the sheets do become wet, they must be separated to allow air circulation around each sheet.
- Damages caused by inadequate foundations and foundation movement.
- Damages caused by the use of unapproved hopper bottoms.

- Roof damage caused by vacuum or internal pressure from fans or other air moving systems. Severe roof damage can occur from any blockage (chaff, frost etc.) of roof vents and openings when fans are used.
- Fading of paint or differential or premature weathering of galvanized components. All galvanized components will eventually turn gray but may do so at different rates over different periods of time; this is normal and does not constitute a product fault.
- Failure of walls due to uneven unloading procedures. In order to ensure even pressure on the bin's side walls, bins must always be loaded and unloaded from as near the center as possible. Only smaller bins supplied with auger panels are designed to be unloaded through the door all bins larger than 22 feet in diameter must be unloaded with unloading equipment.
- Failures caused by the use of any equipment not manufactured by *TWISTER* are not covered by warranty. This includes unloading or stirring devices, temperature and sampling probes, or any other device that is used with or attached to our products. Field modifications and improper erection will nullify all product warranties.

TWISTER

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