

WALKWAYS and LADDERS



Tower Dryer
ME1000S/SG-ME2650S/SG



SAFETY First! Recognize SAFETY Information



This symbol is used throughout this Manual to identify particular stages where the bin Contractor and/or Operator need to take special note and precautions regarding the danger described in these Instructions. Please read all the SAFETY information and the instructions completely prior to beginning the construction.

This is the Safety-Alert Symbol. When you see this symbol on your equipment or in this Manual, be alert to the potential for personal injury.

Signal words **DANGER**, **WARNING**, or **CAUTION**, are used with the Safety-Alert Symbol. Be sure to follow ALL National and Local Safety Standards governing each installation site.

Understand Signal Words



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



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



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

WARNING!



Do not attach yourself to, or carry loose or dangling rope on structures near or adjacent to the Tower Dryer entry area. Loose rope or material can be suddenly sucked into the Dryer Fans (which may start automatically). This can cause equipment damage, severe personal injury or death.



WORK SAFE! While some photographs in this Manual were taken at sites where certain PPE might not be required, Brock recommends using SAFETY equipment, especially hard hats and SAFETY harnesses—at all installations. ALWAYS follow appropriate federal, state and local codes for PPR requirements. See Base Manual MFH1968-1 for recommended PPE.

Use Fall Restraint/Arrest Systems

When working on or inside a Tower Dryer at heights where fall hazards exist, use an adequate fall restraint or fall arrest system with a lifeline and harness, tied to a secure point. A proper fall **arrest** system should withstand 5,400 pounds [2449 kg] of stress to prevent falling. A fall **restraint** system typically withstands less than 5400 pounds and allows a limited fall of about 2' [610]. To ease injury, it is recommended the fall-distance on restraints be set at 6' [1 829] maximum.

WARNING!



Purchase and use secure lifelines and adequate fall restraint/arrest systems. Some facilities mandate that safety harnesses be used where there is risk of fall and/or entrapment. Failure to use fall restraint and/or arrest systems consistently when climbing or entering grain drying towers can cause serious injury or death.

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About This Manual

The intent of this Manual is to help you follow step-by-step instructions for plumbing installations in the BROCK® MEYER® Dryer.

IMPORTANT!
CAUTION!



Pay particular attention to all SAFETY Information in this Manual.

Read and understand this Manual. Failure to follow proper procedures may cause damage to equipment or personal injury.

Contact your Brock Dealer to replace this Manual should it become lost or damaged. Store it in a convenient place for easy reference.

Definition of Terms and Symbols

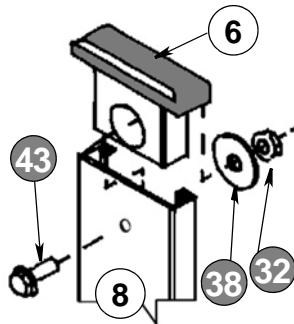
- This **Planning** Symbol is used in areas where planning needs to take place **before** assembly and/or installation can continue.
- “Horizontal,” “vertical,” “bottom,” and “top” refer to the Dryer as it is **standing**. The symbols (") equal *inches* and (') equals *feet* in English measurements.

Measurements

The symbols (") equals inches and (') equals feet in English measurements. Metric measurements are shown in square brackets **following** the English measurement. For example: 15' [4.572 m] 90' [27.432 m]

Identification of Parts and Hardware

- Names for some components which have BROCK® Part Numbers have been **capitalized** throughout this Manual to **call attention** to them.
- Parts and basic components are identified in **Figures** and their accompanying Tables as “Items” with a black number in white circle. See **Figure 1** below.
- Hardware is identified by a shaded circle and table item cell.
- Dimensions and lengths are noted with a white circle **on** an arrow or line, then identified with numeric values in a **Figure** Table.
- Pictures may vary slightly from actual components, which may have been modified for better fit or function.



Item	Part No.	Description
6	U-24016	Ladder Cap
8	U-24142	Extension Rail 54" [1 372]
32	39-20152	Nut, Flange 5/16"-18
38	39-20101	Washer, Flat 5/16 x 1 1/4"
43	39-20322	Bolt, Hex Head 5/16-18 x 1 1/4" Gr. 5

Figure 1.
Part and Hardware Identification

Hardware Basics:

Organize all hardware so the packages and buckets are easy to locate. When leaving for the day, remember where you are in the installation, which connections are tight, and which connections are loose.

Always have a second person check the tightening on all Ladder and Walkway connections!

This **Pre-Assemble Symbol** (left) suggests that a particular assembly can be **finished ahead of time**. Plan to **sub-assemble** and add hardware any parts that can be prior to installation. Make sure to use proper hardware.



Ladder SAFETY Procedures

DANGER!



IMPORTANT!

Failure to comply with the following instructions may result in death or serious injury.

The Ladder Section with the DANGER Decal (Part No. 13-23790) in Figure 2 at left must be installed as the BOTTOM Section of each Ladder.

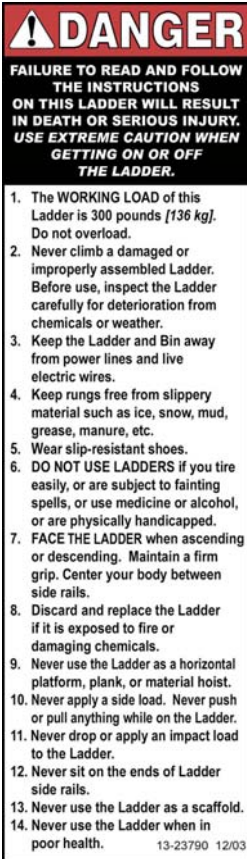


Figure 2.
Ladder DANGER Decal
13-23790

1. The WORKING LOAD of the Ladder is 300 lbs [136 kg]. Do not overload.
2. Never climb a damaged or improperly assembled Ladder. Before use, inspect the Ladder carefully for deterioration from chemicals or weather.
3. Keep the Ladder and Bin away from power lines and live electric wires.
4. Keep rungs free from slippery material such as ice, snow, mud, grease, manure, etc.
5. Wear slip-resistant shoes.
6. DO NOT USE LADDERS if you tire easily, or are subject to fainting spells, or use medicine or alcohol, or are physically handicapped.
7. FACE THE LADDER when ascending or descending. Maintain a firm grip. Center your body between Side Rails.
8. Discard and replace the Ladder if it is exposed to fire or damaging chemicals.
9. Never use the Ladder as a horizontal platform, plank or material hoist.
10. Never apply a side load. Never push or pull anything while on the Ladder.
11. Never drop or apply an impact load to the Ladder.
12. Never sit on the ends of Ladder Side Rails.
13. Never use the Ladder as a scaffold.
14. Never use the Ladder when in poor health.



DANGER!

DO NOT enter the Tower Dryer through the Manhole during the filling/unloading operation or while the Dryer is in use!

When the Dryer and auxiliary equipment are not LOCKED OUT, grain fill may start at any time without warning.

DO NOT allow the Dryer to run while any adjustments are being made. SHUT OFF, LOCKOUT and TAGOUT all electrical power BEFORE working on or near the Dryer. Keep hands, feet, hair, and clothing away from all parts in motion. Failure to shut off, LOCKOUT and TAGOUT power to the Dryer will lead to personal injury or death.

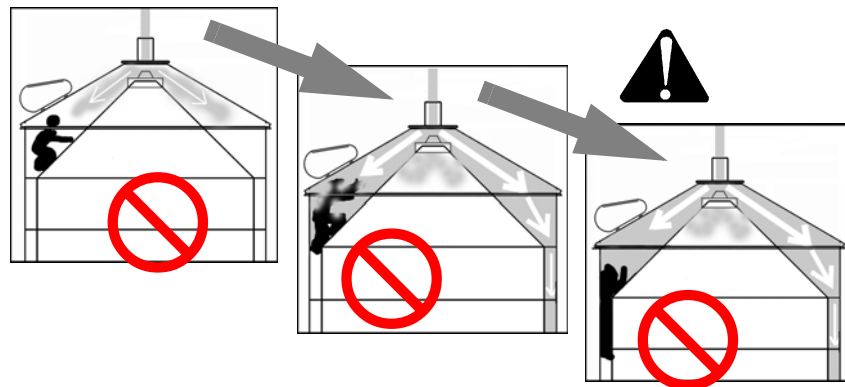


Figure 3.
Slippage and Suffocation Hazards in Flowing Grain
at Roof Module

Installations While the Tower Is on the Tower Trailer

←
TOWARD TOWER TOP



Figure 4.

Install Walkways and “Ship Loose” Ladders-and-Cage on the Main Tower

Orientation: Remember at all times that the actual TOP of the structure is toward the cab of the truck. The BOTTOM of the Tower is toward the back end of the truck.

Install all possible Walkways and Side Ladder-and-Cages while the Tower trailer is **horizontal**.

Refer to pages 7-15 for installation of 5/16" hardware on Walkways.

DO NOT TIGHTEN Walkway Handrail or Post connections, as they must be leveled to vertical after the tower is raised.

The lower Partial Walkway (3121-00120, pages 20-21) cannot be installed until the Tower is raised to vertical.

Cage sections are not pre-installed. Hardware is located in the Ship Loose Bolt Kit.

Refer to pages 25-35 for installation of Outside Ladder-and-Cage hardware/parts.

TIGHTEN all Ladder and Cage connections. They will have to be re-tightened after the Tower is raised to vertical.

BE CAREFUL Stepping on the Horizontal Tower

Begin on 6' stepladders, and continue the installation stepping only on the screen Stiffeners (pairs). Remember to step sideways so Screens will not be damaged.

BE CAREFUL!

STEP ONLY on Stringers/Stiffeners! DO NOT place your weight on the Screens. Step SIDEWAYS so the Screens will not be damaged. Use the next Stiffener to pull yourself up.



Figure 5.
Stand on Stringers Only

Order of Walkway Installation

- Walkway Arm Brackets
- Walkway Arms
- Floor Sections
- Vertical Posts
- Handrails

See common parts on page 17.

Figure 6.
Right: Walkway Installation
on Horizontal Tower



Be cautious of personal SAFETY while working on the Tower in this position. Use an adequate number of ladders.

Bracket Installations

For your convenience, Walkway Arm Brackets (3121-00035), Ladder Brackets, and some Ladder Sections are **pre-installed**. Check these Brackets for tightness when the Dryer is onsite.

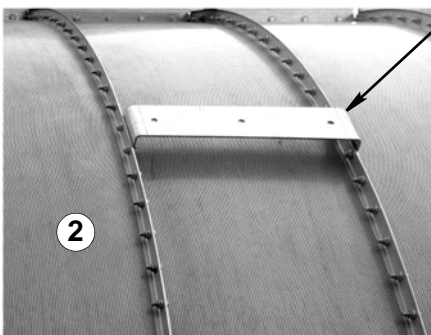


Figure 7.

Walkway Arm Bracket Pre-Installed on Intermediate Module and Horizontal Tower Module

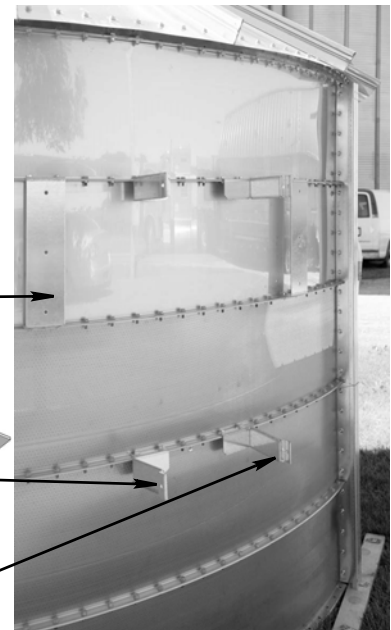
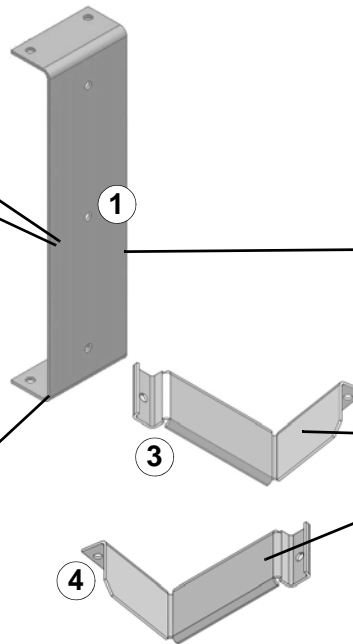


Figure 8.
L/R Ladder Brackets on Module
as Shipped

Item	Part No.	Description
1	3121-00035	Walkway Arm Bracket
2		Tower, Horizontal
3	3121-00169	Ladder Bracket-LEFT
4	3121-00168	Ladder Bracket-RIGHT

Walkway/"Catwalk" Arms

Consecutive Walkway Arms are bolted into the eleventh and twelfth (11th/12th) bolt holes from the first set of bolts. There are ten (10) holes between Arms.



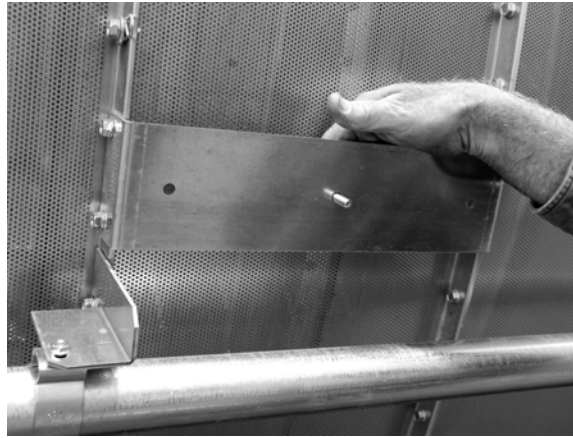
Figure 9.
Install Walkway Arms



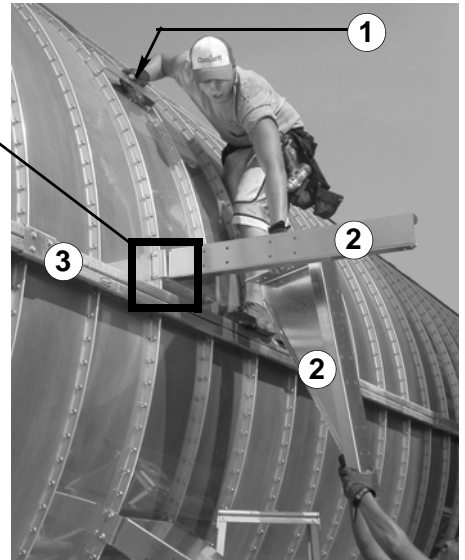
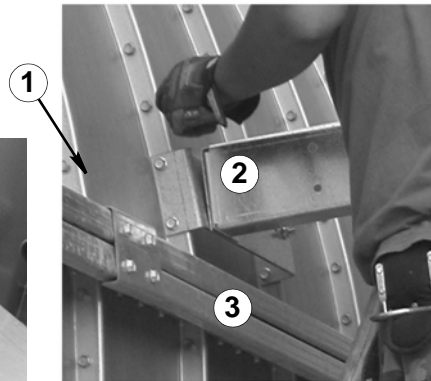
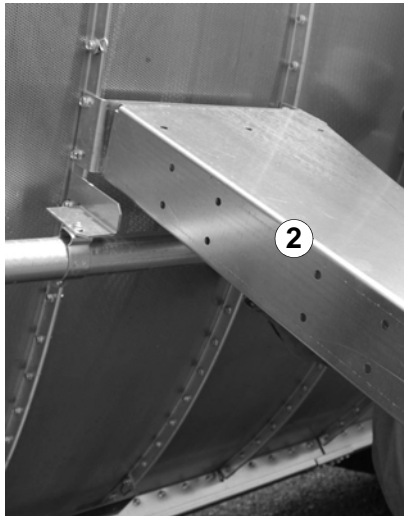
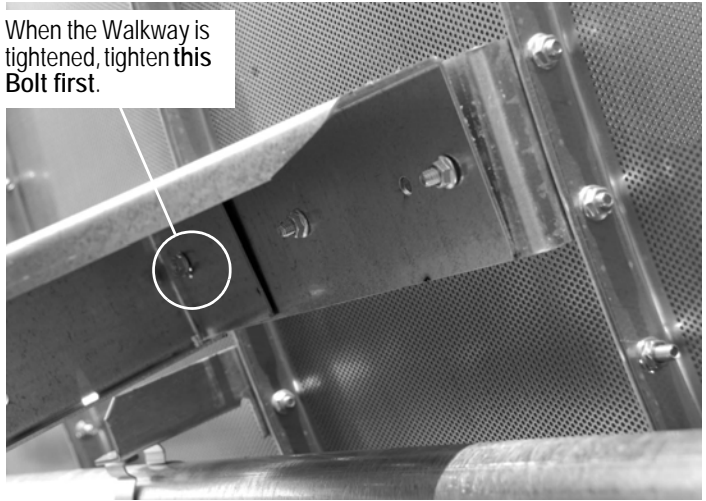
Attach the Walkway Arms, twelve (12) per Full Walkway, to the pre-installed Arm Brackets with three (3) $3/8 \times 1$ " galvanized Hex Head Bolts. Secure with Flange Nuts.

Continue installing Arms around the Tower. Remaining Arms must be installed after the Tower is raised to vertical.

All Arms must remain loose until all Walkway Floor Sections are attached.



When the Walkway is tightened, tighten this Bolt first.



Item	Description
1	Walkway Arm Bracket
2	Walkway Arm
3	Stringer
4	5/16 x 1" HH Bolt galv
5	5/16" Flange Nut

Figure 10.
Walkway Arm Installation

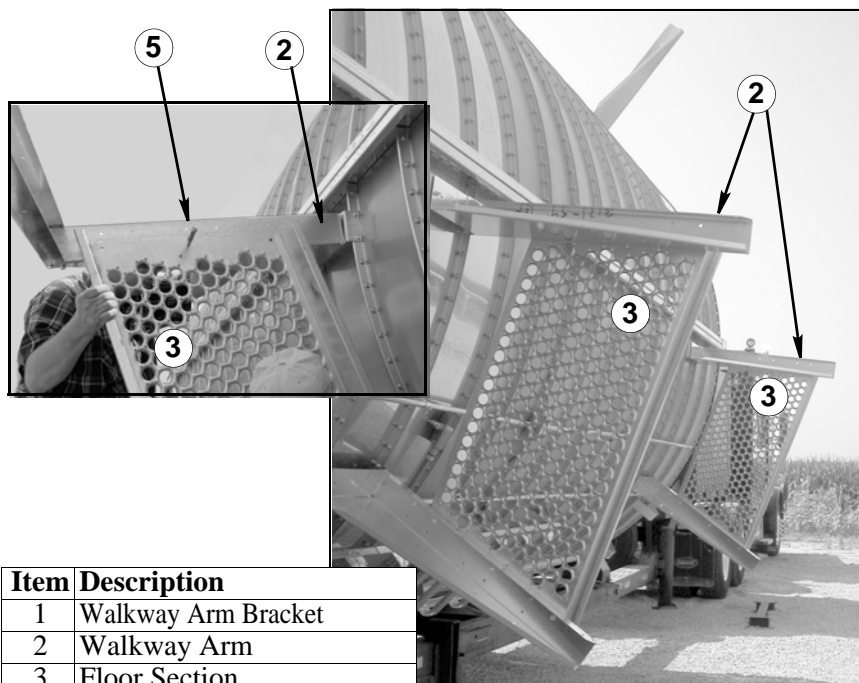
Floor Sections

IMPORTANT! Do not tighten Walkway Arms until all Floor Sections are connected to form a complete Walkway around the Tower..



Attach Walkway Floor sections. Drop in 5/16 x 1" galvanized Hex Head Bolts, heads on top of the Walkway. Secure with Flange Nuts underneath. Be sure the Floor Panel (edge) is turned UP, toward the Tower TOP.

Figure 11.
Floor Sections



Item	Description
1	Walkway Arm Bracket
2	Walkway Arm
3	Floor Section
4	5/16 x 1" HH Bolt galv
5	5/16" Flange Nut

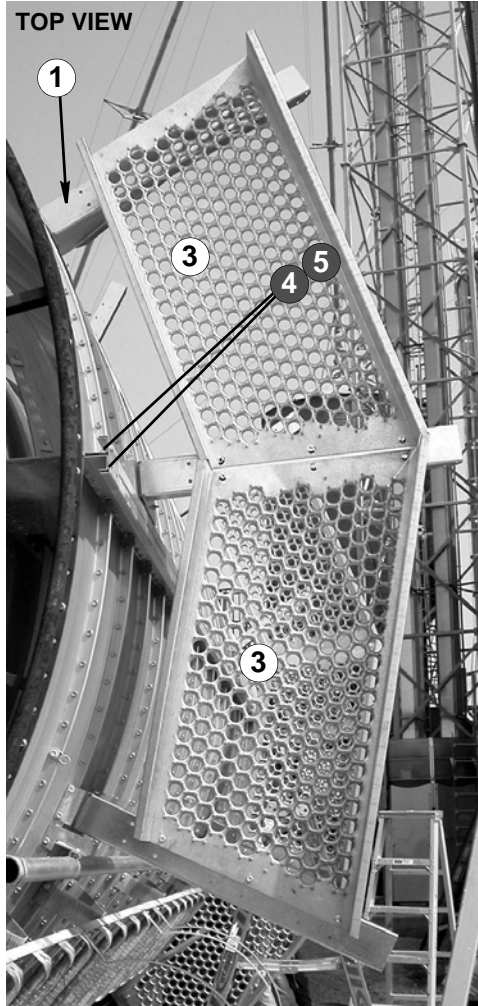


Figure 12.
Walkway Floor Sections

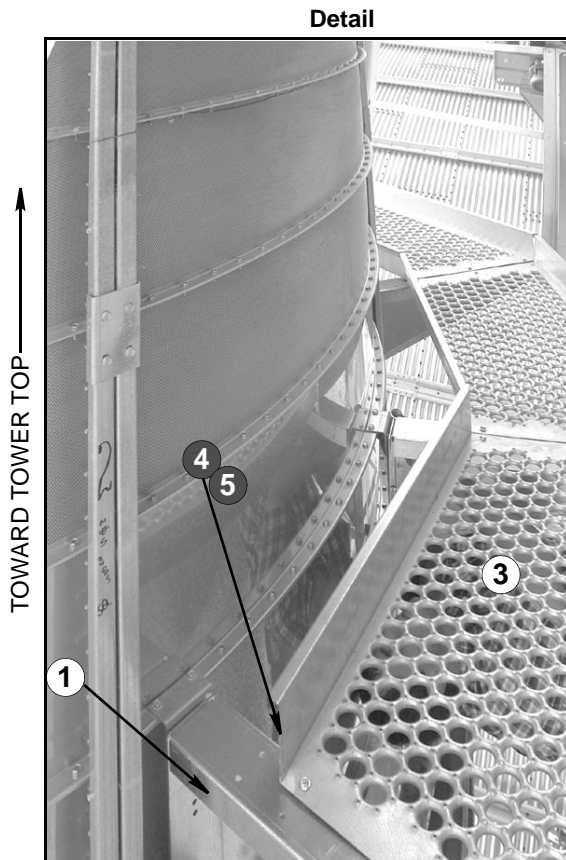


UNDERSIDE VIEW

Connect adjacent Floor Sections around the Tower as far as there is clearance to do so.



Detail



Detail



Item	Description
1	Walkway Arm Bracket
2	Walkway Arm
3	Floor Section
4	5/16 x 1" HH Bolt galv
5	5/16" Flange Nut

Figure 13.
Connect Adjacent Floor Sections

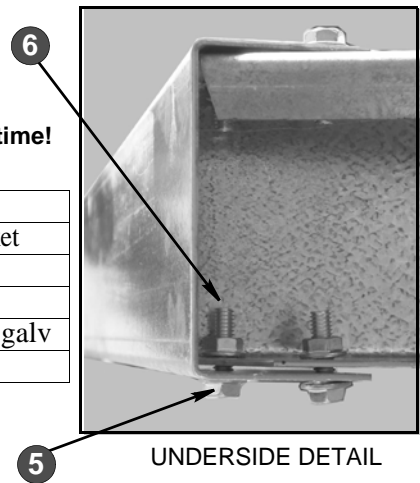
Upright Posts

Attach the Upright Posts to the outer ends of the Walkway Arms with four (4) 1" bolts. Secure with Flange Nuts.



Figure 14.
Walkway Posts:
DO NOT TIGHTEN at this time!

Item	Description
1	Walkway Arm Bracket
2	Walkway Arm
3	Floor Section
4	5/16 x 1" HH Bolt galv
5	5/16" Flange Nut



Handrails, Upper and Mid

When Vertical Posts are installed, attach **Handrails** and **Handrails** between Posts, Bolt heads **inside** the Post (same hardware). Repeat Handrail installation all the way around as far as you can.



Figure 15.
Top and Mid Handrails

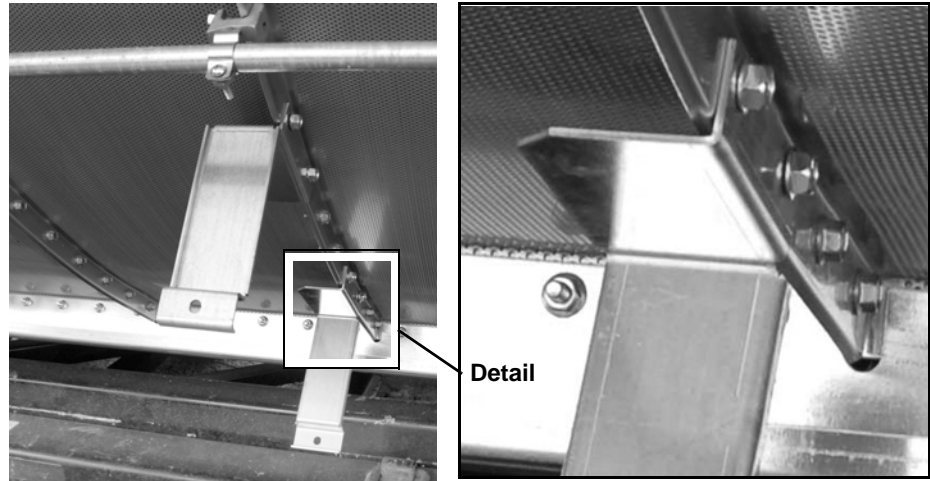
Ladder-and-Cage Installation Basics, Horizontal Tower

Outside Ladder Sections

Check the tightness of factory-installed Ladder Brackets on the Tower, to be sure they are still tight after delivery.

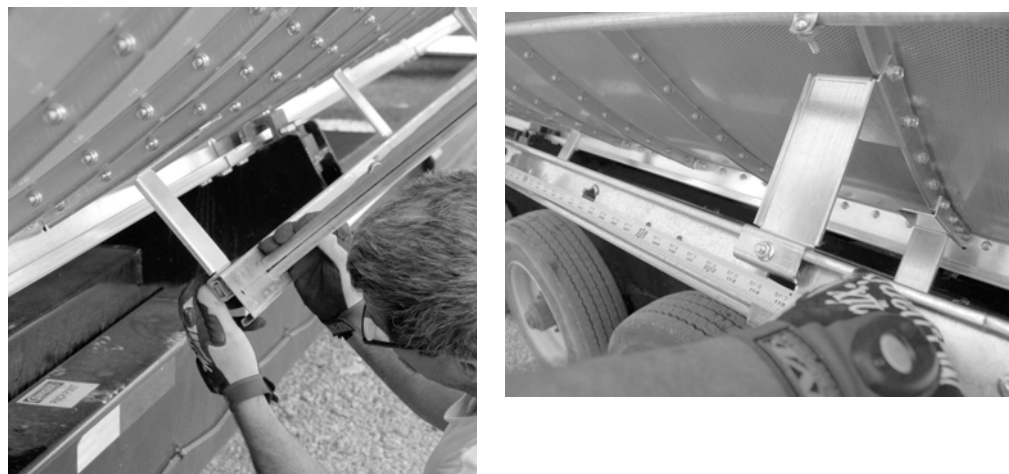
Some Ladder sections may already be installed in the Brackets with Locking Clips.

Figure 16.
Locate Pre-Installed Ladder Brackets and Ladder Sections on the Tower



Slide new Ladder Sections through the Ladder Brackets.

Figure 17.
Slide Ladder Sections Through Brackets

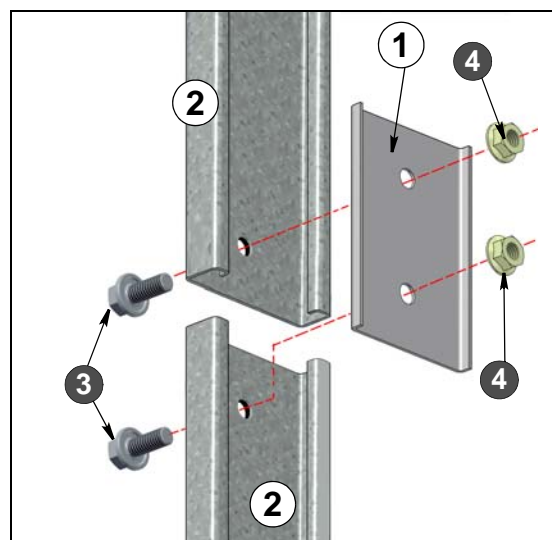


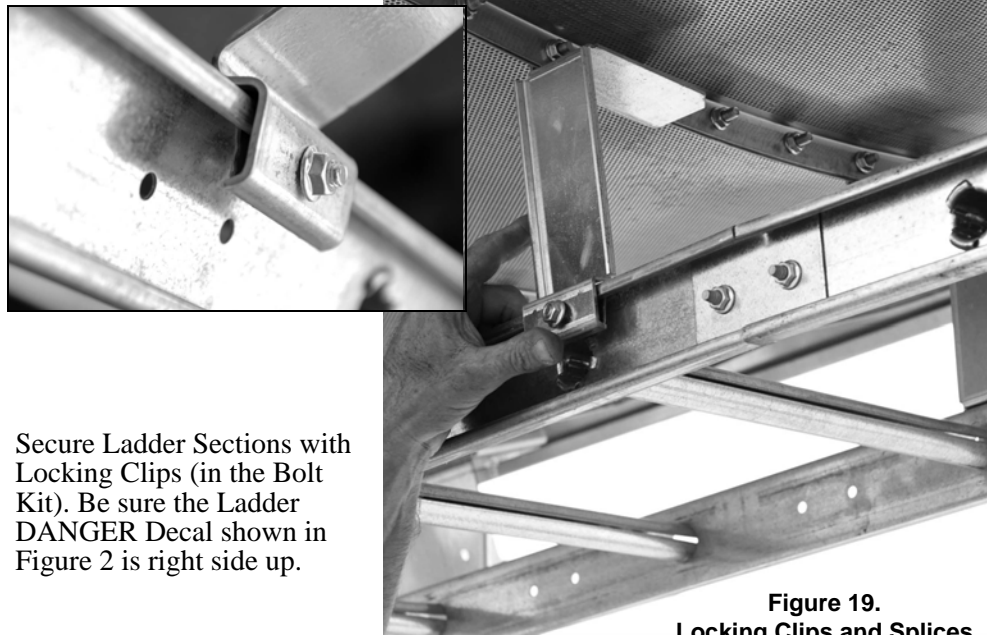
Ladder Splice

Ladder Sections (3', 4', 5' and 6') are bolted together using Ladder Rail Splicers (U-23774) with 5/16 x 1" Gr. 5 Hex Head Bolts and Flange Nuts.

Item	Part No.	Description
1	U-23774	Ladder Rail Splicer
2	varies	Side Ladder
3	39-20072	Bolt, HHBS 5/16-18 x 3/4" Gr. 8.2
4	39-20152	Nut, Flange 5/16"-18

Figure 18.
Ladder Rail Splice





Secure Ladder Sections with Locking Clips (in the Bolt Kit). Be sure the Ladder DANGER Decal shown in Figure 2 is right side up.

Figure 19.
Locking Clips and Splices

Cage Hoop Halves

Attach Cage Hoop Halves to the Ladder rail on each side with Locking Clips. Attach the Hoop Halves in the middle front with hardware from the Bolt Kit. See Details on pages 30-32.



Figure 20.
Cage Installation

Lift the Tower to “First Stage” to Work Underneath

After all possible Walkways and Ladder-and-Cage sections have been installed to the **horizontal** Tower Module on the Tower trailer, **lift the Tower to the FIRST STAGE**. FIRST STAGE is a partially raised position that allows the remainder of the full Access Platforms to be installed. After the remaining Access Platform(s) have been installed, tighten the Platform and Arms.

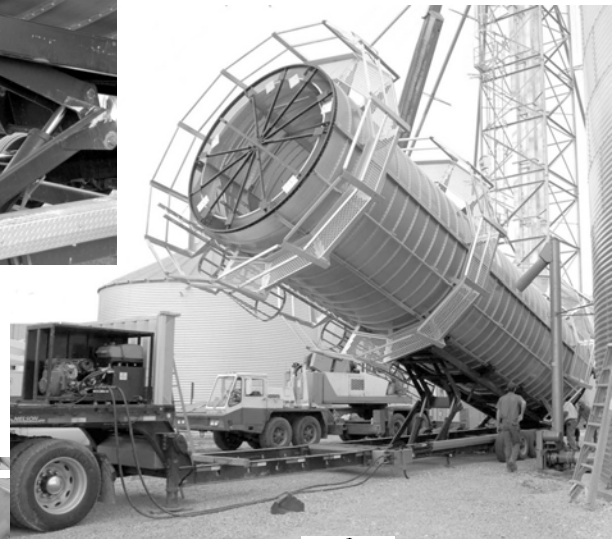
IMPORTANT!


DO NOT TIGHTEN Walkway Arms until all Floor Sections are connected to make a complete Walkway. DO NOT tighten the Handrails or Upright Posts.

On the ME1000S through 1600S Models, the Tower Module and Roof Module are shipped pre-assembled together and as one unit on the Tower trailer. Some Eave Platform assembly can be done while the lift truck is in First Stage lift.



Remaining Ladder-and-Cage, and Partial Walkway installations are done after the Tower and Modules are raised to vertical.



WARNING! 

Use CAUTION when raising the Tower section to First Stage. Be sure to use all locking pins specified. Use CAUTION when raising the Tower section to full height. Stand clear! Follow all SAFETY Decals. DO NOT attempt to MOVE the truck with the hoist/Tower in a raised position! Protect or LOCK THE CONTROLS so that no hoist movement can be made unintentionally. Failure to follow this instruction could cause death, serious injury, and/or equipment damage.



Figure 21.
Install Walkways at Tower Trailer FIRST STAGE Lift

Types of Walkways

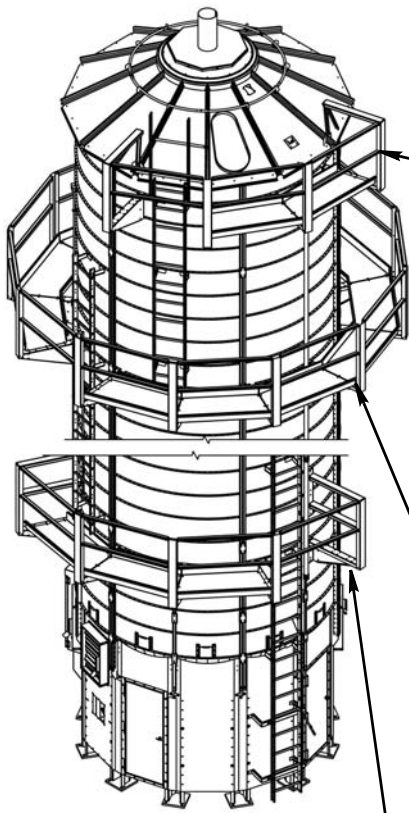


Figure 22.
Eave Platform
(2 Floor Sections) 3121-00175

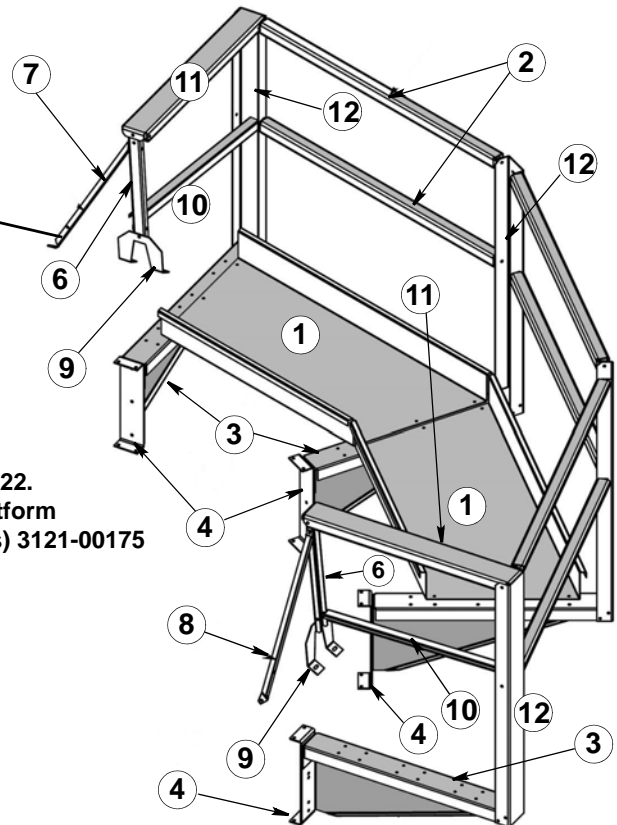


Figure 23.
Partial Walkway
(3 Floor Sections)
3121-00120

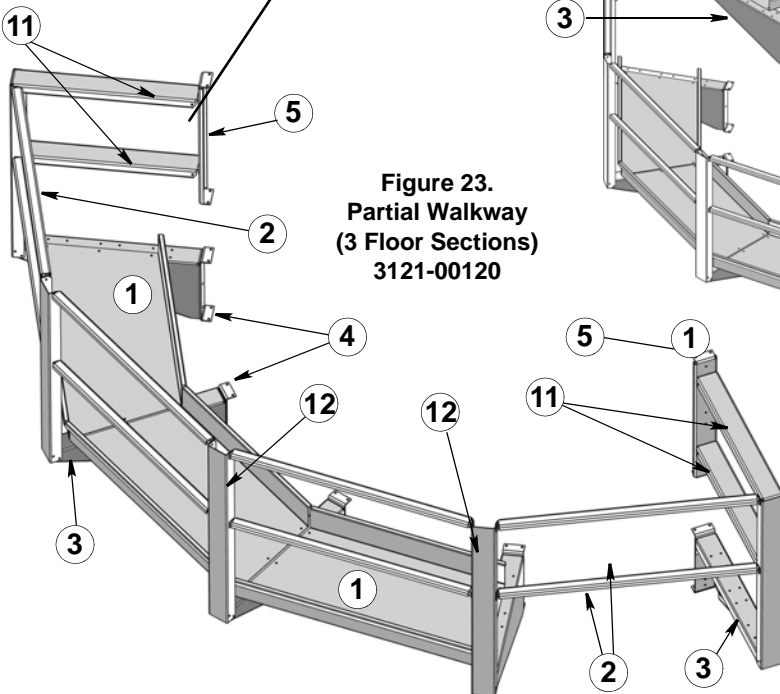
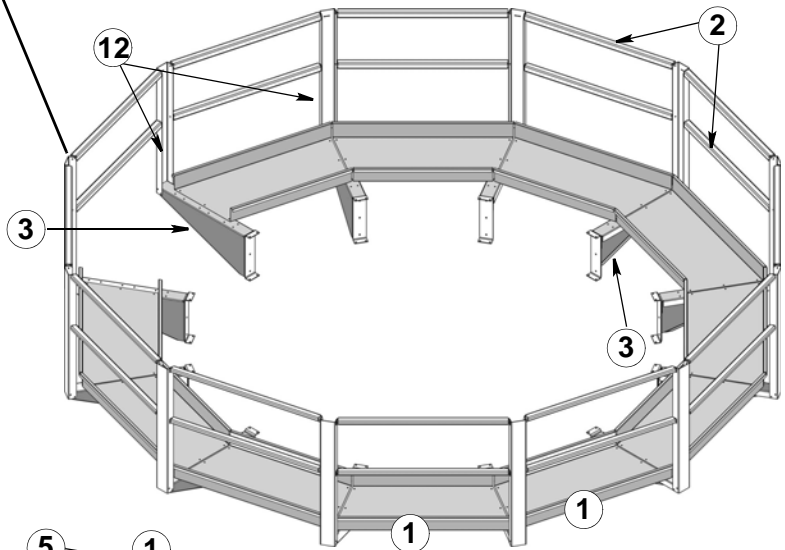
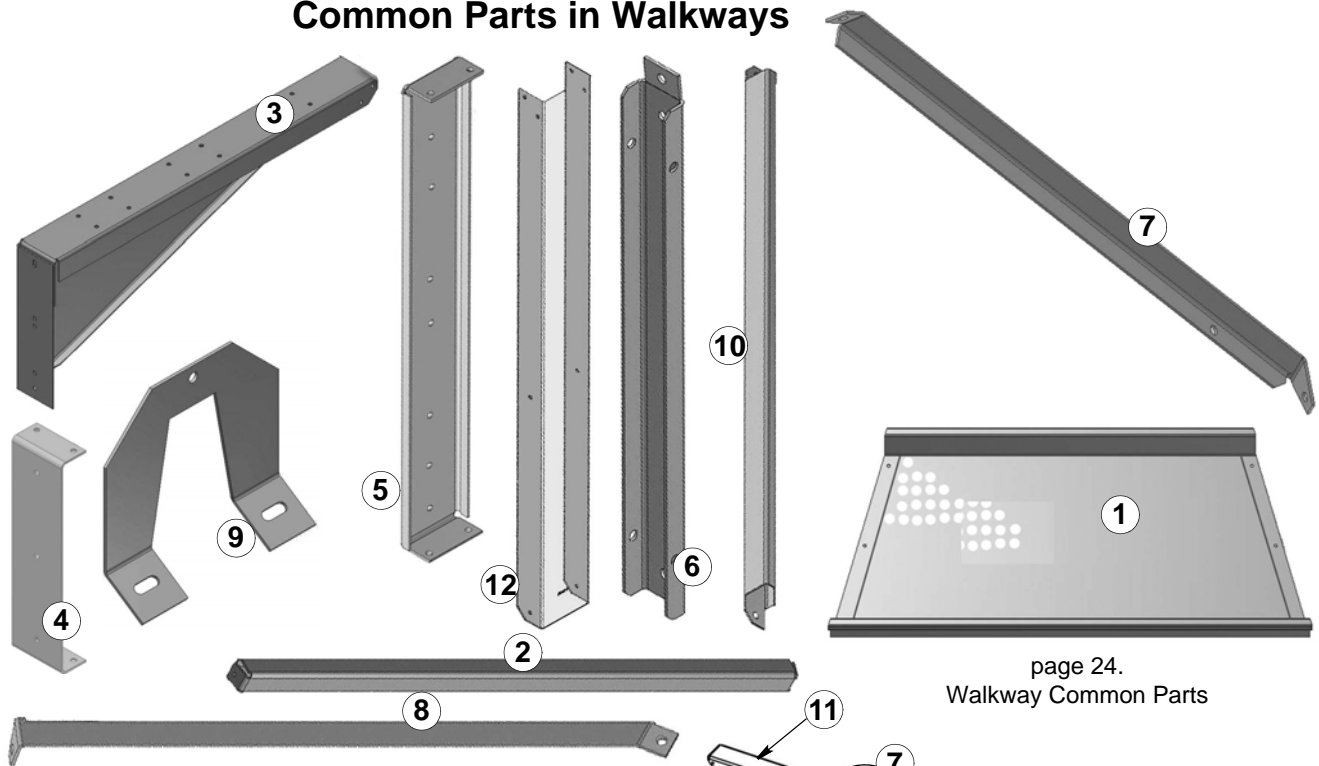


Figure 24.
Full OUTSIDE Walkway
(11 Floor Sections)
3121-00052



Common Parts in Walkways



page 24.
Walkway Common Parts

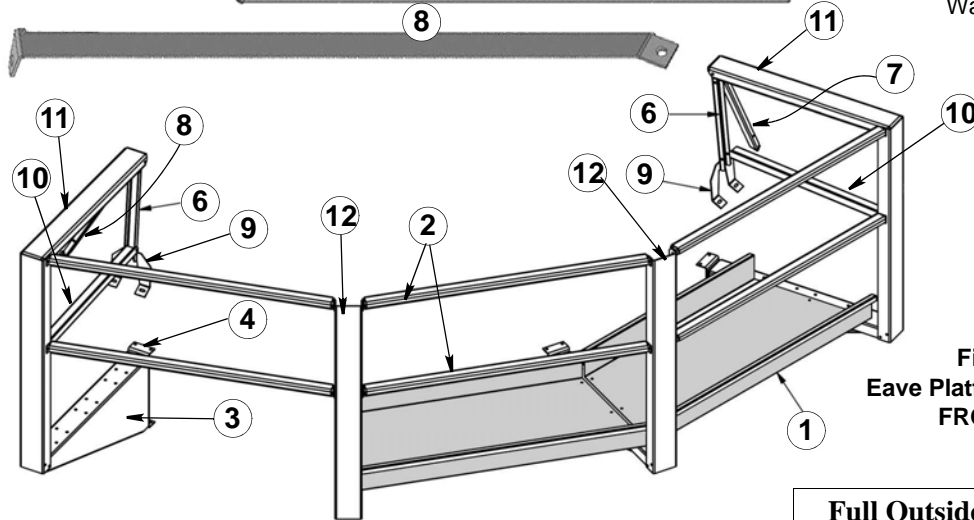


Figure 25.
Eave Platform 3121-00175
FRONT VIEW

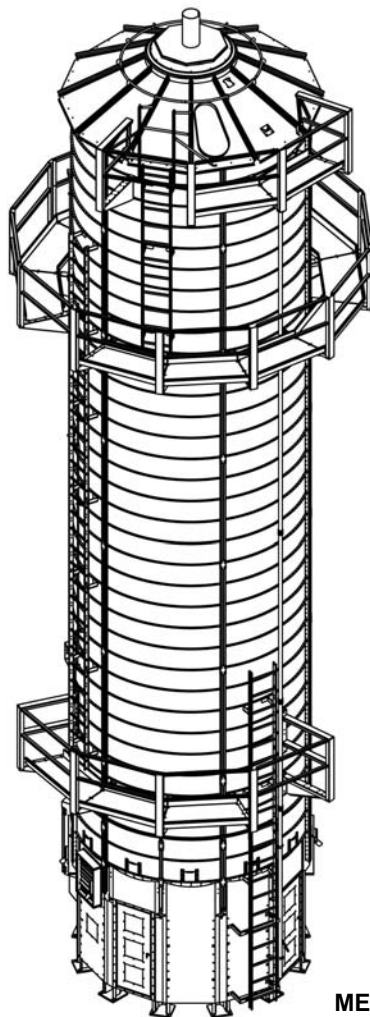
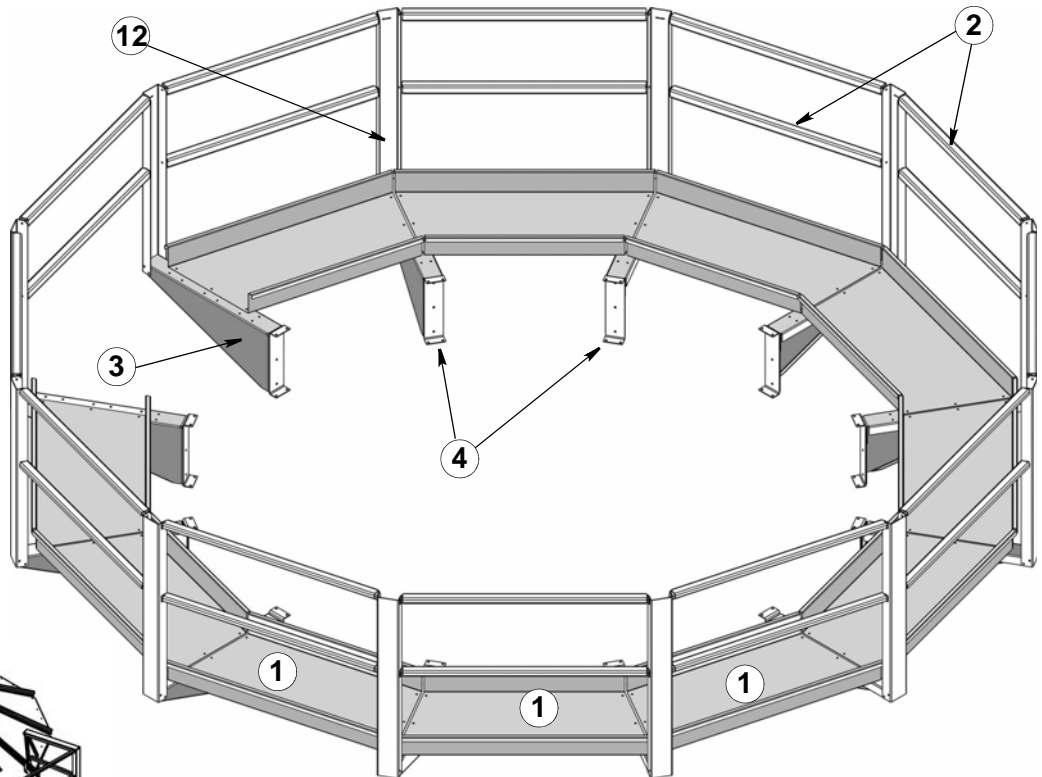
Item	Part No.	Description	Full Outside Walkway Qty.	Partial Walkway Qty.	Eave Platform Qty.
1	3121-00031	Walkway Floor Section 52.75"	11	3	2
2	3121-00032	Handrail	24	8	6
3	3121-00034	Walkway Arm	12	5	4
4	3121-00035	Walkway Arm Bracket**	12	5	4
5	3121-00055	Walkway Arm Bracket LONG		2	
6	3121-00171	Brace, Roof Handrail 21"			2
7	3121-00172	Brace, Roof Handrail RIGHT 25"			1
8	3121-00173	Brace, Roof Handrail LEFT 25" (not shown)			1
9	3121-00174	Platform Roof Mount			2
10	3121-00183	Rail, TPH 33 3/8"			2
11	3321-00046	Endrail/Handrail External		4	2
12	3321-00035	Vertical Post, 43 1/4"	12		4
14	*2320-00004	Screw, 5/16-18 x 1" HWH	198		60
15	*2363-00006	Nut, Flange 5/16"-18 Serr.	198		60

*Hardware in Ship Loose Bolt Kit **This Bracket pre-installed on Tower/Modules

FULL Walkway (3121-00052)

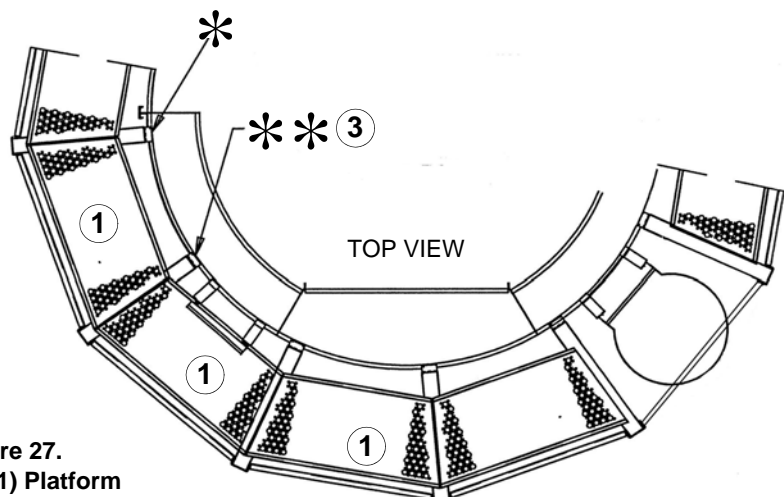
FULL Walkways are installed all the way around the Dryer with an opening for the Ladder-and-Cage. There may be several outside Walkways, depending on the Model. Refer to **Outside Ladder Diagrams** on page 36-54 for the number and placement of Walkways on each different MEYER® model.

Figure 26.
Full Outside Walkway
(11 Floor Sections)
3121-00052



Item	Part No.	Description	Qty.
1	3121-00031	Walkway Floor Section 52.75"	11
2	3121-00032	Handrail	24
3	3121-00034	Walkway Arm	12
4	3121-00035	Walkway Arm Bracket**	12
12	3321-00035	Vertical Post, Walkway 43 1/4"	12
13	*2320-00004	Screw, 5/16-18 x 1" HWH	198
14	*2363-00006	Nut, Flange 5/16"-18 Serr.	198

*Hardware in Ship Loose Bolt Kit
 **This Bracket pre-installed on Tower/Modules



Left, Figure 27.
ME1600, One (1) Platform

First Level Walkway 3121-00052
ONE PLATFORM: Models ME1000S-1600S

Item	Part No.	Description	Qty.
1	3121-00031	Walkway Floor Section 52.75"	11
2	3121-00032	Handrail	24
3	3121-00034	Walkway Arm	12
4	3121-00035	Walkway Arm Bracket	12
12	3321-00035	Vertical Post 43 1/4"	12
14	2320-00004	Bolt, 5/16-18 x 1" HWH Whizlock	198
15	2363-00006	Nut, 5/16"-18 HWH Flange	198

TWO Walkway Assembly 3121-00053
TWO PLATFORMS: Models ME1800S-2000S Standard and ME1000-1600S Optional

Item	Part No.	Description	Qty.
1	3121-00031	Walkway Floor Section 52.75"	22
2	3121-00032	Handrail	48
3	3121-00034	Walkway Arm	24
4	3121-00035	Walkway Arm Bracket	24
12	3321-00035	Vertical Post, 43 1/4"	42
14	2320-00004	*Bolt, 5/16-18 x 1" HWH Whizlock	396
15	2363-00006	*Nut, 5/16"-18 HWH Flange	396

*Located in the Ship Loose Bolt Kit

THREE Walkway Assembly 3121-00054
THREE PLATFORMS: Models ME2400S Standard and ME1600S, ME1800-2000S Optional

Item	Part No.	Description	Qty.
1	3121-00031	Walkway Floor Section 52.75"	33
2	3121-00032	Handrail	72
3	3121-00034	Walkway Arm	36
4	3121-00035	Walkway Arm Bracket	36
12	3321-00035	Vertical Post, 43 1/4"	36
14	2320-00004	*Bolt, 5/16-18 x 1" HWH Whizlock	594
15	2363-00006	*Nut, 5/16"-18 HWH Flange	594

*Located in the Ship Loose Bolt Kit

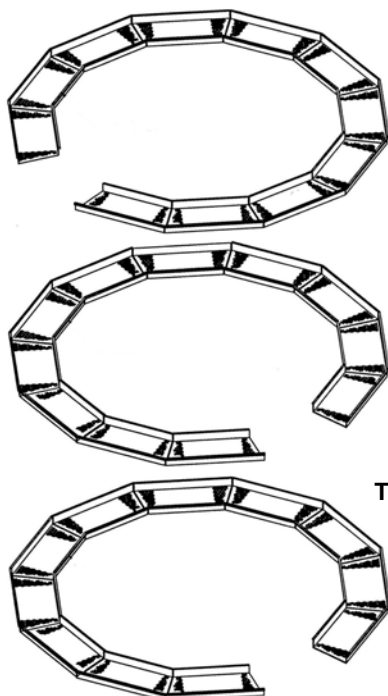


Figure 28A.
Three Platforms

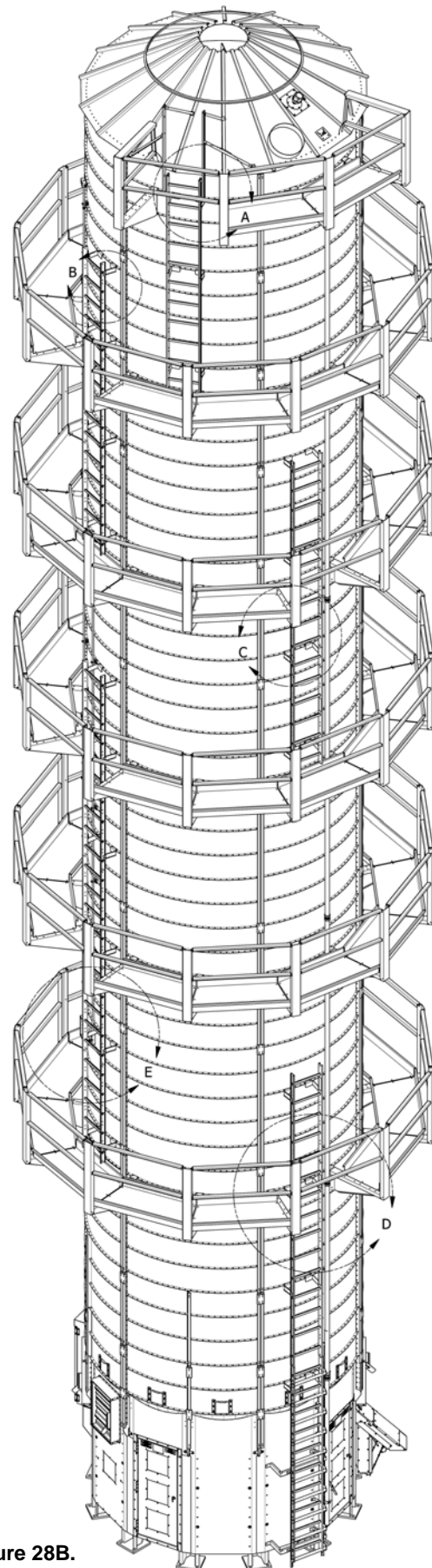


Figure 28B.
Five Platforms

PARTIAL Walkway (3121-00120), All Models

Locate the End Handrail Brace (Item 7) one (1) Screen directly above **3121-00035**. Use Inside Ladder Brace (Item 12, 3121-119) on the inside Screen as a reference. On the corresponding outside Screen (see Top View), locate the second and third (2nd/3rd) bolt **counter-clockwise** from the Screen flange to attach the first Walkway Arm. Hardware is located in the Ship Loose Bolt Kit. The End Brace of the left Walkway Floor Panel will mount just outside the Ladder rail below the Hi-Limit Box. There will be ten (10) bolts between Ladder Brackets.

PARTIAL Walkway Location Chart

Model	Height*	Module
ME2650S	Screen 12	3
ME2400S	Screen 4	2
ME2200S	Screen 3	2
ME2000S	Screen 3	2
ME1800S	Screen 1	2
ME1600S	Screen 3	1B
ME1400S	Screen 2	1B
ME1200S	Screen 1	1B
ME1000S	Screen 2	1A

*Counting up from bottom of Module

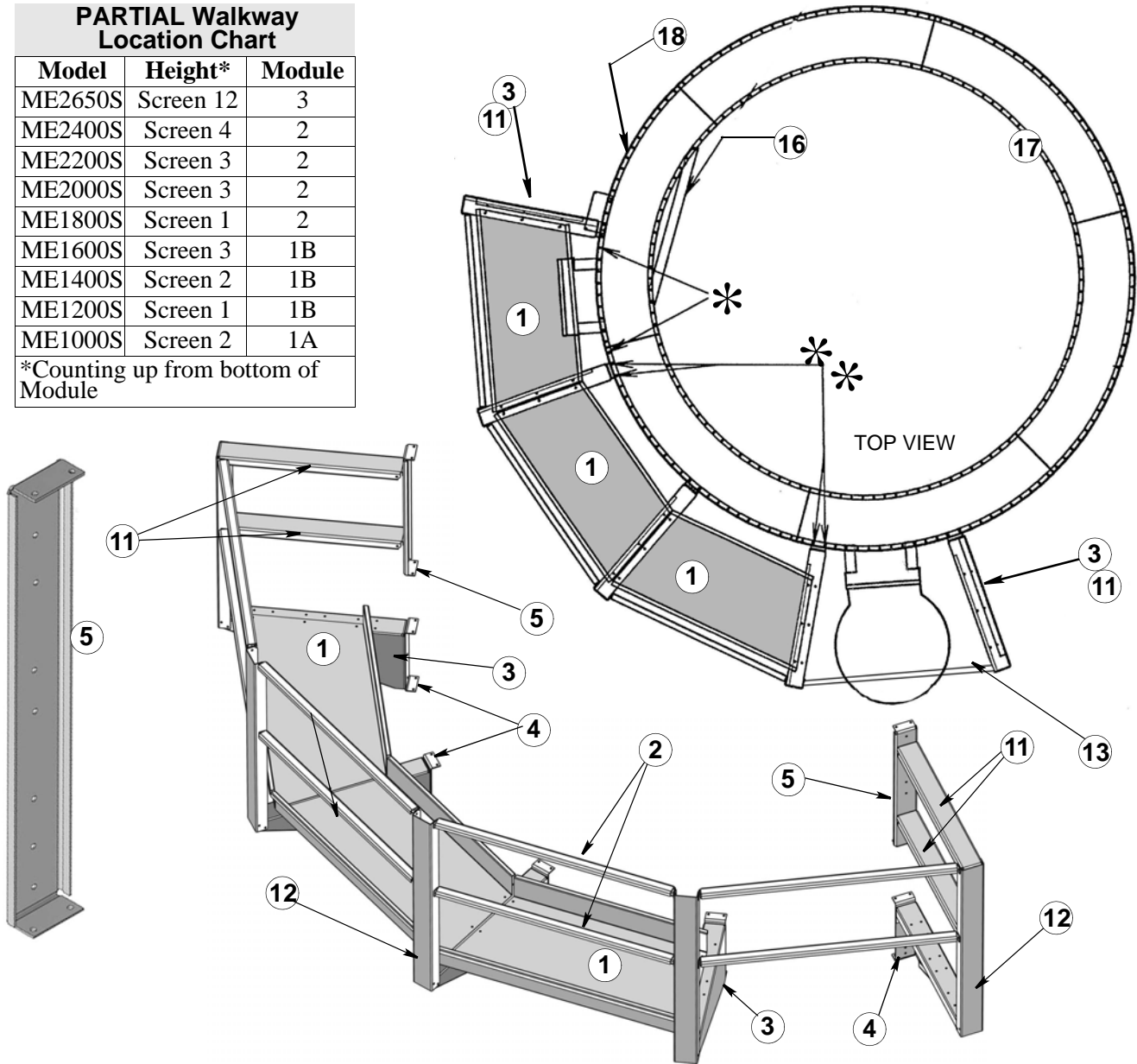


Figure 29.
Partial Walkway (3121-00120)

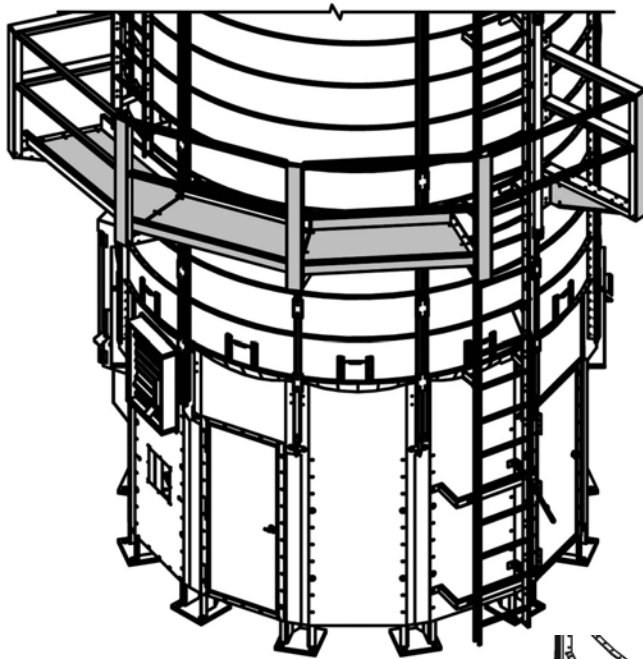
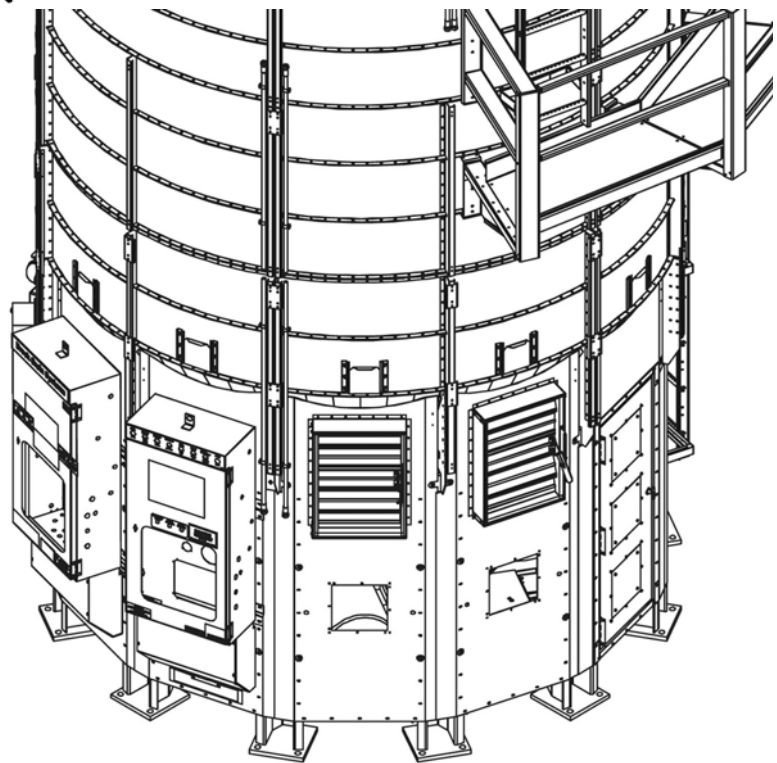


Figure 30.
Partial Walkway Views

The **Partial Walkway** is built in this location after the Tower Module has been raised and connected to the Unload Module.



Item	Part No.	Description	Qty.
1	3121-00031	Walkway Floor Section 52.75"	3
2	3121-00032	Handrail	8
3	3121-00034	Walkway Arm	5
4	3121-00035	Walkway Arm Bracket**	5
5	3121-00055	Walkway Arm Bracket LONG	2
11	3321-00046	Endrail/Handrail External	4
12	3321-00035	Vertical Post, 43 1/4"	
14	*2320-00004	Screw, 5/16-18 x 1" HWH	
15	*2363-00006	Nut, Flange 5/16"-18 Serr.	
16	3121-00119	Ladder Chord	

Eave Platform (3121-00175), Roof Module, All Models

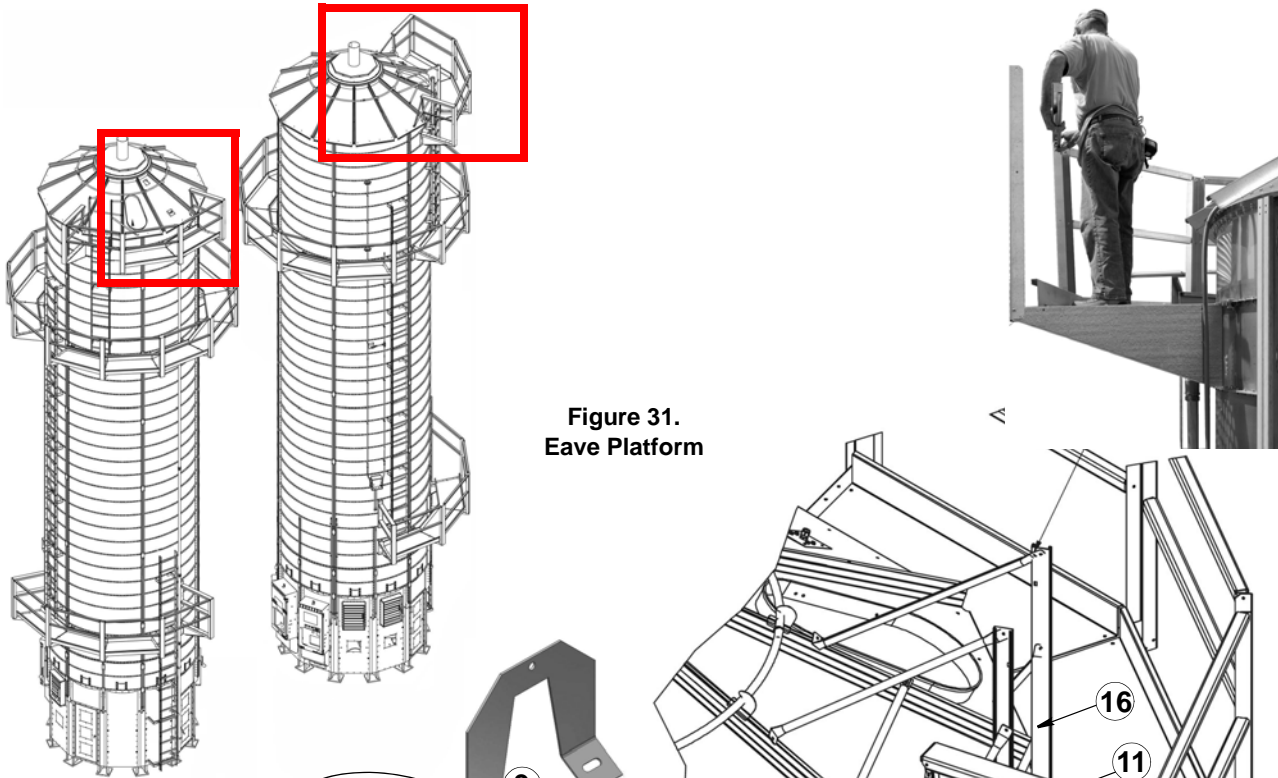
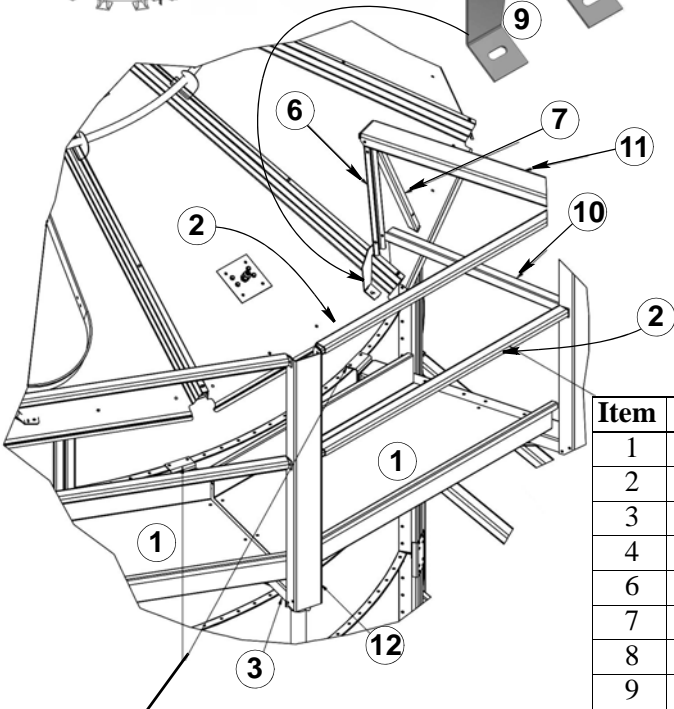


Figure 31.
Eave Platform



Item	Part No.	Description	Qty.
1	3121-00031	Walkway Floor Section 52.75"	2
2	3121-00032	Handrail	6
3	3121-00034	Walkway Arm	4
4	3121-00035	Walkway Arm Bracket**	4
6	3121-00171	Brace, Roof Handrail 21"	2
7	3121-00172	Brace, Roof Handrail RIGHT 25"	1
8	3121-00173	Brace, Roof Handrail LEFT 25"	1
9	3121-00174	Platform Roof Mount	2
10	3121-00183	Rail, TPH 33 3/8"	2
11	3321-00046	Endrail/Handrail External	2
12	3321-00035	Vertical Post, 43 1/4"	4
14	*2320-00004	Screw, 5/16-18 x 1" HWH	60
15	*2363-00006	Nut, Flange 5/16"-18 Serr.	60
16	9-40969	Ladder Extension: Pages 26-27	

Ladder Brackets: Counting from the left/right, LEFT Ladder Brackets attach at the 6th and 7th Brackets holes from the Wall post. RIGHT Ladder Brackets attach at the 18th and 19th holes.



Install supports for the upright (both sides). Install the U-shaped Roof Mount Bracket (Item 9) over the Roof Rib where the electrical conduit routes and exits down the Module.

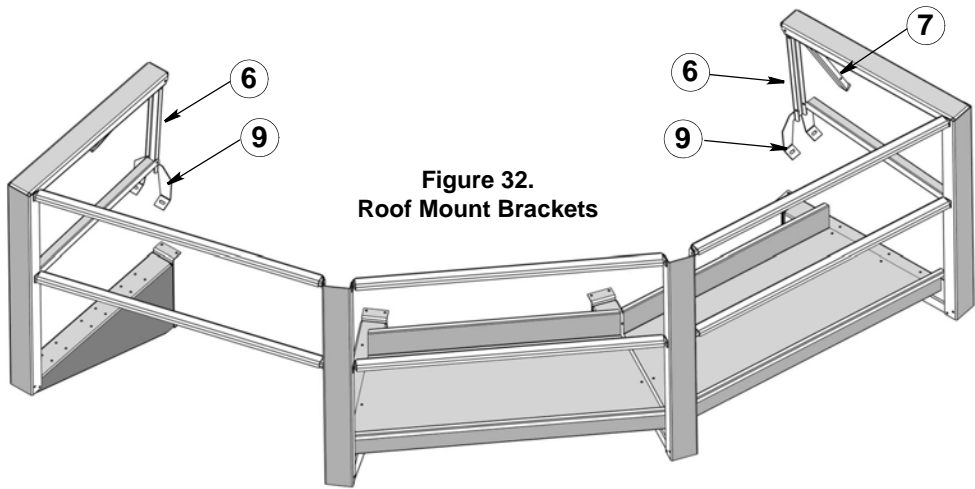
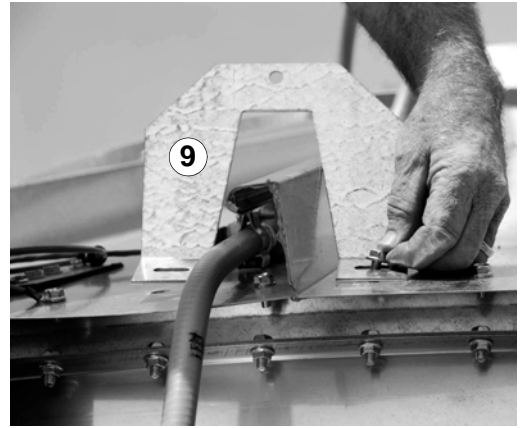


Figure 32.
Roof Mount Brackets

Connect the Roof Upright Brace (Item 6) to the top of the Bracket.
Connect the top End Handrail (Item 11) to the top of the Brace.

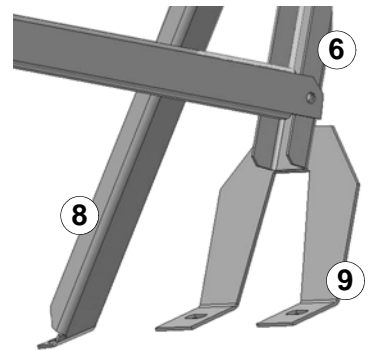
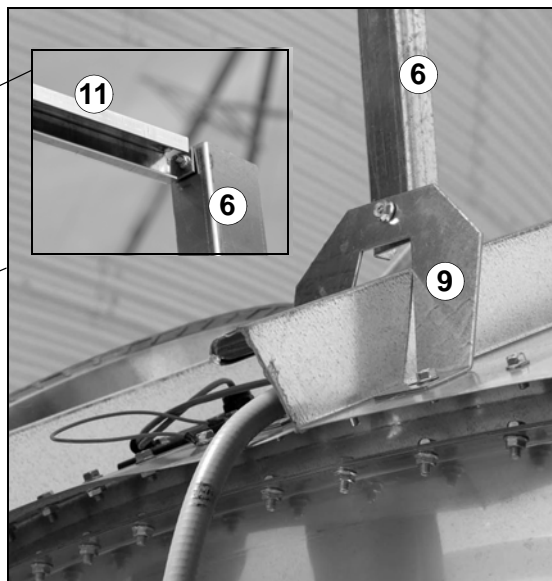
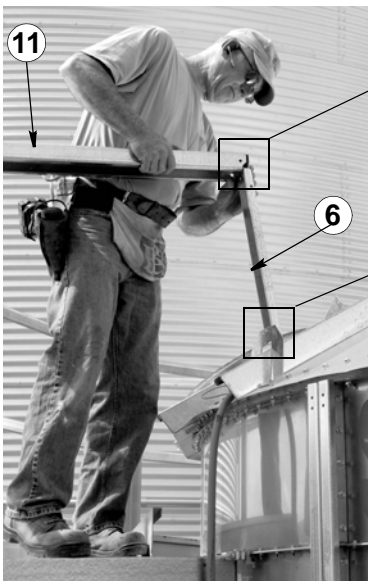


Figure 33.
Roof Mount End/Back
Connections

Eave Platform on the ME1000S Through ME1600S

On the MEYER® ME1000S through ME1600S Models, the Tower Module and Roof Module are shipped pre-assembled together and as one unit on the lift truck. Some Eave Platform assembly can be done while the lift truck is in First Stage lift.

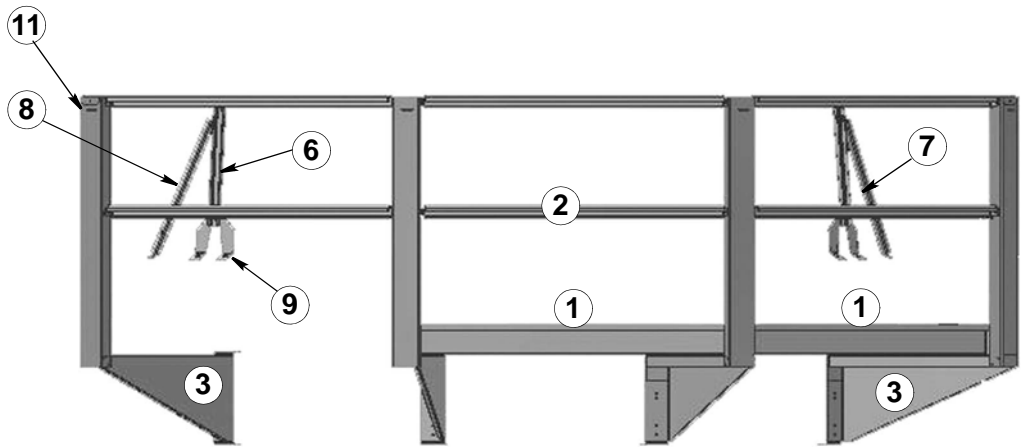
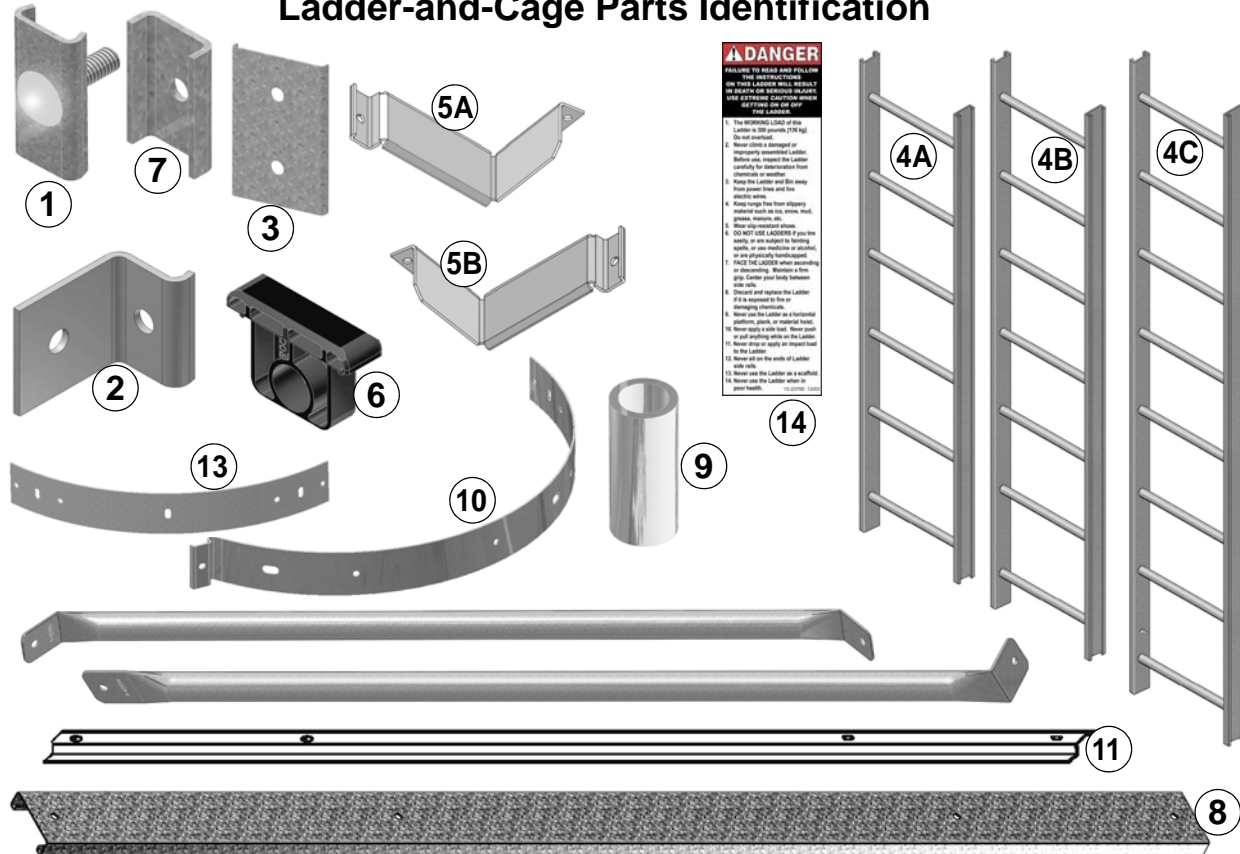


Figure 34.
Eave Platform Front View

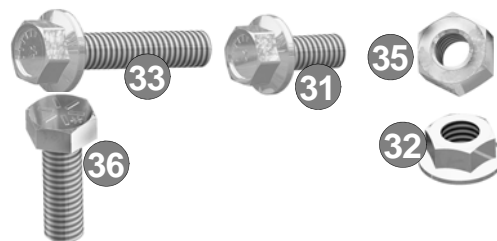
Outside Ladder and Cage Installation

Ladder-and-Cage Parts Identification



Item	Part No.	Description
1	U-23779	Locking Clip Assembly
2	3121-00170	Inside Ladder Bracket (see page 55)
3	U-23774	Ladder Rail Splicer
4A	U-00004	4' [1 219] Ladder Section
4B	U-00005	5' [1 524] Ladder Section
4C	U-00006	6' [1 829] Ladder Section
5A	3121-00169	Ladder Bracket-LEFT
5B	3121-00168	Ladder Bracket-RIGHT
6	U-24016	Ladder Cap
7	U-24316	Extension Rail Brace Bracket
8	U-24142	Extension Rail 54" [1 372] O.A.
9	U-24339	Extension Rail Spacer Tube
10	U-23777	Cage Hoop Half
11	432615	Cage Channel 45" [1 143] (BUNDLE # 292878)
12	field-cut	Cage Channel 22" SHORT (not shown)
13	U-24021	Cage Hoop Expander
14	13-23790	Ladder DANGER Decal (2 per Section)
15	9-42654	BACK Tube, 42 1/8"
16	9-42655	SIDE Tube 38"
31	39-20072	Bolt, 5/16 x 3/4" BS Gr. 8.2
32	39-20152	5/16" Flange Nut
33	39-20130	Bolt, 5/16 x 1 1/2" Hex Head BS Gr. 8.2
35	39-20020	5/16" Hex Nut
36	39-20070	Bolt, 5/16" x 1" Hex Head Gr. 8
37	39-20246	Bolt, Hex Head 5/16-18 x 2 1/2" Gr. 5
38	39-20101	Washer, Flat 5/16 x 1 1/4"
43	39-20322	Bolt, Hex Head 5/16-18 x 1 1/4" Gr. 5
44	39-20155	Washer, Weatherseal 5/16"

Figure 35. Ladder and Cage Parts



Top Ladder Extension Through the Eave Platform

Build Ladder Extension Rails (Kit 9-40969, All Models)

Install a pair of 54" [1 372] Ladder Extension Rails (Item 8) to the 5' Top Ladder Section (Item 4B) at the Eave. On both the left and right sides of the top Ladder Section, add an Extension Rail.

Insert the **upper** 5/16 x 2 1/2" Hex Head Bolt (Item 37) from inside the Ladder Section through the Ladder Cap (Item 6) and Spacer Tube (Item 9). Put a Flange Nut (Item 32) on the outside of the Extension Rail.

Add the same Hardware and Spacer Tube for the **lower** connection below the Ladder Rung. See **Detail B** below.

Top ends of the Side Ladder **and** Extension Rail are finished with a **Ladder Cap**. Secure as shown in **Detail A** below, adding a 16 ga. Washer (Item 38). Use a 5/16 x 1 1/2" HHBS Bolt (Item 33) on top, with a Weatherseal Washer (Item 34) and a Hex Nut (Item 35).

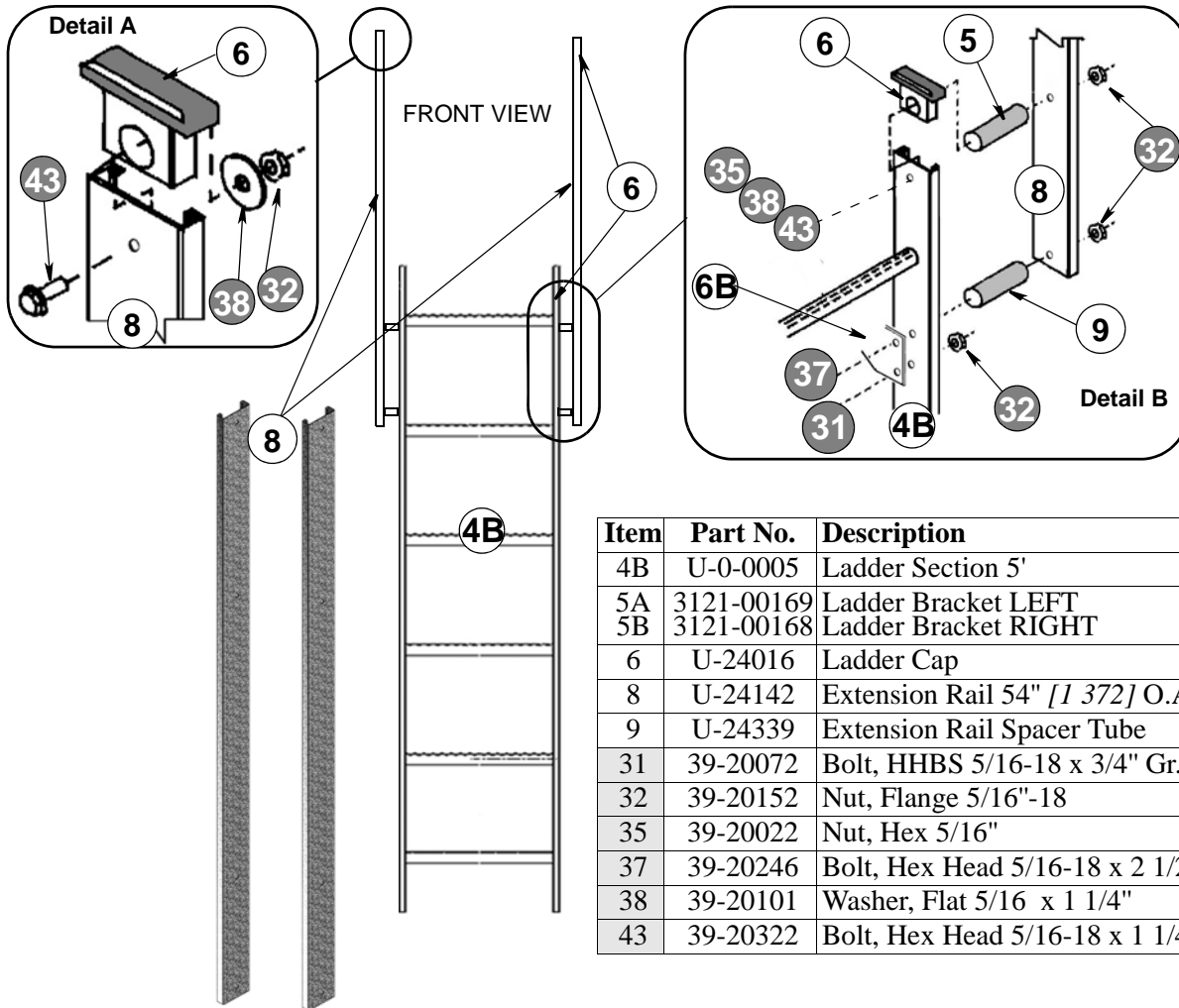
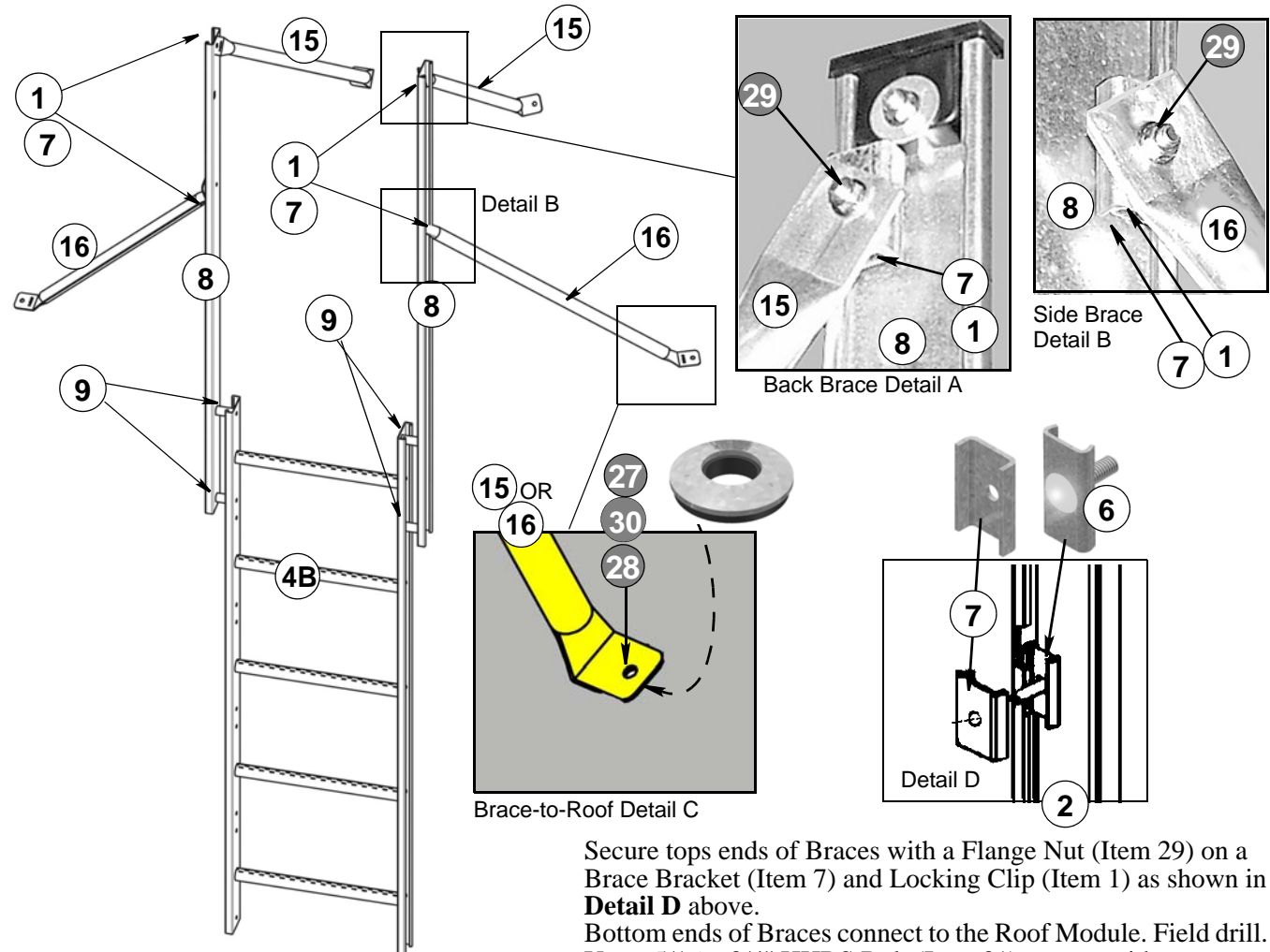


Figure 36.
(2) Ladder Extensions on Top Ladder Section

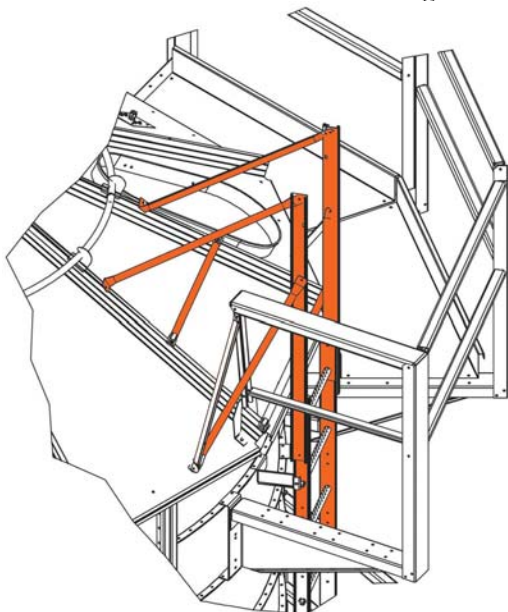
Extension Rail Bracing to the MEYER® Roof

To brace the Extension Rails to the Roof, bolt the Brace Tubes as shown below. Bolt the flatter ends of two (2) Ladder **Back** Brace Tubes (Item 15) to the top of the Ladder Extension Rails (Item 8) as shown in **Detail A** below. Bolt the single Ladder **Side** Brace Tube (Item 16) to the Ladder Extension Rails as shown in **Detail B** below.



Secure tops ends of Braces with a Flange Nut (Item 29) on a Brace Bracket (Item 7) and Locking Clip (Item 1) as shown in **Detail D** above.

Bottom ends of Braces connect to the Roof Module. Field drill. Use a 5/16 x 3/4" HHBS Bolt (Item 31) on top, with a Weatherseal Washer (Item 44) between the Brace and Roof, and a Hex Nut (Item 35) under the Rib. See Detail C above.



Item	Part No.	Description	Qty
1	U-00005	Ladder Assy, 5'	1
2	U-24142	Rail, Ladder Extension Cage	2
3	U-24339	Tube, Cage Ext Rail Spacer	4
6	U-23779	Ladder Locking Clip Assy	4
7	U-24316	Extension Rail Brace Bracket	4
15	9-42654	BACK Tube, 42 1/8"	2
16	9-42655	SIDE Tube 38"	2
31	39-20072	Bolt, HHBS 5/16-18 x 3/4" Gr. 8.2	
32	39-20152	Nut, Flange 5/16"-18	
35	39-20020	Nut, Hex 5/16"-18	
44	39-20155	Washer, Weatherseal 5/16"	

Figure 37.
Bracing Ladder Extensions on Top Ladder Section Through the Eave Platform

Outside Ladder Brackets to the Tower

WARNING!



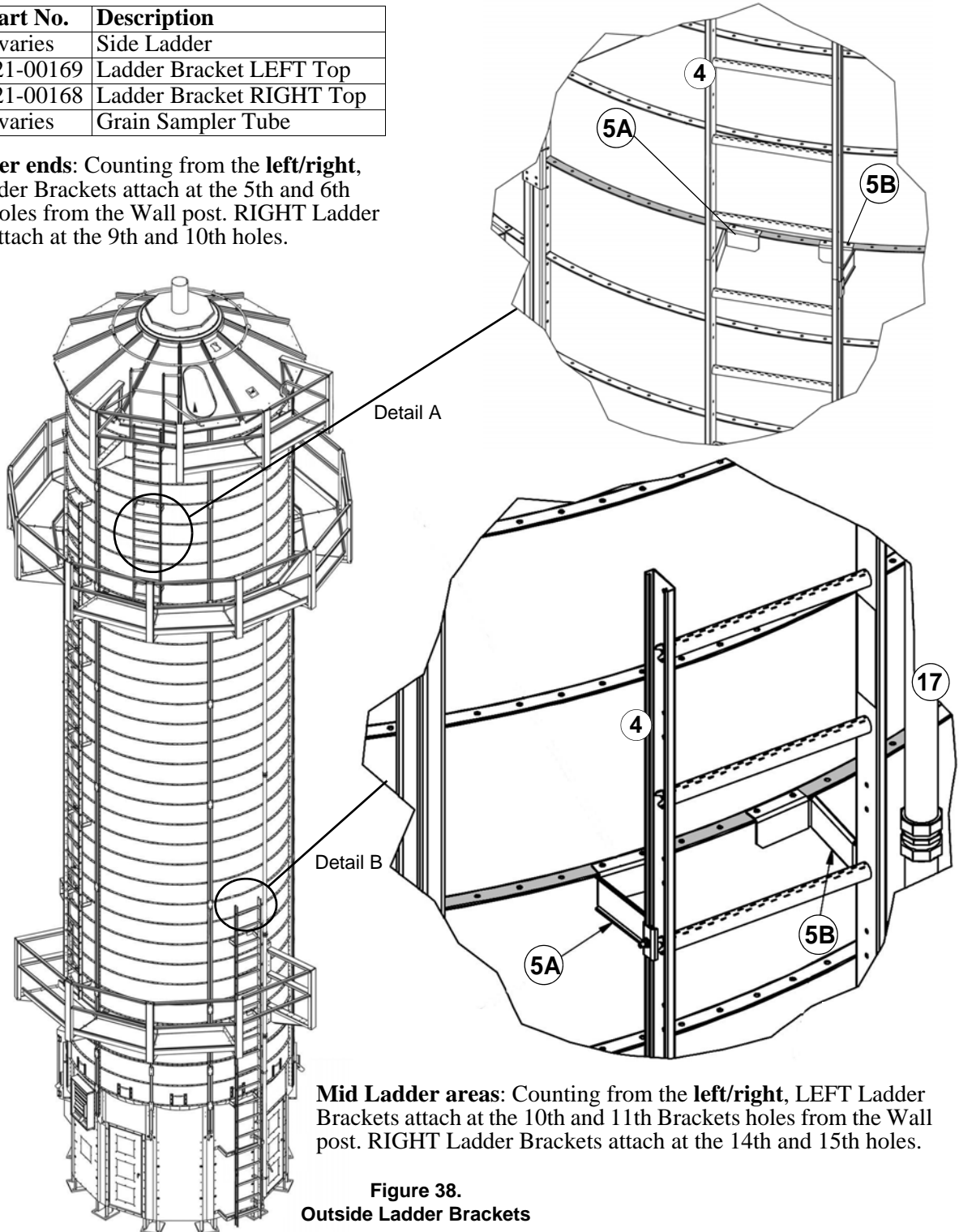
IMPORTANT!

Ladder installations **MUST** use all specified connecting Brackets to maintain **SAFETY**. Failure to follow specific Hardware instructions during assembly could result in serious operator injury and /or structural damage.

Install all Ladder sections with the **ROUGH** side of the rungs facing **UPWARD** and with **DANGER** Decals right-side-up at the bottom of each Ladder section.

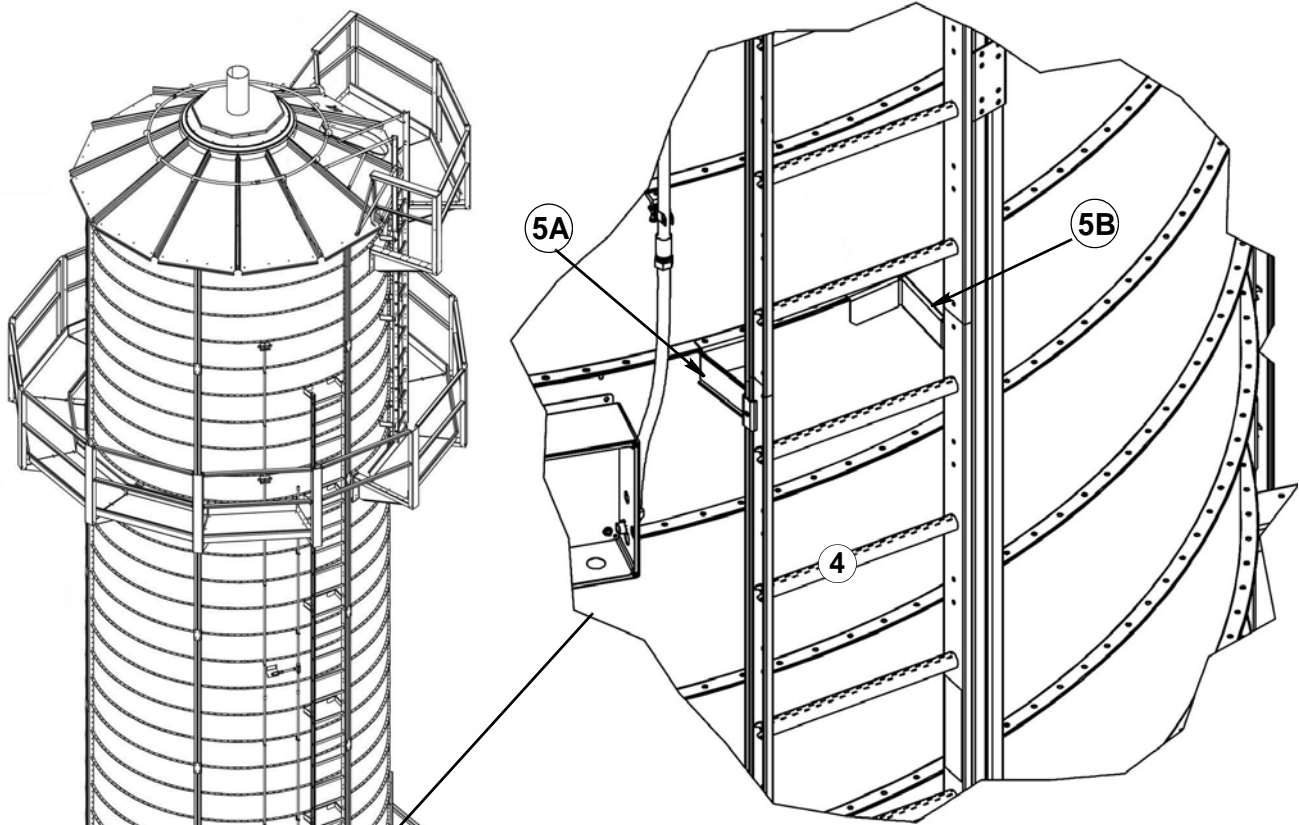
Item	Part No.	Description
4	varies	Side Ladder
5A	3121-00169	Ladder Bracket LEFT Top
5B	3121-00168	Ladder Bracket RIGHT Top
17	varies	Grain Sampler Tube

Top Ladder ends: Counting from the left/right, LEFT Ladder Brackets attach at the 5th and 6th Brackets holes from the Wall post. RIGHT Ladder Brackets attach at the 9th and 10th holes.



Mid Ladder areas: Counting from the left/right, LEFT Ladder Brackets attach at the 10th and 11th Brackets holes from the Wall post. RIGHT Ladder Brackets attach at the 14th and 15th holes.

Figure 38.
Outside Ladder Brackets



Ladder area at the upper JIC Box: Counting from the left/right, LEFT Ladder Brackets attach at the 3rd and 4th Brackets holes from the Wall post. RIGHT Ladder Brackets attach at the 7th and 8th holes.

Item	Part No.	Description
4	varies	Side Ladder
5A	3121-00169	Ladder Bracket LEFT Top
5B	3121-00168	Ladder Bracket RIGHT Top

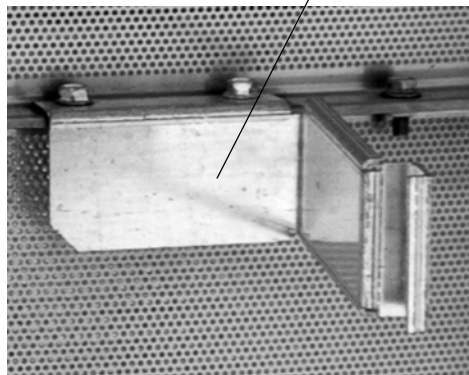
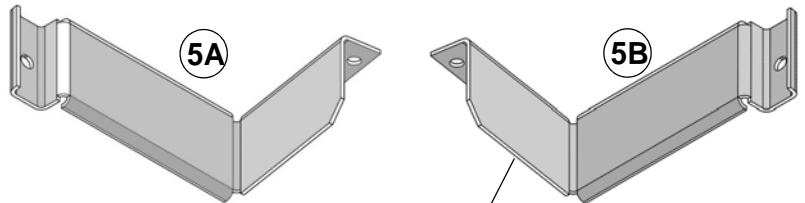
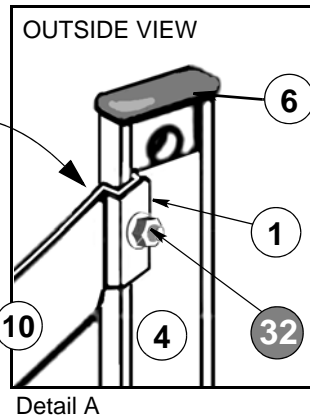


Figure 39.
Outside Ladder Brackets

Ladder-and-Cage Sections

Ladder-and-Cage Sections are installed approximately every 44" [1 118].

Connect the Hoop ends to the **front** side of the Ladder Extension Rail (refer to Page 31) with Locking Clip assemblies (Item 1), secured on the outside with Flange Nuts.



Hoop Halves

The Cage is begun by joining two (2) Hoop Halves (Item 10), **even with the top** of the Ladder Extension Rails, **above** the Eave. See **Detail A**.

Overlap the Hoop Halves by aligning the three front holes. See **Detail B**. Connect with 5/16 x 3/4" Hex Head Bin Seal Bolts, Bolt heads **inside**, and 5/16" Hex Nuts, leaving a Bolt out of the center hole. Tighten Bolts from the **head** side.

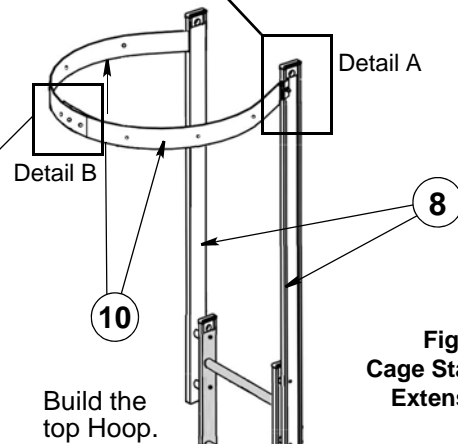
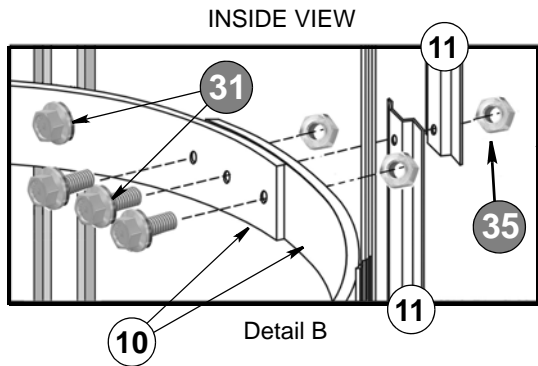


Figure 40. Cage Start at Top of Extension Rails

Item	Part No.	Description
1	U-23779	Locking Clip Assembly
4	varies	Ladder Section
6	U-24016	Ladder Cap
8	U-24142	Extension Rail 54" [1 372] O.A.
10	U-23777	Cage Hoop Half
11	432615	Cage Channel 45" [1 143]
31	39-20072	Bolt, 5/16 x 3/4" BS Gr. 8.2
32	39-20152	5/16" Flange Nut
35	39-20020	5/16" Hex Nut

Build the top Hoop.

Build the second Hoop.

Once there are two (2) complete Hoops, they can be connected with Cage Channel:

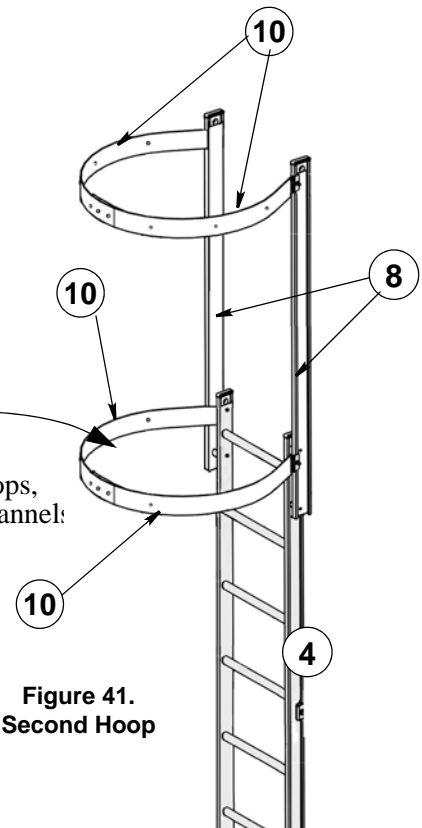


Figure 41. Second Hoop

Cage Channels

Vertical Cage Channels (Item 11) are shipped in bundles of eight (8). The Cage has seven (7) Channels around.

Channels connect **outside** the Hoop Halves with the same hardware as above, Bolt heads **inside**. Tighten Bolts from the **head** side. Field-cut Channels as needed.

Item	Part No.	Description
1	U-23779	Locking Clip Assembly
3	U-23774	Ladder Rail Splicer
4	varies	Ladder Section
6	U-24016	Ladder Cap
10	U-23777	Cage Hoop Half
11	432615	Cage Channel 45" [1 143]
31	39-20072	Bolt, 5/16 x 3/4" BS Gr. 8.2
32	39-20152	5/16" Flange Nut
35	39-20020	5/16" Hex Nut

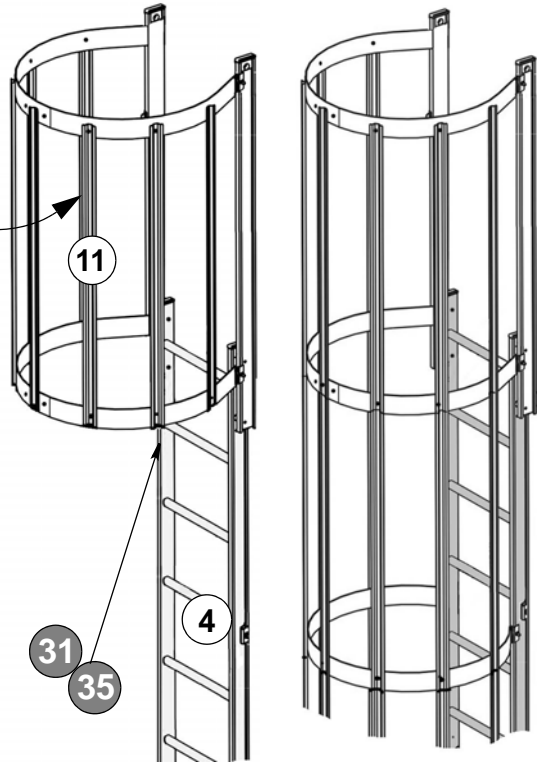


Figure 42.
Building the Cage with Hoop Halves and Channels

Continue building the Ladder and Cage downward. Ladder Sections are bolted together using Ladder Rail Splicers U-23774 (Item 3), 5/16 x 3/4" Gr. 5 Hex Head Bolts and Flange Nuts (Items 3 and 4).

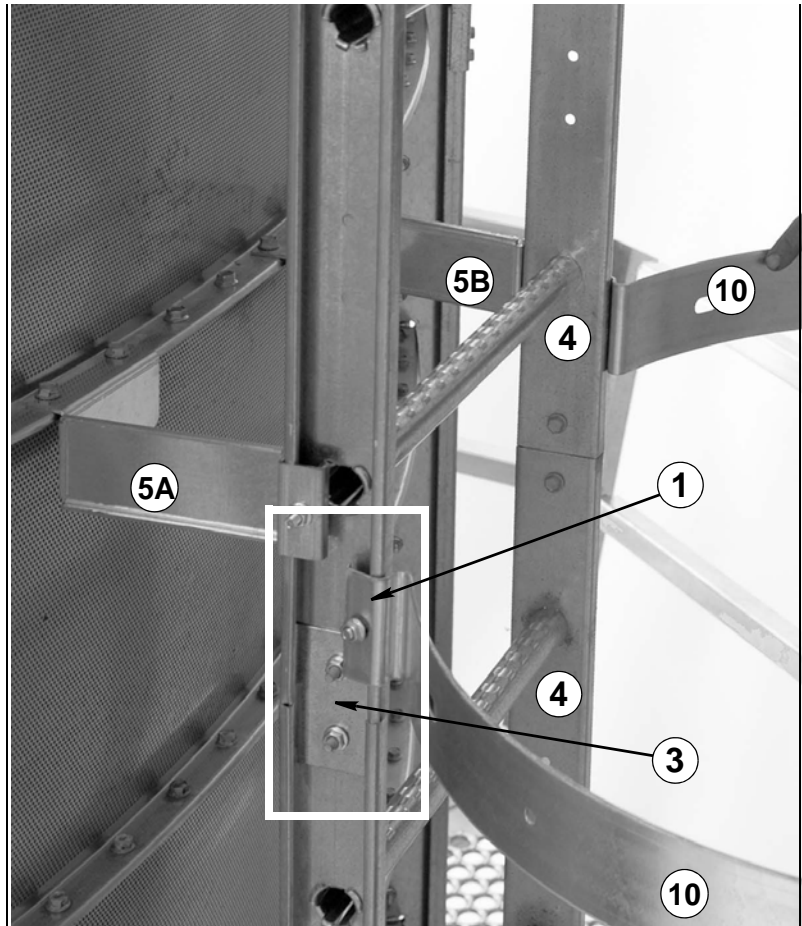
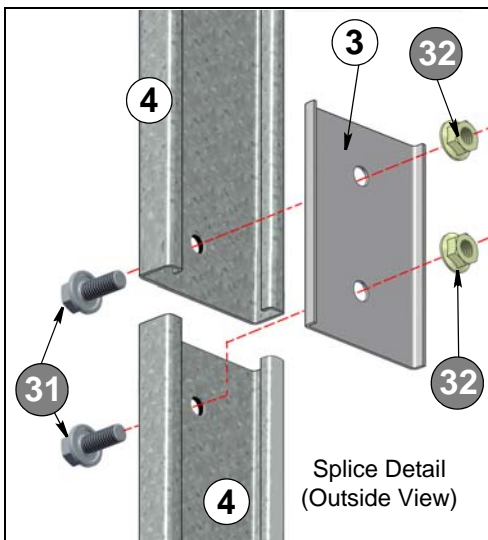
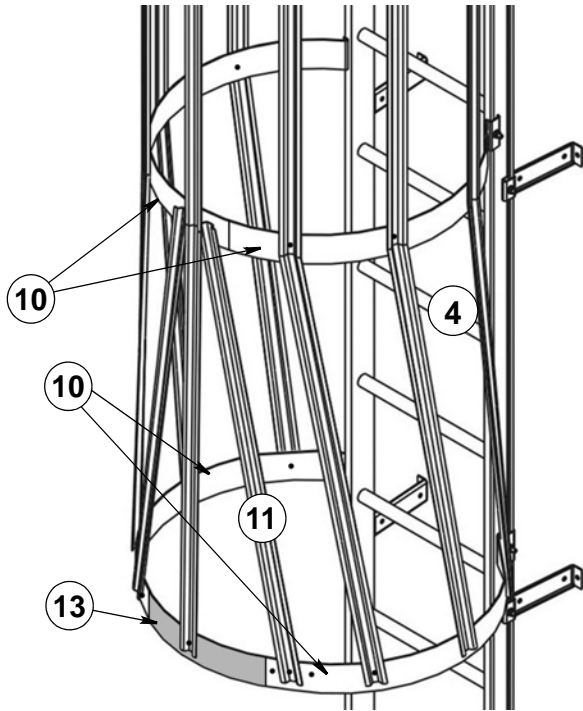


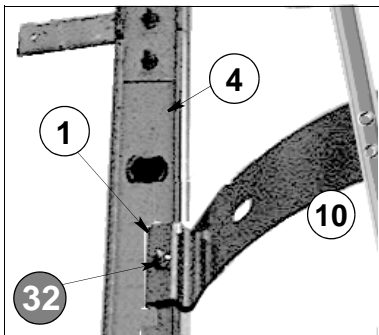
Figure 43.
Outside Ladder Brackets

Bottom Flared Cage Section

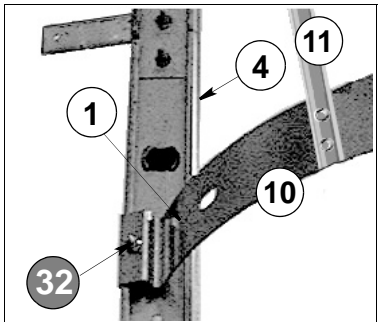
Build the bottom Flare Hoop by connecting the two (2) Hoop Halves (Item 10) with an Expander section (Item 13) in between, using 5/16 x 3/4" Hex Head Bin Seal Bolts (heads inside) and Hex Nuts. The ends of bottom Hoop Halves attach to the **back** edge (next to the bin wall) of the Ladder Rail with a Locking Clip Assembly, with Bolt Heads **inside**.



Item	Part No.	Description
1	U-23779	Locking Clip Assembly
4	varies	Ladder Section
6	U-24016	Ladder Cap
10	U-23777	Cage Hoop Half
11	432615	Cage Channel 45" [1 143]
13	U-24021	Cage Hoop Expander
31	39-20072	Bolt, 5/16 x 3/4" BS Gr. 8.2
32	39-20152	5/16" Flange Nut
35	39-20020	5/16" Hex Nut



TOP HOOP CONNECTION DETAIL



FLARE HOOP CONNECTION DETAIL

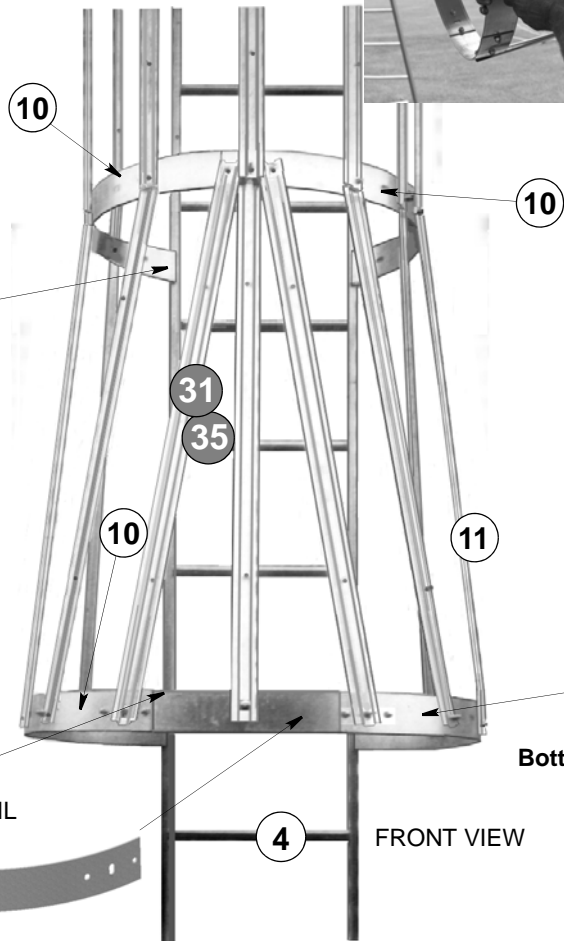


Figure 44.
Bottom Flared Section

FRONT VIEW

Outside Bottom Ladder (May Be Pre-Installed)

The Ladder section on the Unload Base Module will be needed for access throughout the installation.

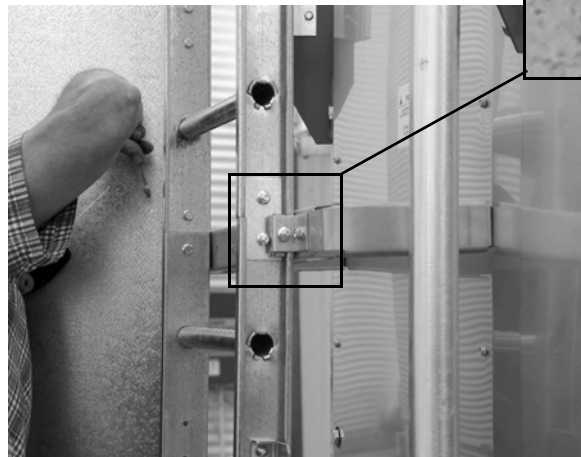
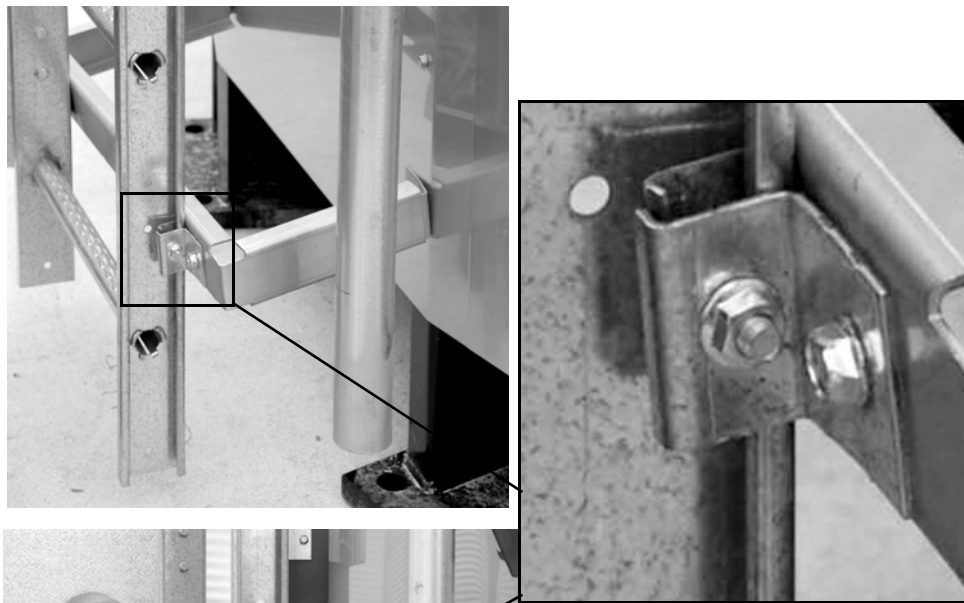
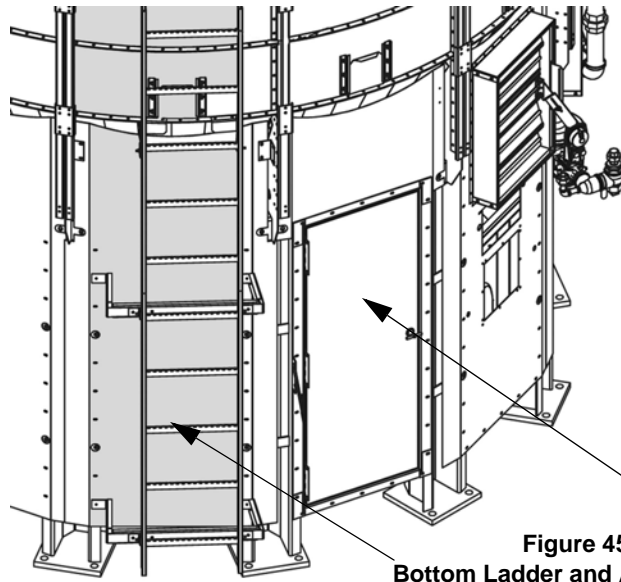


Figure 46.
Bottom Ladder at Unload Module

Locking Ladder Door Assembly 9-41037



Install locking devices to reduce the risk of unauthorized access at tower points of entry.

This Door is installed on the bottom Outside Ladder section at the Unload. Plan whether your Ladder Door is to be LEFT- or RIGHT-opening **before** attaching the Door assembly to the Ladder. The Door may be secured with a padlock (not included).



Figure 47.
Locking Ladder Door
9-41037

1. Bolt the Upper and Lower Hinge Assemblies (Item 2) to the Door (Item 1) with two 5/8" Carriage Bolts (Item 5) (heads **outside**) and Lock Nuts (Item 8) **inside**. See **Detail A** at right.
2. Install the Handle (Item 4) on the Door with two 5/16" Bin Seal Bolts (Item 7), heads **outside** and Lock Nuts (Item 8) **inside**.
3. Bolt the two Hinge Assemblies to the Ladder Rail with two 5/16" Hex Head Bolts (Item 6), heads toward **inside** of the Ladder, and Lock Nuts (Item 8). See **Detail A**.
4. Bolt the Lock Bracket (Item 3) to the opposite Ladder Rail. It is installed either above or below the Door Handle. Use two 5/16" Hex Head Bolts (Item 6), heads **inside** the Ladder, and Lock Nuts (Item 8). The Lock Bracket flange should be turned toward the back (bin side) of the Ladder, to line up with one of the round holes in the Door.

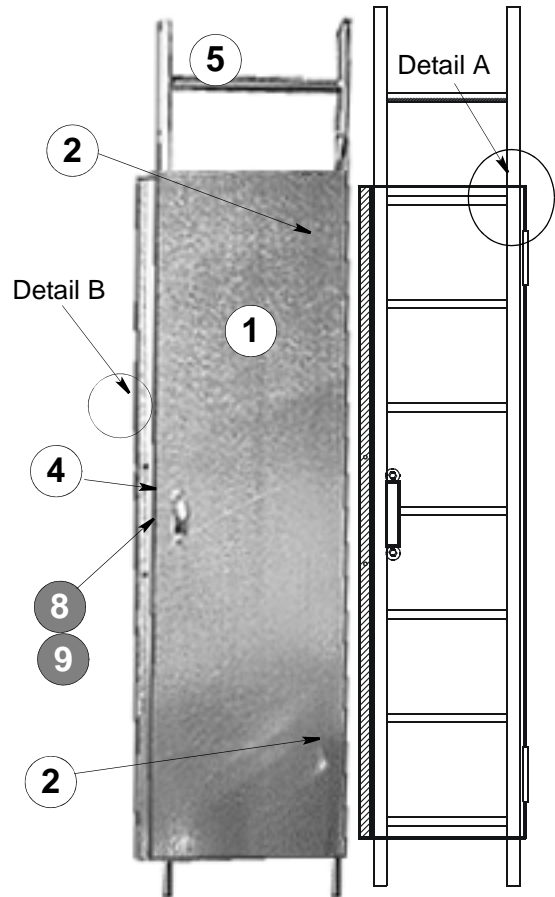
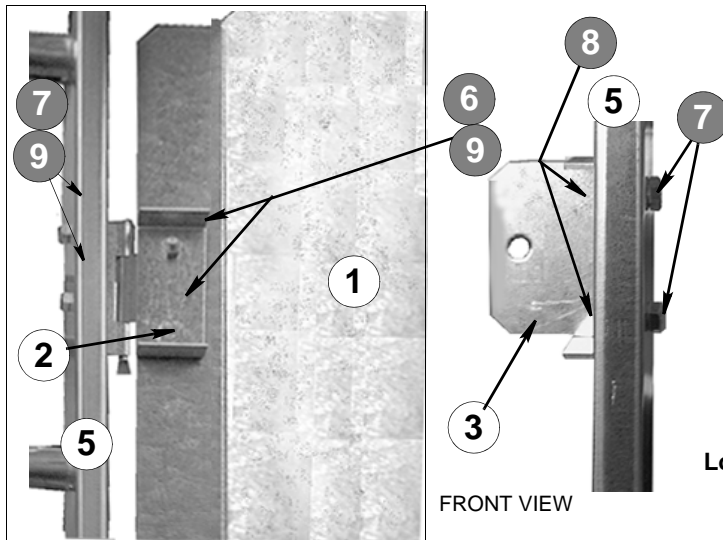


Figure 48.
Locking Ladder Door

Item	Part No.	Description	Qty.
1	9-41007	Door, Bin Ladder	1
2	9-41034	Hinge Assembly	2
3	9-41006	Bracket	1
4	3-12194	Handle	1
5		Ladder	
6	8282	5/16 - 18 x 5/8" Carriage Bolt, Gr. 5	4
7	4412-1	5/16 - 18 x 5/8" Hex Head Bolt, Gr. 5	6
8	39-20072	5/16 - 18 x 3/4" Bin Seal Bolt, Gr. 8.2	2
9	39-20024	5/16" - 18 Lock Nut	12



Item	Part No.	Tie-Back Hardware	Qty.
B		Dryer Sidewall	1
D		Door (open)	1
1	3-11214	Chain	2'
2	4270	S-Hook	2
3	3-11212	Spring Extension	1
4	39-20120	5/16" Eyebolt	1
5	39-20155	5/16" Weatherseal Washer	1
6	39-20020	5/16" Hex Nut	2

Figure 49.
Lock Bracket Detail

Tie-Back Installation:

The Door in its “open” position uses a Tie-Back Chain/Spring assembly.

1. Attach an S-Hook to each end of the Tie-Back Chain. Put one S-Hook in a Lock hole in the Door. Adjust length and tension.
2. Locate the bin vertical seam **nearest the hinge side** of the Ladder, (or field-drill a hole nearer the Ladder). In feed bins, use any available hole in a Ladder Standoff Rail, X-Brace, or Leg.
3. **Replace** regular seam hardware, from the **outside**, with: the Eyebolt, 5/16" Hex Nut, and Weatherseal Washer. Use a second Hex Nut inside.

To lock, close the Door. Insert a padlock or locking device (not provided).

To reduce the risk of unauthorized entry to the Dryer, the Owner/Operator should install PADLOCKS wherever appropriate, especially on Access Doors in the Cooling Floor / Plenum, the Roof Manhole, and any other point of entry. Install Locks on Electrical Cabinets and the Disconnect Handle.

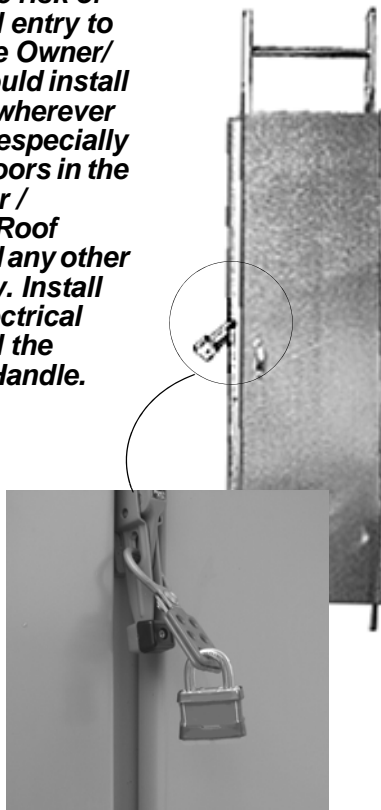


Figure 51.
Padlock Suggestion (Owner-Supplied) for Locking Ladder Door and Disconnect Handle

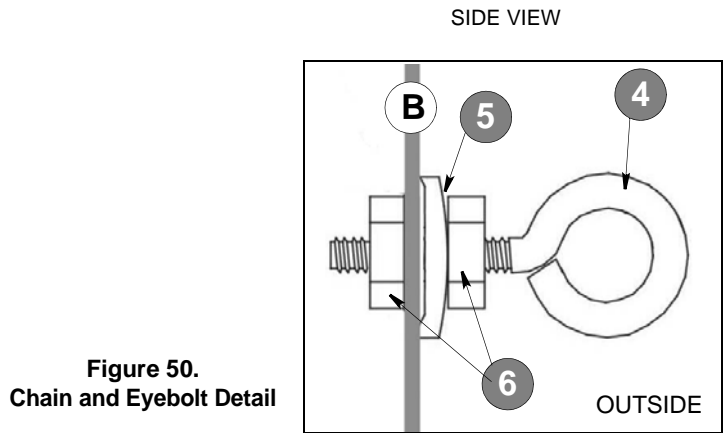
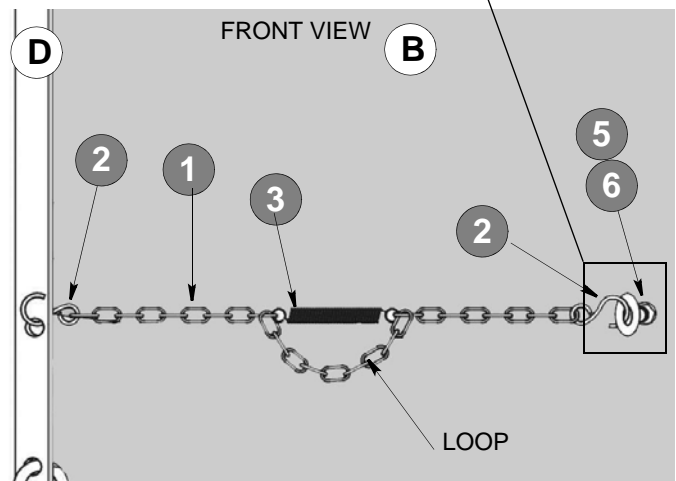


Figure 50.
Chain and Eyebolt Detail



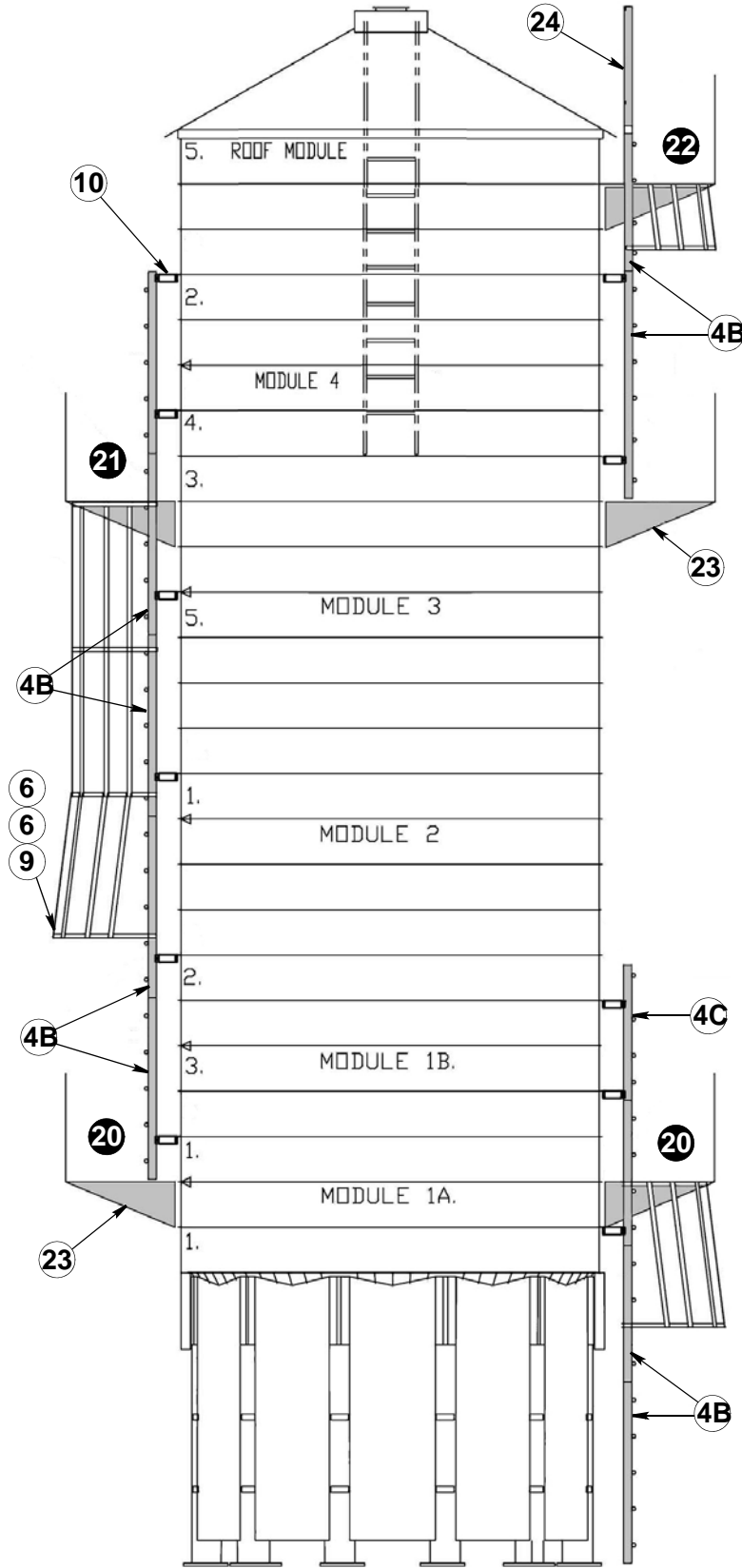
Diagrams: Outside Walkways and Ladder-and-Cage

Outside Ladder-and-Cage Packages

Tower Description	Part No.
ME1000 with 1 Level Walkway	3121-00084
ME1200 with 1 Level Walkway	3121-00085
ME1200 with 2 or 3 Level Walkways	3121-00163
ME1400 with 1 Level Walkway	3121-00165
ME1400 with 2 or 3 Level Walkways	3121-00166
ME1600 with 1 Level Walkway	3121-00087
ME1600 with 2 or 3 Level Walkways	3121-00112
ME1800 with 2 Level Walkways	3121-00088
ME1800 with 3 Level Walkways	3121-00179
ME2000 with 2 Level Walkways	3121-00089
ME2000 with 3 Level Walkways	3121-00113
ME2000 with 4 Level Walkways	3121-00185
ME2400 with 3 or 4 Level Walkways	3121-00091
ME2400 with 5 Level Walkways	3121-00043
ME2650 with 3 Level Walkways	3121-00176
ME2650 with 4 Level Walkways	3121-00178
ME2650 with 5 Level Walkways	3154-00184

MEYER® Model:		1000	1200		1400		1600		1800		2000		2400	2650		
Outside Ladder Package Kit No.		3121-00084	3121-00085	3121-00163	3121-00165	3121-00166	3121-00087	3121-00112	3121-00088	3121-00179	3121-00089	3121-00113	3121-00185	3121-00091	3121-00176	3121-00178
Number of Tower Walkway Levels		1	1	2 or 3	1	2 or 3	1	2 or 3	2	3	2	3	4	3 or 4	3	4
U-23777	Cage Hoop Half															
U-24021	Cage Hoop Expander															
292878	Channel Bundle of 8															
9-40969	Kit, Ladder Cage Extension															
3121-00168	Ladder Standoff Bracket-RIGHT	3	3	4	4	4	5	6	10	8	10	10	11	13	15	15
3121-00169	Ladder Standoff Bracket-LEFT	3	3	4	4	4	5	6	10	8	10	10	11	13	15	15
U-23779	Locking Clip Assembly	6	6	8	8	8	10	12	14	10	14	14	22	14	14	12
U-23774	Ladder Rail Splicer	2	2	4	4	4	6	4	6	4	6	6	8	8	8	8
U-00006	6' Ladder Assembly						1	3	3	3	3	3		1	2	2
U-00005	5' Ladder Assembly	2	2	3	3	3	1	2	2		2	2	6	3	1	1
U-00004	4' Ladder Assembly						2						2	2	3	2
*2363-00006	Nut, 5/16"-18 Flange HWH Serr.	10	10	16	16	16	22	20	26	18	26	16	26		30	28
*2320-00004	Bolt, 5/16-18 x 1" HWH Whizlock zc	4	4	8	8	8	12	8	12	8	12	12	12		16	16
* Additional quantities in Ship Loose Bolt Kit below																
Ship Loose Kits																
U-23777	Cage Hoop Half	16	18	18	22	20	24	20	24	24	28	28	28	30	32	32
U-24021	Cage Hoop Expander	3	3	4	3	4	3	4	3	4	4	5	6	5	5	6
292878	Channel Bundle of 8	5	6	5	8	6	9	6	8	6	10	9	8	10	11	11
9-40969	Kit, Ladder Cage Extension	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3121-00168	Ladder Standoff Bracket-RIGHT	8	9	8	8	8	8	8	6	6	7	7	12	8	6	7
3121-00169	Ladder Standoff Bracket-LEFT	8	9	8	8	8	8	8	6	6	7	7	12	8	6	7
U-23779	Locking Clip Assembly	32	36	34	38	36	40	36	42	42	48	48	52	58	60	64
U-23774	Ladder Rail Splicer	10	14	12	12	12	14	14	12	14	16	16	18	18	20	20
U-00006	6' Ladder Assembly	1			1	2		1	2	2	3	3	2	3	1	1
U-00005	5' Ladder Assembly	5	5	4	6	5	6	4	4	5	2	2	5	7	8	10
U-00004	4' Ladder Assembly		3	3			2	3	1	1	4	4		1	3	3
3165-00046	Bottom Ladder (for Unload Module)	1	1	1	1	1	1	1	1	1	1	1	4	1	1	1
3154-00033G01	Ship Loose Bolt Kit	G01	G01	G02/11	G01	G02	G03	G03	G05	G06/13	G07	G08	G17			
2363-00006	Nut, 5/16"-18 Flange HWH Serr.	122	142	138	164	154	165	159	168	174	231	210	190	177	275	300
2320-00004	Bolt, 5/16-18 x 1" HWH Whizlock zc	90	106	104	126	118	125	159	126	132	181	160	163	177	170	200

ME1000S



Item	Part No.	Description
4A	U-00004	4' [1 219] Ladder Section
4B	U-00005	5' [1 524] Ladder Section
4B*	U-00005	5' [1 524] Ladder Section (called out, loose assy.)
6	U-23777	Cage Hoop (Half)
7	432615	Cage Channel 45" [1143]
8		Cage Channel 22"
9	U-24021	Cage Hoop Expander
10	varies	Side Ladder Bracket
20	3121-00120	Partial Walkway
21	3121-00052	Full Walkway
22	3121-00175	Eave Platform
23	3121-00034	Walkway Arm
24		Walk-Through
25		Leg 1" Ladder Position
26	varies	Inside ladder

Figure 52.
Outside Ladders and Cages on ME1000S
with 1 Level Catwalk
(3121-00084)

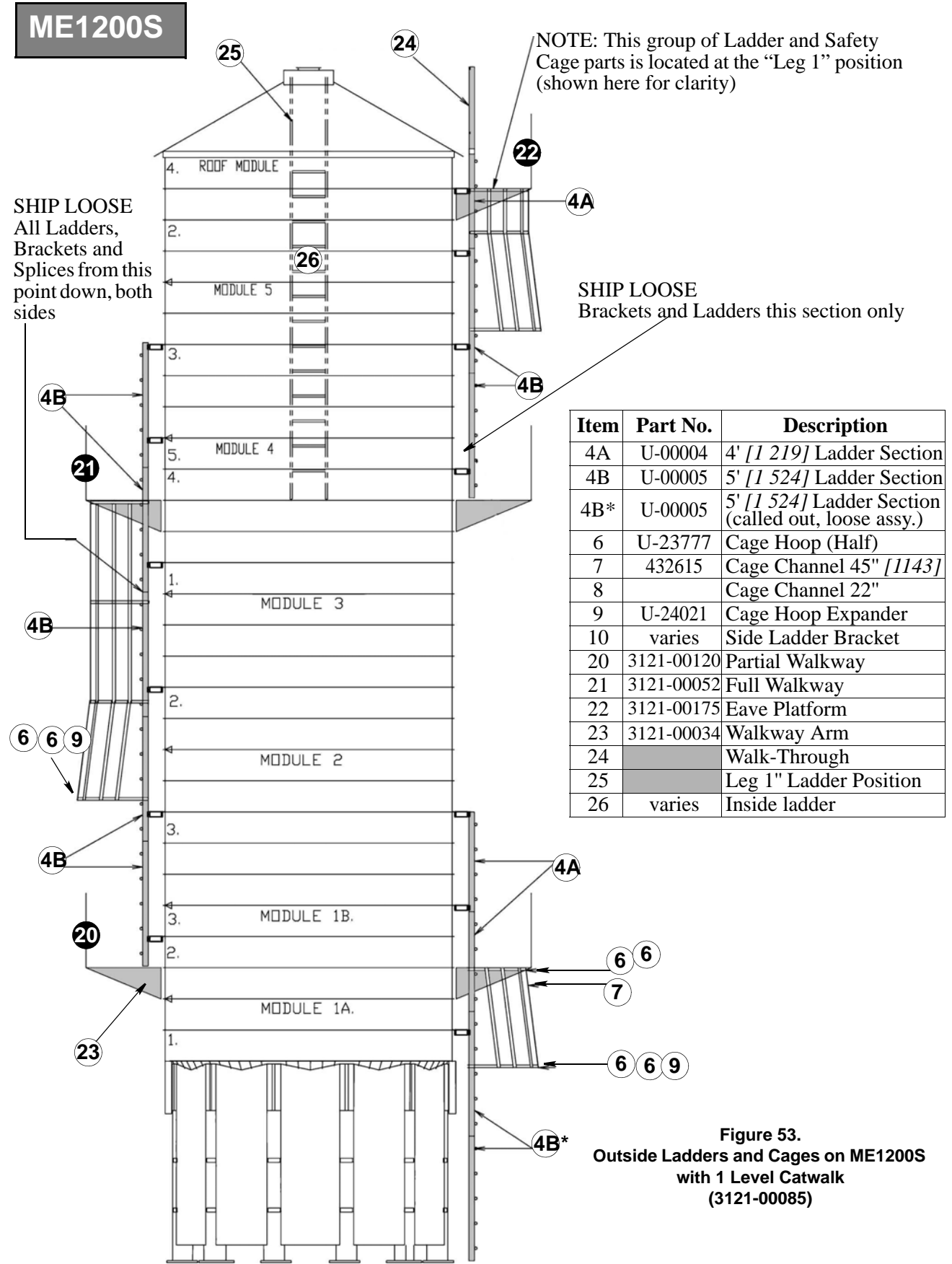


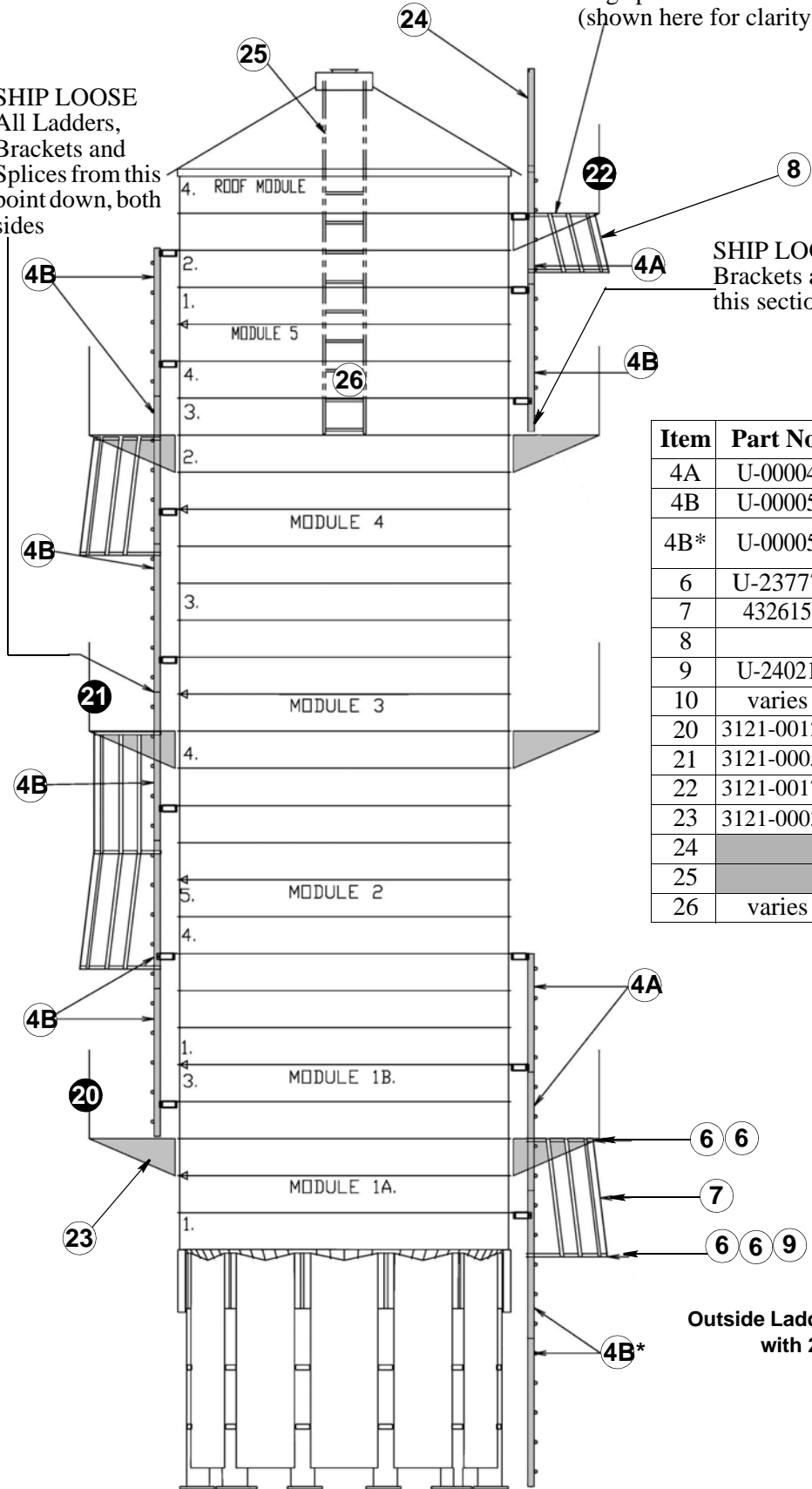
Figure 53.
Outside Ladders and Cages on ME1200S
with 1 Level Catwalk
(3121-00085)

ME1200S

NOTE: This group of Ladder and Safety Cage parts is located at the "Leg 1" position (shown here for clarity)

SHIP LOOSE
All Ladders,
Brackets and
Splices from this
point down, both
sides

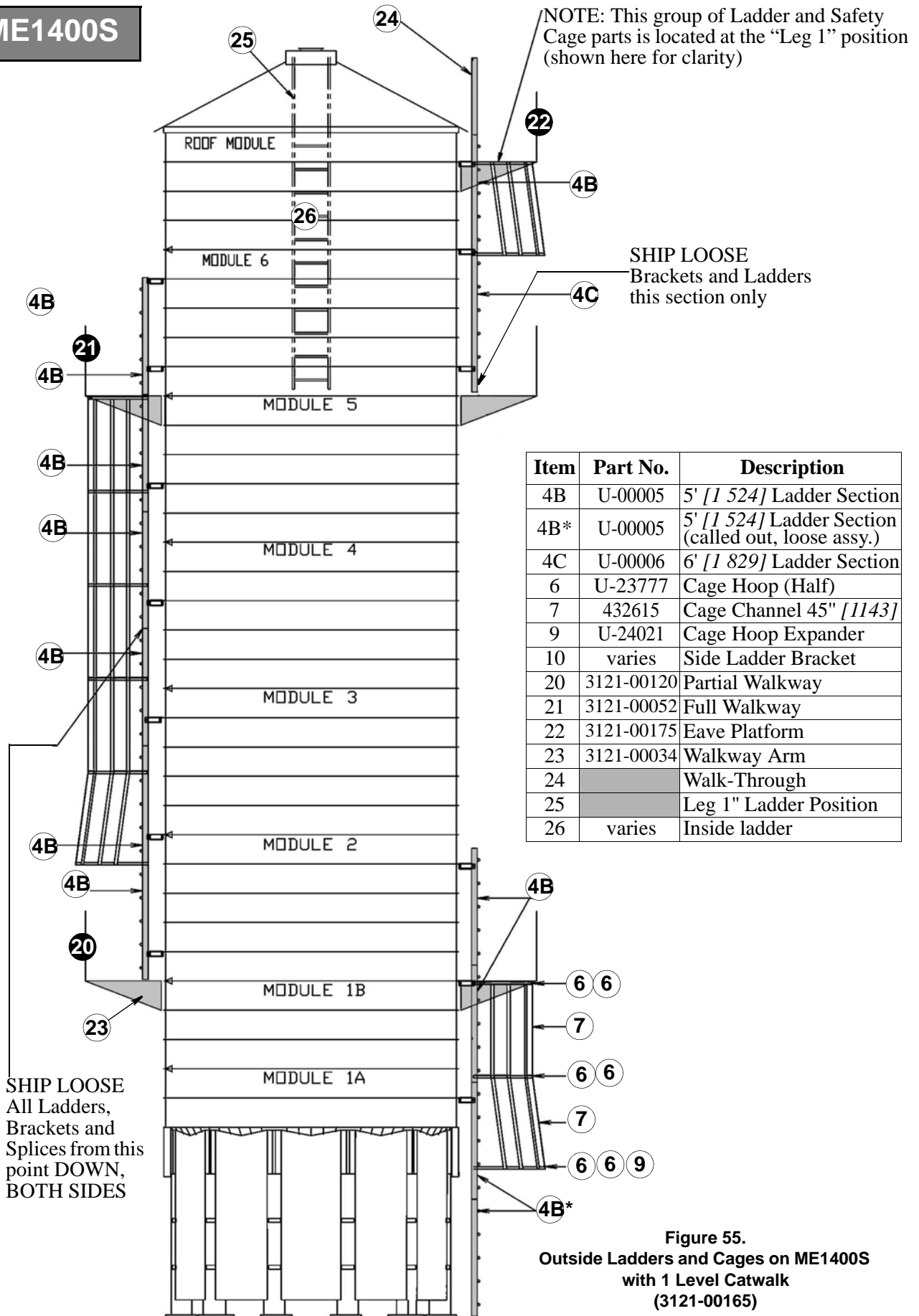
SHIP LOOSE
Brackets and Ladders
this section only



Item	Part No.	Description
4A	U-00004	4' [1 219] Ladder Section
4B	U-00005	5' [1 524] Ladder Section
4B*	U-00005	5' [1 524] Ladder Section (called out, loose assy.)
6	U-23777	Cage Hoop (Half)
7	432615	Cage Channel 45" [1143]
8		Cage Channel 22"
9	U-24021	Cage Hoop Expander
10	varies	Side Ladder Bracket
20	3121-00120	Partial Walkway
21	3121-00052	Full Walkway
22	3121-00175	Eave Platform
23	3121-00034	Walkway Arm
24		Walk-Through
25		Leg 1" Ladder Position
26	varies	Inside ladder

Figure 54.
Outside Ladders and Cages on ME1200S
with 2 or 3 Level Catwalks
(3121-00163)

ME1400S



Item	Part No.	Description
4B	U-00005	5' [1 524] Ladder Section
4B*	U-00005	5' [1 524] Ladder Section (called out, loose assy.)
4C	U-00006	6' [1 829] Ladder Section
6	U-23777	Cage Hoop (Half)
7	432615	Cage Channel 45" [1143]
9	U-24021	Cage Hoop Expander
10	varies	Side Ladder Bracket
20	3121-00120	Partial Walkway
21	3121-00052	Full Walkway
22	3121-00175	Eave Platform
23	3121-00034	Walkway Arm
24		Walk-Through
25		Leg 1" Ladder Position
26	varies	Inside ladder

Figure 55.
Outside Ladders and Cages on ME1400S
with 1 Level Catwalk
(3121-00165)

ME1400S

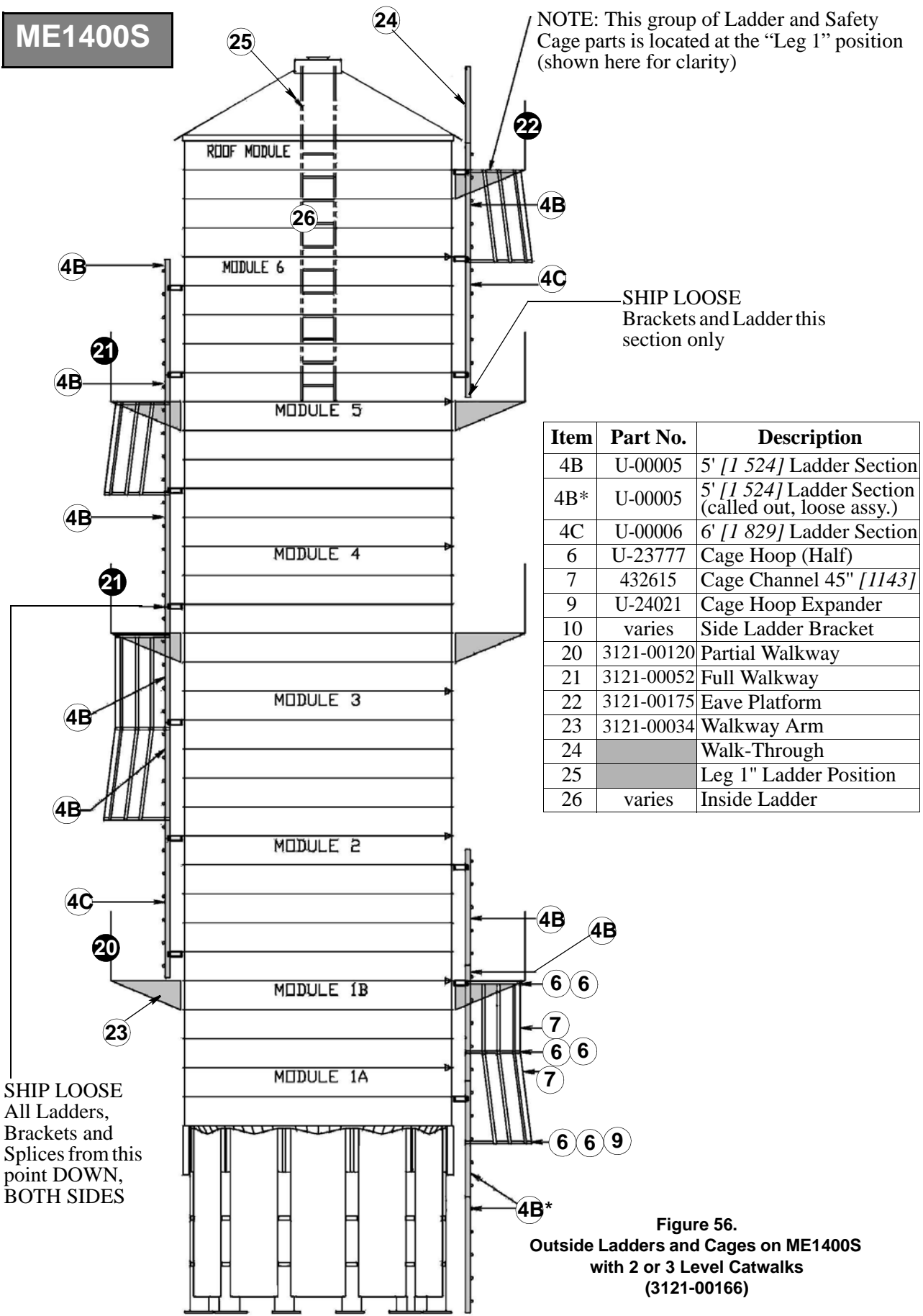
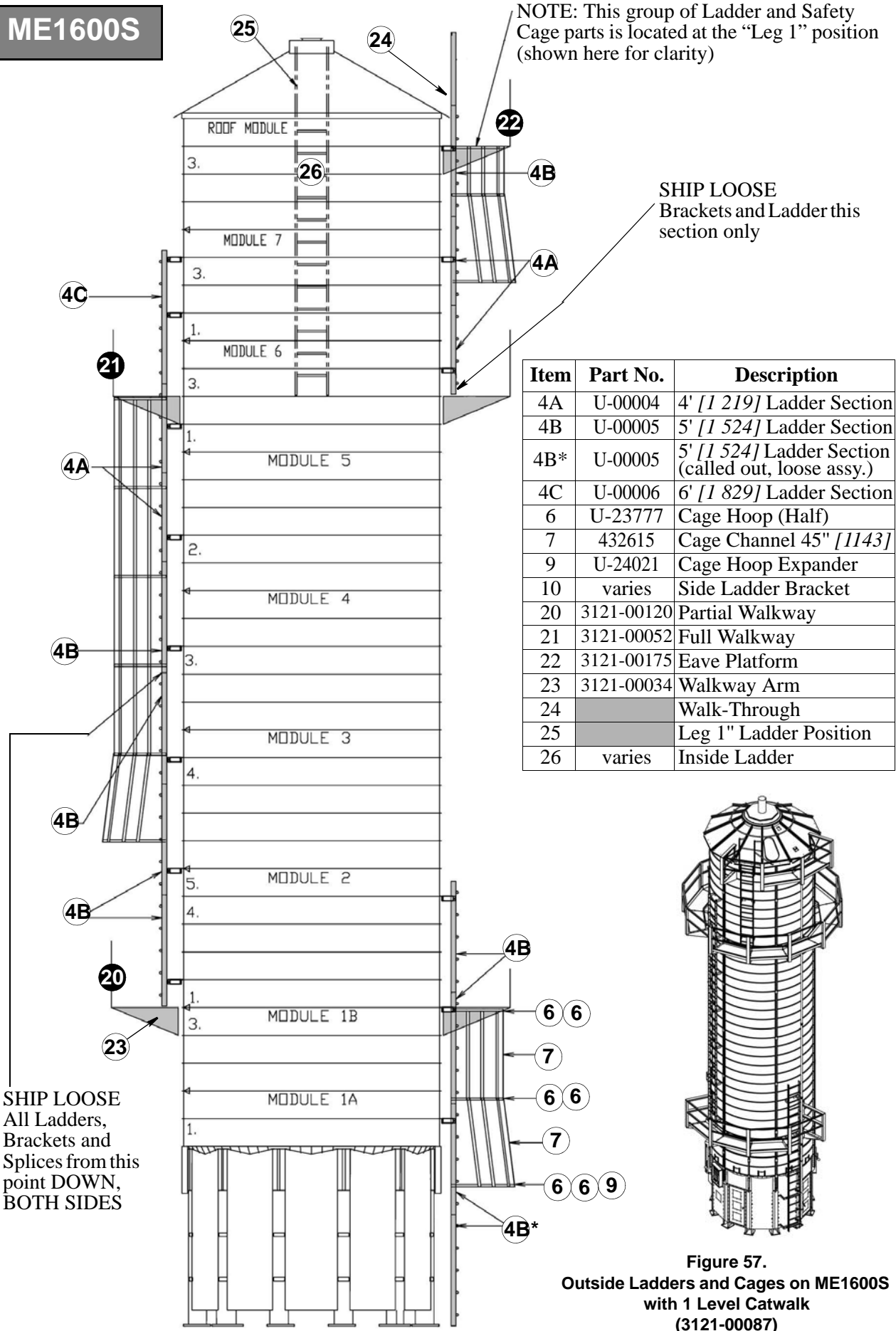


Figure 56.
Outside Ladders and Cages on ME1400S
with 2 or 3 Level Catwalks
(3121-00166)

ME1600S

NOTE: This group of Ladder and Safety Cage parts is located at the "Leg 1" position (shown here for clarity)



SHIP LOOSE
All Ladders,
Brackets and
Splices from this
point DOWN,
BOTH SIDES

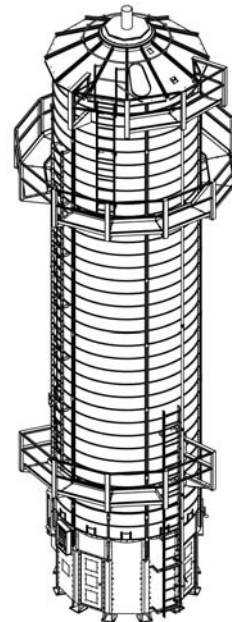


Figure 57.
Outside Ladders and Cages on ME1600S
with 1 Level Catwalk
(3121-00087)

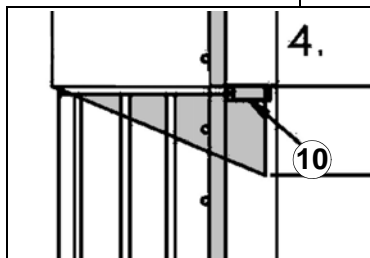
ME1600S

NOTE: This group of Ladder and Safety Cage parts is located at the "Leg 1" position (shown here for clarity)

SHIP LOOSE
Brackets and Ladder this section only

Item	Part No.	Description
4A		Ladder Section, 4'
4B	U-00005	5' [1 524] Ladder Section
4B*	U-00005	5' [1 524] Ladder Section (called out, loose assy.)
4C	U-00006	6' [1 829] Ladder Section
6	U-23777	Cage Hoop (Half)
7	432615	Cage Channel 45" [1143]
8		Cage Channel 22"
9	U-24021	Cage Hoop Expander
10	varies	Side Ladder Bracket
20	3121-00120	Partial Walkway
21	3121-00052	Full Walkway
22	3121-00175	Eave Platform
23	3121-00034	Walkway Arm
24		Walk-Through
25		Leg 1" Ladder Position
26	varies	Inside Ladder

SHIP LOOSE
All Ladders,
Brackets and
Splices from this
point DOWN,
BOTH SIDES



This Bracket to be installed on the Tower

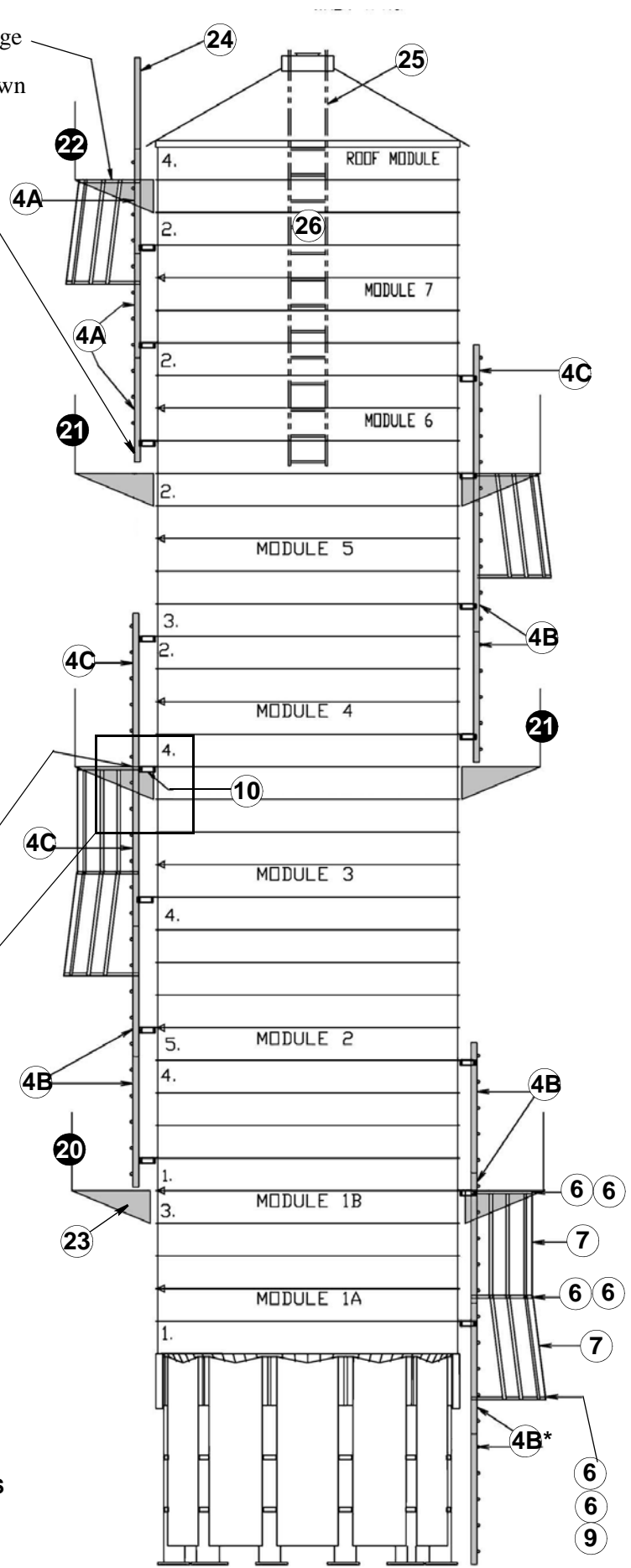
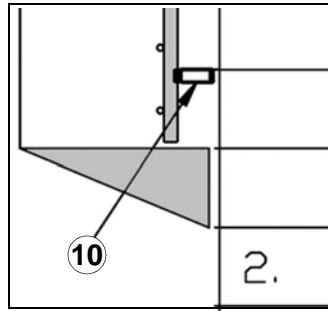


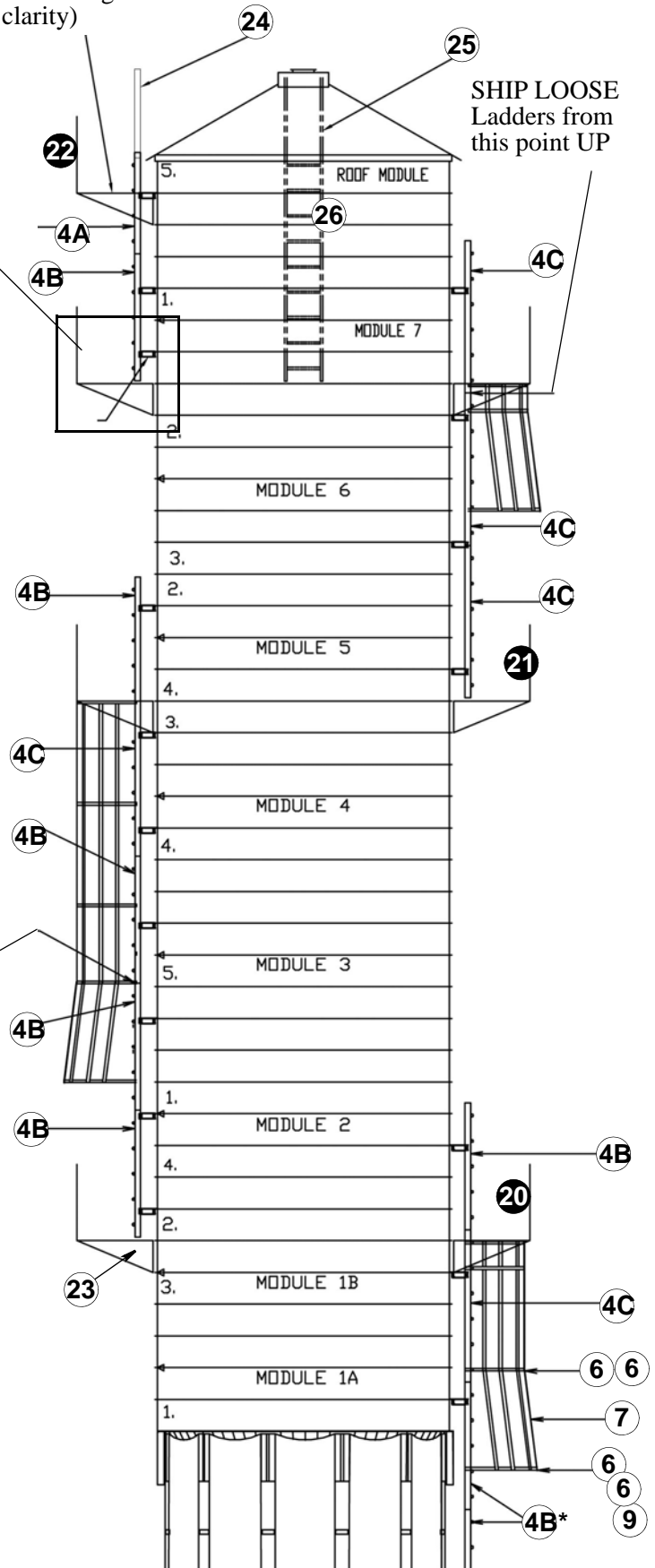
Figure 57.
Outside Ladders and Cages on ME1600S
with 2 or 3 Level Catwalks
(3121-00112)

ME1800S

NOTE: This group of Ladder and Safety Cage parts is located at the "Leg 1" position (shown here for clarity)



Item	Part No.	Description
4A		Ladder Section, 4'
4B	U-00005	5' [1 524] Ladder Section
4B*	U-00005	5' [1 524] Ladder Section (called out, loose assy.)
4C	U-00006	6' [1 829] Ladder Section
6	U-23777	Cage Hoop (Half)
7	432615	Cage Channel 45" [1143]
9	U-24021	Cage Hoop Expander
10	varies	Side Ladder Bracket
20	3121-00120	Partial Walkway
21	3121-00052	Full Walkway
22	3121-00175	Eave Platform
23	3121-00034	Walkway Arm
24		Walk-Through
25		Leg 1" Ladder Position
26	varies	Inside Ladder



SHIP LOOSE
All Ladders, Brackets
and Splices from this
point DOWN, BOTH
SIDES

Figure 58.
Outside Ladders and Cages on ME1800S
with 2 Level Catwalks
(3121-00088)

ME1800S

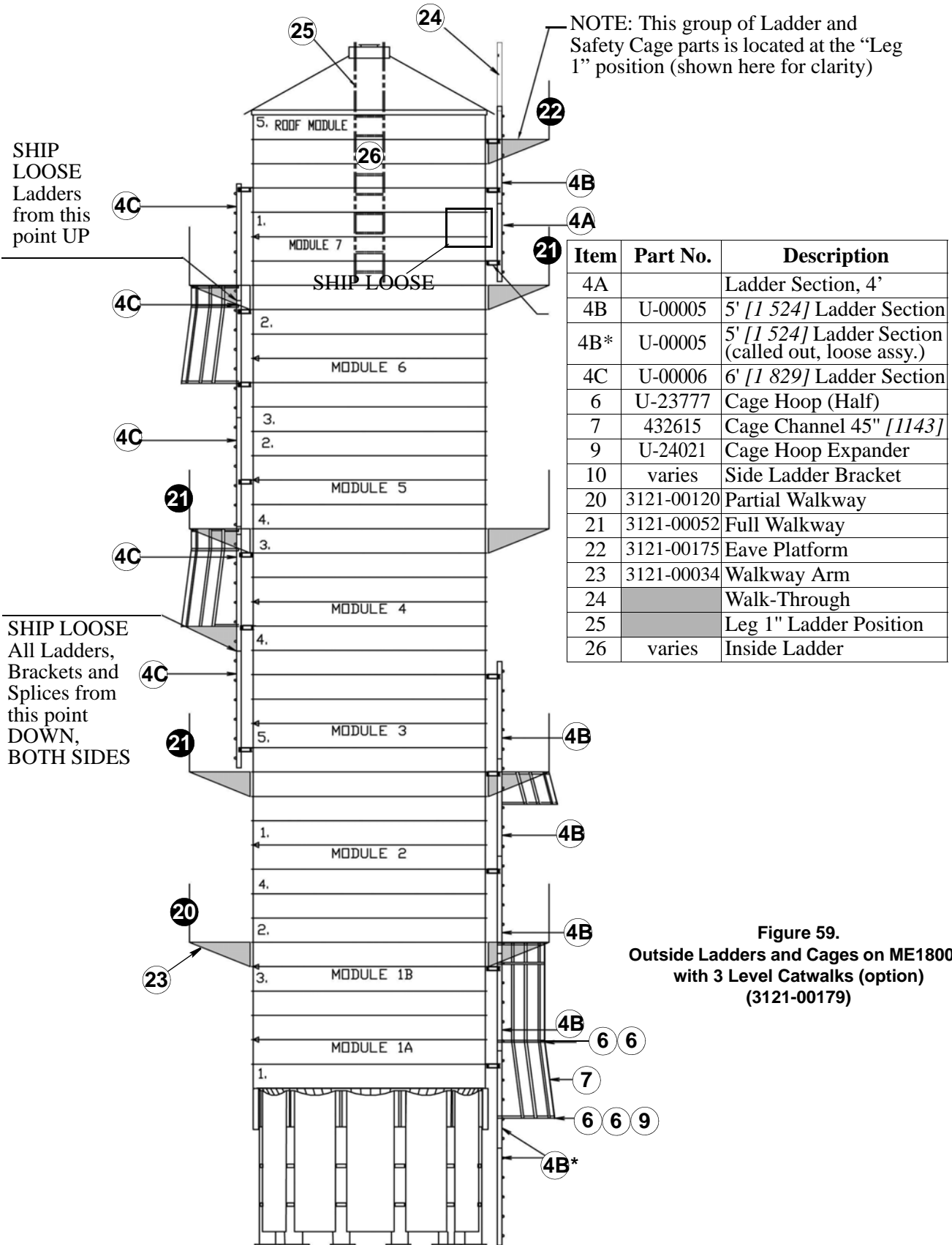
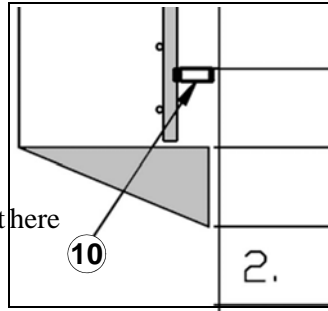


Figure 59.
Outside Ladders and Cages on ME1800S
with 3 Level Catwalks (option)
(3121-00179)

ME2000S

NOTE: This group of Ladder and Safety Cage parts is located at the "Leg 1" position (shown here for clarity)

SHIP LOOSE Ladder Bracket here



SHIP LOOSE Brackets and Ladders from this point UP, BOTH SIDES

Item	Part No.	Description
4A	U-00004	4' [1 219] Ladder Section
4B	U-00005	5' [1 524] Ladder Section
4B*	U-00005	5' [1 524] Ladder Section (called out, loose assy.)
4C	U-00006	6' [1 829] Ladder Section
6	U-23777	Cage Hoop (Half)
7	432615	Cage Channel 45" [1143]
8		Cage Channel 22"
9	U-24021	Cage Hoop Expander
10	varies	Side Ladder Bracket
20	3121-00120	Partial Walkway
21	3121-00052	Full Walkway
22	3121-00175	Eave Platform
23	3121-00034	Walkway Arm
24		Walk-Through
25		Leg 1" Ladder Position
26	varies	Inside Ladder

SHIP LOOSE All Ladders, Brackets and Splices from this point DOWN, BOTH

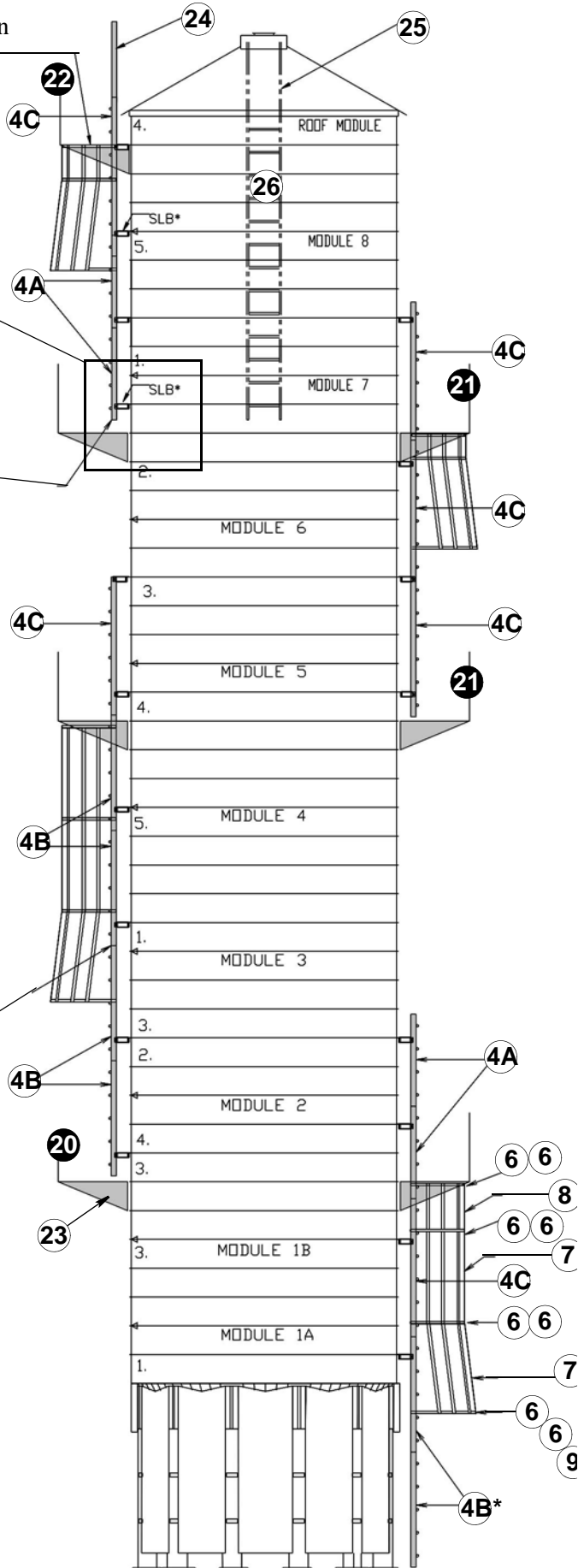
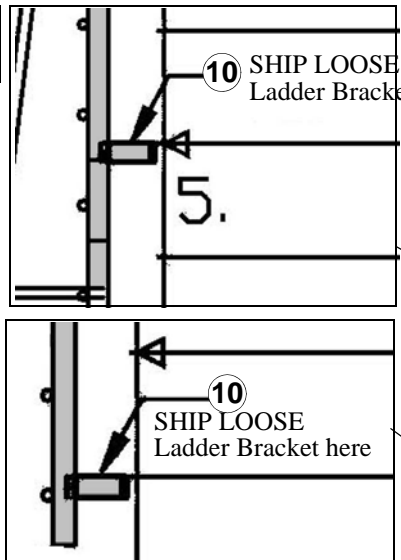


Figure 60.
Outside Ladders and Cages on ME2000S
with 2 Level Catwalks
(3121-00089)

ME2000S



SHIP LOOSE
All Ladders from this point UP,
BOTH SIDES

Item	Part No.	Description
4A	U-00004	4' [1 219] Ladder Section
4B	U-00005	5' [1 524] Ladder Section
4B*	U-00005	5' [1 524] Ladder Section (called out, loose assy.)
4C	U-00006	6' [1 829] Ladder Section
6	U-23777	Cage Hoop (Half)
7	432615	Cage Channel 45" [1143]
8		Cage Channel 22"
9	U-24021	Cage Hoop Expander
10	varies	Side Ladder Bracket
20	3121-00120	Partial Walkway
21	3121-00052	Full Walkway
22	3121-00175	Eave Platform
23	3121-00034	Walkway Arm
24		Walk-Through
25		Leg 1" Ladder Position
26	varies	Inside Ladder

SHIP LOOSE
All Ladders, Brackets
and Splices from this
point DOWN, BOTH
SIDES

NOTE: This group of Ladder and Safety Cage parts is located at the "Leg 1" position (shown here for clarity)

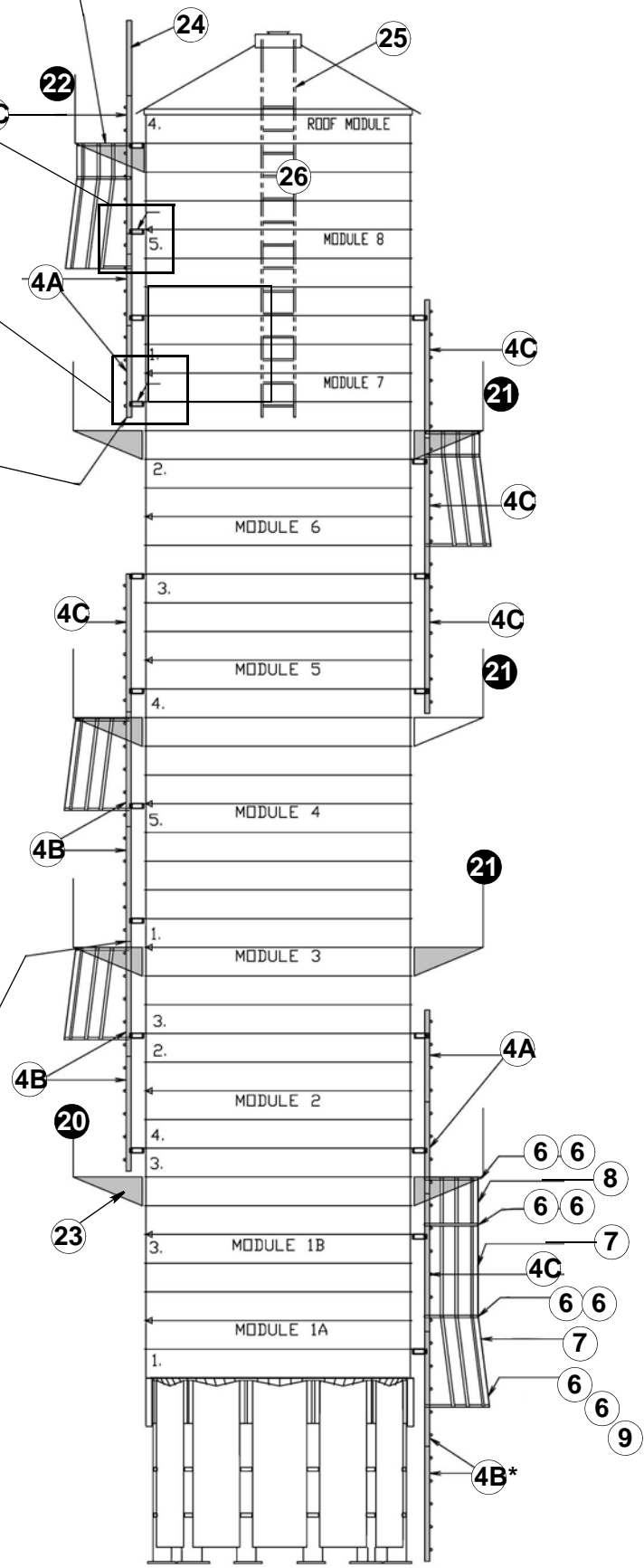


Figure 61.
Outside Ladders and Cages on ME2000S
with 3 Level Catwalks
(3121-00113)

ME2000S

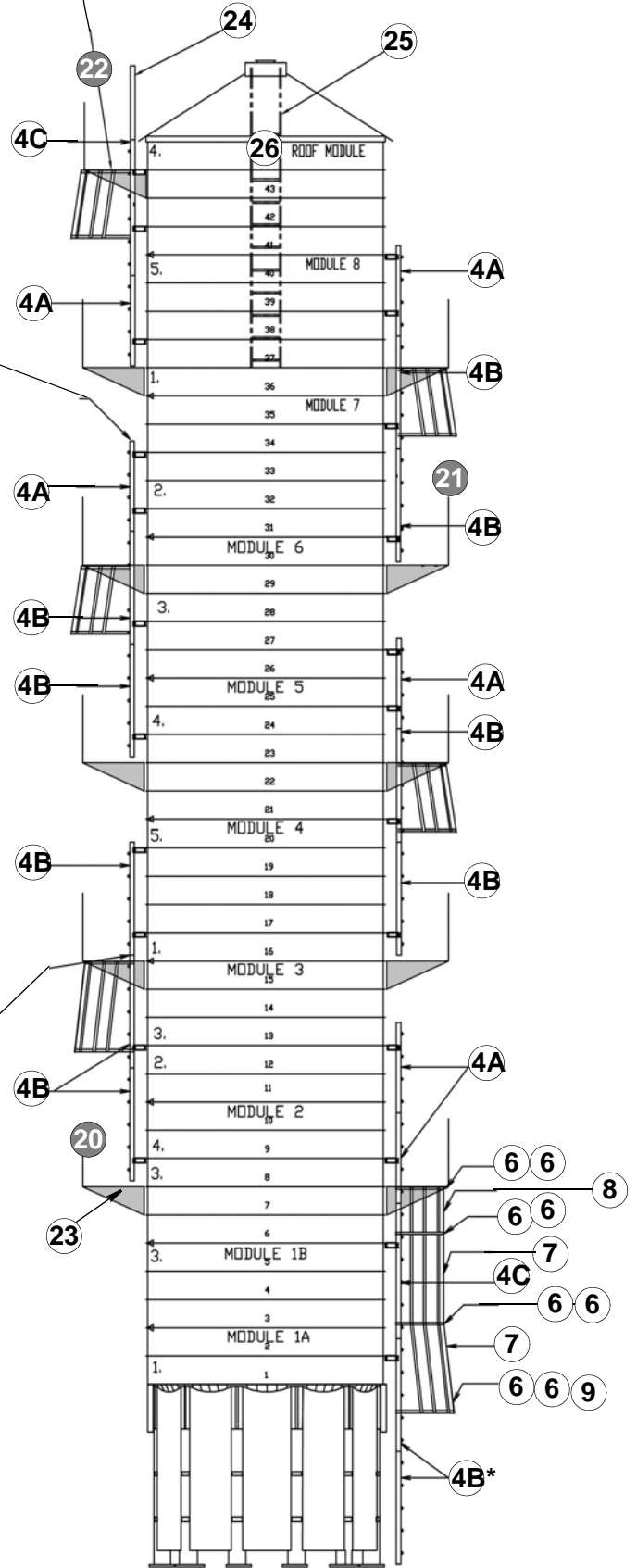
NOTE: This group of Ladder and Safety Cage parts is located at the "Leg 1" position (shown here for clarity)

SHIP LOOSE
All Ladders from this point UP,
BOTH SIDES

Item	Part No.	Description
4A	U-00004	4' [1 219] Ladder Section
4B	U-00005	5' [1 524] Ladder Section
4B*	U-00005	5' [1 524] Ladder Section (called out, loose assy.)
4C	U-00006	6' [1 829] Ladder Section
6	U-23777	Cage Hoop (Half)
7	432615	Cage Channel 45" [1143]
8		Cage Channel 22"
9	U-24021	Cage Hoop Expander
10	varies	Side Ladder Bracket
20	3121-00120	Partial Walkway
21	3121-00052	Full Walkway
22	3121-00175	Eave Platform
23	3121-00034	Walkway Arm
24		Walk-Through
25		Leg 1" Ladder Position
26	varies	Inside Ladder

SHIP LOOSE
All Ladders, Brackets
and Splices from this
point DOWN, BOTH
SIDES

Figure 62.
Outside Ladders and Cages on ME2000S
with 4 Level Catwalks
(3121-00185)



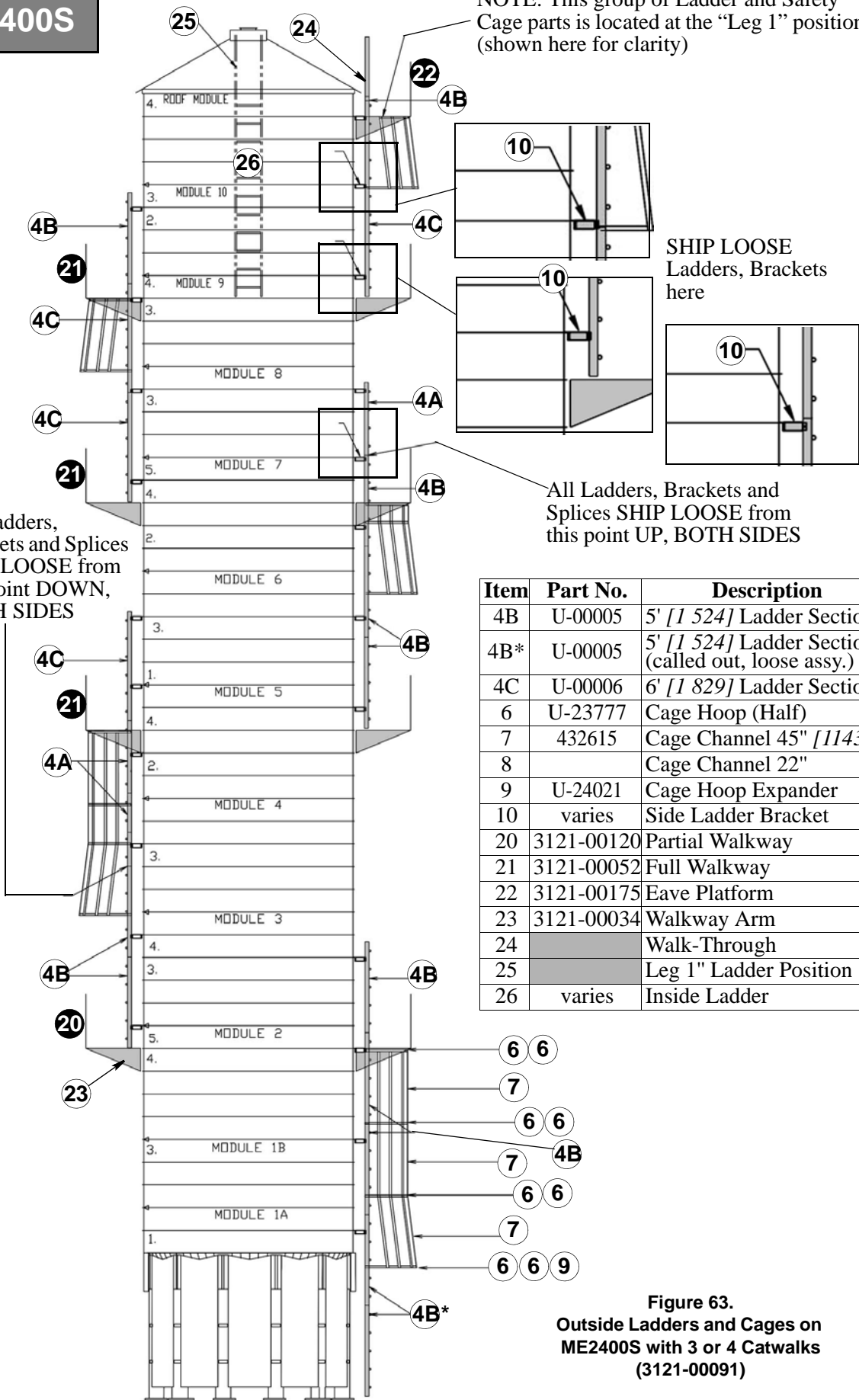
ME2400S

NOTE: This group of Ladder and Safety Cage parts is located at the "Leg 1" position (shown here for clarity)

All Ladders, Brackets and Splices SHIP LOOSE from this point DOWN, BOTH SIDES

All Ladders, Brackets and Splices SHIP LOOSE from this point UP, BOTH SIDES

SHIP LOOSE Ladders, Brackets here

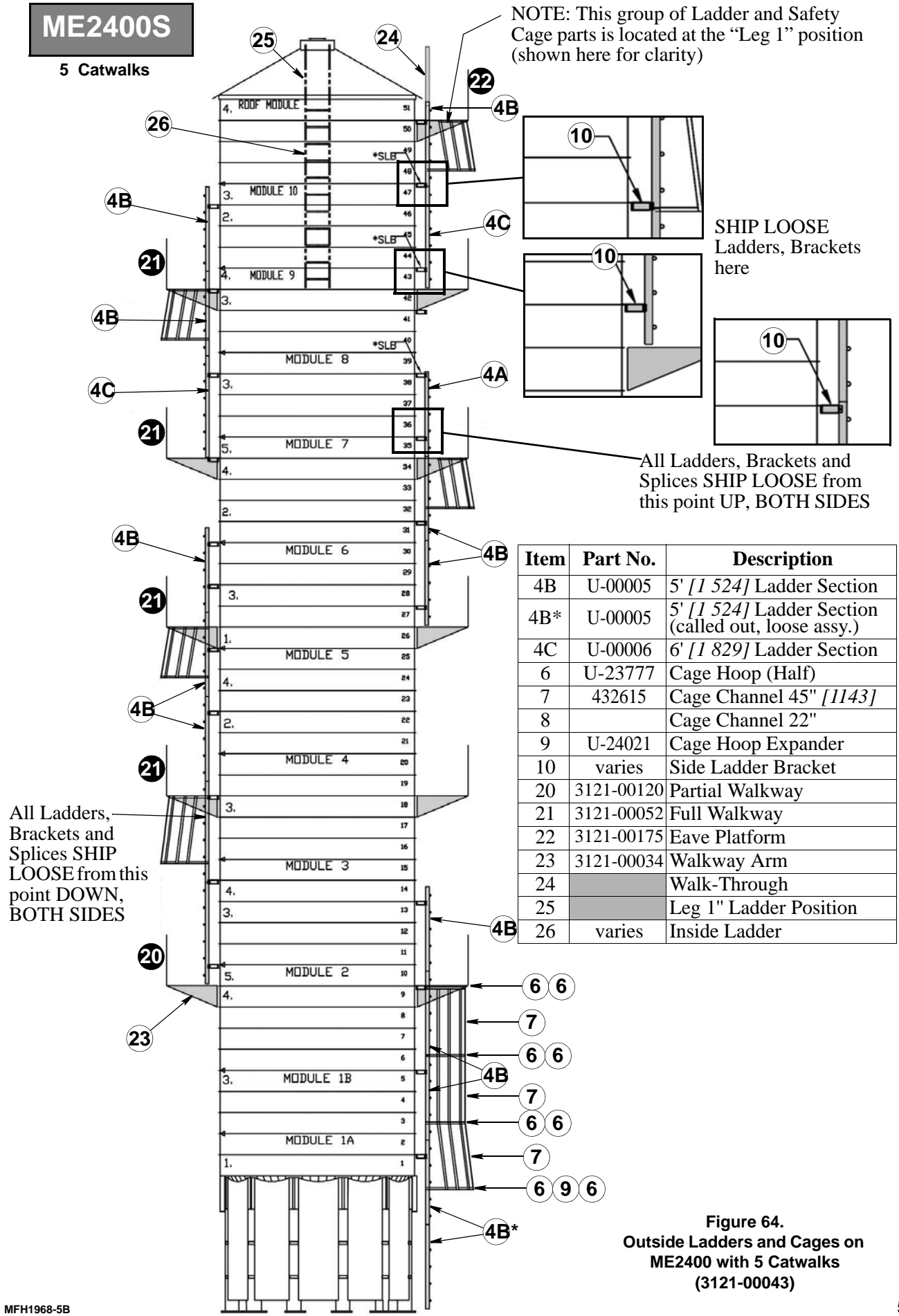


Item	Part No.	Description
4B	U-00005	5' [1 524] Ladder Section
4B*	U-00005	5' [1 524] Ladder Section (called out, loose assy.)
4C	U-00006	6' [1 829] Ladder Section
6	U-23777	Cage Hoop (Half)
7	432615	Cage Channel 45" [1143]
8		Cage Channel 22"
9	U-24021	Cage Hoop Expander
10	varies	Side Ladder Bracket
20	3121-00120	Partial Walkway
21	3121-00052	Full Walkway
22	3121-00175	Eave Platform
23	3121-00034	Walkway Arm
24		Walk-Through
25		Leg 1" Ladder Position
26	varies	Inside Ladder

Figure 63. Outside Ladders and Cages on ME2400S with 3 or 4 Catwalks (3121-00091)

ME2400S
5 Catwalks

NOTE: This group of Ladder and Safety Cage parts is located at the "Leg 1" position (shown here for clarity)



All Ladders, Brackets and Splices SHIP LOOSE from this point DOWN, BOTH SIDES

SHIP LOOSE Ladders, Brackets here

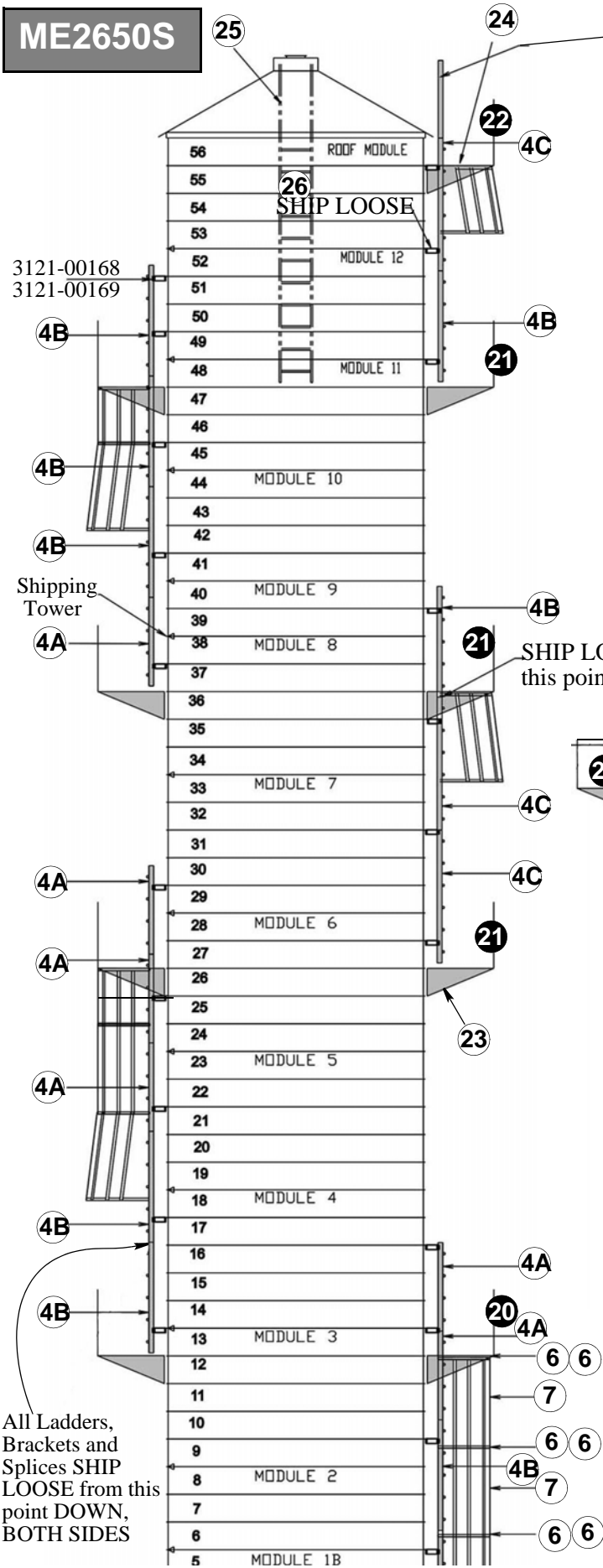
All Ladders, Brackets and Splices SHIP LOOSE from this point UP, BOTH SIDES

Item	Part No.	Description
4B	U-00005	5' [1 524] Ladder Section
4B*	U-00005	5' [1 524] Ladder Section (called out, loose assy.)
4C	U-00006	6' [1 829] Ladder Section
6	U-23777	Cage Hoop (Half)
7	432615	Cage Channel 45" [1143]
8		Cage Channel 22"
9	U-24021	Cage Hoop Expander
10	varies	Side Ladder Bracket
20	3121-00120	Partial Walkway
21	3121-00052	Full Walkway
22	3121-00175	Eave Platform
23	3121-00034	Walkway Arm
24		Walk-Through
25		Leg 1" Ladder Position
26	varies	Inside Ladder

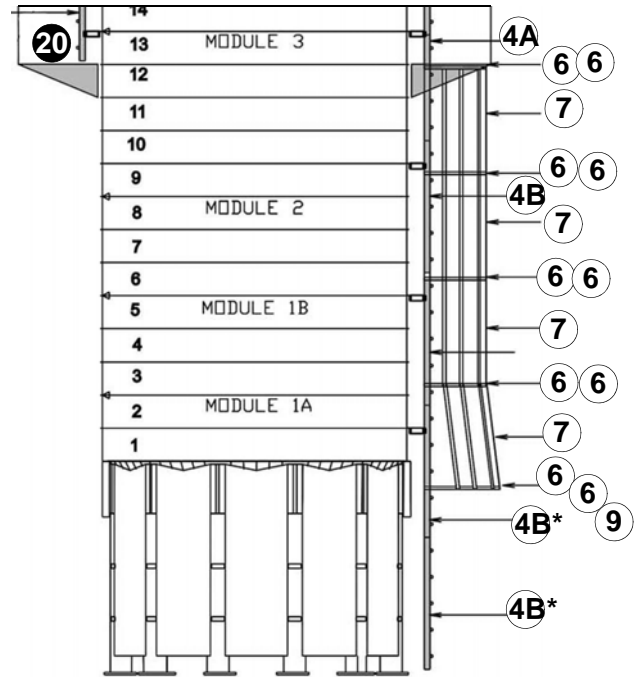
Figure 64. Outside Ladders and Cages on ME2400 with 5 Catwalks (3121-00043)

ME2650S

NOTE: This group of Ladder and Safety Cage parts is located at the "Leg 1" position (shown here for clarity)



Item	Part No.	Description
4B	U-00005	5' [1 524] Ladder Section
4B*	U-00005	5' [1 524] Ladder Section (called out, loose assy.)
4C	U-00006	6' [1 829] Ladder Section
6	U-23777	Cage Hoop (Half)
7	432615	Cage Channel 45" [1143]
8		Cage Channel 22"
9	U-24021	Cage Hoop Expander
10	varies	Side Ladder Bracket
20	3121-00120	Partial Walkway
21	3121-00052	Full Walkway
22	3121-00175	Eave Platform
23	3121-00034	Walkway Arm
24		Walk-Through
25		Leg 1" Ladder Position
26	varies	Inside Ladder

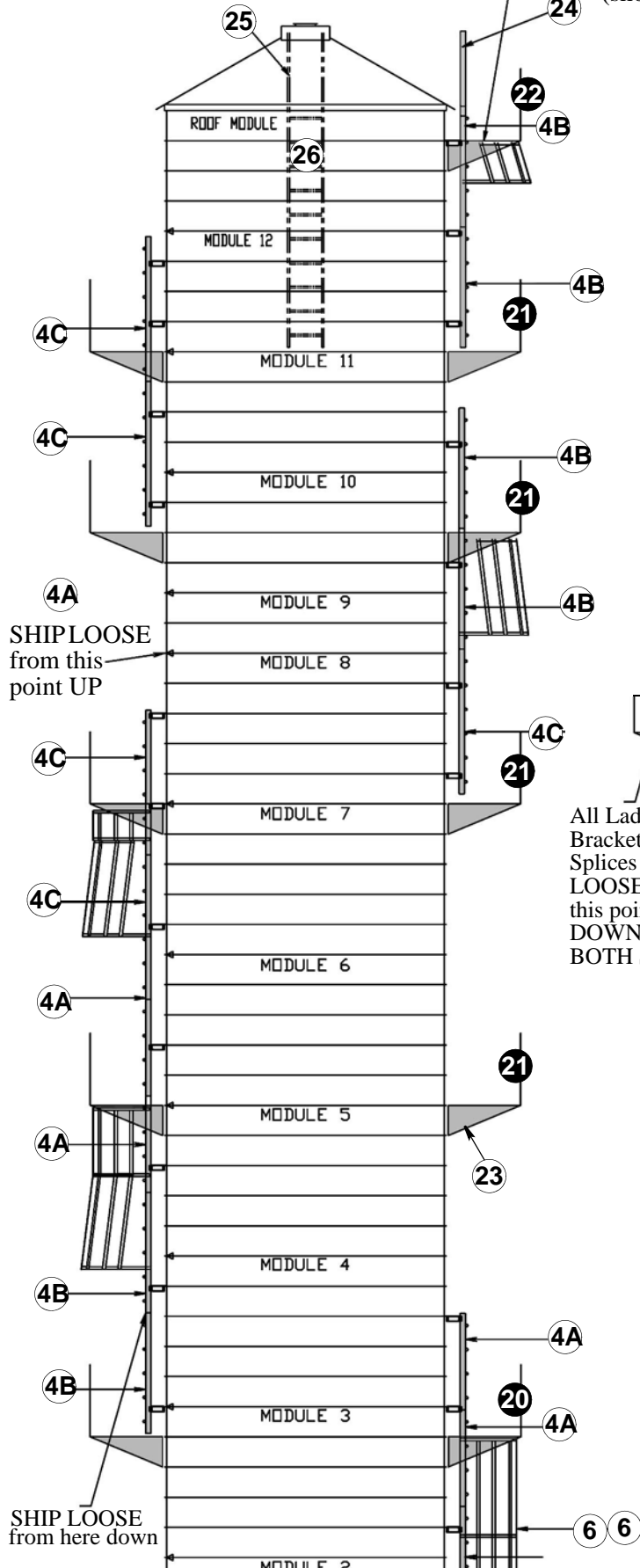


All Ladders, Brackets and Splices shown above SHIP LOOSE; bottom (2) 5' Ladders (4B*) called out in Base assembly.

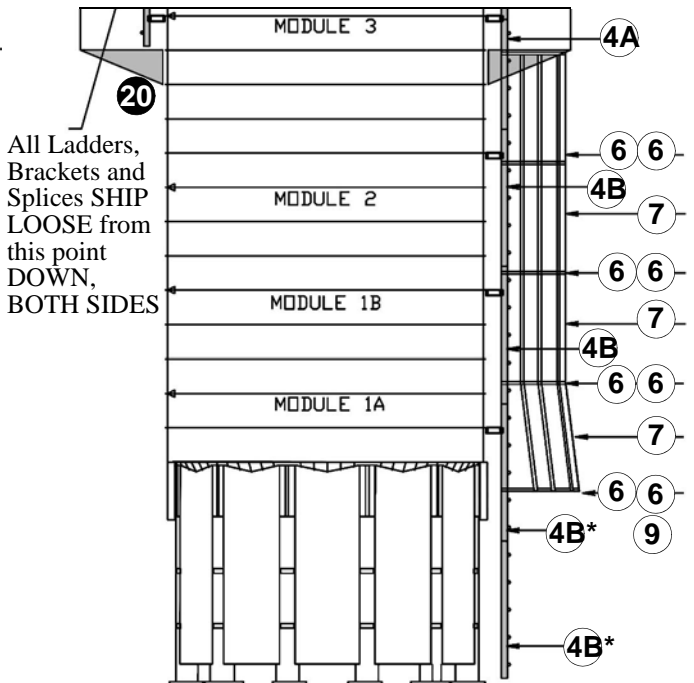
Figure 65.
Outside Ladders and Cages on
ME2650S with 3 Catwalks
(3121-00176)

ME2650S

NOTE: This group of Ladder and Safety Cage parts is located at the "Leg 1" position (shown here for clarity)



Item	Part No.	Description
4B	U-00005	5' [1 524] Ladder Section
4B*	U-00005	5' [1 524] Ladder Section (called out, loose assy.)
4C	U-00006	6' [1 829] Ladder Section
6	U-23777	Cage Hoop (Half)
7	432615	Cage Channel 45" [1143]
8		Cage Channel 22"
9	U-24021	Cage Hoop Expander
10	varies	Side Ladder Bracket
20	3121-00120	Partial Walkway
21	3121-00052	Full Walkway
22	3121-00175	Eave Platform
23	3121-00034	Walkway Arm
24		Walk-Through
25		Leg 1" Ladder Position
26	varies	Inside Ladder



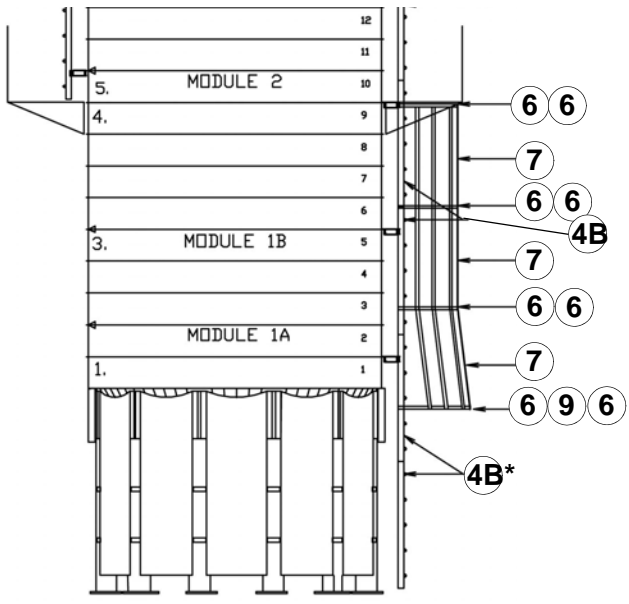
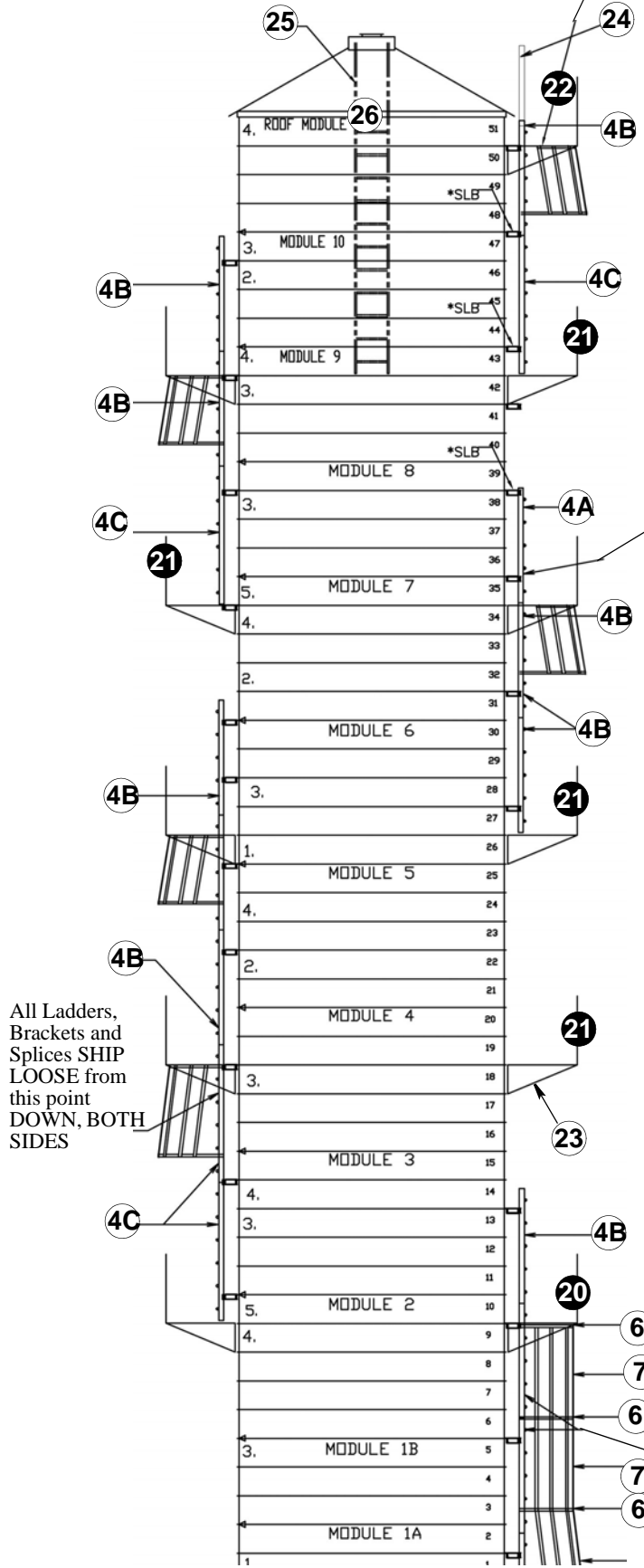
All Ladders, Brackets and Splices shown above SHIP LOOSE; bottom (2) 5' Ladders (4B*) called out in Base assembly.

Figure 66.
Outside Ladders and Cages on
ME2650S with 4 Catwalks
(3121-000178)

ME2650S

NOTE: This group of Ladder and Safety Cage parts is located at the "Leg 1" position (shown here for clarity)

Item	Part No.	Description
4B	U-00005	5' [1 524] Ladder Section
4B*	U-00005	5' [1 524] Ladder Section (called out, loose assy.)
4C	U-00006	6' [1 829] Ladder Section
6	U-23777	Cage Hoop (Half)
7	432615	Cage Channel 45" [1143]
8		Cage Channel 22"
9	U-24021	Cage Hoop Expander
10	varies	Side Ladder Bracket
20	3121-00120	Partial Walkway
21	3121-00052	Full Walkway
22	3121-00175	Eave Platform
23	3121-00034	Walkway Arm
24		Walk-Through
25		Leg 1" Ladder Position
26	varies	Inside Ladder



All Ladders, Brackets and Splices shown above SHIP LOOSE; bottom (2) 5' Ladders (4B*) called out in Base assembly.

Figure 67.
Outside Ladders and Cages on
ME2650S with 4 Catwalks
(3121-000184)

Inside Ladder Installations

Inside Ladder Sections

Inside Ladder sections are mounted on Ladder Chords.

While the same **Locking Clip Assembly** is used to attach the Ladder Bracket to the Ladder Rail, the **Inside Ladder Bracket 3121-00170** differs from Outside Brackets.

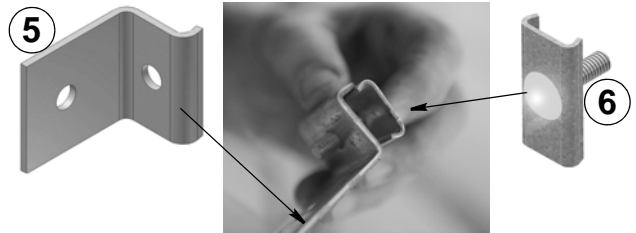
Be sure Ladder DANGER Decal 13-23790 (left) on each Ship-Loose Ladder section to be installed is readable right-side-up when the Tower is upright.

WARNING!



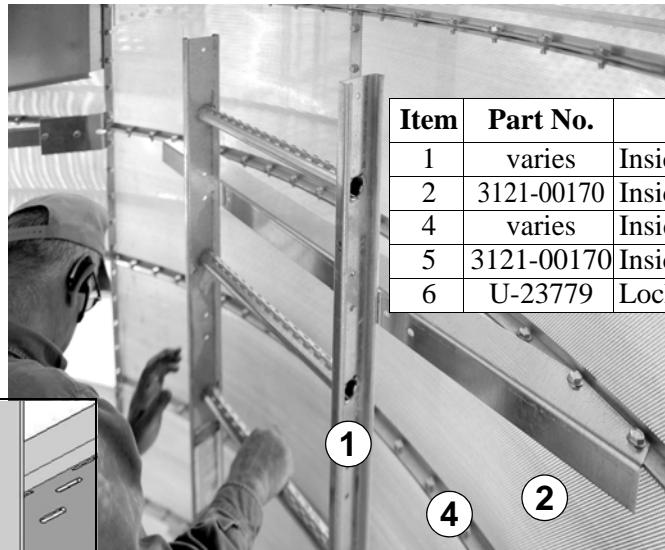
Ladder installations MUST use all specified connecting Brackets to maintain SAFETY. Failure to follow specific Hardware instructions during assembly could result in serious operator injury and /or structural damage.

Attach the Ladder to the Bracket on both sides, using the Ladder Clips.



IMPORTANT!

Install all Ladder sections with the **ROUGH** side of the rungs facing **UPWARD** and with **DANGER** Decals right-side-up at the bottom of each Ladder section. Splice sections together. See **Figure 18** on page 13.



Item	Part No.	Description
1	varies	Inside Ladder (location)
2	3121-00170	Inside Ladder Bracket
4	varies	Inside Screen
5	3121-00170	Inside Ladder Clip
6	U-23779	Locking Clip

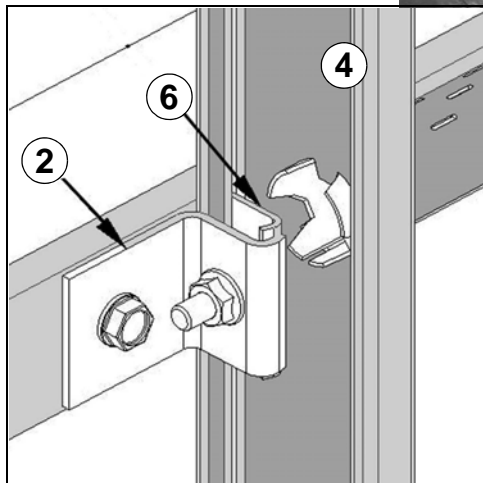


Figure 68.
Inside Ladder Bracket and Ladder Clips

Internal Service Platform Ladder Access

Continue the Inside Ladder-and-Cage installation through the Inside Service Platform opening in the Tower.



Figure 69.
Inside Ladder Through the Service Platform Opening



Figure 70.
Inside Ladder with Cage

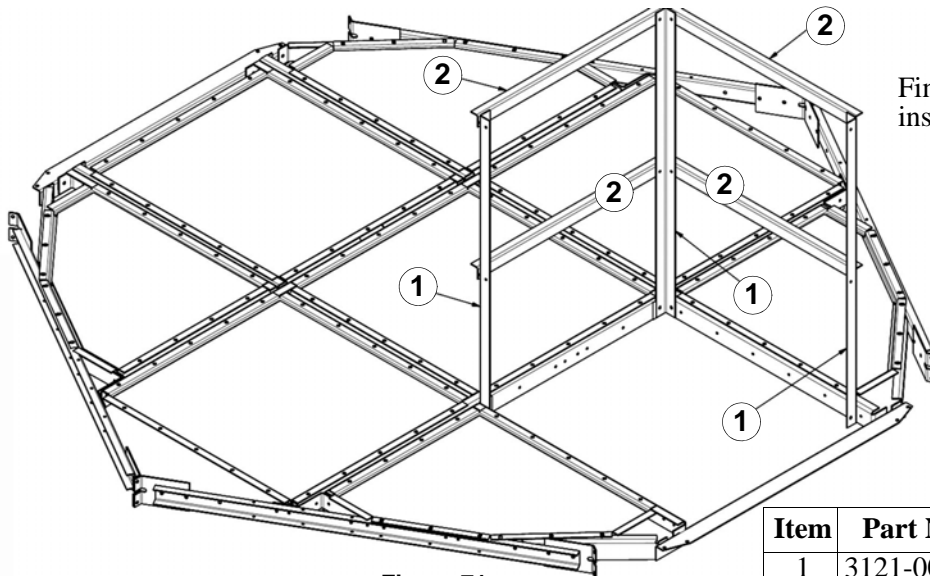


Figure 71.
Rails at Service Platform Ladder Access

Finish the access area by installing Safety Rails.

Item	Part No.	Description
1	3121-00153	Post, Work Platform
2	3121-00154	Handrail, Work Platform

Top Inside Ladder Sections

IMPORTANT! *You must field-install the Ladder section above the #3 Inside Service Platform. There are four (4) Ladder splices above and below the Platform.*



Figure 72.
Top Inside Ladder Installation in the Tower

Special Note on Model 2650:

The 60" distance between the Inside Service Platform and where the Inside Ladder must be mounted is a difficult reach. take a 2' or 3' stepladder up with you to help make the task easier.

Pre-Installed Inside Ladder Sections

The Upper Inside Ladder section is factory-installed, as well as the Ladder section attached to the Air Duct.

Item	Description
1	Ladder Section
2	Air Duct
3	Duct Access Door
4	Bracket 3121-00182

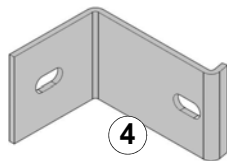
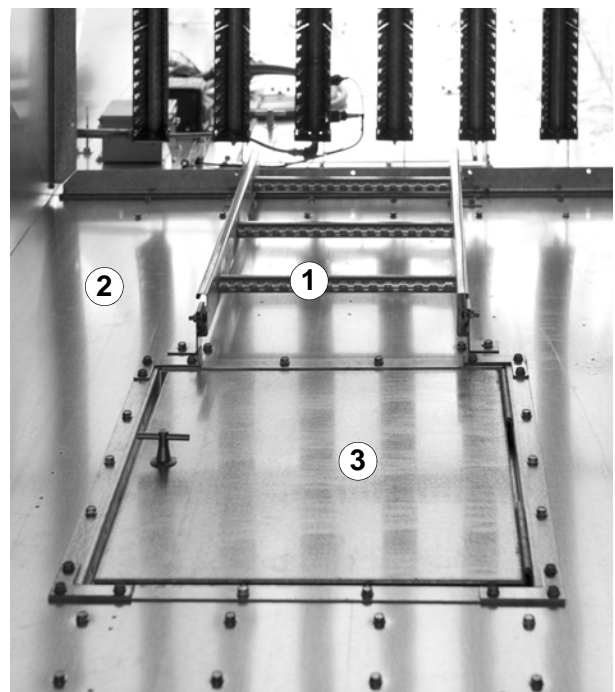


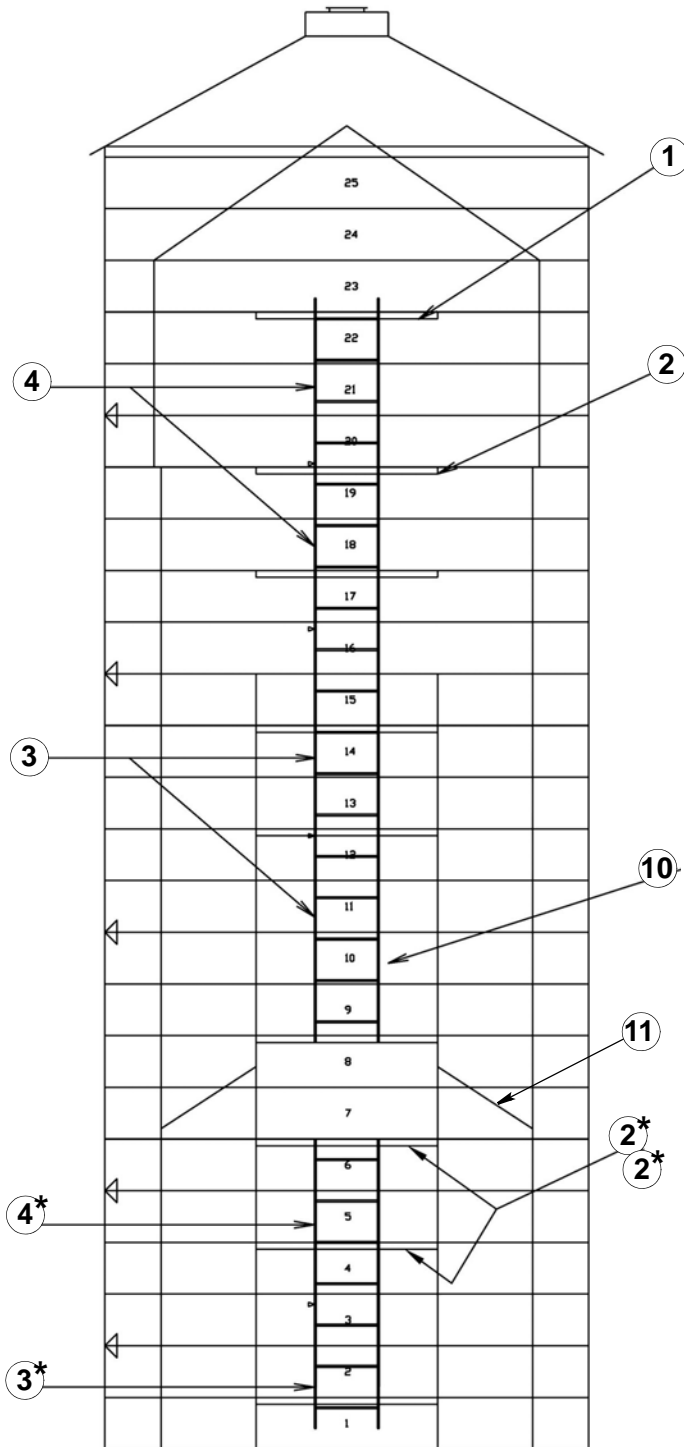
Figure 73.
Inside Ladder at Air Duct (LP Model shown), Pre-Installed



Diagrams: Inside Ladders

MEYER® Model:		1000	1200	1400	1600	1800	2000	2400	2650
INSIDE Ladder Package Kit Number		3121-00123	3121-00124	3121-00167	3121-00126	3121-00127	3121-00128	3121-00130	3121-00177
3121-00170	Bracket Ladder Attachment	12	16	20	24	20	20	18	18
U-23779	Locking Clip Assembly	12	16	20	24	20	20	18	18
U-23774	Ladder Rail Splicer	6	6	8	10	10	8	8	8
U-00006	6' Ladder Assembly		2	1			3		
U-00005	5' Ladder Assembly	2	2	4	6	4	2	5	5
U-00004	4' Ladder Assembly	2				2			
2320-00004	*Bolt, 5/16-18 x 1" HWH Whizlock			22					
*2320-00010	Bolt, 5/16-18 x 5/8" Hex Fla	24	28	36	44	40	36	34	34
*2363-00006	Nut, 5/16"-18 Flange HWH Serr.	36	44	56	68	60	56	52	52
* Additional quantities in Ship Loose Bolt Kit below									
Ship Loose Kits									
3121-00170	Bracket Ladder Attachment	6	6	8	8	12	16	36	28
U-23779	Locking Clip Assembly	6	6	8	8	12	16	26	28
U-23774	Ladder Rail Splicer	2	2	2	2	4	8	10	14
U-00006	6' Ladder Assembly			1	1	2	1	3	1
U-00005	5' Ladder Assembly		1	1	1			3	5
U-00004	4' Ladder Assembly	1	1			1	4		2
U-00003	3' Ladder Assembly	1							
Ship Loose Bolt Kit									
2320-00010	Bolt, 5/16-18 x 5/8" Hex Fla	10		12	12	20	32	46	56
2363-00006	Nut, 5/16"-18 Flange HWH Serr.	16		20	20	32	48	72	84"

ME1000S



Item	Part No.	Description
1	3121-00122	Ladder Chord, 10"
2	3121-00119	Ladder Chord, 12"
3	U-00003	3' [914] Ladder Section
4	U-00004	4' [1 219] Ladder Section
5	U-00005	5' [1 524] Ladder Section
7	3121-00170	Inside Ladder Bracket
8	U-23779	Locking Clip Assembly
10		Ladder should be as close as possible to the Plenum Access Door without interference, when the Door is open.
11		Plenum Floor
12		Inside Ladder (position)
13		Plenum Access Door
14		Plumbing side
15		Main Entrance on Base Module
*In SHIP LOOSE Package		

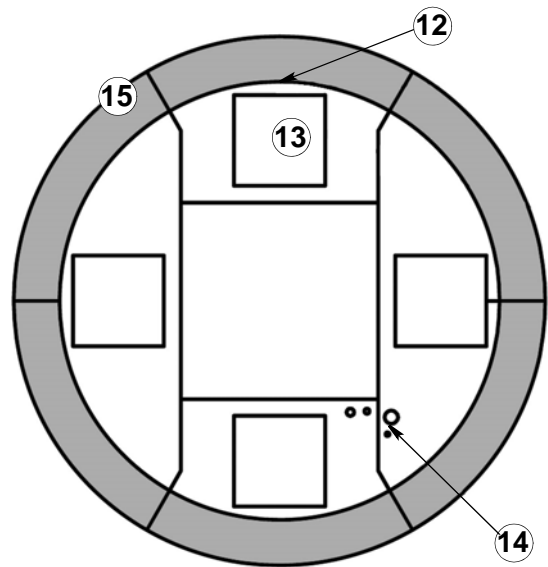
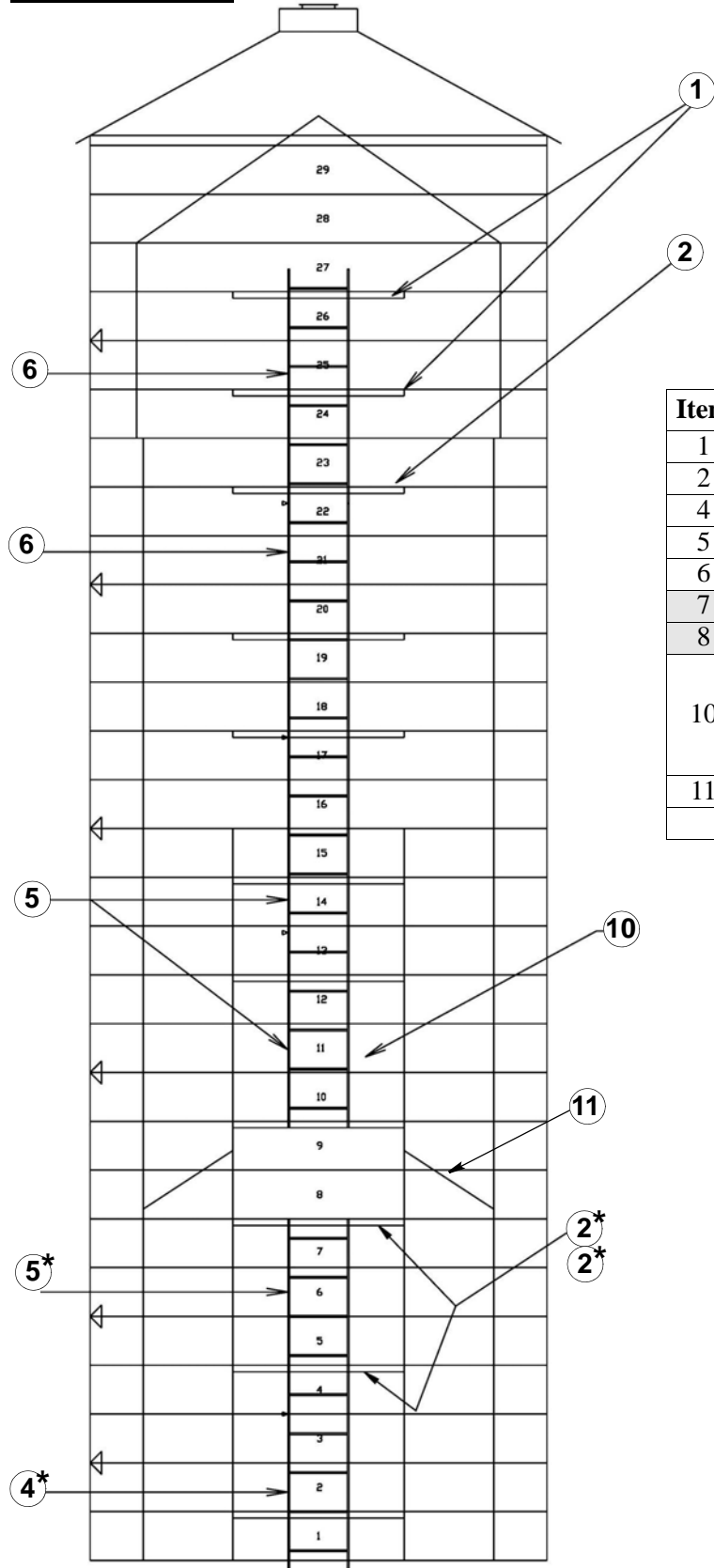


Figure 75.
Inside Ladder Location, Top View,
Typical All Models

Figure 74.
Inside Ladder Location, Model ME1000S
(3121-00123)

ME1200S

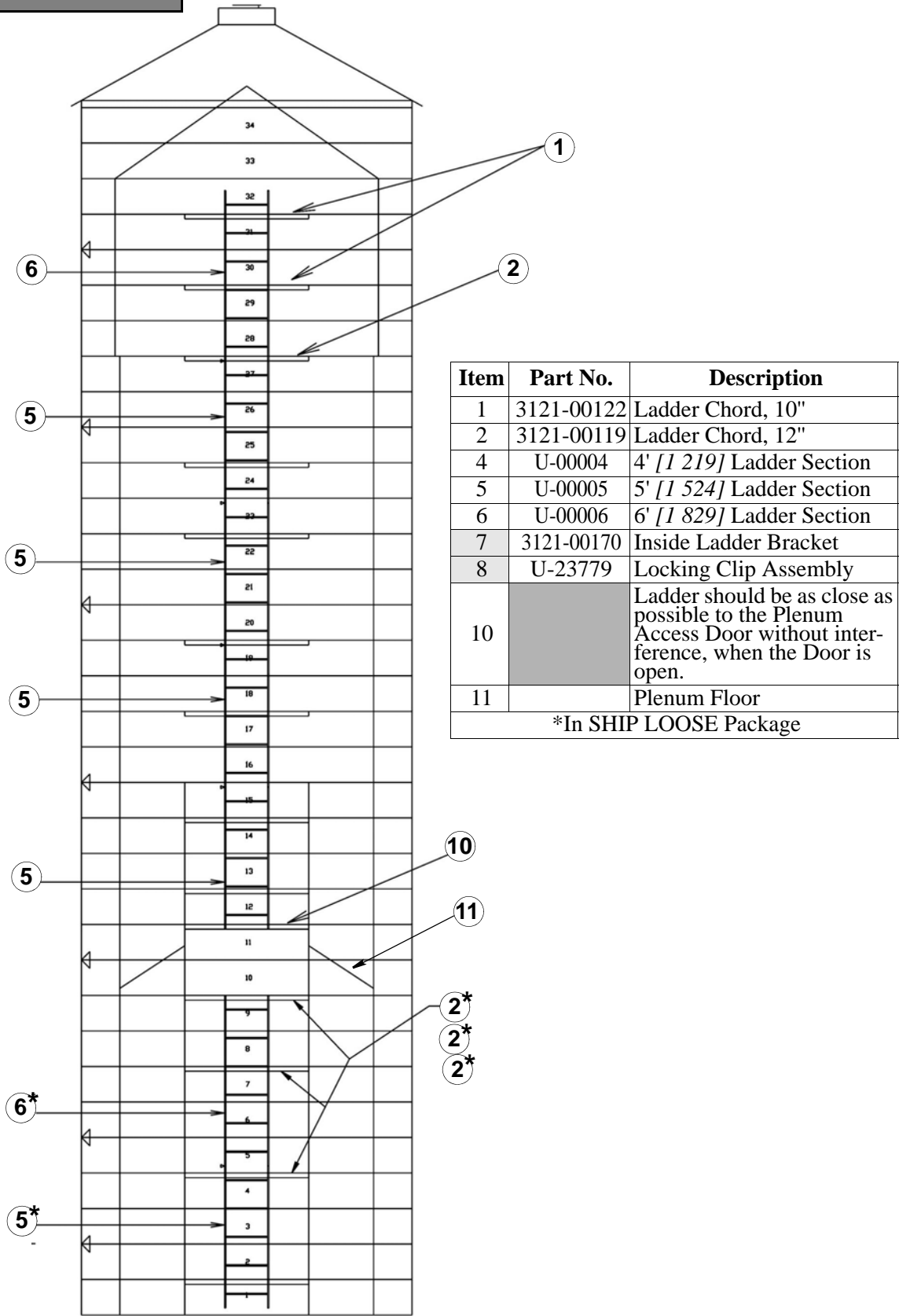


Item	Part No.	Description
1	3121-00122	Ladder Chord, 10"
2	3121-00119	Ladder Chord, 12"
4	U-00004	4' [1 219] Ladder Section
5	U-00005	5' [1 524] Ladder Section
6	U-00006	6' [1 829] Ladder Section
7	3121-00170	Inside Ladder Bracket
8	U-23779	Locking Clip Assembly
10		Ladder should be as close as possible to the Plenum Access Door without interference, when the Door is open.
11		Plenum Floor

*In SHIP LOOSE Package

Figure 76.
Inside Ladder Location, Model ME1200S
(3121-00124)

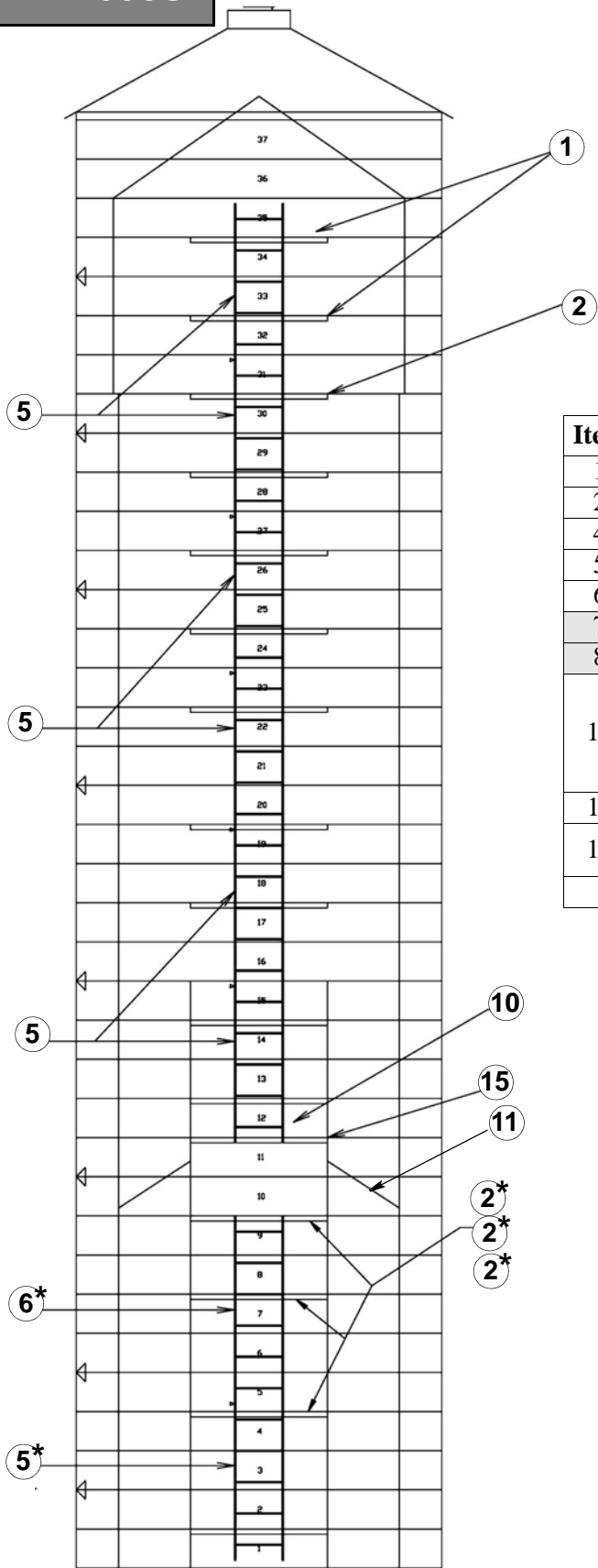
ME1400S



Item	Part No.	Description
1	3121-00122	Ladder Chord, 10"
2	3121-00119	Ladder Chord, 12"
4	U-00004	4' [1 219] Ladder Section
5	U-00005	5' [1 524] Ladder Section
6	U-00006	6' [1 829] Ladder Section
7	3121-00170	Inside Ladder Bracket
8	U-23779	Locking Clip Assembly
10		Ladder should be as close as possible to the Plenum Access Door without interference, when the Door is open.
11		Plenum Floor
*In SHIP LOOSE Package		

Figure 77.
Inside Ladder Location, Model ME1400S
(3121-00167)

ME1600S

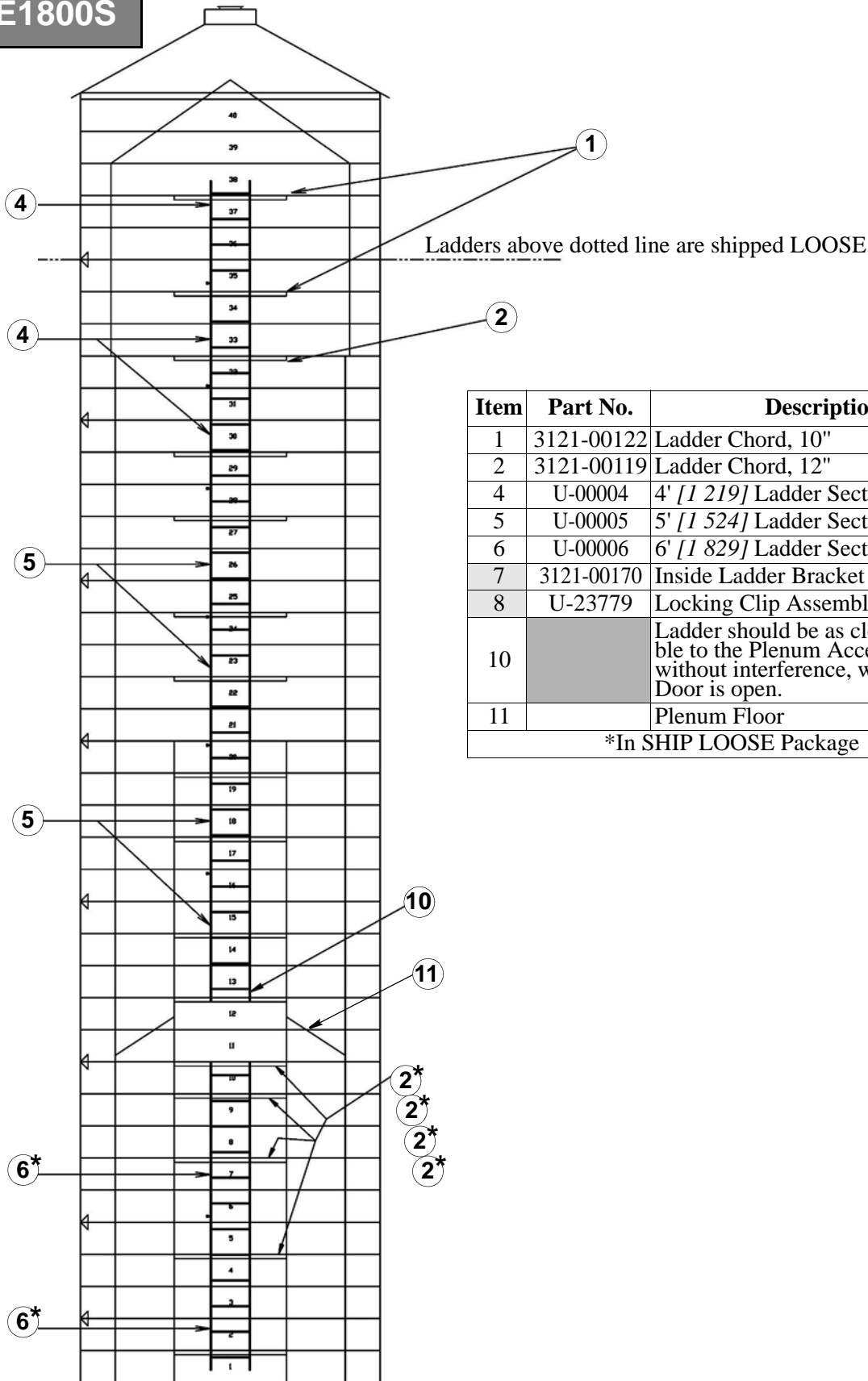


Item	Part No.	Description
1	3121-00122	Ladder Chord, 10"
2	3121-00119	Ladder Chord, 12"
4	U-00004	4' [1 219] Ladder Section
5	U-00005	5' [1 524] Ladder Section
6	U-00006	6' [1 829] Ladder Section
7	3121-00170	Inside Ladder Bracket
8	U-23779	Locking Clip Assembly
10		Ladder should be as close as possible to the Plenum Access Door without interference, when the Door is open.
11		Plenum Floor
15		Chord added for Ladder stability

*In SHIP LOOSE Package

Figure 78.
Inside Ladder Location, Model ME1600S
(3121-00126)

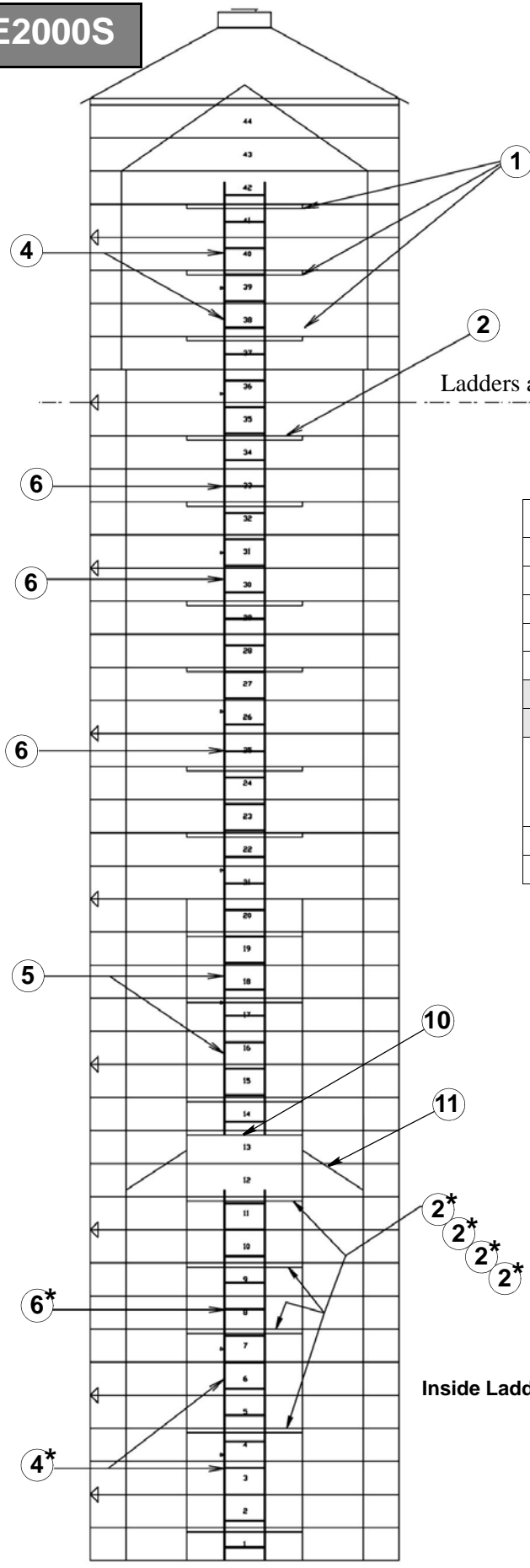
ME1800S



Item	Part No.	Description
1	3121-00122	Ladder Chord, 10"
2	3121-00119	Ladder Chord, 12"
4	U-00004	4' [1 219] Ladder Section
5	U-00005	5' [1 524] Ladder Section
6	U-00006	6' [1 829] Ladder Section
7	3121-00170	Inside Ladder Bracket
8	U-23779	Locking Clip Assembly
10		Ladder should be as close as possible to the Plenum Access Door without interference, when the Door is open.
11		Plenum Floor
*In SHIP LOOSE Package		

Figure 79.
Inside Ladder Location, Model ME1800S
 (3121-00127)

ME2000S



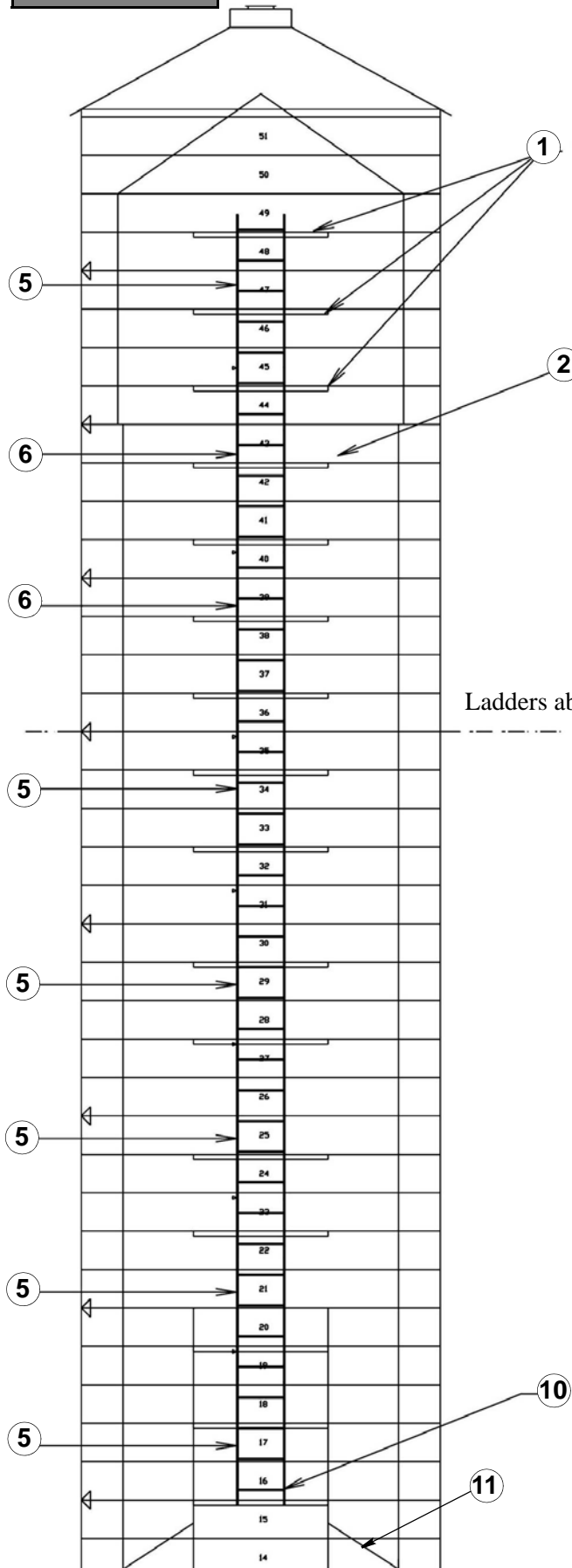
Ladders above dotted line are shipped LOOSE

Item	Part No.	Description
1	3121-00122	Ladder Chord, 10"
2	3121-00119	Ladder Chord, 12"
4	U-00004	4' [1 219] Ladder Section
5	U-00005	5' [1 524] Ladder Section
6	U-00006	6' [1 829] Ladder Section
7	3121-00170	Inside Ladder Bracket
8	U-23779	Locking Clip Assembly
10		Ladder should be as close as possible to the Plenum Access Door without interference, when the Door is open.
11		Plenum Floor

*In SHIP LOOSE Package

Figure 80.
Inside Ladder Location, Model ME2000S
(3121-00128)

ME2400S



Ladders above dotted line are shipped LOOSE

Item	Part No.	Description
1	3121-00122	Ladder Chord, 10"
2	3121-00119	Ladder Chord, 12"
3	U-00003	3' [914] Ladder Section
4	U-00004	4' [1 219] Ladder Section
5	U-00005	5' [1 524] Ladder Section
6	U-00006	6' [1 829] Ladder Section
7	3121-00170	Inside Ladder Bracket
8	U-23779	Locking Clip Assembly
10		Ladder should be as close as possible to the Plenum Access Door without interference, when the Door is open.
11		Plenum Floor
15		Chord added for Ladder stability
*In SHIP LOOSE Package		

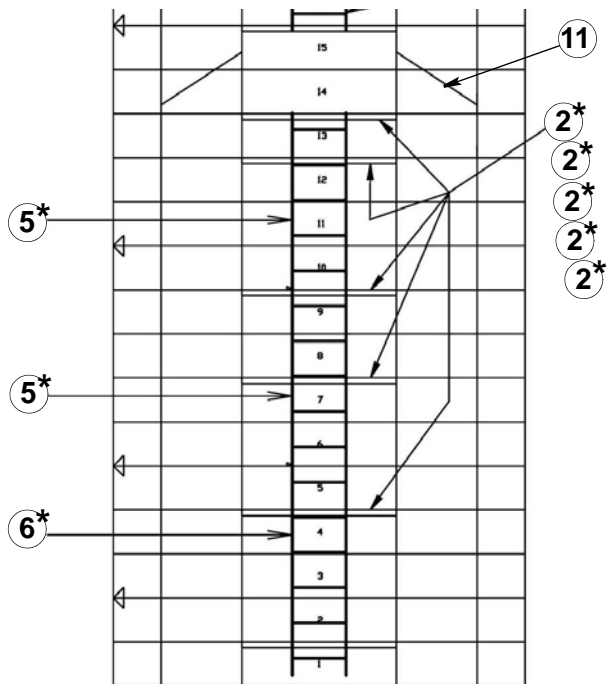
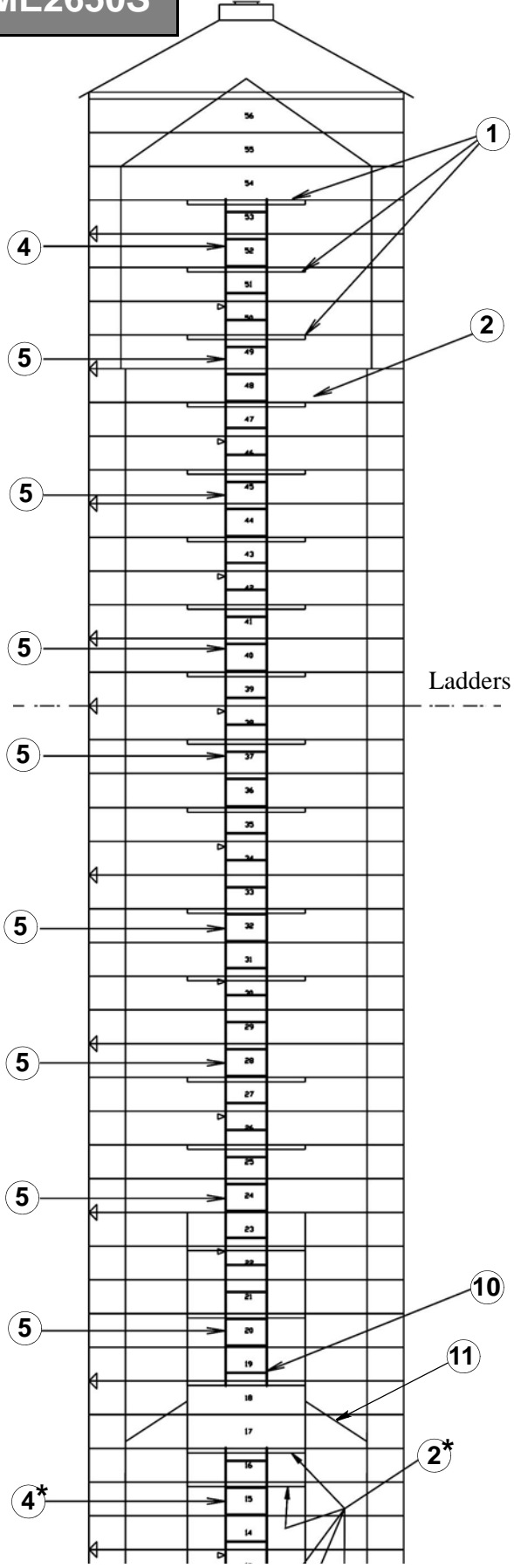


Figure 81.
Inside Ladder Location, Model ME2400S
(3121-00130)

ME2650S



Item	Part No.	Description
1	3121-00122	Ladder Chord, 10"
2	3121-00119	Ladder Chord, 12"
3	U-00003	3' [1 914] Ladder Section
4	U-00004	4' [1 219] Ladder Section
5	U-00005	5' [1 524] Ladder Section
6	U-00006	6' [1 829] Ladder Section
7	3121-00170	Inside Ladder Bracket
8	U-23779	Locking Clip Assembly
10		Ladder should be as close as possible to the Plenum Access Door without interference, when the Door is open.
11		Plenum Floor
15		Chord added for Ladder stability
*In SHIP LOOSE Package		

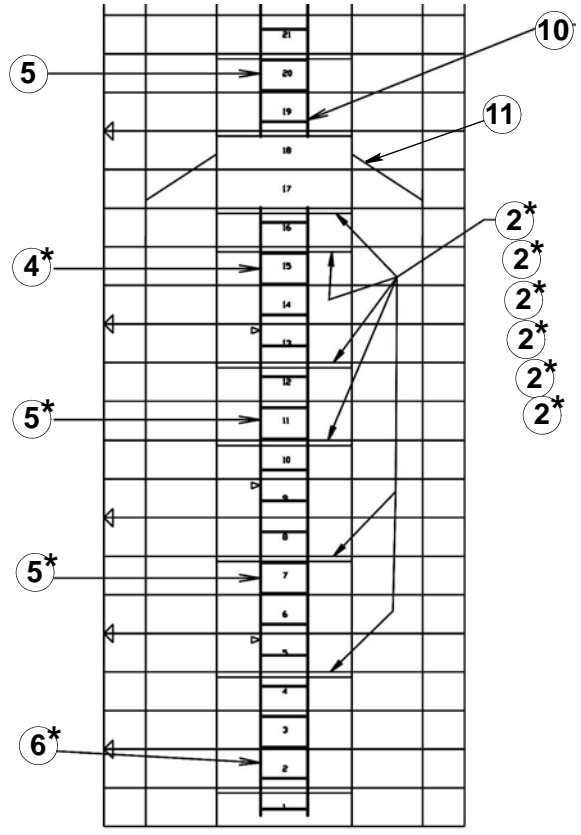


Figure 82.
Inside Ladder Location, Model ME2650S
(3121-00177)



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Changes this issue:

The 5/16" Hex Head Bolt used for Ladder and Walkway assembly was lengthened from 3/4" to 1".

The ME2000-S with 4 catwalks (3121-00185) was added.

Page 48: Model 3121-00113 now has only three (3) Catwalks.

Page 49: Model 3121-00185 was added: 2000D with four (4) Catwalks.

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