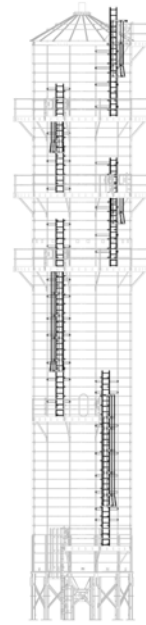


Straight Run Ladder
with Fall Protection System



Ladder Assembly
with Safety Cage

Tower Dryer X-Series Ladder

Installation Manual

PNEG-2425

Version 1.0

Date: 10-20-23



PNEG-2425

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

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NOTES

1 Safety Precautions

Topics Covered in this Chapter

- Safety Guidelines
- Cautionary Symbol Definitions
- Safety Cautions
- Safety Decals
- Safety Sign-Off Sheet

Safety Guidelines

Safety guidelines are general-to-specific safety rules that must be followed at all times. This manual is written to help you understand safe operating procedures and problems that can be encountered by the operator and other personnel when using this equipment. Read and save these instructions.

As owner or operator, you are responsible for understanding the requirements, hazards, and precautions that exist and to inform others as required. Unqualified persons must stay out of the work area at all times.

Alterations must not be made to the equipment. Alterations can produce dangerous situations resulting in **SERIOUS INJURY** or **DEATH**.

This equipment must be installed in accordance with the current installation codes and applicable regulations, which must be carefully followed in all cases. Authorities having jurisdiction must be consulted before installations are made.

When necessary, you must consider the installation location relative to electrical, fuel and water utilities.








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

ST-0001-4

Cautionary Symbol Definitions

Cautionary symbols appear in this manual and on product decals. The symbols alert the user of potential safety hazards, prohibited activities and mandatory actions. To help you recognize this information, we use the symbols that are defined below.

Table 1-1 Description of the different cautionary symbols








Symbol	Description
	This symbol indicates an imminently hazardous situation which, if not avoided, will result in serious injury or death.
	This symbol indicates a potentially hazardous situation which, if not avoided, can result in serious injury or death.
	This symbol indicates a potentially hazardous situation which, if not avoided, can result in minor or moderate injury.
	This symbol is used to address practices not related to personal injury.
	This symbol indicates a general hazard.
	This symbol indicates a prohibited activity.
	This symbol indicates a mandatory action.

ST-0005-2

Safety Cautions

Use Personal Protective Equipment

- Use appropriate personal protective equipment:

Eye Protection		Respiratory Protection		Foot Protection	
Hearing Protection		Head Protection		Fall Protection	
Hand Protection					

- Wear clothing appropriate to the job.
- Remove all jewelry.
- Tie long hair up and back.

ST-0004-1

Follow Safety Instructions

- Carefully read all safety messages in this manual and safety signs on your machine. Keep signs in good condition. Replace missing or damaged safety signs. Be sure new equipment components and repair parts include the current safety signs. Replacement safety signs are available from the manufacturer.
- Learn how to operate the machine and how to use controls properly. Do not let anyone operate without instruction.
- If you do not understand any part of this manual or need assistance, contact your dealer.



ST-0002-1

Chapter 1: Safety Precautions

Maintain Equipment and Work Area

- Understand service procedures before doing work. Keep area clean and dry.
- Never service equipment while it is operating. Keep hands, feet, and clothing away from moving parts.
- Keep your equipment in proper working condition. Replace worn or broken parts immediately.



ST-0003-1

Sharp Edge Hazard

- This product has sharp edges, which can cause serious injury.
- To avoid injury, handle sharp edges with caution and always use proper protective clothing and equipment.



ST-0036-2

Fall Hazard

- Keep access door closed while on a platform to avoid falls.
- Always use proper personal protective equipment and proper clothing when using equipment. Failure to follow safety precautions can result in severe injury or death.



ST-0042-2

Platform Load Limit

- The platform load limit is 500 LBS (2.25 kN). Do not exceed this weight.
- Excessive load will damage the platform and cause platform to fall. Severe injury or death will result.



ST-0044-2

Fall Hazard

- Ladders, stairways and platforms are for use by competent and trained personnel only. Do not allow children or other unauthorized persons to have access to the equipment.
- Access to the equipment must be restricted by the use of security fencing and lockable gates.
- Lower sections of ladders must be fitted with a lockable safety gate to prevent unauthorized access.
- Make sure that hot surfaces have had adequate time to cool before working on or in the equipment.
- Lock out and tag out power supplies and fuel supplies to all equipment.
- Do not attach lifting equipment to ladders or platforms.
- Do not go outside of the safety rails provided on elevated platforms.
- Do not work at heights during high winds, rain, snow, or ice storms.



ST-0056-1

Ladder Load Limit

- The ladder load limit is 300 LBS (1.34 kN). Do not exceed this weight.
- Excessive load will damage the ladder and severe injury or death will result.
- Ladders, stairways and platforms are for use by competent and trained personnel only. Do not allow children or other unauthorized persons to have access to the equipment.
- Access to the equipment must be restricted by the use of security fencing and lockable gates.
- Lower sections of ladders must be fitted with a lockable safety gate to prevent unauthorized access.
- Lock out and tag out power supplies to all equipment.
- Do not attach lifting equipment to ladders .
- Do not work at heights during high winds, rain, snow, or ice storms.



ST-0059-2

Chapter 1: Safety Precautions

Stay Clear of Hoisted Equipment

- Always use proper lifting or hoisting equipment when assembling or disassembling equipment.
- Do not walk or stand under hoisted equipment.
- Always use sturdy and stable supports when needed for installation. Not following these safety precautions creates the risk of falling equipment, which can crush personnel and cause serious injury or death.



ST-0047-1

Confined Space Hazards and Entry Procedures

- Note that the interior of this equipment is considered a confined space. Maintenance of this equipment can require access to the confined space.
- Access doors must be shut and locked except when access is required.
- Doors giving access to dangerous equipment must be safety interlocked.
- The following entry procedures must be followed:
 - Be aware of all possible hazards present inside the confined space and wear personal protective equipment (PPE) as needed.
 - Complete a permit to work and follow all permit required confined space entry procedures defined by the site manager.
 - Make sure that the area has been purged of any hazardous products or gases. Check the atmosphere for harmful gases or vapors with a suitable gas analyzer and make sure levels are safe before entering.
 - Do not smoke or use naked flames.
 - Lock out and tag out power supplies and fuel supplies to all equipment.
 - Do not work alone. Work in teams of at least three so that help is immediately available in the event of an emergency.
 - Confirm that all personnel have safely exited the equipment and tools have been recovered once work is complete.



ST-0055-1



Safety Decals

The safety decals on your equipment are safety indicators which must be carefully read and understood by all personnel involved in the installation, operation, service and maintenance of the equipment.



To replace a damaged or missing decal, contact us to receive a free replacement.

GSI Decals

1004 E. Illinois Street
 Assumption, IL 62510
 Phone: 1-217-226-4421

Location	Decal No.	Decal	Description
Located next to aeration system.	DC-969		Caution Vacuum Pressure
On bin doors and roof hatch covers	DC-2483		Warning Entrapment Hazard

Chapter 1: Safety Precautions

Location	Decal No.	Decal	Description
On bin door covers	DC-GBC-1A		Warning Keep Clear of Augers
On bin door covers	DC-GBC-2A		Warning Unload Instructions

NOTES

2 General Information

Topics Covered in this Chapter

- Parts List
- Assembling the Ladder Sections
- Assembling the Ladder Stand-off Brackets
- Assembling the Safety Cage Hoop Brackets
- Installing the Ladder Assembly at Eave
- Installing the Ladder Braces
- Installing the End Cap to the Ladder
- Installing the Ladder Assembly at the Base
- Assembling the 24" Safety Cage Section
- Assembling the 48" Safety Cage Section
- Assembling the 24" Bell Safety Cage Section

Parts List

Ref #	Part #	Description	Ref #	Part #	Description
1	S-10260	5/16" x 1" flange bolt with sealing washer	30	LDR-4317	Ladder splice
2	S-7485	3/8" x 1" flange bolt	31	LS-6714	24" safety cage vertical support
3		1/4" x 1-1/2" bolt	32	LDR-5161-BS	Formed ladder flare
4	S-7470	5/16" x 1" flange bolt	33	LS-6713	48" safety cage vertical support
5	S-3550	5/16" x 1" carriage bolt	34	S-7811	1/2" x 2" HHCS bolt
6	S-7483	5/16" x 1-1/4" flange bolt with sealing washer	35	S-3729	1/2" hex nut
7	S-10268	5/16" flange nut	36	LDR-5167	Safety cage hoop splice
8	S-968	3/8" flange nut	37	GT1-2087	Swing gate support
9		1/4" nut	38	GT1-2529	Cage support bracket
10	S-3611	5/16" flange nut	39	GT1-2045	Platform end plate
11	S-2120	1/2" flat washer	40	LDR-5164	Safety cage hoop
12	S-236	1/2" split lock washer	41	LDR-5163	Narrow safety cage hoop bracket
13	LDR-4201	Safety cage hoop half	42	GT1-2527	Right ladder bracket
14	LDR-4202	Safety cage bell hoop half	43	GT1-2528	Left ladder bracket
15	LDR-4346	Left ladder starting bracket	44	GT1-2523	Catwalk support plank
16	LDR-4347	Right ladder starting bracket	45	LDR-5340	Ladder clamp face plate
17	GT1-2096L-XX ¹	Left ladder brace bracket	46	LDR-5343	Shim plate
18	GT1-2096R-XX ¹	Right ladder brace bracket	47	LDR-5341	Ladder clamp back plate
19	LS-6615	Center brace	48	GT1-2530	Ladder support bracket
20	LS-6616	Angle end brace	49	GT1-2526	Ladder brace bracket
21	LS-7031	Straight end brace	50	GT1-2525	Ladder mounting bracket
22	GT1-2620	Center brace	51	LDR-5162	Safety cage hoop bracket
23	GT1-2621	Angle end brace	52	LDR-5170	Safety cage bell hoop
24	GT1-2622	Straight end brace	53	LDR-5171	2' safety cage bar
25	LDR-5011	End cap	54	LDR-5199	3' safety cage bar
26		Ladder section	55	LDR-5166	4' safety cage bar
27	LDR-4198	Ladder stand-off wedge	56		Clamp plate assembly
28	LDR-4314	Ladder stand-off bracket	57		Compression weldment
29	LDR-4199	Safety cage hoop bracket	58		Column weldment

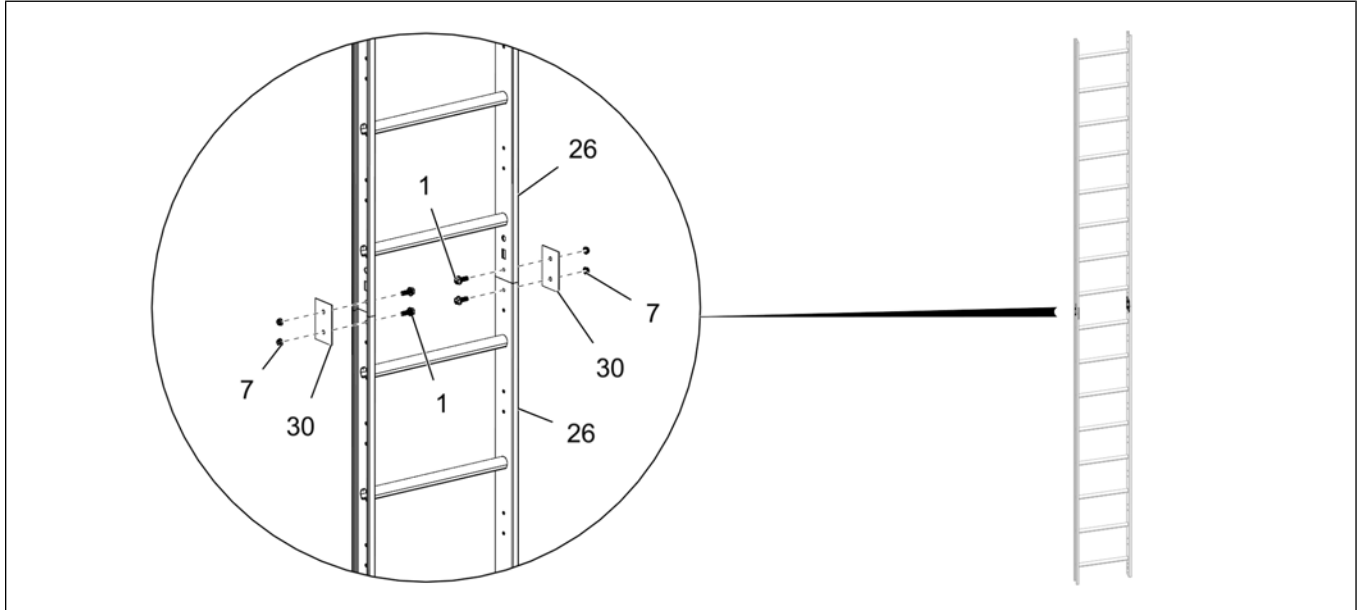
1. XX indicates tower diameter.

Assembling the Ladder Sections

Assemble the ladder sections (26) with two splices (30) using 5/16" x 1" flange bolts (1) and 5/16" flange nuts (7).

NOTE: Install bolts (1) with bolt head on the inside of the ladder.

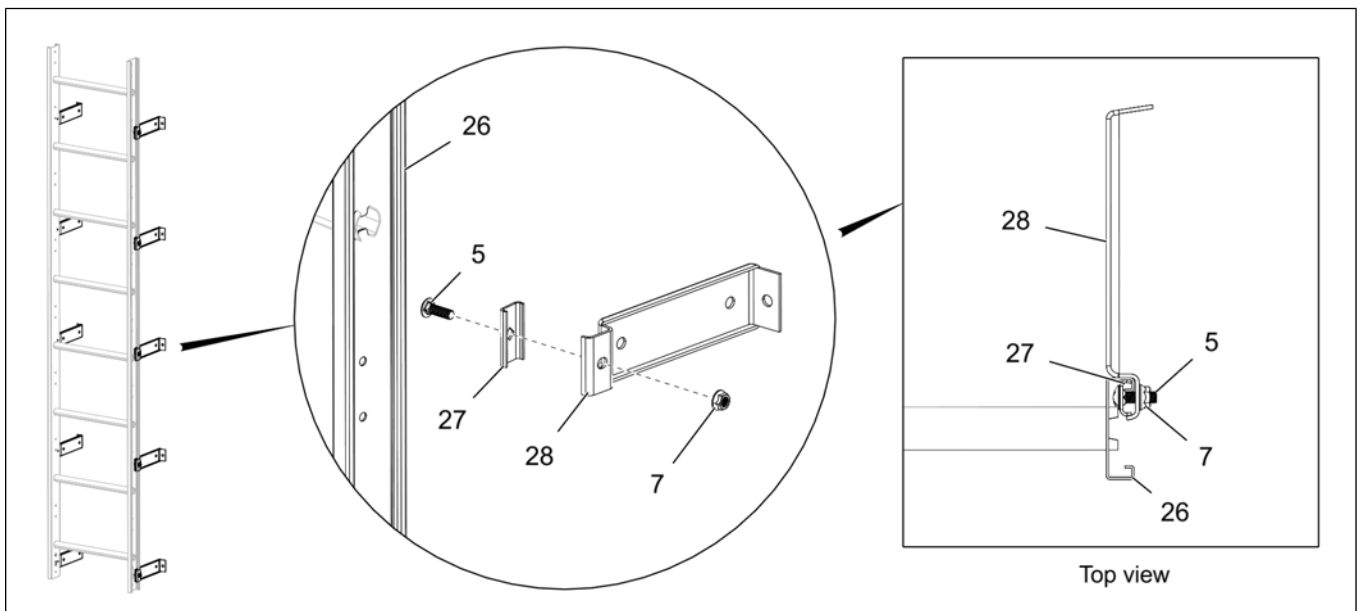
Figure 2-1 Assembling the ladder sections



Assembling the Ladder Stand-off Brackets

Slide the ladder wedge (27) along the ladder rail (26) and install it to the stand-off bracket (28) using 5/16" x 1" carriage bolts (5) and 5/16" flange nuts (7).

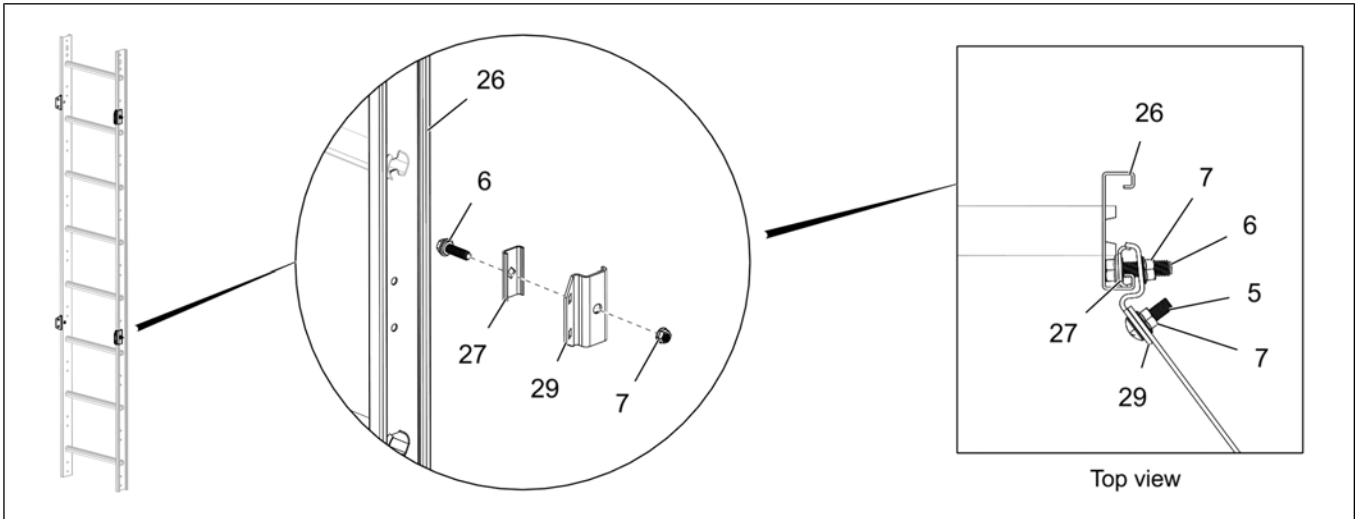
Figure 2-2 Assembling the ladder stand-off brackets



Assembling the Safety Cage Hoop Brackets

Slide the ladder wedge (27) along the ladder rail (26) and install the safety cage hoop bracket (29) to the ladder wedge (27) using 5/16" x 1-1/4" flange bolts (6) and 5/16" flange nuts (7).

Figure 2-3 Assembling the safety cage hoop brackets



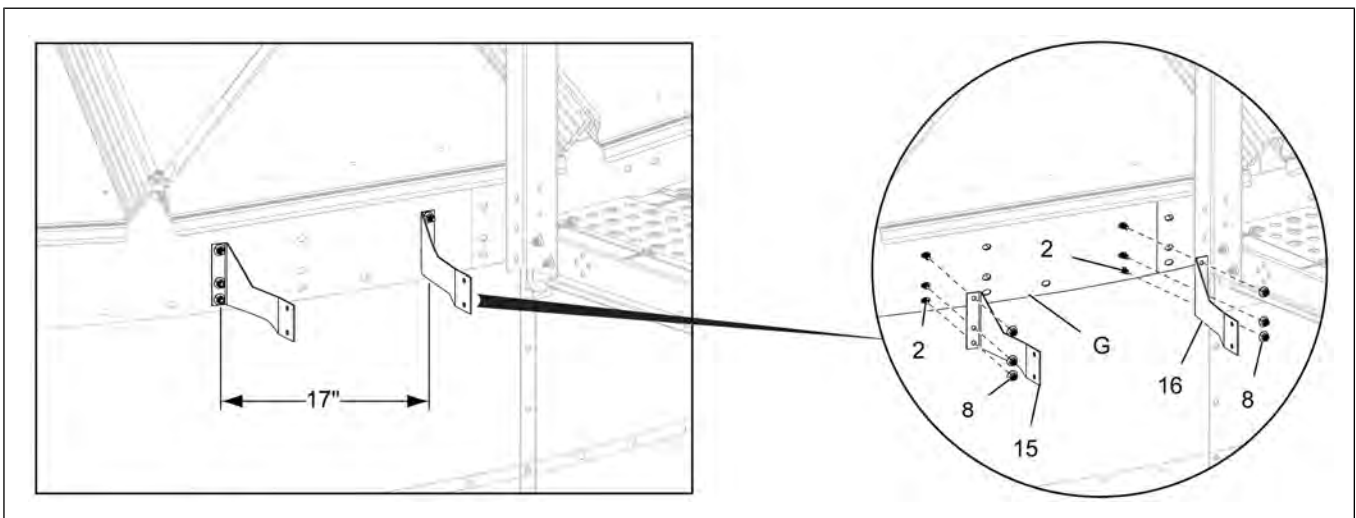
Installing the Ladder Assembly at Eave

1. Install the ladder starting brackets (15 and 16) to the roof band (G) using three 3/8" x 1" flange bolts (2) and 3/8" flange nuts (8).

NOTE:

- a. Make sure to assemble the right ladder starting bracket (16) to the first set of holes on the left where two roof bands (G) overlap.
- b. Make sure to assemble the left ladder starting bracket (15) to the set of holes which are about 17" left of the first set of holes.

Figure 2-4 Installing the ladder starting brackets

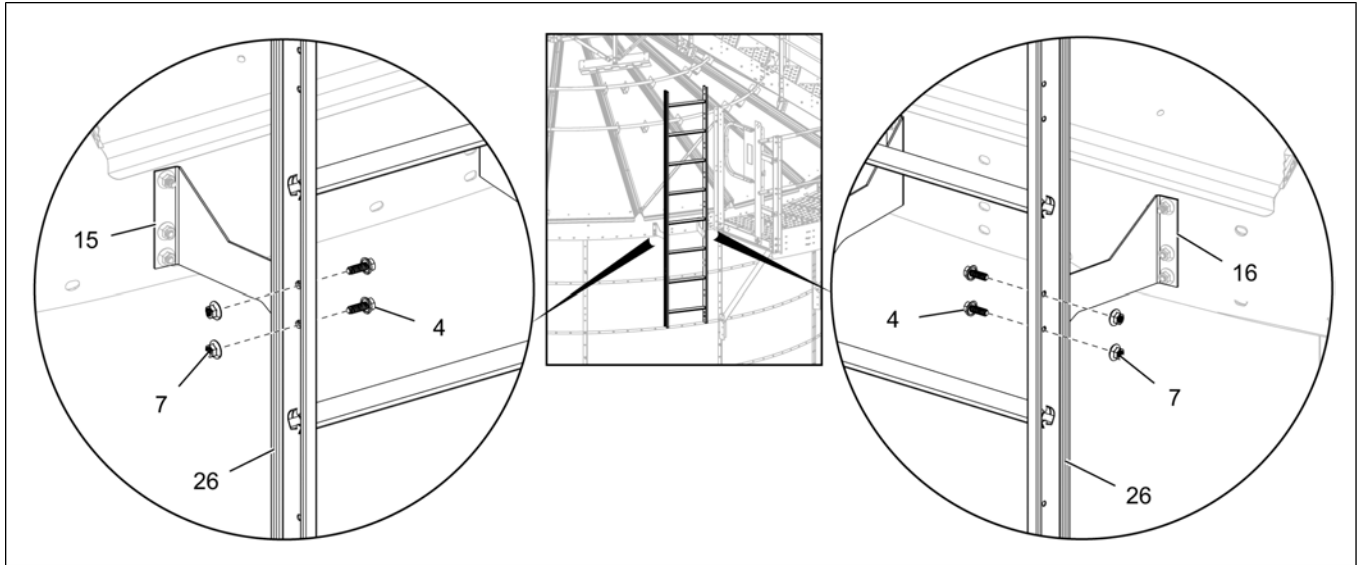


2. Install the ladder section (26) to the ladder starting brackets (15 and 16) using 5/16" x 1" flange bolts (4) and 5/16" flange nuts (7).

NOTE:

- a. Make sure the ladder (26) will extend up approximately 4' from roof hatch platform floor.
- b. Make sure the ladder rung is aligned with the roof hatch platform floor.

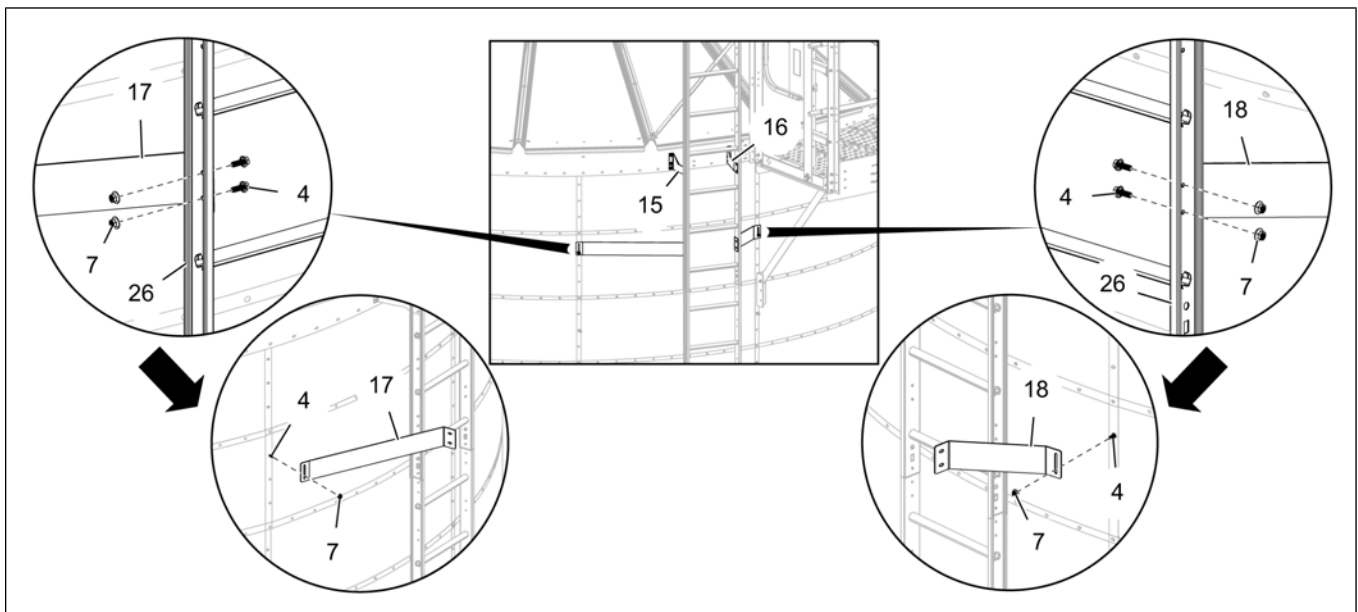
Figure 2-5 Installing the ladder section



3. Attach the left ladder brace bracket (17) and right ladder brace bracket (18) to the ladder section (26) using 5/16" x 1" flange bolts (4) and 5/16" flange nuts (7).
4. Install the slotted end of the left ladder brace bracket (17) and right ladder brace bracket (18) to the vertical channels using 5/16" x 1" flange bolts (4) and 5/16" flange nuts (7).

NOTE: The brace brackets (17 and 18) are installed below the 2nd rung from the ladder starter brackets (15 and 16).

Figure 2-6 Installing the ladder brace brackets



Installing the Ladder Braces

What You Should Know

The long ladder brace is comprised of one large diameter tube (19) and two smaller diameter tubes (20 and 21). The short ladder brace is comprised of one large diameter tube (22) and two smaller diameter tubes (23 and 24).

1. Install two sets of long ladder braces: Attach one smaller tube (21) to the top of the ladder rail (26) and attach the other smaller tube (20) to the roof panel (H).
2. Install two sets of short ladder braces: Attach one smaller tube (24) to the ladder rail (26) and attach the other smaller tube (23) to the roof panel (H).

NOTE:

- a. Make sure to slide and adjust the smaller tubes (21 and 24) in both the ladder brace so that the bottom flattened end of the smaller tubes (20 and 23) reaches the roof panel (H).
- b. Use 5/16" x 1" flange bolts (1) and 5/16" flange nuts (7) to install the smaller tubes (20 and 23) to the roof panel (H).
- c. Use 5/16" x 1" flange bolts (1) and 5/16" flange nuts (7) to install the smaller tubes (21 and 24) to the ladder extension rail (26).
- d. Make sure to field drill four 5/16" holes per brace through both large and smaller tubes and bolt together using 1/4" x 1-1/2" bolts (3) and 1/4" nuts (9) to prevent the braces from slipping.

Figure 2-7 Installing the ladder braces

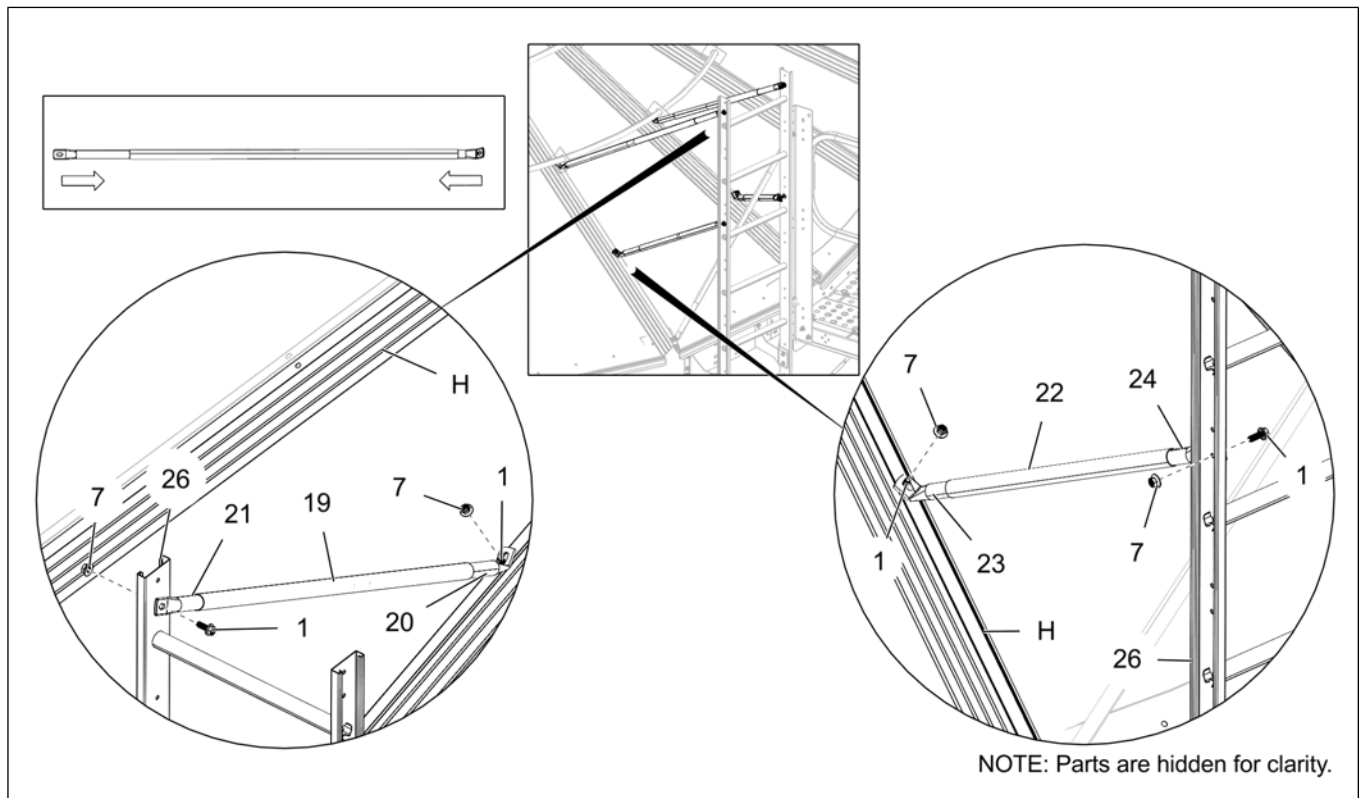
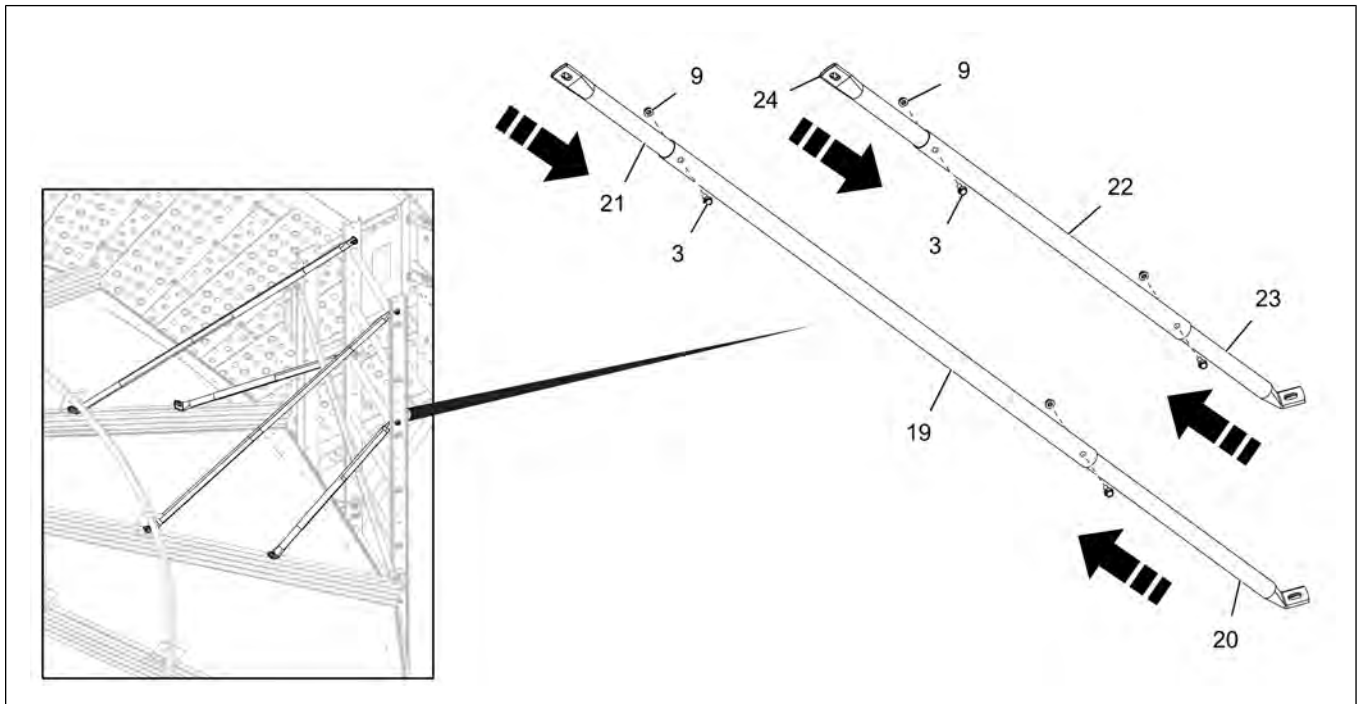


Figure 2-8 Securing the ladder braces

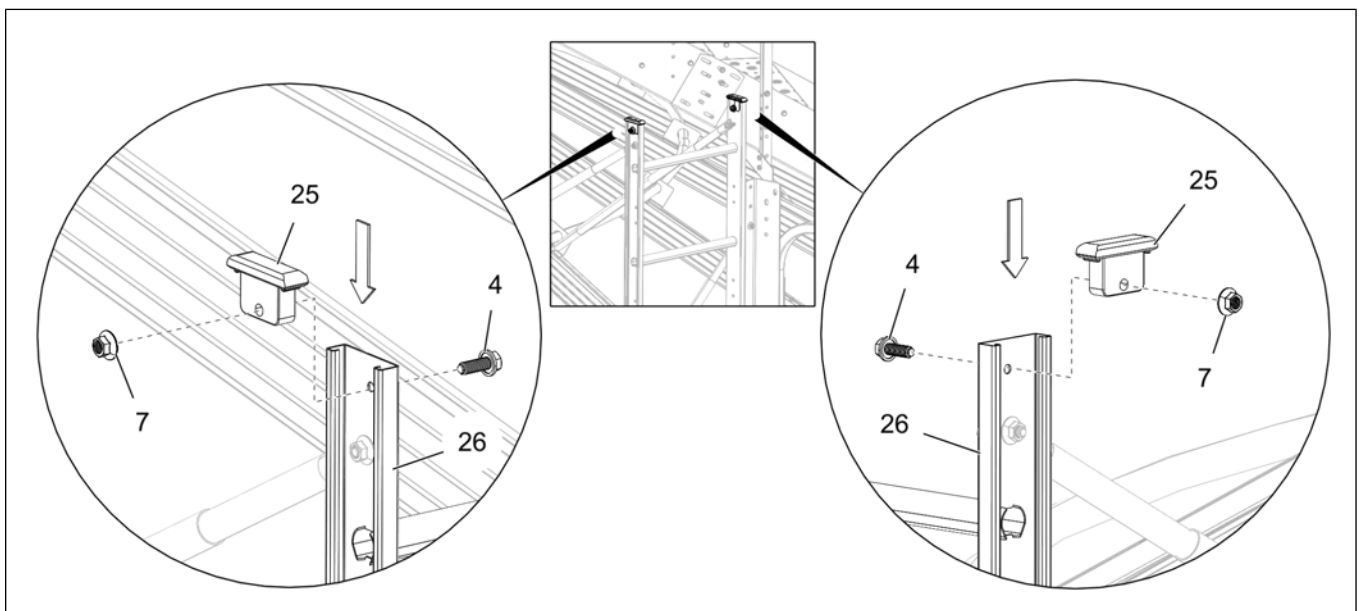


Installing the End Cap to the Ladder

The end cap helps to protect your hands from the sharp edges on the ends of the ladder.

1. Install the end caps (25) to both the left and right side of the ladder (26) by snapping the end caps (25) onto the top of the ladder (26).
2. Secure the end caps (25) in place using 5/16" x 1" flange bolt (4) and 5/16" flange nut (7).

Figure 2-9 Installing the end caps

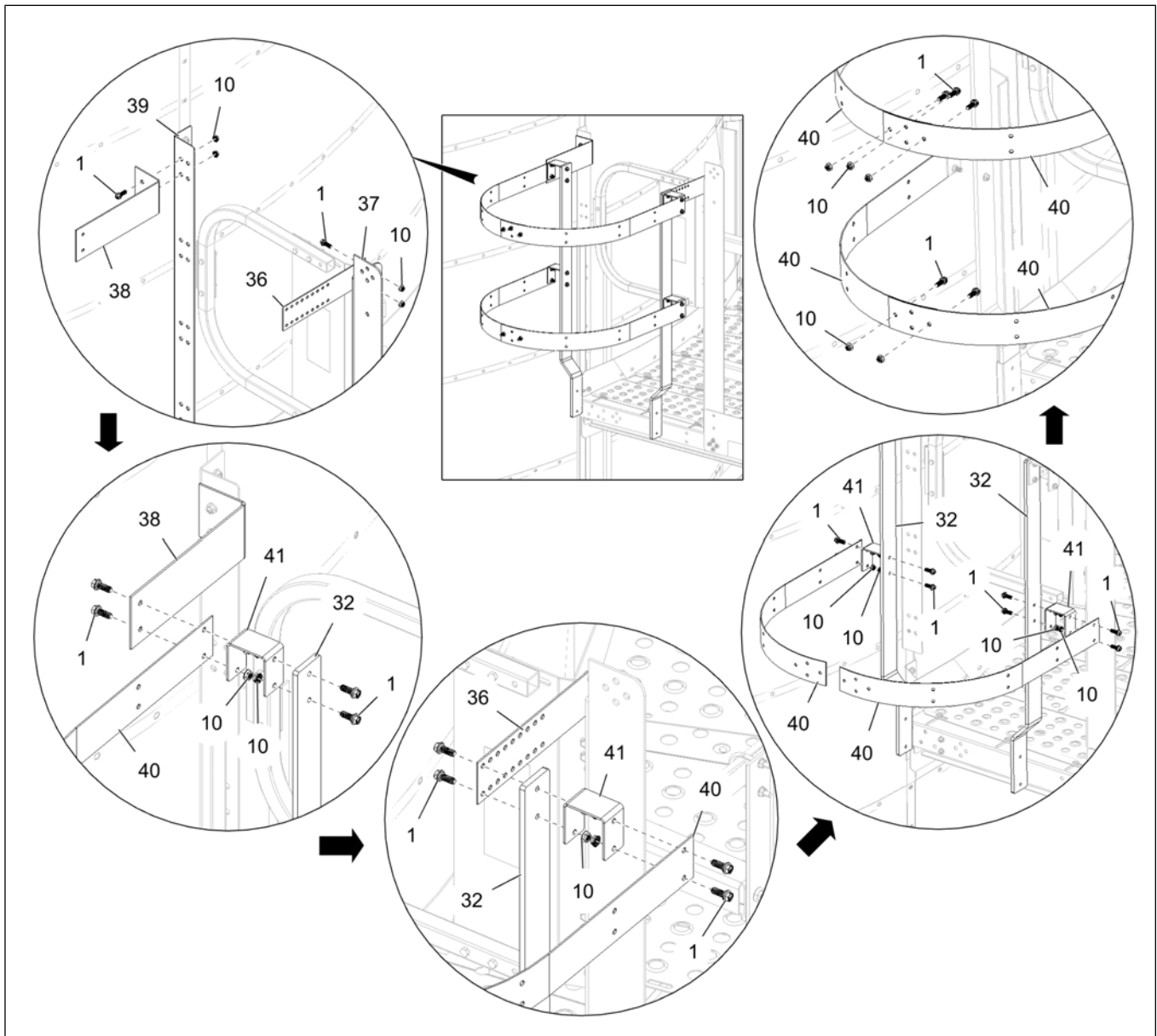


Installing the Ladder Assembly at the Base

1. Assemble the safety cage hoop splice (36) to the swing gate support (37) and cage support bracket (38) to the platform end plate (39) using 5/16" x 1" flange bolts (1) and 5/16" flange nuts (10).
2. Position a safety cage hoop (40) followed by a narrow safety cage hoop bracket (41) and a ladder flare (32) to the cage support bracket (38) and assemble all together using 5/16" x 1" flange bolts (1) and 5/16" flange nuts (10).
3. Position a ladder flare (32) followed by a narrow safety cage hoop bracket (41) and a safety cage hoop (40) to the safety cage hoop splice (36) and assemble all together using 5/16" x 1" flange bolts (1) and 5/16" flange nuts (10).
4. Assemble a narrow safety cage hoop bracket (41) and a safety cage hoop (40) to the middle of both ladder flares (32) using 5/16" x 1" flange bolts (1) and 5/16" flange nuts (10).

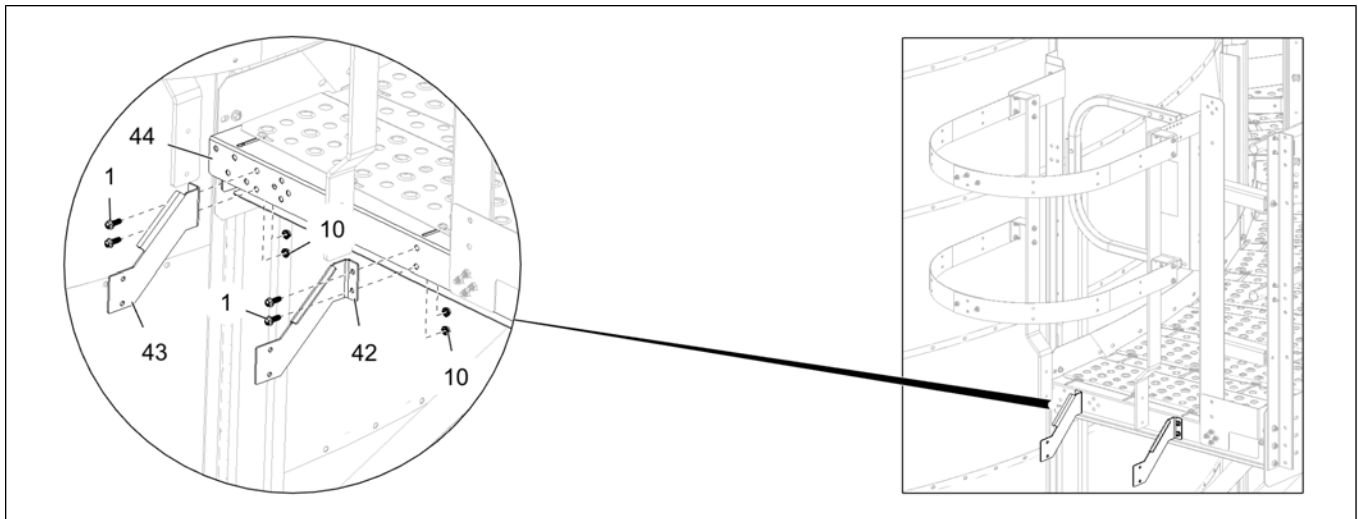
NOTE: Make sure the ladder flares (32) are vertical and parallel to the platform posts by adjusting the safety cage hoop splice (36). The ladder should be square to the platform.

Figure 2-10 Assembling the safety cage hoop brackets, safety cage hoops and the ladder flares



- Assemble the right ladder bracket (42) and left ladder bracket (43) to the catwalk support plank (44) using 5/16" x 1" flange bolts (1) and 5/16" flange nuts (10).

Figure 2-11 Assembling the ladder brackets



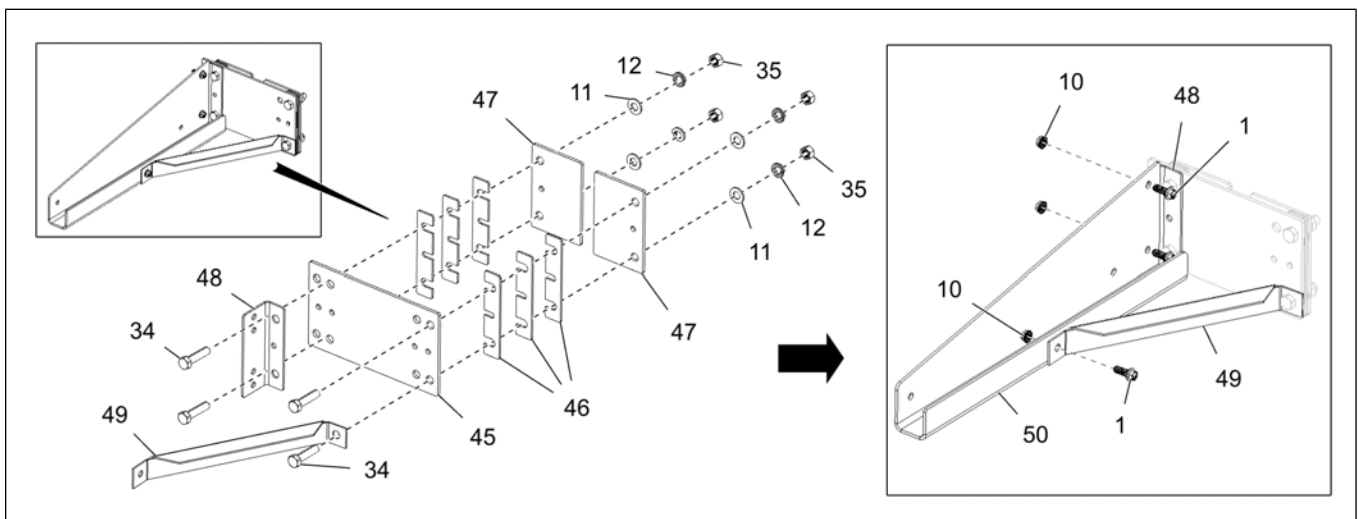
- Assemble the ladder clamp face plate (45), shim plates (46) and back plate (47) along with ladder support bracket (48) and ladder brace bracket (49) using 1/2" x 2" HHCS bolts (34), 1/2" flat washers (11), 1/2" lock washers (12) and 1/2" hex nuts (35).

NOTE: Make sure to install the support bracket (48) and brace bracket (49) to each side of the face plate (45) as shown.

NOTE: Hand tighten the hex nuts (35) to allow the back plates (47) to slide freely when installing the plates onto the column weldments. Make sure to use enough shim plates (46) to keep the back plate (47) as flat as possible.

- Attach the ladder mounting bracket (50) to the ladder support bracket (48) and ladder brace bracket (49) using 5/16" x 1" flange bolts (1) and 5/16" flange nuts (10).

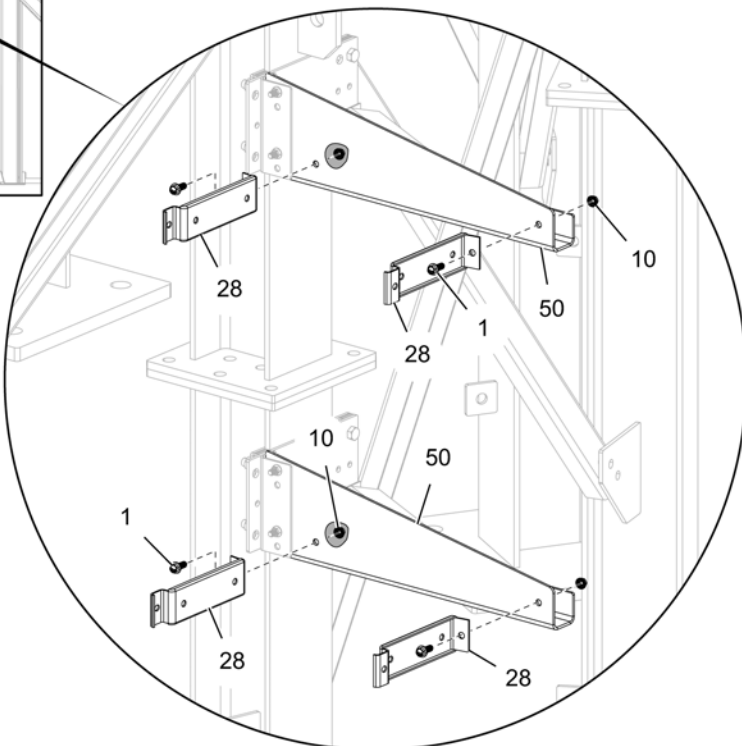
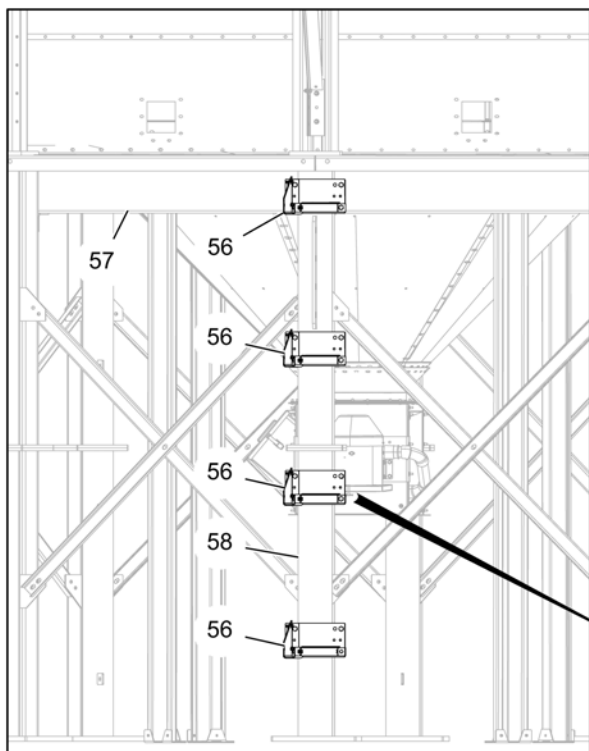
Figure 2-12 Assembling the clamp plates and ladder brackets



Chapter 2: General Information

8. Position the top of clamp plate assembly (56) at the distance as shown in [Figure 2-15, page 26](#) from the top of compression weldment (57) and install the clamp plate assembly (56) to the column weldment (58) below the platform entrance.
9. Continue to install the remaining three clamp plate assemblies (56) down the column weldment (58) at every 21", spaced center to center.
10. Install two ladder stand off brackets (28) to each ladder mounting bracket (50), installed to the clamp plate assemblies (56) using 5/16" x 1" flange bolts (1) and 5/16" flange nuts (10).

Figure 2-13 Installing the clamp plate assemblies and ladder standoff brackets



NOTE: Refer to safety cage layout for clamp plate assembly (56) positions based on diameter.

11. Attach the 4' ladder section (26) to the right and left ladder brackets (42 and 43) and ladder flares (32) using 5/16" x 1" flange bolts (1) and 5/16" flange nuts (10).

NOTE: Field drill holes in the ladder section (26) through the bottom hole in each ladder flare (32) and install hardware.

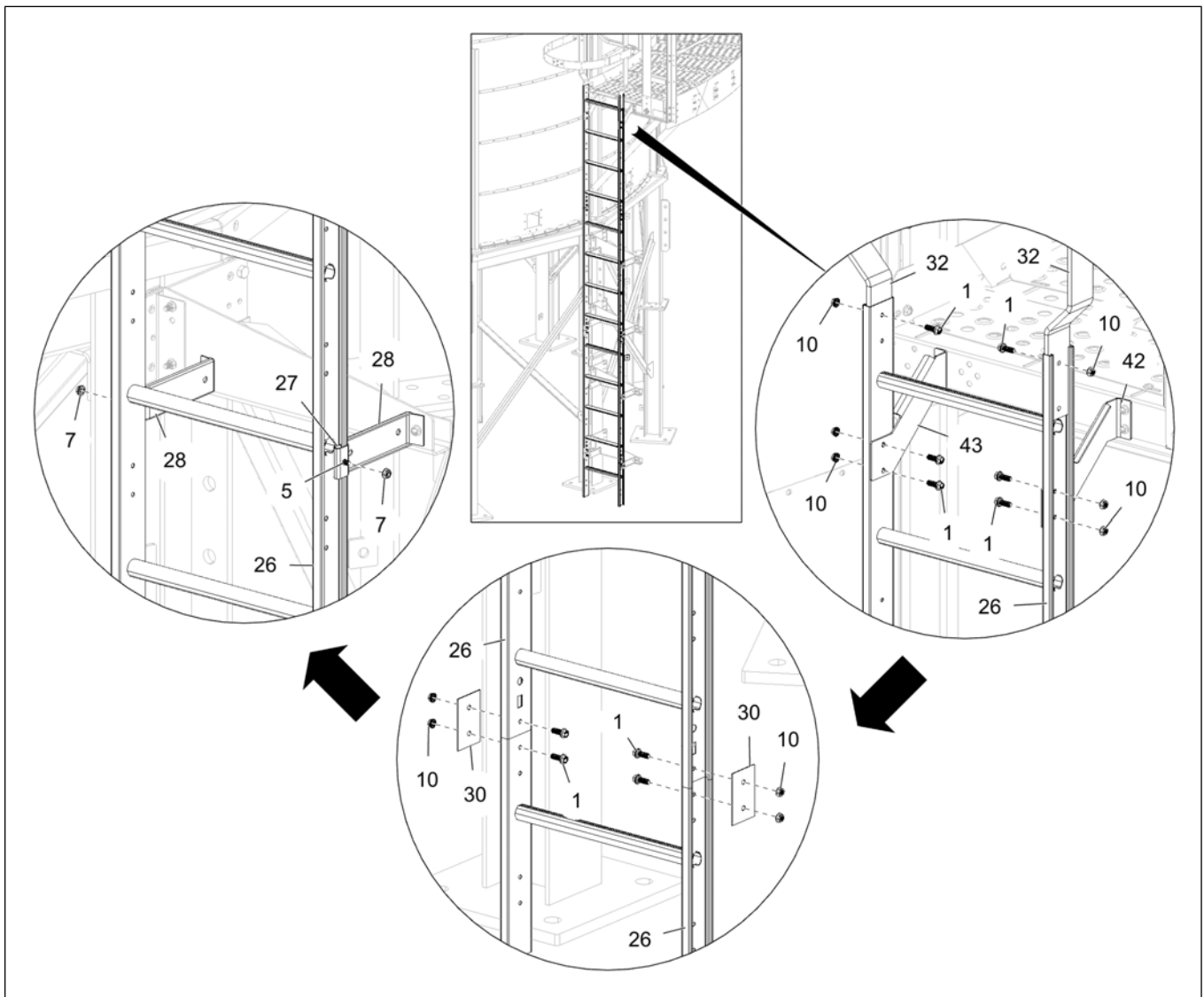
12. Install the next ladder section (26) to the previously installed ladder section (26) with ladder splices (30) using 5/16" x 1" flange bolts (1) and 5/16" flange nuts (10).

13. Slide the ladder wedge (27) along the ladder rail (26) and install it to the stand-off bracket (28) using 5/16" x 1" carriage bolts (5) and 5/16" flange nuts (7).

14. Continue to install the remaining ladder sections (26) till the foundation of the dryer. The ladder section at the bottom may need to be cut off for proper fit.

NOTE: Install all flange bolts (1) with bolt head to the inside of the ladder section (26) at all places.

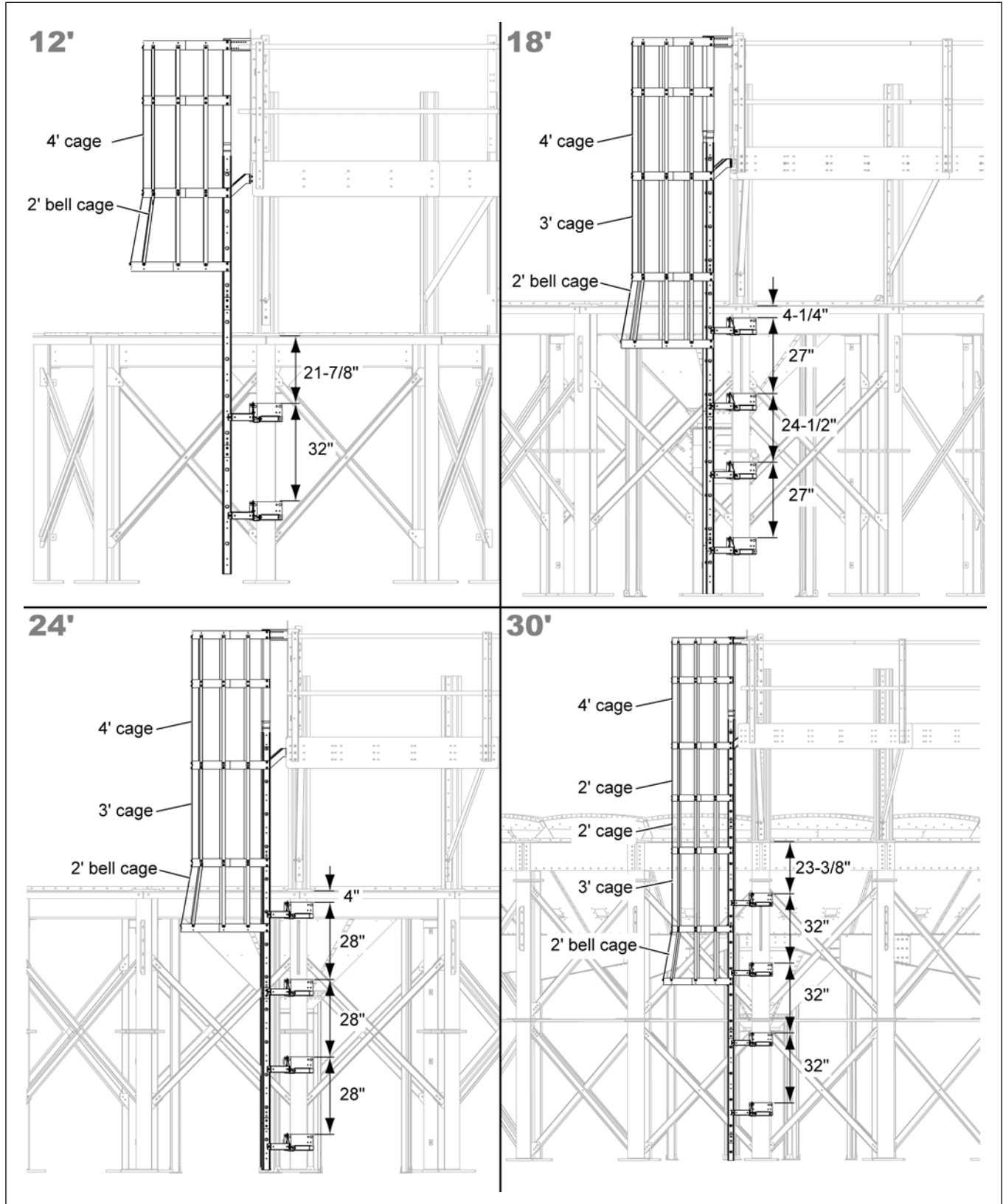
Figure 2-14 Installing the ladder sections



15. The ladder installation at the base is complete for straight run ladders without safety cage. For ladder with safety cage options, continue to install the safety cages. Refer to [Figure 2-15, page 26](#) for details.

Installing the Safety Cages for Base Ladders (only for Ladder with Safety Cage Options)

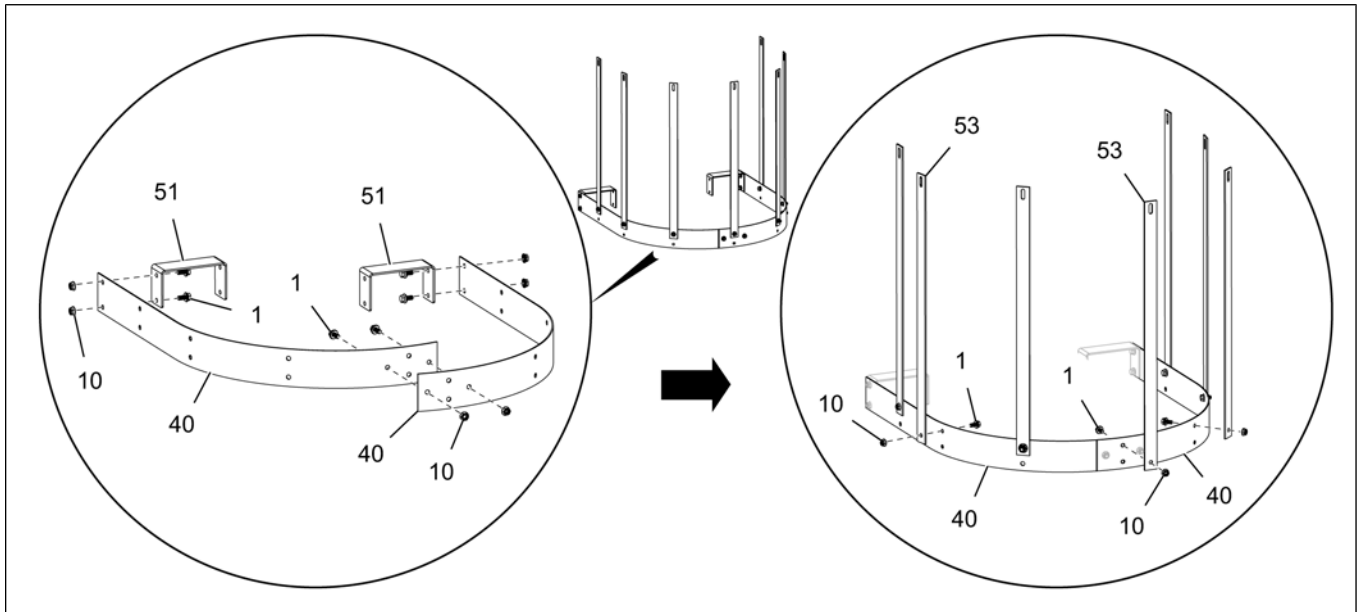
Figure 2-15 Base ladder and safety cage layout



16. Assemble the two safety cage hoops (40) together using 5/16" x 1" flange bolts (1) and 5/16" flange nuts (10).
17. Attach one safety cage hoop bracket (51) to the end of each safety cage hoop (40) using 5/16" x 1" flange bolts (1) and 5/16" flange nuts (10).
18. **For 2' safety cage sections:** Attach the seven 2' safety cage bars (53) to the top row holes of the safety cage hoops (40) assembly using 5/16" x 1" flange bolts (1) and 5/16" flange nuts (10).

NOTE: Install flange bolts (1) with bolt head to the inside of the cage. Hand tighten the bolts (1).

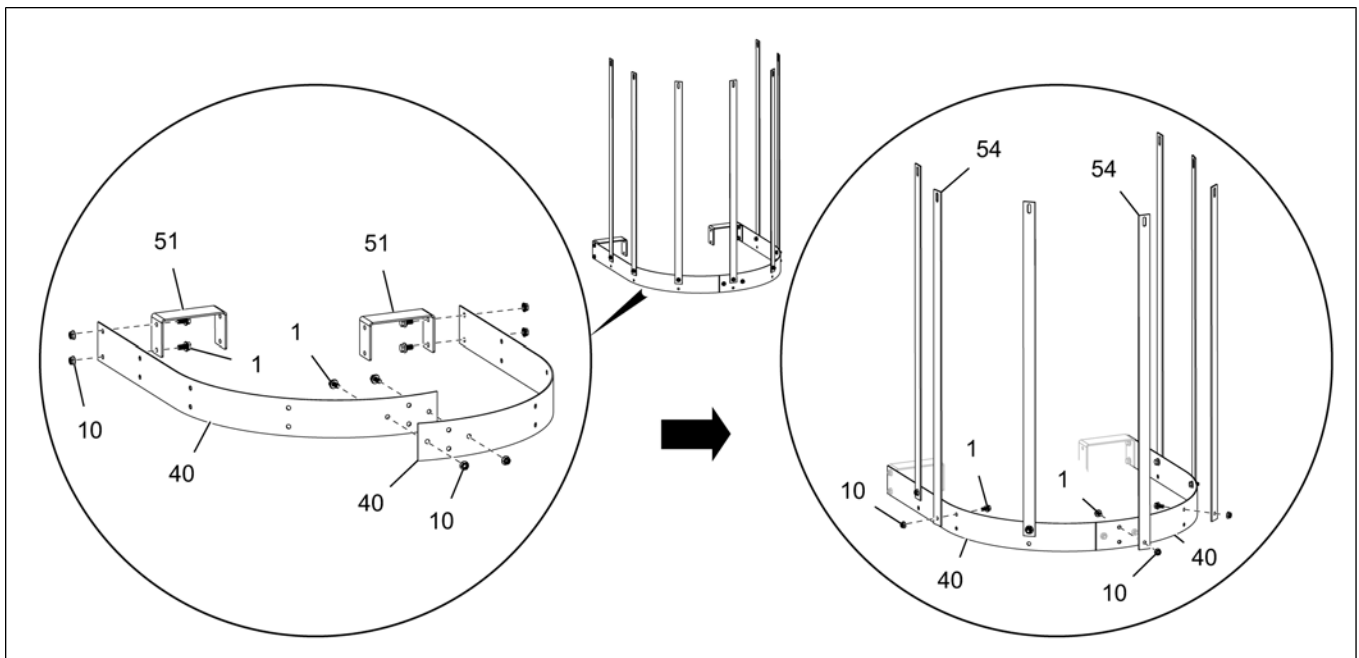
Figure 2-16 Assembling the 2' safety cage section



19. **For 3' safety cage sections:** Attach the seven 3' safety cage bars (54) to the top row holes of the safety cage hoops (40) assembly using 5/16" x 1" flange bolts (1) and 5/16" flange nuts (10).

NOTE: Install flange bolts (1) with bolt head to the inside of the cage. Hand tighten the bolts (1).

Figure 2-17 Assembling the 3' safety cage section

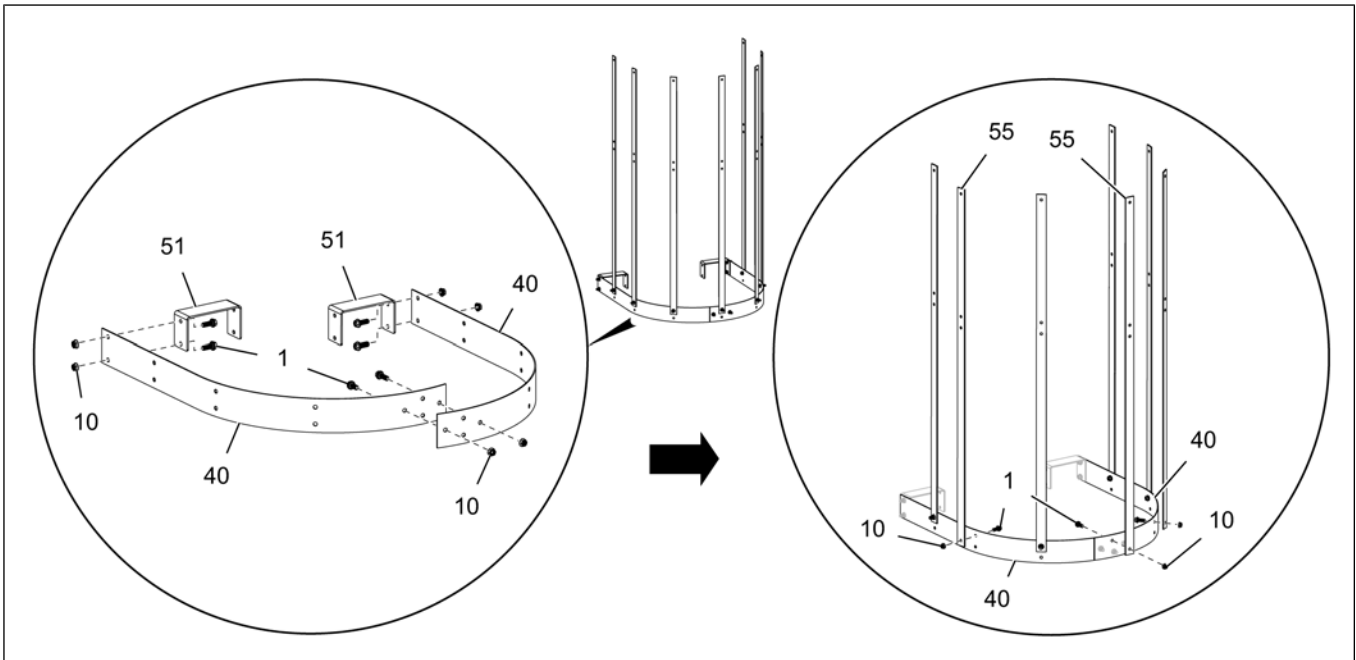


Chapter 2: General Information

20. For 4' safety cage sections: Attach the seven 4' safety cage bars (55) to the top row holes of the safety cage hoops (40) assembly using 5/16" x 1" flange bolts (1) and 5/16" flange nuts (10).

NOTE: Install flange bolts (1) with bolt head to the inside of the cage. Hand tighten the bolts (1).

Figure 2-18 Assembling the 4' safety cage section



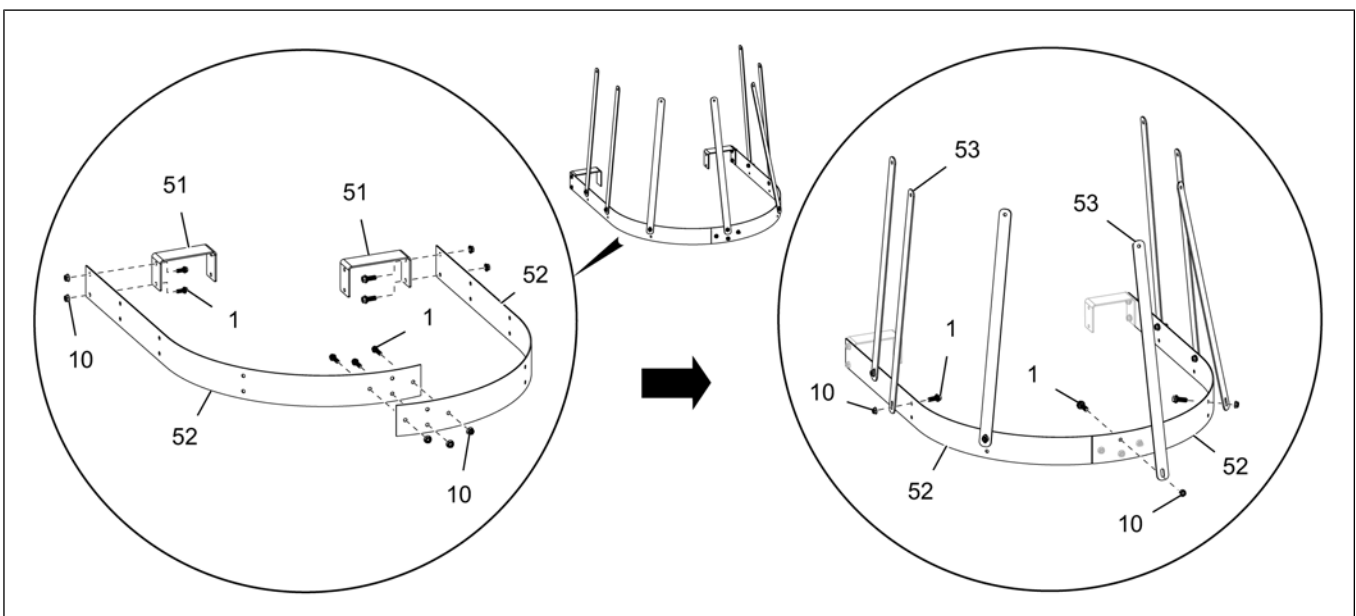
21. Assemble the two safety cage bell hoops (52) together using 5/16" x 1" flange bolts (1) and 5/16" flange nuts (10).

22. Attach one safety cage hoop bracket (51) to the end of each safety cage bell hoop (40) using 5/16" x 1" flange bolts (1) and 5/16" flange nuts (10).

23. Attach the seven 2' safety cage bars (53) to the top row holes of the safety cage bell hoops (52) assembly using 5/16" x 1" flange bolts (1) and 5/16" flange nuts (10).

NOTE: Install flange bolts (1) with bolt head to the inside of the cage. Hand tighten the bolts (1).

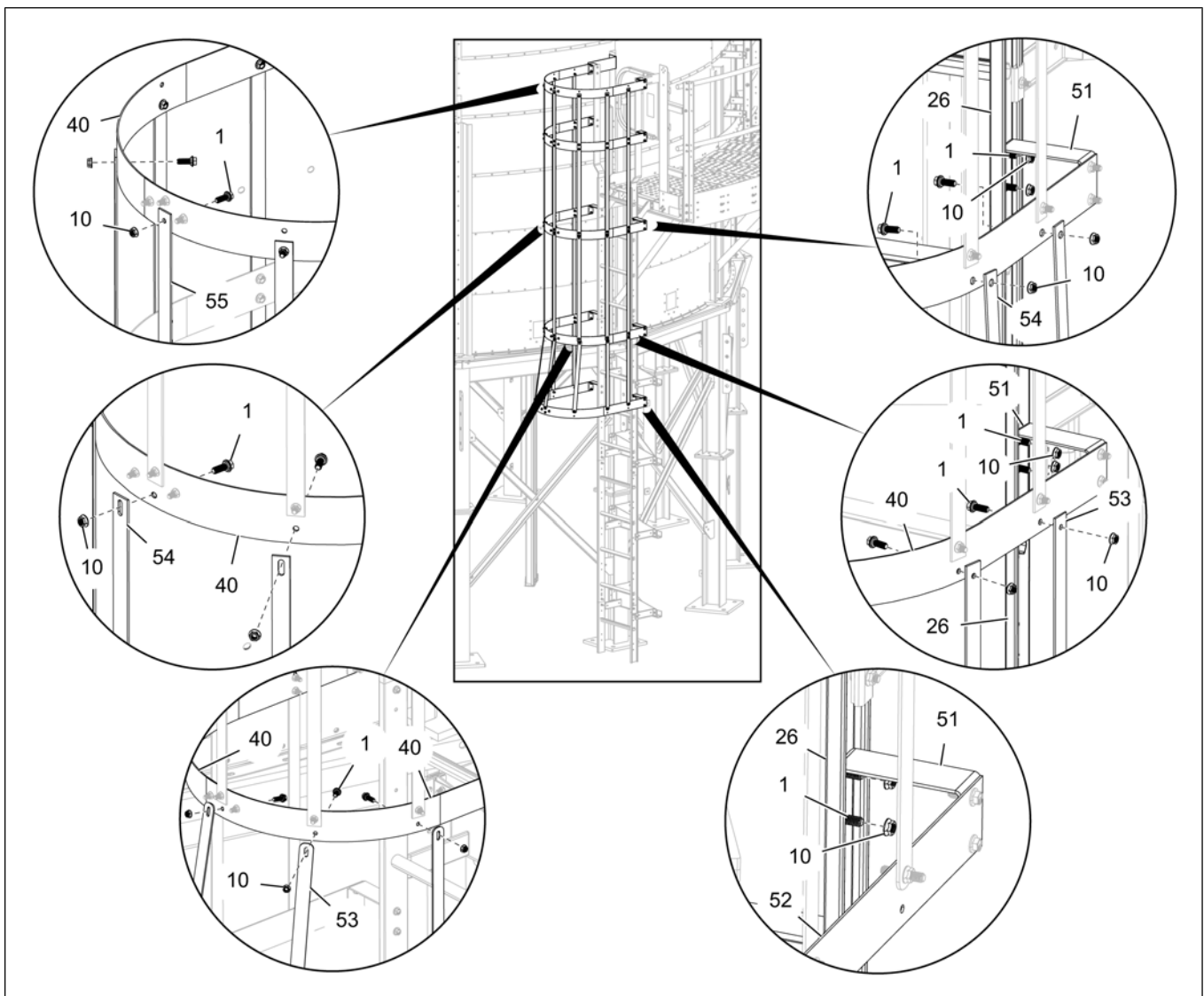
Figure 2-19 Assembling the 2' bell safety cage section



24. Install the 4' safety cage section by connecting the 4' safety cage bars (55) to the two safety cage hoops (40) of the platform using 5/16" x 1" flange bolts (1) and 5/16" flange nuts (10).
25. Attach the safety cage hoop brackets (51) (assembled with 4' safety cage section) to each side of the ladder section (26) using 5/16" x 1" flange bolts (1) and 5/16" flange nuts (10).
26. Install the next 2' or 3' safety cage section by connecting the safety cage bars to the safety cage hoops (40) of the previously installed 4' safety cage section using 5/16" x 1" flange bolts (1) and 5/16" flange nuts (10). Refer to the [Figure 2-15, page 26](#) to identify the next safety cage section.
27. Similarly, attach the safety cage hoop brackets (51) (assembled with 2' or 3' safety cage section) to each side of the ladder section (26) using 5/16" x 1" flange bolts (1) and 5/16" flange nuts (10).
28. After installing all the safety cage sections, finally install the safety cage bell section by connecting the safety cage bars (53) to the safety cage hoops (40) of the previously installed 2' or 3' safety cage section using 5/16" x 1" flange bolts (1) and 5/16" flange nuts (10).
29. Attach the safety cage hoop brackets (51) (assembled with safety cage bell section) to each side of the ladder section (26) using 5/16" x 1" flange bolts (1) and 5/16" flange nuts (10).

NOTE: Install flange bolts (1) with bolt head to the inside of the cages.

Figure 2-20 Installing the safety cages for the base ladder



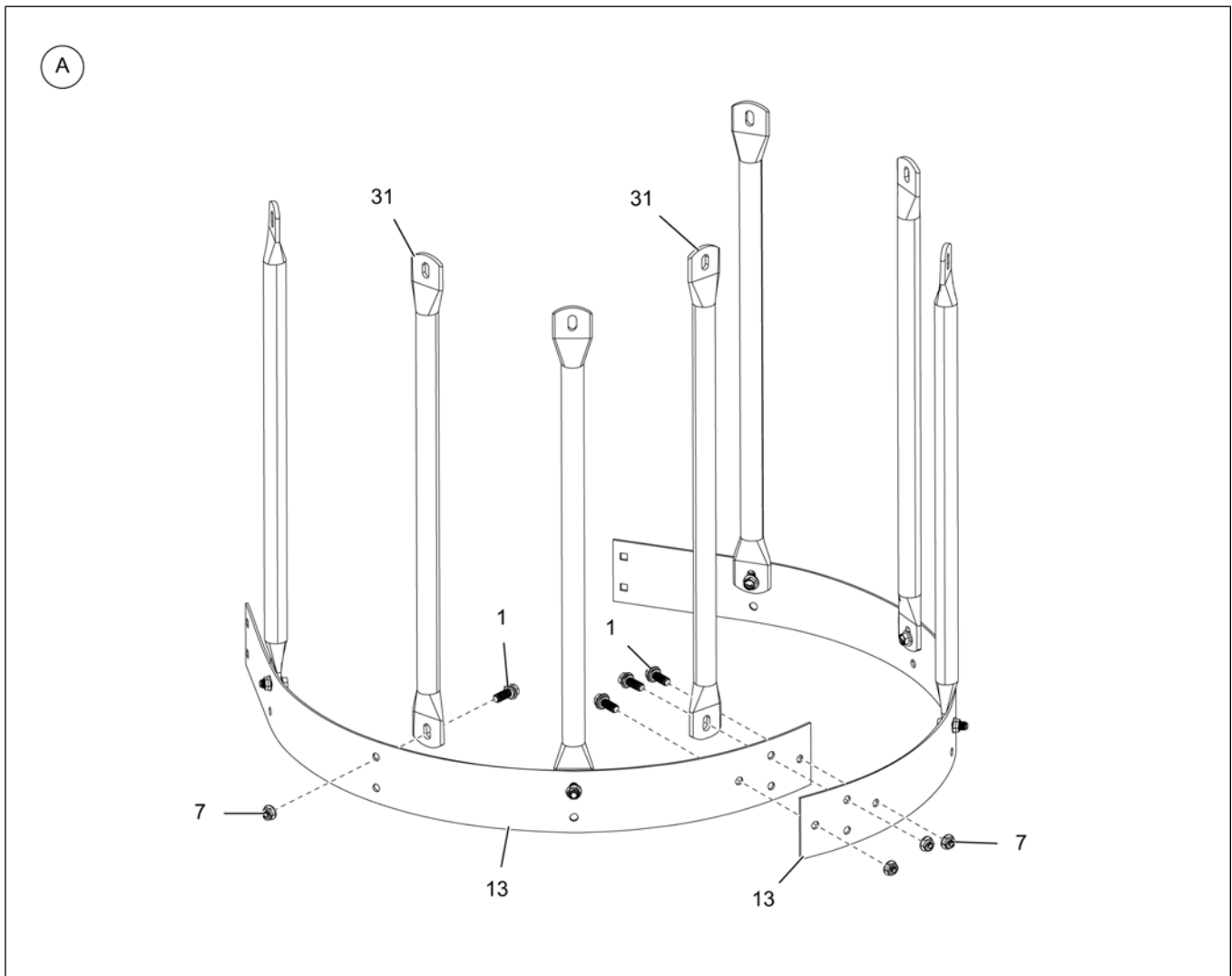
Assembling the 24" Safety Cage Section

1. Assemble the two safety cage hoop halves (13) together using 5/16" x 1" flange bolts (1) and 5/16" flange nuts (7).
2. Attach the seven 24" vertical supports (31) to the top row holes of the hoop halves (13) assembly using 5/16" x 1" flange bolts (1) and 5/16" flange nuts (7).

NOTE:

- a. Install bolts (1) with bolt heads on the inside of the cage. Hand tighten the bolts (1).
- b. The 24" safety cage is used in ladder assembly with safety cage option.

Figure 2-21 Assembling the 24" safety cages



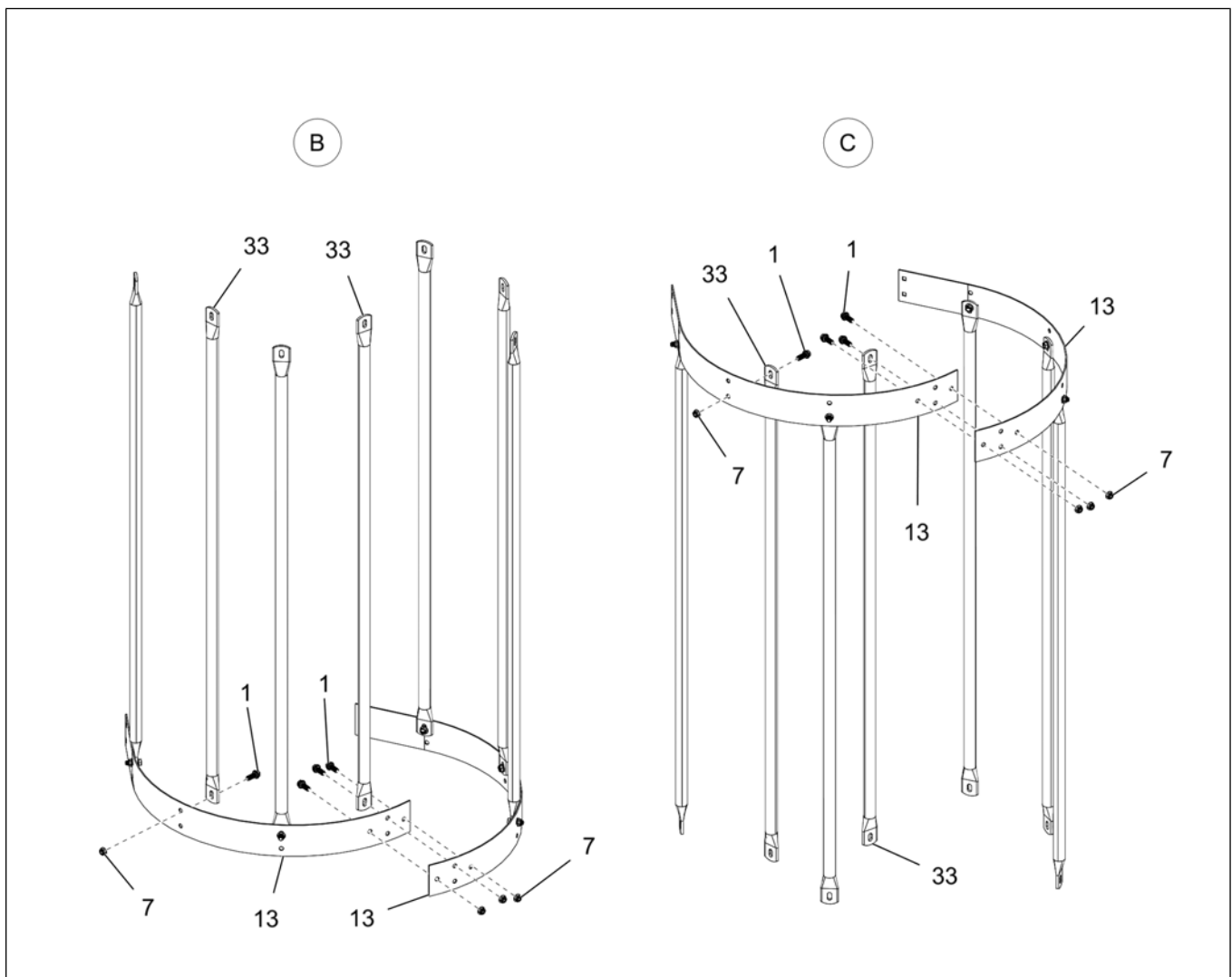
Assembling the 48" Safety Cage Section

1. Assemble the two safety cage hoop halves (13) together using 5/16" x 1" flange bolts (1) and 5/16" flange nuts (7).
2. Attach the seven 48" vertical supports (33) to the top row holes of the hoop halves (13) assembly using 5/16" x 1" flange bolts (1) and 5/16" flange nuts (7).

NOTE:

- a. Install bolts (1) with bolt heads on the inside of the cage. Hand tighten the bolts (1).
- b. At some places, you may need to install the safety cage section inverted as shown in (C).
- c. The 48" safety cages (B and C) are used in ladder assembly with safety cage option.

Figure 2-22 Assembling the 48" safety cages



Assembling the 24" Bell Safety Cage Section

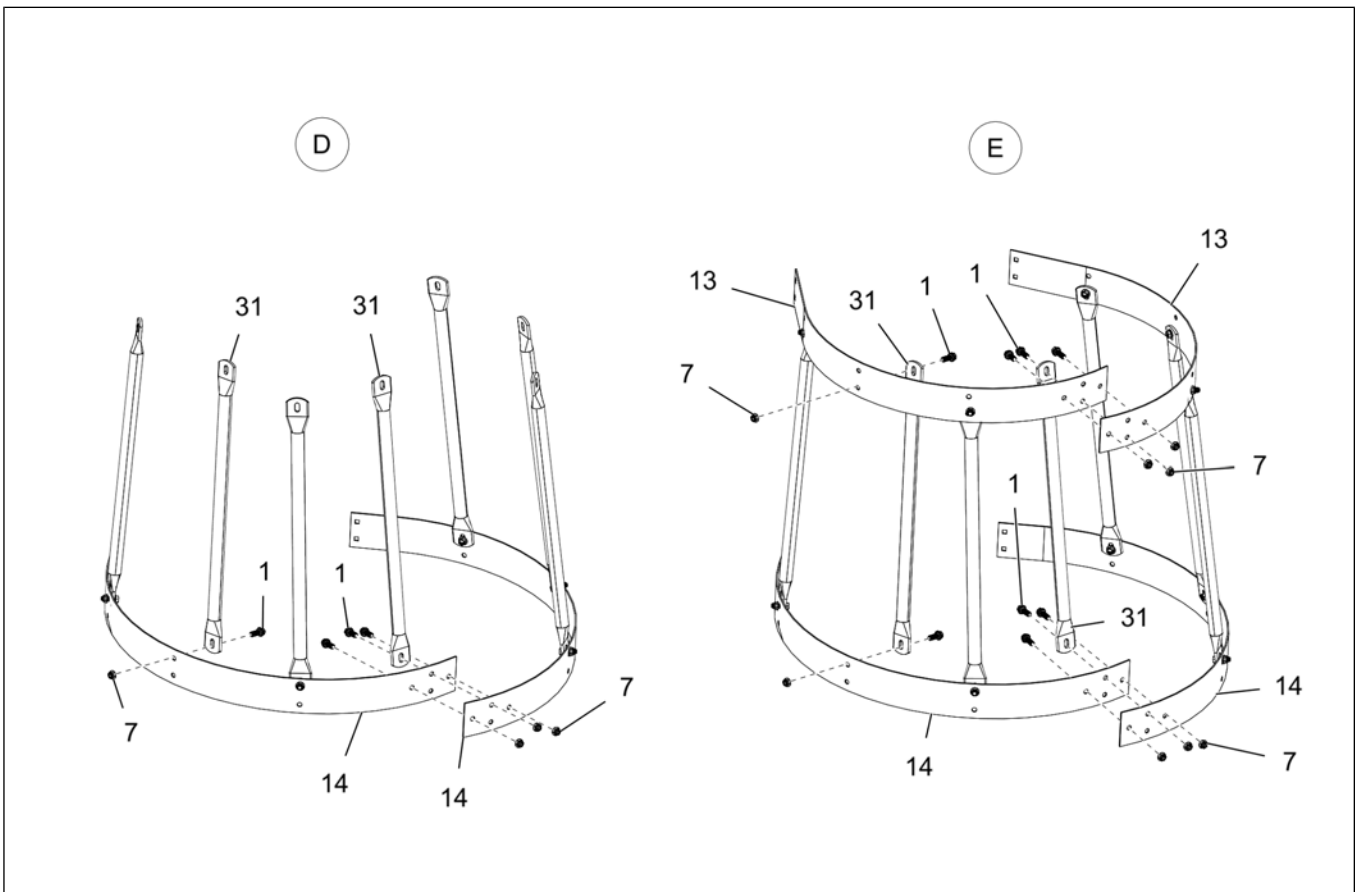
1. Assemble the two safety cage bell hoop halves (14) together using 5/16" x 1" flange bolts (1) and 5/16" flange nuts (7).
2. Attach the seven 24" vertical supports (31) to the top row holes of the bell hoop halves (14) assembly using 5/16" x 1" flange bolts (1) and 5/16" flange nuts (7).

NOTE:

- a. The vertical supports (31) must be bent at the flat area to allow for the angle of the bell section.
 - b. Install bolts (1) with bolt heads on the inside of the cage. Hand tighten the bolts (1).
3. At some cases, you may need to additionally install two safety cage hoop halves (13) to the top of the 24" vertical supports (31) as shown in (E) using 5/16" x 1" flange bolts (1) and 5/16" flange nuts (7).

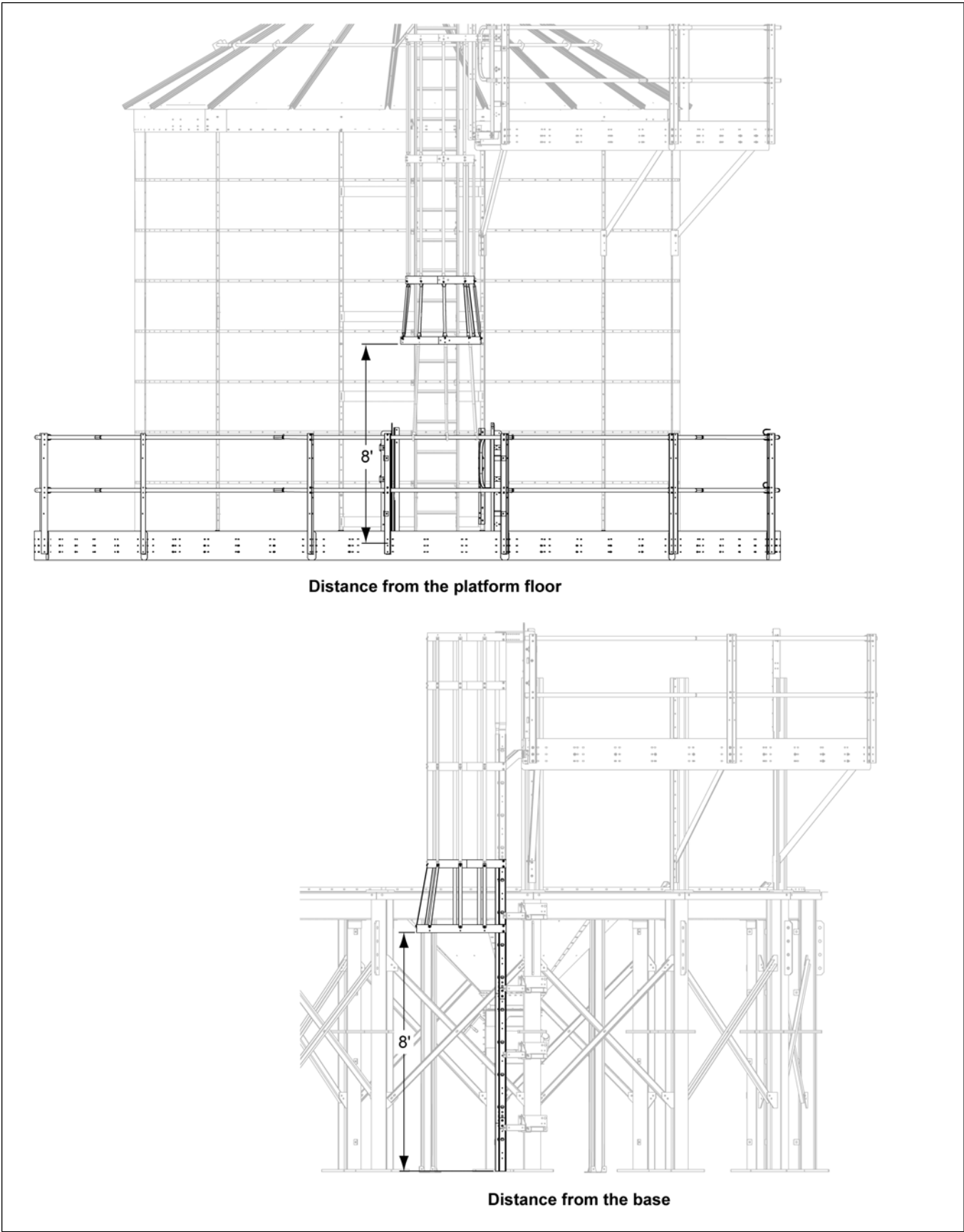
NOTE: The 24" bell safety cages (D and E) are used in ladder assembly with safety cage option.

Figure 2-23 Assembling the 24" bell safety cages



NOTE: Maintain a minimum distance of 8' between the last safety cage and platform floor or base.

Figure 2-24 Distance of the safety cage from the platform floor or base



3 Straight Run Ladder Assembly with Fall Protection System

Topics Covered in this Chapter

- Parts List
- Ladder Assembly Layout with Fall Protection System
- Installing the Ladder Assembly between the Eave Platform and Catwalk
- Installing the Ladder Assembly at the Catwalk
- Installing the Ladder Assembly at the Middle Platform
- Locating Fall Protection Brackets on Ladders

Parts List

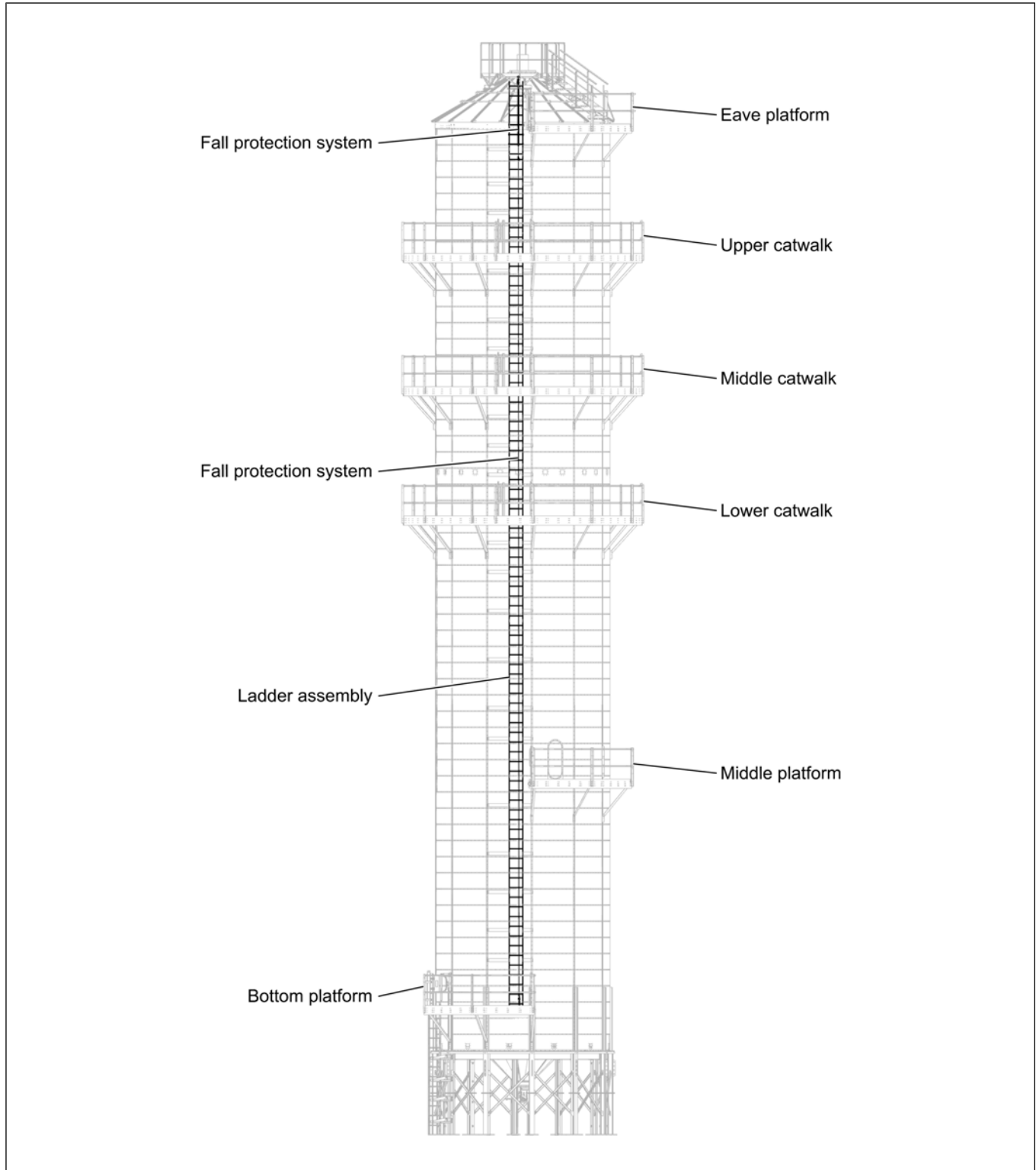
Ref #	Part #	Description
1	S-7470	5/16" x 1" flange bolt
2	S-3550	5/16" x 1" carriage bolt
3	S-3611	5/16" flange nut
4	LDR-4314	Ladder stand-off bracket
5		Ladder section
6	GT1-2096L-XX ²	Left ladder brace bracket
7	GT1-2096R-XX ²	Right ladder brace bracket
8	LDR-4198	Ladder stand-off wedge
9		Solid rod inserts
10		Cotter pin
11		Extended bracket package

2. XX indicates tower diameter.

Ladder Assembly Layout with Fall Protection System

One option for tower dryer ladders is the use of a fall protection system with no safety cage. This is a straight run from the eave to the bottom platform. The fall protection system uses a straight run of cable between a three rung bracket at the eave and a two rung bracket at the bottom.

Figure 3-1 Ladder assembly layout with fall protection system (Z-4742 shown)



Installing the Ladder Assembly between the Eave Platform and Catwalk

Before You Begin

You need to install the ladder and ladder braces at the eave. To install the ladder at the eave, refer to [Installing the Ladder Assembly at Eave, page 18](#). To install the ladder braces, refer to [Installing the Ladder Braces, page 20](#). To install the end caps, refer to [Installing the End Cap to the Ladder, page 21](#).

1. Install a set of ladder stand-off brackets (4) where perforated sheets overlap using existing horizontal seam bolts (I) and nuts (J).

NOTE: As a rule of thumb, make sure to use one set of ladder stand-off brackets (4) on every overlap, unless otherwise shown.

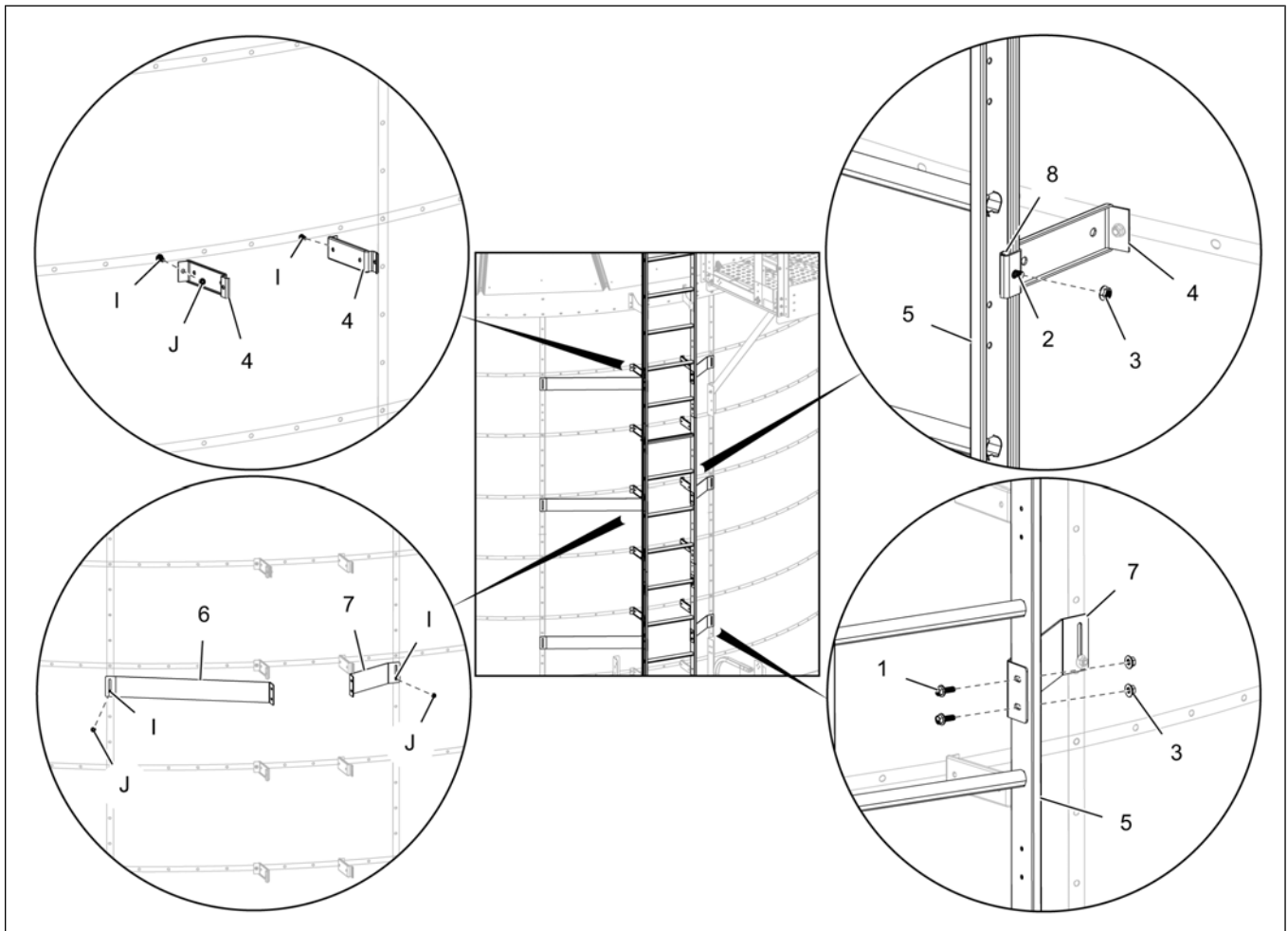
2. Install the ladder brace brackets (6 and 7) to the vertical channels using existing vertical seam bolts (I) and nuts (J).

NOTE: Use one set of ladder brace brackets (6 and 7) per 4' ladder section and two sets per 8' ladder section.

3. Install the ladder section (5) to the ladder brace brackets (6 and 7) using 5/16" x 1" flange bolts (1) and 5/16" flange nuts (3).

4. Slide the ladder wedges (8) along the ladder rail (5) and install it to the stand-off brackets (4) using 5/16" x 1" carriage bolts (2) and 5/16" flange nuts (3).

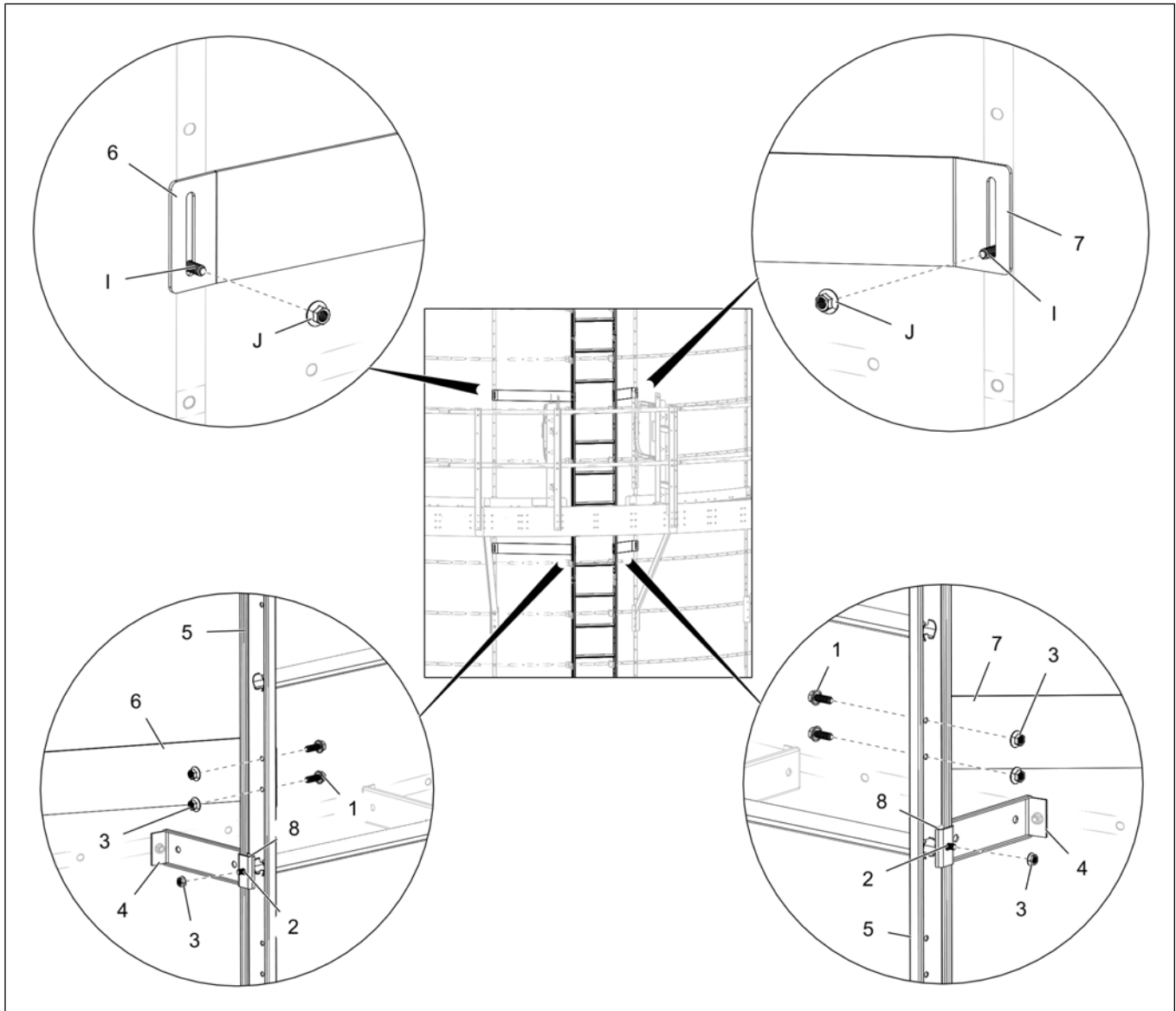
Figure 3-2 Installing the ladder stand-off and ladder brace brackets



Installing the Ladder Assembly at the Catwalk

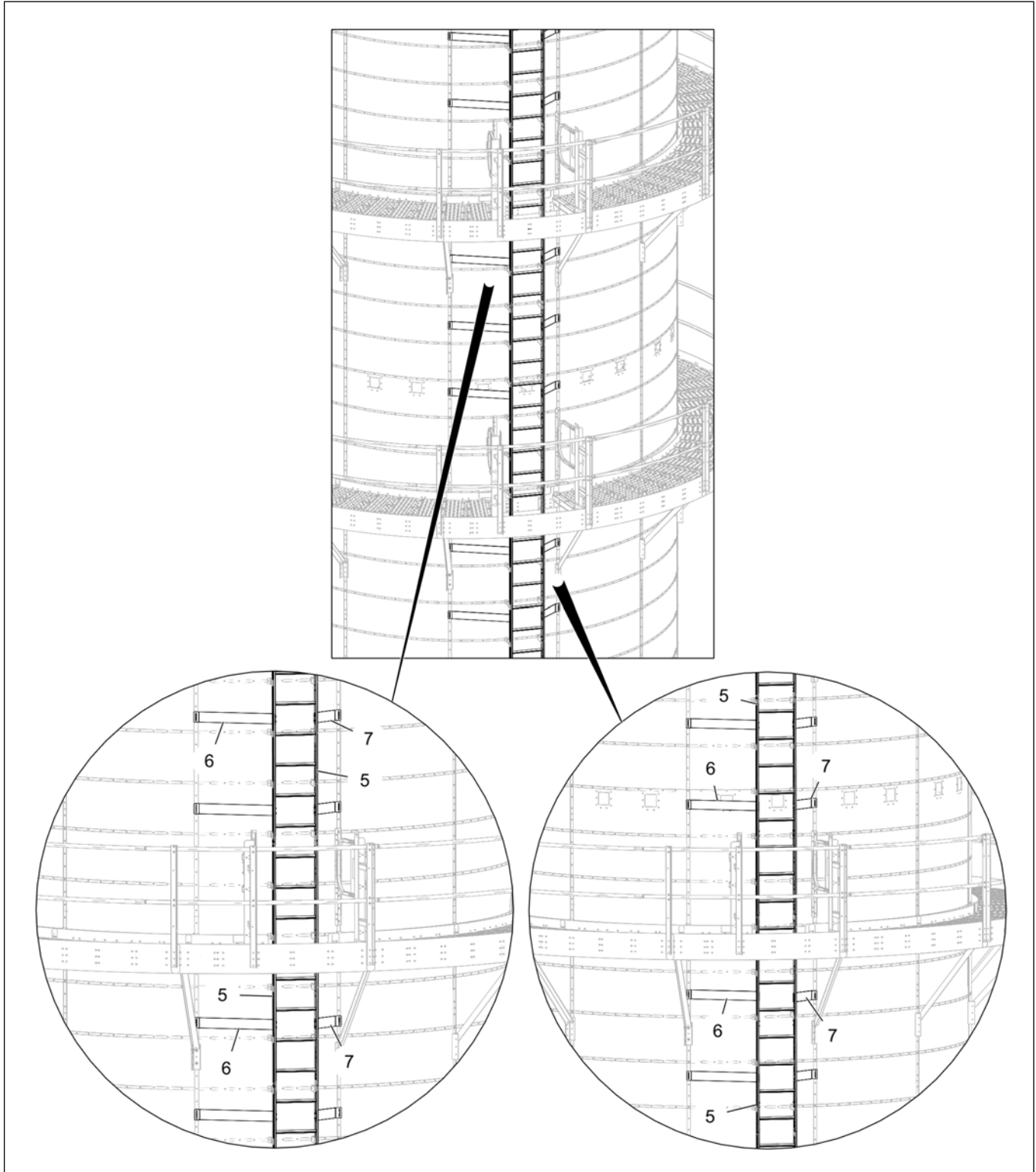
1. Install the slotted end of the left ladder brace bracket (6) and right ladder brace bracket (7) to the vertical channels using existing vertical seam bolts (I) and nuts (J).
2. Install the ladder section (5) to the ladder brace brackets (6 and 7) using 5/16" x 1" flange bolts (1) and 5/16" flange nuts (3).
3. Slide the ladder wedges (8) along the ladder rail (5) and install it to the stand-off brackets (4) using 5/16" x 1" carriage bolts (2) and 5/16" flange nuts (3).

Figure 3-3 *Installing the ladder at the catwalk*



4. Repeat the above steps to install the ladder sections (5) at the remaining catwalks.

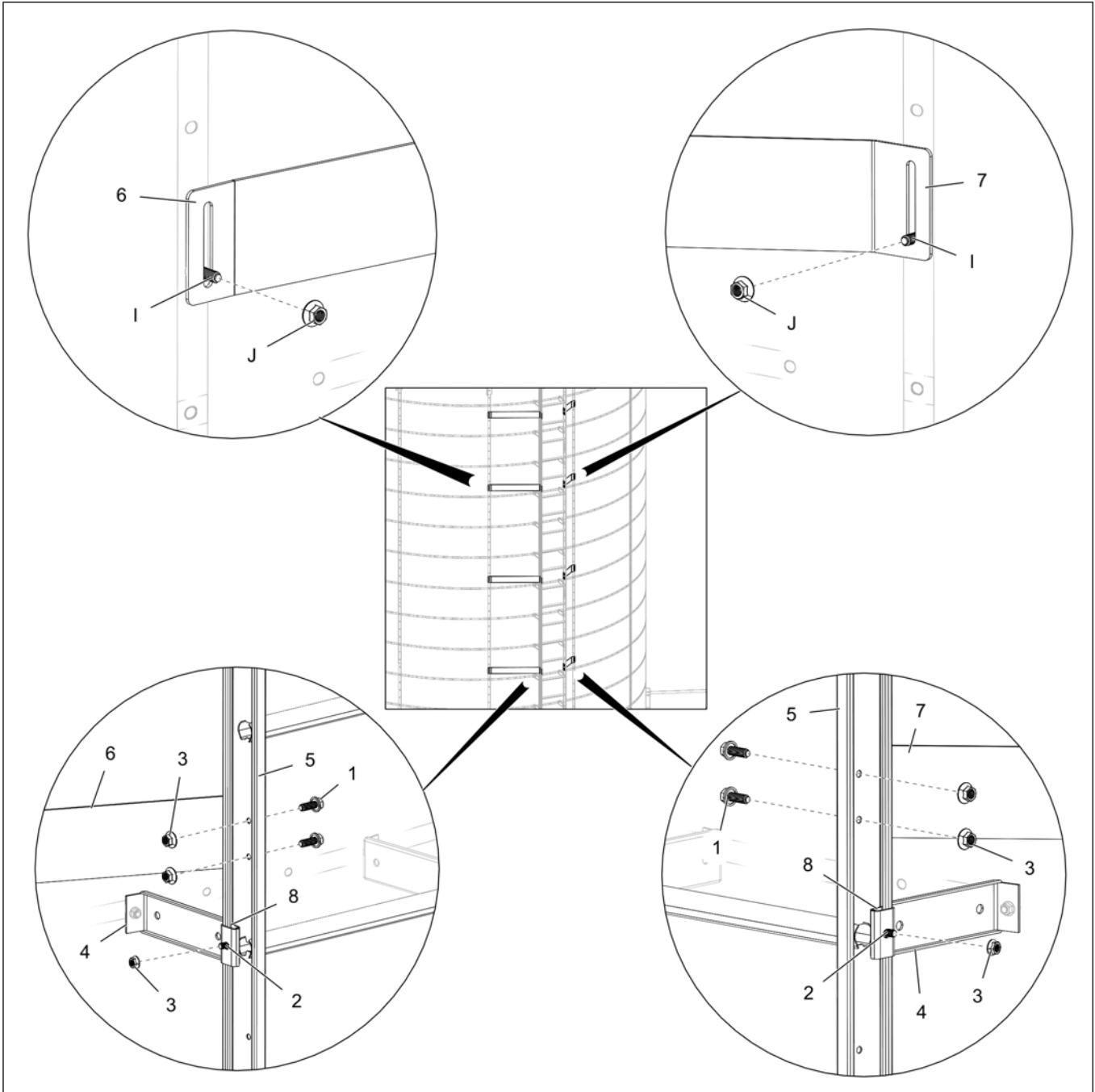
Figure 3-4 Installing the ladder at remaining catwalks



Chapter 3: Straight Run Ladder Assembly with Fall Protection System

5. Continue to install the ladder sections (5) to the ladder stand-off brackets (4) and ladder brace brackets (6 and 7).

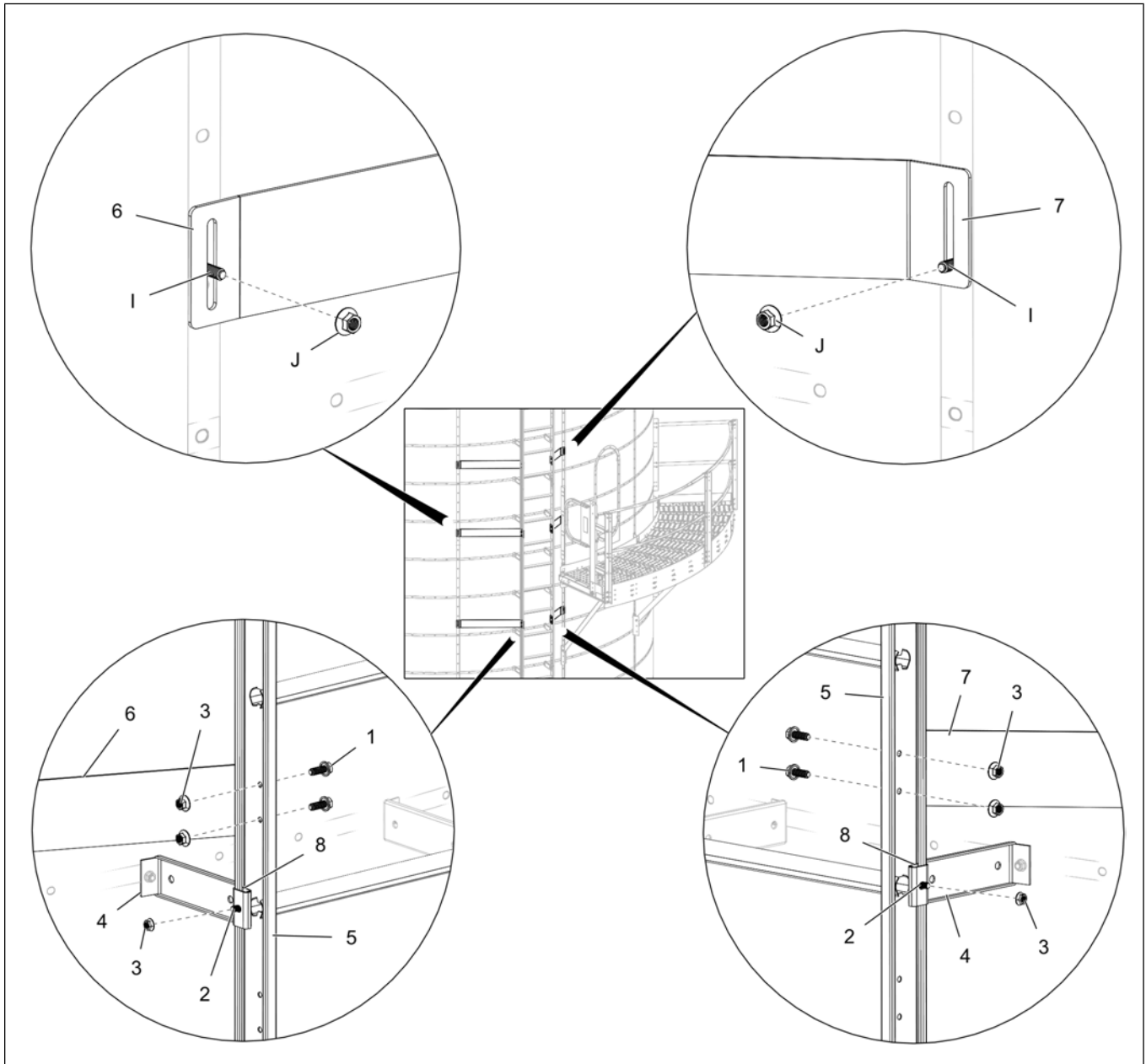
Figure 3-5 Installing the ladder at remaining sections



Installing the Ladder Assembly at the Middle Platform

1. Install the slotted end of the left ladder brace bracket (6) and right ladder brace bracket (7) to the vertical channels using existing vertical seam bolts (I) and nuts (J).
2. Install the ladder section (5) to the ladder brace brackets (6 and 7) using 5/16" x 1" flange bolts (1) and 5/16" flange nuts (3).
3. Slide the ladder wedges (8) along the ladder rail (5) and install it to the stand-off brackets (4) using 5/16" x 1" carriage bolts (2) and 5/16" flange nuts (3).

Figure 3-6 Installing the ladder at the middle platform



4. Continue to install the ladder sections (7) at the base of the dryer. To install the ladder sections at the base, refer to [Installing the Ladder Assembly at the Base, page 22](#).

Locating Fall Protection Brackets on Ladders



Make sure to read and follow the instructions that came with your fall protection system. Failure to do so can result in serious injury or death.

These instructions are only for locating the fall protection brackets on the tower dryer ladders.

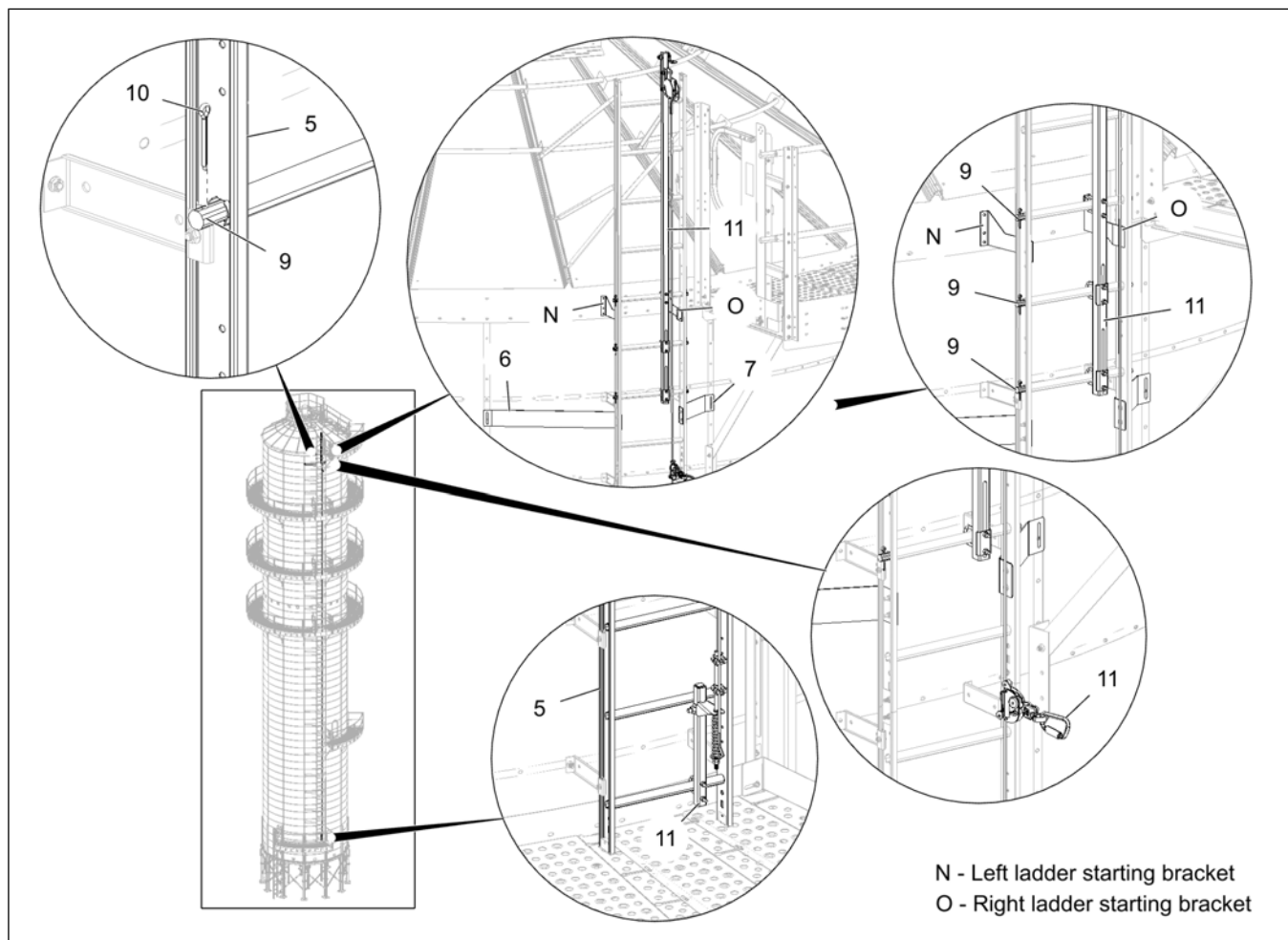
1. Attach the fall protection bracket (11) to the ladder rung directly above and the two ladder rungs directly below the ladder starter brackets (N and O).
2. Install the solid rod inserts (9) to all three rungs of the ladder (5) where the fall protection bracket (11) is installed.

NOTE: *If the fall protection system has only two rod inserts (9), install one to the top rung (directly above the starter brackets) and another to the bottom rung (2nd ladder rung below the starter brackets), leaving the middle rung (directly below the starter brackets) empty.*

3. Secure the solid rod inserts (9) from slipping out by installing cotter pins (10) on both the sides.
4. Use the extended bracket package (11) and install the fall protection system to the right side of the ladder (5).

NOTE: *Make sure the left and right ladder braces (6 and 7) are installed directly below the bottom ladder rung where the fall protection bracket (11) is installed.*

Figure 3-7 Installing the fall protection system



4 Ladder Assembly with Safety Cage

Topics Covered in this Chapter

- Parts List
- Ladder Assembly Layout with Safety Cage
- Installing the Ladder Assembly between the Eave Platform and Upper Catwalk
- Installing the Safety Cage between the Eave Platform and Upper Catwalk
- Installing the Ladder Assembly between the Catwalks
- Installing the Safety Cage between the Catwalks
- Installing the Ladder between the Bottom Catwalk and Middle Platform
- Installing the Safety Cage between the Bottom Catwalk and Middle Platform
- Installing the Ladder Assembly between the Middle and Bottom Platforms
- Installing the Safety Cage between the Middle and Bottom Platforms

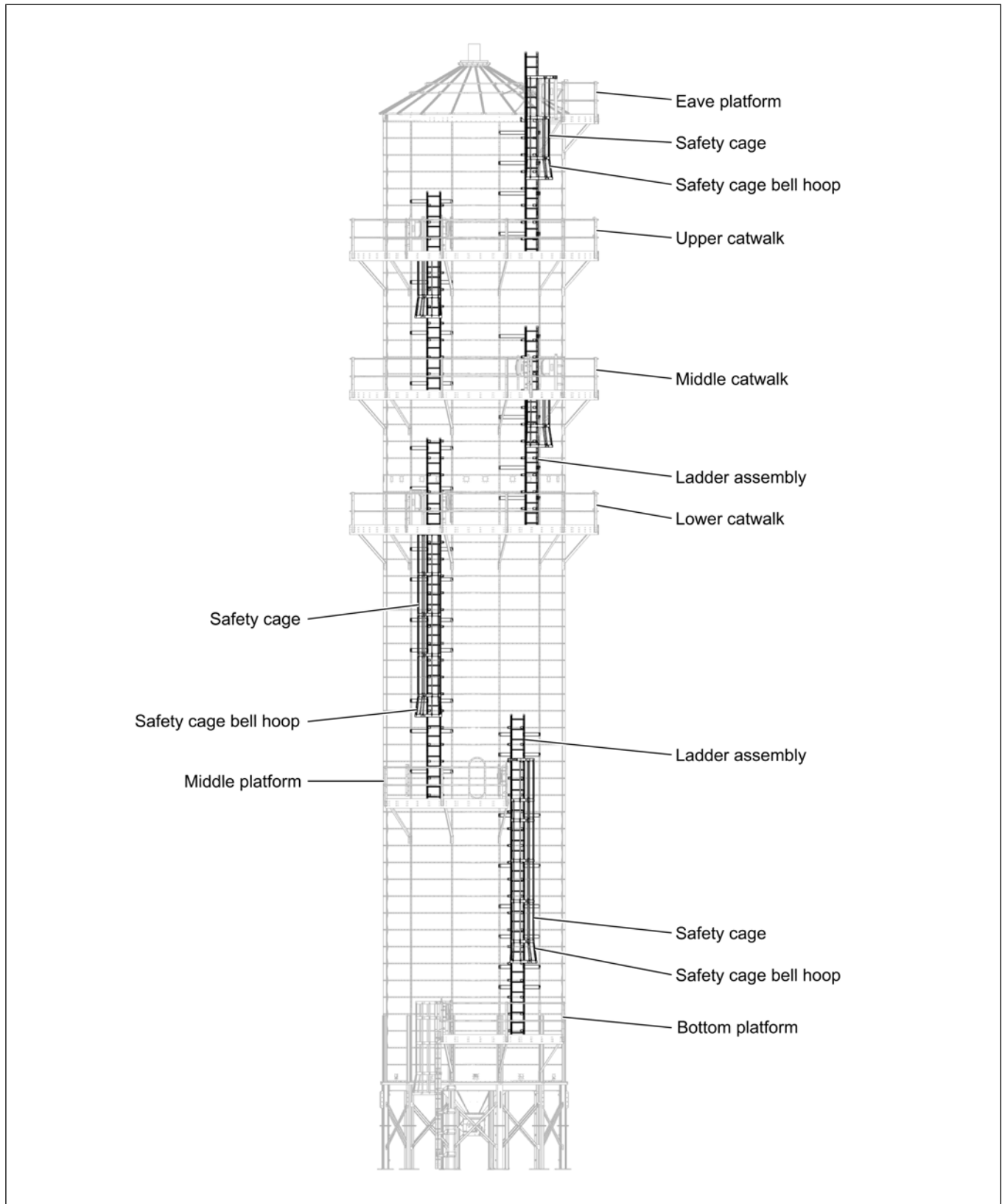
Parts List

Ref #	Part #	Description
1	S-7470	5/16" x 1" flange bolt
2	S-3550	5/16" x 1" carriage bolt
3	S-7483	5/16" x 1-1/4" flange bolt with sealing washer
4	S-10260	5/16" x 1" flange bolt with sealing washer
5	S-10268	5/16" flange nut
6	LDR-4314	Ladder stand-off bracket
7		Ladder section
8	GT1-2096L-XX ³	Left ladder brace bracket
9	GT1-2096R-XX ³	Right ladder brace bracket
10	LDR-4198	Ladder stand-off wedge
11	LDR-4199	Safety cage hoop bracket
12	LDR-4201	Safety cage hoop half
13	LS-5284	Safety cage hoop adapter
14	LS-5285	Safety cage hoop adjustment plate
15	LS-6713	48" Safety cage vertical support

3. XX indicates tower diameter.

Ladder Assembly Layout with Safety Cage

Figure 4-1 Ladder assembly layout with safety cage (Z-4742 shown)



Installing the Ladder Assembly between the Eave Platform and Upper Catwalk

Before You Begin

You need to install the ladder and ladder braces at the eave. To install the ladder at the eave, refer to [Installing the Ladder Assembly at Eave, page 18](#). To install the ladder braces, refer to [Installing the Ladder Braces, page 20](#). To install the end caps, refer to [Installing the End Cap to the Ladder, page 21](#).

1. Install a set of ladder stand-off brackets (6) where perforated sheets overlap using existing horizontal seam bolts (I) and nuts (J).

NOTE: As a rule of thumb, make sure to use a set of ladder stand-off brackets (6) on every overlap, unless otherwise shown.

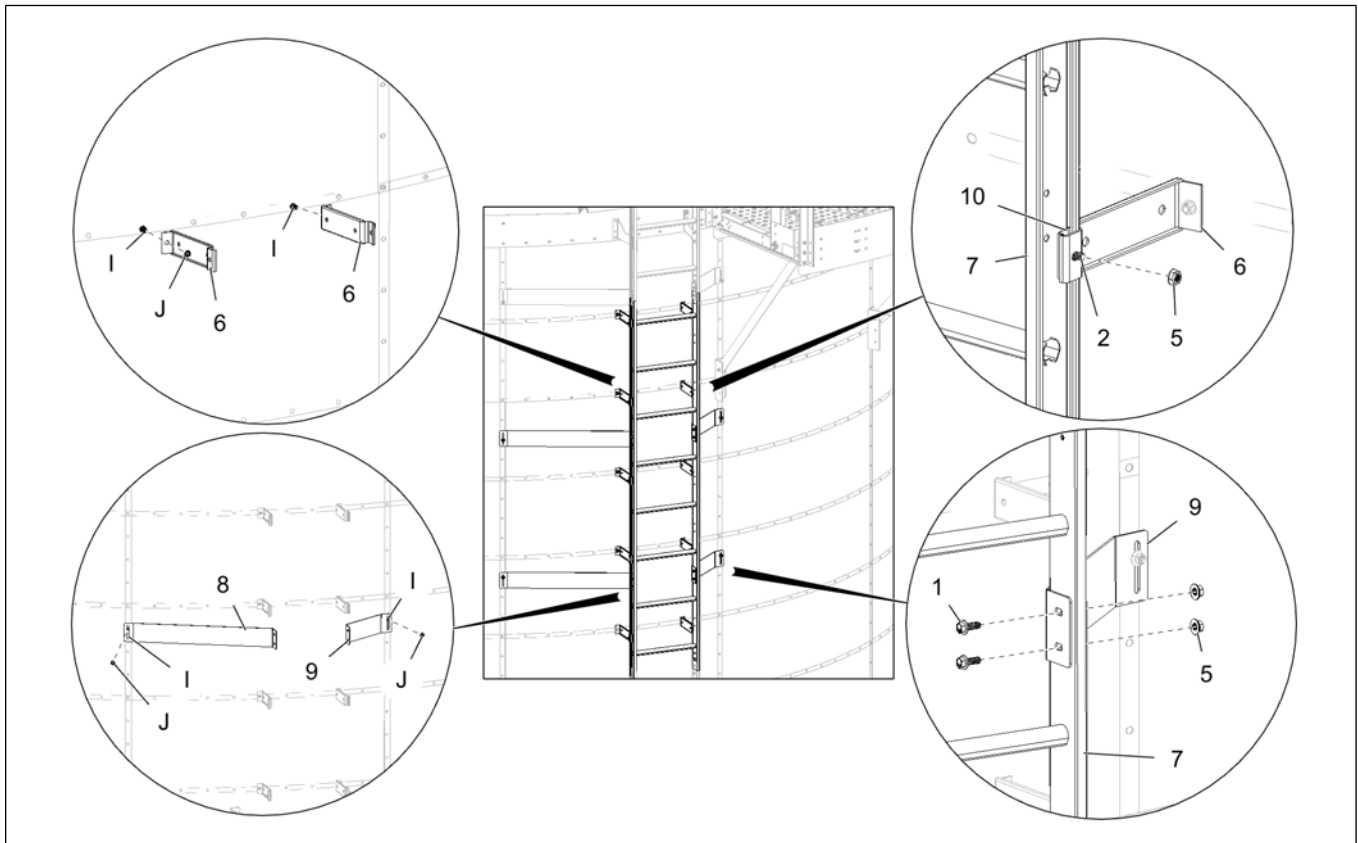
2. Install the ladder brace brackets (8 and 9) to the vertical channels using existing vertical seam bolts (I) and nuts (J).

NOTE: Use a set of ladder brace brackets (8 and 9) per 4' ladder section and two sets per 8' ladder section.

3. Install the ladder section (7) to the ladder brace brackets (8 and 9) using 5/16" x 1" flange bolts (1) and 5/16" flange nuts (5).

4. Slide the ladder wedges (10) along the ladder rail (7) and install it to the stand-off brackets (6) using 5/16" x 1" carriage bolts (2) and 5/16" flange nuts (5).

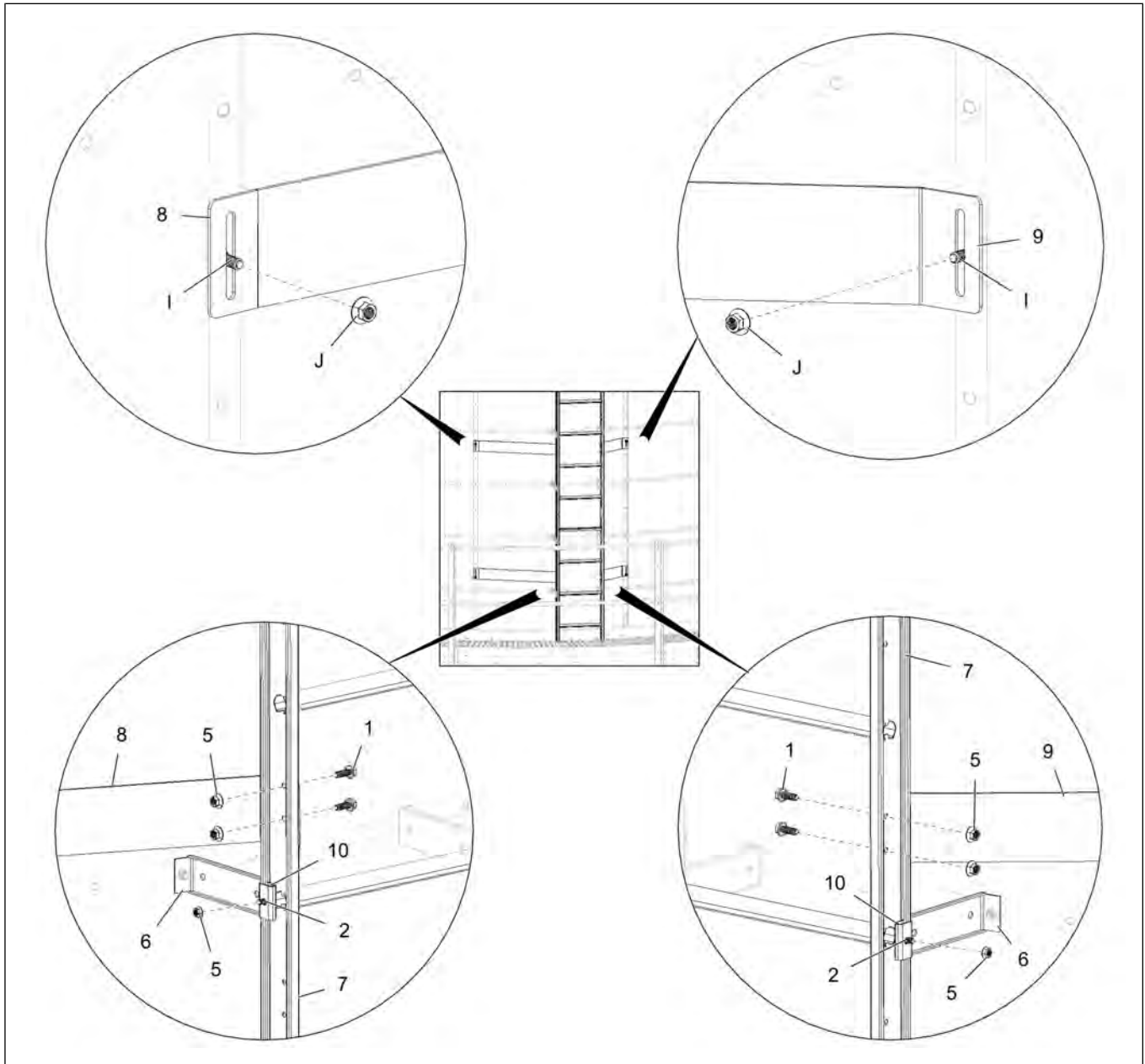
Figure 4-2 Installing the ladder stand-off and ladder brace brackets at eave platform



Chapter 4: Ladder Assembly with Safety Cage

5. Install the slotted end of the left ladder brace bracket (8) and right ladder brace bracket (9) to the vertical channels using existing vertical seam bolts (I) and nuts (J).
6. Install the ladder section (7) to the ladder brace brackets (8 and 9) using 5/16" x 1" flange bolts (1) and 5/16" flange nuts (5).
7. Slide the ladder wedges (10) along the ladder rail (7) and install it to the stand-off brackets (6) using 5/16" x 1" carriage bolts (2) and 5/16" flange nuts (5).

Figure 4-3 *Installing the ladder above the catwalk*



Installing the Safety Cage between the Eave Platform and Upper Catwalk

Before You Begin

Make sure the ladder assembly is completed and installed to the dryer.

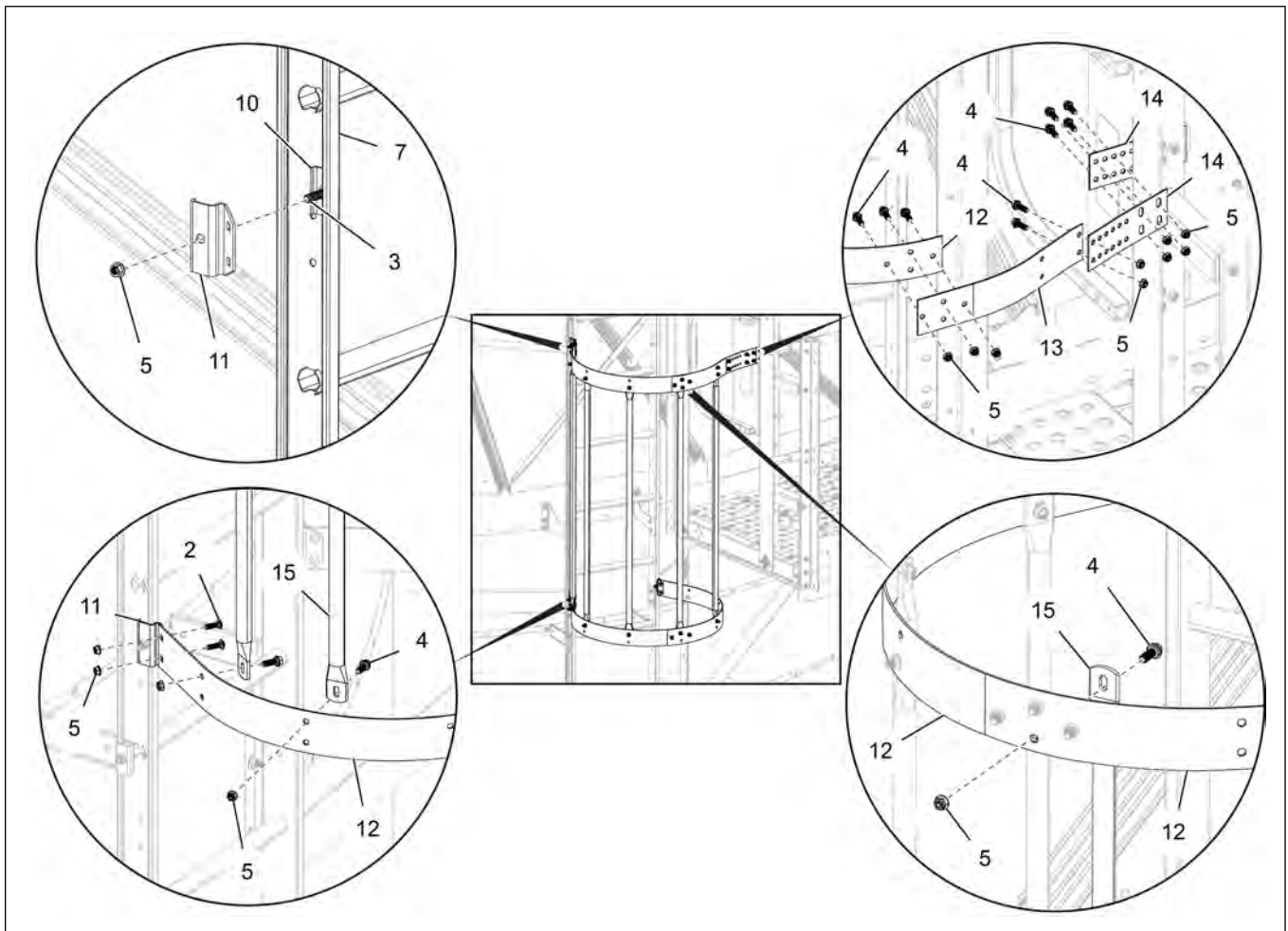
1. Slide the ladder wedges (10) along the ladder rail (7) and install the safety cage hoop brackets (11) using 5/16" x 1-1/4" flange bolts (3) and 5/16" flange nuts (5).

NOTE: You need to install a safety cage hoop bracket (11) at the top and two below the platform as shown.

2. Assemble the safety cage hoop adapter (13) with safety cage hoop half (12) and install the hoop half to the safety cage hoop bracket (11) using 5/16" x 1" carriage bolts (2) and 5/16" flange nuts (5).
3. Install the safety cage hoop adapter (13) to the platform post with two safety cage hoop adjuster plates (14) using 5/16" x 1" flange bolts (4) and 5/16" flange nuts (5).
4. Assemble two safety cage hoop halves (12) together and install it to the cage hoop brackets (11) below the platform using 5/16" x 1" carriage bolts (2) and 5/16" flange nuts (5).
5. Install the 48" vertical supports (15) between the safety cage hoop halves (12) using 5/16" x 1" flange bolts (4) and 5/16" flange nuts (5).

NOTE: Install bolts (2 and 4) with bolt head on the inside of the cage. Tighten all the hardware.

Figure 4-4 Installing the safety cage at the eave platform



Chapter 4: Ladder Assembly with Safety Cage

- Slide the ladder wedges (10) along the ladder rail (7) and install the safety cage hoop brackets (11) using 5/16" x 1-1/4" flange bolts (3) and 5/16" flange nuts (5).

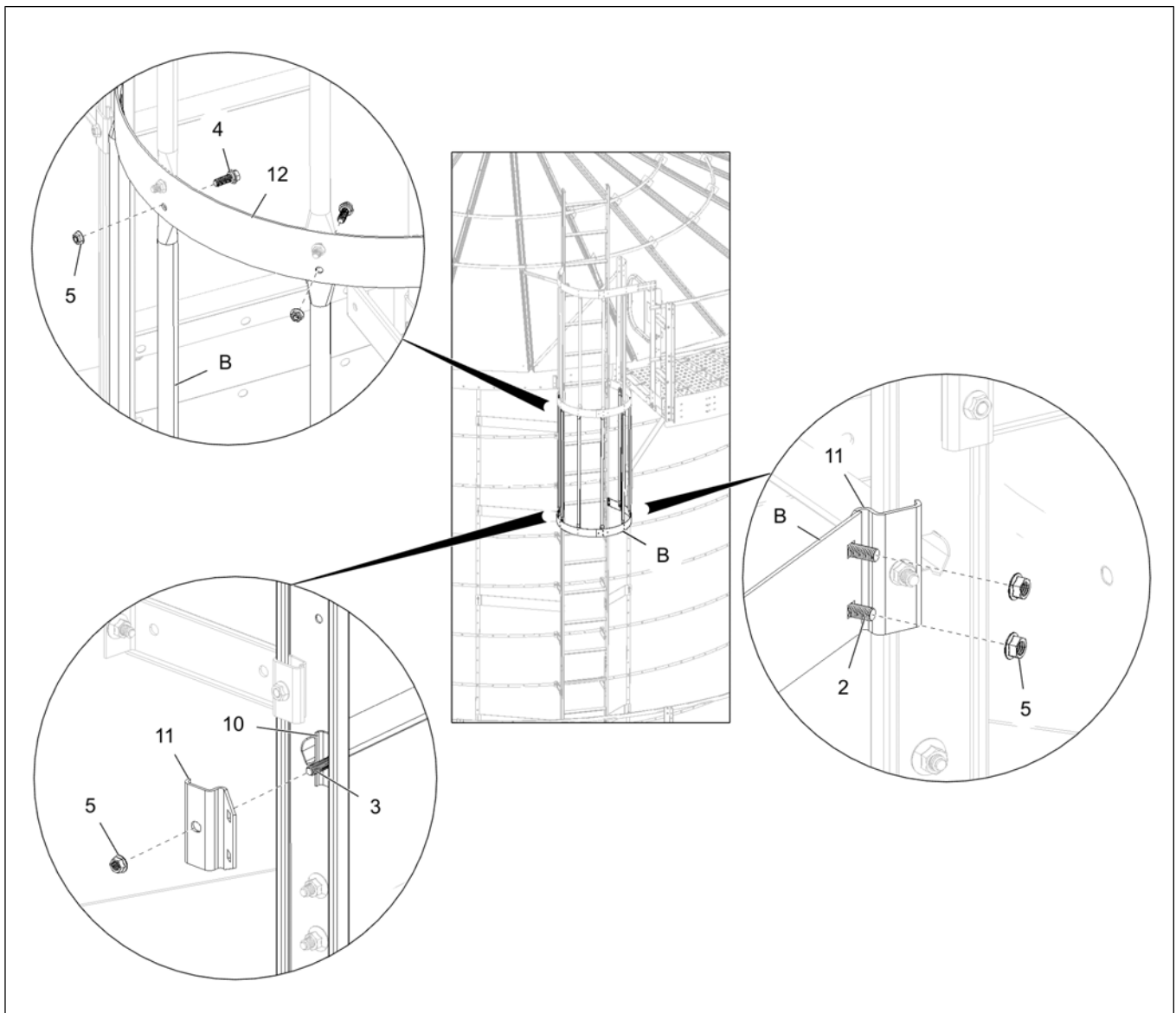
NOTE: You need to install two safety cage hoop brackets (11) for each safety cage hoop assembly at required places.

- Install the 48" safety cage section (B) to the ladder section (7).

NOTE:

- Use 5/16" x 1" carriage bolts (2) and 5/16" flange nuts (5) to connect the safety cage hoop halves to the safety cage hoop brackets (11).
- Use 5/16" x 1" flange bolts (4) and 5/16" flange nuts (5) to connect the vertical supports to the safety cage hoop halves.
- Install bolts (2 and 4) with bolt head on the inside of the cage. Tighten all the hardware.

Figure 4-5 Installing the safety cage extensions



8. Slide the ladder wedges (10) along the ladder rail (7) and install the safety cage hoop brackets (11) using 5/16" x 1-1/4" flange bolts (3) and 5/16" flange nuts (5).

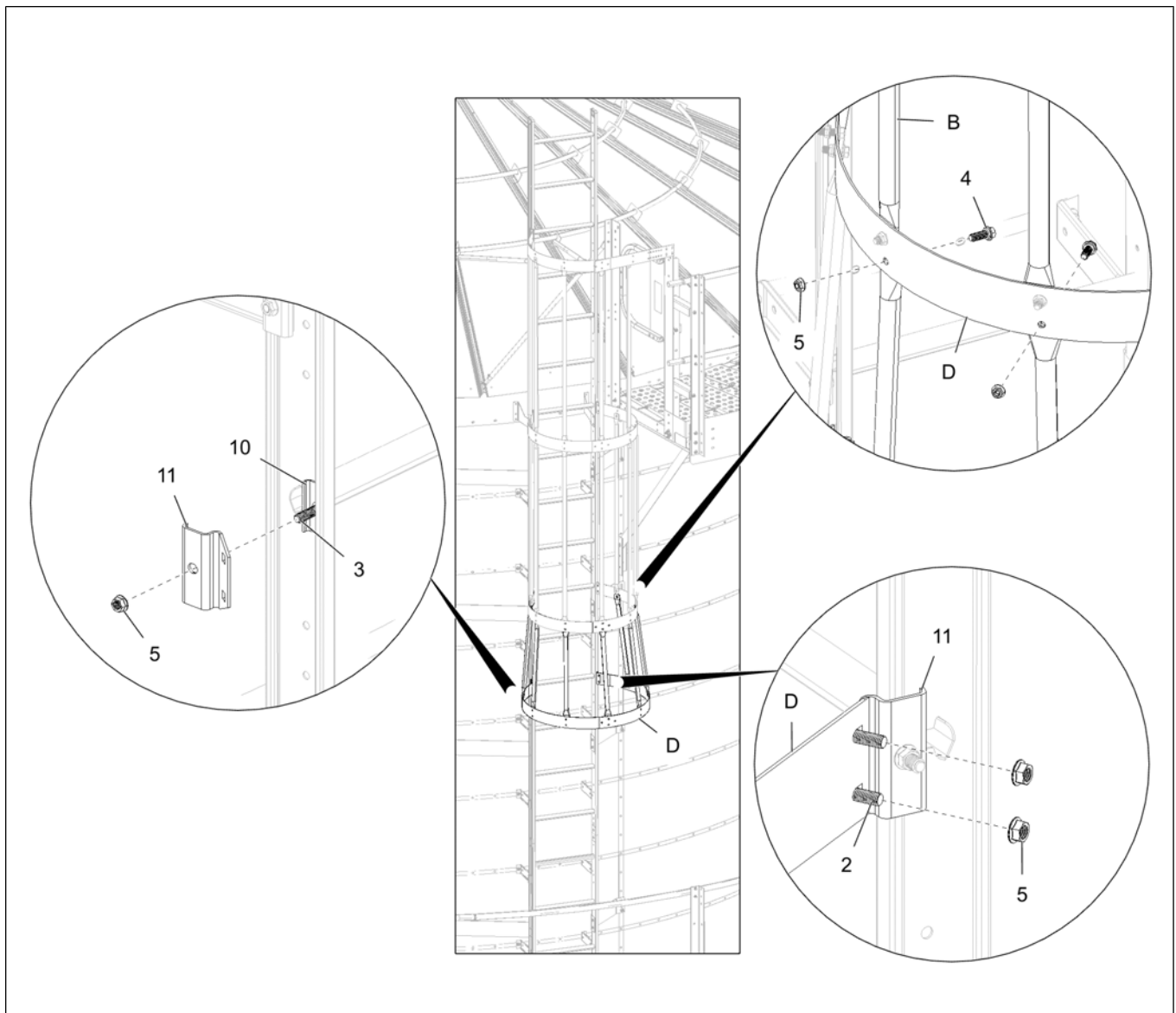
NOTE: You need to install two safety cage hoop brackets (11) for each safety cage bell hoop assembly at required places.

9. Install the 24" safety cage bell section (D) to the ladder section (7).

NOTE:

- a. Use 5/16" x 1" carriage bolts (2) and 5/16" flange nuts (5) to connect the safety cage bell hoop halves to the safety cage hoop brackets (11).
- b. Use 5/16" x 1" flange bolts (4) and 5/16" flange nuts (5) to connect the vertical supports to the safety cage hoop halves.
- c. Install bolts (2 and 4) with bolt head on the inside of the cage. Tighten all the hardware.

Figure 4-6 Installing the safety cage bell hoop sections



Installing the Ladder Assembly between the Catwalks

1. Install a set of ladder stand-off brackets (6) where perforated sheets overlap using existing horizontal seam bolts (I) and nuts (J).

NOTE: As a rule of thumb, make sure to use a set of ladder stand-off brackets (6) on every overlap, unless otherwise shown.

2. Install the ladder brace brackets (8 and 9) to the vertical channels using existing vertical seam bolts (I) and nuts (J).

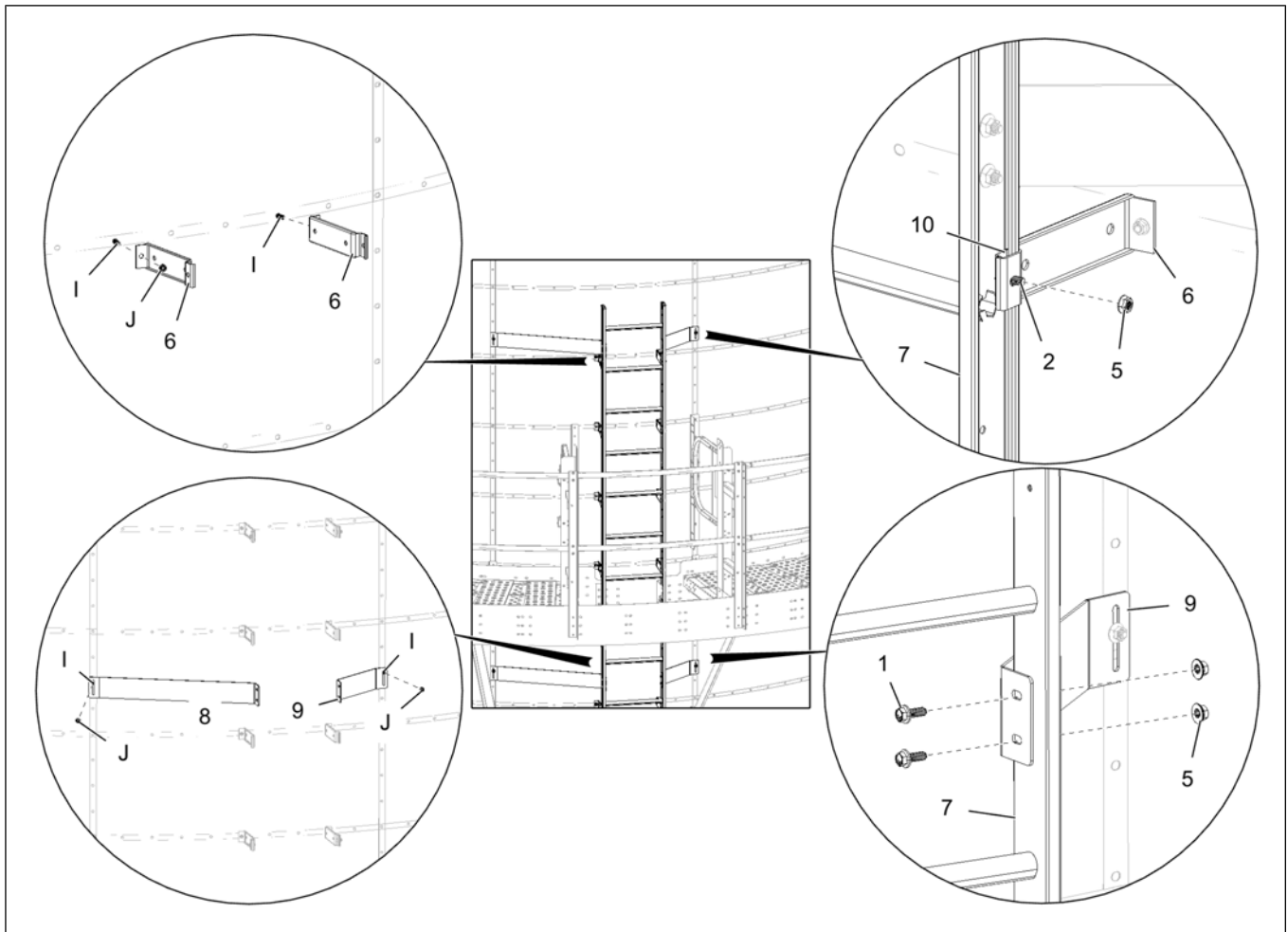
NOTE: Use a set of ladder brace brackets (8 and 9) per 4' ladder section and two sets per 8' ladder section.

3. Install the ladder section (7) to the ladder brace brackets (8 and 9) using 5/16" x 1" flange bolts (1) and 5/16" flange nuts (5).

4. Slide the ladder wedges (10) along the ladder rail (7) and install it to the stand-off brackets (6) using 5/16" x 1" carriage bolts (2) and 5/16" flange nuts (5).

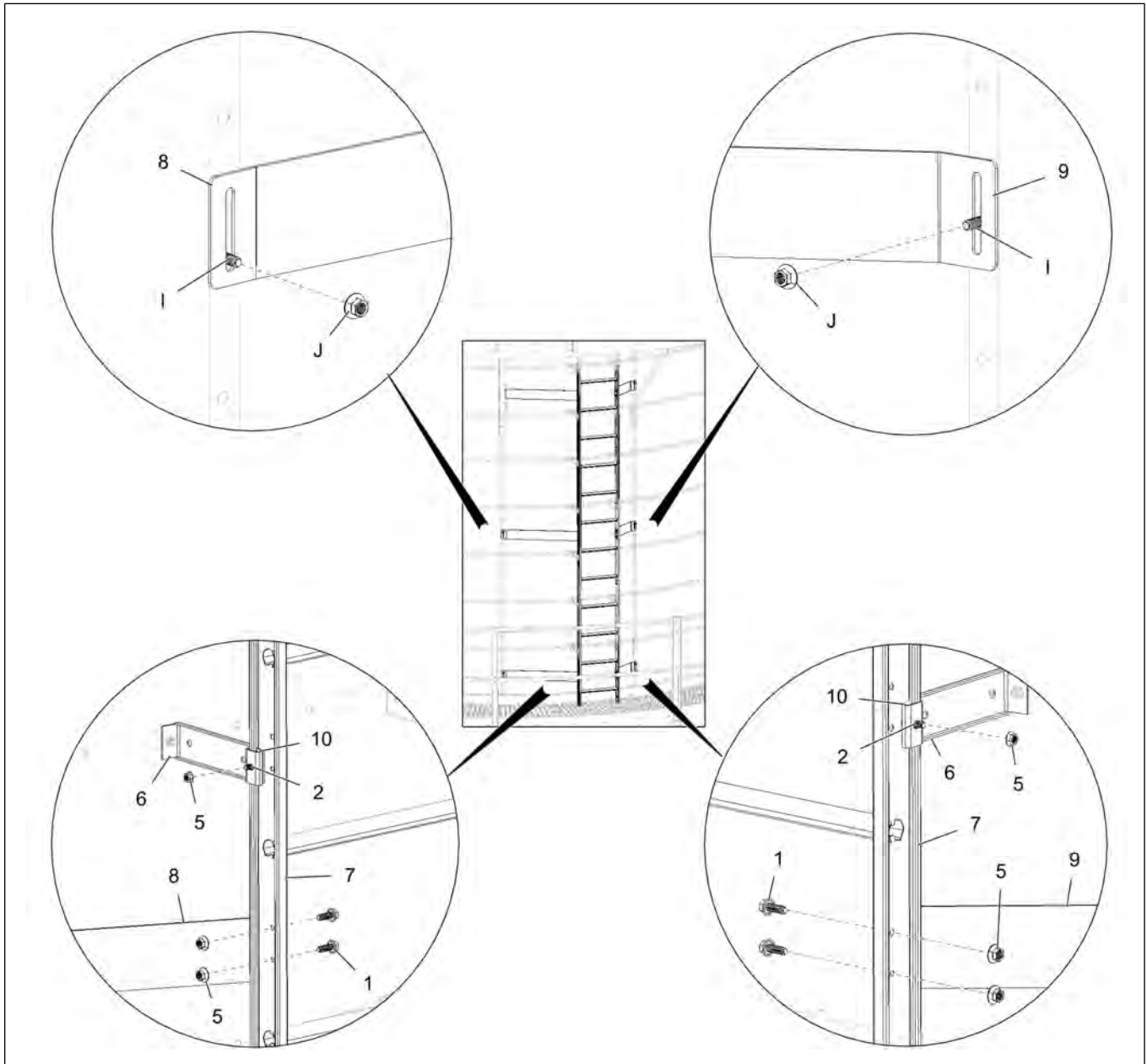
NOTE: The ladder should extend 6' above from the catwalk floor.

Figure 4-7 Installing the ladder stand-off and ladder brace brackets at catwalk



5. Install the slotted end of the left ladder brace bracket (8) and right ladder brace bracket (9) to the vertical channels using existing vertical seam bolts (I) and nuts (J).
6. Install the ladder section (7) to the ladder brace brackets (8 and 9) using 5/16" x 1" flange bolts (1) and 5/16" flange nuts (5).
7. Slide the ladder wedges (10) along the ladder rail (7) and install it to the stand-off brackets (6) using 5/16" x 1" carriage bolts (2) and 5/16" flange nuts (5).

Figure 4-8 *Installing the ladder at remaining sections*



Installing the Safety Cage between the Catwalks

Before You Begin

Make sure the ladder assembly is completed and installed to the dryer.

1. Slide the ladder wedges (10) along the ladder rail (7) and install the safety cage hoop brackets (11) using 5/16" x 1-1/4" flange bolts (3) and 5/16" flange nuts (5).

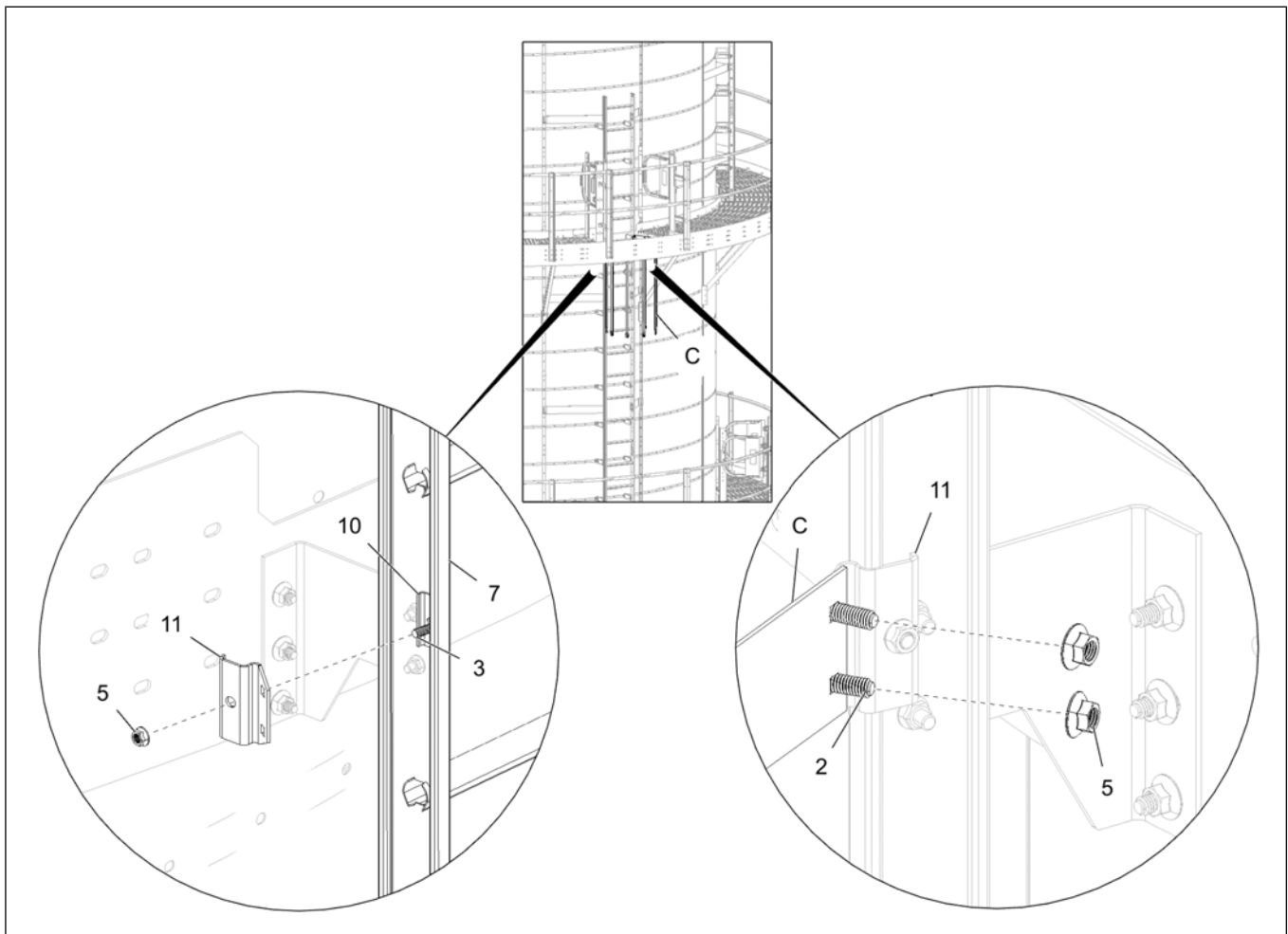
NOTE: You need to install two safety cage hoop brackets (11) for each safety cage hoop assembly at required places.

2. Install the 48" safety cage section (C) to the ladder section (7).

NOTE:

- a. Use 5/16" x 1" carriage bolts (2) and 5/16" flange nuts (5) to connect the safety cage hoop halves to the safety cage hoop brackets (11).
- b. Use 5/16" x 1" flange bolts (4) and 5/16" flange nuts (5) to connect the vertical supports to the safety cage hoop halves.
- c. Install bolts (2 and 4) with bolt head on the inside of the cage. Tighten all the hardware.

Figure 4-9 Installing the safety cage extensions



- Slide the ladder wedges (10) along the ladder rail (7) and install the safety cage hoop brackets (11) using 5/16" x 1-1/4" flange bolts (3) and 5/16" flange nuts (5).

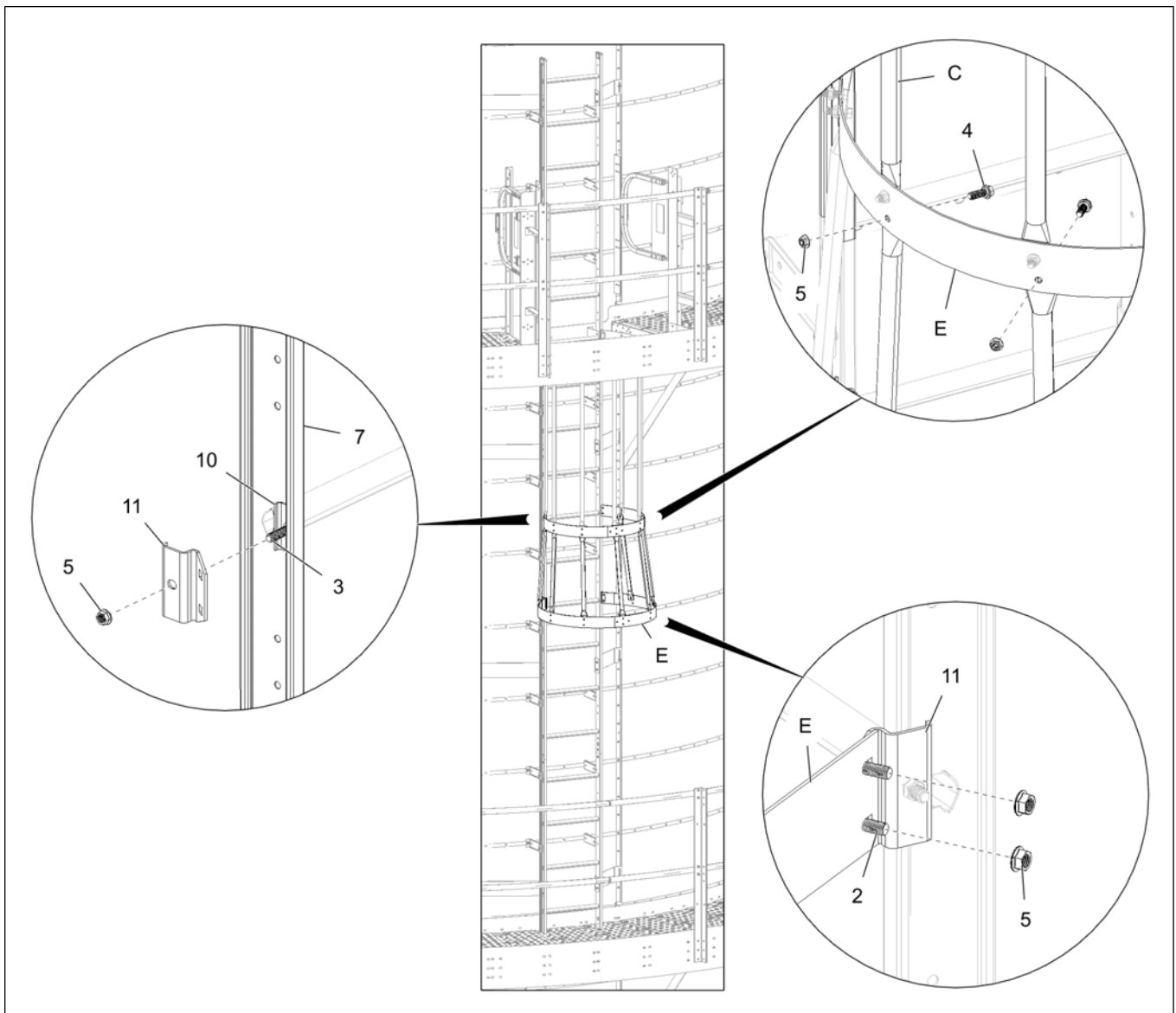
NOTE: You need to install two safety cage hoop brackets (11) for each safety cage bell hoop assembly at required places.

- Install the 24" safety cage bell section (E) to the ladder section (7).

NOTE:

- Use 5/16" x 1" carriage bolts (2) and 5/16" flange nuts (5) to connect the safety cage bell hoop halves to the safety cage hoop brackets (11).
- Use 5/16" x 1" flange bolts (4) and 5/16" flange nuts (5) to connect the vertical supports to the safety cage hoop halves.
- Install bolts (2 and 4) with bolt head on the inside of the cage. Tighten all the hardware.

Figure 4-10 Installing the safety cage bell hoop sections



Installing the Ladder between the Bottom Catwalk and Middle Platform

1. Install a set of ladder stand-off brackets (6) where perforated sheets overlap using existing horizontal seam bolts (I) and nuts (J).

NOTE: As a rule of thumb, make sure to use a set of ladder stand-off brackets (6) on every overlap, unless otherwise shown.

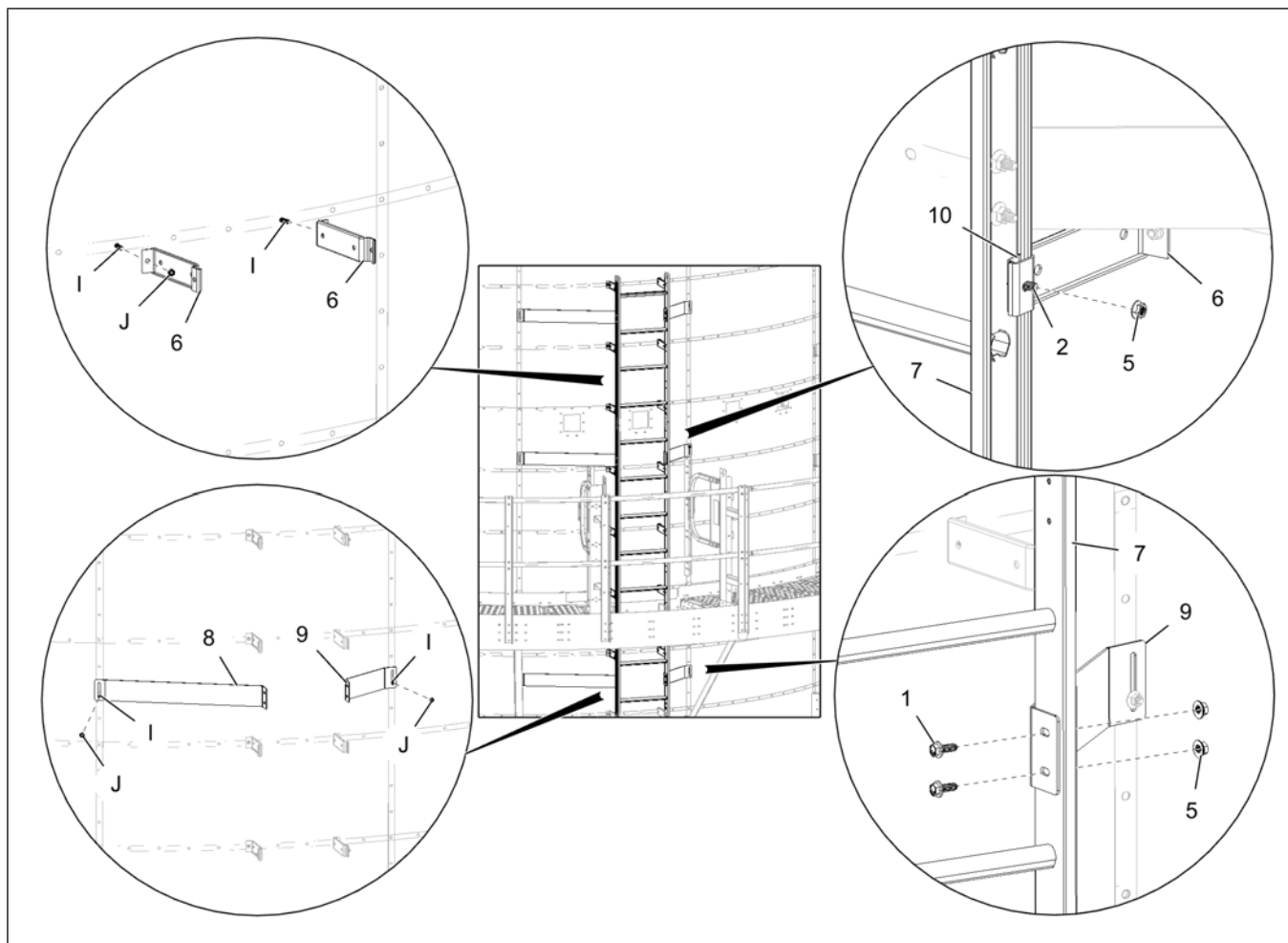
2. Install the ladder brace brackets (8 and 9) to the vertical channels using existing vertical seam bolts (I) and nuts (J).

NOTE: Use a set of ladder brace brackets (8 and 9) per 4' ladder section and two sets per 8' ladder section.

3. Install the ladder section (7) to the ladder brace brackets (8 and 9) using 5/16" x 1" flange bolts (1) and 5/16" flange nuts (5).

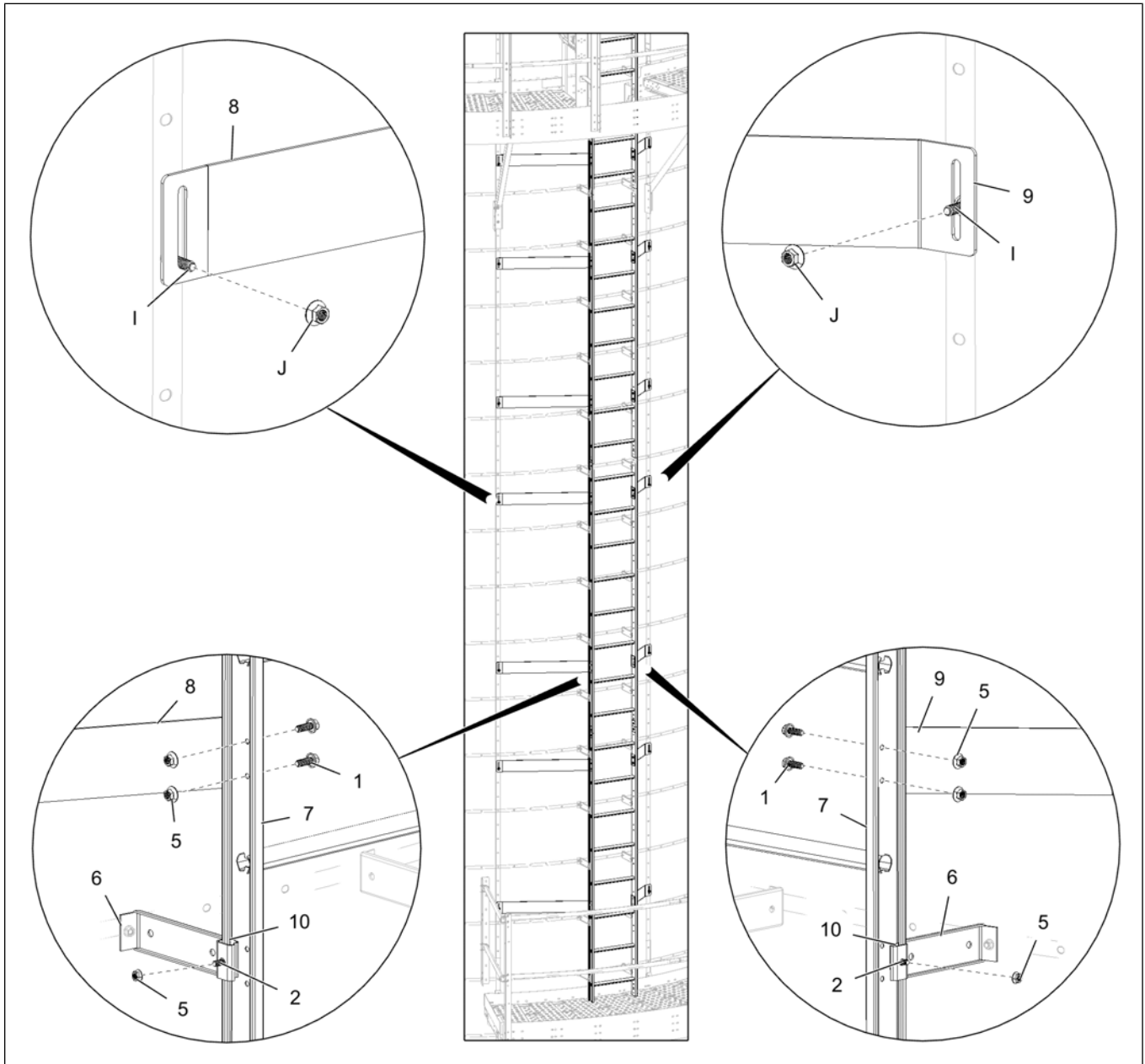
4. Slide the ladder wedges (10) along the ladder rail (7) and install it to the stand-off brackets (6) using 5/16" x 1" carriage bolts (2) and 5/16" flange nuts (5).

Figure 4-11 Installing the ladder stand-off and ladder brace brackets at catwalk



5. Install the slotted end of the left ladder brace bracket (8) and right ladder brace bracket (9) to the vertical channels using existing vertical seam bolts (I) and nuts (J).
6. Install the ladder section (7) to the ladder brace brackets (8 and 9) using 5/16" x 1" flange bolts (1) and 5/16" flange nuts (5).
7. Slide the ladder wedges (10) along the ladder rail (7) and install it to the stand-off brackets (6) using 5/16" x 1" carriage bolts (2) and 5/16" flange nuts (5).

Figure 4-12 *Installing the ladder at the remaining sections*



Installing the Safety Cage between the Bottom Catwalk and Middle Platform

Before You Begin

Make sure the ladder assembly is completed and installed to the dryer.

1. Slide the ladder wedges (10) along the ladder rail (7) and install the safety cage hoop brackets (11) using 5/16" x 1-1/4" flange bolts (3) and 5/16" flange nuts (5).

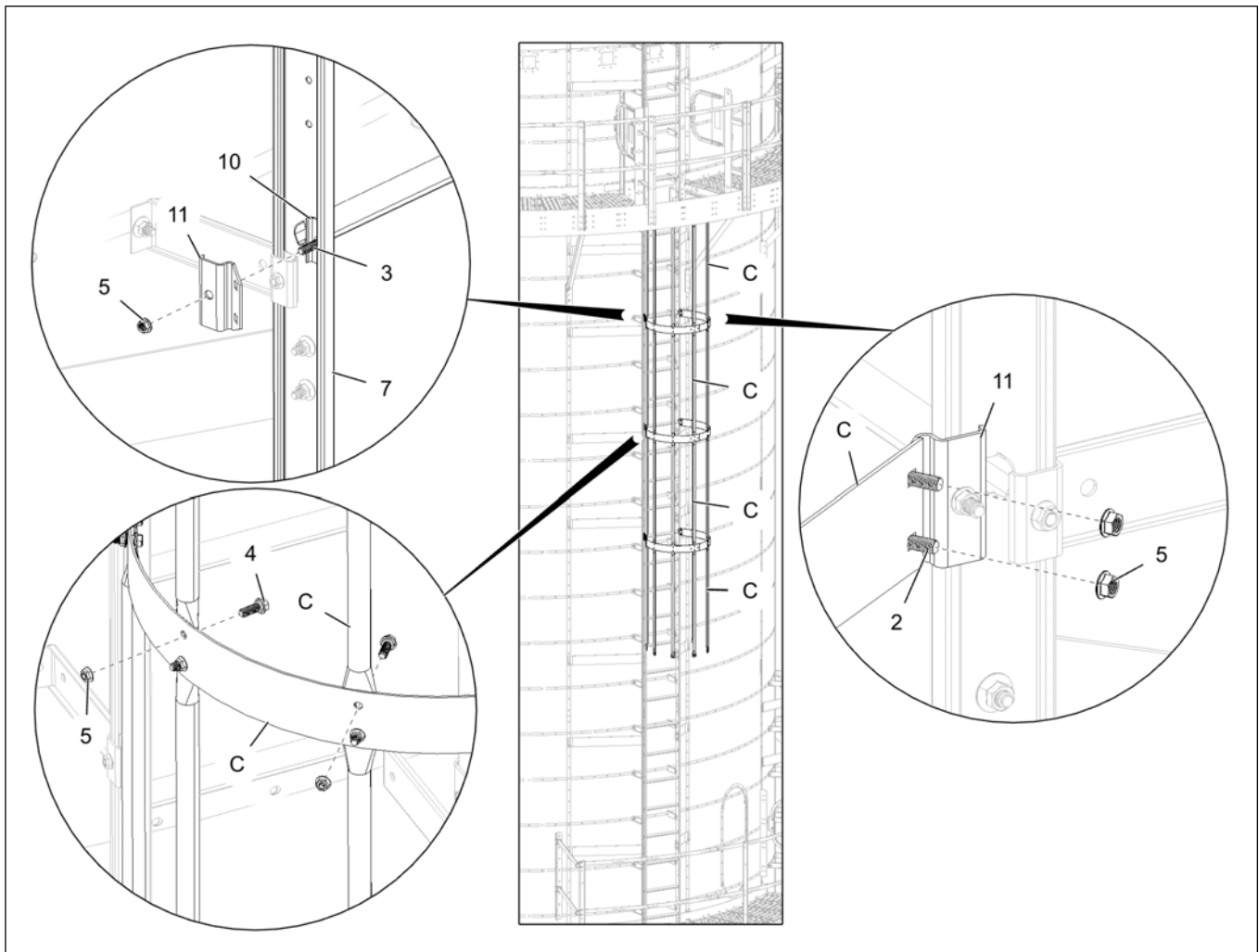
NOTE: You need to install two safety cage hoop brackets (11) for each safety cage hoop assembly at required places.

2. Install the 48" safety cage sections (C) to the ladder section (7).

NOTE:

- a. Use 5/16" x 1" carriage bolts (2) and 5/16" flange nuts (5) to connect the safety cage hoop halves to the safety cage hoop brackets (11).
- b. Use 5/16" x 1" flange bolts (4) and 5/16" flange nuts (5) to connect the vertical supports to the safety cage hoop halves.
- c. Install bolts (2 and 4) with bolt head on the inside of the cage. Tighten all the hardware.

Figure 4-13 Installing the safety cage extensions



- Slide the ladder wedges (10) along the ladder rail (7) and install the safety cage hoop brackets (11) using 5/16" x 1-1/4" flange bolts (3) and 5/16" flange nuts (5).

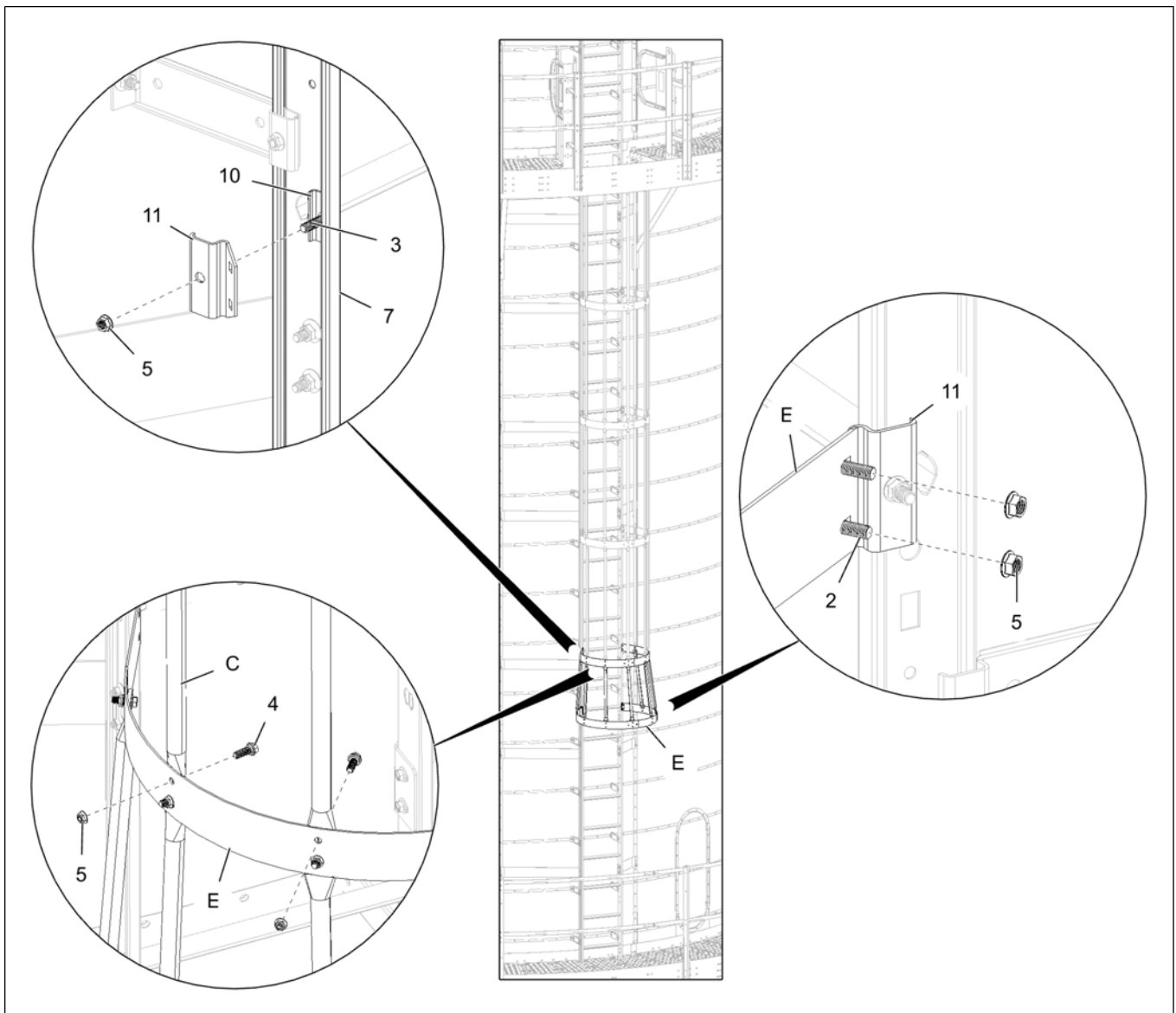
NOTE: You need to install two safety cage hoop brackets (11) for each safety cage bell hoop assembly at required places.

- Install the 24" safety cage bell section (E) to the ladder section (7).

NOTE:

- Use 5/16" x 1" carriage bolts (2) and 5/16" flange nuts (5) to connect the safety cage bell hoop halves to the safety cage hoop brackets (11).
- Use 5/16" x 1" flange bolts (4) and 5/16" flange nuts (5) to connect the vertical supports to the safety cage hoop halves.
- Install bolts (2 and 4) with bolt head on the inside of the cage. Tighten all the hardware.

Figure 4-14 Installing the safety cage bell hoop sections



Installing the Ladder Assembly between the Middle and Bottom Platforms

1. Install a set of ladder stand-off brackets (6) where perforated sheets overlap using existing horizontal seam bolts (I) and nuts (J).

NOTE: As a rule of thumb, make sure to use a set of ladder stand-off brackets (6) on every overlap, unless otherwise shown.

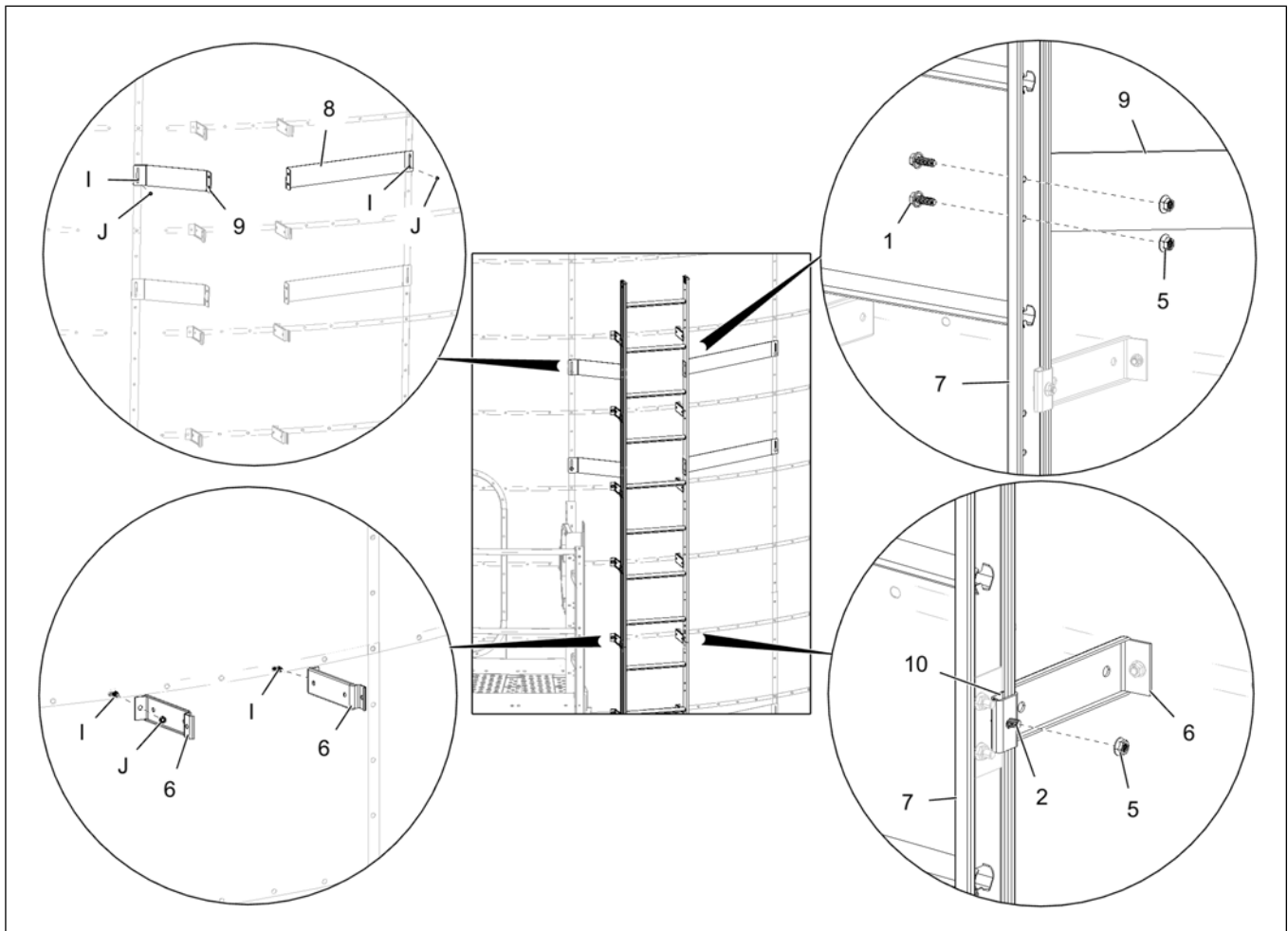
2. Install the ladder brace brackets (8 and 9) to the vertical channels using existing vertical seam bolts (I) and nuts (J).

NOTE: Use a set of ladder brace brackets (8 and 9) per 4' ladder section and two sets per 8' ladder section.

3. Install the ladder section (7) to the ladder brace brackets (8 and 9) using 5/16" x 1" flange bolts (1) and 5/16" flange nuts (5).

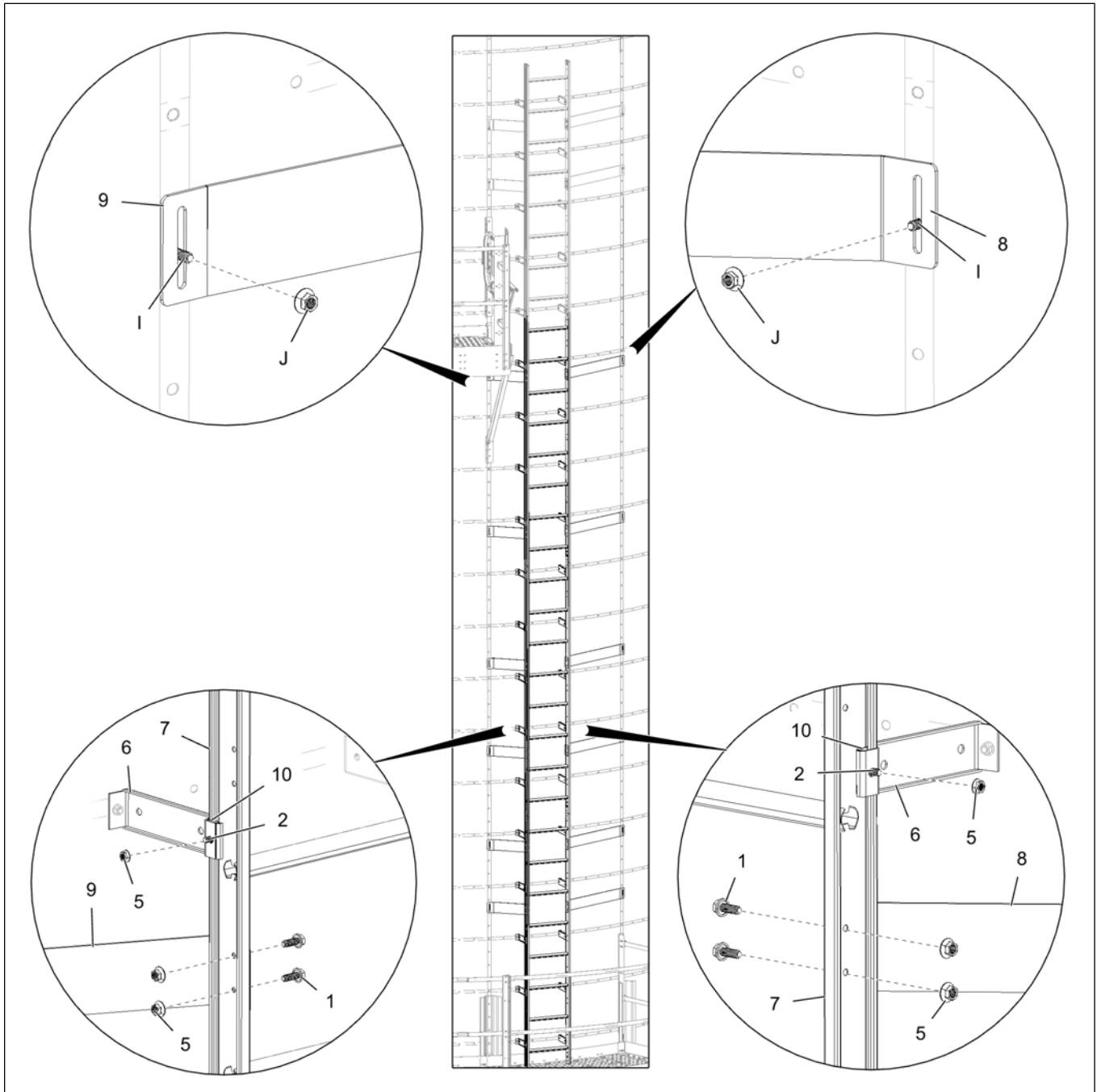
4. Slide the ladder wedges (10) along the ladder rail (7) and install it to the stand-off brackets (6) using 5/16" x 1" carriage bolts (2) and 5/16" flange nuts (5).

Figure 4-15 Installing the ladder stand-off and ladder brace brackets at the fan style platforms



5. Install the slotted end of the left ladder brace bracket (8) and right ladder brace bracket (9) to the vertical channels using existing vertical seam bolts (I) and nuts (J).
6. Install the ladder section (7) to the ladder brace brackets (8 and 9) using 5/16" x 1" flange bolts (1) and 5/16" flange nuts (5).
7. Slide the ladder wedges (10) along the ladder rail (7) and install it to the stand-off brackets (6) using 5/16" x 1" carriage bolts (2) and 5/16" flange nuts (5).

Figure 4-16 *Installing the ladder at remaining sections*



Installing the Safety Cage between the Middle and Bottom Platforms

Before You Begin

Make sure the ladder assembly is completed and installed to the dryer.

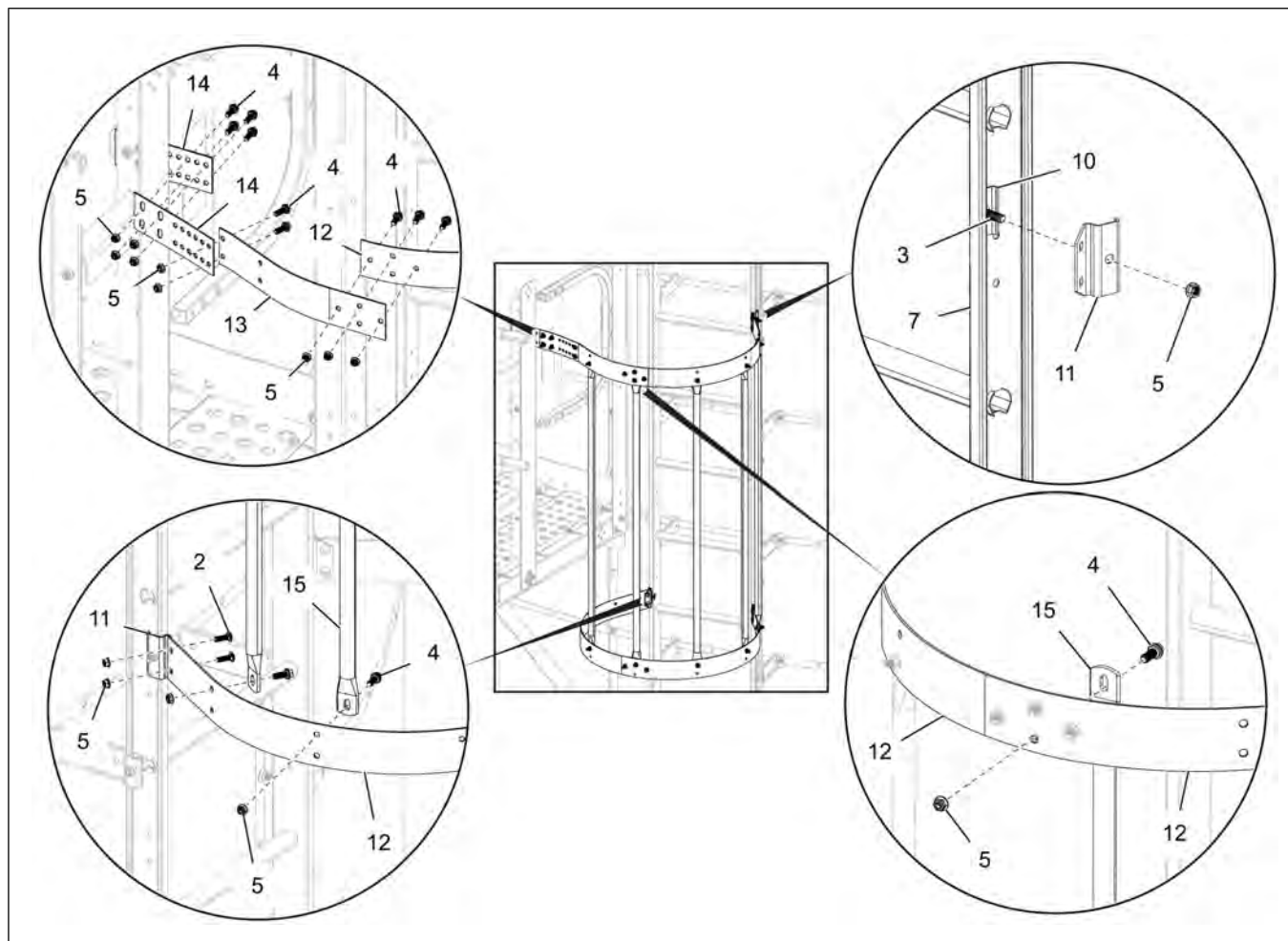
1. Slide the ladder wedges (10) along the ladder rail (7) and install the safety cage hoop brackets (11) using 5/16" x 1-1/4" flange bolts (3) and 5/16" flange nuts (5).

NOTE: You need to install a safety cage hoop bracket (11) at the top and two below the platform as shown.

2. Assemble the safety cage hoop adapter (13) with safety cage hoop half (12) and install the hoop half to the safety cage hoop bracket (11) using 5/16" x 1" carriage bolts (2) and 5/16" flange nuts (5).
3. Install the safety cage hoop adapter (13) to the platform post with two safety cage hoop adjuster plates (14) using 5/16" x 1" flange bolts (4) and 5/16" flange nuts (5).
4. Assemble two safety cage hoop halves (12) together and install it to the cage hoop brackets (11) below the platform using 5/16" x 1" carriage bolts (2) and 5/16" flange nuts (5).
5. Install the 48" vertical supports (15) between the safety cage hoop halves (12) using 5/16" x 1" flange bolts (4) and 5/16" flange nuts (5).

NOTE: Install bolts (2 and 4) with bolt head on the inside of the cage. Tighten all the hardware.

Figure 4-17 Installing the safety cage at the fan style platform



6. Slide the ladder wedges (10) along the ladder rail (7) and install the safety cage hoop brackets (11) using 5/16" x 1-1/4" flange bolts (3) and 5/16" flange nuts (5).

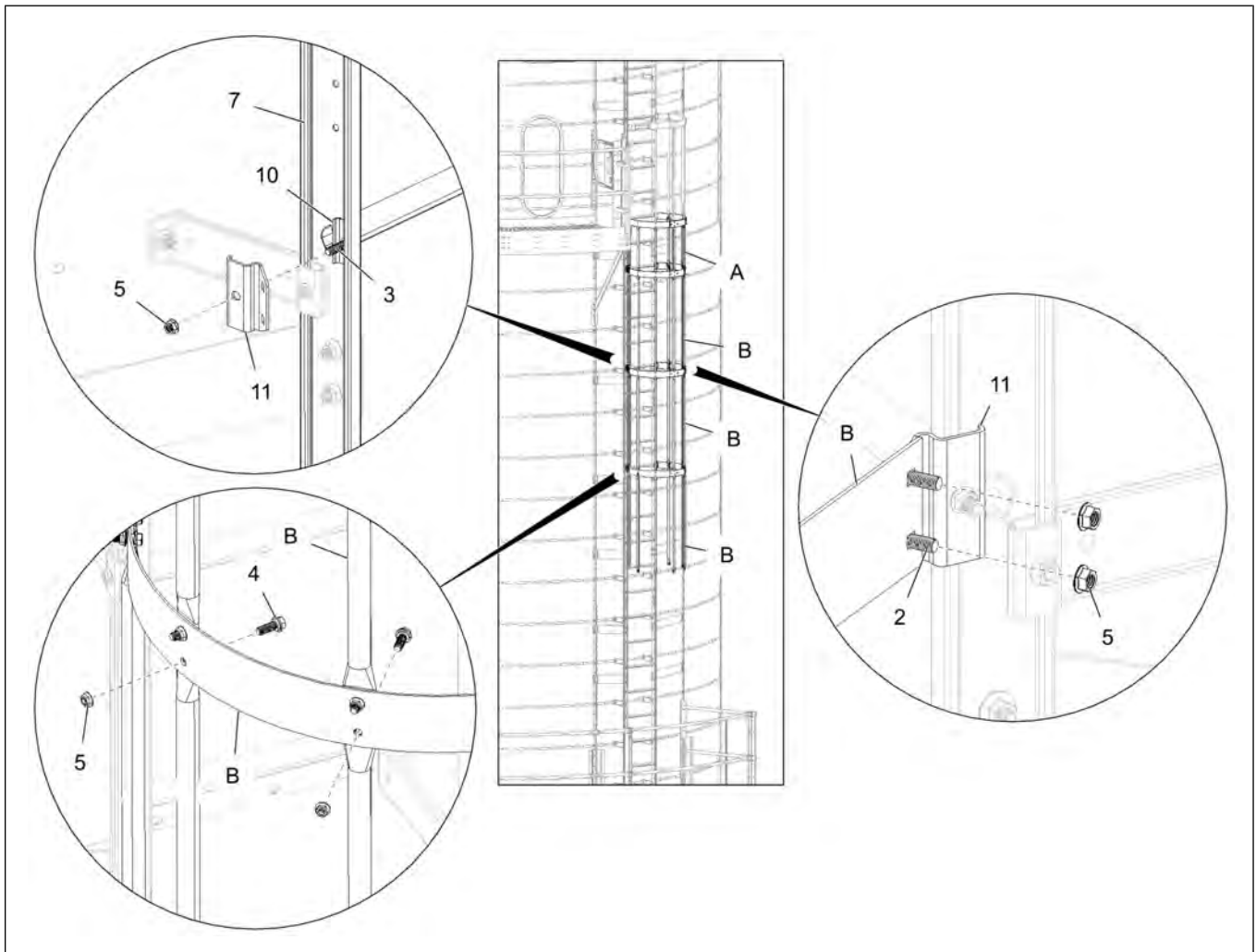
NOTE: You need to install two safety cage hoop brackets (11) for each safety cage hoop assembly at required places.

7. Install the 24" safety cage section followed by the 48" safety cage sections (B) to the ladder section (7).

NOTE:

- a. Use 5/16" x 1" carriage bolts (2) and 5/16" flange nuts (5) to connect the safety cage hoop halves to the safety cage hoop brackets (11).
- b. Use 5/16" x 1" flange bolts (4) and 5/16" flange nuts (5) to connect the vertical supports to the safety cage hoop halves.
- c. Install bolts (2 and 4) with bolt head on the inside of the cage. Tighten all the hardware.

Figure 4-18 Installing the safety cage extensions



Chapter 4: Ladder Assembly with Safety Cage

8. Slide the ladder wedges (10) along the ladder rail (7) and install the safety cage hoop brackets (11) using 5/16" x 1-1/4" flange bolts (3) and 5/16" flange nuts (5).

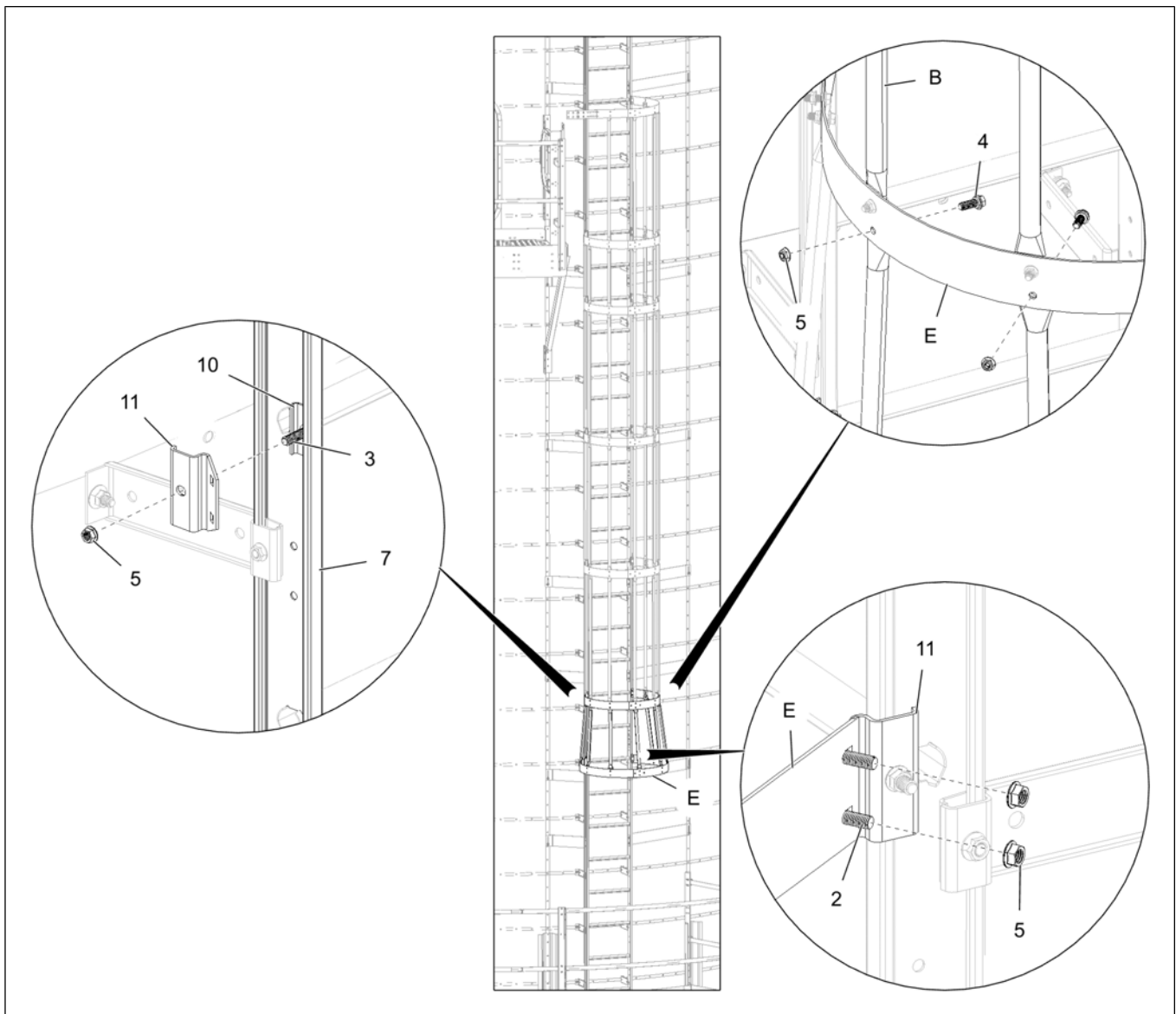
NOTE: You need to install two safety cage hoop brackets (11) for each safety cage bell hoop assembly at required places.

9. Install the 24" safety cage bell section (E) to the ladder section (7).

NOTE:

- a. Use 5/16" x 1" carriage bolts (2) and 5/16" flange nuts (5) to connect the safety cage bell hoop halves to the safety cage hoop brackets (11).
- b. Use 5/16" x 1" flange bolts (4) and 5/16" flange nuts (5) to connect the vertical supports to the safety cage hoop halves.
- c. Install bolts (2 and 4) with bolt head on the inside of the cage. Tighten all the hardware.

Figure 4-19 Installing the safety cage bell hoop sections



10. Continue to install the ladder sections (7) between the bottom platform and the base of the dryer. To install the ladder sections at the base, refer to [Installing the Ladder Assembly at the Base, page 22](#).

Limited Warranty — N.A. Grain Products

The GSI Group, LLC. (“GSI”) warrants products which it manufactures, to be free of defects in materials and workmanship under normal usage and conditions for a period of 12 months from the date of shipment (or, if shipped by vessel, 14 months from the date of arrival at the port of discharge). If, in GSI’s sole judgment, a product is found to have a defect in materials and/or workmanship, GSI will, at its own option and expense, repair or replace the product or refund the purchase price. This Limited Warranty is subject to extension and other terms as set forth below.

Warranty Enhancements: The warranty period for the following products is enhanced as shown below and is in lieu of (and not in addition to) the above stated warranty period. (Warranty Period is from date of shipment.)

	Product	Warranty Period
Storage	Grain Bin Structural Design • Sidewall, roof, doors, platforms and walkarounds • Flooring (when installed using GSI specified floor support system for that floor) • Hopper tanks (BFT, GHT, NCHT, and FCHT)	5 Years
Conditioning	Dryer Structural Design – (Tower, Portable and TopDry) • Includes (frame, portable dryer screens, ladders, access doors and platforms)	5 Years
	All other Dryer parts including: • Electrical (controls, sensors, switches and internal wiring)	2 Years
	All Non-PTO Driven Centrifugal and Axial Fans	3 Years
	Bullseye Controllers	2 Years
Material Handling	Bucket Elevators Structural Design	5 Years
	Towers Structural Design	5 Years
	Catwalks Structural Design	5 Years
	Accessories (stairs, ladders and platforms) Structural Design	5 Years

Conditions and Limitations:

THERE ARE NO WARRANTIES THAT EXTEND BEYOND THE LIMITED WARRANTY DESCRIPTION SET FORTH HEREIN; SPECIFICALLY, GSI DISCLAIMS ANY AND ALL OTHER WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE IN CONNECTION WITH: (I) ANY PRODUCT MANUFACTURED OR SOLD BY GSI, OR (II) ANY ADVICE, INSTRUCTION, RECOMMENDATION OR SUGGESTION PROVIDED BY AN AGENT, REPRESENTATIVE OR EMPLOYEE OF GSI REGARDING OR RELATED TO THE CONFIGURATION, INSTALLATION, LAYOUT, SUITABILITY FOR A PARTICULAR PURPOSE, OR DESIGN OF SUCH PRODUCTS.

The sole and exclusive remedy for any claimant is set forth in this Limited Warranty and shall not exceed the amount paid for the product purchased. This Warranty only covers the value of the warranted parts and equipment, and does not cover labor charges for removing or installing defective parts, shipping charges with respect to such parts, any applicable sales or other taxes, or any other charges or expenses not specified in this Warranty. GSI shall not be liable for any other direct, indirect, incidental or consequential damages, including, without limitation, loss of anticipated profits or benefits. Expenses incurred by or on behalf of a claimant without prior written authorization from the GSI warranty department shall not be reimbursed. This warranty is not transferable and applies only to the original end-user. GSI shall have no obligation or responsibility for any representations or warranties made by or on behalf of any dealer, agent or distributor. Prior to installation, the end-user bears all responsibility to comply with federal, state and local codes which apply to the location and installation of the products.

This Limited Warranty extends solely to products sold by GSI and does not cover any parts, components or materials used in conjunction with the product, that are not sold by GSI. GSI assumes no responsibility for claims resulting from construction defects, unauthorized modifications, corrosion or other cosmetic issues caused by storage, application or environmental conditions. Modifications to products not specifically delineated in the manual accompanying the product at initial sale will void all warranties. This Limited Warranty shall not extend to products or parts which have been damaged by negligent use, misuse, alteration, accident or which have been improperly/inadequately maintained.

Notice Procedure:

In order to make a valid warranty claim a written notice of the claim must be submitted, using the RMA form, within 60 days of discovery of a warrantable nonconformance. The RMA form is found on the OneGSI portal.

Service Parts:

GSI warrants, subject to all other conditions described in this Warranty, Service Parts which it manufactures for a period of 12 months from the date of purchase unless specified in Enhancements above.

(Limited Warranty - N.A. Grain Products_ revised 01 October 2020)

This equipment shall be installed in accordance with the current installation codes and applicable regulations which should be carefully followed in all cases. Authorities having jurisdiction should be consulted before installations are made.



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