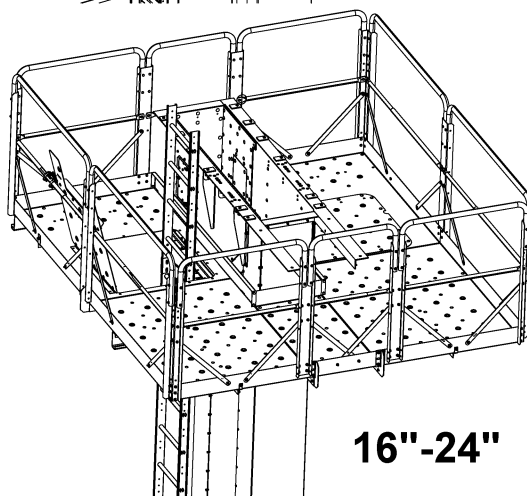
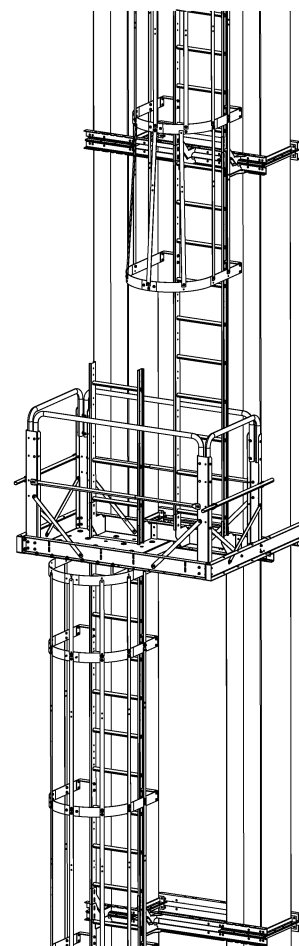


30"-36"



16"-24"



16"-36" Bucket Elevator Platform and Ladder "X" Series

Installation Manual

PNEG-1807

Date: 05-06-11

GSI GROUP



PNEG-1807

Use of the equipment information page will help you identify the equipment in the case that you need to call your dealer or installer. This information should be filled out and kept on record.

Equipment Information

Model #: _____

Serial #: _____

Date Purchased: _____

Dealer/Distributor Name and Phone #: _____

Material Handling

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

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

INSPECT the shipment immediately upon arrival. The customer is responsible for ensuring that all quantities are correct. The customer should report and note any damage or shortage on the bill of lading to justify their claim to the transport company.

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

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

Safety Guidelines

This manual contains information that is important for you, the owner/operator, to know and understand. This information relates to protecting **personal safety** and **preventing equipment problems**. It is the responsibility of the owner/operator to inform anyone operating or working in the area of this equipment of these safety guidelines. To help you recognize this information, we use the symbols that are defined below. Please read the manual and pay attention to these sections. Failure to read this manual and its safety instructions is a misuse of the equipment and may lead to serious injury or death.



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



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



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



CAUTION, used with the safety alert symbol, indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.



NOTICE is used to address practices not related to personal injury.

Safety Instructions

Our foremost concern is your safety and the safety of others associated with this equipment. We want to keep you as a customer. This manual is to help you understand safe operating procedures and some problems which may be encountered by the operator and other personnel.

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

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.

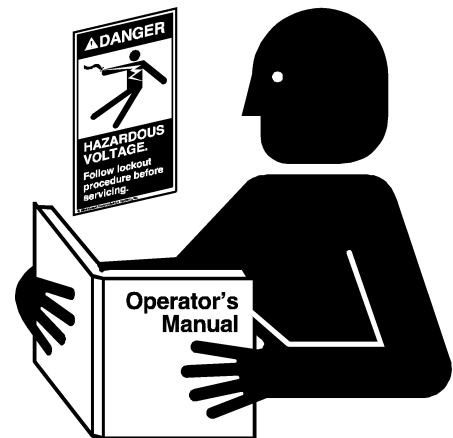
Follow Safety Instructions

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.

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

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



Read and Understand Manual

Practice Safe Maintenance

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

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

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



Maintain Equipment and Work Area

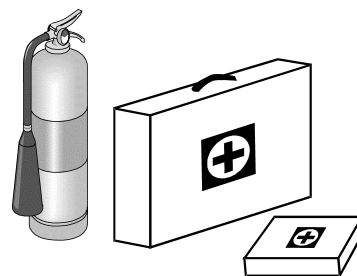
2. Safety

Prepare for Emergencies

Be prepared if fire starts.

Keep a first aid kit and fire extinguisher handy.

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



Keep Emergency Equipment Quickly Accessible

Wear Protective Clothing

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

Remove all jewelry.

Long hair should be tied up and back.

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

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

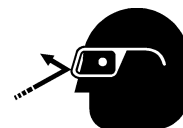
Wear steel toe boots to help protect your feet from falling debris. Tuck in any loose or dangling shoe strings.

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

Wear hard hat to help protect your head.

Wear appropriate fall protection equipment when working at elevations greater than six feet (6').

Eye Protection



Gloves



Steel Toe Boots



Respirator



Hard Hat



Fall Protection




DANGER



DO NOT EXCEED
PLATFORM LOAD LIMIT

Load limit = 500 LBS. (2.25 kN)

Excessive load will damage
platform and cause
platform to fall.

Injury or death will result.

DC-2146

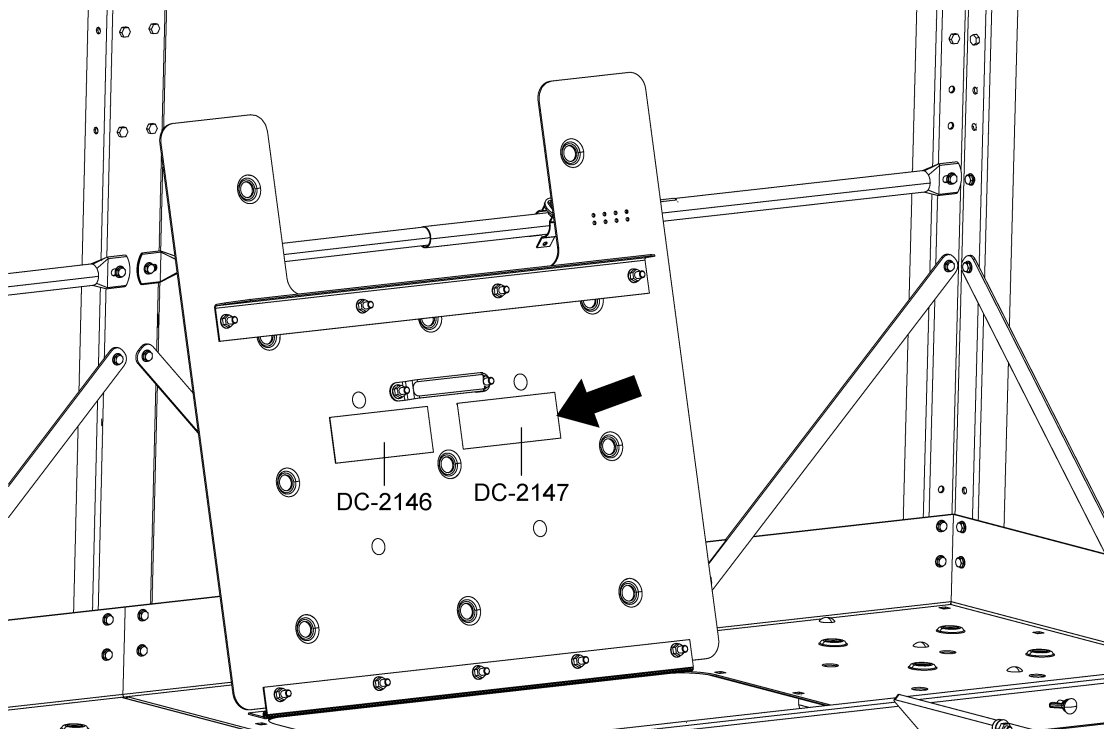



WARNING

FALL HAZARD

- Fall hazard present when hatch door open.
- Fall may result in serious injury or death
- Close hatch door while on platform.

DC-2147



4. Ladder Assembly

The ladder sections are to be mounted directly to the trunking sections. Quantities and section lengths may vary depending on overall height of system. If you have a non-standard height system, refer to supported bucket height reference chart [below](#) for the correct ladder package for the system.

Supported Bucket Height Reference Chart

Part #	Supported Bucket Height (Ft.)	Part #	Supported Bucket Height (Ft.)
1636XRLAD20	0-30	1636XWLAD20	0-30
1636XRLAD30	30-40	1636XWLAD30	30-40
1636XRLAD40	40-50	1636XWLAD40	40-50
1636XRLAD50	50-60	1636XWLAD50	50-60
1636XRLAD60	60-70	1636XWLAD60	60-70
1636XRLAD70	70-80	1636XWLAD70	70-80
1636XRLAD80	80-90	1636XWLAD80	80-90
1636XRLAD90	90-100	1636XWLAD90	90-100
1636XRLAD100	100-110	1636XWLAD100	100-110
1636XRLAD110	110-120	1636XWLAD110	110-120
1636XRLAD120	120-130	1636XWLAD120	120-130
1636XRLAD130	130-140	1636XWLAD130	130-140
1636XRLAD140	140-150	1636XWLAD140	140-150
1636XRLAD150	150-160	1636XWLAD150	150-160
1636XRLAD160	160-170	1636XWLAD160	160-170
1636XRLAD170	170-180	1636XWLAD170	170-180
1636XRLAD180	180-190	1636XWLAD180	180-190

NOTE: Ladders are of a modular design for ease of modification in the field. These illustrations are only to be used as a “general” guide to installation layout. The exact assembly may vary due to the unique nature of each bucket elevator.

See [Figures 4A-4F on Pages 11-16](#) to help determine if the ladders should be started on the up-leg or down-leg of the elevator and also aid in the ladder order and rest platform locations for bucket elevators with heights from 20' through 180'.



Due to O.H.S.A. standards, it is required that a rest platform be installed every 30'.

Key: HP = Head Platform
RP = Rest Platform

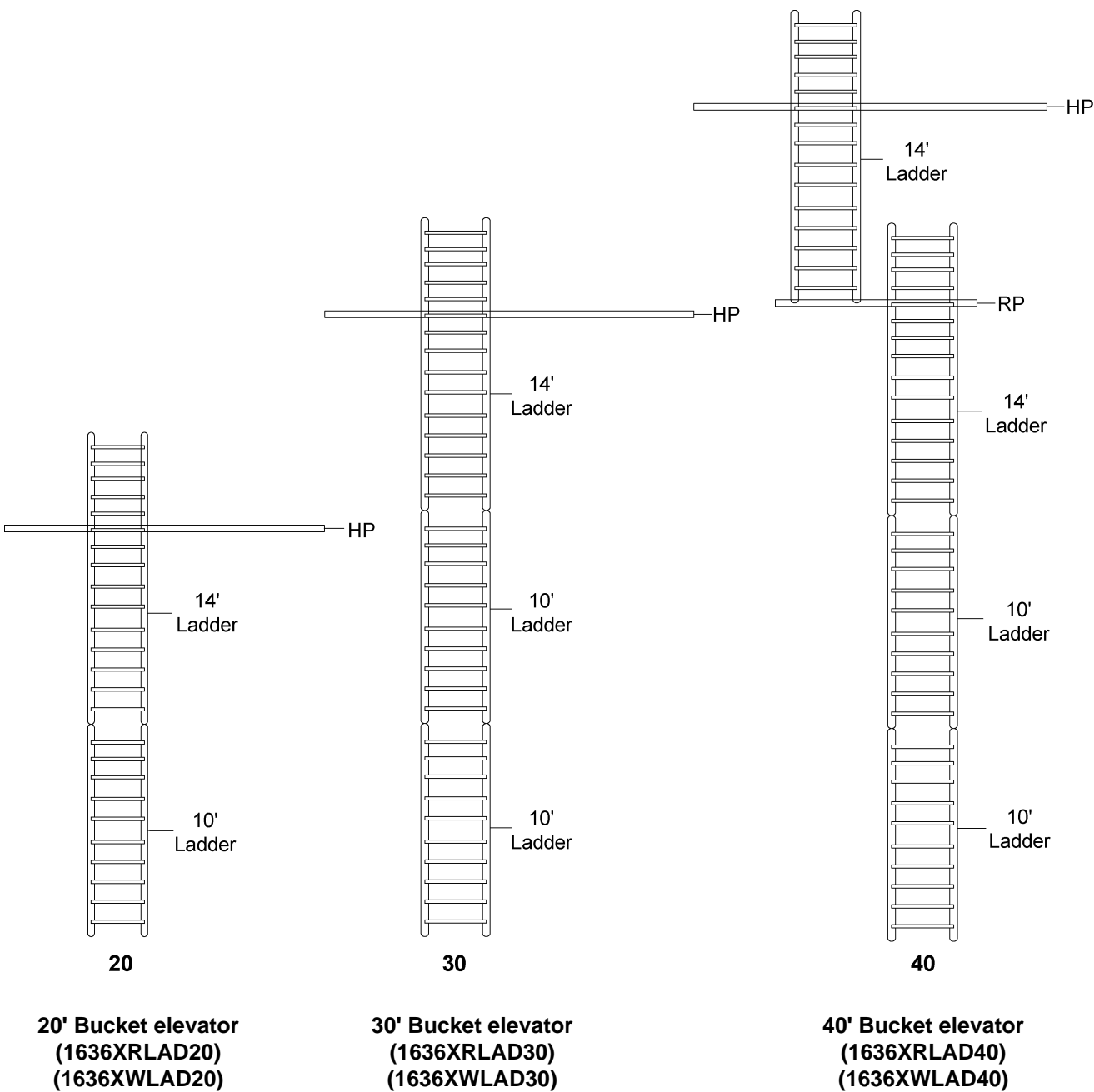


Figure 4A

4. Ladder Assembly

Key: HP = Head Platform
RP = Rest Platform

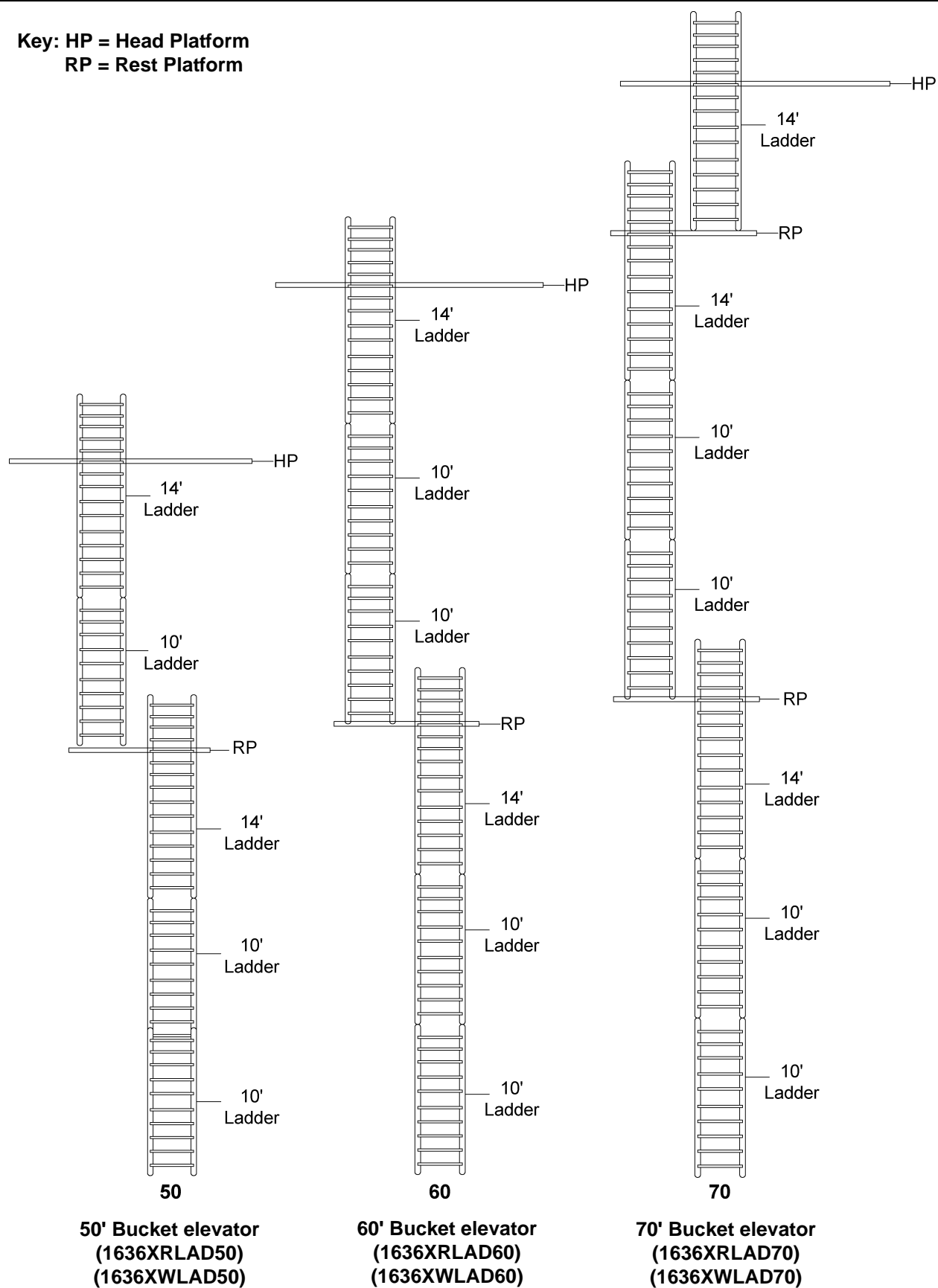
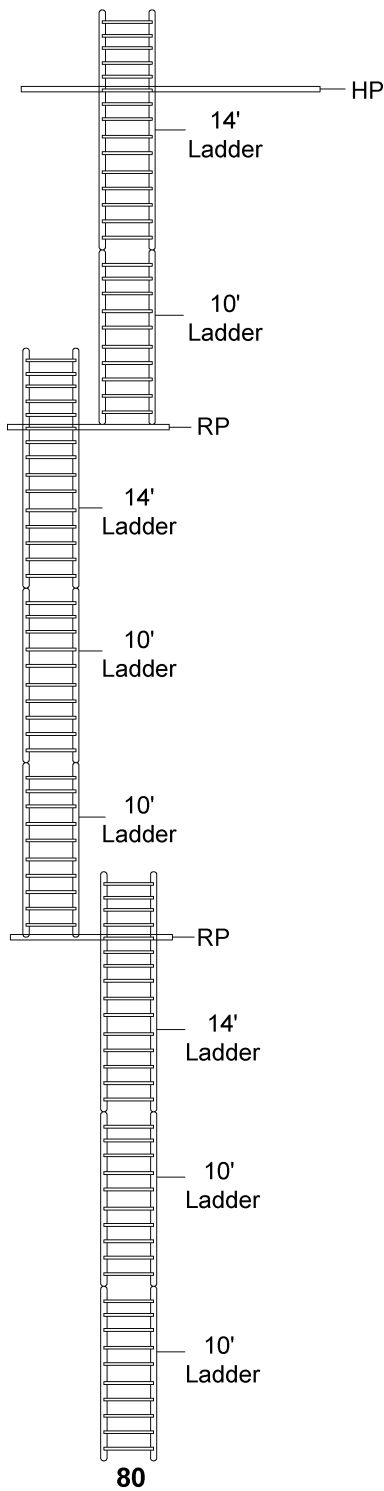
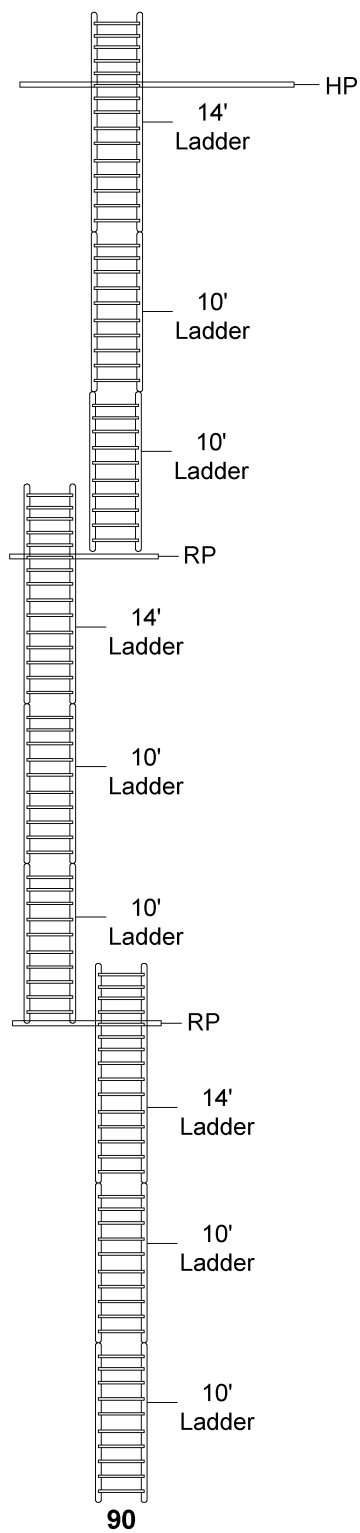


Figure 4B

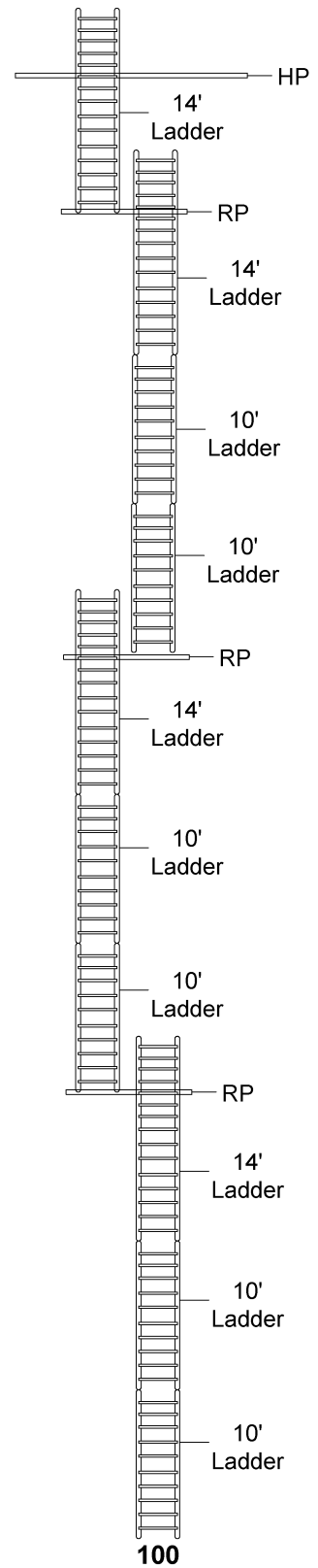
**Key: HP = Head platform
RP = Rest platform**



**80' Bucket elevator
(1636XRLAD80)
(1636XWLAD80)**



**90' Bucket elevator
(1636XRLAD90)
(1636XWLAD90)**



**100' Bucket elevator
(1636XRLAD100)
(1636XWLAD100)**

Figure 4C

4. Ladder Assembly

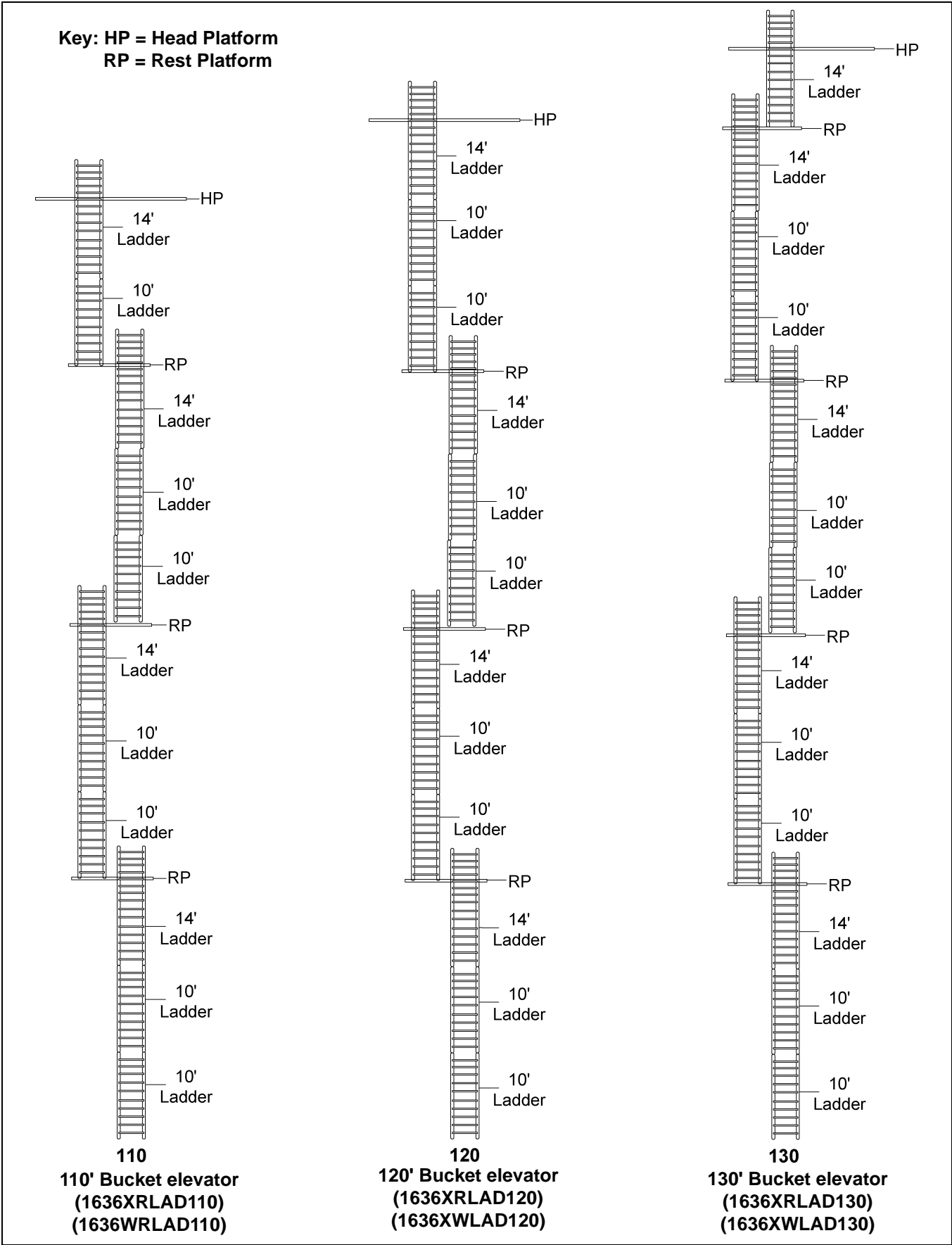
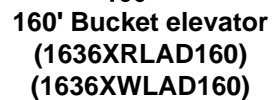


Figure 4D



PNEG-1807 16"-36" Bucket Elevator Platform and Ladder "X" Series

4. Ladder Assembly

Key: HP = Head Platform
RP = Rest Platform

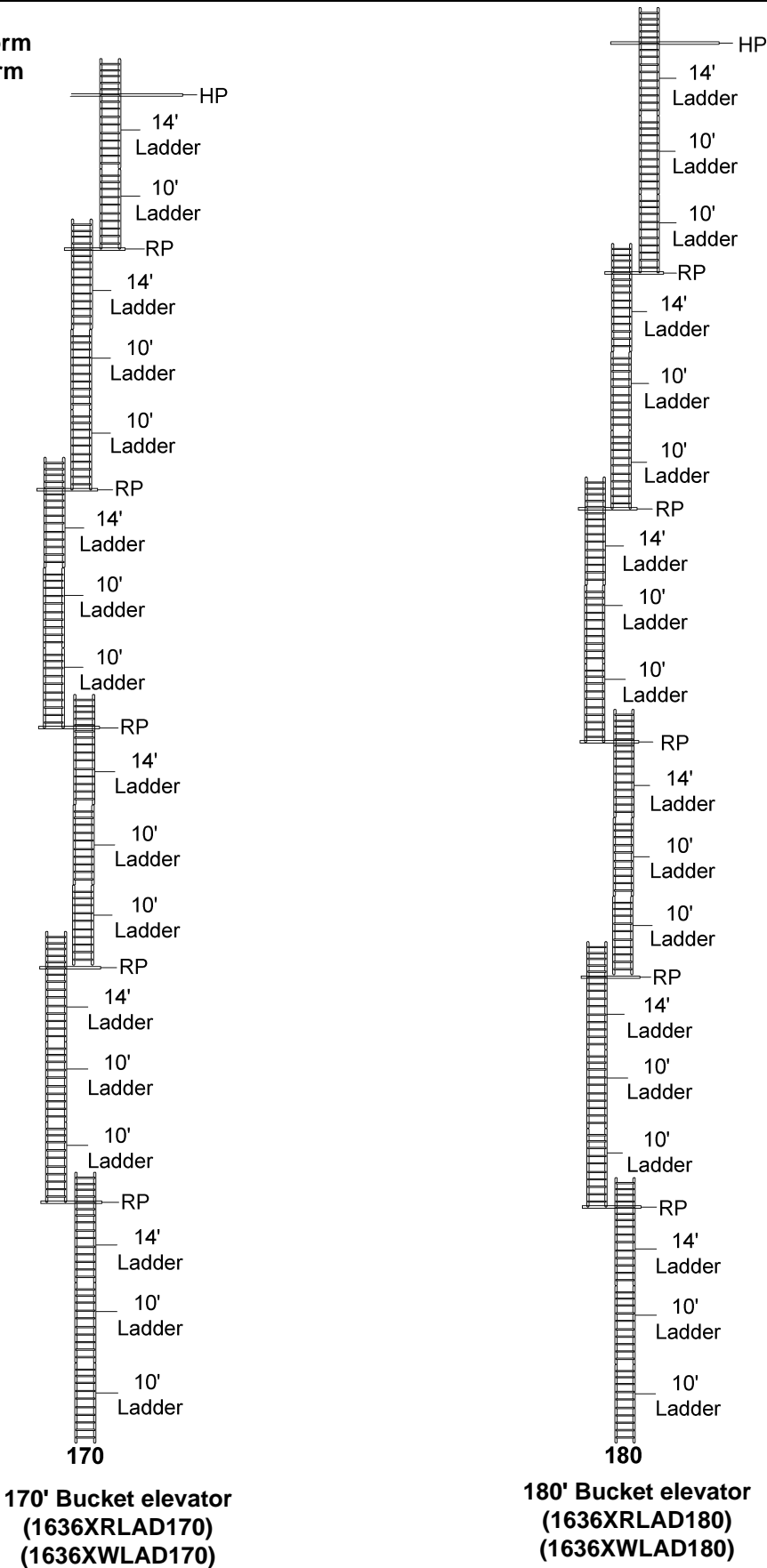


Figure 4F

Typical Ladder/Cage Setup

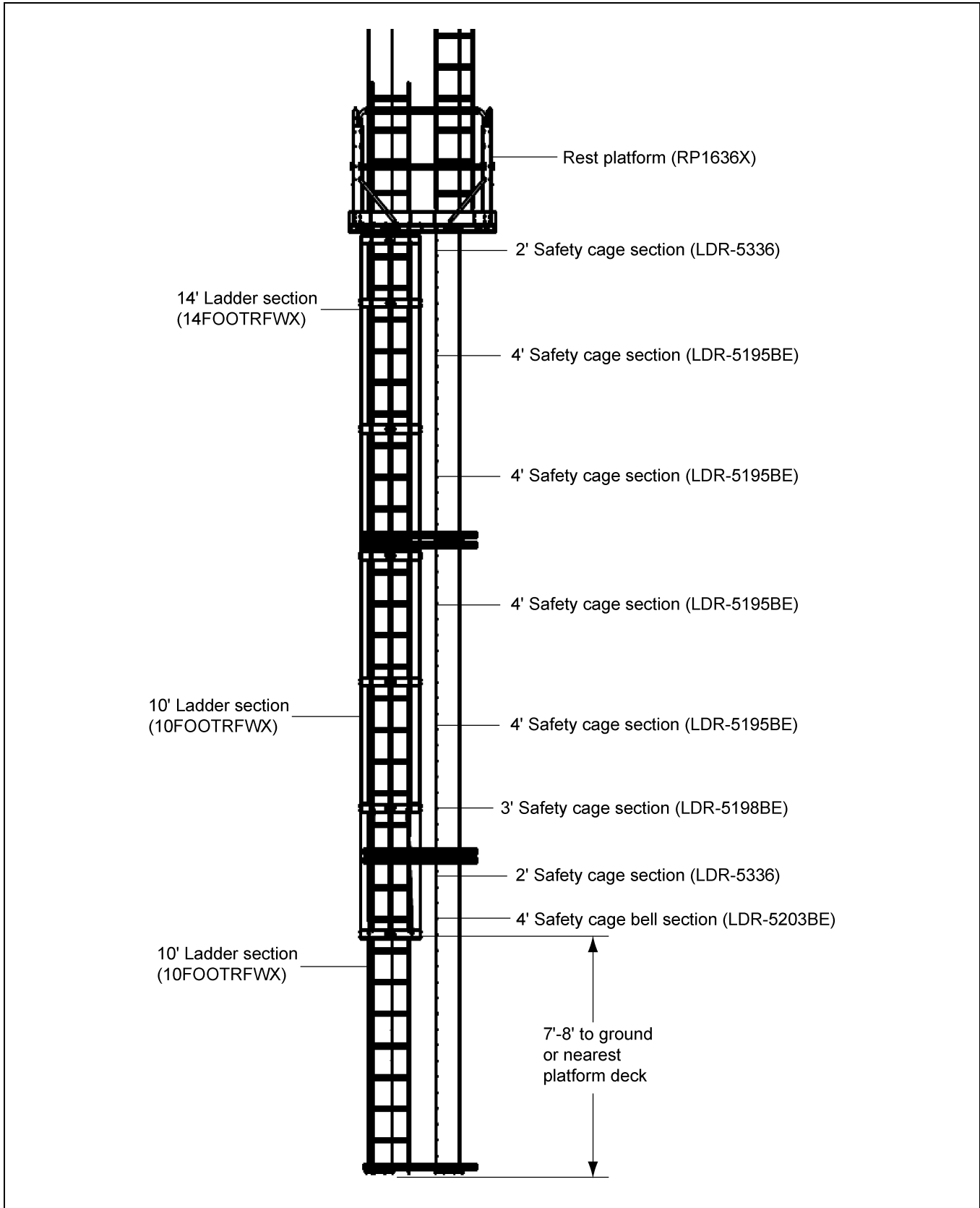


Figure 4G Typical Ladder/Cage Assembly Layout (30' Shown.)

4. Ladder Assembly

Attach Tie Angle to Boot Trunking

1. Attach tie angle to the trunking using 1/2" x 1" bolts. (See Figure 4H, Figure 4I below, Figure 4J and Figure 4K on Page 19.)

- a. **For 16"**: With lip of tie angle up and outward, align tie angle so that it extends beyond the trunking at each end. (See Figure 4H.)

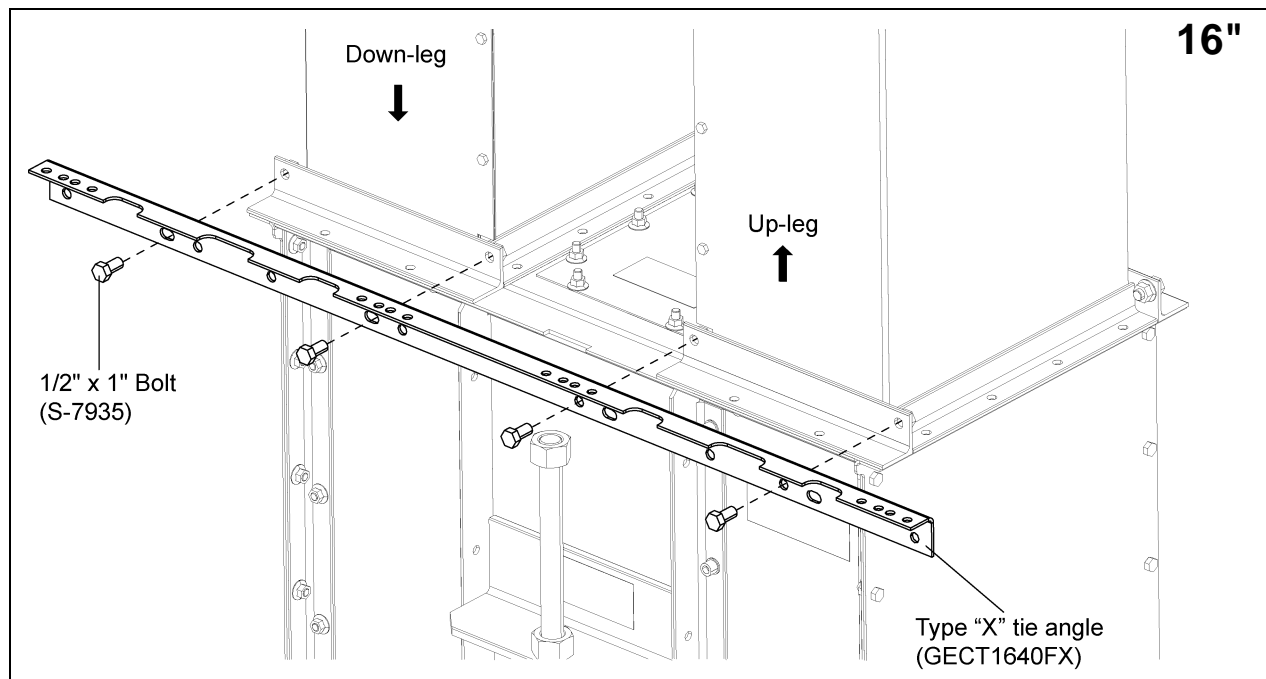


Figure 4H 16" Boot Tie Angle

- b. **For 24"**: With lip of tie angle up and outward, align edge of tie angle to edge of trunking at down-leg end. With this alignment, tie angle will extend slightly beyond the edge of trunking at the up-leg end, as shown in Figure 4I.

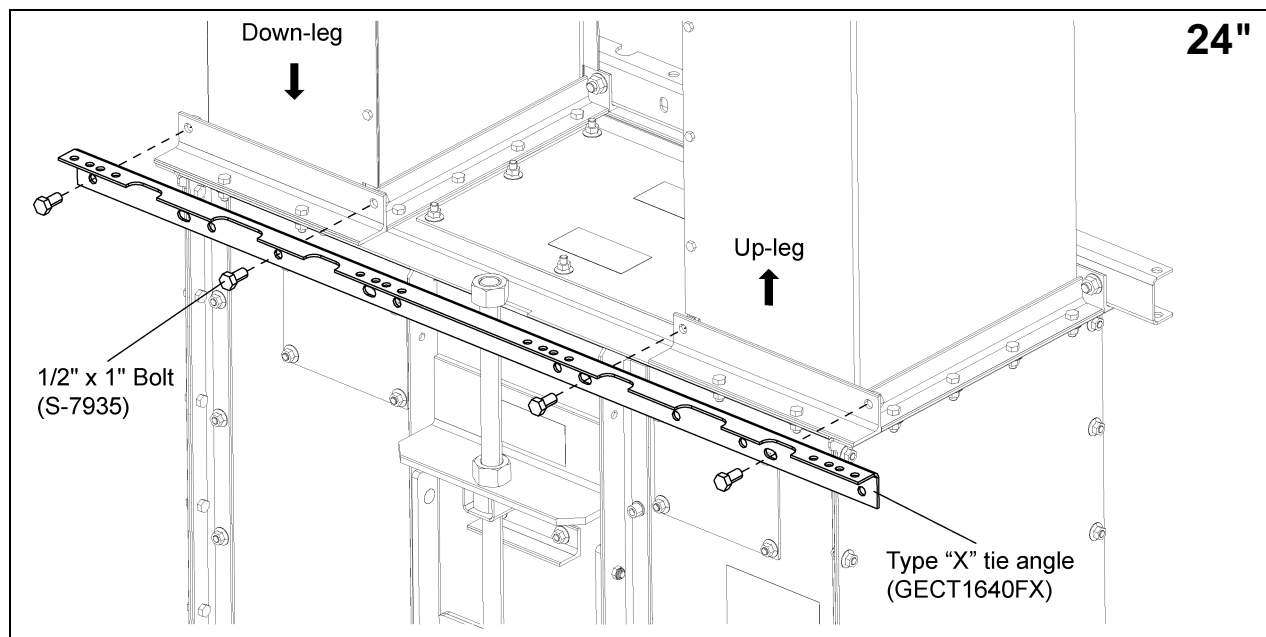


Figure 4I 24" Boot Tie Angle

- c. **For 30"**: With lip of tie angle up and outward, align tie angle so that one hole is open at the down-leg end and two (2) holes are open at the up-leg end, as shown in [Figure 4J](#).

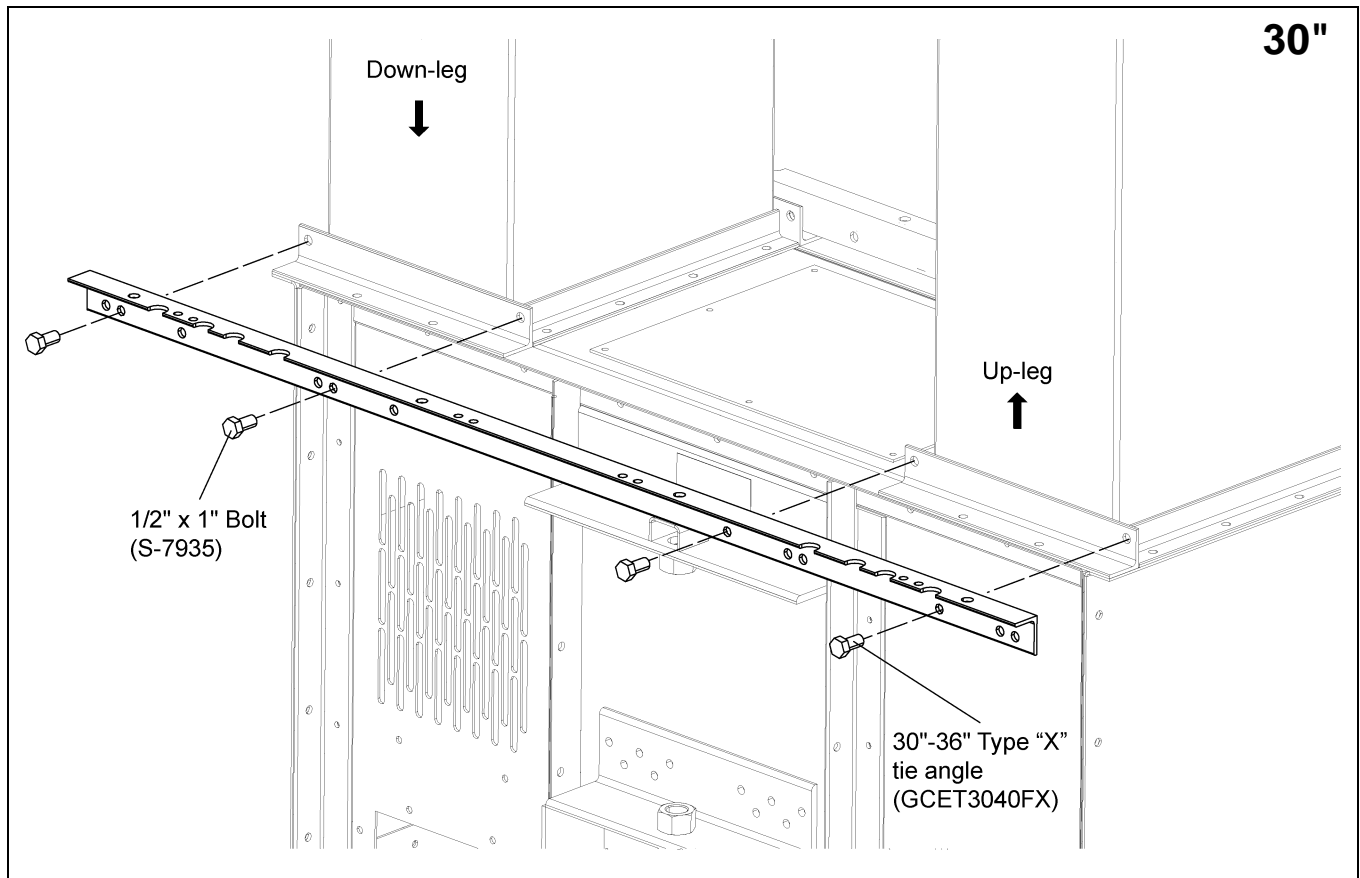


Figure 4J 30" Boot Tie Angle

- d. **For 36"**: With lip of tie angle up and outward, align both edges of tie angle to edges of trunking. Note the tie angle will not extend beyond the trunking. (See [Figure 4K](#).)

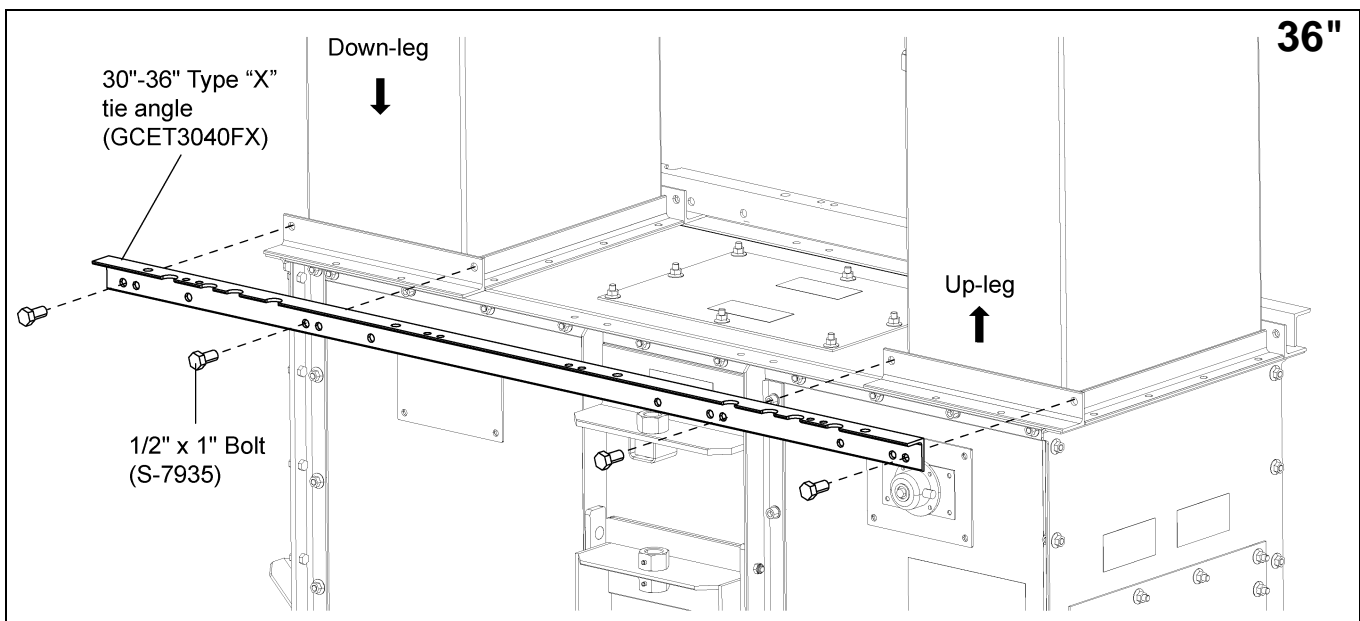


Figure 4K 36" Boot Tie Angle

4. Ladder Assembly

Attach Boot Ladder Support Brackets and Boot Ladder Section

NOTE: Refer to ladder layout images, [Figure 4A-4F on Pages 11-16](#).

NOTE: Ladders can be mounted to either the up-leg or down-leg end of the elevator depending on the height and head platform hatch location.

NOTE: Both up-leg and down-leg bracket locations are shown in this manual, however, only one will actually be installed based on owner preference and layout of the elevator.

Depending on the height and head platform hatch location. Ladder can be mounted to either the up-leg or the down-leg side, refer to ladder layout [Figure 4A-4F on Pages 11-16](#). **NOTE:** Both up-leg and down-leg bracket locations are shown. But only one side will be used.

1. Use 3/8" x 3/4" hex bolts to attach ladder support brackets to the boot tie angle using holes indicated for the size elevator. Remember to double check if the ladder should start on the up-leg side or the down-leg side. ([See Figures 4L-4Q on Pages 20 and 22.](#))
 - a. **If using the 16" down-leg:** Use 3/8" x 3/4" hex bolts to attach the ladder support brackets to the boot tie angle using the holes indicated in [Figure 4L](#). Note the outer bracket uses the outer most holes of the tie angle and the inner bracket will have two (2) empty holes beside it on the tie angle.

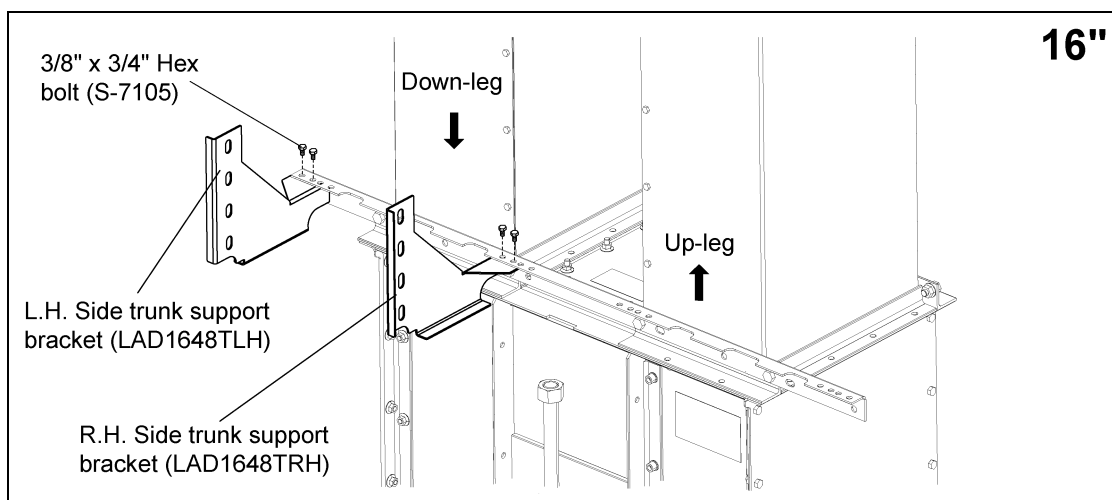


Figure 4L 16" Boot Bracket Down-Leg

- b. **If using the 16" up-leg:** Use 3/8" x 3/4" hex bolts to attach the ladder support brackets to the boot tie angle using the holes indicated in [Figure 4M](#). Note the outer bracket attaches to the tie angle with two (2) empty holes to the outside.

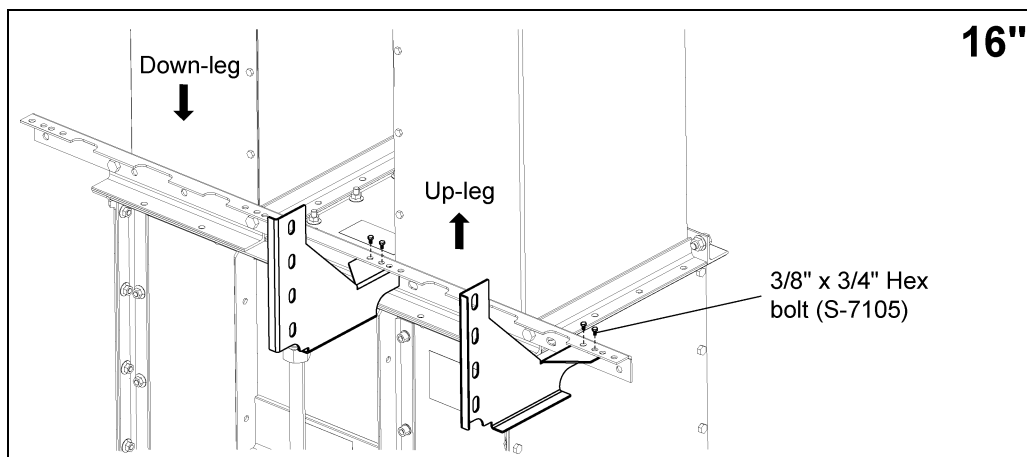


Figure 4M 16" Boot Bracket Up-Leg

- c. **If using the 24" down-leg:** Use 3/8" x 3/4" hex bolts to attach the ladder support brackets to the boot tie angle using the holes indicated in [Figure 4N](#). Note the outer bracket will have two (2) empty holes to the outside of the connection at the tie angle.

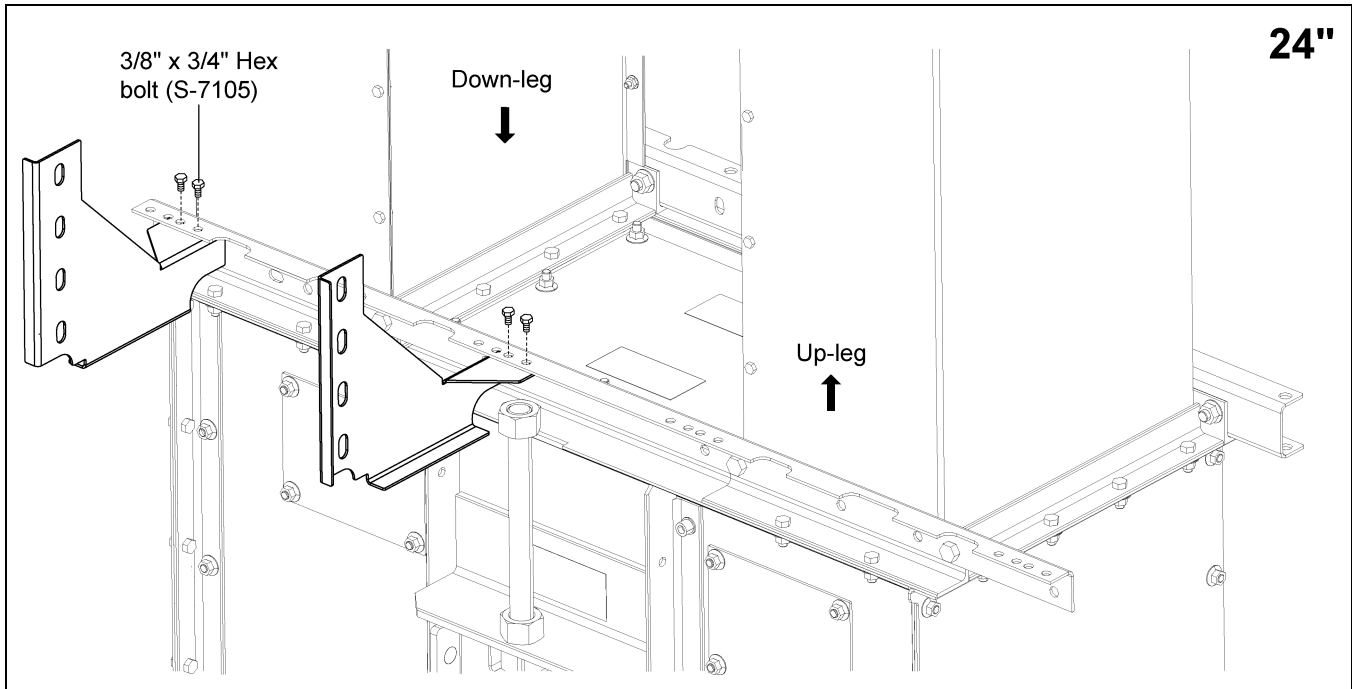


Figure 4N 24" Boot Bracket Down-Leg

- d. **If using the 24" up-leg:** Use 3/8" x 3/4" hex bolts to attach the ladder support brackets to the boot tie angle using the holes indicated in [Figure 4O](#). Note the outer bracket uses the two (2) outer most set of holes on the tie angle.

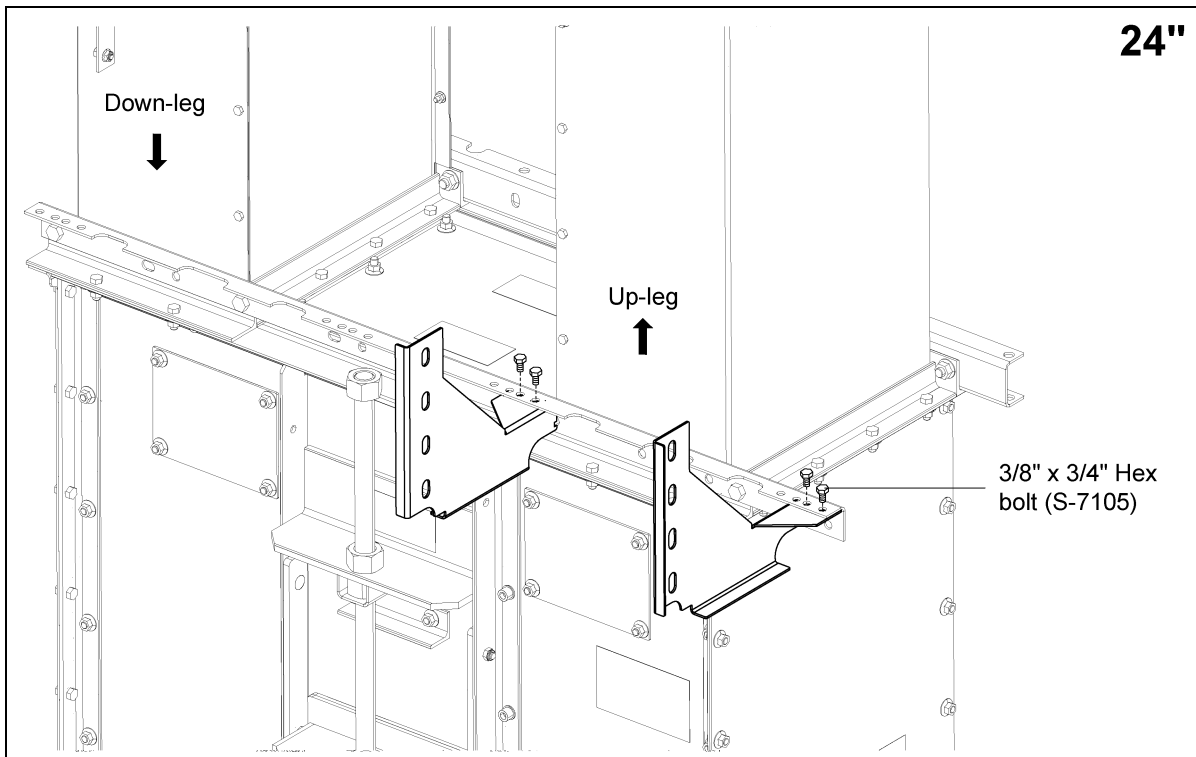


Figure 4O 24" Boot Bracket Up-Leg

4. Ladder Assembly

- e. **If using the 30"-36" down-leg:** Use 3/8" x 3/4" hex bolts to attach the ladder support brackets to the boot tie angle using the holes indicated in [Figure 4P](#). Note the outer bracket uses the first set of holes on the outside.

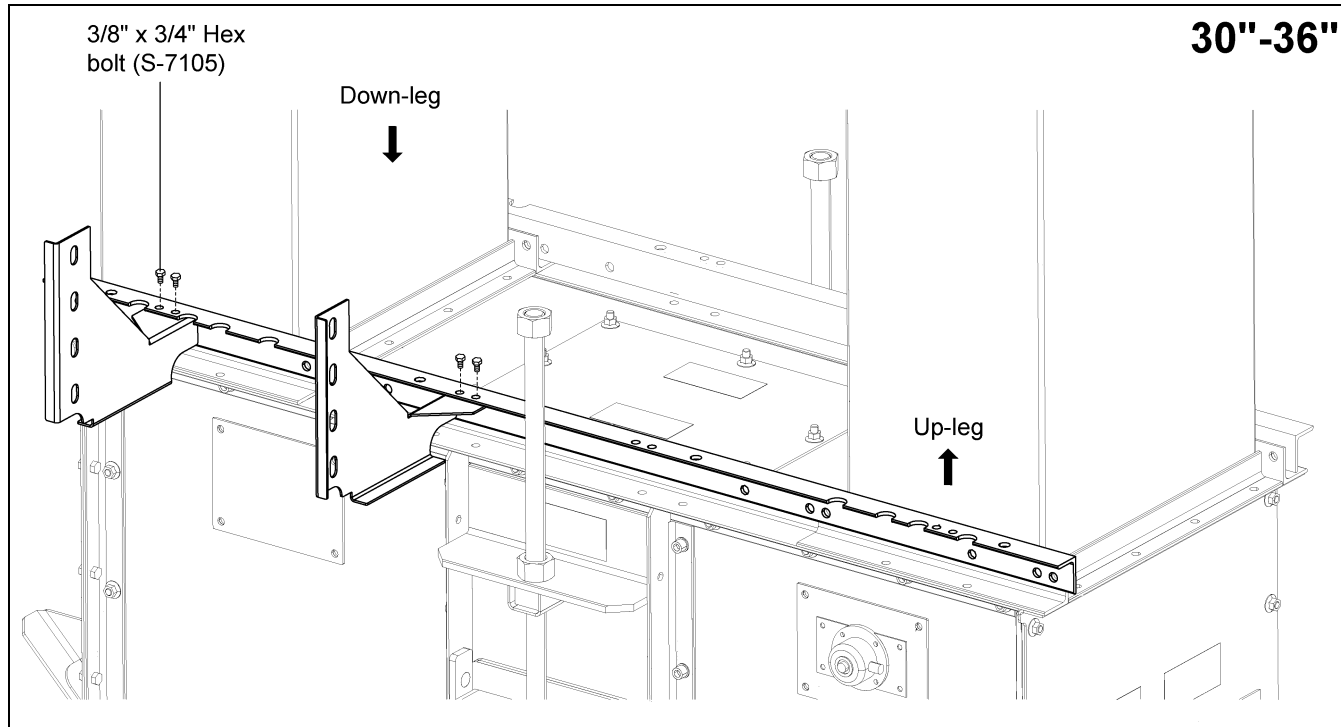


Figure 4P 30"-36" Boot Bracket Down-Leg

- f. **If using the 30"-36" up-leg:** Use 3/8" x 3/4" hex bolts to attach the ladder support brackets to the boot tie angle using the holes indicated in [Figure 4Q](#). Note the outer bracket uses the first set of holes towards the outside.

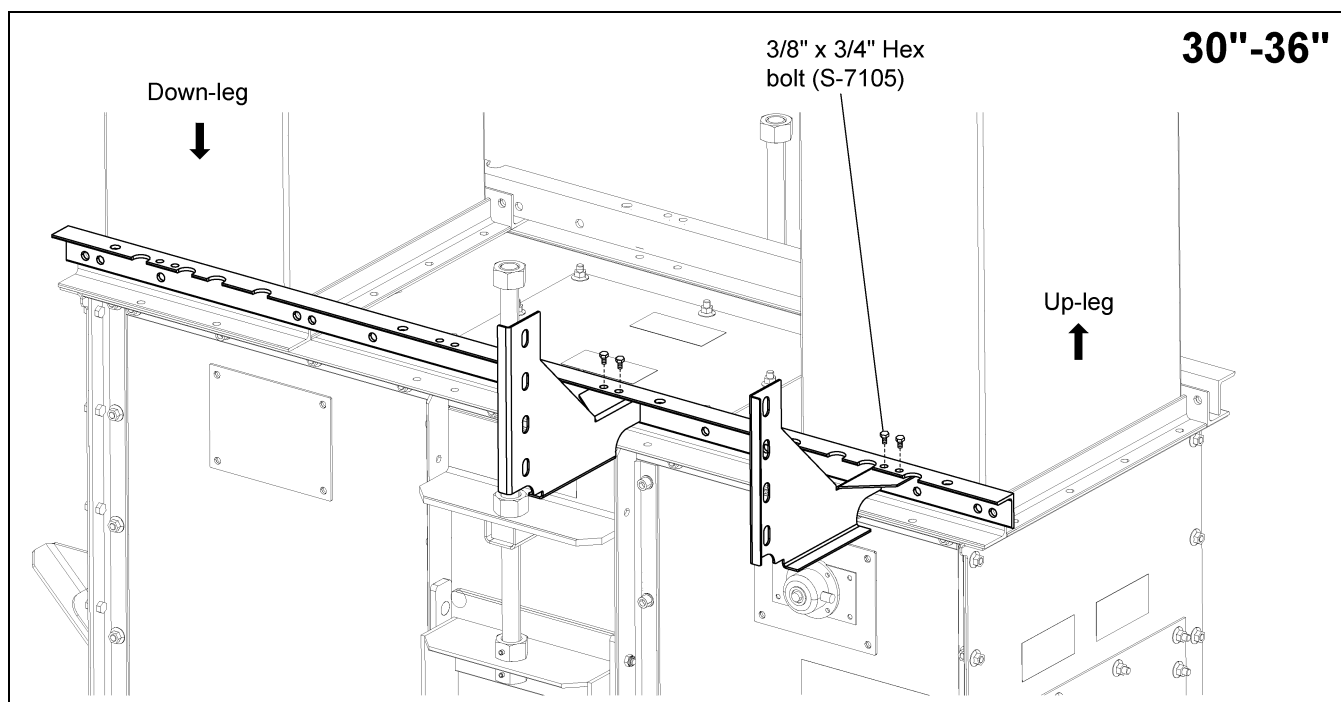


Figure 4Q 30"-36" Boot Bracket Up-Leg

Install Boot Ladder Section

1. Trim a 10' ladder section to sit so that the first ladder rung is 12" from the ground. (See Figure 4R.)

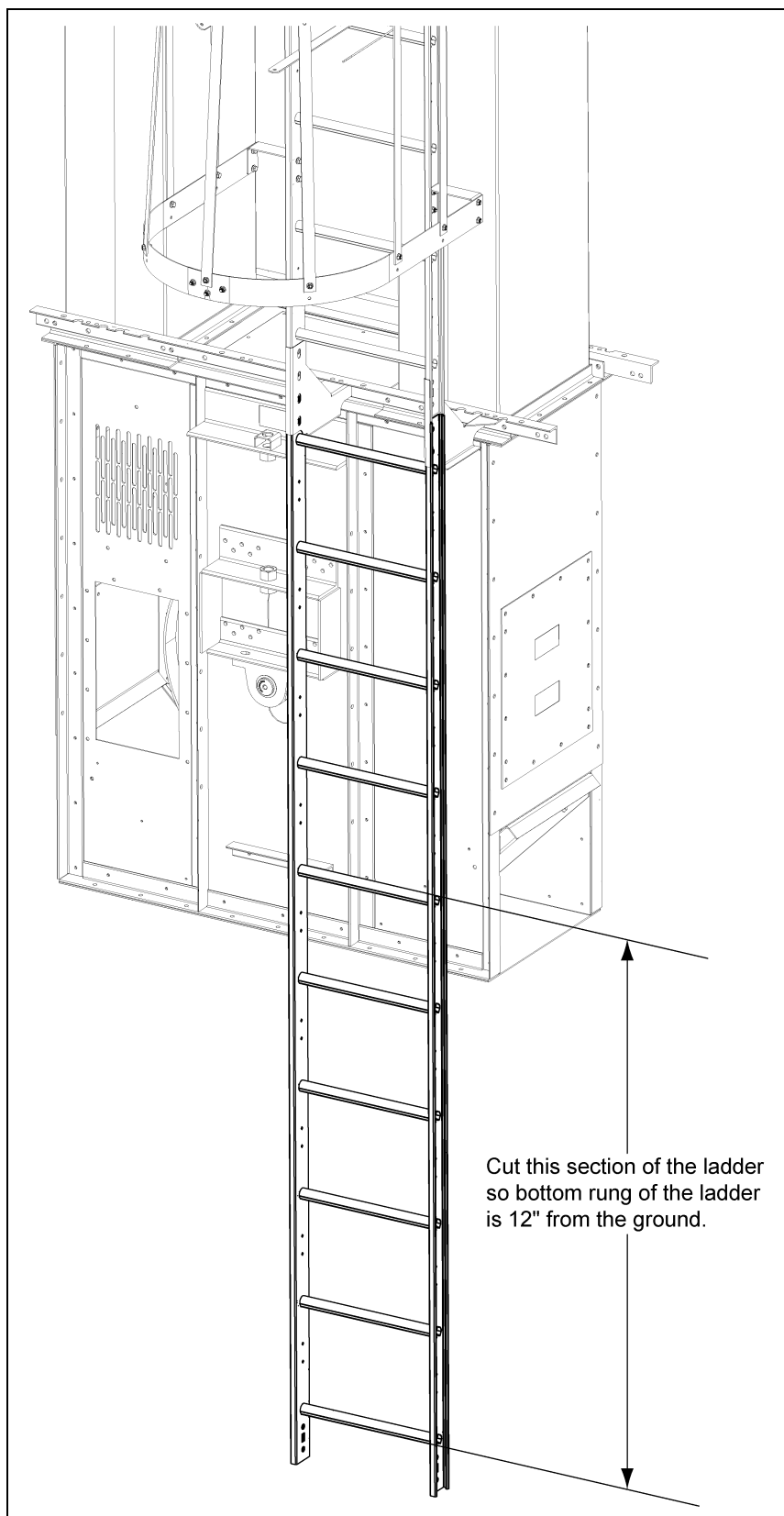


Figure 4R

4. Ladder Assembly

2. Attach trimmed ladder section to the left and right ladder brackets using 1/2" x 3/4" hex bolts through the bottom most set of holes.
3. Attach the next ladder section to the ladder brackets using 1/2" x 3/4" hex bolts through the top set of holes. (See Figure 4S.)

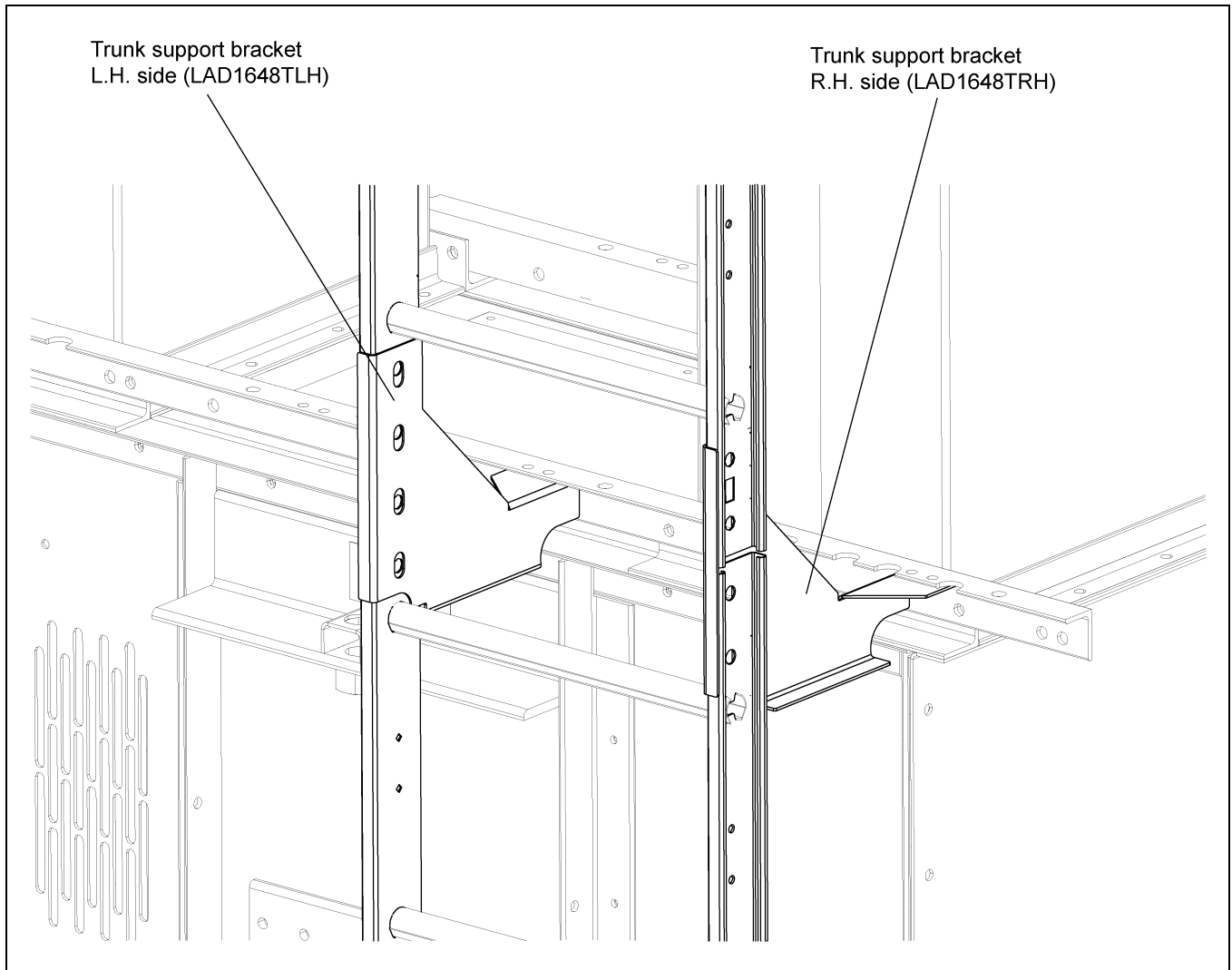


Figure 4S

4. Secure the bottom of the ladder to the boot or ground. **NOTE:** Bracket for this step is not included.

5. Tie Angles, Ladder Brackets and Safety Cages

This chapter covers the installation of tie angles just above and below all trunking seams on both ladder and non-ladder sides. Installation of ladder support brackets, ladders and safety cages are also covered.

Tie Angles to Trunking

1. Tie angles must be mounted to each trunking seam on both the ladder and non-ladder side of the trunking. Use 1/2" x 1" bolts. [See Figures 5A-5E on Pages 25-27](#) for the correct location of bolts for each elevator size.

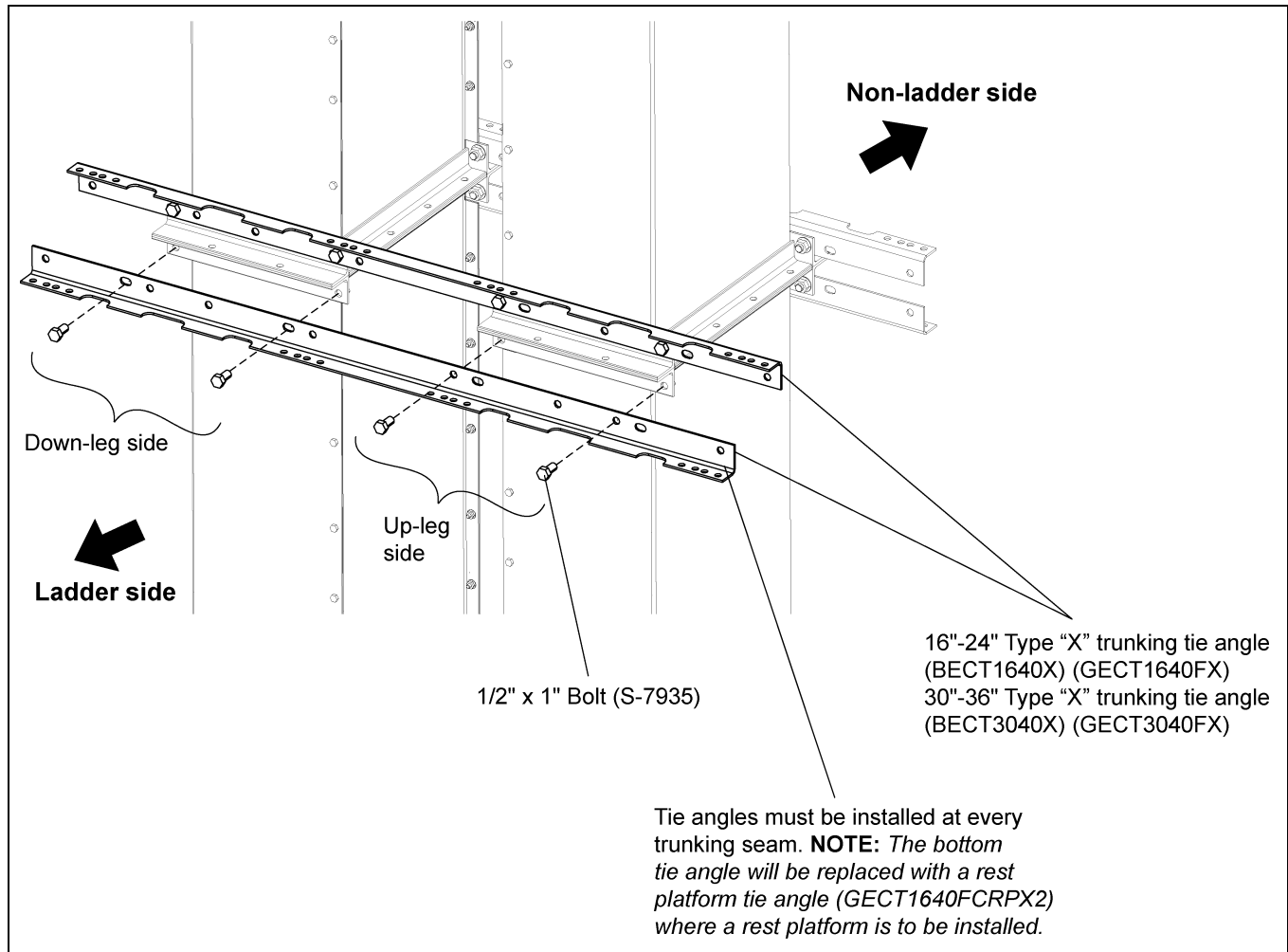


Figure 5A Tie Angle Installation Location

5. Tie Angles, Ladder Brackets and Safety Cages

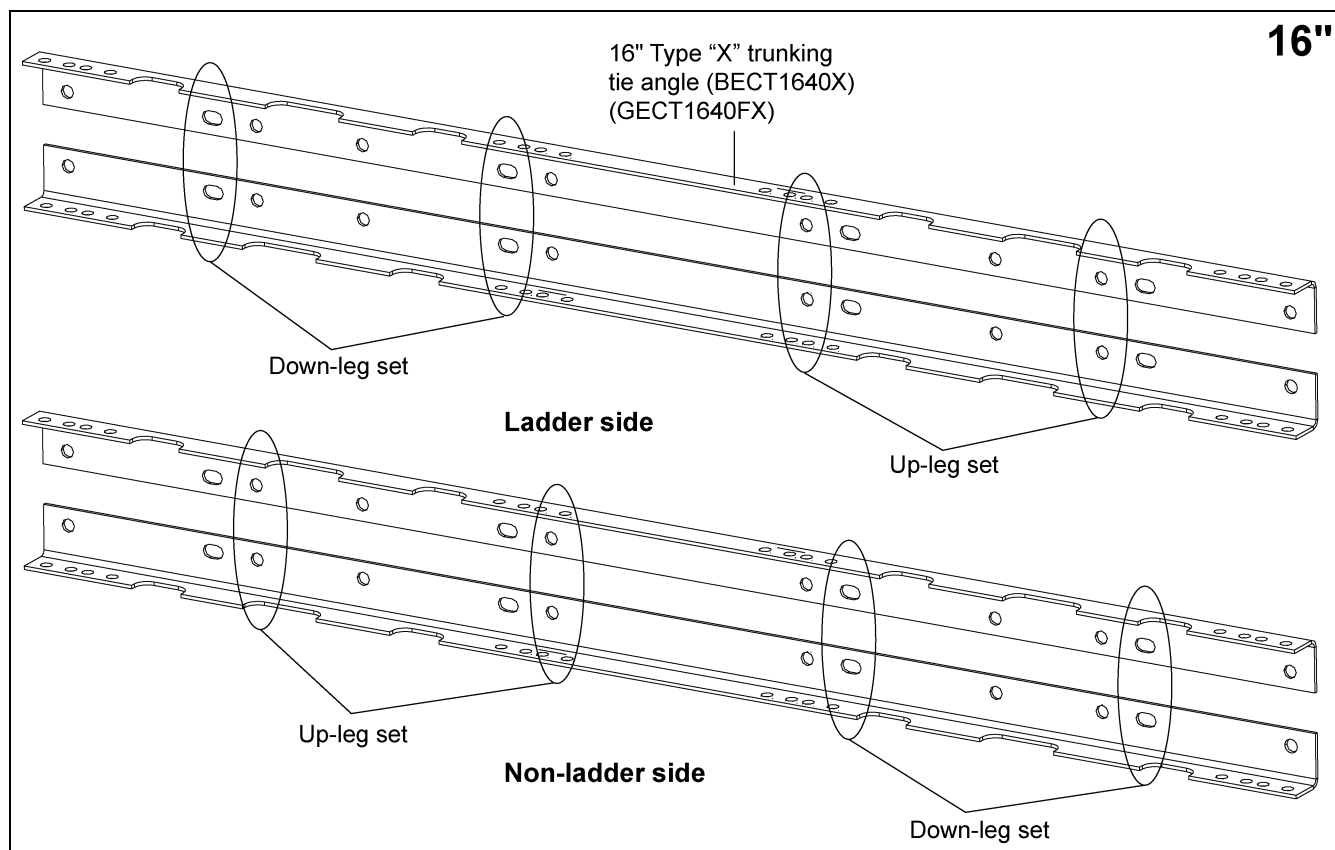


Figure 5B 16" Bucket Elevator Tie Angles to Trunking Bolt Locations

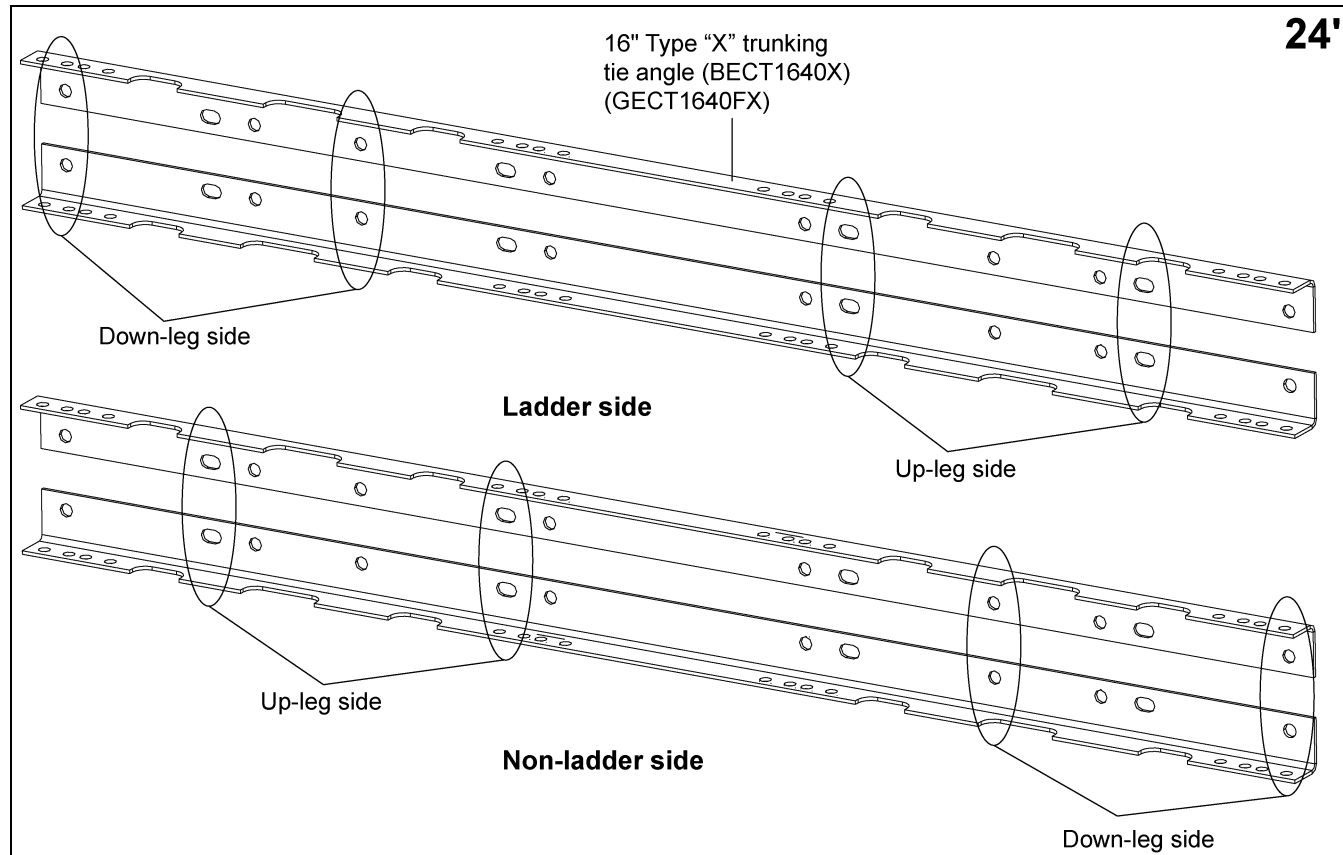


Figure 5C 24" Bucket Elevator Tie Angles to Trunking Bolt Locations

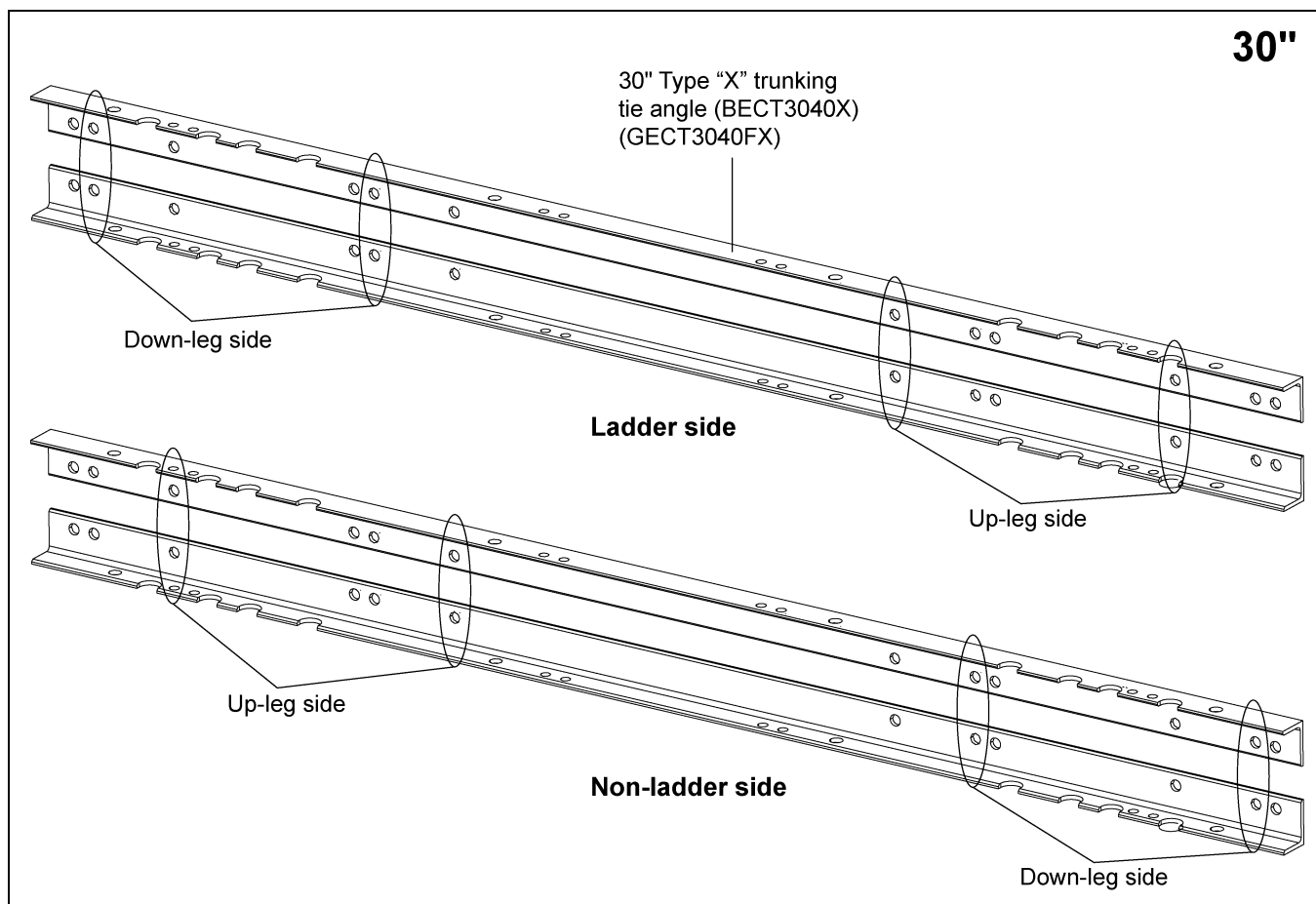


Figure 5D 30" Bucket Elevator Tie Angles to Trunking Bolt Locations

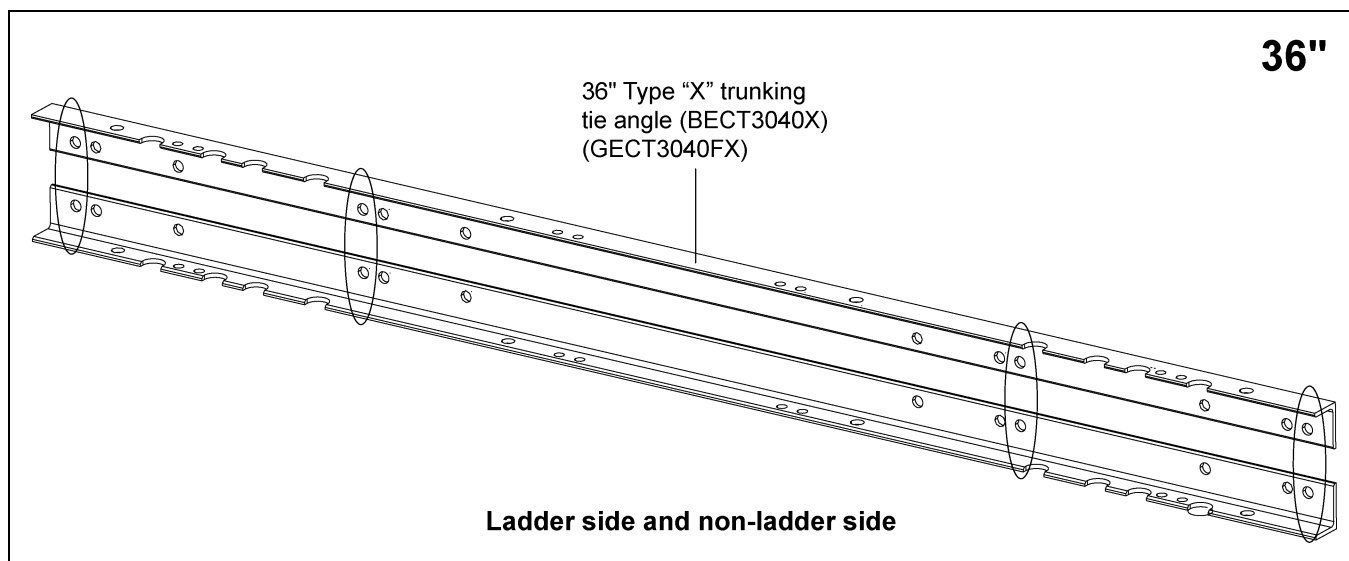


Figure 5E 36" Bucket Elevator Tie Angles to Trunking Bolt Locations

5. Tie Angles, Ladder Brackets and Safety Cages

Ladder Support Brackets

1. Use 3/8" x 3/4" hex bolts (S-7105) to attach ladder support brackets to the tie angle through holes shown for each size elevator.
2. Mount the upper right and upper left hand ladder support brackets to the top tie angle with 3/8" bolts.
3. Mount the lower right hand and lower left hand ladder support brackets to the bottom tie angle with 3/8" bolts.
4. Secure the flanges of the ladder brackets together with 3/8" x 3/4" hex bolts.

NOTE: You will only use one set of ladder brackets, either the up-leg set or the down-leg set.

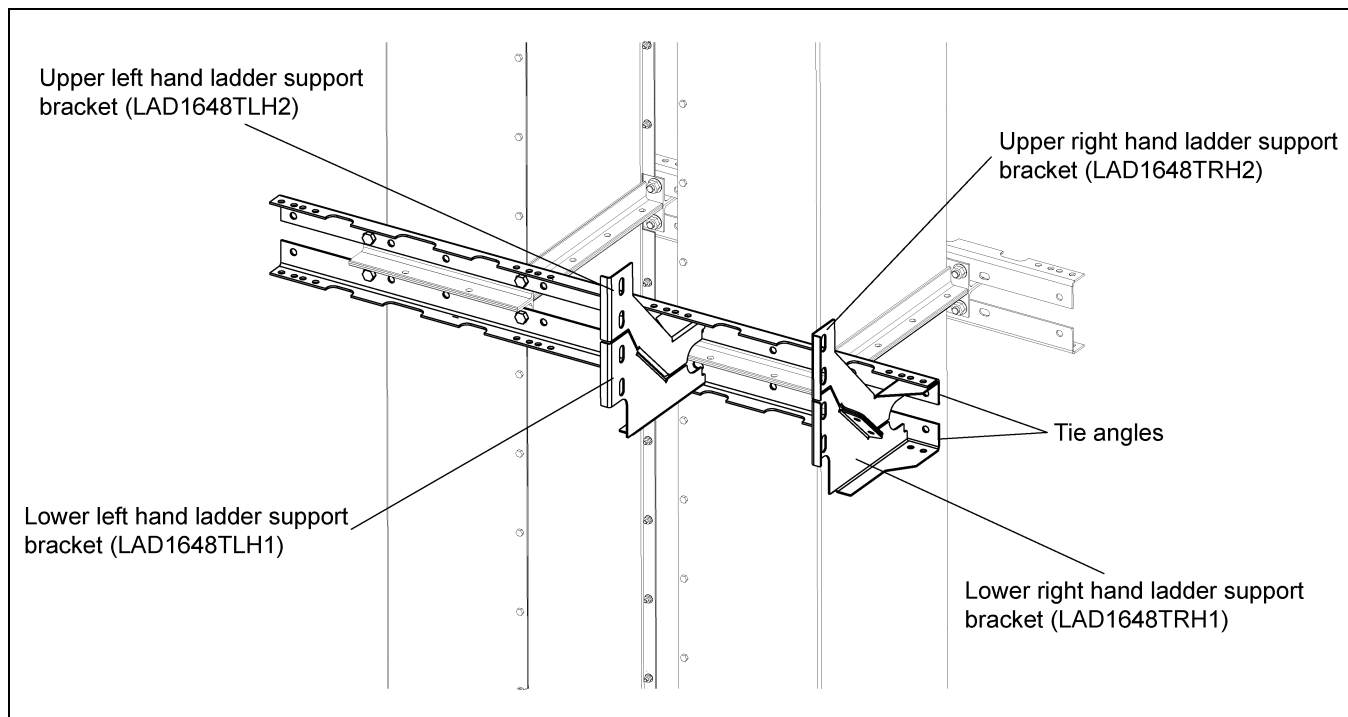


Figure 5F Ladder Support Bracket Parts

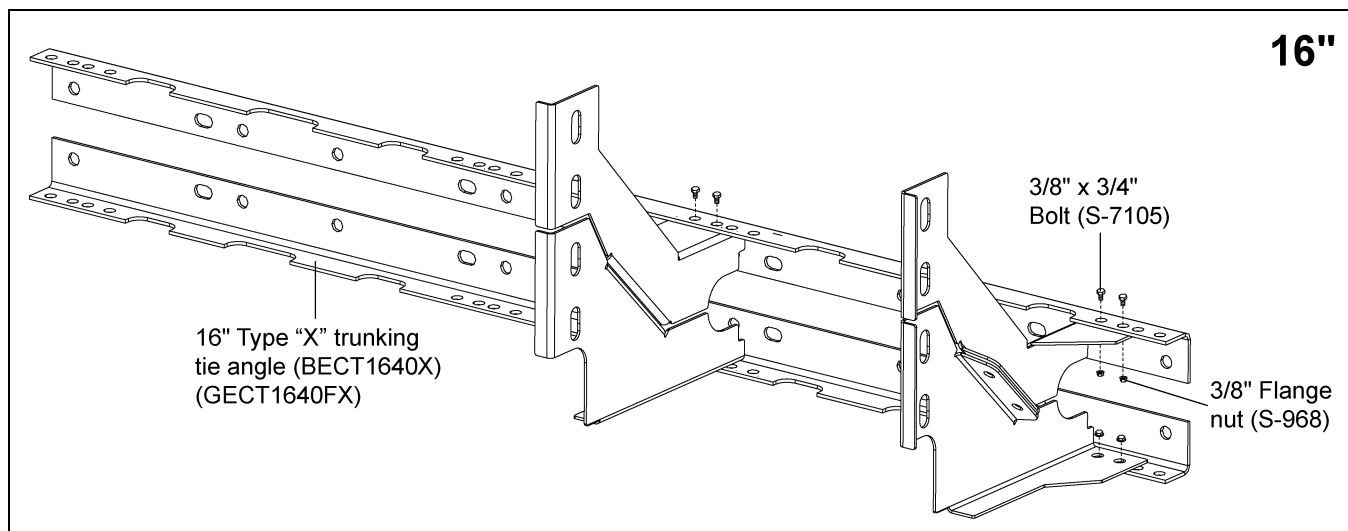


Figure 5G 16" Ladder Bracket Location for Up-Leg

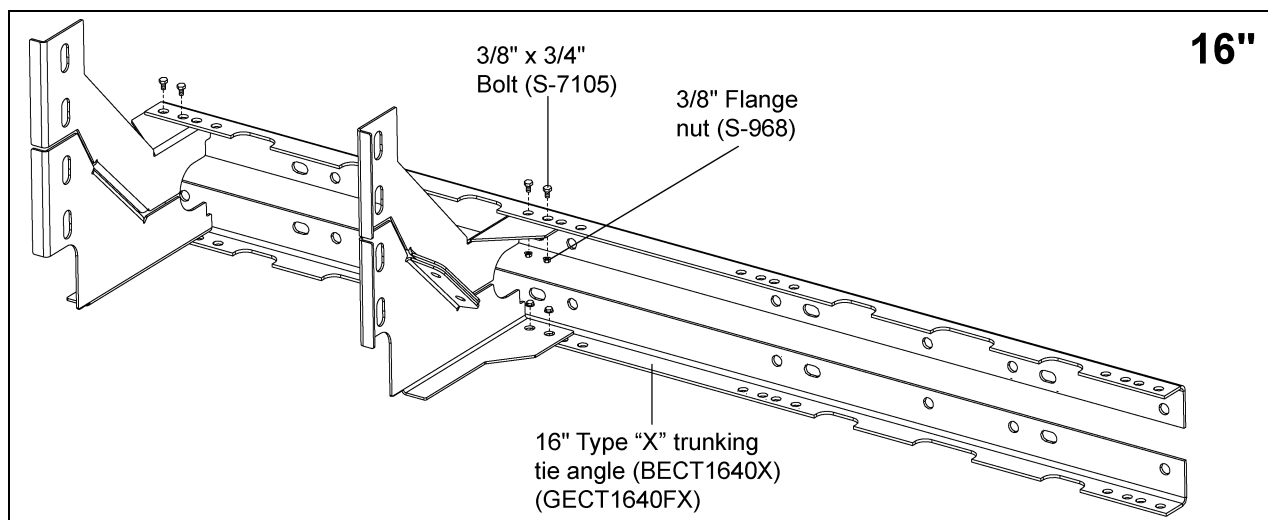


Figure 5H 16" Ladder Bracket Location for Down-Leg

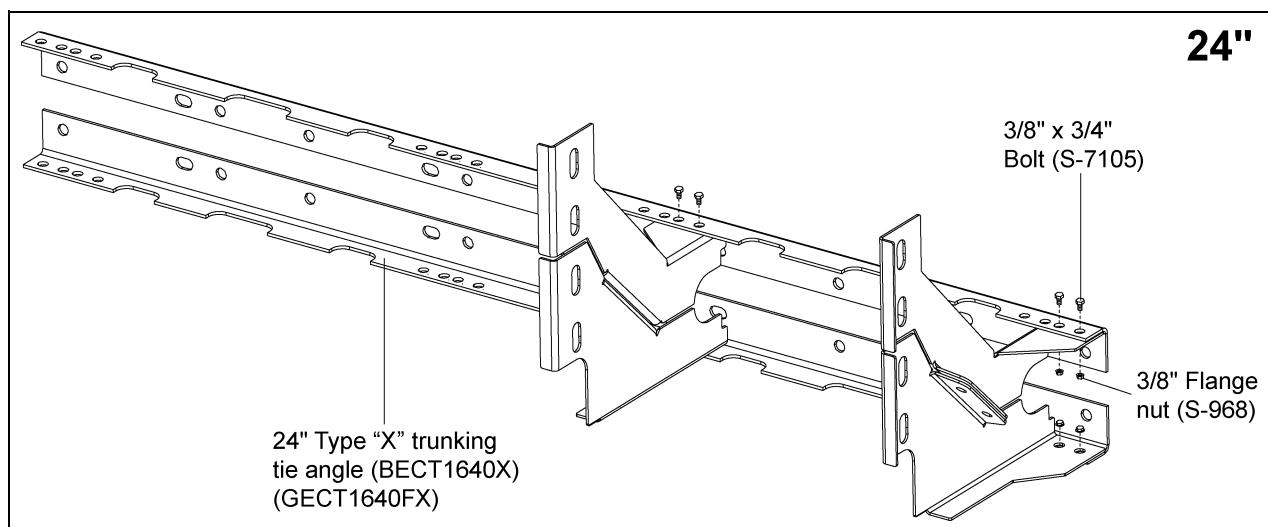


Figure 5I 24" Ladder Bracket Location for Up-Leg

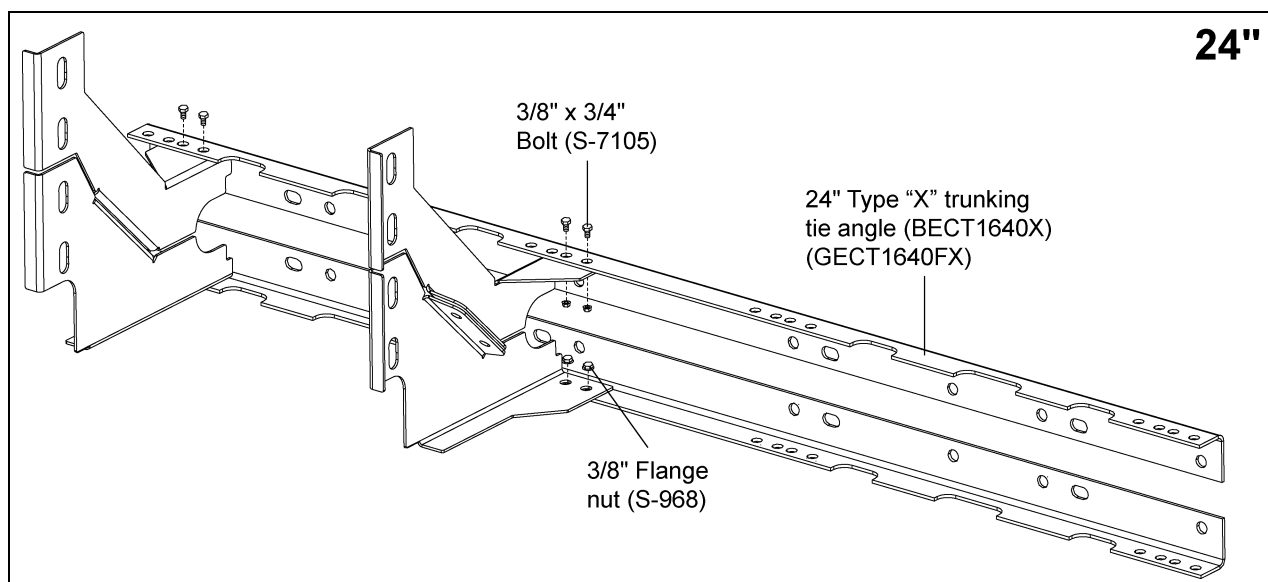


Figure 5J 24" Ladder Bracket Location for Down-Leg

5. Tie Angles, Ladder Brackets and Safety Cages

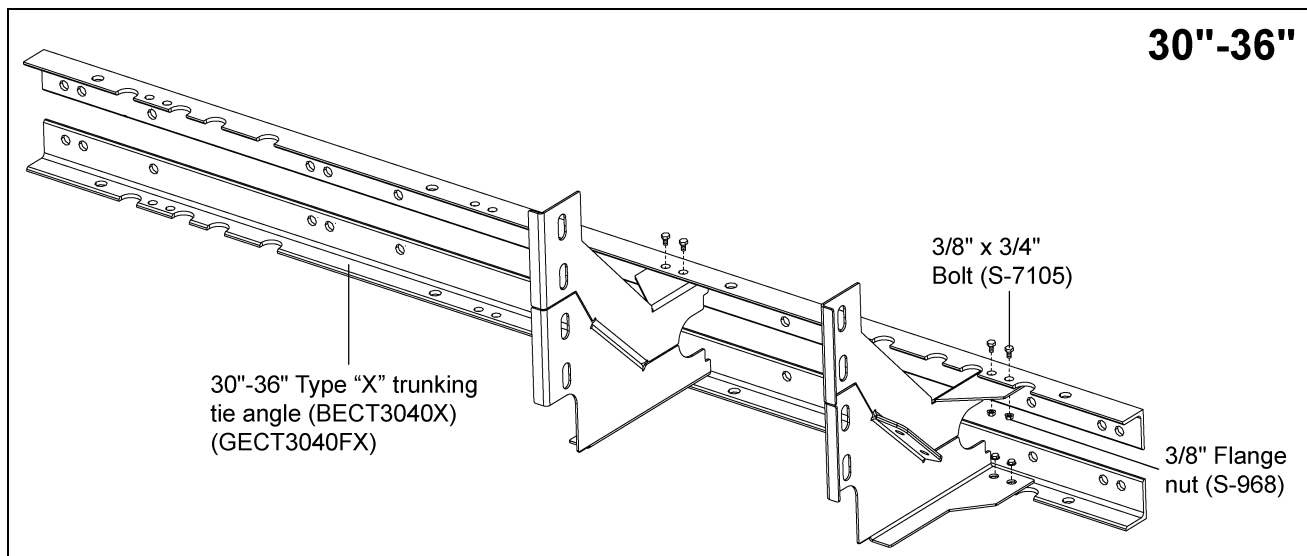


Figure 5K 30"-36" Ladder Bracket Location for Up-Leg

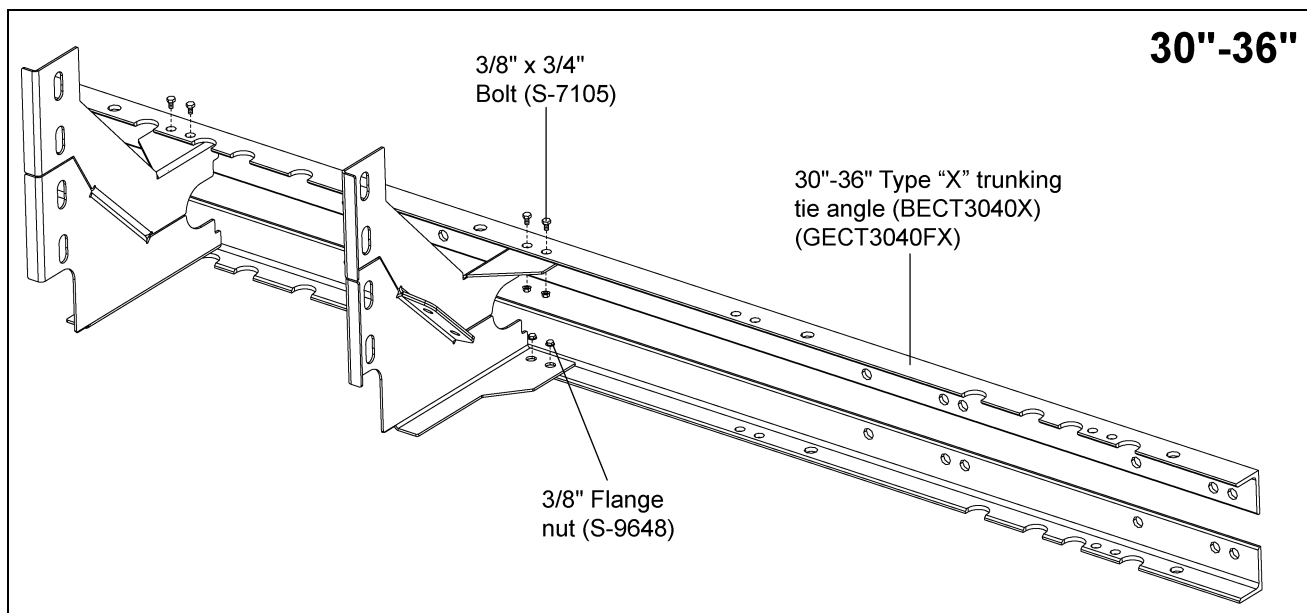


Figure 5L 30"-36" Ladder Bracket Location for Down-Leg

Attach Ladders to Ladder Brackets

1. Attach ladder sections to the ladder brackets using 1/2" x 3/4" hex bolts (S-7932). (See Figure 5M.)

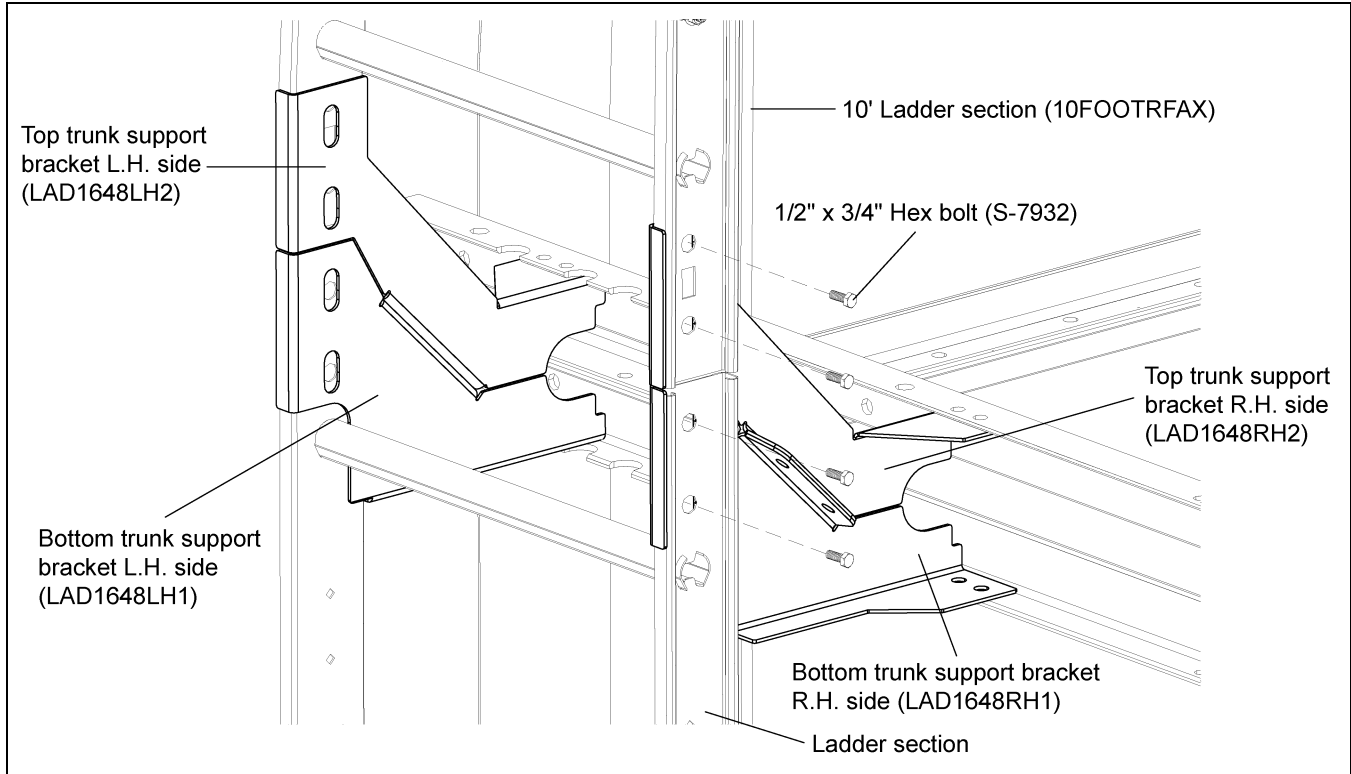


Figure 5M

Safety Cage Installation

Safety cage entrance must be installed to the ladders within 7'-8' from the ground or platform deck.

(See Figure 5N.)

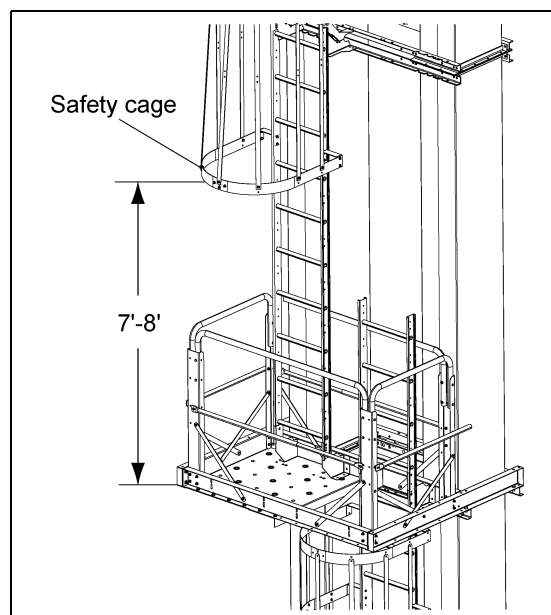


Figure 5N

5. Tie Angles, Ladder Brackets and Safety Cages

Install Safety Cage

1. Locate external rail spacers along the ladder rails where a safety cage hoop will be installed. This is generally every 4', except where a 2' safety cage section is needed. Install external rail spacers to the ladder rails using 5/16" x 3/4" bolts (S-6606). (See Figure 50.)

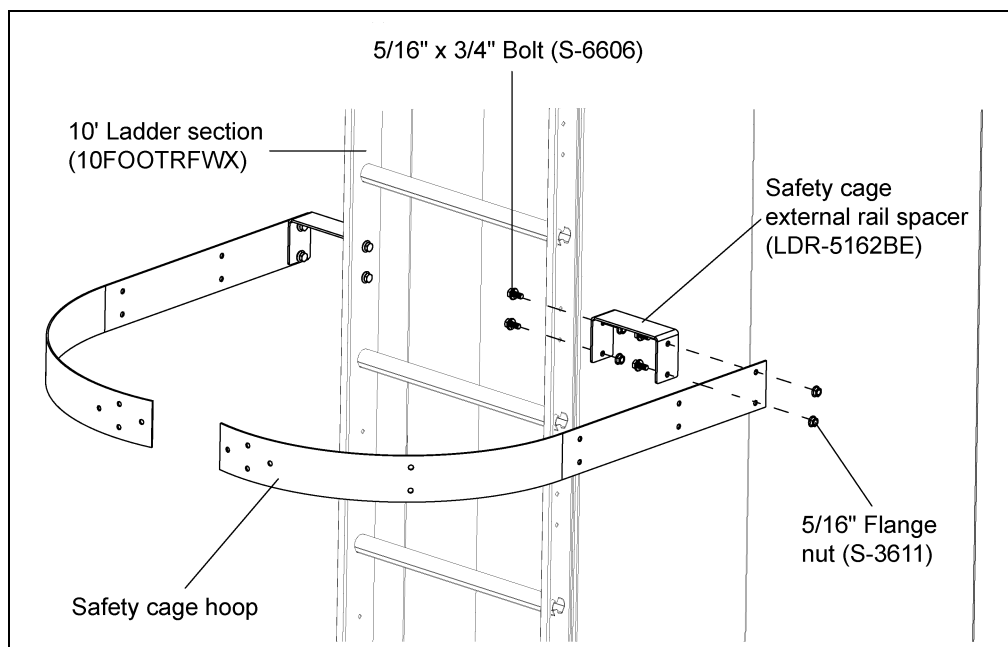


Figure 50

2. Install the safety cage hoops to the external rail spacers using 5/16" x 3/4" bolts.
3. Connect the hoops together using two (2) 5/16" x 3/4" bolts and nuts. (See Figure 5P.)

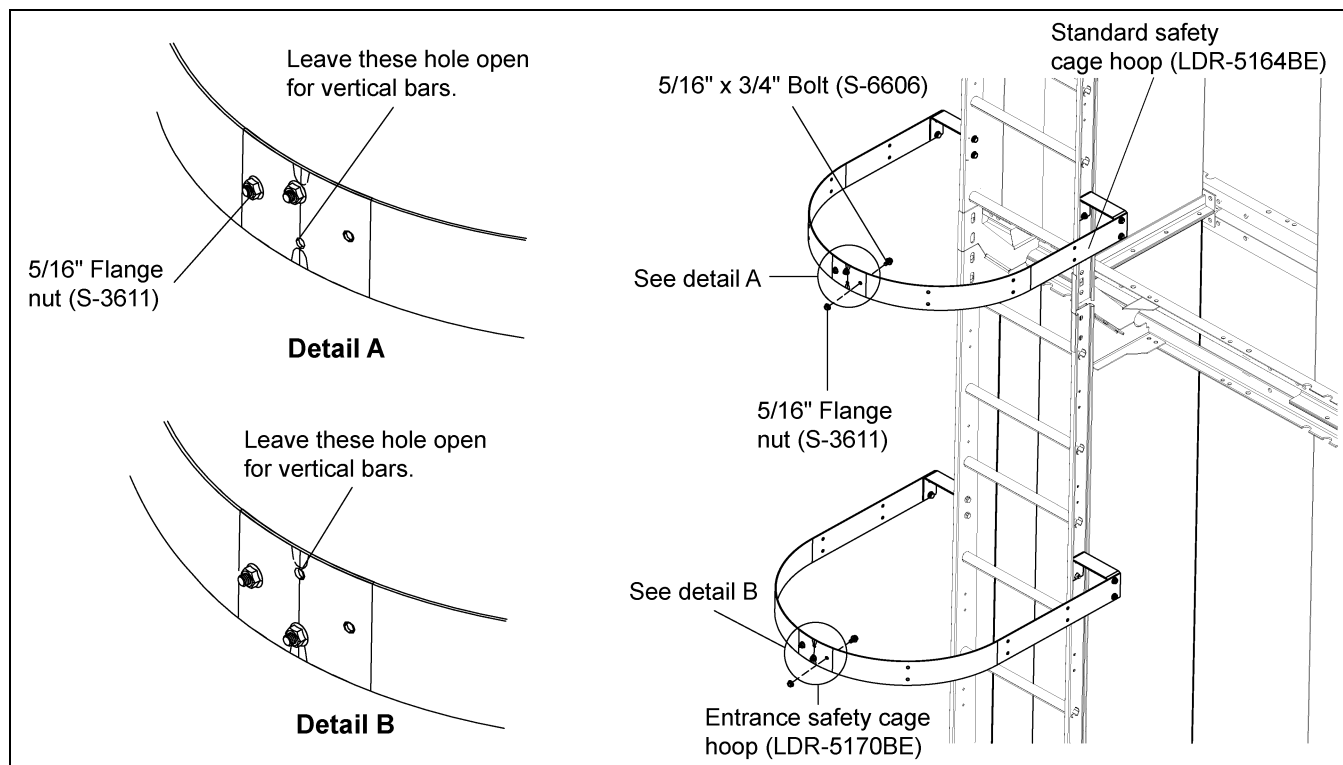


Figure 5P

5. Tie Angles, Ladder Brackets and Safety Cages

4. Attach the vertical bars to the top holes in the safety cage entrance hoop and the bottom holes of the standard safety cage hoop. Use 5/16" x 3/4" bolts and nuts. Installing safety cage bars to each hoop section. (See Figure 5Q.)

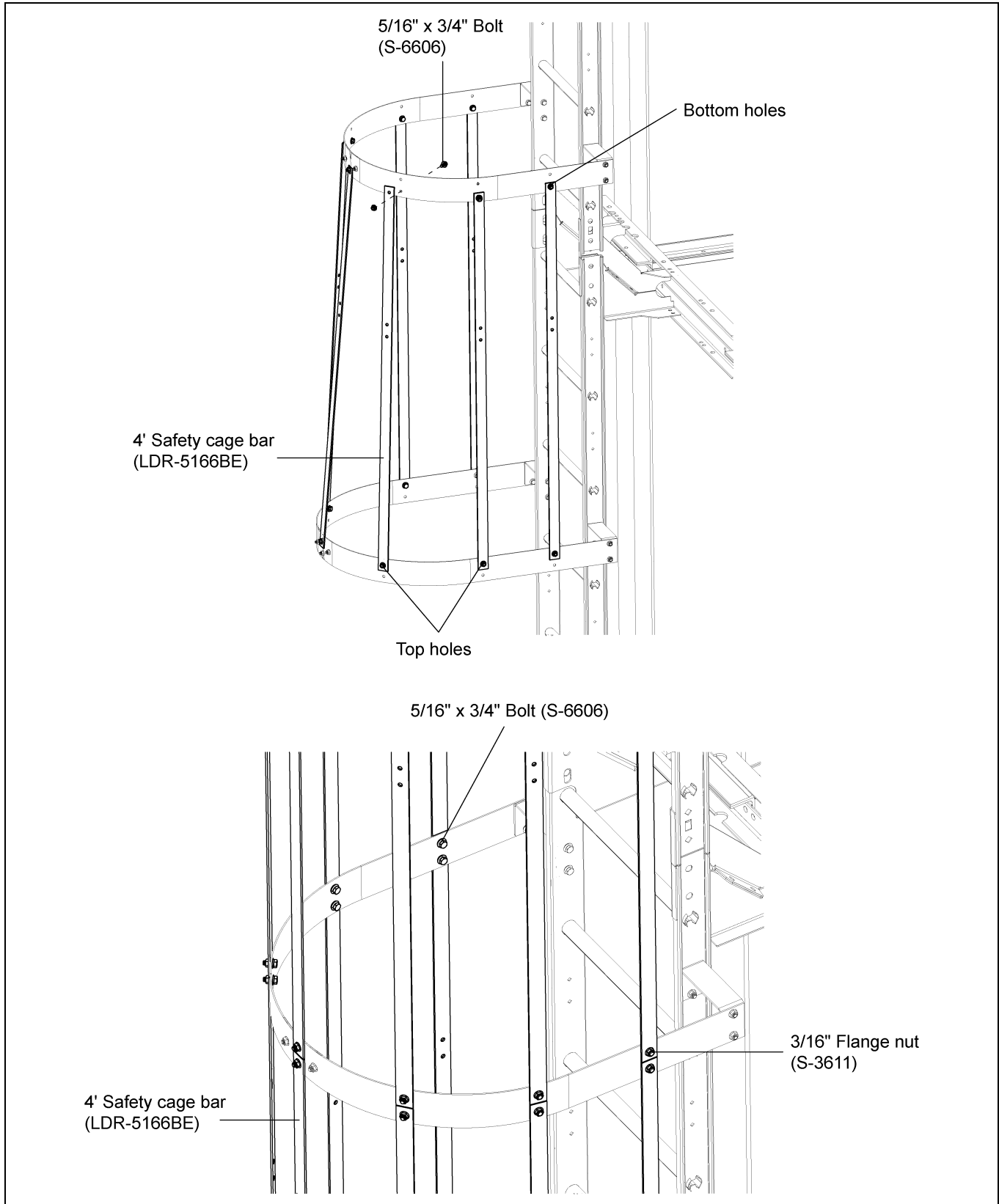


Figure 5Q

6. Rest Platform

Rest Platform Tie Angles to Bucket Elevators

1. Install rest platform tie angles to the lower trunking on both the ladder side and non-ladder side of the trunking. Use 1/2" x 1" bolts through the bolt holes indicated for the bucket elevator size being installed. (See Figure 6A.)

NOTE: Bolt hole starting location on left side of tie angle is marked with the bucket size.

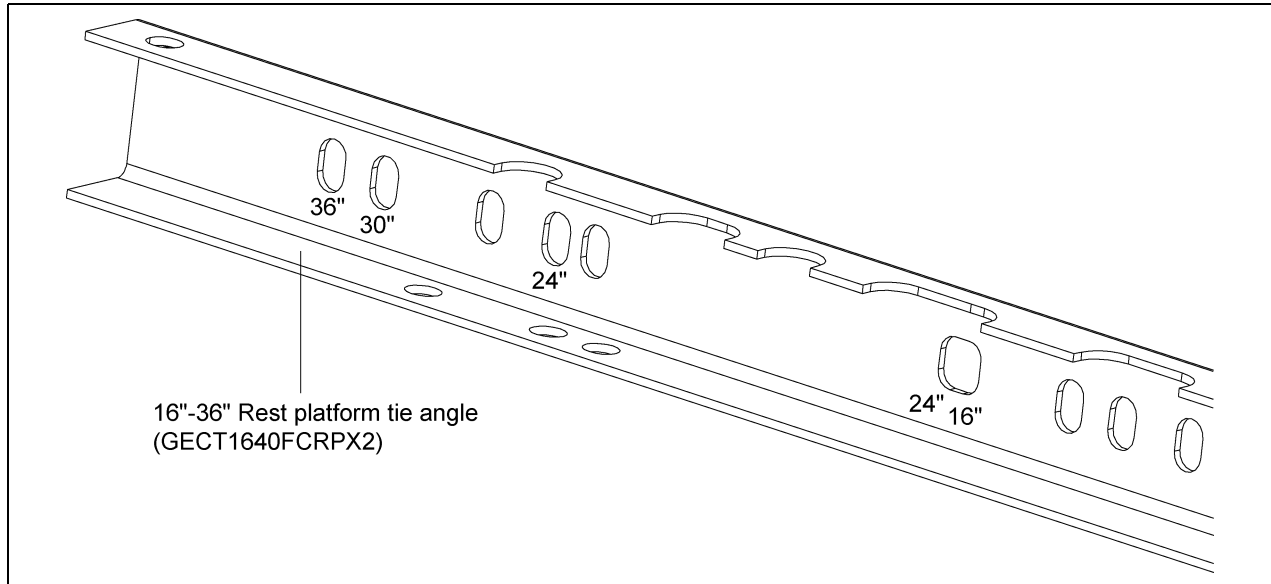


Figure 6A Tie Angle with Etched Numbers

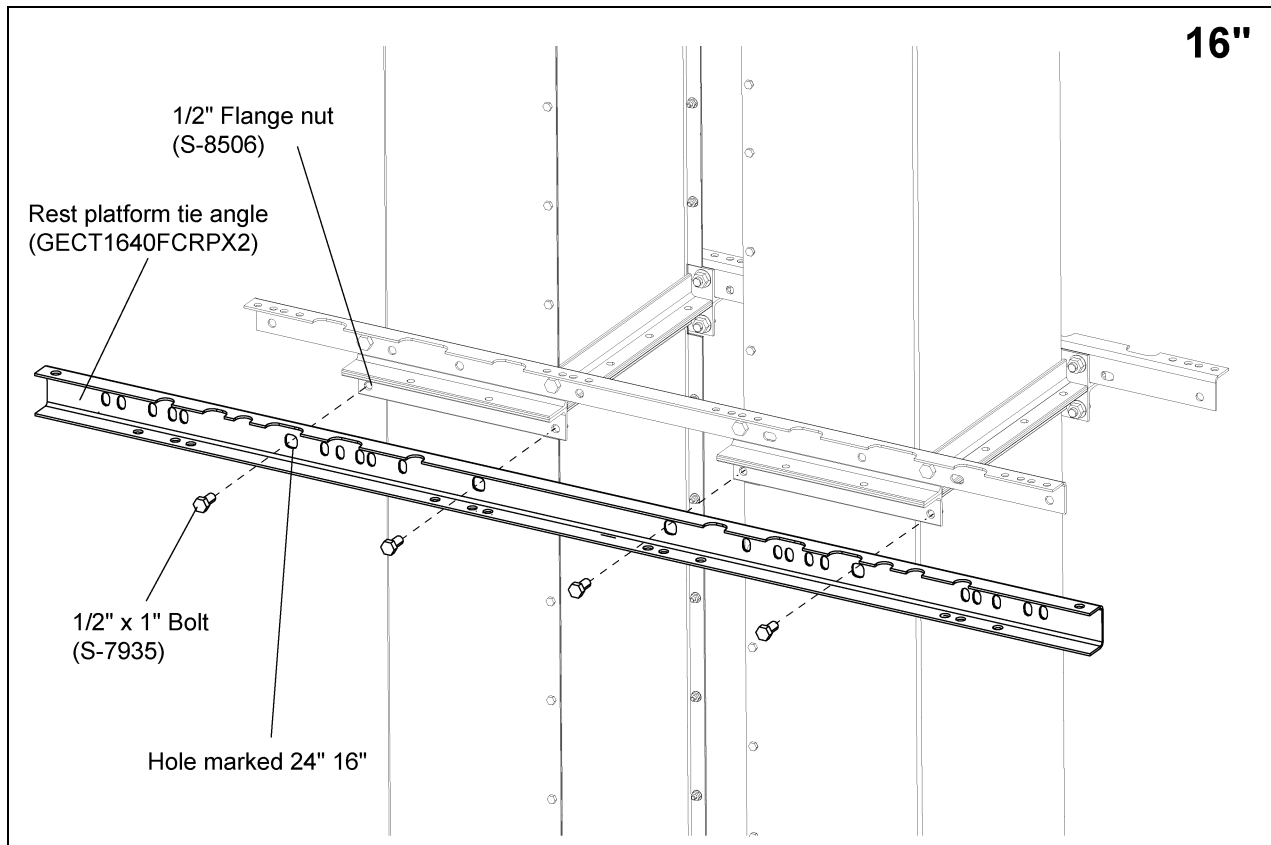


Figure 6B 16" Rest Platform Tie Angle Bolt Locations - Ladder Side

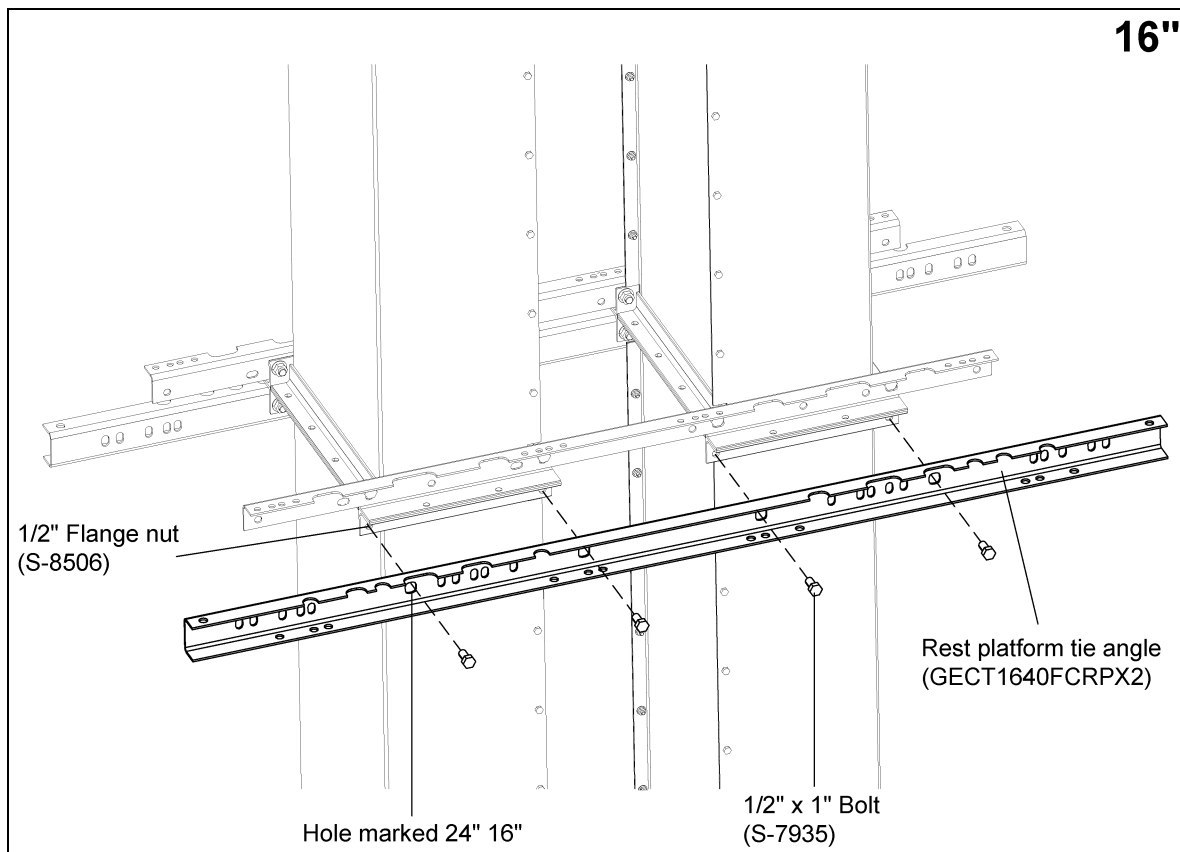


Figure 6C 16" Rest Platform Tie Angle Bolt Locations - Non-Ladder Side

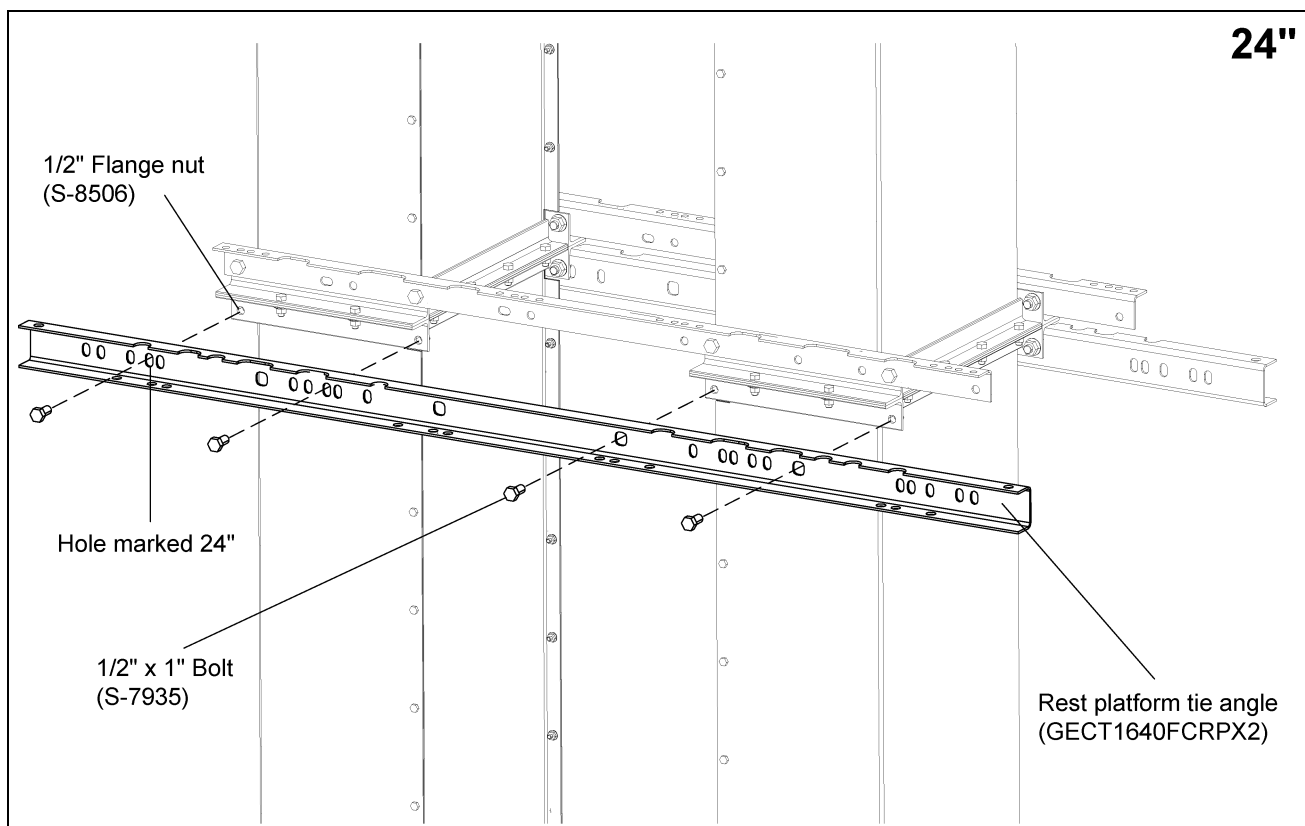


Figure 6D 24" Rest Platform Tie Angle Bolt Locations - Ladder Side

6. Rest Platform

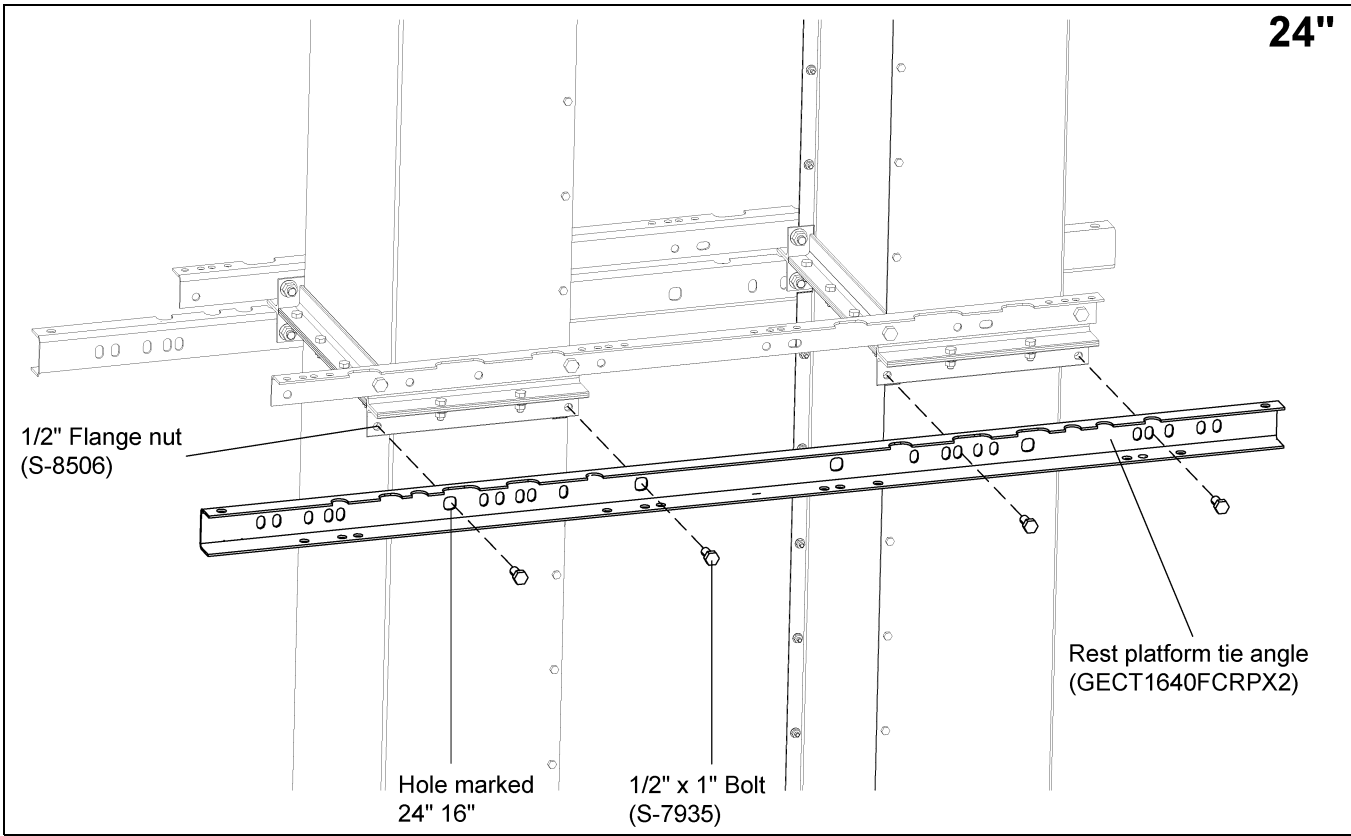


Figure 6E 24" Rest Platform Tie Angle Bolt Locations - Non-Ladder Side

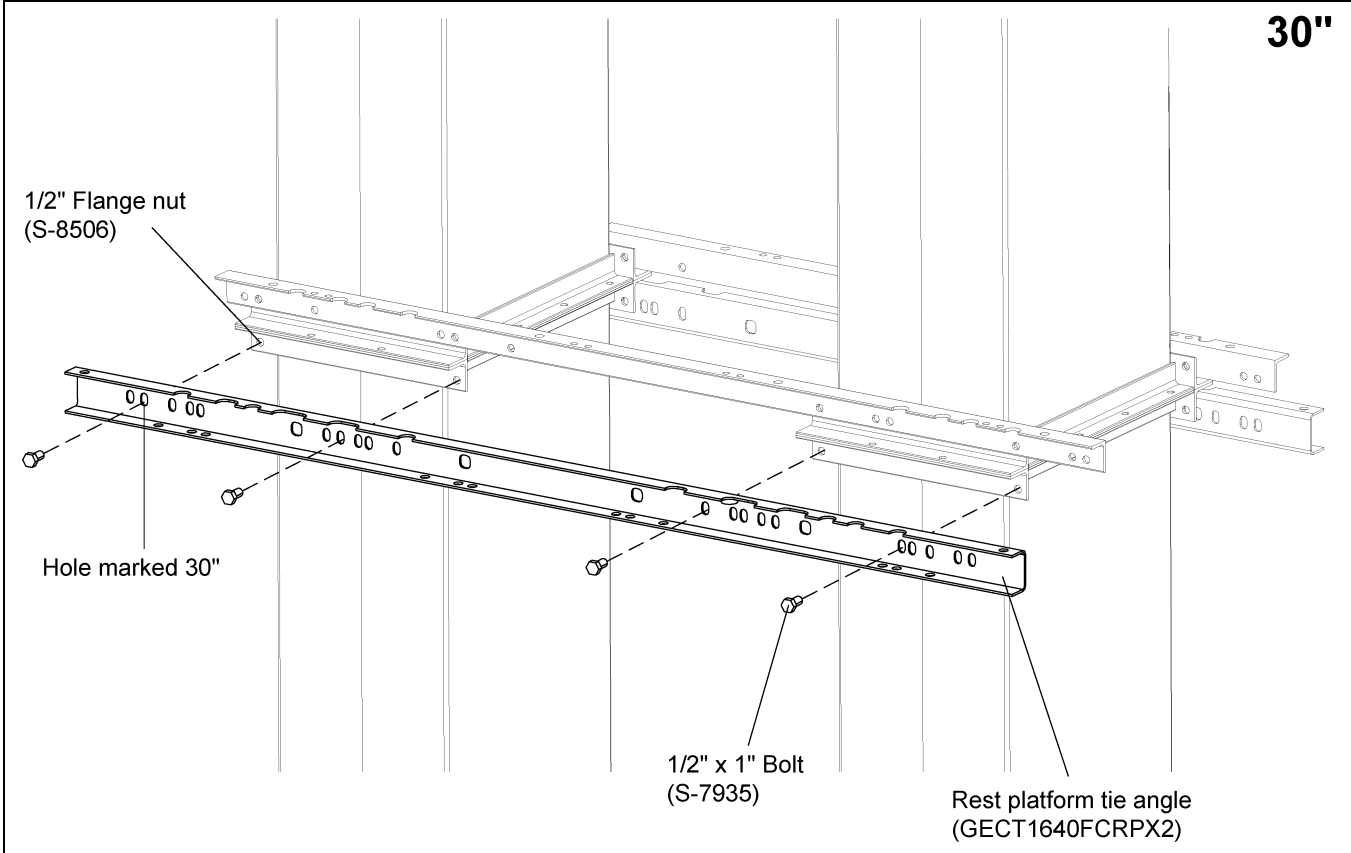


Figure 6F 30" Rest Platform Tie Angle Bolt Locations - Ladder Side

30"

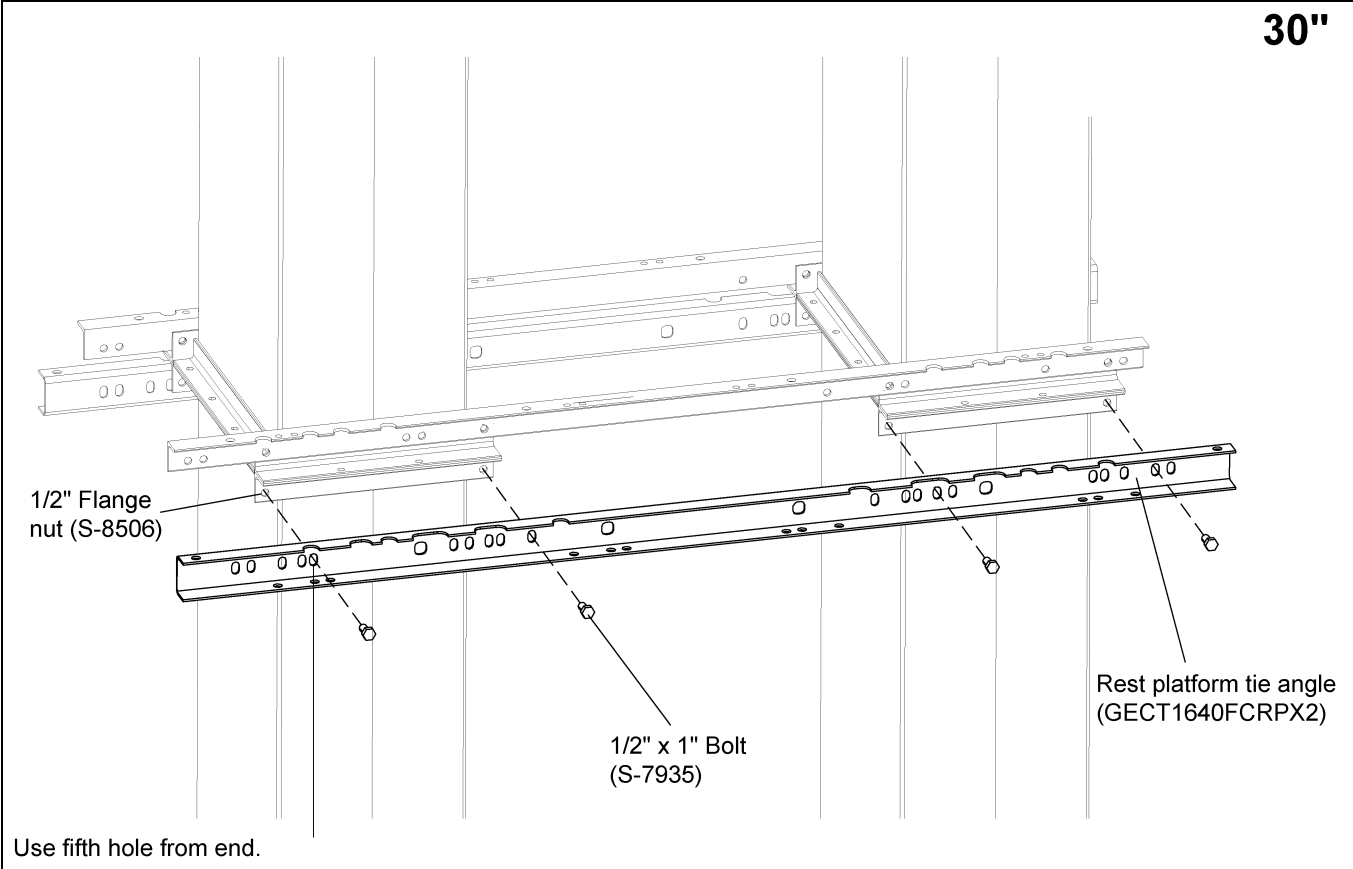


Figure 6G 30" Rest Platform Tie Angle Bolt Locations - Non-Ladder Side

36"

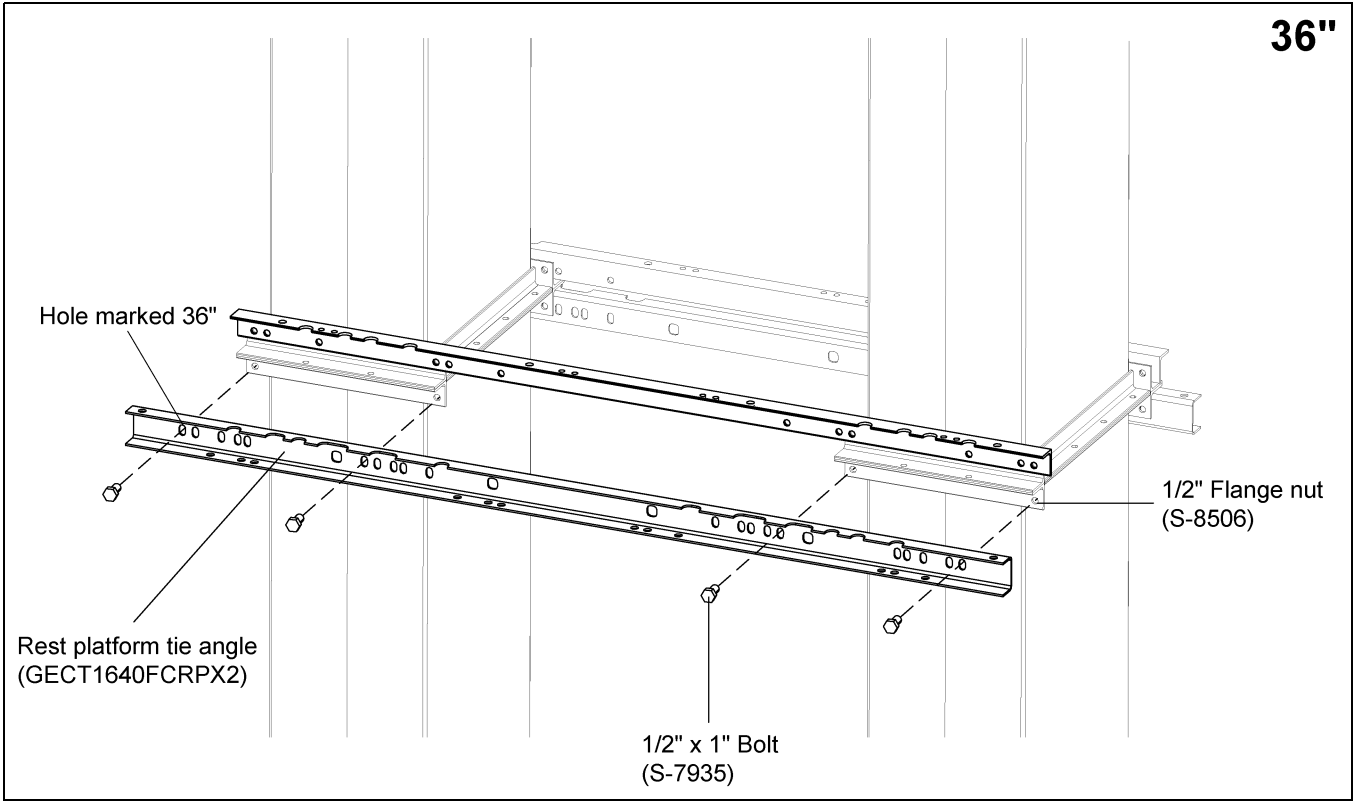


Figure 6H 36" Rest platform tie angle bolt locations - Ladder and non-ladder side have the same bolt hole locations.

6. Rest Platform

Attach Rest Platform Channel to the Rest Platform Tie Angle

1. Connect rest platform mounting channels to the rest platform tie angles using 1/2" x 1" bolts. Bolt hole locations for 16"-24" bucket elevator will be the same. (See Figure 6I.) Bolt hole locations for 30"-36" bucket elevator will be the same. (See Figure 6J.)

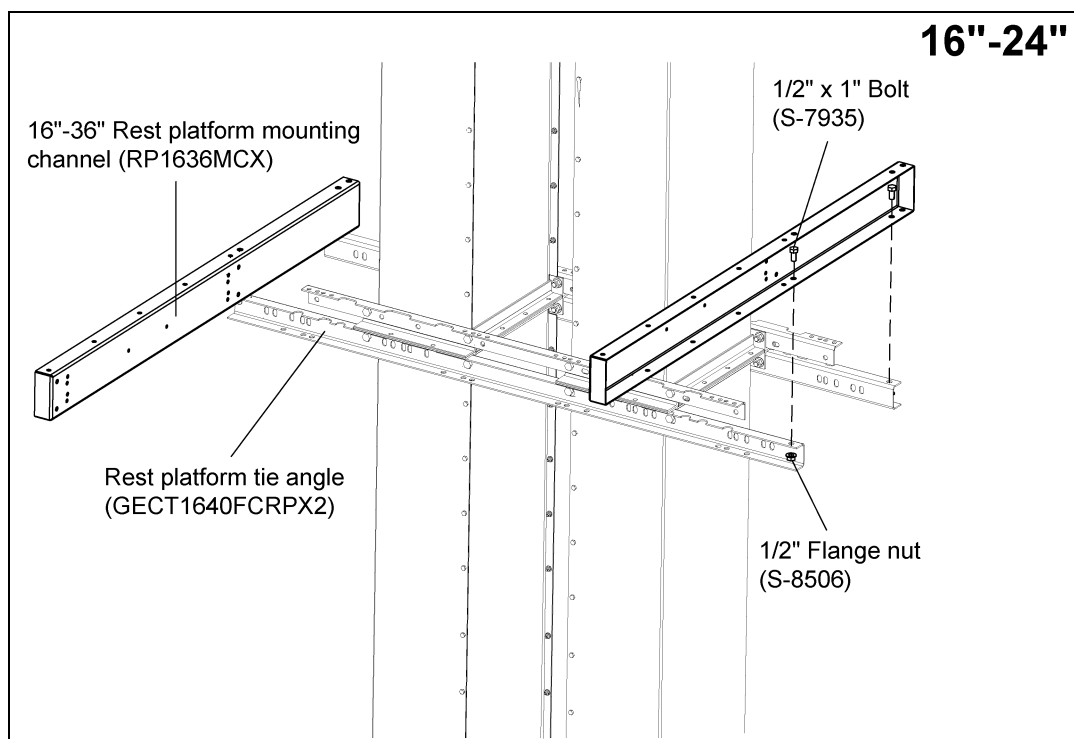


Figure 6I Bolt hole locations for 16"-24" rest platform mounting channels to tie angles.

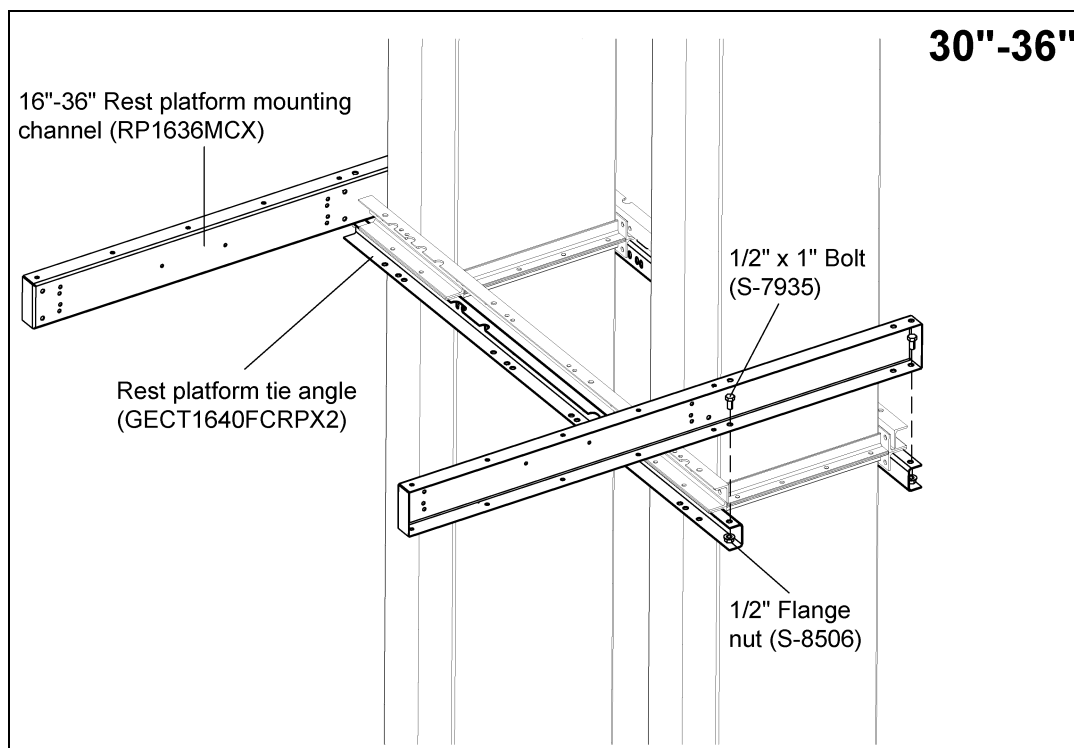


Figure 6J Bolt hole locations for 30"-36" rest platform mounting channels to tie angles.

Rest Platform Cross Channel to Rest Platform Mounting Channels

1. Place the rest platform cross channels between the rest platform mounting channels and connect those using 3/8" x 3/4" hex bolts. (See Figure 6K.)

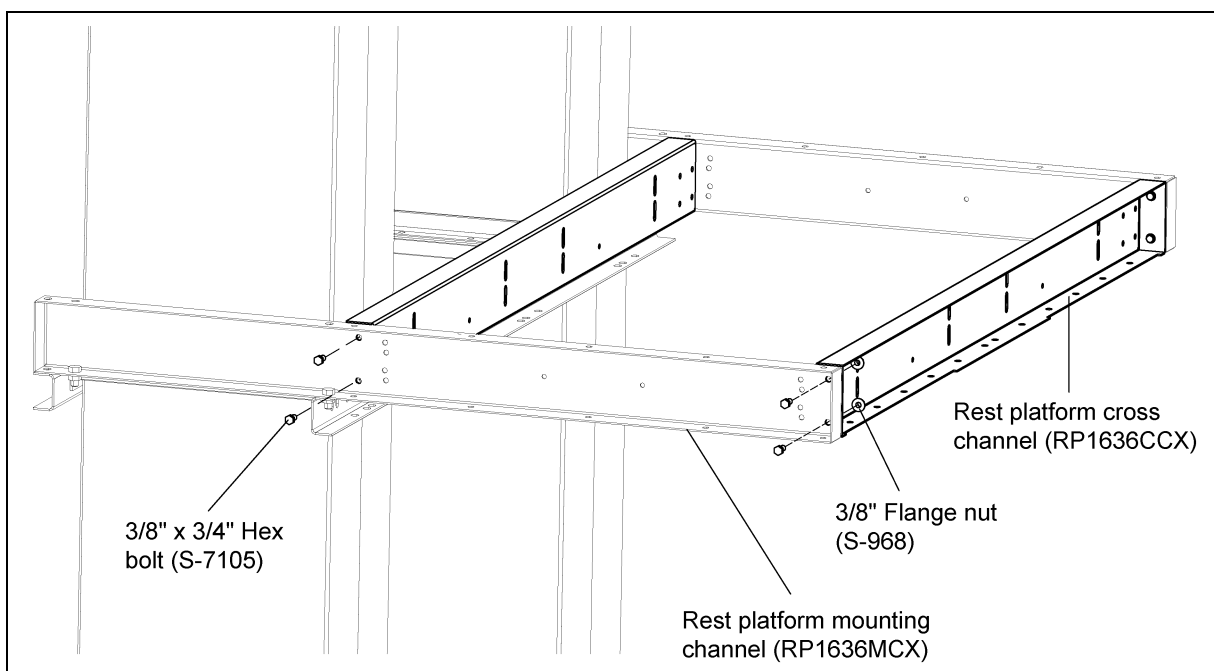


Figure 6K Rest Platform Cross Channel to Rest Platform Mounting Channels

2. Attach rest platform deck to the bottom of the rest platform mounting channels and rest platform cross channels, using 3/8" x 3/4" hex bolts. Bolt heads should be installed against the deck plate. (See Figure 6L.) **NOTE:** The deck plate can be mounted on either the right or left side, but the flange must be mounted towards the opening.

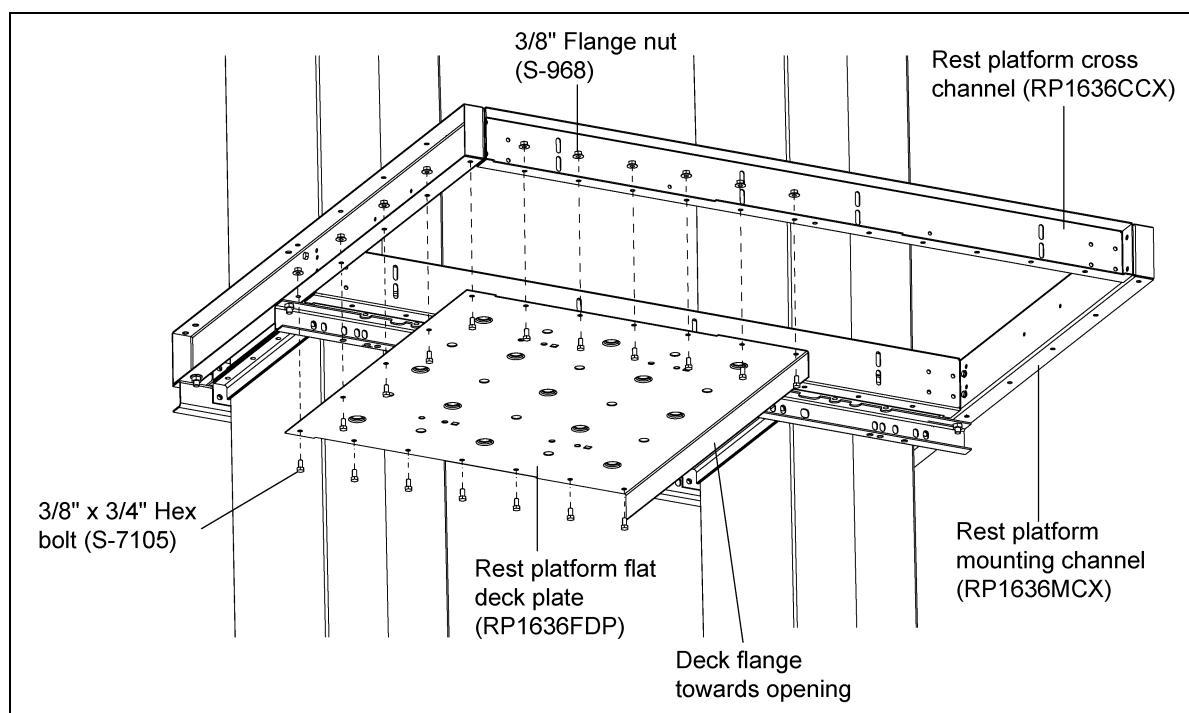


Figure 6L Deck Plate

6. Rest Platform

3. Install the handrail platform posts to the rest platform mounting channels and rest platform channels using six (6) 5/16" x 3/4" flanged hex bolts for each post, four (4) bolt to the front and two (2) on the side. (See Figure 6M.)

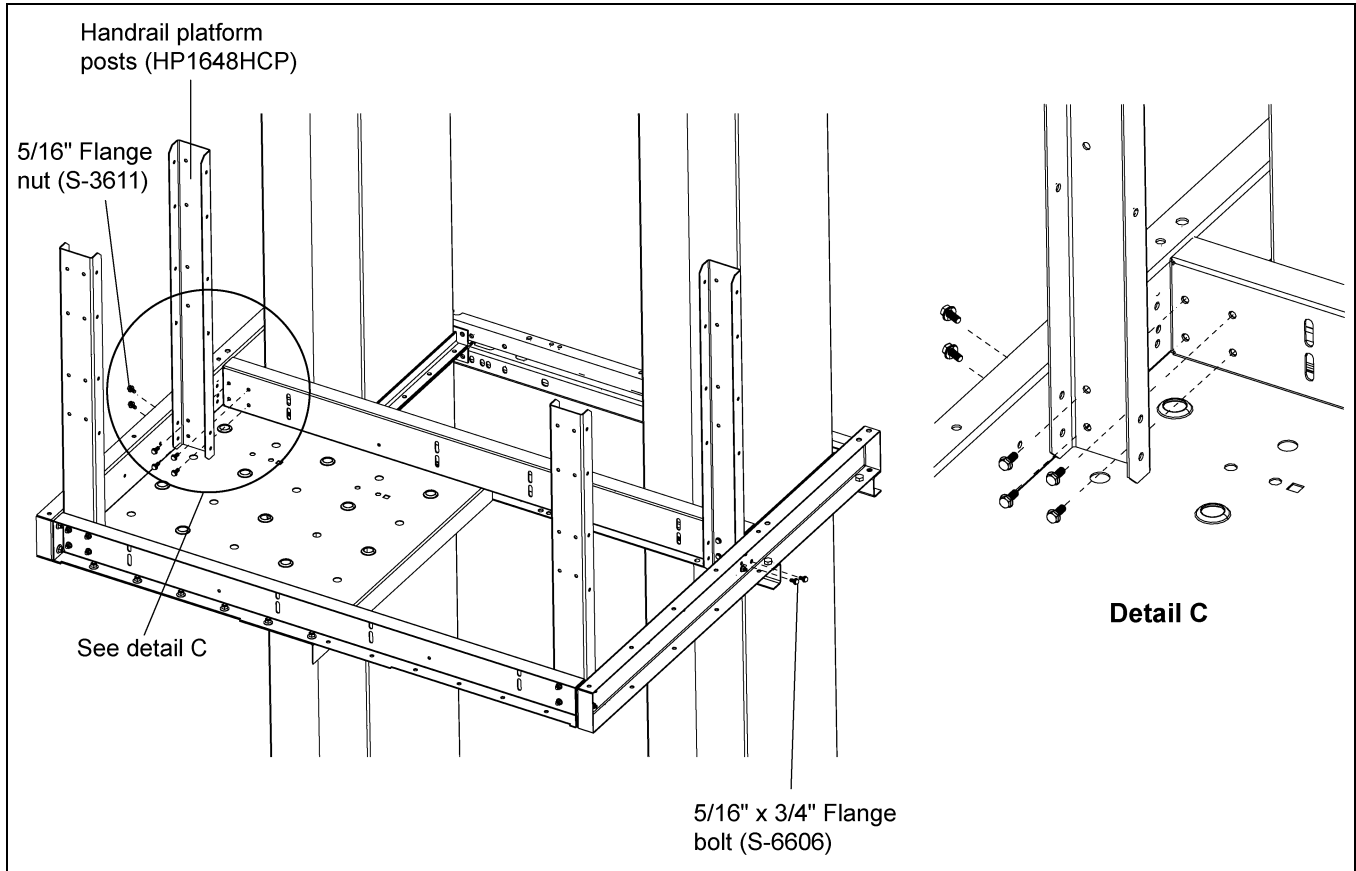


Figure 6M

4. Assemble the intermediate handrail posts by sliding the small intermediate handrail into the large intermediate handrail to create a telescoping handrail that can be adjusted to the correct length between the posts. Two (2) of the small intermediate handrails and two (2) of the large intermediate handrails will need to be cut to fit. The starting length of each rail is 36". Cut 18" off the end of each rail so the final length of each rail is 18". (See Figure 6N.)

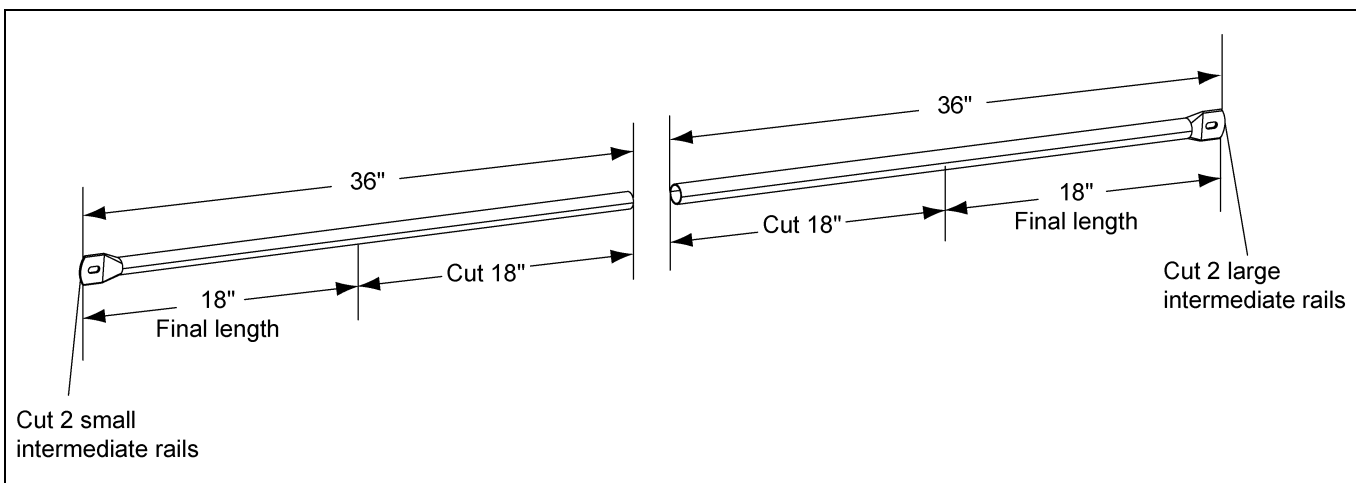


Figure 6N

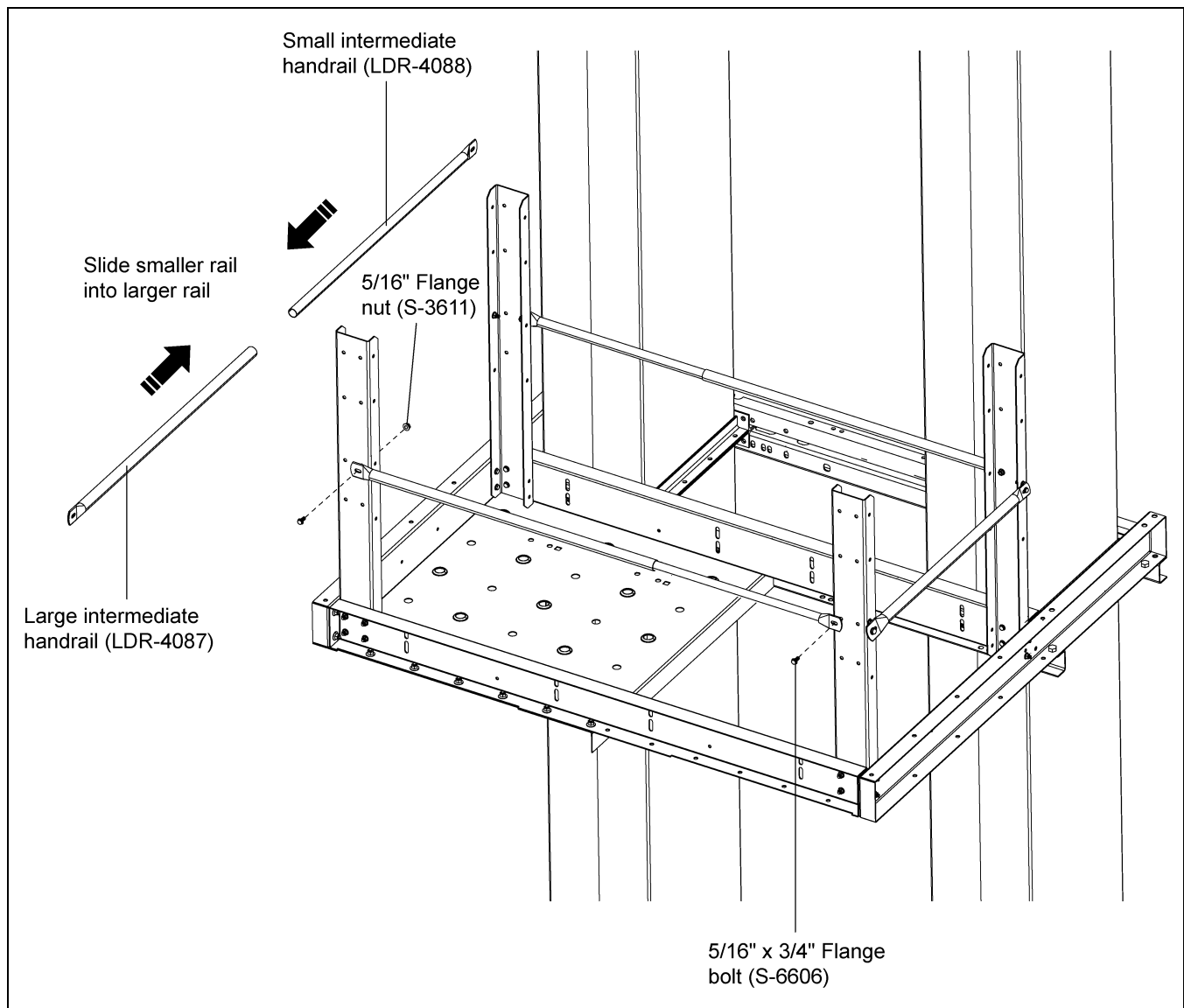


Figure 60

5. Install the front and back intermediate handrails to the platform posts using 5/16" x 3/4" flanged hex bolts. Adjust the rail into position by sliding it out to the correct length.
6. After cutting the two (2) large and two (2) small intermediate handrails, slide them to the correct length and install them to the handrail posts on the short sides of the platform using 5/16" x 3/4" flanged hex bolts.

6. Rest Platform

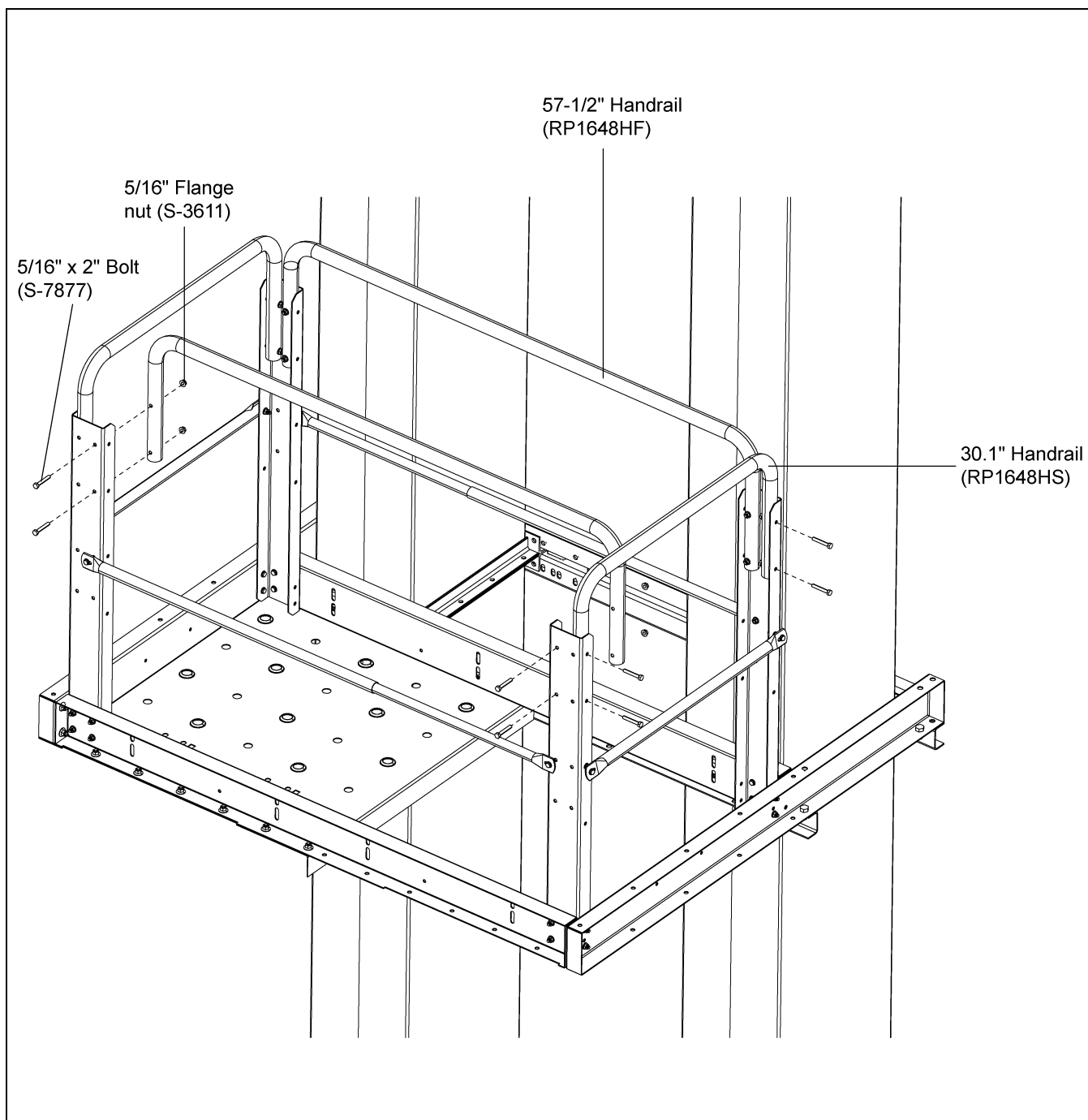


Figure 6P

7. Connect the front rest platform handrails and the side rest platform handrails to the handrail platform post using 5/16" x 2" hex bolts.

8. Platform braces must be installed from handrail posts to mounting and cross channels using 5/16" x 3/4" flanged hex bolts. Braces should be attached to the outside of the platform post and to the inside of the mounting and cross channels. **NOTE:** Bolt heads should be on inside of platforms. (See Figure 6Q.)

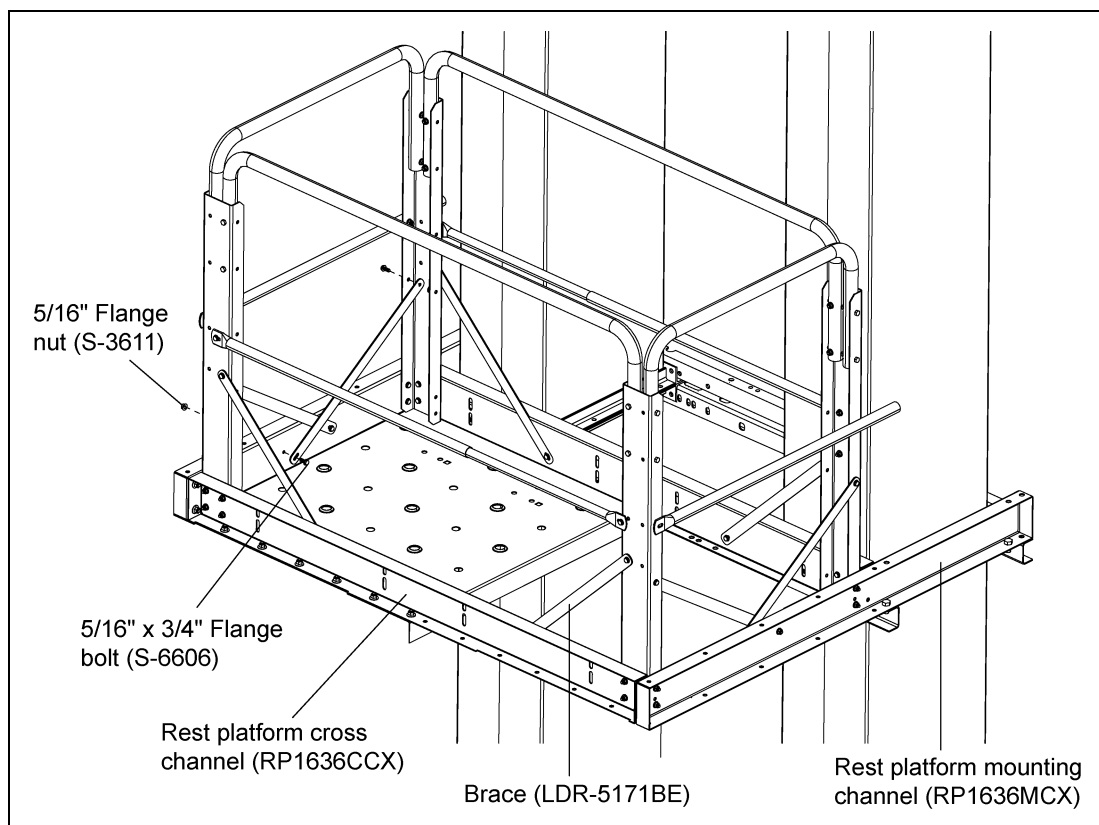


Figure 6Q

9. Install ladder support brackets to the rest platform cross channel using 3/8" x 3/4" hex bolts.
10. Attach ladders to ladder support brackets using 1/2" x 3/4" hex bolts. (See Figure 6R.)

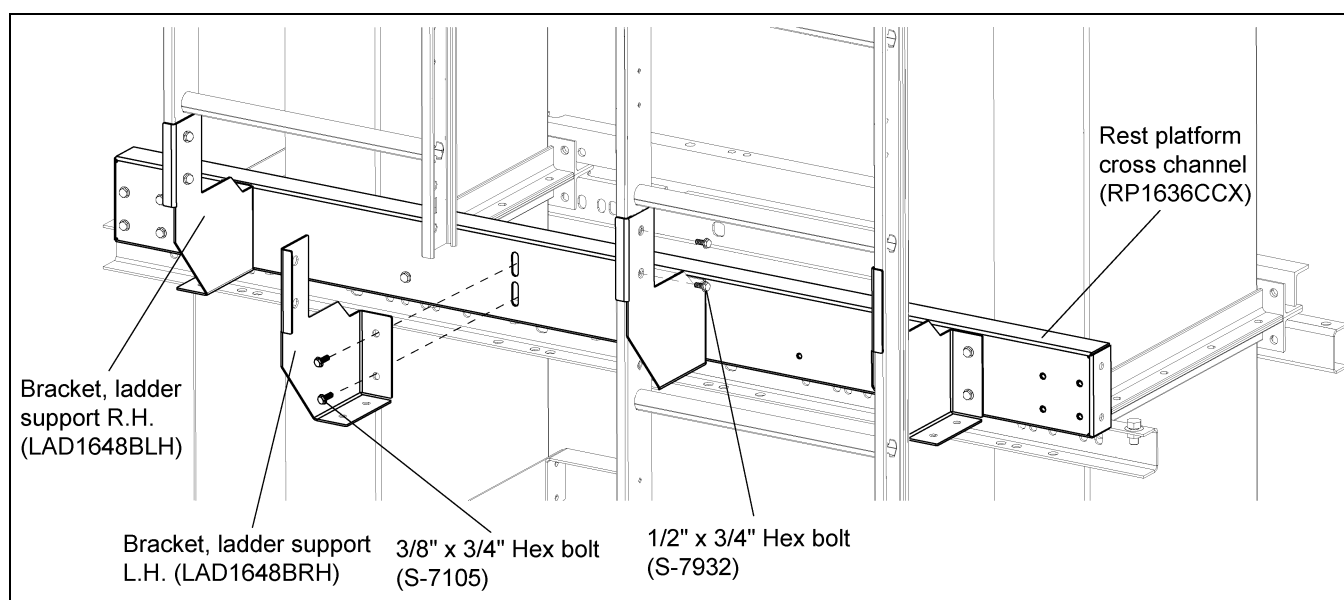


Figure 6R

16"-24" Head Platform Assembly

Considerable time is dedicated at the beginning of this manual to the proper orientation of channels and decks. This is because the orientation of these elements is essential to the proper construction of the head platform.

1. There are many ways to get the orientation wrong and only one way to get it right.
2. Proper orientation of the channels and decks is essential proper assembly.
3. Proper construction of the head platform can only be completed if the initial orientation of the channels is done correctly.

Therefore, we strongly advise you take time to confirm that the orientation of these early elements is correct before you begin to assemble the decking on to the channels.

Attach Main Support Channels to Lower Head

1. Place lower head section on solid and level surface.
2. At **both the Discharge End and Up-Leg End**, orient the channels so that lip/channel openings face outward, away from the lower head.
3. Attach each **Main Support Channel** to the **Lower Head Bracket** at the top most set of holes using 3/8" x 1" bolts and nuts and torque to standard specifications. (See Figure 7A.)

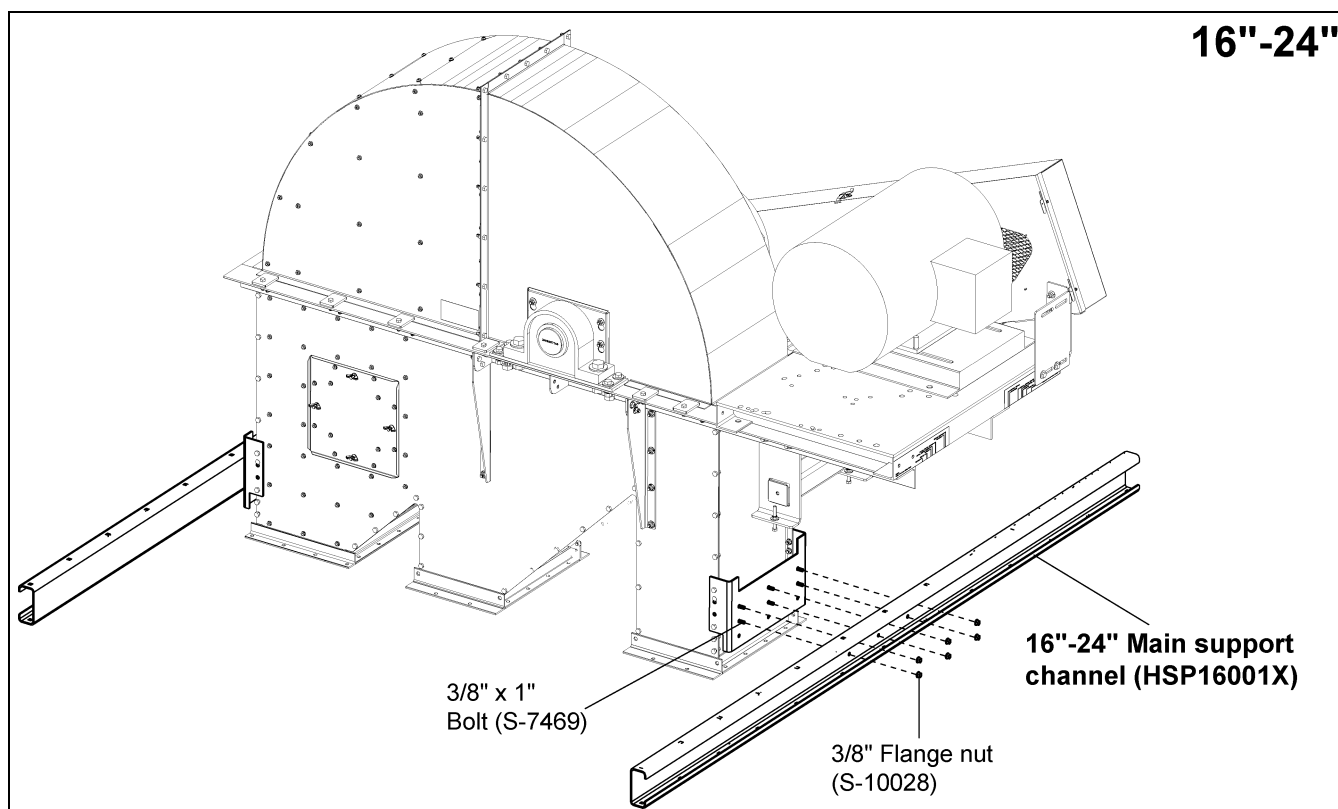


Figure 7A Cross Deck Support Channels Head

Install Deck A and Toe Board

NOTE: Due to snug fit, slide side toe board in place before securing Deck A or any subsequent decking.

1. Orient the lip of the side toe board (HP1624STBX) out/away from the lower head and slide into place on non-drive side. Toe board hole **A1** should be at the discharge end and **A3** is at the up leg end.
2. Locate pre-assembled Deck A, which consists of the hatch opening and connecting flanges.
3. Using a punch as needed for alignment, connect Deck A to the side toe board with 3/8" flange nuts (S-10028) and 3/8" x 3/4" flange bolts (S-7105). Torque to standard specifications. (See Figure 7B.)
 - a. Deck hole **A1** to toe board hole **A1**.
 - b. Deck hole **A2** to toe board hole **A2**.
 - c. Deck hole **A3** to toe board hole **A3**.

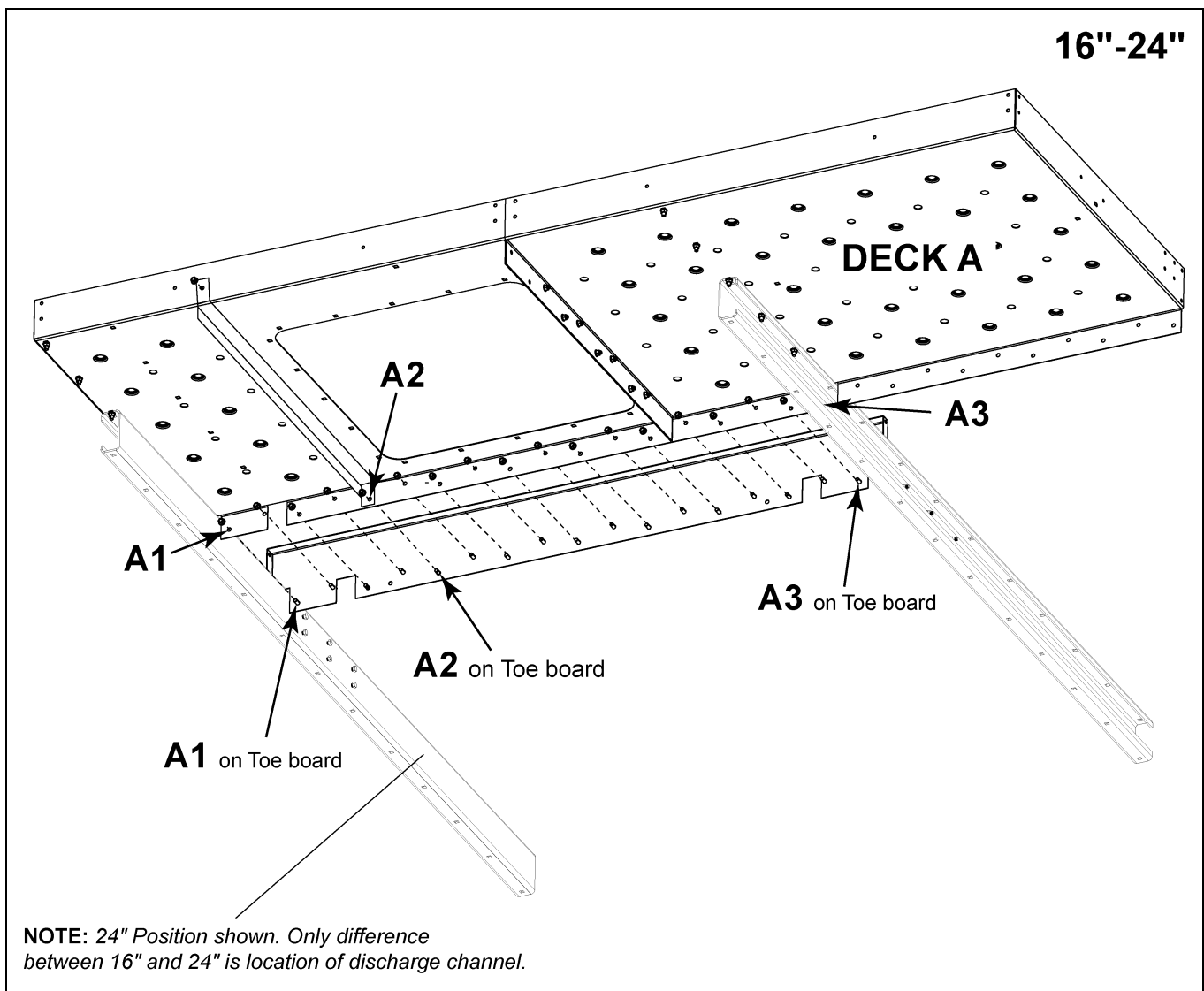


Figure 7B Deck A Toe Board Channel Location

Install Deck A to Main Support Channels

1. Using 3/8" x 1" carriage bolts (S-3585) and 3/8" flange nuts (S-10028), connect Deck A to main support channel. **IMPORTANT:** Connect every hole. (See Figure 7C.)

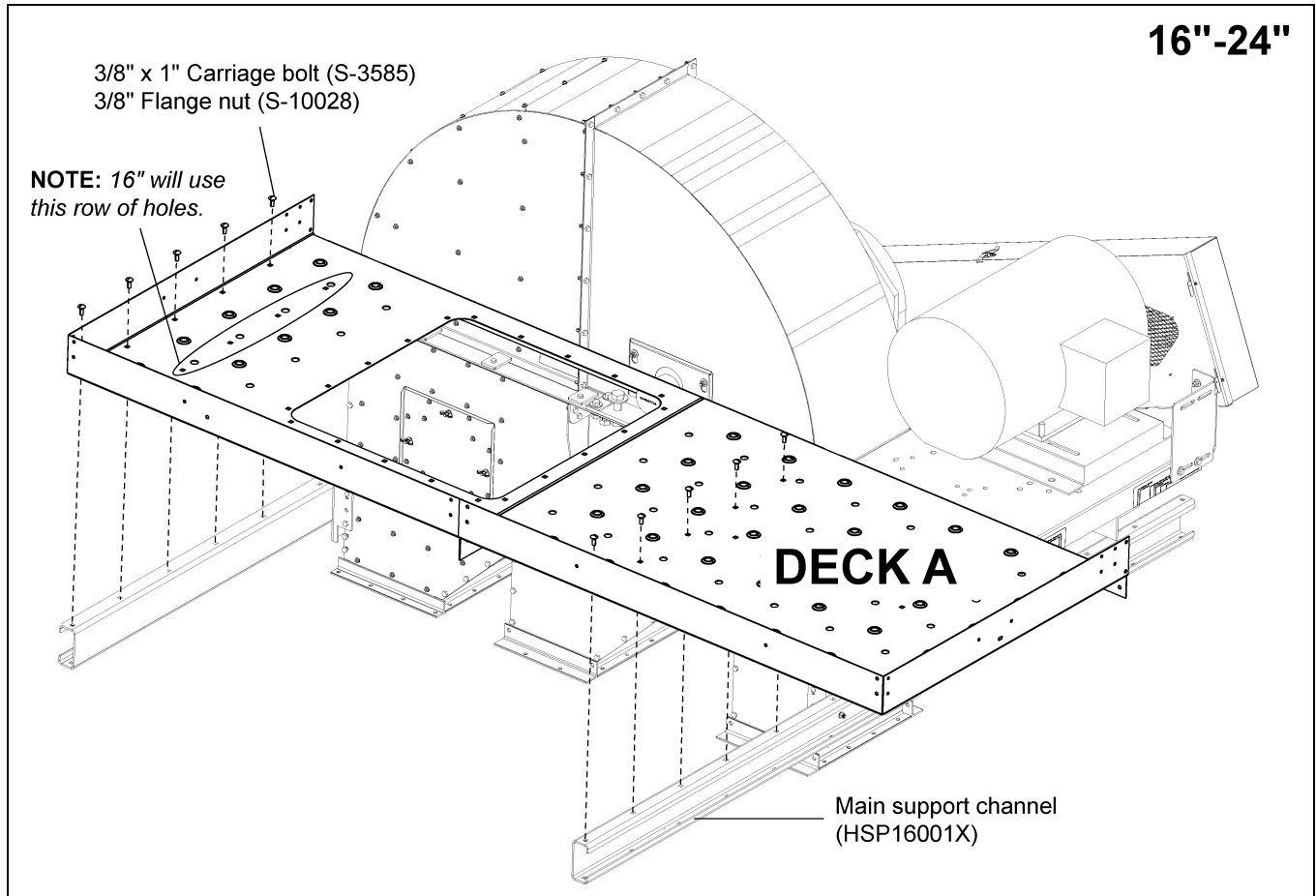


Figure 7C Deck A to Support Channels

2. Install decking support (HP1624DS) to up-leg end of Deck A as shown, using 3/8" x 1" bolts (S-7105) and 3/8" nuts (S-10028).
3. Install the hatch deck support bar (HP1624HDSX) to Deck A. This piece installs on the underside of Deck A and extends the width of the deck from edge to edge.

Using 3/8" flange nuts (S-10028) and 3/8" x 3/4" flange bolts (S-7105), connect the hatch deck support bar to Deck A kick plate and through the holes labeled **A2** on Deck A and side toe board. Torque to standard specifications. (See Figure 7D.)

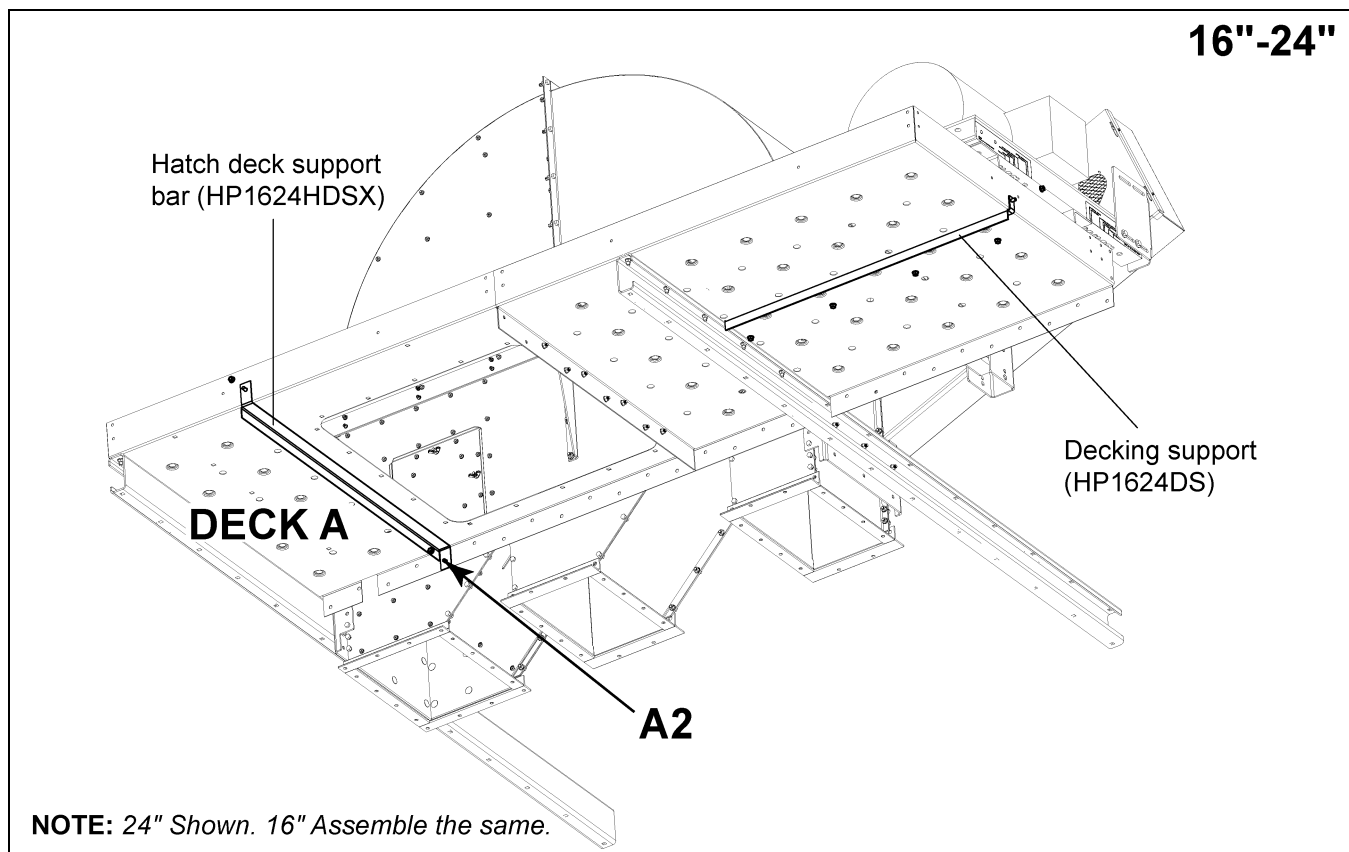


Figure 7D Deck A HP Deck Supports

Install Deck C and Toe Board

NOTE: Due to snug fit, slide side toe board in place before securing Deck C or any subsequent decking.

1. Locate pre-assembled Deck C, consisting of two (2) planks and connecting tabs.
2. Slide side toe board into place on the drive side of the lower head.
3. Orient the side toe board so that the hole labeled **A1** is at the up-leg end and **A3** is at the discharge end of the lower head.
4. Using a punch as needed for alignment, connect Deck C to side toe board using 3/8" x 1" carriage bolts (S-3585) with flange nuts (S-10028) and torque to standard specifications. (See Figure 7E on Page 48.)
 - a. Deck hole **C1** to toe board hole **A3**.
 - b. Deck hole **C2** to toe board hole **A4**.
 - c. Deck hole **C3** to toe board hole **A1**.

7. 16"-24" Head Platform Assembly

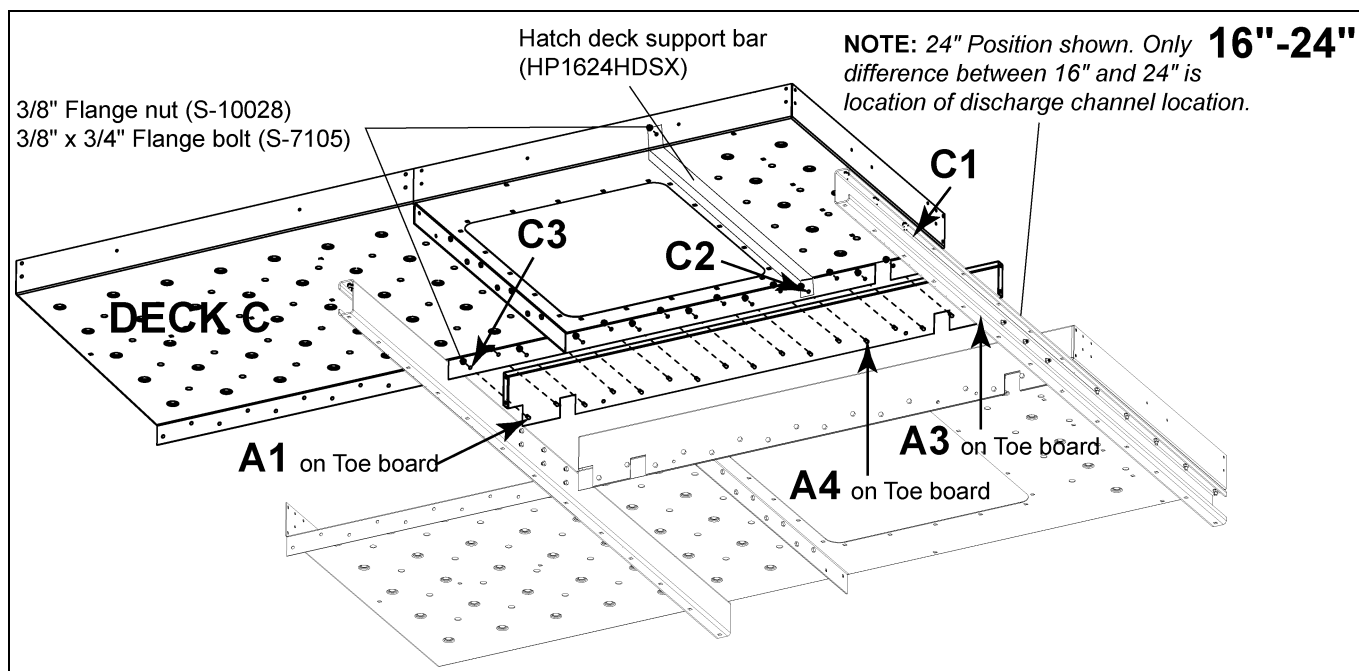


Figure 7E 24" Deck C Toe Board

Install Deck C to Main Support Channels

1. Using 3/8" x 1" carriage bolts (S-3585) and 3/8" flange nuts (S-10028), connect Deck C to main support channel. **IMPORTANT:** Connect every hole. (See Figure 7F.)
2. Install decking support (HP1624DS) to up-leg end of Deck A as shown. Using five (5) 3/8" x 1" bolts (S-7105) and 3/8" nuts (S-10028).
3. Install the hatch deck support bar (HP1624HDSX) to Deck C. This piece installs on the underside of Deck C and extends the width of the deck from edge to edge.
 - a. Using 3/8" flange nuts (S-10028) and 3/8" x 3/4" flange bolts (S-7105), connect the hatch deck support bar to the kick plate attached to Deck C and to the hole labeled **A2** on decking nearest the side toe board and lower head. Torque to standard specifications. (See Figure 7G on Page 49.)

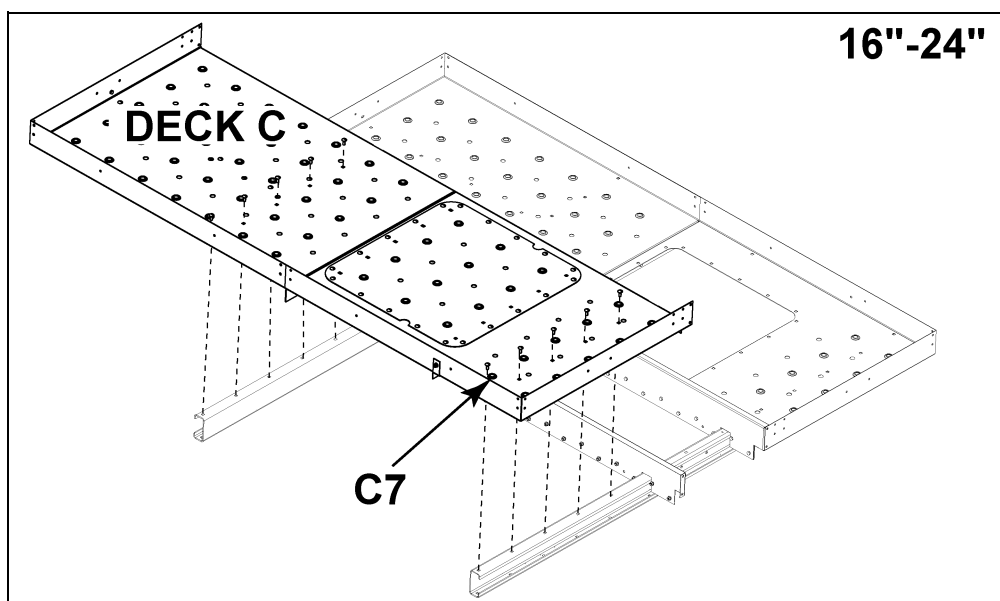


Figure 7F 16" Deck C to Support Channels

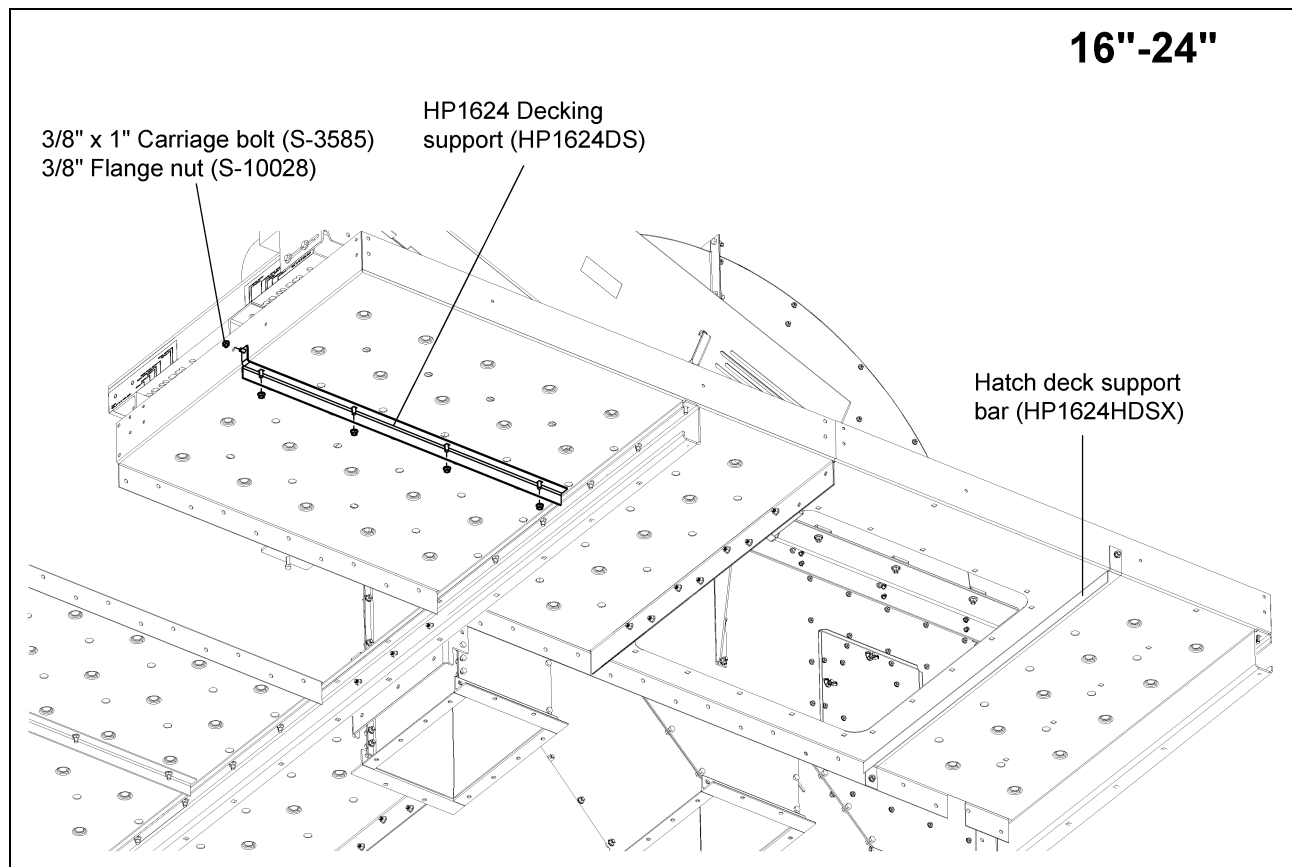


Figure 7G Deck C HP Deck Support as Viewed from Underneath.

Install Deck E

NOTE: The orientation of the flanges on Deck E is important to proper assembly. Deck E flanges should be to the outside of Deck A and Deck C.

1. Locate Deck E. It is the smallest deck.

NOTE: Deck E will attach to Deck A, Deck C, both side toe boards and the main support channel.

2. Using a punch as needed for alignment, connect Deck E to the side toe board using 3/8" x 1" carriage bolts (S-3585) with flange nuts (S-10028). Torque to standard specifications. (See Figure 7H.)
 - a. Deck E hole **E1** to Deck A hole **A5**.
 - b. Deck E hole **E2** to Deck A hole **A4**.
 - c. Deck E hole **E3** to Deck C hole **C5**.
 - d. Deck E hole **E4** to Deck C hole **C4**.

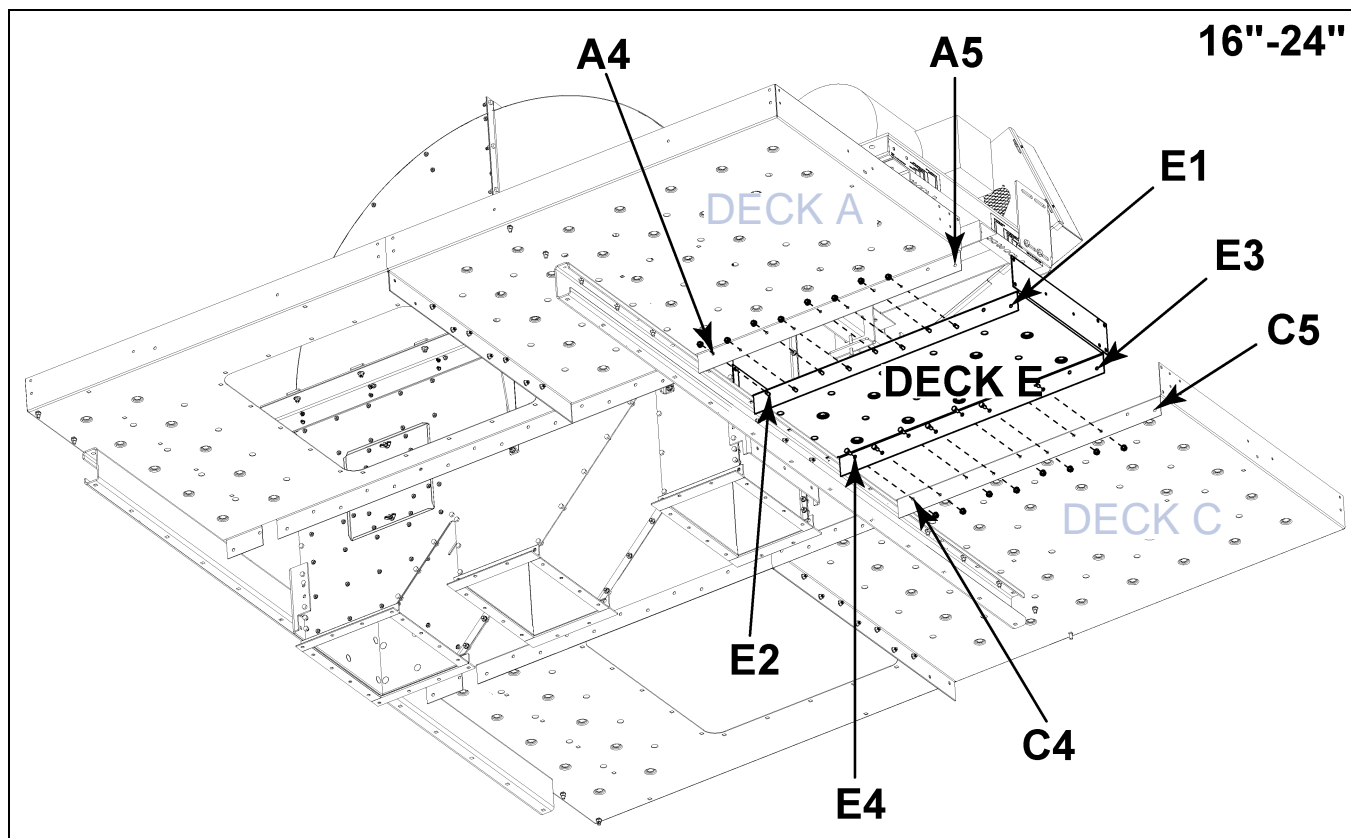


Figure 7H Deck E, Deck A and Deck C as Viewed from Underneath.

7. 16"-24" Head Platform Assembly

- Using 3/8" x 1" carriage bolts (S-3585) and 3/8" flange nuts (S-10028), connect Deck E to main support channel. **IMPORTANT:** Connect every hole. (See Figure 7I.)
- Align Deck E so the flanges are to the outside of Deck A and Deck C. Using 3/8" x 1" bolts (S-7105) and 3/8" flange nuts (S-10028), connect Deck E to toe boards and flanges of Deck A and Deck C. (See Figure 7J.)

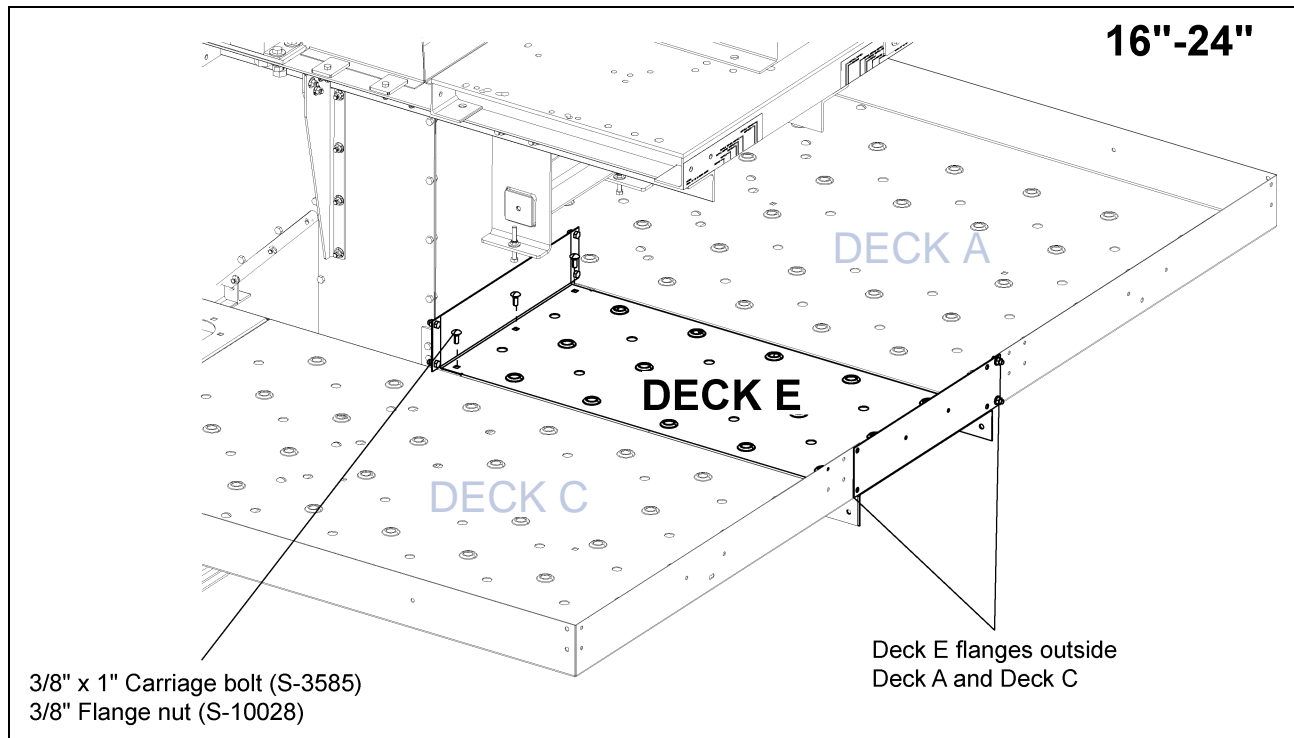


Figure 7I 24" Deck E to Support Channels

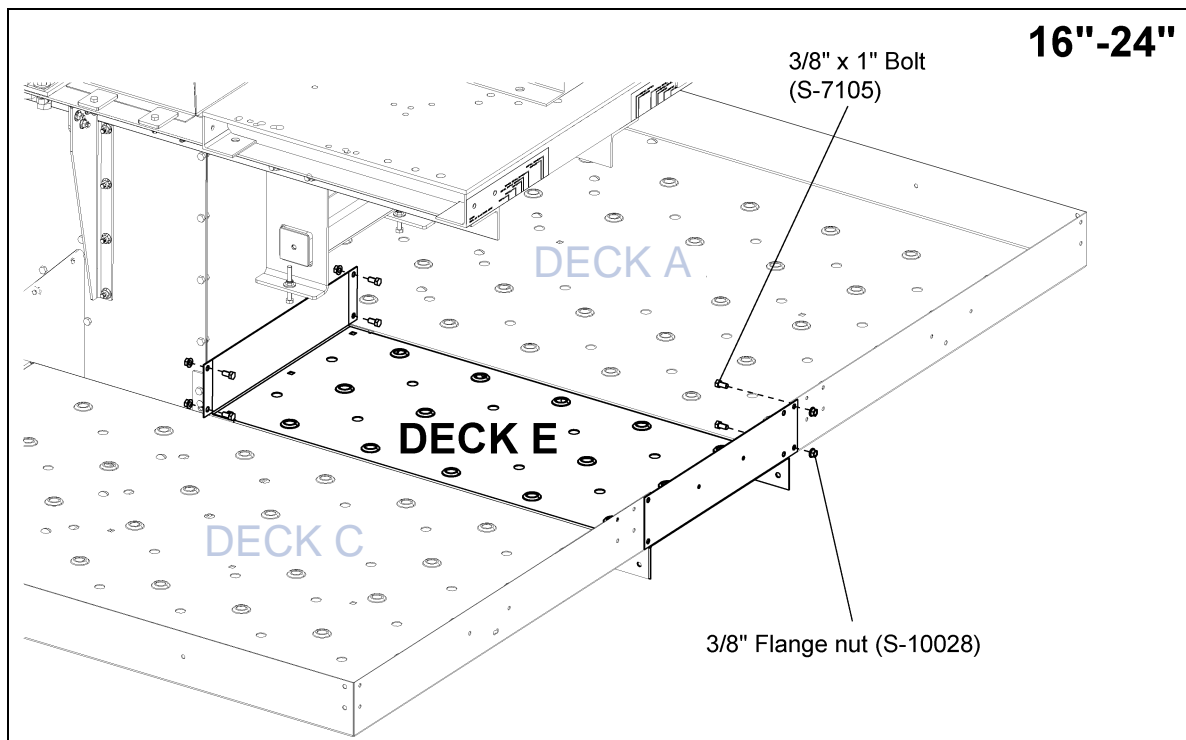


Figure 7J 24" Deck E

Install Adapter Bracket for 16" Platforms

NOTE: The adapter bracket attaches to decking and toe boards. The flanges should be to the outside of Deck A and Deck C.

1. Using three (3) 3/8" x 1" carriage bolts (S-3585) and 3/8" flange nuts (S-10028), install the adapter bracket to cross deck support channel at the up-leg end of the platform between Deck A and side toe board and between Deck C and side toe boards.
2. Attach deck adapter bracket (HP1624AB) to Deck A, Deck C and toe boards using four (4) 3/8" x 1" bolts (S-7105) and nuts.

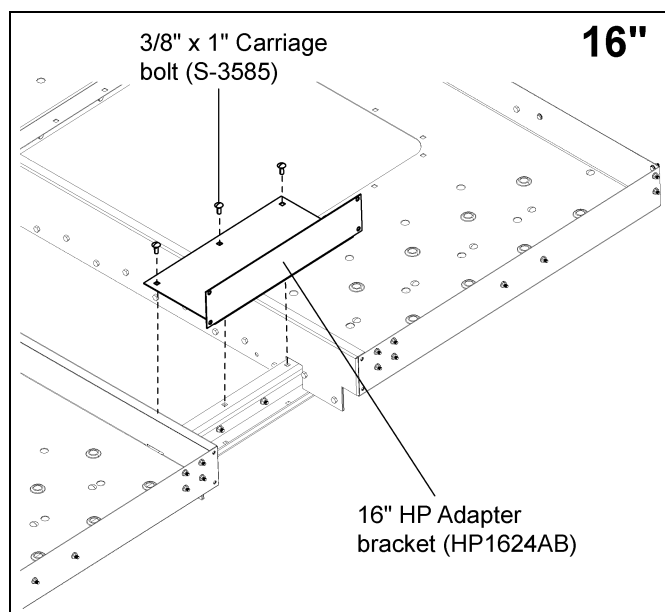


Figure 7K Deck Adapter Bracket to Channel

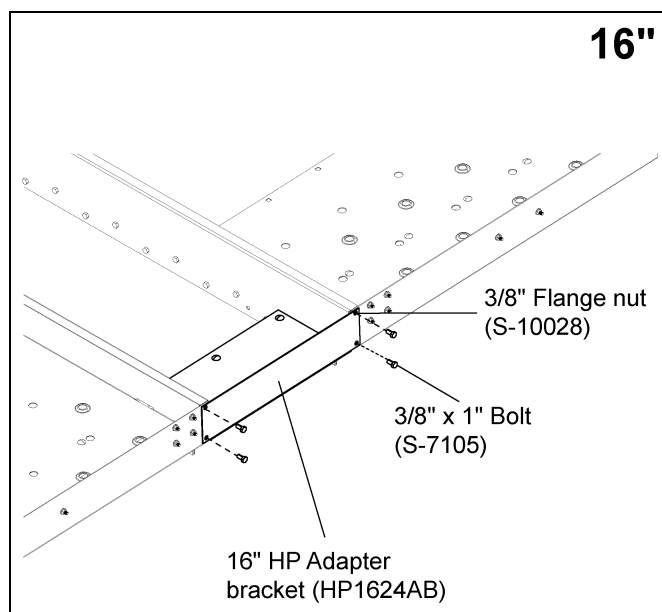


Figure 7L Deck Adapter Bracket to Decks

Install Hatch Filler Plate

1. Using 3/8" x 1" carriage bolts (S-3585) and 3/8" flange nuts (S-10028), install the hatch filler plate (HP1624HDF) over the un-used opening. (See Figure 7M.)

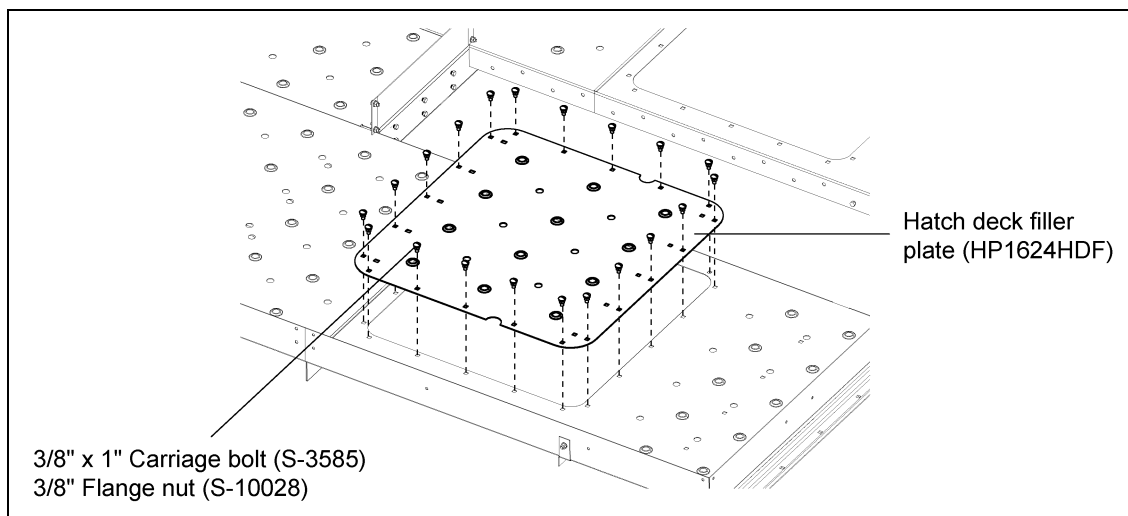


Figure 7M Deck Plate

Install Rail Supports to Deck E

1. Attach two (2) head platform rail supports (HP1648HSH) to Deck E as shown using 3/8" x 1" bolts (S-7105) and 3/8" flange nuts (S-10028).

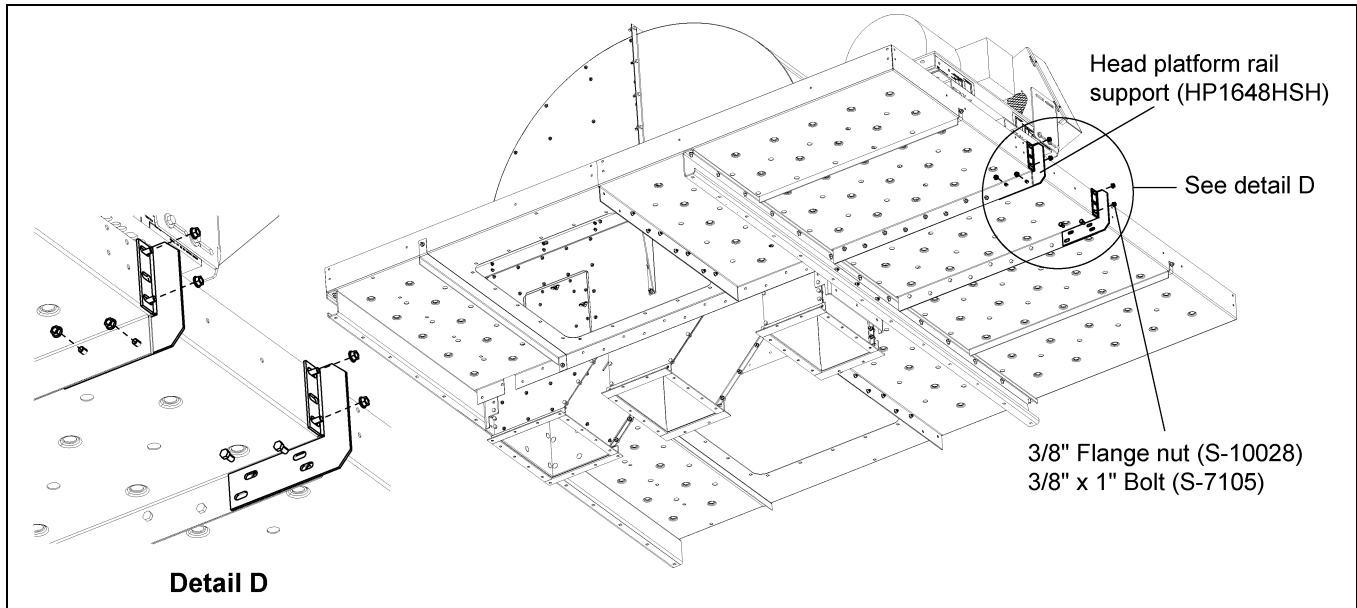


Figure 7N 24" Deck E Rail Support Brackets

Install "W" Posts ("Corner Posts" x 4)

1. At each corner, align bottom edges of "W" corner posts (HP1648HWP) with bottom edge of platform decking.
2. Attach each "W" corner post to decking using 5/16" x 3/4" flange bolts (S-6606) and 5/16" flange nuts (S-3611). Torque to standard specifications. (See Figure 7O.)

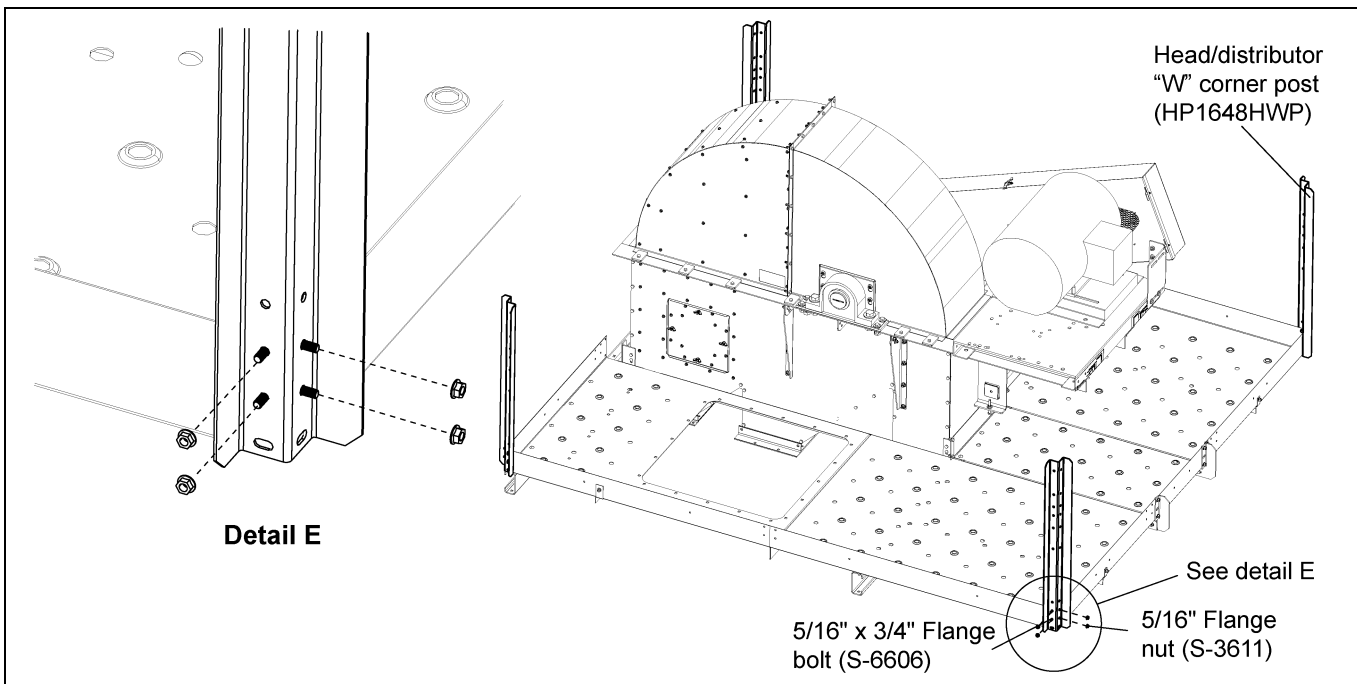


Figure 7O

Install Platform Posts

NOTE: Platform posts are not flush with bottom of deck.

1. At the up-leg end, align two (2) platform posts (HP1648HCP) as described and connect to the decking where Deck E intersects with Decks A and C. Use 5/16" hex flange nuts (S-3611) and 5/16" x 3/4" flange bolts (S-6606), connect the platform posts to the decking.

NOTE: Rail support braces should be between the posts.

2. At the discharge end, align platform posts as described and attach one platform posts (HP1648HCP) to the edge of Deck C and Deck A nearest the lower head. (See Figure 7P.)

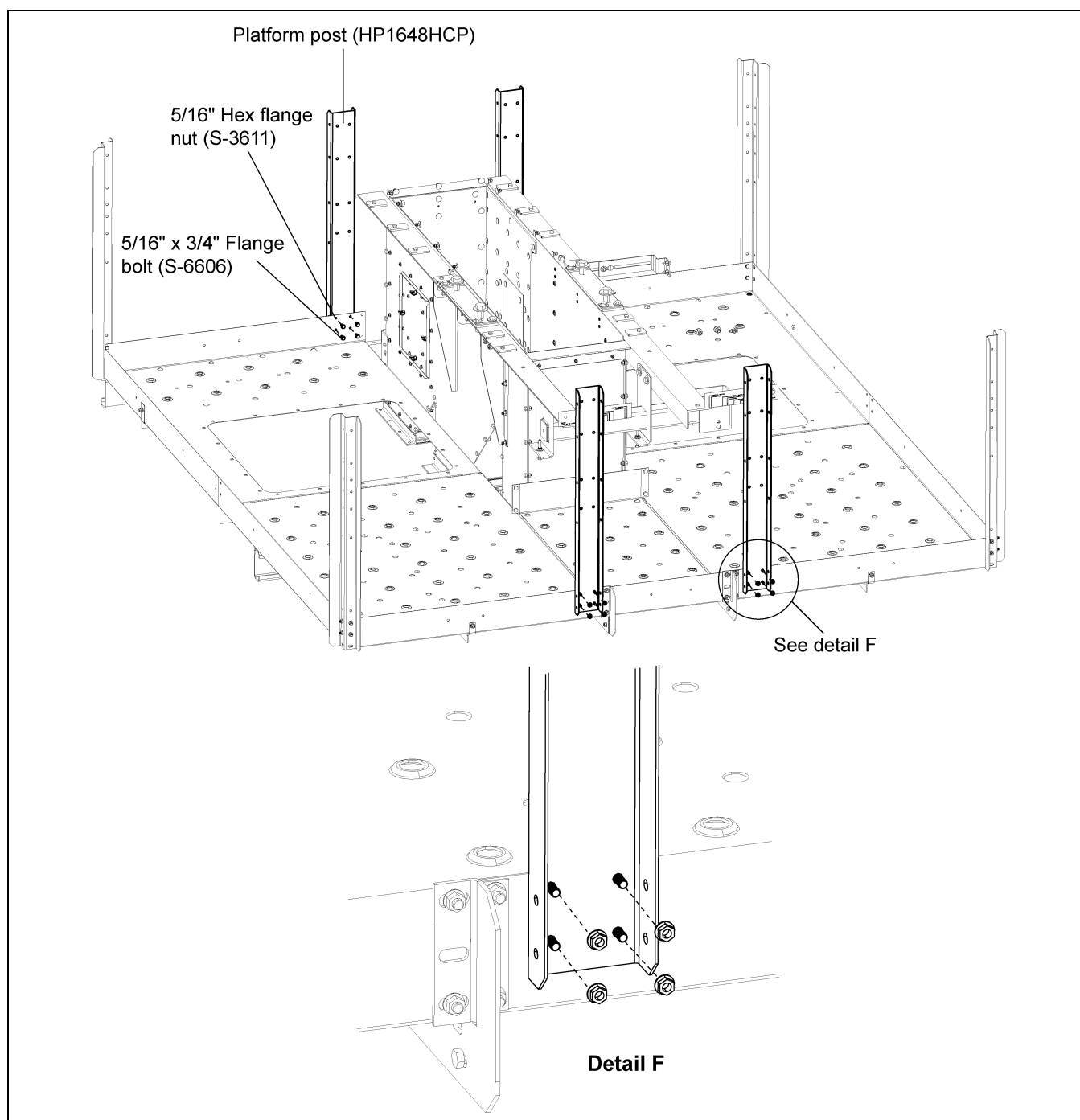


Figure 7P Middle End Posts

7. 16"-24" Head Platform Assembly

- At the middle of Deck A and Deck C, install platform post (HP1648HCP) as shown and connect to the decking *through* a rail support (HP1648HSH). Use 5/16" hex flange nuts (S-3611) and 5/16" x 3/4" flange bolts to connect the rail supports and platform posts to the decking.
(See Figure 7Q.)

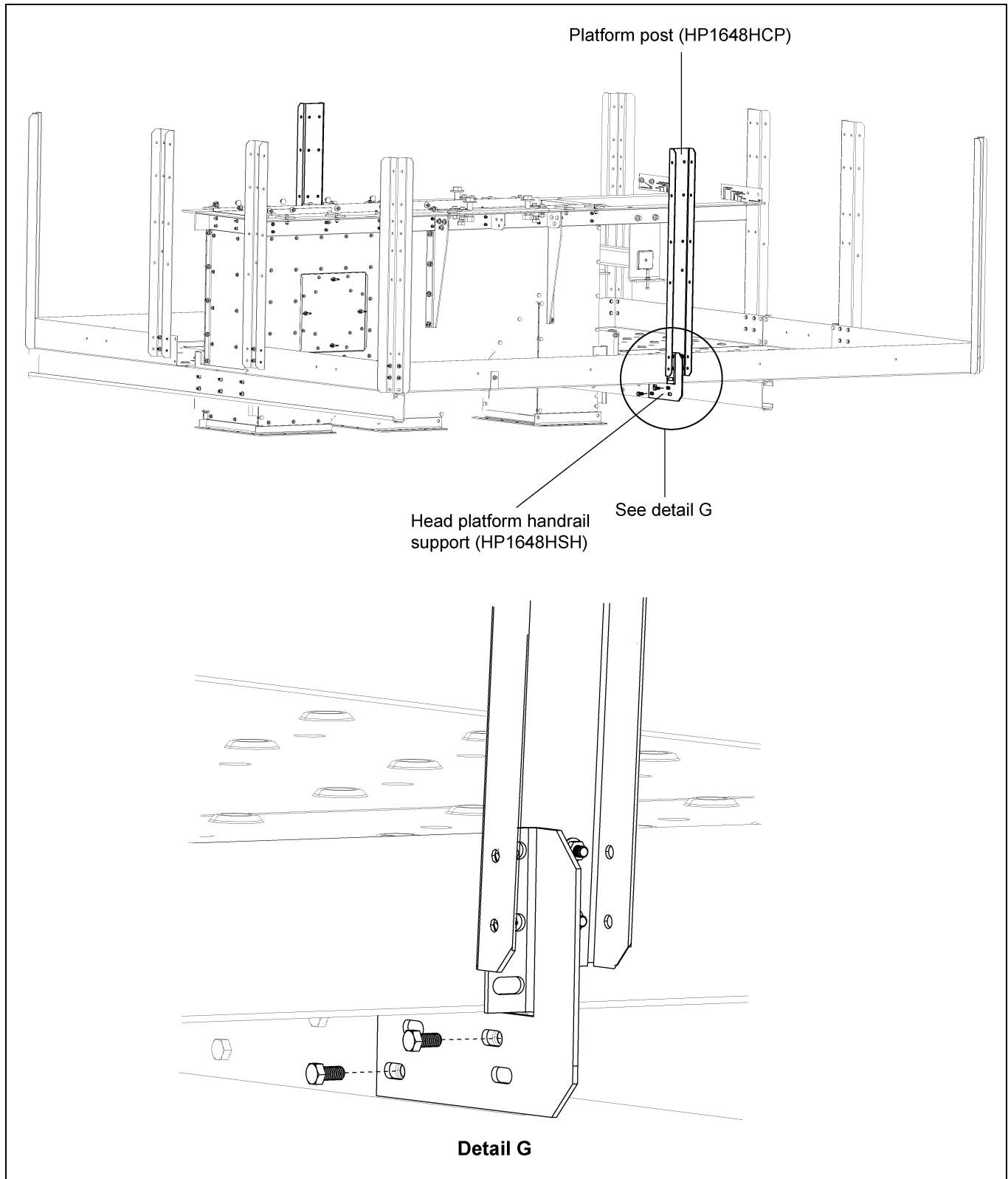


Figure 7Q Deck A Post Bracket

Intermediate Handrails

IMPORTANT: Trim each rail as listed. **Do NOT** attempt to make entire adjustment by trimming only one rail. **Each rail must be trimmed and installed as stated for proper fit.**

IMPORTANT: For safety purposes, make sure head of bolt is to the inside of platform with nuts on outside at all connections.

1. Identify and separate the large and small intermediate handrails.

NOTE: The small intermediate handrail (LDR-4088) fits inside of the large intermediate handrail. It is critical that large and small rails be properly identified in advance. Rails are cut to size and cutting the wrong rail or to the wrong length will prevent proper installation. (See Figure 7R.)

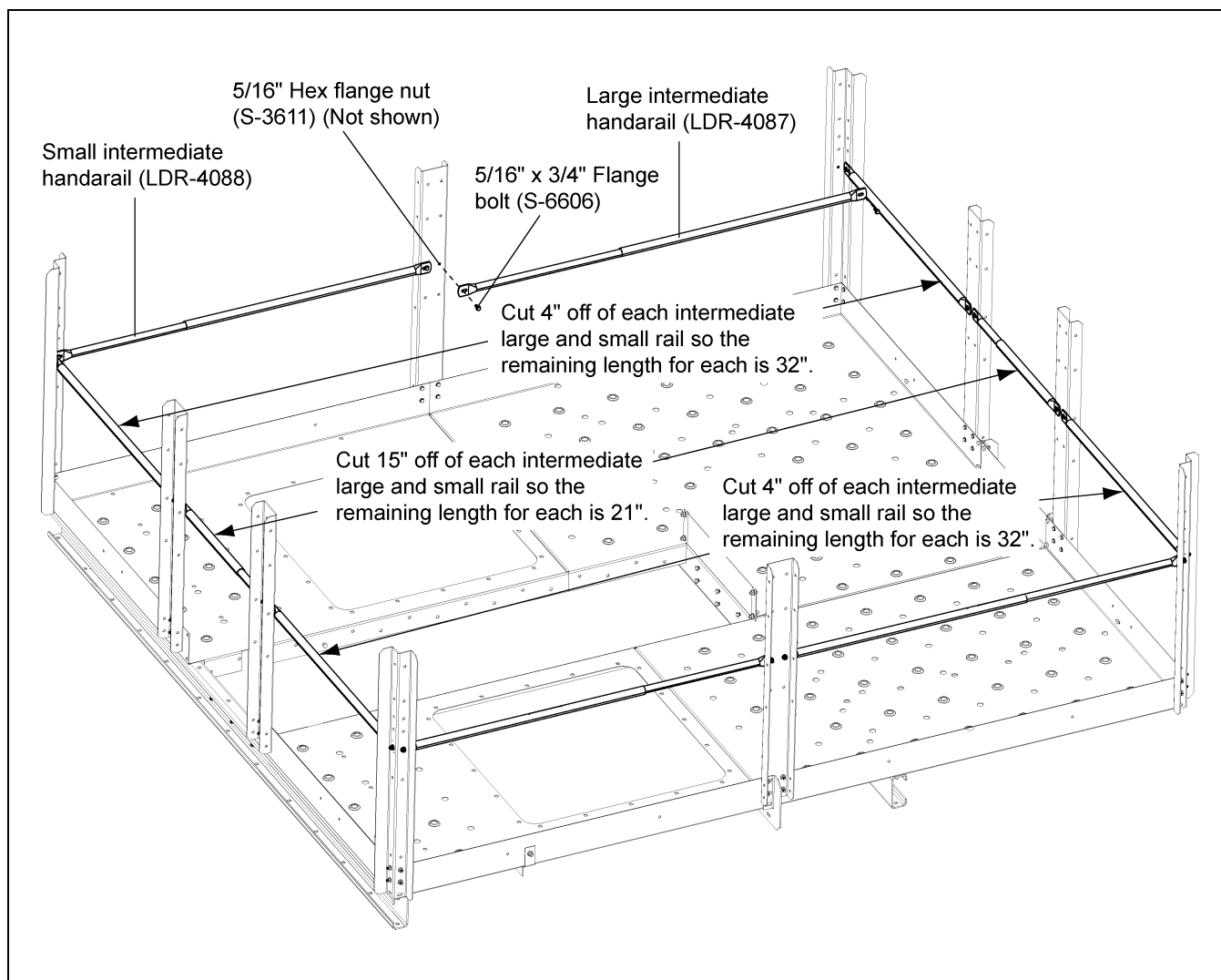


Figure 7R Intermediate Handrails

2. Trim two (2) large and two (2) small rails by 15" each so that the remaining length of each rail, both small and large, is 21". (*See Figure 7S.*)
 - a. Install these rails across the Deck A, Deck C, Deck E side of the platform and the opposite side as shown.
 - b. Insert one small rail inside of one large rail and telescope the joined rails from the "W" corner post to the platform post as shown in *Figure 7R on Page 56*.
 - c. Attach to "W" posts (corner posts) and platform posts using nuts (S-3611) and bolts (S-6066). Torque to standard specifications.

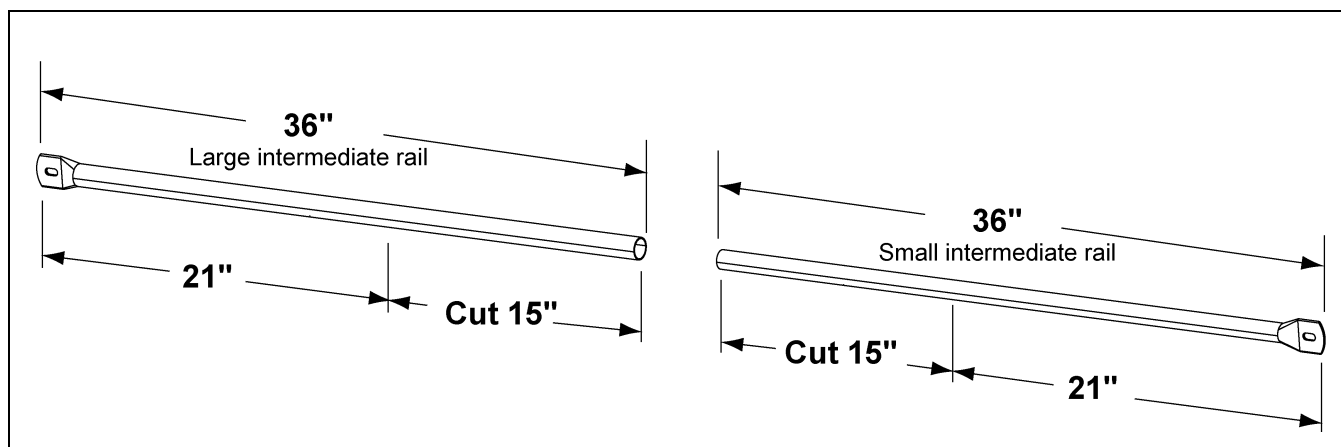


Figure 7S 21" Telescoping Handrail

3. Trim two (2) large and two (2) small rails by 4" each so remaining length of each rail, both small and large, is 32". (*See Figure 7T.*)
 - a. Install these rails across the up-leg and down-leg sides of the platform as shown.
 - b. Insert one small rail inside of one large rail telescope the joined rails from the "W" corner posts to platform posts as shown in *Figure 7R on Page 56*.
 - c. Attach to "W" posts (corner posts) and platform posts using nuts (S-3611) and bolts (S-6066). Torque to standard specifications.

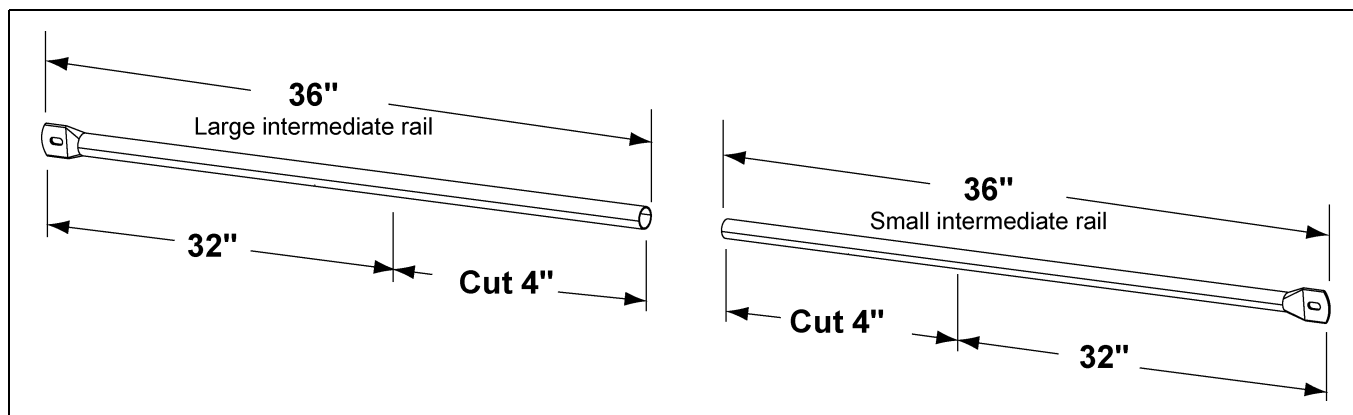


Figure 7T 32" Telescoping Handrail

7. 16"-24" Head Platform Assembly

Install Upper Handrails

IMPORTANT: For safety purposes, make sure head of bolts is to the inside of platform with nuts on outside at all connections.

NOTE: Upper handrails do not require any cutting prior to installation.

1. Attach two (2) 25.6" in length middle drive handrails (HP1624HMD) along Deck E and the lower head. These are the two (2) shortest sections of upper handrail. Connect using 5/16" nuts (S-3611) and 5/16" x 2" bolts (S-7877). (See Figure 7U.)
2. Attach four (4) hatch handrails (HP1648HHS): one on each side of the middle drive at each end of the platform. Handrails will fit without adjustment. Connect using 5/16" nut (S-3611) and 5/16" x 2" bolts (S-7877). Torque to standard specifications.
3. Two (2) 59.183" far hatch handrails (HP1624HFH) and two (2) 54.65" handrails (HP1624HNNH) opposite each other along Deck A and Deck C using 5/16" x 2" bolts (S-7877) and 5/16" nuts (S-3611).

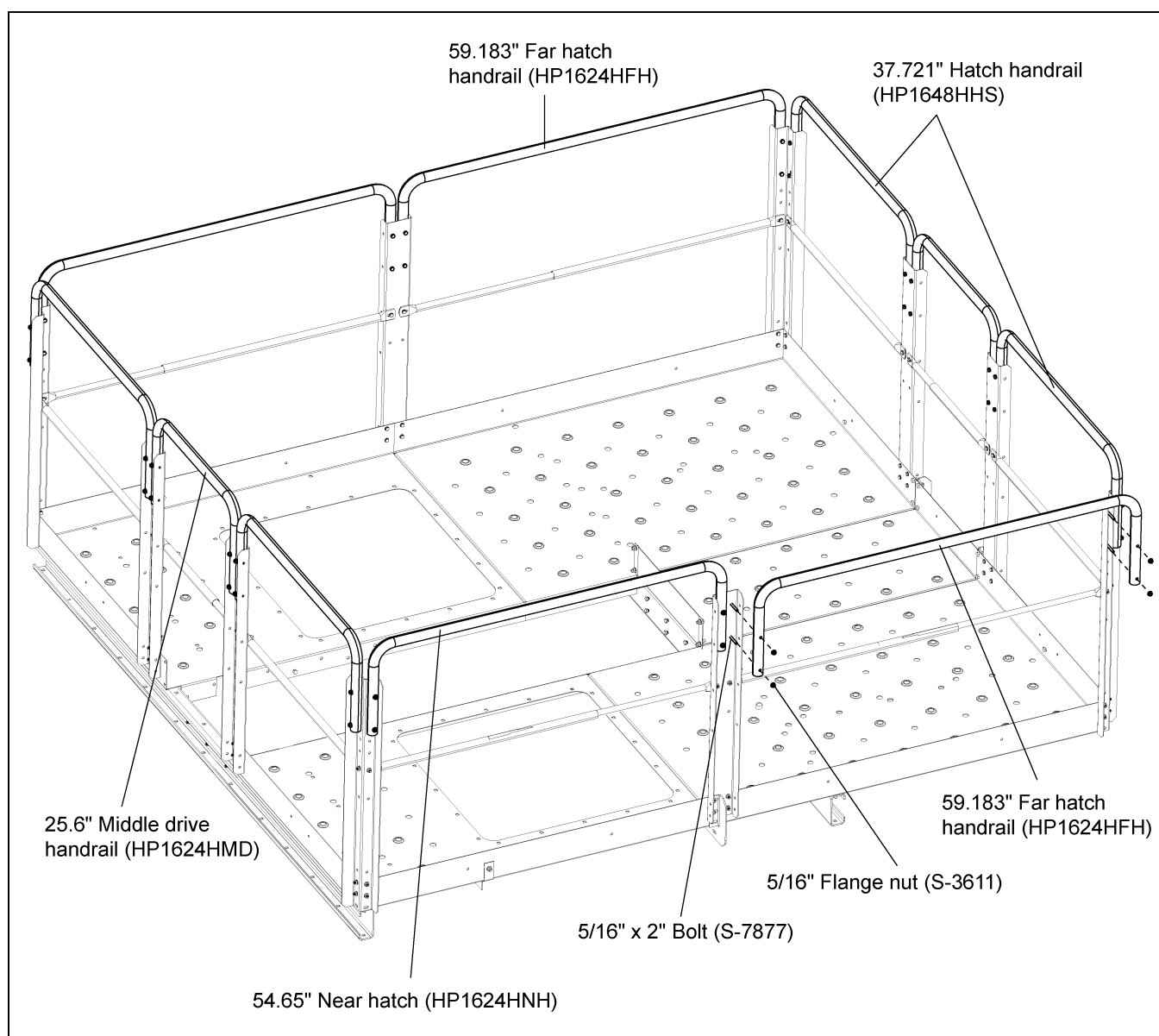


Figure 7U Top Rails

Install Tie Braces

NOTE: *Safety cage bars are used as tie braces in this installation.*

IMPORTANT: *For safety purposes, make sure head of bolts are to the inside of platform with nuts on outside at all connections.*

1. At each of the four (4) "W" corner posts (HP1648HWP), attach two (2) tie braces (safety cage bar LDR-5171BE) from the lower half of the post to the deck kick plate using 5/16" nuts (S-3611) and 5/16" x 3/4" flange bolts (S-6606).

NOTE: *Tie braces may be oriented on the inside or outside of the decking kick plates based upon installer preference.*

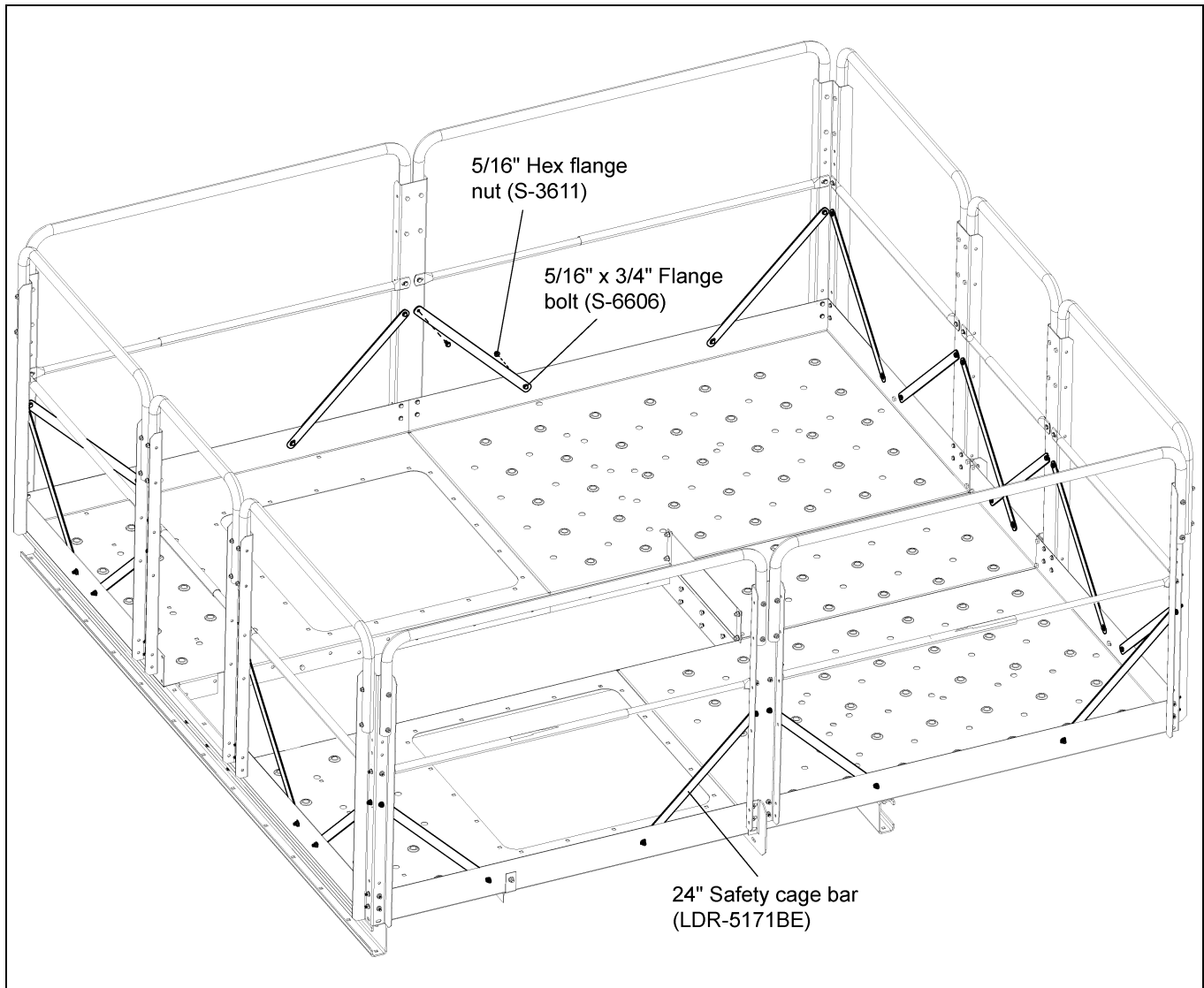


Figure 7V Safety Cage Cross Brace

NOTE: [See Page 100](#) for hatch door installation.

30"-36" Head Platform Right Hand Drive

To facilitate quick and easy assembly, numerous parts are pre-assembled prior to shipping.

Considerable time is dedicated at the beginning of this manual to the proper orientation of channels and decks. This is because the orientation of these elements is essential to the proper construction of the head platform.

1. There are many ways to get the orientation wrong and only one way to get it right.
2. Proper orientation of the channels and decks is essential proper assembly.
3. Proper construction of the head platform can only be completed if the initial orientation of the channels is done correctly.

Therefore, we strongly advise you take time to confirm that the orientation of these early elements is correct before you begin to assemble the decking on to the channels.

To facilitate proper connections, major connecting holes are etched with alpha-numeric codes. One side is labeled **X1** through **X7**, this side is referred to as the “**X**” side. The opposite side is labeled with **Y1** through **Y7** and is referred to as the “**Y**” side.

Cross Deck Support Channels to Lower Head

Three (3) cross deck support channels support the platform. Two (2) of the channels are attached to brackets on the lower head section and the third channel is attached to the decking itself but is not attached directly to the lower head. This third channel will be attached after the deck is assembled.

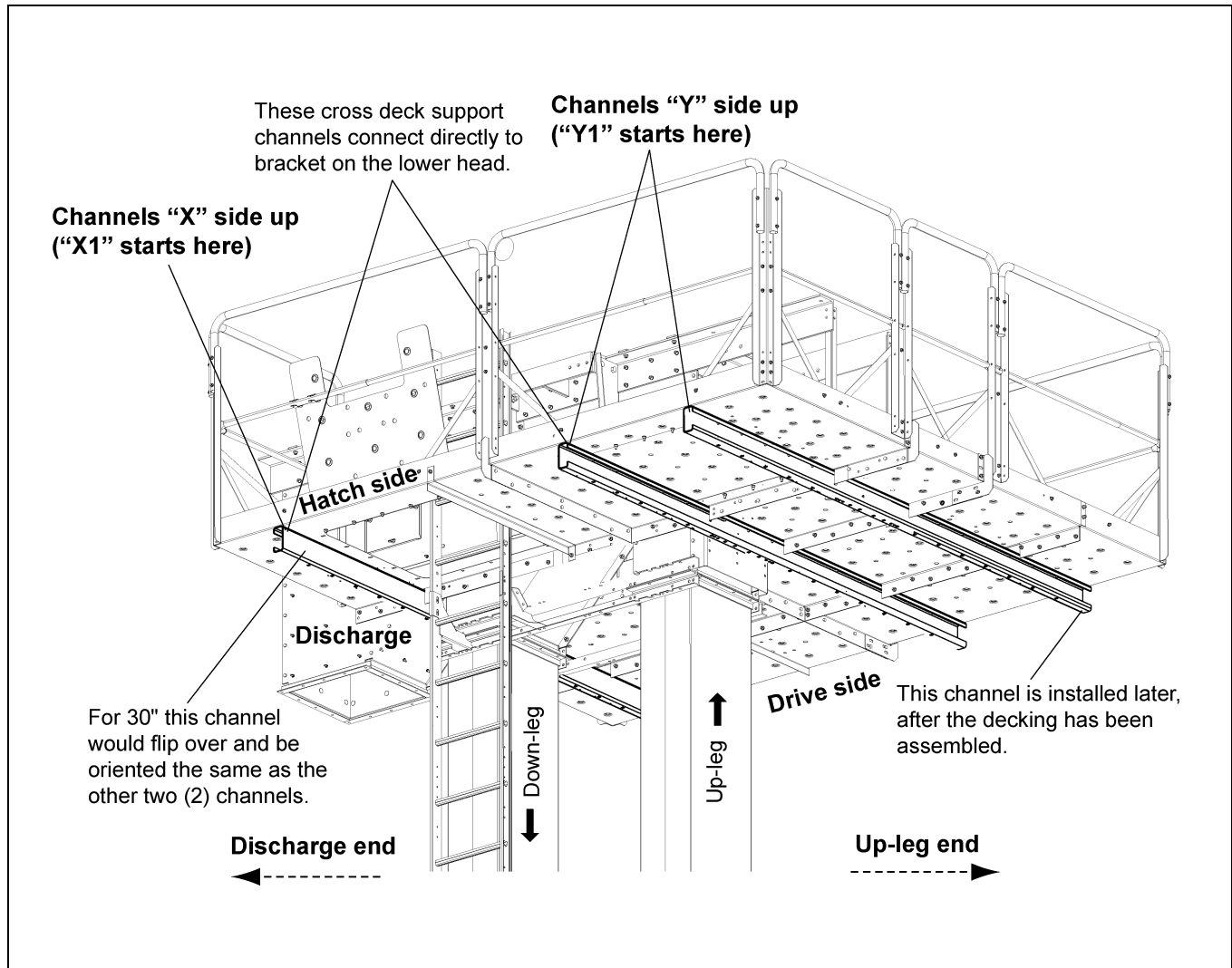


Figure 8A 30"-36" Platform Overview

8. 30"-36" Head Platform Right Hand Drive

36" Right Side Drive

Begin by placing lower head section on solid and level surface.

1. At **Discharge End** orient the channel so that:
 - a. Channel opening is outward, toward the discharge end of the head.
 - b. Holes labeled with “X” face up.
 - c. Hole **X1** is on the non-drive side of the lower head.
 - d. Hole **X7** is on the drive side of the lower head.
 - e. Cross deck support channel extends farther on the drive side than on hatch side of lower head.
2. At **Up-Leg End** orient the channel so that:
 - a. Channel opening outward, toward the up-leg end of the head.
 - b. Holes labeled with “Y” face up.
 - c. Hole **Y1** is on the non-drive side of the lower head.
 - d. Hole **Y7** is on the drive side of the lower head.
 - e. Cross deck support channel extends farther on the drive side than on hatch side of lower head.
(See Figure 8B on Page 63.)
3. Attach cross deck support channels (HP36DSCX) to the top-most set of holes of the lower head brackets (HSP36130) using 3/8" x 1" bolts and nuts and torque properly. (See Figure 8C on Page 63.)

***NOTE:** *The channels MUST be oriented as shown in Figure 8B and Figure 8C on Page 63 in order for the decking and subsequent assembly to be done correctly.*

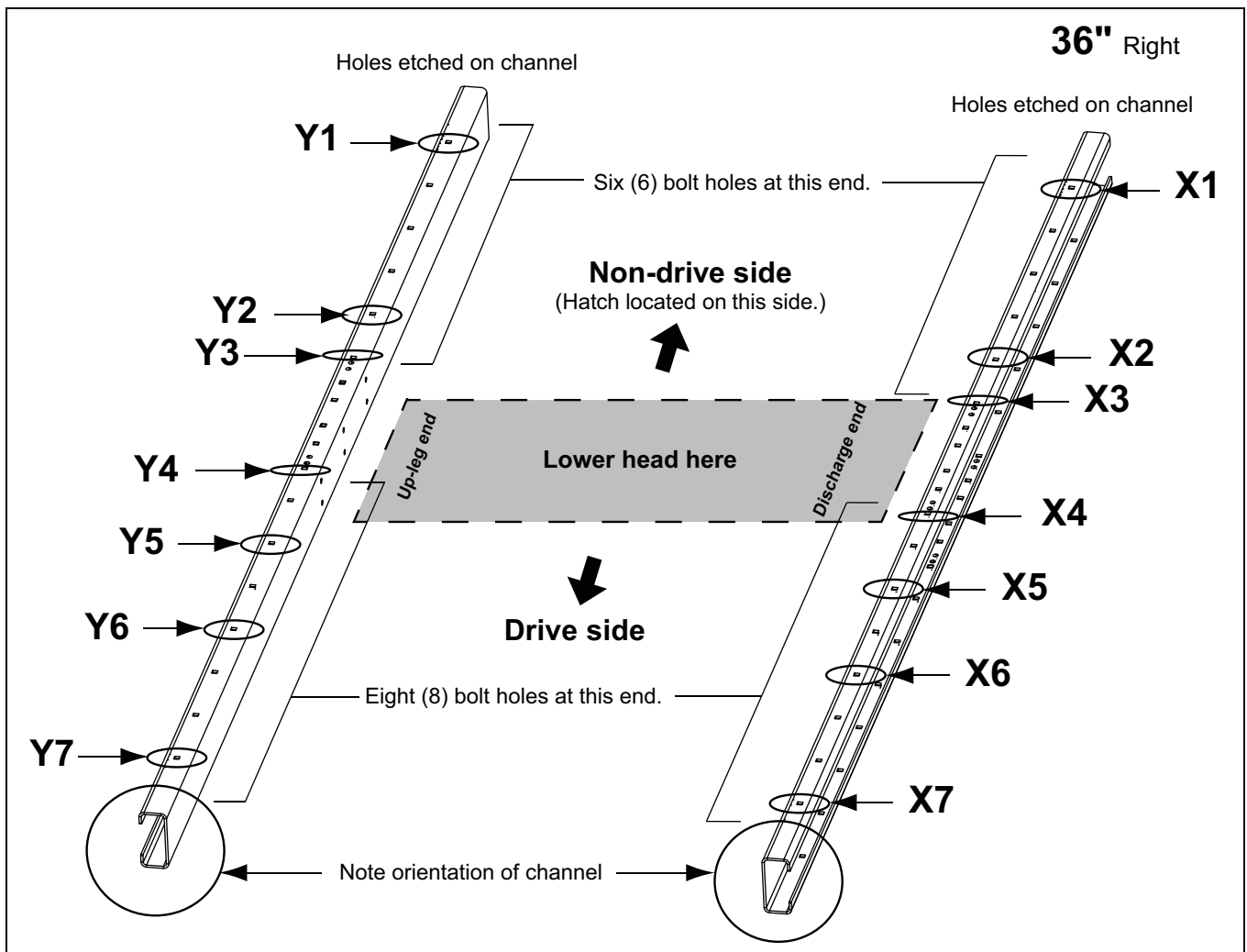


Figure 8B 36" Right Side Drive Channel Position

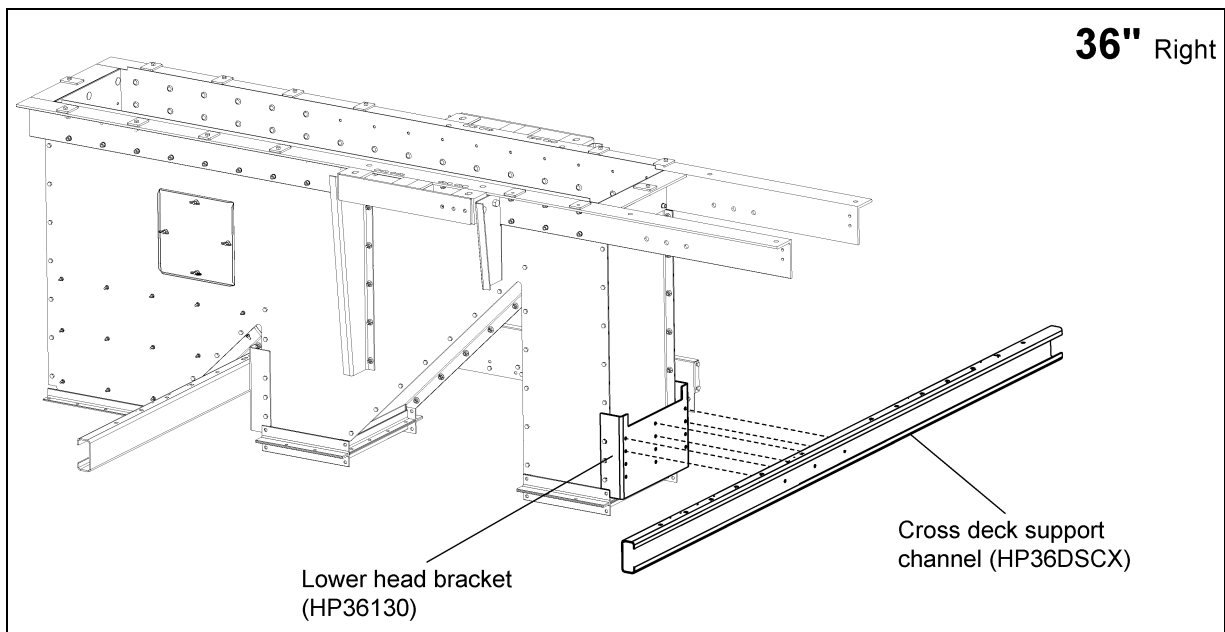


Figure 8C

8. 30"-36" Head Platform Right Hand Drive

30" Right Side Drive

1. At **Discharge End** orient the channel so that:
 - a. Channel opening is inward, toward the bracket.
 - b. Hole labeled with “Y” face up.
 - c. Holes **Y1** is on the non-drive/hatch side of the lower head.
 - d. Hole **Y7** is on the drive side of the lower head.
 - e. Cross deck support channel extends farther on the drive side than on hatch side of lower head.
2. At **Up-Leg End** orient the channel so that:
 - a. Channel opening outward, toward the up-leg end of the head.
 - b. Holes labeled with “Y” face up.
 - c. Hole **Y1** is on the non-drive side of the lower head.
 - d. Hole **Y7** is on the drive side of the lower head.
 - e. Cross deck support channel extends farther on the drive side than on hatch side of lower head.
(See Figure 8E on Page 65.)
3. Attach cross deck support channels (HP36DSCX) to the top-most set of holes of the lower head brackets (HSP36130) using 3/8" x 1" bolts and nuts and properly. (See Figure 8E on Page 65.)

***NOTE:** *The channels MUST be oriented as shown in Figure 8D and Figure 8E on Page 65 in order for the decking and subsequent assembly to be done correctly.*

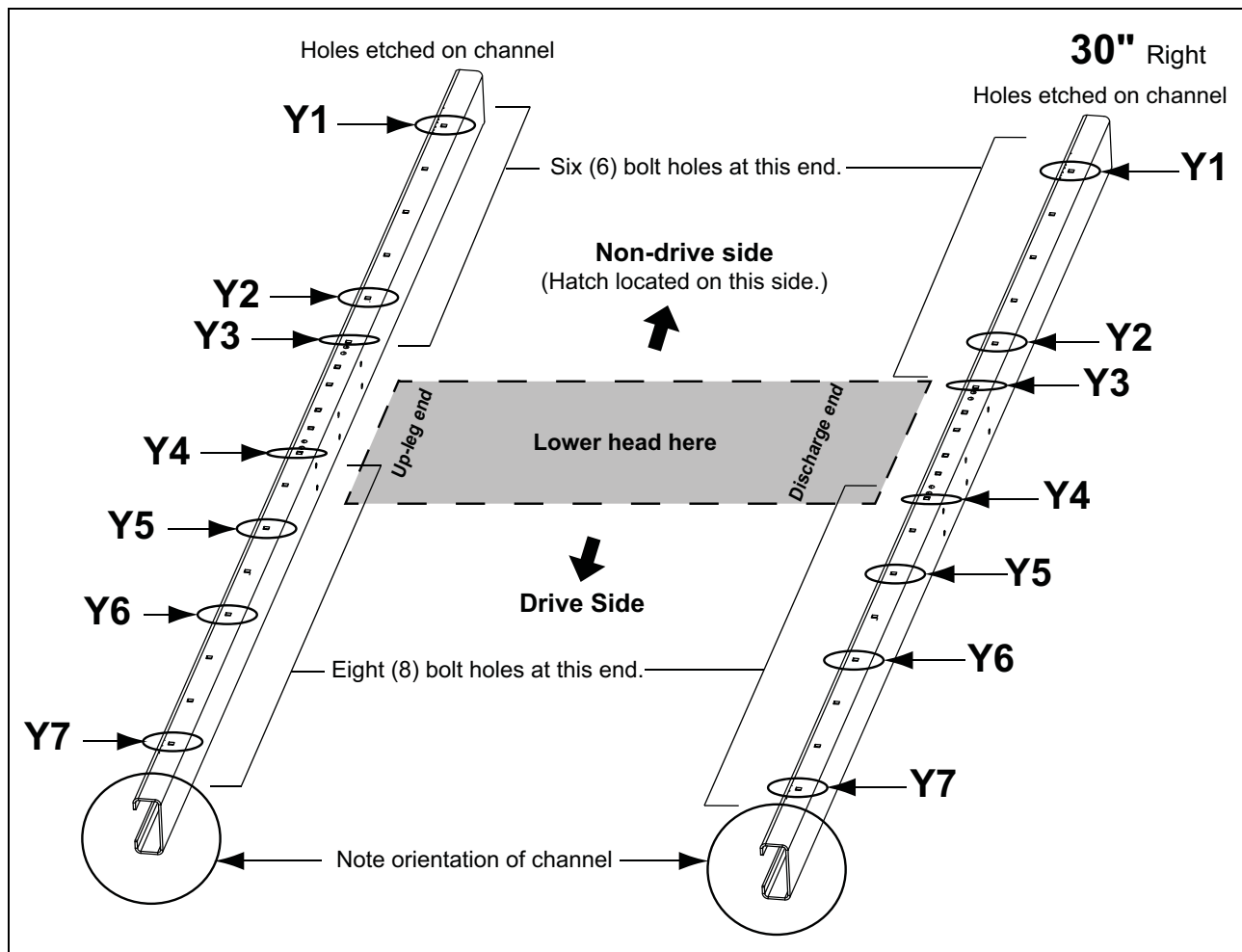


Figure 8D 30" Right Side Drive Channel Position

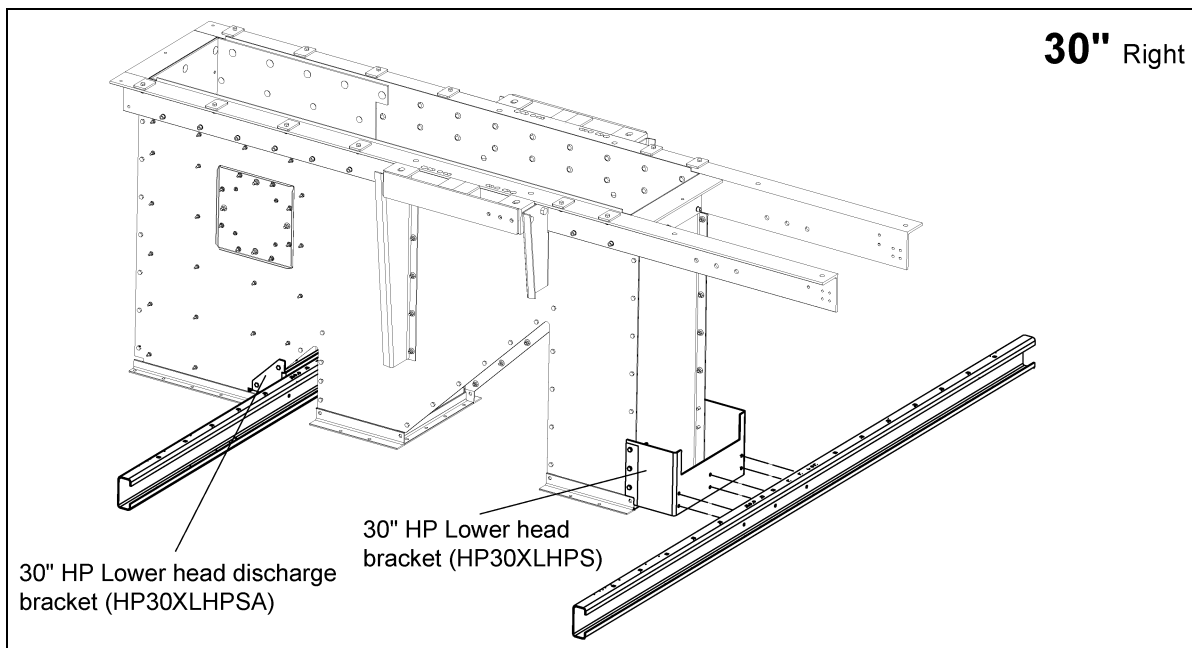


Figure 8E 30" Right Drive - Cross Deck Support Channels to Lower Head Brackets

Attach Deck A to Hatch Cover Plate

NOTE: Only two (2) side of deck plate are attached at this time.

1. Locate pre-assembled Deck A. This plank consists of the two (2) hatch openings and is labeled with holes etched with the letter A.
2. Orient Deck A so the hatch cover plate is at the up-leg end of the deck.
3. The hatch will be located at the discharge end and will remain open at this time. A hatch door will be attached to Deck A later and should NOT be installed at this time.

NOTE: ONLY connect the hatch filler plate along two (2) of the four (4) sides of the plate.

4. The holes perpendicular to the length of Deck A should remain open at this time as they will serve to connect the hatch cover plate and Deck A to the cross deck support channel.
5. Attach the hatch cover plate to Deck A using (8) eight 3/8" x 1" carriage bolts (S-3585) with flange nuts (S-10028) and torque to 30 ft/lbs. (See Figure 8F.)

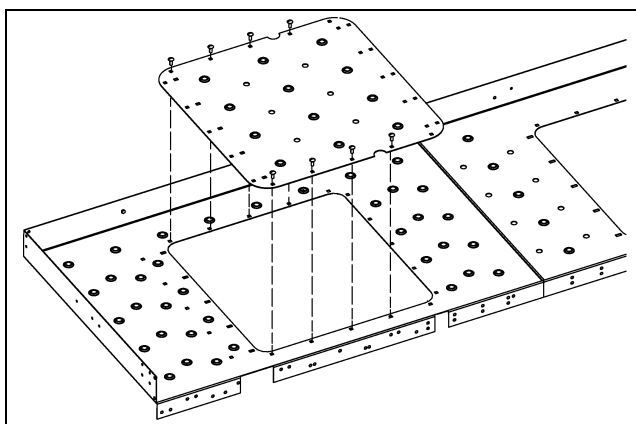


Figure 8F Hatch at Up-Leg End

Slide/Place Toe Boards on Cross Deck Support Channels

NOTE: Due to the snug fit, you should slide the toe boards in place before placing and securing Deck A or any subsequent decking.

1. On the non-drive side slide one toe board (HP36STBX) into place.
2. On the drive side slide one toe board (HP36STBX) into place.

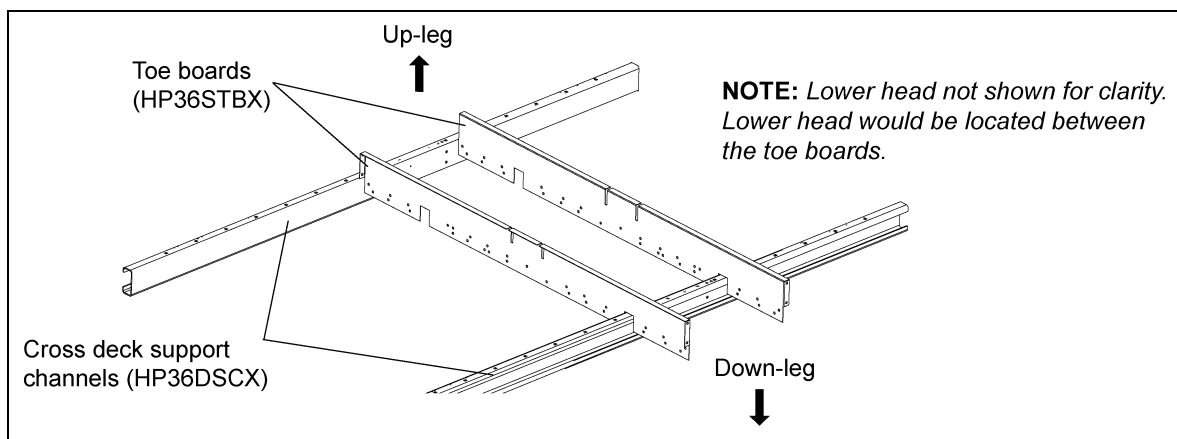


Figure 8G

Deck A to Cross Deck Support Channels and Toe Board

NOTE: Orientation of etched holes on deck and channel is critical to subsequent steps. Connect all bolts only finger tight until deck is completely assembled and then tighten to proper torque.

1. Locate pre-assembled Deck A. This plank consists of the hatch opening and the hatch cover plate.
2. Orient Deck A so the hatch opening is at discharge end of lower head and hatch cover plate is at up-leg end.
3. On the **Discharge End**, use a punch as needed to line up. (See Figure 8H.)
 - a. For 36" - Deck hole **A1** and channel hole **X1**.
 - b. For 36" - Deck hole **A7** to channel hole **X2**.
 - c. For 30" - Deck hole **A1** and channel hole **Y1**.
 - d. For 30" - Deck hole **A7** to channel hole **Y2**.
 - e. For both 30" and 36" - Deck hole **A2** to toe board hole **A2**. (See Figure 8I on Page 68.)

NOTE: At this time, the head platform hatch deck support (HP36HDS) should be installed **UNDER** Deck A. Line this up with hole **A12** on the deck flange near hatch opening and install at the same time attaching deck to toe board. (See Figure 8I on Page 68.)

4. On the **Up-Leg End** for both 30" and 36", use a punch to align:
 - a. Channel hole **Y1** to corner hole of hatch cover plate.
 - b. Deck hole **A4** to toe board hole **A4**. (See Figure 8I on Page 68.)
5. After aligning the holes as described above, connect all holes between support channel and Deck A.

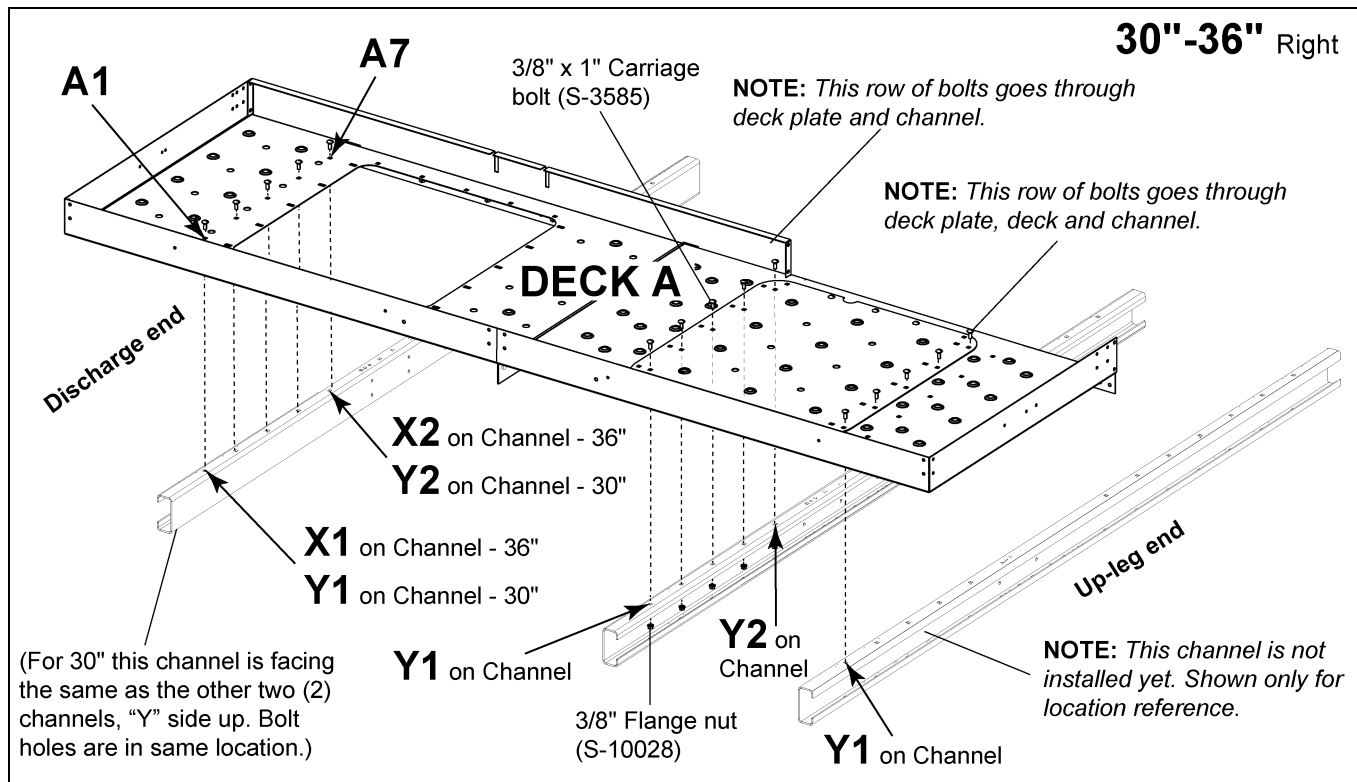


Figure 8H

8. 30"-36" Head Platform Right Hand Drive

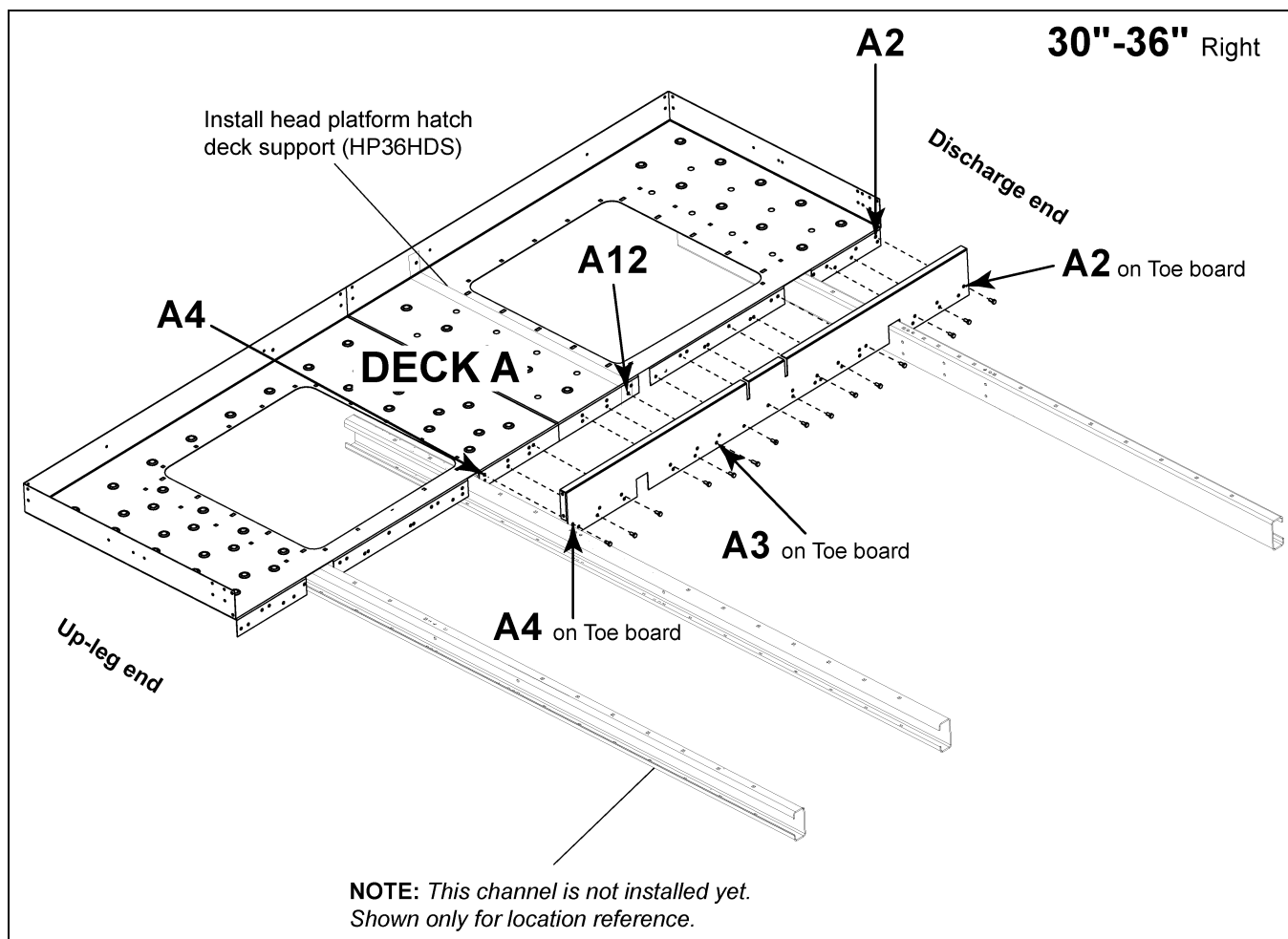


Figure 8I

Deck C to Cross Deck Support Channel and to Toe Board

NOTE: The orientation of the flanges on Deck C is critical to subsequent steps. Tighten bolts only finger tight until deck alignment is complete.

1. Locate the pre-assembled Deck C. This deck consists of two (2) planks.
2. Orient Deck C with hole **C3** at the discharge end of the lower head.
3. Make sure the extended kick plate flange of Deck C is away from the lower head assembly.
(See Figure 8J and Figure 8K on Page 70.)
4. Use a punch as needed to line up holes:
 - a. For 36" - Deck hole **C3** and channel hole **X5** at discharge end.
 - b. For 30" - Deck hole **C3** and channel hole **Y5** at discharge end.
5. Connect cross deck support channel and Deck C using 3/8" x 1" carriage bolts (S-3585) with flange nuts (S-10028). Connect all holes between channel and deck. (See Figure 8J.)
6. Align and connect Deck C to toe board using 3/8" x 1" bolts (S-7469) with flange nuts (S-10028).
 - a. Deck hole **C1** to toe board hole **A4**.
 - b. Deck hole **C2** to toe board hole **A2**.

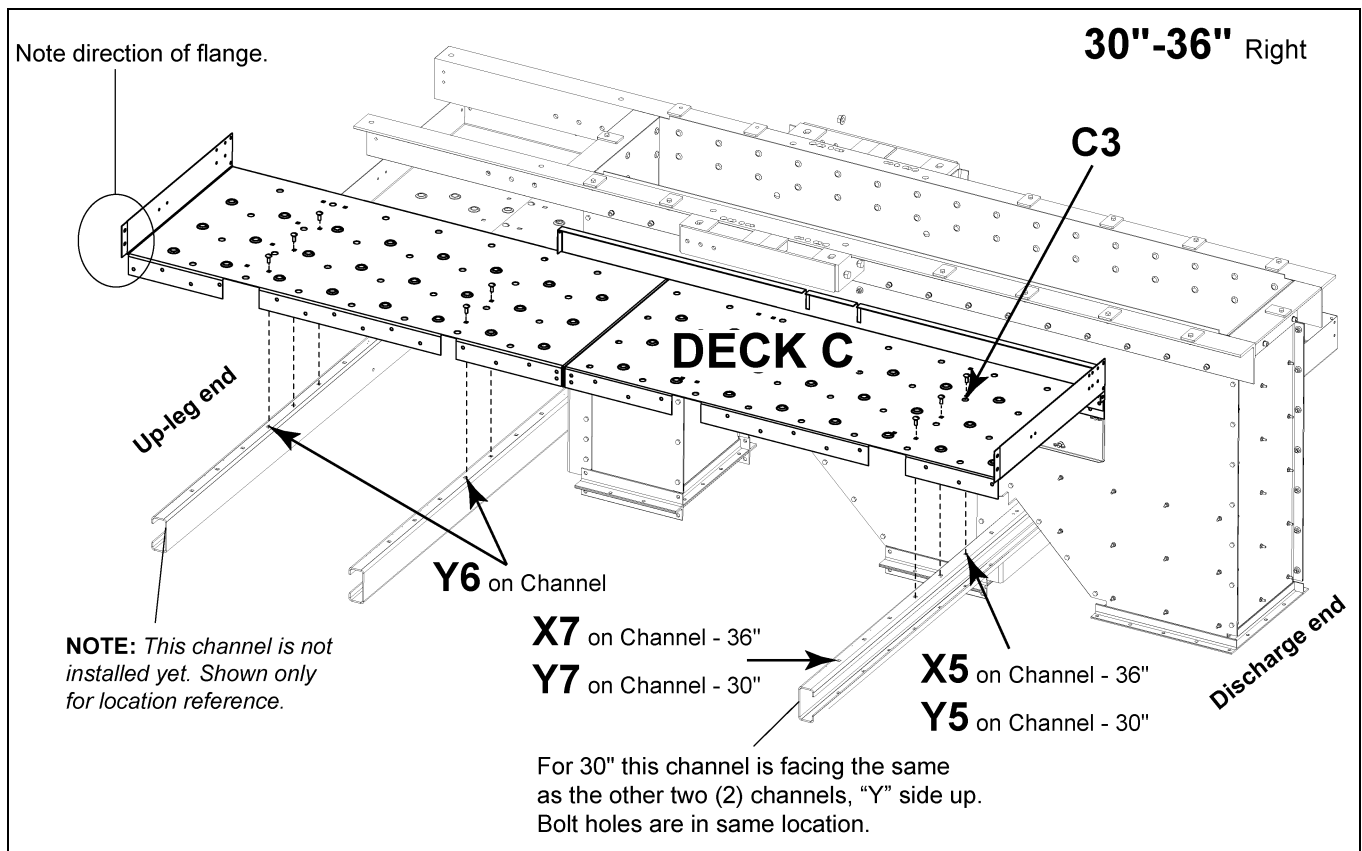


Figure 8J Deck C to Cross Deck Support Channels

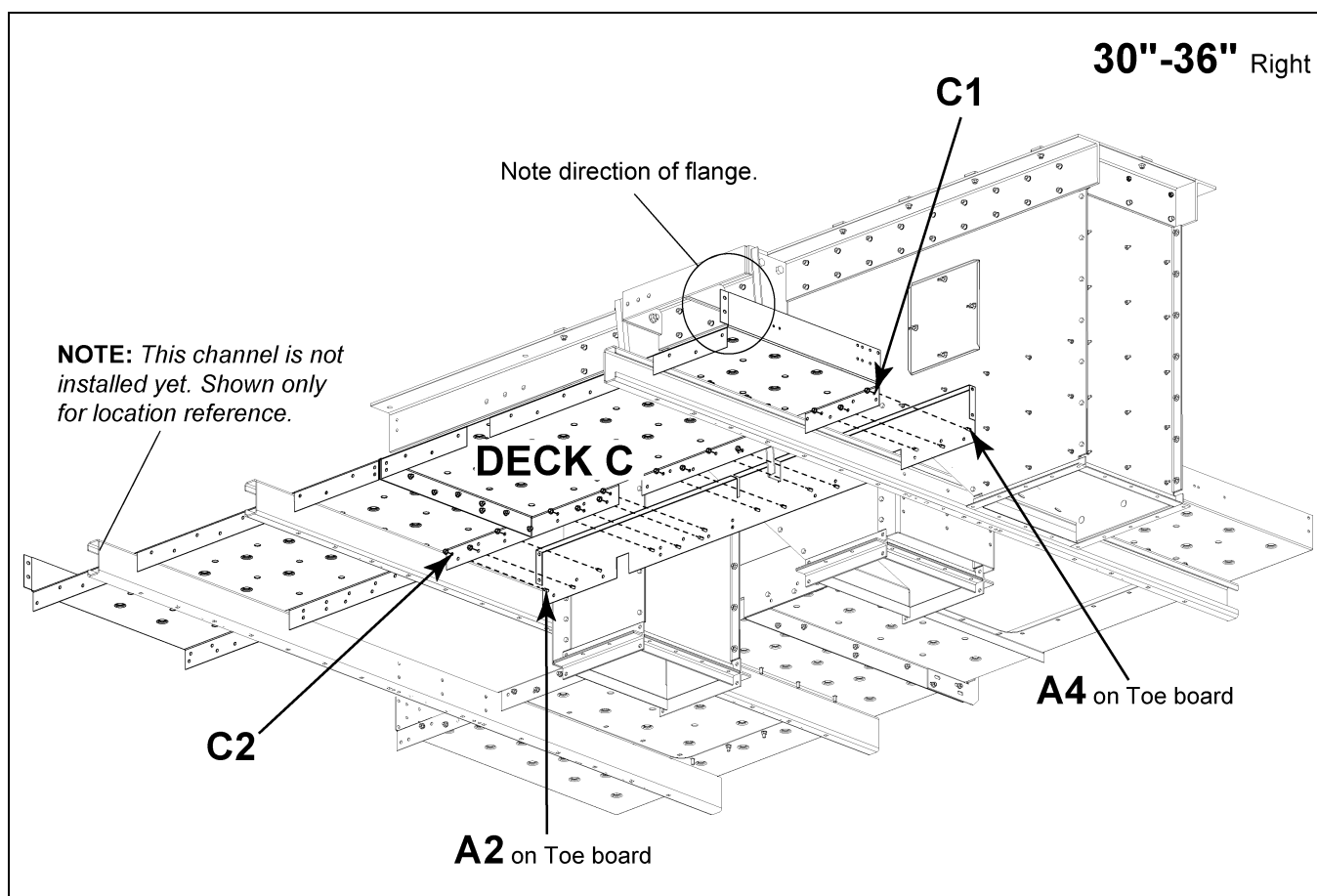


Figure 8K Underside View of Deck C to Toe Board

Deck F to Cross Deck Support Channels and Deck C

IMPORTANT: Connect all bolts only finger tight until deck is completely assembled and then tighten to proper torque.

1. Locate pre-assembled Deck F. This deck consists of two (2) planks.
2. Orient Deck F with hole **F3** at the discharge end of the lower head and **F5** at the up-leg end. *(See Figure 8L.)*
3. Use a punch as needed to line up the holes:
 - a. **For 36"** - Deck hole **F3** and channel hole **X7**.
 - b. **For 30" and 36"** - Deck hole **F5** and channel hole **Y7**.
 - c. **For 30"** - Deck hole **F3** and channel hole **Y7**.
4. Connect deck to channel using 3/8" x 1" carriage bolts (S-3585) with flange nuts (S-10028).
5. Orient Deck F flange outside of Deck C flange. *(See Figure 8N on Page 72.)*

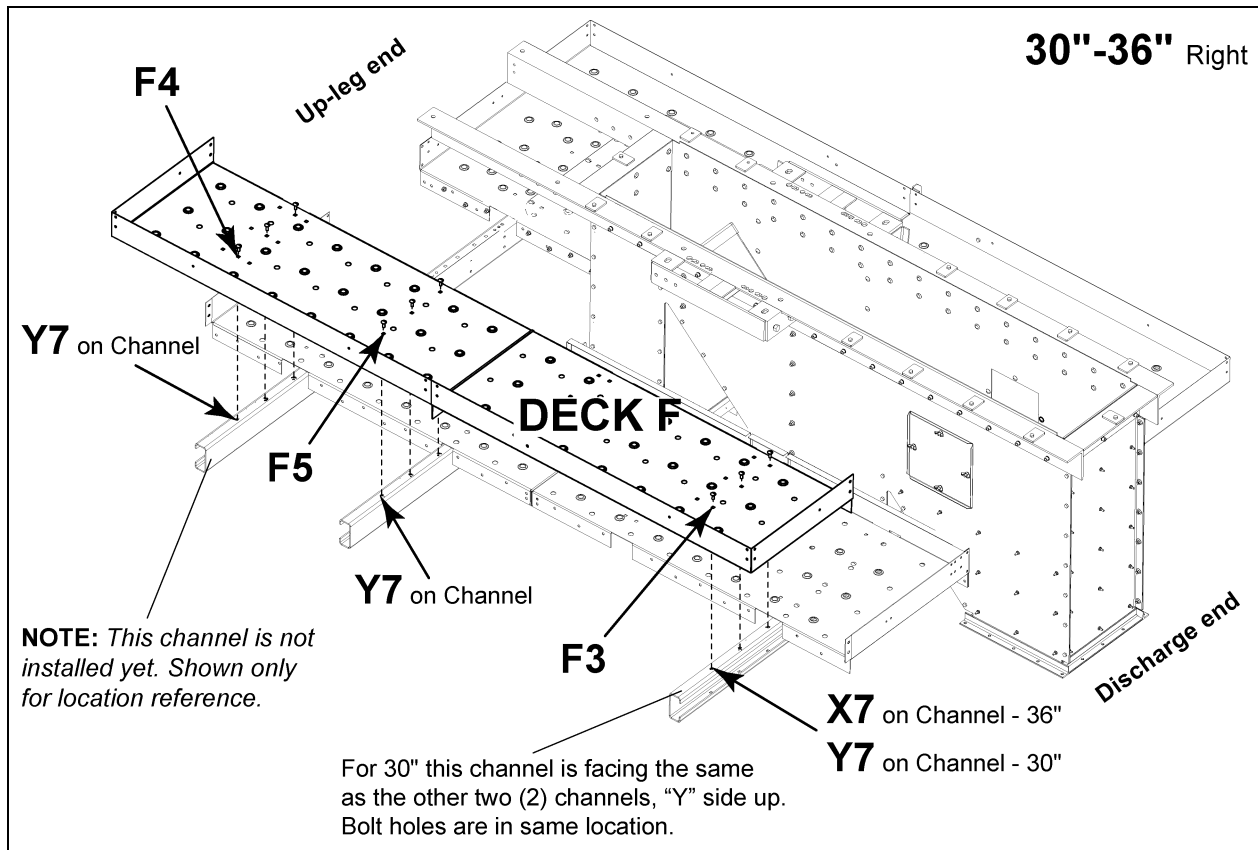


Figure 8L Deck F to Cross Deck Support Channel

8. 30"-36" Head Platform Right Hand Drive

6. Connect Deck F to Deck C using 3/8" x 1" bolts (S-7469) with flange nuts (S-10028).
 - a. F Deck hole **F2** to C deck hole **C6**.
 - b. F Deck hole **F1** to C deck hole **C7**. (See Figure 8M.)

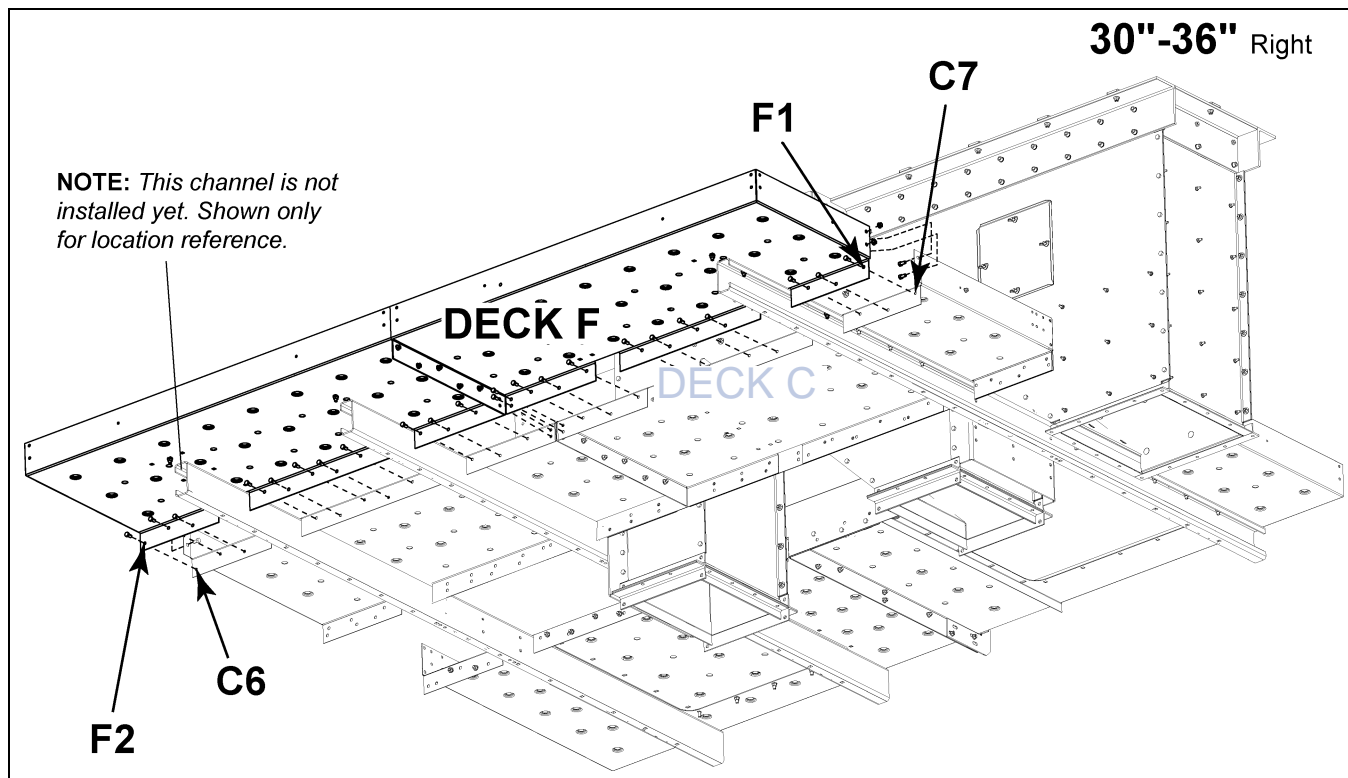


Figure 8M Deck F to Deck C

7. Install the head platform hatch deck support (HP1648HDS) under Deck C and F using 3/8" x 3/4" bolt (S-7105) and nut. **NOTE:** You may need to remove a bolt from the toe board if one was installed in this location.

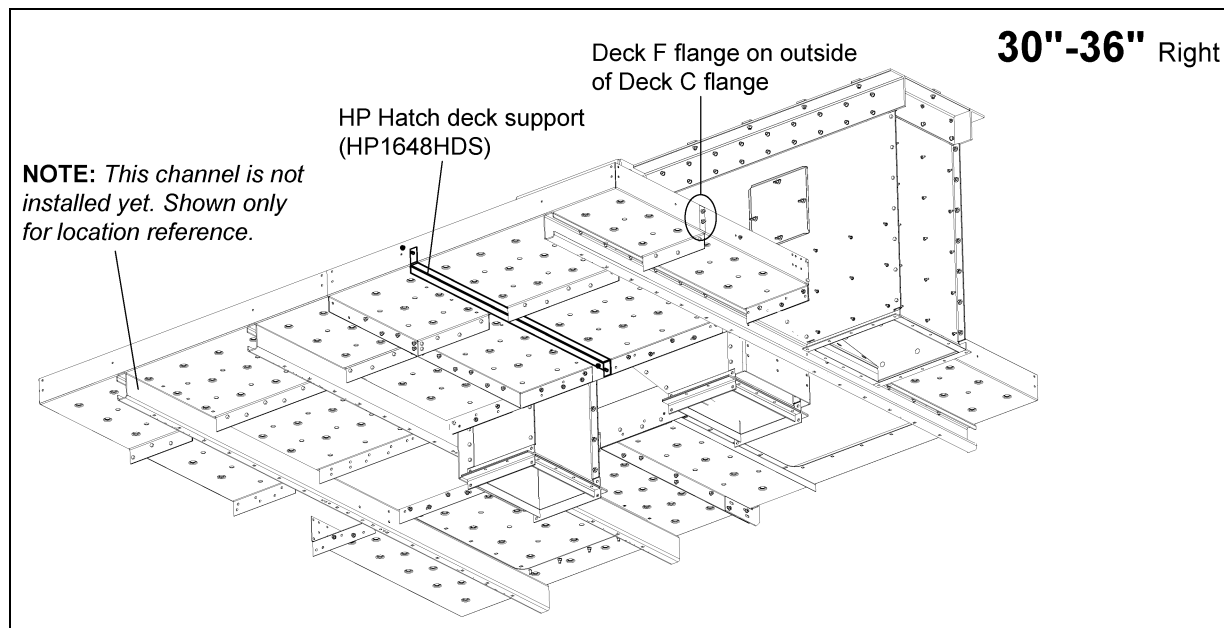


Figure 8N

Attach Third Cross Deck Support Channel to Decking

Connect all bolts only finger tight until deck is completely assembled and then tighten to proper torque.

1. Locate the third cross deck support channel (HP36DSCX) and orient it so the "Y" side faces up and hole **Y1** is on the non-drive side of the lower head assembly.
2. Use a punch as needed to align holes accordingly:
 - a. At the **drive side** - channel hole **Y7** on the cross deck support channel to deck hole **F4**.
(See Figure 8L on Page 71.)
 - b. At the **hatch side** - channel hole **Y1** on the cross deck support channel to Deck A and deck plate cover. (See Figure 8H on Page 67.)
 - c. Connect Deck F to support channels using 3/8" x 1" carriage bolts (S-3585) with flange nuts (S-10028). Connect all holes between channel and deck.

Attach Deck E to Deck A, Deck C and Cross Deck Support Channel

NOTE: Connect all bolts only finger tight until deck is completely assembled and then tighten to proper torque.

1. Position Deck E between Deck A and Deck C. (See Figure 8O.)
2. Use a punch as needed to align deck holes **E5** with channel hole **Y4**. This will align Deck E with holes on each channel.
3. Connect Deck E to cross deck support channels using 3/8" x 1" carriage bolts (S-3585) with flange nuts (S-10028). Connect all holes between channels and deck.
4. Connect the Deck E kick plate flanges to toe boards and flanges of Deck A and Deck C using 3/8" x 3/4" bolts (S-7105) and 3/8" nuts (S-10028). (See Figure 8O.)

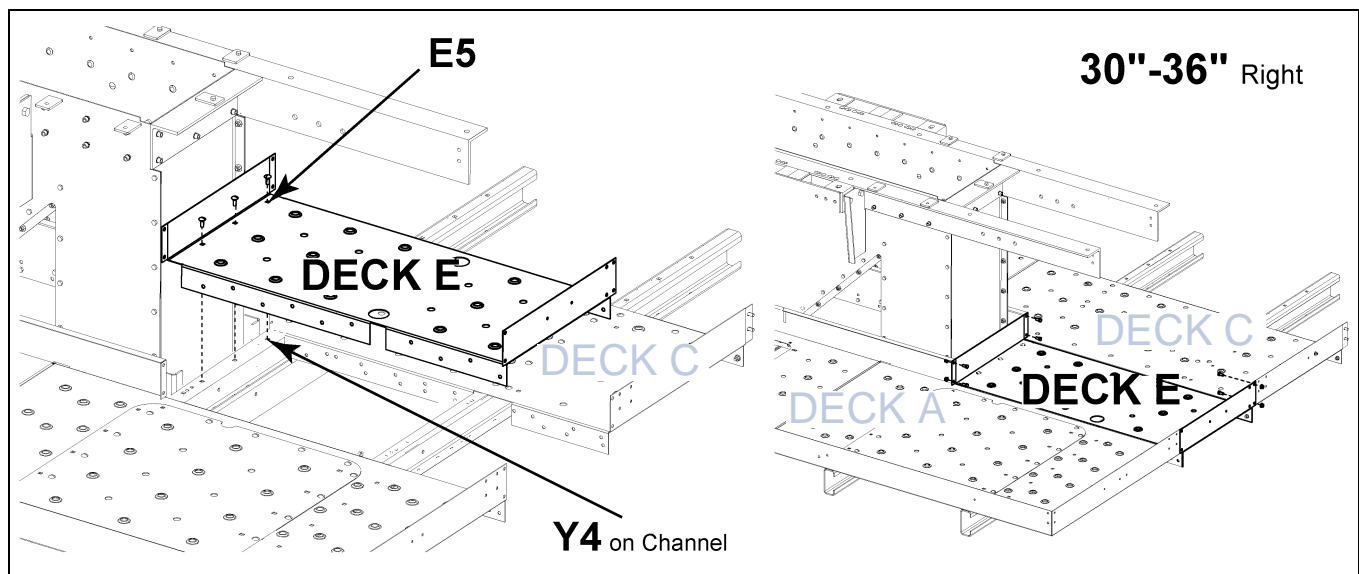


Figure 8O

8. 30"-36" Head Platform Right Hand Drive

5. Connect Deck E to Deck A and Deck C using 3/8" x 3/4" bolts (S-7105) with flange nuts (S-10028).
(See Figure 8P.)
- a. A Deck hole **A5** to E deck hole **E1**.
 - b. A Deck hole **A6** to E deck hole **E2**.
 - c. C Deck hole **C5** to E deck hole **E3**.
 - d. C Deck hole **C4** to E deck hole **E4**.



After decking is completely assembled, make sure to go back and tighten all bolts and nuts to the proper torque rating.

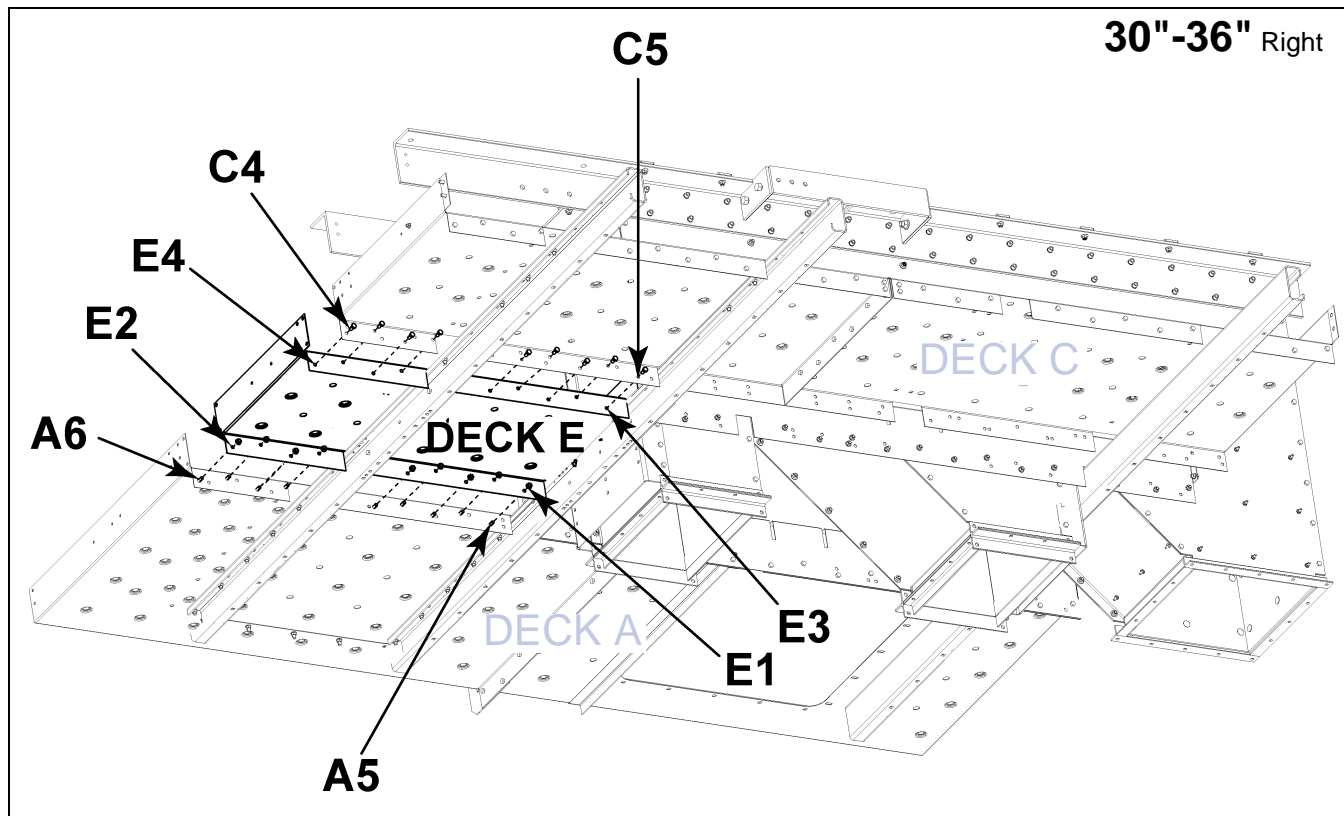


Figure 8P

Attach Head Bearing Support Angle to Lower Head - 36"

1. Place two (2) head bearing angle supports (HP36HBS) as shown in [Figure 8Q](#).
2. Connect to lower head and cross deck support channel with 3/8" x 1" bolts (S-7469) and nuts.

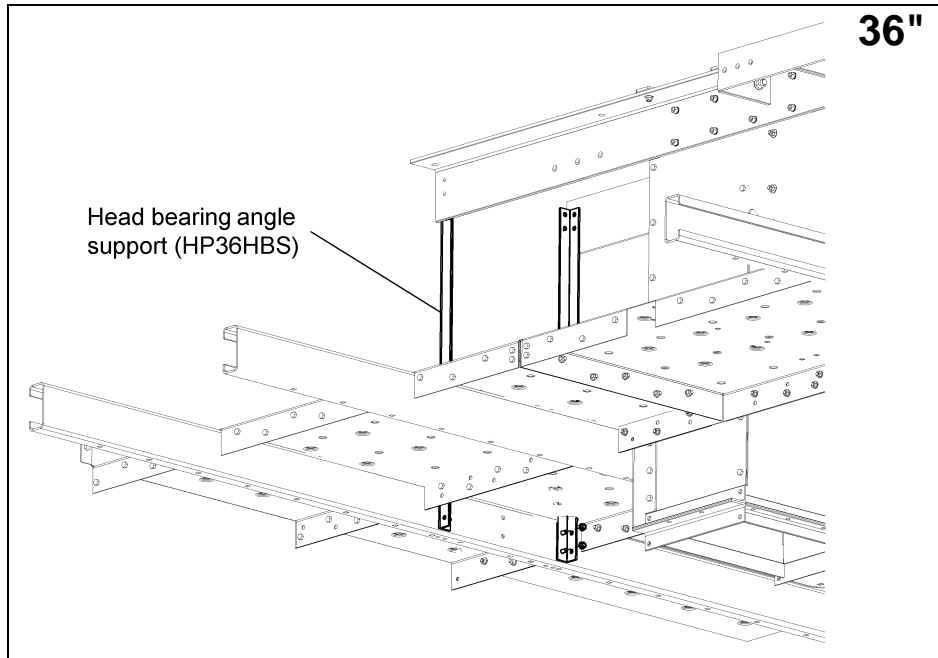


Figure 8Q 36" Bearing Support Angle

Attach Head Bearing Support Angle to Lower Head - 30"

1. Connect two (2) HP head bearing support brackets (HP30HBE) as shown to the lower head using 3/8" x 1" bolts (S-7469) and nuts.
2. Attach two (2) head bearing angle supports (HP30HBS) to the head bearing support brackets and cross deck support channels. With 3/8" x 1" bolts (S-7469) and nuts.

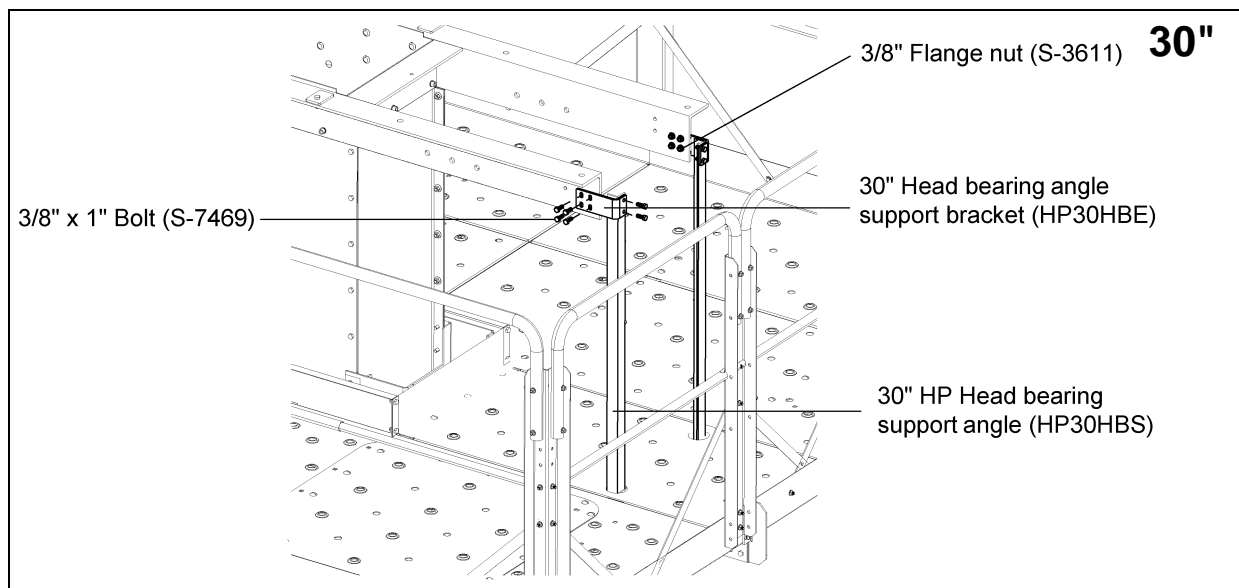


Figure 8R Bearing Support Clips and Angles

30"-36" Head Platform Left Hand Drive

To facilitate quick and easy assembly, numerous parts are pre-assembled prior to shipping.

Considerable time is dedicated at the beginning of this manual to the proper orientation of channels and decks. This is because the orientation of these elements is essential to the proper construction of the head platform.

1. There are many ways to get the orientation wrong and only one way to get it right.
2. Proper orientation of the channels and decks is essential proper assembly.
3. Proper construction of the head platform can only be completed if the initial orientation of the channels is done correctly.

Therefore, we strongly advise you take time to confirm that the orientation of these early elements is correct before you begin to assemble the decking on to the channels.

To facilitate proper connections, major connecting holes are etched with alpha-numeric codes. One side is labeled **X1** through **X7**, this side is referred to as the “**X**” side. The opposite side is labeled with **Y1** through **Y7** and is referred to as the “**Y**” side.

Cross Deck Support Channels to Lower Head

Three (3) cross deck support channels support the platform. Two (2) of the channels are attached to brackets on the lower head section and the third channel is attached to the decking itself but is not attached directly to the lower head. This third channel will be attached after the deck is assembled.

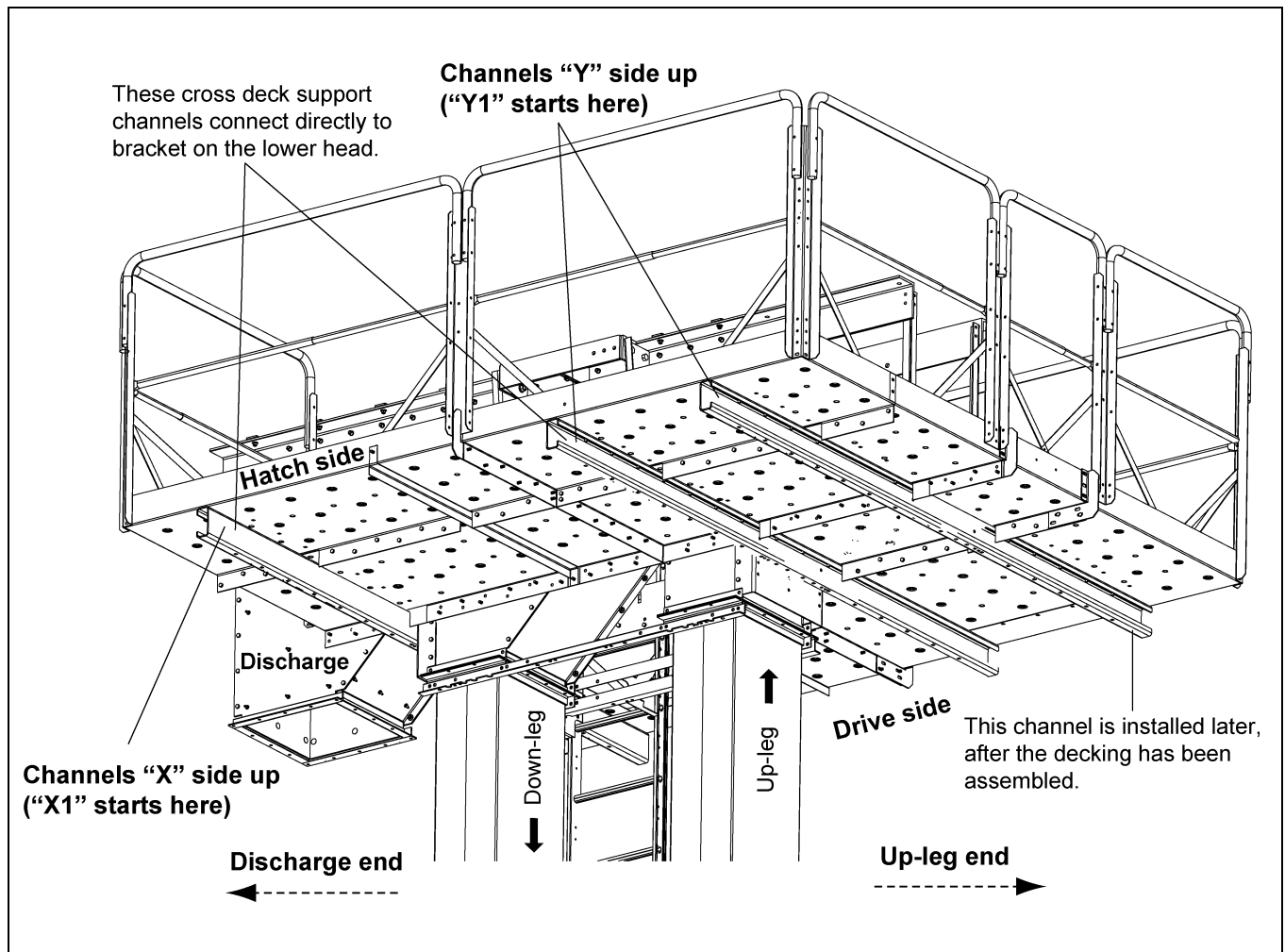


Figure 9A Left Platform Overview

NOTE: The difference between left and right. The only difference is the channel orientation as they attach to the lower head brackets. This makes you swap Deck A with the positions of Deck C and Deck F.

36" Left Side Drive

1. At **Discharge End** orient the channel so that:
 - a. Channel opening is outward, toward the discharge end of the head.
 - b. Holes labeled with “Y” face up.
 - c. Hole **Y1** is on the non-drive side of the lower head.
 - d. Hole **Y7** is on the drive side of the lower head.
 - e. Cross deck support channel extends farther on the drive side than on hatch side of lower head.
2. At **Up-Leg End** orient the channel so that:
 - a. Channel opening outward, toward the up-leg end of the head.
 - b. Holes labeled with “X” face up.
 - c. Hole **X1** is on the non-drive side of the lower head.
 - d. Hole **X7** is on the drive side of the lower head.
 - e. Cross deck support channel extends farther on the drive side than on hatch side of lower head.
(See Figure 9B on Page 79.)
3. Attach cross deck support channels (HP36DSCX) to the top most set of holes of the lower head brackets (HSP36130) using 3/8" x 1" bolts and nuts. (See Figure 9C on Page 79.)

***NOTE:** The channels *MUST* be oriented as shown in [Figure 9B and Figure 9C on Page 79](#) in order for the decking and subsequent assembly to be done correctly.

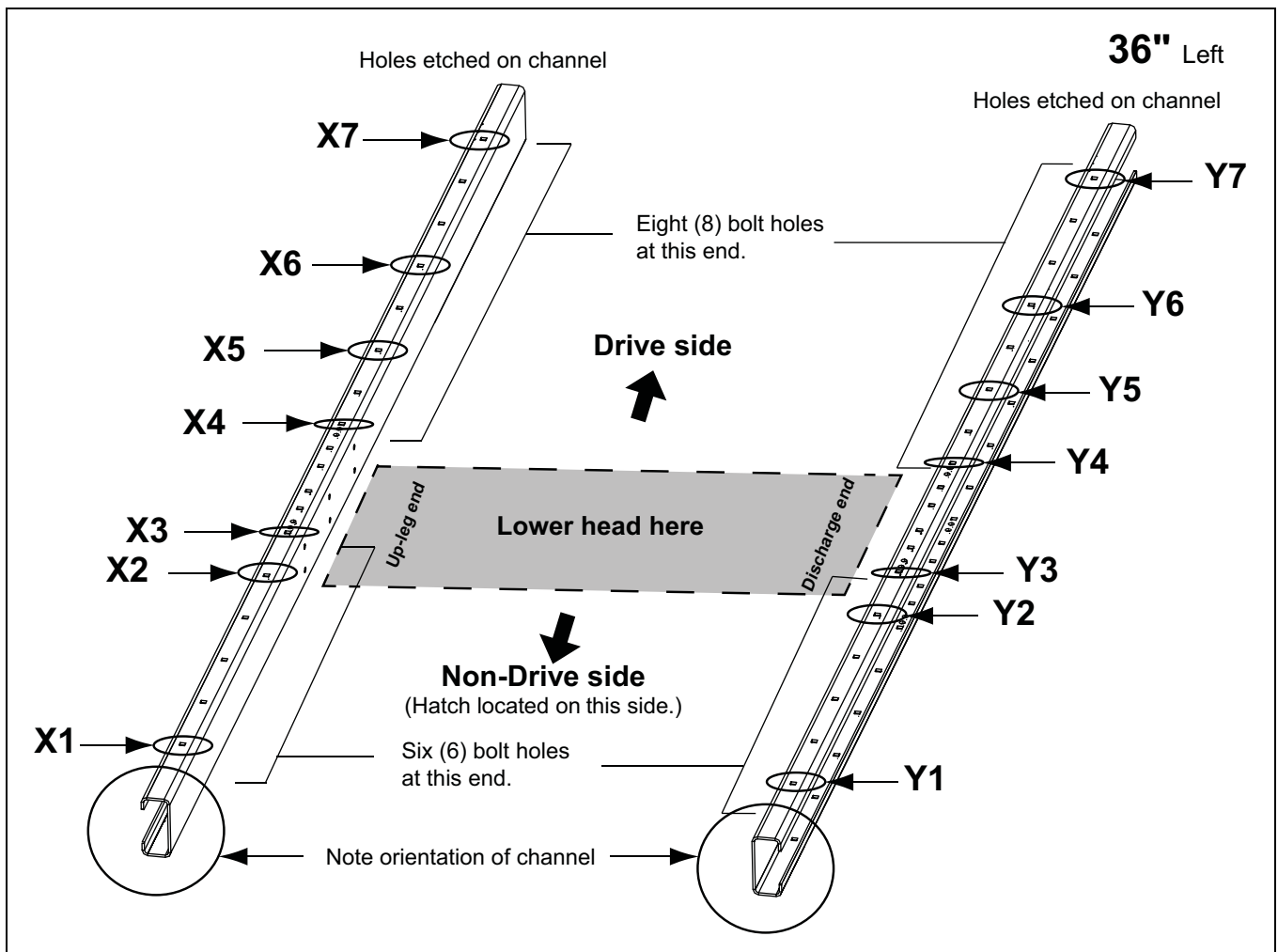


Figure 9B 36" Left Side Drive Channel Position

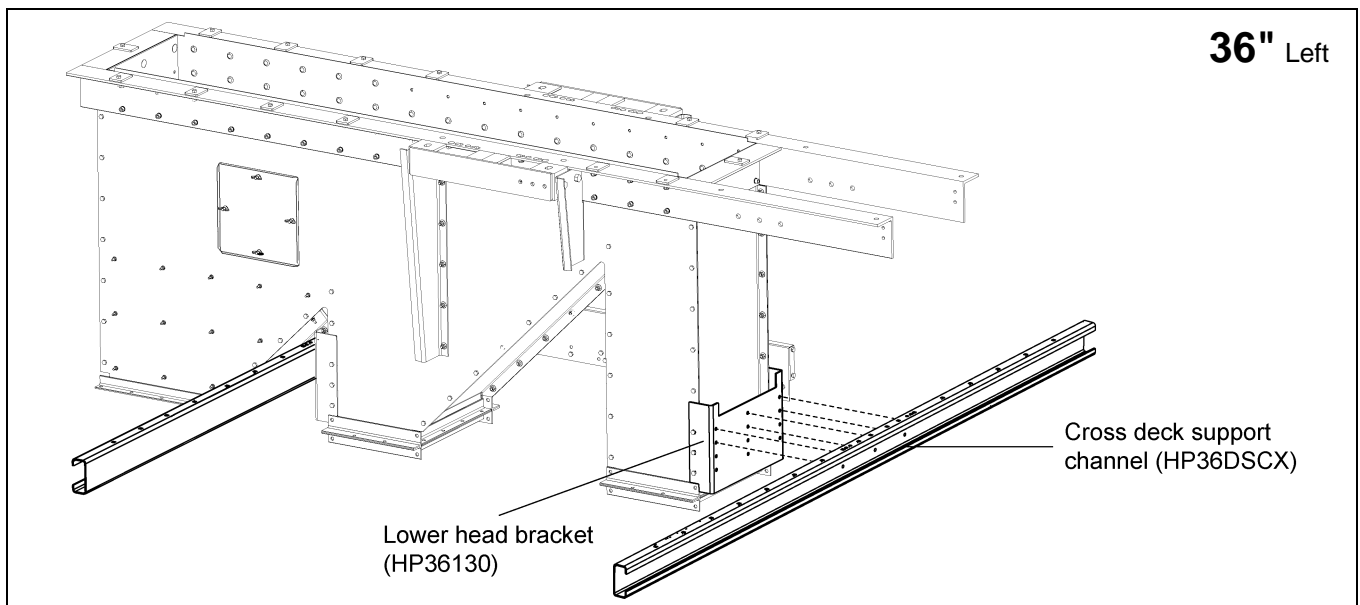


Figure 9C

30" Left Side Drive

1. At **Discharge End** orient the channel so that:
 - a. Channel opening is outward, toward the discharge end of the head.
 - b. Holes labeled with “**X**” face up.
 - c. Hole **X1** is on the non-drive side of the lower head.
 - d. Hole **X7** is on the drive side of the lower head.
 - e. Cross deck support channel extends farther on the drive side than on hatch side of lower head.
2. At **Up-Leg End** orient the channel so that:
 - a. Channel opening outward, toward the up-leg end of the head.
 - b. Holes labeled with “**X**” face up.
 - c. Hole **X1** is on the non-drive side of the lower head.
 - d. Hole **X7** is on the drive side of the lower head.
 - e. Cross deck support channel extends farther on the drive side than on hatch side of lower head.
(See Figure 9D on Page 81.)
3. Attach cross deck support channels (HP36DSCX) to the top-most set of holes of the lower head brackets (HSP36130) using 3/8" x 1" bolts and nuts. (See Figure 9E on Page 81.)

***NOTE:** The channels *MUST* be oriented as shown in [Figure 9D and Figure 9E on Page 81](#) in order for the decking and subsequent assembly to be done correctly.

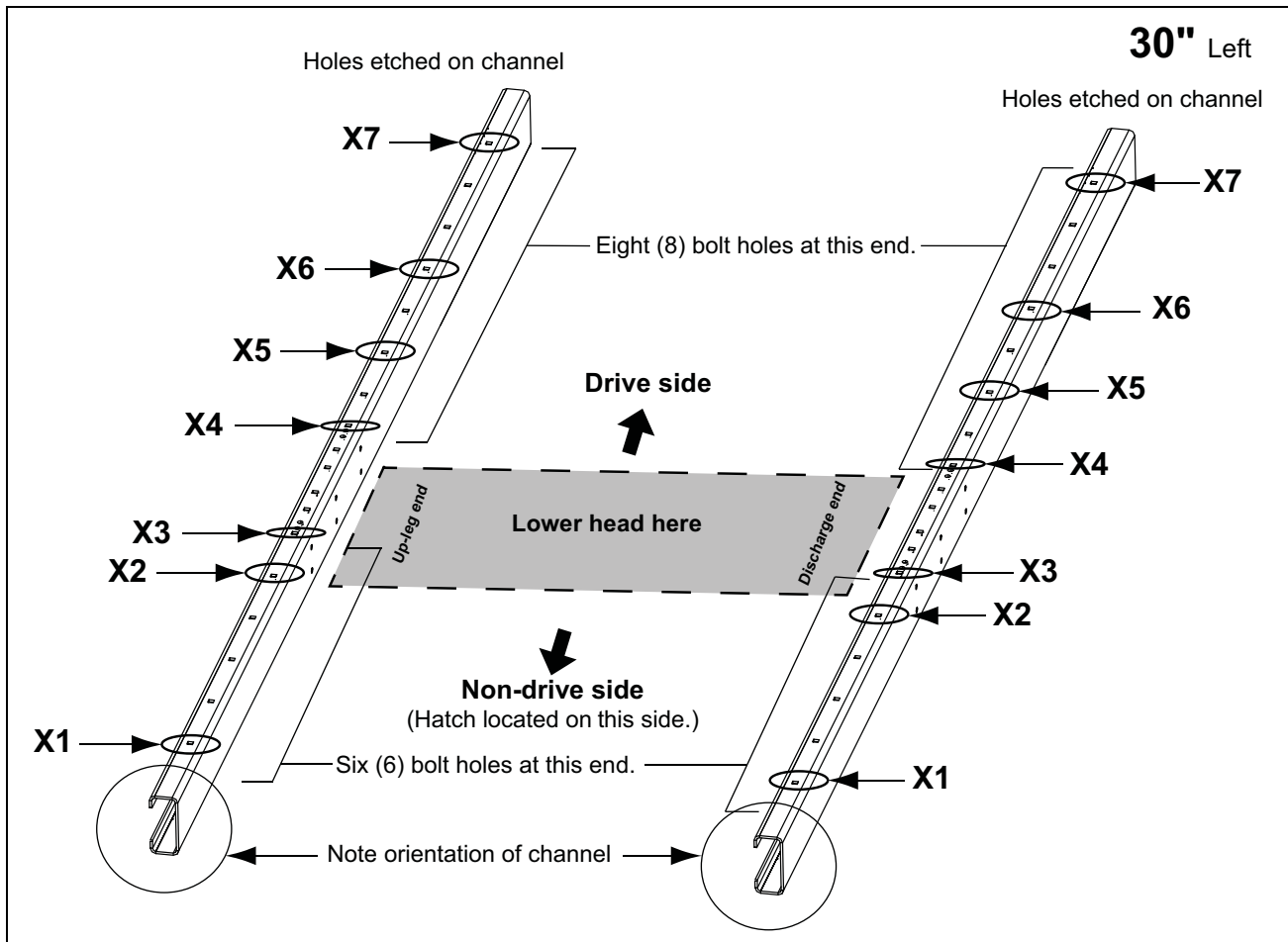


Figure 9D 30" Left Side Drive Channel Position

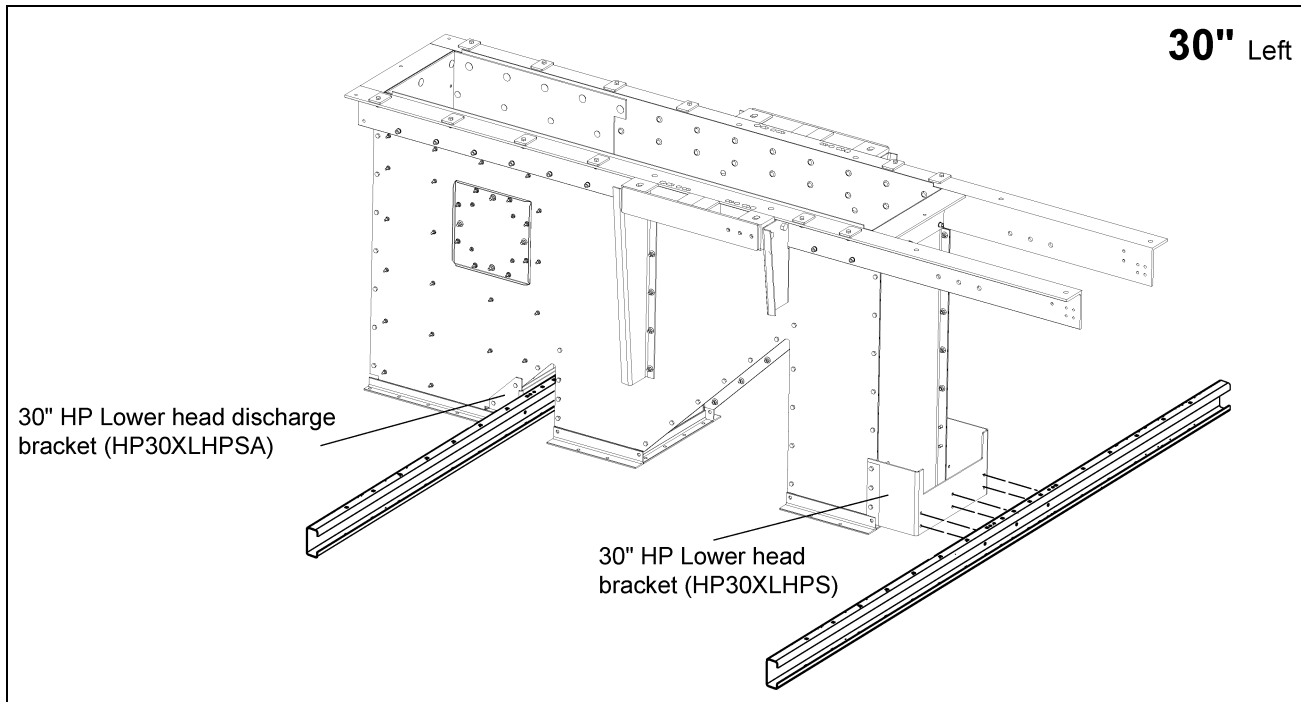


Figure 9E 30" Left Drive - Cross Deck Support Channels to Lower Head Brackets

Attach Deck A to Hatch Cover Plate

NOTE: Only two (2) side of deck plate are attached at this time.

1. Locate pre-assembled Deck A. This plank consists of the hatch opening, the hatch filler plate and is labeled with holes etched with the letter A.
2. Orient Deck A so the hatch cover plate is at the up-leg end of the deck.
3. The hatch will be located at the discharge end and will remain open at this time. A hatch door will be attached to Deck A later and should NOT be installed at this time.

NOTE: ONLY connect the hatch filler plate along two (2) of the four (4) sides of the plate.

4. The holes perpendicular to the length of Deck A should remain open at this time as they will serve to connect the hatch cover plate and deck A to the cross deck support channel.
5. Attach the hatch cover plate to Deck A using eight (8) 3/8" x 1" carriage bolts (S-3585) with flange nuts (S-10028). (See Figure 9F.)

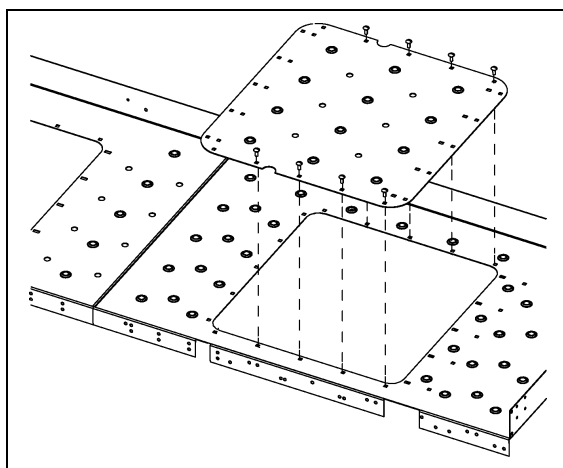


Figure 9F Hatch at Up-Leg End

Slide/Place Toe Boards on Cross Deck Support Channels

NOTE: Due to the snug fit, you should slide the toe boards in place before placing and securing Deck A or any subsequent decking.

1. On the non-drive side slide one toe board (HP36STBX) into place.
2. On the drive side slide one toe board (HP36STBX) into place.

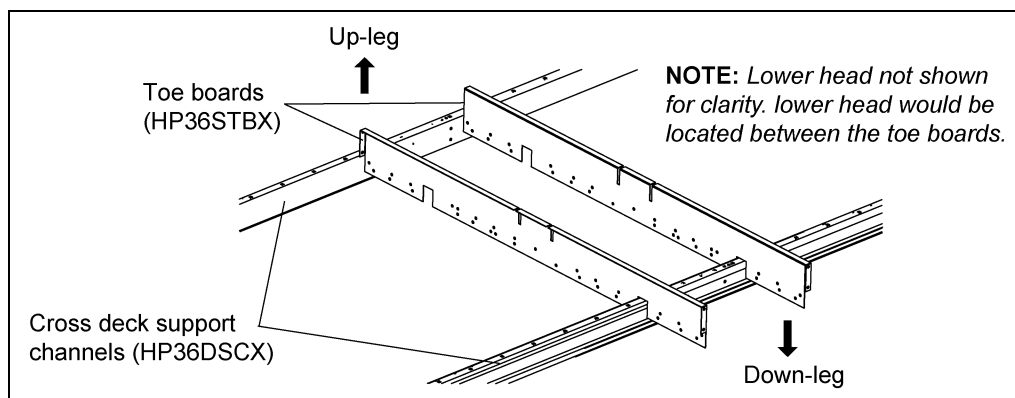


Figure 9G

Deck A to Cross Deck Support Channels and Toe Board

NOTE: Orientation of etched holes on deck and channel is critical to subsequent steps. Tighten bolts only finger tight until all decking is installed.

1. Locate pre-assembled Deck A. This plank consists of the hatch opening and the hatch cover plate.
2. Orient deck a so that hatch opening is at discharge end of lower head and hatch cover plate is at the up-leg end.
3. On the **Discharge End**, use a punch as needed to line up. (See Figure 9H.)
 - a. **For 36"** - Deck hole **A9** and channel hole **Y2**.
 - b. **For 30"** - Deck hole **A9** to channel hole **X2**.

NOTE: At this time, the head platform hatch deck support (HP36HDS) should be installed **UNDER** Deck A. Line this up with hole **A4** on the deck flange near hatch opening and install at the same time attaching deck to toe board. (See Figure 9I on Page 84.)

4. On the **Up-Leg End** for both **36"** and **30"**, use a punch to align channel hole **X1** to corner hole of hatch cover plate.
5. After aligning the holes as described above, connect all holes between support channel and Deck A using 3/8" x 1" carriage bolts (S-3585) with flange nuts (S-10028).

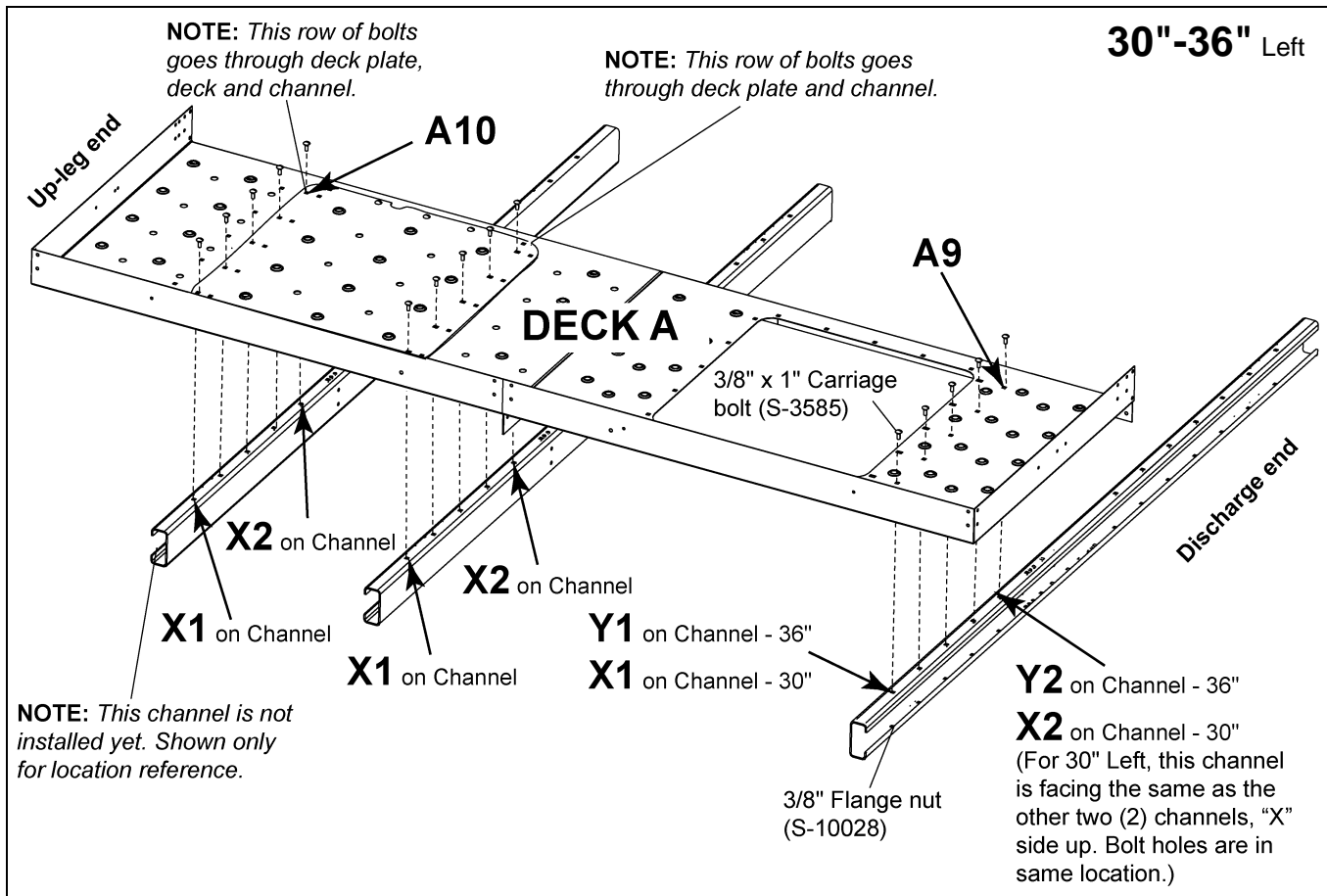


Figure 9H

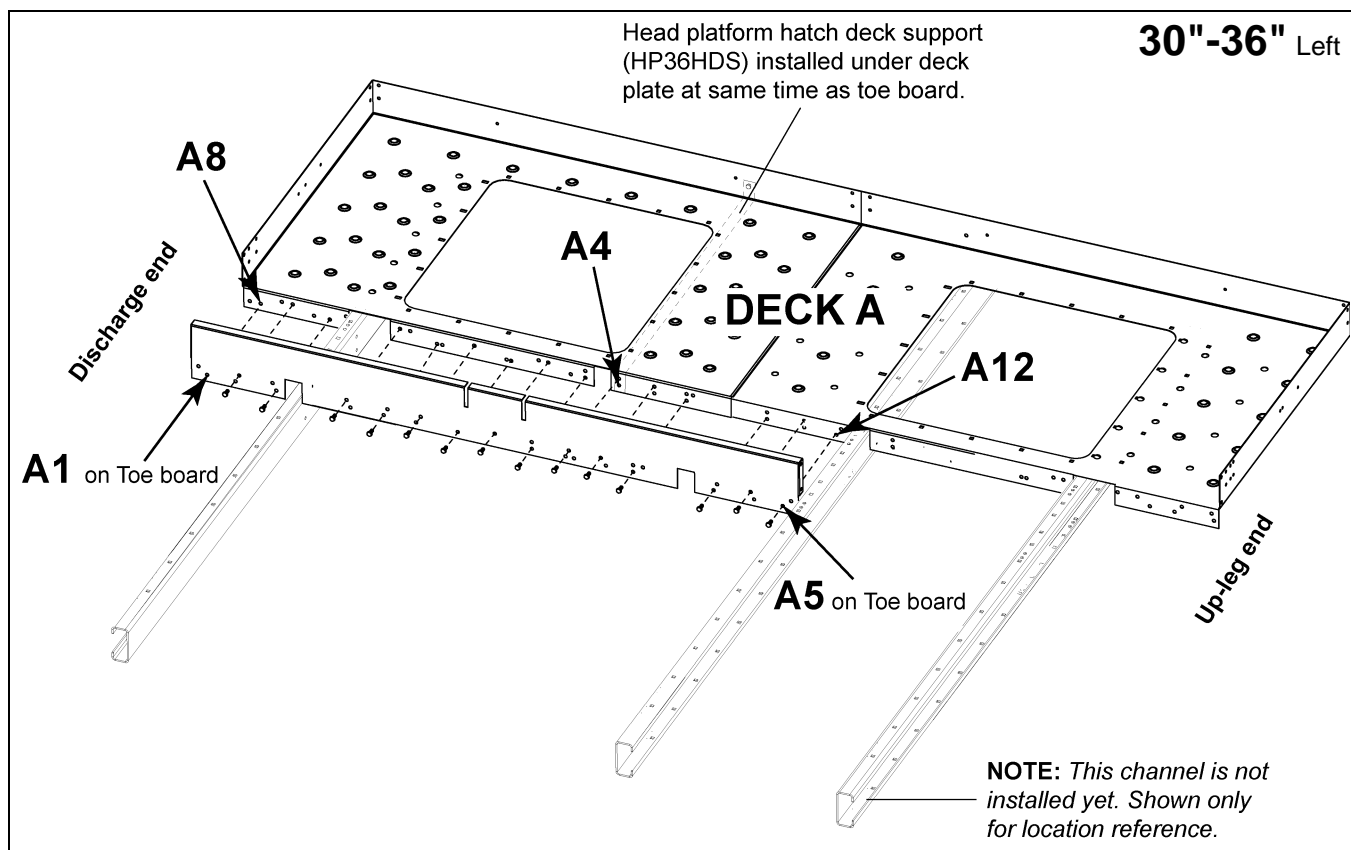


Figure 9I

6. Line up holes on toe board with holes on Deck A:
 - a. Deck hole **A8** and toe board hole **A1**.
 - b. Deck hole **A12** to toe board hole **A5**.

Deck C to Cross Deck Support Channel and to Toe Board

NOTE: The orientation of the flanges on Deck C is critical to subsequent steps. Tighten bolts only finger tight until deck alignment is complete.

1. Locate the pre-assembled Deck C. This deck consists of two (2) planks.
2. Orient Deck C with hole **C10** at the discharge end of the lower head.
3. Make sure the extended kick plate flange of Deck C is away from the lower head assembly.
(See Figure 9J and Figure 9K on Page 85.)
4. On the **Discharge End**, use a punch as needed to line up holes:
 - a. **For 36"** - Deck hole **C10** and channel hole **Y6**.
 - b. **For 30"** - Deck hole **C10** to channel hole **X6**.

NOTE: The only difference between the 30" and 36" is the channel on the discharge end would be flipped so the opening of channel is the same as the other two (2) channels for 30".

5. Connect cross deck support channel and deck C using 3/8" x 1" carriage bolts (S-3585) with flange nuts (S-10028). Connect all holes between channel and deck.

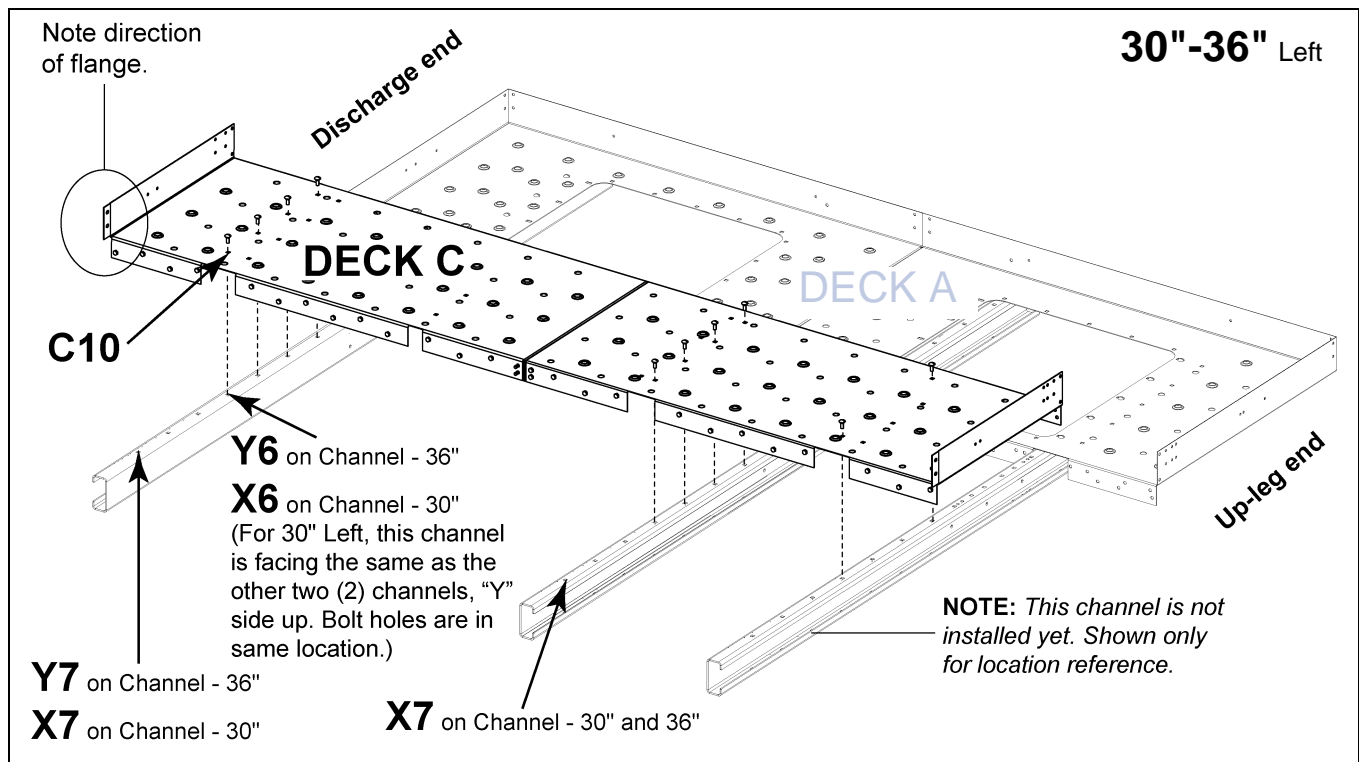


Figure 9J Deck C to Cross Deck Support Channels

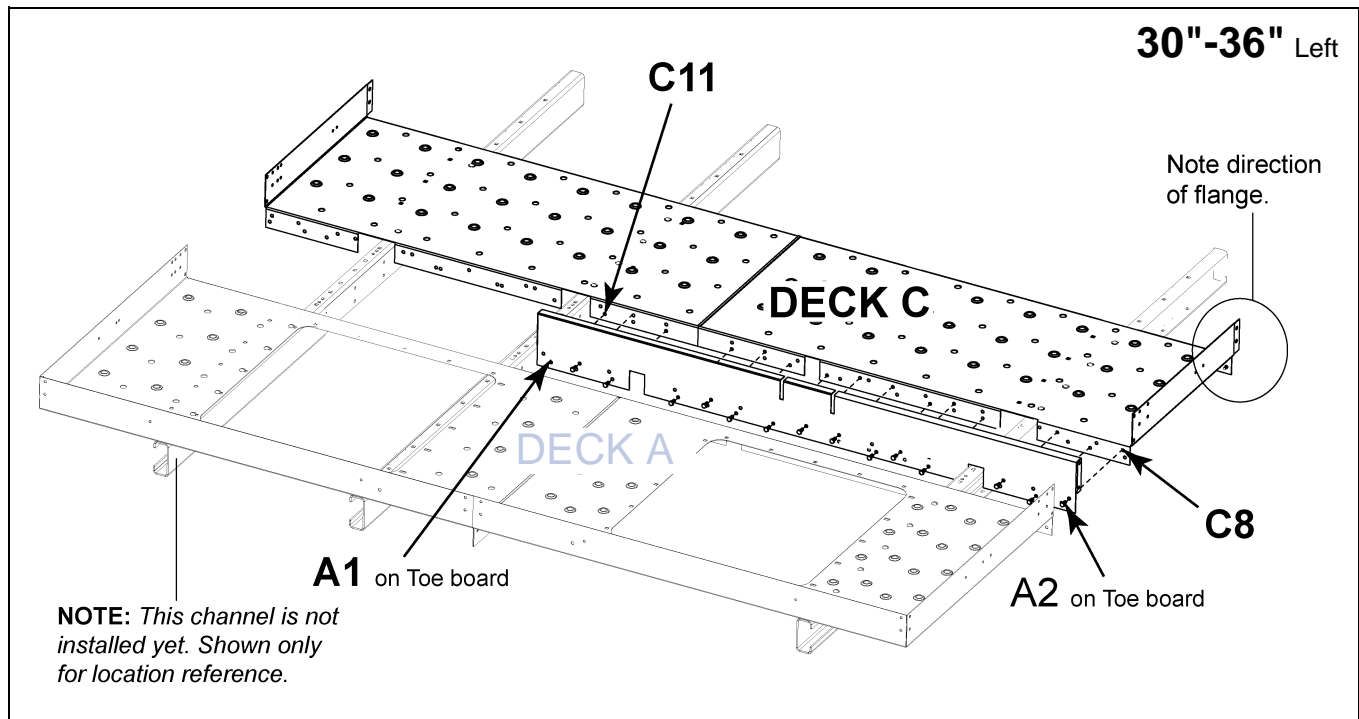


Figure 9K Underside View of Deck C to Toe Board

6. Connect Deck C to toe board using 3/8" x 1" bolts (S-7469) with flange nuts (S-10028).

- a. Deck hole **C11** to toe board hole **A1**.
- b. Deck hole **C8** to toe board hole **A2**.

Deck F to Cross Deck Support Channels and Deck C

IMPORTANT: Connect all bolts only finger tight until deck is completely assembled and then tighten to proper torque.

1. Locate pre-assembled Deck F. This deck consists of two (2) planks.
2. Orient Deck F with hole **F7** at the discharge end of the lower head and **F6** at the up-leg end. *(See Figure 9L.)*
3. Use a punch as needed to line up the holes:
 - a. Deck hole **F6** and channel hole **X7**.
 - b. Deck hole **F7** and channel hole **Y7**.
4. Connect deck to channel using 3/8" x 1" carriage bolts (S-3585) with flange nuts (S-10028).
5. Orient Deck F flange outside of Deck C flange. *(See Figure 9N on Page 87.)*
6. Align and connect Deck F to Deck C using 3/8" x 1" bolts (S-7469) with flange nuts (S-10028).
 - a. F Deck hole **F2** to C deck hole **C6**.
 - b. F Deck hole **F1** to C deck hole **C7**. *(See Figure 9L.)*

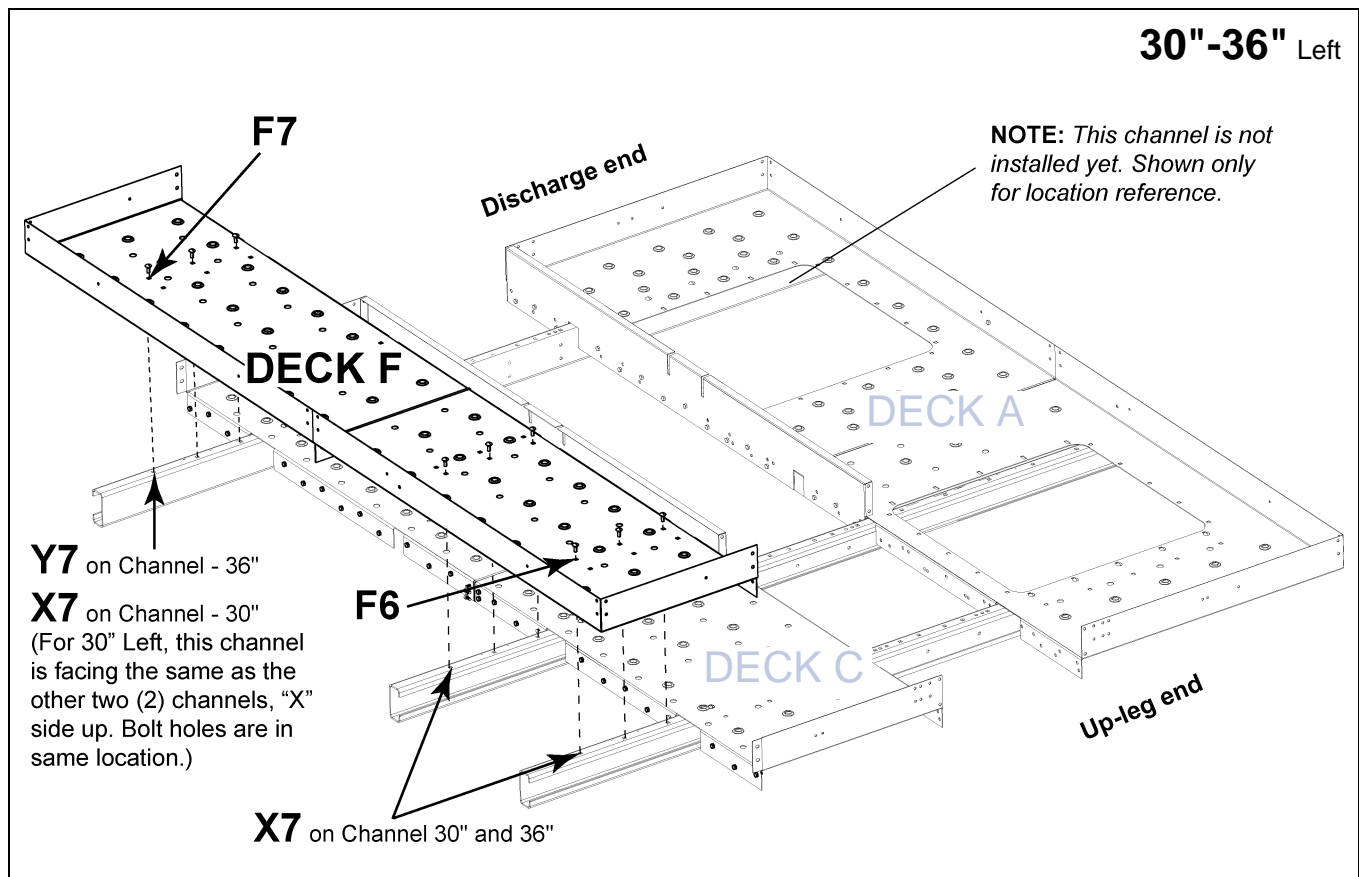


Figure 9L Deck F to Cross Deck Support Channel

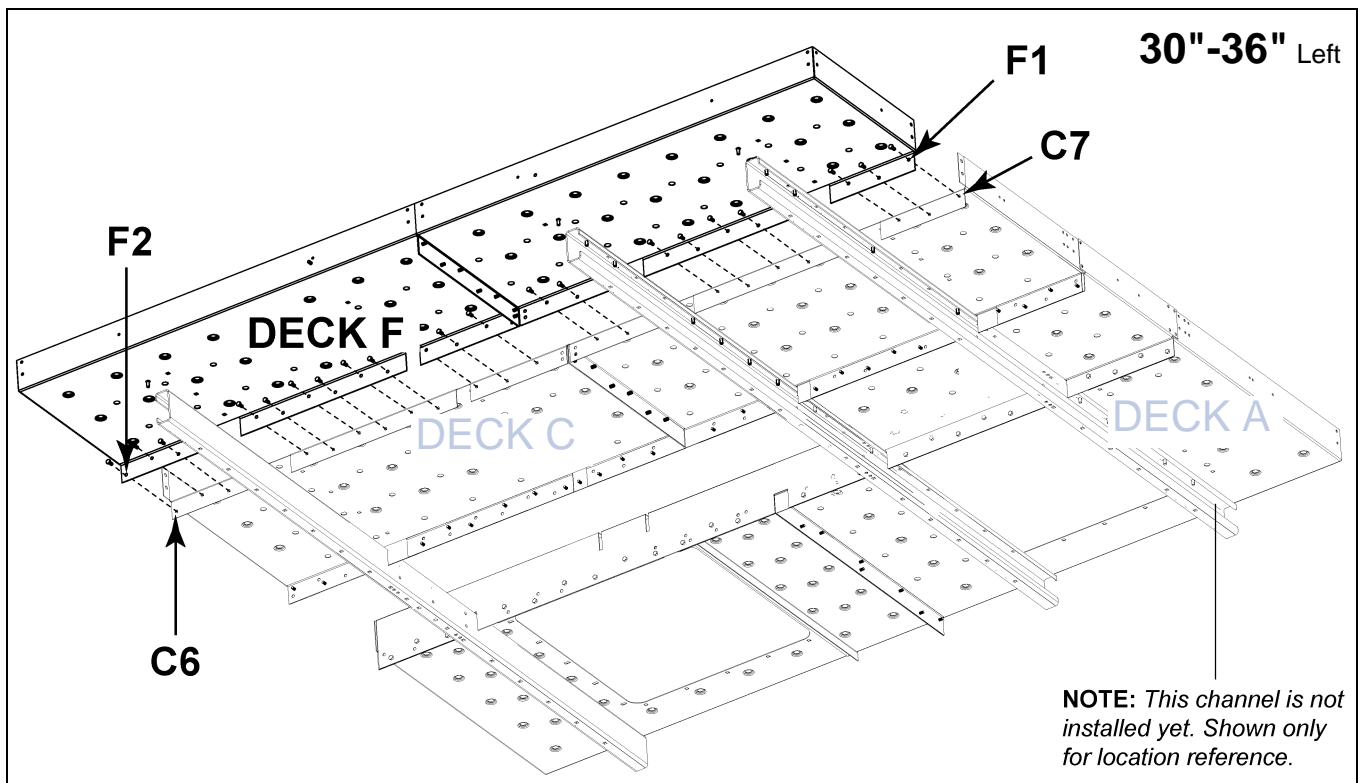


Figure 9M Deck F to Deck C

7. Install the head platform hatch deck support (HP1648HDS) under Deck C and F using 3/8" x 3/4" bolt (S-7105) and nut. **NOTE:** You may need to remove a bolt from the toe board if one was installed in this location.

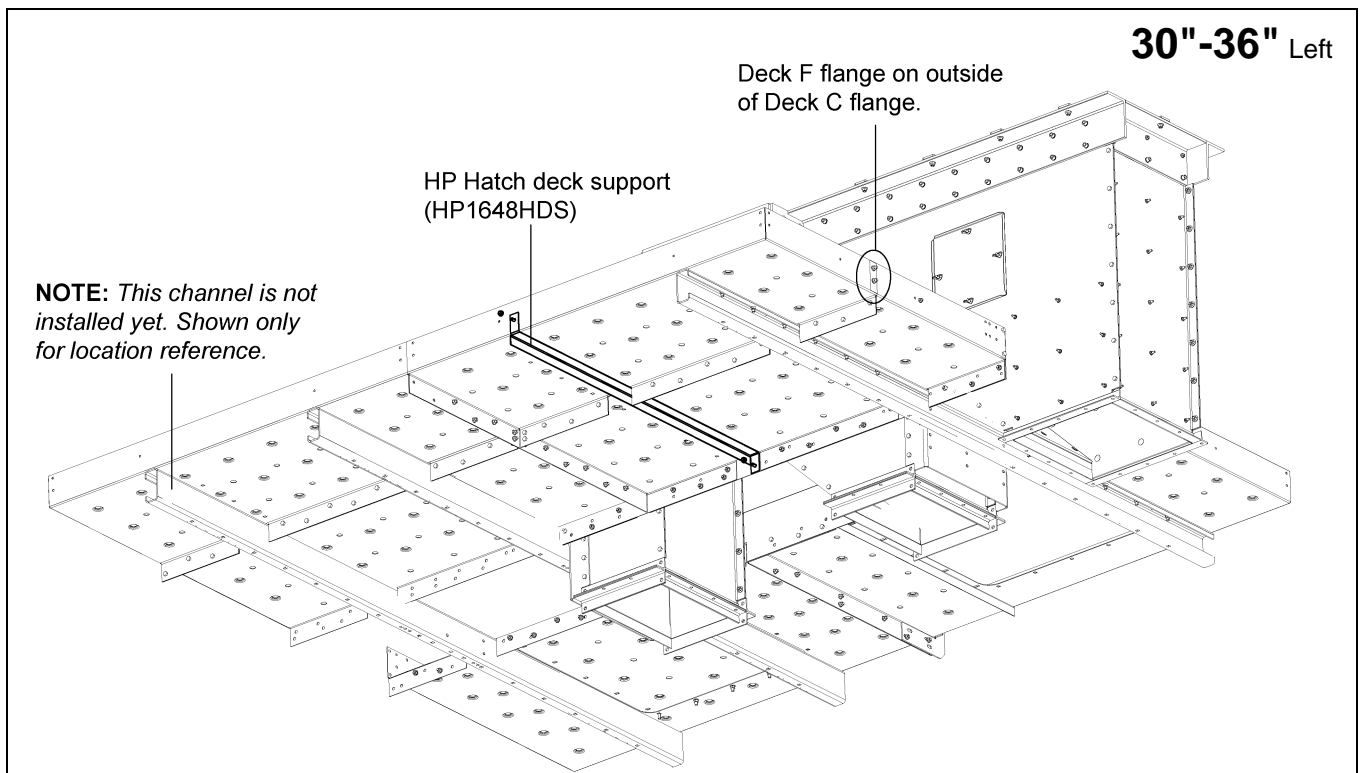


Figure 9N

Attach Third Cross Deck Support Channel to Decking

NOTE: *Connect all bolts only finger tight until deck is completely assembled and then tighten to proper torque.*

1. Locate the third (3rd) cross deck support channel (HP36DSCX) and orient it so the X side faces up and hole X1 is on the non-drive side of the lower head assembly.
2. Use a punch as needed to align holes accordingly:
 - a. At the **drive side** - Channel hole **X7** on the cross deck support channel to Deck F hole **F6**. *(See Figure 9L on Page 86.)*
 - b. At the **hatch side** - Channel hole **X2** on the cross deck support channel to Deck A hole **A10** and deck plate cover. *(See Figure 9H on Page 83.)*
 - c. Connect Deck F to support channels using 3/8" x 1" carriage bolts (S-3585) with flange nuts (S-10028). Connect all holes between channel and deck.

Attach Deck E to Deck A, Deck C and Cross Deck Support Channel

NOTE: *Connect all bolts only finger tight until deck is completely assembled and then tighten to proper torque.*

1. Position Deck E between Deck A and Deck C. Note that Deck E will be connected to two (2) channels. *(See Figure 9P on Page 89.)*
2. Use a punch as needed to align deck holes **E5** with channel hole **X3**. This will align Deck E with holes on each channel. *(See Figure 9O on Page 89.)*
3. Connect Deck E to cross deck support channels using 3/8" x 1" carriage bolts (S-3585) with flange nuts (S-10028). Connect all holes between channels and deck.
4. Connect the Deck E kick plate flanges to toe boards and flanges of Deck A and Deck C using 3/8" x 3/4" bolts (S-7105) and 3/8" nuts (S-10028). *(See Figure 9P on Page 89.)*
5. Align and connect Deck E to Deck A and Deck C using 3/8" x 1" bolts (S-7469) with flange nuts (S-10028). *(See Figure 9P on Page 89.)*
 - a. C Deck hole **C12** to E deck hole **E1**.
 - b. C Deck hole **C9** to E deck hole **E2**.
 - c. A Deck hole **A13** to E deck hole **E3**.
 - d. A Deck hole **A11** to E deck hole **E4**.

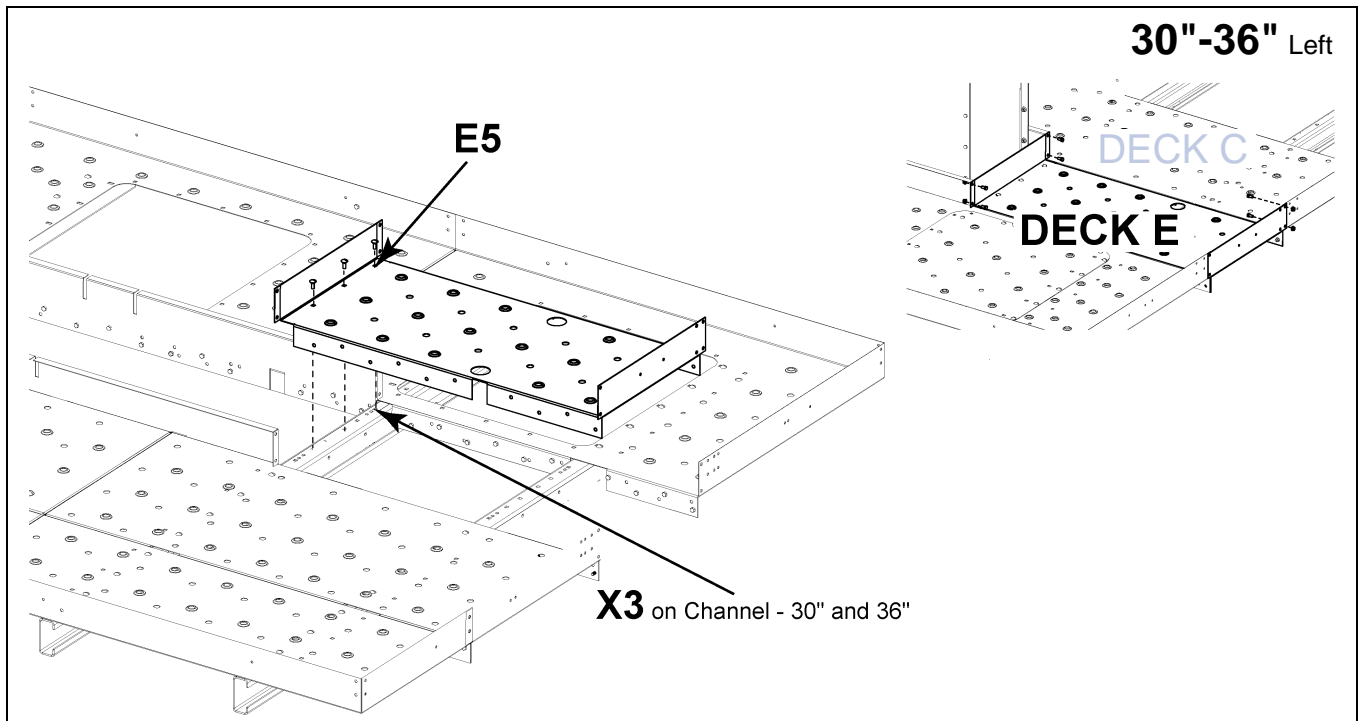


Figure 90



After decking is completely assembled, make sure to go back and tighten all bolts and nuts to the proper torque rating.

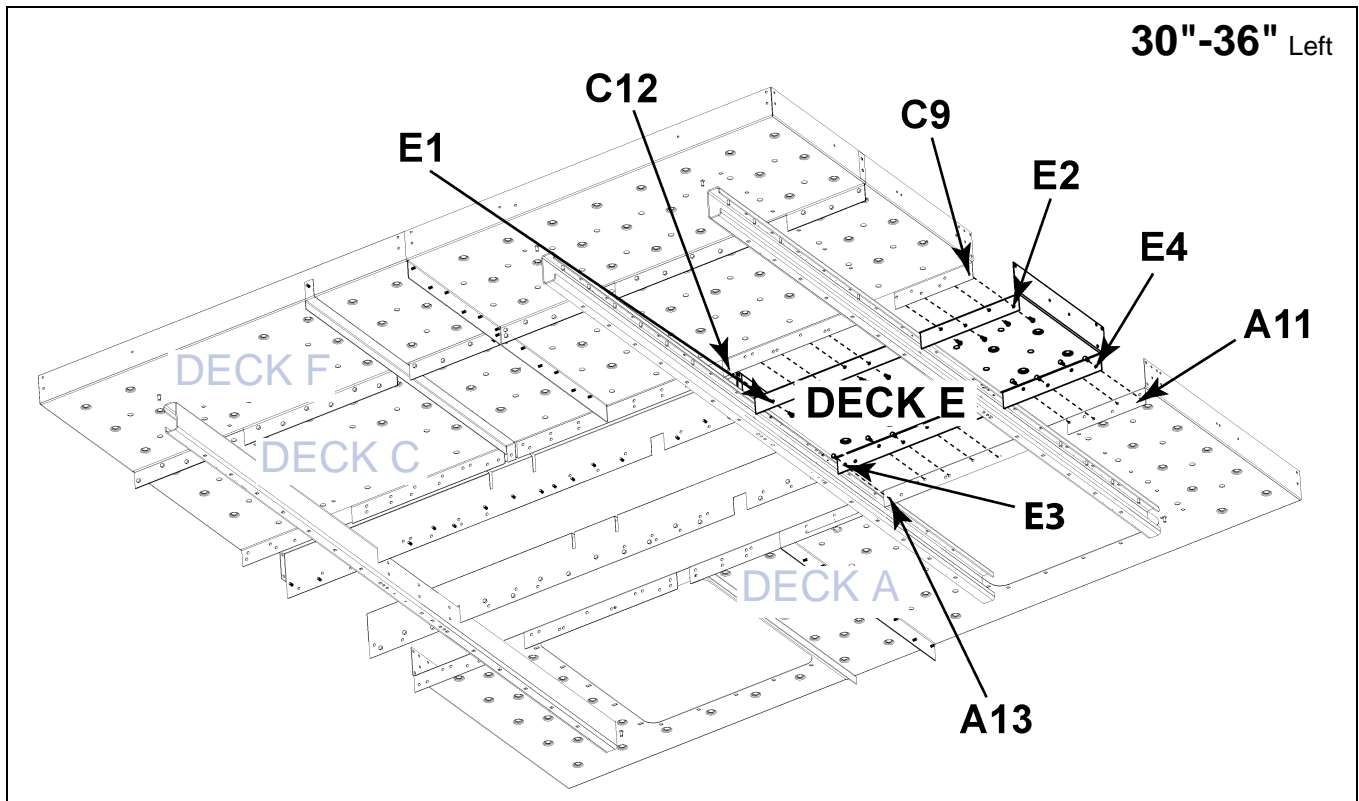


Figure 9P

30"-36" Head Platform Post, Rails and Bracing

The following assemblies occur the same on all 30"-36" platform installations, regardless of left or right drive orientation.

Attach Head Bearing Support Angle to Lower Head - 36"

1. Place two (2) head bearing angle supports (HP36HBS) as shown in [Figure 10A](#).
2. Connect to lower head and cross deck support channel with 3/8" x 1" bolts (S-7469) and nuts.

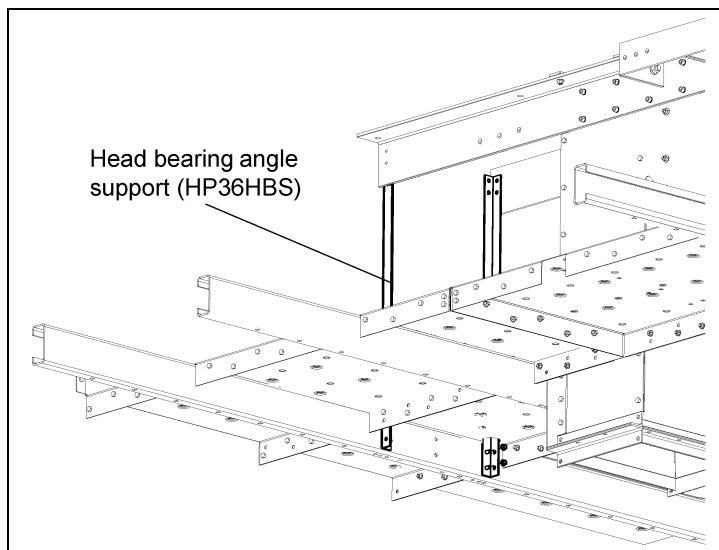


Figure 10A 36" Bearing Support Angle

Attach Head Bearing Support Angle to Lower Head - 30"

1. Connect two (2) HP head bearing support brackets (HP30HBE) as shown to the lower head using 3/8" x 1" bolts (S-7469) and nuts.
2. Attach two (2) head bearing angle supports (HP30HBS) to the head bearing support brackets and cross deck support channels. with 3/8" x 1" bolts (S-7469) and nuts.

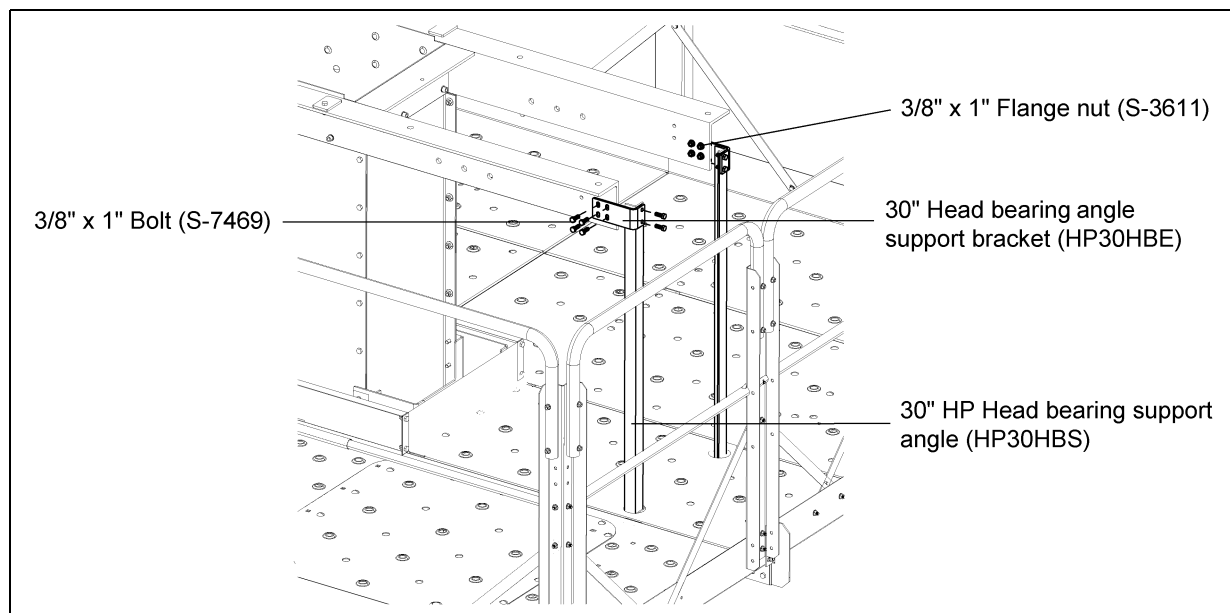


Figure 10B 30" Bearing Support Clips and Angles

Attach Handrail Supports to Deck E

1. Attach two (2) HP handrail supports (HP1648HSH) to Deck E using 3/8" x 3/4" bolts and nuts.
(See Figure 10C.) **NOTE:** The supports that attach to Deck A and Deck F attach at the same time as the platform post.

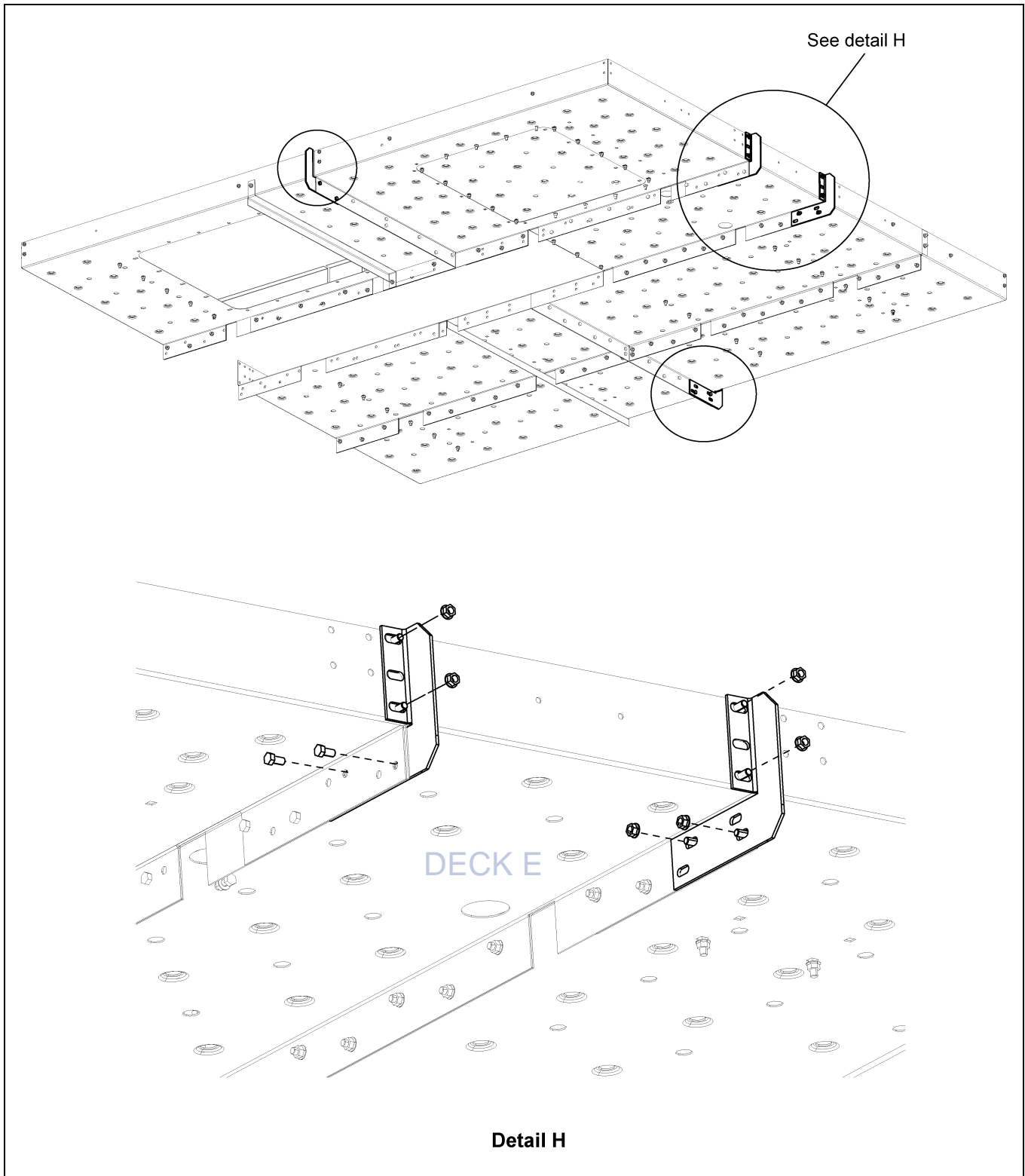


Figure 10C

10. 30"-36" Head Platform Post, Rails and Bracing

Installing Posts

1. Attach two (2) "W" posts (HP1648HWP) to the corner of Deck F using 5/16" x 3/4" bolts (S-6606) and nuts.
2. Attach platform post (HP1648HCP) and HP handrail support (HP1648HSH) to the middle of Deck F. Use 5/16" x 3/4" bolts (S-6606) to attach post to deck. Use 5/16" x 3/4" bolts (S-6606) to attach support bracket, post and deck together. (See Figure 10D.)
3. Attach platform posts to Deck A and Deck C as shown in Figure 10D. Use four (4) 5/16" x 3/4" bolts (S-6606) and nuts for each post.

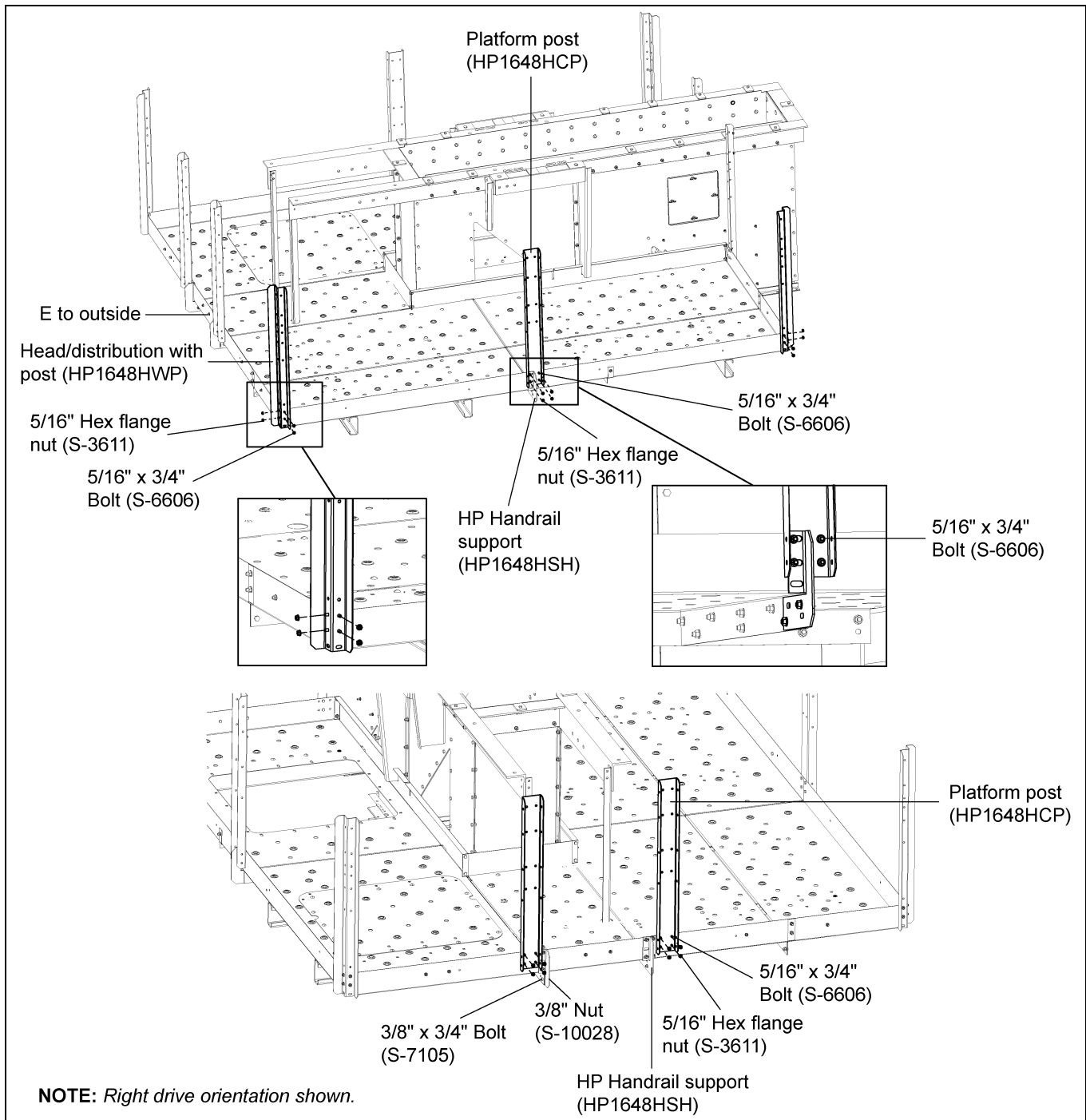


Figure 10D

Installing Head Side Posts

1. Attach two (2) HP handrail supports (HP1636HS) to lower head using 3/8" x 1-1/4" bolt (S-2071) and nut. (See Figure 10E.)

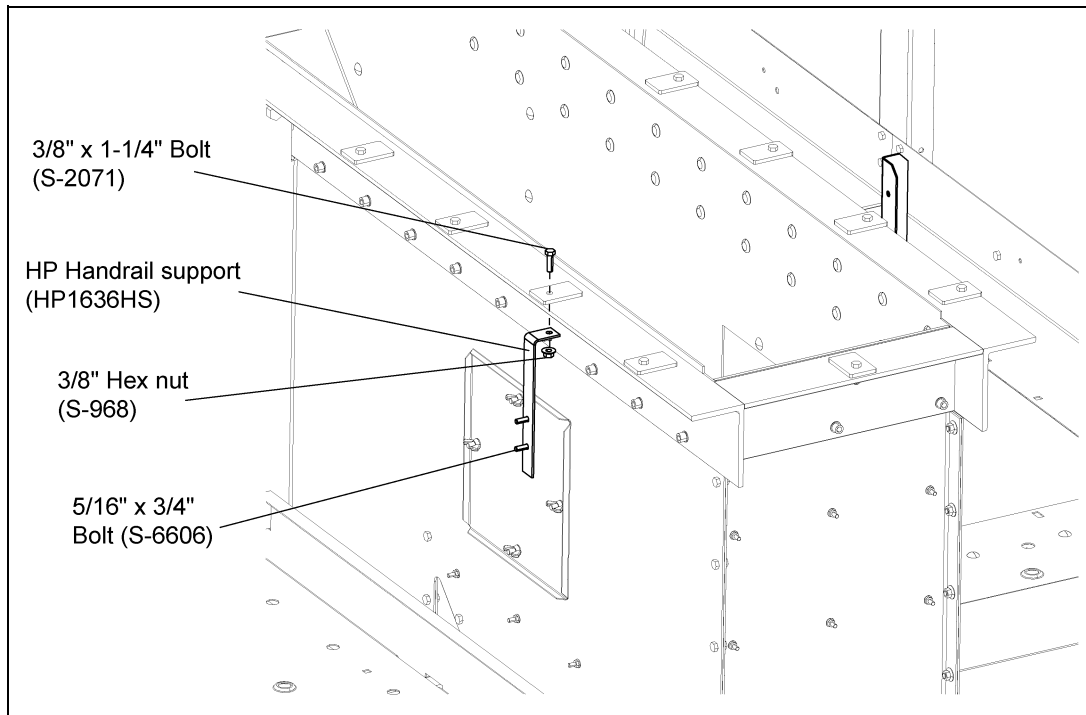


Figure 10E

2. Attach head side post (HP1648HP) to lower head using 5/16" x 3/4" bolts and nuts. (See Figure 10F.)

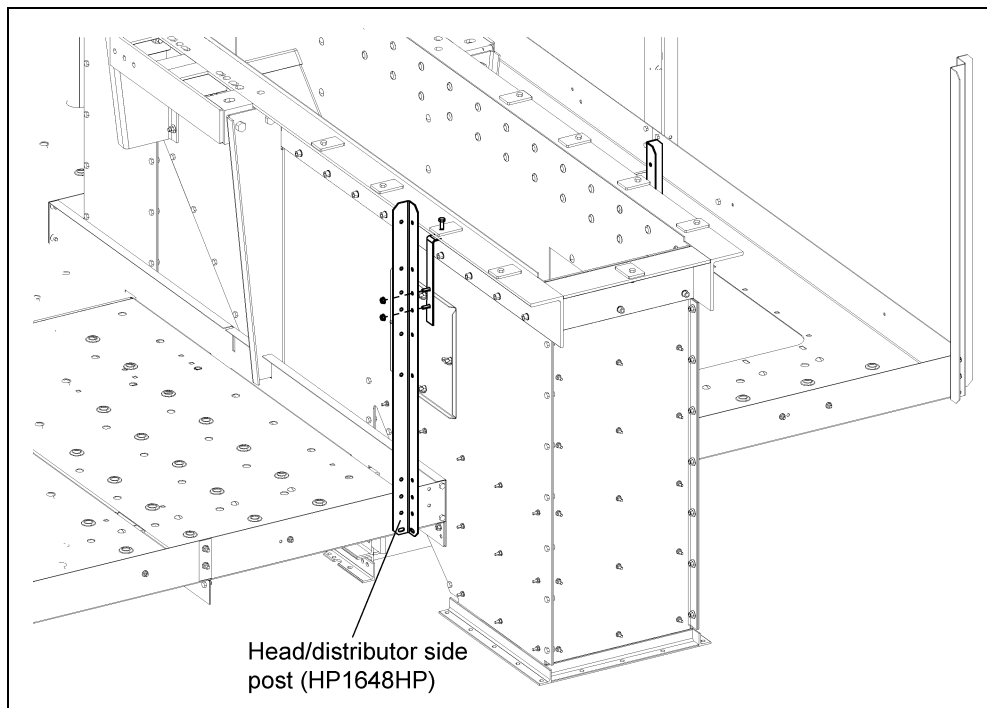


Figure 10F

10. 30"-36" Head Platform Post, Rails and Bracing

3. Attach side post to decking using 5/16" x 3/4" bolts and nuts. *(See Figure 10G.)*

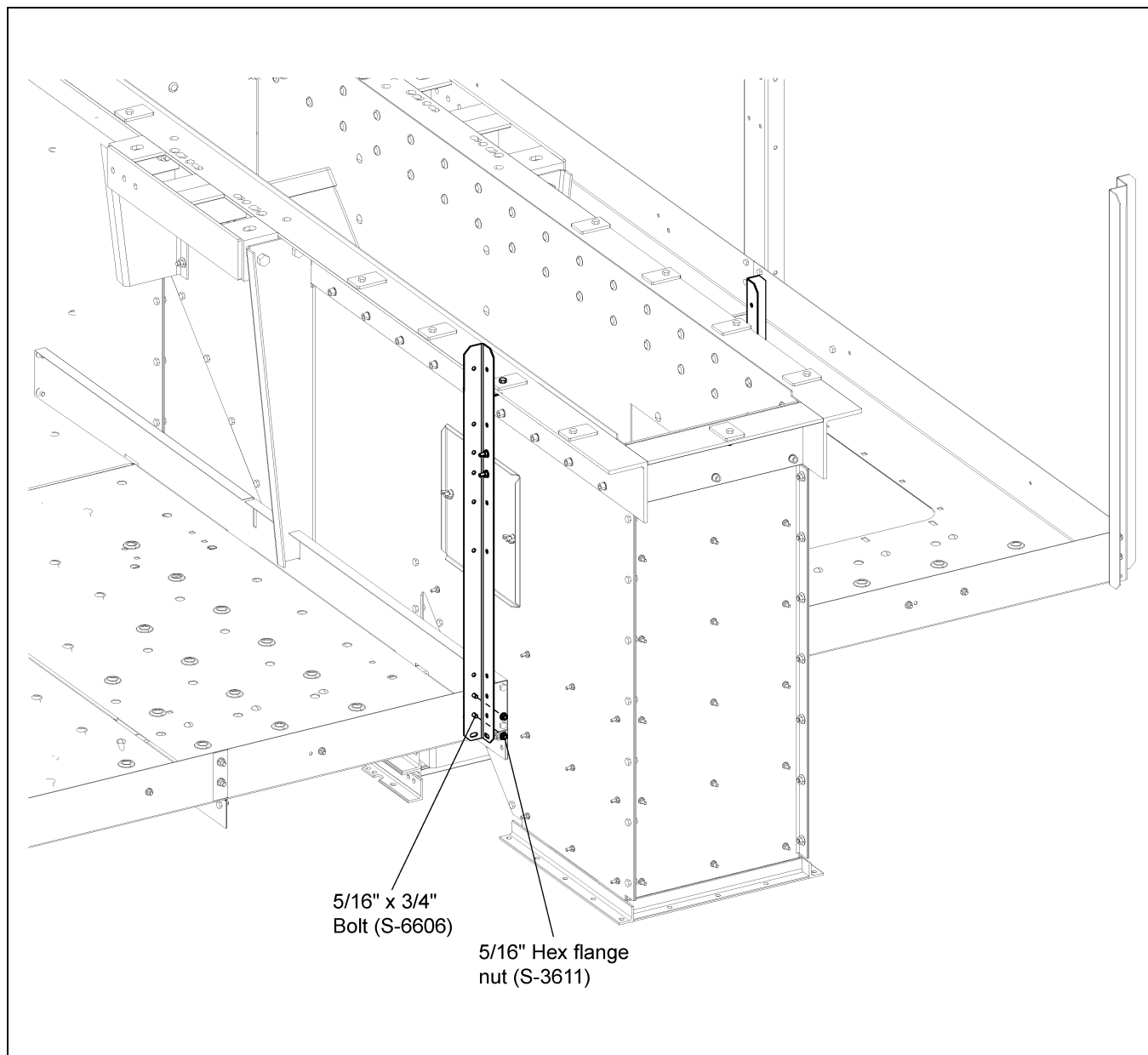


Figure 10G

Attach Intermediate Handrails to Posts

1. Cut 20" off the tube end of one small intermediate handrail (LDR-4088) and one large intermediate handrail (LDR-4087). *(See Figure 10H on Page 95.)* Slide the small rail into the large rail and install between the posts opposite the discharge end and adjust to fit. Fasten using 5/16" x 3/4" bolts (S-6606) and nuts.
2. Cut 12" off the end of two (2) small intermediate handrail (LDR-4088) and two (2) large intermediate handrail (LDR-4087). *(See Figure 10H on Page 95.)* Slide the small rails into the large rails and install one set at the discharge end of Deck A. Install the second set opposite the discharge end of Deck A. Fasten using 5/16" x 3/4" bolts (S-6606) and nuts.

10. 30"-36" Head Platform Post, Rails and Bracing

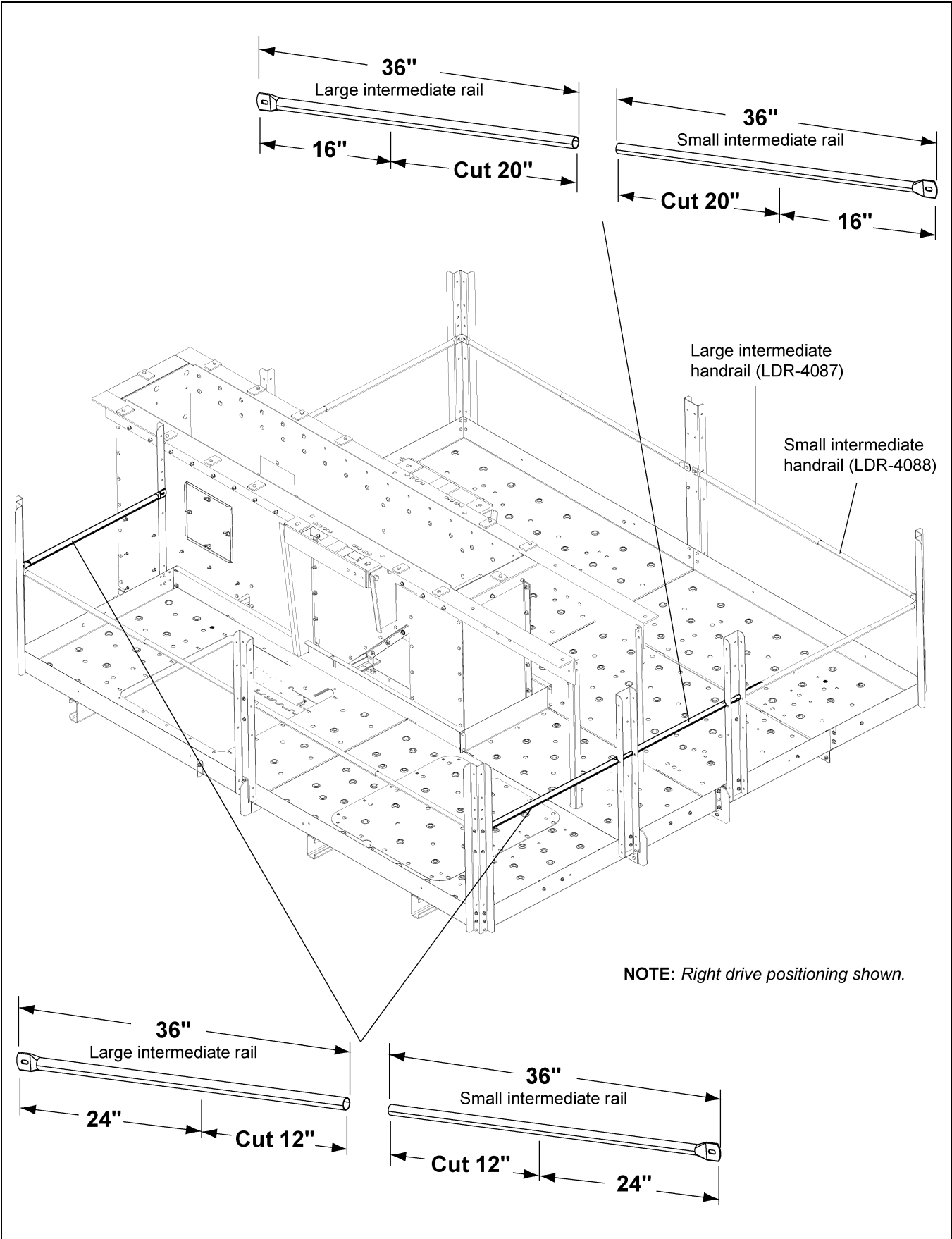


Figure 10H

10. 30"-36" Head Platform Post, Rails and Bracing

3. Install the remaining Intermediate handrails around the platform using 5/16" x 3/4" bolts (S-6606) and nuts. (See Figure 10I.)

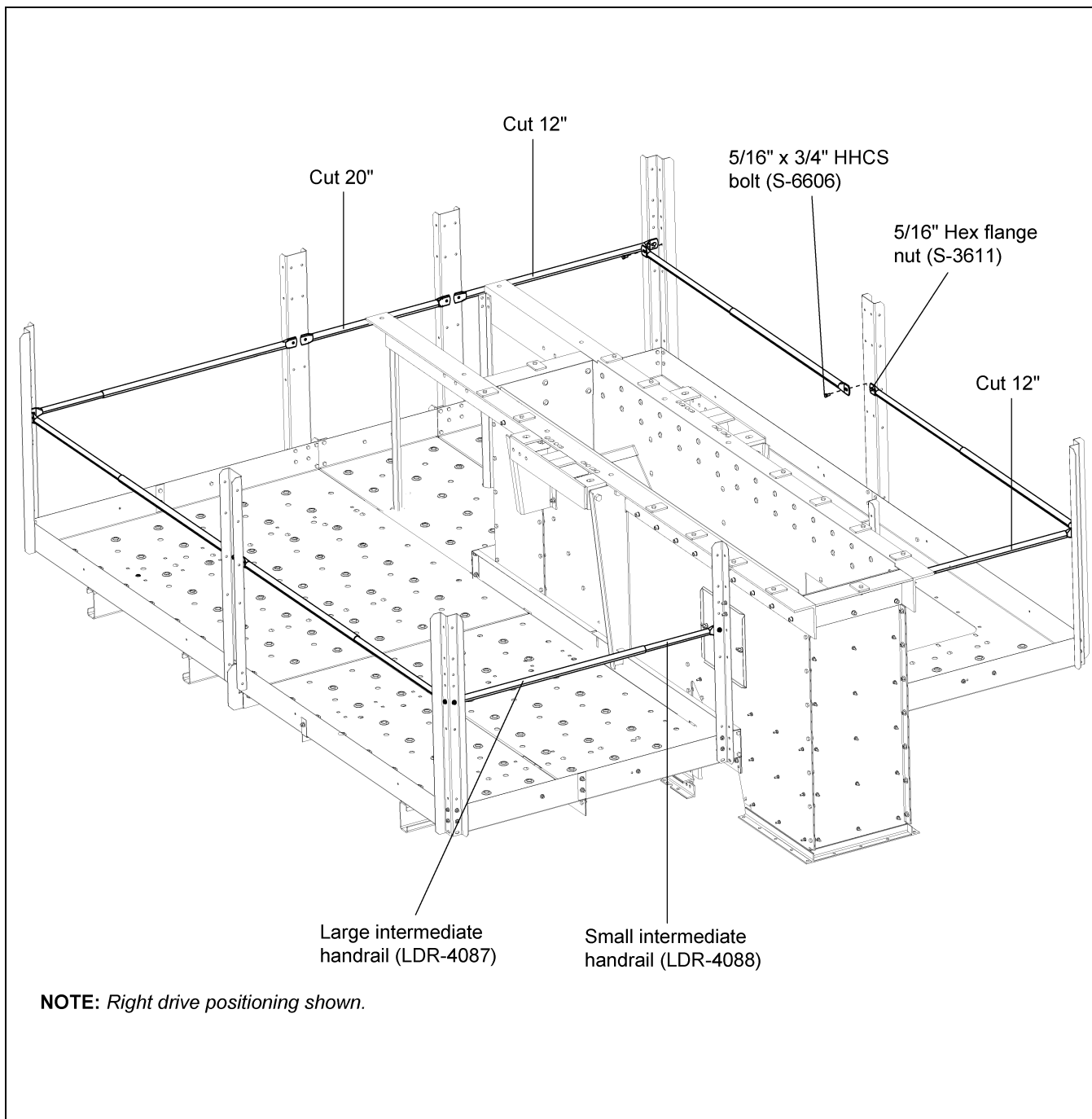


Figure 10I

Handrails

1. Attach handrails to the handrail posts using 5/16" x 2" bolts (S-7877) and hex nuts. Use *Figure 10J* for handrail location.

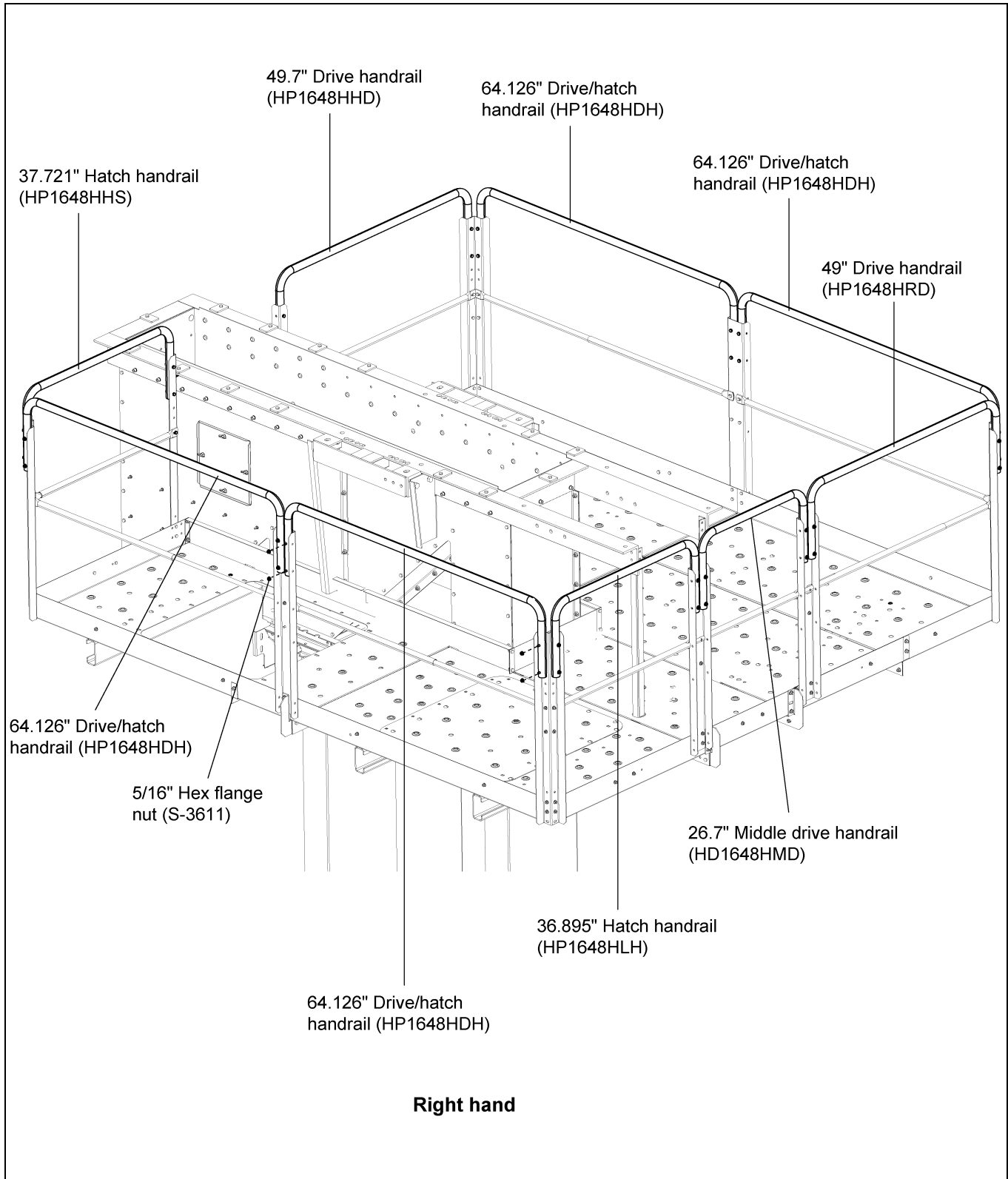


Figure 10J Right Hand Drive Rail Locations

10. 30"-36" Head Platform Post, Rails and Bracing

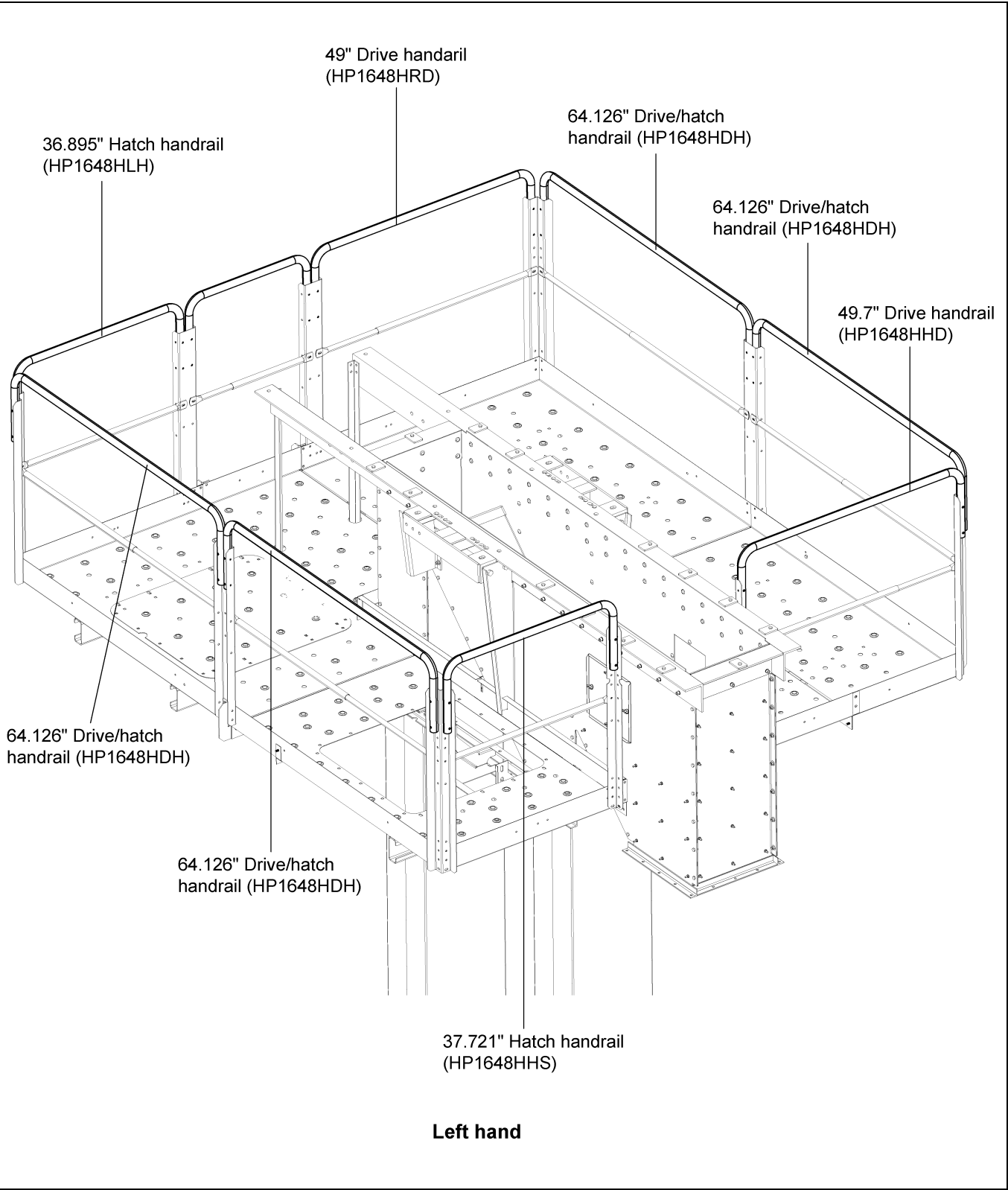


Figure 10K Left Hand Drive Rail Locations

Safety Cage Bar Cross Supports

1. Attach safety cage bar - 24" (LDR-5171BE) from handrail post to decking kick plates using 5/16" x 3/4" bolts and nuts. (See Figure 10L.)

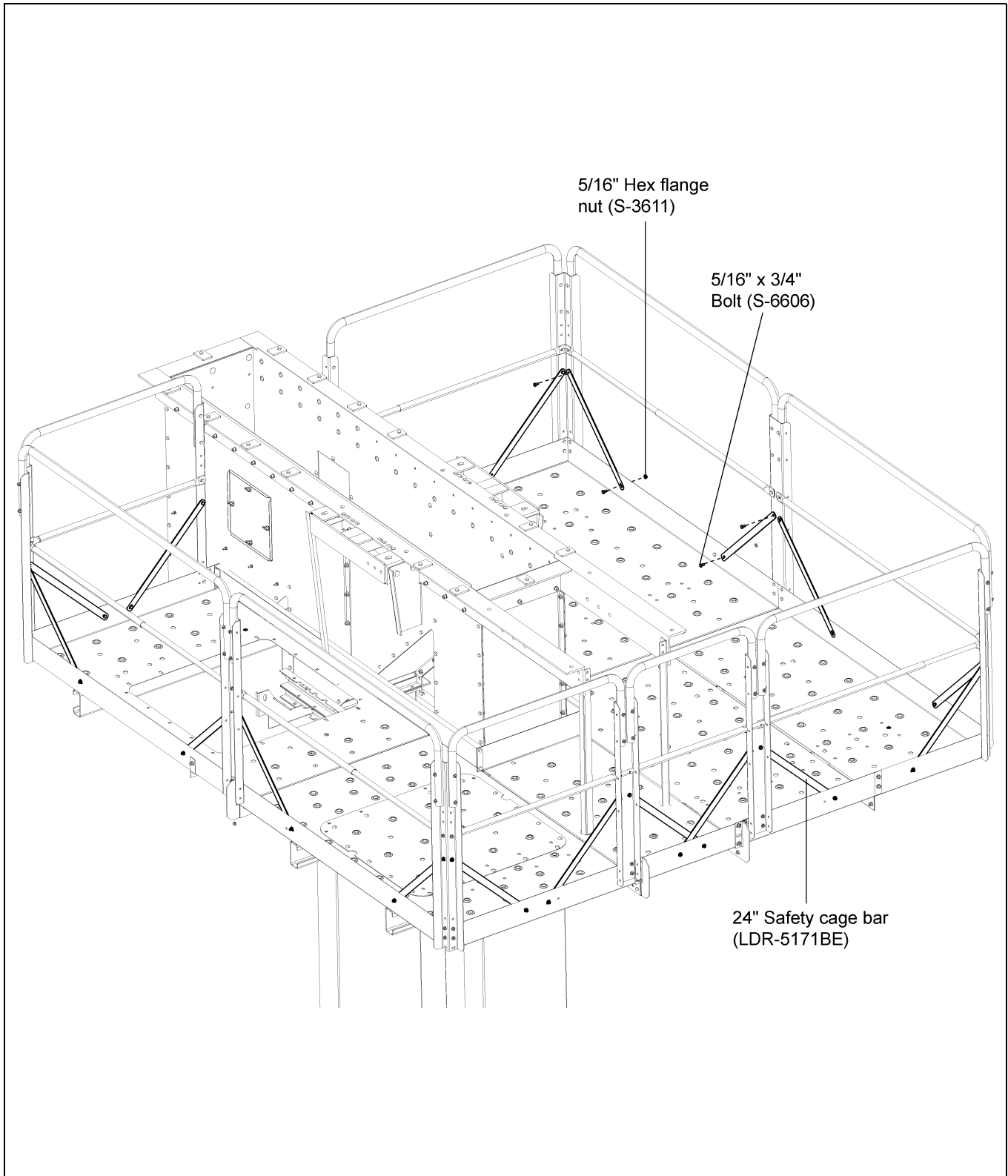


Figure 10L

11. Install Hatch

Install Hatch

1. Attach hatch hinge (HP1624HH) to the hatch deck door (HP1624HDD). Orient hinge so that it opens the desired direction. (See Figure 11A.) Fasten using 3/8" x 1" carriage bolts hardware.

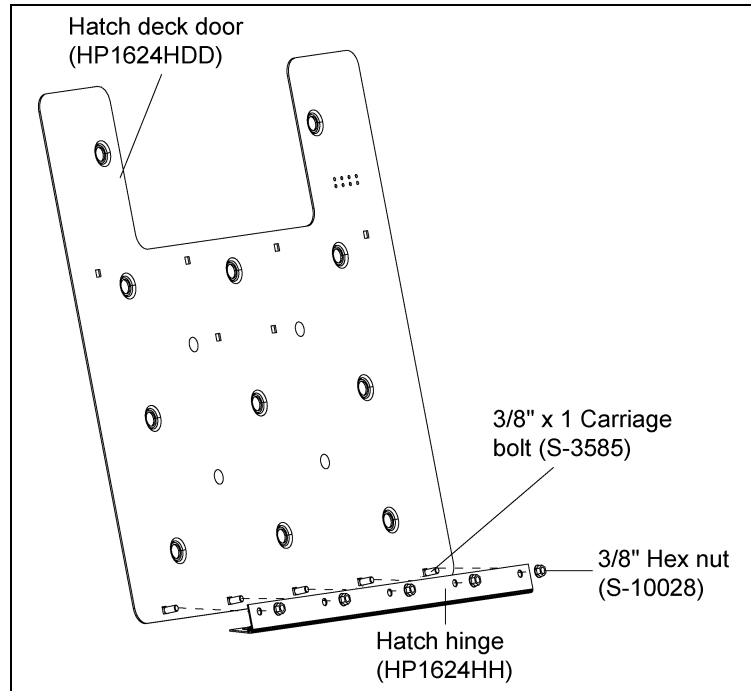


Figure 11A

2. Install hatch support (HP1624HS) to the bottom of the hatch door using 3/8" x 1" carriage bolts and nuts. (See Figure 11B.)
3. Fasten peak cap handle (PR-331) to the bottom of the hatch door using 3/8" x 1" carriage bolts and nuts.

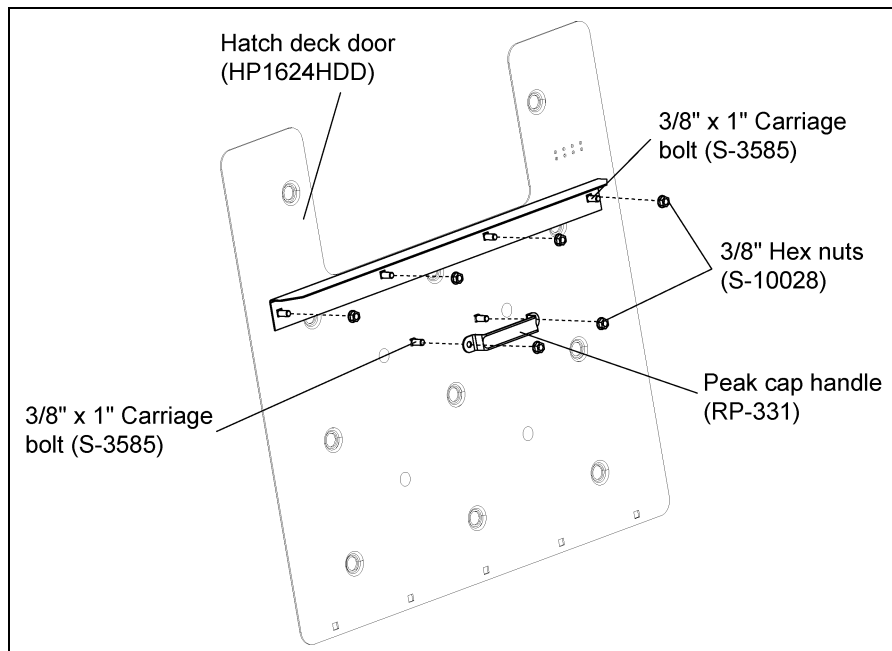


Figure 11B

4. Slide two (2) magnets (16-0092) onto each MS #6 x 3/4" FHS flat head screw (S-7166). Position the magnet so the screw head is countersunk into the magnet. *(See Figure 11C.)*
5. Insert screws with magnets through the hatch door and fasten with the #6 flange nut (S-10133).

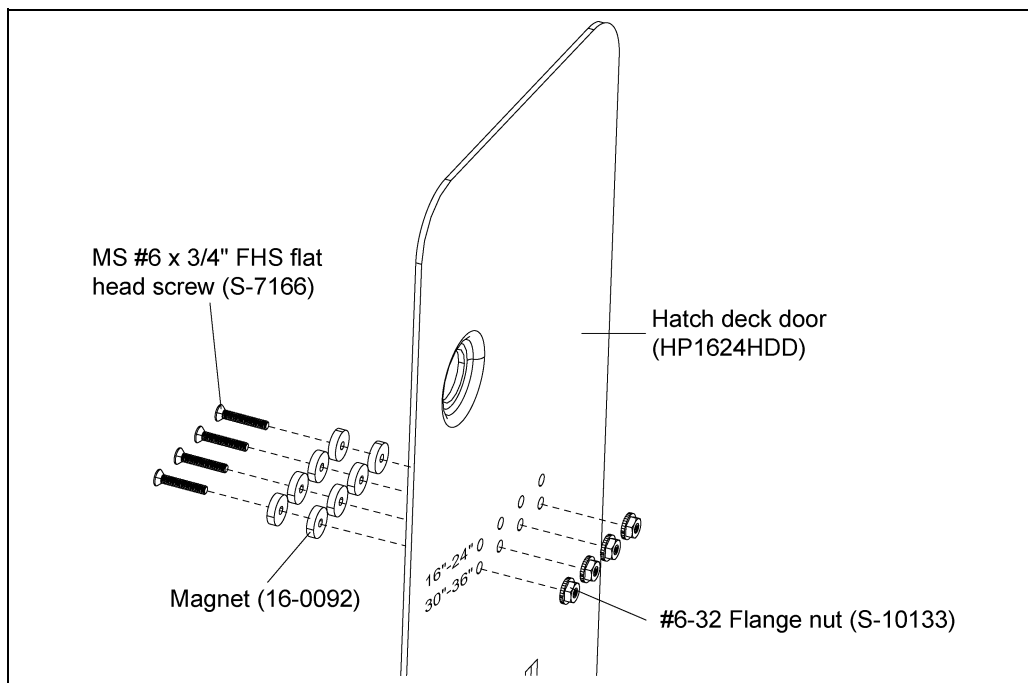


Figure 11C

6. Align holes on the hatch hinge with holes along the deck opening closest to the kick plates. Install the hatch door to the decking using 3/8" x 3/4" bolts (S-7105) and nuts. *(See Figure 11D.)*

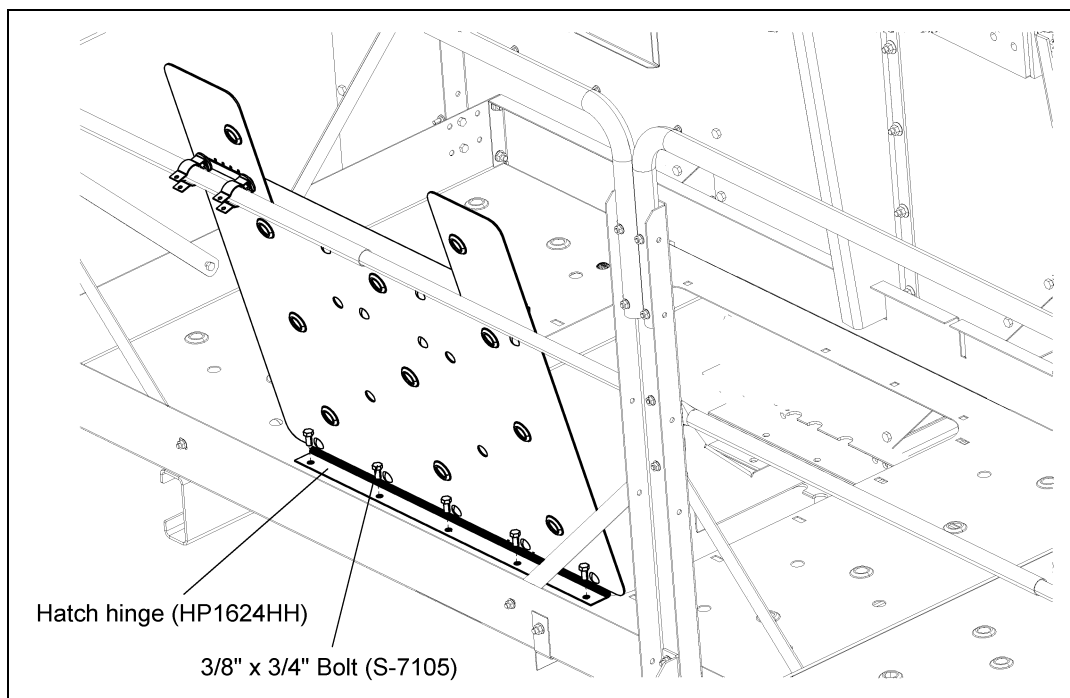


Figure 11D

11. Install Hatch

7. Assemble pipe clamps (S-10139) to the magnet mount hatch bracket (HP1648LMM). Insert 3/8" x 3/4" carriage bolts through the magnet mount hatch bracket, 1/2" flat washer and pipe clamp. Fasten with 3/8" nut. *(See Figure 11E.)*
8. Attach pipe clamp around intermediate handrail and fasten loosely with bolts. Open Hatch plate and Slide clamp along handrail until it lines up with the magnets on the hatch plate. Tighten clamp to rail.

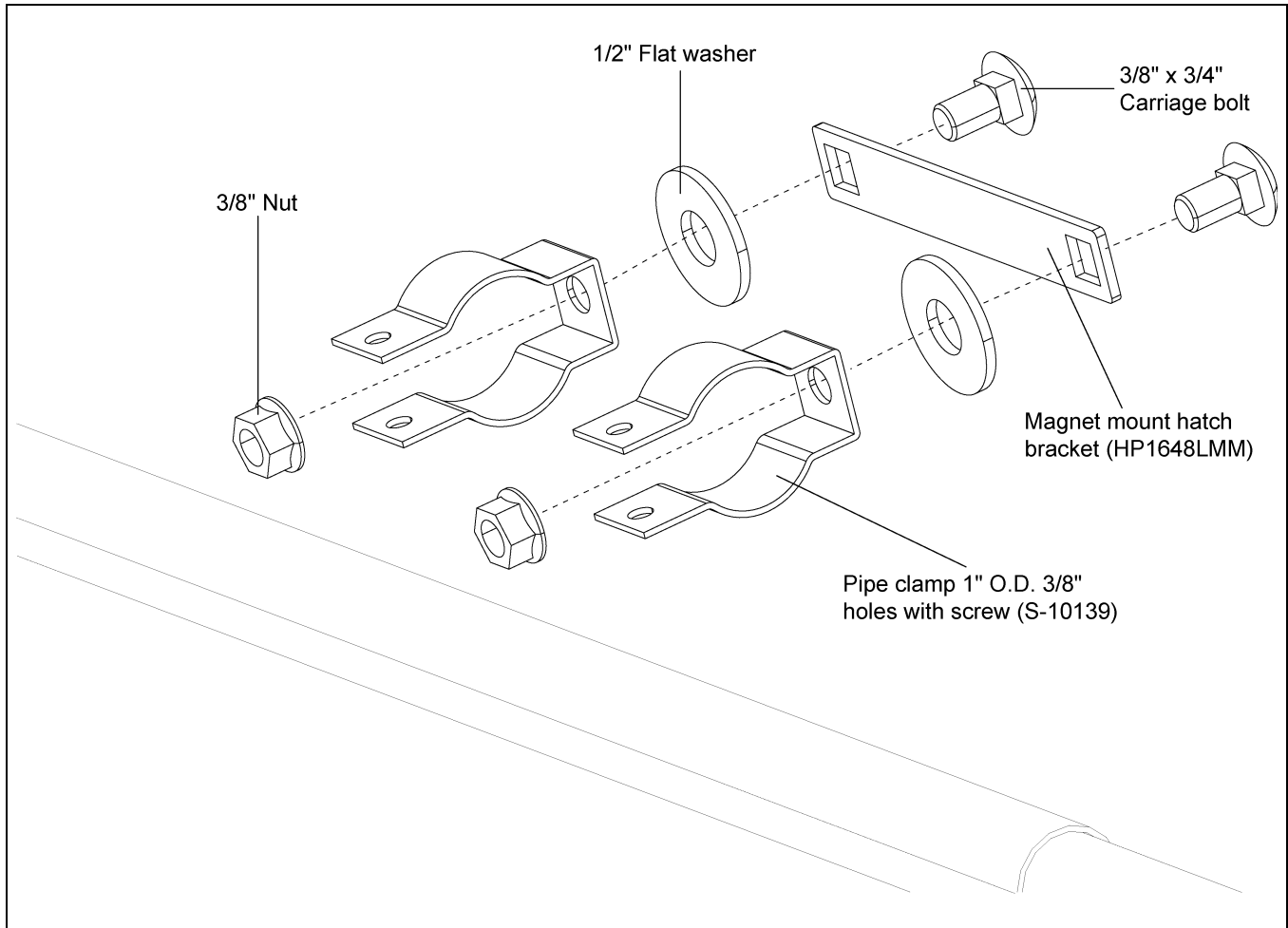


Figure 11E

Distributor Platform

The distributor platform is optional and only used on bucket elevators that have a distributor spout. The platform is used to access the distributor for maintenance and control adjustments. The platform should be located below the distributor head. **NOTE:** That the clamp installation to the trunking is different for 16", 24" and the 30"-36" but the rest of the assembly is the same.

16"-36" Clamp Band Installation

16" Top Clamp Band to Trunking

1. Slide rods of clamp rod weldment into inside set of holes of clamp bands for 16" assembly. Fasten together using four (4) 1/2" hex flange nuts.
2. Line up the holes on the clamp strut with the set of holes closest to the bend on both of the 16"-24" long clamp clips and fasten all three (3) together using four (4) 1/2" x 1" bolts and nuts. This will create the clamp strut assembly.
3. Assemble the clamp band weldment, clamp channel and clamp strut assembly at one time around the trunking. Place clamp rod weldment assembly around the trunking leg and line up holes on 16"-24" long clips and clamp channel with the **outside set of holes** on the clamp rod weldment. Fasten all three (3) together using six (6) 1/2" x 1" bolts and nuts.
4. Line up the holes located at the end of the distributor support channels with the holes at the end of the 16"-24" long clamp clips. Fasten the support channels to the long clamp clips using four (4) 1/2" x 1" bolts and nuts.

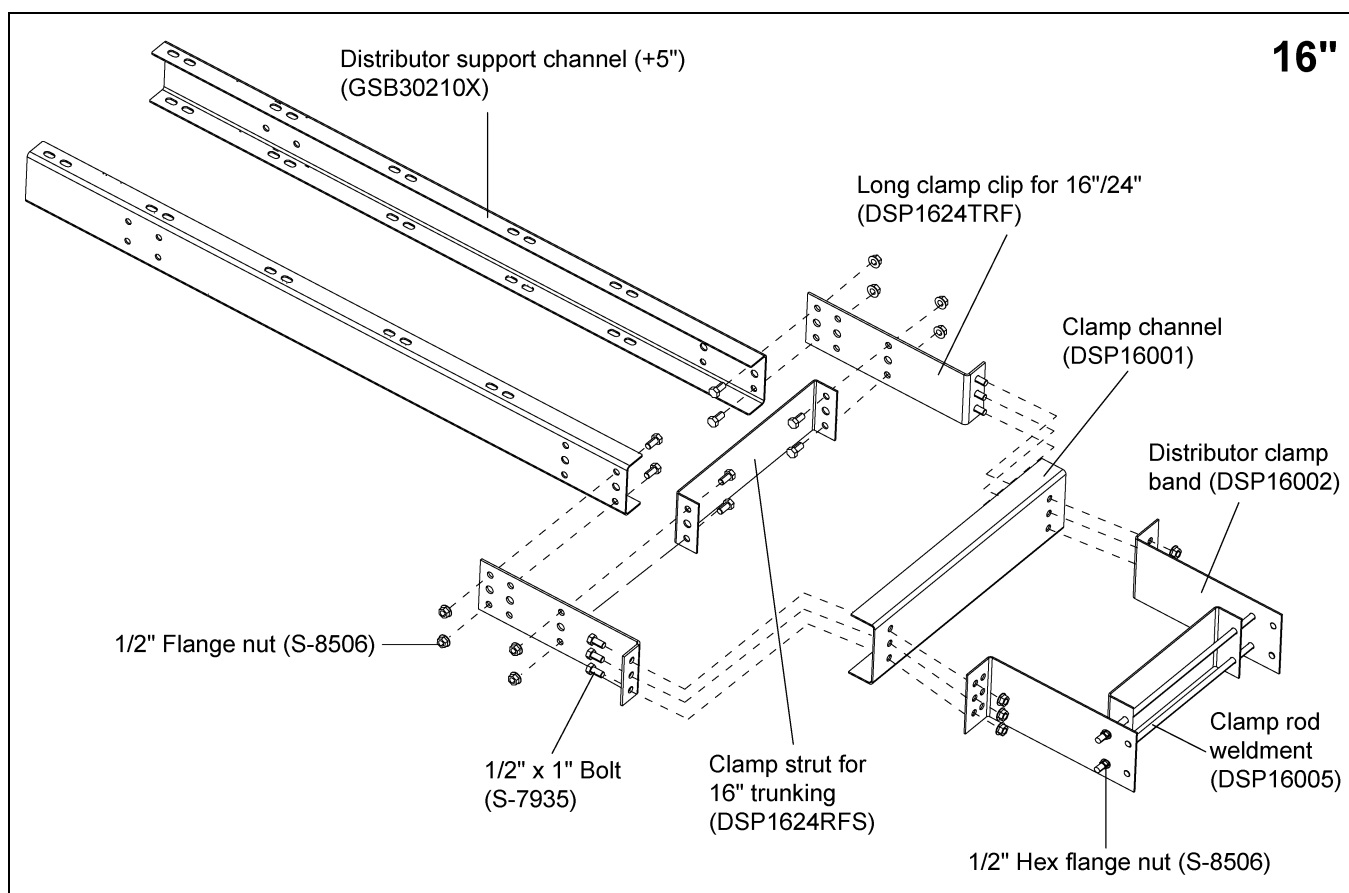


Figure 12A

12. 16"-36" Distributor Platform Installation

16" Bottom Clamp Band to Trunking

1. Slide rods of clamp rod weldment into inside set of holes of clamp bands for 16" assembly. Fasten together using four (4) 1/2" hex flange nuts.
2. Line up the holes on one of the clamp struts with the set of holes closest to the bend on both of the 16"-24" long clamp clips and fasten all three (3) together using four (4) 1/2" x 1" bolt and nuts. Tighten only finger tight. Now orient the brace channels so the bends face outwards and line up the brace channel holes with the holes located at the end of the long clamp clips and the remaining clamp strut. Fasten all five (5) parts together using four (4) 1/2" x 1" bolt and nuts. Tighten finger tight. This will make up the brace channel assembly.
3. Assemble the clamp rod weldment, clamp channel and brace channel assembly at same time around the trunking. Place clamp rod weldment assembly around the trunking leg and line up holes on 16"-24" long clips and clamp channel with the **outside set of holes** on the clamp rod weldment. Fasten all three (3) together using six (6) 1/2" x 1" bolts and nuts.

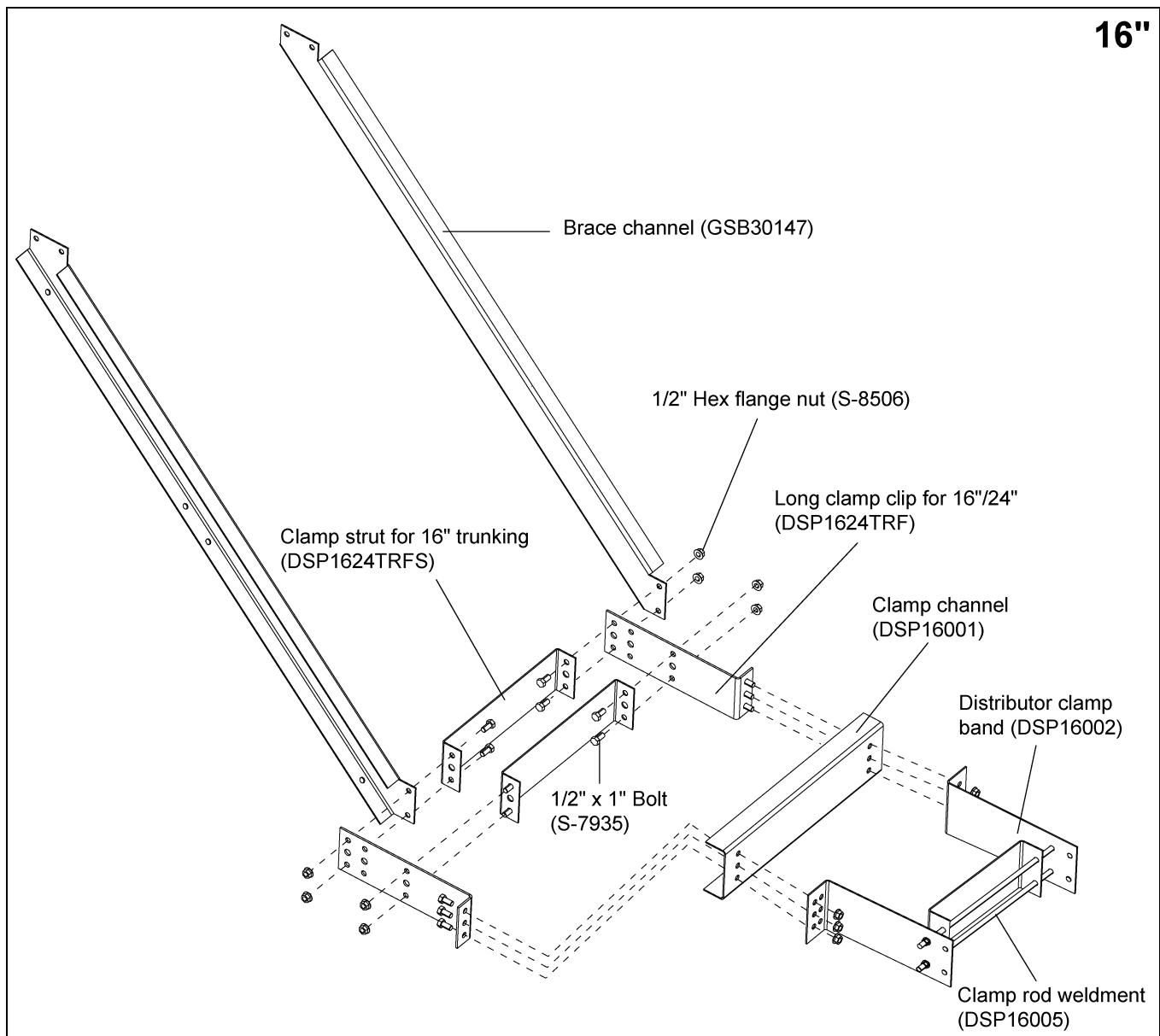


Figure 12B

24" Top Clamp Band to Trunking

1. Slide rods of clamp rod weldment into inside set of holes of clamp bands for 24" assembly. Fasten together using four (4) 1/2" hex flange nuts.
2. Line up the holes on the support channels with the inside set of holes on the 16"-24" long clamp clips and fasten all four (4) together using eight (8) 1/2" x 1" bolt and nuts.
3. Assemble the 16"-24" long clamp assembly, clamp channel and clamp rod assembly at same time around the trunking. Place clamp rod weldment assembly around the trunking leg and line up holes on 16"-24" long clips and clamp channel with the **outside set of holes** on the clamp rod weldment. Fasten all three (3) together using six (6) 1/2" x 1" bolts and nuts.

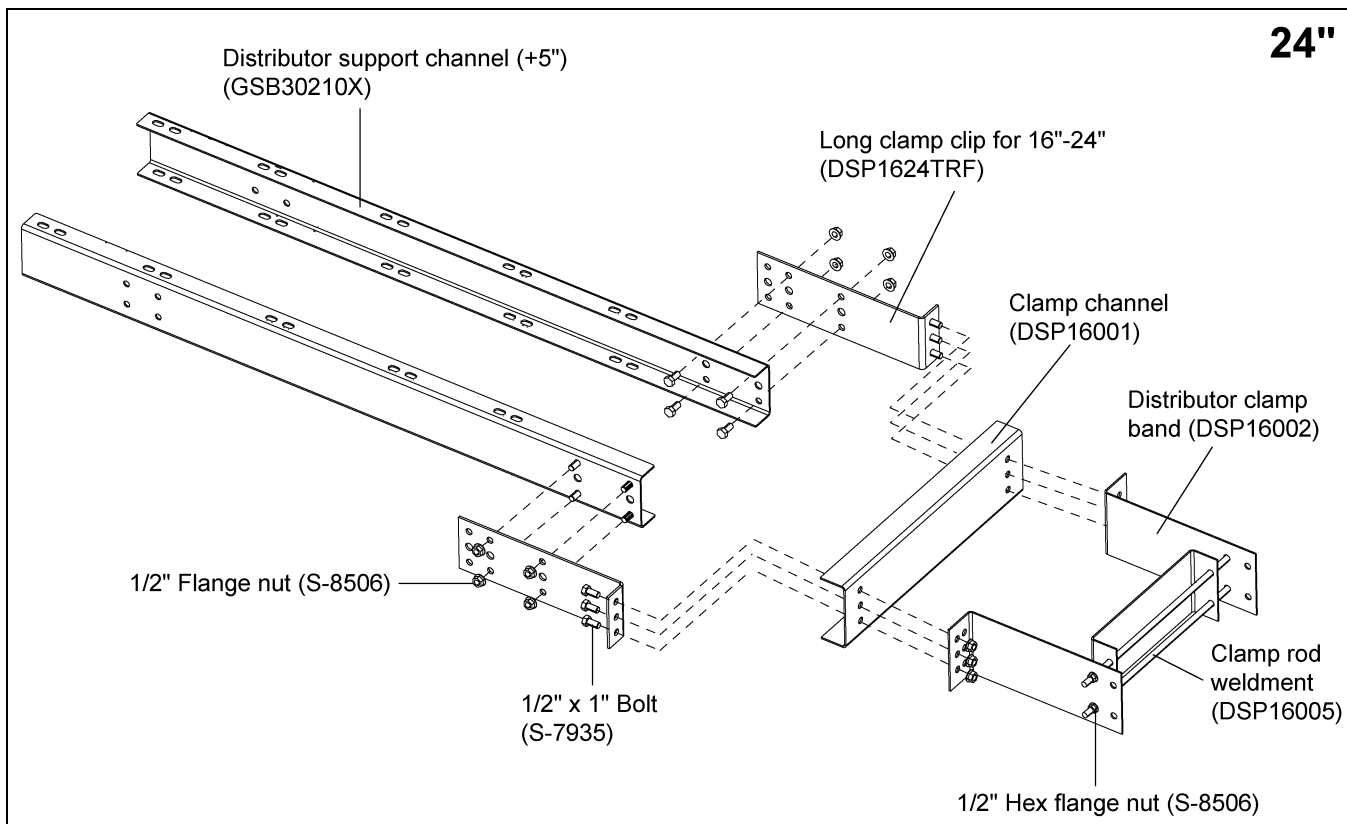


Figure 12C

12. 16"-36" Distributor Platform Installation

24" Bottom Clamp Band to Trunking and Knee Brace

1. Slide rods of clamp rod weldment into inside set of holes of clamp bands for 16" assembly. Fasten together using four (4) 1/2" hex flange nuts.
2. Orient the brace channels so the bends face outwards and line up the brace channel holes with the holes located near the middle of the 16"-24" long clamp clips. Line up the clamp strut with the same set of holes as the brace channel and 16"-24" long clamp clip. Fasten all five (5) together using four (4) 1/2" x 1" bolt and nuts. Attach remaining clamp strut to the end of the 16"-24" clamp clip. Tighten only finger tight. *(See Figure 12D.)*
3. Assemble the clamp rod weldment, clamp channel and brace channel assembly at same time around the trunking. Place clamp rod weldment assembly around the trunking leg and line up holes on 16"-24" long clips and clamp channel with the **outside set of holes** on the clamp rod weldment. Fasten all three (3) together using six (6) 1/2" x 1" bolts and nuts.

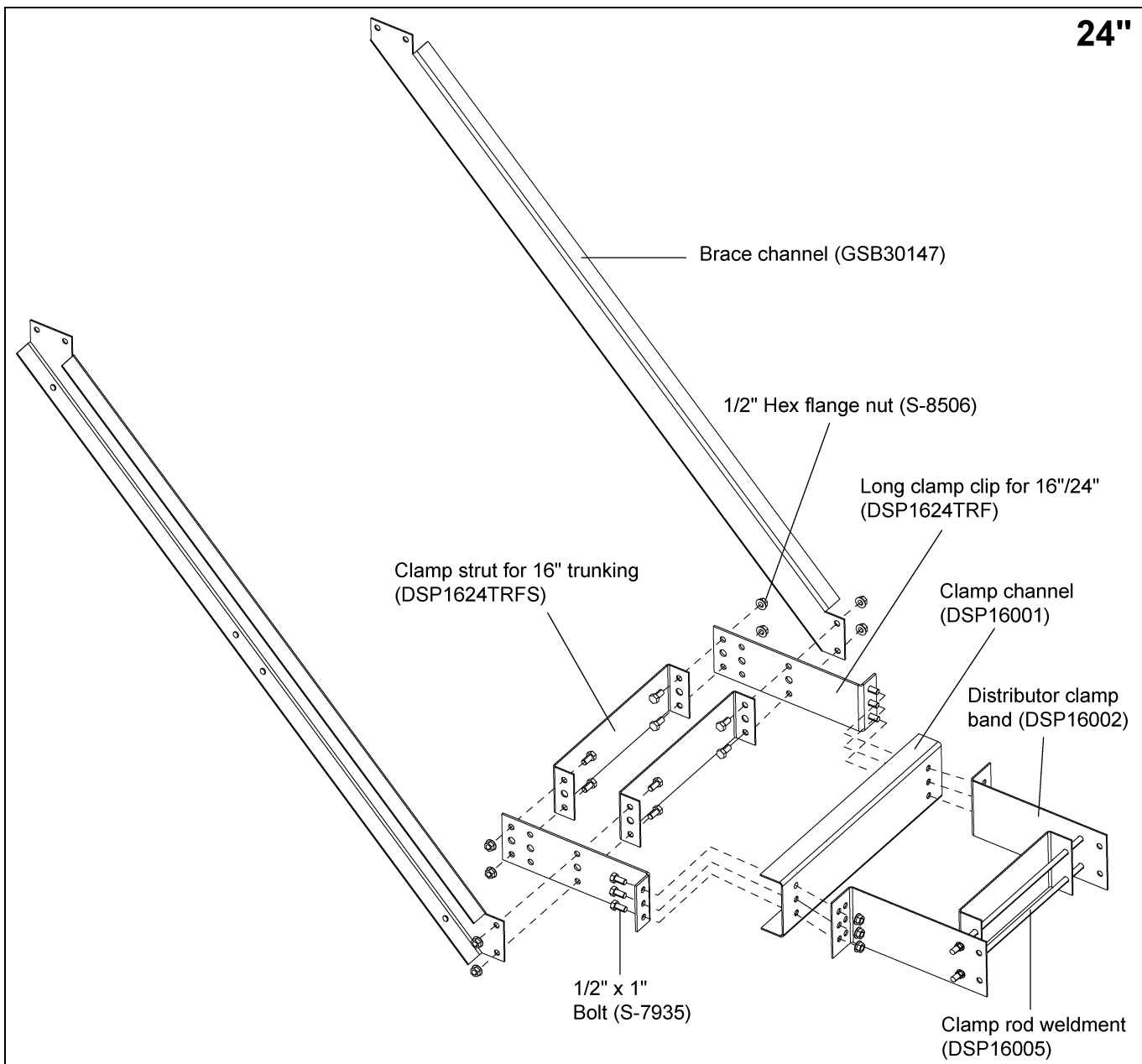


Figure 12D

30"-36" Top Clamp Band to Trunking

NOTE: 30"-36" Top and bottom clamps assemble the same. One attaches to the support channel and one attaches to the brace channels.

1. Slide rods of clamp rod weldment into outside set of holes of clamp bands for both the top and bottom assemblies. Fasten together using four (4) 1/2" hex flange nuts per each clamp.
2. Assemble the top and bottom clamp band weldments, clamp channel and clamp clips at same time around the trunking. Place clamp rod weldment assembly around the trunking leg and line up holes on clamp channel and clamp clips with the **inside set of holes** on the clamp bands. Fasten all together using six (6) 1/2" x 1" bolts and nuts.
3. Line up the holes located at the end of the distributor support channels and brace channels with the holes on the clamp clips. Fasten together using four (4) 1/2" x 1" bolts and nuts.

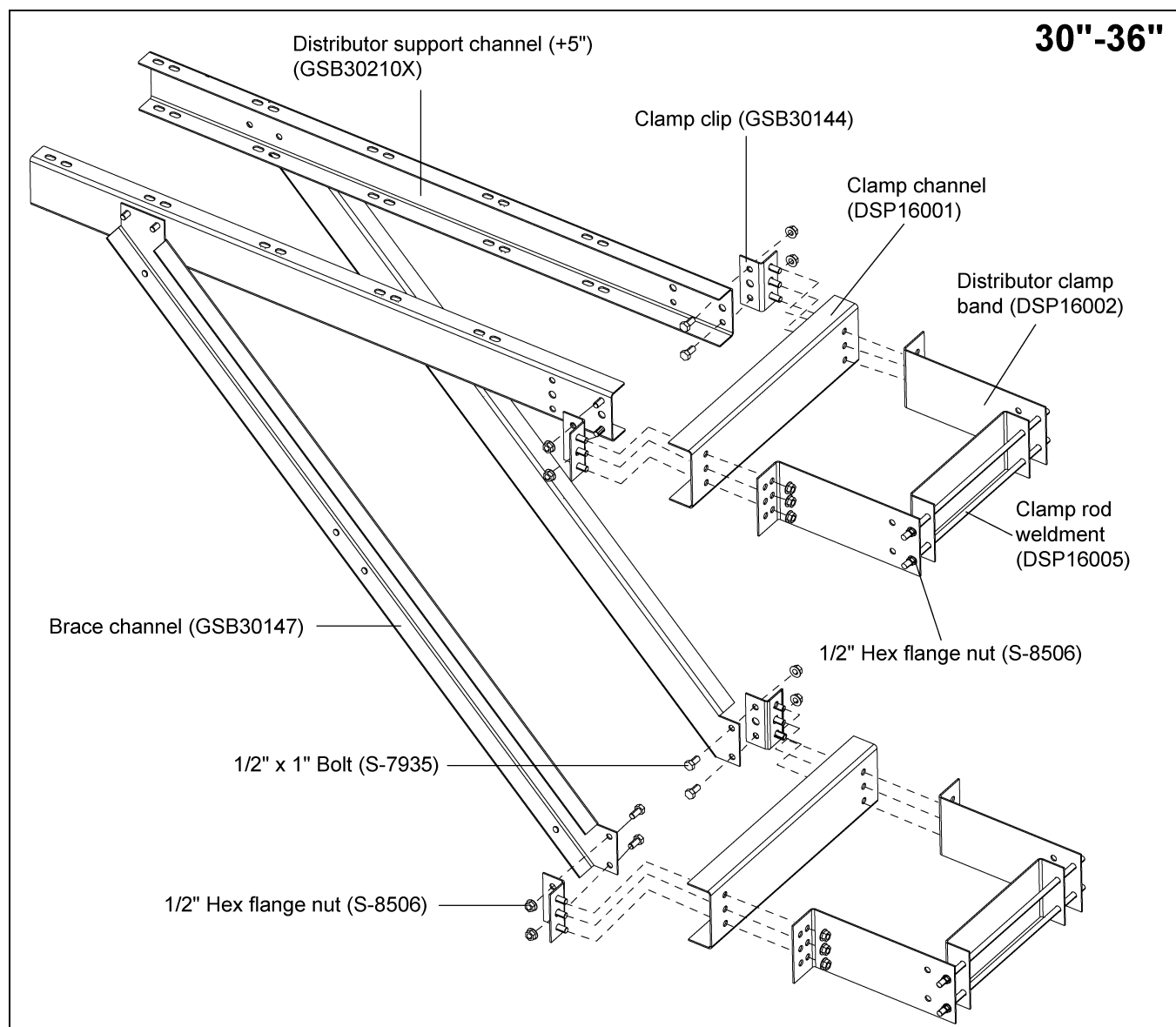


Figure 12E

12. 16"-36" Distributor Platform Installation

16"-30"-36" Support and Decking Assembly

Support Channel, Cross Support and Knee Brace Assembly

1. Attach brace channels to the sides of the support channels using four (4) 1/2" x 1" bolts and nuts. Angle the knee braces across the bottom sides of the brace channels and attach using four (4) 1/2" x 1" bolts and nuts.
2. Assemble the cross supports to the bottom side of the support channels using the end and middle sets of holes on the support channels using four (4) 1/2" x 1" bolts and nuts. *(See Figure 12F.)*
3. Assemble the external platform support (DSP1648EPS) to the end of the three (3) cross supports using six (6) 1/2" x 1" bolts and nuts. *(See Figure 12G on Page 109.)*

NOTE: For 24" installation the lower knee brace will use the second hole on the brace and the second hole up from the bottom on the brace channel. *(See Figure 12H on Page 109.)*

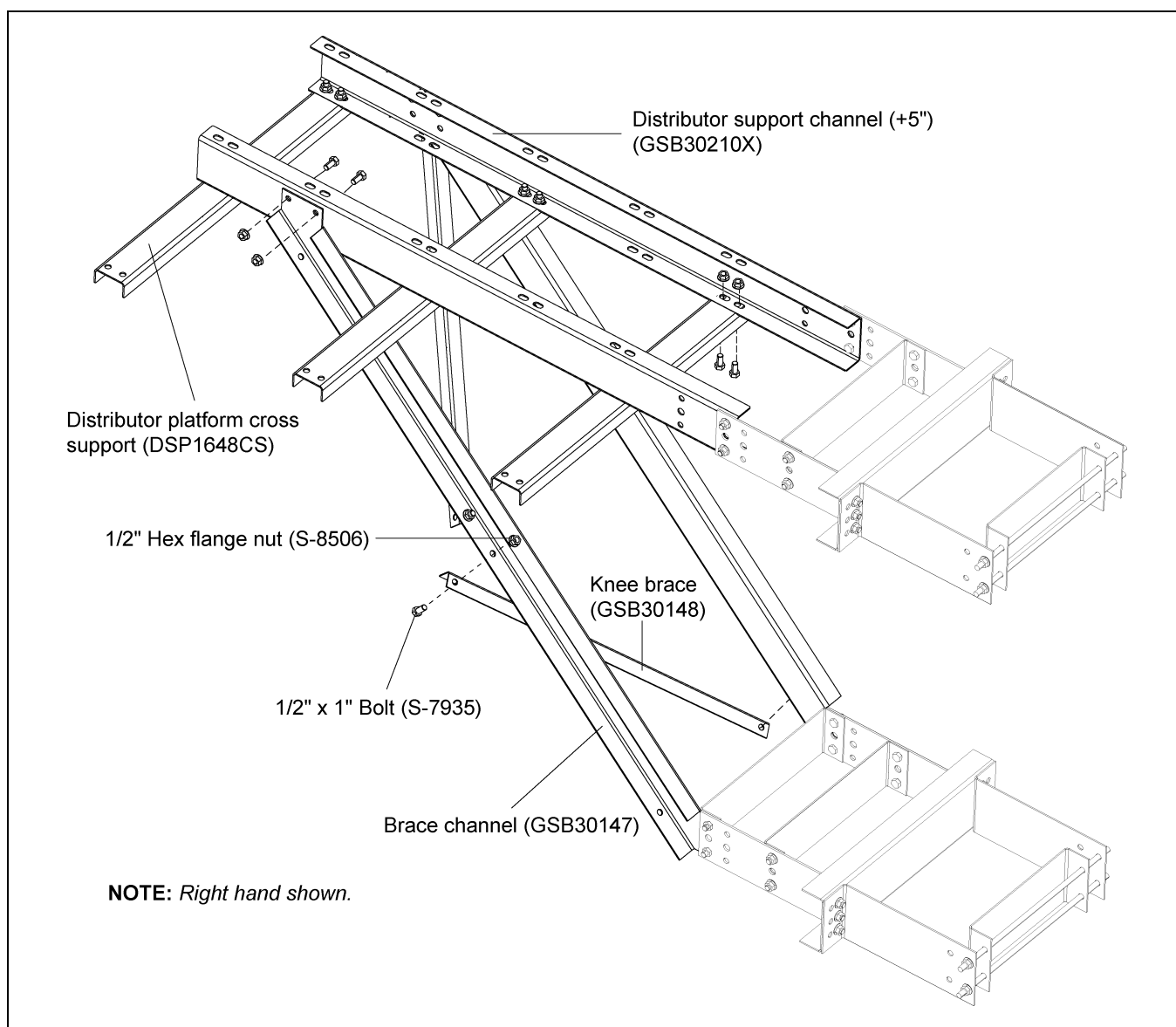


Figure 12F Distributor Platform Cross Support

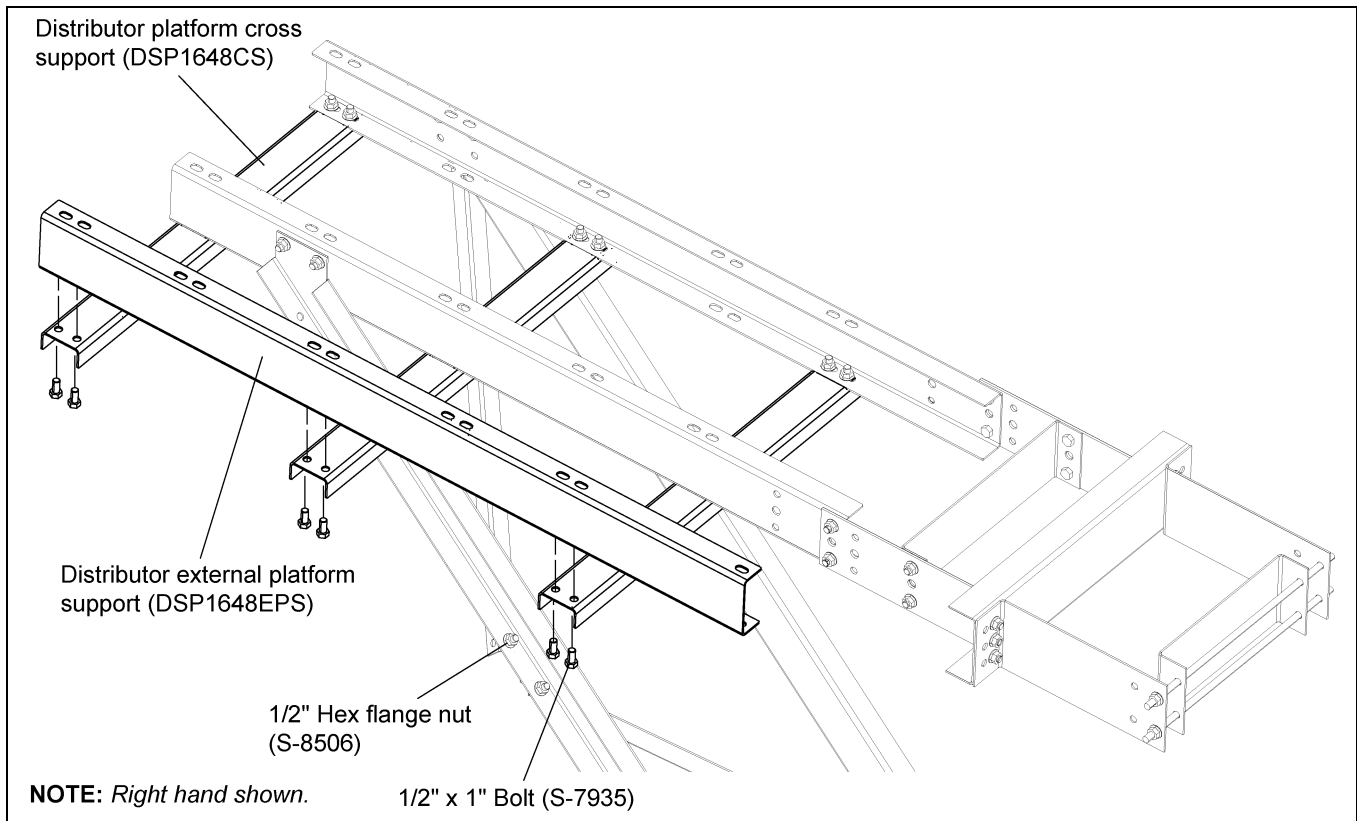


Figure 12G Distributor External Platform Support

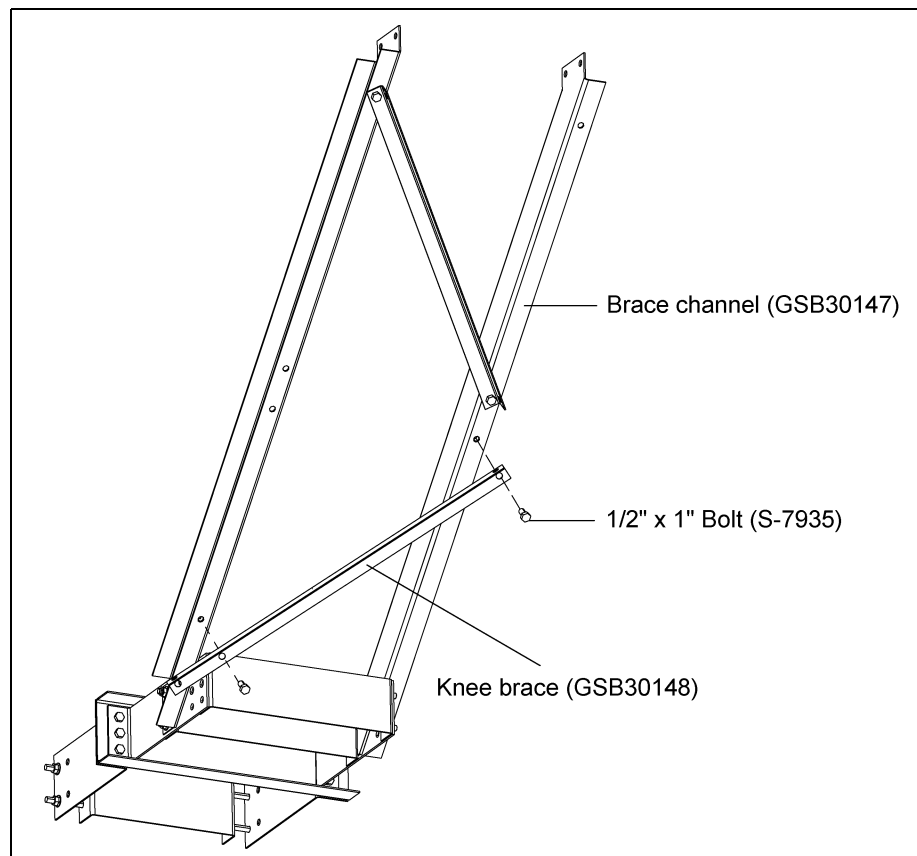


Figure 12H 24" Distributor Platform Knee Brace

12. 16"-36" Distributor Platform Installation

Decking

1. Align A6 and A8 on platform decking weldment with A6 and A8 on the external platform supports.
2. Install platform decking weldment to the platform support channels using twenty four (24) 1/2" x 1" bolt and nuts. *(See Figure 12I.)*
3. Attach the flange of the toe board short side to the bottom of the 18" decking using two (2) 1/2" x 1" bolt and nuts. Then attach 18" decking to the external platform support using one 1/2" x 1" bolt and nut. *(See Figure 12K on Page 111.)*
4. Align flange of end toe board along the bottom of decking. Connect end toe board to decking using 1/2" x 1" bolts and nuts.
5. Install the corner "W" post at the same time as the toe board filler plate. Attach toe board filler plate to the decking toe boards located across from the entrance. Attach the flat end first using two (2) 5/16" x 3/4" flange bolts and nuts. Then line up the holes of the toe board filler plate with the decking toe board, while also aligning the holes of the "W" post on the corner. Fasten all three (3) together with four (4) 5/16" x 3/4" flange bolts and nuts. *(See Figure 12L on Page 112.)*

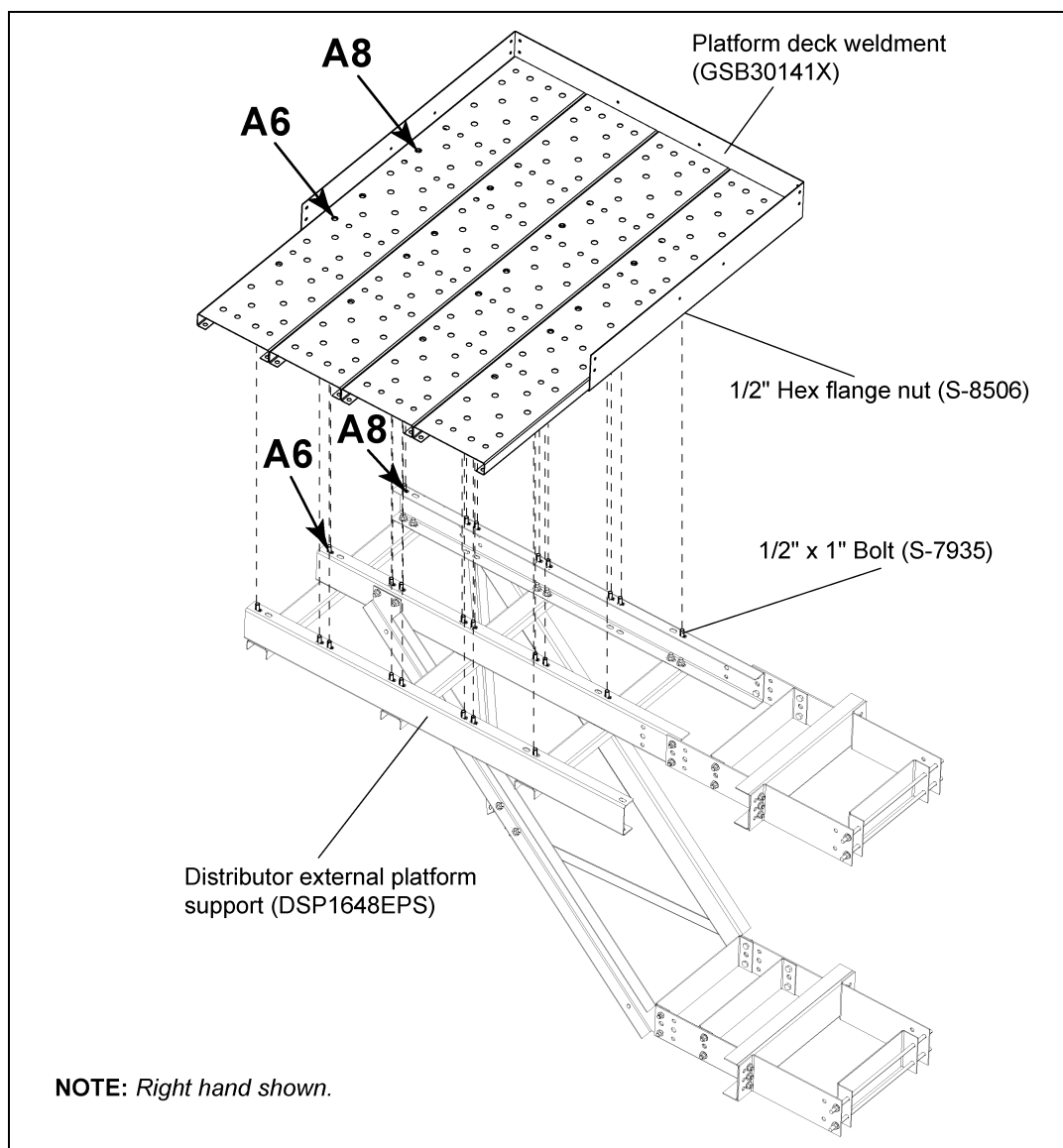


Figure 12I

12. 16"-36" Distributor Platform Installation

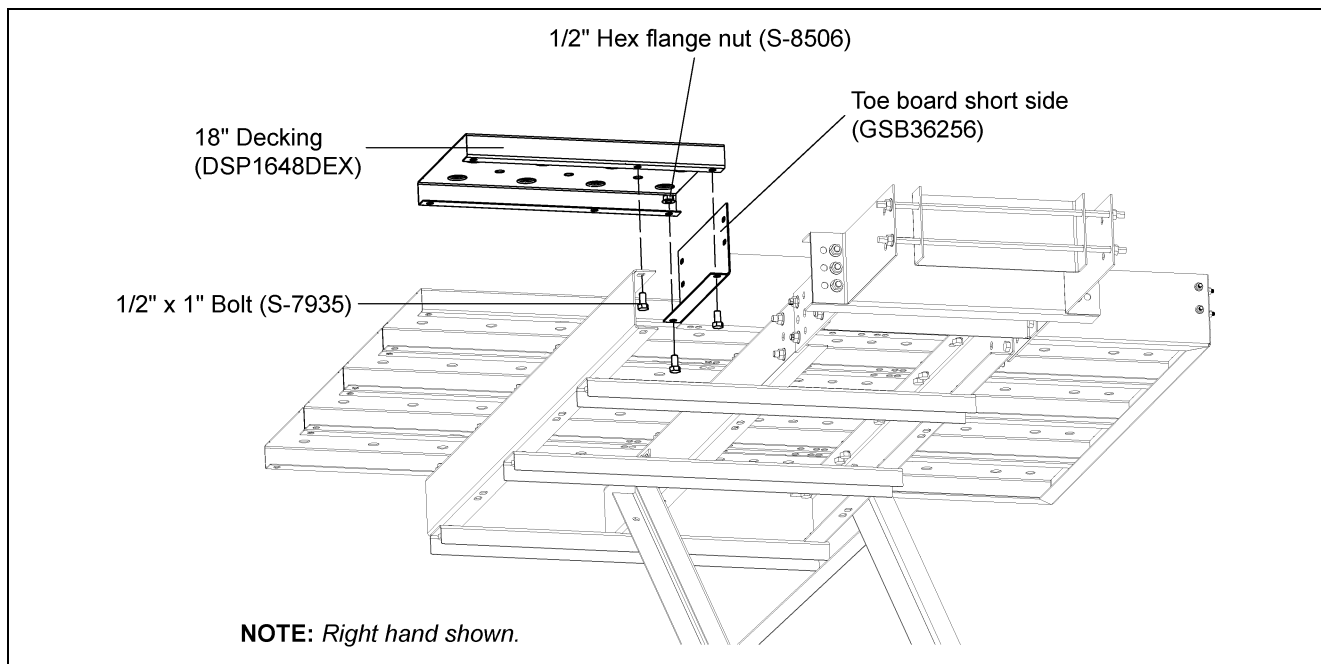


Figure 12J

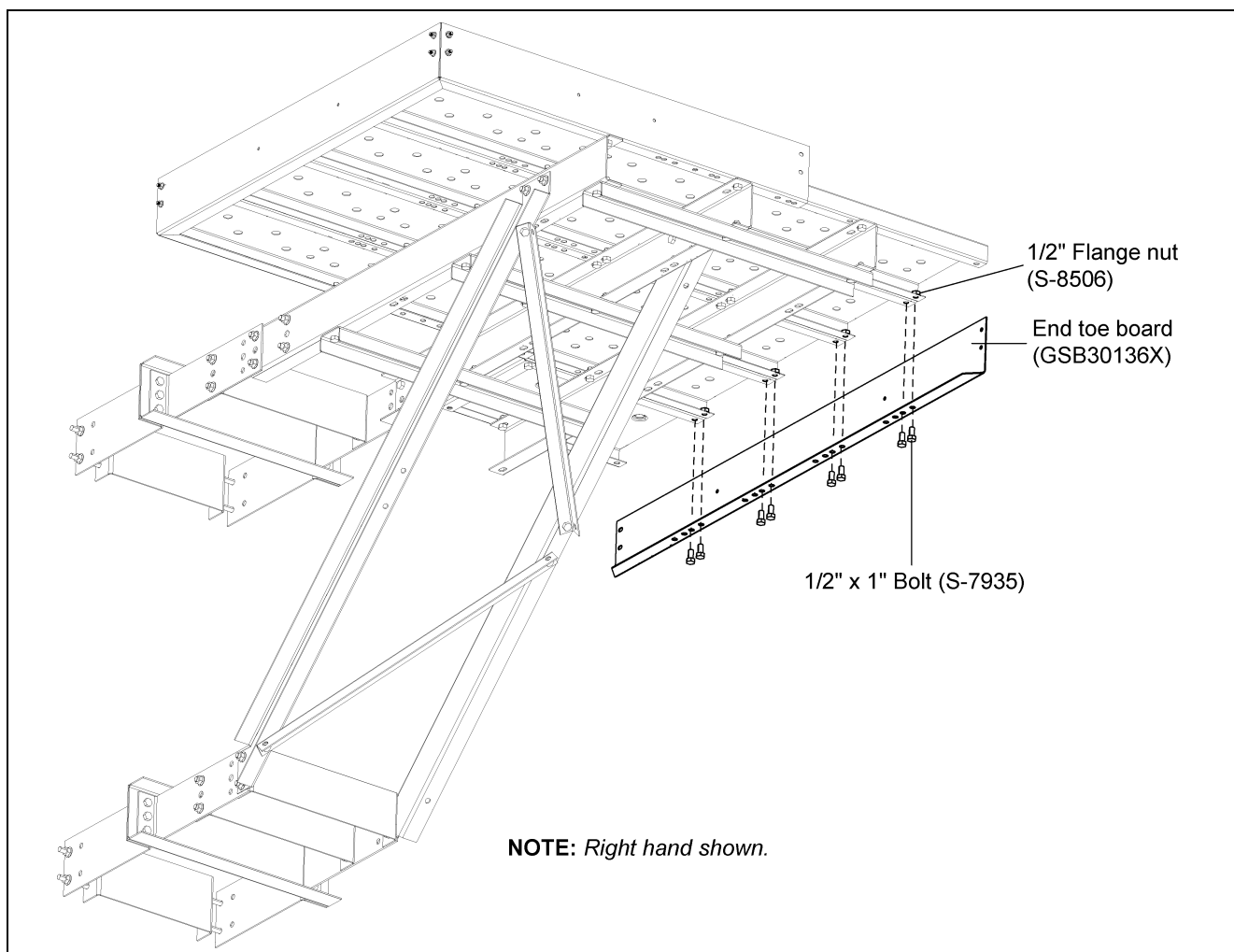


Figure 12K 16" Distributor Platform Toe Board

12. 16"-36" Distributor Platform Installation

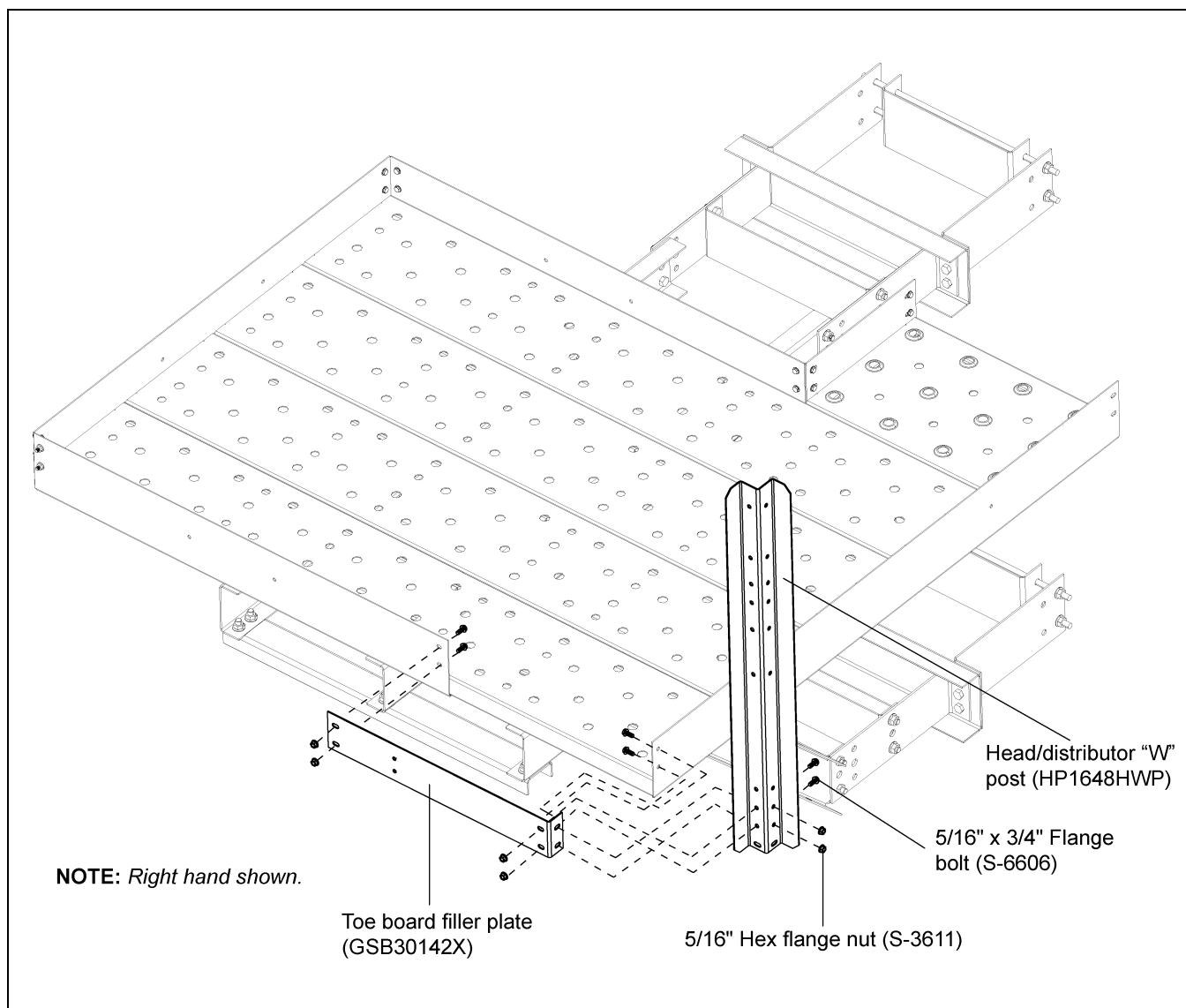


Figure 12L Distributor Platform Corner

Handrail Posts

1. Install the remaining two (2) "W" corner posts to the corners on the non-entrance side of the decking using four (4) 5/16" x 3/4" flange bolts and nuts per post.
2. Install platform post (HP1648HCP) to the inside corner of the decking near the entrance to the platform using four (4) 5/16" x 3/4" flange bolts and nuts.
3. Attach side posts (HP1648HP) to the decking at the entrance to the platform using two (2) 5/16" x 3/4" flange bolts and nuts per post.

12. 16"-36" Distributor Platform Installation

4. Install distributor handrail support to the side post on the inside, located closest to the trunking through holes 3 and 4 counting from the top of the post. Use two (2) 5/16" x 3/4" flange bolts and nuts to fasten in place. (See Figure 12M.)

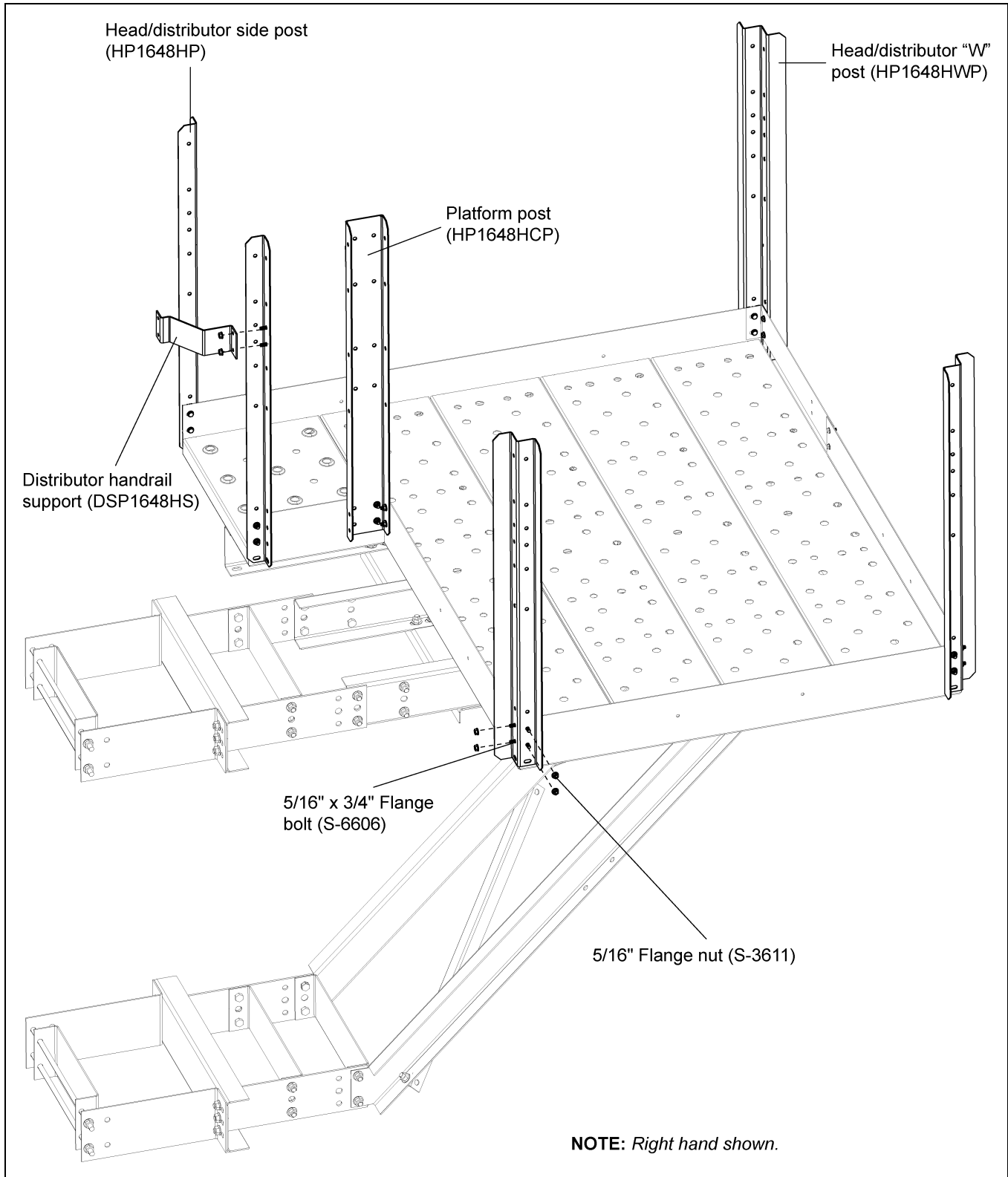


Figure 12M

12. 16"-36" Distributor Platform Installation

Intermediate Handrails

1. Insert small intermediate handrail into the large intermediate handrails to create telescoping rails. Cut 30" off one small intermediate and one large intermediate rail to fit at entrance. Adjust all rails to the proper length and install to the posts using the 5th hole down from the top. Fasten in place using two (2) 5/16" x 3/4" flange bolts and nuts per each telescoping tube. *(See Figure 12N.)*

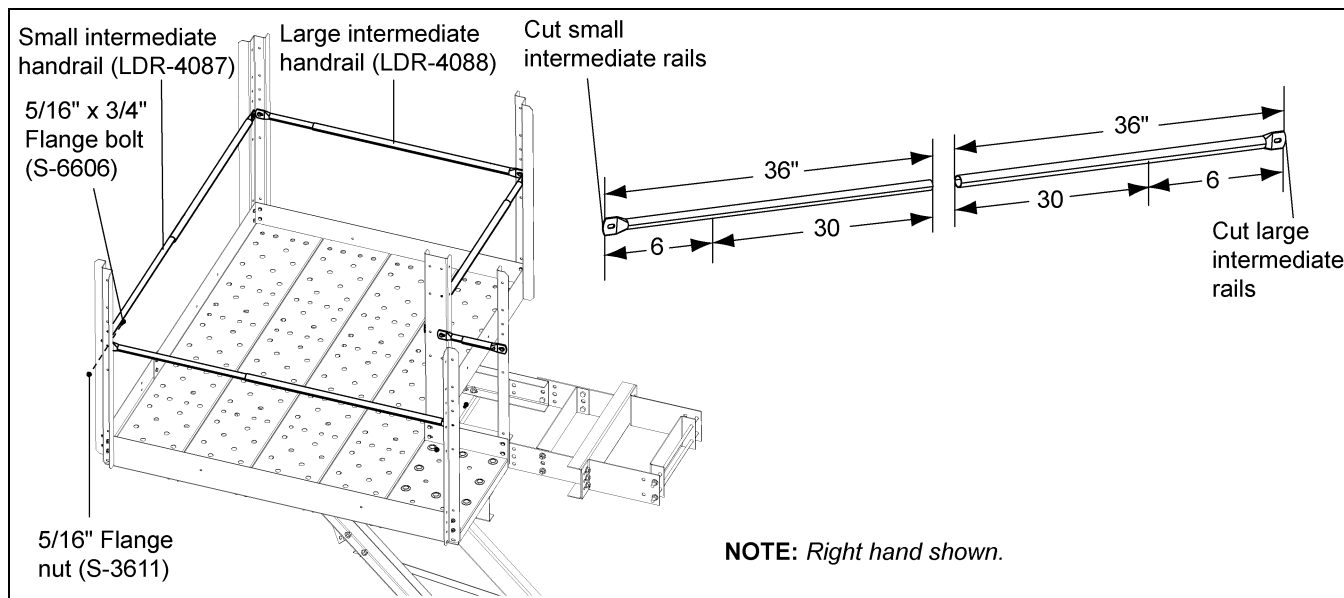


Figure 12N

Safety Bar Cross Supports

1. Install safety bar cross supports from the decking toe board to the rail posts using two (2) 5/16" x 3/4" flange bolts and nuts per each cross bar support. *(See Figure 12O.)*

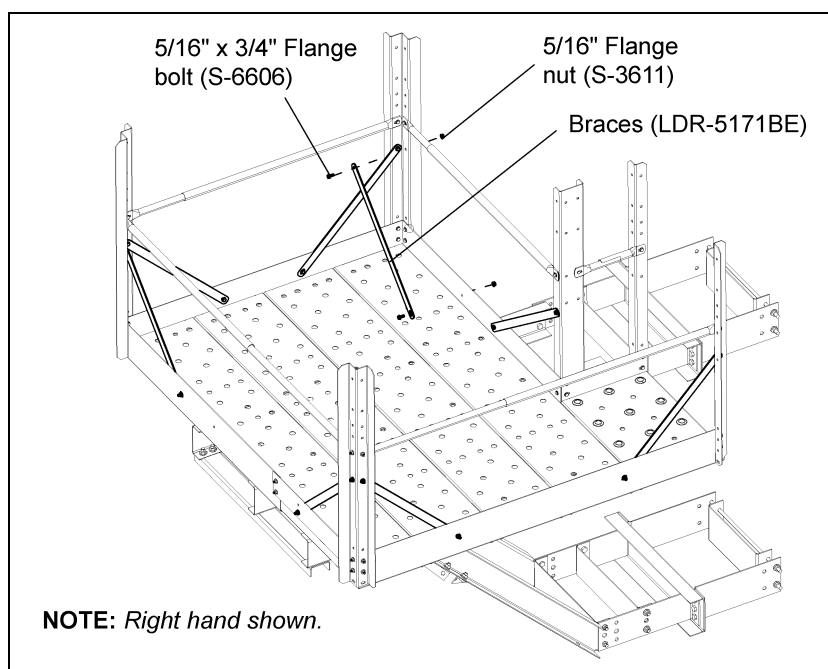


Figure 12O

Handrails

1. Attach handrails to the posts using four (4) 5/16" x 3/4" flange bolts and nuts per handrail.
(See Figure 12P.)

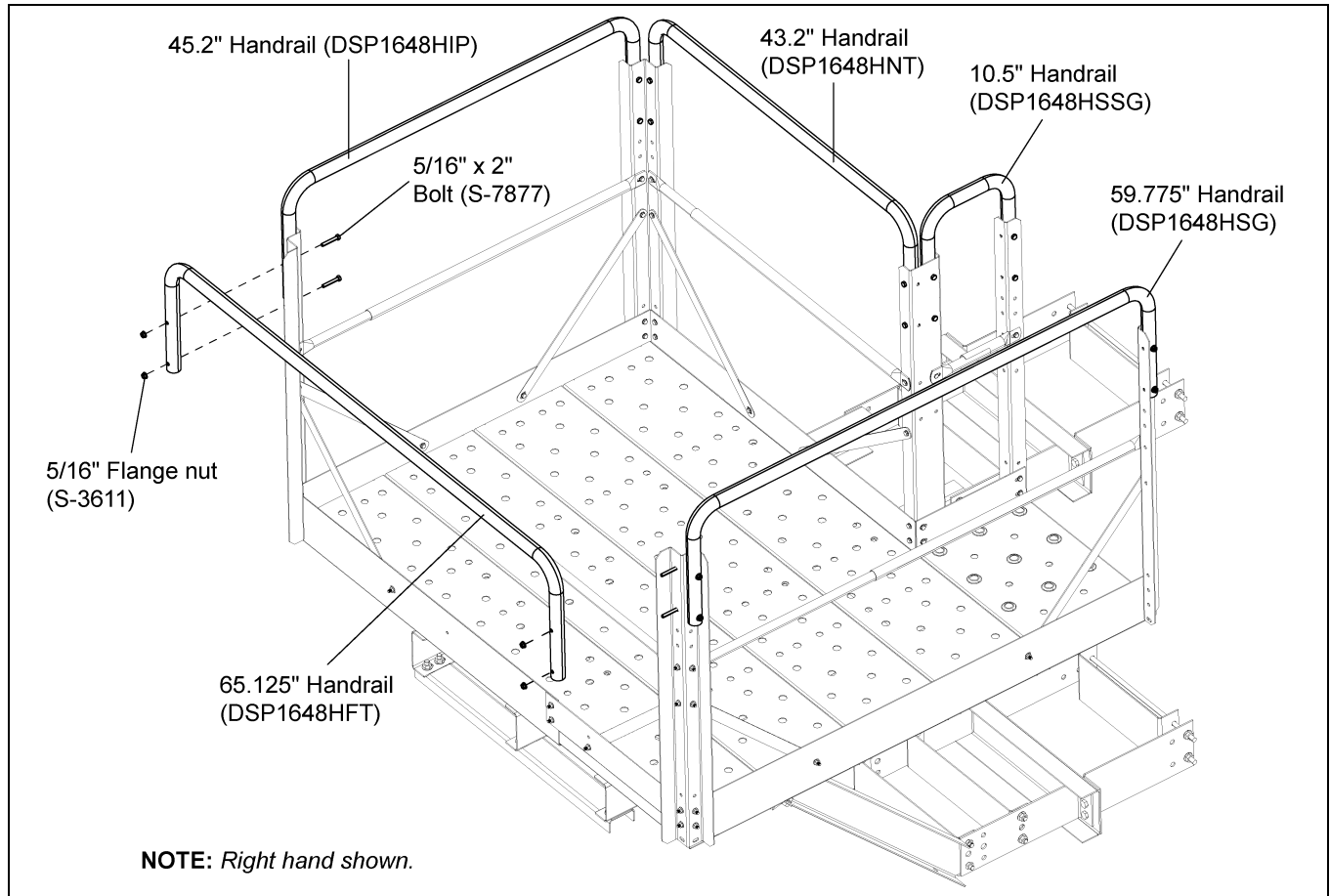


Figure 12P

NOTES

GSI Group, LLC Limited Warranty

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 after sale to the original end-user or if a foreign sale, 14 months from arrival at port of discharge, whichever is earlier. The end-user's sole remedy (and GSI's only obligation) is to repair or replace, at GSI's option and expense, products that in GSI's judgment, contain a material defect in materials or workmanship. Expenses incurred by or on behalf of the end-user without prior written authorization from the GSI Warranty Group shall be the sole responsibility of the end-user.

Warranty Extensions:

The Limited Warranty period is extended for the following products:

	Product	Warranty Period	
AP Fans and Flooring	Performer Series Direct Drive Fan Motor	3 Years	* Warranty prorated from list price: 0 to 3 years - no cost to end-user 3 to 5 years - end-user pays 25% 5 to 7 years - end-user pays 50% 7 to 10 years - end-user pays 75%
	All Fiberglass Housings	Lifetime	
	All Fiberglass Propellers	Lifetime	
Cumberland Feeding/Watering Systems	Feeder System Pan Assemblies	5 Years **	** Warranty prorated from list price: 0 to 3 years - no cost to end-user 3 to 5 years - end-user pays 50%
	Feed Tubes (1-3/4" and 2.00")	10 Years *	
	Centerless Augers	10 Years *	
	Watering Nipples	10 Years *	
Grain Systems	Grain Bin Structural Design	5 Years	† Motors, burner components and moving parts not included. Portable dryer screens included. Tower dryer screens not included.
Grain Systems Farm Fans Zimmerman	Portable and Tower Dryers	2 Years	
	Portable and Tower Dryer Frames and Internal Infrastructure †	5 Years	

GSI further warrants that the portable and tower dryer frame and basket, excluding all auger and auger drive components, shall be free from defects in materials for a period of time beginning on the twelfth (12th) month from the date of purchase and continuing until the sixtieth (60th) month from the date of purchase (extended warranty period). During the extended warranty period, GSI will replace the frame or basket components that prove to be defective under normal conditions of use without charge, excluding the labor, transportation, and/or shipping costs incurred in the performance of this extended warranty.

Conditions and Limitations:

THERE ARE NO WARRANTIES THAT EXTEND BEYOND THE LIMITED WARRANTY DESCRIPTION SET FORTH ABOVE. SPECIFICALLY, GSI MAKES NO FURTHER WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE IN CONNECTION WITH: (I) 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.

GSI shall not be liable for any direct, indirect, incidental or consequential damages, including, without limitation, loss of anticipated profits or benefits. The sole and exclusive remedy is set forth in the Limited Warranty, which shall not exceed the amount paid for the product purchased. 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.

GSI assumes no responsibility for claims resulting from construction defects or unauthorized modifications to products which it manufactured. Modifications to products not specifically delineated in the manual accompanying the equipment at initial sale will void the Limited Warranty.

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. This Limited Warranty extends solely to products manufactured by GSI.

Prior to installation, the end-user has the responsibility to comply with federal, state and local codes which apply to the location and installation of products manufactured or sold by GSI.

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.

G S I G R O U P



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