

42"-48" Bucket Elevator Platform and Ladder "X" Series

Installation Manual

PNEG-1842

Date: 03-13-12

G S I G R O U P



PNEG-1842

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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Chapter 1: Introduction

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.

Chapter 2: Safety

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 that 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.

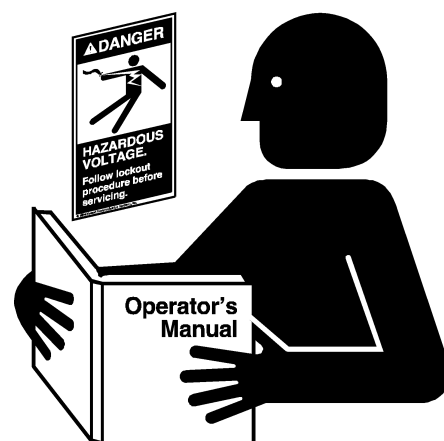
Follow Safety Instructions

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

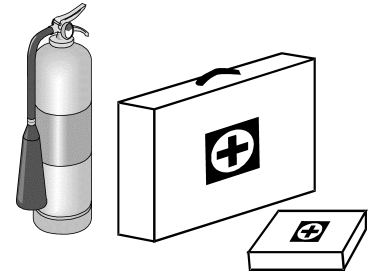
2. Safety

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.

Tie long hair up and back.

Wear safety glasses at all times to protect eyes from debris.

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

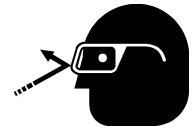
Wear steel-toed boots to help protect your feet from falling debris. Tuck in any loose or dangling shoestrings.

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

Wear a 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-Toed Boots



Respirator



Hard Hat



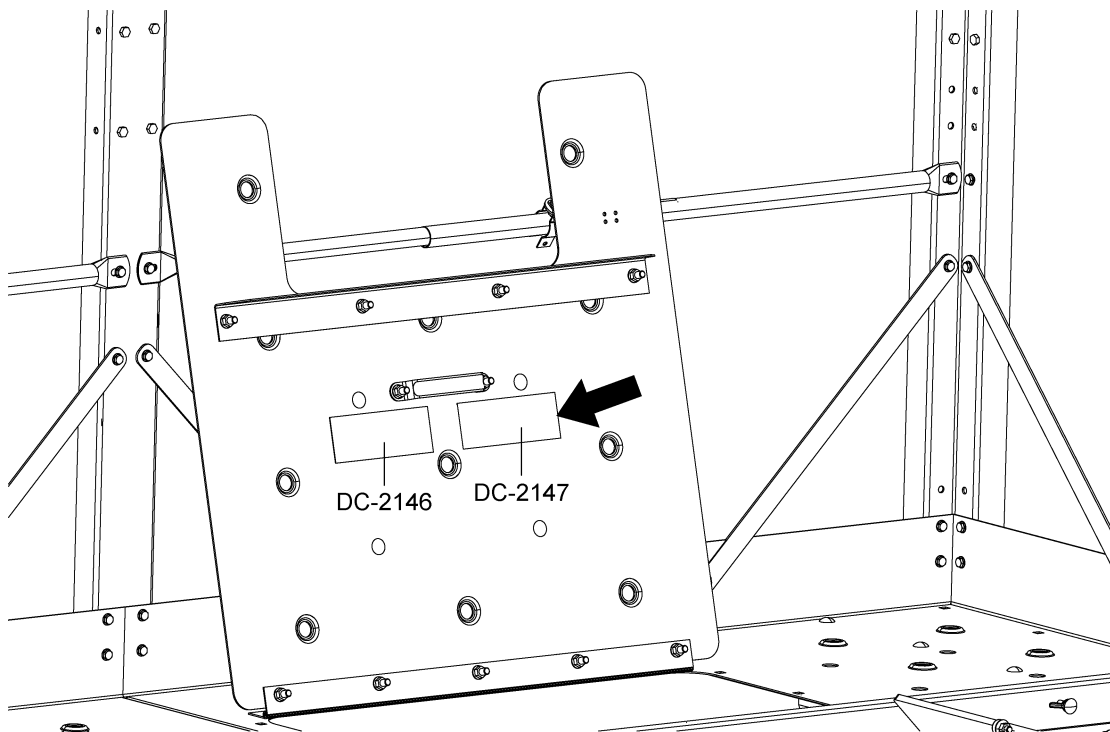
Fall Protection



Chapter 3: Decal Location

 DANGER	
	<p>DO NOT EXCEED PLATFORM LOAD LIMIT</p> <p>Load limit = 500 LBS. (2.25 kN)</p> <p>Excessive load will damage platform and cause platform to fall.</p> <p>Injury or death will result.</p> <p style="text-align: right;">DC-2146</p>

 WARNING	<p>FALL HAZARD</p> <ul style="list-style-type: none"> • Fall hazard present when hatch door open. • Fall may result in serious injury or death • Close hatch door while on platform. <p style="text-align: right;">DC-2147</p>
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Chapter 4: Overview

This section is intended to provide a general, high-level overview of platform assembly for the GSI bucket elevator. Detailed instructions are given in the pages to come.

This section should be used for reference only and is intended to provide general guidance about the overall process only.

1. Support Channels:

Proper orientation of channels is based upon the size of the bucket elevator (42" or 48") and the right/left hand position of the drive. This must be installed correctly at the start or nothing else will install correctly.

2. Ladders and Safety Cages:

Ladder sections mount directly to the trunking sections of the bucket elevator. Typical ladder layouts and charts identifying the support height for ladder packages can be found [on Pages 11 through 20](#).

3. Tie Angles to Trunking:

- Proper orientation of the tie angles is critical for correct installation.
- Note differences from up-leg and down-leg installations.

Be sure to follow the instructions for the size and drive position.

Throughout this manual, particular attention is given to the initial orientation of channels and aligning bolt holes. Failure to complete these initial steps correctly will significantly impede the assembly and installation of the bucket elevator platforms.

4. Decking and Toe Boards:

Decking is etched with alpha characters to assist with orienting decks and aligning holes for connections. Decking connections should be finger-tight only initially so that adjustments can be made once all decks and toe boards are in place. Only then should all hardware be fully torqued.

5. Handrail Platform Posts:

The number and location of platform posts varies based upon platform and bucket elevator size.

6. Handrails:

Intermediate handrails (those at near knee level) may need to be field cut to fit. The amount to trim varies based upon the size of the platform being installed. The smaller rail then fits inside of the larger rail so that it "telescopes" between the posts. Always follow best practices of "measure twice, cut once" and verify the measurement is for the bucket elevator size. Upper handrails do not require any alterations in the field prior to assembly.

7. Platform Braces:

Throughout this manual, safety cage bars (LDR-517BE) are used as platform braces. These are required for support and stability. Please attach as described through the manual.

Chapter 5: 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* and *on Page 12* for the correct ladder package for the system.

Supported Bucket Height Reference Chart for 42"

Part #	Supported Bucket Height (Ft.)
42XRLAD50	50-59
42XRLAD60	60-69
42XRLAD70	70-79
42XRLAD80	80-89
42XRLAD90	90-99
42XRLAD100	100-109
42XRLAD110	110-119
42XRLAD120	120-129
42XRLAD130	130-139
42XRLAD140	140-149
42XRLAD150	150-159
42XRLAD160	160-169
42XRLAD170	170-179
42XRLAD180	180-189
42XRLAD190	190-199
42XRLAD200	200-209
42XRLAD210	210-219
42XRLAD220	220-229
42XRLAD230	230-239

Part #	Supported Bucket Height (Ft.)
42XWLAD50	50-59
42XWLAD60	60-69
42XWLAD70	70-79
42XWLAD80	80-89
42XWLAD90	90-99
42XWLAD100	100-109
42XWLAD110	110-119
424WLAD120	120-129
42XWLAD130	130-139
42XWLAD140	140-149
42XWLAD150	150-159
42XWLAD160	160-169
42XWLAD170	170-179
42XWLAD180	180-189
42XWLAD190	190-199
42XWLAD200	200-209
42XWLAD210	210-219
42XWLAD220	220-229
42XWLAD230	230-239

5. Ladder Assembly

Supported Bucket Height Reference Chart for 48"

Part #	Supported Bucket Height (Ft.)
48XRLAD50	50-59
48XRLAD60	60-69
48XRLAD70	70-79
48XRLAD80	80-89
48XRLAD90	90-99
48XRLAD100	100-109
48XRLAD110	110-119
48XRLAD120	120-129
48XRLAD130	130-139
48XRLAD140	140-149
48XRLAD150	150-159
48XRLAD160	160-169
48XRLAD170	170-179
48XRLAD180	180-189
48XRLAD190	190-199
48XRLAD200	200-209
48XRLAD210	210-219
48XRLAD220	220-229
48XRLAD230	230-239

Part #	Supported Bucket Height (Ft.)
48XWLAD50	50-59
48XWLAD60	60-69
48XWLAD70	70-79
48XWLAD80	80-89
48XWLAD90	90-99
48XWLAD100	100-109
48XWLAD110	110-119
48XWLAD120	120-129
48XWLAD130	130-139
48XWLAD140	140-149
48XWLAD150	150-159
48XWLAD160	160-169
48XWLAD170	170-179
48XWLAD180	180-189
48XWLAD190	190-199
48XWLAD200	200-209
48XWLAD210	210-219
48XWLAD220	220-229
48XWLAD230	230-239

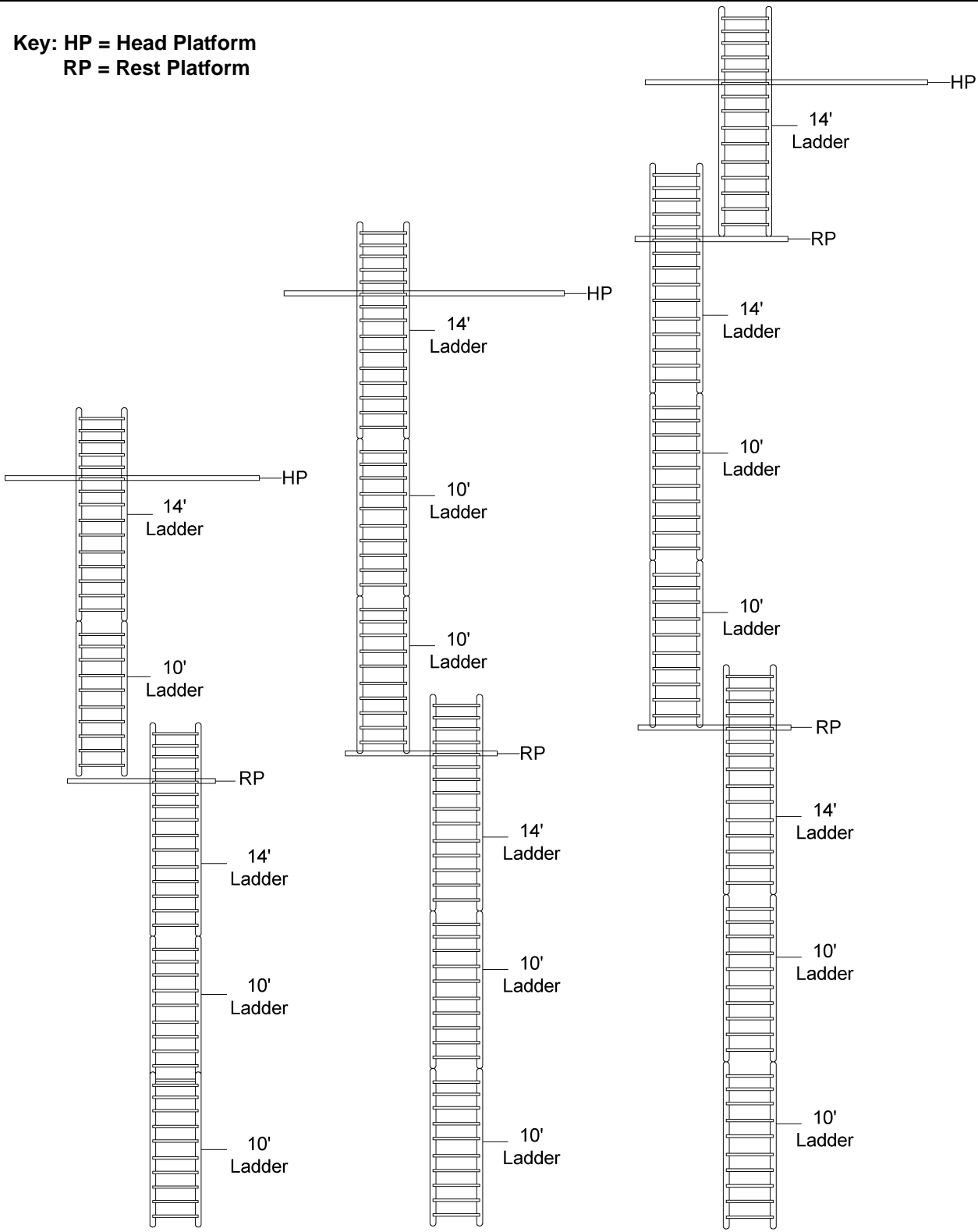
NOTE: Ladders are of a modular design for ease of modification in the field. These illustrations are only to be used as a “general” guide to installation layout. The exact assembly may vary due to the unique nature of each bucket elevator.

See [Figures 5A-5G on Pages 13-19](#) 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 50' through 230'.



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



50
50' Bucket elevator
 (42XRLAD50)
 (42XWLAD50)
 (48XRLAD50)
 (48XWLAD50)

60
60' Bucket elevator
 (42XRLAD60)
 (42XWLAD60)
 (48XRLAD60)
 (48XWLAD60)

70
70' Bucket elevator
 (42XRLAD70)
 (42XWLAD70)
 (48XRLAD70)
 (48XWLAD70)

Figure 5A

5. Ladder Assembly

Key: HP = Head platform
RP = Rest platform

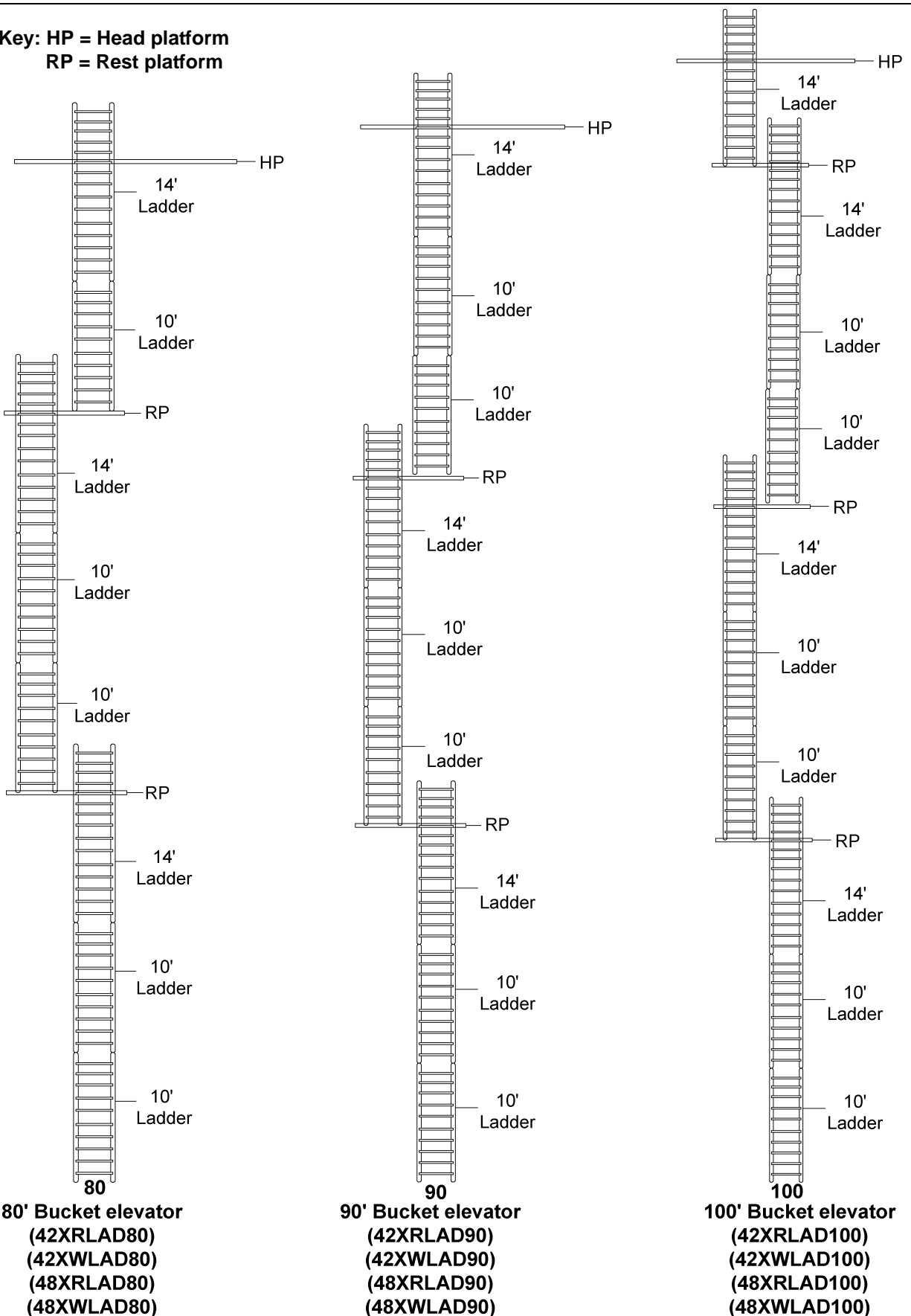
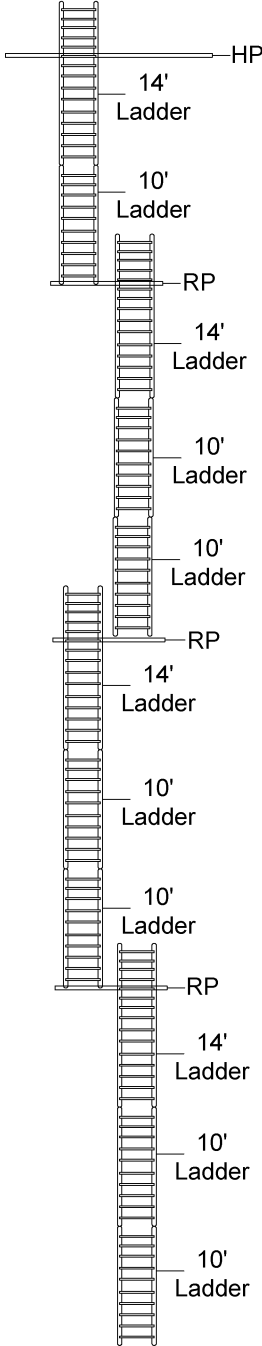
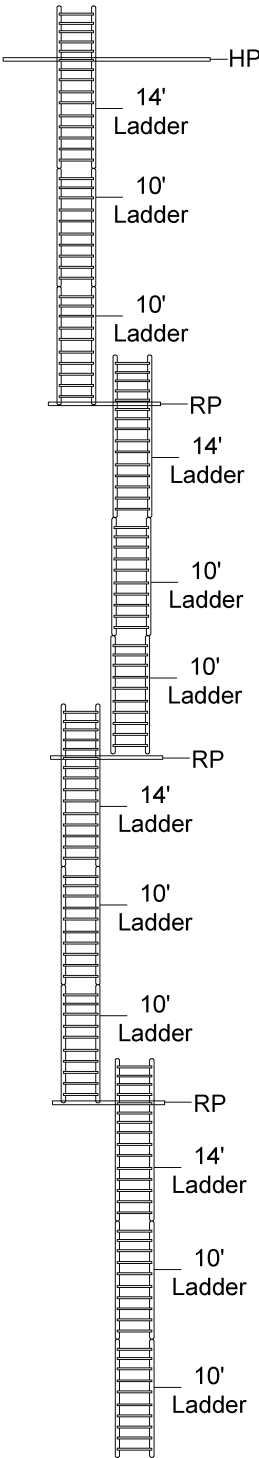


Figure 5B

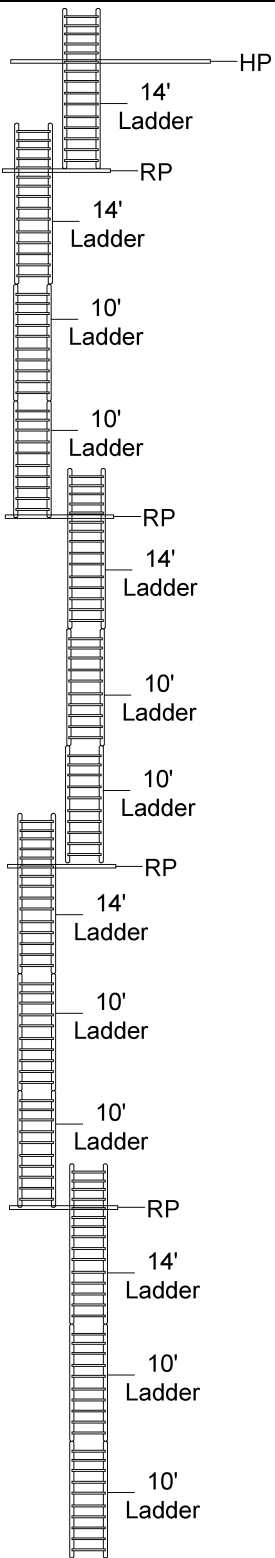
Key: HP = Head Platform
 RP = Rest Platform



110
110' Bucket elevator
(42XRLAD110)
(42WRLAD110)
(48XRLAD110)
(48WRLAD110)



120
120' Bucket elevator
(42XRLAD120)
(42XWLAD120)
(48XRLAD120)
(48XWLAD120)



130
130' Bucket elevator
(42XRLAD130)
(42XWLAD130)
(48XRLAD130)
(48XWLAD130)

Figure 5C

5. Ladder Assembly

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

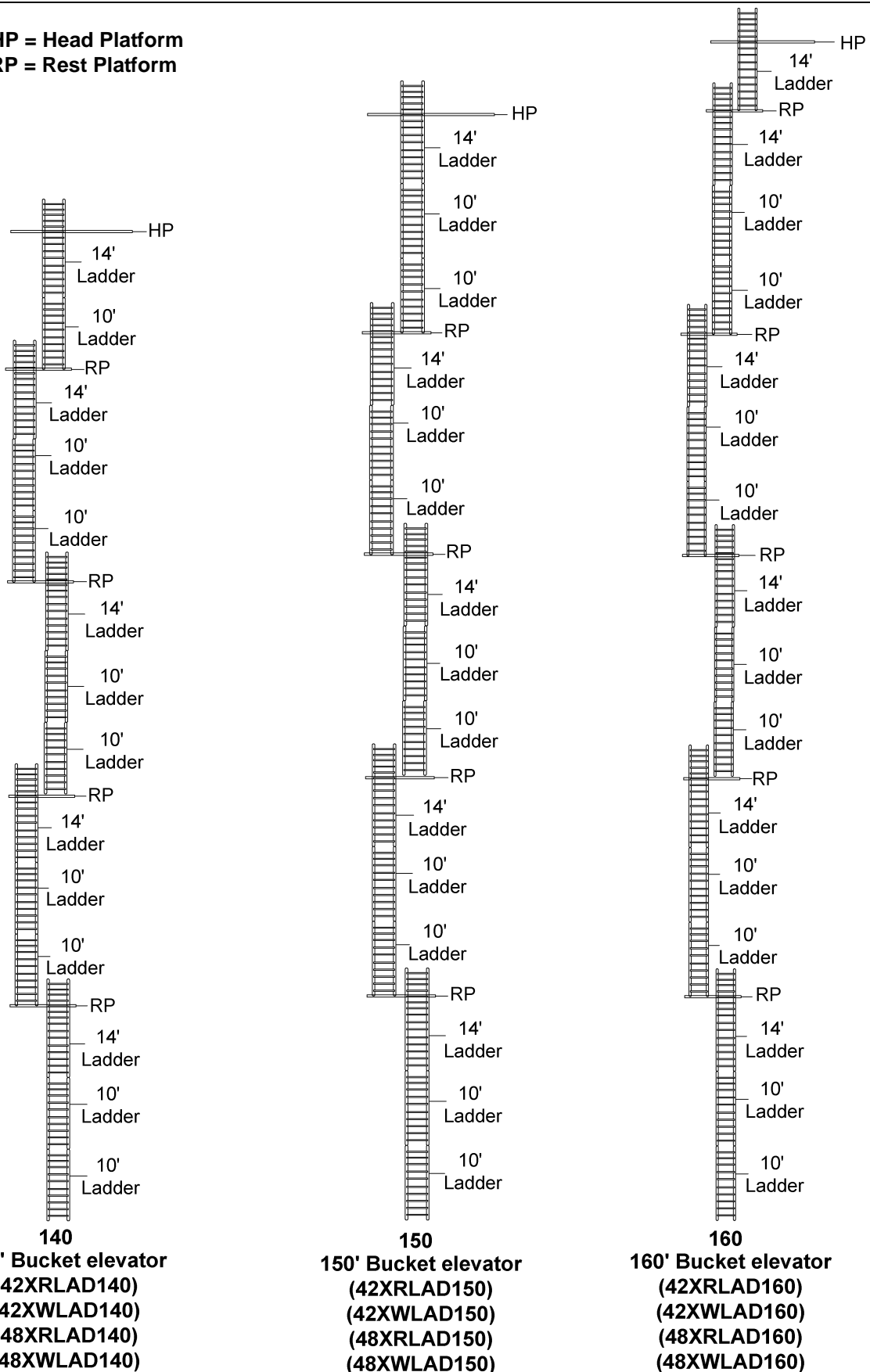
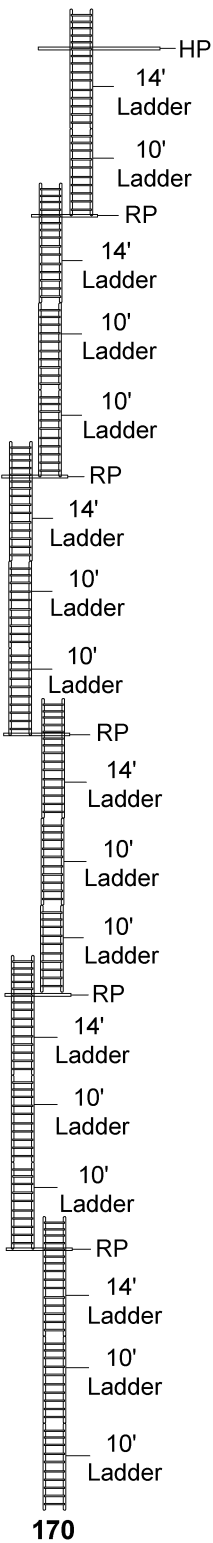
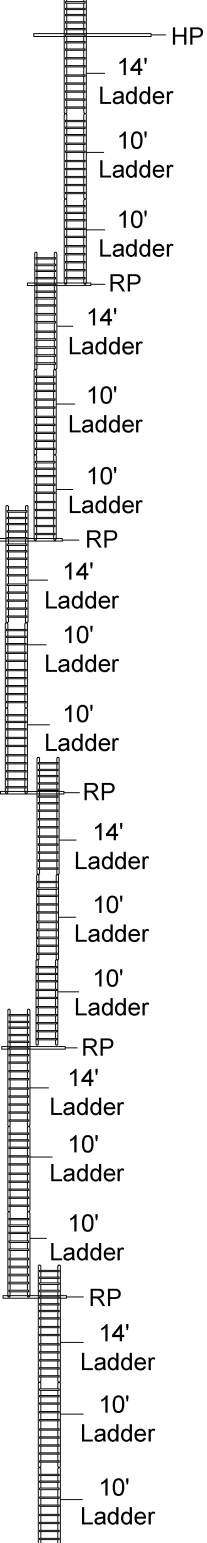


Figure 5D

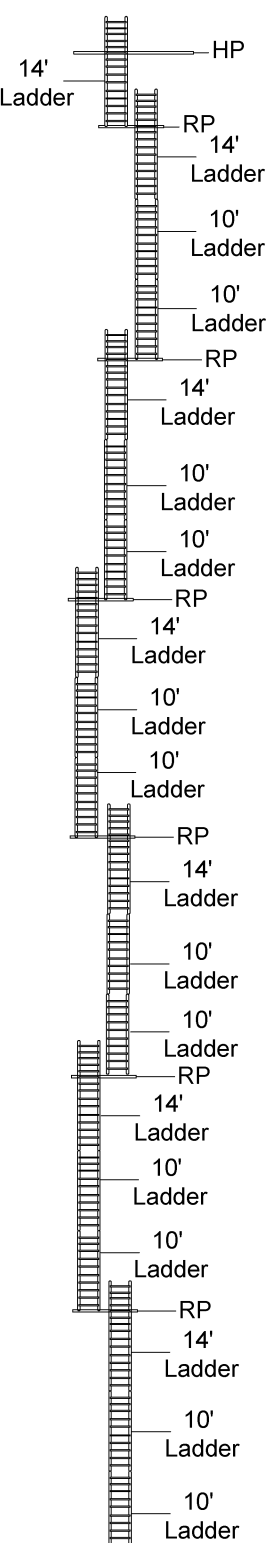
**Key: HP = Head Platform
RP = Rest Platform**



170
170' Bucket elevator
(42XRLAD170)
(42XWLAD170)
(48XRLAD170)
(48XWLAD170)



180
180' Bucket elevator
(42XRLAD180)
(42XWLAD180)
(48XRLAD180)
(48XWLAD180)



190
190' Bucket elevator
(42XRLAD190)
(42XWLAD190)
(48XRLAD190)
(48XWLAD190)

Figure 5E

5. Ladder Assembly

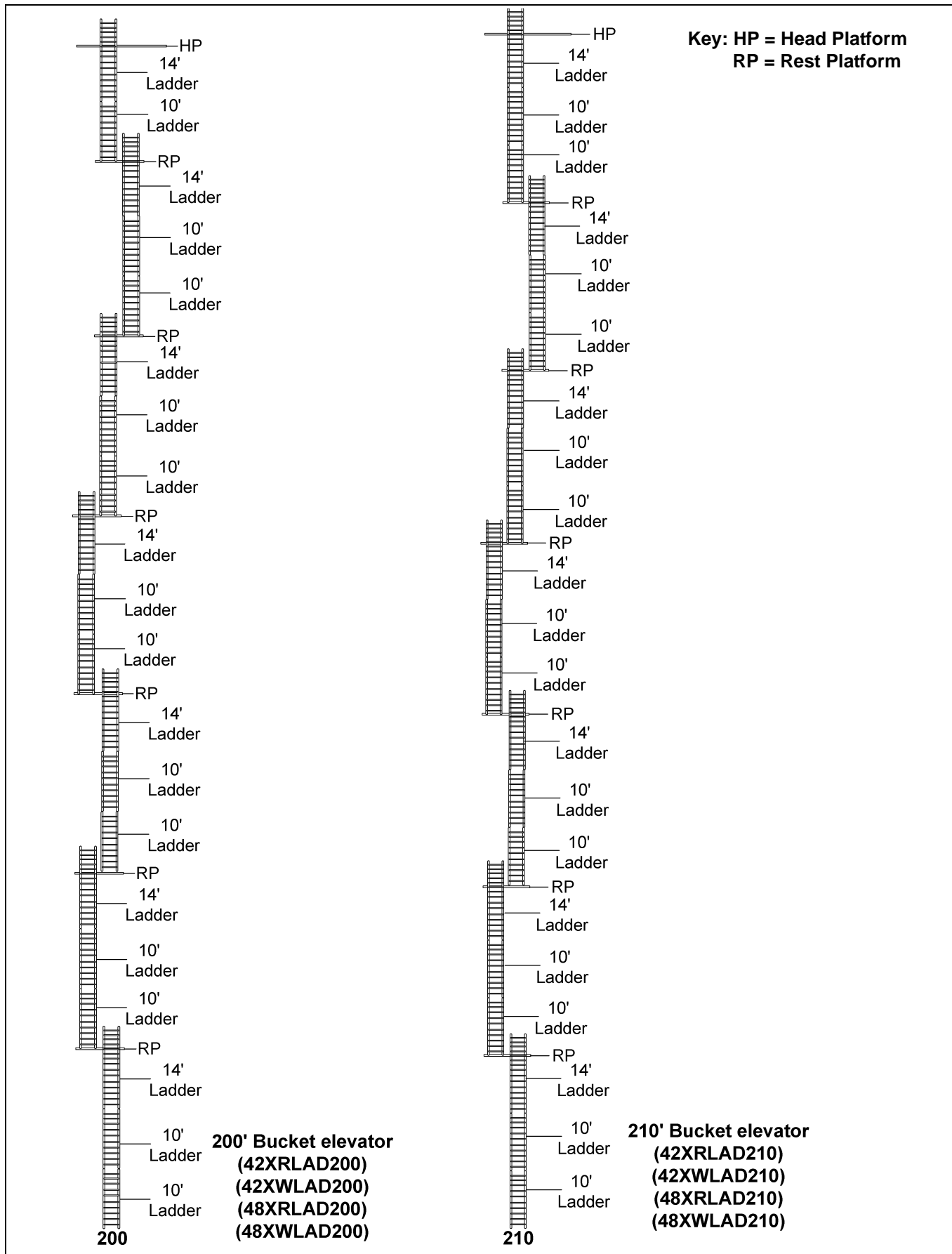


Figure 5F

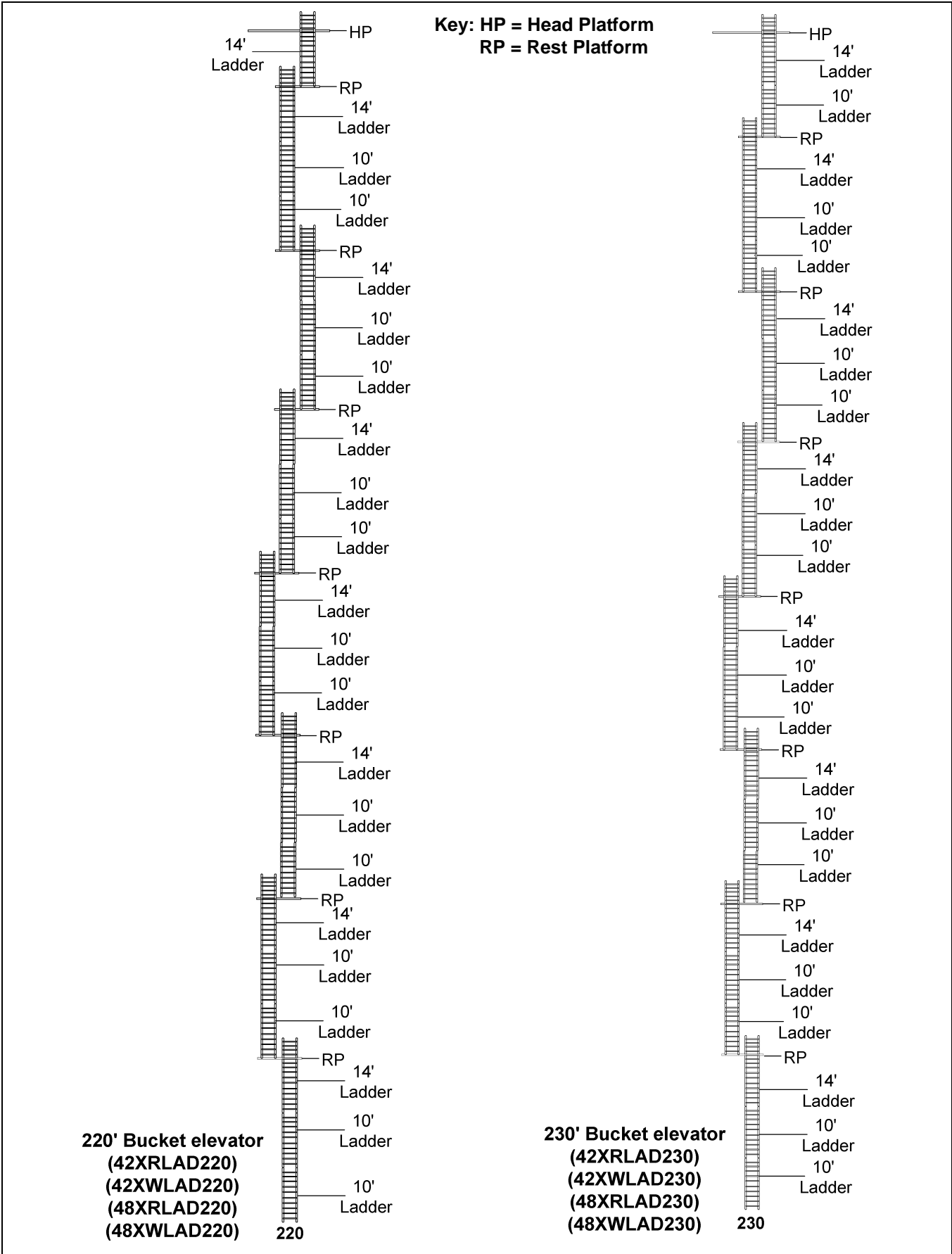


Figure 5G

Typical Ladder/Cage Setup

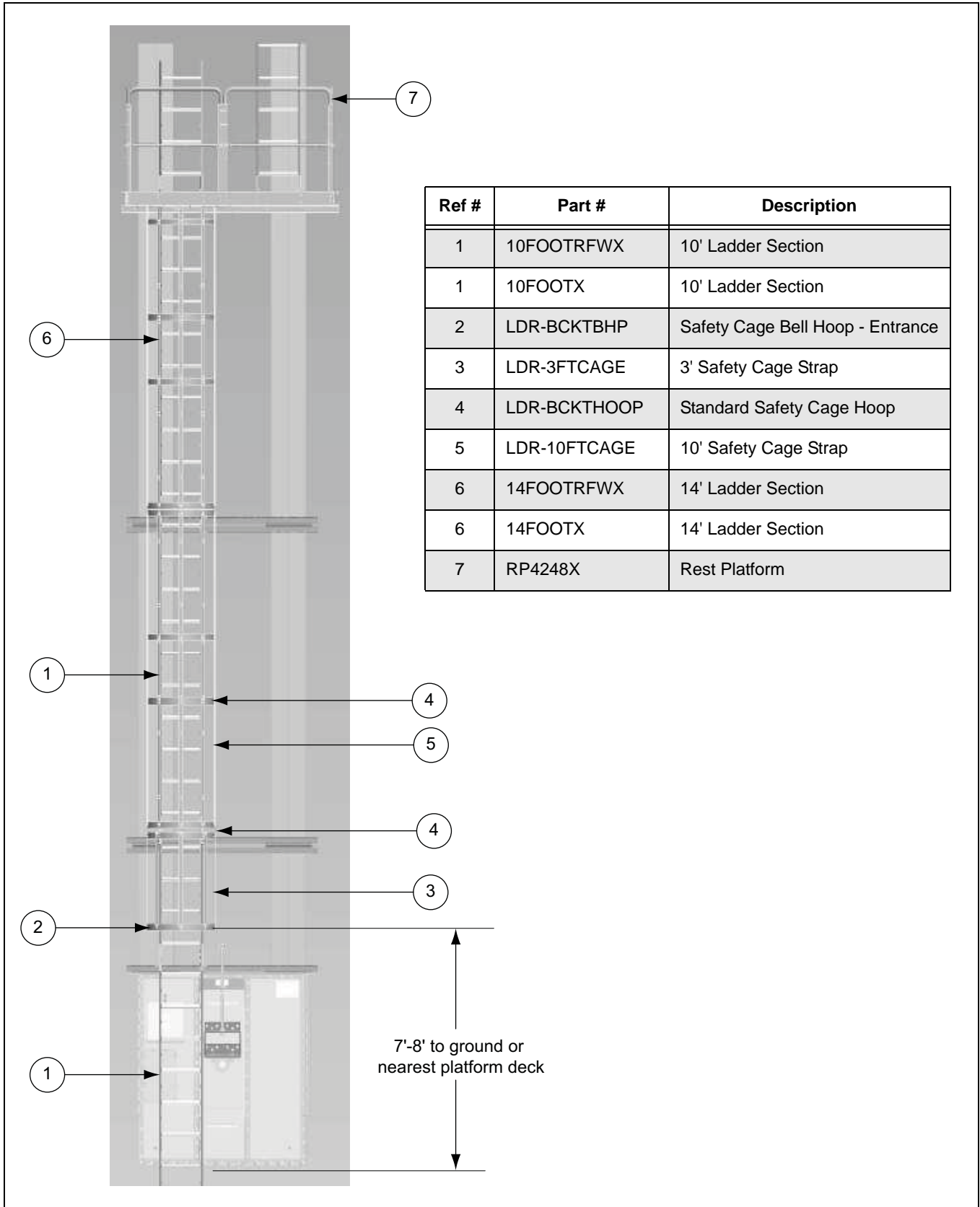


Figure 5H Typical Ladder/Cage Assembly Layout (30' Shown.)

Chapter 6: Tie Angles, Ladders and Safety Cages

Attach Tie Angle to Boot Trunking

1. When installing the tie angles, be sure sides with the notches face out away from the trunk and the side with the straight edge is installed against the trunking angles. Only one tie angle for the ladder side and one tie angle for the non-ladder side is used.
 - a. **For 42" Boot Tie Angle:** Install the tie angle (GECT4204X or BECT4204X) to both sides of the trunking attached at the boot using 1/2" x 1" HHCS bolts (S-7935) and 1/2" flange nuts (S-8506). (See Figure 6A.)

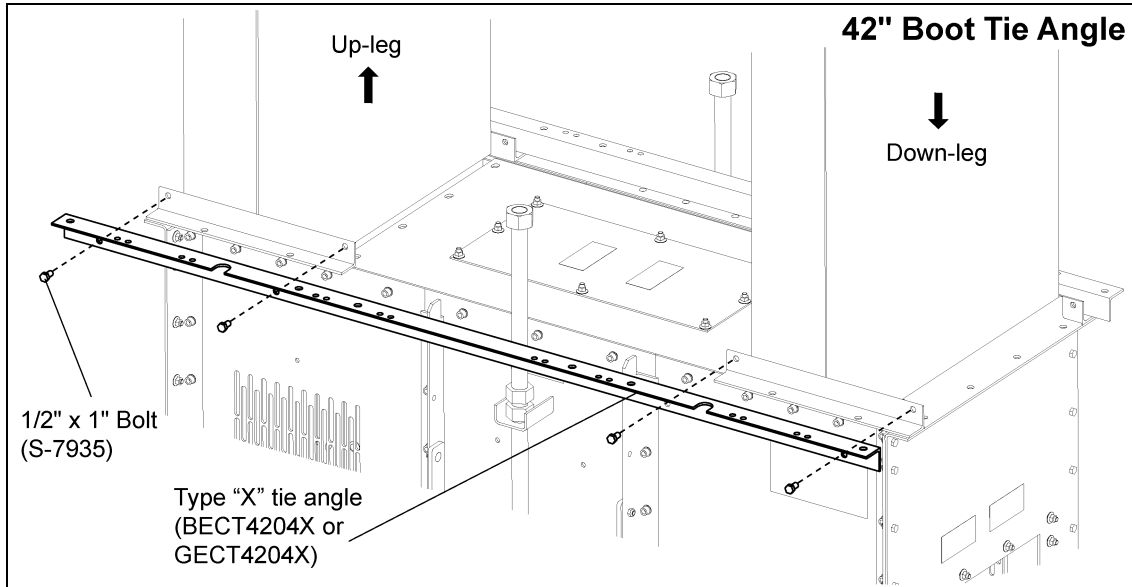


Figure 6A 42" Boot Tie Angle

- b. **For 48" Boot Tie Angle:** Install the tie angle (GECT4804X or BECT4804X) to both sides of the trunking attached at the boot using 1/2" x 1" HHCS bolts (S-7935) and 1/2" flange nuts (S-8506). (See Figure 6B.)

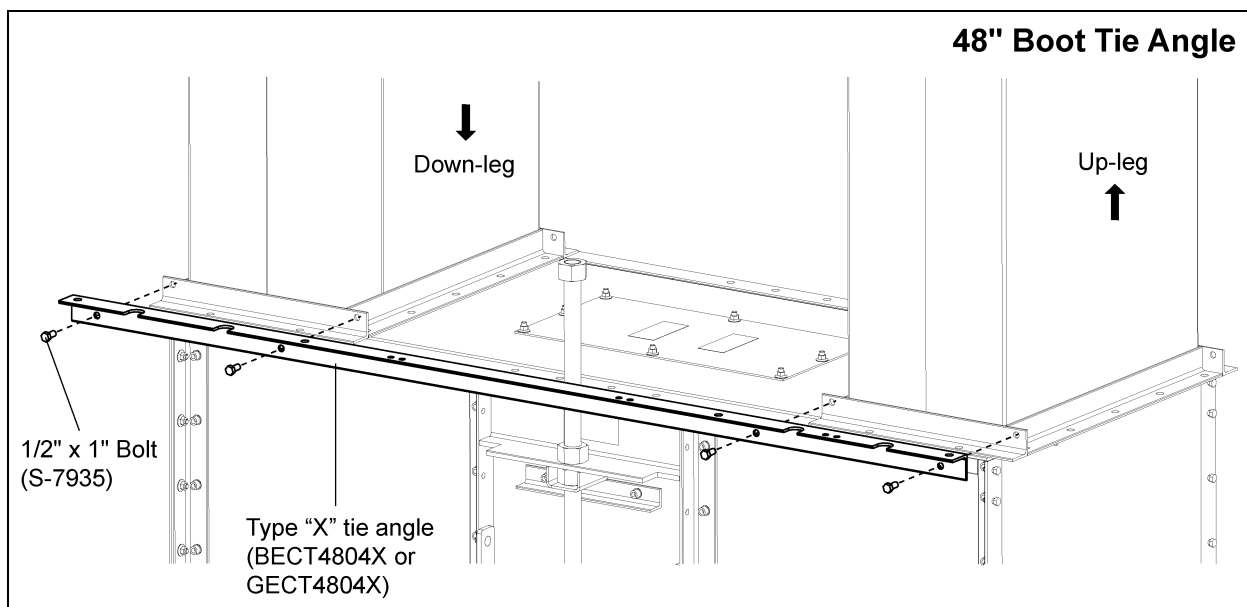


Figure 6B 48" Boot Tie Angle

6. Tie Angles, Ladders and Safety Cages

Attach Boot Ladder Support Brackets to Boot Tie Angle

NOTE: Refer to ladder layout images, [Figure 5A-5G on Pages 13-19](#).

NOTE: Ladder can be mounted to either the up-leg or the down-leg of the elevator depending on the height and head platform hatch location. Double check if the ladder should start on the up-leg or down-leg.

NOTE: Both the up-leg and down-leg ladder bracket locations are shown in this manual. Actual installation location on either the up-leg or the down-leg will be determined by owner preference.

1. **42" Up-Leg Boot Brackets:** Use 3/8" x 1" HHCS bolts (S-7469) and 3/8" flange nuts (S-10028) to attach the ladder support brackets (LAD1648TRH and LAD1648TLH) to the bottom of the boot tie angle using holes indicated. (See [Figure 6C](#).)

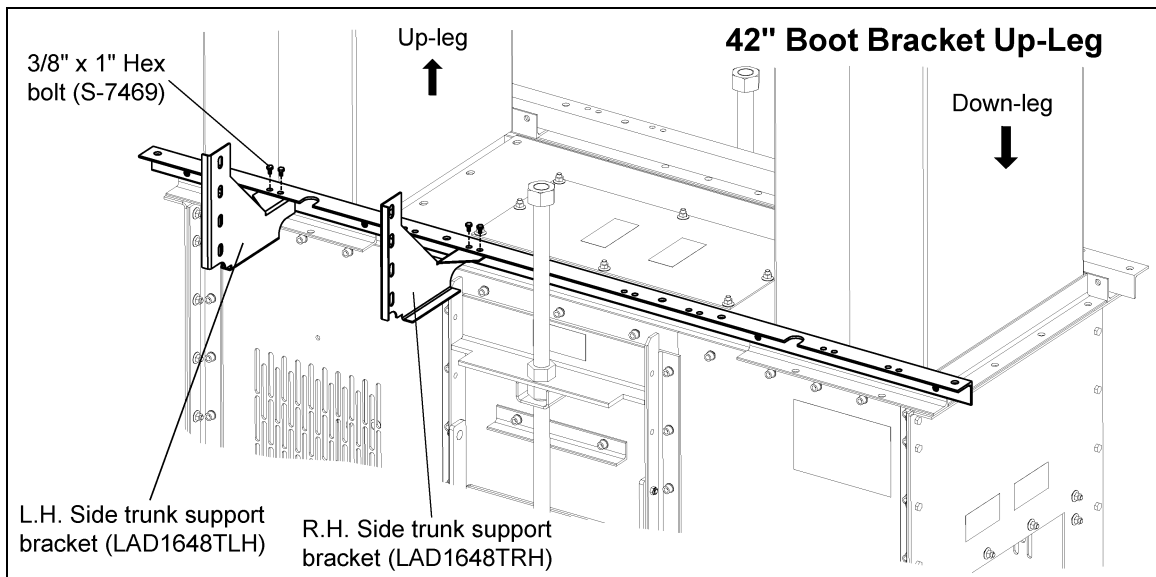


Figure 6C 42" Up-Leg Boot Bracket

2. **42" Down-Leg Boot Brackets:** Use 3/8" x 1" HHCS bolts (S-7469) and 3/8" flange nuts (S-10028) to attach the ladder support brackets (LAD1648TRH and LAD1648TLH) to the bottom of the boot tie angle using holes indicated. (See [Figure 6D](#).)

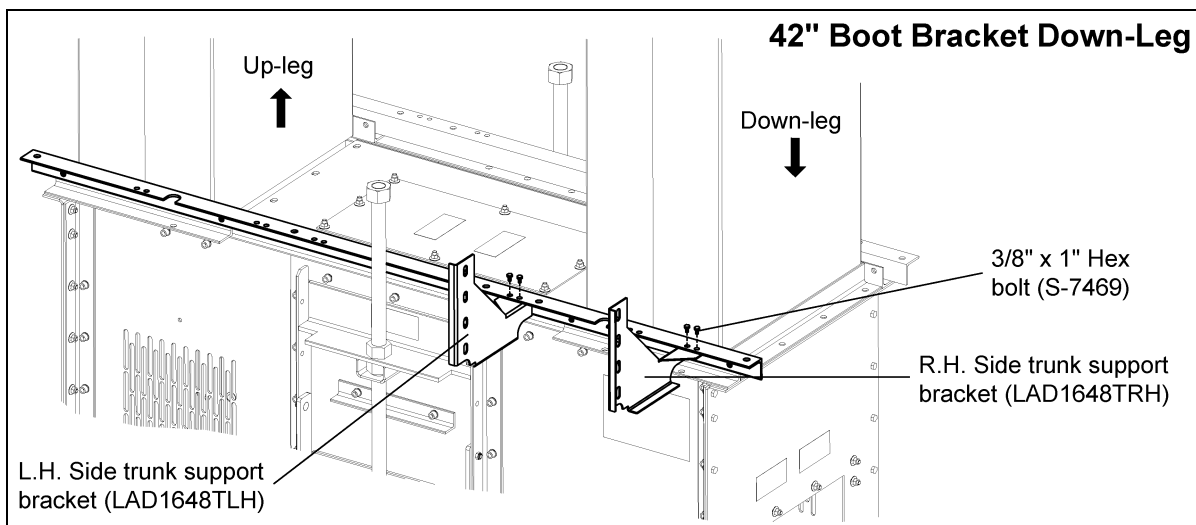


Figure 6D 42" Down-Leg Boot Bracket

6. Tie Angles, Ladders and Safety Cages

3. **48" Down-Leg Boot Brackets:** Use 3/8" x 1" HHCS bolts (S-7469) and 3/8" flange nuts (S-10028) to attach the ladder support brackets (LAD48TRH and LAD48TLH) to the top of the boot tie angle using holes indicated. (See Figure 6E.)

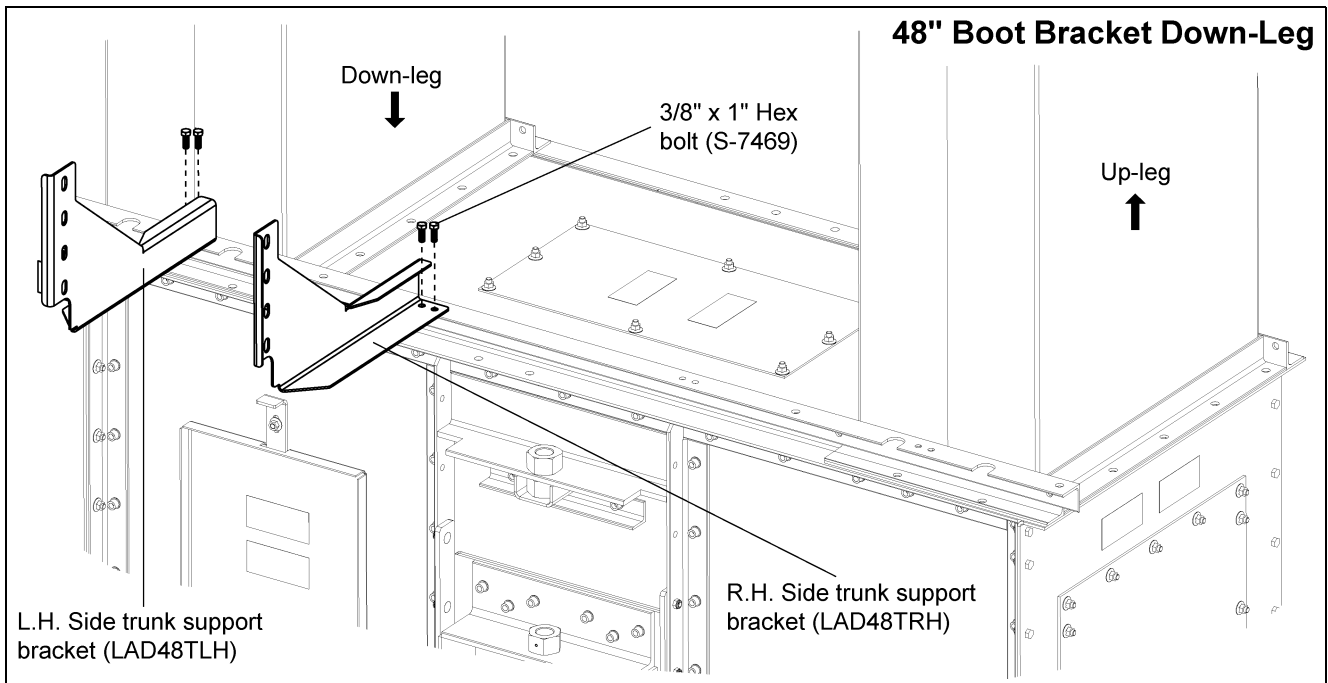


Figure 6E 48" Down-Leg Boot Bracket

4. **48" Up-Leg Boot Brackets:** Use 3/8" x 1" HHCS bolts (S-7469) and 3/8" flange nuts (S-10028) to attach the ladder support brackets (LAD48TRH and LAD48TLH) to the top of the boot tie angle using holes indicated. (See Figure 6F.)

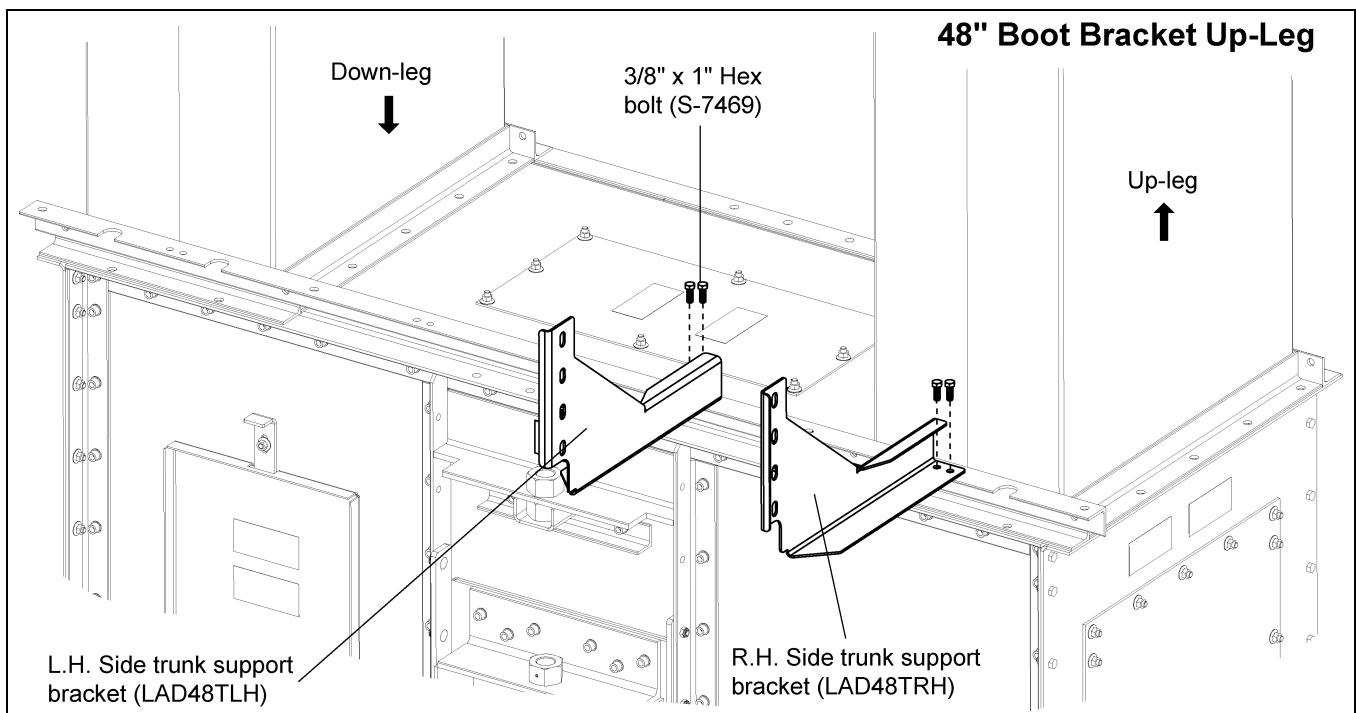


Figure 6F 48" Up-Leg Boot Bracket

6. Tie Angles, Ladders and Safety Cages

Install Boot Ladder Section

1. Trim a 10' ladder section so the first ladder rung is 12" from the ground when installed to the ladder bracket. (See Figure 6G.)

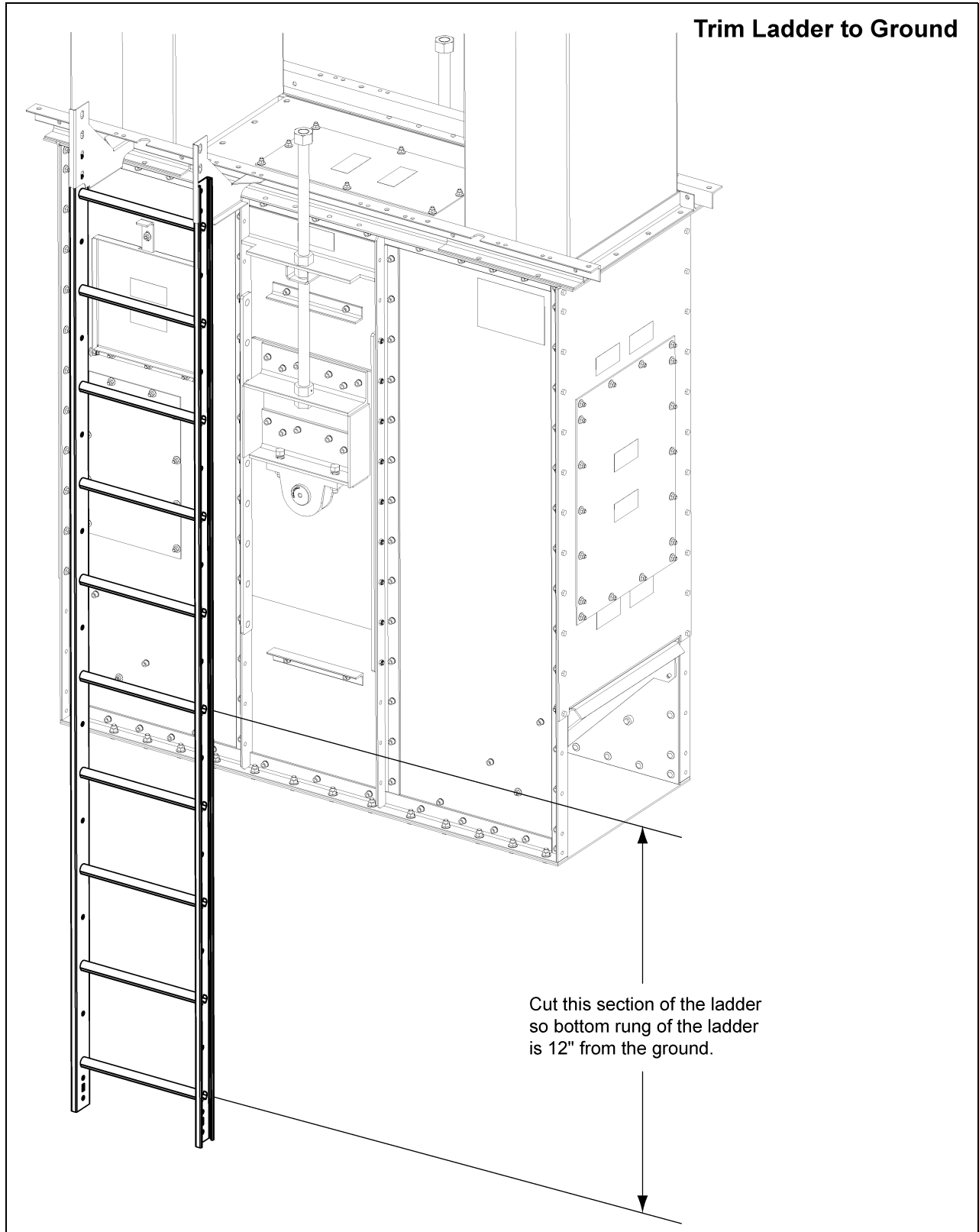


Figure 6G Boot Ladder Section

6. Tie Angles, Ladders and Safety Cages

2. Attach trimmed ladder section to the left and right ladder brackets using 1/2" x 1" HHCS bolts (S-7935) and flange nuts (S-8506) through the bottom most set of bracket holes. (See [Figure 6H](#) below for 42" and [Figure 6I on Page 26](#) for 48".)

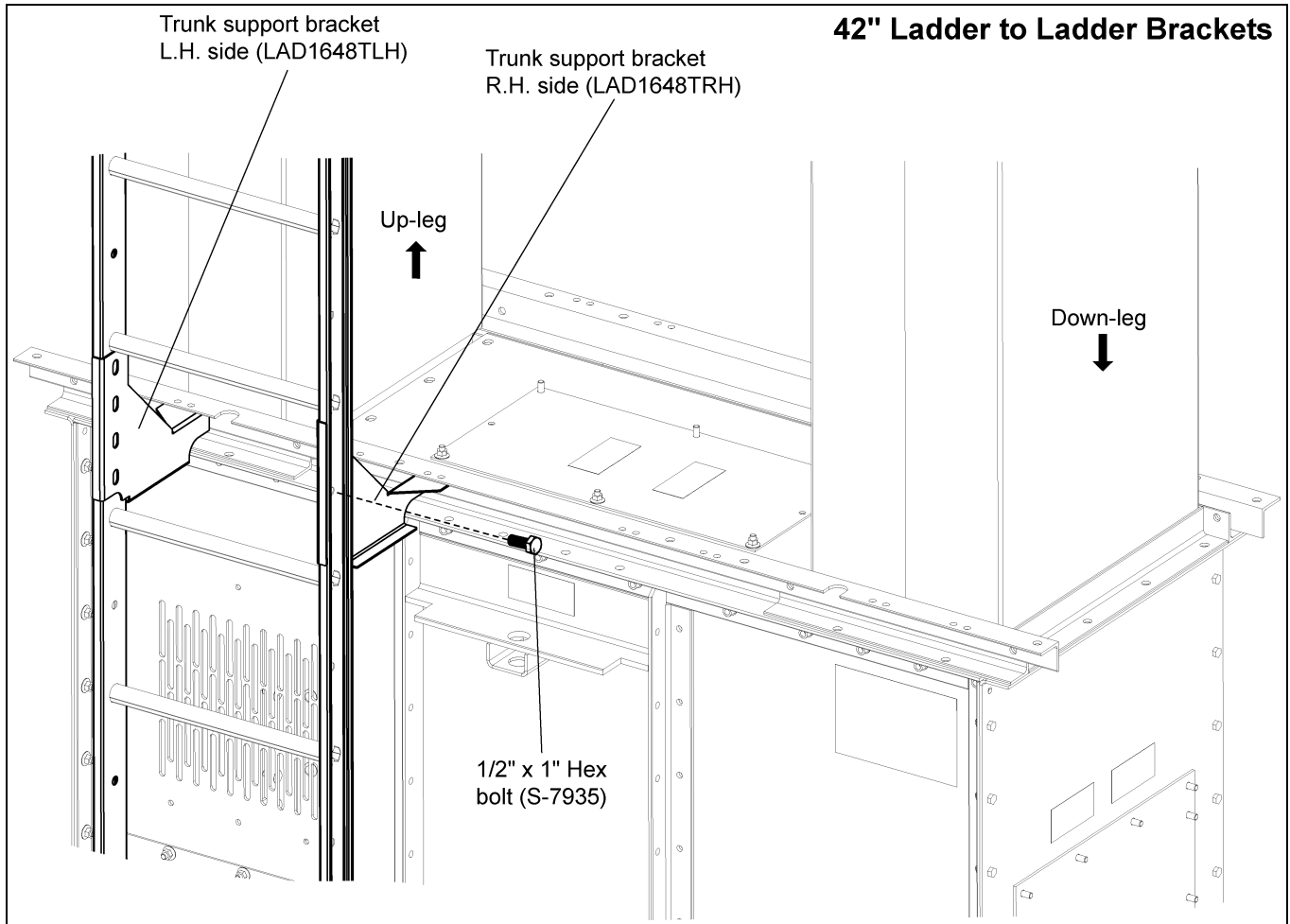


Figure 6H 42" Ladder to Ladder Brackets

6. Tie Angles, Ladders and Safety Cages

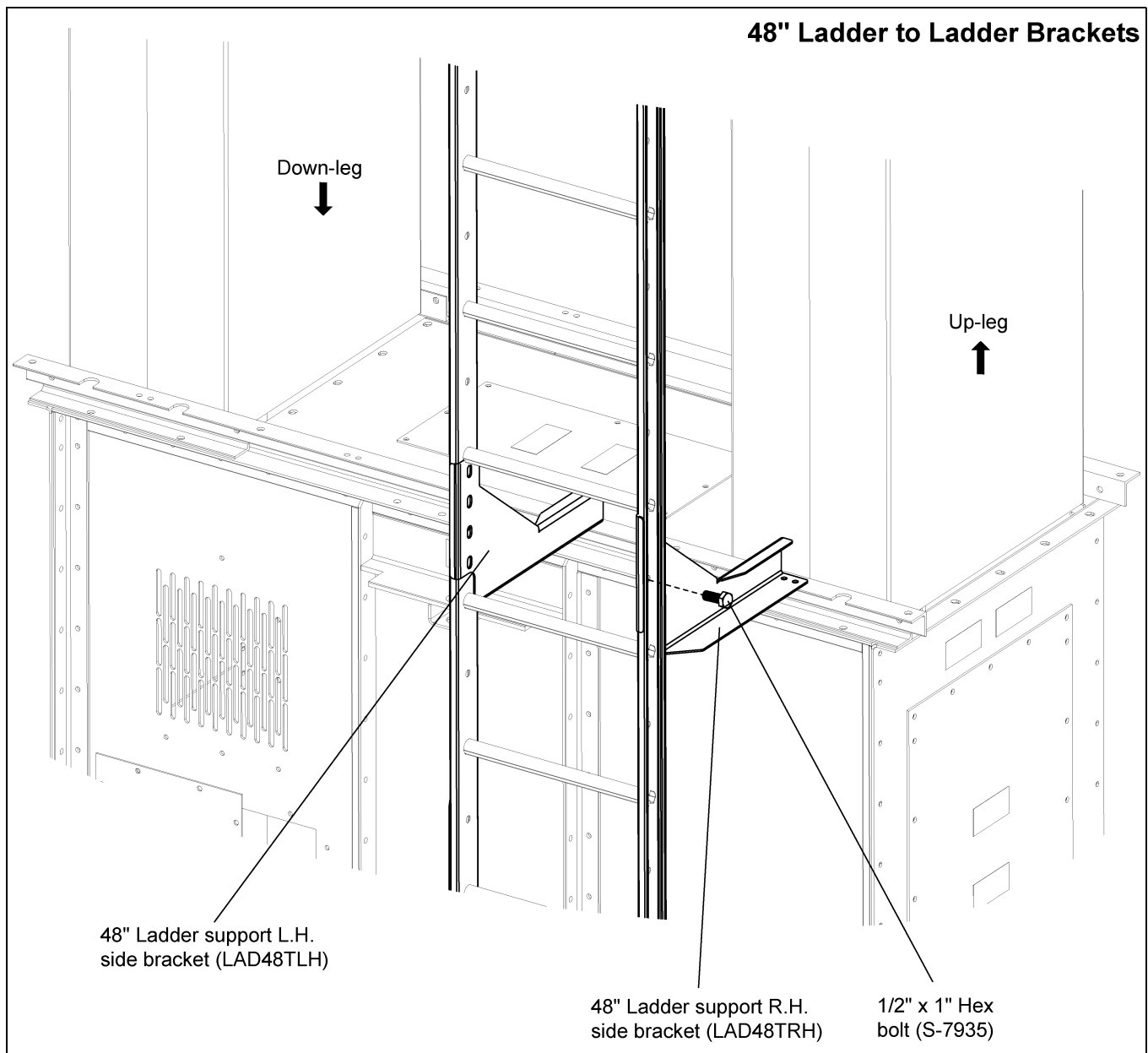


Figure 6I 48" Ladder to Ladder Brackets

3. Attach the next ladder section to the ladder brackets using 1/2" x 1" HHCS bolts (S-7935) and flange nuts (S-8506) through the top most set of holes.
4. Secure the bottom of the ladder to the boot or ground. **NOTE:** Bracket for this step is not included.

Attach Tie Angles to Trunking

NOTE: Tie angles must be installed at every trunking seam on both the ladder and non-ladder sides. The bottom tie angle will be replaced with a rest platform tie angle (RP42CHNLX for 42" and RPCHNLX2 for 48") where a rest platform is to be installed.

NOTE: When installing the tie angles, the notched side must face out away from the trunk and the side with the straight edge must be installed against the trunking angles.

Two (2) tie angles are installed for both the ladder and non-ladder sides.

1. **For 42" Tie Angles:** Install two (2) tie angles (GECT4204X or BECT4204X) to both sides of the trunking seam using 1/2" x 1" HHCS bolts (S-7935) and 1/2" flange nuts (S-8506). Installation is the same for both the ladder and non-ladder sides. (See Figure 6J below and Figure 6K on Page 28.)

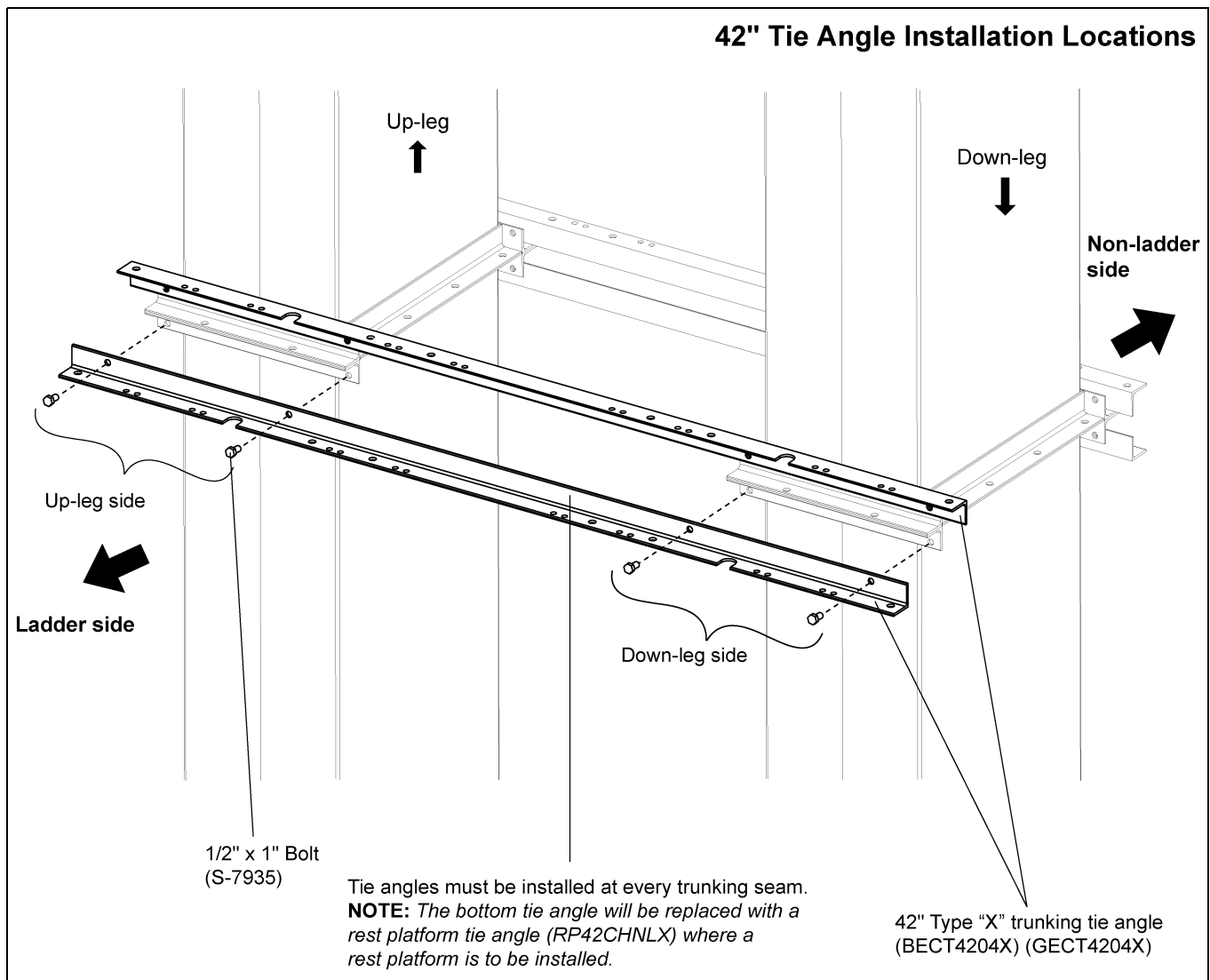


Figure 6J 42" Tie Angle Installation Locations

6. Tie Angles, Ladders and Safety Cages

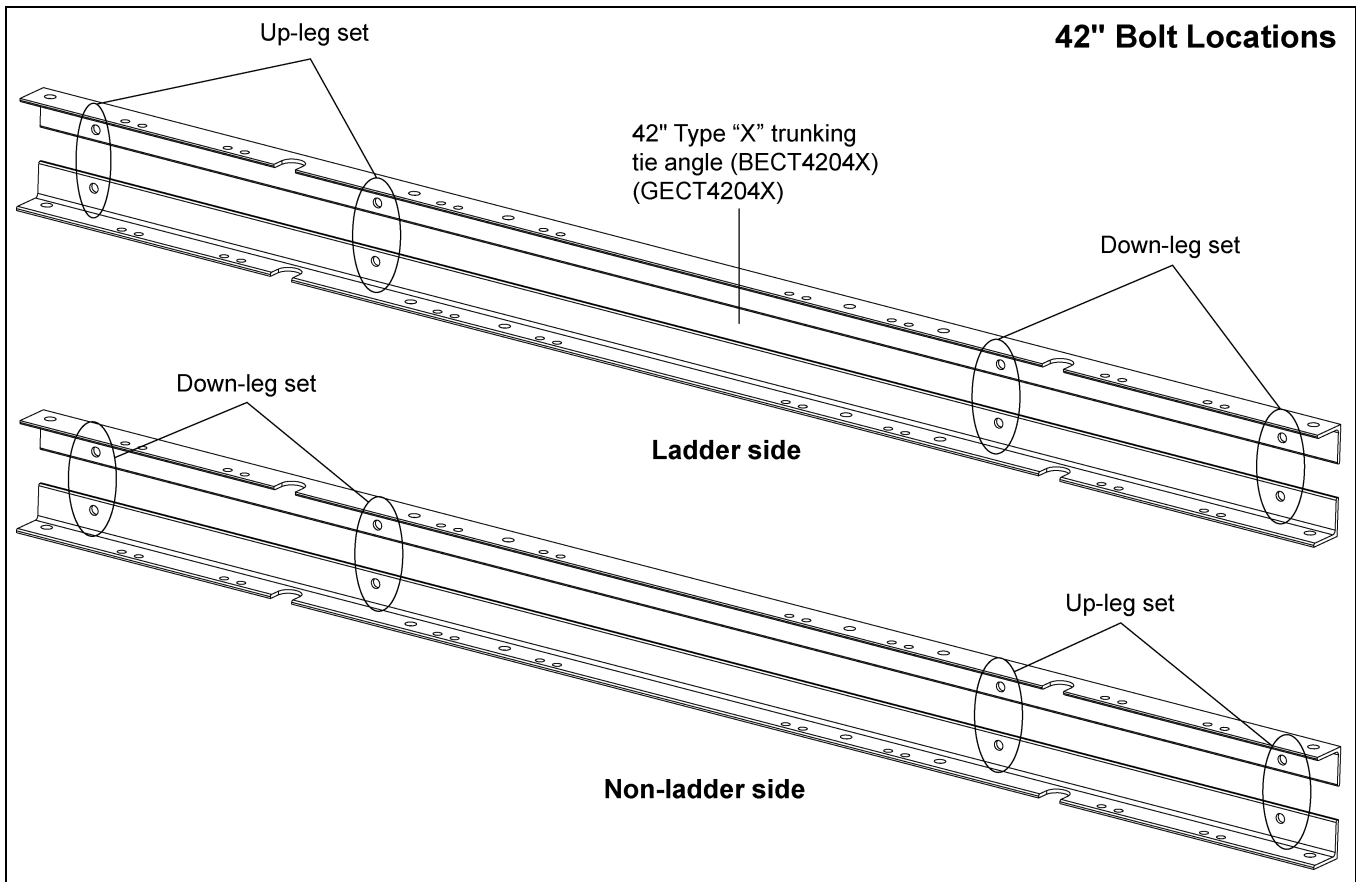


Figure 6K 42" Bucket Elevator Tie Angles to Trunking Bolt Locations

6. Tie Angles, Ladders and Safety Cages

2. For 48" Tie Angles: Install two (2) tie angles (GECT4804X or BECT4804X) to both sides of the trunking seam using 1/2" x 1" HHCS bolts (S-7935) and 1/2" flange nuts (S-8506). (See Figure 6L and Figure 6M.)

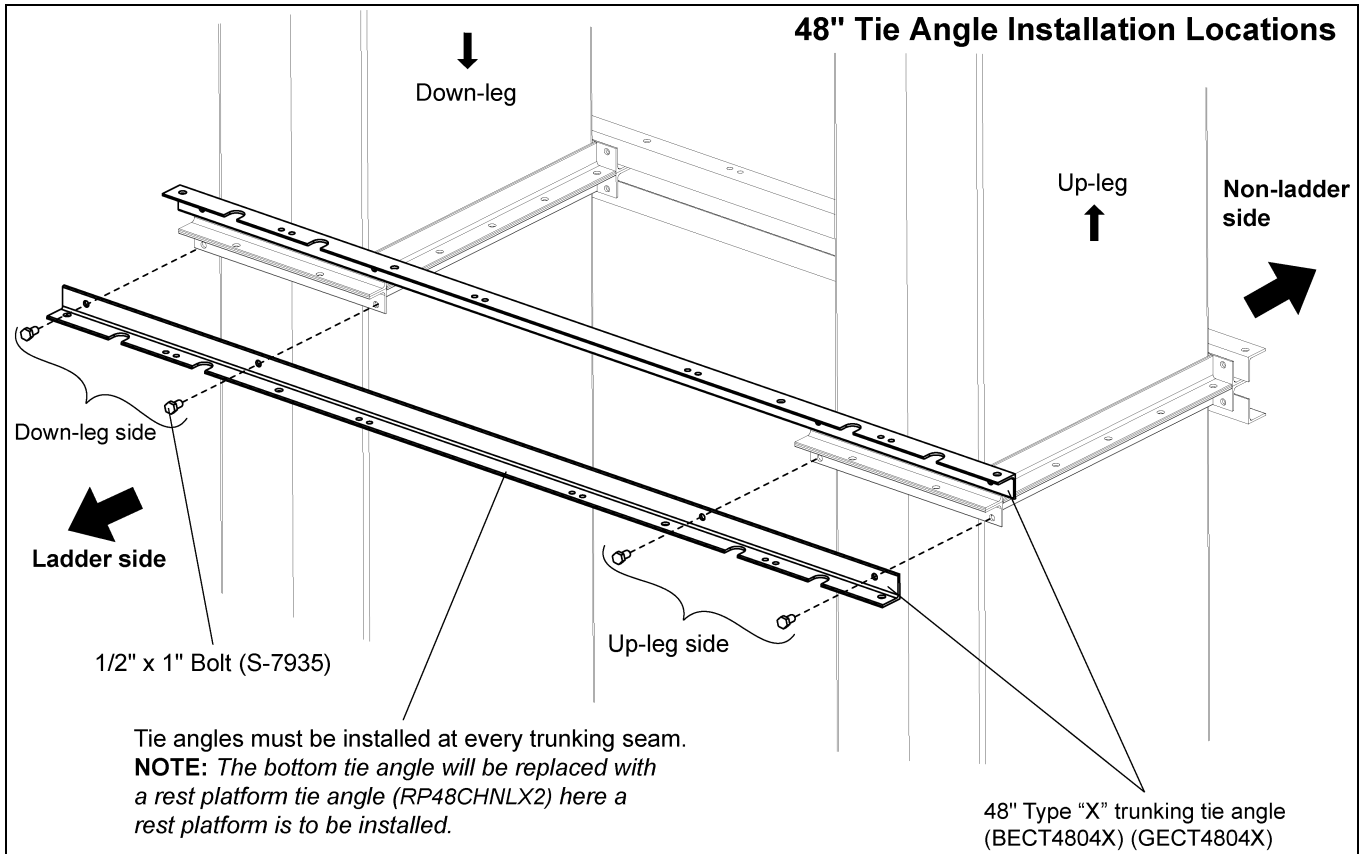


Figure 6L 48" Tie Angle Installation Locations

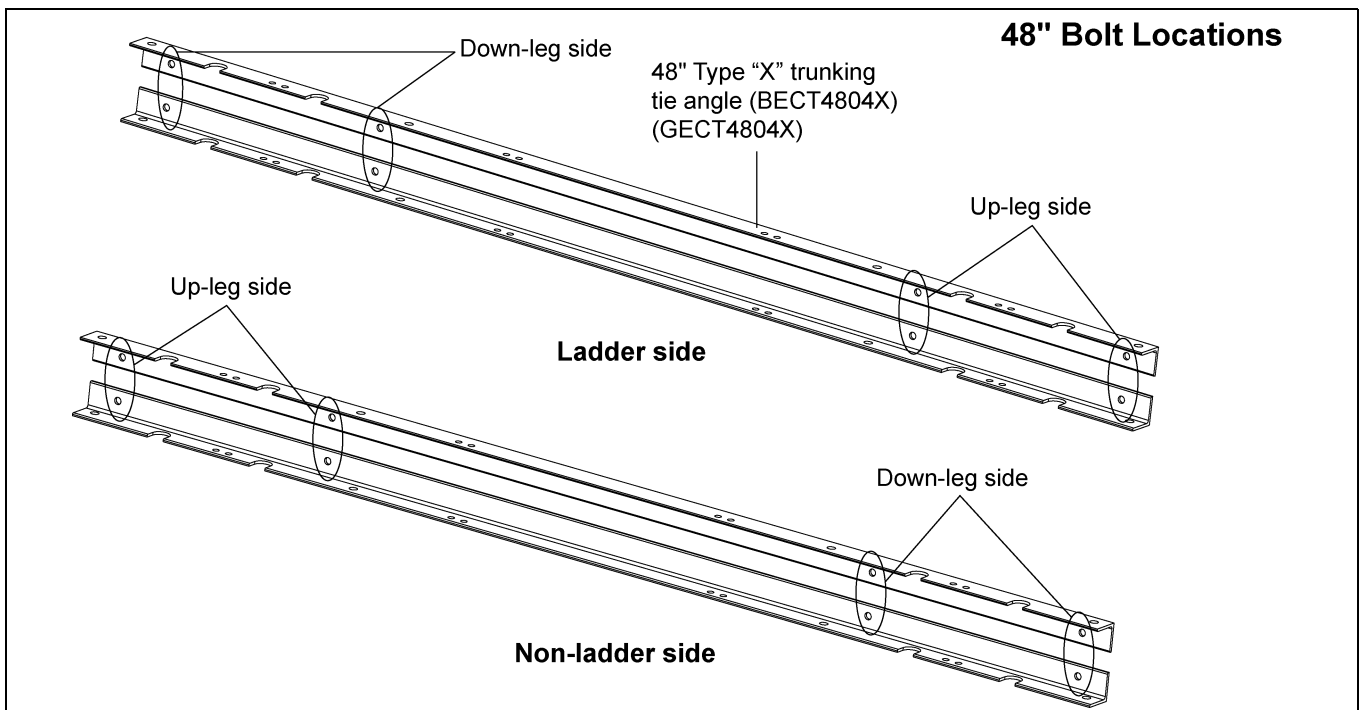


Figure 6M 48" Bucket Elevator Tie Angles to Trunking Bolt Locations

Attach Ladder Support Brackets to Tie Angles for 42"

1. **For 42" Ladder Brackets:** Mount the upper left and upper right hand brackets (LAD1648TLH2 and LAD1648TRH2) to the top tie angles.
2. Mount the lower left and lower right hand brackets (LAD1648TLH1 and LAD1648TRH1) to the bottom tie angles.
3. Fasten flanges of brackets and brackets to tie angles using 3/8" x 1" HHCS bolts (S-7469) and 3/8" flange nuts (S-968). (*See Figure 6N below, Figure 6O and Figure 6P on Page 31.*)

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

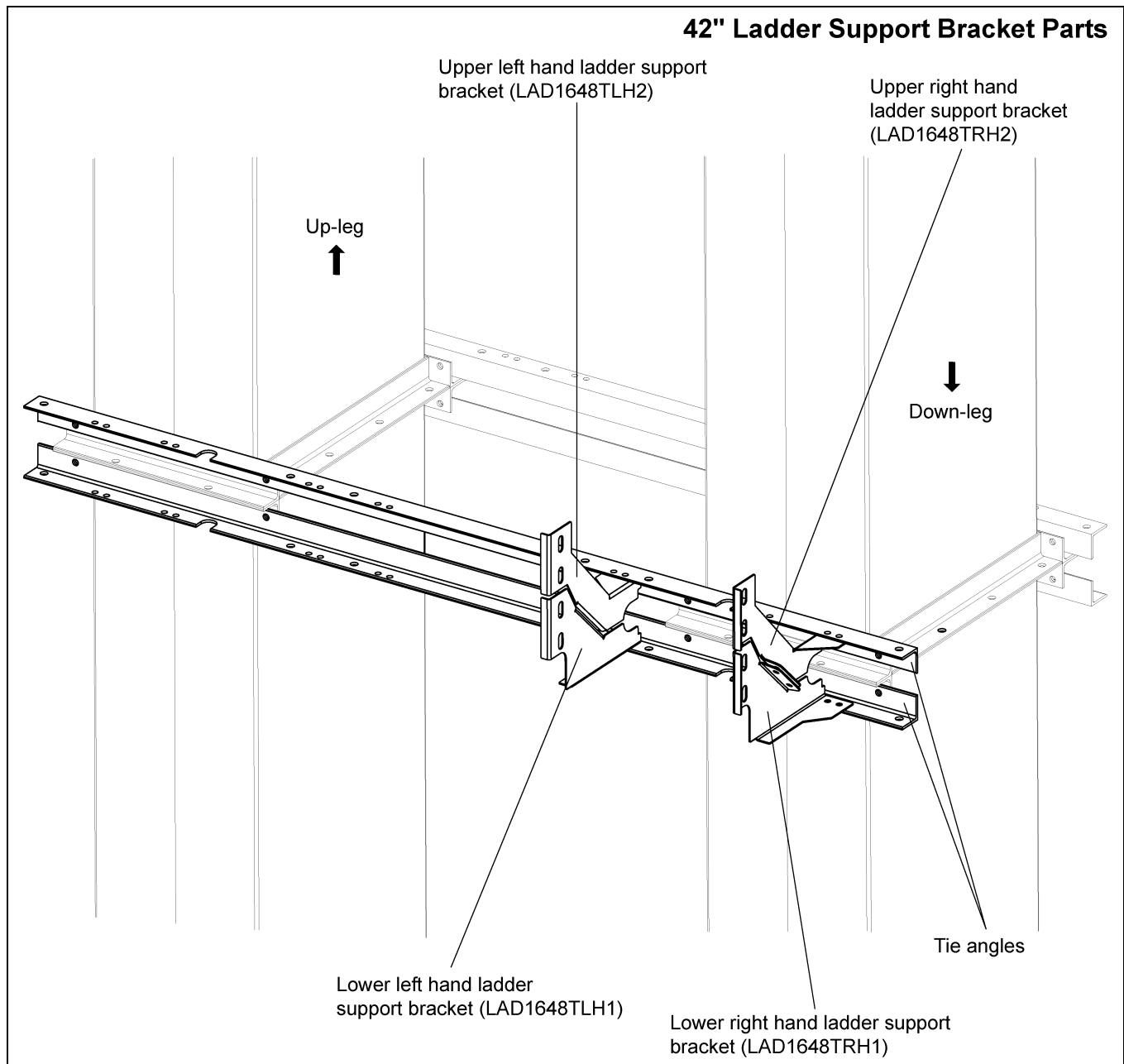


Figure 6N 42" Ladder Support Bracket Parts

6. Tie Angles, Ladders and Safety Cages

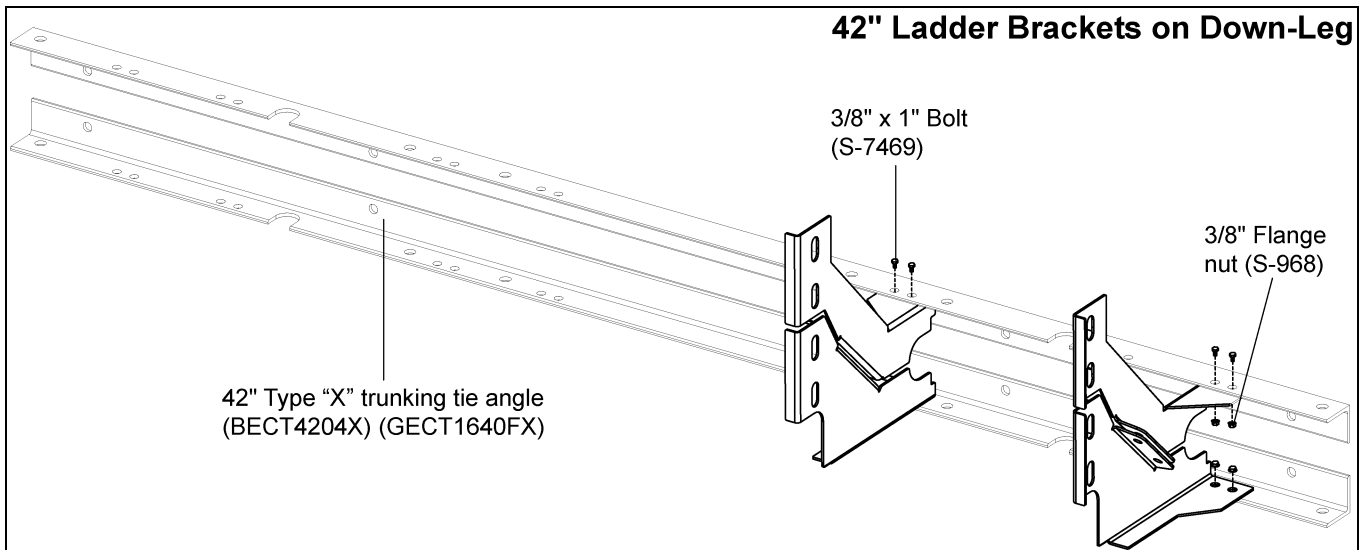


Figure 6O 42" Ladder Bracket Location for Down-Leg

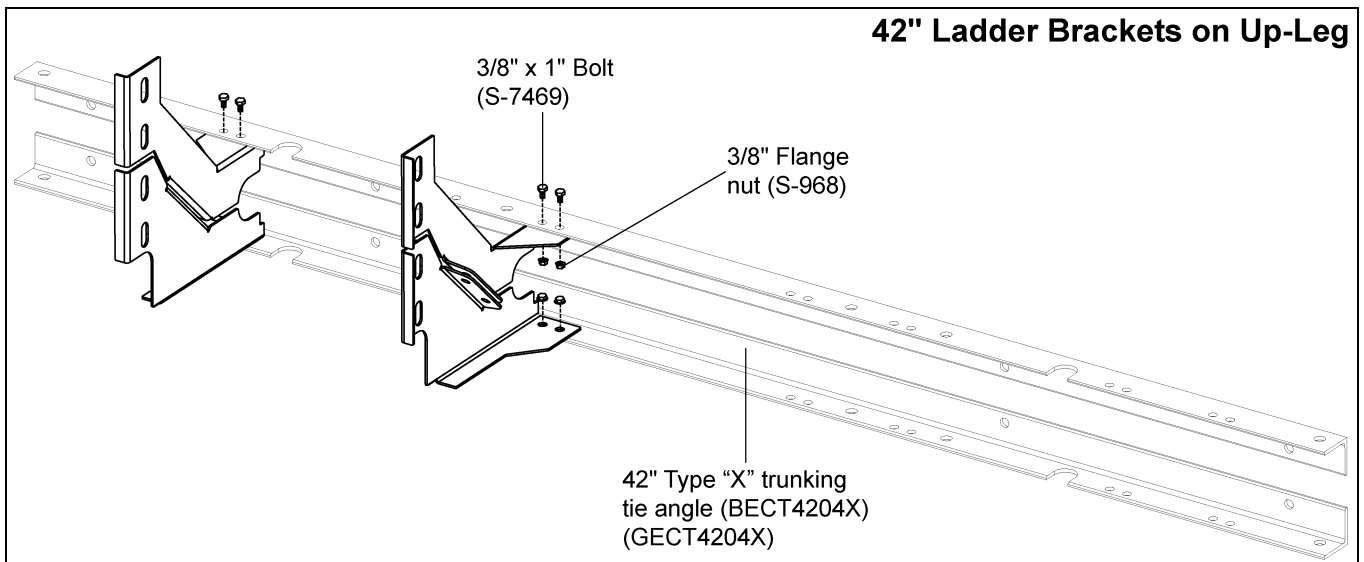


Figure 6P 42" Ladder Bracket Location for Up-Leg

6. Tie Angles, Ladders and Safety Cages

Attach Ladders to Ladder Support Brackets for 42"

1. Attach the top of the ladder section to the bottom ladder support brackets.
2. Attach the bottom of the ladder section to the top ladder support brackets.
3. Fasten ladders to ladder support brackets using 1/2" x 1" HHCS bolts (S-7935) and 1/2" flange nuts (S-8506). (See Figure 6Q for 42" connections.)

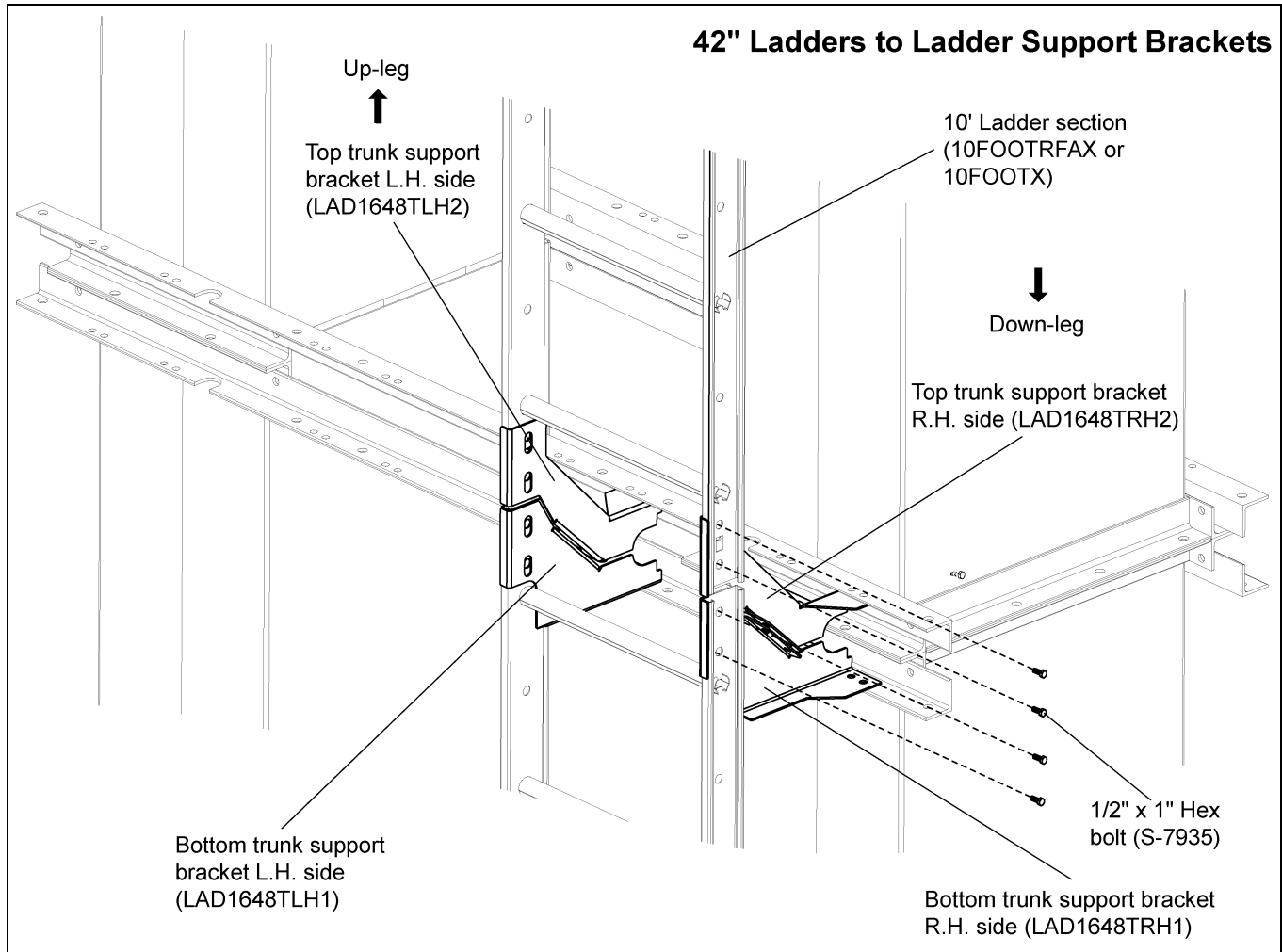


Figure 6Q

Attach Ladder Support Brackets to Tie Angles for 48"

1. For 48" Ladder Brackets: Mount the upper left and upper right hand brackets (LAD48TLHTX and LAD48TRHTX) to the top tie angles.
2. Mount the lower left and lower right hand brackets (LAD48TLHBX and LAD48TRHBX) to the bottom tie angles.
3. Fasten flanges of brackets and brackets to tie angles using 3/8" x 1" HHCS bolts (S-7469) and 3/8" flange nuts (S-968). (See Figure 6R below, Figure 6S and Figure 6T on Page 34.)

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

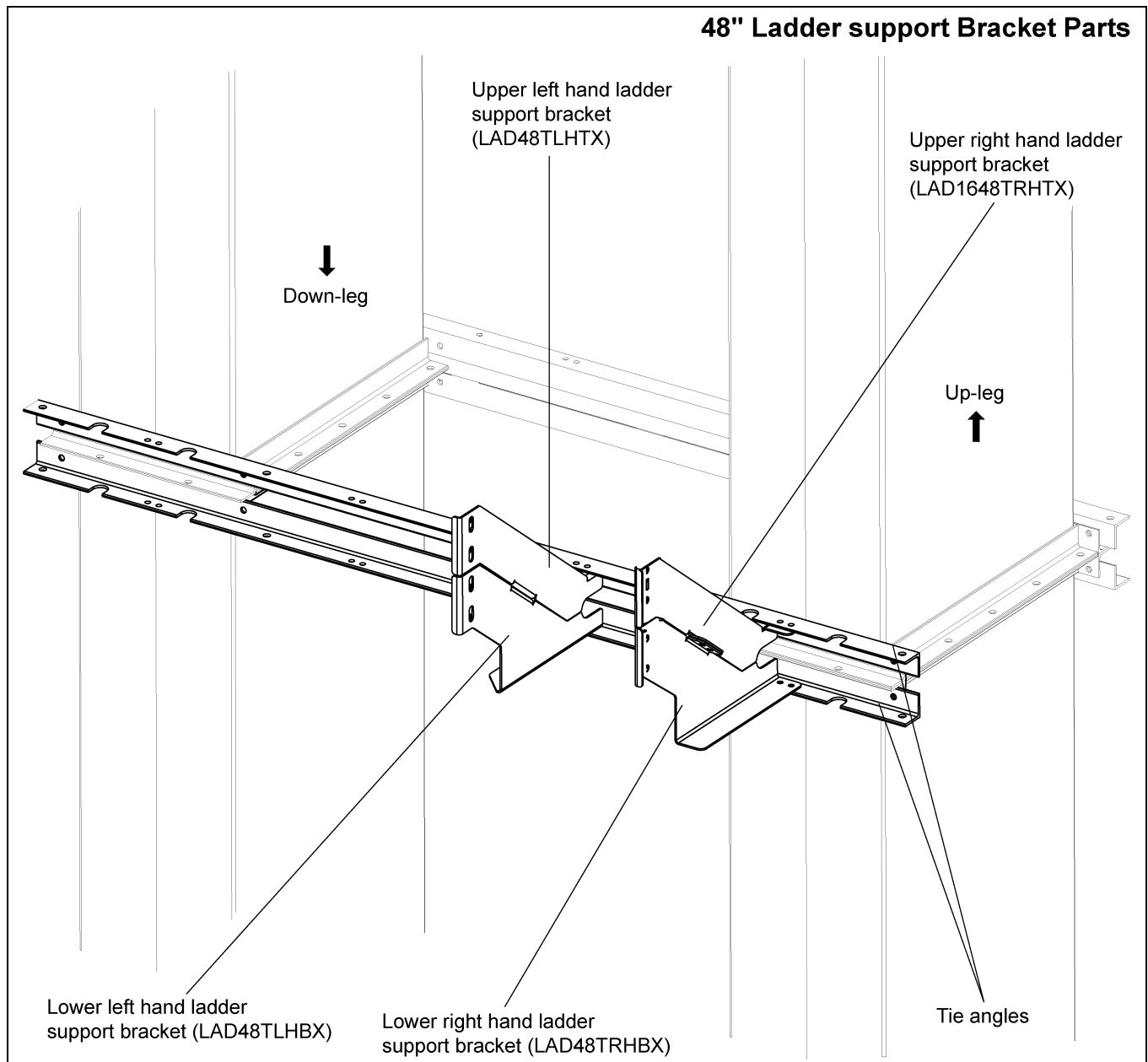


Figure 6R 48" Ladder Support Bracket Parts

6. Tie Angles, Ladders and Safety Cages

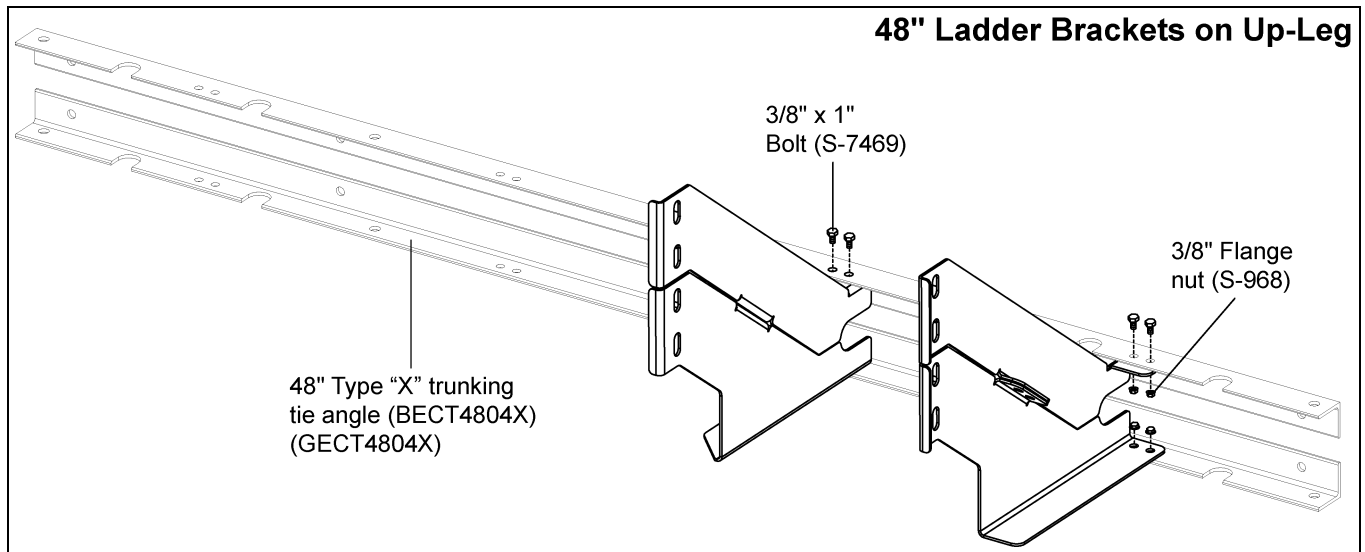


Figure 6S 48" Ladder Bracket Location for Up-Leg

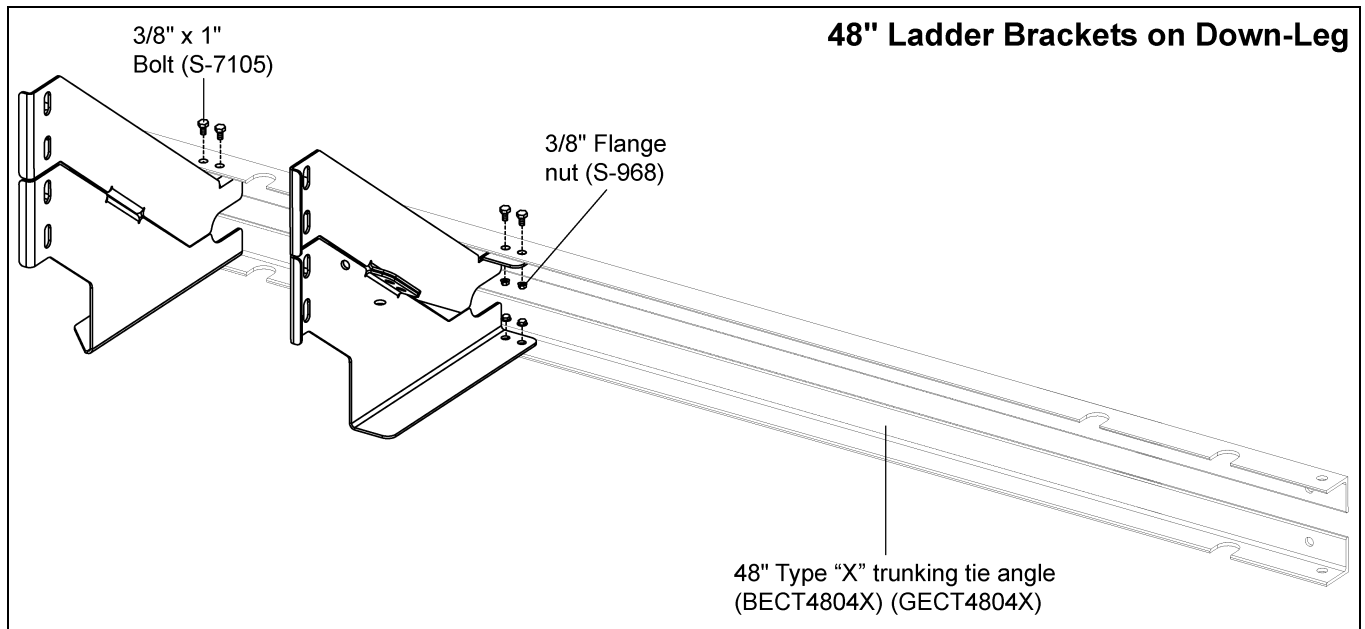


Figure 6T 48" Ladder Bracket Location for Down-Leg

Attach Ladders to Ladder Support Brackets for 48"

1. Attach the top of the ladder section to the bottom ladder support brackets.
2. Attach the bottom of the ladder section to the top ladder support brackets.
3. Fasten ladders to ladder support brackets using 1/2" x 1" HHCS bolts (S-7935) and 1/2" flange nuts (S-8506). (See [Figure 6U](#) for 48" connections.)

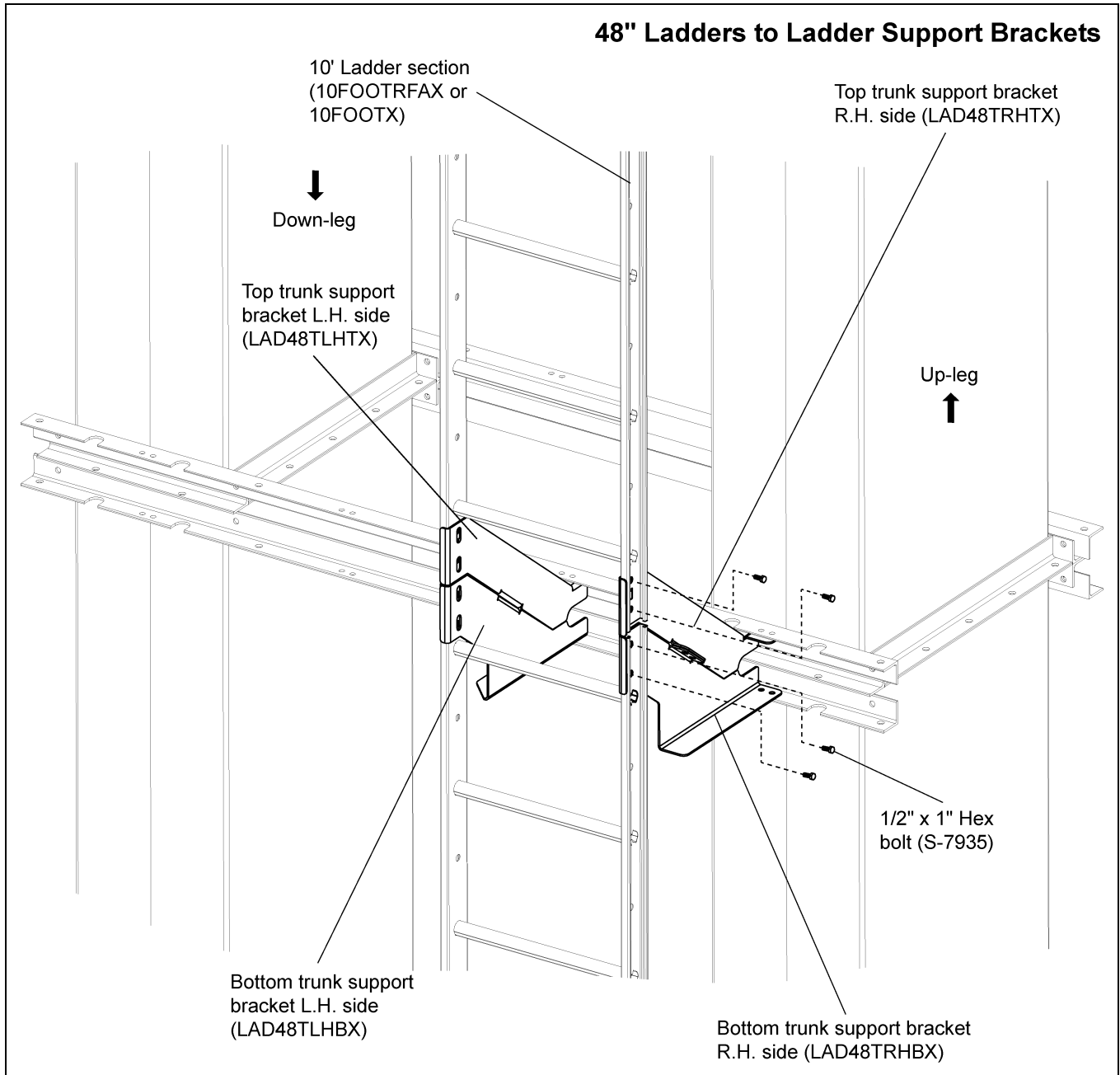


Figure 6U

Safety Cage Installation

Safety cage entrance must be installed to the ladders within 7'-8' from the ground or platform deck.
(See Figure 6V.)

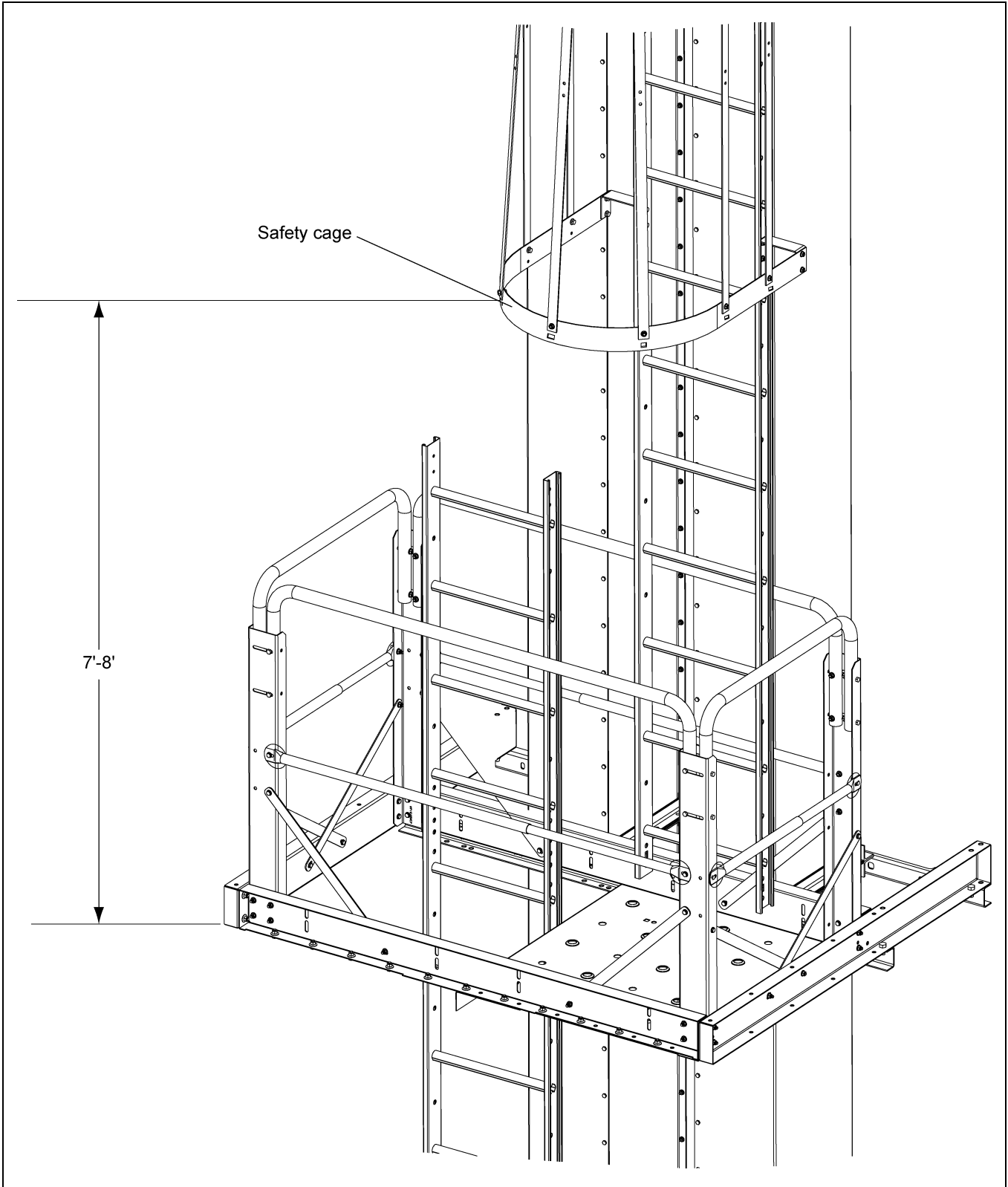


Figure 6V

Install Safety Cage

Safety cages are 10' sections, with the exception of the 3' entrance section.

1. Locate safety cage hoops (LDR-BCKTBHP) along the ladder rails where the safety cage hoops will be installed. **NOTE:** *The end hoops of a 10' section are spaced 4' from the two (2) middle hoops, which are spaced 2' apart. See Figure 6W for spacing. (See Figure 6W.)*

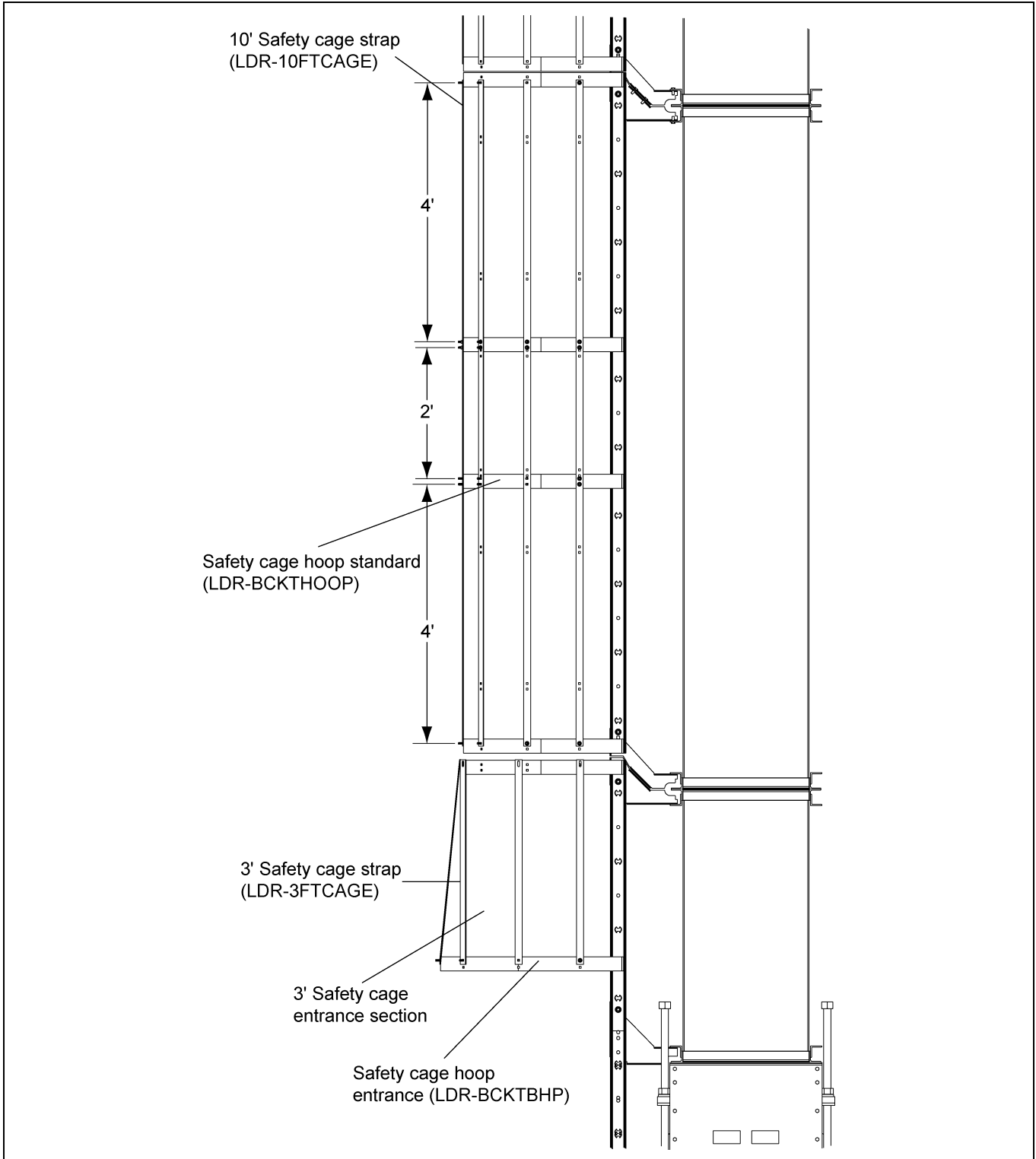


Figure 6W 10' Safety Cage Section

6. Tie Angles, Ladders and Safety Cages

2. Attach safety cage hoops to ladder using 1/2" x 1" bolts and nuts. (See Figure 6X.)

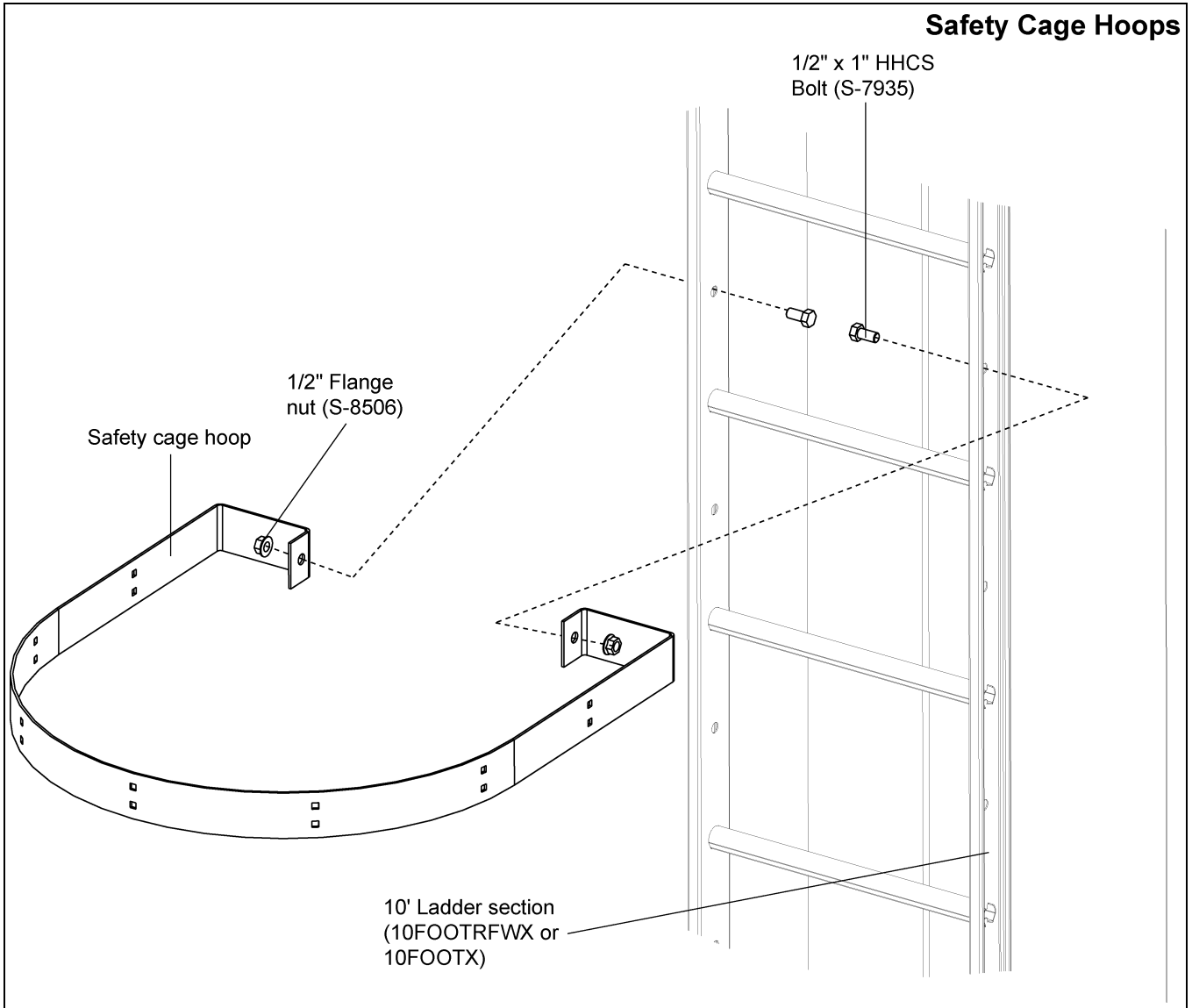


Figure 6X

6. Tie Angles, Ladders and Safety Cages

3. Install the seven (7) 10' safety cage straps along the safety cage hoops using 5/16" x 3/4" bolts and nuts. **NOTE:** Bolt heads should be to the inside of the hoop. (See Figure 6Y.)

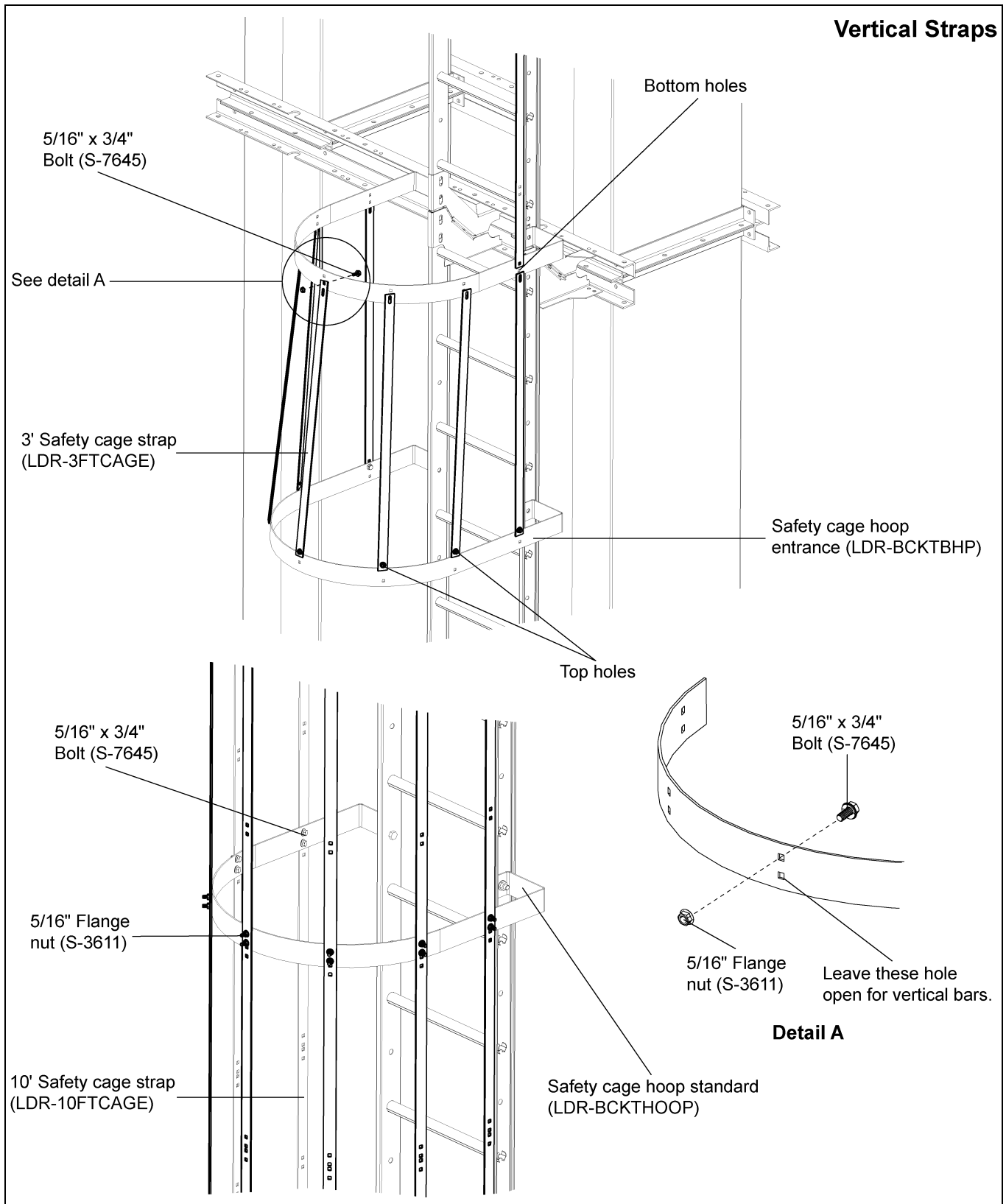


Figure 6Y

Chapter 7: Rest Platform

Install Rest Platform Tie Angles to Trunking

1. For 42" Rest Platform Tie Angles:

NOTE: The end of the tie angle with the greater distance to the first notch must be installed toward the down-leg trunking. (See Figure 7A and Figure 7B.)

Install the rest platform tie angles (RP42CHNLX) to the lower trunking on both the ladder and non-ladder sides using 1/2" x 1" HHCS bolts (S-7935) and 1/2" flange nuts (S-8506).

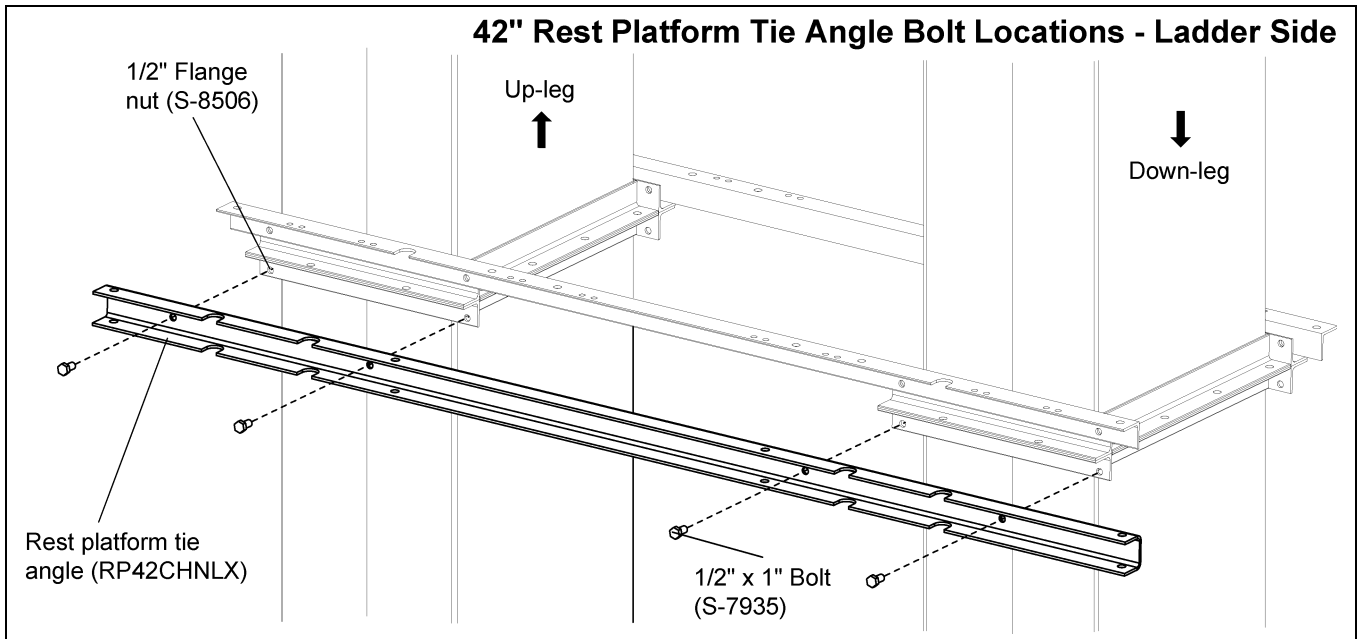


Figure 7A 42" Rest Platform Tie Angles - Ladder Side

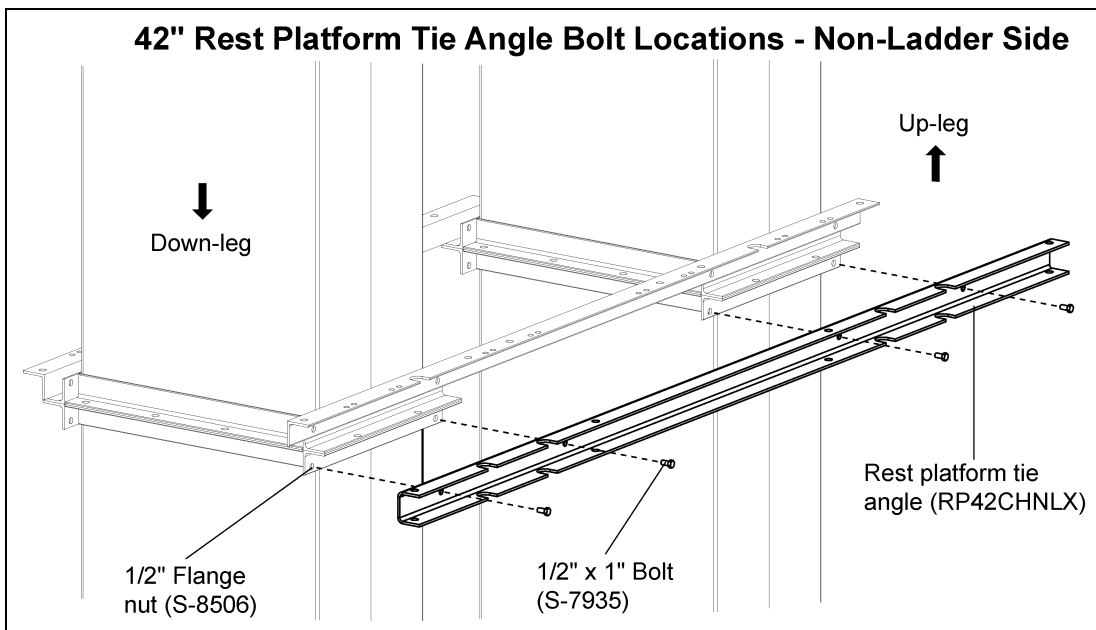


Figure 7B 42" Rest Platform Tie Angles - Non-Ladder Side

2. For 48" Rest Platform Tie Angles:

Install the rest platform tie angles (RP48CHNLX2) to the lower trunking on both the ladder and non-ladder sides using 1/2" x 1" HHCS bolts (S-7935) and 1/2" flange nuts (S-8506). (See [Figure 7C](#) and [Figure 7D](#).)

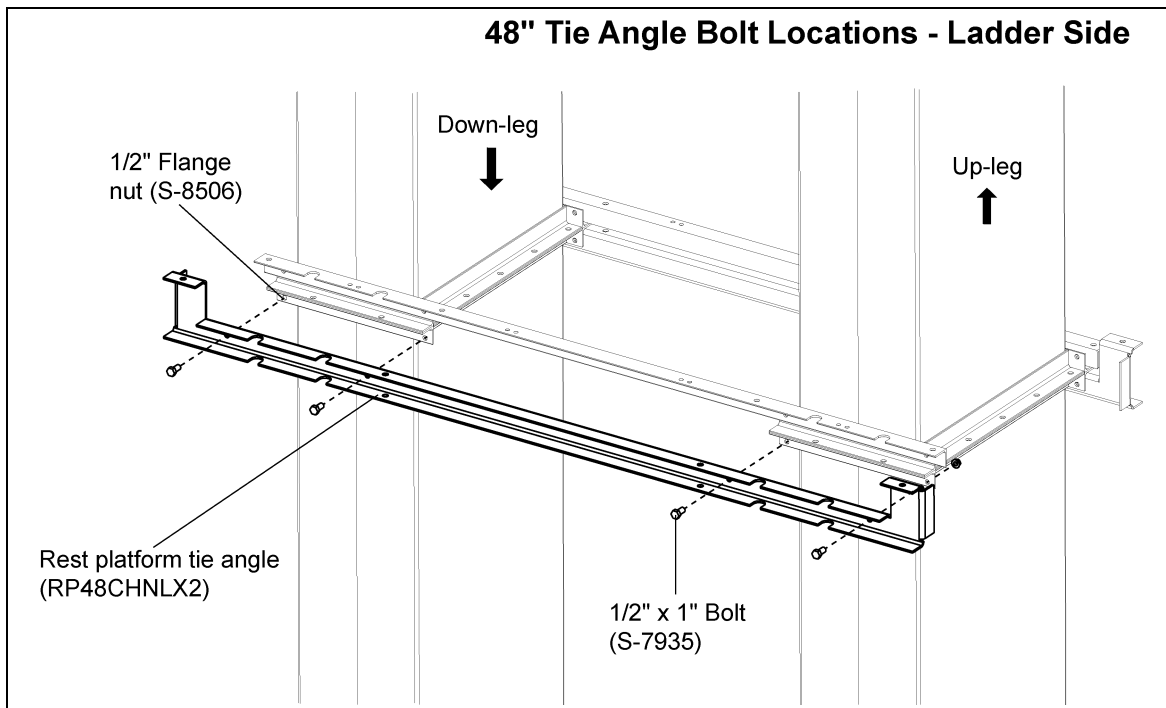


Figure 7C 48" Rest Platform Tie Angles - Ladder Side

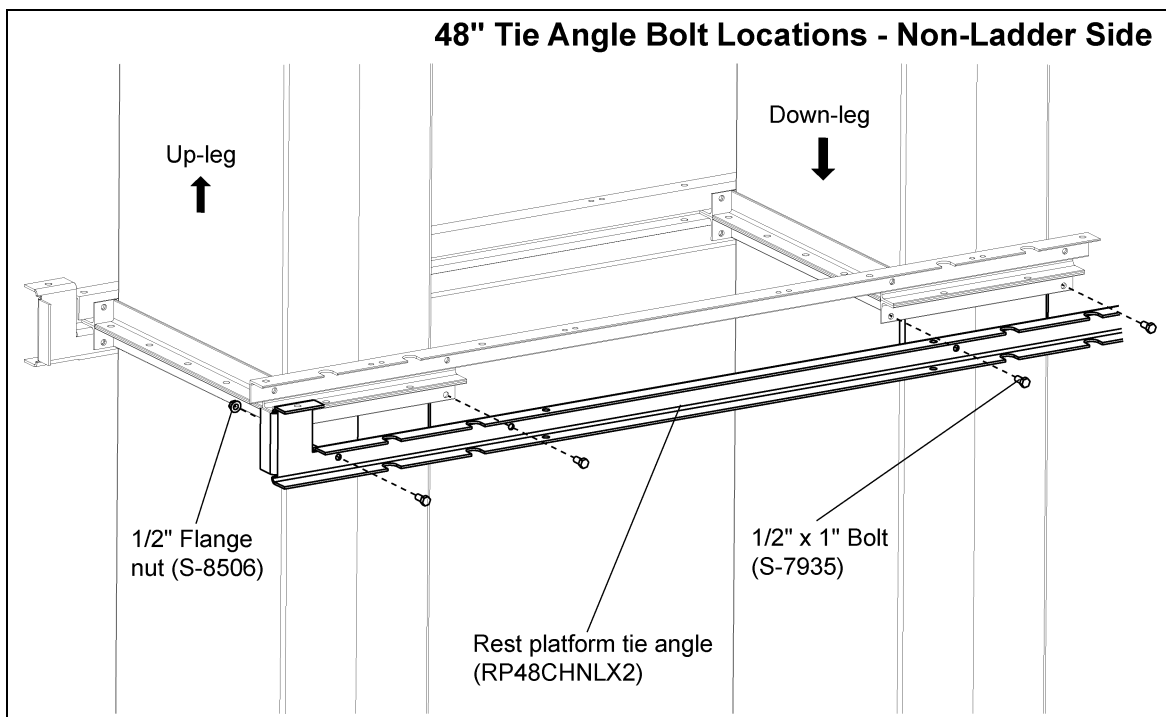


Figure 7D 48" Rest Platform Tie Angles - Non-Ladder Side

7. Rest Platform

Install Rest Platform Mounting Channels

1. Fasten rest platform mounting channels (RSP48203X) to rest platform tie angles using 1/2" x 1" HHCS bolts (S-7935) and 1/2" flange nuts (S-8506).

NOTE: Install mounting channels with the flat side toward the trunking. (See Figure 7E.)

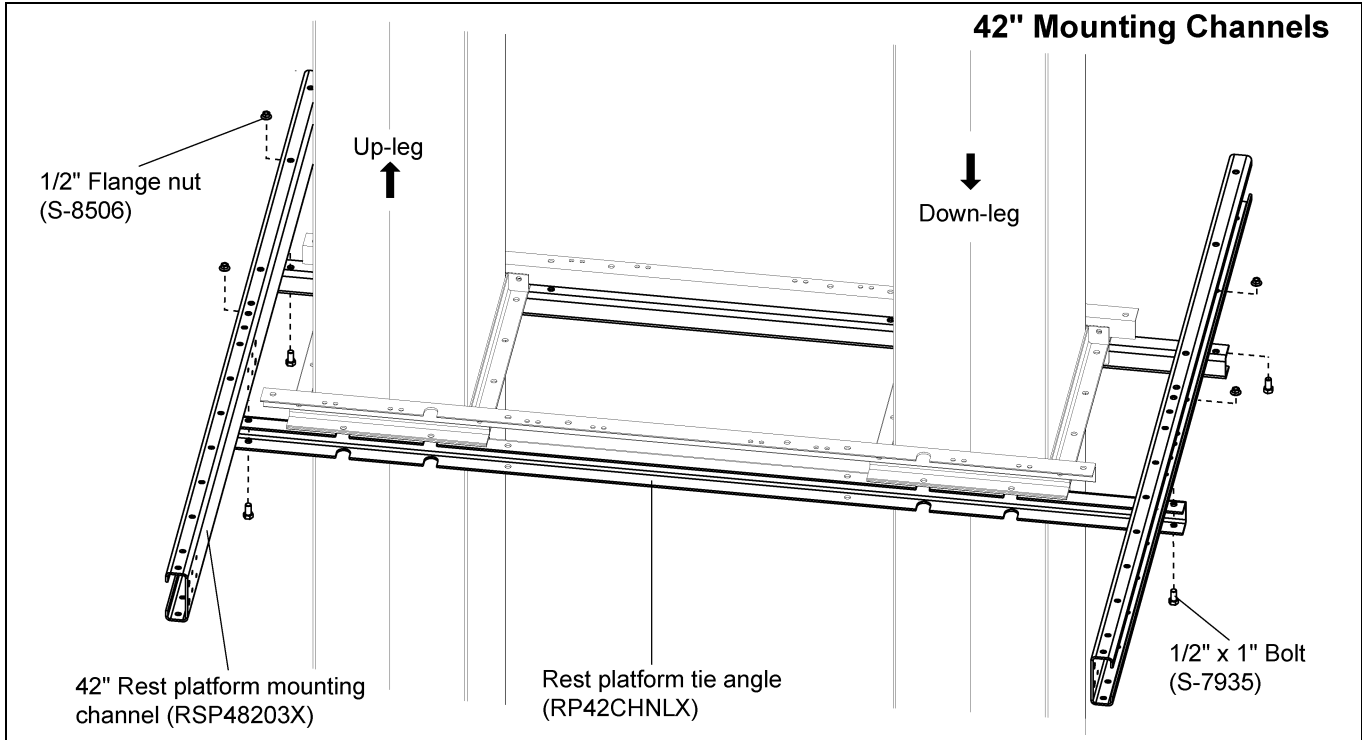


Figure 7E Bolt hole locations for 42" rest platform mounting channels to tie angles.

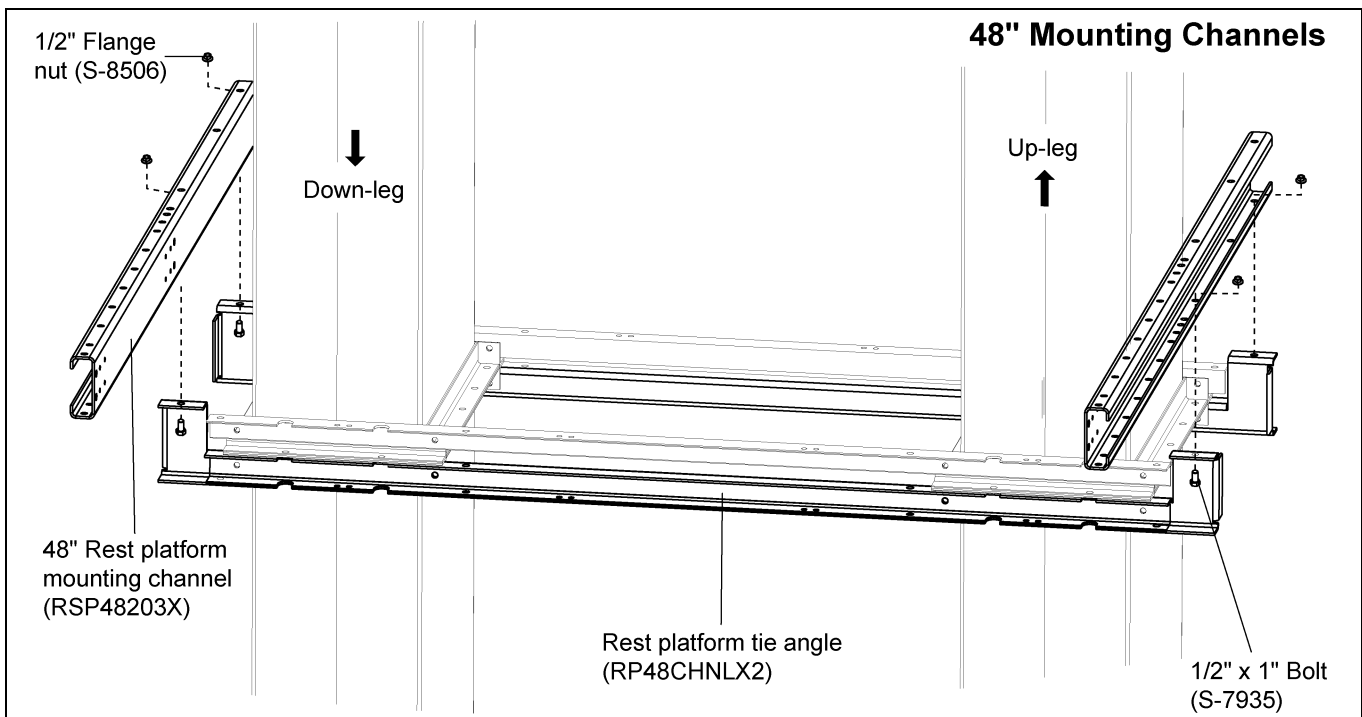


Figure 7F Bolt hole locations for 48" rest platform mounting channels to tie angles.

Install Rest Platform Cross Channels

1. Place the rest platform cross channels (RSP482CCX) between the rest platform mounting channels (RSP48203X) and connect them using 3/8" x 1" HHCS bolts (S-7469) and 3/8" flange nuts (S-10028). (See Figure 7G.)

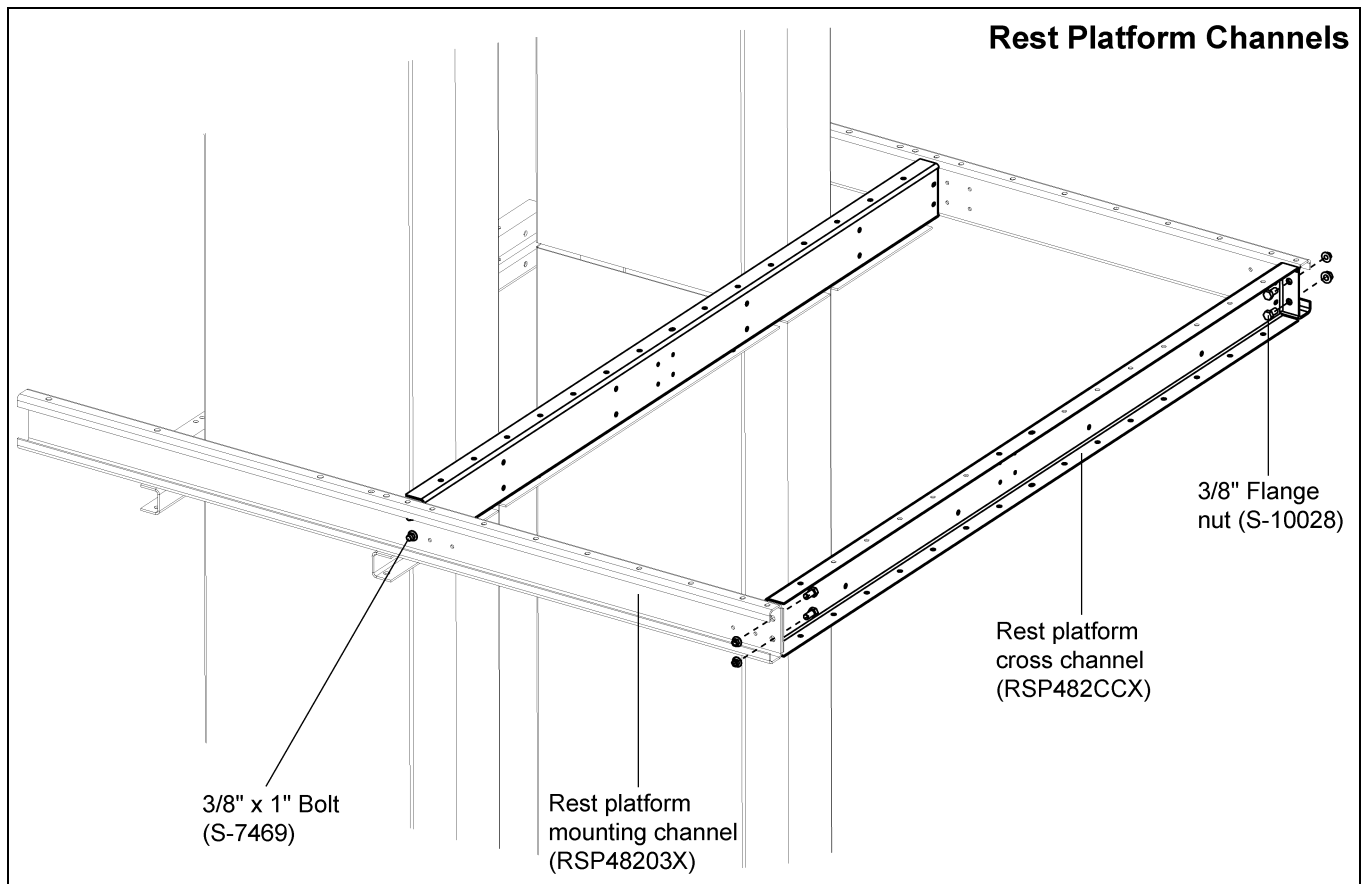


Figure 7G Rest Platform Cross Channel to Rest Platform Mounting Channels

7. Rest Platform

Install Rest Platform Deck Plate

NOTE: Location side is dependent upon through ladder opening.

1. Attach rest platform deck plate (RP482FDP) to the bottom of the rest platform cross channels (RSP482CCX) and rest platform mounting channels (RSP48203X) using 3/8" x 1" HHCS bolts (S-7469) and 3/8" flange nuts (S-10028).
2. Bolt heads must be installed against the deck plate. (See Figure 7H below and Figure 7I on Page 45.)

NOTE: The deck plate can be mounted on either the left side or right side, but the flange must always be mounted towards the opening.

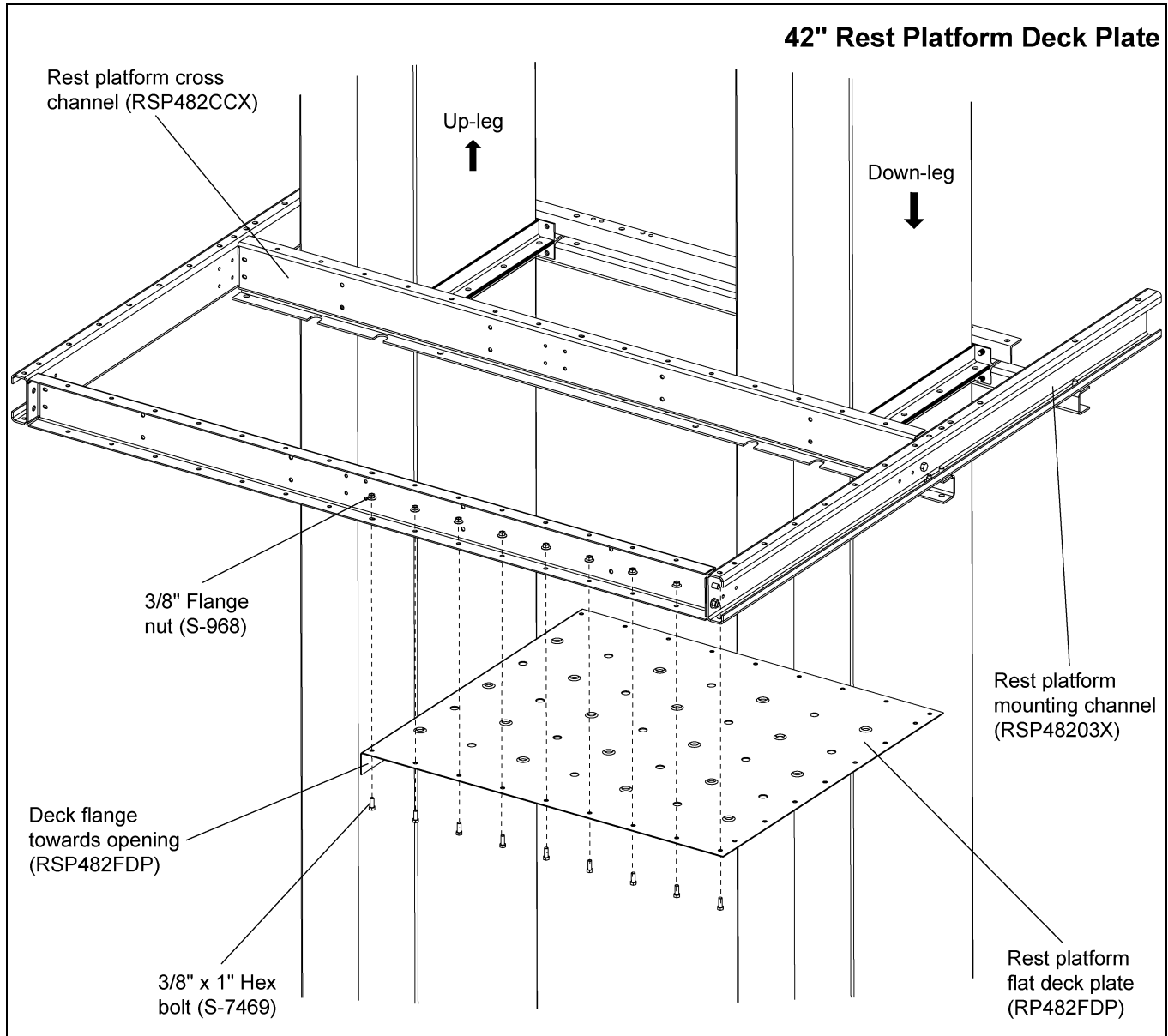


Figure 7H 42" Rest Platform Deck Plate

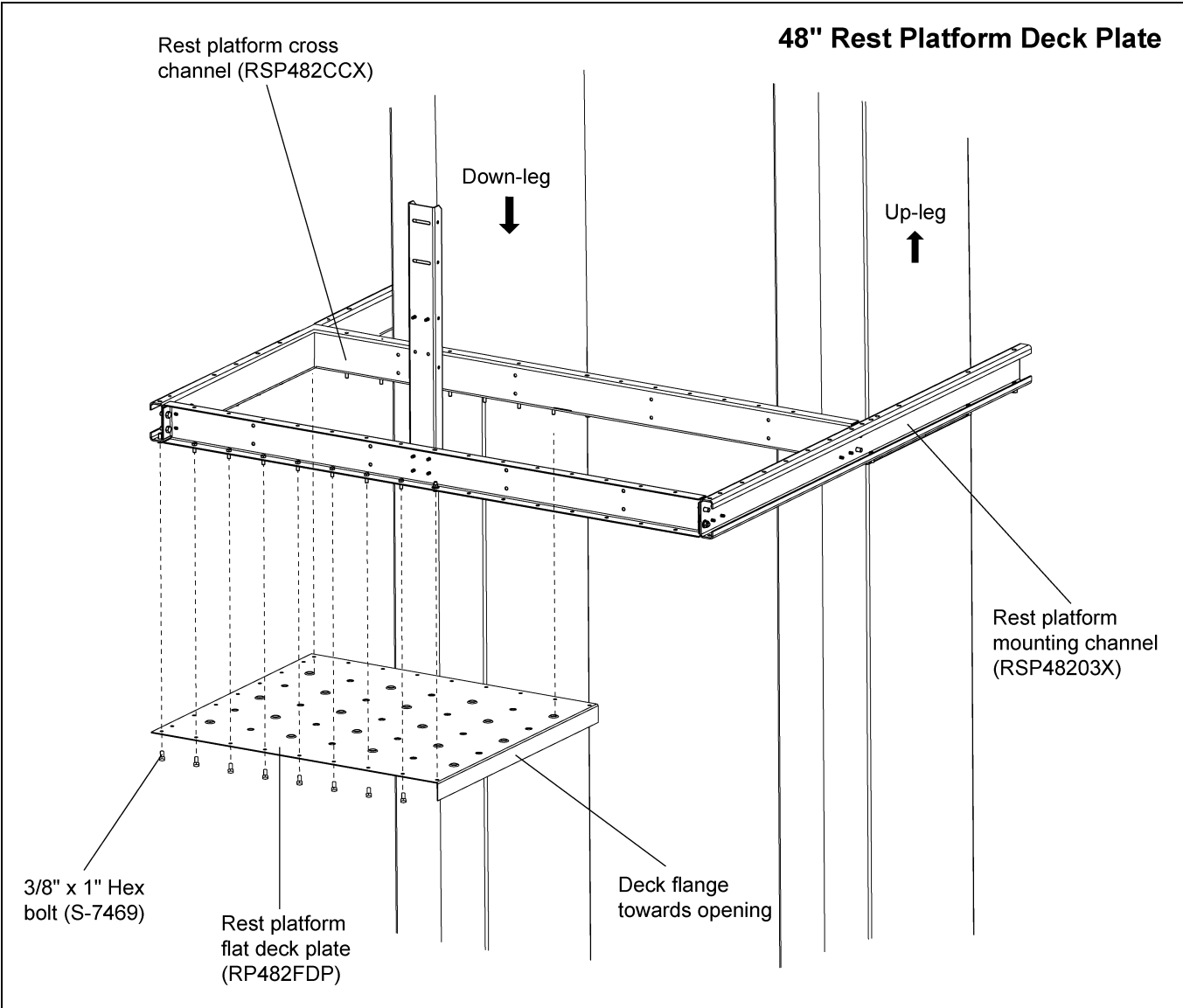


Figure 71 48" Rest Platform Deck Plate

7. Rest Platform

Install Handrail Posts

1. Install the handrail platform posts (HP1648HCP) to the mounting channels and cross channels using 5/16" x 3/4" HHCS bolt (S-6606) and 5/16" flange nuts (S-3611).
2. All posts use four (4) bolts on the front.
3. The corner posts use two (2) additional bolts along the sides (for a total of six (6) bolts).
(See Figure 7J.)

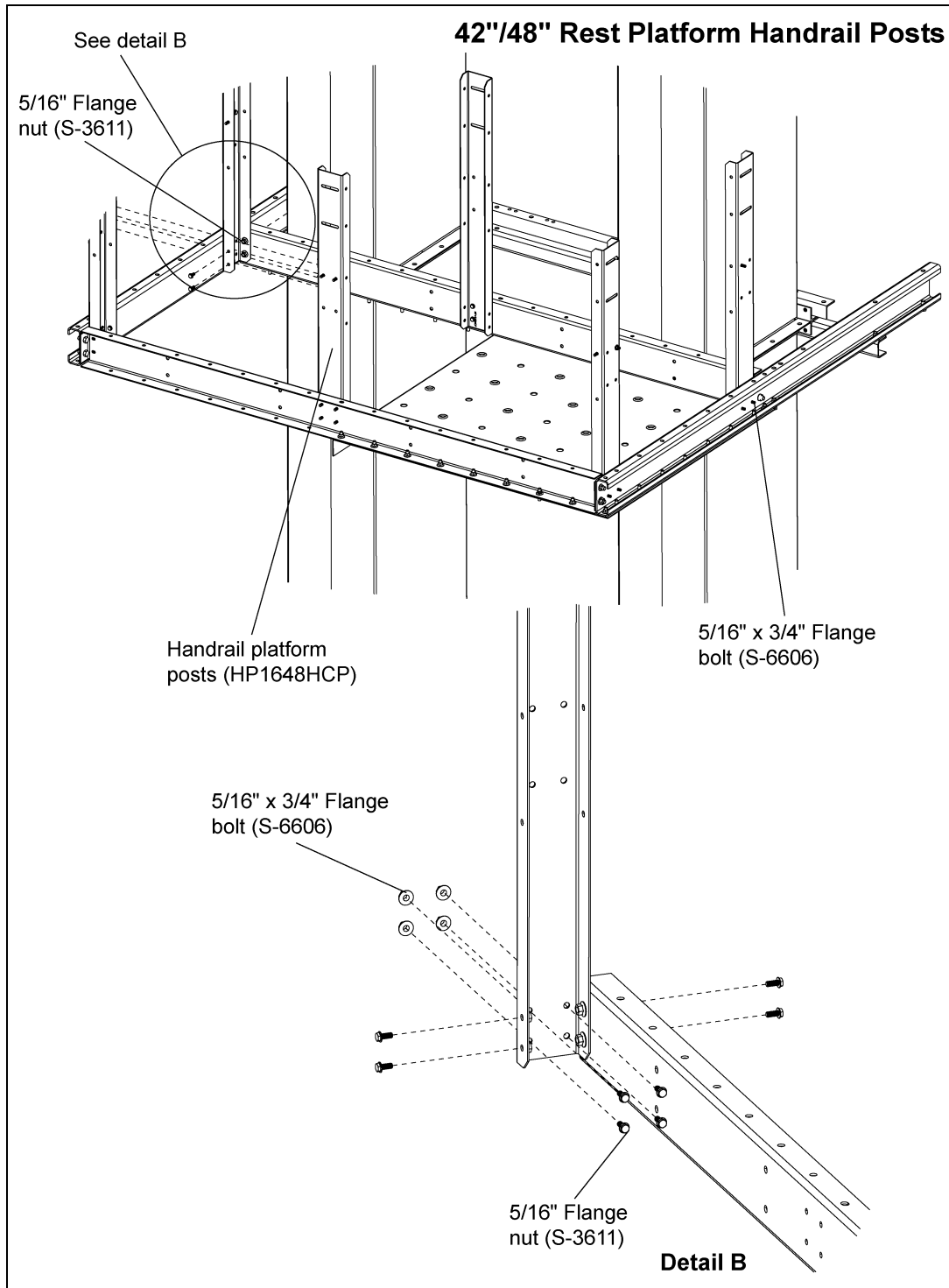


Figure 7J 42"/48" Rest Platform Handrail Posts

Assemble Intermediate Handrails

1. Assemble the intermediate handrails by sliding the small handrail into the larger handrail to create a telescoping handrail that can be adjusted to the correct length between posts.

Two (2) of the small intermediate handrails (LDR-4088) and two (2) of the large intermediate handrails (LDR-4087) will need to be cut to fit. The starting length of each handrail is 36". Cut 13" off the end of each rail so the final length of each rail is 23". (See [Figure 7K.](#))

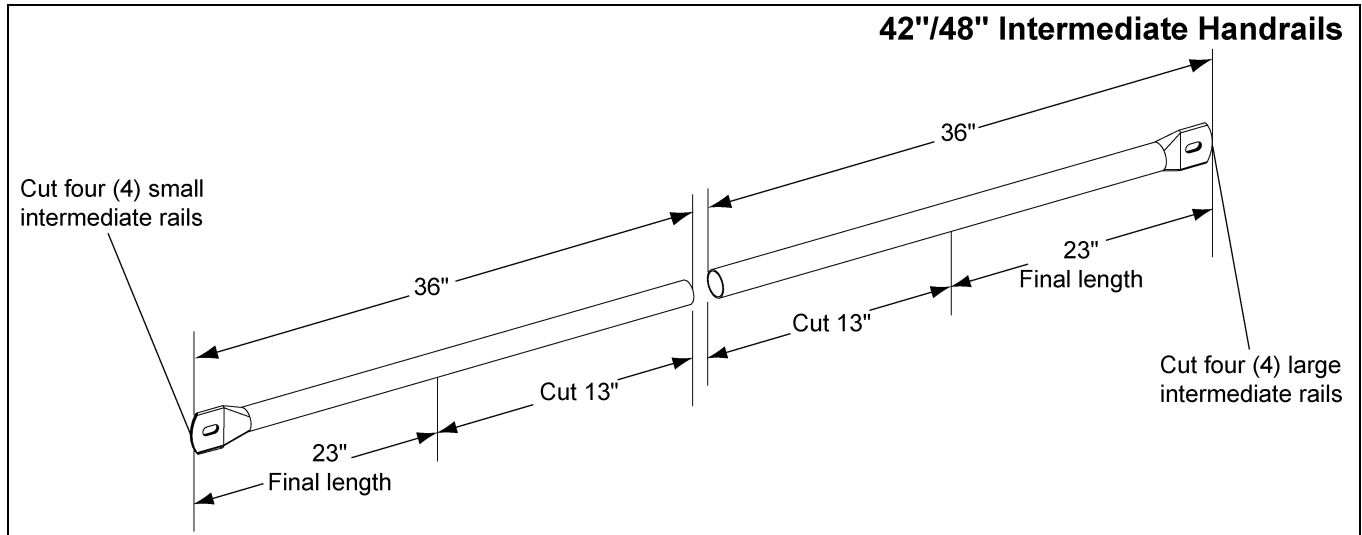


Figure 7K 42"/48" Intermediate Handrails

2. Fasten the intermediate handrails to the posts using 5/16" x 1" HHCS bolt (S-7470) and 5/16" flange nuts (S-3611). (See [Figure 7L.](#))

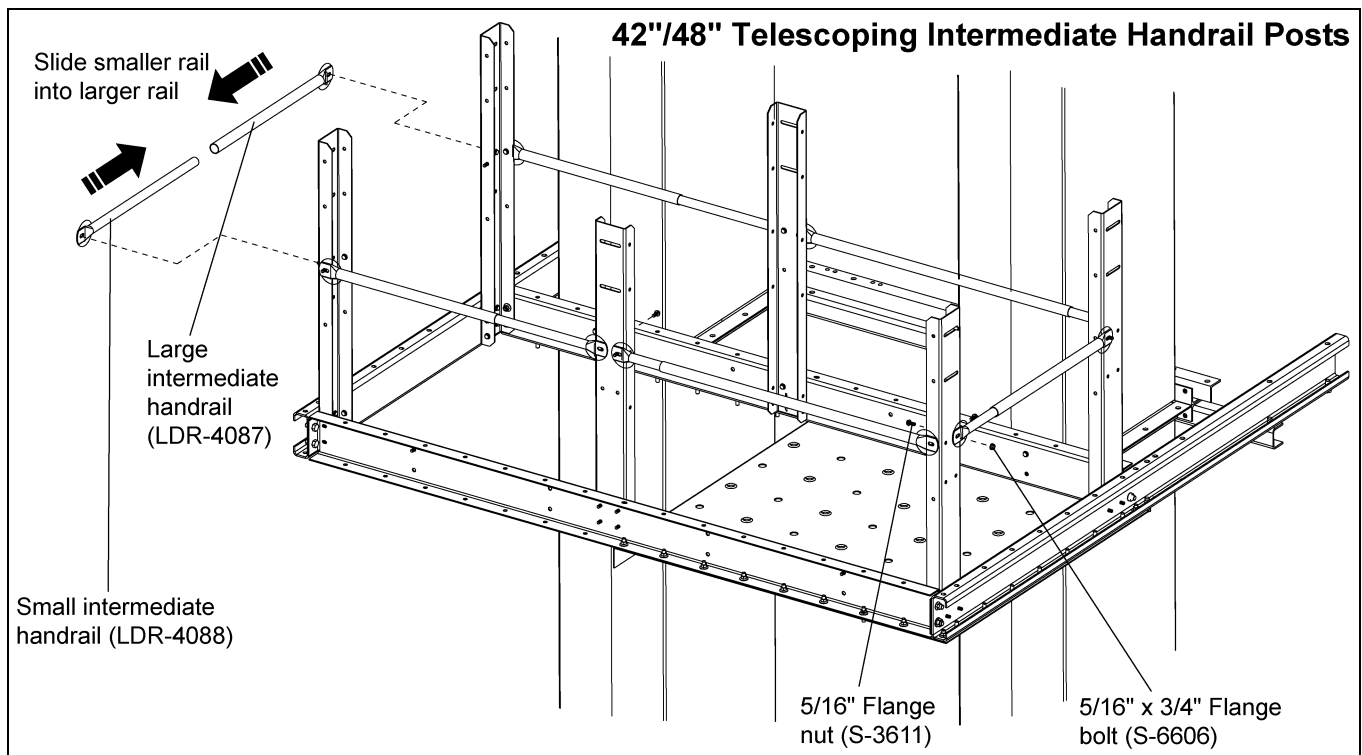


Figure 7L 42"/48" Telescoping Intermediate Handrail Posts

7. Rest Platform

Install Handrails to Posts

1. Connect the handrails to the top two (2) slots in the posts using 5/16" x 2" HHCS bolt (S-7877) and 5/16" flange nuts (S-3611). (See Figure 7M.)

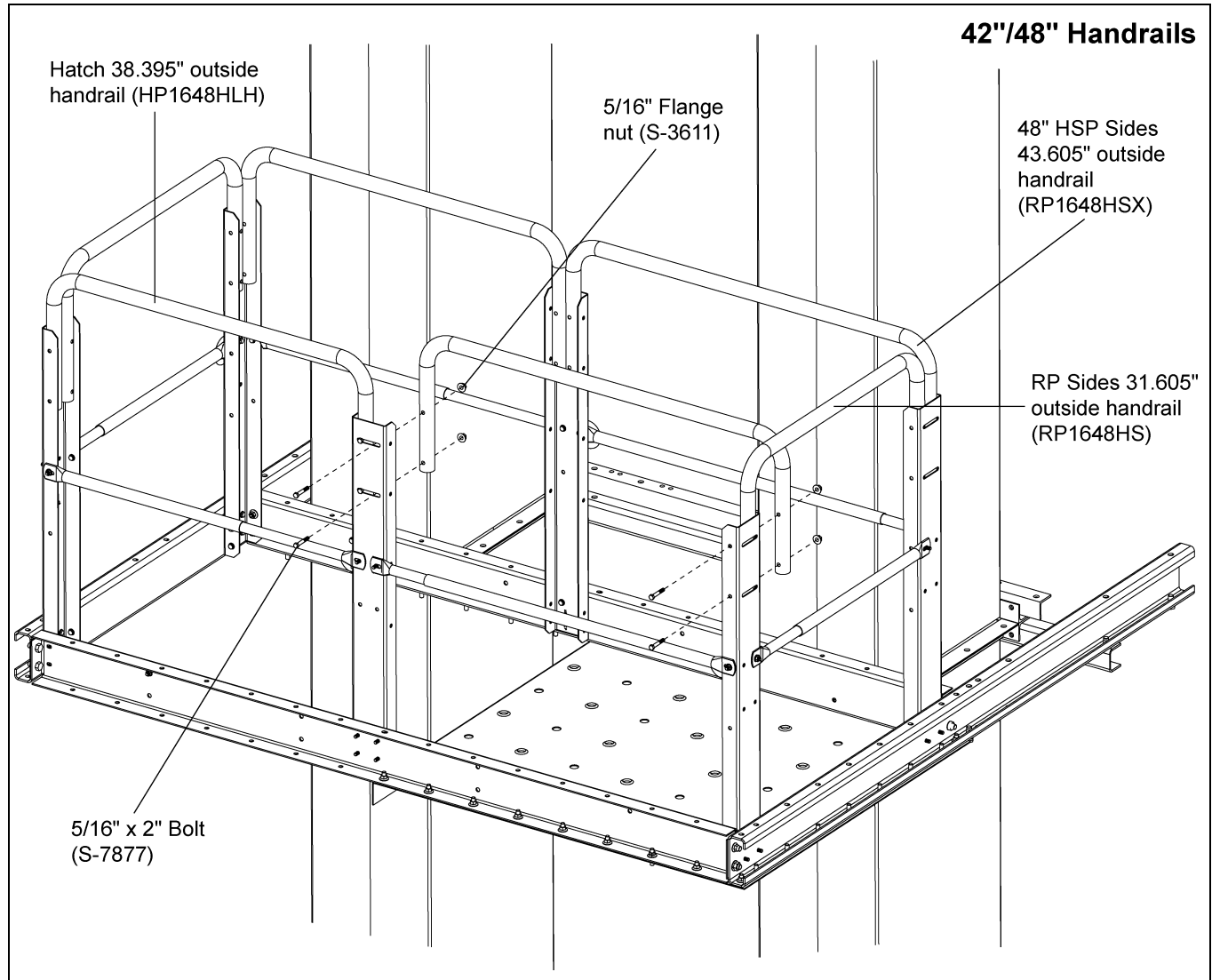


Figure 7M 42"/48" Rest Platform Handrails

Install Ladder Support Brackets

On the open side of the rest platform, where the ladder extends through the opening, four (4) brackets must be installed to the ladder. Two (2) brackets will be installed to the end of the ladder on the deck plate side.

1. Install ladder support brackets (LAD1648BLH and LAD1648BRH) to the rest platform cross channel (RSP482CCX) using 3/8" x 1" HHCS bolts (S-7469) and 3/8" flange nuts (S-10028).
2. One set of brackets will attach to the ends of the ladder and the other will attach along the middle. Fasten ladders to brackets using 1/2" x 1" HHCS bolts (S-7935) and 1/2" flange nuts (S-8506).
(See [Figure 7N.](#))

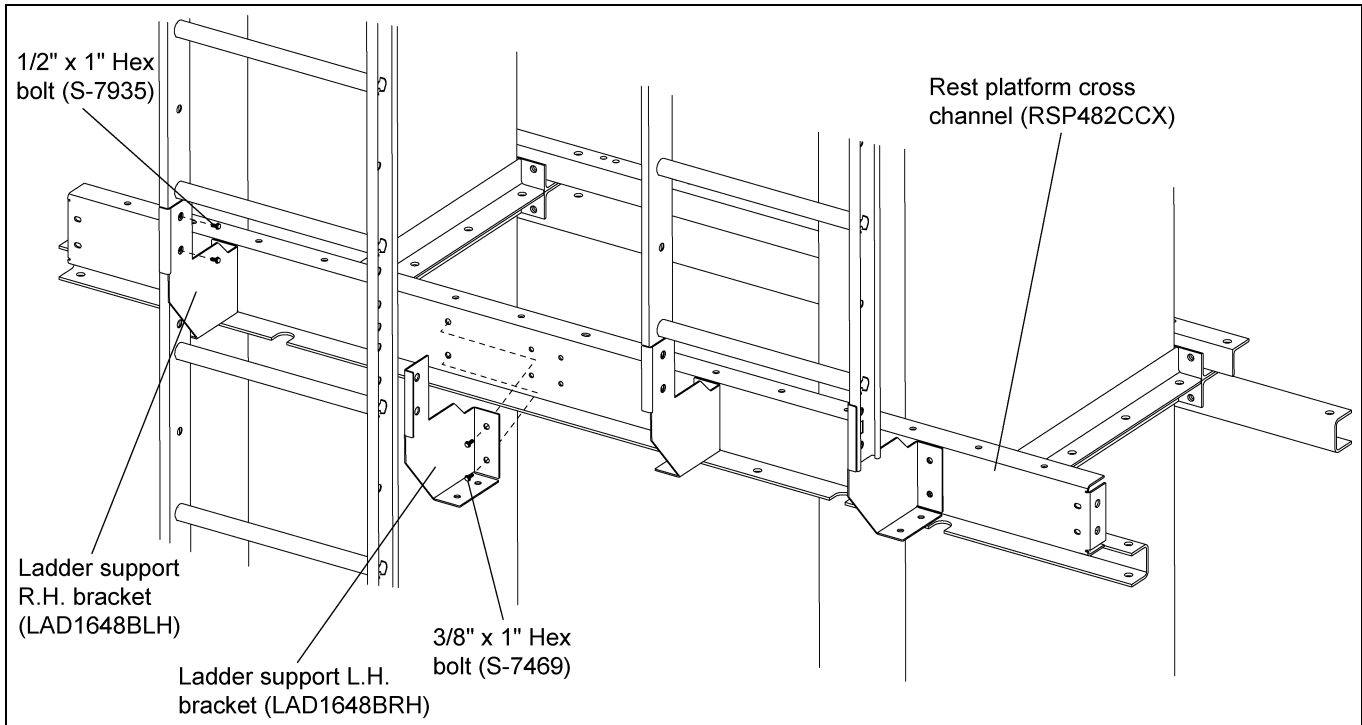


Figure 7N

3. At the end of the through ladder, secure the end of the ladder to the handrail using ladder support rest platform brackets (RP1648LS). Fasten the brackets to the ladder using 1/2" x 1" HHCS bolts (S-7935) and 1/2" flange nuts (S-8506).
4. Secure the brackets to the handrail using 1/4" x 1-1/2" U-bolts (S-10136) and nuts. (See [Figure 7O on Page 50.](#))

7. Rest Platform

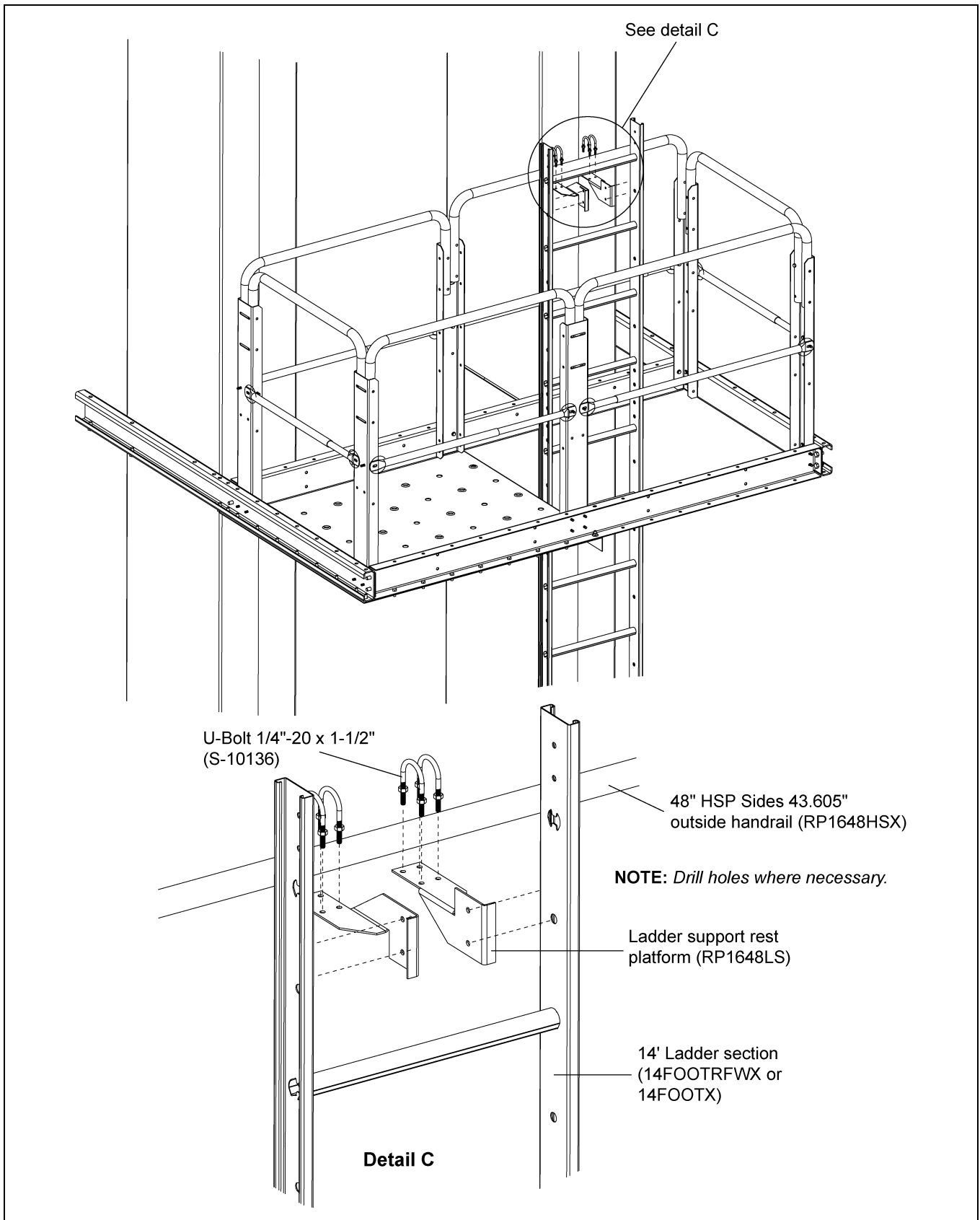


Figure 70

Chapter 8: 42" Head Platform Left Hand Drive

NOTE: Left hand drive installation has shown. Right hand side installs the same but in opposite orientation.

Attach Cross Deck Support Channels to Lower Head

1. Place lower head section on solid and level service.
2. Assemble the support channels (HSP42012X, HSP42032X and HSP42065X) together with the support channel splice plate (HSP4248CSPLX). Fasten together using eight (8) 3/8" x 1" HHCS bolts (S-7469) and 3/8" flange nuts (S-10028). (See Figure 8A.)

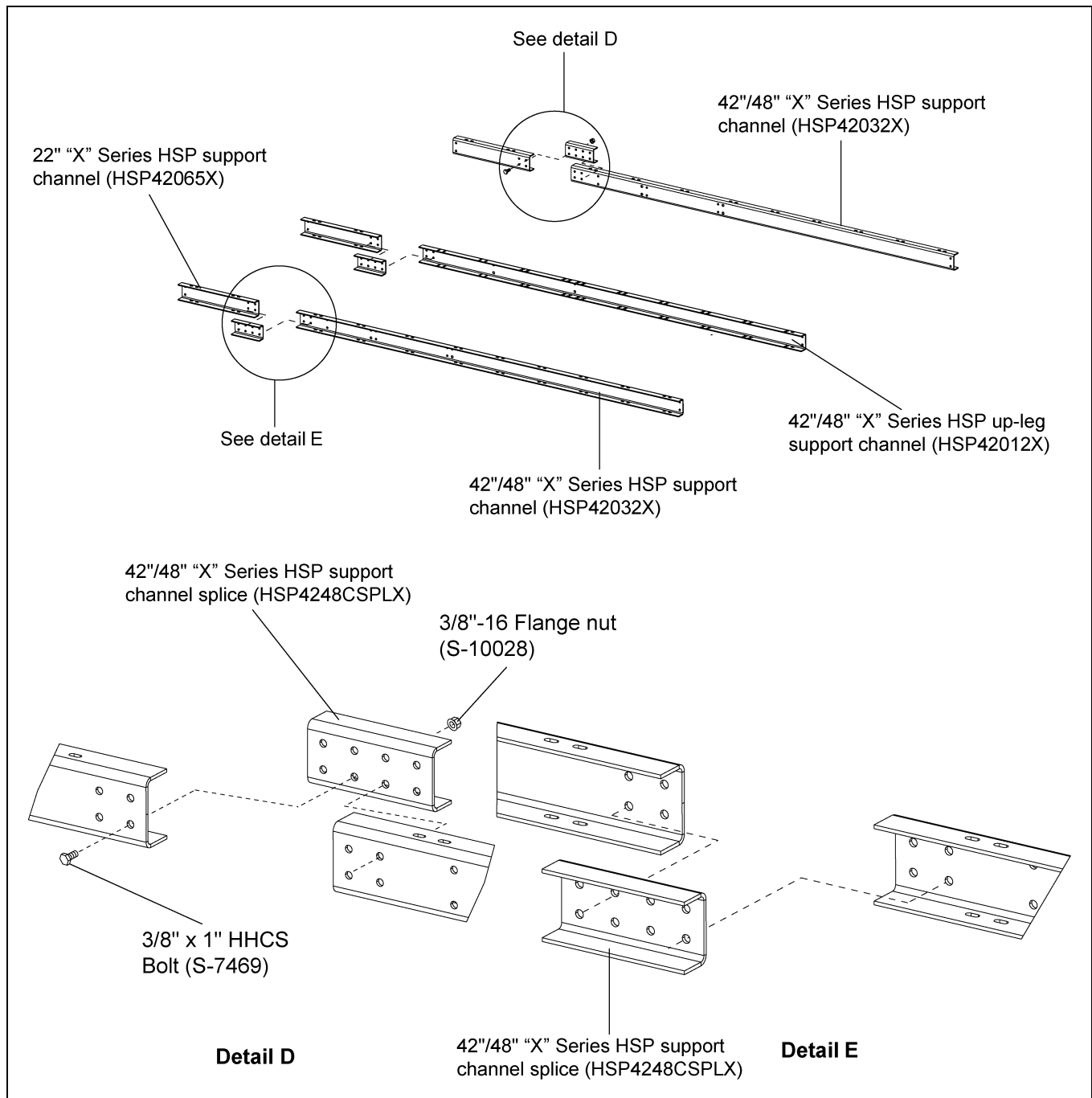


Figure 8A

8. 42" Head Platform Left Hand Drive

3. Attach two (2) the support channels to the brackets located on the lower head. Fasten using 1/2" x 1" HHCS bolts (S-7935) and 1/2" flange nuts (S-8506). (See Figure 8B below and Figure 8C on Page 53.)

NOTE: Third channel is installed later. (During the installation of decking on the up-leg hatch side.)

NOTE: Support channels should extend farther on the drive side than on the hatch side of the lower head.

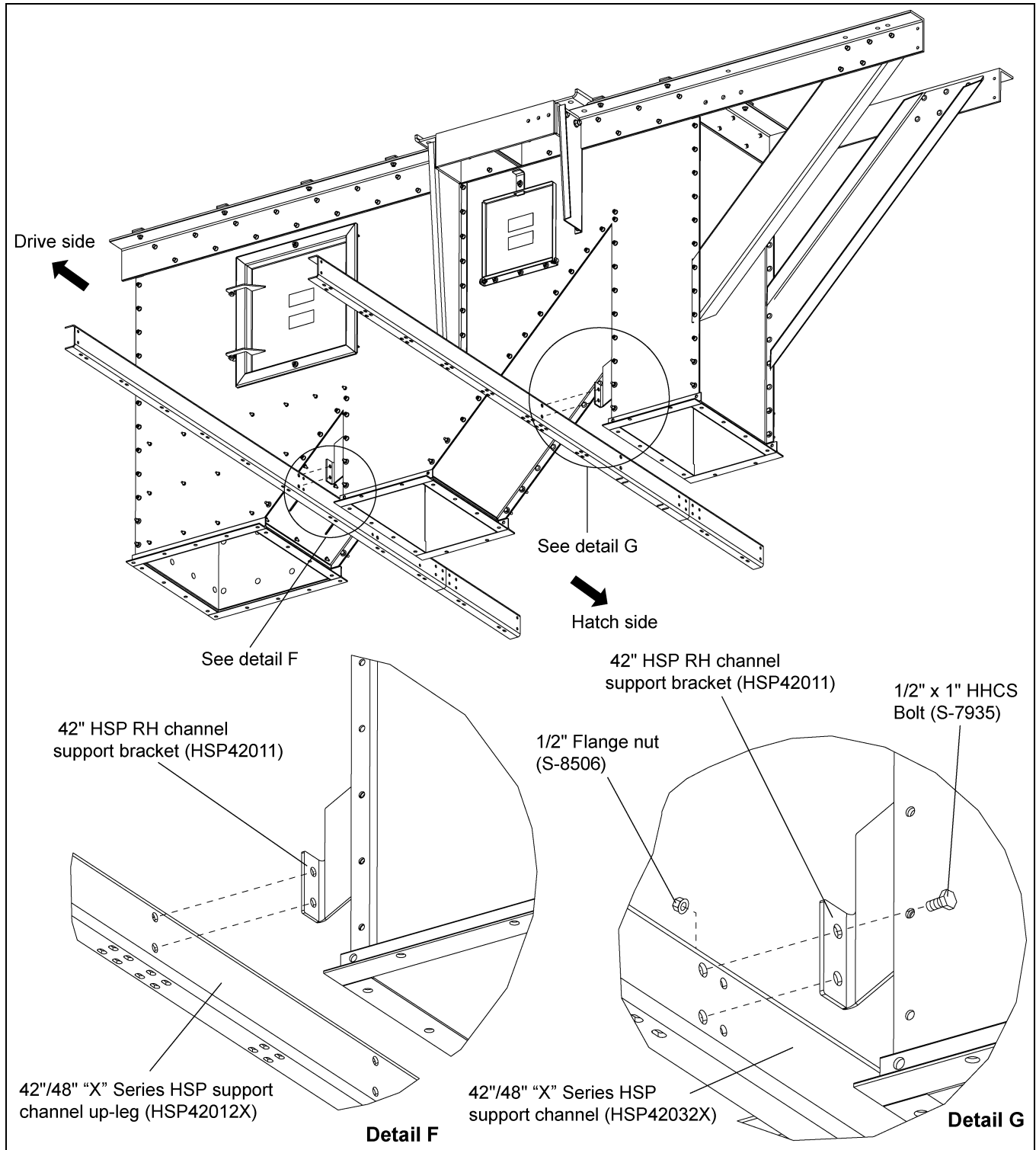


Figure 8B

8. 42" Head Platform Left Hand Drive

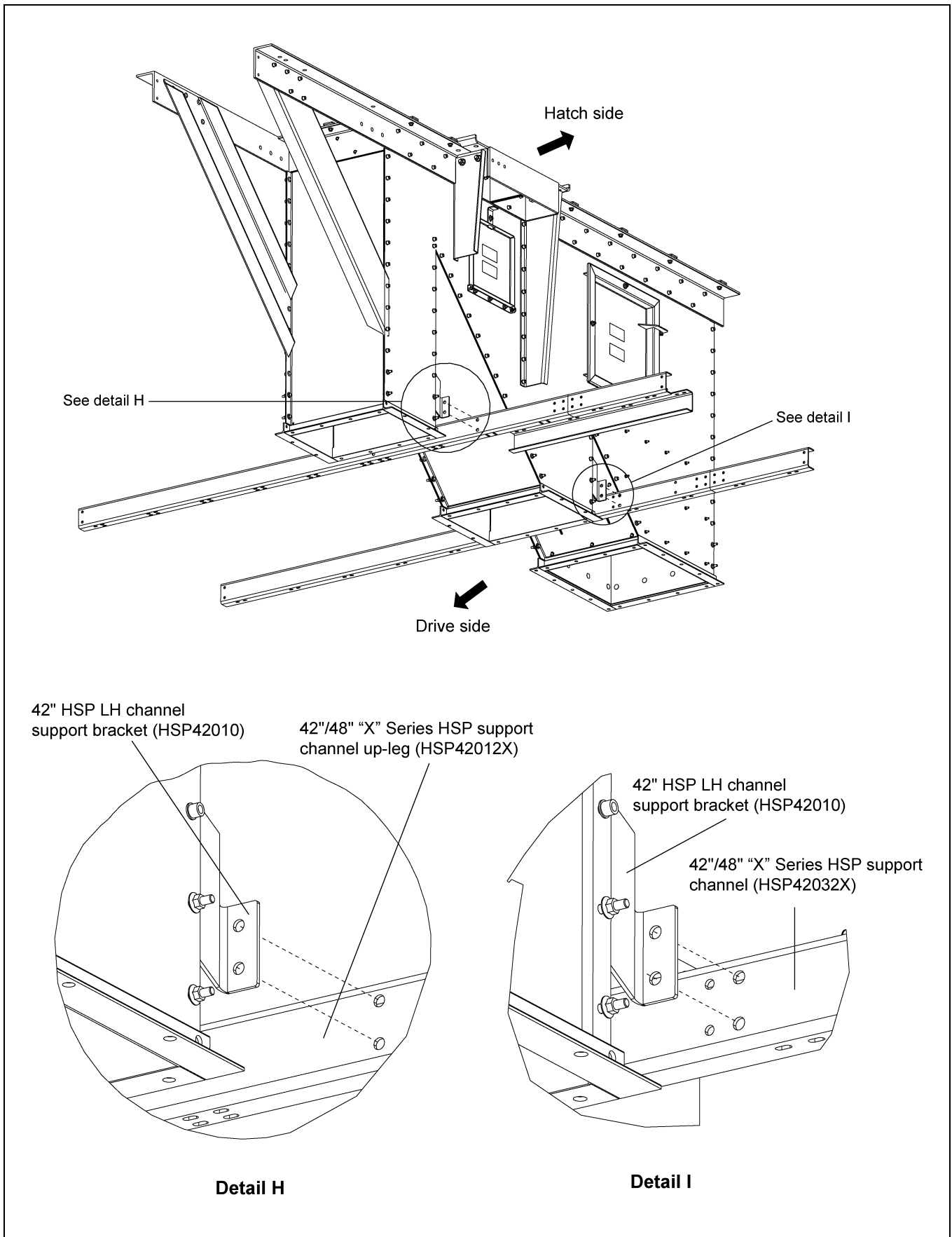


Figure 8C

8. 42" Head Platform Left Hand Drive

Attach Toe Board Channels to Cross Support Channels

1. Position the toe boards (HSP42018X) along the side of the lower head.
2. Align toe boards with the support channels as shown in [Figure 8C below](#) and [Figure 8D on Page 54](#).
3. Fasten to channels using four (4) 5/16" x 1" flange bolts (S-7470) and nuts (S-3611).
4. Install middle toe board (HSP42064X) to the end of the side toe boards using 1/2" x 1" HHCS bolts (S-7935) and 1/2" flange nuts (S-8506).

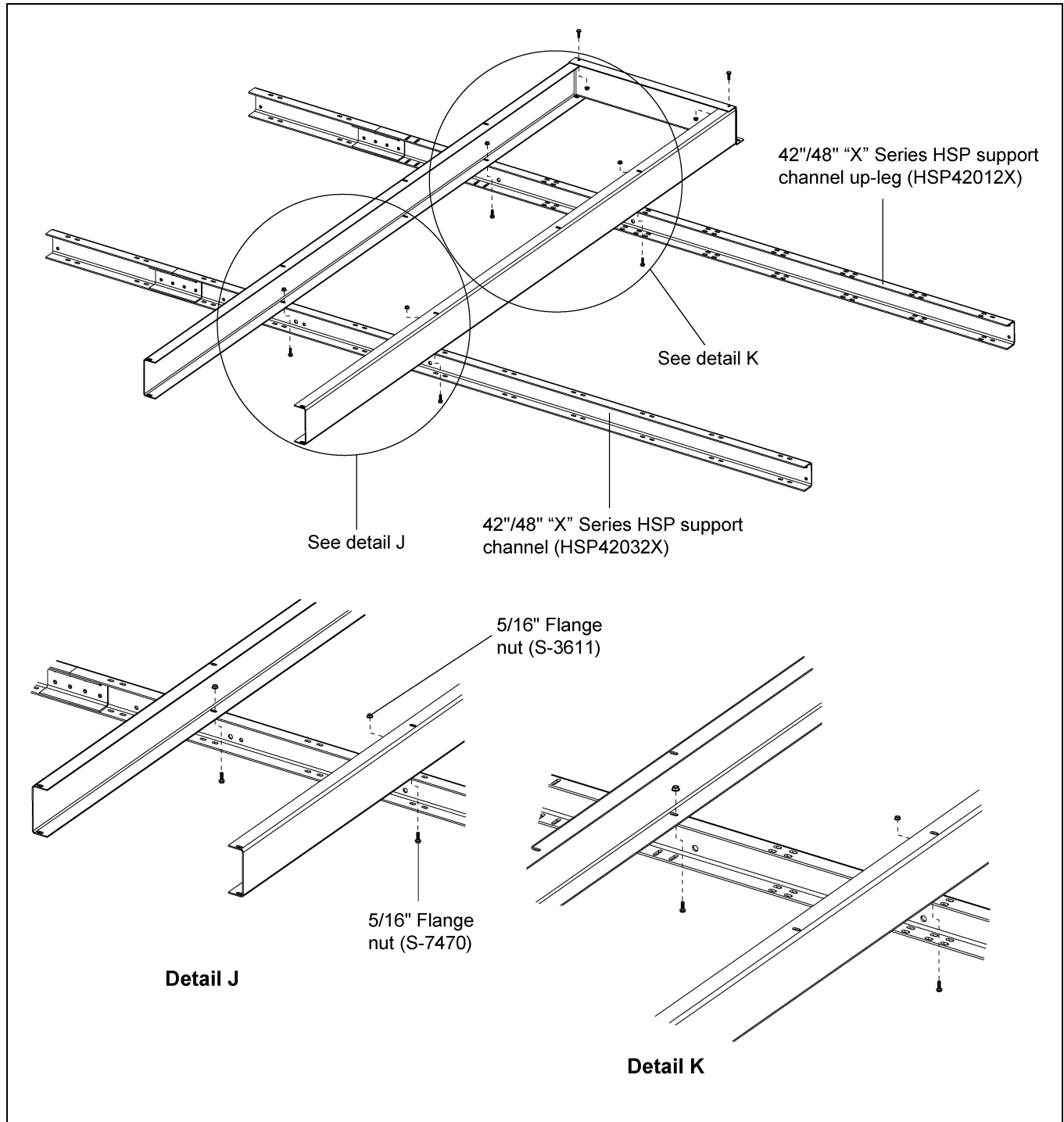


Figure 8D

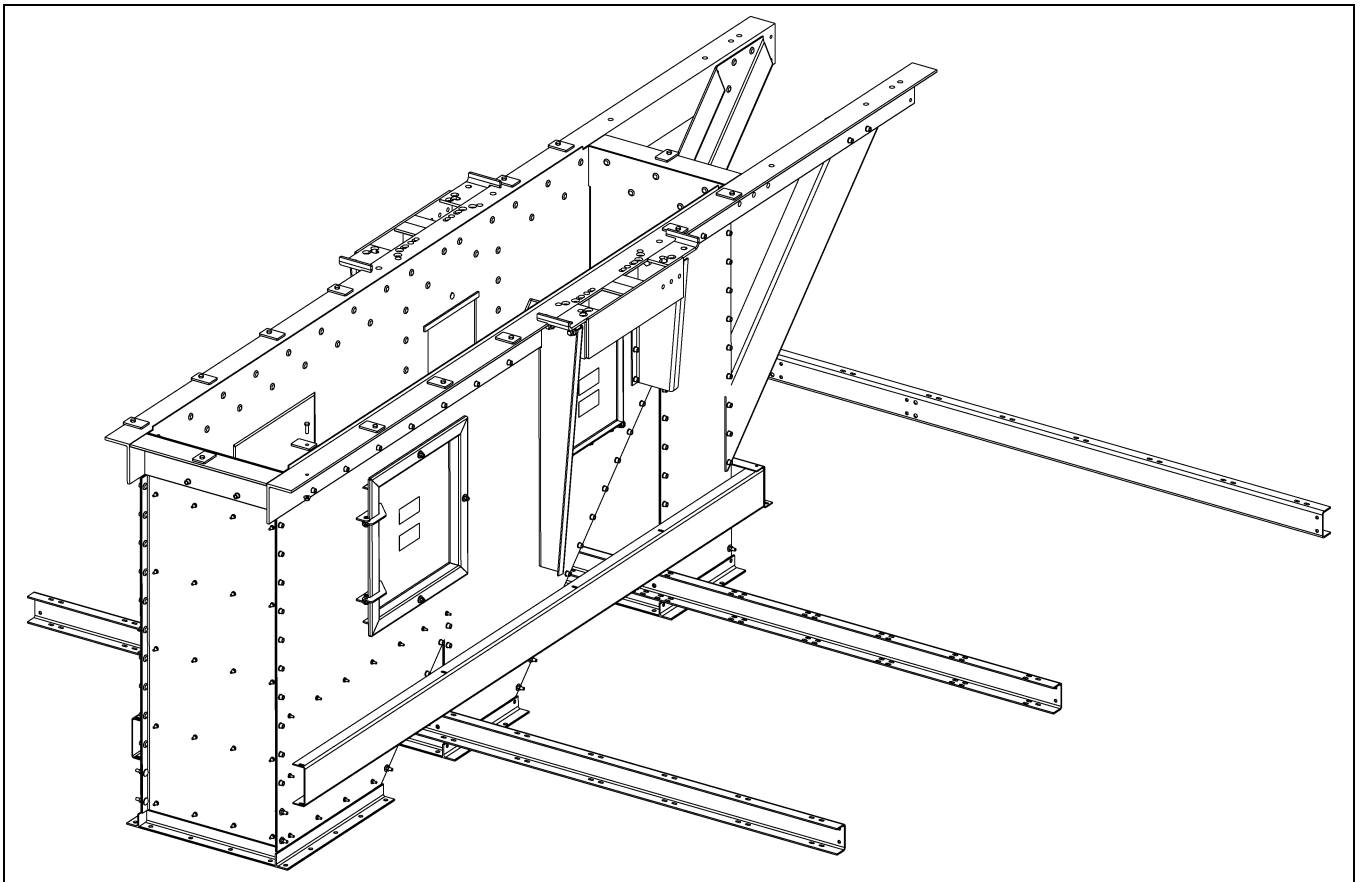


Figure 8E

8. 42" Head Platform Left Hand Drive

Deck Channel Support Angle to Cross Channel

NOTE: Support angles go through the deck plates. Therefore, two (2) decking planks will be installed at the same time as the support angles.

1. Attach the deck channel support angles (HSP42014) to the remaining support channel (HSP42032X) using 3/8" x 1" HHCS bolts (S-7469) and 3/8" flange nuts (S-10028). (See Figure 8F.)

NOTE: This channel is oriented opposite of the channels previously installed to the lower head.

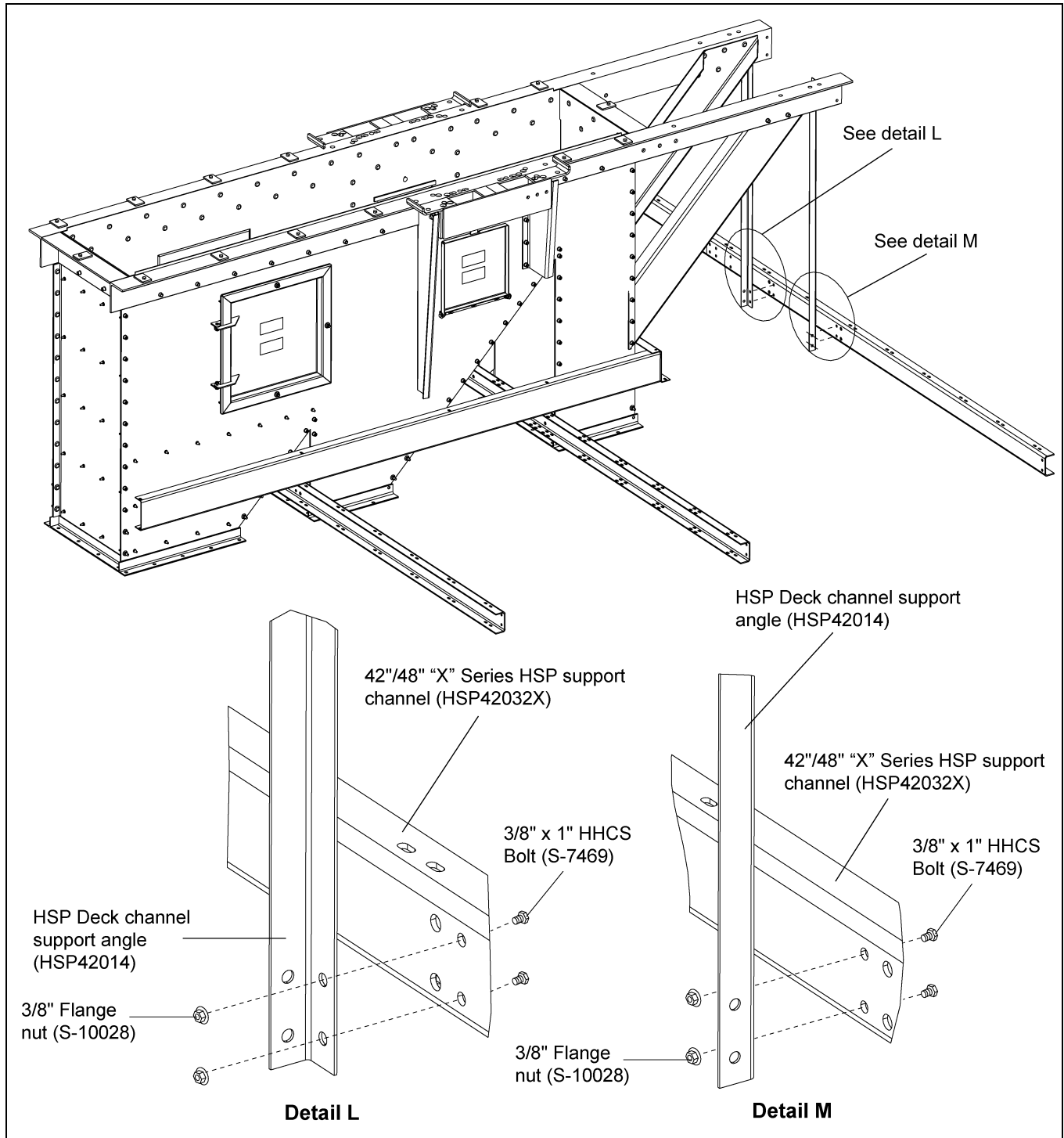


Figure 8F

8. 42" Head Platform Left Hand Drive

2. Locate the large holes in decking (HSP42033X) and orient the decking so that the end of the decking with the greater length from the holes is towards the lower head.
3. Insert deck channel support angles (HSP42014) through the outside holes of the decking and attach decking to the toe board (HSP42064SX) and support channel (HSP42032X) using 5/16" x 1" flange bolts (S-7470) and 5/16" flange nuts (S-3611).
4. Attach deck channel support angles (HSP42014) to the lower head bearing angle (42HDBRGN) using 3/8" x 1" HHCS bolts (S-7469) and 3/8" flange nut (S-10028). (See Figure 8G.)

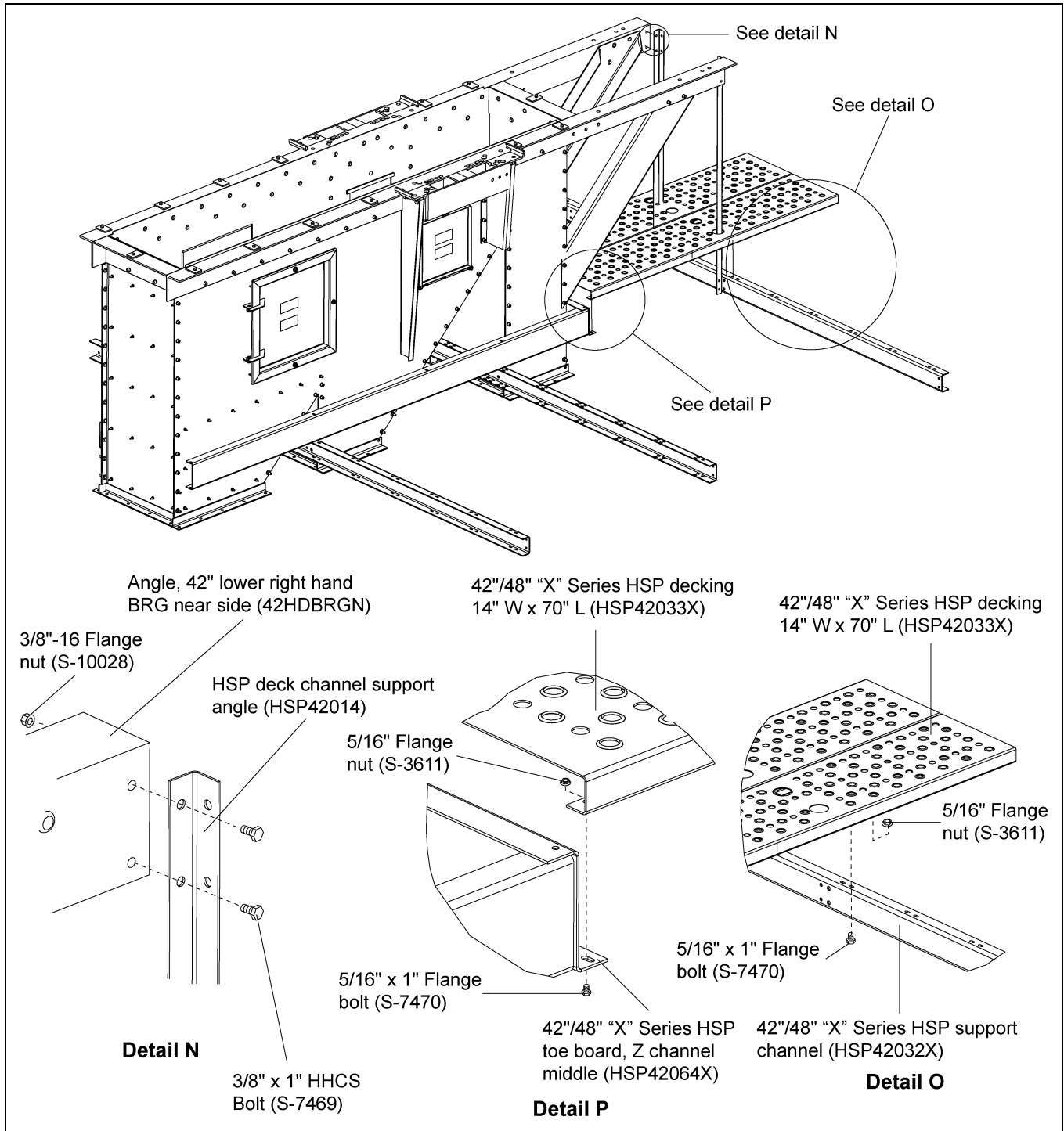


Figure 8G

8. 42" Head Platform Left Hand Drive

Decking Installation

IMPORTANT: Install ALL decking by starting next to the toe board and working outward. Planks must be firmly seated next to each other.

Decking Section: Down-Leg Drive Side

1. Install five (5) planks of decking (HSP42007X) on the drive side at the down-leg end. **NOTE:** Be sure to install this section of decking by starting at the inside next to the toe board and working outward.
2. Fasten the decking to the support channels (HSP42032X and HSP42012X) using 5/16" x 1" flange bolts (S-7470) and 5/16" flange nuts (S-3611). (See Figure 8H.)

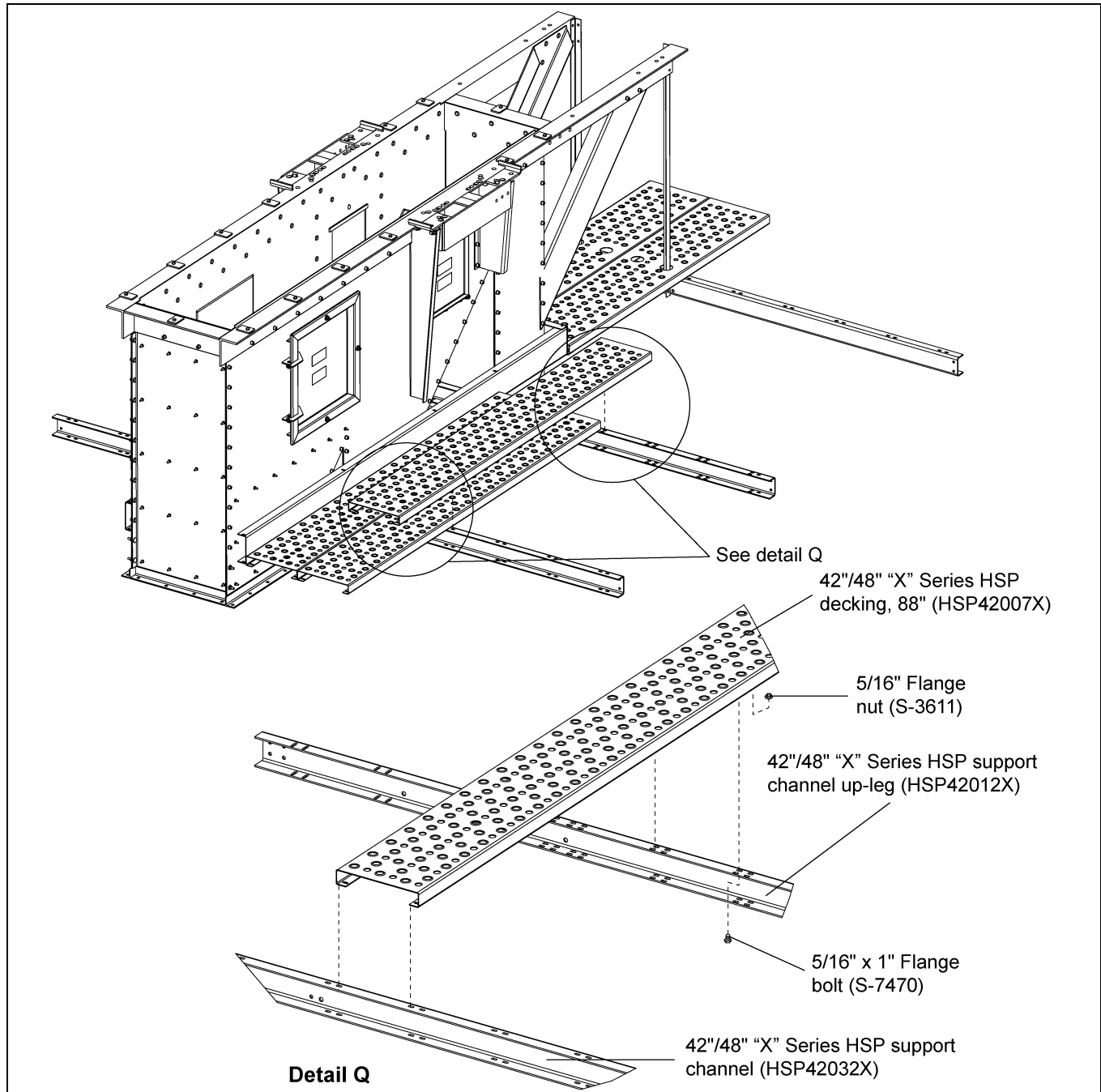


Figure 8H

Decking Section: Up-Leg Drive Side

1. Install five (5) planks of decking (HSP42006X) on the drive side at the up-leg end. **NOTE:** Be sure to install this section of decking by starting at the inside next to the toe board and working outward.
2. Fasten the decking to the support channels (HSP42012X and HSP4248HS) using 5/16" x 1" flange bolts (S-7470) and 5/16" flange nuts (S-3611). (See Figure 8I.)

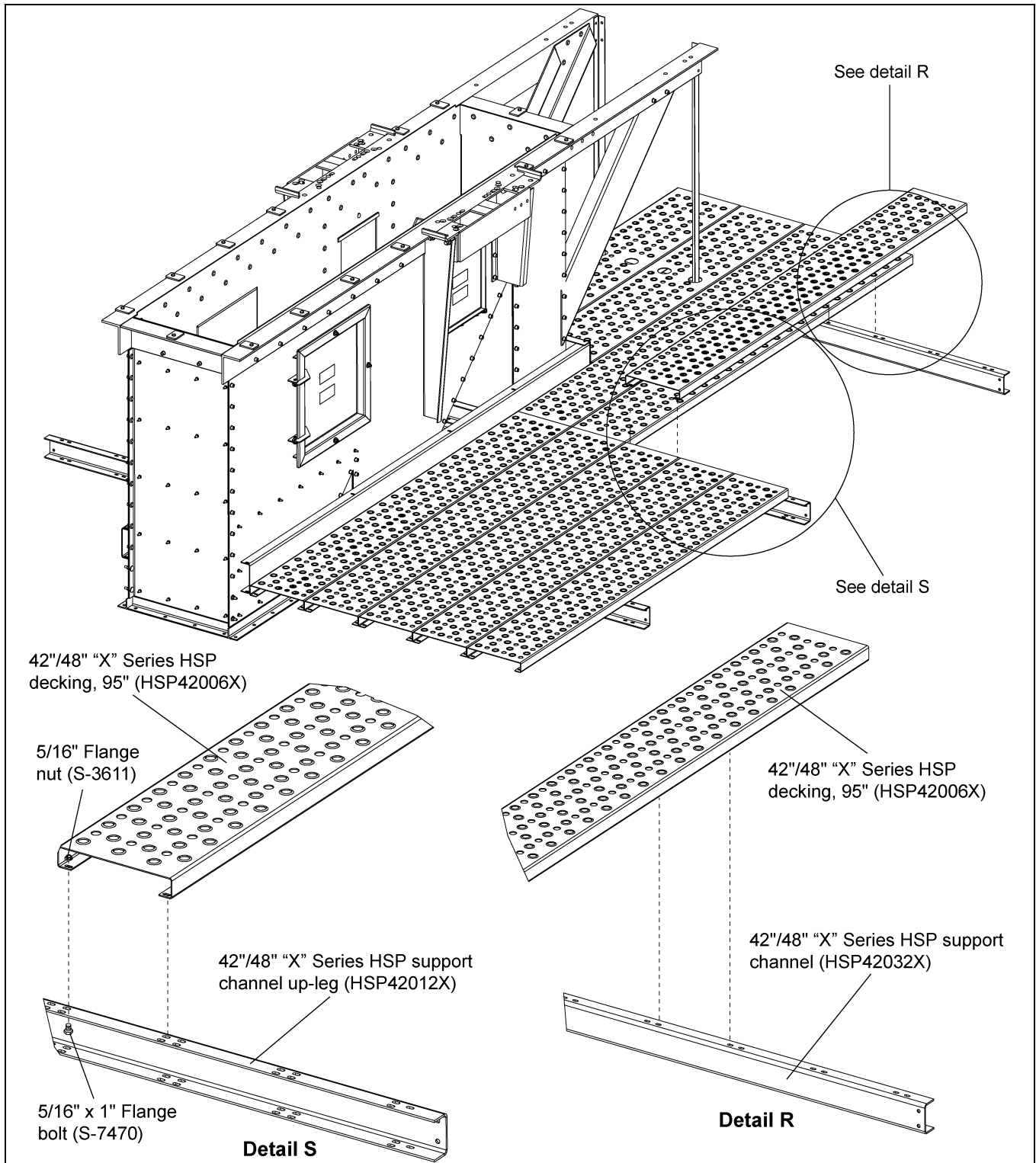


Figure 8I

8. 42" Head Platform Left Hand Drive

Decking Section: Up-Leg Hatch Side

1. Install three (3) planks of decking (HSP42008X) on the hatch side at the up-leg end. **NOTE:** Be sure to install this section of decking by starting at the inside next to the toe board and working outward.
2. Fasten the decking to the support channels (HSP42032X and HSP42012X) using 5/16" x 1" flange bolts (S-7470) and 5/16" flange nuts (S-3611).

Install Third Cross Support Channel

1. Install the 40" support channel (HSP4248HS) to the end of the decking planks (HSP42008X) and the bottom of the toe board (HSP42018X) using 5/16" x 1" flange bolts (S-7470) and 5/16" flange nuts (S-3611). (See Figure 8J.)

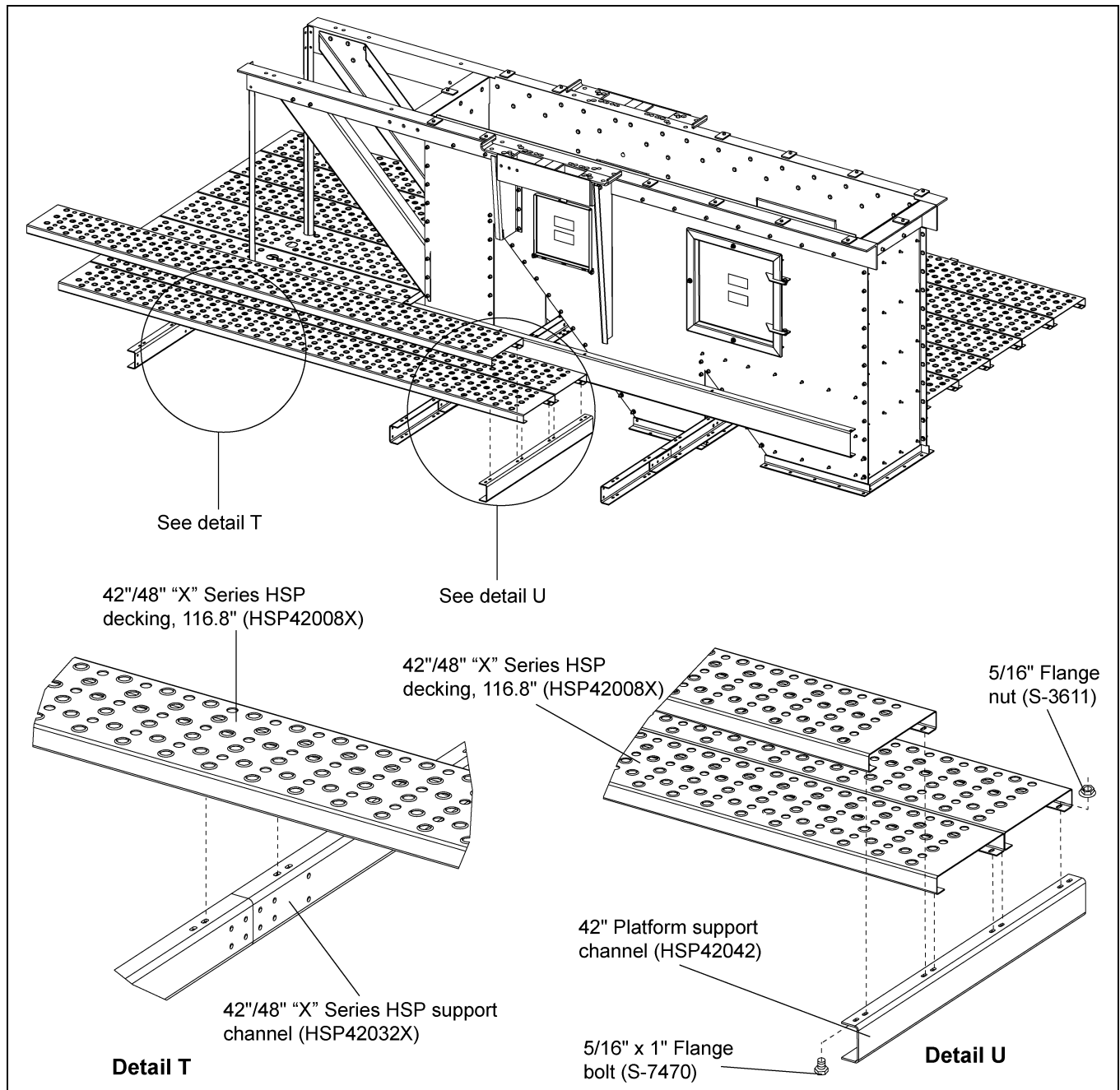


Figure 8J

Install Toe Boards

1. Install the longest toe board assemblies (HSP42015X and HSP42016X). Orient so that the (HSP42015X) faces towards the down-leg end of the lower head.
2. Fasten toe boards to the support channels using 5/16" x 1" flange bolts (S-7440) and 5/16" flange nuts (S-3611).
3. Install each end of the long "Z" toe board assembly to the bottom of the long toe board assemblies using 5/16" x 1" flange bolts (S-7440) and 5/16" flange nuts (S-3611).
4. Install the "Z" toe board (HSP42037X) on the drive side at the down-leg end. Fasten to the ends of the toe boards (HSP42015X and HSP42018X) using 5/16" x 1" flange bolts (S-7440) and 5/16" flange nuts (S-3611).
5. Install the "Z" toe board (HSP42036X) on the hatch side at the down-leg end. Fasten to the ends of the toe boards (HSP42015X and HSP42018X) using 5/16" x 1" flange bolts (S-7440) and 5/16" flange nuts (S-3611). (See Figure 8K.)

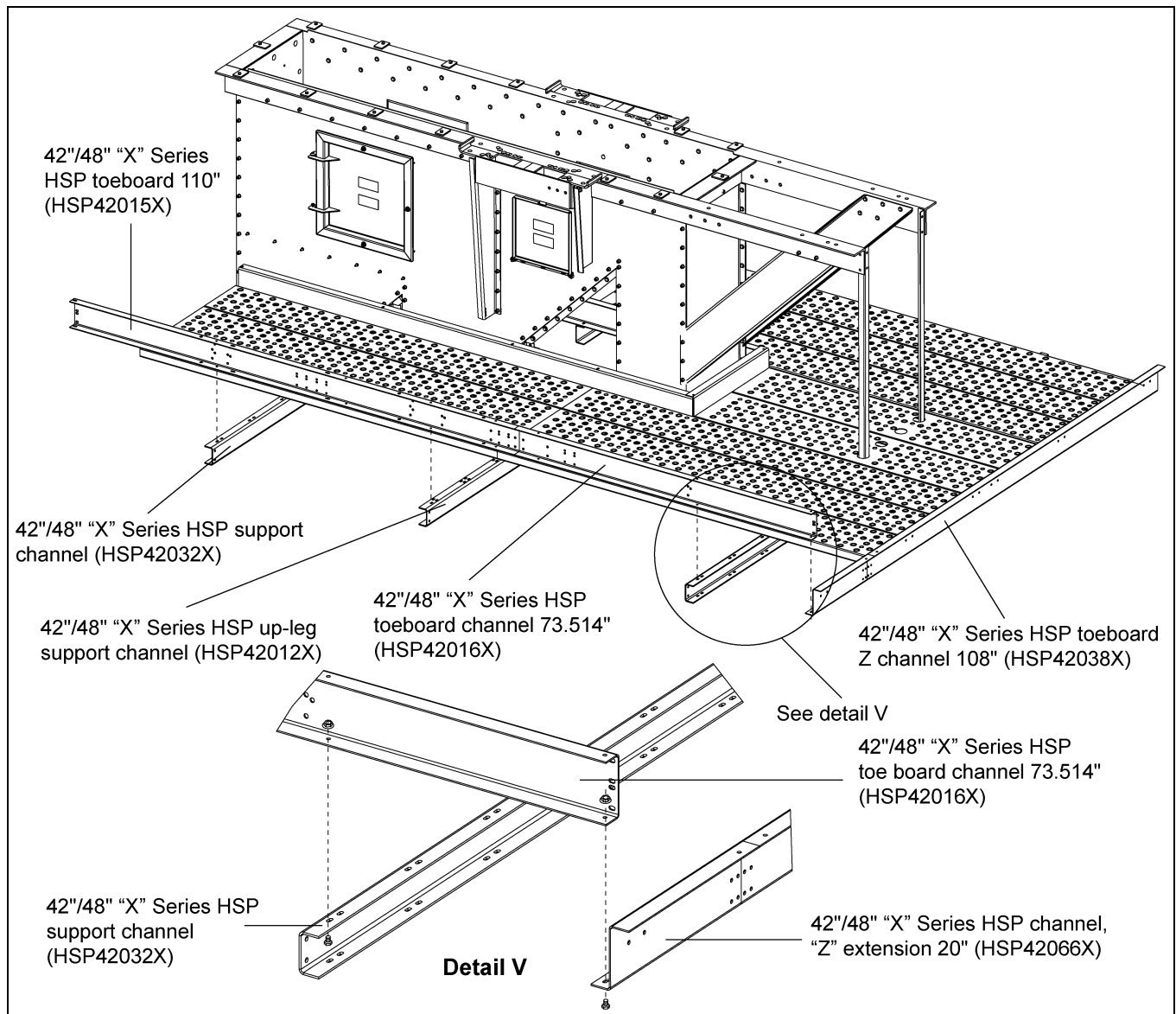


Figure 8K

8. 42" Head Platform Left Hand Drive

Splice Toe Boards Together

NOTE: Position bolt heads to the inside of the platform.

1. Place each set of toe board ends (HSP42015X and HSP42016X) together and line up bolt holes with holes in splice plate (HSP42044X).
2. Fasten each set together using twenty (20) 3/8" x 1" HHCS bolts (S-7469) and 3/8" nuts (S-10028).
3. Place ends of "Z" toe boards (HSP42066X and HSP42038X) together and line up bolt holes with holes in "Z" splice plate (HSP4248ZSPLX). Fasten each set together using twelve (12) 3/8" x 1" HHCS bolts (S-7469) and 3/8" nuts (S-10028). (See Figure 8L.)

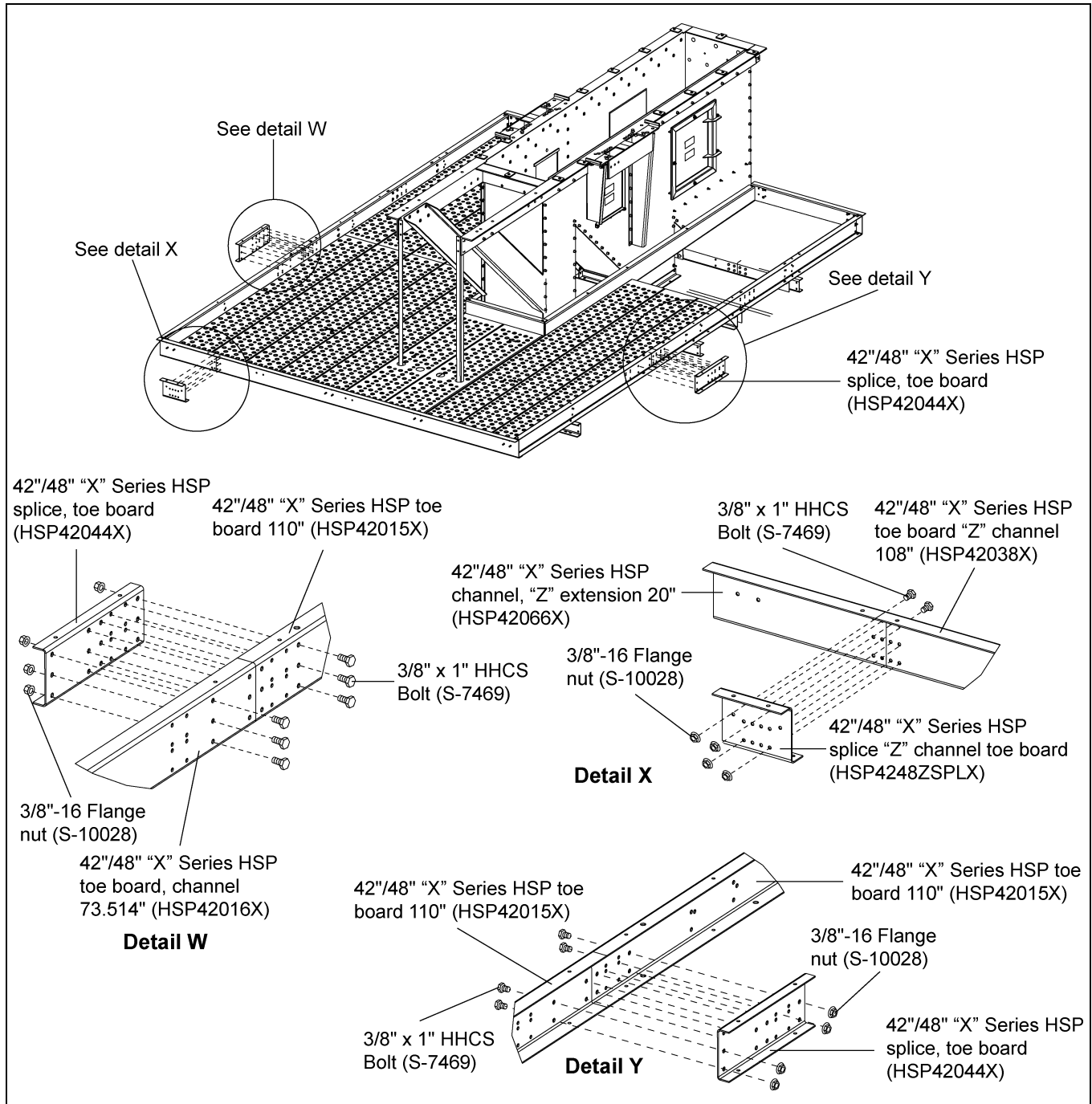


Figure 8L

Down-Leg Hatch Side Decking Section

1. Install three (3) planks of decking (HSP42043X) on the hatch side at the down-leg end.
NOTE: Be sure to install this section of decking by starting at the inside next to the toe board and working outward.
2. Fasten the decking to the support channel (HSP42065X) using 5/16" x 1" flange bolts (S-7470) and 5/16" flange nuts (S-3611). (See Figure 8M.)

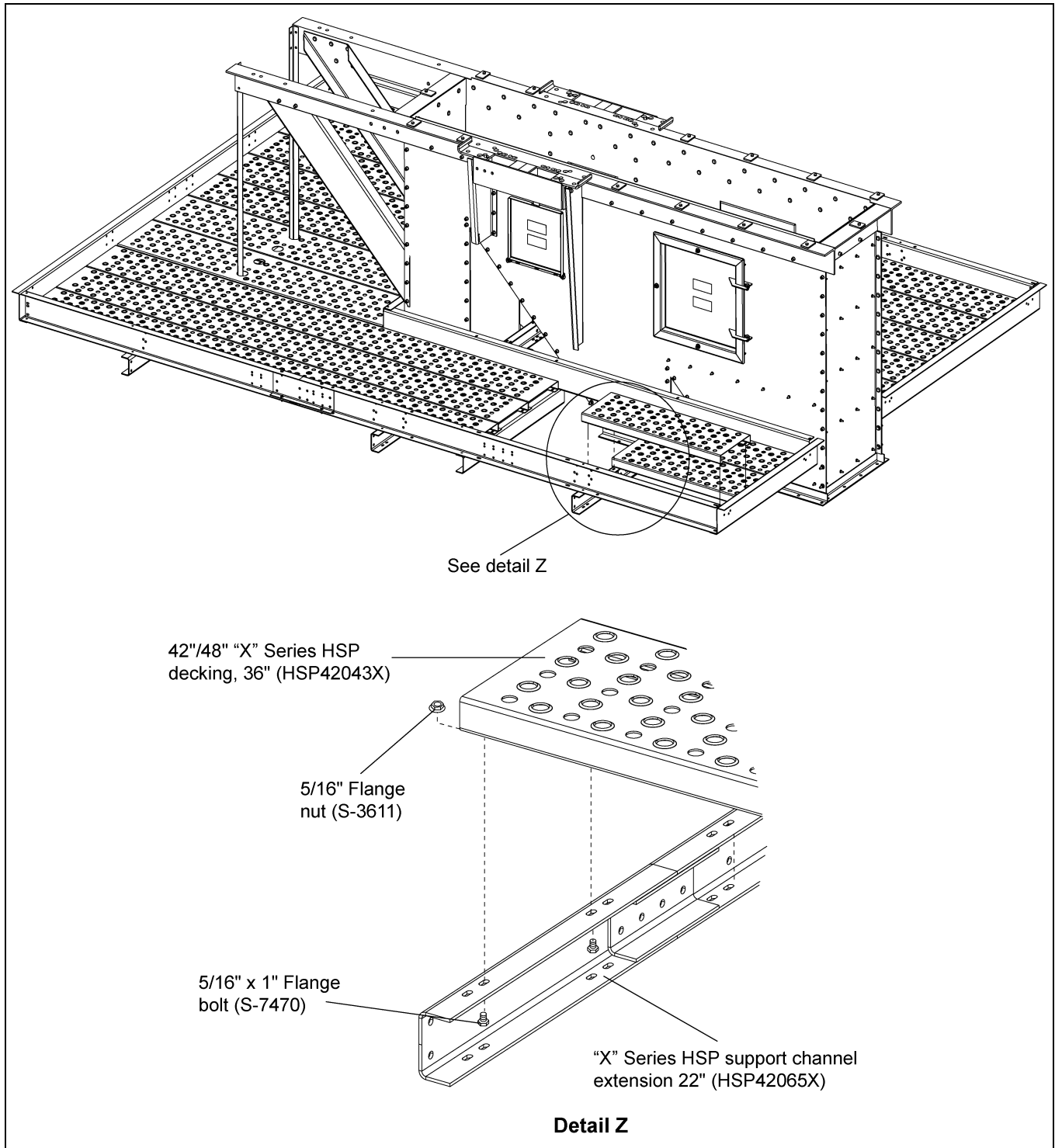


Figure 8M

8. 42" Head Platform Left Hand Drive

Install Handrail Supports

NOTE: Position bolt heads to the inside of the platform.

1. Attach the ends of each support channel to the toe boards using six (6) handrail support brackets (HSP4248HS). Fasten together using 3/8" x 1" HHCS bolts (S-7469) and 3/8" flange nuts (S-10028). (See Figure 8N.)

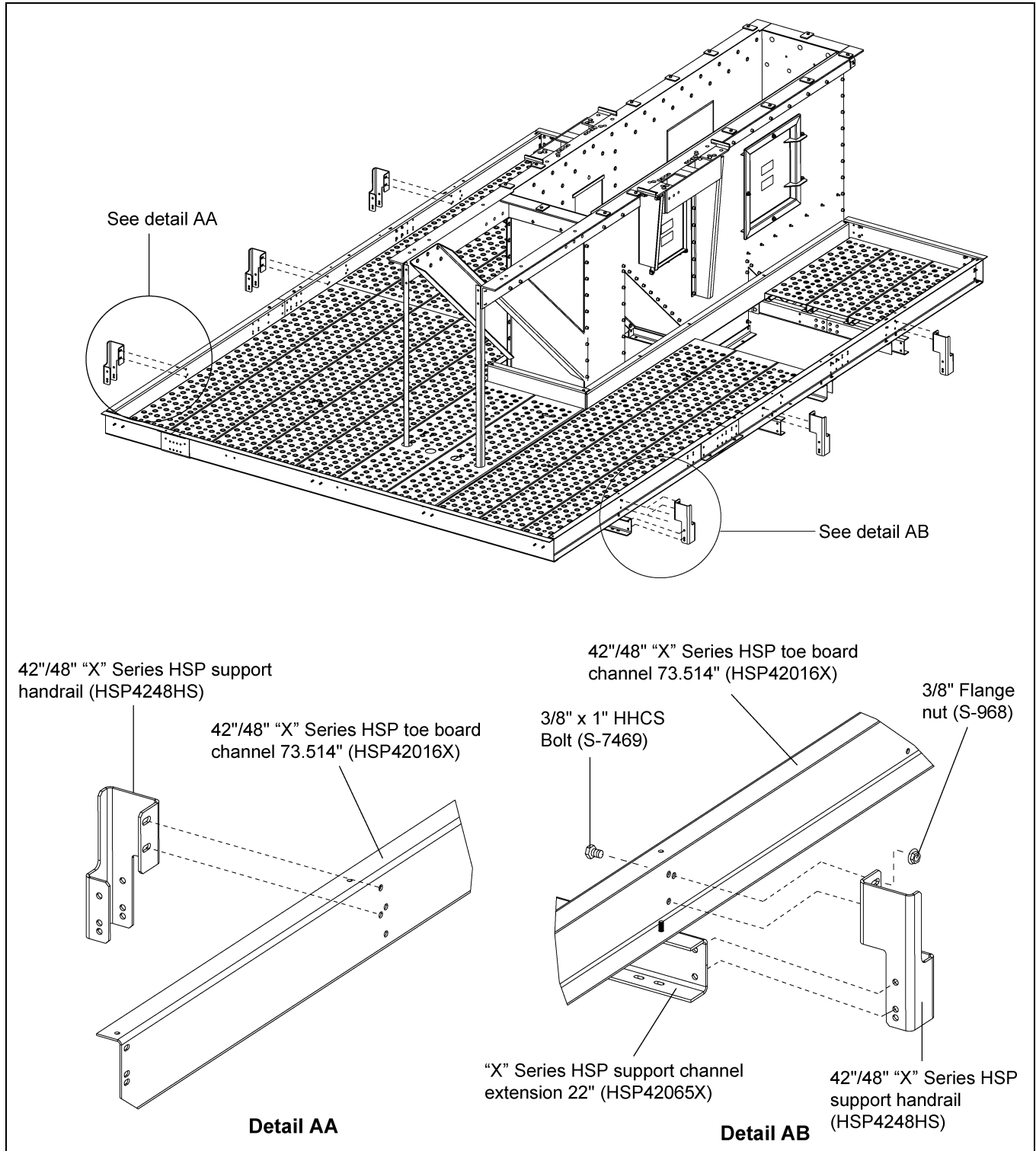


Figure 8N

Install Platform Post

NOTE: Position bolt heads to the inside of the platform.

NOTE: Posts should be finger-tightened only until handrails have been installed. Some "free play" will be required to properly fit the handrails in place.

1. Install platform post to the "Z" toe boards with the flat side to the toe board spacing them as shown in [Figure 80](#).
2. Fasten middle post to toe boards using four (4) 5/16" x 1" flange bolts (S-7470) and 5/16" flange nuts (S-3611).
3. Fasten corner posts to toe boards using six (6) 5/16" x 1" flange bolts (S-7470) and 5/16" flange nuts (S-3611).

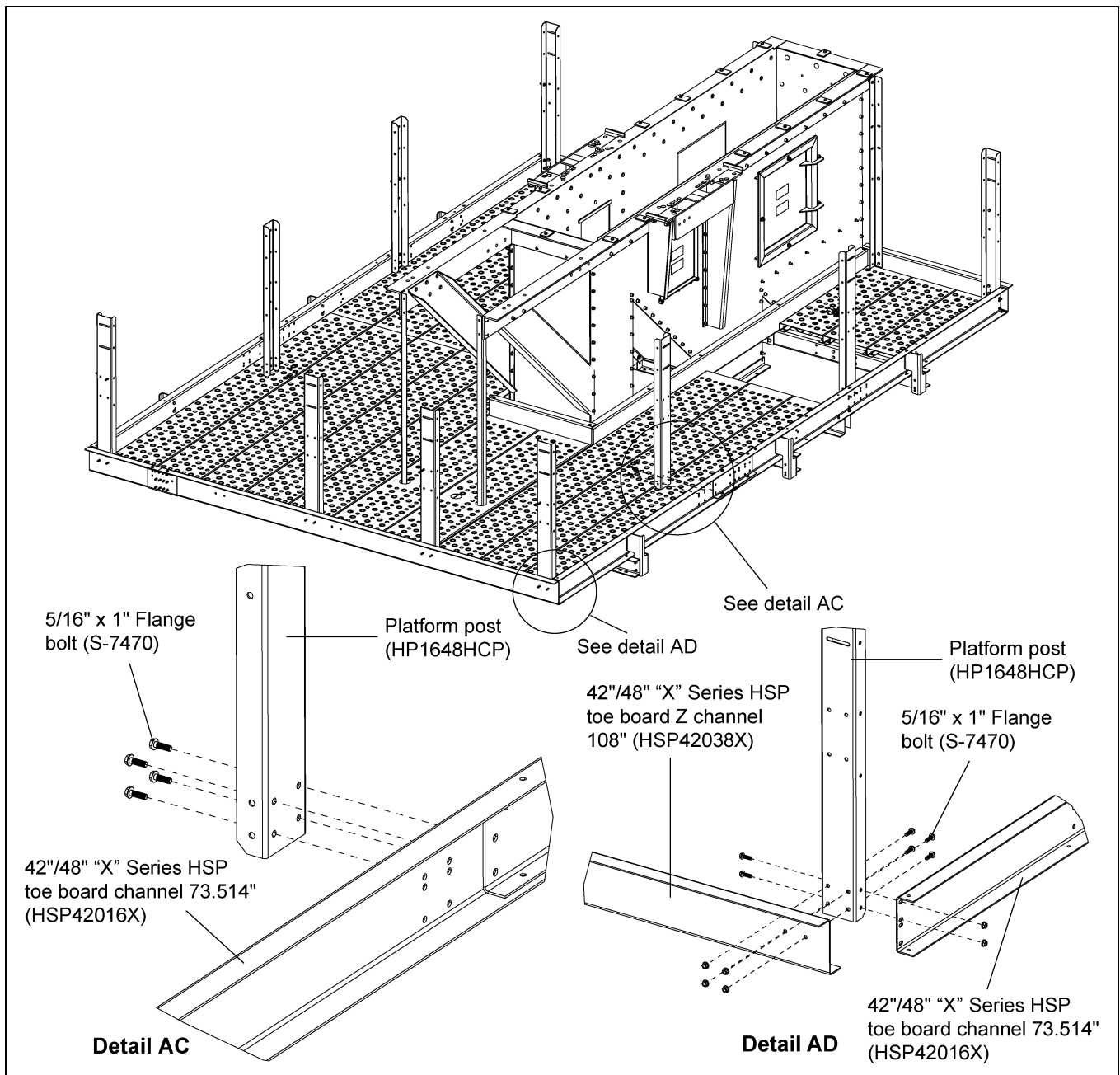


Figure 80

8. 42" Head Platform Left Hand Drive

Install Handrails

NOTE: Position bolt heads to the inside of the platform.

NOTE: Posts should be finger-tightened only until handrails have been installed. Some "free play" will be required to properly fit the handrails in place.

1. Loosely install hand rails to the top of the posts (HP1648HCP) as shown in [Figure 8P](#) using 5/16" x 2" HHCS bolts (S-7877) and 5/6" flange nuts (S-3611).
2. Once all handrails are in place, fully tighten platform posts to the toe boards and fully tighten the handrails to the posts. ([See Figure 8P.](#))

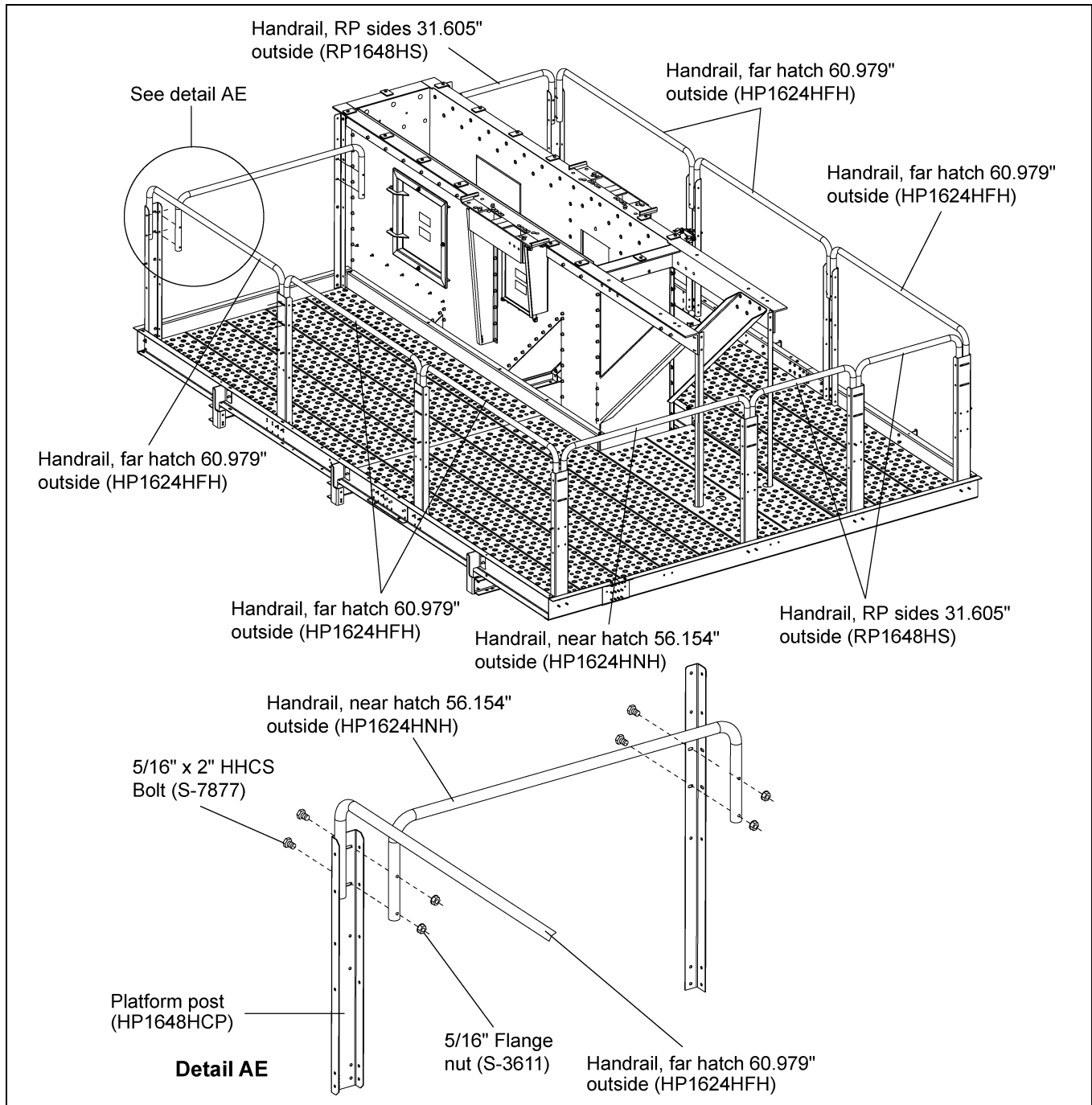


Figure 8P

Attach Intermediate Handrails to Posts

1. Cut 14" off the tube end of three (3) small intermediate handrails (LDR-4088) and three (3) large intermediate handrails (LDR-4087). (See Figure 8Q.)
2. Slide the small rail into the large rail and install one set at discharge end and other two (2) sets opposite the discharge end on hatch side and adjust to fit.
3. Fasten using 5/16" x 1" flange bolts (S-7470) and 5/16" flange nuts (S-3611).
4. Install the remaining intermediate handrails around the platform using 5/16" x 1" flange bolts (S-7470) and 5/16" flange nuts (S-3611).

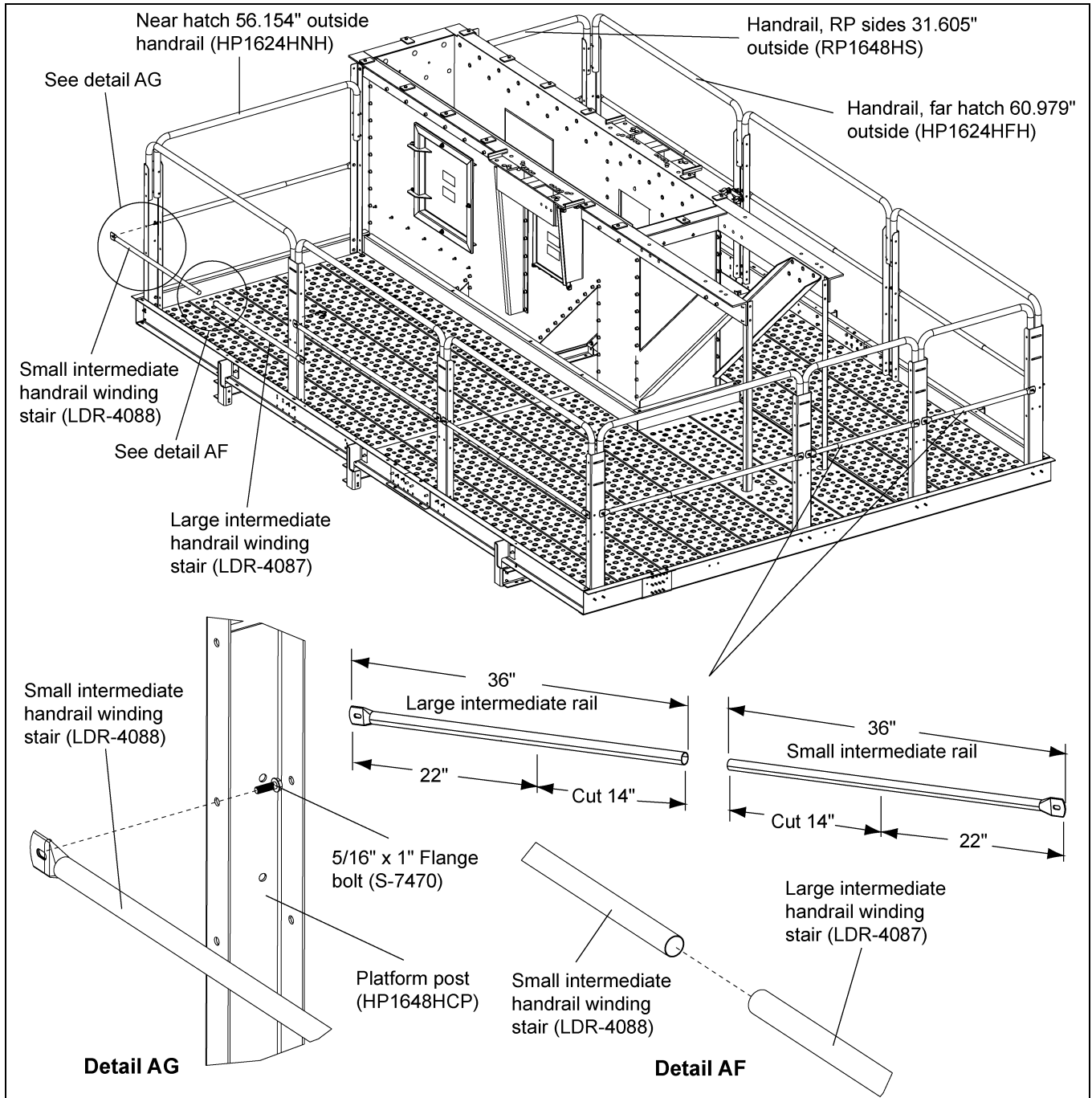


Figure 8Q

8. 42" Head Platform Left Hand Drive

Install the Hatch

1. Install left and right hatch hinges (HSP36033 and HSP36002) to the toe board (HSP42015X) at the hatch location using 5/16" x 1" flange bolts (S-7470) and 5/16" flange nuts (S-3611).
2. Align the hinges (HSP36033 and HSP36002) to the inside of the deck hatch hinge angles (GBS36226X) already assembled to the hatch. *(See Figure 8R below and Figure 8S on Page 69.)*
3. Fasten together using 3/8" x 1" HHCS bolts (S-7469), 3/8" washers (S-248) and 3/8" nylock nuts.

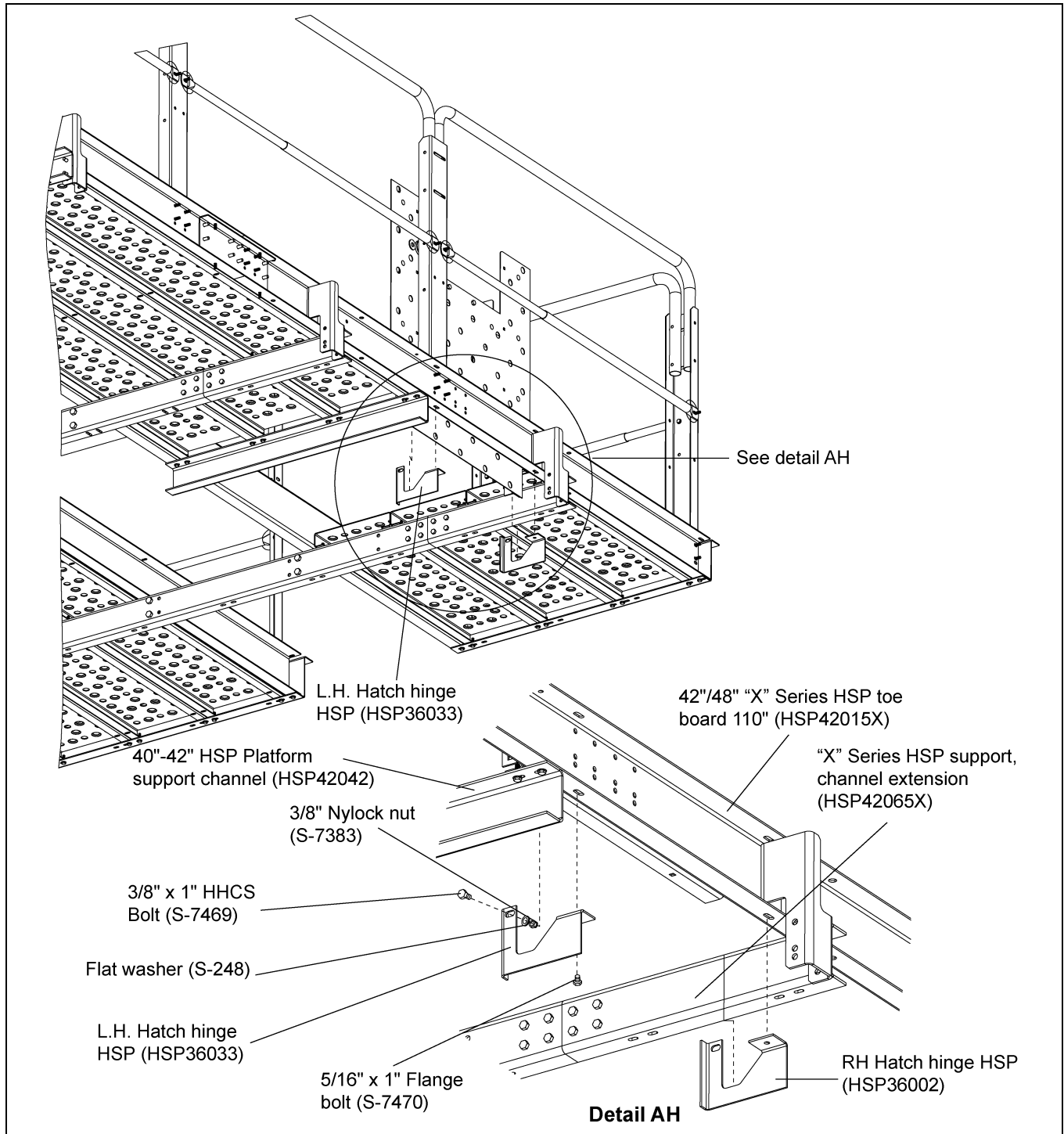


Figure 8R

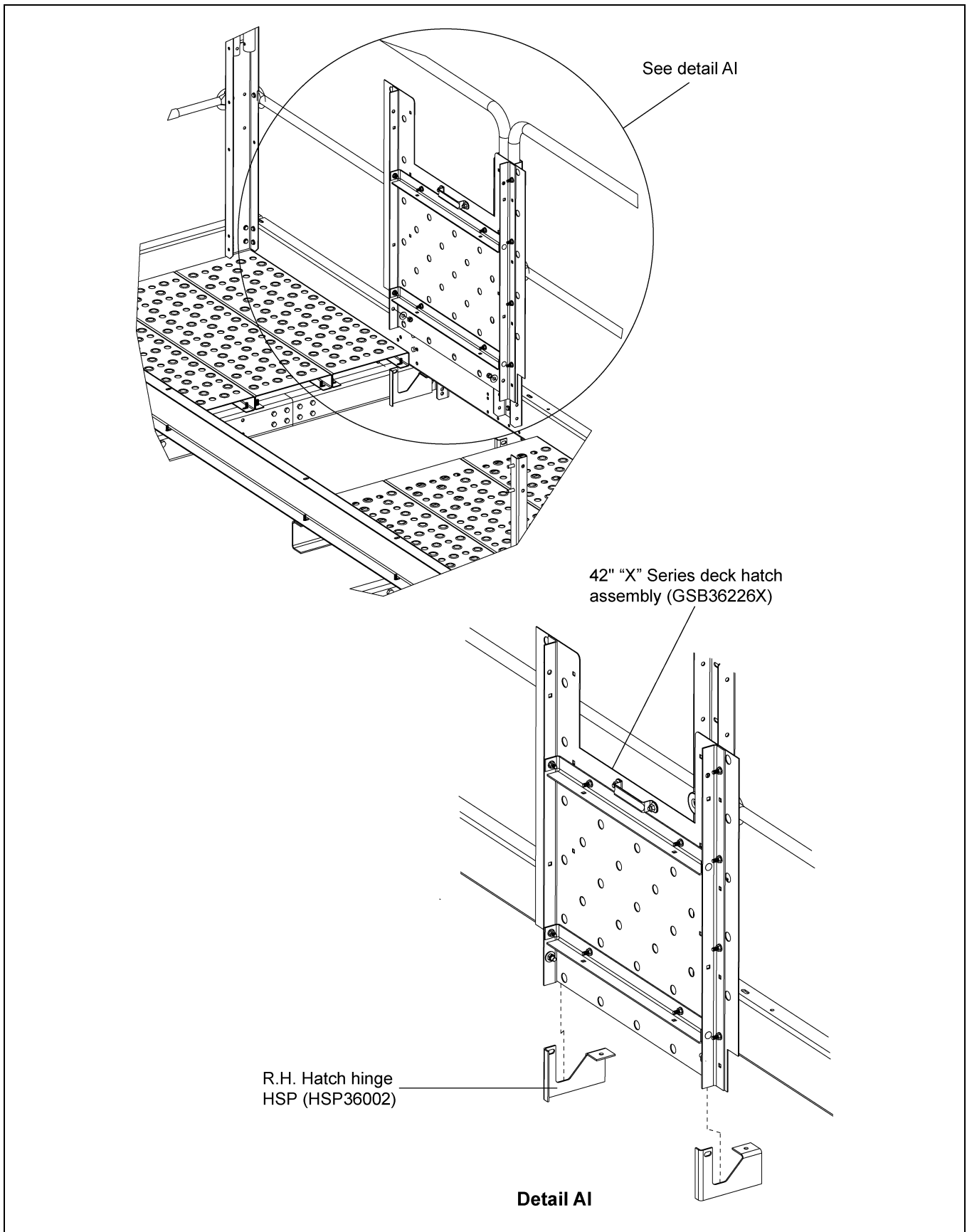


Figure 8S

8. 42" Head Platform Left Hand Drive

4. Install magnets (HP1648MAG) to the latch bracket (HSP4248LMM) using #10-24 HWHS screws (S-6145) and #10-24 nylock nuts (S-2010).
5. Open hatch fully and note where it rests against the platform post. Lower the hatch.
6. Install "X" series latch bracket assembly (HSP4248LMM and HP1648MAG) to this post where the hatch meets the post using 5/16" x 1" flange bolts (S-7470) and 5/16" flange nuts (S-3611) through the holes in the side of the post. (See Figure 8T.)
7. Raise the hatch, making sure it is flush against the magnets and holds the hatch securely in place.

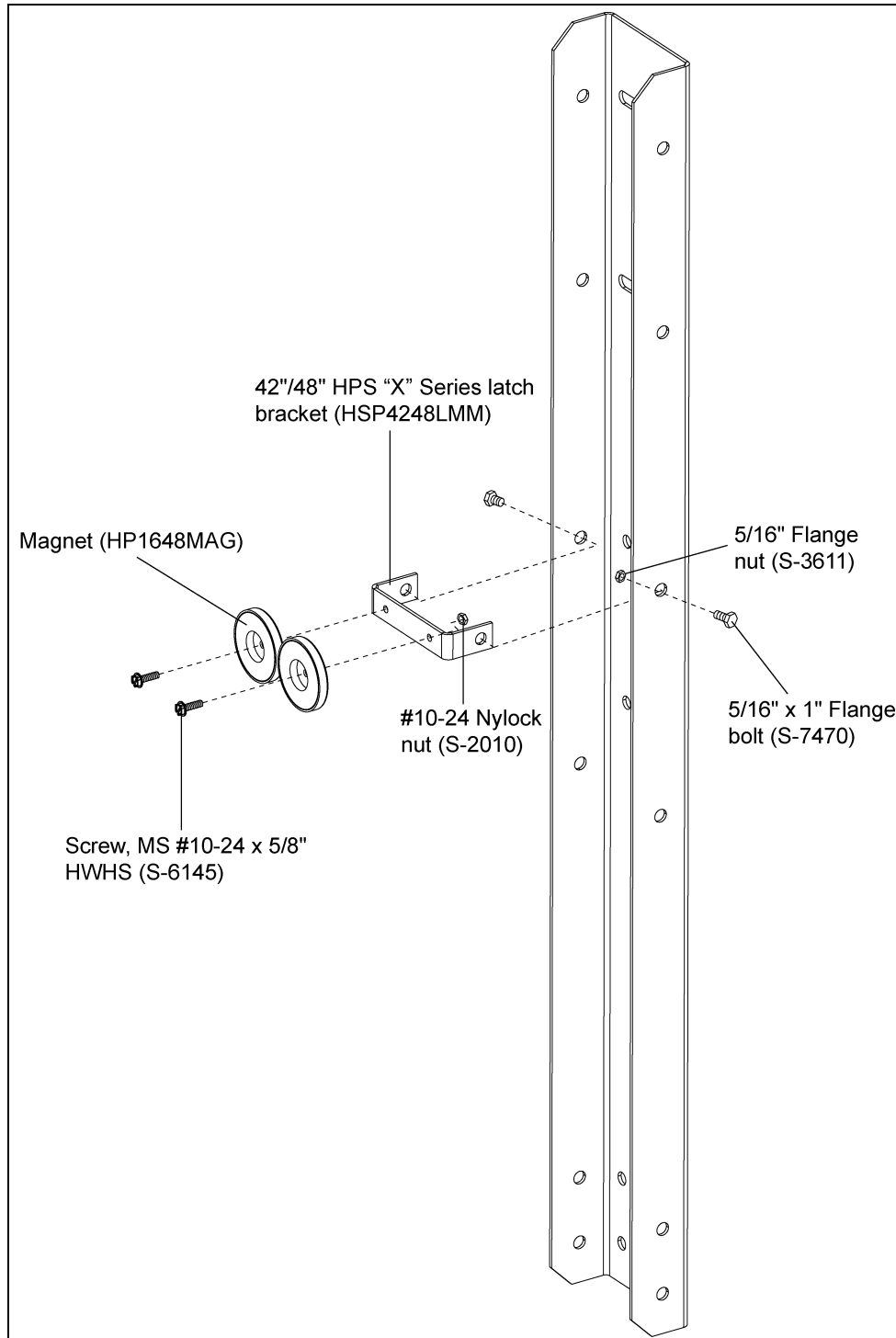


Figure 8T

Chapter 9: 48" Head Platform Right Hand Drive

NOTE: Right hand drive installation has shown. Left hand side installs the same but in opposite orientation

Attach Cross Support Channels to Lower Head

1. Align the bolt holes that are located next to the cross channel splice plate (HSP484039) of the cross channels (HSP482007X) to the main support channel (HSP484101) located on the hatch side. They all face the same direction except for the next to last on the discharge end. Fasten together using eight (8) 3/8" x 1" HHCS bolts (S-7469) and 3/8" flange nuts (S-968). *(See Figure 9A below and Figure 9B on Page 72.)*

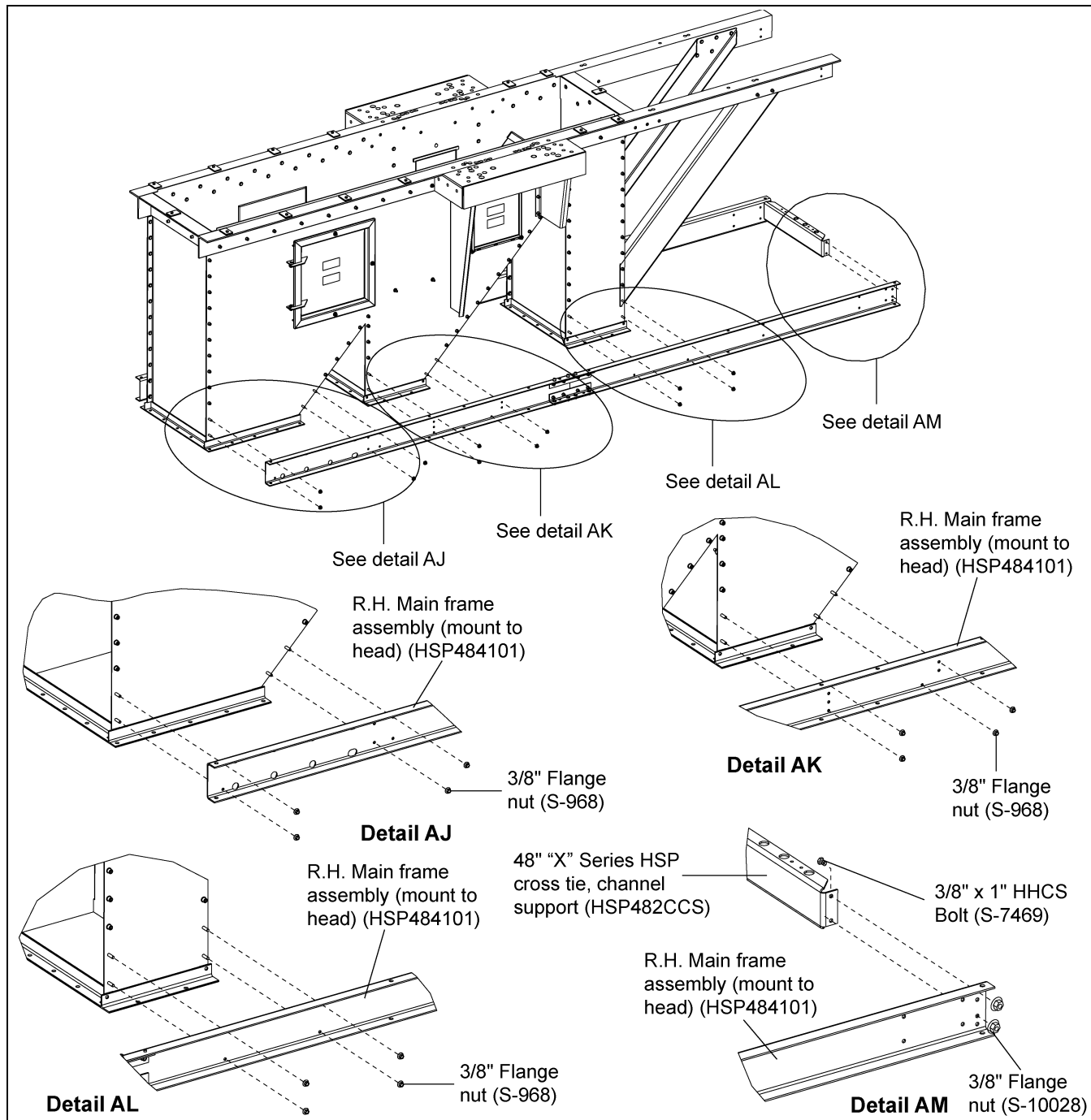


Figure 9A

9. 48" Head Platform Right Hand Drive

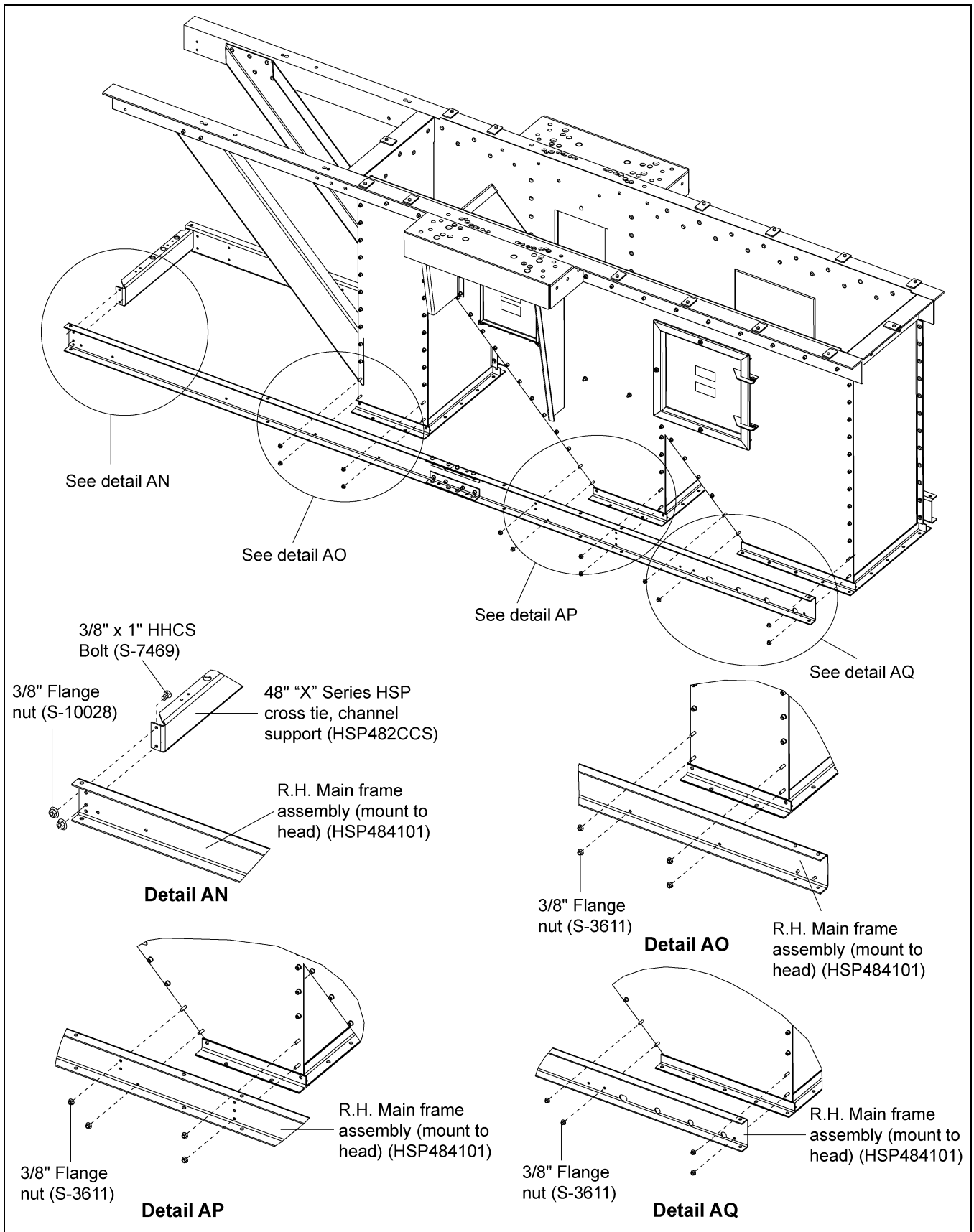


Figure 9B

NOTE: Cross channels should extend farther on the drive side than on the hatch side of the lower head.

9. 48" Head Platform Right Hand Drive

2. Place lower head section on solid and level surface.
3. Attach channel support assemblies (HSP484101) to both sides of the lower head as shown removing bolts where necessary and replacing with 3/8" x 1" HHCS bolts (S-7515) and 3/8" wide flange nuts (S-968). (See Figure 9C below and Figure 9D on Page 74.)
4. Attach cross tie channel (HSP482CCS) between the ends of the main channel support assemblies using 3/8" x 1" HHCS bolt (S-7515) and 3/8" flange nuts (S-968).

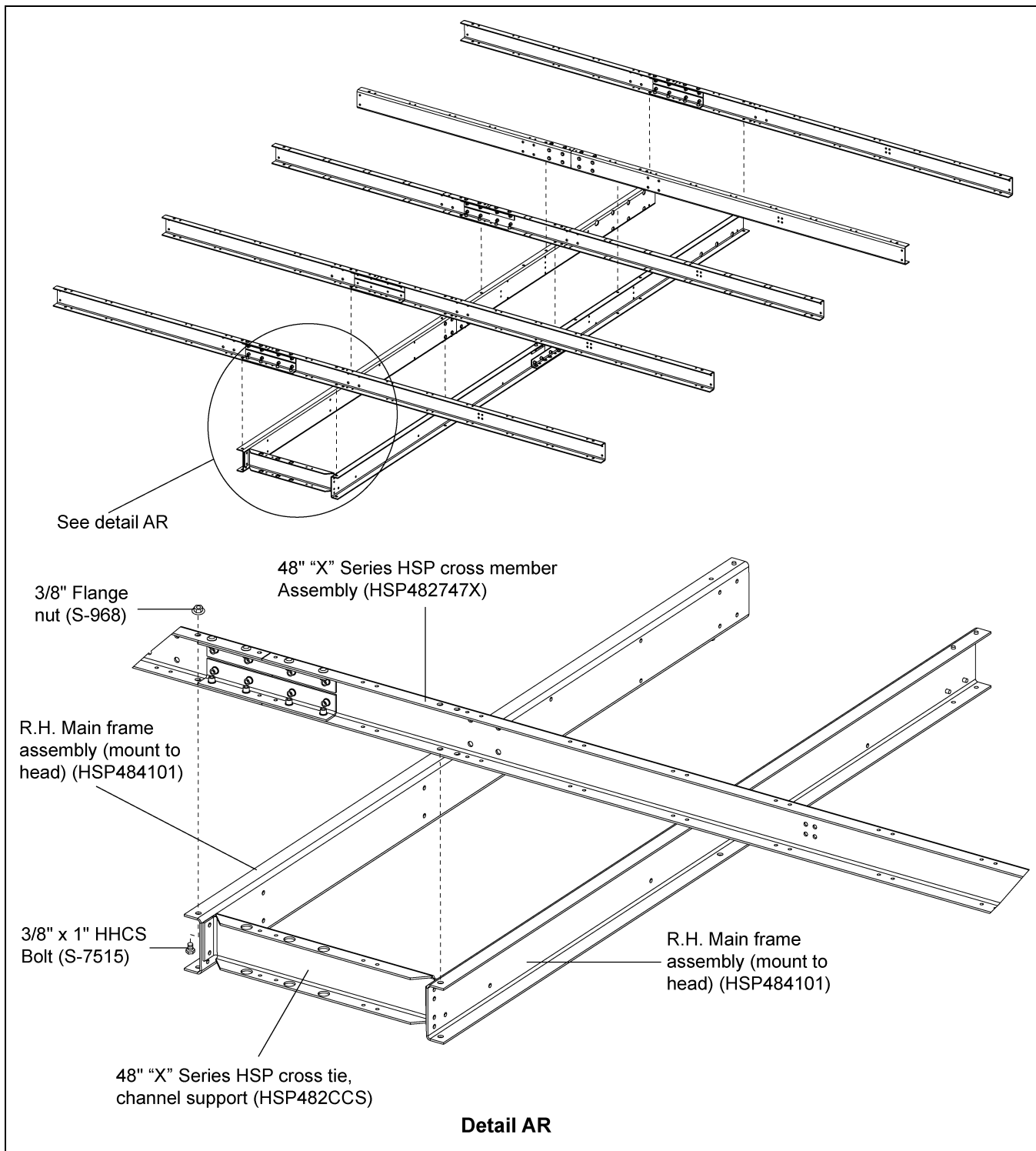


Figure 9C

9. 48" Head Platform Right Hand Drive

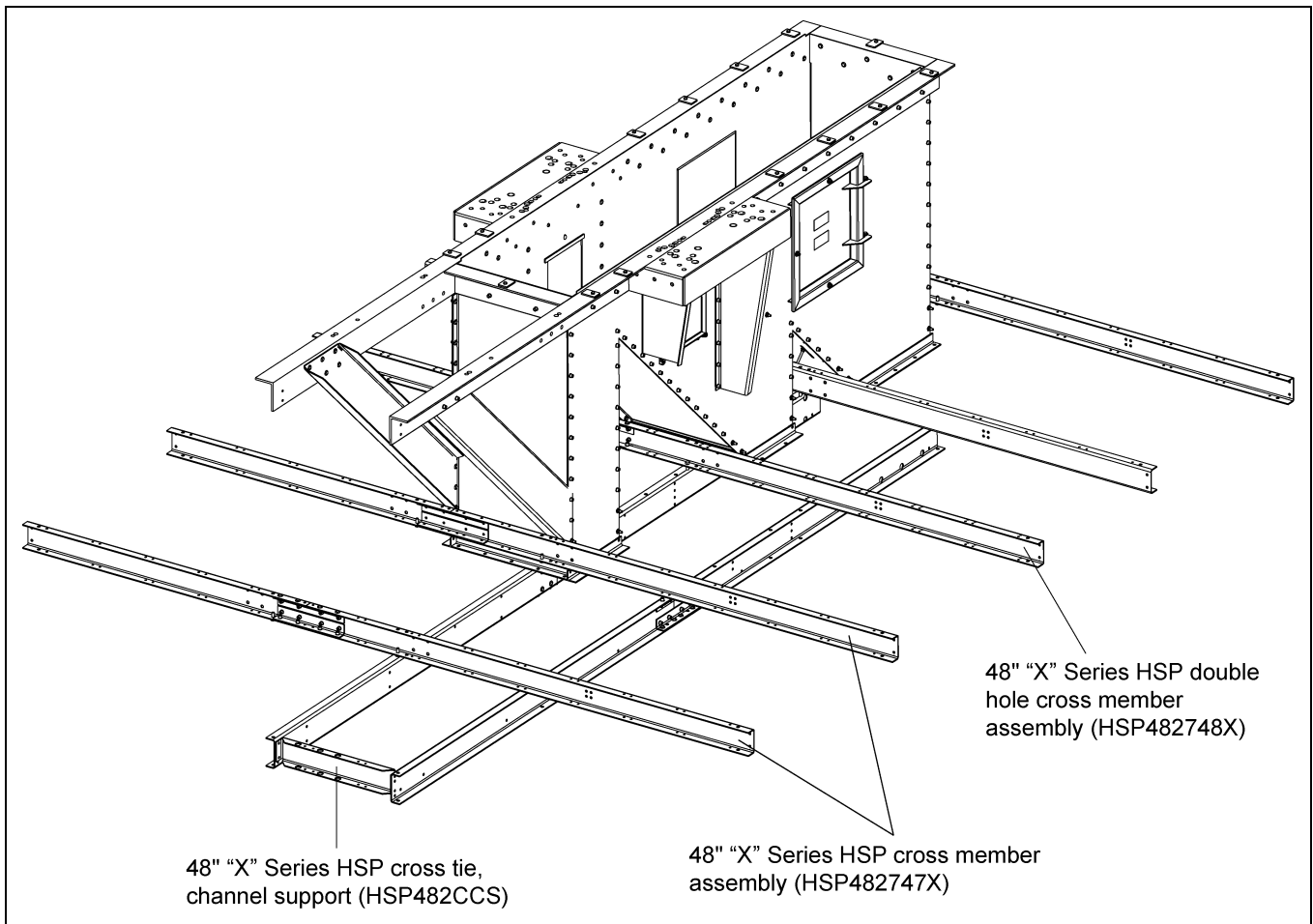


Figure 9D

5. Install the diagonal cross tie channel support (HSP482CCD) between the channel support assemblies (HSP484101) and secure in place using 3/8" x 1" HHCS bolt (S-7469) and 3/8" flange nuts (S-10028). (See Figure 9E.)

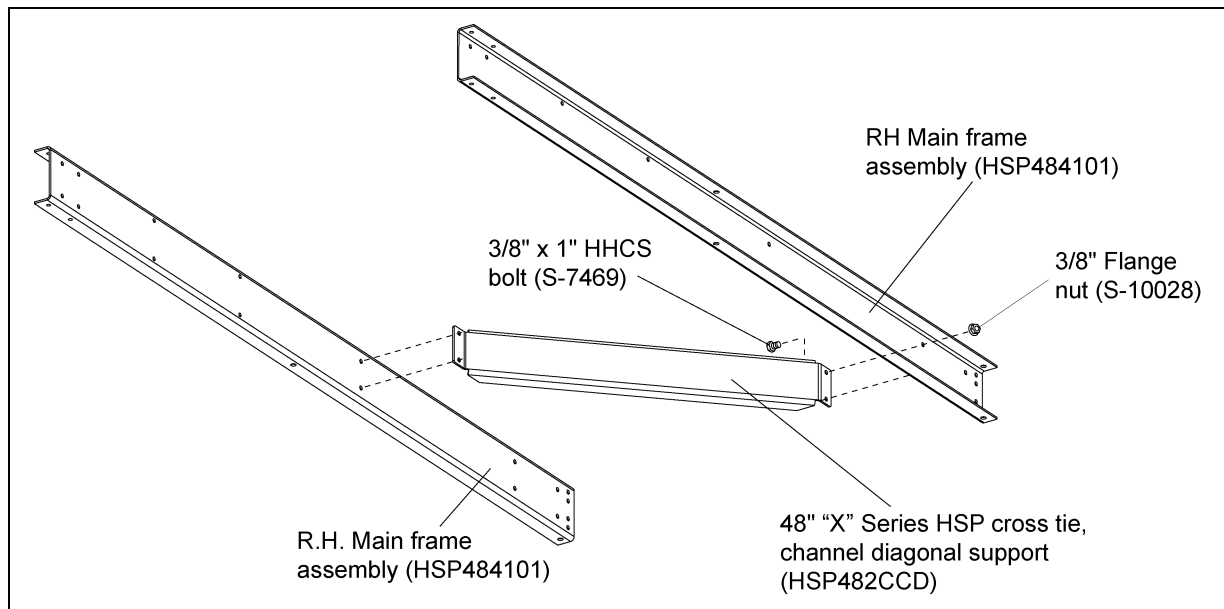


Figure 9E

9. 48" Head Platform Right Hand Drive

6. Install kicker attachment support (HSP482KBA) between the two (2) cross channels (HSP482007X) using 3/8" x 1" HHCS bolts (S-7469) and 3/8" flange nuts (S-10028). (See Figure 9F.)

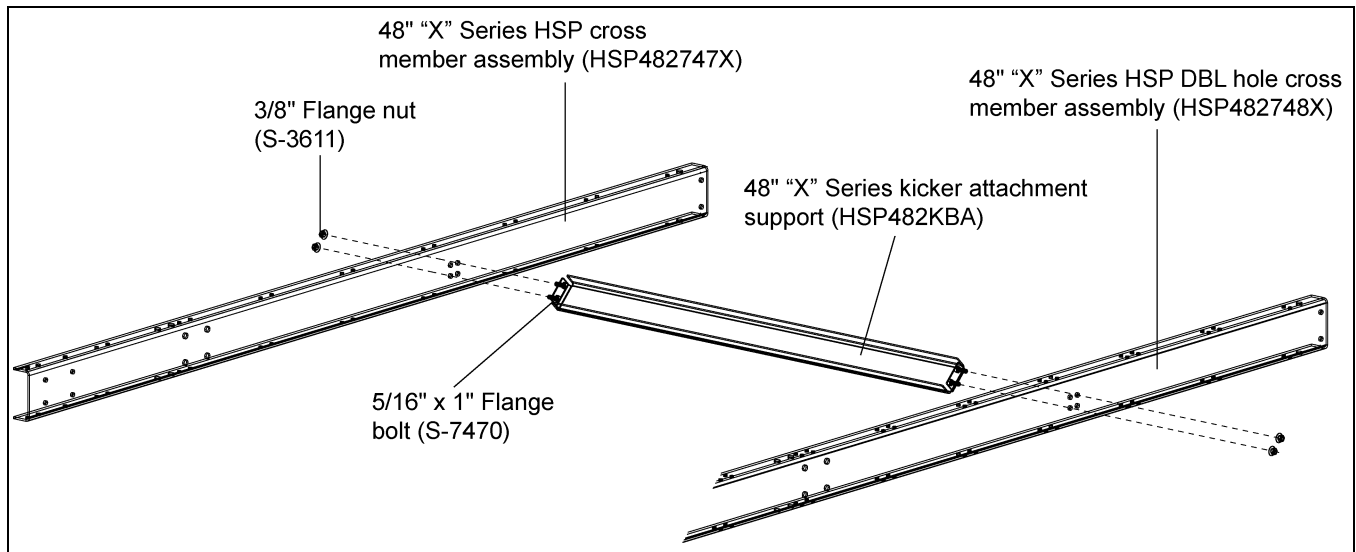


Figure 9F

Attach Toe Board Channels to Cross Support Channels

1. Position the toe boards (HSP48043X) along the side of the lower head.
2. Align toe boards with the cross channels as shown in [Figure 9G](#).
3. Fasten toe boards to channels using 5/16" x 1" flange bolts (S-7470) and nuts (S-3611).
4. Install middle toe board (HSP42064SX) to the end of the side toe boards using 5/16" x 1" flange bolts (S-7470) and nuts (S-3611).

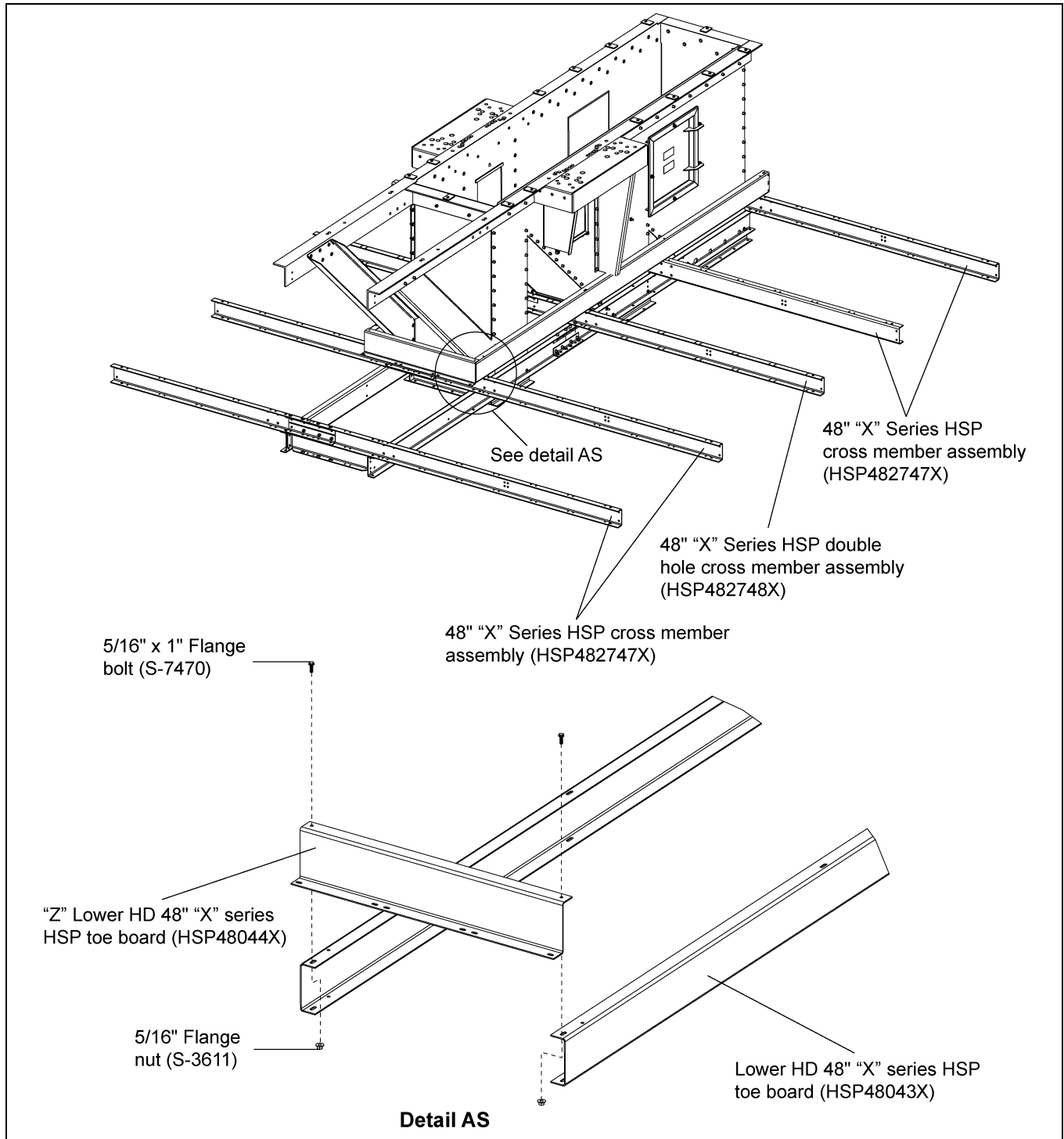


Figure 9G

Deck Channel Support Angle to Channel Supports

NOTE: Support angles go through the deck plates. Therefore, three (3) middle deck planks will be installed at the same time as the support angles.

1. Attach the deck channel support angles (HSP484038) to channel support assemblies (HSP484101) using 3/8" x 1" HHCS bolts (S-7469) and 3/8" flange nuts (S-10028). (See Figure 9H.)

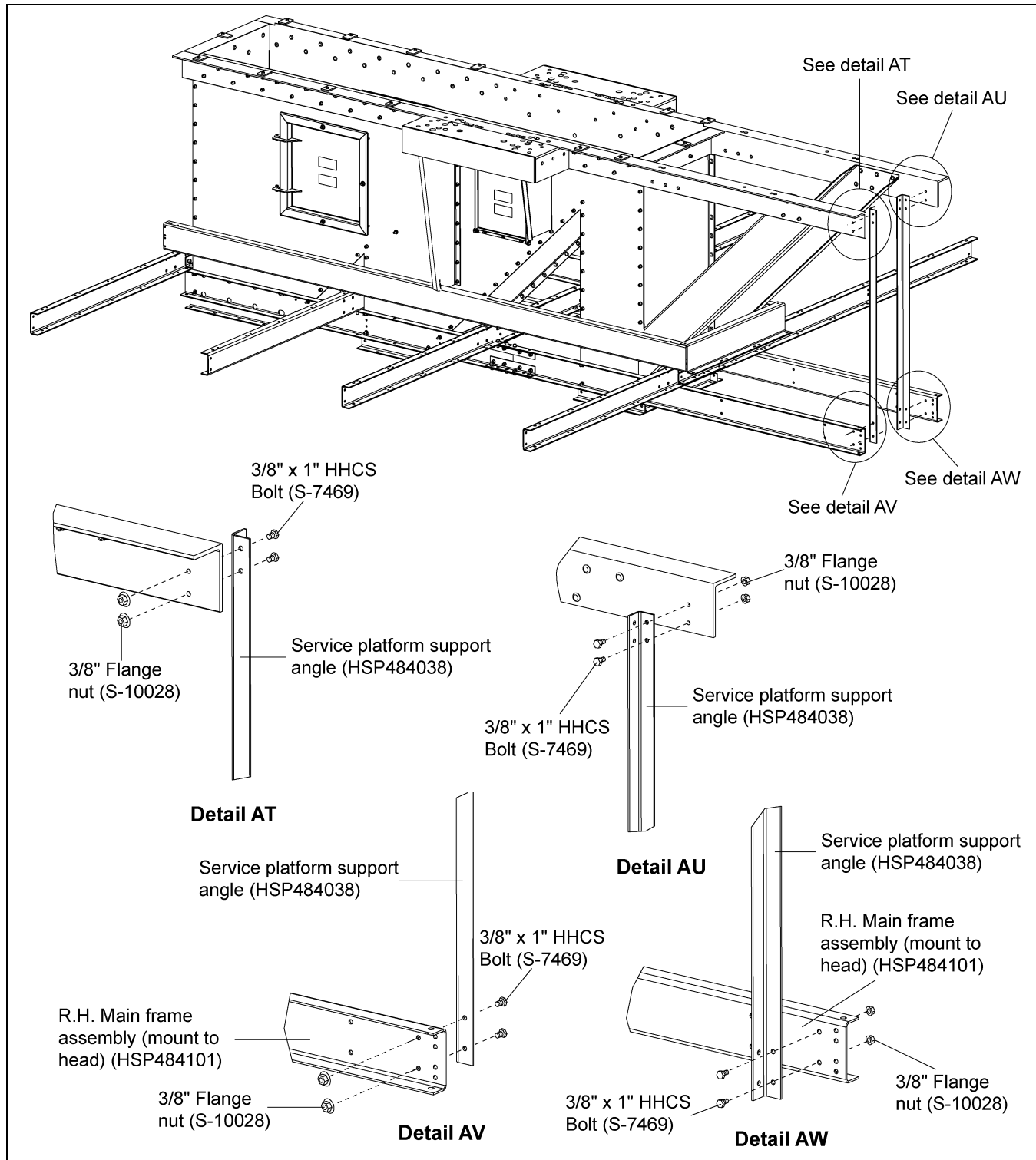


Figure 9H

9. 48" Head Platform Right Hand Drive

2. Locate the large holes in decking (HSP48011X) and orient the decking so that the end of the decking with the greater length from the holes is towards the lower head. Simultaneously install the deck plank (HSP48012X) between the two (2) deck planks with the large holes (HSP48011X).
3. Insert deck channel support angles (HSP484038) through the outside holes of the decking and attach all three (3) decking planks to the toe board (HSP48044X) and cross support channel (HSP482007X) using 5/16" x 1" flange bolts (S-7470) and 5/16" flange nuts (S-3611).
4. Attach deck channel support angles (HSP484038) to the lower head bearing angle (42HDBRGN) using 3/8" x 1" HHCS bolts (S-7469) and 3/8" flange nut (S-10028).

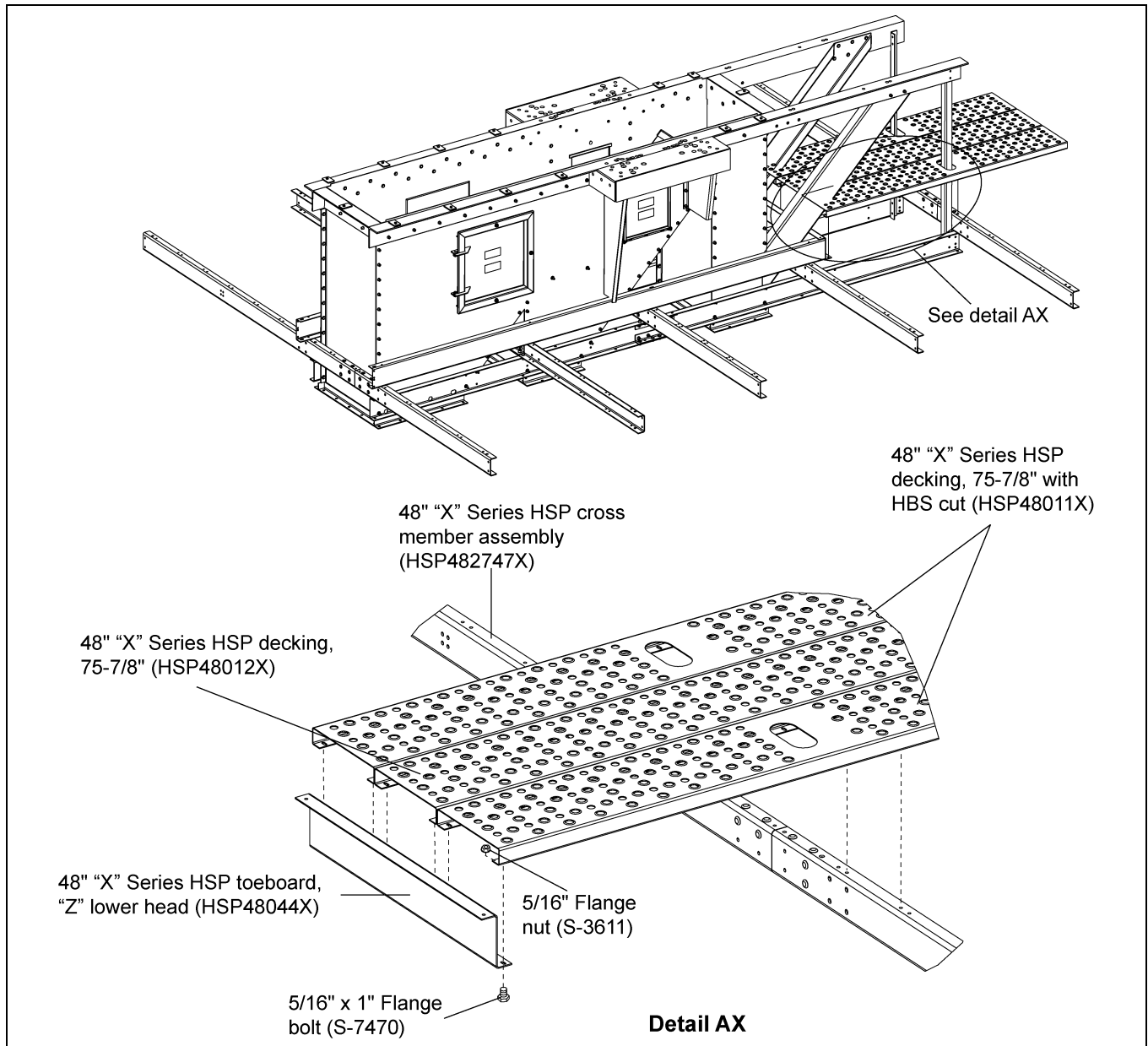


Figure 91

Decking Installation

IMPORTANT: Install ALL decking by starting next to the toe board and working outward. Planks must be firmly seated next to each other.

Decking Section: Up-Leg Hatch Side

1. Install four (4) planks of decking (HSP48009X) on the drive side at the up-leg end. **NOTE:** Be sure to install this section of decking by starting at the inside next to the toe board and working outward.
2. Fasten the decking to the three (3) cross channels (HSP482007X) using 5/16" x 1" flange bolts (S-7470) and 5/16" flange nuts (S-3611). (See Figure 9J.)

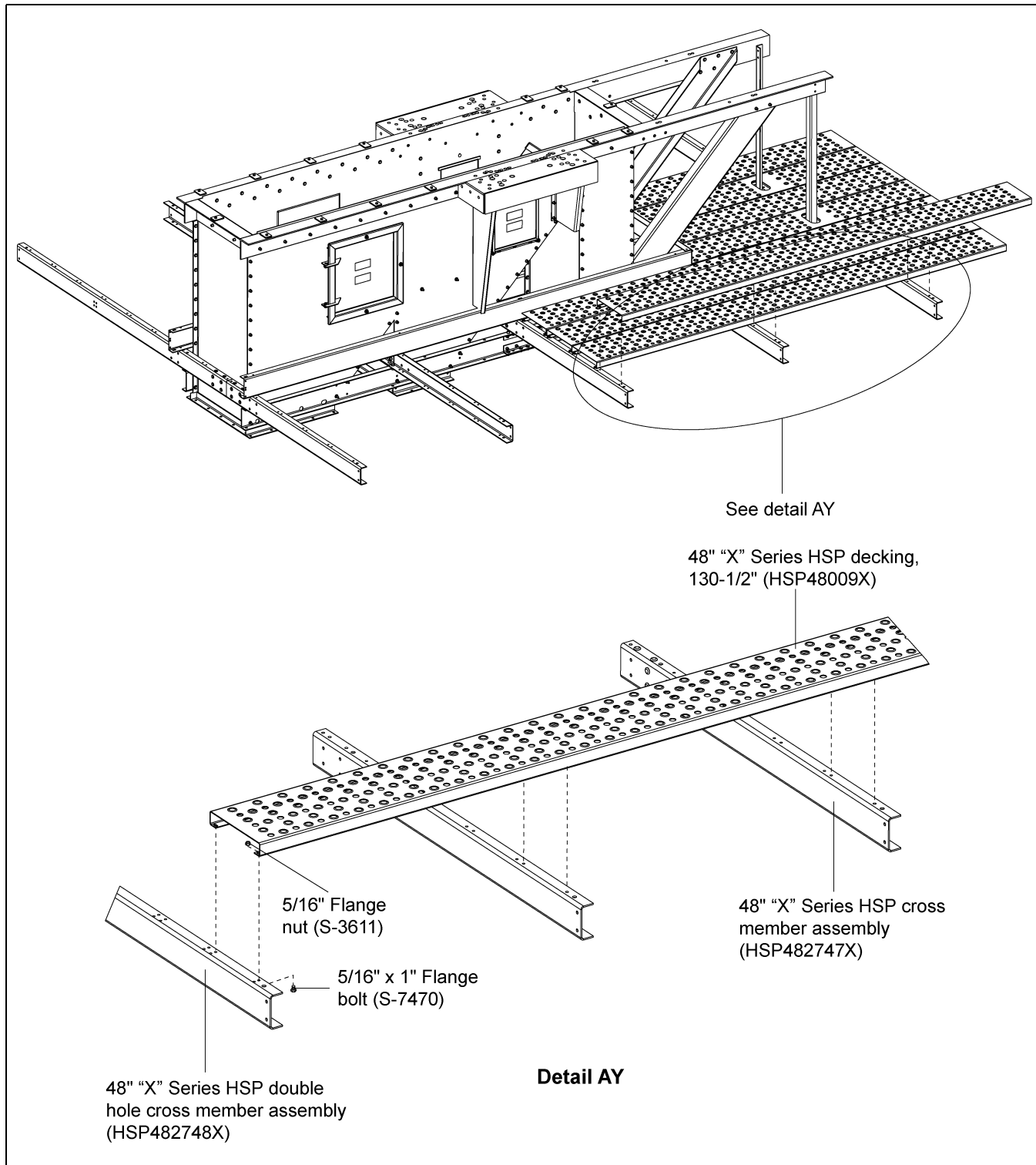


Figure 9J

9. 48" Head Platform Right Hand Drive

Decking Section: Down-Leg Hatch Side

NOTE: Be sure to install this section of decking by starting at the inside next to the toe board and working outward.

1. Install the first deck plank (HSP48007X) on the hatch side at the down-leg end against the toe board across all three (3) support channels (HSP42065X).
2. Next install the three (3) deck planks (HSP48008X) to the two (2) support channels (HSP42065X), leaving an opening for the hatch.
3. Fasten the decking to the support channels (HSP42065X) using 5/16" x 1" flange bolts (S-7470) and 5/16" flange nuts (S-3611). (See Figure 9K.)

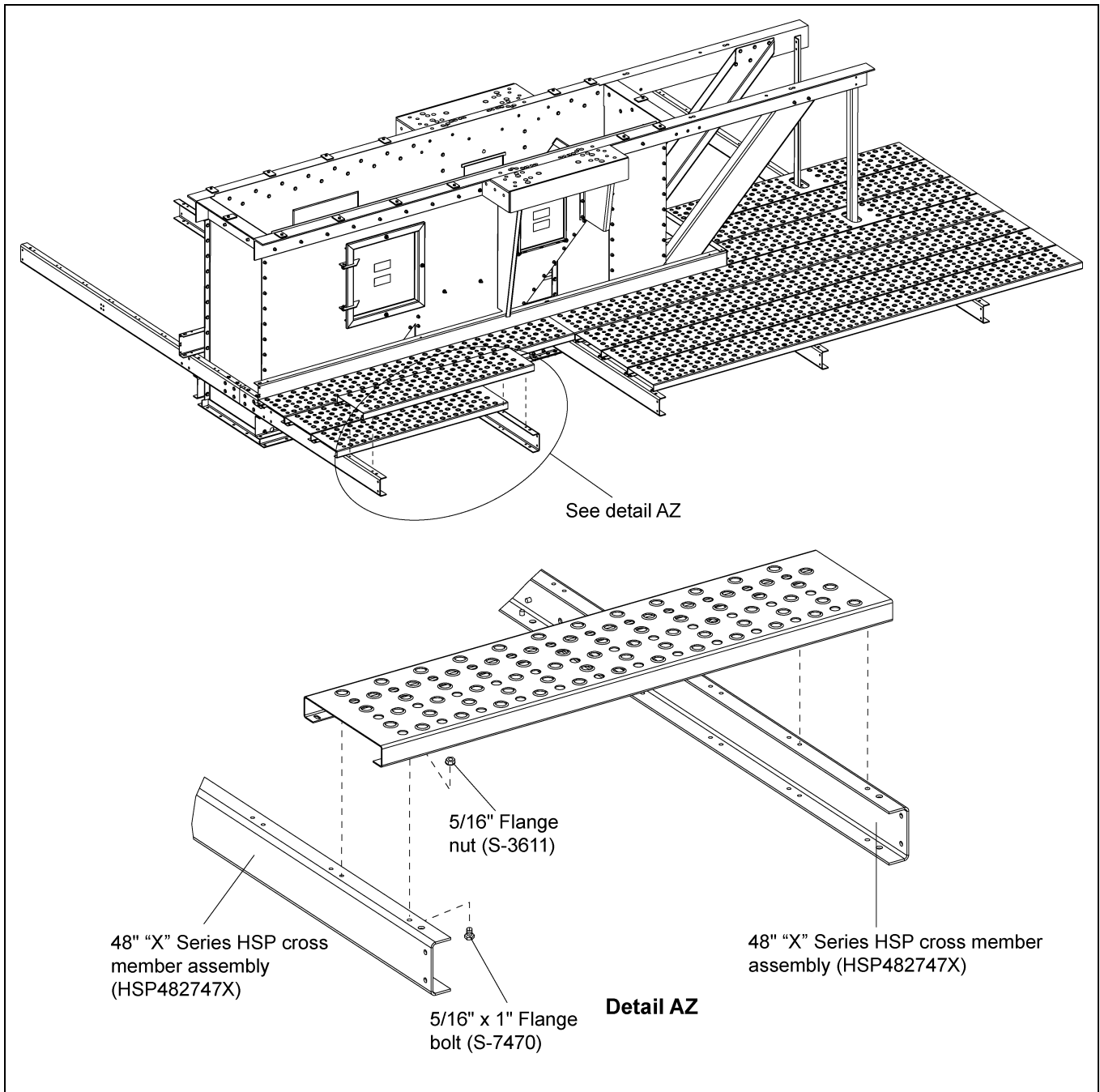


Figure 9K

Decking Section: Up-Leg Drive Side

1. Install six (6) planks of decking (HSP48009X) on the drive side at the up-leg end. **NOTE:** Be sure to install this section of decking by starting at the inside next to the toe board and working outward.
2. Fasten the decking to the three (3) cross channels using 5/16" x 1" flange bolts (S-7470) and 5/16" flange nuts (S-3611). (See Figure 9L.)

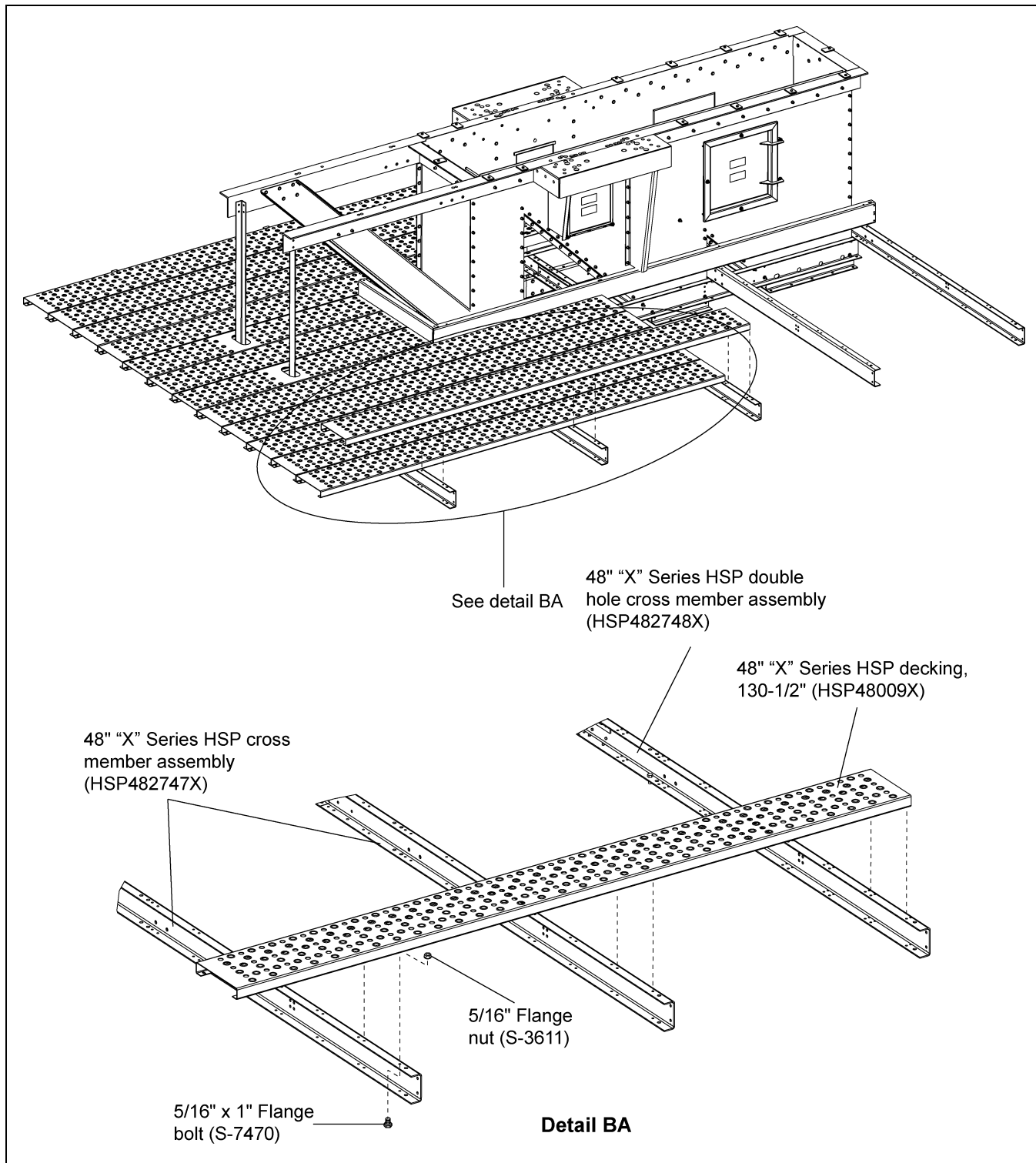


Figure 9L

9. 48" Head Platform Right Hand Drive

Decking Section: Down-Leg Drive Side

1. Install six (6) planks of decking (HSP42007X) on the drive side at the down-leg end. **NOTE:** *Be sure to install this section of decking by starting at the inside next to the toe board and working outward.*
2. Fasten the decking to the three (3) cross channels using 5/16" x 1" flange bolts (S-7470) and 5/16" flange nuts (S-3611). (See Figure 9M.)

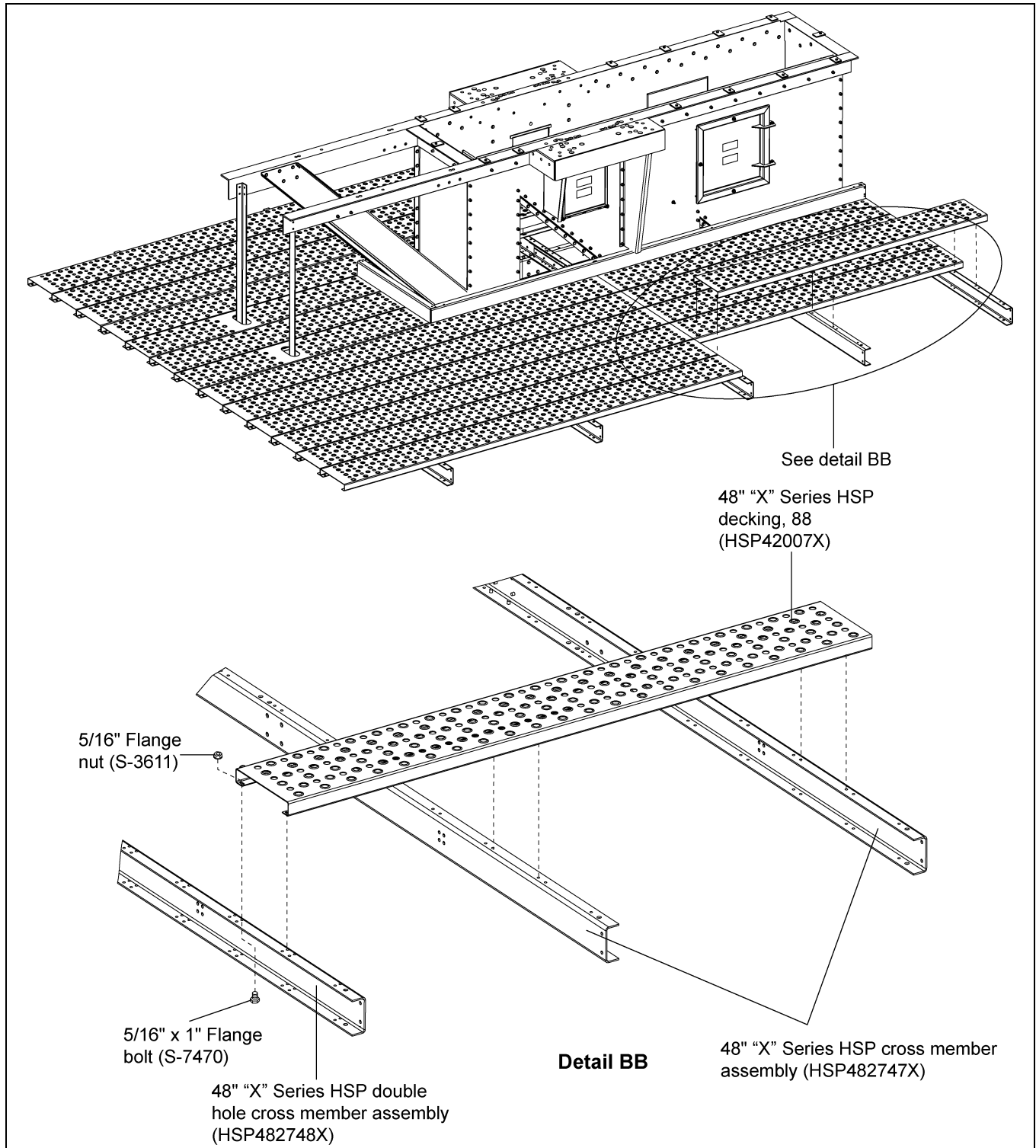


Figure 9M

Install Toe Boards

1. Install the longest toe board assemblies (HSP42015X and HSP48042X). Orient toe boards so the (HSP42015X) is towards the up-leg end of the lower head.
2. Fasten toe boards to the support channels using 5/16" x 1" flange bolts (S-7440) and 5/16" flange nuts (S-3611).
3. Install each end of the long "Z" toe board assembly to the bottom of the long toe board assemblies using 5/16" x 1" flange bolts (S-7440) and 5/16" flange nuts (S-3611).
4. Install the "Z" toe board (HSP48037X) on the drive side at the down-leg end. Fasten to the ends of the toe boards (HSP42015X and HSP42018X) using 5/16" x 1" flange bolts (S-7440) and 5/16" flange nuts (S-3611).
5. Install the "Z" toe board (HSP48036X) on the hatch side at the down-leg end. Fasten to the ends of the toe boards (HSP42015X and HSP42018X) using 5/16" x 1" flange bolts (S-7440) and 5/16" flange nuts (S-3611). (See Figure 9N.)

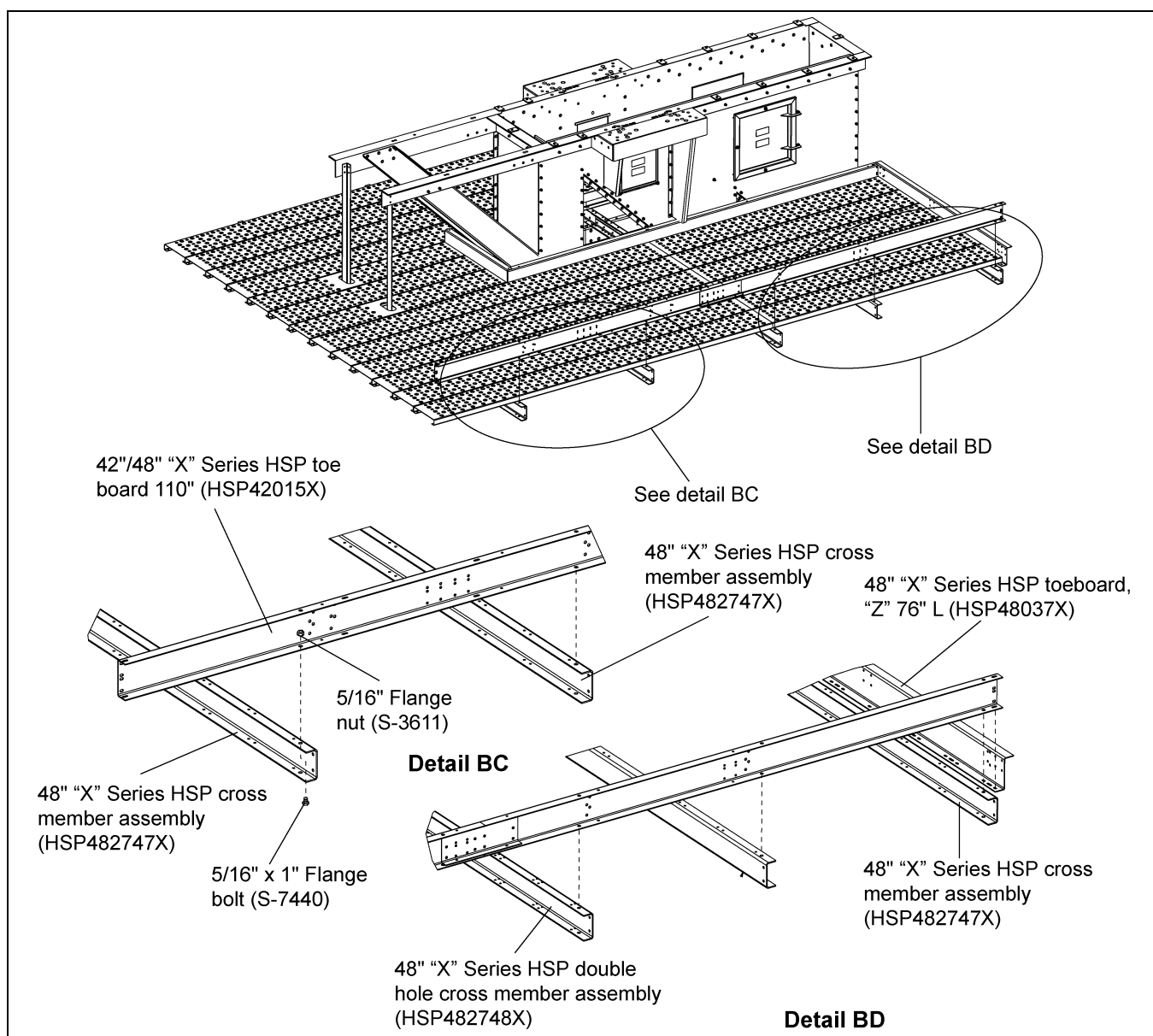


Figure 9N

9. 48" Head Platform Right Hand Drive

Splice Toe Boards Together

NOTE: Position bolt heads to the inside of the platform.

1. Place each set of toe board ends (HSP42015X and HSP48042X) together and line up bolt holes with holes in splice plate (HSP42044X).
2. Fasten each set together using twenty (20) 3/8" x 1" HHCS bolts (S-7469) and 3/8" nuts (S-10028). (See Figure 90.)
3. Place ends of "Z" toe boards (HSP42066X and HSP42038X) together and line up bolt holes with holes in "Z" splice plate (HSP4248ZSPLX). Fasten each set together using twelve (12) 3/8" x 1" HHCS bolts (S-7469) and 3/8" nuts (S-10028). (See Figure 90.)

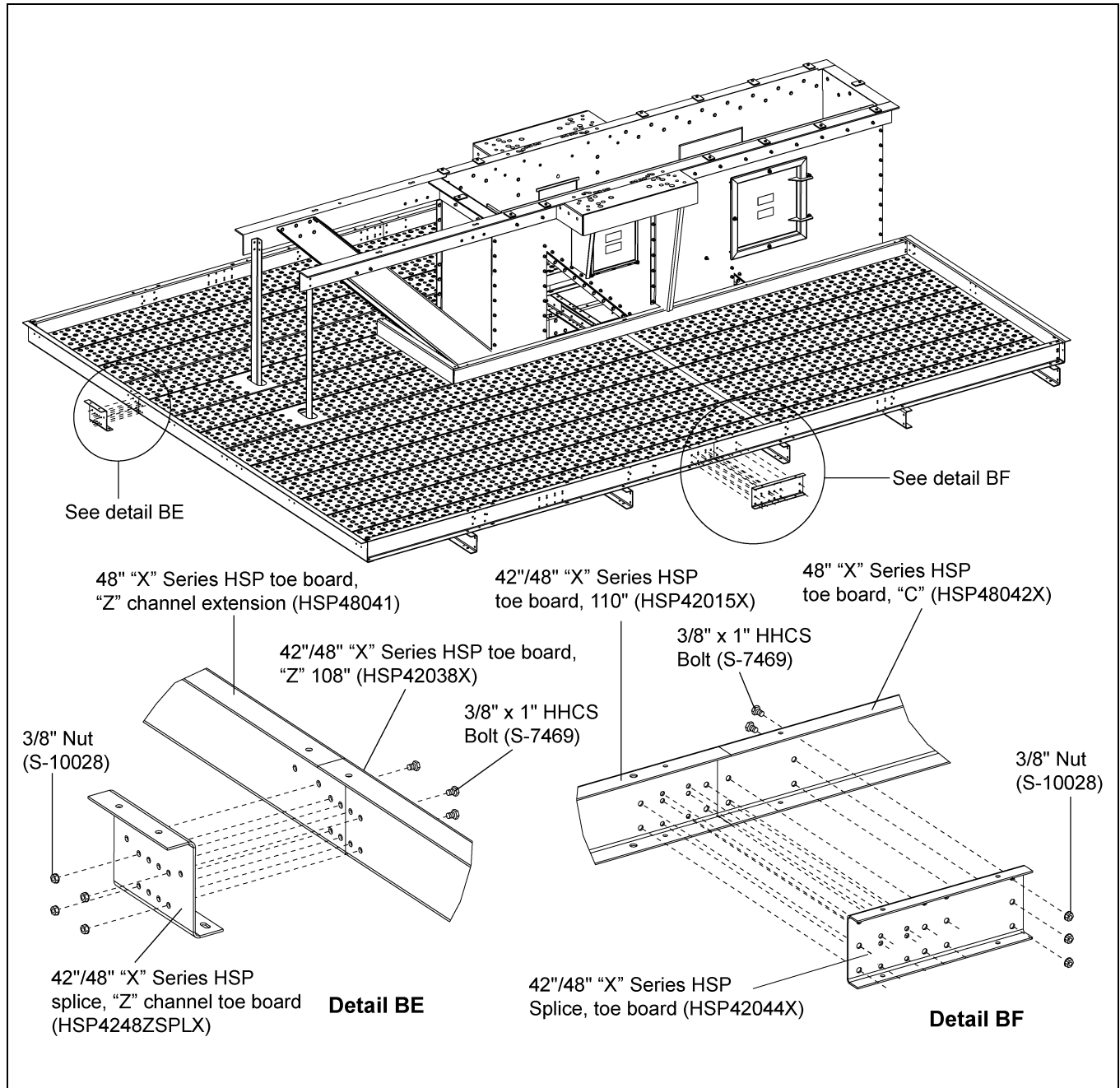


Figure 90

Install Handrail Supports

NOTE: Position bolt heads to the inside of the platform.

1. Attach the ends of each cross support channel to the toe boards using eight (8) handrail support brackets (HSP4248HS). Fasten together using 3/8" x 1" HHCS bolts (S-7469) and 3/8" flange nuts (S-10028). (See Figure 9P.)

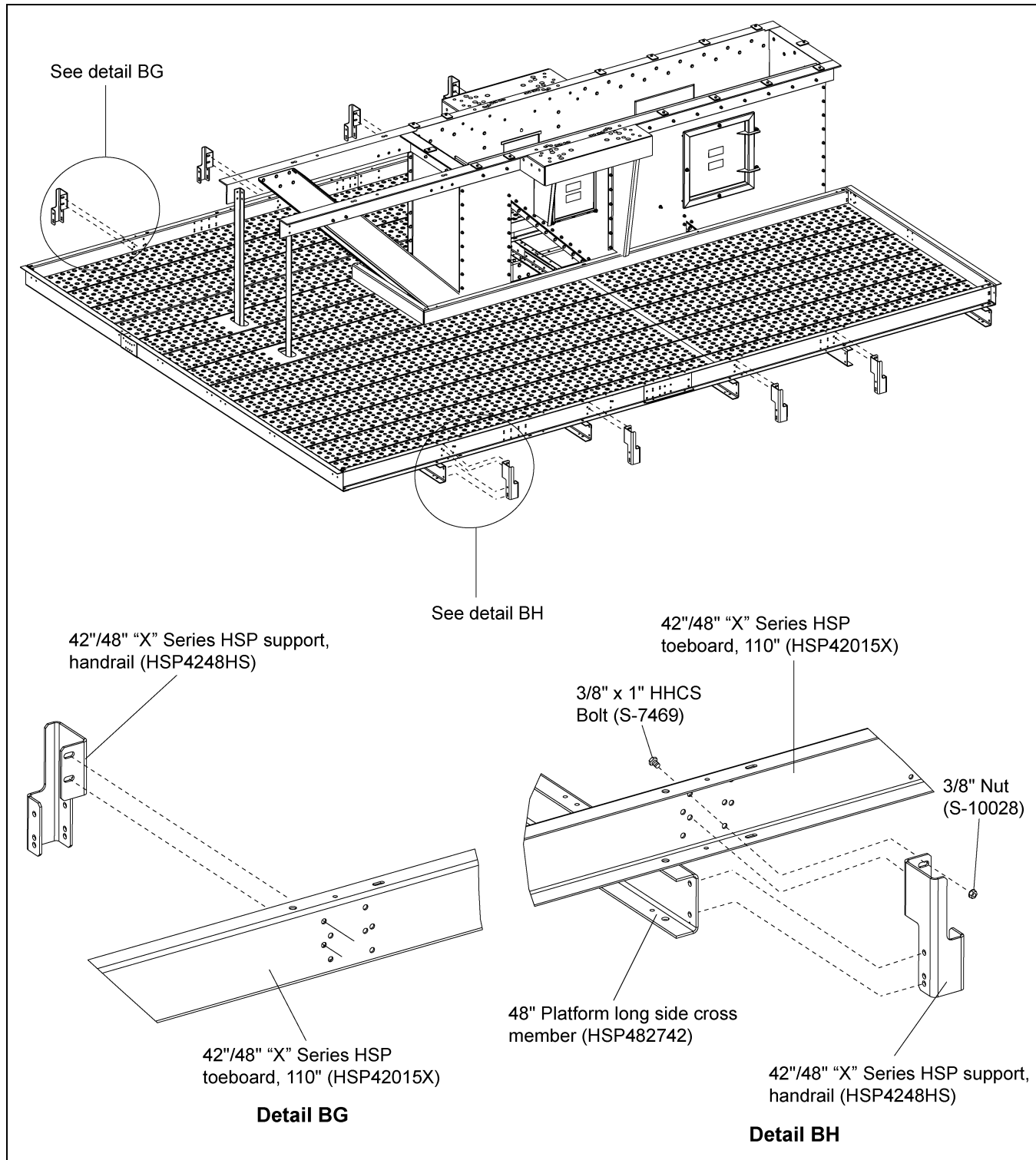


Figure 9P

9. 48" Head Platform Right Hand Drive

Install Platform Post

NOTE: Position bolt heads to the inside of the platform.

NOTE: Posts should be finger-tightened only until handrails have been installed. Some "free play" will be required to properly fit the handrails in place.

1. Install platform post to the "Z" toe boards with the flat side to the toe board spacing them as shown in [Figure 9Q](#).
2. Fasten middle post to toe boards using four 5/16" x 1" flange bolts (S-7470) and 5/16" flange nuts (S-3611).
3. Fasten corner posts to toe boards using six 5/16" x 1" flange bolts (S-7470) and 5/16" flange nuts (S-3611). ([See Figure 9Q.](#))

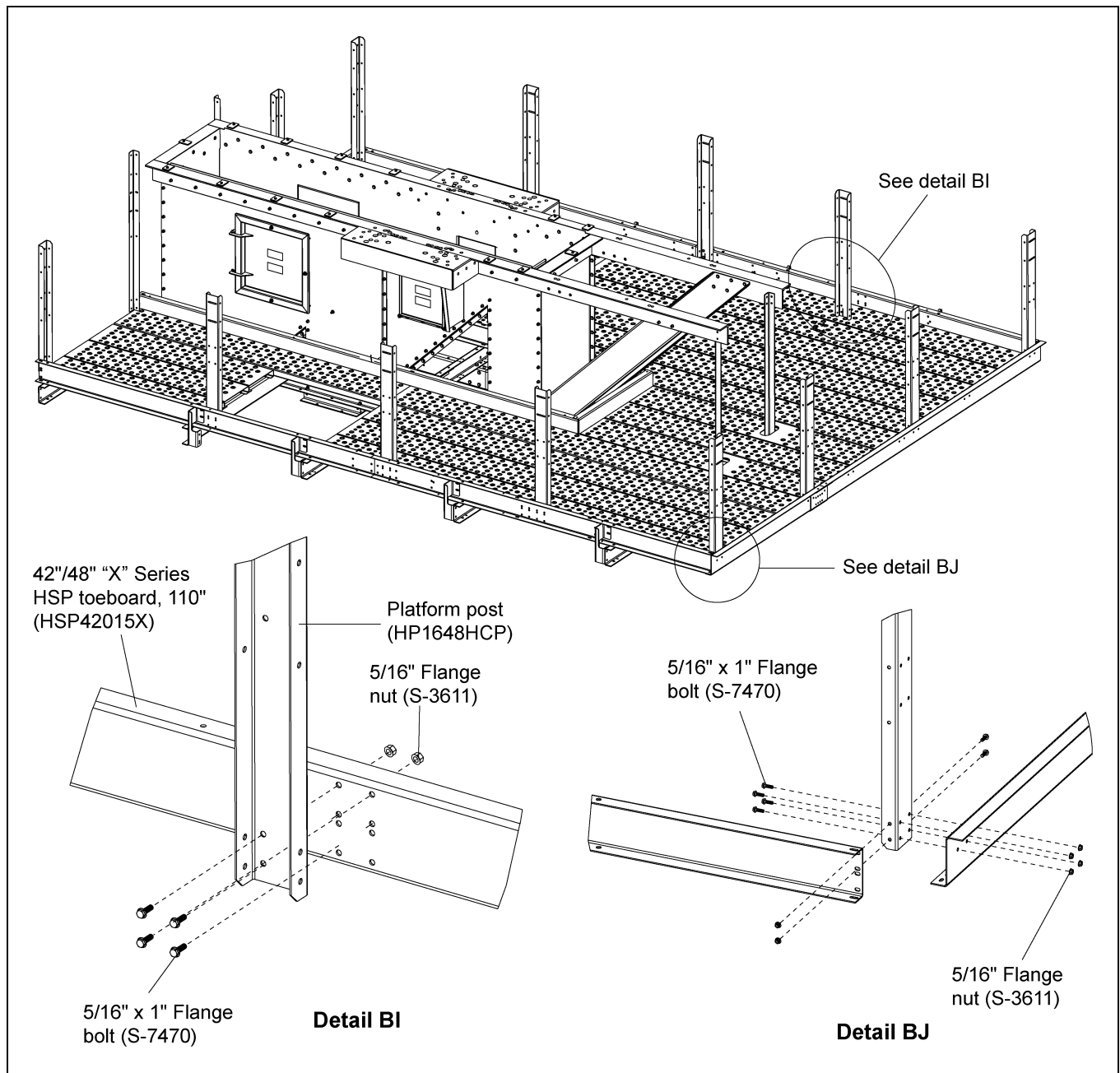


Figure 9Q

Install Handrails

NOTE: Position bolt heads to the inside of the platform.

NOTE: Posts should be finger-tightened only until handrails have been installed. Some "free play" will be required to properly fit the handrails in place.

1. Loosely install handrails to the top of the posts (HP1648HCP) as shown in [Figure 9R](#) using 5/16" x 2" HHCS bolts (S-7877) and 5/6" flange nuts (S-3611).
2. Once all handrails are in place, fully tighten platform posts to the toe boards and fully tighten the handrails to the posts. ([See Figure 9R.](#))

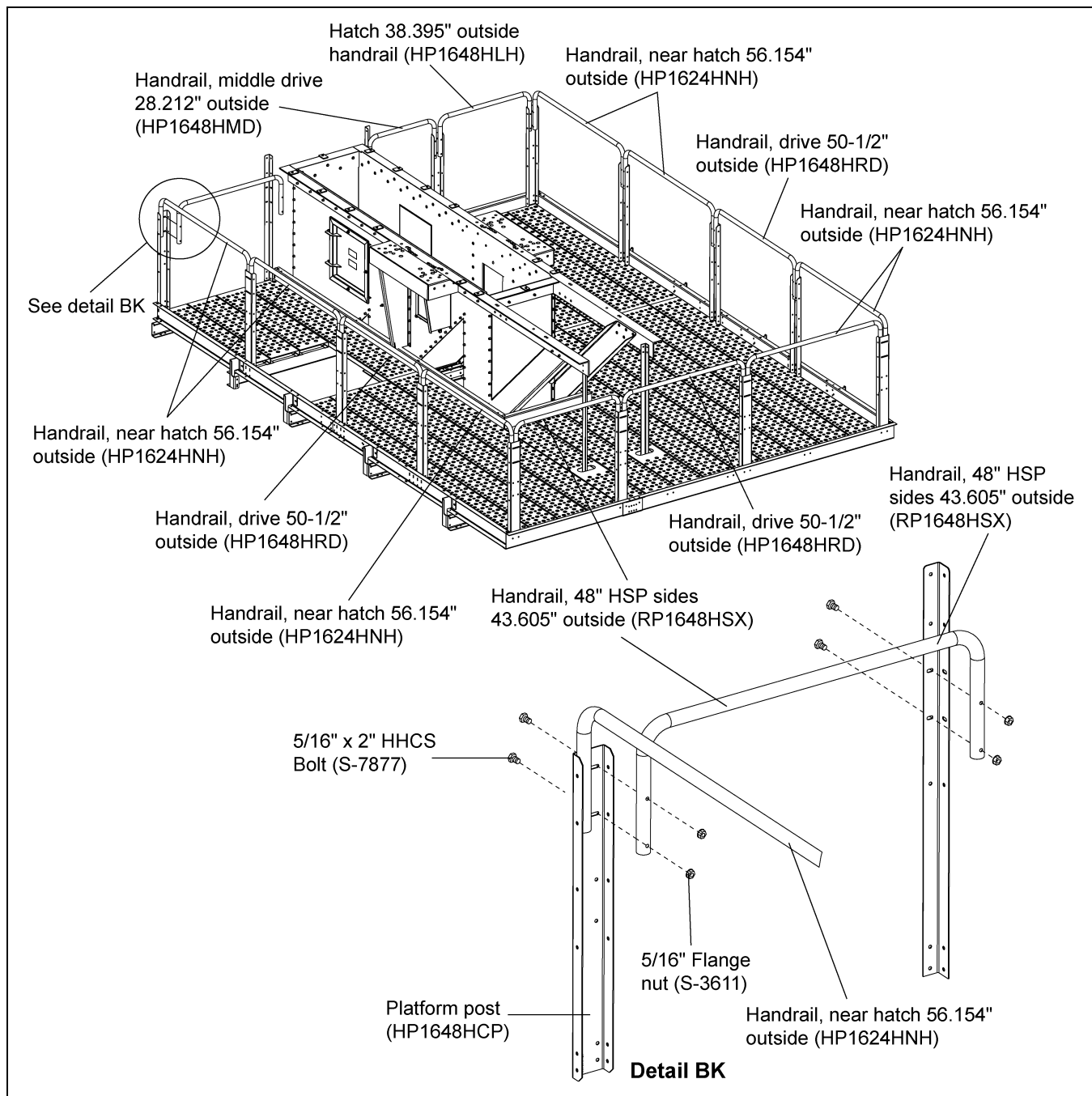


Figure 9R

9. 48" Head Platform Right Hand Drive

Attach Intermediate Handrails to Posts

1. Cut 18" off the tube end of one small intermediate handrails (LDR-4088) and one large intermediate handrails (LDR-4087). Install these intermediate rails on the drive side next to the lower head.
(See Figure 9S.)
2. Cut 12" off the tube end of one small intermediate handrails (LDR-4088) and one large intermediate handrails (LDR-4087). Install these intermediate rails on the drive side at the corner. (See Figure 9S.)
3. Slide the small rail into the large rail and install one set at discharge end and other two (2) sets opposite the discharge end on hatch side and adjust to fit.
4. Fasten using 5/16" x 1" flange bolts (S-7470) and 5/16" flange nuts (S-3611).
5. Slide the small rails into the large rails and install all the intermediate handrails around the platform using 5/16" x 1" flange bolts (S-7470) and 5/16" flange nuts (S-3611).

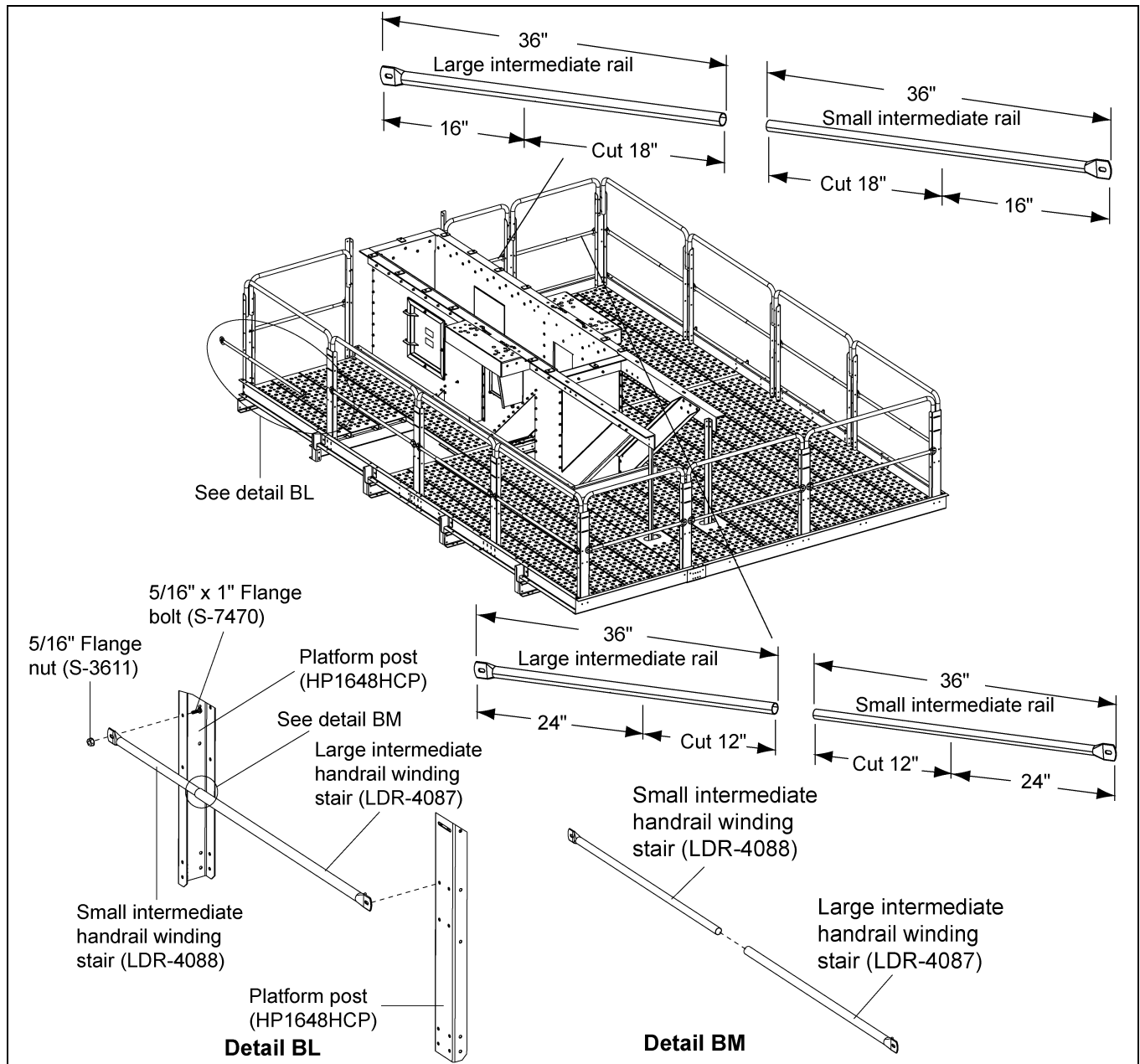


Figure 9S

Install the Hatch

1. Install left and right hatch hinges (HSP36033 and HSP36002) to the toe board (HSP42015X) at the hatch location using 5/16" x 1" flange bolts (S-7470) and 5/16" flange nuts (S-3611).
2. Align the hinges (HSP36033 and HSP36002) to the inside of the deck hatch hinge angles (GBS36224 or HSP484055X) already assembled to the hatch.
3. Fasten together using 3/8" x 1" HHCS bolts (S-7469), 3/8" washers (S-248) and 3/8" nylock nuts. (See Figure 9T below and Figure 9U on Page 90.)

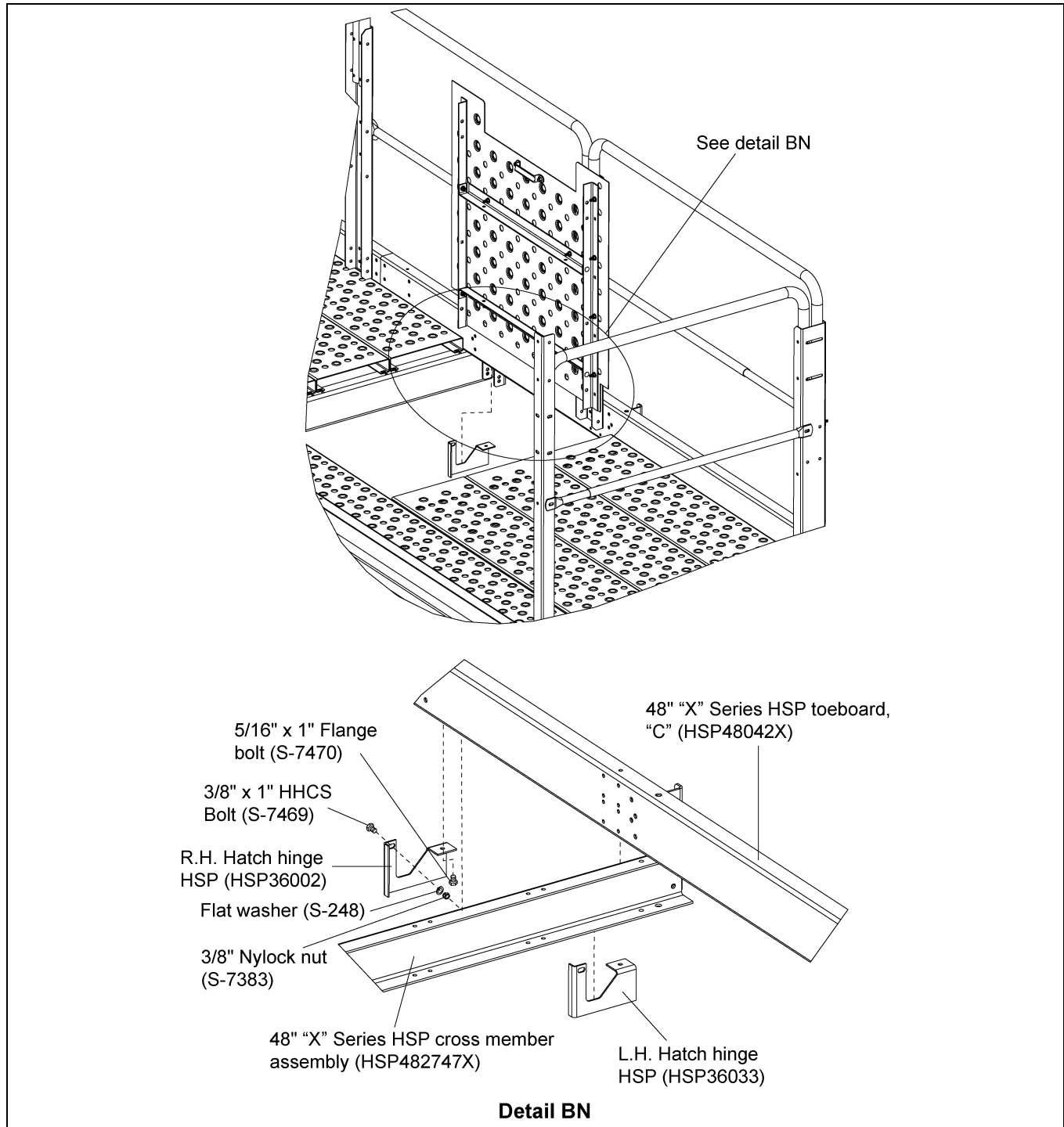


Figure 9T

9. 48" Head Platform Right Hand Drive

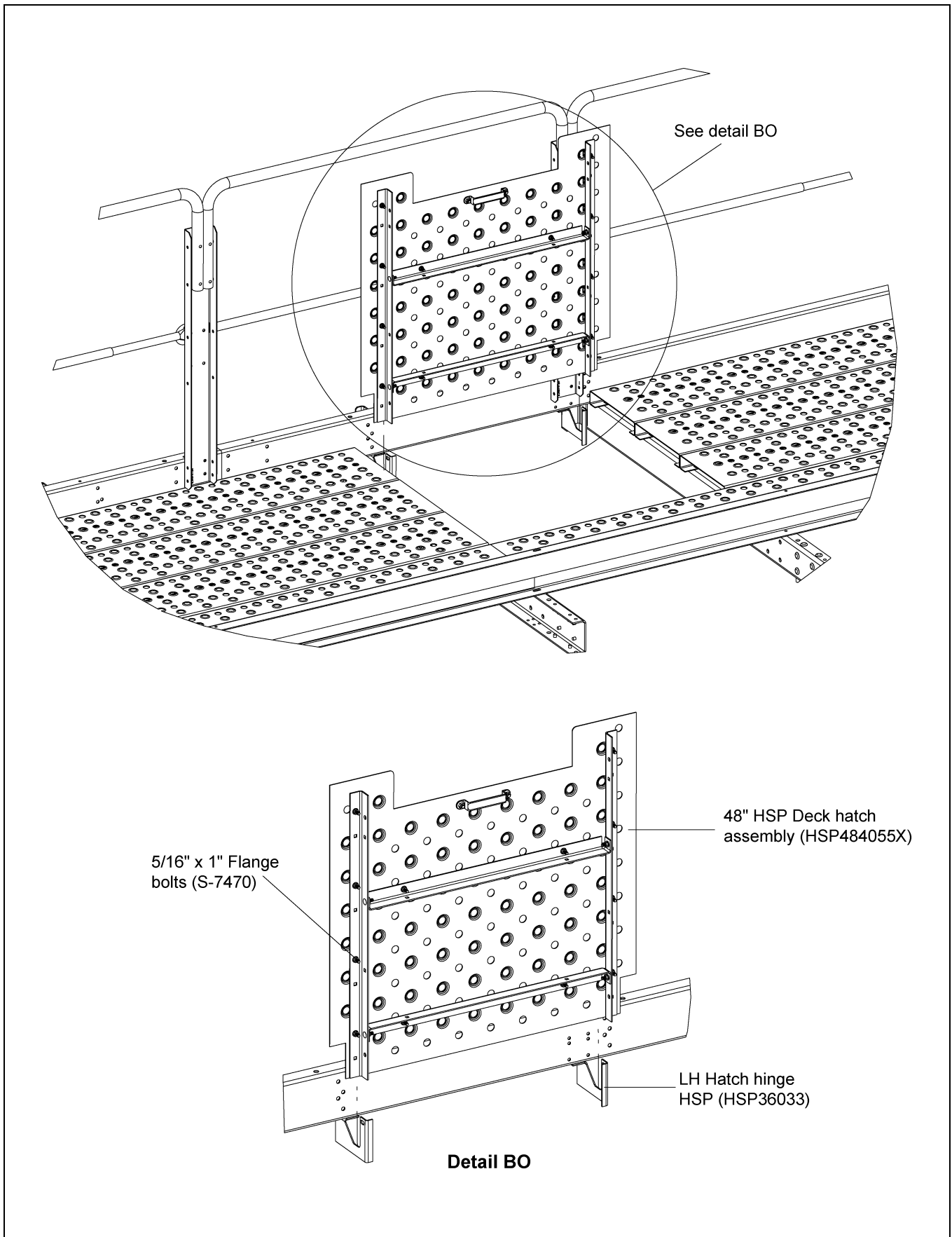


Figure 9U

9. 48" Head Platform Right Hand Drive

4. Install magnets (HP1648MAG) to the latch bracket (HSP4248LMM) using #10-24 HWHS screws (S-6145) and #10-24 nylock nuts (S-2010).
5. Open hatch fully and note where it rests against the platform post. Lower the hatch.
6. Install "X" Series latch bracket assembly (HSP4248LMM and HP1648MAG) to this post where the hatch meets the post using 5/16" x 1" flange bolts (S-7470) and 5/16" flange nuts (S-3611) through the holes in the side of the post.
7. Raise the hatch, making sure it is flush against the magnets and holds the hatch securely in place.

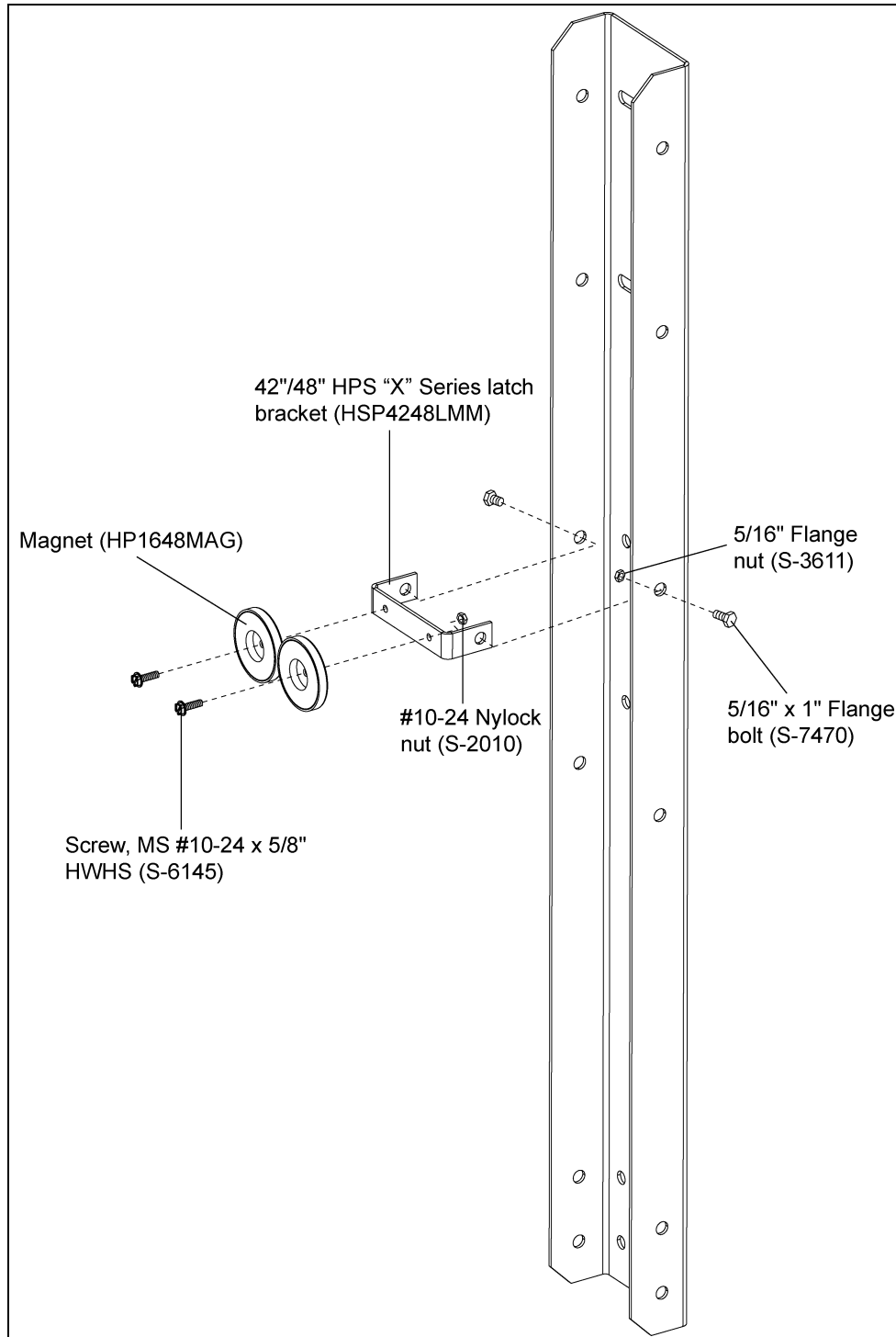


Figure 9V

9. 48" Head Platform Right Hand Drive

Attach Knee Braces to Platform and Trunking (48" Only)

NOTE: *If not using knee braces, platform must have external support.*

1. Attach knee braces (HSP482PKB) to knee attachment support (HSP482KBA) on bottom of platform using 3/8" x 1" HHCS bolts (S-7469) and 3/8" nuts (S-10028).
2. Attach the universal trunking knee brackets (HP482UTKB) to the trunking with rods.
3. Attach knee braces (HSP482PKB) to universal trunking knee brackets (HP482UTKB) using 3/8" x 1" HHCS bolts (S-7469) and 3/8" nuts (S-10028).

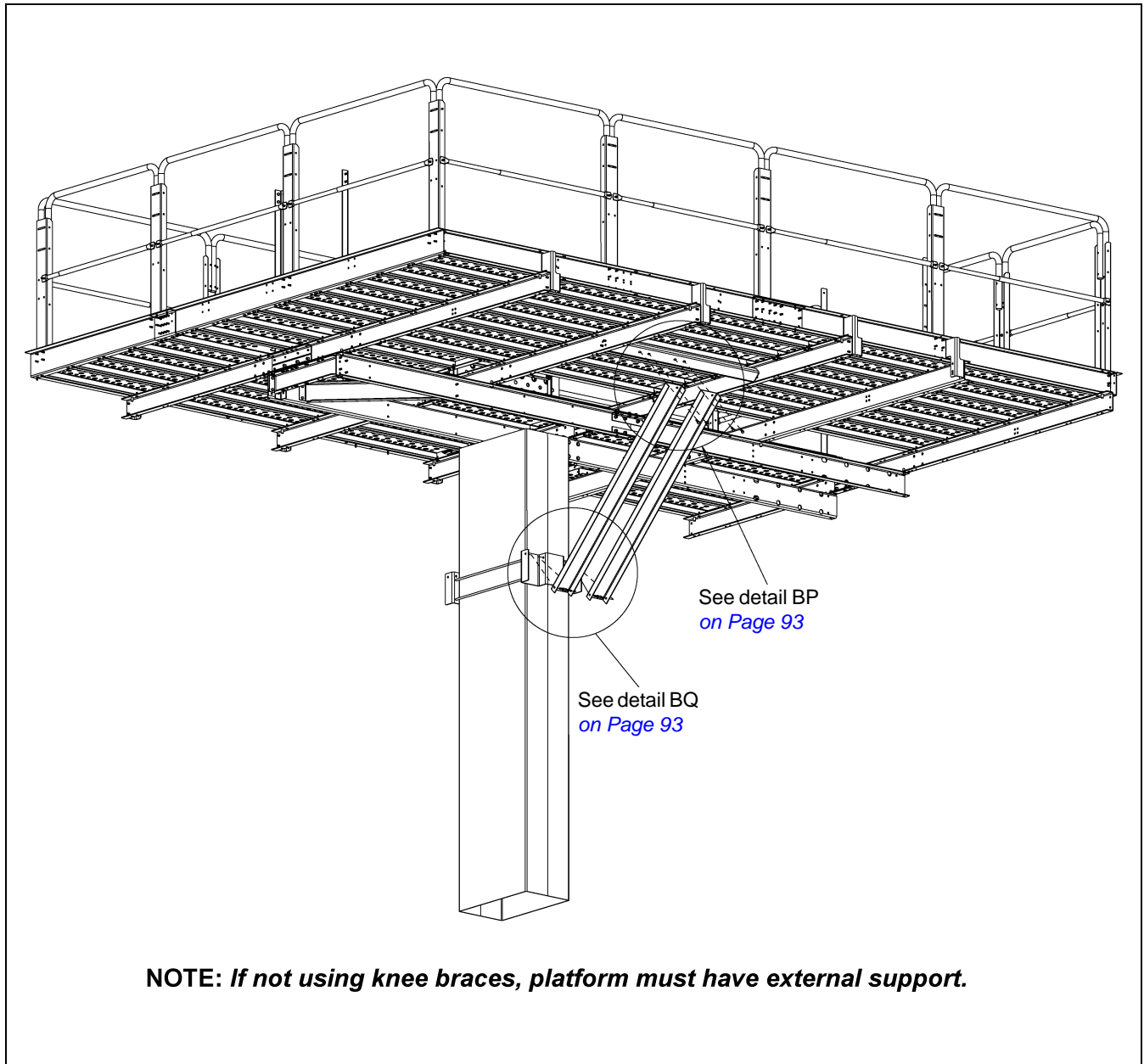


Figure 9W

9. 48" Head Platform Right Hand Drive

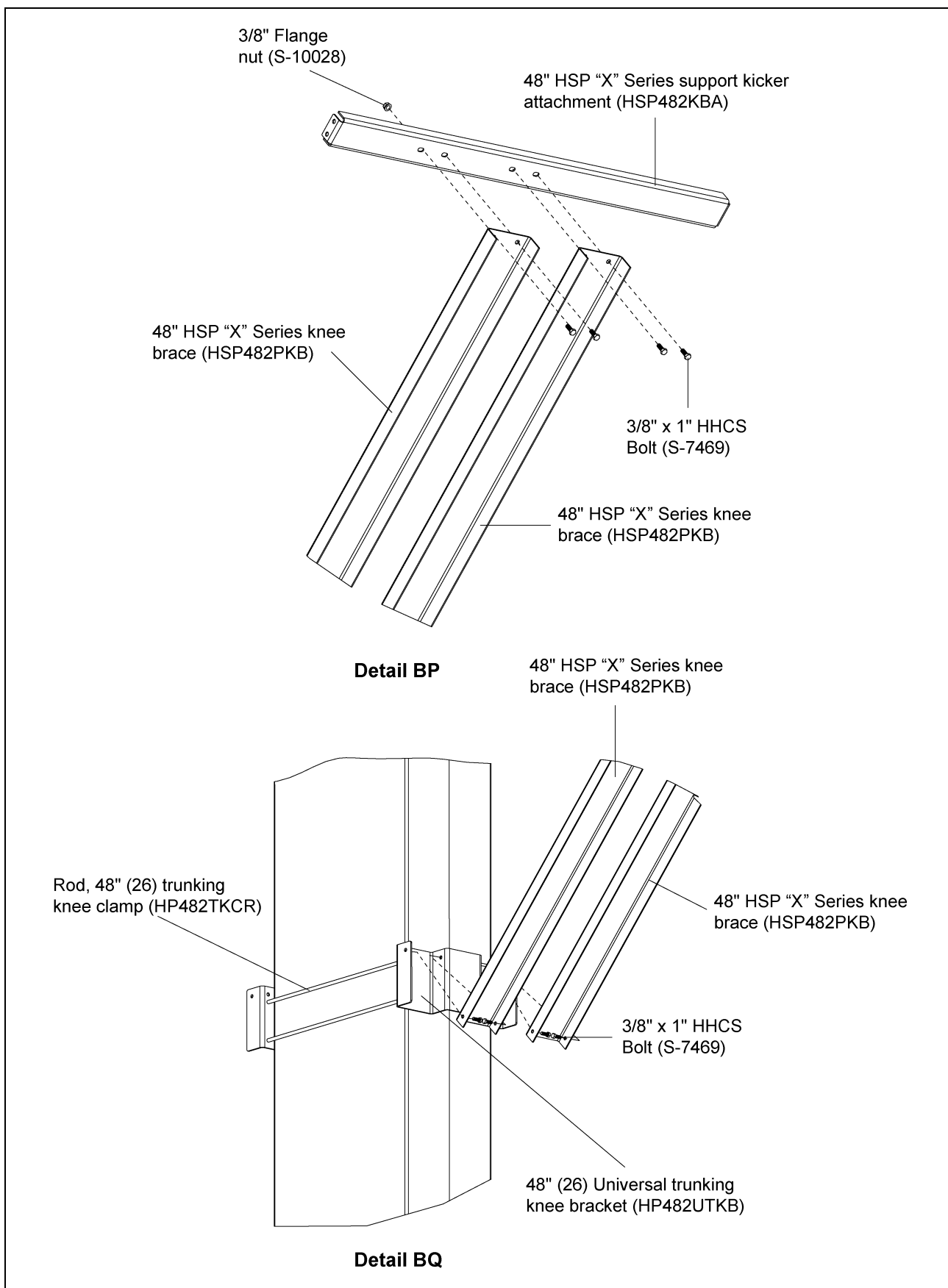


Figure 9X

Chapter 10: 6 x 6 Distributor Platforms

This assembly is designed to be located at any elevation on trunking that is needed to provide access to other equipment. Determine elevation of platform surface and work from there. Locate all parts required for assembly by using the chart as shown in [Figure 10A](#).

42" Platform Clamps

Locate all clamp halves (DSP42007), clamp brackets (DSP42006), threaded rods (DSP42008) and hardware to assemble clamps onto the trunking.

Measure the distance between the clamps to assure proper location for support channels and knee brace attachment. See clamp detail in [Figure 10A](#) for hardware orientation.

Attach one clamp half to the end of each platform support channel using 5/8" hardware in the top and bottom holes of the bracket.

Insert rod through the middle hole in the brackets attached to the platform support channel. Fasten using 5/8" nut, 5/8" lock washer and two (2) flat washers.

Place brackets with support channels attached around trunking and fasten in place with clamp bracket using 1/2" hardware.

Adjust the position of the inside nuts of the rod assembly to allow the clamps to be tightened onto the trunking.

NOTE: *Tighten clamps onto trunking, do not overtighten and collapse the trunking. Position inside nuts back to the clamp and tighten.*

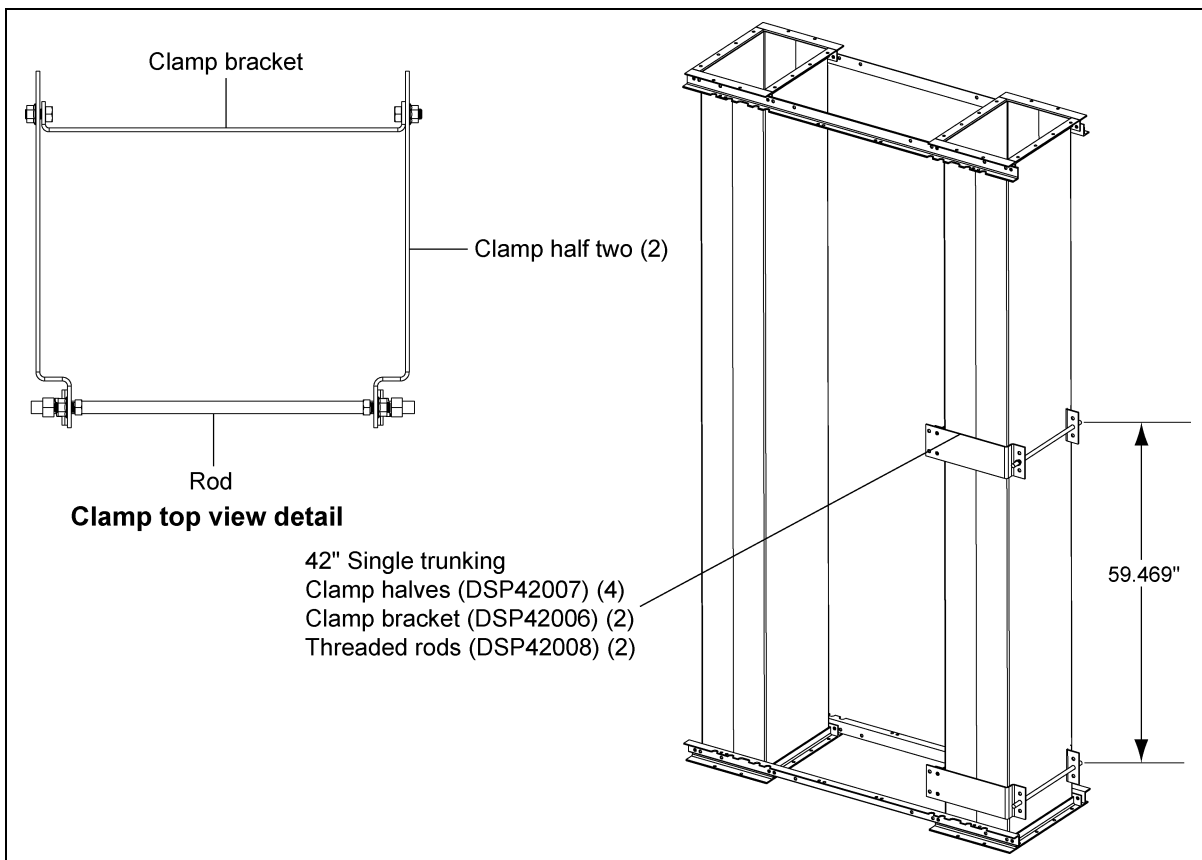


Figure 10A 42" Clamping

48" Platform Clamps

Locate all clamp halves (DSP42007), clamp brackets (DSP48006), threaded rods (DSP48008) and hardware to assemble clamps onto the trunking.

Measure the distance between the clamps to assure proper location for support channels and knee brace attachment. See clamp detail in *Figure 10B* for hardware orientation.

Attach one clamp half to the end of each platform support channel using 5/8" hardware in the top and bottom holes of the bracket.

Insert rod through the middle hole in the brackets attached to the platform support channel. Fasten using 5/8" nut, 5/8" lock washer and two (2) flat washers.

Place brackets with support channels attached around trunking and fasten in place with clamp bracket using 1/2" hardware.

Adjust the position of the inside nuts of the rod assembly to allow the clamps to be tightened onto the trunking.

NOTE: Tighten clamps onto trunking, do not overtighten and collapse the trunking. Position inside nuts back to the clamp and tighten.

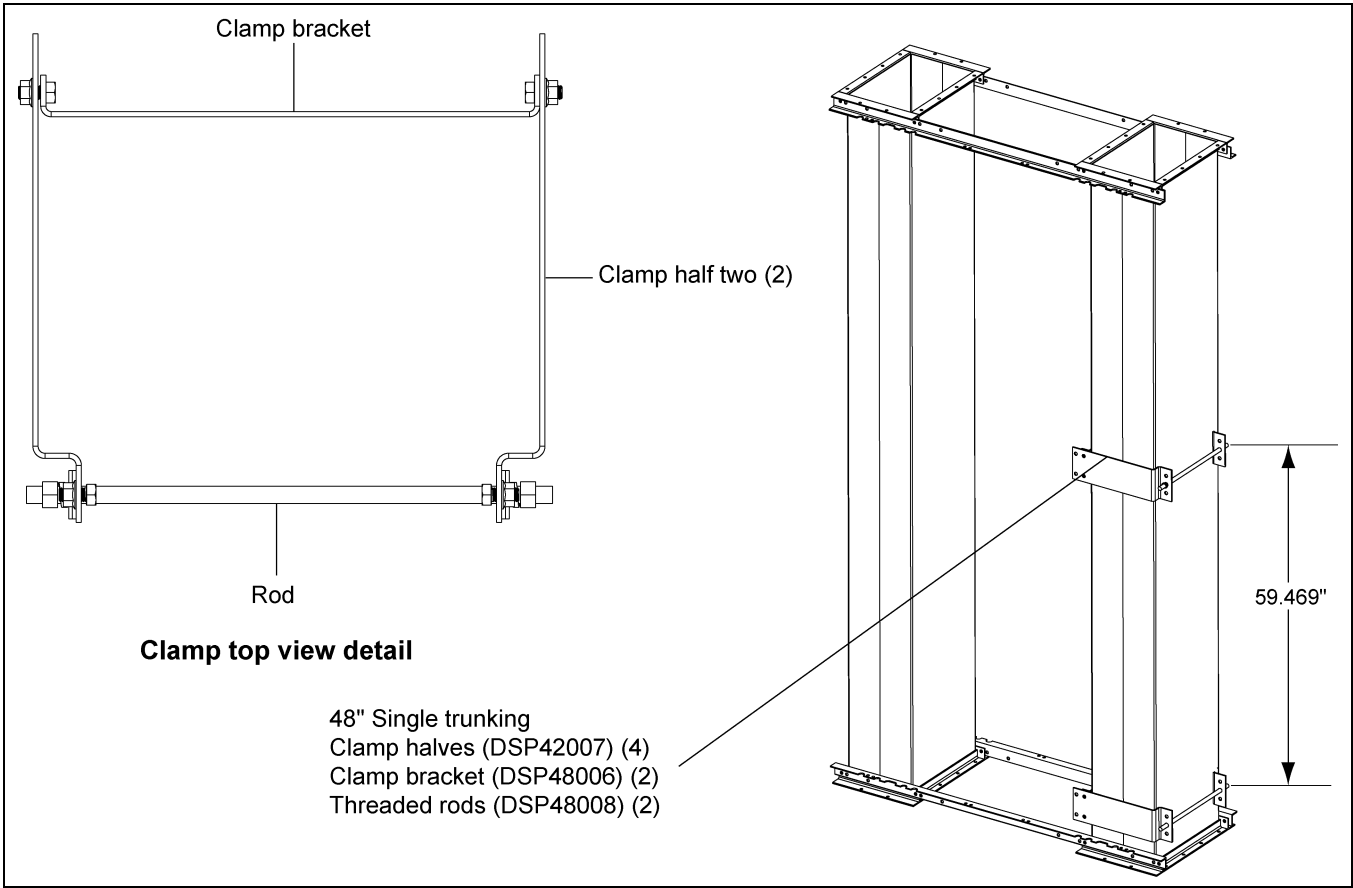


Figure 10B 48" Clamping

10. 6 x 6 Distributor Platforms

Support Channels and Knee Braces

Assemble clamps securely to the trunk, attach the platform support channel (DSP36005) to the upper clamp using 1/2" hardware.

Insert rod (DSP36008) through middle hole in the bracket, attached to the platform support channel using 5/8" hex nut (S-4110), 5/8" lock washer (S-3208) and two (2) 5/18" flat washers (S-858). The knee braces will attach in the upper set of holes on side of support channels using 1/2" hardware. (See Figure 10C.)

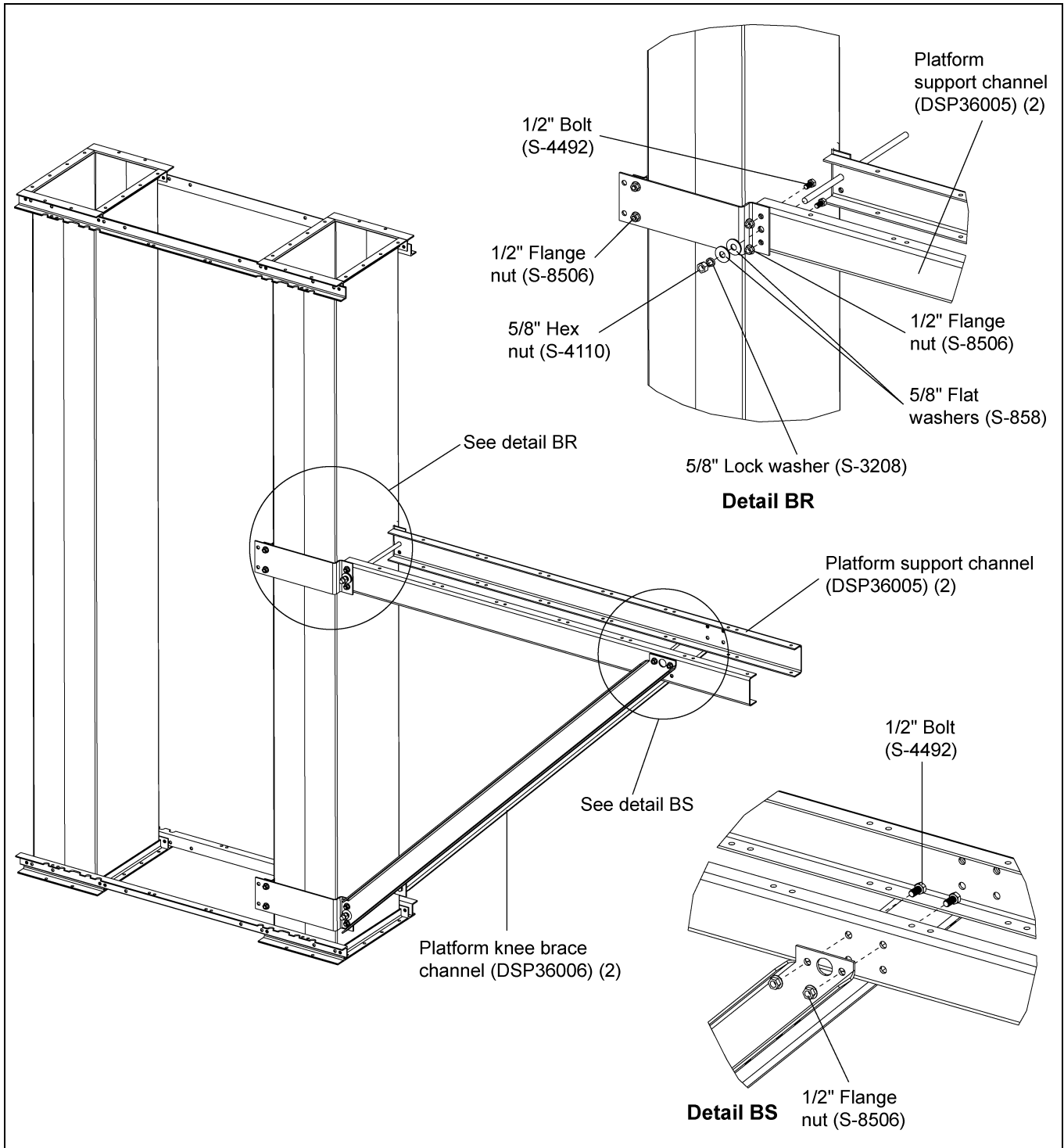


Figure 10C

Cross Braces for Knee Braces

Attach knee brace diagonals to bottom side of the knee braces, this will add extra stability to the distributor platform. (See Figure 10D below and Figure 10E on Page 98.)

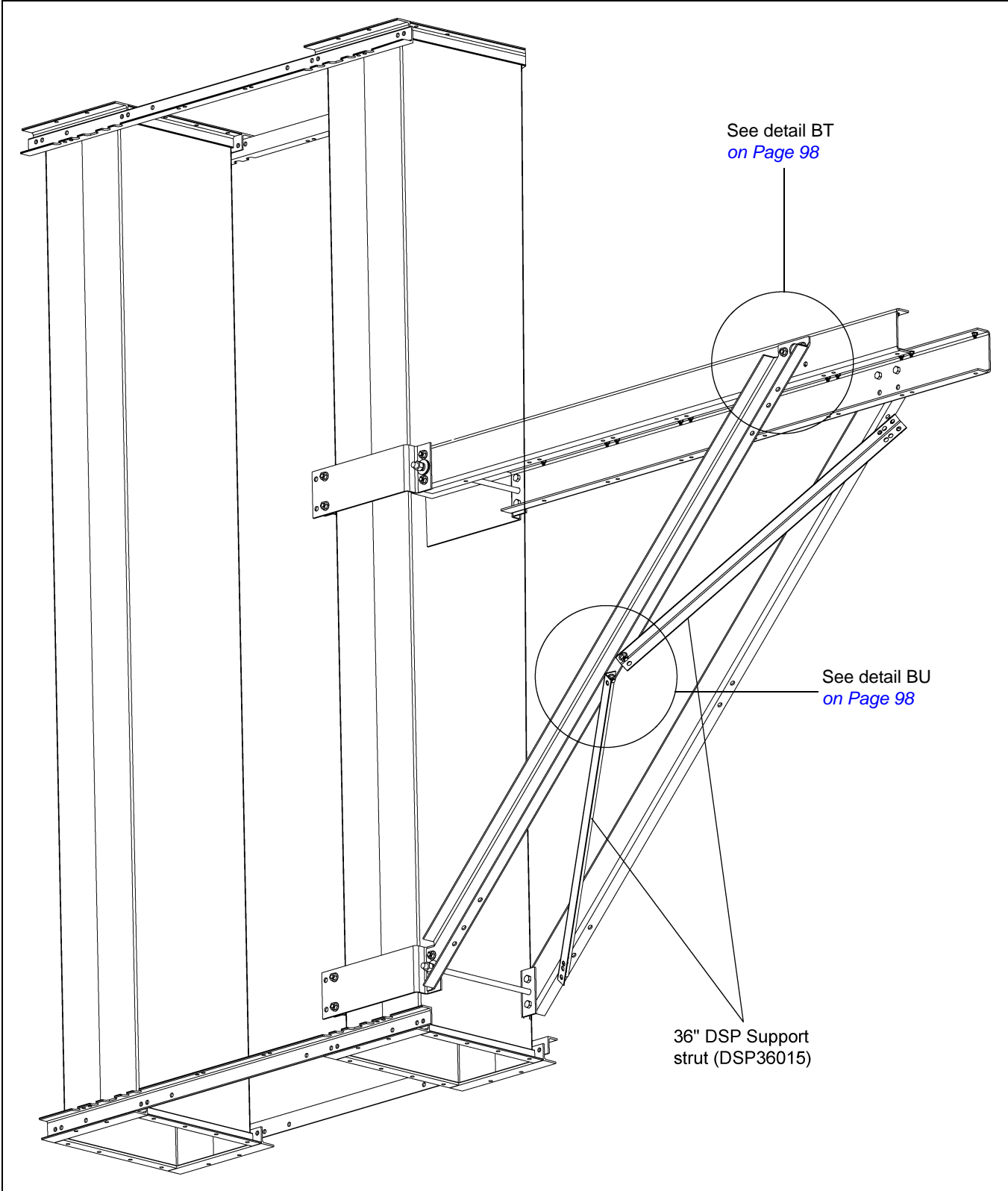


Figure 10D



Cross Braces for Knee Braces (Continued)

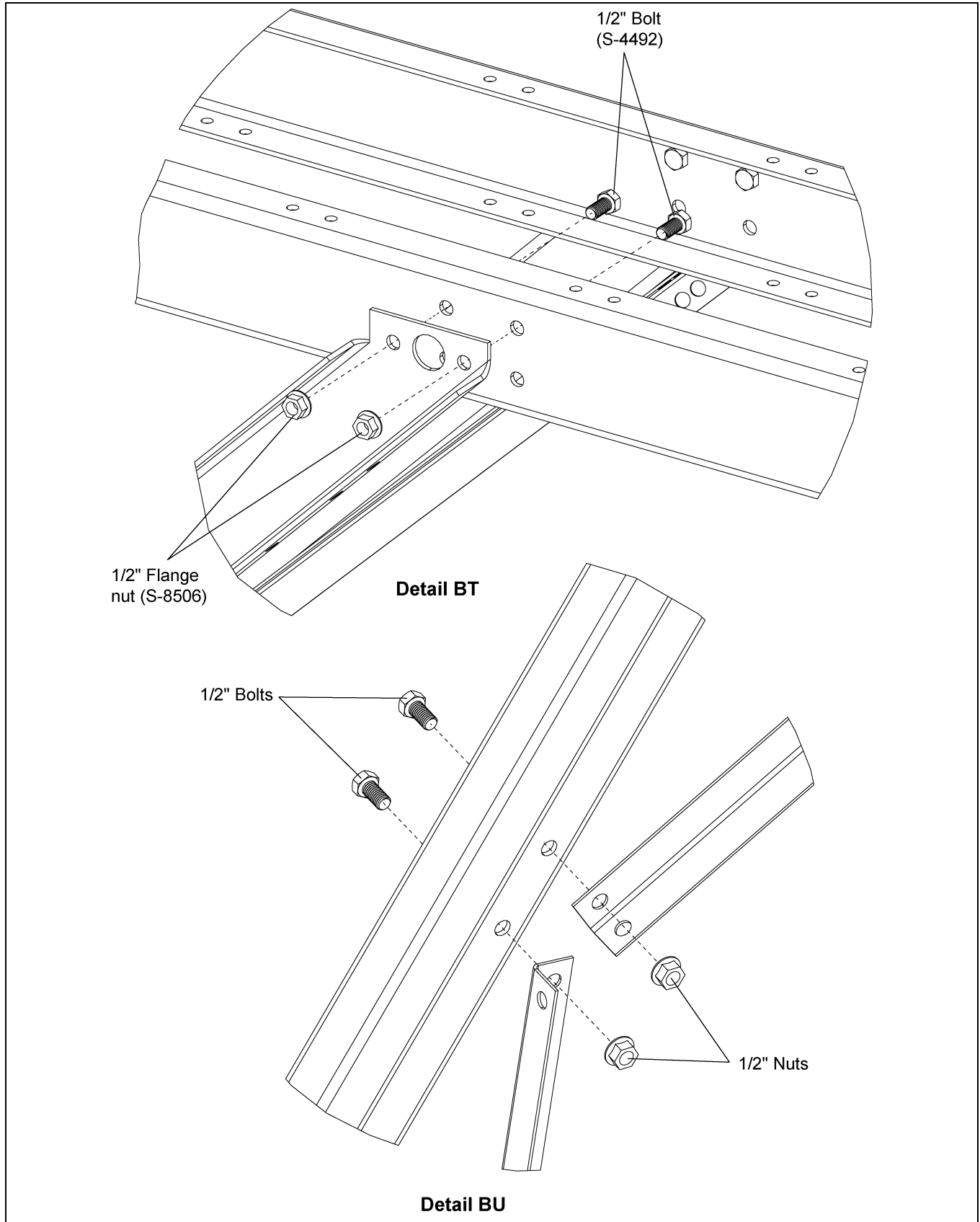


Figure 10E

Toe Boards

NOTE: 42" Assembly shown in R.H. configuration.

With support assembly attached to trunk and hardware tightened, proceed by attaching the notched toe board angle (DSP36002X) and toe board angle (DSP36003X) to the top of the support channel using the 5/16" hardware provided. (Leave hardware loose.) (See Figure 10F.)

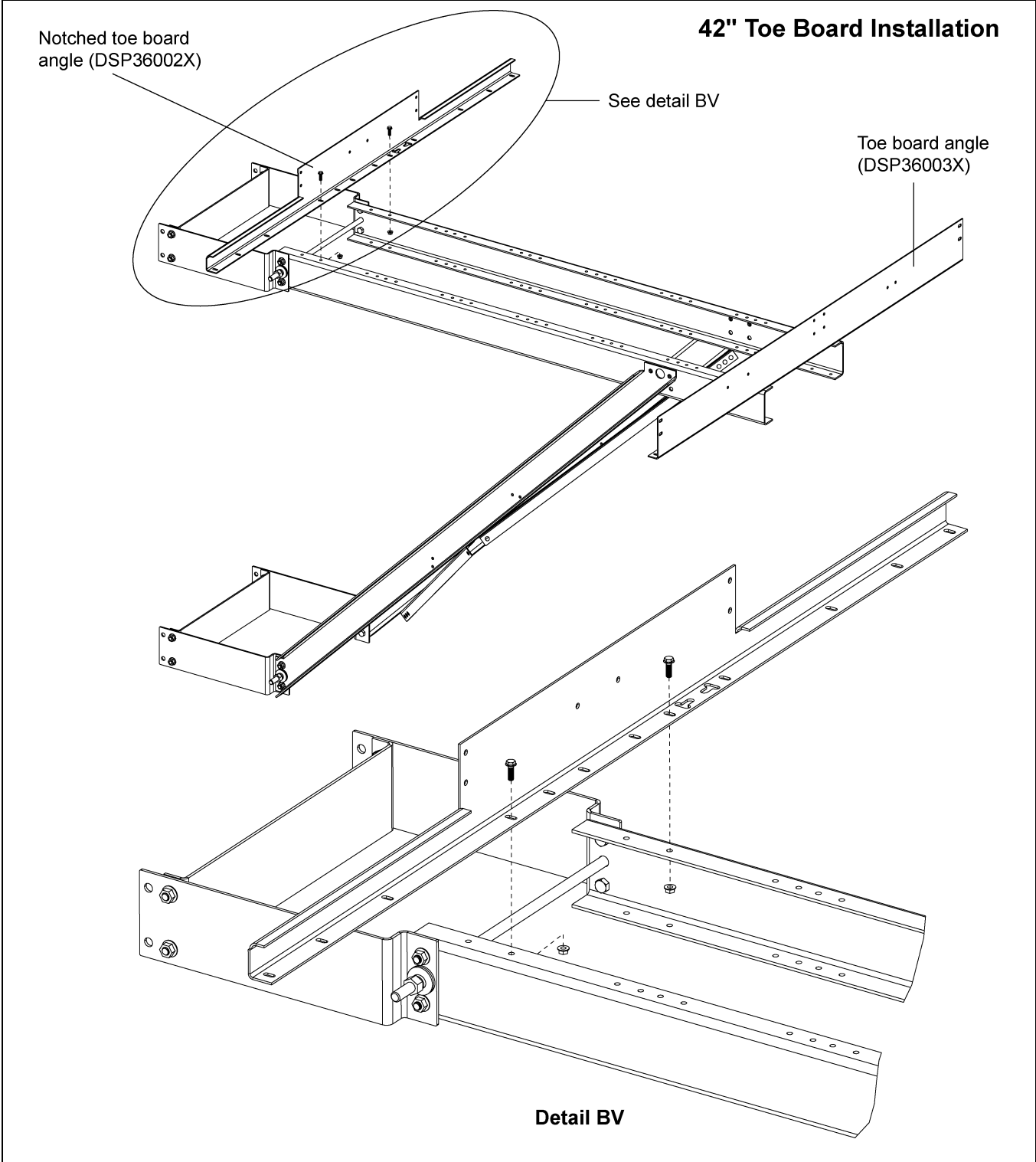


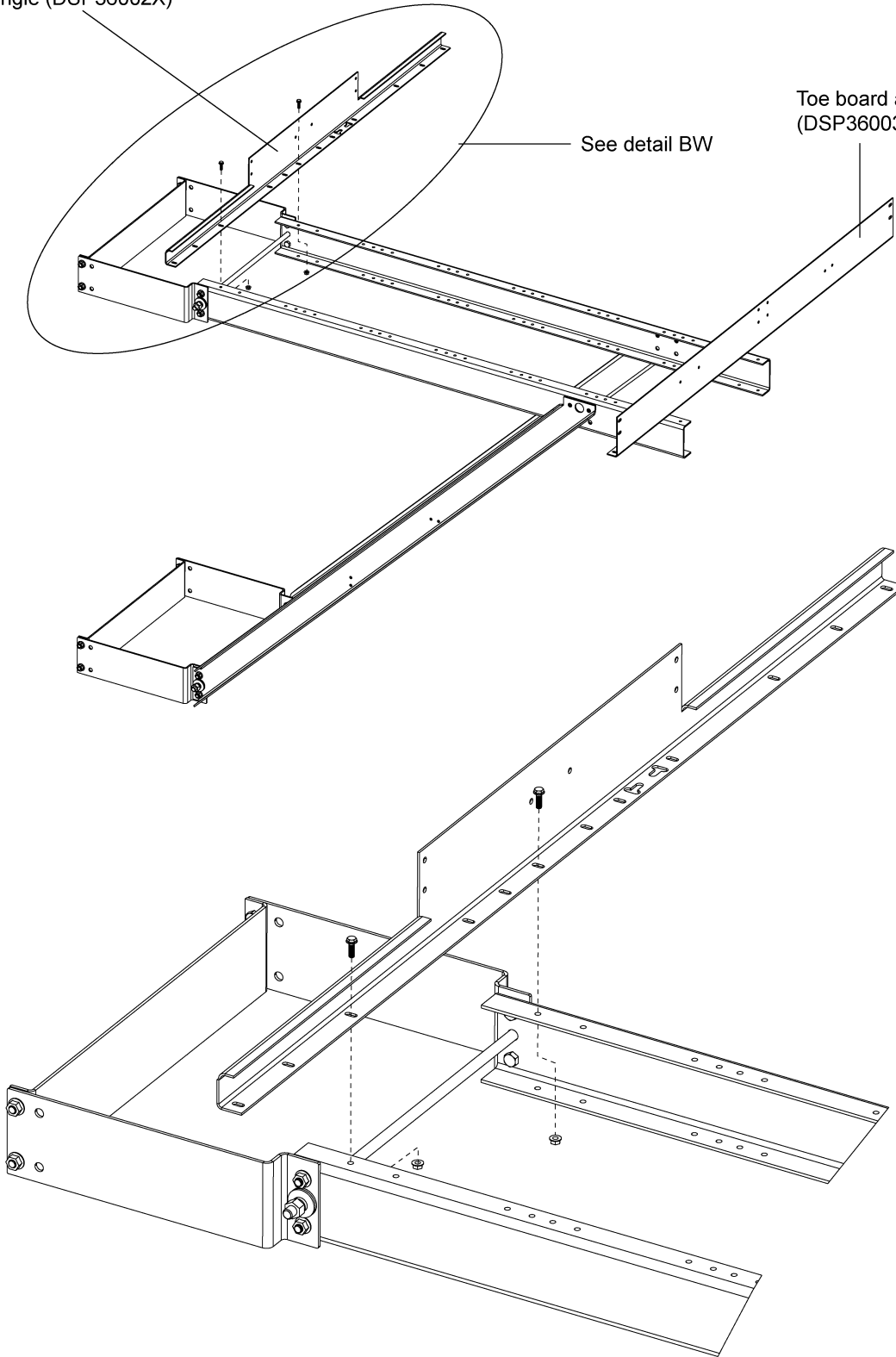
Figure 10F

48" Toe Board Installation

Notched toe board angle (DSP36002X)

See detail BW

Toe board angle (DSP36003X)



Detail BW

Figure 10G

Platform Decking

Attach the floor deck panels to the support channels. Then attach end toe boards (DSP36000X) to the platform decking (DSP36004) with the 5/16" hardware provided. Add extra toe board plates, after all pieces have been attached and positioned properly, tighten all hardware. (See Figure 10H below and Figure 10I on Page 102.)

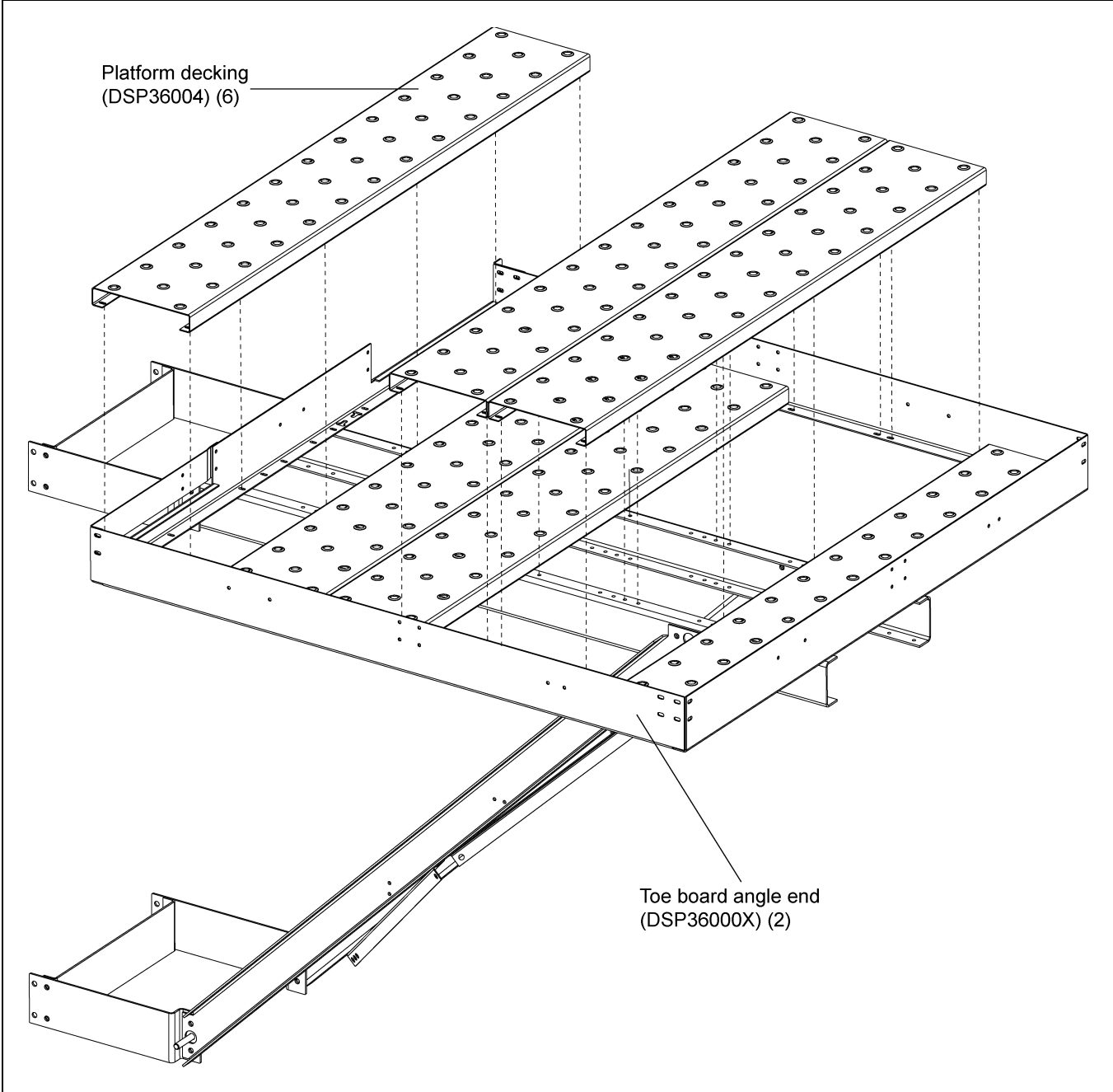


Figure 10H

Platform Decking (Continued)

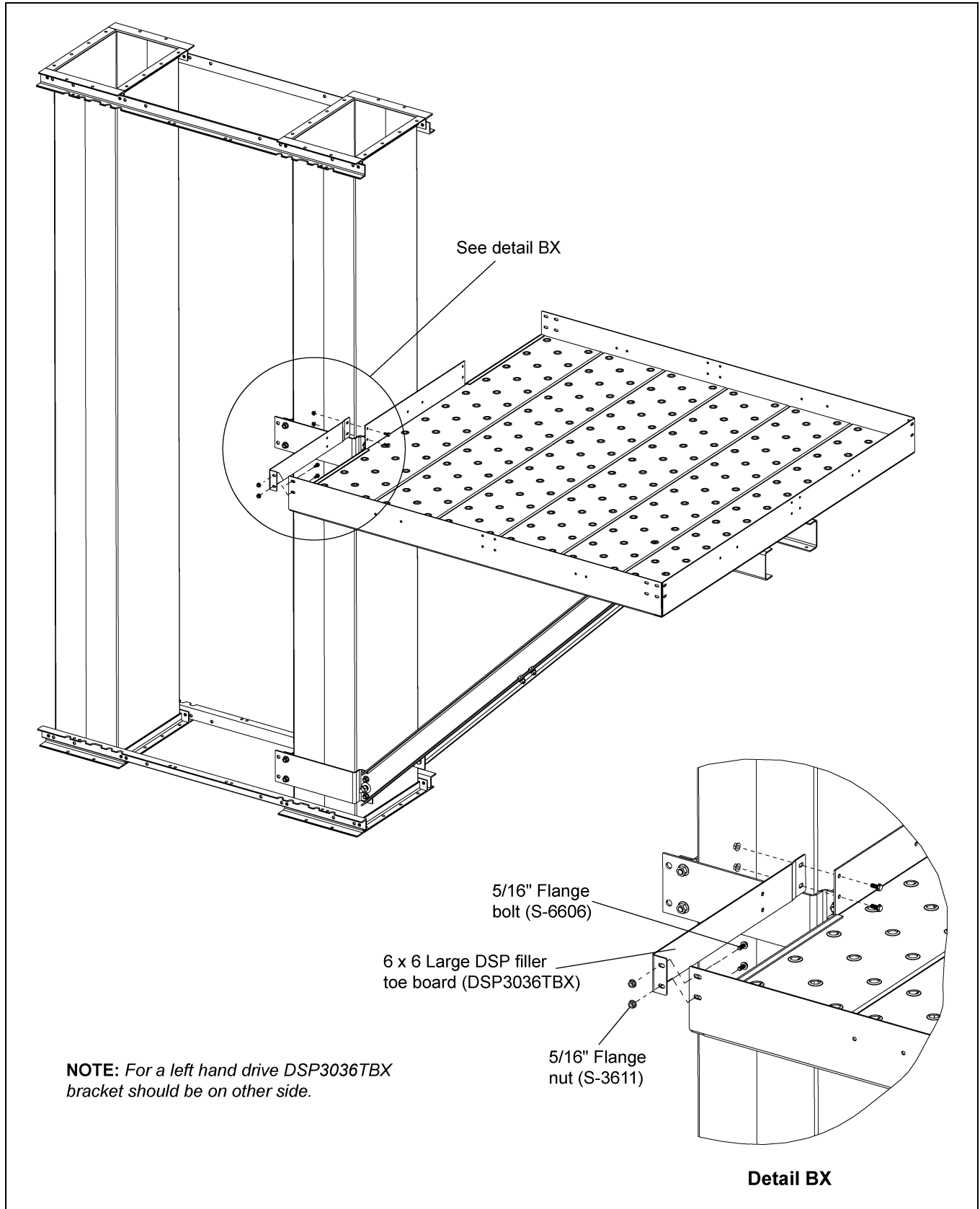


Figure 10I

Platform Post

Figure 10J shows the assembly of three (3) "W" corner posts (HP1648HWP), three (3) platform posts (HP1648HCP) and two (2) safety gate side posts (HP1648HP). This must all be assembled using 5/16" hardware.

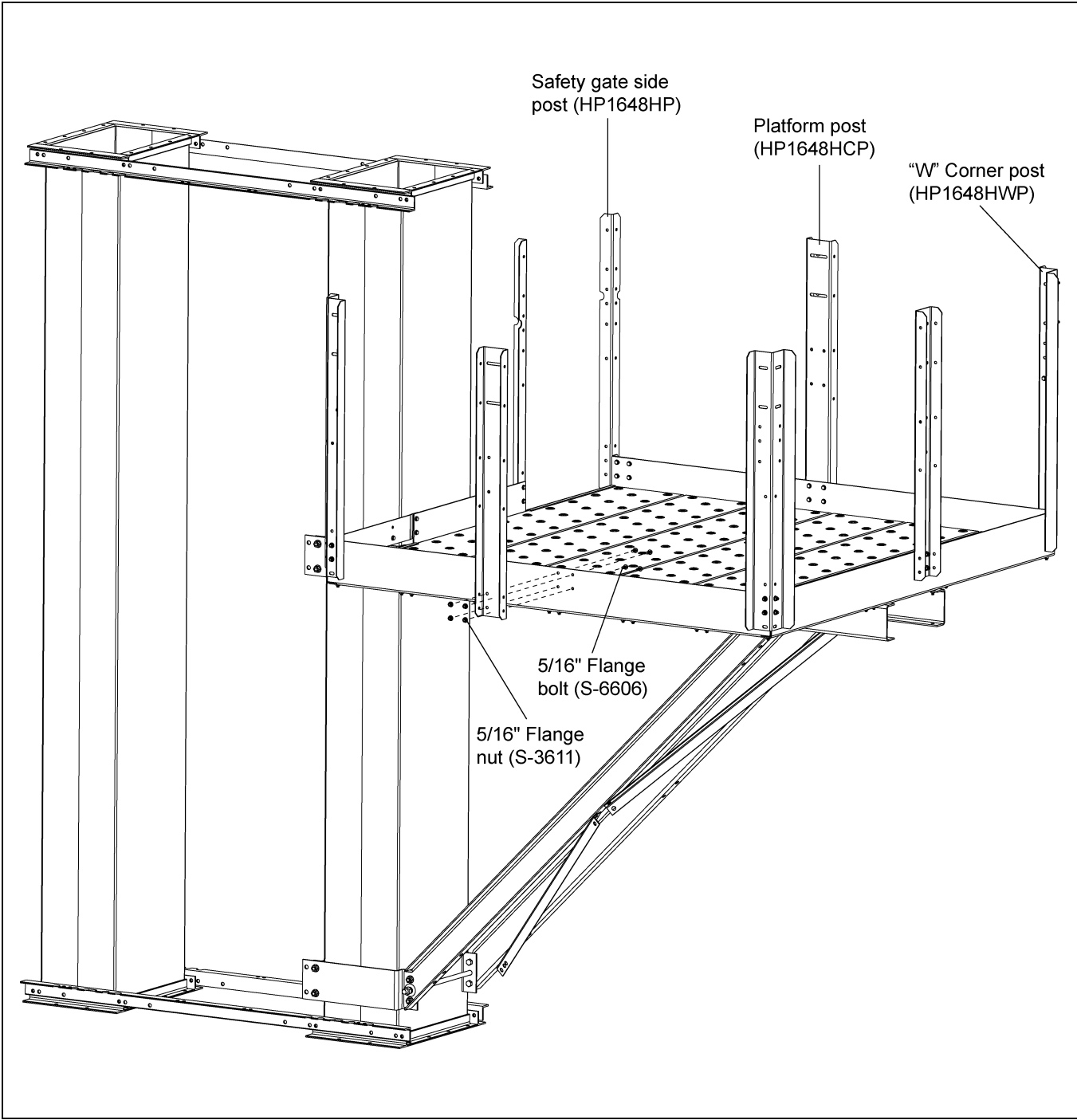


Figure 10J



10. 6 x 6 Distributor Platforms

Tie Braces

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

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

Between each of the three (3) "W" corner posts (HP1648HWP), platform post (HP1648HCP) and safety gate side post (HP1648HP), attach two (2) tie braces (safety cage bar (LDR-5171BE)) from the lower half of the post to toe boards using 5/16"-18 x 3/4" ZN grade 5 bolts (S-6606) and 5/16"-18 YDP grade 2 flange nut (S-3611). (See Figure 10K.)

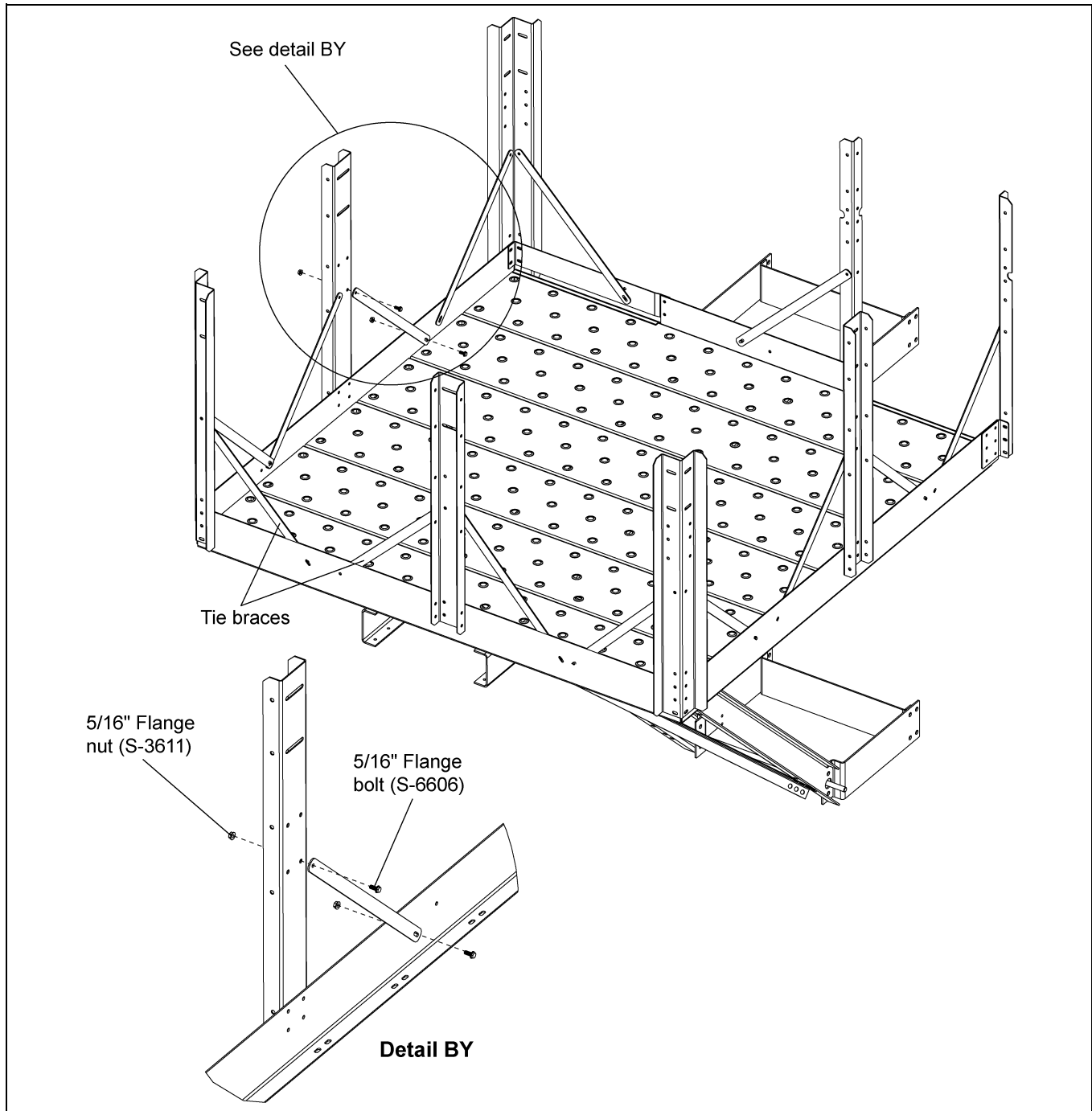


Figure 10K

Intermediate Handrail

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

NOTE: The small intermediate handrail (LDR-4088) fits inside of the large intermediate handrail (LDR-4087). Identify and separate the large and small intermediate handrails.

Trim six (6) large and six (6) small rails by 14" each so that the remaining length of each rail, both small and large is 22". (See Figure 10L.)

1. Install these rails across the platform and the opposite side as shown in Figure 10L.
2. 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 10L.
3. Attach to "W" post (corner post) and platform post using nuts (S-3611) and bolts (S-6606). Torque to standard specifications.

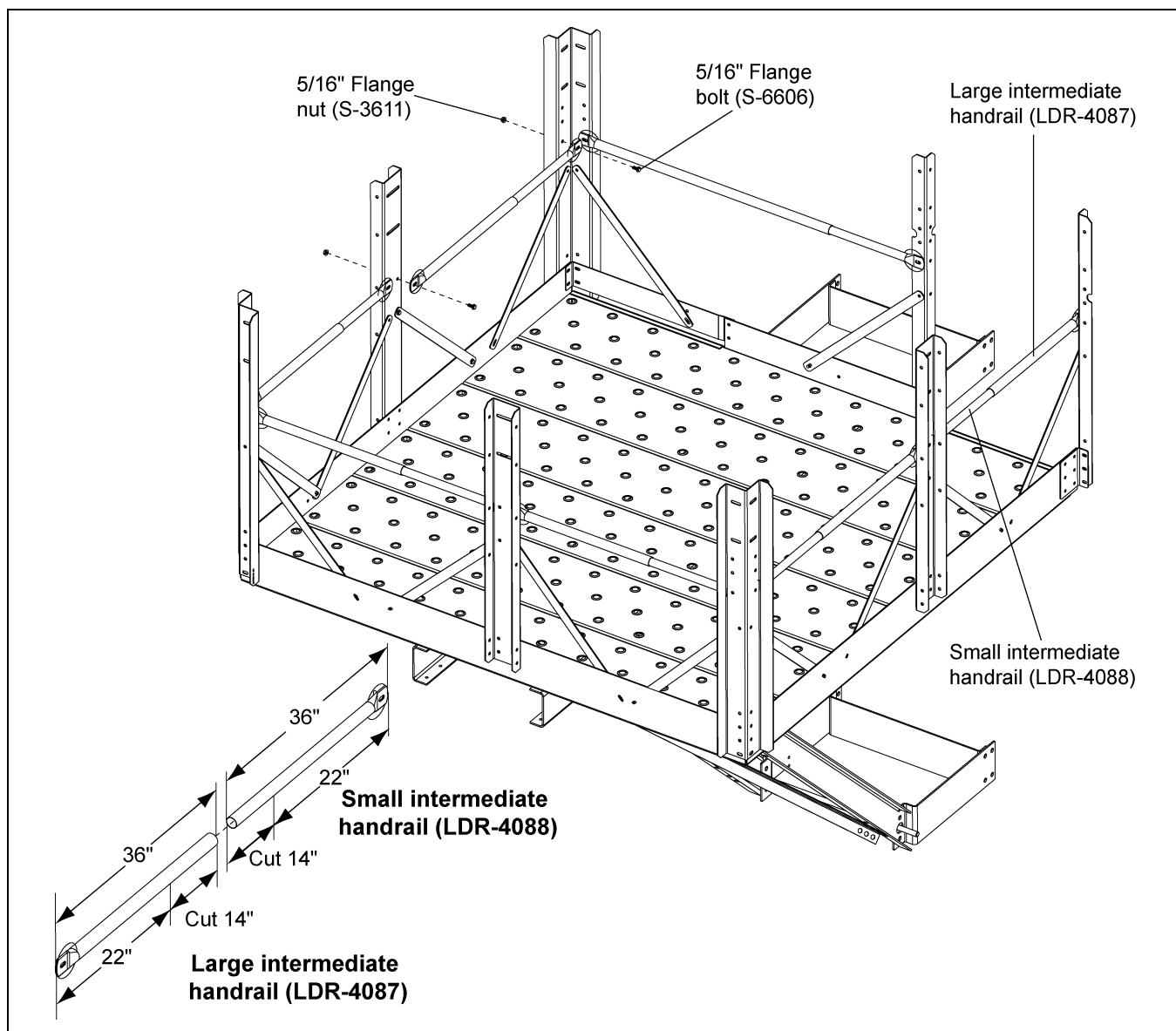


Figure 10L

10. 6 x 6 Distributor Platforms

Upper Handrails

IMPORTANT: For safety purposes, make sure head of bolts are to the inside of platform with nuts on outside at all connections. (See Figure 10M.)

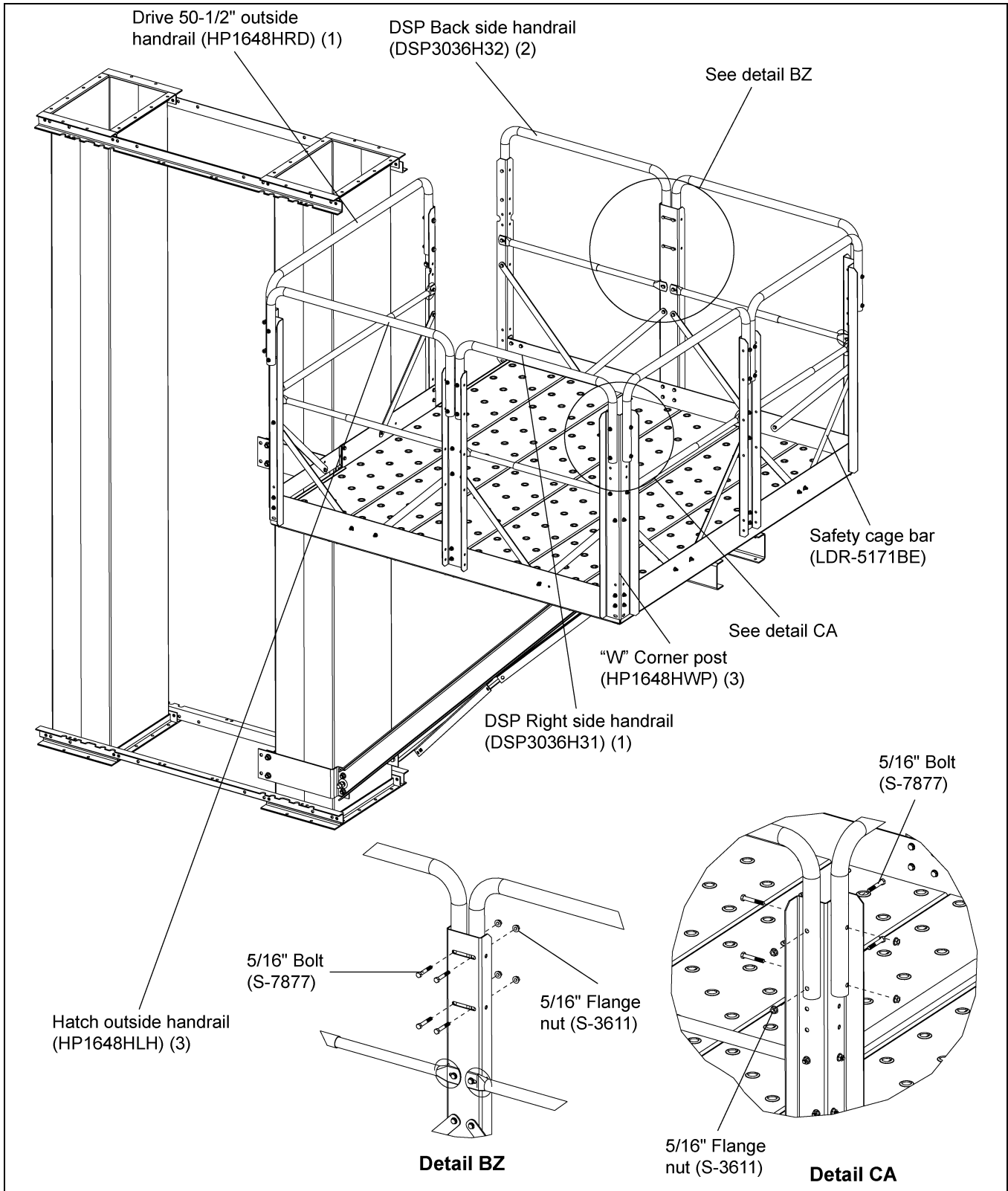


Figure 10M

Upper Handrails (Continued)

Attach hatch outside handrail (HP1648HLH) from "W" corner post to platform post and right side handrail (DSP3036H31) from platform post to next "W" corner post using 5/16" bolt (S-7877) and 5/16" flange nut (S-3611). (See Figure 10N.)

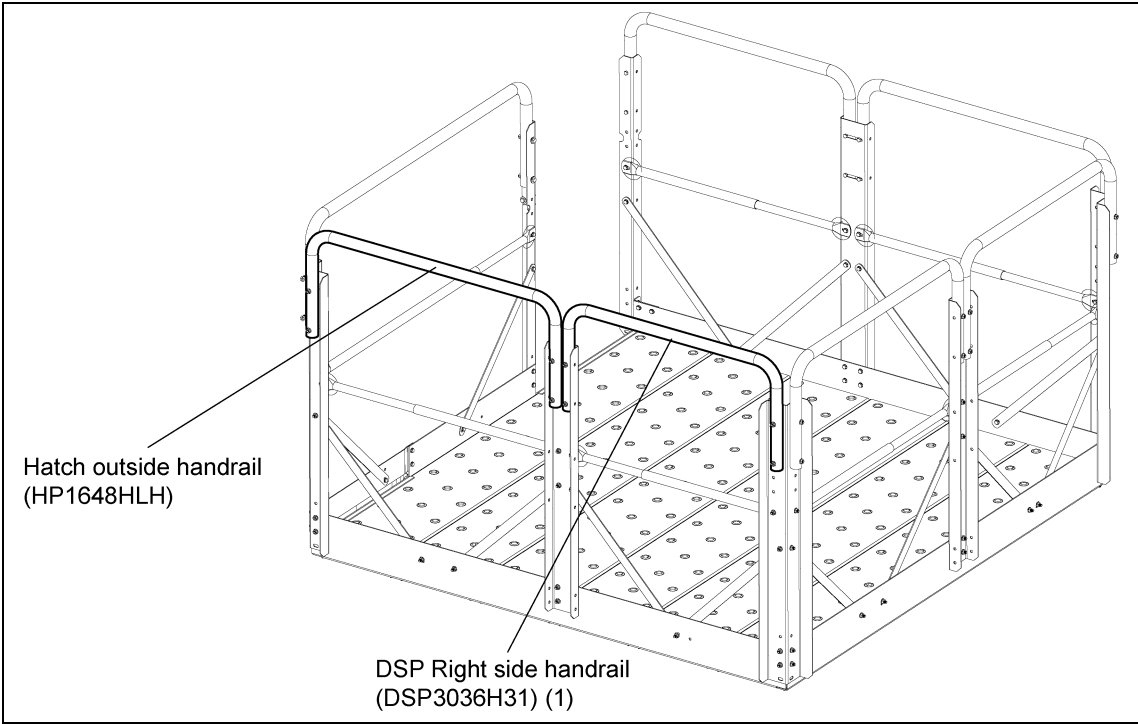


Figure 10N

Attach hatch outside handrail (HP1648HLH) from "W" corner post to platform post and back side handrail (DSP3036H32) from platform post to next "W" corner post using 5/16" bolt (S-7877) and 5/16" flange nut (S-3611). (See Figure 10O.)

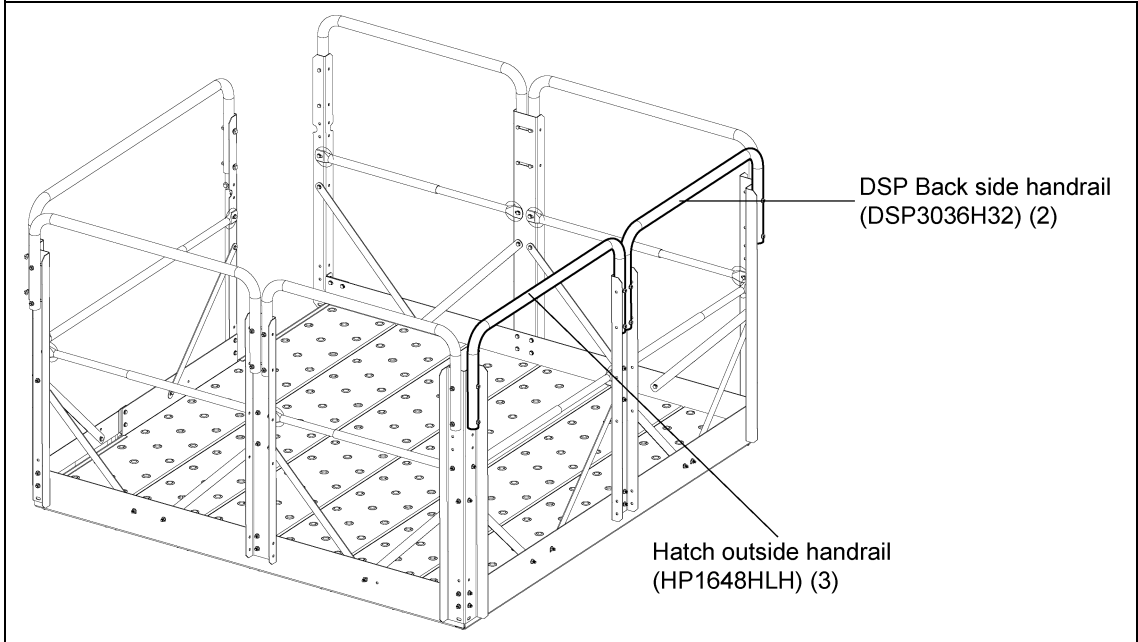


Figure 10O

10. 6 x 6 Distributor Platforms

Upper Handrails (Continued)

Attach hatch outside handrail (HP1648HLH) from "W" corner post to platform post and back side handrail (DSP3036H32) from platform post to next safety gate side post (HP1648HP) using 5/16" bolt (S-7877) and 5/16" flange nut (S-3611). (See Figure 10P.)

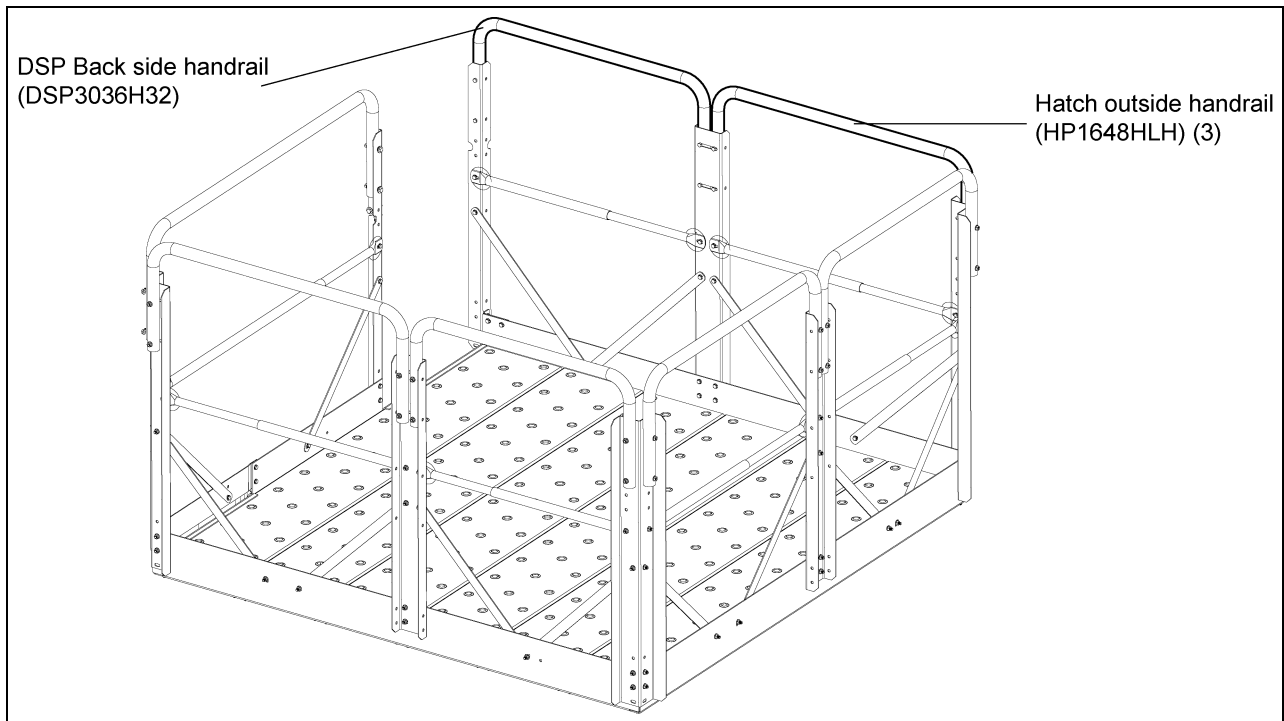


Figure 10P

Attach drive handrail (HP1648HRD) from "W" corner post to safety gate side post (HP1648HP) using 5/16" bolt (S-7877) and 5/16" flange nut (S-3611). (See Figure 10Q.)

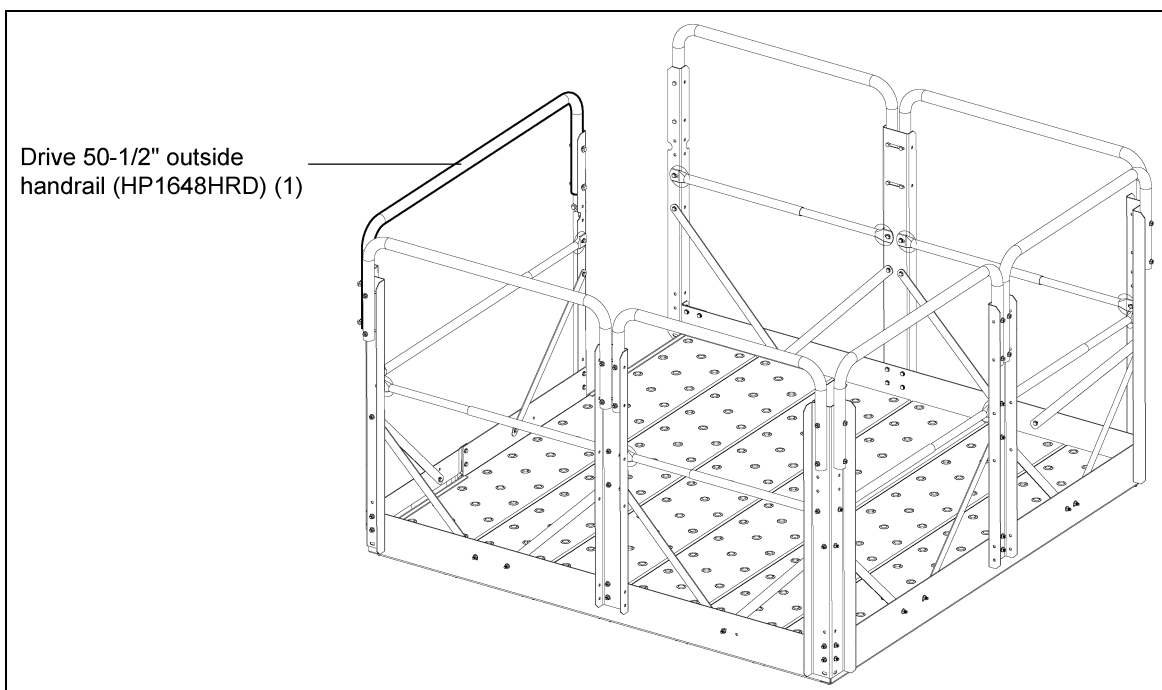


Figure 10Q

Safety Gate Package (If Ordered as Optional) (DSP-1648GATE)

IMPORTANT: Attach the platform gate bracket to the gate before attaching it to the inside platform post using 5/16" hardware.

Attach safety gate assembly to intermediate platform door bracket using 5/16" bolt (S-1196), 5/16" flat washer (S-845) and 5/16" flange nut (S-3611).

Attach intermediate platform door bracket to two (2) safety gate side posts (HP1648HP) using 5/16" bolt (S-1196), 5/16" flat washer (S-845) and 5/16" flange nut (S-3611). (See Figure 10R below and Figure 10S on Page 110.)

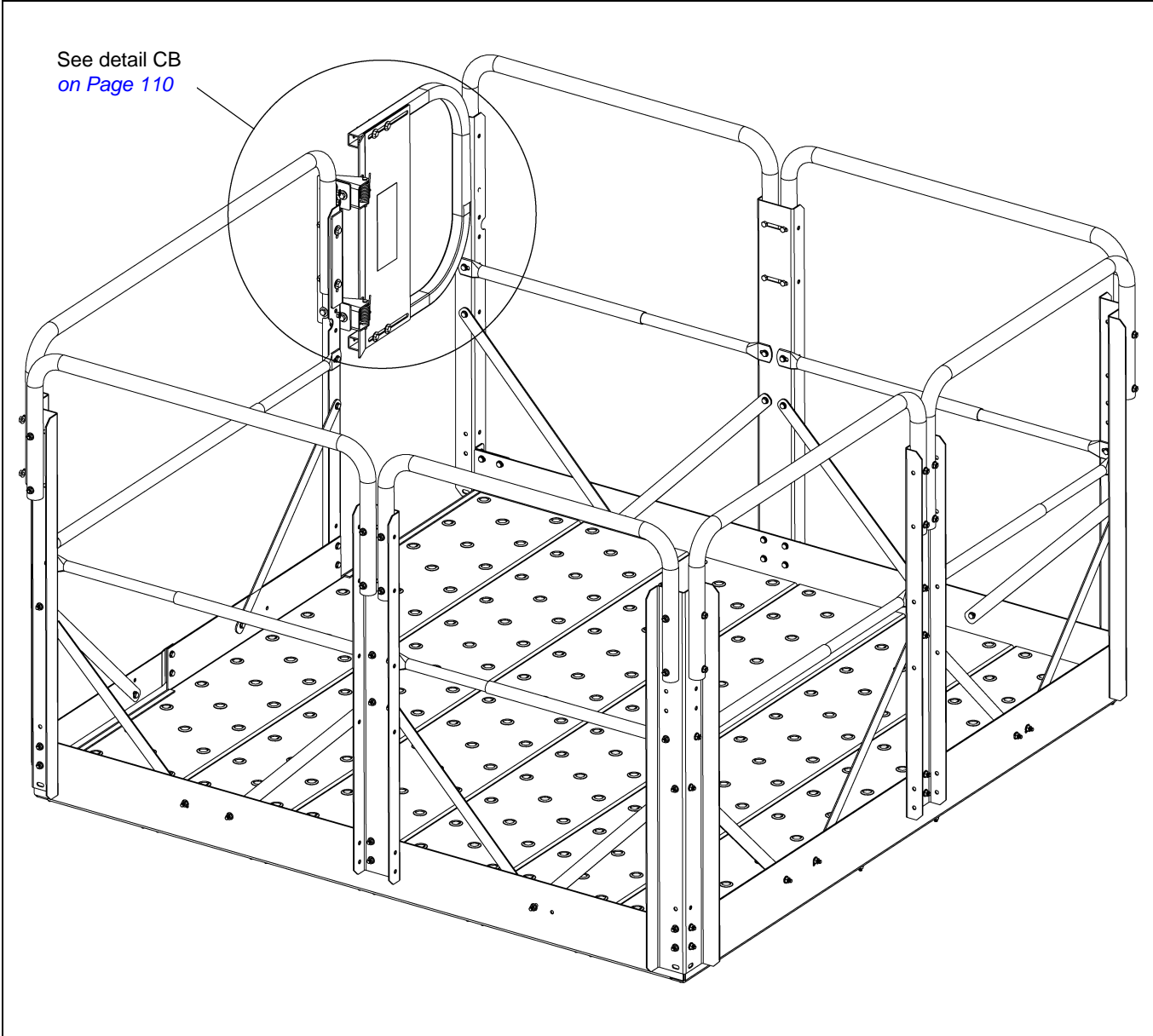


Figure 10R

**Safety Gate Package (If Ordered as Optional) (DSP-1648GATE)
(Continued)**

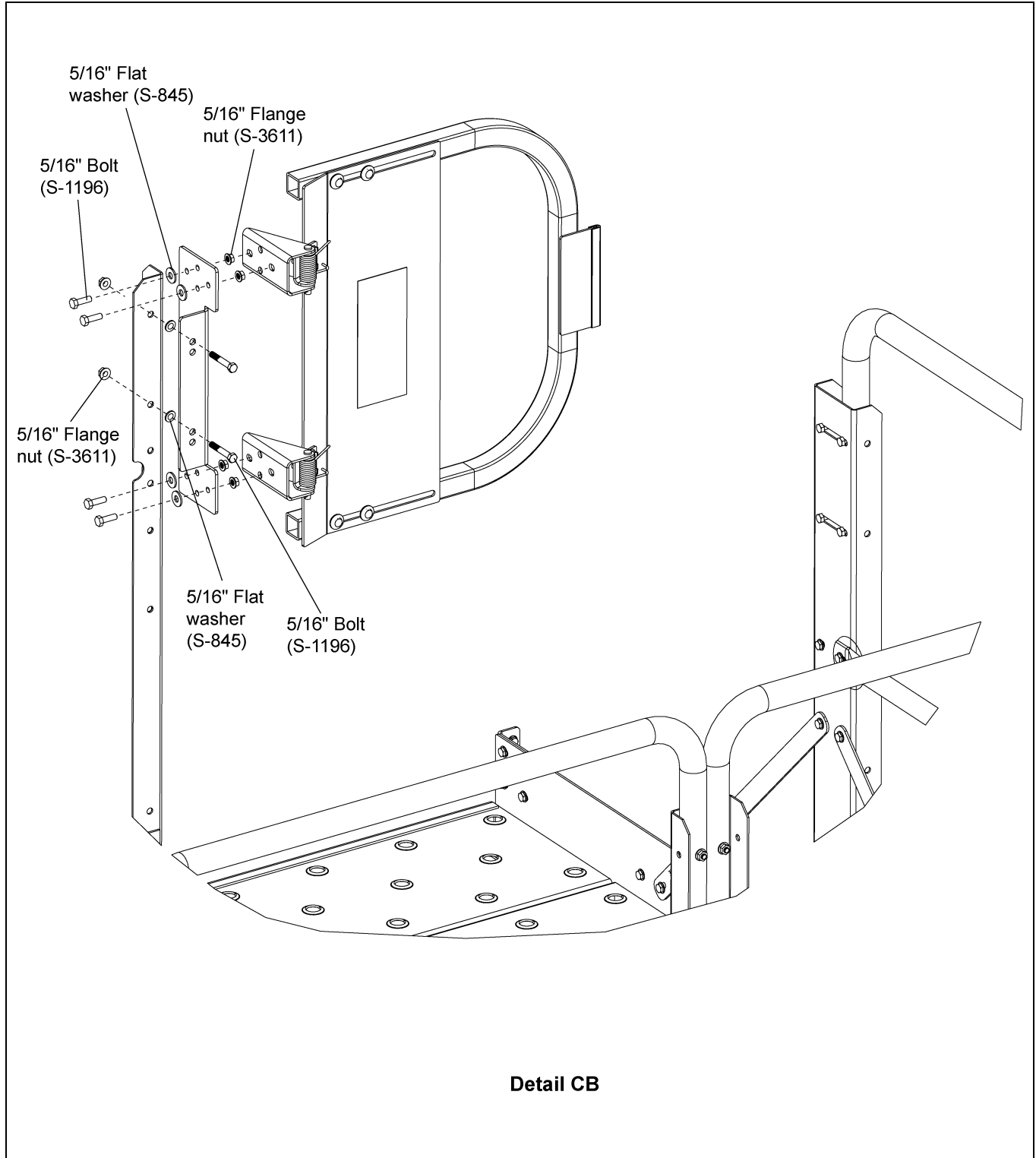


Figure 10S

Distributor Platform Support (48" Only)

- 1. Attach the top end of the distributor platform support (DPL-48SPPT) to the side toeboard and the decking.
- 2. Attach the lower end of the distributor platform support to the existing holes in the support brace.
- 3. Use 5/16" x 1" flange bolt (S-7470) and 5/16" flange nut (S-3611) for all connections. (See Figure 10T.)

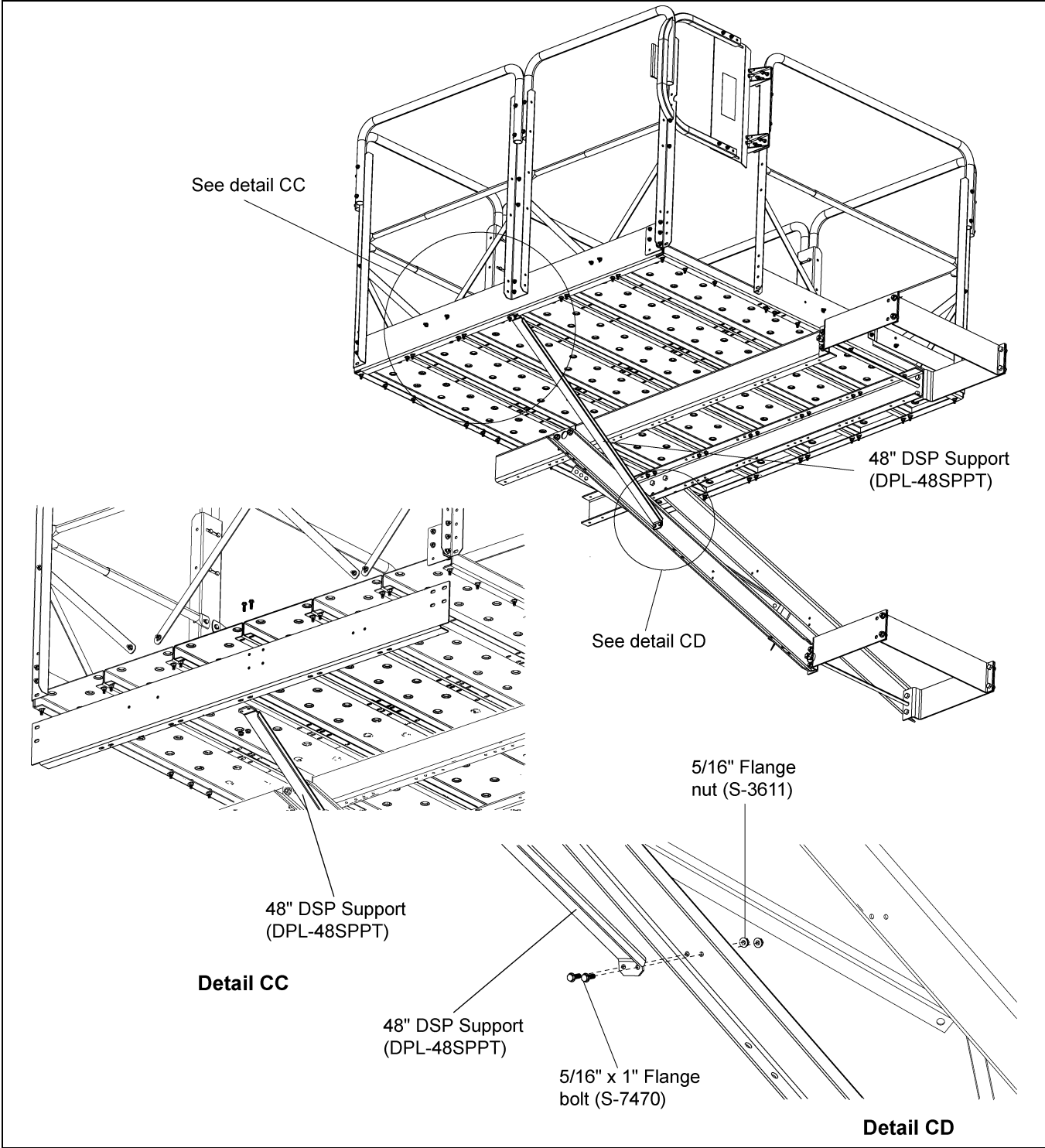


Figure 10T



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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