TECHNICAL MANUAL

OPERATOR AND AVIATION UNIT MAINTENANCE INSTRUCTIONS INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST

FOR

HELICOPTER INTERNAL CARGO HANDLING SYSTEM

ARMY MODEL CH47 HELICOPTER

PART NUMBER:
18049 J 100

NATIONAL STOCK NUMBER
NSN 1680-01-197-1689

HEADQUARTERS, DEPARTMENT OF THE ARMY

30 SEPTEMBER 1987

CHANGE
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HEADQUARTERS
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Operator and Aviation Unit Maintenance
Instructions Including Repair Parts
and Special Tools List
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Helicopter Internal Cargo Handling System
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TM 55-1680-358-12&P, 30 September 1987, is changed as follows:

1. Remove and insert pages as indicated below. New or changed text material is indicated by a vertical bar in the margin. An illustration change is indicated by a miniature pointing hand.

Remove pages	Insert pages
2-9 through 2-12	2-9 through 2-12
-----	2-12.1/2-12.2
3-17 and 3-18	3-17 and 3-18
3-21 and 3-22	3-21 and 3-22
3-35/3-36	3-35/3-36
3-37 and 3-38	3-37 and 3-38
C-7 and C-8	C-7 and C-8
C-13 and C-14	C-13 and C-14
C-25 through C-30	C-25 through C-30
C-35 and C-36	C-35 and C-36

2. Retain this sheet in front of manual for reference purposes.

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WARNING AND FIRST AID DATA

For artificial respiration and other first aid data, refer to FM 21-11.

Personnel performing instructions involving operations, procedures, and practives which are included or implied in this technical manual shall observe the following instructions. Disregard of these warning and precautionary information can cause serious injury, illness, death, or an aborted mission.

WARNING

An operating procedure, practice, etc., which if not correctly followed, could result in personal injury or loss of life.

CAUTION

An operation procedure, practice, etc., which if not strictly observed, could result in damage to or destruction of equipment.

NOTE

An operating procedure, condition, etc., which is essential to highlight.

WARNING

Some compounds specified in this publication are toxic and/or flammable.

- When working with toxic compounds, protective goggles shall be worn and area shall be properly ventilated. Avoid contact with skin, eyes and clothes and avoid breathing vapors.
- When working with flammable compounds, keep container away from sparks, flames and heat.
- Clean all parts in a well ventilated area. Avoid inhalation of solvent fumes. Avoid prolonged contact of cleaners with skin. Wash skin thoroughly with soap and warm water after contact with solvents. Do not clean parts near open flames.

HEADQUARTERS
DEPARTMENT OF THE ARMY
No. 55-1680-358-12&P WASHINGTON, D.C.

Operator and Aviation Unit Maintenance Instructions Including Repair Parts and Special Tools List for Helicopter Internal Cargo Handling System ARMY MODEL CH47 HELICOPTER

REPORTING OF ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistake or if you know of a way to improve the procedure, please let us know. Mail your letter or DA Form 2028 (Recommended Changes to Publications and Blank Forms) direct to: Commander, US Army Aviation Systems Command, ATTN: AMSAV-MPSD, 4300 Goodfellow Blvd., St. Louis, MO 63120-1798. A reply will be furnished to you.

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CHAPTER 1
INTRODUCTION

SECTION I. GENERAL

1-1. Scope. This manual provides descriptive information; service/maintenance instructions; operation, installation and removal instructions; and illustrated parts breakdown for the Helicopter Internal Cargo Handling System (HICHS). This system was manufactured by AAR Brooks & Perkins Corporation, Advanced Structures Division (81868).

1-2. Purpose. The Helicopter Internal Cargo Handling System, Part No. 18049 J 100, is shown in Figure 1-1. It is designed for use in the CH47 Helicopter as a means of loading and unloading various configuration cargo. The types of cargo are shown in Table 1-1.

1-3. Maintenance Forms and Records. Department of the Army forms and procedures used for equipment maintenance shall be those prescribed in DA PAM 738-751.

1-4. Reporting Equipment Improvement Recommendations (EIR). EIRs will be prepared using SF 368, Quality Deficiency Report. Instructions for preparing EIRs are provided in DA PAM 738-751. User's manual for The Army Maintenance Management System-Aviation (TAMMS-A). EIRs should be mailed directly to: Commander, US Army Aviation Systems Command, ATTN: AMSAV-MPSD, 4300 Goodfellow Blvd., St. Louis, MO 63120-1798. A reply will be furnished directly to you.

1-5. Destruction of Army Material To Prevent Enemy Use. For destruction of Army material to prevent enemy use, refer to TM 750-244-1-5.

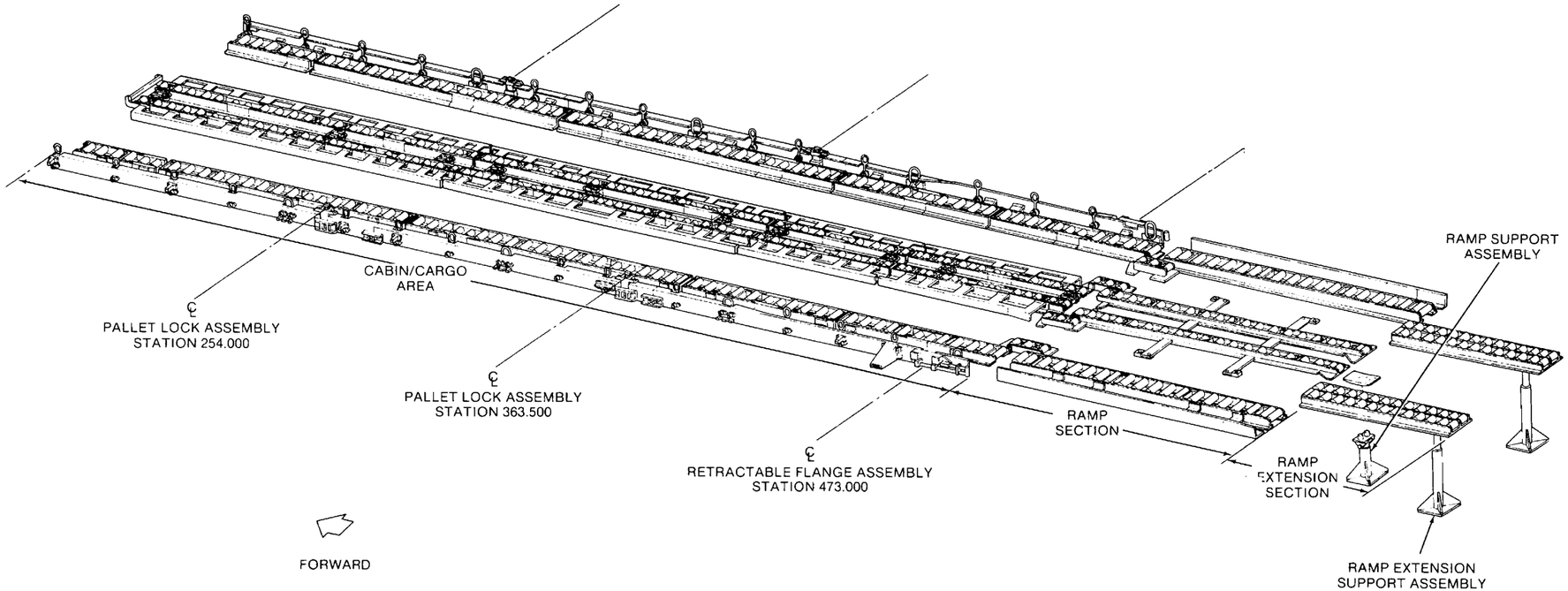


Figure 1-1. CH47 Helicopter Internal Cargo Handling System

SECTION II. DESCRIPTION AND DATA

1-6. Description. The functional and physical descriptions of the Helicopter Internal Cargo Handling System are as follows:

a. *Functional Description*. The Helicopter Internal Cargo Handling System provides low-friction, load/unload conveyor ramps. It also includes conveyors for moving cargo within the aircraft.

b. *Physical Description*. The Helicopter Internal Cargo Handling System consists of three major sections. These are the cabin/cargo area, ramp section, and ramp extension section, as shown in Figure 1-1.

(1) *Cabin/Cargo Area*. The cabin section of the Helicopter Internal Cargo Handling System is made up of three outboard rail/roller assemblies on each side of the cabin. These outboard assemblies are identical but symmetrically opposite. These are outboard rail/roller assemblies, stations 158.500 to 274.000, outboard rail/roller assemblies, stations 272.531 to 374.000, and outboard rail/roller assemblies, stations 373.469 to 487.000. These assemblies utilize twenty-six 5k tiedown fitting assemblies, eight 10k fitting assemblies and two tiedown fitting assemblies, station 360.000. Four inboard guide/roller assemblies are mounted in the center of the cabin floor. They are secured with ten centerline ring plug assemblies to the 5k rings in the floor.

(2) *Ramp Section*. The ramp section of the system includes a right-hand ramp guide rail/roller assembly and a right-hand ramp inboard guide/roller assembly. There are also symmetrically opposite assemblies. A separate ramp support assembly is provided for use during loading and unloading.

(3) *Ramp Extension Section*. This section uses two identical ramp extension roller assemblies and separate ramp extension support assemblies.

1-7. Tabulated Data. Refer to Table 1-1 for leading particulars pertinent to the Helicopter Internal Cargo Handling System.

Table 1-1. Leading Particulars

System Nomenclature	Helicopter Internal Cargo Handling System (HICHS)
Part Number	18049 J 100
Manufacturer	AAR Brooks & Perkins Corp. Advanced Structures Division (81868)
Weight:	
Cabin Section	647 pounds
Ramp Section	141 pounds
Ramp Extension Section	51 pounds
Ramp Extension Supports	26 pounds
Ramp Support	13 pounds
Total Weight	878 pounds
Typical Cargo:	
HCU-6/E (88 x 108 inches)	3
HCU-12/E or HCU-10/C (54 x 88 inches)	6
Warehouse wooden pallets (40 x 48 inches)	8-10***
Wheeled vehicles	*
Miscellaneous (TOW, Hellfire, etc.) equipment (pallet or skid mounted)	*
Personnel	**

Table 1-1. Leading Particulars (Continued)

System Installation Data:
Time to Install System (Including Tiedown Rings) .... 8 man/hours
Time to Install System (Excluding Tiedown Rings) .... 4 man/hours

System Removal Data:
Time to Remove System (Excluding Tiedown Rings) ..... 4 man/hours

* Quantity dependent on size and helicopter capacity.

** System does not provide for personnel transport but it is compatible with personnel.

*** Quantity dependent on weight of pallets.

NOTE
A suitable mix of the above cargo can be handled as required.

CHAPTER 2
INSTALLATION AND OPERATING INSTRUCTIONS

SECTION I. SERVICE UPON RECEIPT OF EQUIPMENT

2-1. Unpacking and Inspection. Upon arrival, the crates should be carefully inspected for indications of damage that occurred in transit. Carefully unpack each section to avoid damaging components. Remove shock protective devices installed for shipment. Check to be certain each item listed in Tables 2-1 and 2-2 has been received. It may be helpful to refer to the Illustrated Parts Breakdown, Chapter 3, Section III, in identifying components.

2-2. Equipment Furnished. Refer to Tables 2-1 and 2-2 for a complete list of all major components and materials furnished for Helicopter Internal Cargo Handling System installation.

Table 2-1. System Components

Part Number	Description	Qty
18049 J 101	Outboard Rail/Roller Assembly, Stations 158.500 to 274.000	1
18049 J 102	Outboard Rail/Roller Assembly, Stations 158.500 to 274.000	1
18049 J 103	Outboard Rail/Roller Assembly, Stations 272.531 to 374.000	1
18049 J 104	Outboard Rail/Roller Assembly, Stations 272.531 to 374.000	1
18049 J 105	Outboard Rail/Roller Assembly, Stations 373.469 to 487.000	1
18049 J 106	Outboard Rail/Roller Assembly, Stations 373.469 to 487.000	1
18049 E 107	Ramp Guide Rail/Roller Assembly, Left-hand	1
18049 E 108	Ramp Guide Rail/Roller Assembly, Right-hand	1
18049 J 121	Inboard Guide/Roller Assembly, Stations 157.750 to 272.188	1
18049 J 122	Inboard Guide/Roller Assembly, Stations 272.313 to 377.188	1
18049 J 123	Inboard Guide/Roller Assembly, Stations 377.313 to 427.188	1
18049 J 124	Inboard Guide/Roller Assembly, Stations 427.350 to 487.000	1
18049 J 225	Ramp Inboard Roller Assembly, Left-hand	1
18049 J 226	Ramp Inboard Roller Assembly, Right-hand	1
18049 J 140	Ramp Extension Roller Assembly	2
18049 D 227	Forward Ramp Center Roller Mounting Bar Assembly	1
18049 D 228	Aft Ramp Center Roller Mounting Bar Assembly	1
18049 E 150	Ramp Extension Support Assembly	2
18049 E 160	Ramp Support Assembly	1
18049 D 195	Ramp Skid Pad	1
18049 D 117	5k Tiedown Fitting Assembly	26
18049 E 207	10k Fitting Assembly	8
18049 C 245	Tiedown Fitting Assembly, Station 360.000	2
18049 C 299	Centerline Ring Plug Assembly	10
18049 D 130	Transition Roller Assembly Rest Plate	2
18049 D 250	Outboard Roller Securing Strap Assembly	34

Table 2-2. Materials Provided

Part Number	Description	Qty
PR-1440 Class B	Sealant	A/R
NAS517-4-12	Countersunk Bolt	2
NAS6608-14	Hex Head Bolt	16
NAS6608-15	Hex Head Bolt	8
AN3-10A	Hex Head Bolt	28
AN960-10	Flat Washer	36
AN4-11A	Hex Head Bolt	6
AN960-416	Flat Washer	18
NAS517-4-11	Countersunk Bolt	6
AN4-12A	Hex Head Bolt	4
AN4-5A	Hex Head Bolt	8
MS21044-N4	Self-locking Nut	8
AN3-11A	Hex Head Bolt	8
MS21250-05028	12 Point Bolt	16
AN960-516	Flat Washer	32
18049 D 555	Special Bolt	16
AN960-816	Flat Washer	16
AN960-816L	Flat Washer	8

2-3. Preparation For Use. The Helicopter Internal Cargo Handling System is shipped ready to use. No specific preparations are necessary.

SECTION II. INSPECTING AND SERVICING THE EQUIPMENT

2-4. Inspection. Inspect the system components as follows:

a. *Intervals*. The Helicopter Internal Cargo Handling System should be inspected prior to each cargo mission or when any of the following events has or will occur.

(1) A new cargo handling system has just been installed.

(2) A cargo system has been removed from storage and installed.

(3) A system has been idle in an out-of-service aircraft.

(4) Maintenance has recently been performed and the system has not been inspected.

(5) A system appears to function improperly.

b. *Inspection Criteria*. A general inspection should be accomplished for any one of the reasons indicated in paragraph 2-4a. Inspect regularly to maintain the Helicopter Internal Cargo Handling System in good working condition. Make certain that all components shown in the table are accounted for in either the installed or stowed locations as applicable. (Refer to Table 2-1.) Then inspect the system against Figures 2-4 through 2-21 to make certain that all system components are properly installed. Check outboard rail/roller assemblies (1 through 6, Figure 3-2), inboard guide/roller assemblies (9 through 12), inboard ramp/roller assemblies (13 and 14), ramp guide rail/roller assemblies (7 and 8), and ramp extension roller assembly (15) for cracks or breaks. No cracks or breaks are allowed.

2-5. Service. No pre-installation service is required for the Helicopter Internal Cargo Handling System.

SECTION III. INSTALLATION

2-6. Tools Required. Table 2-3 provides a list of common tools required to install the Helicopter Internal Cargo Handling System plus two special tools provided with the system.

NOTE

Refer to Table 3-2 for standard installation torque values.

Table 2-3. Tools Required for Installation

Tool Description	Quantity
C-clamp 6 Inch Throat	2
3/8 Inch 12 Point Socket	1
7/16 Inch 6 Point Socket	1
9/16 Inch 6 Point Socket	1
Number Three Phillips Drive 3/8 Inch Square Drive Socket Bit	1
Number Four Phillips Drive 3/8 Inch Square Drive Socket Bit or Screwdriver	1
7/32 Inch Hex Drive (Allen) 3/8 Inch Square Drive Socket Bit (*)	1
9/16 Inch Open End/Box End	1
3/4 Inch Open End/Box End	1
3/4 Inch Socket	1
X Drill (0.397 Diameter)	1
B 18049 140-MDF Master Drill Fixture (*)	1
* AAR Brooks & Perkins supplies these items as installation aids even though the system can be installed without the use of these items.	

2-7. Aircraft Preparation. Prepare the aircraft for safe ground maintenance as follows:

a. *Cleaning*. Before attempting to install the Helicopter Internal Cargo Handling System, the floor of the aircraft should be cleaned of all dirt and debris.

b. *Preparation*. After the floor has been cleaned, proceed as follows:

NOTE

Loading pole ground able is secured to retaining brackets. Detach the ground cable to aircraft in or near the same location.

CAUTION

Ensure loading pole grounding cable is outboard of outboard rail/roller assembly, stations 272.531 to 374.000 (3 and 4, Figure 3-2) at installation.

(1) Remove loading pole retaining brackets located at stations 327.680, 348.980 and 387.680 on right-hand side of aircraft (Figure 2-1) and discard brackets.

(2) Remove the aircraft ramp extensions from the ramp. Locate the master drill fixture, Part No. B 18049 140-MDF, over one of the ramp extensions, as shown in Figure 2-2. Make sure the alignment pins are snug against the ramp extension. Use at least two C-clamps to hold the fixture in position.

CAUTION

Drilled holes must be within tolerance, clean and free of burrs to ensure proper engagement of pins.

(3) Drill first two holes (0.396 to 0.403 inch diameter). Drill one at each end, using the fixture drill guide holes (Figure 2-2).

(4) Repeat steps 2 and 3 for remaining ramp extension.

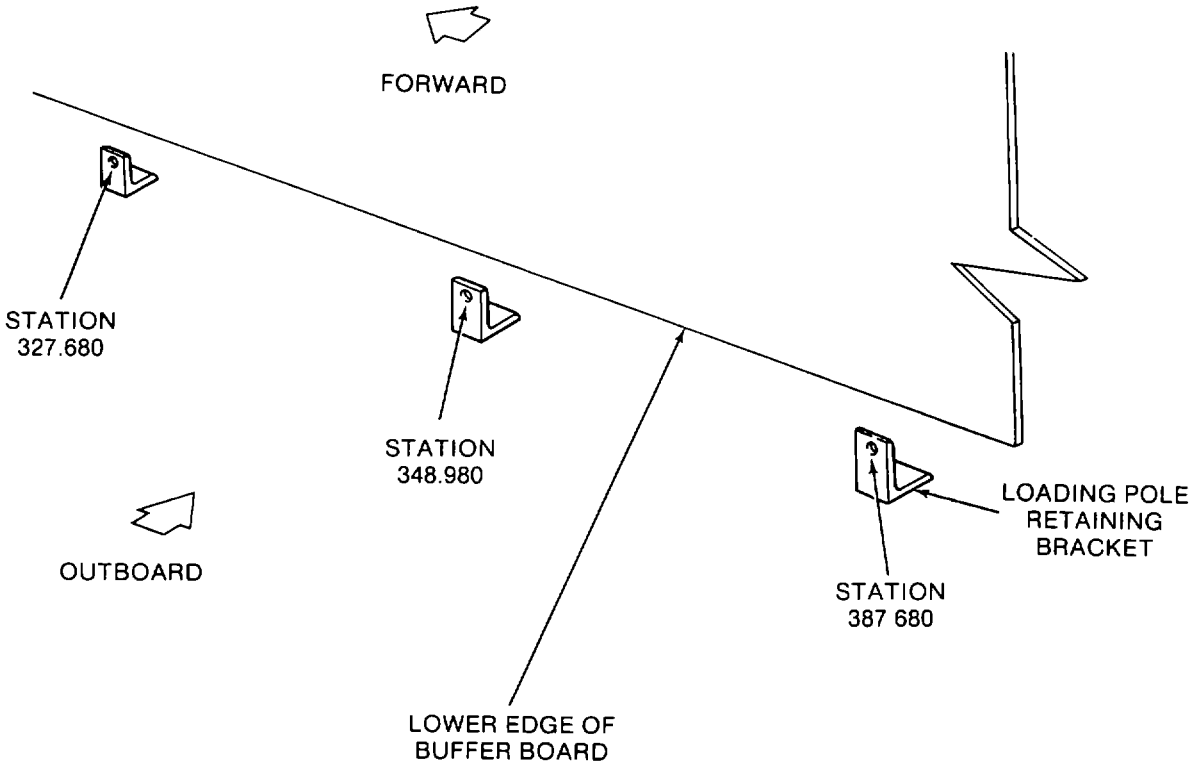


Figure 2-1. Loading Pole Retaining Bracket Locations

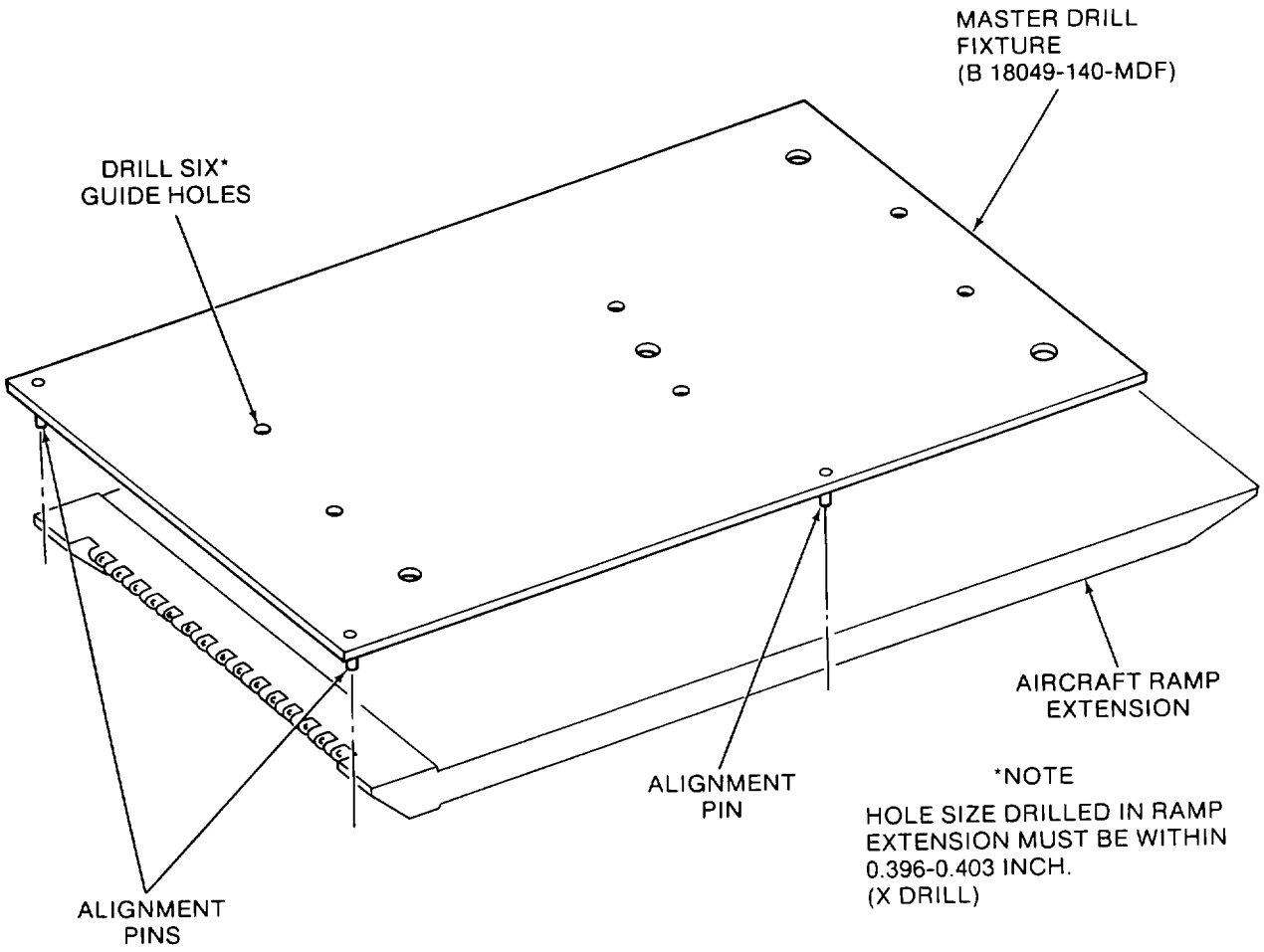


Figure 2-2. Location of Master Drill Fixture

2-8. System Installation - Cabin/Cargo Area. Install the cabin/cargo area of the Helicopter Internal Cargo Handling System as follows:

a. *General*. The cabin/cargo area of the cargo handling system consists of the following:

(1) Outboard rail/roller assemblies, stations 158.500 to 274.000 (1 and 2, Figure 3-2).

(2) Outboard rail/roller assemblies, stations 272.531 to 374.000 (3 and 4).

(3) Outboard rail/roller assemblies, stations 373.469 to 487.000 (5 and 6).

(4) Inboard guide/roller assembly, stations 157.750 to 272.188 (9).

(5) Inboard guide/roller assembly, stations 272.313 to 377.188 (10).

(6) Inboard guide/roller assembly, stations 377.313 to 427.188 (11).

(7) Inboard guide/roller assembly, stations 427.375 to 487.000 (12).

(8) 10 centerline ring plug assemblies (24).

(9) 34 outboard roller securing strap assemblies (26).

(10) 26 5k tiedown fitting assemblies (21).

(11) 8 10k tiedown fitting assemblies (22).

b. *Outboard Rail/Roller Assemblies*. The following procedure provides the steps necessary to install the outboard rail/roller assemblies (1 through 6, Figure 3-2) on the left and right sides of the helicopter. These steps must be performed in the sequence provided to ensure proper installation of the Helicopter Internal Cargo Handling System.

NOTE

Floor patches will be handled on an individual basis from aircraft to aircraft.

(1) If floor repair patches are present, they could cause interference to Helicopter Internal Cargo Handling System installation. Modification to the rail/ roller assemblies (1 through 6, Figure 3-2) will then be necessary. Refer to paragraph 2-8b.(6)(i) for floor patch modifications, if required, and then complete installation as follows:

NOTE

10k tiedown fitting assemblies are located at stations 240.000, 320.000, 400.000 and 481.780 on both sides of the aircraft.

(2) Remove eight 10k rings by unscrewing from fitting assemblies (Figure 2-3).

(3) The four screws securing each 10k tiedown fitting assembly (Figure 2-3) should be removed. Remove one of the inboard screws holding the 10k tiedown fitting assembly. Install one of the two special bolts (41, Figure 3-2) and flat washer (40) to keep the tiedown adapter aligned with holes.

(4) Remove the remaining screws holding the 10k tiedown fitting assembly. Stow the 10k rings and screws in a secure place aboard the aircraft (Figure 2-3).

NOTE

There may be a protruding round head bolt beneath the aft most 10k tiedown fitting. If so, remove and discard this bolt.

NOTE

Ensure bolts are tightened down snugly so that washers under bolt heads will not rotate.

(5) Install eight 10k fitting assemblies (22, Figure 3-2) at the eight locations from which the 10k rings and screws were removed in Figure 2-3 and steps 2-8b.(2) through 2-8b.(4). Proceed as shown in Figure 2-4. Install inboard special bolts (41, Figure 3-2) and flat washers (40) finger tight. Slide 10k fitting assembly (22) into position (under the washers and bolts) through the open slots of the 10k fitting assembly. After 10k fitting assembly (22) is in place, insert 12-point bolts (39) and flat washers (40) and then tighten all four bolts.

(6) Install outboard rail/roller assemblies (1 through 6) according to the following steps. This procedure is typical for all outboard rail/roller assemblies.

NOTE

Rings of 10k fitting assemblies (22) must be laying flat for installation of outboard rail/roller assemblies (1 through 6).

NOTE

Orient all 5k tiedown fitting assembly (21) rings to face inboard before installing outboard rail/roller assemblies (1 through 6).

(a) Lift outboard rail/roller assembly (1 through 6) over 10k fitting assembly (22).

(b) Angle outboard guide rail (47, Figure 3-3; 24 or 42, Figure 3-4; or 51, Figure 3-5) such that bumper is clear of or just touching buffer board (Figure 2-5). The buffer board may be trimmed, as required, for installation clearance.

CAUTION

At station 481.780, self-locking nut (46, Figure 3-5) will not allow excessive movement fore and aft. This prevents interference with 10k fitting assembly (22, Figure 3-2).

(c) Rotate outboard guide rail (47, Figure 3-3; 24 or 42, Figure 3-4; or 51, Figure 3-5) outboard to vertical. Some fore and aft movement may be necessary to do this if interference occurs (Figure 2-5).

(d) Attach both outboard rail/roller assemblies (1 and 2, Figure 3-2) to the two forward 10k fitting assemblies (22), at station 240.000. Refer to Figures 2-5 and 2-6.

CAUTION

Ensure loading pole grounding cable is outboard of outboard rail/roller assembly, stations 272.531 to 374.000 (3 or 4, Figure 3-2), at installation.

(e) Attach outboard rail/roller assemblies, stations 272.531 to 374.000 (3 and 4) to 10k fitting assemblies (22) at station 320.000. Refer to Figures 2-5 and 2-6.

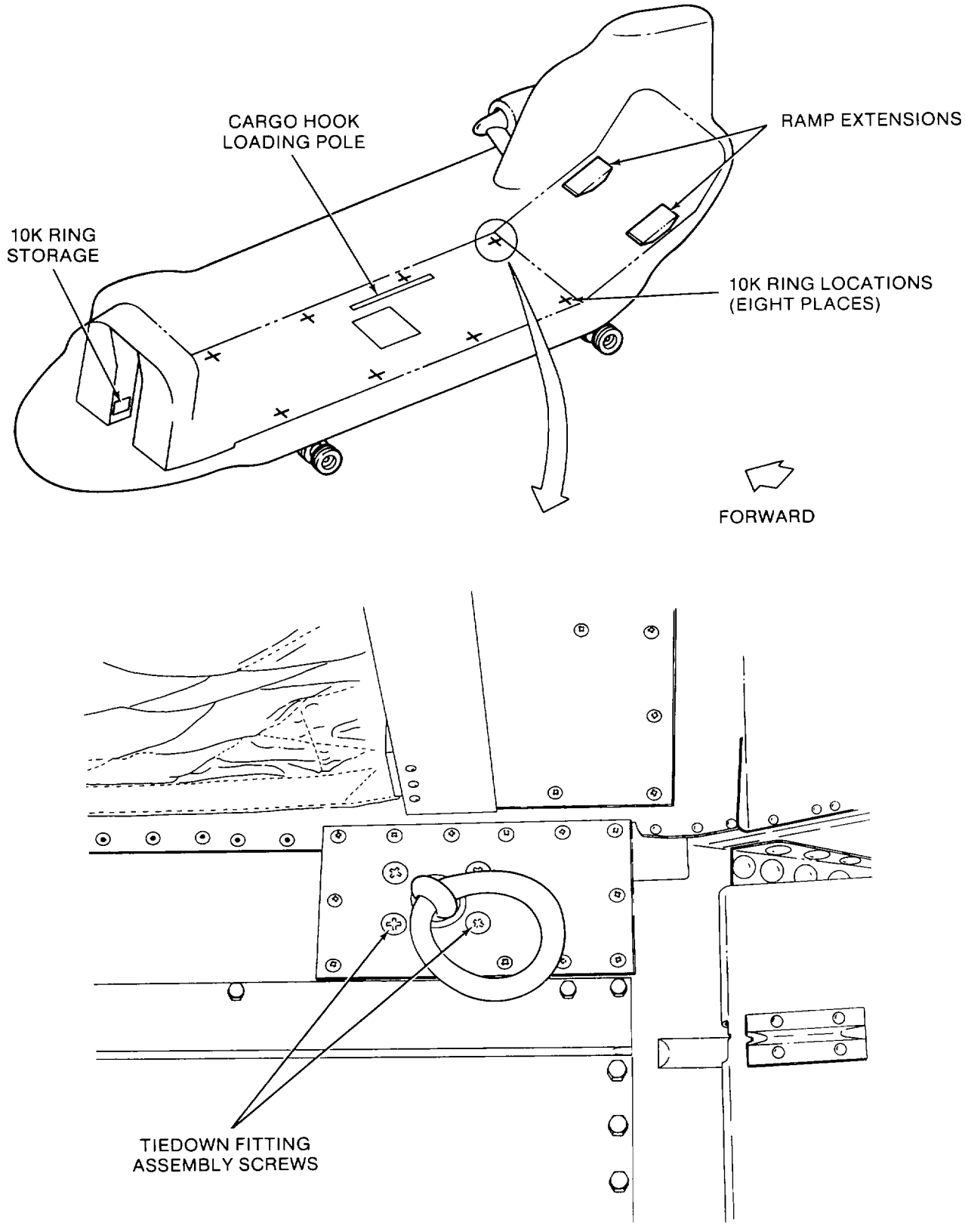


Figure 2-3. 10k Ring Locations

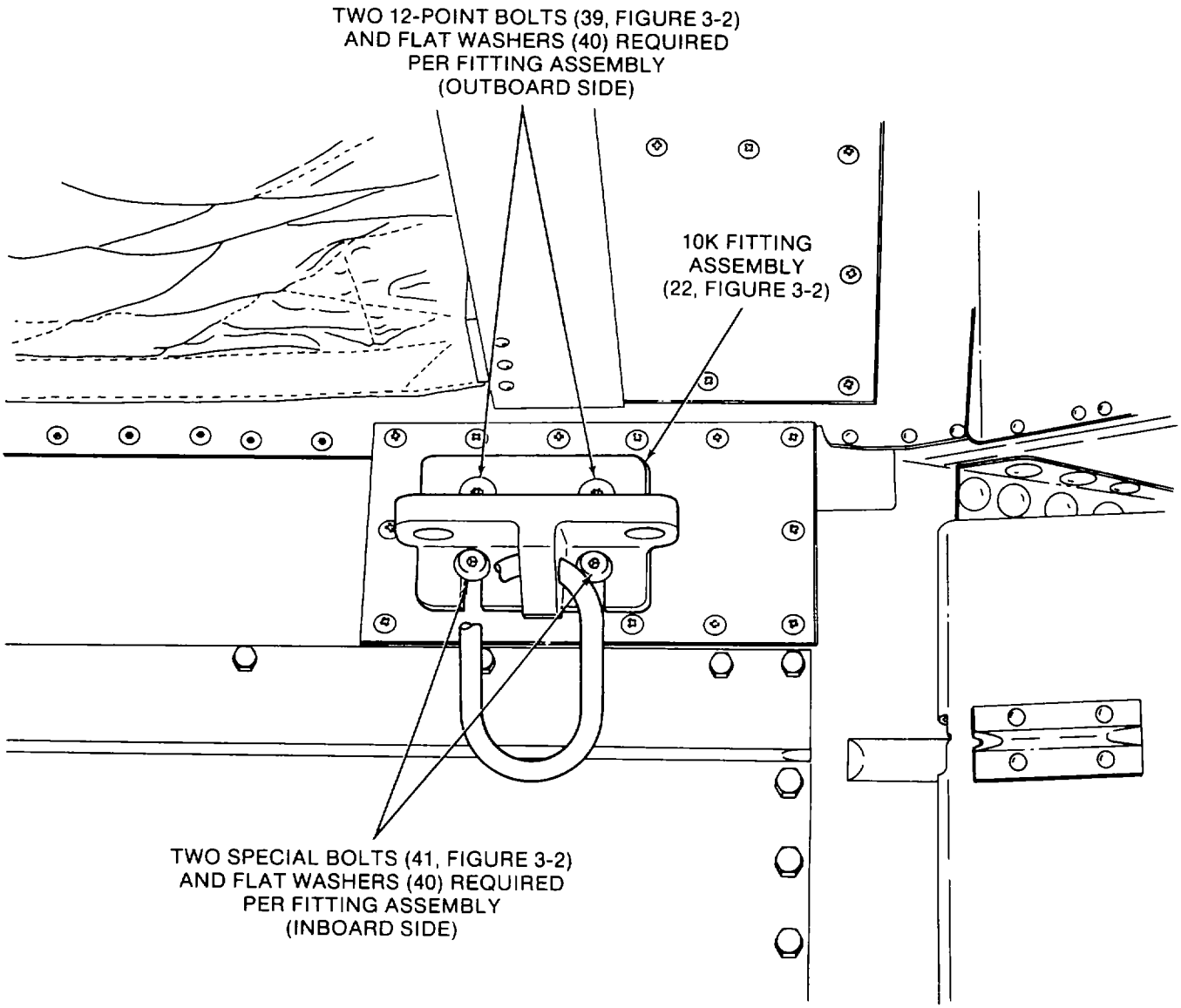


Figure 2-4. 10k Fitting Assembly Installed

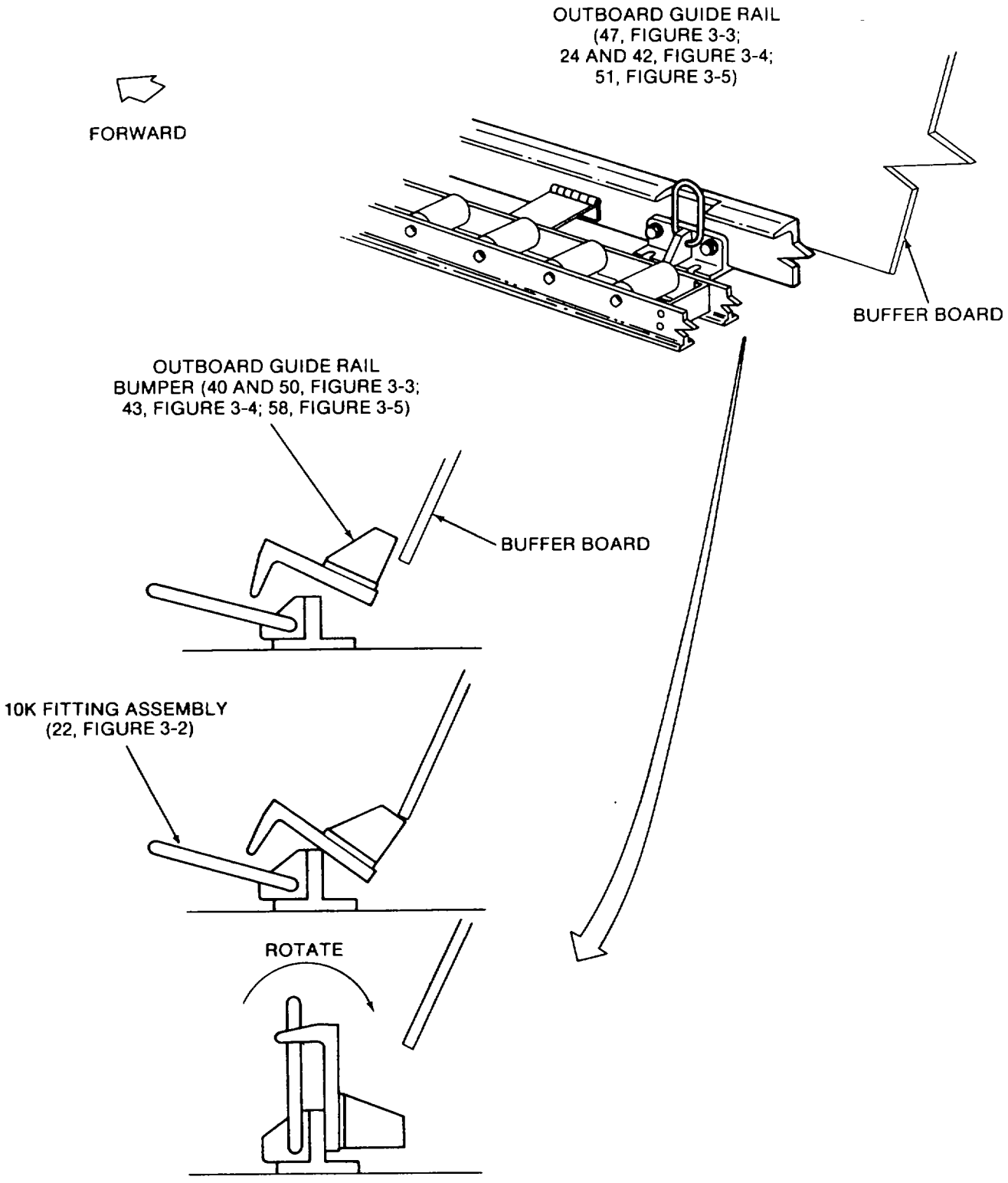


Figure 2-5. Typical Rail Installation

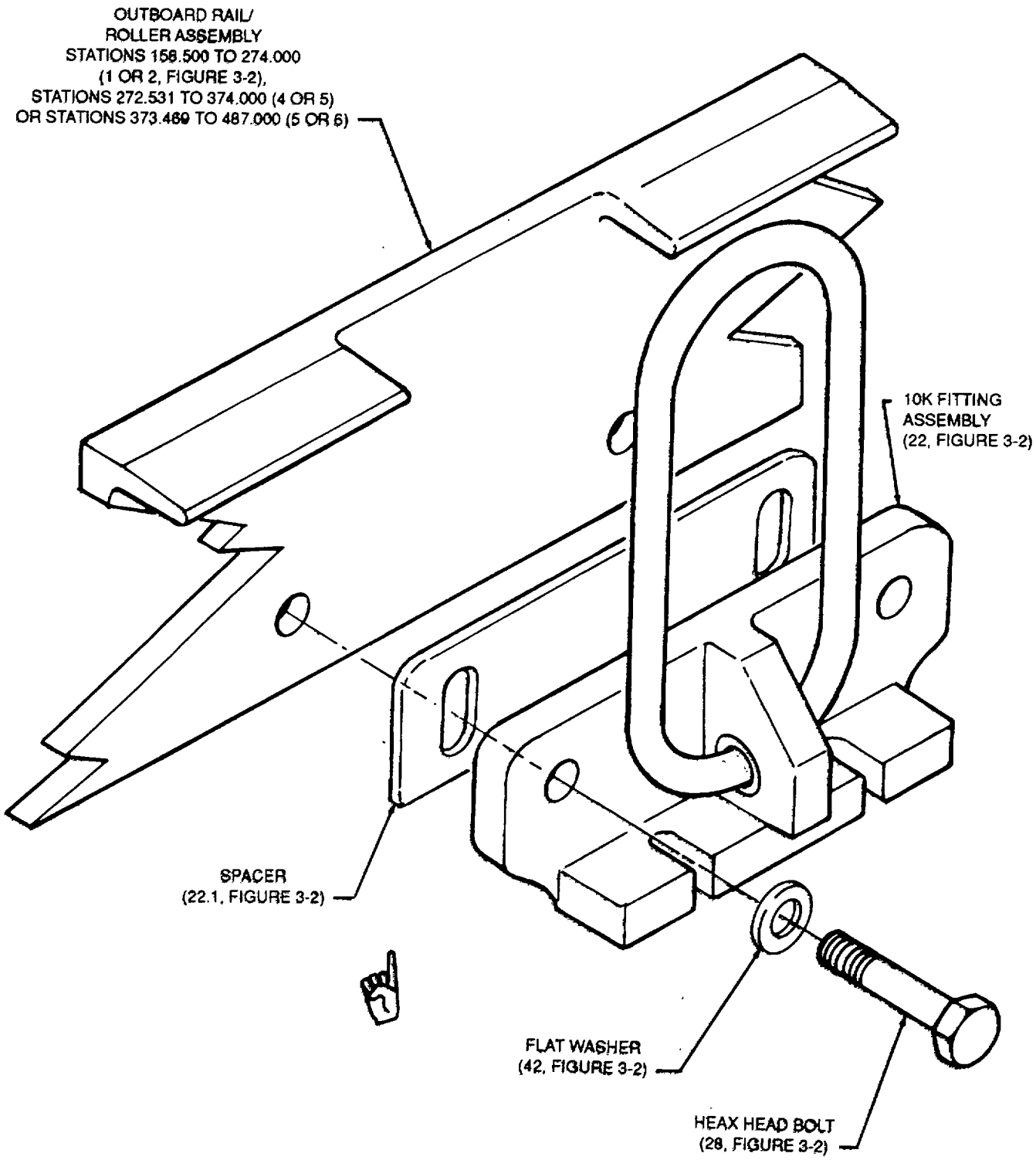


Figure 2-6. Installing Outboard Rail/Roller Assembly to 10k Fitting Assembly (Including .060 inch spacer if required)

(f) Attach outboard rail/roller assemblies, stations 373.469 to 487.000 (5 and 6, Figure 3-2) to 10k fitting assemblies (22) at stations 400.00 and 481.780. Refer to Figures 2-5 and 2-6).

NOTE

Due to possible irregularities in aircraft, pallet, and/or cargo system, the main deck outboard rails may have less than the required lateral spacing which must be not less than 88.00 inches. Use spacers in pairs where relief is necessary in order to maintain required separation, i.e., one spacer should be used on either side when required. Do not use two spacers together on a side. Use of more than one shim at a location can jeopardize adequate grip length of the 10k fitting and outboard rail attachment bolts and is not permissible.

(g) Measure lateral spacing of outboard rails at (stations 240.000, 320.000, 400.000, 481.78). If spacing is less than the required 88.00 inches, a 0.060 inch thick spacer (P/N 18049C545) is to be inserted between the 10k fitting and the outboard rail to maintain required rail clearance.

(h) Make splice connections between outboard rail/roller assemblies, stations 158.500 to 274.000 (1 and 2, Figure 3-2), and rail/roller assemblies, stations 272.531 to 374.000 (3 and 4) on both left and right sides. Use two hex head bolts (29) and flat washers (43) per splice. Refer to Figure 2-7.

(i) Make splice connections between outboard rail/roller assemblies, stations 272.531 to 374.000 (3 and 4) and rail/roller assemblies, stations 373.469 to 487.000 (5 and 6), on both left and right sides. Use two hex head bolts (29) and flat washers (43) per splice. Refer to Figure 2-7.

(j) If floor patches cause interference problems with outboard rail/roller assemblies (1 through 6, Figure 3-2), modify as follows. Mark the area on the rail/roller assembly. Remove rail/roller assembly. Machine or relieve the area as necessary to ensure adequate clearance of rail/roller assembly and patched area. In modified area, remove all sharp edges. Have 0.13 inch (approximate) radii where needed (Figure 2-8). Repaint as specified in Chapter 3.

(k) Connect twenty-six floor-mounted tiedown rings in the helicopter to the outboard rail/roller assemblies, stations 158.500 to 274.000 (1 and 2, Figure 3-2) outboard rail/roller assemblies, stations 272.531 to 374.000 (3 and 4), and outboard rail/roller assemblies, stations 373.469 to 487.000 (5 and 6). Use 5k tiedown fitting assemblies (21). There are thirteen symmetrical locations per side. Refer to Figure 2-9 for details.

CAUTION

Ensure conical washer (6, Figure 3-16) has flat down when installing 5k tiedown fitting assembly (21, Figure 3-2). (See Figure 2-9 for correct position).

CAUTION

At station 360.000, use tiedown fitting assembly, station 360.000 (23) and not 5k tiedown fitting assembly (21). (See Figure 2-10.) Tiedown washer (1, Figure 3-18) should have the flat down.

(1) Connect two floor-mounted tiedown rings on the left and right sides at station 360.000 (23, Figure 3-2) to outboard rail/roller assemblies, stations 272.531 to 374.000 (3 and 4). Use tiedown fitting assemblies, station 360.000 (23) as shown in Figure 2-10.

c. Inboard Guide/Roller Assembly. Install inboard guide/roller assembly, stations 157.750 to 272.188 (9, Figure 3-2); inboard guide/roller assembly, stations 272.313 to 377.188 (10); inboard guide/roller assembly, stations 377.313 to 427.188 (11); and inboard guide/roller assembly, stations 427.375 to 487.000 (12) as follows:

(1) Position inboard guide/roller assembly, station 157.750 to 272.188 (9) on B.L. 0.000. Make sure the forward end is aligned at station 157.750 as shown in Figure 2-11.

(2) Connect three tiedown assemblies (9 through 16, Figure 3-7), as shown in Figure 2-11, to 5k tiedown rings on the helicopter floor. Use centerline ring plug assemblies (24, Figure 3-2).

(3) Position inboard guide/roller assembly, stations 272.313 to 377.188 (10) on B.L. 0.000 directly behind inboard guide/roller assembly, stations 157.750 to 272.188 (9).

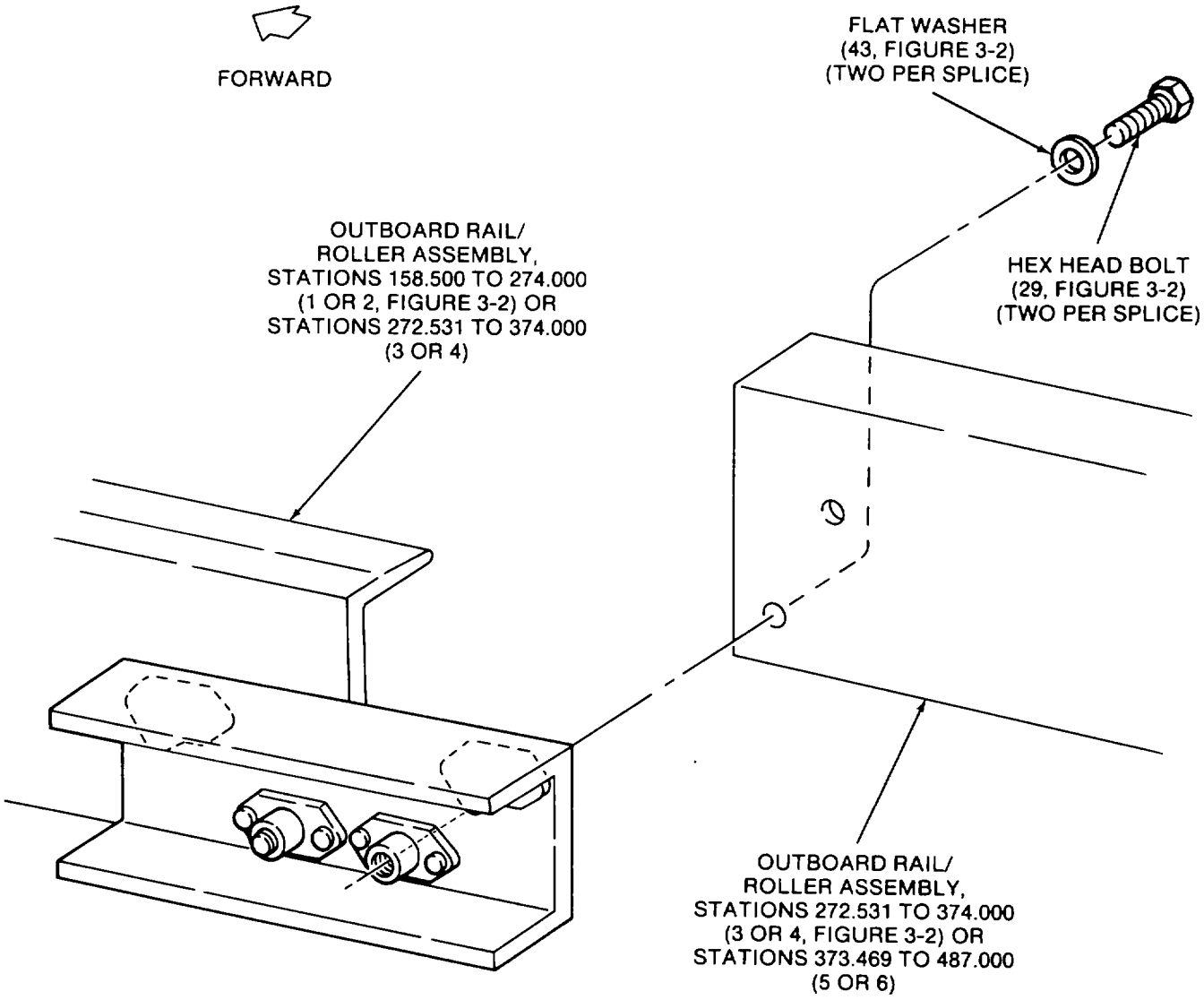
(4) Connect three tiedown assemblies (45 through 60, Figure 3-8), as shown in Figure 2-11, to 5k tiedown fitting assemblies (21, Figure 3-2) on the helicopter floor. Use centerline ring plug assemblies (24).

(5) Position inboard guide/roller assembly, stations 377.313 to 427.188 (11) on B.L. 0.000 directly behind inboard guide/roller assembly, stations 272.313 to 377.188 (10).

(6) Connect two tiedown assemblies (40 through 47, Figure 3-9), as shown in Figure 2-11), to 5k tiedown fitting assemblies (21, Figure 3-2) on the helicopter floor. Use centerline ring plug assemblies (24, Figure 3-2).

(7) Position inboard guide/roller assembly, stations 427.375 to 487.000 (12) on B.L. 0.000 directly behind inboard guide/roller assembly, stations 377.313 to 427.188 (11).

(8) Connect two tiedown assemblies (55 through 62 and 66 through 73, Figure 3-10), as shown in Figure 2-11, to 5k tiedown fitting assemblies (21, Figure 3-2) on the helicopter floor. Use centerline ring plug assemblies (24).



NOTE

LEFT SIDE SHOWN.
RIGHT SIDE OPPOSITE.

Figure 2-7. Typical Splice Connection

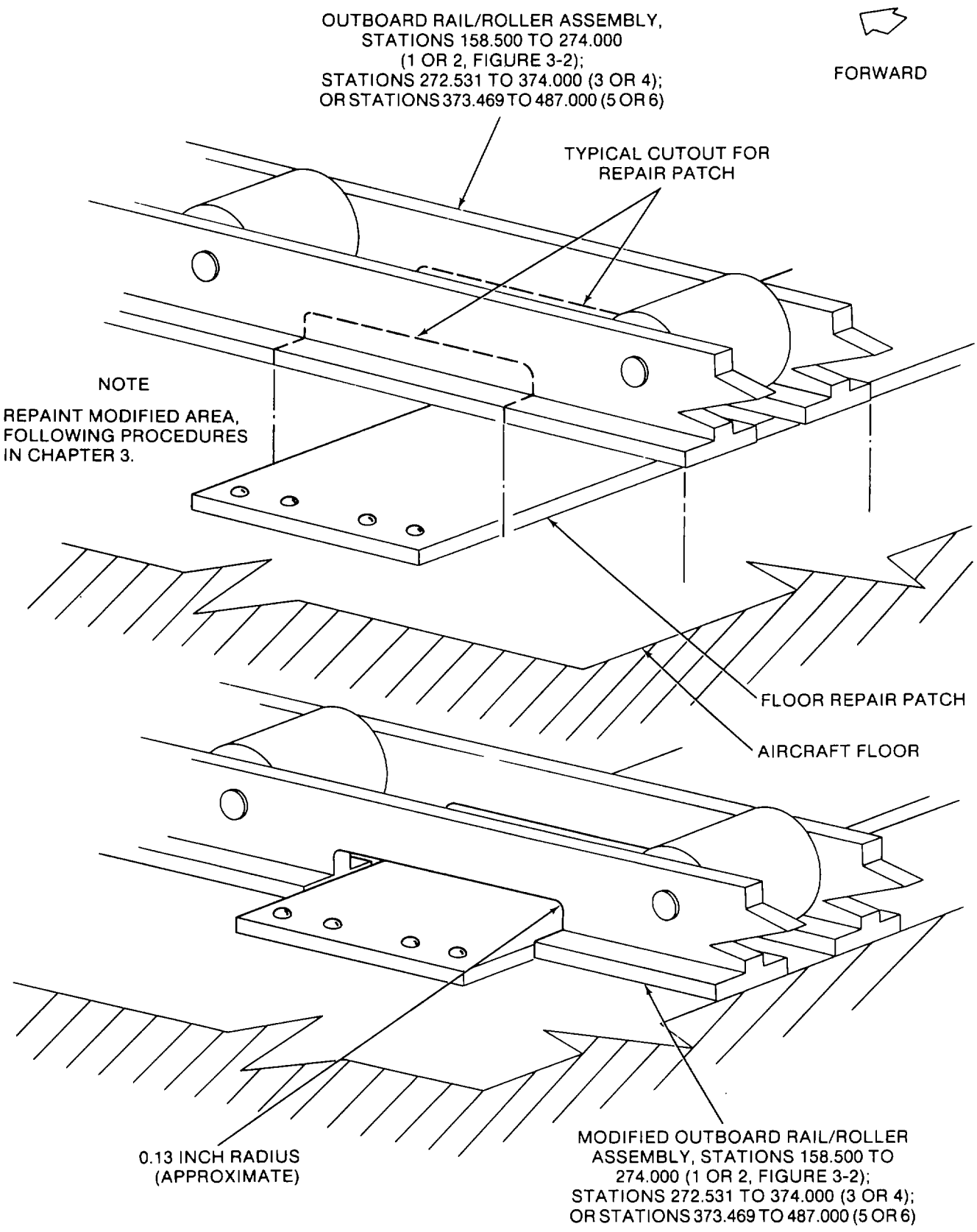


Figure 2-8. Rail Modifications Required for Floor Repair Patches

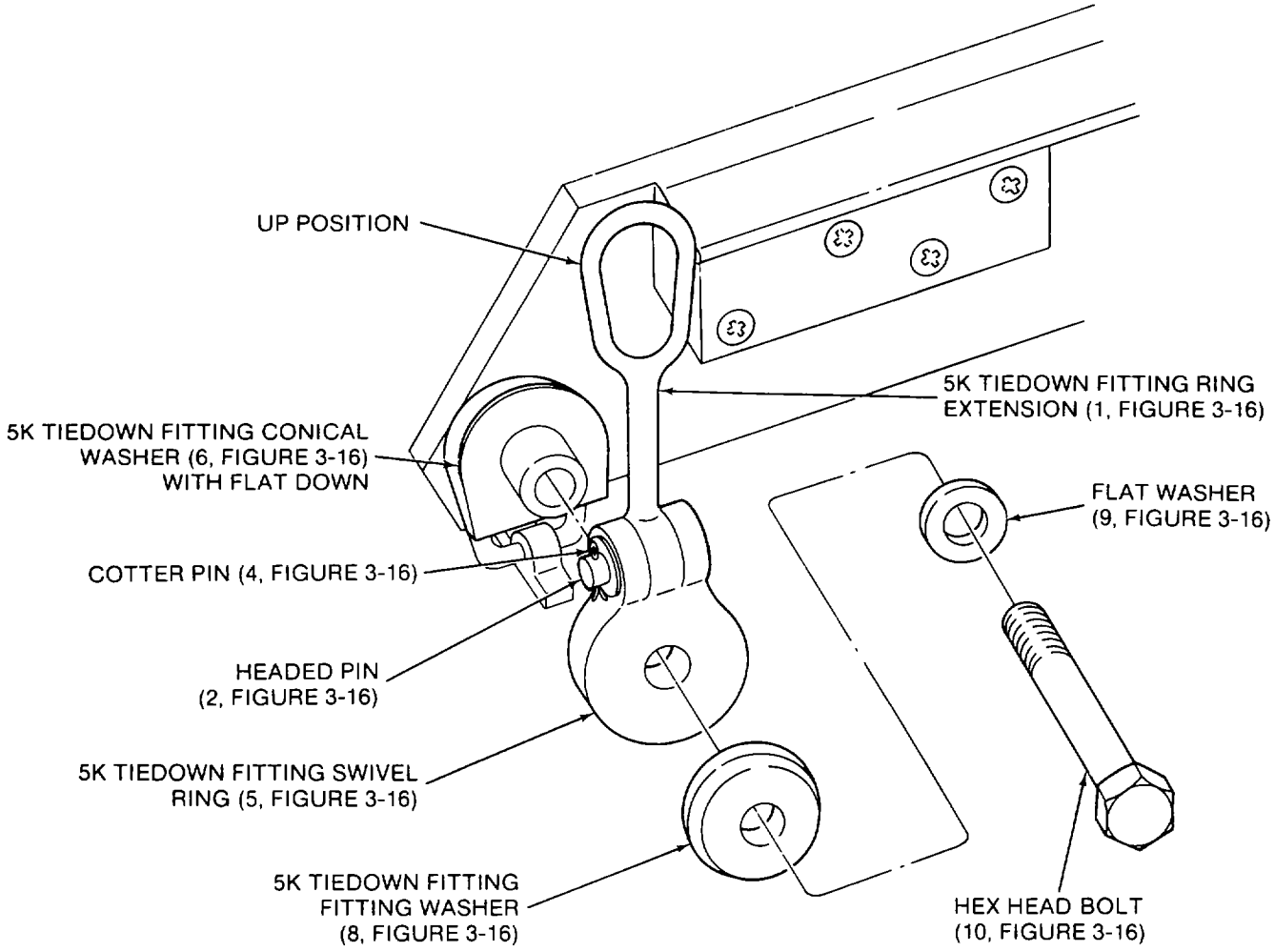


Figure 2-9. 5k Tiedown Fitting Assembly Installation

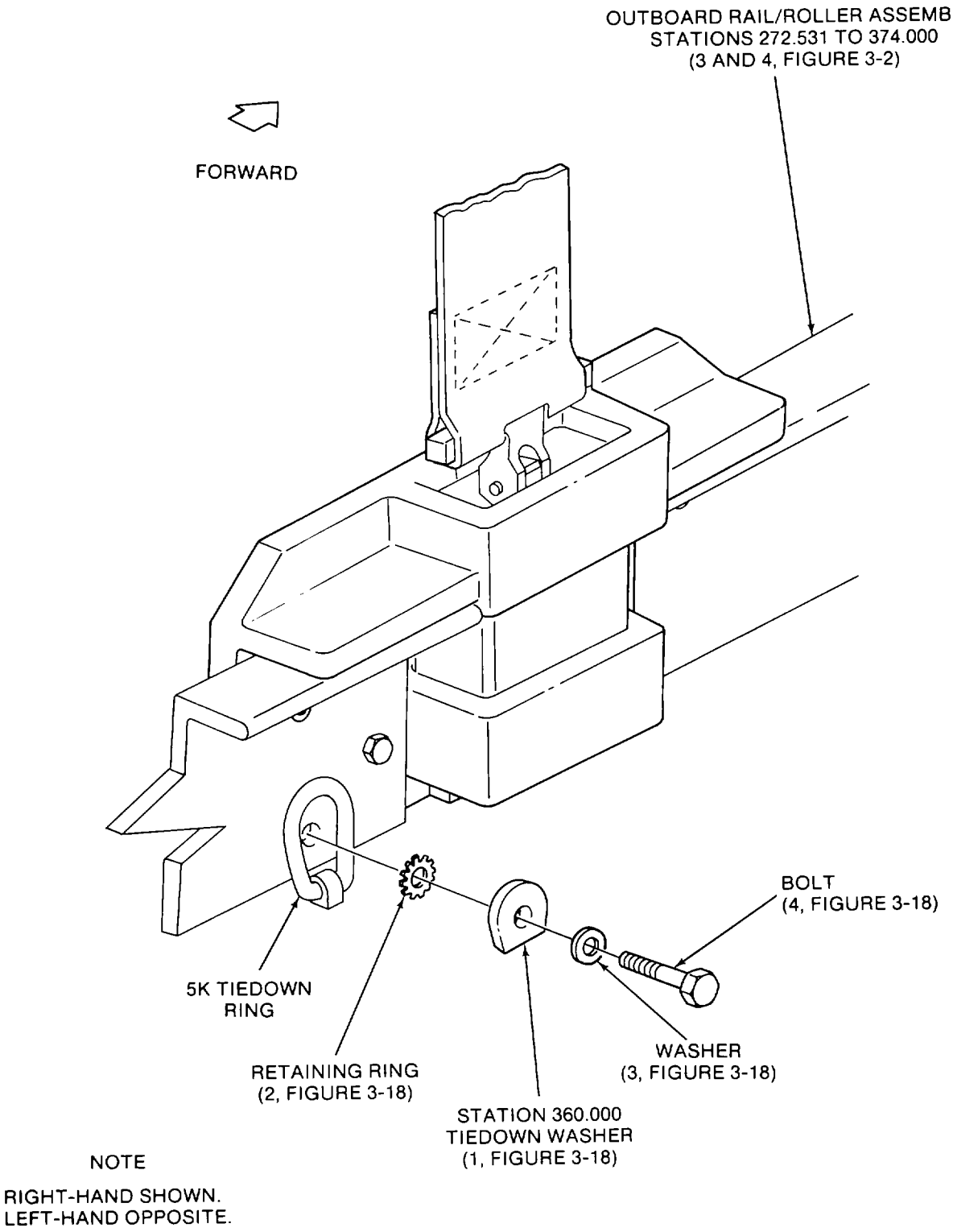


Figure 2-10. Connecting Outboard Rail/Roller Assemblies at Station 360.000

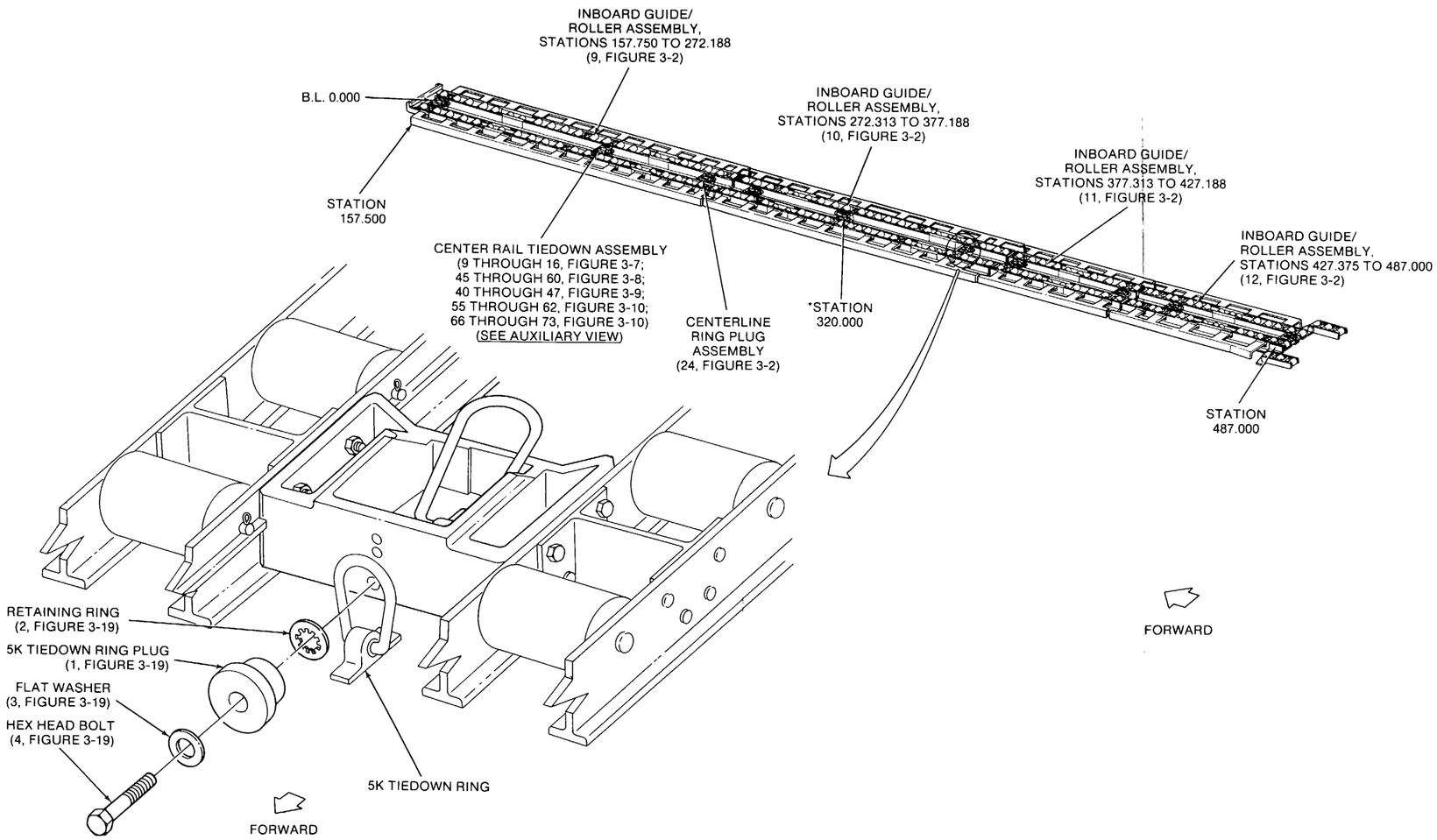


Figure 2-11. Installing Inboard Guide/Roller Assemblies

. Install the ramp as follows:

a. Installation Preparation. Extend the ramp tongue to gain access to the four screws that attach the center skid pad (Figure 2-12).

NOTE

Step 2-9a.(1) will require two persons. Also, it requires that the screw heads be fully cleaned of any dirt, etc., in order to prevent slippage due to the awkward position.

(1) One person must clean screw heads and hold the screwdriver (Figure 2-13) while resting on the ramp floor. At the same time, the second person must be under the ramp using a suitable wrench to remove the nuts securing the center skid pad. Retain the hardware removed for reuse during the installation procedure.

(2) Refer to Figure 2-14. Remove fifteen bolts shown from the outboard left side of the helicopter ramp floor. These locations will be used to secure left-hand ramp guide rail/roller assembly (7, Figure 3-2) and transition roller assembly rest plate (25). Place the removed bolts in storage.

(3) Refer to Figure 2-14. Remove the symmetrically opposite fifteen bolts located on the right side of the helicopter ramp floor. These locations will be used to secure right-hand ramp guide rail/roller assembly (8, Figure 3-2) and transition roller assembly rest plate (25). Also place the removed bolts in storage.

(4) Refer to Figure 2-15. Remove 12 bolts shown from the left center area of the helicopter ramp floor. These locations will be used to secure left-hand inboard ramp roller assembly (13, Figure 3-2) and one end of forward ramp center roller mounting bar assembly (16) and aft ramp center roller mounting bar assembly (17). Place the removed bolts in storage.

(5) Refer to Figure 2-15. Remove the symmetrically opposite 12 bolts located in the right center area of the helicopter ramp floor. These locations will be used to secure right-hand inboard ramp roller assembly (14, Figure 3-2) and one end of forward ramp center roller mounting bar assembly (16) and aft ramp center roller mounting bar assembly (17). Place the removed bolts in storage.

2-9. System Installation - Ramp

NOTE

Figure 2-16 illustrates the system components and the ramp extension components to be installed on the helicopter ramp. Also, refer to Figure 2-17, 2-18 and 2-19 for locations to install the bolts removed during aircraft preparation (para 2-9), securing these components.

b. Left- and Right-Hand Ramp Guide Rail/Roller Assemblies. Install left-hand Install left-hand ramp guide rail/roller assembly (7, Figure 3-2) and right-hand ramp guide rail/ roller assembly (8) as follows:

(1) Position left- and right-hand ramp guide rails (12, Figure 3-6) on B.L. 41.577 (10 bolts) and B.L. 41.432 (two bolts) (Figure 2-17). Make sure that the bolt holes are aligned with the holes from which bolts were removed in Figure 2-14.

(2) Attach left- and right-hand ramp guide rails (12, Figure 3-6) to the helicopter ramp floor. Use one hex head bolt (32, Figure 3-2) and one flat washer (33) at the most forward bolt location on each ramp guide rail along B.L. 41.432.

(3) Secure left- and right-hand ramp guide rails (12, Figure 3-6) at the remaining bolt locations. Use 11 hex head bolts (30, Figure 3-2) and flat washers (31, Figure 3-2).

(4) Position transition roller assembly rest plates (25) on the three holes located at or near B.L. 32.026 on each side of the helicopter ramp. Secure the rest plates to the floor. Use six countersunk bolts (34). Fit bolts loosely before tightening. Use three bolts per pad.

c. Forward and Aft Ramp Center Roller Mounting Bar Assemblies. Install forward ramp center roller mounting bar assembly (16, Figure 3-2) and aft ramp center roller mounting bar assembly (17) as follows:

(1) Position forward and aft ramp center roller mounting bar assemblies (16, and 17, Figure 3-2) on B.L. 17.587 (Figure 2-18) over the bolt locations from which bolts were removed (para 2-9a.(4) and 2-9a.(5)).

(2) Secure forward and aft ramp center roller mounting bar assemblies (16 and 17) to the helicopter ramp floor. Use four hex head bolts (38) and flat washers (31).

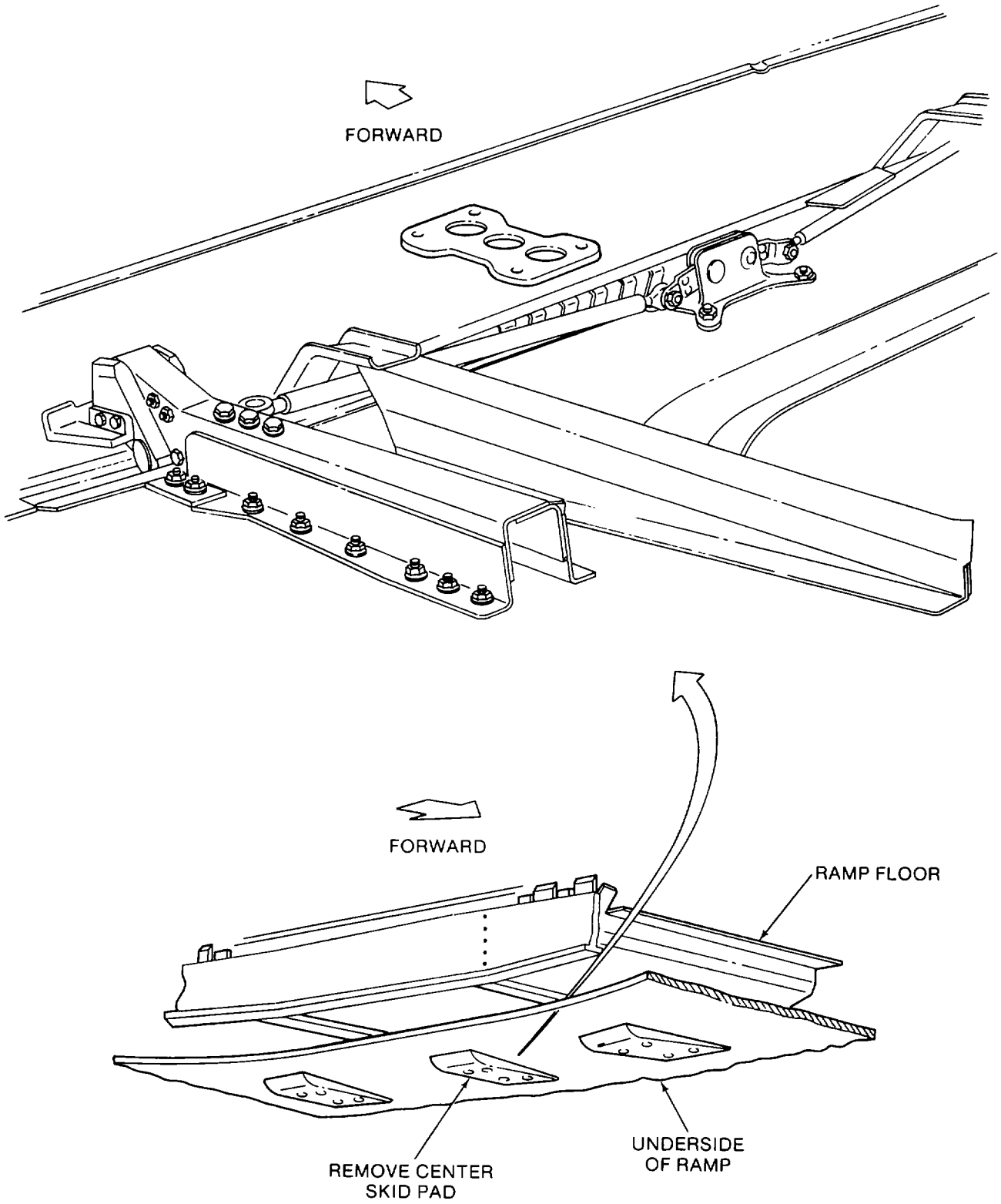


Figure 2-12. Center Skid Pad Location

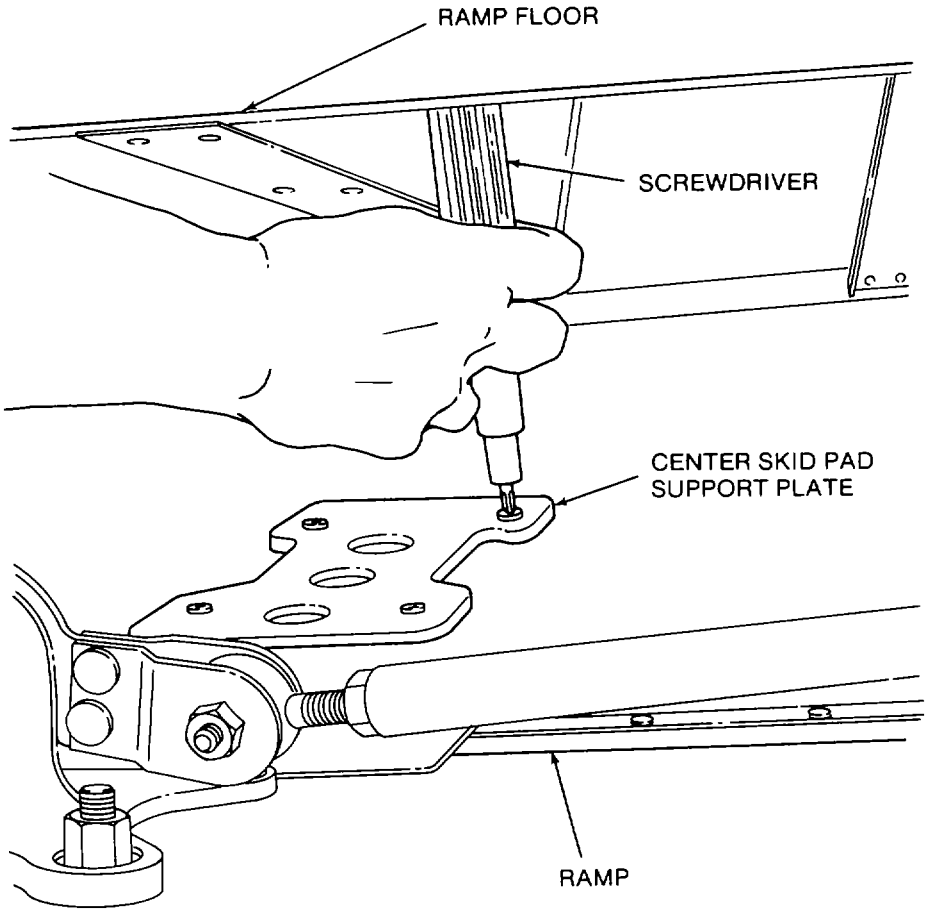


Figure 2-13. Screwdriver Location to Hold Center Skid Pad Screw Head

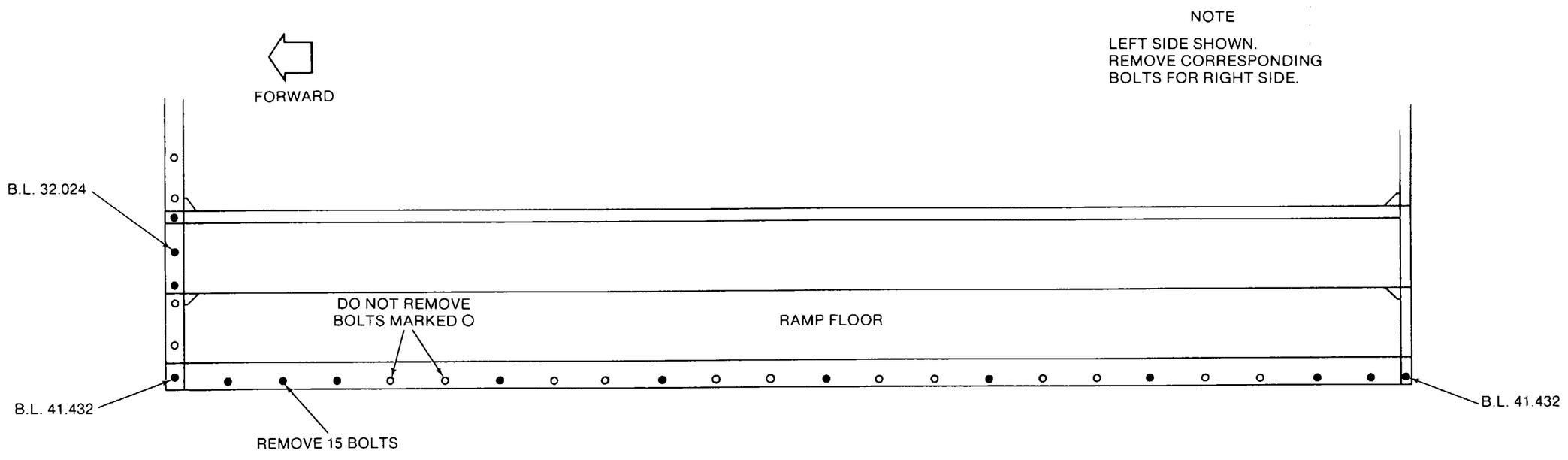


Figure 2-14. Outboard Ramp Bolt Removal Locations

LEGEND

● INDICATES LOCATION OF REMOVED BOLTS (12) TOTAL
o INDICATES LOCATION OF BOLTS NOT REMOVED

NOTE

LEFT SIDE SHOWN. REMOVE CORRESPONDING BOLTS FOR RIGHT SIDE.

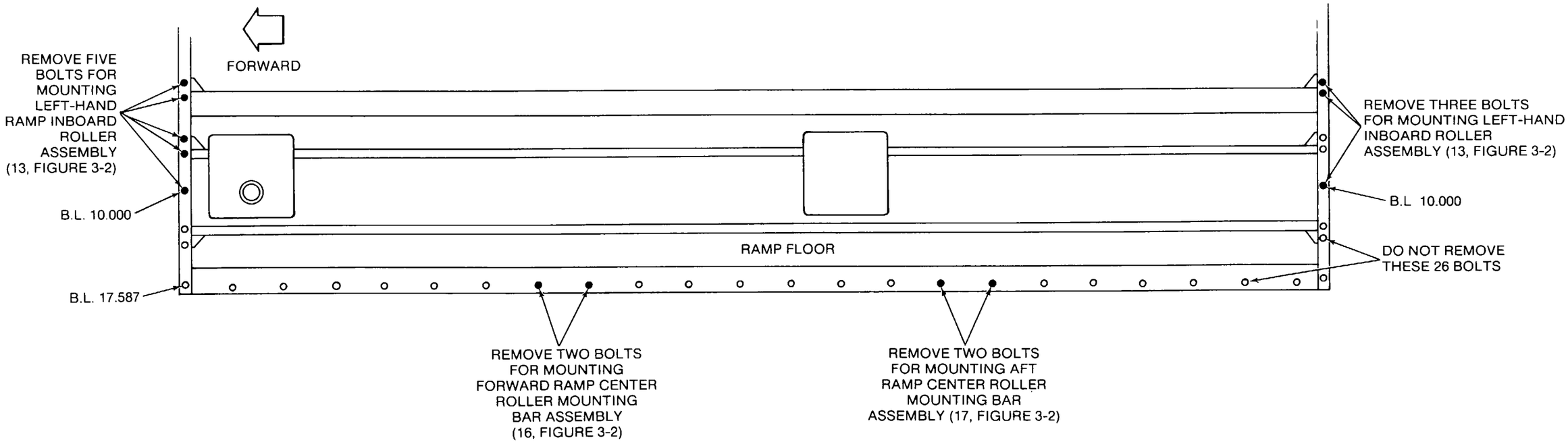


Figure 2-15. Left and Right-Hand Ramp Inboard Roller Assembly and Forward and Aft Center Roller Mounting Bar Bolt Removal Locations

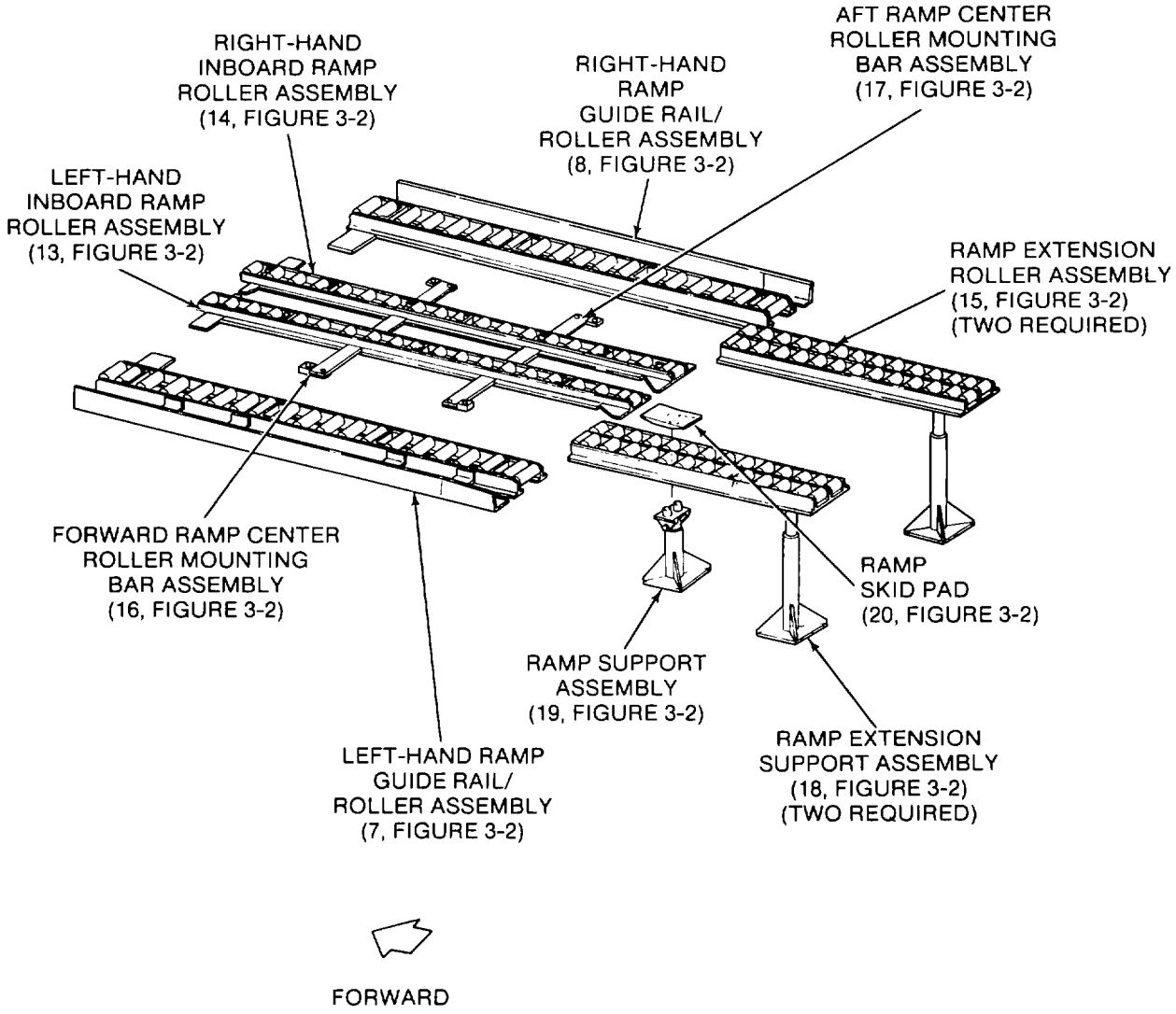


Figure 2-16. System Components Installed on Ramp

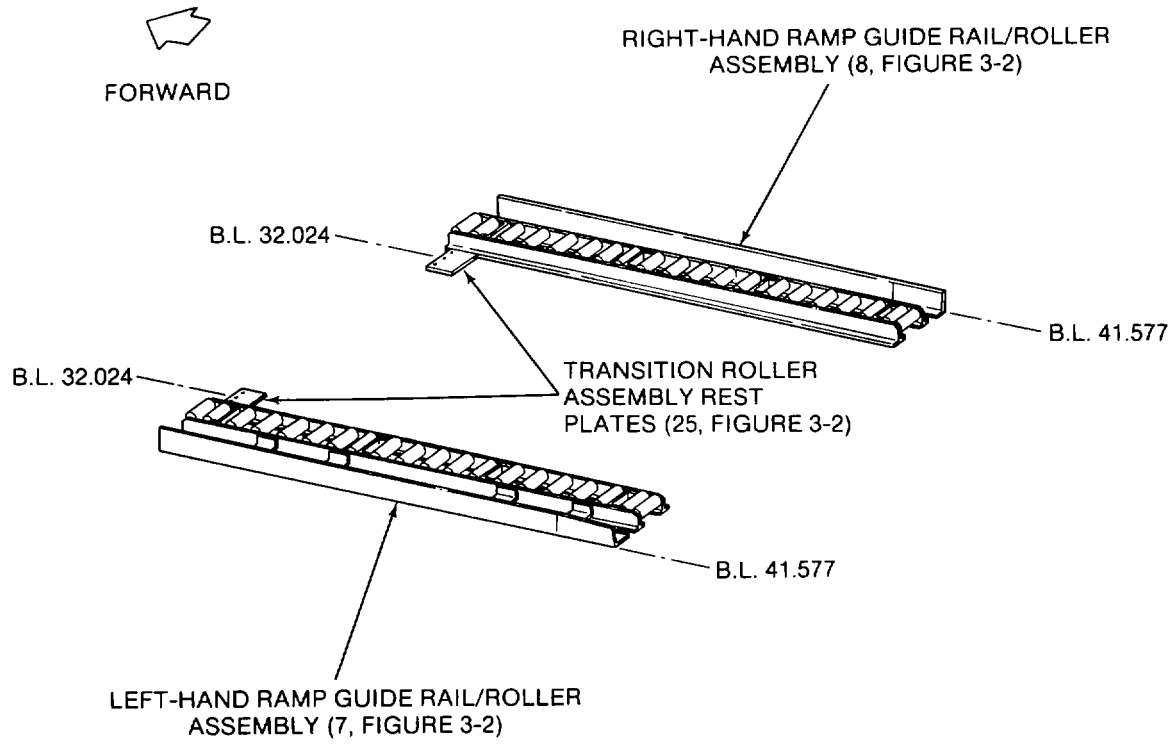


Figure 2-17. Locating Ramp Guide Rail/Roller Assemblies

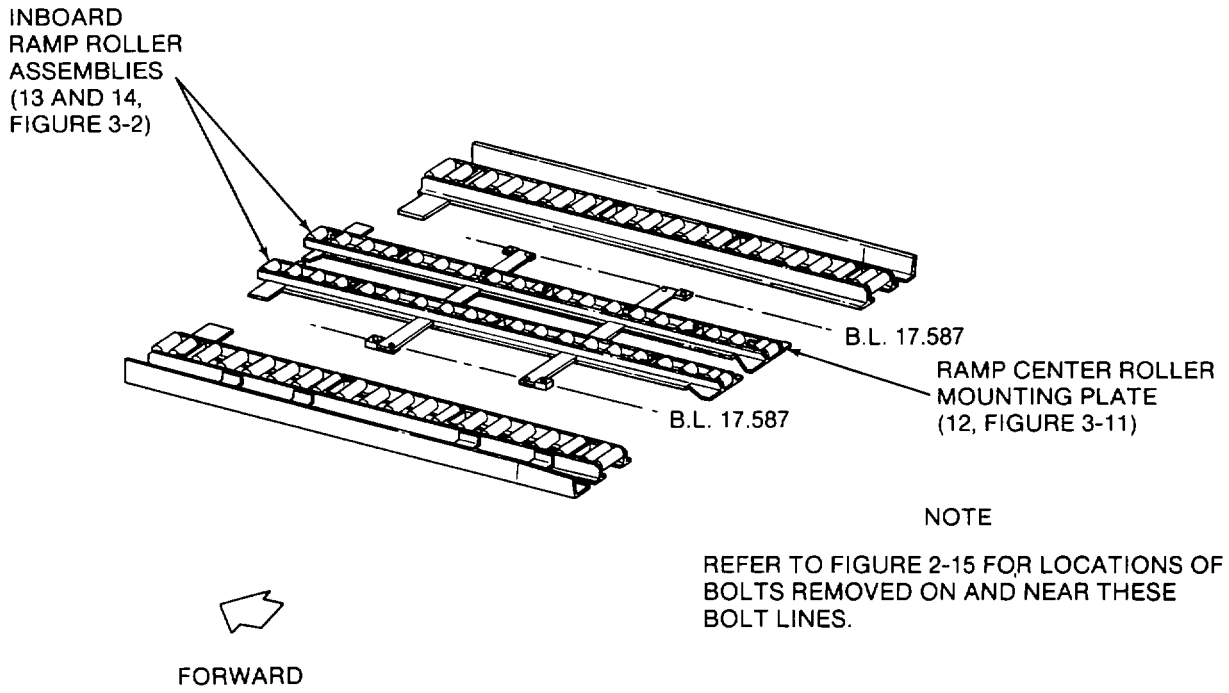


Figure 2-18. Locating Forward and Aft Ramp Center Roller Mounting Bar Assemblies and Inboard Ramp Roller Assemblies

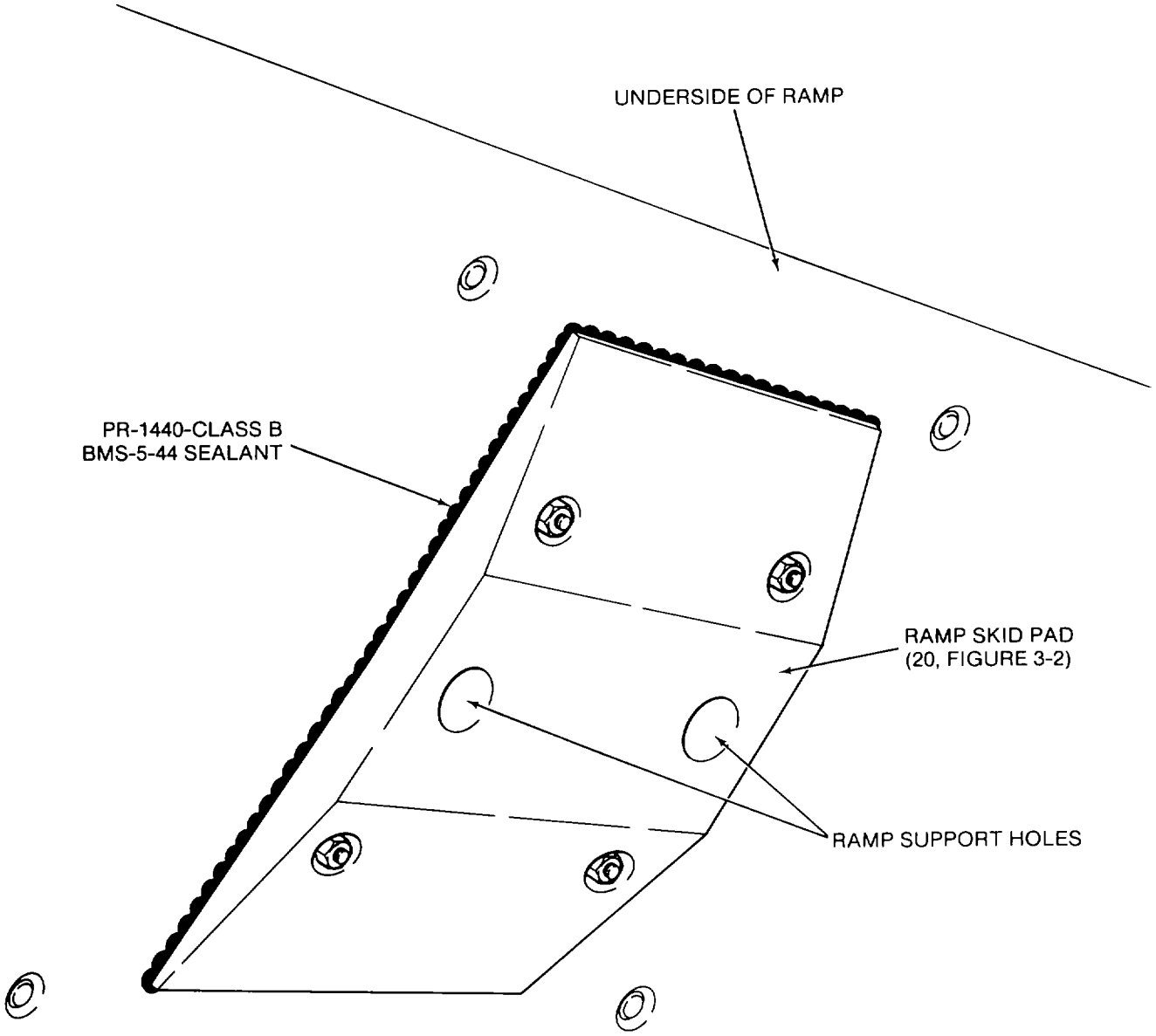


Figure 2-19. Ramp Skid Pad Installation

d. Left- and Right-Hand Inboard Ramp Roller Assemblies. Install left- and right-hand inboard ramp roller assemblies (13 and 14) as follows:

(1) Position left and right-hand inboard ramp roller assemblies as shown in Figure 2-18 over the locations from which bolts were removed (para 2-9a.(4) and 2-9a.(5)).

(2) Install one countersunk bolt (27, Figure 3-2) at or near B.L. 10.000 through ramp center roller mounting plate (10, Figure 3-11) at transition roller assembly, station 486.625 (19 and 45, Figure 3-10), for each inboard ramp roller assembly (13 and 14, Figure 3-2).

(3) Install two hex head bolts (35) and flat washers (42) at B.L. 7.186 and B.L. 6.057 through ramp center roller mounting plate (10, Figure 3-11) at each inboard ramp roller assembly (13 and 14, Figure 3-2).

(4) Install two hex head bolts (32) and flat washers (42) through the remaining holes in each ramp center roller mounting plate (10, Figure 3-11).

(5) Install three hex head bolts (30, Figure 3-2) and flat washers (31) to secure each ramp center roller mounting plate (12, Figure 3-11) to the helicopter ramp floor.

(6) Attach each inboard ramp roller assembly (13 and 14, Figure 3-2) to forward and aft ramp center roller mounting bar assemblies (16 and 17). Use two hex head bolts (36), flat washers (33) and self-locking nuts (37). Make certain that the flat washers are used under the component which turns, either the nut or bolt.

e. Ramp Skid Pad. Install ramp skid pad (20, Figure 3-2) as follows:

(1) Refer to steps 2-9a. and 2-9a.(1) and Figure 2-13 to gain access to screw locations.

(2) Install ramp skid pad (20, Figure 3-2) as shown in Figure 2-19, using previously removed hardware. Seal ramp skid pad periphery with (PR-1440-Class B) BMS-5-44 Sealant.

2-10. System Installation - Ramp Extension Roller Assembly. Install ramp extension roller assemblies (15, Figure 3-2) as follows:

a. Ramp Extension Roller Assemblies. Install ramp extension roller assemblies (15, Figure 3-2) as follows:

(1) Position a ramp extension roller assembly (15) on the left ramp extension. Make sure that six quick-release pins (1, Figure 3-12) engage the holes drilled in paragraph 2-7 as shown in Figure 2-20.

(2) Install the remaining ramp extension roller assembly (15, Figure 3-2) on right ramp extension as described in paragraph 2-10b.(l).

b. Ramp and Ramp Extension Support Assemblies. Install ramp support assembly (19, Figure 3-2) and ramp extension support assembly (18) as follows:

(1) Refer to Figures 2-21 and 2-22 and position ramp support assembly (19, Figure 3-2) so that index support ramp support weldment (1, Figure 3-15) engages both ramp support holes in ramp skid pad (20, Figure 3-2). Adjust support assembly to the proper height.

(2) Refer to Figures 2-21 and 2-22 and position a ramp extension support assembly (18, Figure 3-2) under each ramp extension roller assembly (15) so that ramp extensions support index support (1, Figure 3-14) is engaged. Ensure that FWD/AFT marking on support assembly is oriented parallel with aircraft centerline.

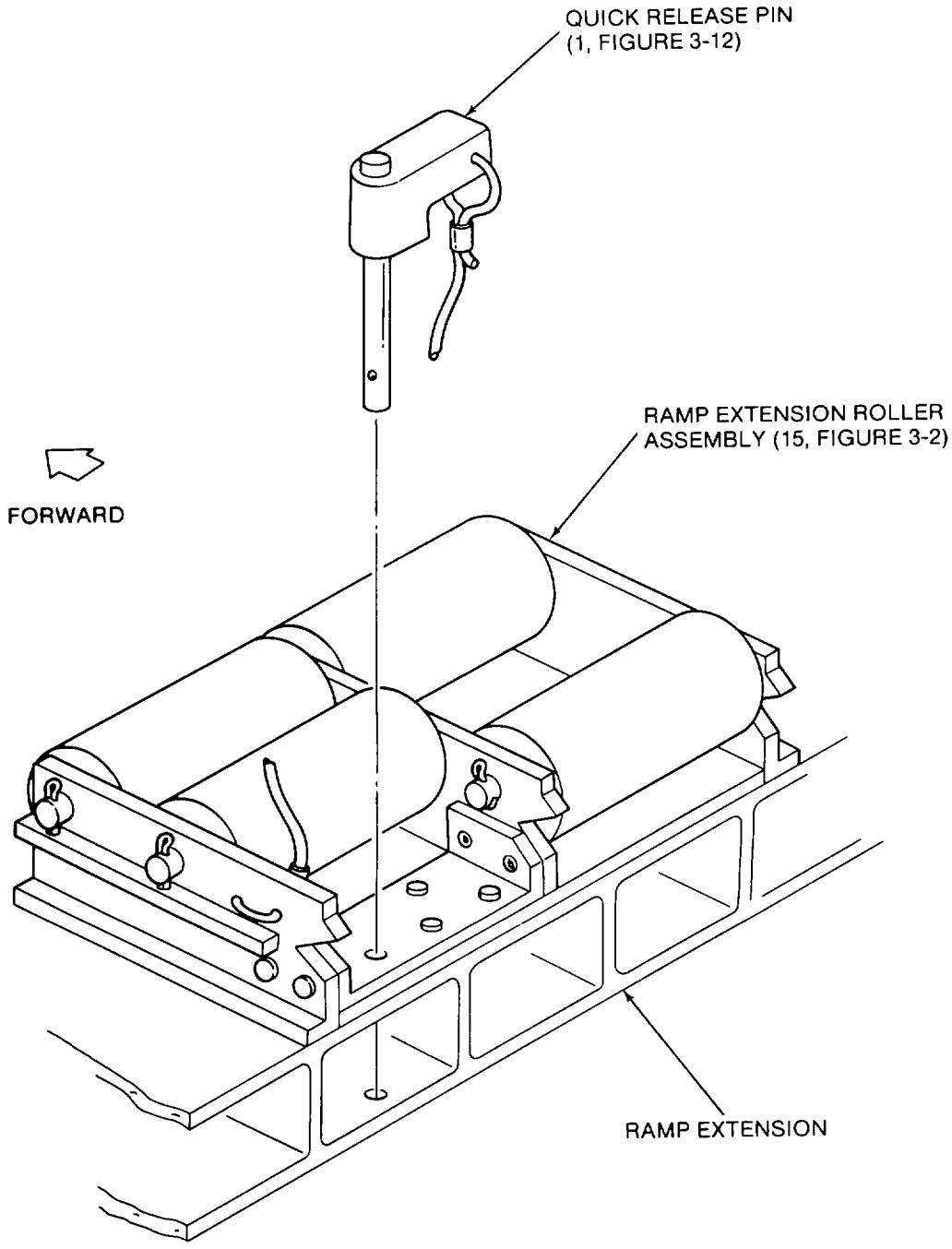


Figure 2-20. Installation of Ramp Extension Roller Assembly

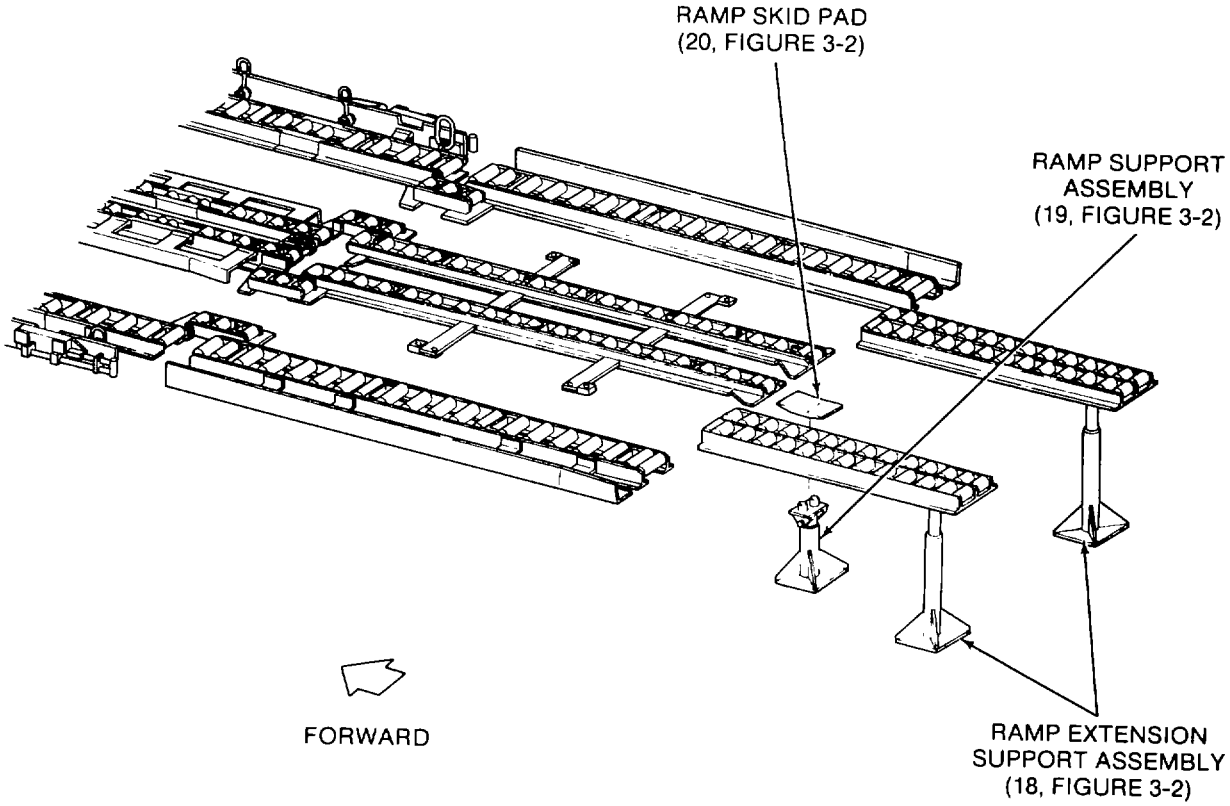


Figure 2-21. Location of Ramp Support Assemblies

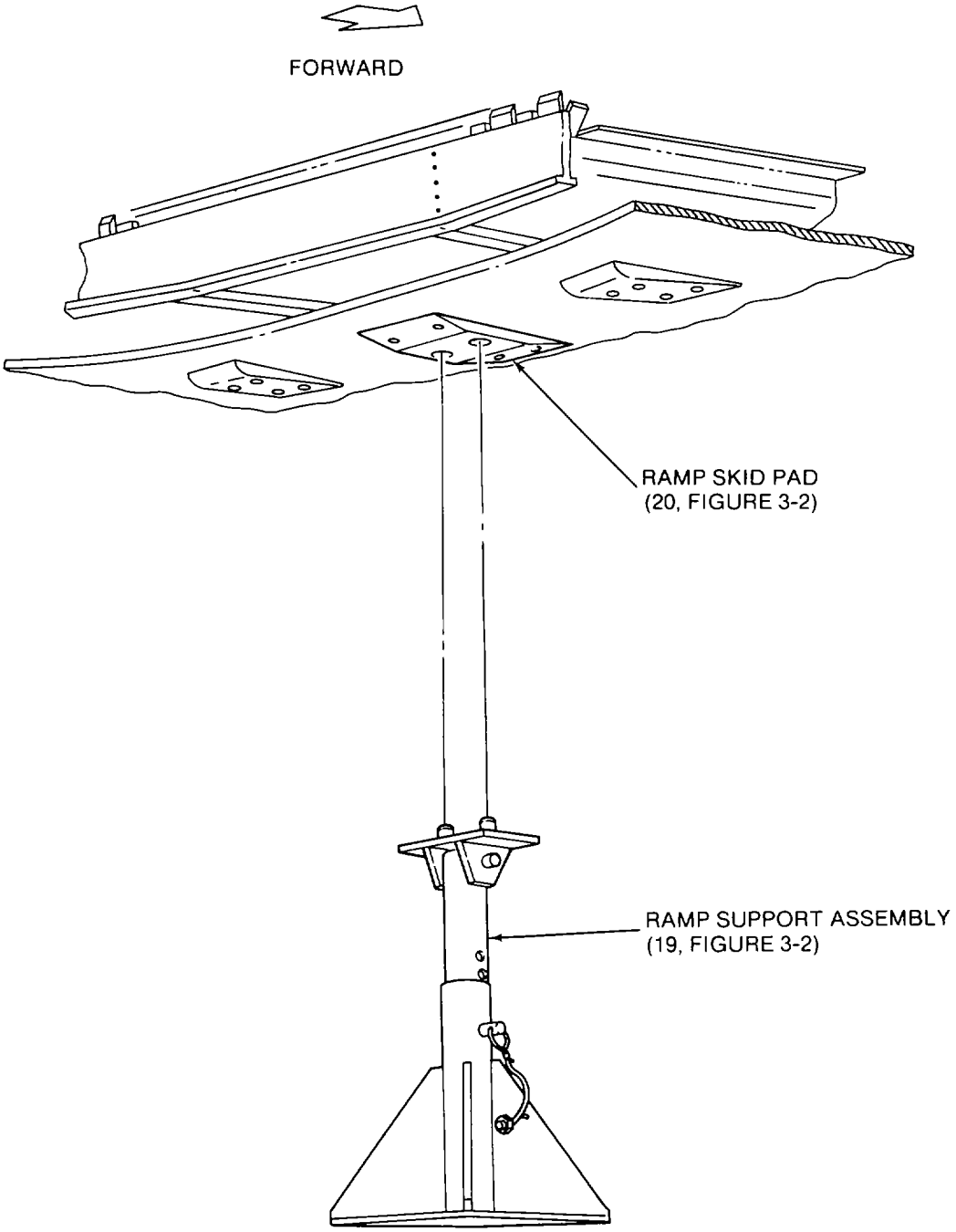


Figure 2-22. Installation of Ramp Support Assembly

SECTION IV
OPERATING INSTRUCTIONS

2-11. Cargo Handling. The Helicopter Internal Cargo Handling System can be used for a variety of cargo.

a. Cargo Range. Cargo that can be handled by the Helicopter Internal Cargo Handling System is listed in Table 2-4. A mixture of pallets, personnel and/or vehicles may be combined. However, all cargo must be properly restrained to ensure safe operation of the helicopter and the safety of personnel. Loads must be restrained in accordance with procedures and guidelines set out in TM55-450-15, Air Movement of Troops and Equipment (Nontactical) HQ DA June 1971 and TM55-450-18, Internal and External Loads, CH47 Helicopter, HQ DA August 1970.

b. Load. Total load must always be within the normal weight and center-of-gravity limits as specified in the operational technical orders.

2-12. System Configurations. The Helicopter Internal Cargo Handling System can be placed in any one of four configurations. These are loading, restraint, flight and unloading. Refer to Tables 2-5, 2-6 and 2-7 for the configurations applicable to 463L Pallets, Warehouse Pallets and Wheeled Vehicles. To accomplish the configurations described above and in the referenced tables, several components must be set in a predetermined position. These components are listed below in conjunction with the illustration that defines the component location and/or position.

(1) Outboard Rail/Roller Assemblies, Stations 158.500 to 274.000, 272.531 to 374.000, and 373.469 to 487.000 - Figure 2-23.
(2) Inboard Center Rail Guide - Figure 2-24.
(3) Ramp Support Assembly - Figure 2-25.
(4) Pallet Lock Assembly - Figure 2-26.
(5) Retractable Flange Assembly - Figure 2-26.
(6) 10k Fitting Assembly - Figure 2-27.
(7) 5k Tiedown Fitting Assembly - Figure 2-28.

Table 2-4. Applicable Cargo

Type of Cargo	Quantity
HCU-6/E (88 x 108 inches)	3
HCU-12/E or HCU-10/C (54 x 88 inches)	6
Warehouse wooden pallets (40 x 48 inches)	8-10***
Wheeled vehicles	*
Miscellaneous (TOW, Hellfire, etc.) equipment (pallet or skid mounted)	*
Personnel	**

* Quantity dependent on size and helicopter capacity.
** System does not provide for personnel transport but it is compatible with personnel.
*** Quantity dependent on pallet weight.

NOTE

A suitable mix of the above cargo can be handled as required.

Table 2-5. 463L Pallet Configurations

Configuration	Component	Comment
Load	Outboard Rail/Roller Assemblies, Stations 158.500 to 274.000 (1 and 2, Figure 3-2), Stations 272.531 to 374.000 (3 and 4) and Stations 373.469 to 487.000 (5 and 6)	Down
	Inboard Center Guide Rails (5 and 21, Figure 3-7; 65 and 68, Figure 3-8; 37 and 39, Figure 3-9; and 53 and 74, Figure 3-10)	Down
	Ramp Support Assemblies (19, Figure 3-2)/Ramp Extension Support Assemblies (18, Figure 3-2)	In Place as Required
	Ramp Extension/Ramp Extension Roller Assemblies (15)	In Place as Required
	Pallet Lock Assemblies (62, Figure 3-3 and 30, Figure 3-4)	Up (Unlock)
	Retractable Flange Assemblies (43, Figure 3-5)	Rotate Outboard (Unlock)
	Ramp Guide Rail/Roller Assemblies (7 and 8, Figure 3-2)	----
	5k Tiedown Fitting Assemblies (21, Figure 3-2) and 10k Fitting Assemblies (22)	Down (Stowed Position)
Restraint	Outboard Rail/Roller Assemblies, Stations 158.500 to 274.000 (1 and 2, Figure 3-2), Stations 272.531 to 374.000 (3 and 4) and Stations 373.469 to 487.000 (5 and 6)	----
	Inboard Center Guide Rails (5 and 21, Figure 3-7; 65 and 68, Figure 3-8; 37 and 39, Figure 3-9; and 53 and 74, Figure 3-10)	----
	Ramp Support Assemblies (19, Figure 3-2)/Ramp Extension Support Assemblies (18, Figure 3-2)	----
	Ramp Extension/Ramp Extension Roller Assemblies (15)	----
	Pallet Lock Assemblies (62, Figure 3-3 and 30, Figure 3-4)	Down (Locked)
	Retractable Flange Assemblies (43, Figure 3-5)	Rotate Inboard (Locked)
	5k Tiedown Fitting Assemblies (21, Figure 3-2) and 10k Fitting Assemblies (22)	
	Ramp Guide Rail/Roller Assemblies (7 and 8, Figure 3-2)	----
Flight	Outboard Rail/Roller Assemblies, Stations 158.500 to 274.000 (1 and 2, Figure 3-2), Stations 272.531 to 374.000 (3 and 4) and Stations 373.469 to 487.000 (5 and 6)	----

Table 2-5. 463L Pallet Configurations - Continued

Configuration	Component	Comment
Flight (Continued)	Inboard Center Guide Rails (5 and 21, Figure 3-7; 65 and 68, Figure 3-8; 37 and 39, Figure 3-9; and 53 and 74, Figure 3-10)	----
	Ramp Support Assemblies (19, Figure 3-2)/Ramp Extension Support Assemblies (18, Figure 3-2)	Stow in Helicopter
	Ramp Extension/Ramp Extension Roller Assemblies (15)	Rotate Ramp Extension on Ramp, Rollers on Underside (Stowed Position)
	Pallet Lock Assemblies (62, Figure 3-3 and 30, Figure 3-4)	----
	Retractable Flange Assemblies (43, Figure 3-5)	----
	5k Tiedown Fitting Assemblies (21, Figure 3-2) and 10k Fitting Assemblies (22)	----
	Ramp Guide Rail/Roller Assemblies (7 and 8, Figure 3-2)	----
Unload	Outboard Rail/Roller Assemblies, Stations 158.500 to 274.000 (1 and 2, Figure 3-2), Stations 272.531 to 374.000 (3 and 4) and Stations 373.469 to 487.000 (5 and 6)	----
	Inboard Center Guide Rails (5 and 21, Figure 3-7; 65 and 68, Figure 3-8; 37 and 39, Figure 3-9; and 53 and 74, Figure 3-10)	----
	Ramp Support Assemblies (19, Figure 3-2)/Ramp Extension Support Assemblies (18, Figure 3-2)	In Place as Required
	Ramp Extension/Ramp Extension Roller Assemblies (15)	In Place as Required
	Pallet Lock Assemblies (62, Figure 3-3 and 30, Figure 3-4)	Up (Unlock)
	Retractable Flange Assemblies (43, Figure 3-5)	Rotate Outboard (Unlock)
	5k Tiedown Fitting Assemblies (21, Figure 3-2) and 10k Fitting Assemblies (22)	----
	Ramp Guide Rail/Roller Assemblies (7 and 8, Figure 3-2)	----

Table 2-6. Warehouse Pallet Configurations

Configuration	Component	Comment
Load	Outboard Rail/Roller Assemblies, Stations 158.500 to 274.000 (1 and 2, Figure 3-2), Stations 272.531 to 374.000 (3 and 4) and Stations 373.469 to 487.000 (5 and 6)	Down
	Inboard Center Guide Rails (5 and 21, Figure 3-7; 65 and 68, Figure 3-8; 37 and 39, Figure 3-9; and 53 and 74, Figure 3-10)	Up
	Ramp Support Assemblies (19, Figure 3-2)/Ramp Extension Support Assemblies (18, Figure 3-2)	In Place as Required
	Ramp Extension/Ramp Extension Roller Assemblies (15)	In Place as Required
	Pallet Lock Assemblies (62, Figure 3-3 and 30, Figure 3-4)	Down (Locked)
	Retractable Flange Assemblies (43, Figure 3-5)	Rotate Inboard (Unlock)
	5k Tiedown Fitting Assemblies (21, Figure 3-2) and 10k Fitting Assemblies (22)	Up
	Ramp Guide Rail/Roller Assemblies (7 and 8, Figure 3-2)	----
Restraint	Outboard Rail/Roller Assemblies, Stations 158.500 to 274.000 (1 and 2, Figure 3-2), Stations 272.531 to 374.000 (3 and 4) and Stations 373.469 to 487.000 (5 and 6)	----
	Inboard Center Guide Rails (5 and 21, Figure 3-7; 65 and 68, Figure 3-8; 37 and 39, Figure 3-9; and 53 and 74, Figure 3-10)	----
	Ramp Support Assemblies (19, Figure 3-2)/Ramp Extension Support Assemblies (18, Figure 3-2)	----
	Ramp Extension/Ramp Extension Roller Assemblies (15)	----
	Pallet Lock Assemblies (62, Figure 3-3 and 30, Figure 3-4)	----
	Retractable Flange Assemblies (43, Figure 3-5)	----
	5k Tiedown Fitting Assemblies (21, Figure 3-2) and 10k Fitting Assemblies (22)	Using Straps, Secure Cargo to 5k Tiedown Fitting Assemblies and 10k Fitting Assemblies
	Ramp Guide Rail/Roller Assemblies (7 and 8, Figure 3-2)	----
Flight	Outboard Rail/Roller Assemblies, Stations 158.500 to 274.000 (1 and 2, Figure 3-2), Stations 272.531 to 374.000 (3 and 4) and Stations 373.469 to 487.000 (5 and 6)	----

Table 2-6. Warehouse Pallet Configurations - Continued

Configuration	Component	Comment
Flight (Continued)	Inboard Center Guide Rails (5 and 21, Figure 3-7; 65 and 68, Figure 3-8; 37 and 39, Figure 3-9; and 53 and 74, Figure 3-10)	----
	Ramp Support Assemblies (19, Figure 3-2)/Ramp Extension Support Assemblies (18, Figure 3-2)	Stow in Aircraft
	Ramp Extension/Ramp Extension Roller Assemblies (15)	Rotate Ramp Extension on Ramp, Roller Assemblies on Underside
	Pallet Lock Assemblies (62, Figure 3-3 and 30, Figure 3-4)	----
	Retractable Flange Assemblies (43, Figure 3-5)	----
	5k Tiedown Fitting Assemblies (21, Figure 3-2) and 10k Fitting Assemblies (22)	----
	Ramp Guide Rail/Roller Assemblies (7 and 8, Figure 3-2)	----
Unload	Outboard Rail/Roller Assemblies, Stations 158.500 to 274.000 (1 and 2, Figure 3-2), Stations 272.531 to 374.000 (3 and 4) and Stations 373.469 to 487.000 (5 and 6)	----
	Inboard Center Guide Rails (5 and 21, Figure 3-7; 65 and 68, Figure 3-8; 37 and 39, Figure 3-9; and 53 and 74, Figure 3-10)	----
	Ramp Support Assemblies (19, Figure 3-2)/Ramp Extension Support Assemblies (18, Figure 3-2)	In Place as Required
	Ramp Extension/Ramp Extension Roller Assemblies (15)	In Place as Required
	Pallet Lock Assemblies (62, Figure 3-3 and 30, Figure 3-4)	----
	Retractable Flange Assemblies (43, Figure 3-5)	----
	5k Tiedown Fitting Assemblies (21, Figure 3-2) and 10k Fitting Assemblies (22)	----
	Ramp Guide Rail/Roller Assemblies (7 and 8, Figure 3-2)	----

Table 2-7. Wheeled Vehicle Configurations

Configuration	Component	Comment
Load	Outboard Rail/Roller Assemblies, Stations 158.500 to 274.000 (1 and 2, Figure 3-2), Stations 272.531 to 374.000 (3 and 4) and Stations 373.469 to 487.000 (5 and 6)	Up - Straps on Cabin, Ramp Up
	Inboard Center Guide Rails (5 and 21, Figure 3-7; 65 and 68, Figure 3-8; 37 and 39, Figure 3-9; and 53 and 74, Figure 3-10)	Down
	Ramp Support Assemblies (19, Figure 3-2)/Ramp Extension Support Assemblies (18, Figure 3-2)	No Ramp Extension Support Assemblies, No Ramp Support Assemblies (Ramp on Ground)
	Ramp Extension/Ramp Extension Roller Assemblies (15)	Ramp Extension on Ground, No Roller Assemblies
	Pallet Lock Assemblies (62, Figure 3-3 and 30, Figure 3-4)	Down (Locked)
	Retractable Flange Assemblies (43, Figure 3-5)	Rotate Outboard (Unlock)
	5k Tiedown Fitting Assemblies (21, Figure 3-2) and 10k Fitting Assemblies (22)	Up
	Ramp Guide Rail/Roller Assemblies (7 and 8, Figure 3-2)	----
Restraint	Outboard Rail/Roller Assemblies, Stations 158.500 to 274.000 (1 and 2, Figure 3-2), Stations 272.531 to 374.000 (3 and 4) and Stations 373.469 to 487.000 (5 and 6)	----
	Inboard Center Guide Rails (5 and 21, Figure 3-7; 65 and 68, Figure 3-8; 37 and 39, Figure 3-9; and 53 and 74, Figure 3-10)	----
	Ramp Support Assemblies (19, Figure 3-2)/ Ramp Extension Support Assemblies (18, Figure 3-2)	----
	Ramp Extension/Ramp Extension Roller Assemblies (15)	----
	Pallet Lock Assemblies (62, Figure 3-3 and 30, Figure 3-4)	----
	Retractable Flange Assemblies (43, Figure 3-5)	----
	5k Tiedown Fitting Assemblies (21, Figure 3-2) and 10k Fitting Assemblies (22)	Using Straps and/or Chains, Secure Cargo to 5k Tiedown Fitting Assemblies and 10k Fitting Assemblies
	Ramp Guide Rail/Roller Assemblies (7 and 8, Figure 3-2)	----

Table 2-7. Wheeled Vehicle Configurations - Continued

Configuration	Component	Comment
Flight	Outboard Rail/Roller Assemblies, Stations 158.500 to 274.000 (1 and 2, Figure 3-2), Stations 272.531 to 374.000 (3 and 4) and Stations 373.469 to 487.000 (5 and 6)	----
	Inboard Center Guide Rails (5 and 21, Figure 3-7; 65 and 68, Figure 3-8; 37 and 39, Figure 3-9; and 53 and 74, Figure 3-10)	----
	Ramp Support Assemblies (19, Figure 3-2)/Ramp Extension Support Assemblies (18, Figure 3-2)	Stow in Helicopter
	Ramp Extension/Ramp Extension Roller Assemblies (15)	Rotate Ramp Extension on Ramp, Roller Assemblies on Underside
	Pallet Lock Assemblies (62, Figure 3-3 and 30, Figure 3-4)	----
	Retractable Flange Assemblies (43, Figure 3-5)	----
	5k Tiedown Fitting Assemblies (21, Figure 3-2) and 10k Fitting Assemblies (22)	----
	Ramp Guide Rail/Roller Assemblies (7 and 8, Figure 3-2)	----
Unload	Outboard Rail/Roller Assemblies, Stations 158.500 to 274.000 (1 and 2, Figure 3-2), Stations 272.531 to 374.000 (3 and 4) and Stations 373.469 to 487.000 (5 and 6)	----
	Inboard Center Guide Rails (5 and 21, Figure 3-7; 65 and 68, Figure 3-8; 37 and 39, Figure 3-9; and 53 and 74, Figure 3-10)	----
	Ramp Support Assemblies (19, Figure 3-2)/Ramp Extension Support Assemblies (18, Figure 3-2)	Ramp on Ground
	Ramp Extension/Ramp Extension Roller Assemblies (15)	Ramp Extension on Ground
	Pallet Lock Assemblies (62, Figure 3-3 and 30, Figure 3-4)	----
	Retractable Flange Assemblies (43, Figure 3-5)	----
	5k Tiedown Fitting Assemblies (21, Figure 3-2) and 10k Fitting Assemblies (22)	----
	Ramp Guide Rail/Roller Assemblies (7 and 8, Figure 3-2)	----

NOTE

Maximum available width with outboard rail/roller assemblies in stowed position is 85 inches lateral width

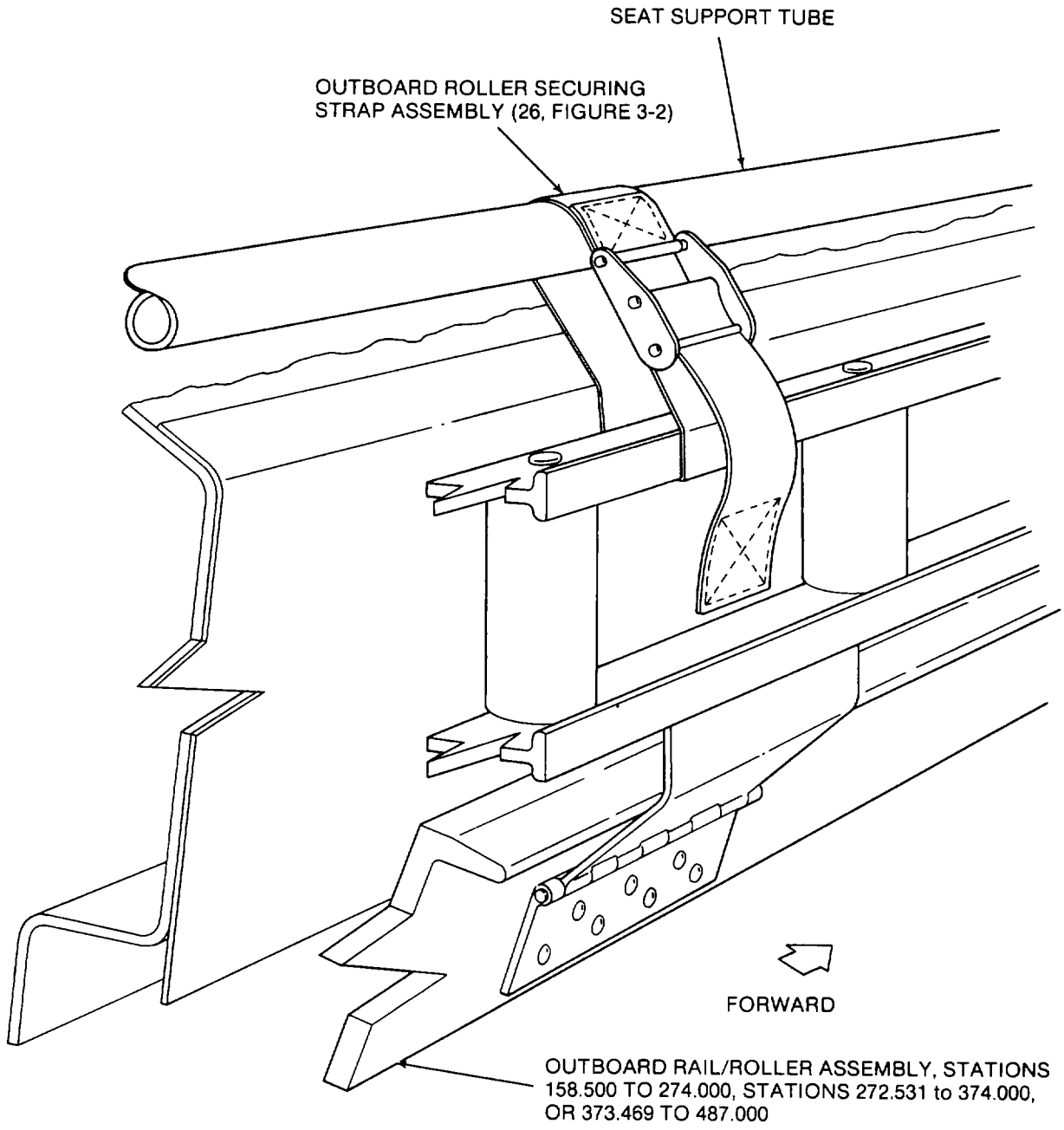


Figure 2-23. Outboard Rail/Roller Assembly in Stowed (Up) Position

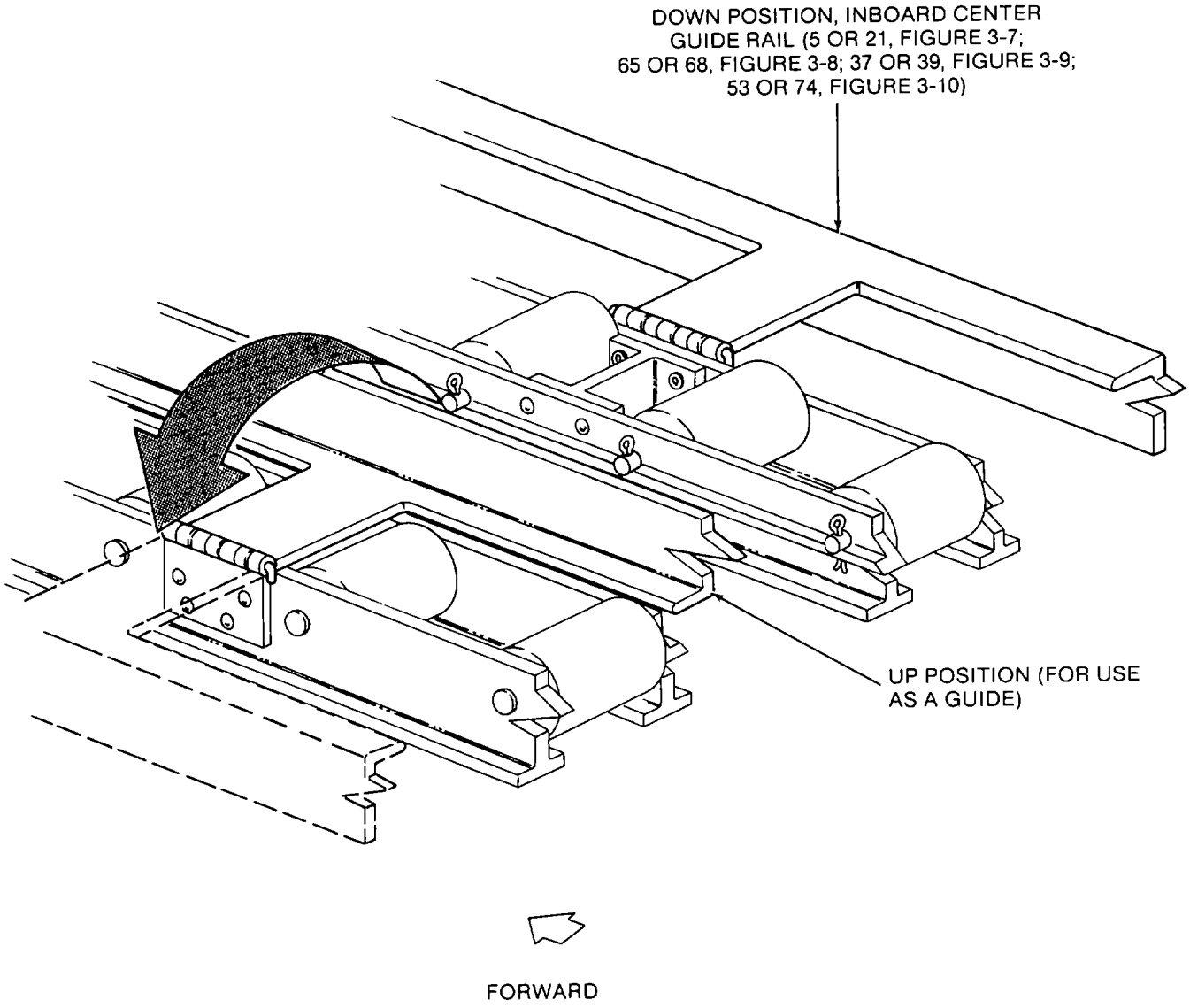


Figure 2-24. Inboard Center Guide Rail Positions

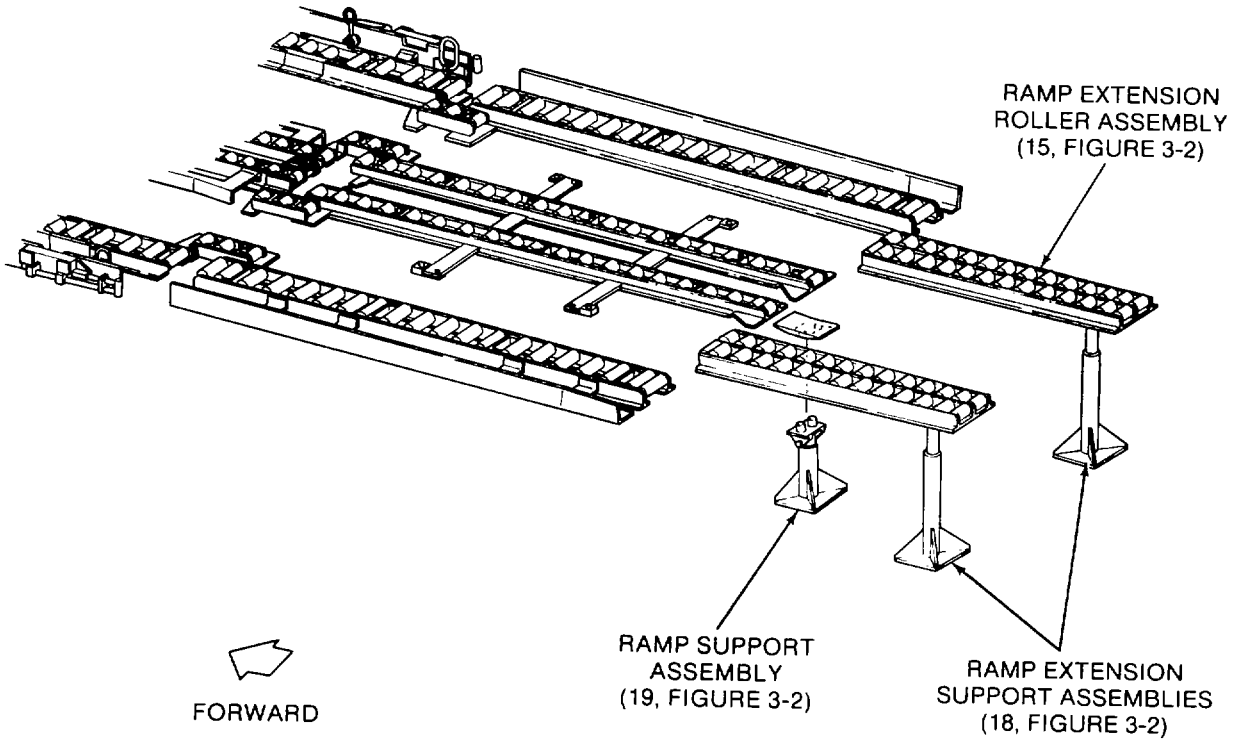


Figure 2-25. Ramp Extension and Ramp Extension Support Assemblies Installed

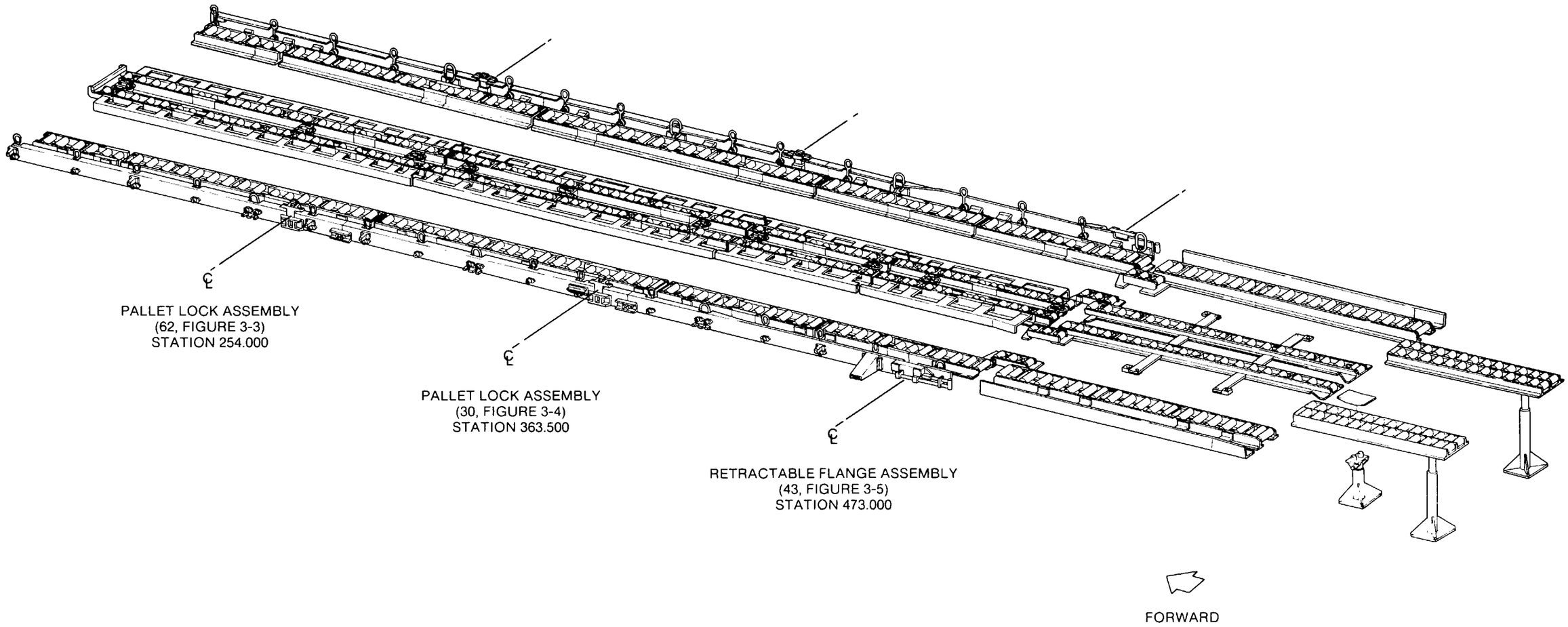


Figure 2-26. Location of Pallet Lock and Retractable Flange Assemblies

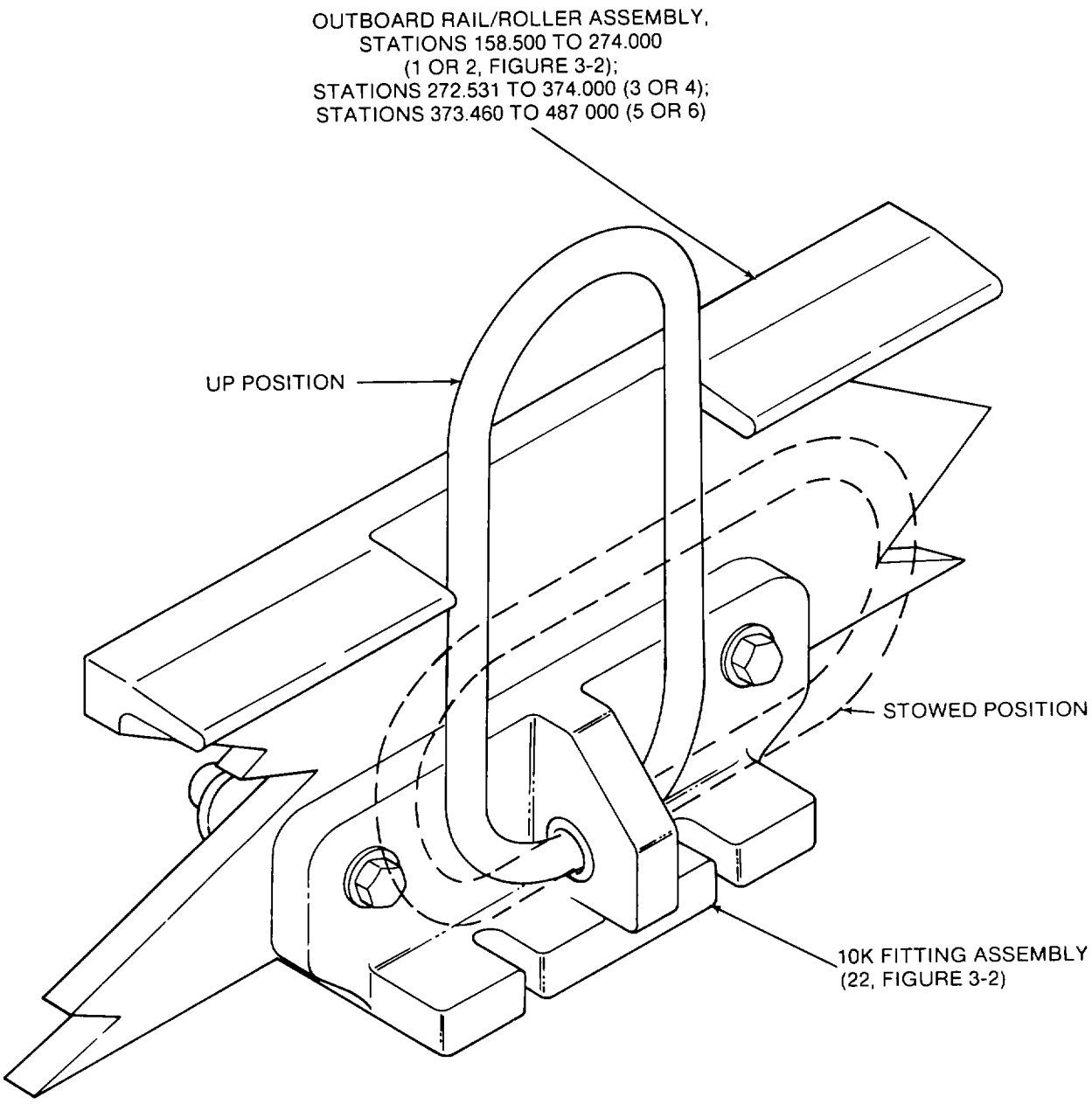


Figure 2-27. 10k Fitting Assembly

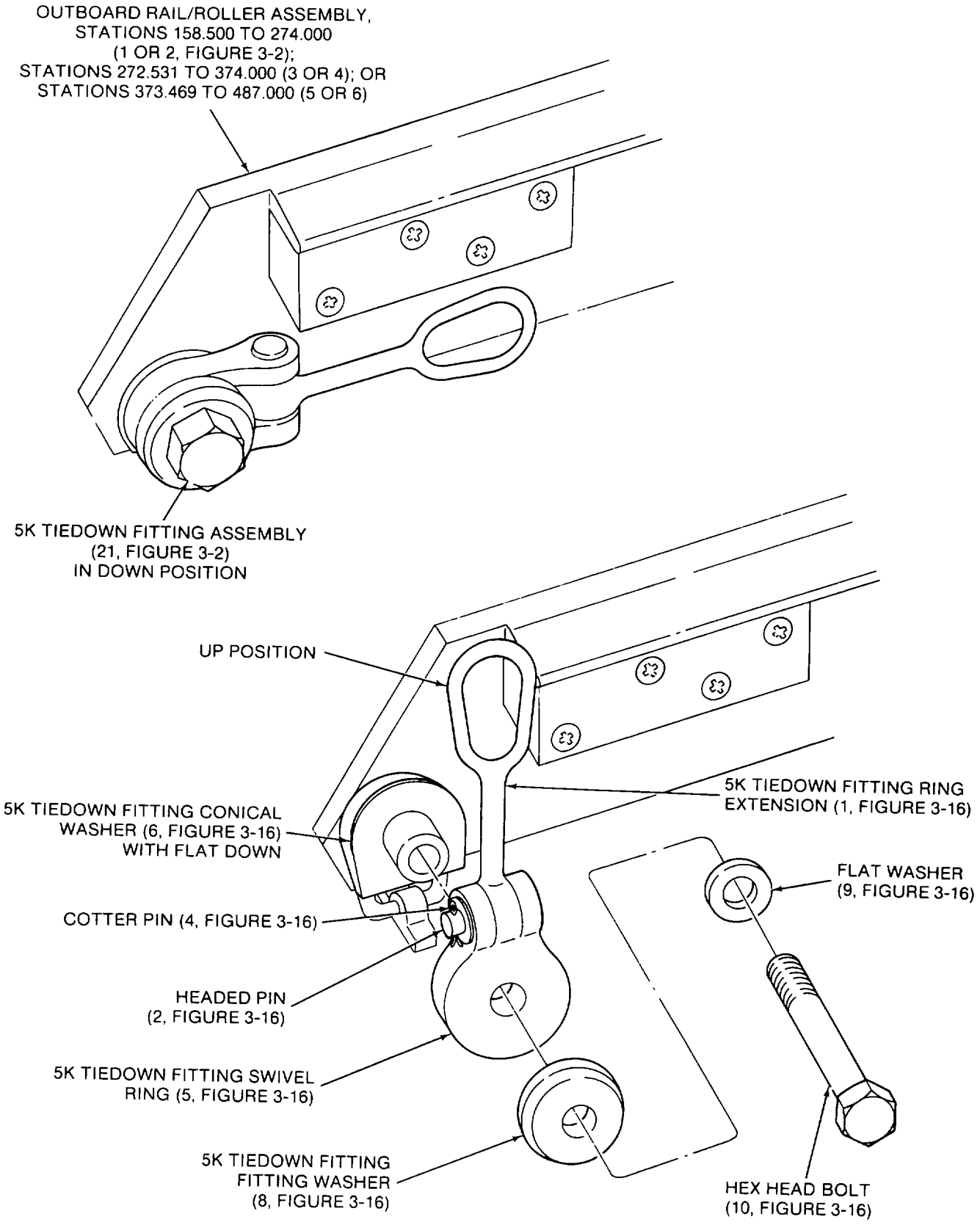


Figure 2-28. 5k Tiedown Fitting Assembly Installation

2-13. Loading Sequence. Following are loading sequences for the Helicopter Internal Cargo Handling System.

a. 463L Pallets. Refer to Table 2-6 to select the proper configuration for cargo system components during loading. Up to three pallets may be winched or manually loaded on the system. Loading configurations and clearances are shown in Figures 2-29, 2-30 and 2-31.

b. Warehouse Pallets. Following is the loading sequence for the warehouse pallets.

(1) Refer to Table 2-6 to select the proper configuration for Helicopter Internal Cargo Handling System components during loading. Up to 8 to 10 warehouse pallets can be loaded into the helicopter. However, weight and center-of-gravity requirements must be within the limits specified in paragraph 2-13b.(2). The 40-inch side should be positioned across the handling system so that the 48-inch side is on the ramp guide rail (12, Figure 3-6). Pallets may be winched or manually loaded. During loading, the pallet should be forklifted onto the ramp extension and balanced onto the outboard roller (1). On the ramp, it should be pushed outboard.

(2) Individual warehouse pallets may weigh up to 3,700 pounds. However, in order to maintain floor isolation, the sum of the weights of longitudinally adjacent pallets must not exceed 4,300 pounds. For example, pallets weighing 2,150 pounds or less may be loaded without discrimination. A mix of pallets weighing, for example, 3,000 and 1,200 pounds, would require alternate loading of a 3,000 pound pallet and a 1,200 pound pallet. If the load consists entirely of pallets weighing in excess of 2,150 pounds, the pallets must be spaced longitudinally. The distance, in inches, between the forward edge of one pallet and the forward edge of the subsequent pallet must not be less than W/45.2 when W is the average pallet load in pounds. For example, a load of pallets weighing 3,000 pounds each would need to be spaced 3000/45.2 = 66 inches center to center apart. Pallets that are spaced longitudinally will require tiedowns for longitudinal, lateral and vertical forces. In this situation, there is no requirement to use a barrier system.

c. Wheeled Vehicles. Refer to Table 2-7 to select the proper configuration for system components during loading. Winch or manually load the vehicles into the helicopter. For specific procedures, refer to TM-55-450-18, Internal and External Loads, CH47 Helicopter HQ DA, August 1970.

d. Personnel. The Helicopter Internal Cargo Handling System is compatible for personnel only or for both cargo and personnel. If both are loaded, the cargo must be forward of the personnel for safety.

e. Miscellaneous Cargo. Place on a pallet or skid as desired. If a 6/E Pallet is used, secure the pallet with pallet lock assemblies (62, Figure 3-3 and 30, Figure 3-4) or retractable flange assemblies (43, Figure 3-5). Straps or chains may be used as required.

f. Mixed Cargo. Any of the previous cargos may be mixed as desired. The only limitation is space.

2-14. Hatch Access. Follow these instructions to gain access to the hatch.

a. Remove, if necessary, any cargo forward of station 377.250 to at least station 157.750.

b. Remove three centerline ring plug assemblies (24, Figure 3-2). This will free the inboard guide/roller assembly, stations 377.313 to 427.188 (11, Figure 3-2). Stow the removed parts ahead of station 272.250 (Figure 2-32).

c. The hatch is now accessible. The removed parts can be re-installed by reversing the preceding steps.

2-15. Ferry Fuel Port Access. Follow these instructions to gain access to the ferry fuel port.

a. Remove two hex head bolts (29, Figure 3-2) and two washers (43) from the aft side of the splice connection at station 373.437.

b. Refer to Figure 2-28 and remove 5k tiedown fitting assemblies (21, Figure 3-2) located at stations 380.000, 420.000, 440.000 and 460.000 as shown in Figure 2-33.

c. Refer to Figure 2-6 and remove hex head bolts (28, Figure 3-2) and washers (42, Figure 3-2) at stations 400.000 and 481.780 (Figure 2-33). They secure the 10k fitting assembly (22, Figure 3-2) to the outboard rail/roller assembly, stations 373.469 to 487.000 (6).

d. Stow all of the removed parts and relocate the outboard rail/roller assembly, stations 373.469 to 487.000 (6, Figure 3-2), to the center of the helicopter.

e. Reverse the above procedure to install the outboard rail/roller assembly, stations 373.469 to 487.000 (6).

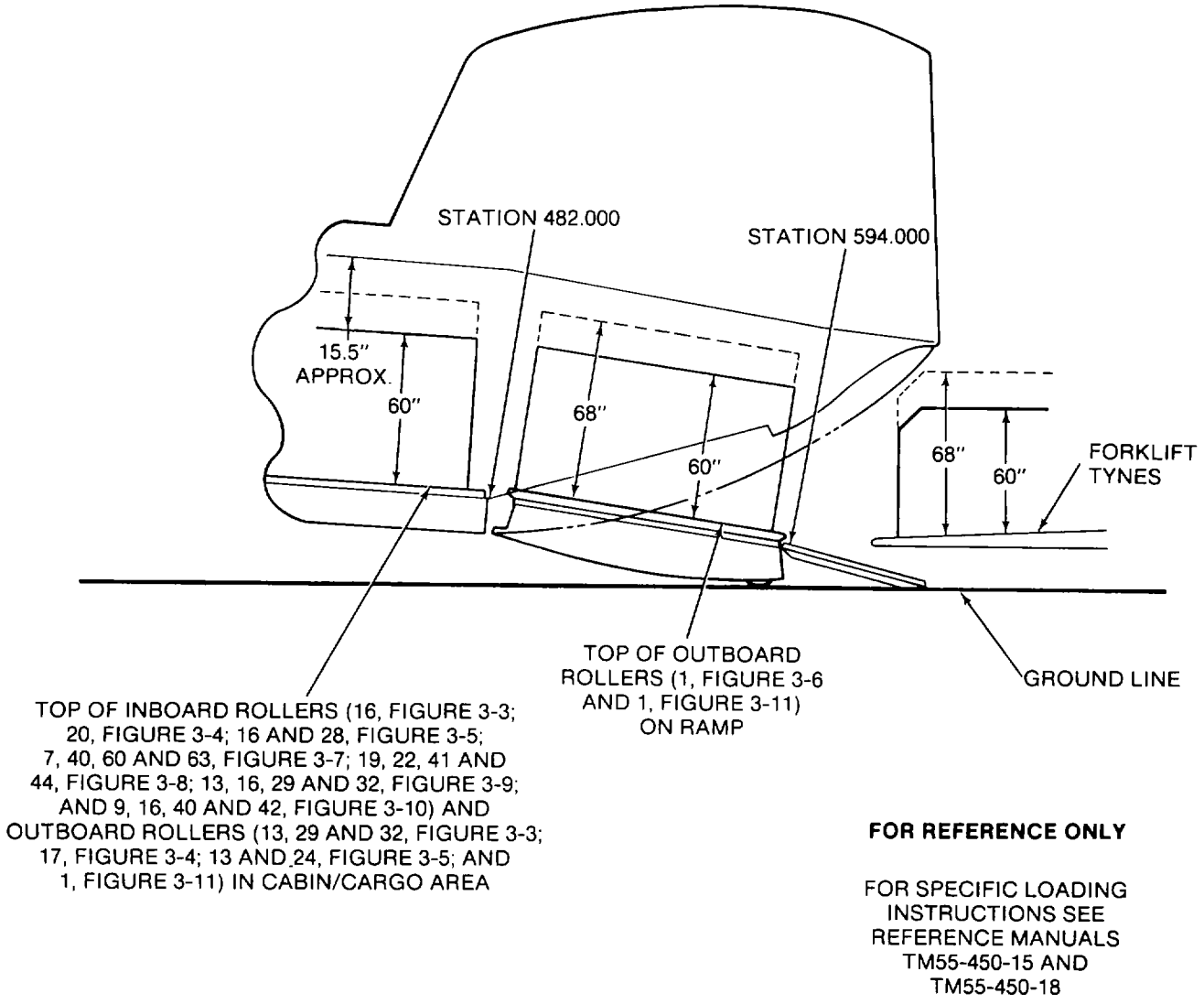


Figure 2-29. Loading With Ramp Down (Forklift Loading)

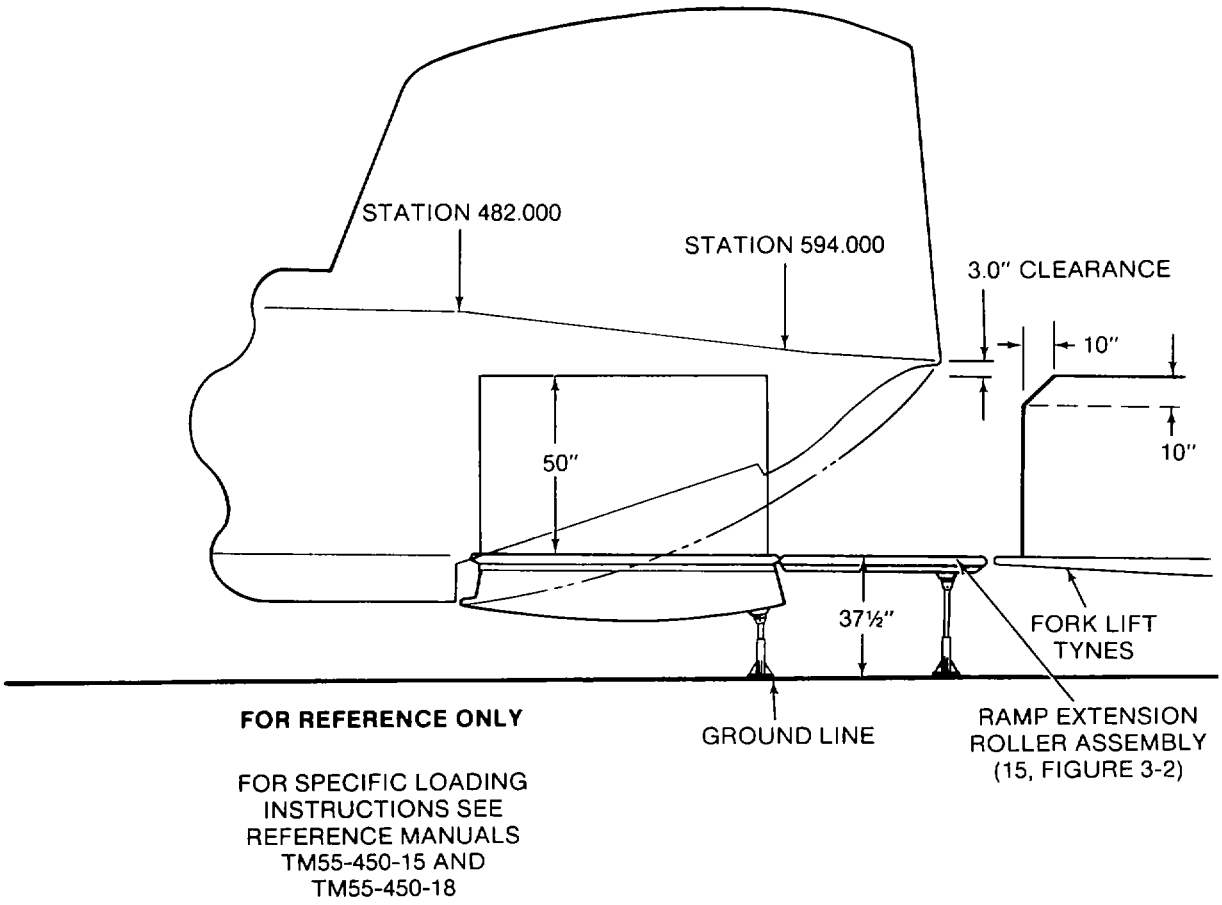


Figure 2-30. Loading With Ramp in Level Position (K-Loader Configuration)

FOR REFERENCE ONLY

FOR SPECIFIC LOADING
INSTRUCTIONS SEE
REFERENCE MANUALS
TM55-450-15 AND
TM55-450-18

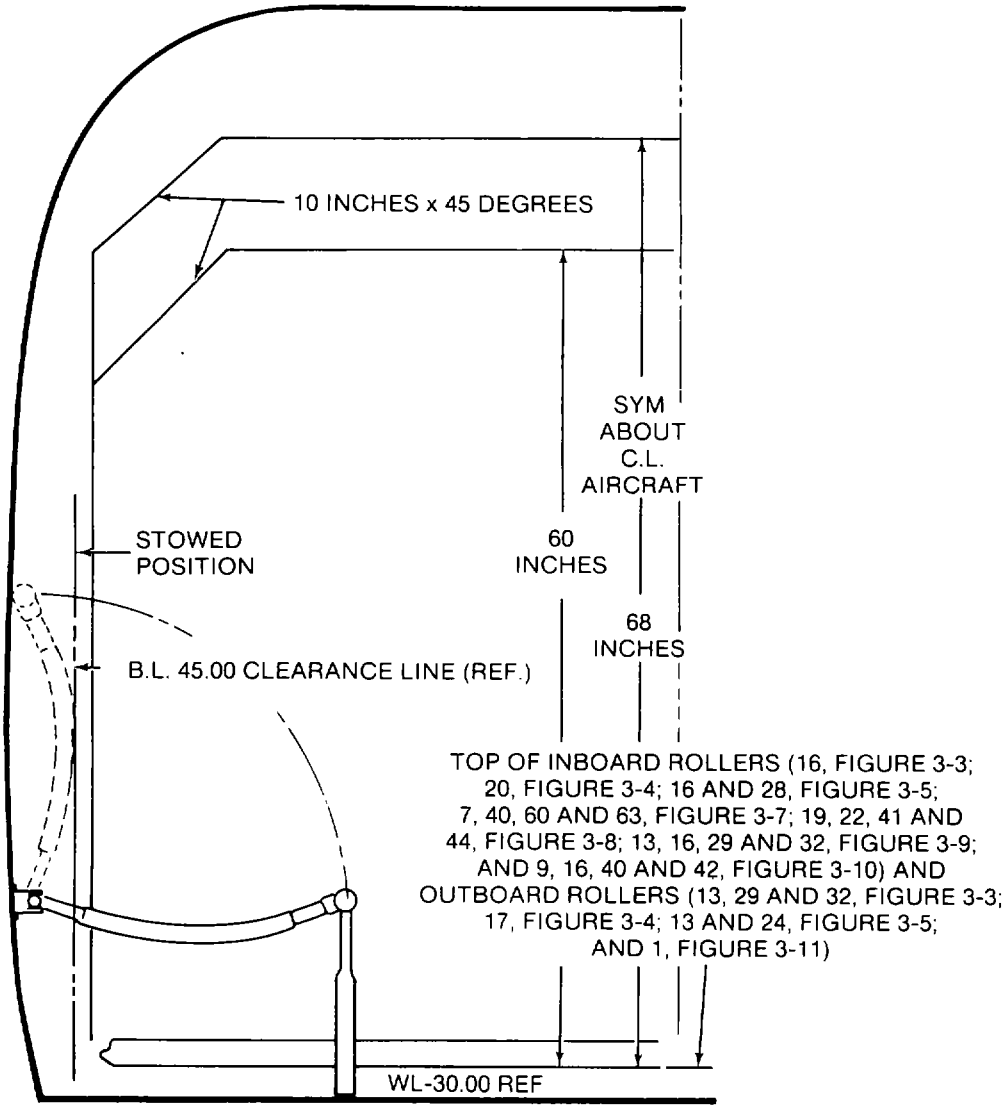


Figure 2-31. Load Clearances

2-16. System Stowage. Stow the Helicopter Internal Cargo Handling System as follows:

a. Flip up the outboard rail/roller assemblies, stations 158.500 to 274.000 (1 and 2, Figure 3-2), stations 272.531 to 374.000 (3 and 4), and stations 373.469 to 487.000 (5 and 6). Secure them to the seat support tube as shown in Figure 2-22. Refer to Figures 2-34 and 2-35 for the stowage location of cargo system components.

b. Secure loading pole, using outboard rail/roller assemblies, stations 158.500 to 274.000 (1 and 2, Figure 3-2), stations 272.531 to 374.000 (3 and 4), and stations 373.469 to 487.000 (5 and 6). Strap between seat support tube and top of buffer board (Figure 2-35). Locate between station 300.000 and station 400.000 on right-hand side of aircraft.

c. Stow two extension jack stands on aircraft frame on the left-hand side aft of Station 534 above ramp area using two pins provided for this purpose.

d. Stow ramp support stand on aircraft frame on the right-hand side aft of Station 534 above ramp area using two pins provided for this purpose.

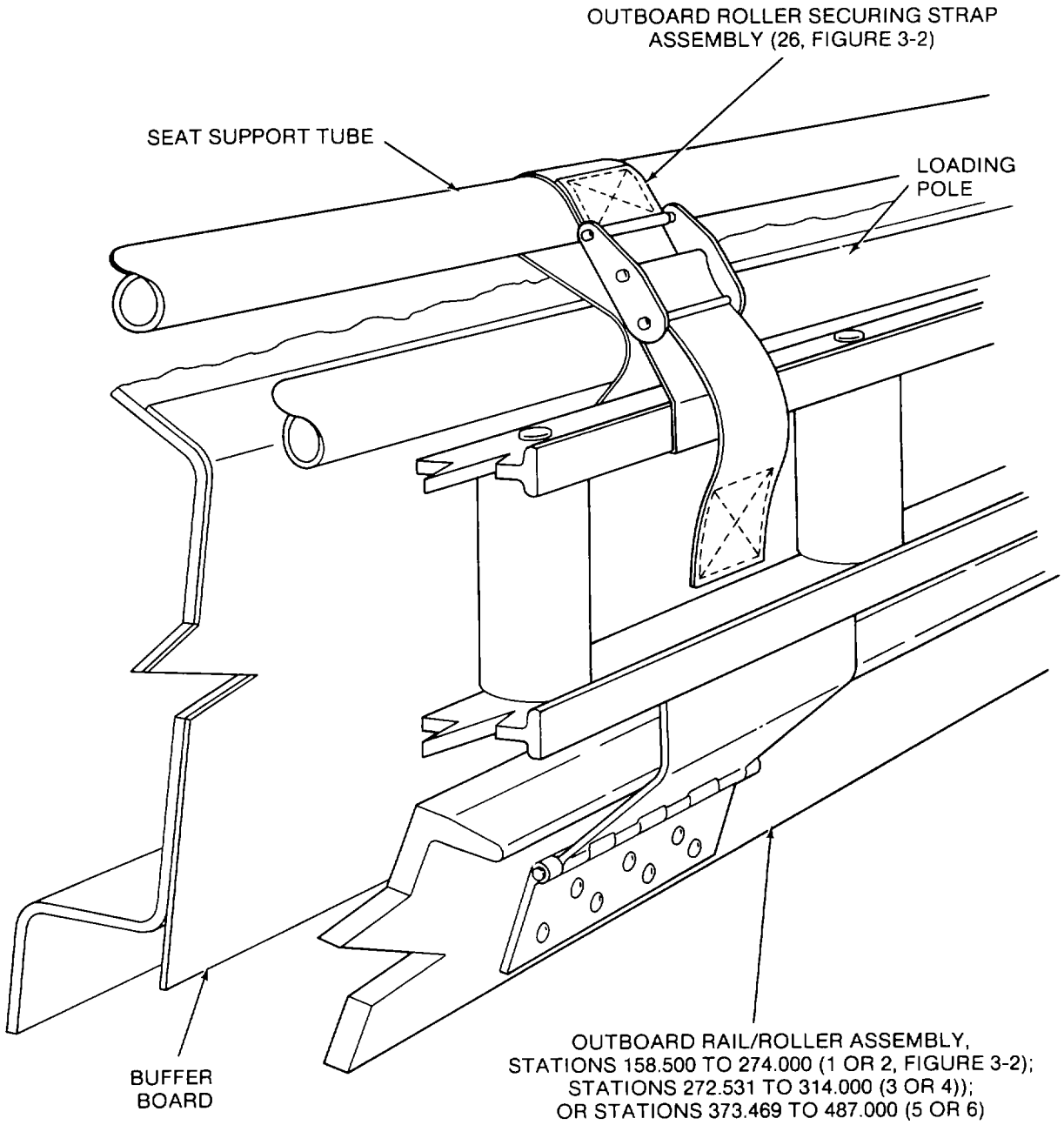


Figure 2-35. Seat Support Tube Outboard Rail/Roller Assembly Aircraft Loading Pole Stowage

CHAPTER 3

MAINTENANCE INSTRUCTIONS

SECTION I. GENERAL

3-1. General. The Helicopter Internal Cargo Handling System does not require scheduled service and maintenance. However, it must always be inspected prior to use, after storage, after extended periods of non-use, etc., to make certain that the system functions correctly. These instructions are provided in paragraph 3-4.

SECTION II. MAINTENANCE

3-2. Periodic Lubrication. Normally the Helicopter Internal Cargo Handling System requires no periodic lubrication. However, if the cargo system has been used under extreme environmental conditions, assemblies with close-fitting parts may function more efficiently if a dry lubricant is used (Specification MIL-L-46147, NSN 9150-00168-2000).

WARNING

Provide adequate ventilation when using cleaning solvent (Federal Specification P-D-680. Avoid prolonged breathing of vapors and minimize skin contact.

CAUTION

Do not use cleaning solvent P-D-680 on rollers.

3-3. Cleaning. The Helicopter Internal Cargo Handling System must be kept clean. It may be hosed down. Remove sand, dust, and dirt from all operating parts. If hosing down is not adequate, use dry cleaning solvent, Specification P-D-680, on all components EXCEPT ALL ROLLERS.

3-4. Inspection. Inspect the system as follows:

a. Intervals. The Helicopter Internal Cargo Handling System should be inspected prior to each cargo mission or when any of the following events has or will occur.

(1) A new cargo handling system has just been installed.

(2) A cargo system has been removed from storage and installed.

(3) A system has been idle in an out-of-service aircraft.

(4) Maintenance has recently been performed and the system has not been inspected.

(5) A system appears to function improperly.

b. Inspection Criteria. A general inspection should be accomplished for any one of the reasons indicated in paragraph 3-4a. Inspection also helps to maintain the Helicopter Internal Cargo Handling System in good working condition. Refer to Table 2-1. Make certain that all components shown in the table are accounted for in either the installed or stowed locations as applicable. After this has been accomplished, inspect the Helicopter Internal Cargo Handling System against the illustrations (Figures 2-1 through 2-15). Make certain that all cargo system components are properly installed. Check outboard rail/roller assemblies, stations 158.500 to 274.000 (1 and 2, Figure 3-2); stations 272.531 to 374.000 (3 and 4); stations 373.469 to 487.000 (5 and 6); left-hand ramp guide rail/roller assembly (7); right-hand ramp guide rail/roller assembly (8); inboard guide/roller assemblies, stations 157.750 to 272.188 (9); stations 272.313 to 377.188 (10); stations 377.313 to 427.188 (11); and stations 427.375 to 487.000 (12); left-hand inboard ramp

roller assembly (13); right-hand inboard ramp roller assembly (14); and ramp extension roller assembly (15) for cracks or breaks. No cracks or breaks are allowed.

3-5. Special Tools and Equipment. No special tools are required to maintain the Helicopter Internal Cargo Handling System. All common tools required can be found in tool kits available to aircraft maintenance personnel.

3-6. Disassembly. Disassembly of the system is not required, except as necessary for replacement of specific components (refer to para 3-7).

3-7. Repair and Replacement. The components listed in Table 3-1 may be replaced as required, without the necessity of removal of any other components. Refer to Section III for specific part numbers and locations.

Table 3-1. Replaceable Parts

Description	Location
Outboard teeter roller shafts	See Section 3 of Chapter 3
Inboard teeter roller shafts	See Section 3 of Chapter 3
Transition roller shafts	See Section 3 of Chapter 3
Inboard roller shafts	See Section 3 of Chapter 3
Ramp extension shafts	See Section 3 of Chapter 3
Shafts	See Section 3 of Chapter 3
Inboard rollers	See Section 3 of Chapter 3
Outboard rollers	See Section 3 of Chapter 3
Cotter pins	See Section 3 of Chapter 3
Split cotter pins	See Section 3 of Chapter 3

3-8. Tolerances. There are no wear tolerances that apply to the Helicopter Internal Cargo Handling System. Replace parts only if damaged. (Refer to paragraphs 3-7 and 3-10.)

3-9. Torque Values. Table 3-2 lists torque values to be applied to fasteners of the Helicopter Internal Cargo Handling System.

Table 3-2. Torque Values

Part Number	Description	Torque in Inch-Lbs
18049 D 555	Special Bolt	100 to 140
AN3-10A	Hex Head Bolt	20 to 25
AN3-11A	Hex Head Bolt	20 to 25
AN4-5A	Hex Head Bolt	50 to 70
AN4-11A	Hex Head Bolt	50 to 70
AN4-12A	Hex Head Bolt	50 to 70
AN6-13A	Hex Head Bolt	160 to 190
AN8-17A	Bolt	480 to 690
MS21250-05028	Point Bolt	100 to 140
NAS517-4-11	Countersunk Bolt	50 to 70
NAS517-4-12	Countersunk Bolt	50 to 70
NAS6608-14	Hex Head Bolt	480 to 690
NAS6608-15	Hex Head Bolt	480 to 690

3-10. Assembly. Assembly of the system is not normally required, except when necessary for replacement of specific components. (Refer to paragraph 3-7.) Reassemble in reverse order of disassembly.

3-11. Preservation. Refer to Section V.

SECTION III. ILLUSTRATED PARTS BREAKDOWN

3-12. General. This Illustrated Parts Breakdown (IPB) lists, illustrates, and describes the items necessary to support and maintain the Helicopter Internal Cargo Handling System, Part No. 18049 J 100, for the CH47 Helicopter. The purpose of this IPB is to assist personnel with identification and for establishing relationships between parts.

3-13. Scope. The scope of the Illustrated Parts Breakdown is as follows:

a. General. This paragraph contains descriptive and user information. It provides an overview on how to use the Illustrated Parts Breakdown.

b. Maintenance Parts List. This section contains a breakdown of assemblies and parts. It also includes keyed illustrations of the end items that can be disassembled, repaired, obtained from reclamation, supply channels, reinstalled, replaced, and reassembled. The listings for specific systems, components, groups, etc., are, when practical, in a sequence compatible to the order in which such systems, components, groups, etc., are discussed in the maintenance sections. The Maintenance Parts List does not contain:

(1) Parts and assemblies that are not repairable or replaceable.

(2) Parts which lose their identity by being welded, sealed, or joined to other pieces as a permanent assembly.

(3) Parts made of bulk stock, such as lock wire, bonding braid, upholstery, cloth, friction tape, electrical wire, insulation, etc.

(4) Support equipment, such as tools and test equipment.

c. Numerical Index. This section contains the part numbers of all parts listed in the Maintenance Parts List.

3-14. Abbreviations and Symbols. The abbreviations used in this Illustrated Parts Breakdown are in accordance with Military Standard MII,STD-12.

3-15. Operation and Maintenance Data. Refer to Chapter 2 and Chapter 3, Section II for operation and maintenance instructions.

3-16. Indention. The items listed in the Maintenance Parts List are indented to indicate item relationship or next higher assembly (NHA). The description of each assembly is followed immediately (except for attaching parts) by the description of the detailed parts indented one column to the right. This indention indicates the relationship of the part to the assembly. To determine the next higher assembly of a part or assembly, note the column in which the first word of the description begins. The first item directly above, which appears one column to the left (except attaching parts) is the next higher assembly.

3-17. Figure Cross-Reference Notes. The continuity of the parts listed, and their relationship to the complete assemblies or subassemblies covered by the Maintenance Parts List, are maintained by a parenthetical figure cross-reference note following the description of the part being referenced. These notes are as follows:

a. (See figure ... for breakdown.) This statement indicates that the complete or continued detailed breakdown of the part being referenced may be found in the figure reference.

b. (See figure ... for NHA.) This statement indicates that the part being referenced may be found in the figure reference, with requirements and relationships to its next higher assembly indicated by column indention.

3-18. Parts Listed. In general, the assemblies and parts installed at the time the end item was manufactured are listed and identified in this manual.

3-19. Attaching Parts. Screws, bolts, washers, nuts and other items which serve as attaching parts are listed immediately following, and with the same indention as the components they attach. Attaching parts are not listed in disassembly sequence and are not part of the components they attach unless so indicated. The caption (AP) appears in the description column following these attaching parts.

3-20. Listing of Similar Assemblies. When similar assemblies contain approximately ninety percent or more identical parts, the assemblies are combined and listed as follows. Otherwise the assemblies are listed separately.

a. All assemblies (figure and index numbers, part numbers, descriptions, quantities, codes) are listed first, followed by the detail parts.

b. A part common to all assemblies in the same quantity is listed once.

c. A part common to all assemblies in different quantities is listed once for each quantity. It is also identified as to which assembly each listing pertains.

d. Peculiar parts are listed once. They are also identified by a usable on code as to which assembly each pertains.

3-21. Maintenance Parts List. The following information applies to the Maintenance Parts List.

a. Federal Supply Codes for Manufacturers (FSCM). Federal Supply Codes for Manufacturers (FSCM) are listed in the FSCM column. All code numbers are in accordance with the Federal Supply Code for Manufacturers Cataloging Handbook H4-1 and H4-2.

b. Units per Assembly Column. The listings in this column indicate the quantity of parts required per next higher assembly. The abbreviation REF indicates that the part is listed for reference purposes only.

c. Usable On Code. The usable on code column contains codes to indicate the configurations of similar assemblies listed in and illustrated by a common breakdown. Commonly it is used to differentiate between components of leftand righ-hand assemblies. The absence of a usable on code in this column indicates that parts so shown are usable as replacements on all assemblies covered in the applicable figure.

3-22. Numerical Index. This index contains an alpha-numerical listing of all parts described in the Maintenance Parts List.

3-23. Visual Index. Figure 3-1 provides an assembled view of the Helicopter Helicopter Internal Cargo Handling System Assembly. A description of each major component is provided. Also included are figure numbers in which that component is broken down. Opposite hand assemblies are shown in the same figure.

3-24. How To Use This Illustrated Parts Breakdown. Refer to the following page for instructions in using the Illustrated Parts Breakdown.

HOW TO USE THE ILLUSTRATED PARTS BREAKDOWN

IF YOU *Don't* KNOW THE PART NUMBER . . .

Do This

1. Refer to illustration list and select the illustration most likely to contain the desired part.
2. Refer to the page number indicated and find desired part on illustration.
3. Note the Figure Number of the illustration and the Index Number of the part. Refer to the corresponding Figure Index Number on the Assembly List page for Part Number, Nomenclature, etc

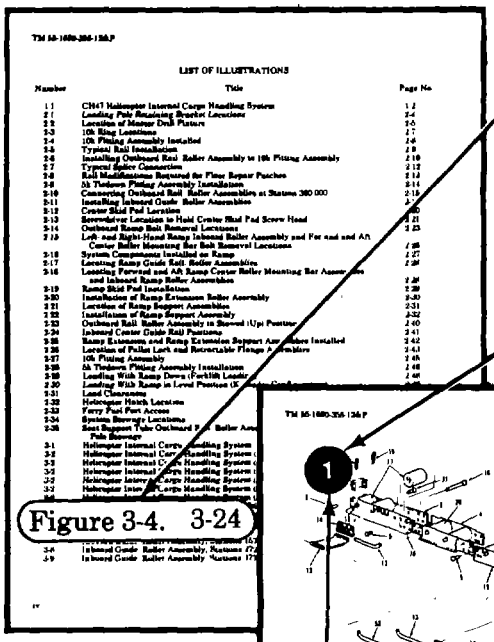


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Figure 3-4. 3-24

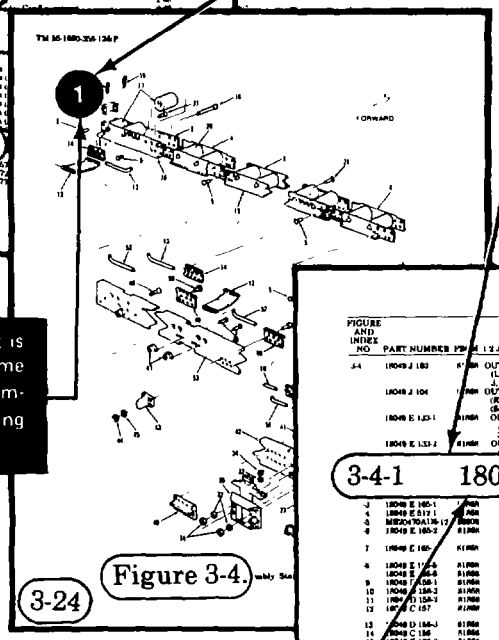


Figure 3-4. 3-24

3. If illustration of part is desired, refer to same Figure and Index Number on accompanying illustration.

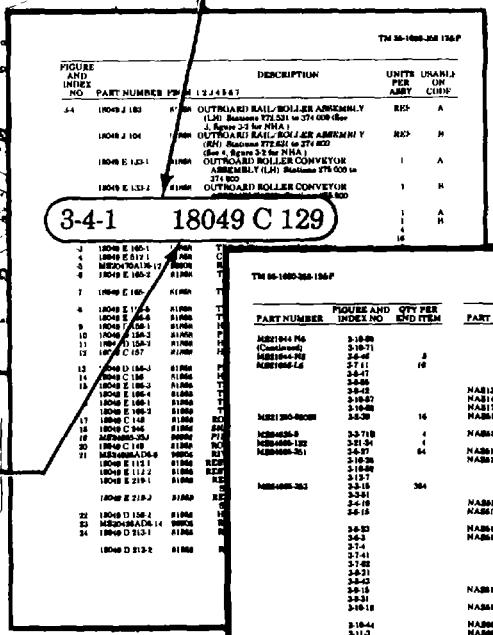
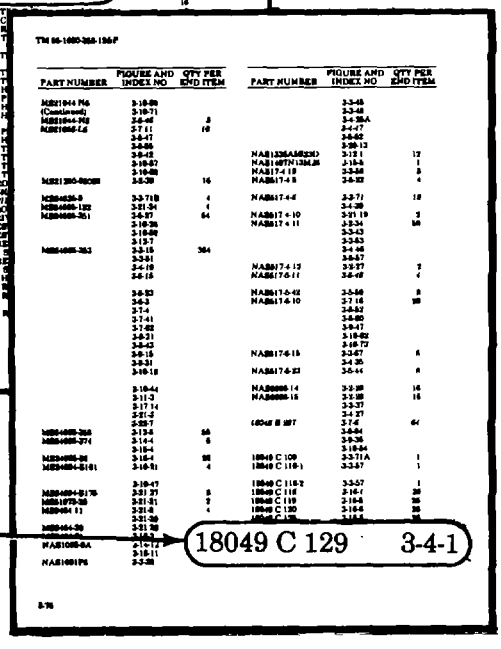


FIGURE AND INDEX NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSY	USABLE ON CODE
3-4	18049 J 103	OUTBOARD RAIL/ROLLER ASSEMBLY (LH) Stations 272 531 to 274 600 (See J, figure 3-5 for NHA)	REF	A
	18049 J 104	OUTBOARD RAIL/ROLLER ASSEMBLY (RH) Stations 272 531 to 274 600 (See J, figure 3-5 for NHA)	REF	B
	18049 E 133-1	OUTBOARD ROLLER CONVEYOR ASSEMBLY (LH) Stations 272 600 to 274 600	1	A
	18049 E 133-2	OUTBOARD ROLLER CONVEYOR	1	B

3-4-1 18049 C 129



PART NUMBER	FIGURE AND INDEX NO.	QTY PER END ITEM
MS21044 N6	3-16-69	
(Continued)	3-16-71	
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MS21250-08008	3-6-39	16
MS24665-9	3-3-71B	4
MS24665-132	3-21-34	4
MS24665-351	3-6-37	64
	3-16-26	
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	3-6-15	
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	3-16-4	
MS24665-91	3-16-1	88
MS24694-S101	3-16-11	4
MS24694-S175	3-21-47	8
MS51979-58	3-21-31	2
MS90481 11	3-21-4	4
	3-21-30	
MS90484-20	3-21-28	
NAS1001-6A	3-10-12	
NAS1001P6	3-10-11	
	3-3-28	

PART NUMBER	FIGURE AND INDEX NO.	QTY PER END ITEM
	3-3-48	
	3-3-48	
	3-3-38A	
	3-4-17	
	3-6-62	
	3-38-13	
NAS1336A4R23D	3-12-1	12
NAS1497N1334-28	3-15-5	1
NAS174-10	3-3-58	8
NAS517-4-8	3-6-32	4
NAS517-4-4	3-3-71	12
	3-4-28	
NAS517-4-10	3-21-19	2
NAS517-4-11	3-3-34	16
	3-3-43	
	3-3-53	
	3-4-56	
	3-6-57	
NAS517-4-12	3-3-57	2
NAS517-4-11	3-6-49	4
	3-6-58	
NAS517-6-42	3-5-56	8
NAS517-6-10	3-7-16	16
	3-6-52	
	3-6-60	
	3-6-47	
	3-18-62	
	3-16-72	
NAS517-6-15	3-3-67	6
	3-4-35	
NAS517-6-53	3-5-44	8
NAS6608-14	3-3-38	16
NAS6608-16	3-3-39	16
	3-3-37	
	3-4-27	
165x4 B 187	3-7-6	64
	3-6-54	
	3-6-36	
	3-18-64	
18040 C 109	3-3-71A	1
18040 C 110-1	3-3-67	1
18040 C 110-2	3-3-67	1
18040 C 116	3-16-1	20
18040 C 119	3-16-6	36
18040 C 120	3-16-5	28
18040 C 125	3-16-3	4

18049 C 129 3-4-1

2. Turn to Figure and Index Number indicated to obtain desired information.

IF YOU *Do* KNOW THE PART NUMBER . . .

Do This

1. Find the Part Number in the Numerical Parts List. Note the Figure and Index Number where the part is called out in Parts List.

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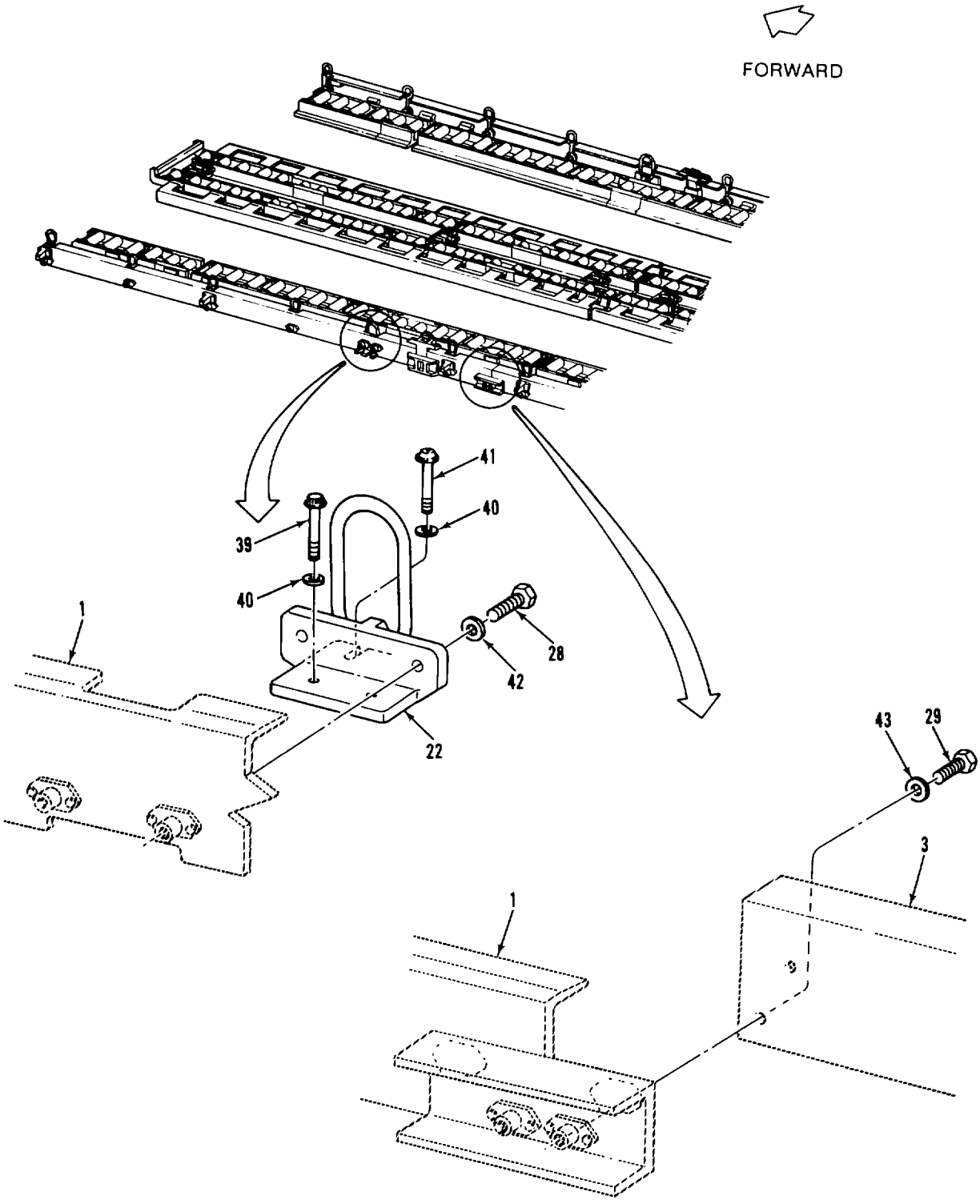

Figure 3-2. Helicopter Internal Cargo Handling System (Sheet 2 of 6)

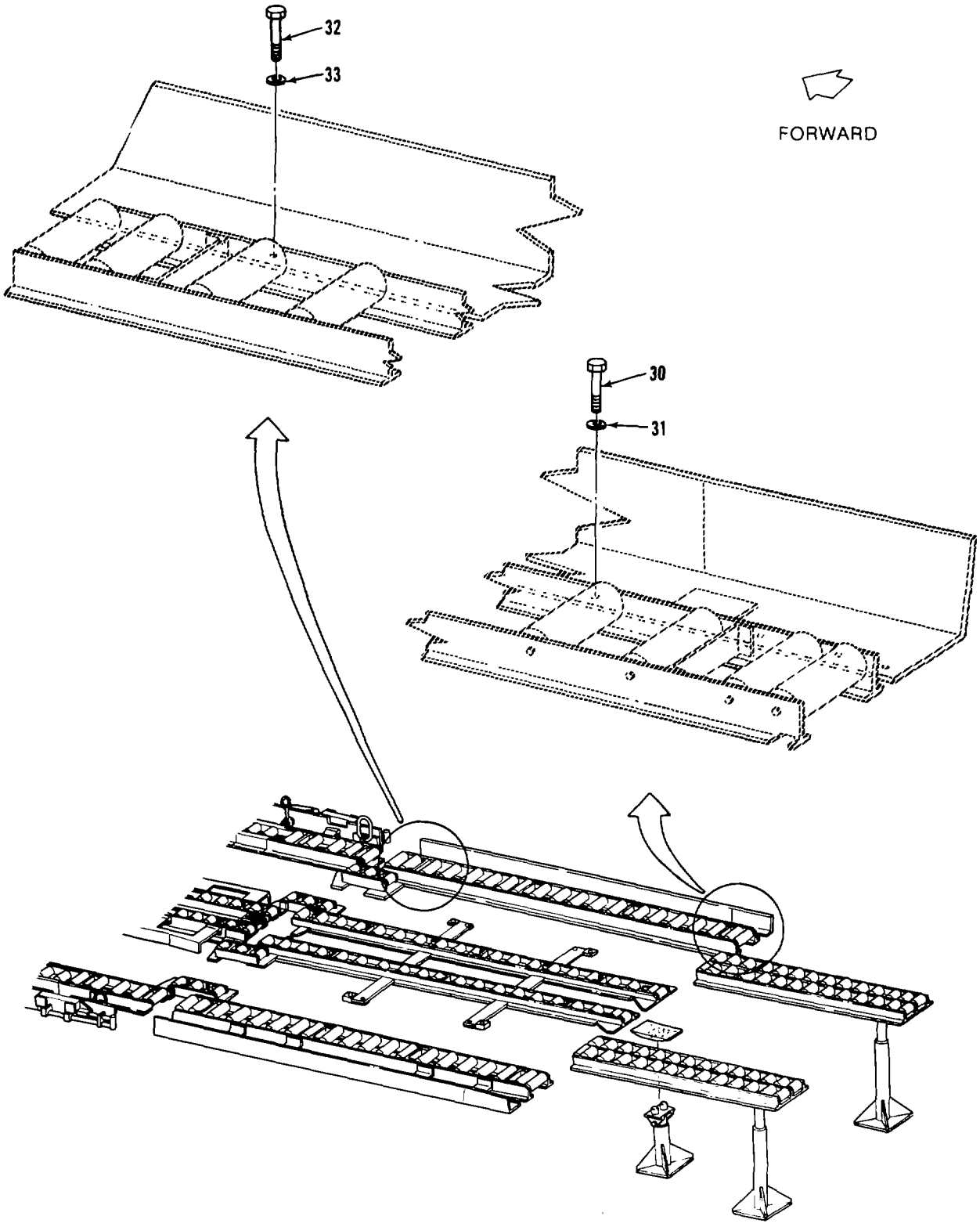

Figure 3-2. Helicopter Internal Cargo Handling System (Sheet 3 of 6)

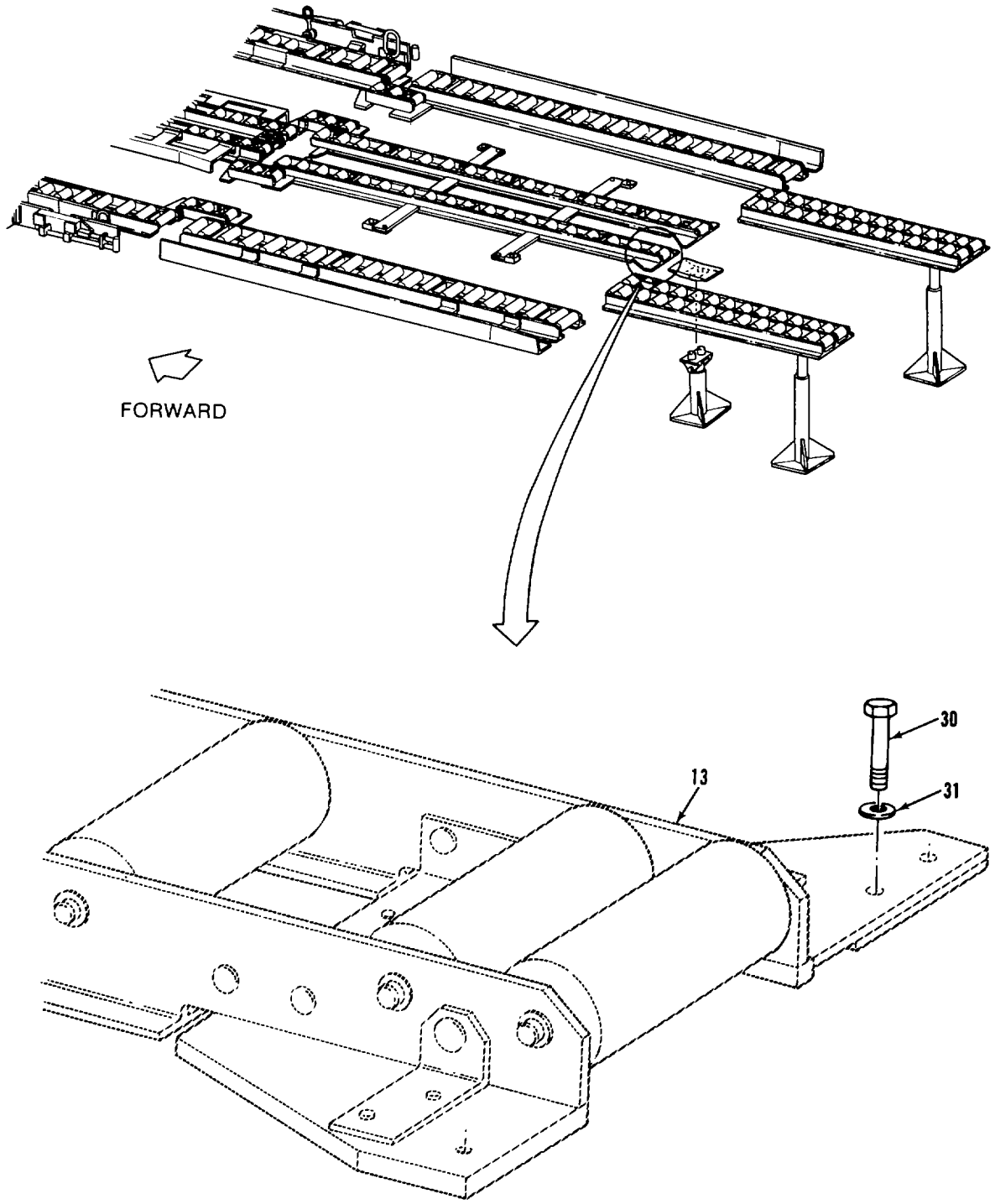

Figure 3-2. Helicopter Internal Cargo Handling System (Sheet 4 of 6)

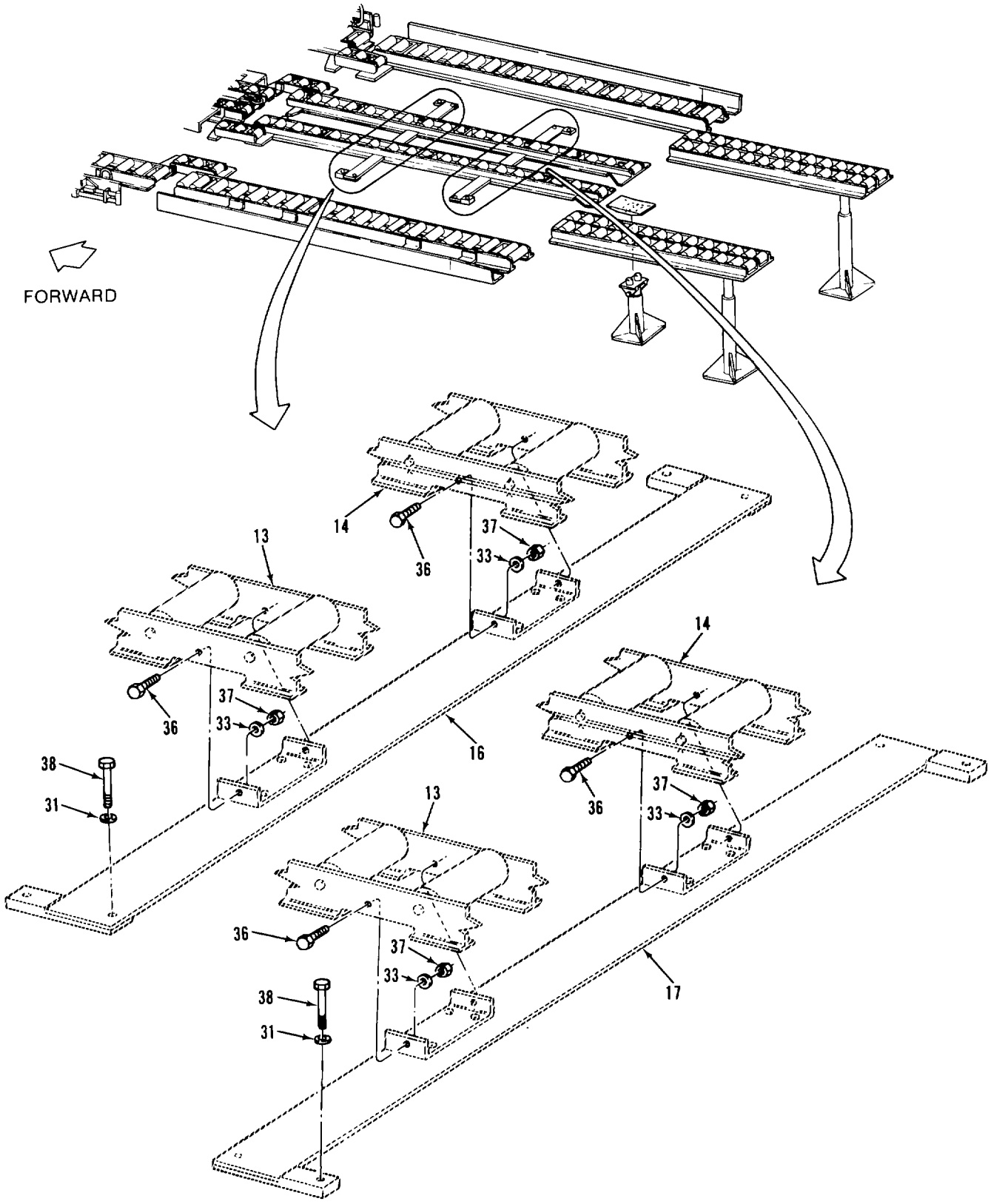

Figure 3-2. Helicopter Internal Cargo Handling System (Sheet 5 of 6)

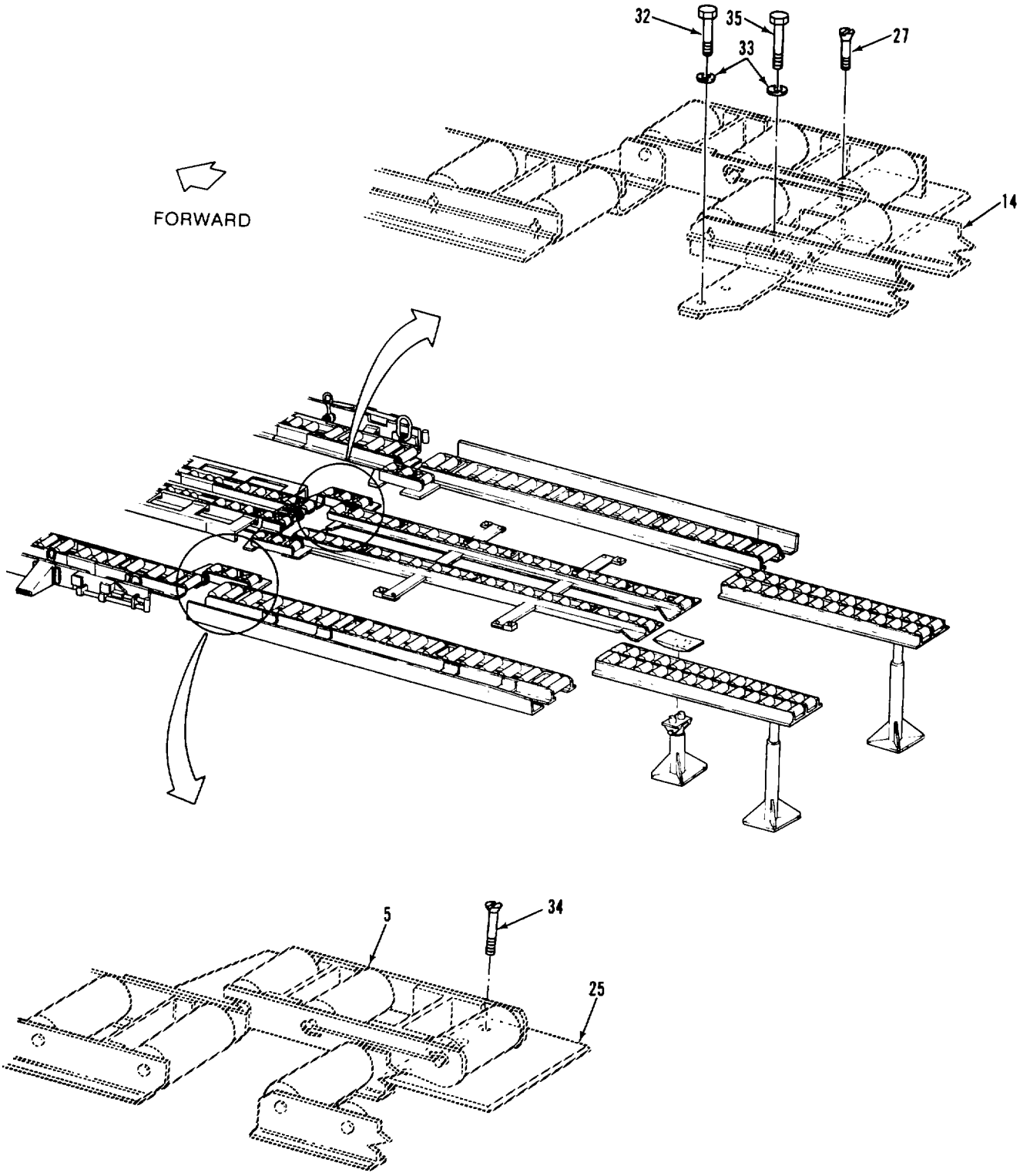

Figure 3-2. Helicopter Internal Cargo Handling System (Sheet 6 of 6)

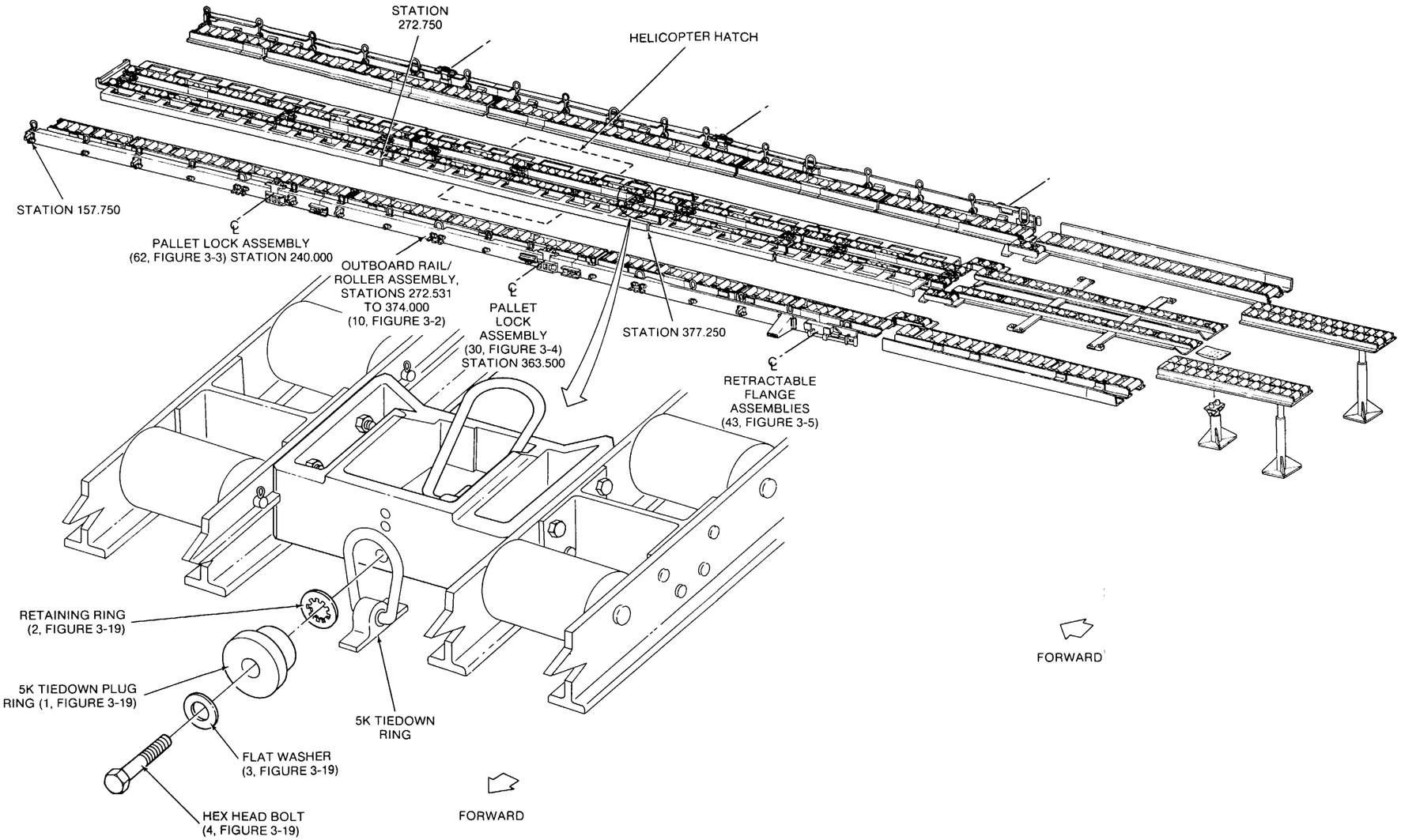

Figure 2-32. Helicopter Hatch Location

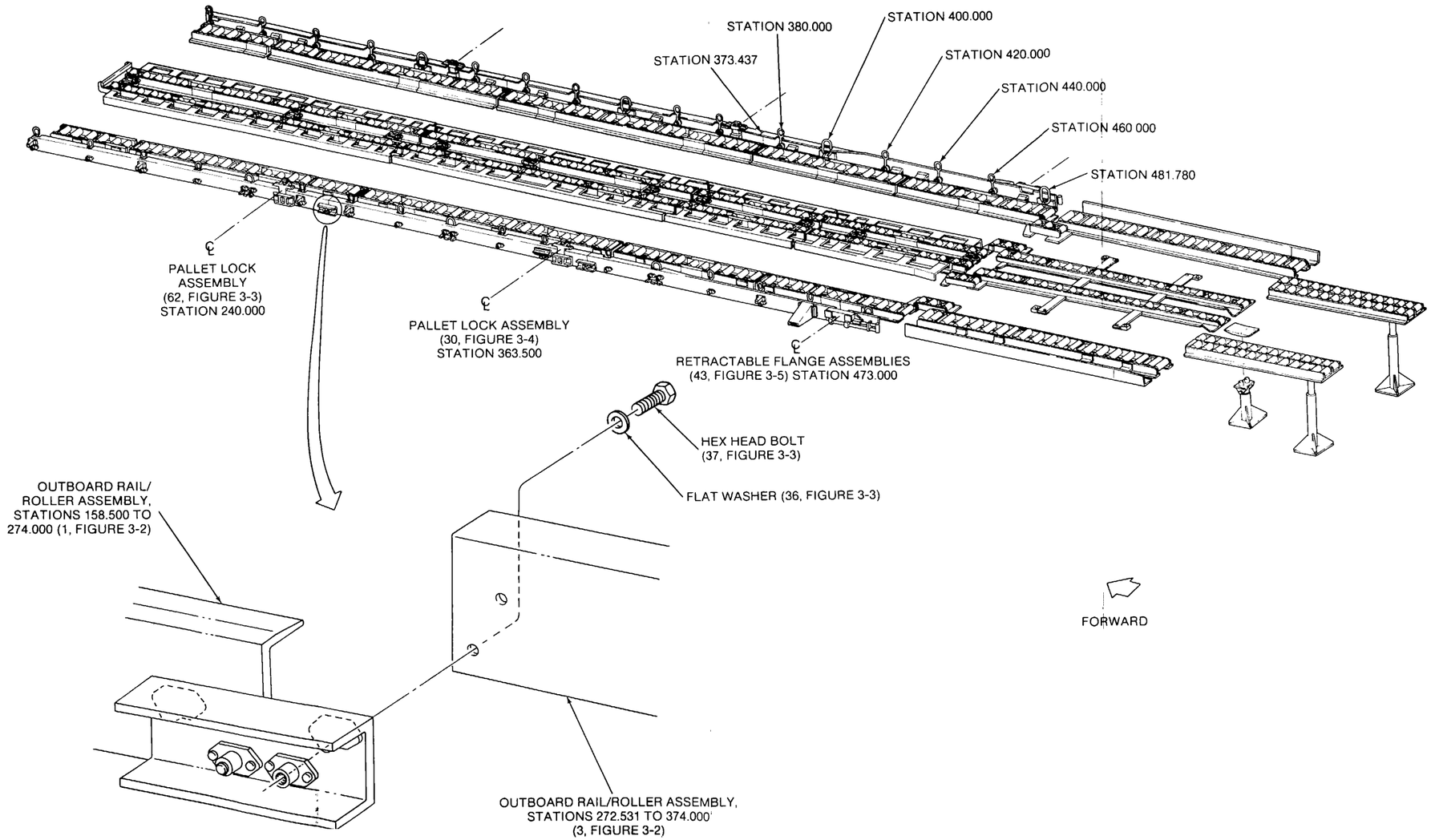

Figure 2-33. Ferry Fuel Port Access

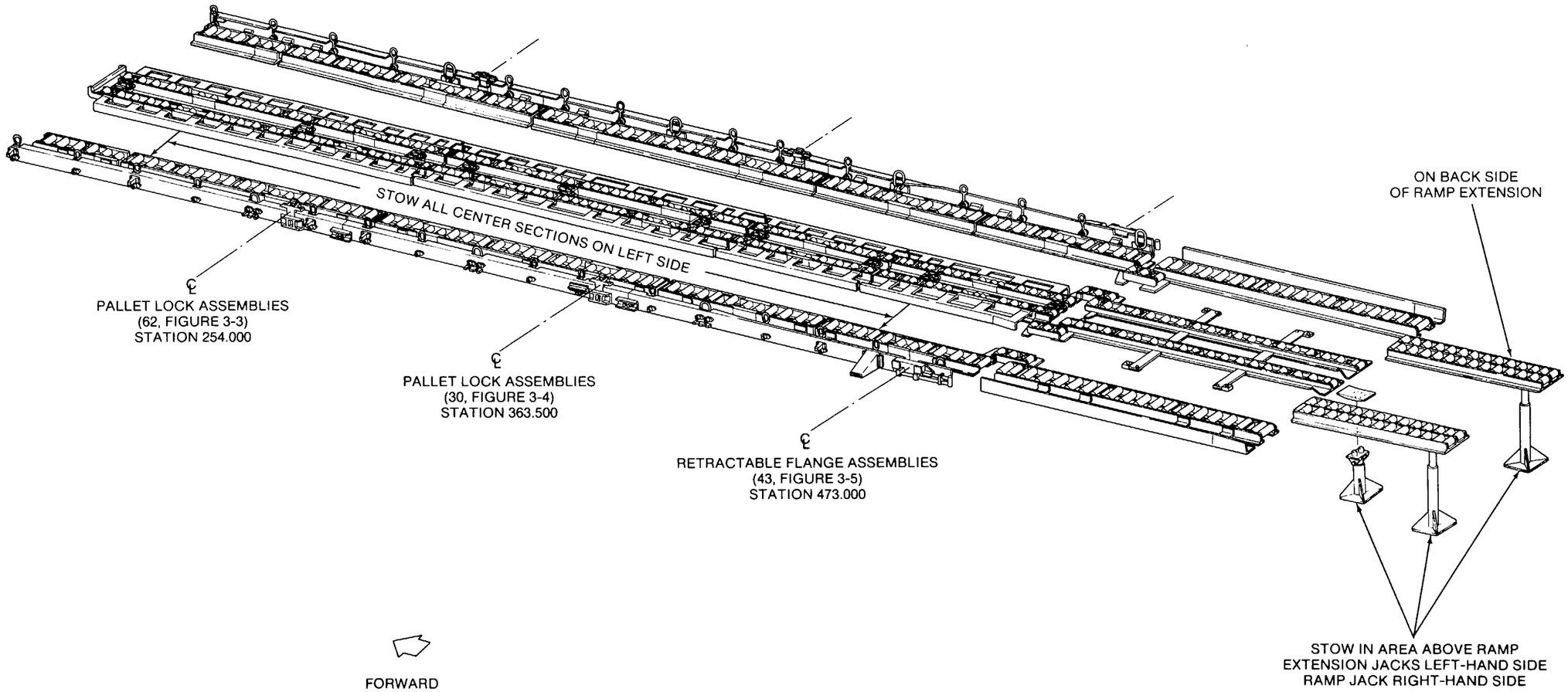

Figure 2-34. System Stowage Locations

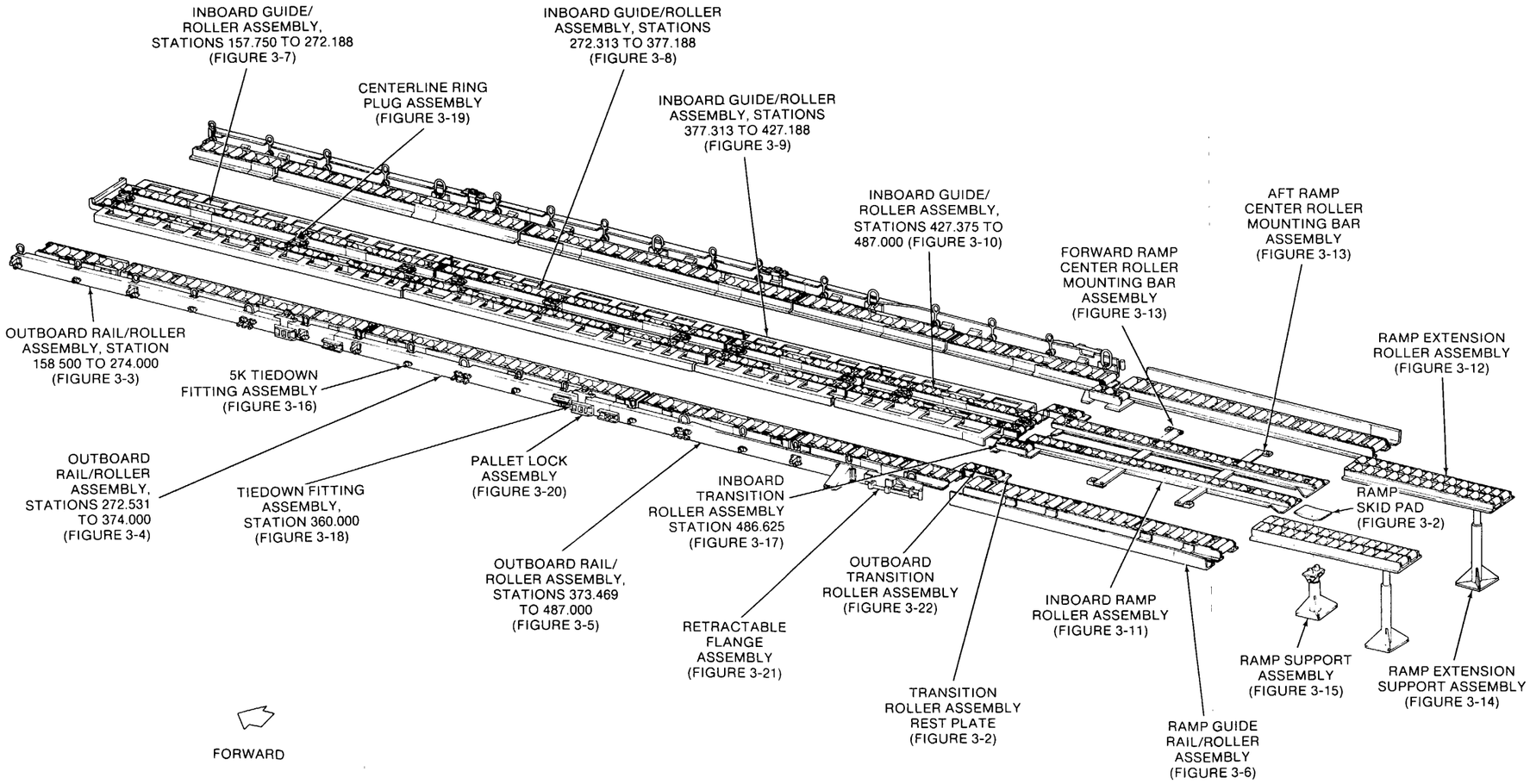

Figure 3-1. Helicopter Internal Cargo Handling System

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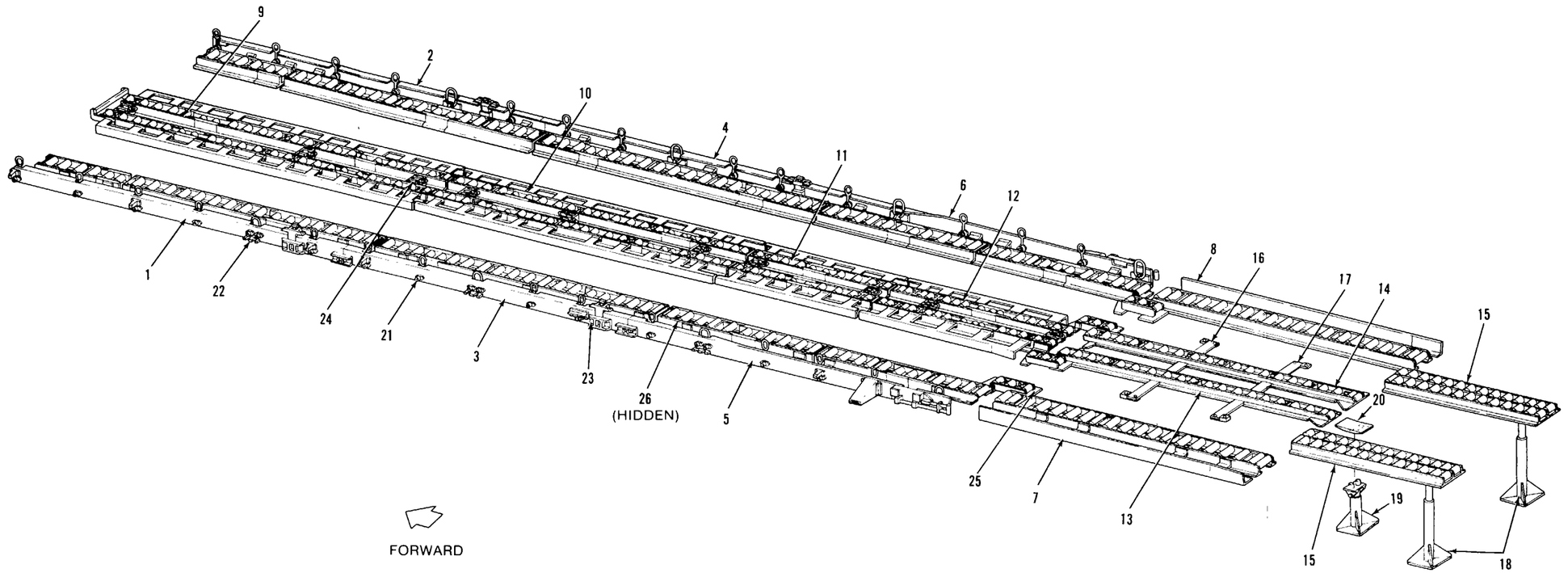

Figure 3-2. Helicopter Internal Cargo Handling System (Sheet 1 of 6)

FIGURE AND INDEX NO	PART NUMBER	FSCM	DESCRIPTION 1 2 3 4 5 6 7	UNITS PER ASSY	USABLE ON CODE
3-2-	18049 J 100	81868	HELICOPTER INTERNAL CARGO HANDLING SYSTEM, CH47 Helicopter	1	
-1	18049 J 101	81868.	OUTBOARD RAIL/ROLLER ASSEMBLY (LH), Stations 158.500 to 274.000 (See figure 3-3 for breakdown.)	1	
-2	18049 J 102	81868.	OUTBOARD RAIL/ROLLER ASSEMBLY (RH), Stations 158.500 to 274.000 (See figure 3-3 for breakdown.)	1	
-3	18049 J 103	81868.	OUTBOARD RAIL/ROLLER ASSEMBLY (LH), Stations 272.531 to 374.000 (See figure 3-4 for breakdown.)	1	
-4	18049 J 104	81868.	OUTBOARD RAIL/ROLLER ASSEMBLY (RH), Stations 272.531 to 374.000 (See figure 3-4 for breakdown.)	1	
-5	18049 J 105	81868.	OUTBOARD RAIL/ROLLER ASSEMBLY (LH), stations 373.469 to 487.000 (See figure 3-5 for breakdown.)	1	
-6	18049 J 106	81868.	OUTBOARD RAIL/ROLLER ASSEMBLY (RH), Stations 373.469 to 487.000 (See figure 3-5 for breakdown.)	1	
-7	18049 E 107	81868.	RAMP GUIDE RAIL/ROLLER ASSEMBLY (LH) (See figure 3-6 for breakdown.)	1	
-8	18049 E 108	81868 .	RAMP GUIDE RAIL/ROLLER ASSEMBLY (RH) (See figure 3-6 for breakdown.)	1	
-9	18049 J 121	81868.	INBOARD GUIDE/ROLLER ASSEMBLY, Stations 157.750 to 272.188 (See figure 3-7 for breakdown.)	1	
-10	18049 J 122	81868 .	INBOARD GUIDE/ROLLER ASSEMBLY, Stations 272.313 to 377.188 (See figure 3-8 for breakdown.)	1	
-11	18049 J 123	81868 .	INBOARD GUIDE/ROLLER ASSEMBLY, Stations 377.313 to 427.188 (See figure 3-9 for breakdown.)	1	
-12	18049 J 124	81868 .	INBOARD GUIDE/ROLLER ASSEMBLY, Stations 427.375 to 487.000 (See figure 3-10 for breakdown.)	1	
-13	18049 J 225	81868 .	INBOARD RAMP ROLLER ASSEMBLY (LH) (See figure 3-11 for breakdown.)	1	
-14	18049 J 226	81868 .	INBOARD RAMP ROLLER ASSEMBLY (RH) (See figure 3-11 for breakdown.)	1	
-15	18049 E 140	81868 .	RAMP EXTENSION ROLLER ASSEMBLY (See figure 3-12 for breakdown.)	2	
-16	18049 D 227	81868 .	MOUNTING BAR ASSEMBLY, Forward, ramp center roller (See figure 3-13 for breakdown.)		
-17	18049 D 228	81868 .	MOUNTING BAR ASSEMBLY, Aft, ramp center roller (See figure 3-13 for breakdown.)	1	
-18	18049 E 150	81868 .	RAMP EXTENSION SUPPORT ASSEMBLY (See figure 3-14 for breakdown.)	2	
-19	18049 E 160	81868 .	RAMP SUPPORT ASSEMBLY (See figure 3-15 for breakdown.)	1	
-20	18049 D 195	81868 .	PAD, Ramp skid	1	
-21	18049 D 117	81868 .	5k TIEDOWN FITTING ASSEMBLY (See figure 3-16 for breakdown.)	26	

FIGURE AND INDEX NO	PART NUMBER	FSCM	DESCRIPTION 1 2 3 4 5 6 7	UNITS PER ASSY	USABLE ON CODE
3-2-22	18049 E 207	81868	10k FITTING ASSEMBLY	8	
-22.1	18049 C 545	81868	SPACER	8	
-23	18049 C 245	81868	TIEDOWN Fl'-rIG ASSEMBLY, Station 360.000 (See figure 3-18 for breakdown)	2	
-24	18049 C 299	81868	RING PLUG ASSEMBLY, Centerline (See figure 3-19 for breakdown.)	10	
-25	18049 D 130	81868	PLATE, Rest, transition roller assembly	2	
-26	18049 D 250	81868	STRAP ASSEMBLY, Outboard roller, securing	34	
-27	NAS5174-12	80206	BOLT, Conterun (AP)	2	
-28	NAS6608-14	80206	BOLT, Hex head (AP)	16	
-29	NAS6608-15	802065	BOLT, Hex head (AP)	8	
-80	AN3-1OA	88044	BOLT, Hex head CAP)	28	
-31	AN960-10	88044	WASHER, Flat (AP)	36	
-32	AN4-1IA	88044	BOLT, Hex head (AP)	6	
33	AN960-416	88044	WASHER, Flat (AP)	18	
-34	NAS517-4-11	80205	BOLT, Counternk (AP)	6	
-35	AN4-12A	88044	BOLT, Hex head (AP)	4	
-36	AN4-SA	88044	BOLT, Hex head (AP)	8	
-37	MS21044-N4	96906	NUT, Self-locing (AP)	8	
-38	AN3-1A	88044	BOLT, Hex head (AP)	8	
-39	MS21250-05028	96906	BOLT, 12 point (AP)	16	
-40	AN960-516	88044	WASHER, Flat (AP)	32	
-41	18049 D 555	81868	BOLT, Special (AP)	16	
-42	AN960-816	88044	WASHER, Flat (AP)	16	
-43	AN960-816L	88044	WASHER, Flat AP)	8	

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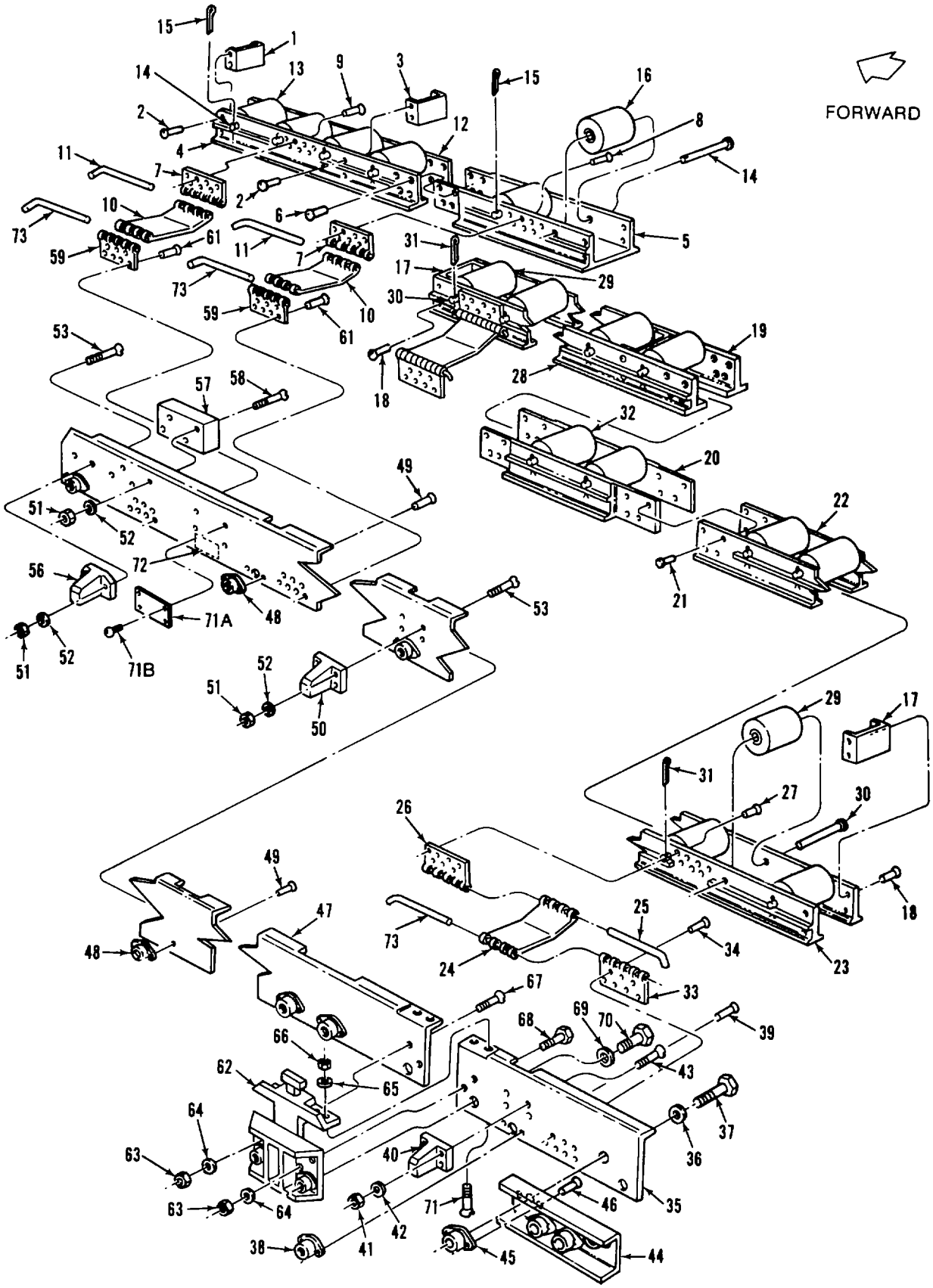

Figure 3-3. Outboard Rail/Roller Assembly, Stations 158.500 to 274.000

FIGURE AND INDEX NO	PART NUMBER	FSCM	DESCRIPTION 1 2 3 4 5 6 7	UNITS PER ASSY	USABLE ON CODE
3-3-	18049 J 101	81868	OUTBOARD RAIL/ROLLER ASSEMBLY..... (LH), Stations 158.500 to 274.000 (See 1, figure 3-2 for NHA.)	REF	A
	18049 J 102	81868	OUTBOARD RAIL/ROLLER ASSEMBLY..... (RH), Stations 158.500 to 274.000 (See 2, figure 3-2 for NHA.)	REF	B
	18049 E 131-1	81868	.FORWARD ROLLER OUTBOARD..... CONVEYOR ASSEMBLY (LH), Stations 160.000 to 189.000	1	A
	18049 E 131-2	81868	.FORWARD ROLLER OUTBOARD..... CONVEYOR ASSEMBLY (RH), Stations 160.000 to 189.000	1	B
	18049 E 131-3	81868	..FRAME ASSEMBLY (LH).....	1	A
	18049 E 131-4	81868	..FRAME ASSEMBLY (RH)	1	B
-1	18049 C 206	81868	...SPACER, Roller tray, outboard	1	
-2	MS20470AD8-10	96906	...RIVET, Solid (AP)	8	
-3	18049 C 129	81868	...SPACER, Roller tray, outboard	1	
-4	18049 D 161-1	81868	...TEE, Roller support, outboard, left-hand.....	1	A
	18049 D 161-2	81868	...TEE, Roller support, outboard, (RH)	1	B
-5	18049 E 511-1	81868	...CHANNEL, Roller support outboard, ... left-hand	1	A
	18049 E 511-2	81868	...CHANNEL, Roller support, outboard, ... right-hand	1	B
-6	MS20470AD6-12	96906	...RIVET, Solid (AP)	8	
-7	18049 C 156	81868	...HINGE, Offset, outboard roller/ ..... rail, main deck	2	
-8	MS20426AD6-14	96906	...RIVET, Countersunk (AP)	7	
-9	MS20426AD6-9	96906	...RIVET, Countersunk (AP)	7	
-10	18049 C 157	81868	...HINGE, Offset, outboard roller/ ..... rail, main deck	2	
-11	18049 D 155-3	81868	...PIN, Hinge (AP)	2	
-12	18049 D 162	81868	...TEE, Roller support, inboard	1	
-13	18049 C 148	81868	..ROLLER, Outboard		
-14	18049 C 246	81868	..SHAFT, Teeter roller, outboard	6	
-15	MS24665-353	96906	..PIN, Cotter (AP)	6	
-16	18049 C 149	81868	..ROLLER, Inboard	2	
	18049 E 132-1	81868	.ROLLER OUTBOARD CONVEYOR..... ASSEMBLY (LH), Stations 190.000 to 274.000	1	A
	18049 E 132-2	81868	.ROLLER OUTBOARD CONVEYOR..... ASSEMBLY (RH), Stations 190.000 to 274.000	1	B
	18049 E 132-3	81868	..FRAME ASSEMBLY (LH)	1	A
	18049 E 132-4	81868	..FRAME ASSEMBLY (RH)	1	B
-17	18049 C 129	81868	...SPACER, Roller tray, outboard	5	
-18	MS20470AD8-10	96906	...RIVET, Solid (AP)	20	
-19	18049 E 164-1	81868	...TEE, Roller support, inboard	1	
-20	18049 E 512-3	81868	...CHANNEL, Roller support, outboard, ... left-hand	1	A
	18049 E 512-4	86868	...CHANNEL, Roller support, outboard, ... right-hand	1	B
-21	MS20470AD6-12	96906	...RIVET, Solid (AP)	16	
-22	18049 E 164-2	81868	...TEE, Roller support, inboard	1	

FIGURE AND INDEX NO	PART NUMBER	FSCM	DESCRIPTION 1 2 3 4 5 6 7	UNITS PER ASSY	USABLE ON CODE
3-3-23	18049 E 163-3	81868	TEE, Roller support, outboard, lefthand	1	A
	18049 E 163-4	81868	TEE, Roller support, outboard, right-hand	1	B
-24	18049 C 157	81868	HINGE, Offset, outboard roller/rail, main deck	2	
-25	18049 D 155-3	81868	PIN, Hinge (AP)	2	
-26	18049 C 156	81868	HINGE, Offset, outboard roller/rail, main deck	2	
-27	MS20426AD6-9	96906	EIVET, Countersunk solid (AP)	14	
-28	18049 E 163-1	81868	TEE, Roller, support, outboard, left-hand	1	A
	18049 E 163-2	81868	TEE, Roller support, outboard, right-band	1	B
-29	18049 C 148	81868	ROLLER, Outboard	15	
30	18049 C 246	81868	SHAFT, Teeter roller, outboard	17	
-31	MS24665-33	96906	PIN, Cotter(AP)	17	
-32	18049 C 149	81868	ROLLER ;Ft, Outboard	2	
	18049 E 110-1	81868	RESTRAINT RAIL SUBASSEMBLY (LH), Stations 158.500 to 276281	A	
	18049 E 110-2	81868	RS NTRAIL SUBASSEMBLY (RC), Stations 158.500 to 276.281	1	B
	18049 E 217-1	81868	RESTRAINT RAIL SUBASSEMBLY (LH), Stations 255.875 to 276.000	1	A
	18049 E 217-2	81868	RESTRAINT RAIL SUBASGSFMRLY (RH), Stations 255.875 to 276.000	1	B
-33	18049 C 156	81868	HINGE, Outboard roller/rail, main deck	1	
-34	MS20470AD6-13	96906	RIVET, Solid (AP)	7	
-35	18049 D 211-1	81868	RAIL, Guide, outboard, left-hand	1	A
	18049 D 211-2	81868	RAIL, Guide, outboard, right-hand	1	B
-36	AN960-816L	88044	WASHER, Flat	2	
-37	NAS660815	80205	BOLT, Hex head (AP)	2	
-38	NAS1031P8	80205	NUT PLATE, Self-locking	1	
-39	MS20426AD5-12	96906	RIVET, Countersunk solid (AP)	2	
-40	18049 C 202-3	81868	BUMPER, Outboard guide rail	1	
-41	MS21042-4	96906	NUT, Self-locing (AP)	4	
	MS20364-1032	96906	NUT, Self-locking (Use only with Screw P/N MS27039-1-09)	AR	
-42	AN960-416	88044	WASHER, Flat (AP)	4	
	AN960-10L	88044	WASHER, Flat (Use only with Screw P/N MS27039- 1-11)	AR	
-43	NAS 5174-11	80205	BOLT, Countersunk(AP)	4	
	MS27039-1-09	96906	SCREW, Machine (Use only with Nut PDI MS20364-1032)	AR	
	MS27039-1-11	96906	SCREW (Use only with Washer P/N AN960-10L)	AR	
	18049 C 196	81868	SPLICE PLATE ASSEMBLY, Outboard guide rail	1	
-44	18049 C 196-1	81868	PLATE, Splice	1	
-45	NAS1031P8	80205	NUT PLATE, Self-loc-ing (AP)	4	
-46	MS20426AD6-12	96906	RIVET, Countersunk sold (AP)	8	
	18049 E 216-1	81868	RESTRANT RAIL SUBASSEMBLY (LH)	1	A
	18049 E 216-2	81868	RESTRAINT RAIL SUBASSEMBLY(RH)	1	B
-47	18049 E 210-1	81868	GUIDE RAIL, Outboard, left-hand	A	
	18049 E 210-2	81868	GUIDE RAIL, Outboard, right-hand	1	B
-48	NAS1031P8	80205	NUT PLATE, Self-loking	6	
-49	MS20426AD5-12	96906	RIET, Countersunk solid(AP)	12	
-50	18049 C 202-3	81868	BUMPER, Outboard guide rail	1	
-51	MS21042-4	96906	NUT, Self-locking CAP)	10	
-52	AN960-416	88044	WASHER, Flat (AP)	10	
-53	NAS5171-4-1	80205	BOLT, Countersunk (AP)	6	
-54	--	--	Deleted		
-55	--	--	Deleted		
-56	18049 C 262	81868	...BUMPER, Outboard guide rail	1	
-57	18049 C 116-1	81868	...STOP, Pallet, left-hand	1	A
	18049 C 116-2	81868	STOP, Pallet, right-hand	1	B

FIGURE AND INDEX NO	PART NUMBER	FSCM	DESCRIPTION 1 2 3 4 5 6 7	UNITS PER ASSY	USABLE ON CODE
3-3-58	NAS517-4-19	80205	...BOLT, Countersunk (AP)	4	
-59	18049 C 156	81868	...HINGE, Outboard roller/rail, main deck	3	
-60	-	-	Deleted		
-61	MS20470AD6-13	96906	...RIVET, Solid (AP)	21	
-62	18049 E 400	81868	..PALLET LOCK ASSEMBLY (See figure 3-20 for breakdown.)	1	
-63	MS21042-6	96906	..NUT, Self-locking (AP)	4	
-64	AN960-616	88044	..WASHER, Flat (AP)	4	
-65	AN960-416	88044	..WASHER, Flat (AP)	4	
-66	MS21042-4	96906	..NUT, Self-locking (AP)	4	
-67	NAS517-6-15	96906	..BOLT, Countersunk (AP)	2	
-68	AN6-14A	80205	..BOLT, Hex head (AP)	2	
-69	AN960-816	88044	..WASHER, Flat (AP)	2	
-70	AN8-15A	88044	..BOLT, Hex head (AP)	2	
-71	NAS517-4-8	80205	..BOLT, Countersunk (AP)	4	
-71A	18049 C 109	81869	..NAMEPLATE	1	A
-71B	MS24625-9	96906	..SCREW, Tapping (AP)	4	A
-72	18133 C 500	81868	..NAMEPLATE	1	
-73	18049 D 155-3	81868	..PIN, Hinge (AP)	4	

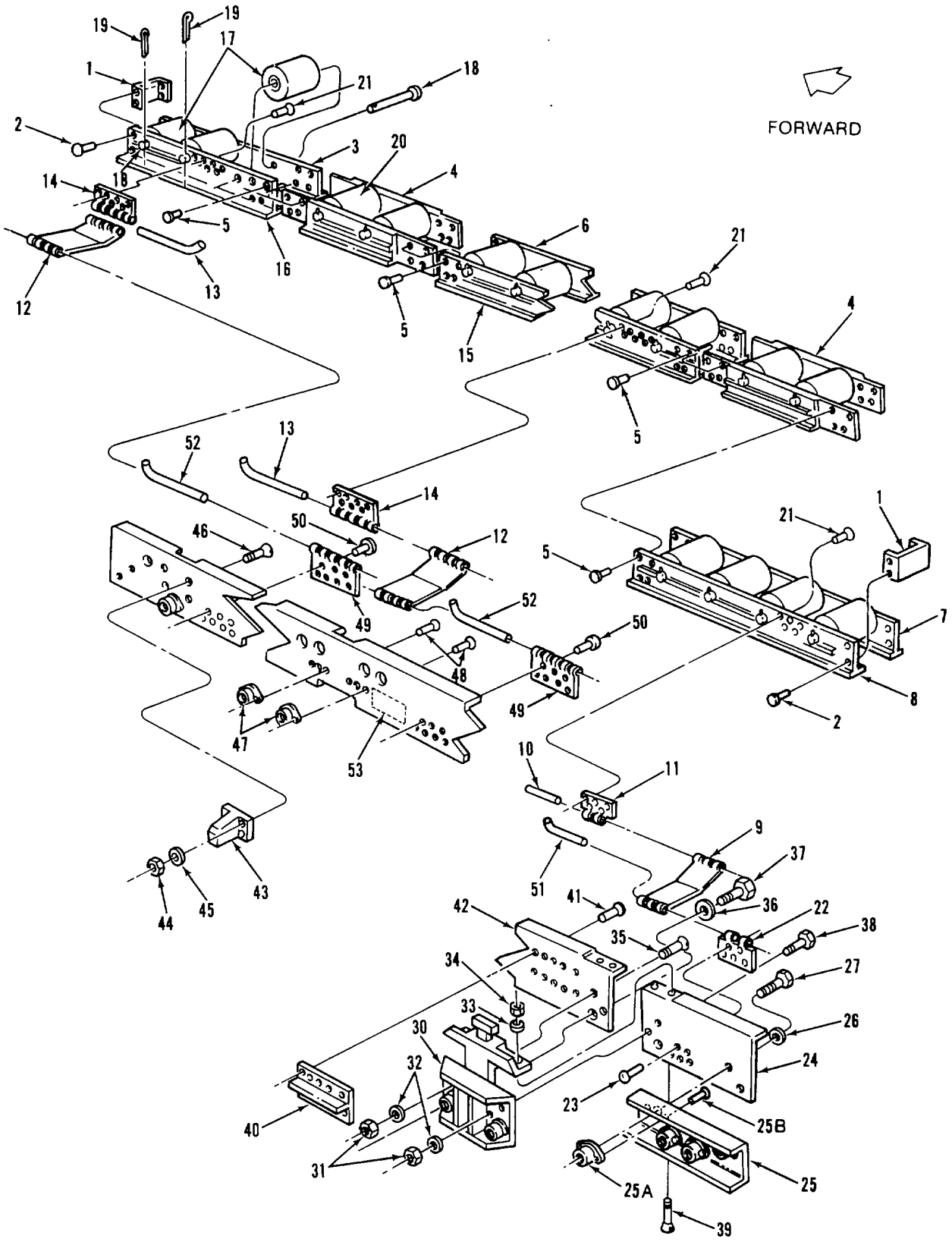

Figure 3-4. Outboard Rail/Roller Assembly, Stations 272.531 to 374.000

FIGURE AND INDEX NO	PART NUMBER	FSCM	DESCRIPTION 1 2 3 4 5 6 7	UNITS PER ASSY	USABLE ON CODE
3-4-	18049 J 103	81868	OUTBOARD RAIL/ROLLER ASSEMBLY..... (LH), Stations 272.531 to 374.000 (See 3, figure 3-2 for NHA.)	REFA	
	18049 J 104	81868	OUTBOARD RAIL/ROLLER ASSEMBLY..... (RH), Stations 272.531 to 374.000 ..... (See 4, figure 3-2 for NHA.).....	REF	B
	18049 E 133-1	81868	OUTBOARD ROLLER CONVEYOR..... ASSEMBLY (LH), Stations 275.000 to 374.000	1	A
	18049 E 133-2	81868	OUTBOARD ROLLER CONVEYOR..... ASSEMBLY (RH), Stations 275.000 to 374.000	1	B
	18049 E 133-3	81868	..FRAME ASSEMBLY (LH)	1	A
	18049 E 133-4	81868	..FRAME ASSEMBLY (RH)	1	B
-1	18049 C 129	81868	...SPACER, Roller tray, outboard	4	
-2	MS20470AD8-10	96906	...RIVET (AP)	16	
-3	18049 E 165-1	81868	...TEE, Roller support, inboard	1	
-4	18049 E 512-1	81868	...CHANNEL, Roller support, outboard	2	
-5	MS20470AD6-12	96906	...RIVET, Solid (AP)	32	
-6	18049 E 165-2	81868	...TEE, Roller support, inboard, stations ..... 275.000 to 374.000	1	
-7	18049 E 165-3	81868	...TEE, Roller support, inboard, stations ..... 275.000 to 374.000	1	
-8	18049 E 166-5	81868	...TEE, Roller support, outboard, left-hand.....	1	A
	18049 E 166-6	81868	...TEE, Roller support, outboard, right-hand	1	B
-9	18049 D 158-1	81868	...HINGE, Offset	1	
-10	18049 D 158-3	81868	...PIN, Hinge (AP)	1	
-11	18049 D 158-2	81868	...HINGE, Half.....	1	
-12	18049 C 157	81868	...HINGE, Offset, outboard roller/rail,..... main deck	2	
-13	18049 D 155-3	81868	...PIN, Hinge (AP)	2	
-14	18049 C 156	81868	...HINGE, Outboard roller/rail, main deck	2	
-15	18049 E 166-3	81868	...TEE, Roller support, outboard, left-hand.....	1	A
	18049 E 166-4	81868	...TEE, Roller support, outboard, right-hand	1	B
-16	18049 E 166-1	81868	...TEE, Roller support, outboard, left-hand.....	1	A
	18049 E 166-2	81868	...TEE, Roller support, outboard, right-hand	1	B
-17	18049 C 148	81868	..ROLLER, Outboard	16	
-18	18049 C 246	81868	..SHAFT, Teeter roller, outboard	20	
-19	MS24665-353	96906	..PIN, Cotter (AP)	20	
-20	18049 C 149	81868	..ROLLER, Inboard	4	
-21	MS24026AD6-9	96906	..RIVET, Countersunk solid (AP)	19	
	18049 E 112-1	81868	..RESTRAINT RAIL ASSEMBLY (LH)	1	A
	18049 E 112-2	81868	.RESTRAINT RAIL ASSEMBLY (RH)	1	B
	18049 E 219-1	81868	.RESTRAINT RAIL SUBASSEMBLY (LH),..... Stations 365.375 to 377.218	1	A
	18049 E 219-2	81868	..RESTRAINT RAIL SUBASSEMBLY (RH),..... Stations 365.375 to 377.218	1	B
-22	18049 D 158-2	81868	...HINGE, Half	1	
-23	MS20426AD6-14	96906	...RIVET, Countersunk solid (AP)	5	
-24	18049 D 213-1	81868	...RAIL, Guide, outboard, left-hand, ... stations 365.375 to 373.406	1	A
	18049 D 213-2	81868	...RAIL, Guide, outboard, right-hand, ... stations 365.375 to 373.406	1	B

FIGURE AND INDEX NO	PART NUMBER	FSCM	DESCRIPTION 1 2 3 4 5 6 7	UNITS PER ASSY	USABLE ON CODE
3-4-	18049 C 196	81868	SPLICE PLATE ASSEMBLY, Outboard guide rail	1	
-25	18049 C 196-1	81868	PLATE, Splice	1	
-25A	NAS1031P8	80205	NUT PLATE, Self-locking (AP)	4	
-25B	MS20426AD5-12	96906	RIVET, Countersunk solid (AP)	8	
-26	AN960-816L	88044	WASHER, Flat (AP)	2	
-27	NAS6608-15	80205	BOLT, Hex head (AP)	2	
-28	-		Deleted		
-29	-	-	Deleted		
-30	18049 E 400	81868	PALLET LOCK ASSEMBLY (See figure 3-20 for breakdown.)	1	
-31	MS21042-6	96906	NUT, Self-locking (AP)	4	
-32	AN960-616	88044	WASHER, Flat (AP)	4	
-33	AN960-416	88044	WASHER, Flat (AP)	4	
-34	MS21042-4	96906	NUT, Self-locking (AP)	4	
-35	NAS517-6-15	80205	BOLT, Countersunk (AP)	2	
-36	AN960-816	88044	WASHER, Flat (AP)	1	
-37	AN8-15A	88044	BOLT, Hex head (AP)	1	
-38	AN6-14A	88044	BOLT, Hex head (AP)	2	
-39	NAS517-4-8	80205	BOLT, Countersunk (AP)	4	
	18049 E 218-1	81868	RESTRAINT RAIL SUBASSEMBLY (LH), Stations 272.531 to 361.625	1	A
	18049 E 218-2	81868	RESTRAINT RAIL SUBASSEMBLY (RH), Stations 272.531 to 361.625	1	B
-40	18049 C 255	81868	TEE, Backup, Station 356.000	1	
-41	MS20426AD8-16	96906	RIVET, Countersunk solid (AP)	10	
-42	18049 E 212-1	81868	RAIL, Guide, outboard, left-hand, stations 272.531 to 361.625	1	A
	18049 E 212-2	81868	RAIL, Guide, outboard, right-hand, stations 272.531 to 361.625	1	B
-43	18049 C 202-3	81868	BUMPER, Outboard guide rail	1	
-44	MS21042-4	96906	NUT, Self-locking (AP)	4	
-45	AN960-416	88044	WASHER (AP)	4	
-46	NAS517-4-11	80205	BOLT, Countersunk (AP)	4	
-47	NAS1031P8	80205	NUT PLATE, Self-locking	6	
-48	MS20426AD5-12	96906	RIVET, Countersunk solid (AP)	12	
-49	18049 C 156	81868	HINGE, Outboard roller/rail, main deck	2	
-50	MS20470AD6-13	96906	RIVET, Solid (AP)	14	
-51	18049 D 158-3	81868	PIN, Hinge (AP)	1	
-52	18049 D 155-3	81868	PIN, Hinge (AP)	2	
-53	18133 C 500	81868	NAMEPLATE	1	

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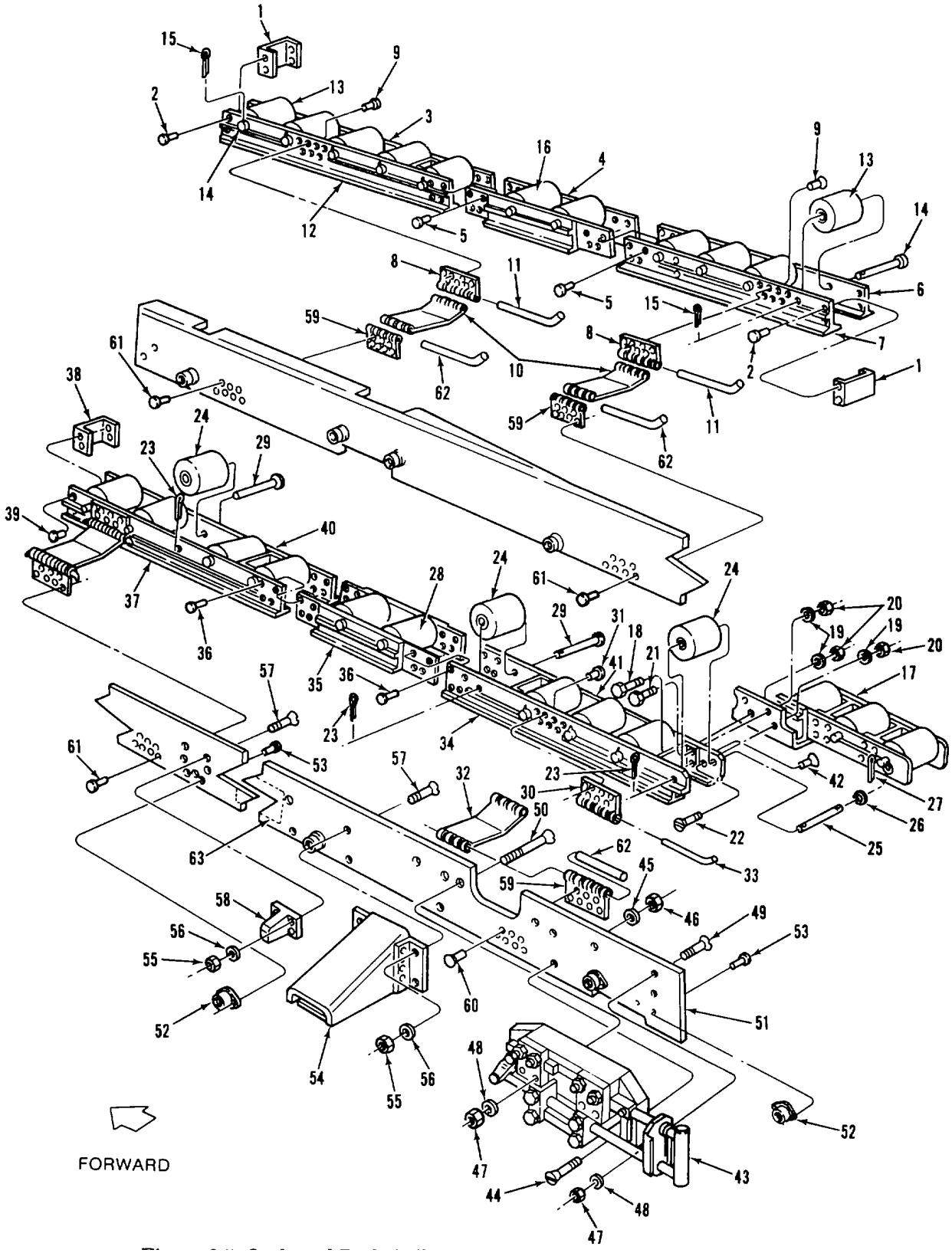

Figure 3-5. Outboard Rail/Roller Assembly, Stations 373.469 to 487.000

FIGURE AND INDEX NO	PART NUMBER	FSCM	DESCRIPTION 1 2 3 4 5 6 7	UNITS PER ASSY	USABLE ON CODE
3-5-	18049 J 105	81868	OUTBOARD RAIL/ROLLER ASSEMBLY..... (LH), Stations 373.469 to 487.000 (See 5, figure 3-2 for NHA.)	REF	A
	18049 J 106	81868	OUTBOARD RAIL/ROLLER ASSEMBLY..... (RH), Stations 373.469 to 487.000 (See 6, figure 3-2 for NHA.)	REF	B
	18049 E 134-1	81868	OUTBOARD ROLLER CONVEYOR..... ASSEMBLY (LH), Stations 375.000 to 429.000	1	A
	18049 E 134-2	81868	OUTBOARD ROLLER CONVEYOR..... ASSEMBLY (RH), Stations 375.000 to 429.000	1	B
	18049 E 134-3	81868	..FRAME ASSEMBLY (LH).....	1	A
	18049 E 134-4	81868	..FRAME ASSEMBLY (RH).....	1	B
-1	18049 C 129	81868	...SPACER, Roller tray, outboard	3	
-2	MS20470AD8-10	96906	...RIVET, Solid (AP).....	12	
-3	18049 E 168-1	81868	...TEE, Roller support, inboard, stations ..... 375.000 to 429.000	1	
-4	18049 E 512-1	81868	...CHANNEL, Roller support, outboard	1	
-5	MS20470AD6-12	96906	...RIVET, Solid (AP)	16	
-6	18049 E 168-2	81868	...TEE, Roller support, inboard, stations ..... 375.000 to 429.000	1	
-7	18049 E 167-3	81868	...TEE, Roller support, outboard, left-hand,..... stations 375.000 to 429.000	1	A
	18049 E 167-4	81868	...TEE, Roller support, outboard, right-hand, ... stations 375.000 to 429.000	1	B
-8	18049 C 156	81868	...HINGE, Outboard roller/rail, main deck	2	
-9	MS20426AD6-9	96906	...RIVET, Countersunk solid (AP)	14	
-10	18049 C 157	81868	...HINGE, Offset, outboard roller/rail,..... main deck	2	
-11	18049 D 155-3	81868	...PIN, Hinge (AP)	2	
-12	18049 E 167-1	81868	...TEE, Roller support, outboard, left-hand,..... stations 375.000 to 429.000	1	A
	18049 E 167-2	81868	...TEE, Roller support, outboard, right-hand, ... stations 375.000 to 429.000	1	B
-13	18049 C 148	81868	...ROLLER, Outboard	9	
-14	18049 C 246	81868	..SHAFT, Teeter roller, outboard	11	
-15	MS24665-353	96906	..PIN, Cotter (AP)	11	
-16	18049 C 149	81868	..ROLLER, Inboard	2	
	18049 E 135-1	81868	.OUTBOARD ROLLER CONVEYOR..... ASSEMBLY (LH), Stations 430.000 to 487.000	1	A
	18049 E 135-2	81868	.OUTBOARD ROLLER CONVEYOR..... ..ASSEMBLY (RH), Stations 430.000 to 487.000	1	B
-17	18049 E 280-1	81868	..OUTBOARD TRANSITION ROLLER..... ..ASSEMBLY (LH) (See figure 3-22 for breakdown.)	1	A
	18049 E 280-2	81868	..OUTBOARD TRANSITION ROLLER..... ..ASSEMBLY (RH) (See figure 3-22 for breakdown.)	1	B
-18	AN4-6A	88044	..BOLT, Hex head (AP)	1	
-19	AN960-416	88044	..WASHER(AP)	4	
-20	MS21042-4	96906	..NUT (AP).....	4	

FIGURE AND INDEX NO	PART NUMBER	FSCM	DESCRIPTION 1 2 3 4 5 6 7	UNITS PER ASSY	USABLE ON CODE
3-5-21	AN4-7A	88044	..BOLT, Hex head (AP)	1	
-22	NAS517-4-5	80205	..SCREW, Flat head (AP)	2	
-23	MS24665-353	96906	..PIN, Cotter(AP)	12	
-24	18049 C 148	81868	..ROLLER, Outboard	10	
-25	18049 C 247-2	81868	..SHAFT, Teeter roller, inboard	1	
-26	AN960-616	88044	..WASHER, Flat (AP)	1	
-27	MS24665-351	96906	..PIN, Cotter (AP)	1	
-28	18049 C 149	81868	..ROLLER, Inboard	2	
-29	18049 C 246	81868	..SHAFT, Teeter roller, outboard	11	
	18049 E 135-3	81868	..FRAME ASSEMBLY (LH)	1	A
	18049 E 135-4	81868	..FRAME ASSEMBLY (RH)	1	B
-30	18049 C 156	81868	...HINGE, Roller/rail, outboard, main deck	2	
-31	MS20426AD6-9	96906	...RIVET, Countersunk (AP)	14	
-32	18049 C 157	81868	...HINGE, Offset, outboard roller/rail, main deck	2	
-33	18049 D 155-3	81868	...PIN, Hinge (AP)	2	
-34	18049 E 169-3	81868	...TEE, Roller support, outboard, left-hand, stations 430.000 to 487.000	1	A
	18049 E 169-4	81868	...TEE, Roller support, outboard, right-hand, stations 430.000 to 487.000	1	B
-35	18049 E 512-1	81868	...CHANNEL, Roller support, outboard	1	
-36	MS20470AD6-12	96906	...RIVET, Solid (AP)	16	
-37	18049 E 169-1	81868	...TEE, Roller support, outboard, right-hand, stations 430.000 to 487.000	1	A
	18049 E 169-2	81868	...TEE, Roller support, outboard, left-hand, stations 430.000 to 487.000	1	B
-38	18049 C 129	81868	...SPACER, Roller tray, outboard	4	
-39	MS20470AD8-10	96906	...RIVET, Solid (AP)	14	
-40	18049 E 170-1	81868	...TEE, Roller support, inboard, stations 430.000 to 487.000	1	
	18049 E 170-3	81868	...TEE, Roller support, inboard left-hand, stations 430.000 to 487.000	1	A
	18049 E 170-4	81868	...TEE, Roller support, inboard right-hand, stations 430.000 to 487.000	1	B
-42	MS20426AD8-10	96906	...RIVET, Countersunk (AP)	1	
	18049 E 114-1	81868	.RESTRAINT RAIL ASSEMBLY (LH), Stations 373.469 to 486.930	1	A
	18049 E 114-2	81868	.RESTRAINT RAIL ASSEMBLY (RH), Stations 373.469 to 486.930	1	B
-43	18049 E 300-1	81868	..RETRACTABLE FLANGE ASSEMBLY (LH) (See figure 3-21 for breakdown.)	1	A
	18049 E 300-2	81868	..RETRACTABLE FLANGE ASSEMBLY (RH) (See figure 3-21 for breakdown.)	1	B
-44	NAS517-8-23	80205	..BOLT, Countersunk (AP)	4	
-45	AN960-816	88044	..WASHER (AP)	4	
-46	MS21044-N8	96906	..NUT, Self-locking (AP)	4	
-47	MS21042-5	96906	..NUT, Self-locking (AP)	6	
-48	AN960-516	88044	..WASHER (AP)	6	
-49	NAS517-5-11	80205	..BOLT, Countersunk (AP)	2	

FIGURE AND INDEX NO	PART NUMBER	FSCM	DESCRIPTION 1 2 3 4 5 6 7	UNITS PER ASSY	USABLE ON CODE
3-5-50	NAS517-5-42	80205	..BOLT, Countersunk (AP)	4	
	18049 E 220-1	81868	..RESTRAINT RAIL SUBASSEMBLY (LH), Stations 373.469 to 486.930	1	A
	18049 E 220-2	81868	..RESTRAINT RAIL SUBASSEMBLY (RH), Stations 373.469 to 486.930	1	B
-51	18049 E 214-1 373.469 to 486.930	81868	...RAIL, Guide, outboard, stations	1	A
	18049 E 214-2 373.469 to 486.930	81868	...RAIL, Guide, outboard, stations	1	B
-52	NAS1031P8	80205	...NUT PLATE, Self-locking	8	
-53	MS20426AD5-12	96906	...RIVET, Countersunk solid (AP)	16	
-54	18049 E 203 460.000	81868	...OUTRIGGER ASSEMBLY, Station	1	
-55	MS21042-4	96906	...NUT, Self-locking (AP)	8	
-56	AN960-416	88044	...WASHER (AP)	8	
-57	NAS517-4-11	80205	...BOLT, Countersunk (AP)	8	
-58	18049 C 202-1	81868	...BUMPER, Guide rail, left-hand, outboard	1	A
	18049 C 202-2	81868	...BUMPER, Guide rail, right-hand, outboard	1	B
-59	18049 C 156	81868	...HINGE, Outboard roller/rail, main deck	4	
-60	MS20426AD6-14	96906	...RIVET, Countersunk solid (AP)	7	
-61	MS20470AD6-13	96906	...RIVET, Solid (AP)	21	
-62	18049 D 155-3	81868	.PIN, Hinge (AP)	4	
-63	18133 C 500	81868	.NAMEPLATE	1	

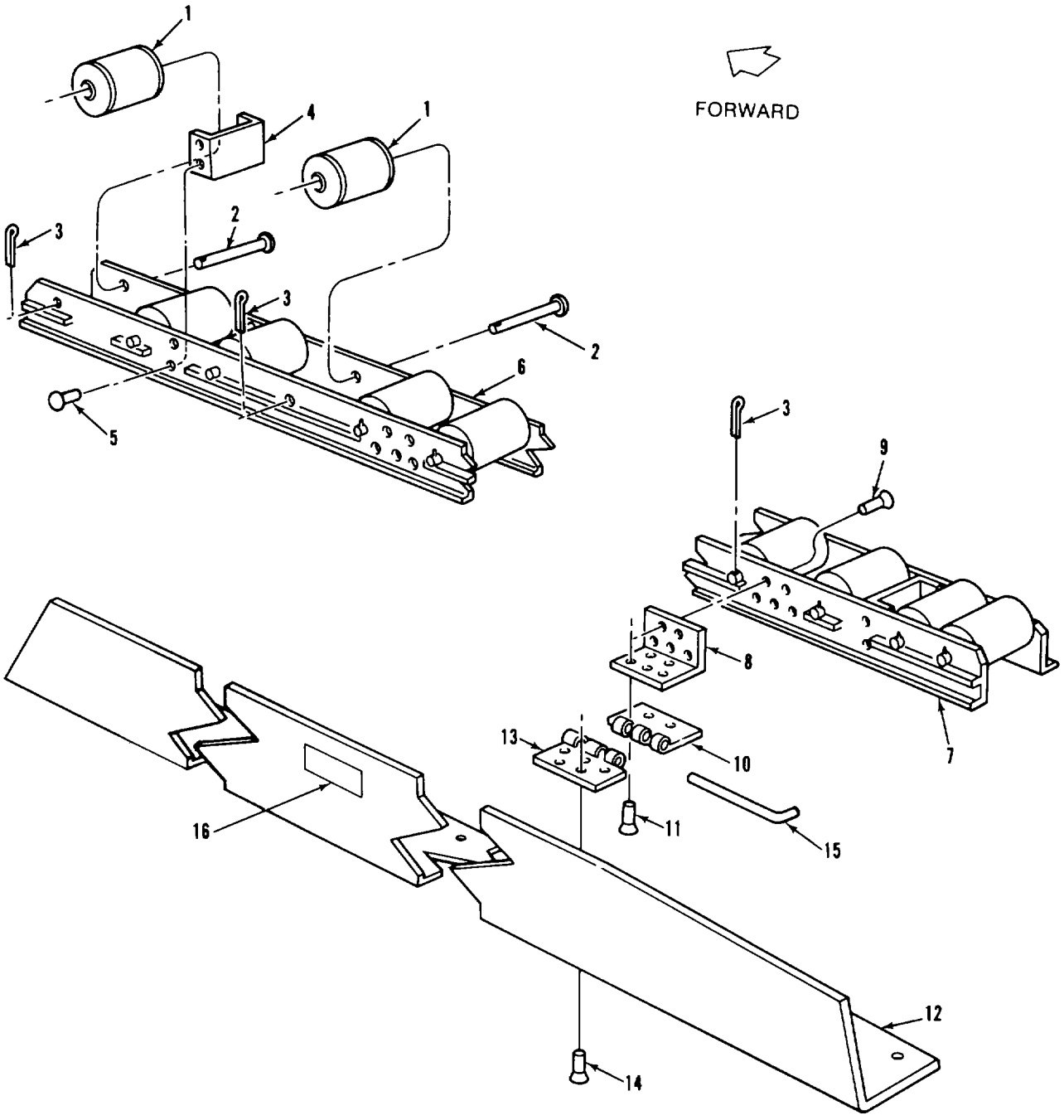

Figure 3-6. Ramp Guide Rail/Roller Assembly

FIGURE AND INDEX NO	PART NUMBER	FSCM	DESCRIPTION 1 2 3 4 5 6 7	UNITS PER ASSY	USABLE ON CODE
3-6-	18049 E 107	81868	RAMP GUIDE RAIL/ROLLER ASSEMBLY (LH) (See 7, figure 3-2 for NHA.)	REF	A
	18049 E 108	81868	RAMP GUIDE RAIL/ROLLER ASSEMBLY (RH) (See 8, figure 3-2 for NHA.)	REF	B
	18049 E 201-1	81868	.ROLLERCONVEYORRAMPASSEMBLY(LH)	1	A
	18049 E 201-2	81868	..ROLLERCONVEYORRAMPASSEMBLY(RH)	1	B
-1	18049 C 148	81868	..ROLLER, Outboard	20	
-2	18049 C 246	81868	..SHAFT, Teeter roller, outboard	20	
-3	MS24665-353	96906	..PIN, Cotter (AP)	20	
	18049 E 201-3	81868	..FRAME ASSEMBLY (LH)	1	A
	18049 E 201-4	81868	..FRAME ASSEMBLY (RH)	1	B
-4	18049 C 129	81868	...SPACER, Roller tray, outboard	4	
-5	MS20470AD8-10	96906	...RIVET, Solid (AP)	16	
-6	18049 E 198	81868	...TEE, Roller support, ramp, inboard	1	
-7	18049 E 197-1	81868	...TEE, Roller support, ramp, outboard, left-hand	1	A
	18049 E 197-2	81868	...TEE, Roller support, ramp, outboard, right-hand	1	B
-8	18049 D 155-2	81868	...ANGLE, Hinge attachment	4	
-9	MS20426AD6-9	96906	...RIVET, Countersunk solid (AP)	20	
-10	18049 D 155-4	81868	...HINGE, Half	4	
-11	MS20426AD6-8	96906	...RIVET, Countersunk solid (AP)	20	
	18049 E 221-1	81868	.GUIDE RAIL RAMP ASSEMBLY (LH)	1	A
	18049 E 221-2	81868	.GUIDE RAIL RAMP ASSEMBLY (RH)	1	B
-12	18049 E 215-1	81868	..RAMP, Guide rail, left-hand	1	A
	18049 E 215-2	81868	..RAMP, Guide rail, right-hand	1	B
-13	18049 D 155-1	81868	..HINGE, Half	4	
-14	MS20426AD6-12	96906	..RIVET, Countersunk solid (AP)	20	
-15	18049 D 155-5	81868	.PIN, Hinge (AP)	4	
-16	18133 C 500	81868	.NAMEPLATE	1	

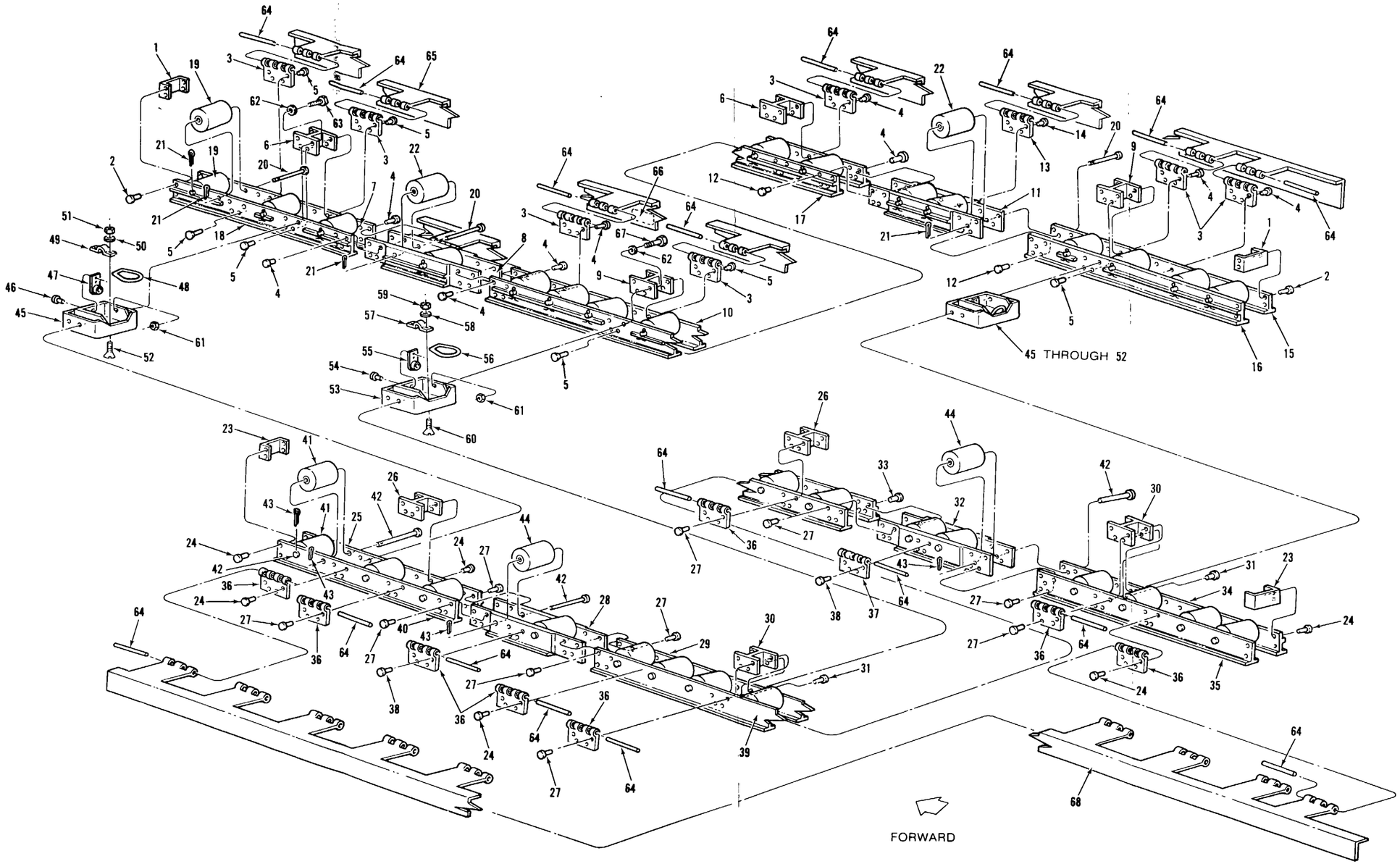

Figure 3-7. Inboard Guide/Roller Assembly Stations 157.750 to 272.188
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FIGURE AND INDEX NO	PART NUMBER	FSCM	DESCRIPTION 1 2 3 4 5 6 7	UNITS PER ASSY	USABLE ON CODE
3-7-	18426E1000	81868	CENTERLINE CABLE ROLLER ASSEMBLY, Stations 157.750 to 272.188 (See 9, figure 3-2 for NHA.)	REF	
-1	18049D260	81868	.Weldment (Pallet Stop)	1	
	18049D248	81868	.SHAFT, Roller/pallet stop, inboard	2	
-2	18049D248-1	81868	..SHAFT	1	
-2A	5560-37ZD	79136	..RING, Retaining	1	
-2B	18426C1005	81868	.SHAFT	1	
-2C	MS24665-368	96906	..PIN, Cotter	1	
-2D	AN960-816L	88044	.WASHER, Flat	2	
-2E	18426C1006	81868	.ROLLER	1	
-2F	AN4-21A	88044	.BOLT, Machine	4	
-2G	MS21044-N4	96906	..NUT, Self-Locking	4	
-2H	AN960-416L	88044	..WASHER, Flat	4	
-3	AN960-616	88044	.WASHER, Flat (AP)	4	
4	MS24665-353	96906	.PIN, Cotter (AP)	2	
-5	18049 E 187-2	81868	.GUIDE, Center rail, inboard	1	
-6	18049 B 297	81868	.PIN, Hinge, inboard (AP)	24	
-7	18049 C 149	81868	.ROLLER, Inboard	2	
-8	18133 C 500	81868	.NAMEPLATE	1	
	18049 D 191-1	81868	.TIEDOWN ASSEMBLY, Center rail	3	
-9	18049 D 192-1	81868	..TIEDOWN, Center rail	1	
-10	MS20426AD4-10	96906	..RIVET, Solid (AP)	2	
-11	MS21052-L6	96906	..PLATE, Nut	1	
-12	353512-1	98897	..RING	1	
-13	338018-4	98897	..STRAP (AP)	1	
-14	AN960-616L	88044	..WASHER, Flat (AP)	2	
-15	MS21044-N6	96906	..NUT (AP)	2	
-16	NAS517-6-10	80205	..SCREW, Flat head (AP)	2	
-17	AN4-10A	88044	.BOLT, Hex head (AP)	8	
-18	AN960.416	88044	.WASHER, Flat (AP)	12	
-19	MS21044-N4	96906	.NUT, Hex (AP)	12	
-20	AN4-7A	88044	.BOLT, Hex head (AP)	4	
-21	18049 E 187-1	81868	.GUIDE, Center rail, inboard	1	
	10849 E 171-2	81868	.ROLLER CONVEYOR ASSEMBLY (RH), Stations 157.750 to 272.125	1	
	18049 E 171-4	81868	...FRAME ASSEMBLY (RH)	1	
-22	18049 C 209	81868	...SPACER, Roller tray, inboard	1	
-23	MS20470AD6-10	96906	...RIVET, Solid (AP)	36	
-24	18049 E 296-2	81868	...CROSSMEMBER, Roller conveyors, inboard	2	
-25	MS20426AD6-10	96906	...RIVET, Solid countersunk head, (AP)	4	
-26	18049 C 194	81868	...HINGE, Pallet guide	12	
-27	MS20470AD6-12	96906	...RIVET, Solid (AP)	40	
-28	18049 E 172-1	81868	...TEE, Roller support, inboard, stations 157.750 to 272.125	1	
-29	MS20470AD6-14	96906	...RIVET, Solid (AP)	12	
-30	18049 E 515-2	81868	...CHANNEL, Roller support, inboard	1	
-31	18049 E 296-1	81868	...CROSSMEMBER, Roller conveyors, inboard	2	
-32	18049 E 173-2	81868	...TEE, Roller support, inboard, stations 157.750 to 272.125	1	
-33	18049 E 515-4	81868	...CHANNEL, Roller support, inboard	1	
-34	18049 E 172-3	81868	...TEE, Roller support, inboard, stations 157.750 to 272.125	1	
365	18049 E 296-3	81868	...CROSSMEMBER, Roller conveyors, inboard	1	
-36	18049 E 174-6	81868	...TEE, Roller support, inboard, stations 157.75 to 272.125	1	

FIGURE AND INDEX NO	PART NUMBER	FSCM	DESCRIPTION 1 2 3 4 5 6 7	UNITS PER ASSY	USABLE ON CODE
3-7-37	18049 E 174-4	81868	...TEE, Roller support, inboard, stations 157.750 to 272.125	1	
-38	18049 E 174-2	81868	...TEE, Roller support, inboard, stations 157.750 to 272.125	1	
-39	18049 C 249	81868	..SHAFT, Inboard roller	22	
-40	18049 C 149	81868	..ROLLER, Inboard	18	
-41	MS24665-353	96906	..PIN, Cotter (AP)	22	
-42	10849 C 510	81868	..ROLLER, Inboard	4	
	18049 E 171-1	81868	.ROLLER CONVEYOR ASSEMBLY (LH), Stations 157.750 to 272.125	1	
	18049 E 171-3	81868	..FRAME ASSEMBLY (LH)	1	
-43	18049 C 209	81868	...SPACER, Roller tray, inboard	1	
-44	MS20470AD6-10	96906	...RIVET, Solid (AP)	36	
-45	18049 E 296-2	81868	...CROSSMEMBER, Roller conveyors, inboard	2	
-46	MS20426AD6-10	96906	...RIVET, Solid, countersunk head (AP)	4	
-47	18049 E 174-1	81868	...TEE, Roller support, inboard, stations 157.750 to 272.125	1	
-48	18049 E 515-1	81868	...CHANNEL, Roller support, inboard	1	
-49	MS20470AD6-12	96906	...RIVET, Solid (AP)	40	
-50	18049 E 174-3	81868	...TEE, Roller support, inboard, stations 157.750 to 272.125	1	
-51	18049 E 515-3	81868	...CHANNEL, Roller support, inboard	1	
-52	18049 E 174-5	81868	...TEE, Roller support, inboard, stations 157.750 to 272.125	1	
-53	18049 E 296-1	81868	...CROSSMEMBER, Roller conveyors,	2	
-54	18049 E 296-3	81868	...CROSSMEMBER, Roller conveyors, inboard	1	
-55	18049 E 172-3	81868	...TEE, Roller support, inboard, stations 157.750 to 272.125	1	
-56	18049 C 194	81868	...HINGE, Pallet guide	12	
-57	MS20470AD6-14	96906	...RIVET, Solid (AP)	12	
-58	18049 E 172-2	81868	...TEE, Roller support, inboard, stations 157.750 to 272.125	1	
-59	18049 E 172-1	81868	....TEE, Roller support, inboard, stations 157.750 to 272.125	1	
-60	18049 C 149	81868	..ROLLER, Inboard	18	
-61	18049 C 249	81868	..SHAFT, Inboard roller	22	
-62	MS24665-353	96906	..PIN, Cotter (AP)	22	
-63	18049 C 510	81868	..ROLLER, Inboard	4	

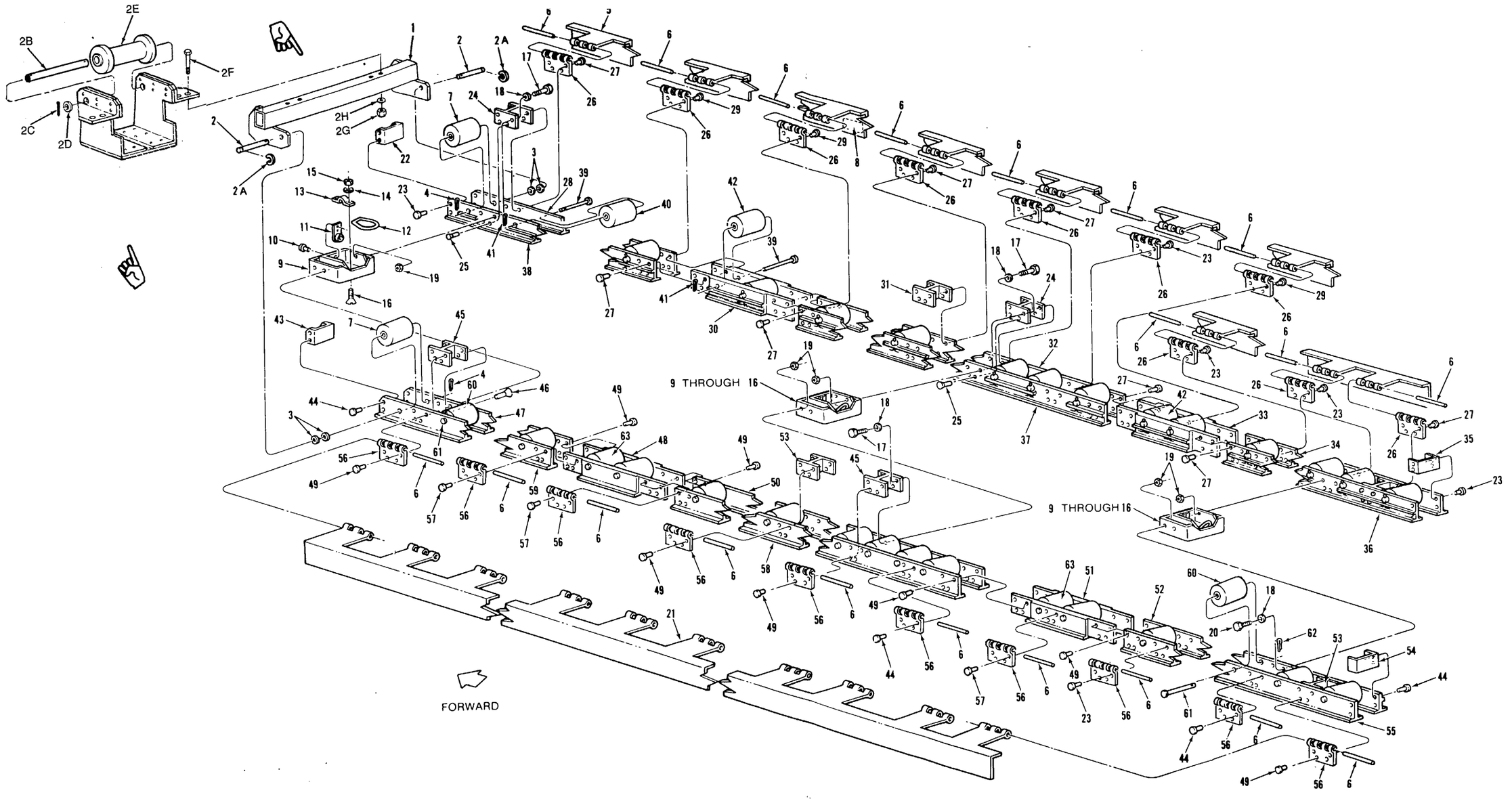

Figure 3-8. Inboard Guide/Roller Assembly, Stations 272.313 to 377.188

FIGURE AND INDEX NO	PART NUMBER	FSCM	DESCRIPTION 1 2 3 4 5 6 7	UNITS PER ASSY	USABLE ON CODE
3-8-	18049 J 122	81868	INBOARD GUIDE/ROLLER ASSEMBLY, Stations 272.313 to 377.188 (See 10, figure 3-2 for NHA.)	REF	
	18049 E 175-2	81868	.ROLLER CONVEYOR ASSEMBLY (RH), Stations 272.375 to 377.125	1	
	18049 E 175-4	81868	...FRAME ASSEMBLY (RH)	1	
-1	18049 E 296-3	81868	...CROSSMEMBER, Roller conveyors, inboard	2	
-2	MS20470AD6-10	96906	...RIVET, Solid (AP)	32	
-3	18049 C 194	81868	...HINGE, Pallet guide	9	
-4	MS20470AD6-12	96906	...RIVET, Solid (AP)	40	
-5	MS20426AD6-10	96906	...RIVET, Solid, countersunk head (AP)	4	
-6	18049 E 296-1	81868	...CROSSMEMBER, Roller conveyors, inboard	2	
-7	18049 E 176-1	81868	...TEE, Roller support, inboard, stations 272.375 to 377.125	1	
-8	18049 E 515-5	81868	...CHANNEL, Roller support, inboard	1	
-9	18049 E 296-2	81868	...CROSSMEMBER, Roller conveyors, inboard	2	
-10	18049 E 177	81868	...TEE, Roller support, inboard, stations 272.375 to 377.125	1	
-11	18049 E 516-2	81868	...CHANNEL, Roller support, inboard, hatch	1	
-12	MS20426AD6-12	96906	...RIVET, Countersunk (AP)	8	
-13	18049 C 517	81868	...HINGE, Pallet guide, hatch	1	
-14	MS20470AD6-14	96906	...RIVET, Solid (AP)	8	
-15	18049 E 176-3	81868	...TEE, Roller support, inboard, stations 272.375 to 377.125	1	
-16	18049 E 178-6	81868	...TEE, Roller support, inboard, stations 272.375 to 377.125	1	
-17	18049 E 178-4	81868	...TEE, Roller support, inboard, stations 272.375 to 377.125	1	
-18	18049 E 178-2	81868	...TEE, Roller support, inboard, stations 272.375 to 377.125	1	
-19	18049 C 149	81868	...ROLLER, Inboard	18	
-20	18049 C 249	81868	...SHAFT, Inboard roller	23	
-21	MS24665-353	96906	...PIN, Cotter (AP)	23	
-22	18049 C 510	81868	..ROLLER, Inboard	5	
	18049 E 175-1	81868	..ROLLER CONVEYOR ASSEMBLY (LH), Stations 272.375 to 377.125	1	
	18049 E 175-3	81868	..FRAME ASSEMBLY (LH)	1	
-23	18049 E 296-3	81868	...CROSSMEMBER, Roller conveyors, inboard	2	
-24	MS20470AD6-10	96906	...RIVET, Solid (AP)	32	
-25	18049 E 178-1	81868	...TEE, Roller support, inboard, stations 272.375 to 377.125	1	
-26	18049 E 296-1	81868	...CROSSMEMBER, Roller conveyors, inboard	2	
-27	MS20470AD6-12	96906	...RIVET, Solid (AP)	40	
-28	18049 E 515-5	81868	...CHANNEL, Roller support, inboard		
-29	18049 E 178-3	81868	...TEE, Roller support, inboard, stations 272.375 to 377.125	1	
-30	18049 E 296-2	81868	...CROSSMEMBER, Roller conveyors, inboard	2	
-31	MS20426AD6-10	96906	...RIVET, Solid, countersunk head (AP)	4	

FIGURE AND INDEX NO	PART NUMBER	FSCM	DESCRIPTION 1 2 3 4 5 6 7	UNITS PER ASSY	USABLE ON CODE
3-8-32	18049 E 516-1	81868	...CHANNEL, Roller support, inboard hatch	1	
-33	MS20426AD6-12	96906	...RIVET, Countersunk (AP)	8	
-34	18049 E 178-5	81868	...TEE, Roller support, inboard, stations 272.375 to 377.125	1	
-35	18049 E 176-3	81868	...TEE, Roller support, inboard, stations 272.375 to 377.125	1	
-36	18049 C 194	81868	...HINGE, Pallet guide	9	
-37	18049 C 517	81868	...HINGE, Pallet guide, hatch	1	
-38	MS20470AD6-14	96906	...RIVET, Solid (AP)	8	
-39	18049 E 176-2	81868	...TEE, Roller support, inboard, stations 272.375 to 377.125	1	
-40	18049 E 176-1	81868	...TEE, Roller support, inboard, stations 272.375 to 377.125	1	
-41	18049 C 149	81868	...ROLLER, Inboard	18	
-42	18049 C 249	81868	...SHAFT, Inboard roller	23	
-43	MS24665-353	96906	...PIN, Cotter (AP)	23	
-44	18049 C 510	81868	...ROLLER, Inboard	5	
	18049 D 191-1	81868	..TIEDOWN ASSEMBLY, Center rail	2	
-45	18049 D 192-1	81868	..CENTER, Rail tiedown	1	
-46	MS20426AD4-10	96906	..RIVET, Solid (AP)	2	
-47	MS21052-L6	96906	..PLATE, Nut	1	
-48	353512-1	98897	..RING	1	
-49	338018-4	98897	..STRAP	1	
-50	AN960-616L	88044	..WASHER, Flat (AP)	2	
-51	MS21044-N6	96906	..NUT (AP)	2	
-52	NAS517-6-10	80205	..SCREW, Flat head (AP)	2	
	18049 D 191-2	81868	.TIEDOWN ASSEMBLY, Center rail	1	
-53	18049 D 192-2	81868	..CENTER, Rail tiedown	1	
-54	MS20426AD4-10	96906	..RIVET, Solid (AP)	2	
-55	MS21052-L6	96906	..PLATE, Nut	1	
-56	353512-1	98897	..RING	1	
-57	338018-4	98897	..STRAP	1	
-58	AN960-616L	88044	..WASHER, Flat (AP)	2	
-59	MS21044-N6	96906	..NUT (AP)	2	
-60	NAS517-6-10	80205	..SCREW, Flat head (AP)	2	
-61	MS21044-N4	96906	.NUT, Hex (AP)	12	
-62	AN960-416	88044	.WASHER, Flat (AP)	12	
-63	AN4-7A	88044	.BOLT, Hex head (AP)	4	
-64	18049 B 297	81868	.PIN, Hinge, inboard (AP)	20	
-65	18049 E 188-2	81868	.GUIDE, Center rail, right-hand	1	
-66	18133 C 500	81868	.NAMEPLATE	1	
-67	AN4-1OA	88044	.BOLT, Hex head (A P)	8	
-68	18049 E 188-1	81868	.GUIDE, Center rail, left-hand	1	

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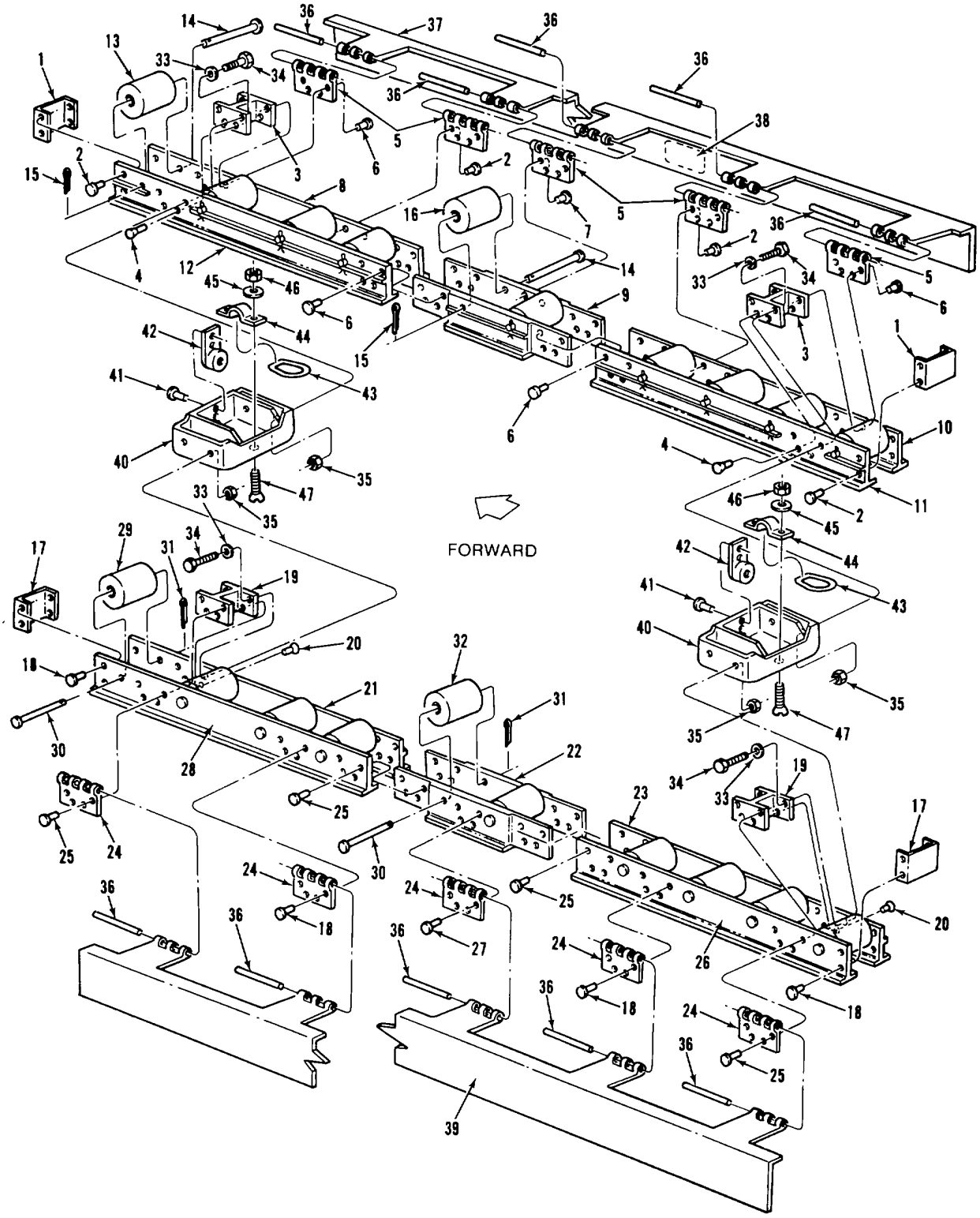

Figure 3-9. Inboard Guide/Roller Assembly, Stations 377.313 to 427.188

FIGURE AND INDEX NO	PART NUMBER	FSCM	DESCRIPTION 1 2 3 4 5 6 7	UNITS PER ASSY	USABLE ON CODE
3-9-	18049 J 123	81868	INBOARD GUIDE/ROLLER ASSEMBLY, Stations 377.313 to 427.188 (See 11, figure 3-2 for NHA.)	REF	
	18049 E 179-2	81868 .	.ROLLER CONVEYOR ASSEMBLY (RH)	1	
	18049 E 179-4	81868	..FRAME ASSEMBLY (RH)	1	
-1	18049 E 296-3	81868 .	...CROSSMEMBER, Roller conveyors, inboard	2	
-2	MS20470AD6-10	96906	...RIVET, Solid (AP)	16	
-3	18049 E 296-2	81868 .	...CROSSMEMBER, Roller conveyors, inboard	2	
-4	MS20426AD6-10	96906 .	...RIVET, Solid countersunk (AP)	4	
-5	18049 C 194	81868 .	...HINGE, Pallet guide	5	
-6	MS20470AD6-12	96906 .	...RIVET, Solid (AP)	24	
-7	MS20470AD6-14	96906 .	...RIVET, Solid (AP)	4	
-8	18049 E 180-1	81868 .	...TEE, Roller support, inboard, stations 377.375 to 427.125	1	
-9	18049 E 515-8	81868 .	...CHANNEL, Roller support, inboard	1	
-10	18049 E 180-2	81868 .	...TEE, Roller support, inboard, stations 377.375 to 427.125	1	
-11	18049 E 182-4	81868 .	...TEE, Roller support, inboard, stations 377.375 to 427.125	1	
-12	18049 E 182-2	81868 .	...TEE, Roller support, inboard, stations 377.375 to 427.125	1	
-13	18049 C 149	81868	..ROLLER, Inboard	8	
-14	18049 C 249	81868	..SHAFT, Inboard roller	10	
-15	MS24665-353	96906	..PIN, Cotter (AP)	10	
-16	18049 C 510	81868	..ROLLER, Inboard	2	
	18049 E 179-1	81868 .	.ROLLER CONVEYOR ASSEMBLY (LH), Stations 377.375 to 427.125	1	
	18049 E 179-3	81868	..FRAME ASSEMBLY (LH)	1	
-17	18049 E 296-3	81868 .	...CROSSMEMBER, Roller conveyors, inboard	2	
-18	MS20470AD6-10	96906 .	...RIVET, Solid (AP)	16	
-19	18049 E 296-2	81868 .	...CROSSMEMBER, Roller conveyors, inboard	2	
-20	MS20426AD6-10	96906 .	...RIVET, Solid, countersunk (AP)	4	
-21	18049 E 182-1	81868 .	...TEE, Roller support, inboard, stations 377.375 to 427.125	1	
-22	10849 E 515-7	81868 .	...CHANNEL, Roller support, inboard	1	
-23	10849 E 182-3	81868 .	...TEE, Roller support, inboard, stations 377.375 to 427.125	1	
-24	18049 C 194	81868 .	...HINGE, Pallet guide	5	
-25	MS20470AD6-12	96906 .	...RIVET, Solid (AP)	24	
-26	18049 E 180-2	81868 .	...TEE, Roller support, inboard, stations 377.375 to 427.125	1	
-27	MS20470AD6-14	96906 .	...RIVET, Solid (AP)	4	
-28	18049 E 180-1	81868 .	...TEE, Roller support, inboard, stations 377.375 to 427.125	1	
-29	18049 C 149	81868	..ROLLER, Inboard	8	
-30	18049 C 249	81868	..SHAFT, Inboard roller	10	
-31	MS24665-353	96906	..PIN, Cotter (AP)	10	
-32	18049 C 510	81868	..ROLLER, Inboard	2	
-33	AN960-416	88044 .	..WASHER, Flat (AP)	8	
-34	AN4-1OA	88044 .	.BOLT, Hex head (AP)	8	

FIGURE AND INDEX NO	PART NUMBER	FSCM	DESCRIPTION 1 2 3 4 5 6 7	UNITS PER ASSY	USABLE ON CODE
3-9-35	MS21044-N4	96906	.NUT (AP)	8	
-36	18049 B 297	81868	.PIN, Hinge (AP)	10	
-37	18049 E 189-2	81868	.GUIDE, Center rail, inboard, right-hand	1	
-38	18133 C 500	81868	.NAMEPLATE	1	
-39	18049 E 189-1	81868	.GUIDE, Center rail, inboard, left-hand	1	
	18049 D 191-1	81868	.TIEDOWN ASSEMBLY, Center rail	2	
-40	18049 D 192-1	81868	..CENTER, Rail tiedown	1	
-41	MS20426AD4-10	96906	..RIVET, Solid (AP)	2	
-42	MS21052-L6	96906	..PLATE, Nut	1	
-43	353512-1	98897	..RING	1	
-44	338018-4	98897	..STRAP	1	
-45	AN960-616L	88044	..WASHER, Flat (AP)	2	
-46	MS21044-N6	96906	..NUT (AP)	2	
-47	NAS517-6-10	80205	..SCREW, Flat head (AP)	2	

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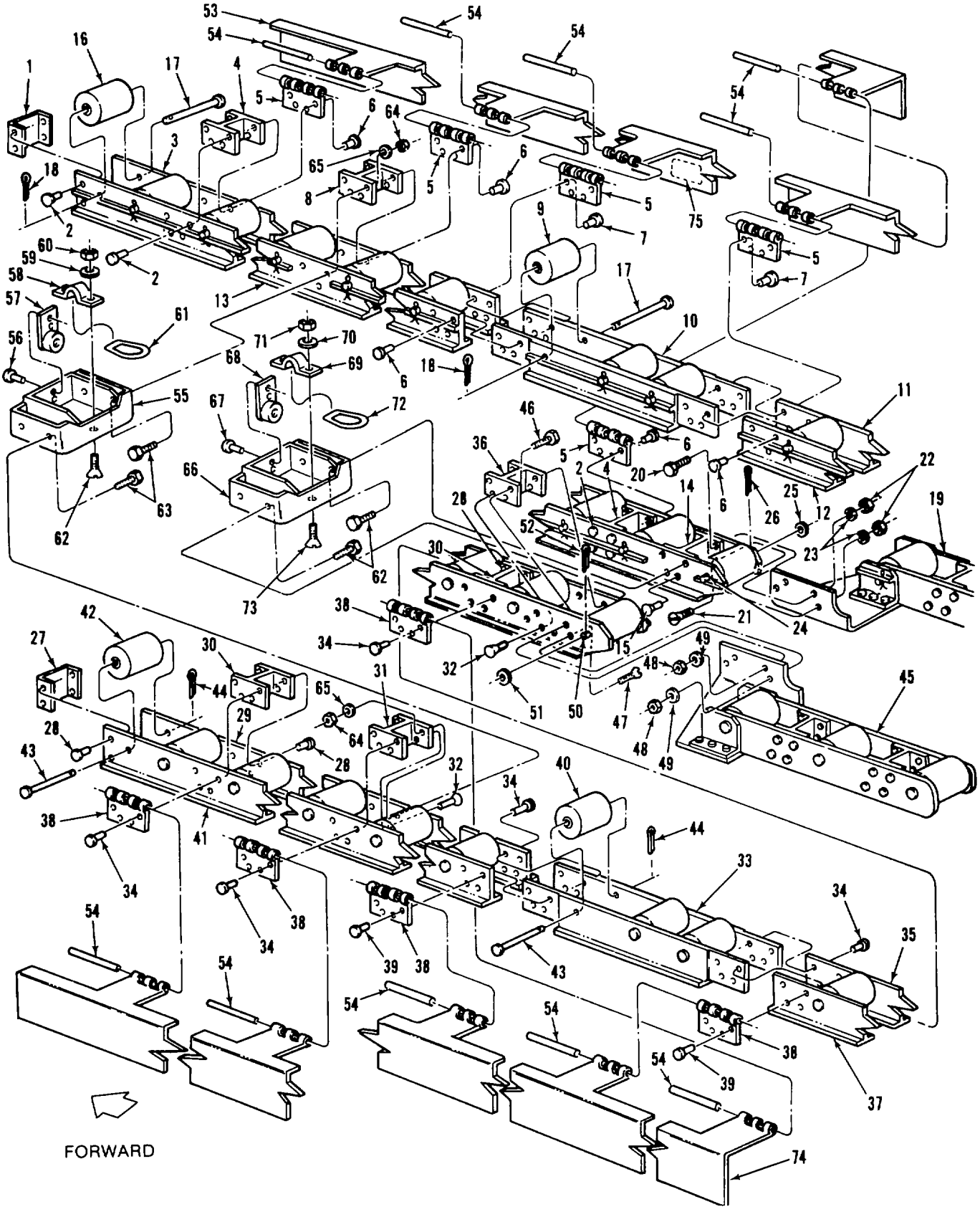

Figure 3-10. Inboard Guide/Roller Assembly, Stations 427.375 to 487.000

FIGURE AND INDEX NO	PART NUMBER	FSCM	DESCRIPTION 1 2 3 4 5 6 7	UNITS PER ASSY	USABLE ON CODE
3-10-	18049 J 124	81868	INBOARD GUIDE/ROLLER ASSEMBLY, Stations 427.375 to 487.000 (See 12, figure 3-2 for NHA.)	REF	
	18049 E 183-2	81868 .	.ROLLER CONVEYOR ASSEMBLY (RH), Stations 427.375 to 487.000	1	
	18049 E 183-4	81868	..FRAME ASSEMBLY (RH)	1	
-1	18049 E 296-3	81868 .	...CROSSMEMBER, Roller conveyors, inboard	1	
-2	MS20470AD6-10	96906	...RIVET, Solid (AP)	12	
-3	18049 E 184-1	81868	..TEE, Roller support, inboard, stations 427.375 to 487.000	1	
-4	18049 E 296-1	81868 .	...CROSSMEMBER, Roller conveyors, inboard	2	
-5	18049 C 194	81868	...HINGE, Pallet guide	5	
-6	MS20470AD6-12	96906	...RIVET, Solid (AP)	20	
-7	MS20470AD6-14	96906	...RIVET, Solid (AP)	8	
-8	18049 E 296-2	81868 .	...CROSSMEMBER, Roller conveyors, inboard	1	
-9	18049 C 510	81868 .	...ROLLER, Inboard	3	
-10	18049 E 515-	81868 .	...CHANNEL, Roller support, inboard	1	
-11	18049 E 185	81868 .	...TEE, Roller support, inboard, stations 427.375 to 487.000	1	
-12	18049 E 186-4	81868 .	...TEE, Roller support, inboard, stations 427.375 to 487.000	1	
-13	18049 E 186-2	81868 .	...TEE, Roller support, inboard, stations 427.375 to 487.000	1	
-14	18049 C 294	81868 .	...CROSSMEMBER, Weldment, roller conveyor, inboard	1	
-15	MS20426AD6-10	96906 .	...RIVET, Solid, countersunk (AP)	6	
-16	18049 C 149	81868	..ROLLER, Inboard	12	
-17	18049 C 249	81868	..SHAFT, Inboard roller	14	
-18	MS24665-353	96906	..PIN, Cotter (AP)	15	
-19	18049 E 281-2	81868	..INBOARD TRANSITION ROLLER ASSEMBLY (RH), Station 486.625 (See figure 3-17 for breakdown)	1	
-20	AN4-7A	88044	..BOLT, Hex head (AP)	2	
-21	MS24694-S101	96906	..SCREW, Flat head (AP)	2	
-22	MS21044-N4	96906	..NUT (AP)	4	
-23	AN960-416	88044	..WASHER, Flat (AP)	4	
-24	18049 C 247-1	81868	..SHAFT, Teeter roller, inboard	1	
-25	AN960-616	88044	...WASHER, Flat (AP)	1	
-26	MS24665-351	96906	...PIN, Cotter (AP)	1	
	18049 E 183-1	81868.	.ROLLER CONVEYOR ASSEMBLY (LH), Stations 427.375 to 487.000	1	
	18049 E 183-3	81868 .	..FRAME ASSEMBLY (LH)	1	
-27	18049 E 296-3	81868 .	...CROSSMEMBER, Roller conveyors, inboard	1	
-28	MS20470AD6-10	96906	...RIVET, Solid (AP)	12	
-29	18049 E 184-1	81868 .	...TEE, Roller support, inboard, left-hand, stations 427.375 to 487.000	1	
-30	18049 E 296-1	81868 .	...CROSSMEMBER, Roller conveyors, inboard	2	
-31	18049 E 296-2	81868 .	...CROSSMEMBER, Roller conveyors, inboard	1	

FIGURE AND INDEX NO	PART NUMBER	FSCM	DESCRIPTION 1 2 3 4 5 6 7	UNITS PER ASSY	USABLE ON CODE
3-10-32	MS20426AD6-10	96906 .	...RIVET, Solid, countersunk (AP)	6	
-33	18049 E 515-9	81868 .	...CHANNEL, Roller support, inboard	1	
-34	MS20470AD6-12	96906 .	...RIVET, Solid (AP)	20	
-35	18049 E 186-3	81868 .	...TEE, Roller support, inboard, stations 427.375 to 487.000	1	
-36	18049 C 294	81868 .	...CROSSMEMBER, Weldment, roller conveyor, inboard	1	
-37	18049 E 184-2	81868 .	...TEE, Roller support, inboard, stations 427.375 to 487.000	1	
-38	18049 C 194	81868 .	...HINGE, Pallet guide	5	
-39	MS20470AD6-14	96906 .	...RIVET, Solid (AP)	8	
-40	18049 C 510	81868 .	...ROLLER, Inboard	3	
-41	18049 E 184-1	81868 .	...TEE, Roller support, inboard, stations 427.375 to 487.000	1	
-42	18049 C 149	81868	..ROLLER, Inboard	12	
-43	18049 C 249	81868	..SHAFT, Inboard roller	14	
-44	MS24665-353	96906	..PIN, Cotter (AP)	15	
-45	18049 E 281-1	81868	..INBOARD TRANSITION ROLLER AS-SEMBLY (LH), (See figure 3-17 for breakdown.)	1	
-46	AN4-7A	88044	..BOLT, Hex head (AP)	2	
-47	MS24694-S101	96906	..SCREW, Flat head (AP)	2	
-48	MS21044-N4	96906	..NUT (AP)	4	
-49	AN960-416	88044	..WASHER, Flat (AP)	4	
-50	18049 C 247-1	81868	..SHAFT, Teeter roller inboard	1	
-51	AN960-616	88044	..WASHER, Flat (AP)	1	
-52	MS24665-351	96906	..PIN, Cotter (AP)	1	
-53	18049 E 190-1	81868 .	.GUIDE, Center rail, inboard, left-hand	1	
-54	18049 B 297	81868 .	.PIN, Hinge, inboard (AP)	10	
	18049 D 191-1	81868 .	.TIEDOWN ASSEMBLY, Center rail	1	
-55	18049 D 192-1	81868	..CENTER, Rail tiedown	1	
-56	MS20426AD4-10	96906	..RIVET, Solid (AP)	2	
-57	MS21052-L6	96906	..PLATE, Nut	1	
-58	338018-4	98897	..STRAP	1	
-59	AN960-616L	88044	..WASHER, Flat (AP)	2	
-60	MS21044-N6	96906	..NUT (AP)	2	
-61	353512-1	98897	..RING	1	
-62	NAS517-6-10	80205	..SCREW, Flat head (AP)	2	
-63	AN4-1OA	88044 .	.BOLT, Hex head (AP)	8	
-64	MS21044-N4	96906 .	.NUT (AP)	8	
-65	AN960-416	88044 .	.WASHER (AP)	8	
	18049 D 191-3	81868 .	.TIEDOWN ASSEMBLY, Center rail	1	
-66	18049 D 192-3	81868	..CENTER, Rail tiedown	1	
-67	MS20426AD4-10	96906	..RIVET, Solid (AP)	2	
-68	MS21052-L6	96906	..PLATE, Nut	1	
-69	338018-4	98897	..STRAP	1	
-70	AN960-616L	88044	..WASHER, Flat (AP)	2	
-71	MS21044-N6	96906	..NUT (AP)	2	
-72	353512-1	98897	..RING	1	
-73	NAS517-6-10	80205	..SCREW, Flat head (AP)	2	
-74	18049 E 190-2	81868 .	.GUIDE, Center rail, inboard, right-hand	1	
-75	18133 C 500	81868 .	.NAMEPLATE	1	

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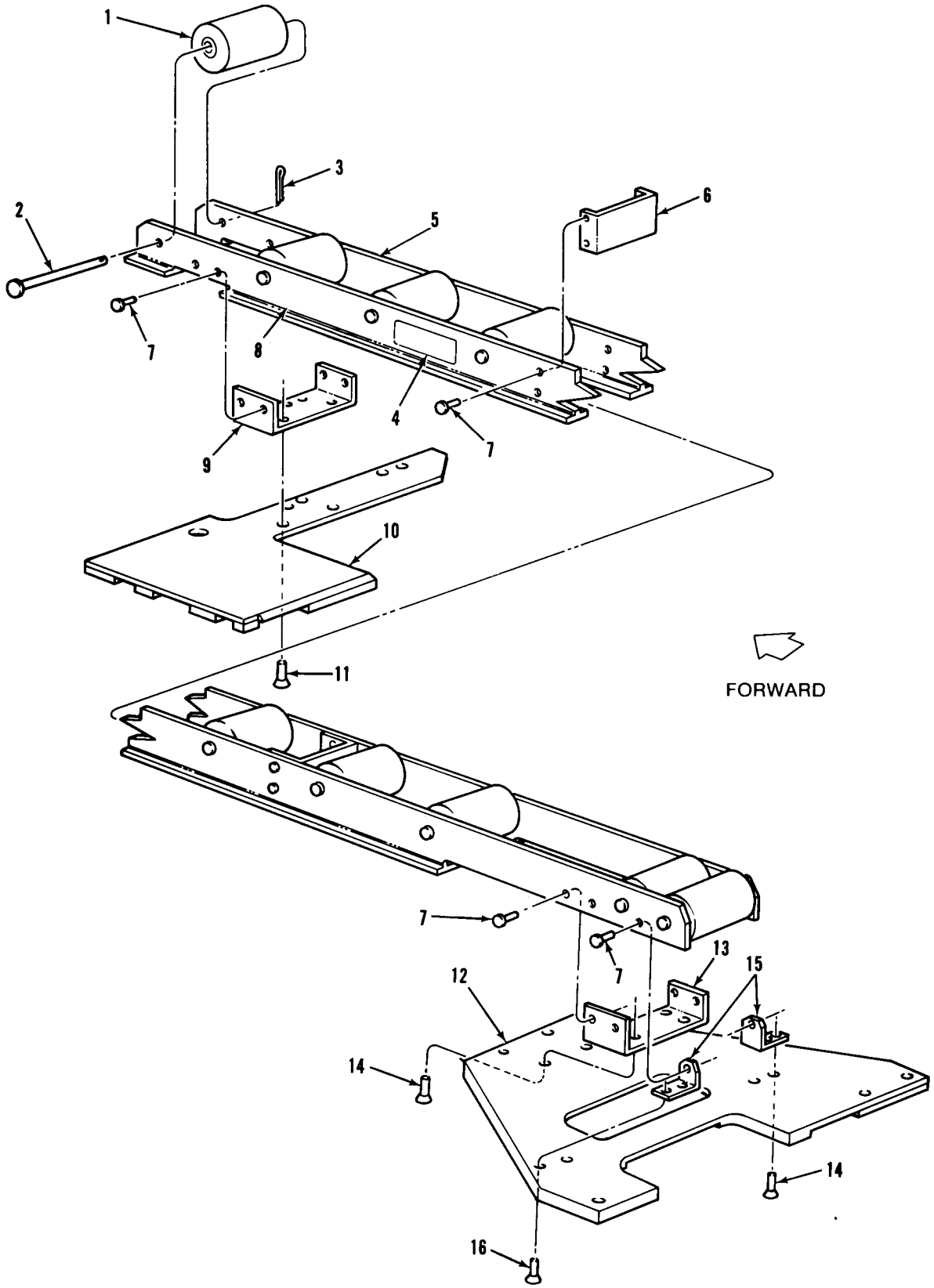

Figure 3-11. Ramp Inboard Roller Assembly

FIGURE AND INDEX NO	PART NUMBER	FSCM	DESCRIPTION 1 2 3 4 5 6 7	UNITS PER ASSY	USABLE ON CODE
3-11-	18049 J 225	81868	RAMP INBOARD ROLLER ASSEMBLY (LH) (See 13, figure 3-2 for NHA.)	REF	A
	18049 J 226		81868 RAMP INBOARD ROLLER ASSEMBLY (RH) (See 14, figure 3-2 for NHA.)	REF	B
	18049 J 225-1	81868 .	.FRAME ASSEMBLY (LH)	1	A
	18049 J 226-1	81868.	.FRAME ASSEMBLY (RH)	1	B
-1	18049 C 148	81868 .	.ROLLER, Outboard	20	
-2	18049 C 246	96906 .	.SHAFT, Teeter roller, outboard	20	
-3	MS24665-353	96906 .	.PIN, Cotter (AP)	20	
-4	18133 C 500	81868 .	.NAMEPLATE	1	
-5	18049 E 239-1	81868	..TEE, Roller support, inboard, left-hand, ramp center roller	1	A
	18049 E 239-2	81868	TEE, Roller support, inboard, right-hand, ramp center roller	1	B
-6	18049 C 129	81868	..SPACER, Roller tray, outboard	3	
-7	MS20470AD8-10	96906	..RIVET, Solid (AP)	22	
-8	18049 E 240	81868	..TEE, Roller support, outboard, ramp center roller	1	
	18049 D 229-1	81868	..FORWARD RAMP CENTER ROLLER MOUNTING PLATE ASSEMBLY (LH)	1	A
	18049 D 229-2	81868	..FORWARD RAMP CENTER ROLLER MOUNTING PLATE ASSEMBLY (RH)	1	B
-9	18049 C 231-1	81868 .	...SPACER, Ramp center roller, left-hand	1	A
	18049 C 231-2	81868 .	...SPACER, Ramp center roller, right-hand	1	B
-10	18049 D 230-1	81868 .	...PLATE, Mounting, ramp center roller, left-hand	1	A
	18049 D 230-2	81868 .	...PLATE, Mounting, ramp center roller, right-hand	1	B
-11	MS20426AD8-10	96906	...RIVET, Countersunk solid (AP)	2	
	18049 D 235-1	81868	..AFT RAMP CENTER ROLLER MOUNTING PLATE ASSEMBLY (LH)	1	A
	18049 D 235-2	81868	..AFT RAMP CENTER ROLLER MOUNTING PLATE ASSEMBLY (RH)	1	B
-12	18049 D 236-1	81868 .	...PLATE, Mounting, ramp center roller, left-hand	1	A
	18049 D 236-2	81868 .	...PLATE, Mounting, ramp center roller, right-hand	1	B
-13	18049 C 238	81868 .	...SPACER, Ramp center roller, right-hand	1	
-14	MS20426AD8-10	96906 .	...RIVET, Countersunk solid (AP)	6	
-15	18049 C 237-1	81868 .	...ANGLE, Ramp center roller, left-hand	2	A
	18049 C 237-2	81868 .	...ANGLE, Ramp center roller, right-hand	2	B
-16	MS20426AD8-14	96906	...RIVET, Countersunk solid (AP)	2	

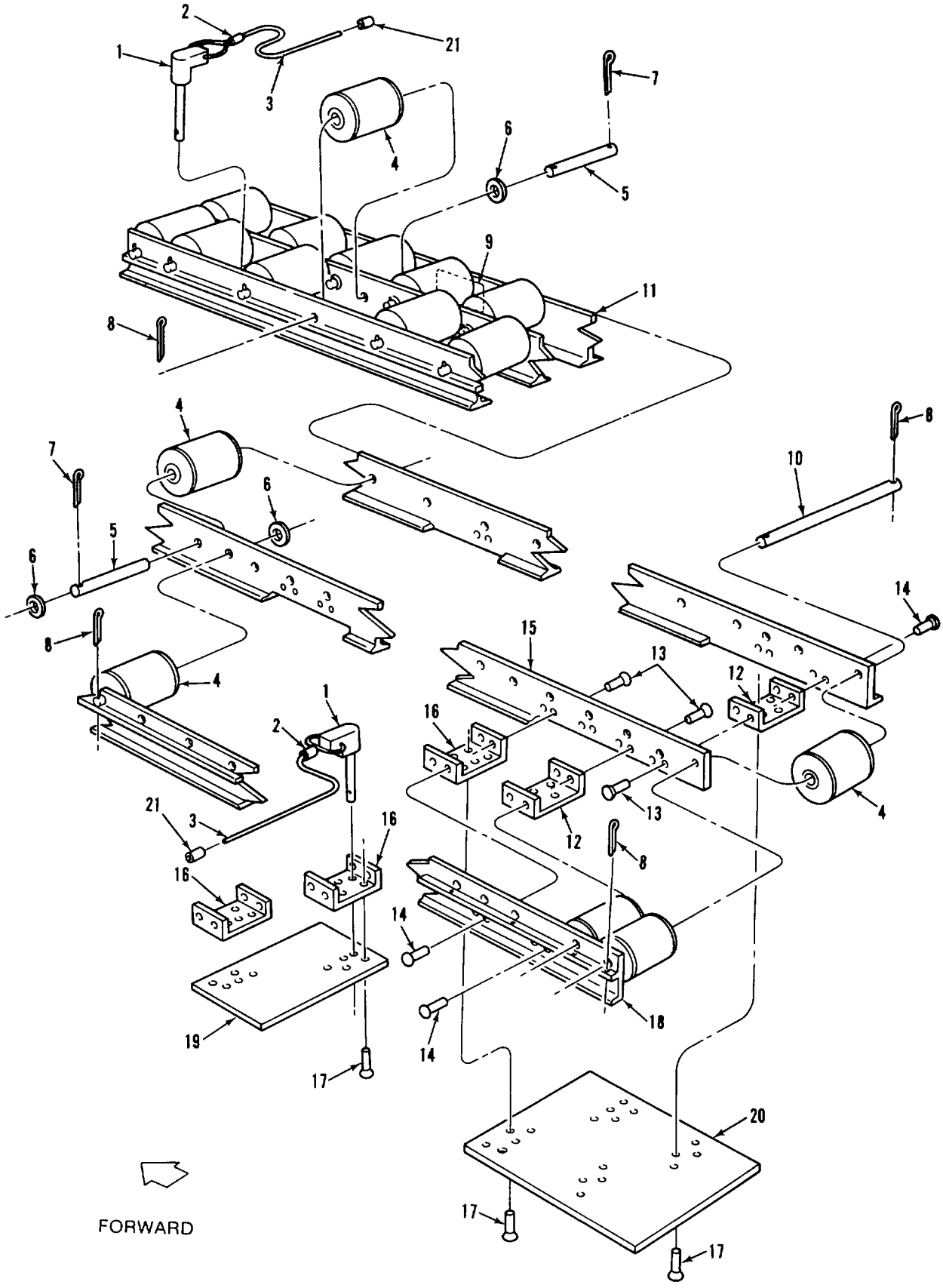

Figure 3-12. Ramp Extension Roller Assembly

FIGURE AND INDEX NO	PART NUMBER	FSCM	DESCRIPTION 1 2 3 4 5 6 7	UNITS PER ASSY	USABLE ON CODE
3-12-	18049 E 140	81868	RAMP EXTENSION ROLLER ASSEMBLY (See 15, figure 3-2 for NHA.)	REF	
	18049 C 204	81868	.RAMP EXTENSION CABLE PIN ASSEMBLY	6	
-1	NAS1336A5S23D	80205	..PIN, Quick release	1	
-2	28-2-G	76691	..SLEEVE, Splicing, 0.094 inch diameter	1	
-3	COML	72954	..CABLE, 7 x 7 inches, 0.062 diameter x 7-1/2 inches long, galvanized, nylon coated, 3/32 od	1	
-4	18049 C 148	81868	.ROLLER, Outboard	29	
-5	18049 C 247-2	81868	.SHAFT, Teeter roller, inboard	25	
-6	AN960-616	88044	.WASHER, Flat (AP)	25	
-7	MS24665-351	96906	.PIN, Cotter, split (AP)	25	
-8	MS24665-355	96906	.PIN, Cotter, split (AP)	29	
-9	18133 C 500	81868	.NAMEPLATE	1	
-10	18049 C 205	81868	.SHAFT, Ramp extension	2	
	18049 E 140-1	81868	.FRAME ASSEMBLY	1	
-11	18049 E 142	81868	..RAIL, Ramp extension, right-hand	1	
-12	18049 C 144	81868	..SPACER, Ramp extension	2	
-13	MS20470AD6-9	96906	..RIVET, Solid (AP)	16	
-14	MS20426AD6-9	96906	..RIVET, Countersunk solid (AP)	16	
-15	18049 E 143	81868	..RAIL, Ramp extension, center	1	
-16	18049 C 145	81868	..SPACER, Ramp extension	6	
-17	MS20426AD6-10	96906	..RIVET, Countersunk solid (AP)	32	
-18	18049 E 141	81868	..TEE, Roller support, ramp extension, left-hand	1	
-19	18049 D 146	81868	..PLATE, Ramp extension	2	
-20	18049 D 147	81868	..PLATE, Ramp extension	1	
-21	28-2-G	76691	.SLEEVE, Crimp	6	

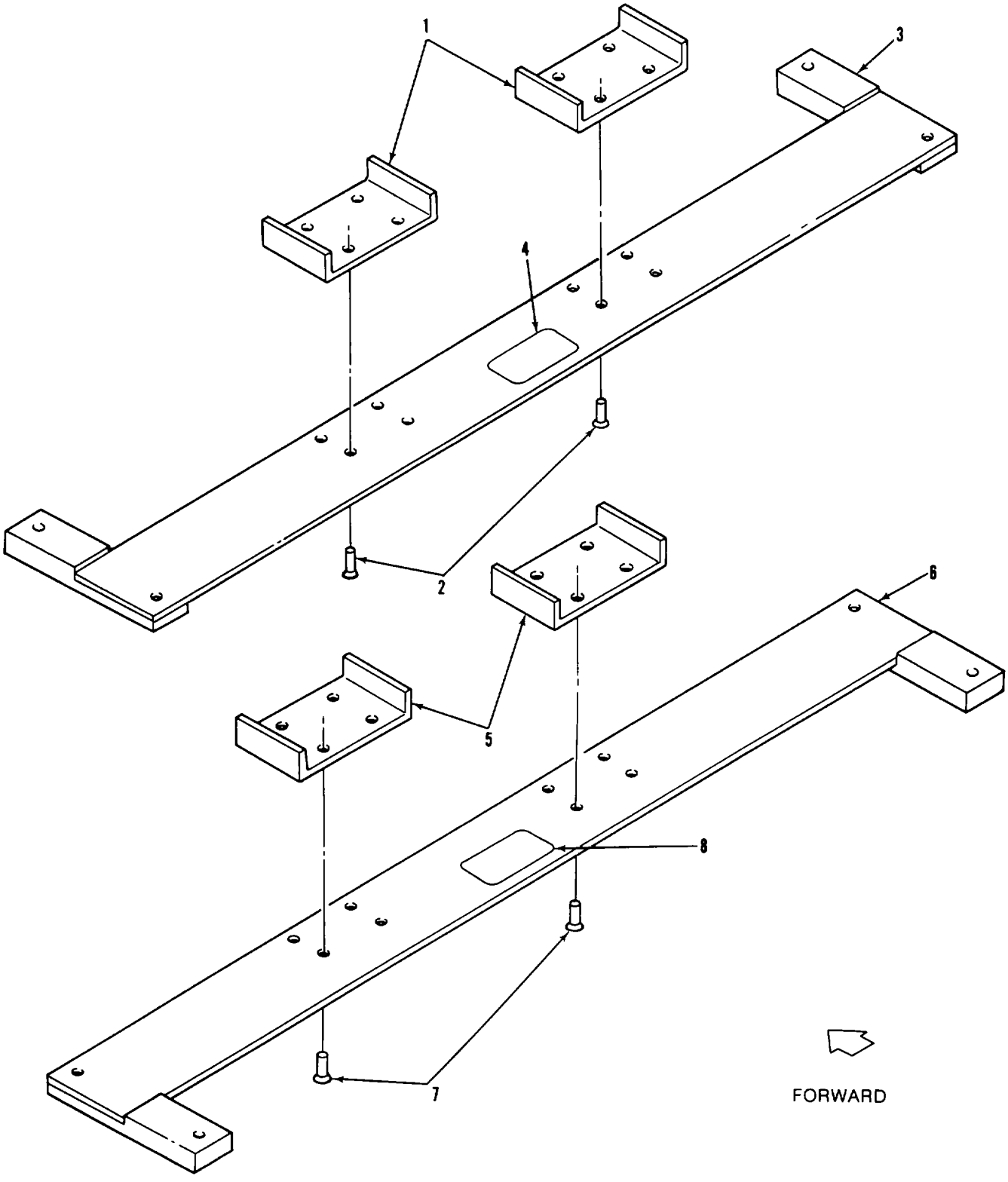

Figure 3-13. Forward and Aft Ramp Center Roller Mounting Bar Assembly

FIGURE AND INDEX NO	PART NUMBER	FSCM	DESCRIPTION 1 2 3 4 5 6 7	UNITS PER ASSY	USABLE ON CODE
3-13-	18049 D 227	81868	FORWARD RAMP CENTER ROLLER MOUNTING BAR ASSEMBLY (See 17, figure 3-2 for NHA.)	REF	
-1	18049 C 233	81868	.SPACER, Ramp center roller	2	
-2	MS20426AD8-10	96906	.RIVET, Countersunk solid (AP)	8	
-3	18049 D 232	81868	.WELDMENT, Mounting bar, forward ramp center roller	1	
-4	18133 C 500	81868	.NAMEPLATE	1	
	10849 D 228	81868	AFT RAMP CENTER ROLLER MOUNTING BAR ASSEMBLY (See 18, figure 3-2 for NHA.)	REF	
-5	18049 C 233	81868	.SPACER, Ramp center roller	2	
-6	18049 D 234	81868	.WELDMENT, Mounting bar, aft ramp center roller	1	
-7	MS20426AD8-10	96906	.RIVET, Countersunk solid (AP)	8	
-8	18133 C 500	81868	.NAMEPLATE	1	

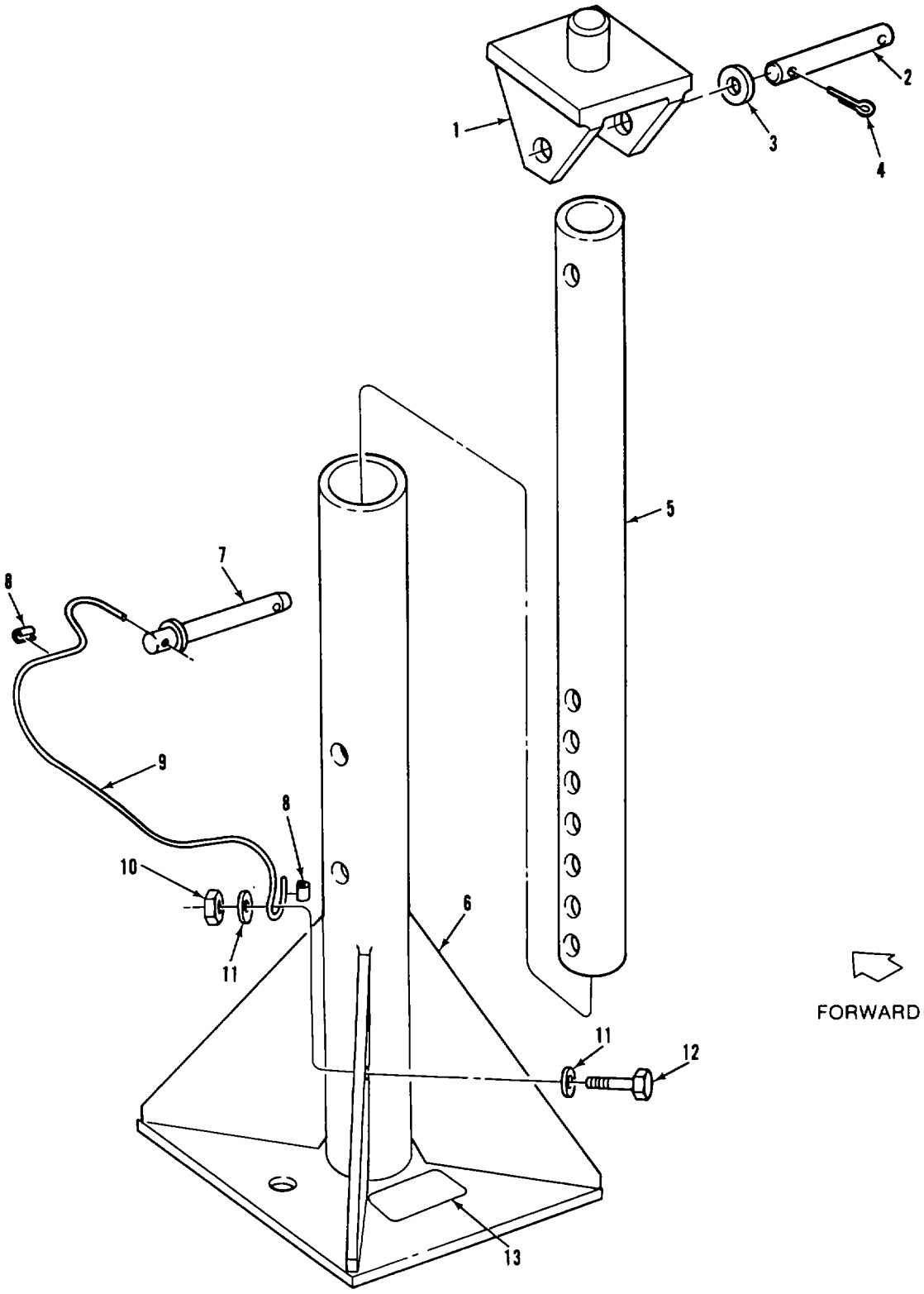

Figure 3-14. Ramp Extension Support Assembly

FIGURE AND INDEX NO	PART NUMBER	FSCM	DESCRIPTION 1 2 3 4 5 6 7	UNITS PER ASSY	USABLE ON CODE
3-14-	18049 E 150	81868	RAMP EXTENSION SUPPORT ASSEMBLY (See 19, figure 3-2 for NHA.)	REF	
-1	18049 C 152	81868	.SUPPORT, Index, ramp extension support	1	
-2	18049 C 139-1	81868	.PIN, Headed	1	
-3	MS16212-16	96906	.WASHER, Flat, nonmagnetic (AP)	2	
-4	MS24665-374	96906	.PIN, Cotter, split (AP)	2	
-5	18049 C 153	81868	.TUBE, Support, ramp extension support	1	
-6	18049 D 151	81868	.WELDMENT, Base, ramp extension support	1	
	18049 C 154	81868	PIN ASSEMBLY, Ramp extension support	1	
-7	D8-30X-303	09332	..FASPIN Nonmagnetic	1	
-8	28-2-G	76691	..SLEEVE, Splicing, 0.094 inch diameter (AP)	2	
-9	COML	72954	..CABLE, 7 inches x 7 inches, 0.062 inch diameter x 16 inches long, galvanized, nylon coated, 3/32 od	1	
-10	MS162285C	96906	.NUT, Hex, self-locking, nonmagnetic (AP)	1	
-11	MS16212-12	96906	.WASHER, Flat, nonmagnetic (AP)	2	
-12	NAS1005-9A	80205	.BOLT, Hex head (AP)	1	
-13	18133 C 500	81868	.NAMEPLATE	1	

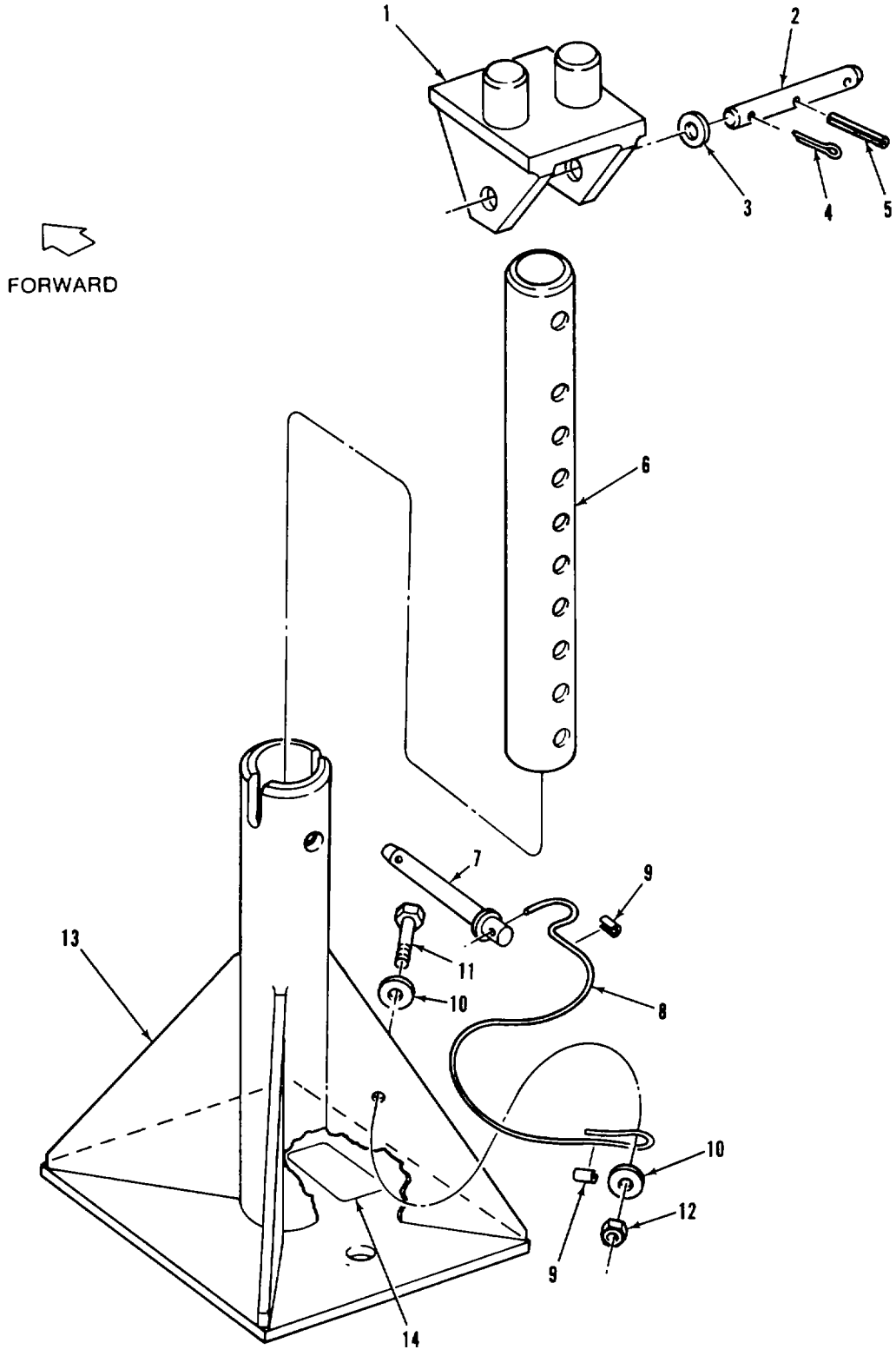

Figure 3-15. Ramp Support Assembly

FIGURE AND INDEX NO	PART NUMBER	FSCM	DESCRIPTION 1 2 3 4 5 6 7	UNITS PER ASSY	USABLE ON CODE
3-15-	18049 E 160	81868	RAMP EXTENSION SUPPORT ASSEMBLY (See 18, figure 3-2 for NHA.)	REF	
-1	18049 D 137	81868	.WELDMENT, Index support, ramp support	1	
-2	18049 C 139-2	81868	.PIN, Ramp support	1	
-3	MS16212-12	96906	.WASHER, Flat, nonmagnetic	2	
-4	MS24665-374	96906	.PIN, Cotter (AP)	2	
-5	NAS1407N13M28	80205	.PIN, Spring, coiled, nonmagnetic	1	
-6	18049 C 138	81868	.TUBE, Support, ramp support	1	
	18049 C 154	81868	.CABLE PIN ASSEMBLY, Ramp extension support	1	
-7	D8-30X-303	09332	..FASPIN	1	
-8	COML	72954	..CABLE, 7 inches x 7 inches, 0.062 inch diameter x 16 inches long, galvanized, nylon coated, 3/32 od	1	
-9	28-2-G	76691	.SLEEVE, Splicing, 0.094 inch diameter (AP)	2	
-10	MS16212-12	96906	.WASHER, Flat, nonmagnetic (AP)	2	
-11	NAS1005-9A	80205	.BOLT, Hex head, nonmagnetic	1	
-12	MS16228-5C	96906	.NUT, Hex, self-locking, nonmagnetic	1	
-13	18049 D 136	81868	.WELDMENT, Base, ramp support	1	
-14	18133 C 500	81868	.NAMEPLATE	1	

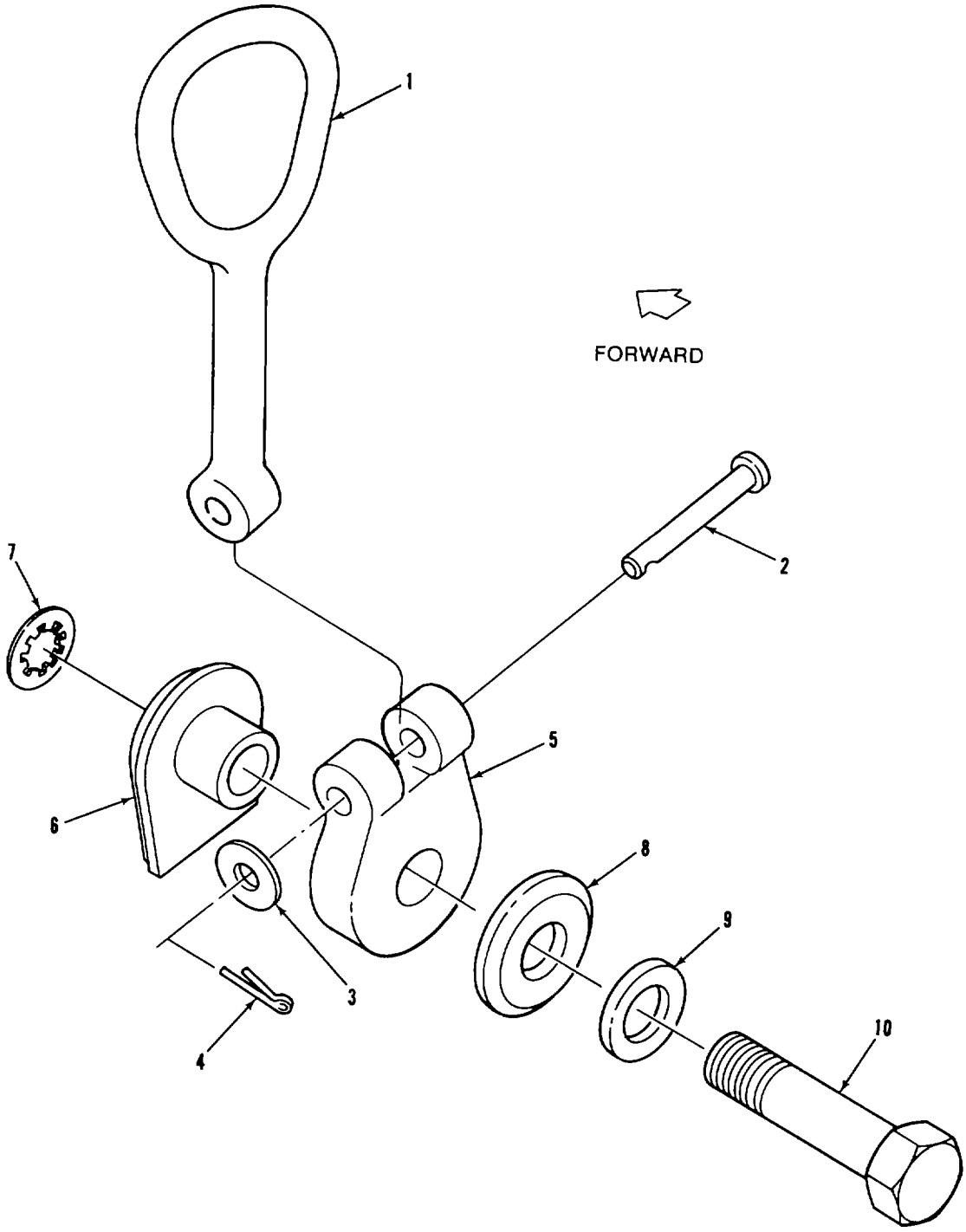

Figure 3-16. 5k Tiedown Fitting Assembly

FIGURE AND INDEX NO	PART NUMBER	FSCM	DESCRIPTION 1 2 3 4 5 6 7	UNITS PER ASSY	USABLE ON CODE
3-16-	18049 D 117	81868	5K TIEDOWN FITTING ASSEMBLY (See 21, figure 3-2 for NHA.)	REF	
-1	18049 C 118	81868	EXTENSION, Ring, 5k tiedown fitting	1	
-2	MS9464-21	96906	PIN, Headed (AP)	1	
-3	AN960-XC-416L	88044	WASHER, Flat (AP)	1	
-4	MS24665-86	96906	PIN, Cotter (AP)	1	
-5	18049 C 119	81868	RING, Swivel, 5k tiedown fitting	1	
-6	18049 C 120	81868	WASHER, Conical, 5k tiedown fitting	1	
-7	5115-50-ZD	79136	RING, Retaining (AP)	1	
-8	18049 C 125	81868	WASHER, Fitting, 5k tiedown fitting	1	
-9	AN960-XC816	88044	WASHER, Flat (AP)	1	
-10	AN8-21A	88044	BOLT, Hex head (AP)	1	

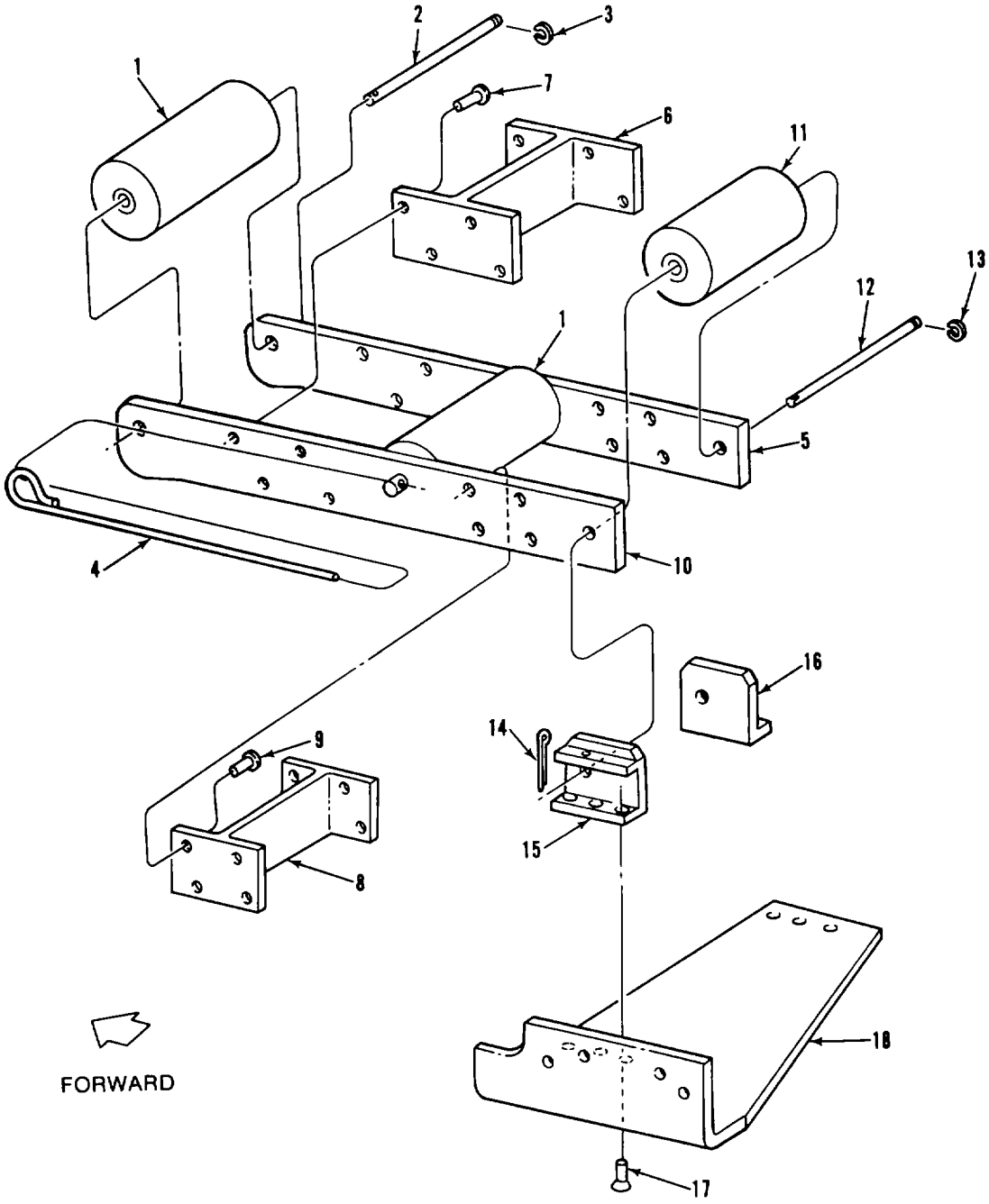

Figure 3-17. Inboard Transition Roller Assembly, Station 486.625

FIGURE AND INDEX NO	PART NUMBER	FSCM	DESCRIPTION 1 2 3 4 5 6 7	UNITS PER ASSY	USABLE ON CODE
3-17-	18049 E 281-2	81868	INBOARD TRANSITION ROLLER..... ASSEMBLY (RH), Station 486.625 (See 19, figure 3-10 for NHA.)	REF	A
	18049 E 281-1	81868	INBOARD TRANSITION ROLLER..... ASSEMBLY (LH), Station 486.625 (See 45, figure 3-10 for NHA.)	REF	B
	18049 E 282-1	81868.	.ROLLER FOLLOWER ASSEMBLY (LH)	1	A
	18049 E 282-2	81868.	.ROLLER FOLLOWER ASSEMBLY (RH).....	1	B
-1	18049 C 149	81868	ROLLER, Inboard	2	
	18049 C 128	81868	..SHAFT ASSEMBLY, Transition roller	2	
-2	18049 C 128-1	81868	...SHAFT, Transition roller	1	
-3	5560-37ZD	79136	...RING, Retaining (AP)	1	
-4	AN415-1-7	88044	..PIN, Lock (AP)	1	
	18049 E 282-3	81868	..FRAME ASSEMBLY	1	
-5	18049 D 283-1	81868	...PLATE, Side	1	
-6	18049 C 284-2	81868	...CROSSMEMBER	1	
-7	MS20470AD6-10	96906	...RIVET, Solid (AP)	12	
-8	18049 C 284-1	81868	...CROSSMEMBER	1	
-9	MS20426AD6-10	96906	...RIVET, Countersunk (AP)	4	
-10	18049 D 283-2	81868	...PLATE, Side	1	
-11	18049 C 149	81868 .	.ROLLER, Inboard	1	
	18049 C 295	81868 .	.SHAFT/HINGE, Transition roller	1	
-12	18049 C 295-1	81868	..SHAFT/HINGE, Transition roller	1	
-13	5560-37ZD	79136	..RING, Retaining (AP)	1	
-14	MS24665-353	96906 .	.PIN, Cotter (AP)	1	
	18049 D 285-2	81868 .	.SUPPORT ASSEMBLY (RH), Transition roller assembly	1	A
	18049 D 285-1	81868 .	.SUPPORT ASSEMBLY (LH), Transition roller assembly.....	1	B
-15	18049 C 287-2	81868	..CHANNEL, Support, support plate assembly, right-hand	1	A
	18049 C 287-1	81868	..CHANNEL, Support, support plate assembly, left-hand	1	B
-16	18049 C 286-2	81868	..ANGLE, Support, support plate assembly, right-hand	1	A
	18049 C 286-1	81868	..ANGLE, Support, support plate assembly, left-hand	1	B
-17	MS20470AD6-10	96906	..RIVET, Solid, countersunk (AP)	6	
-18	18049 D 288-2	81868	..SUPPORT PLATE ASSEMBLY, Inboard, right-hand	1	A
	18049 D 288-1	81868	..SUPPORT PLATE ASSEMBLY, Inboard, left-hand	1	B

FIGURE AND INDEX NO	PART NUMBER	FSCM	DESCRIPTION 1 2 3 4 5 6 7	UNITS PER ASSY	USABLE ON CODE
3-18-	18049 C 245	81868	TIEDOWN FITTING ASSEMBLY, Station 360.000 (See 23, figure 3-2 for NHA.)	REF	
-1	18049 C 244	81868	.WASHER, Tiedown, Station 360.000	1	
-2	5115-50-ZD	79136	.RING, Retaining (AP)	1	
-3	AN960-XC816	88044	.WASHER, Flat (AP)	1	
-4	AN8-17A	88044	.BOLT (AP)	1	

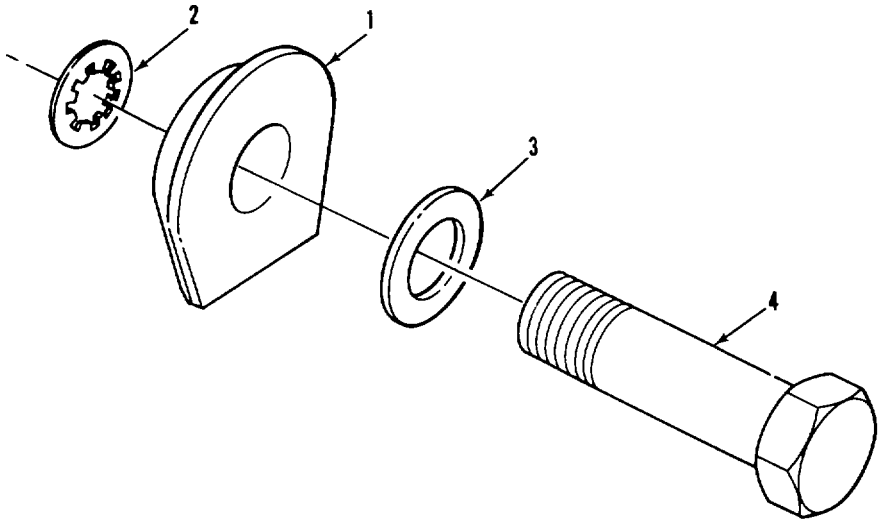

Figure 3-18. Tiedown Fitting Assembly, Station 360.000

FIGURE AND INDEX NO	PART NUMBER	FSCM	DESCRIPTION 1 2 3 4 5 6 7	UNITS PER ASSY	USABLE ON CODE
3-19-	18049 C 299	81868	CENTERLINE RING PLUG ASSEMBLY (See 24, figure 3-2 for NHA.)	REF	
-1	18049 C 298	81868	.PLUG, Ring, 5k tiedown	1	
-2	5115-37-015-ZD	79136	.RING, Retaining (AP)	1	
-3	AN960-616	88044	.WASHER, Flat (AP)	1	
-4	AN6-13A	88044	.BOLT, Hex head (AP)	1	

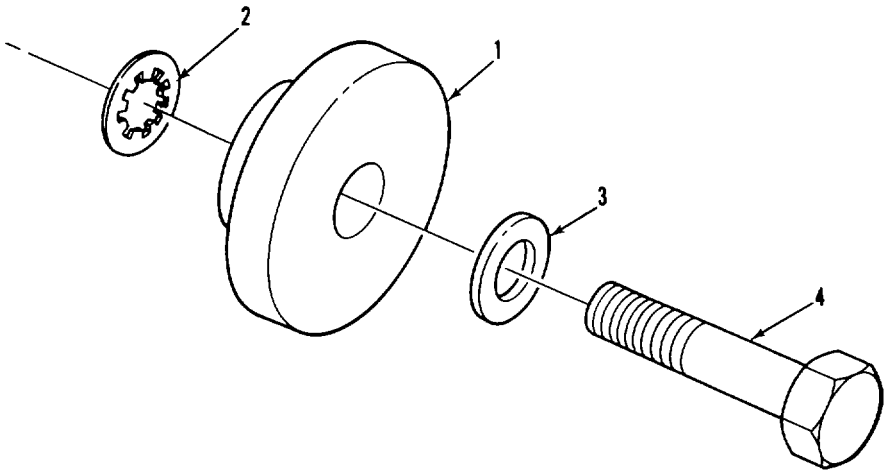

Figure 3-19. Centerline Ring Plug Assembly

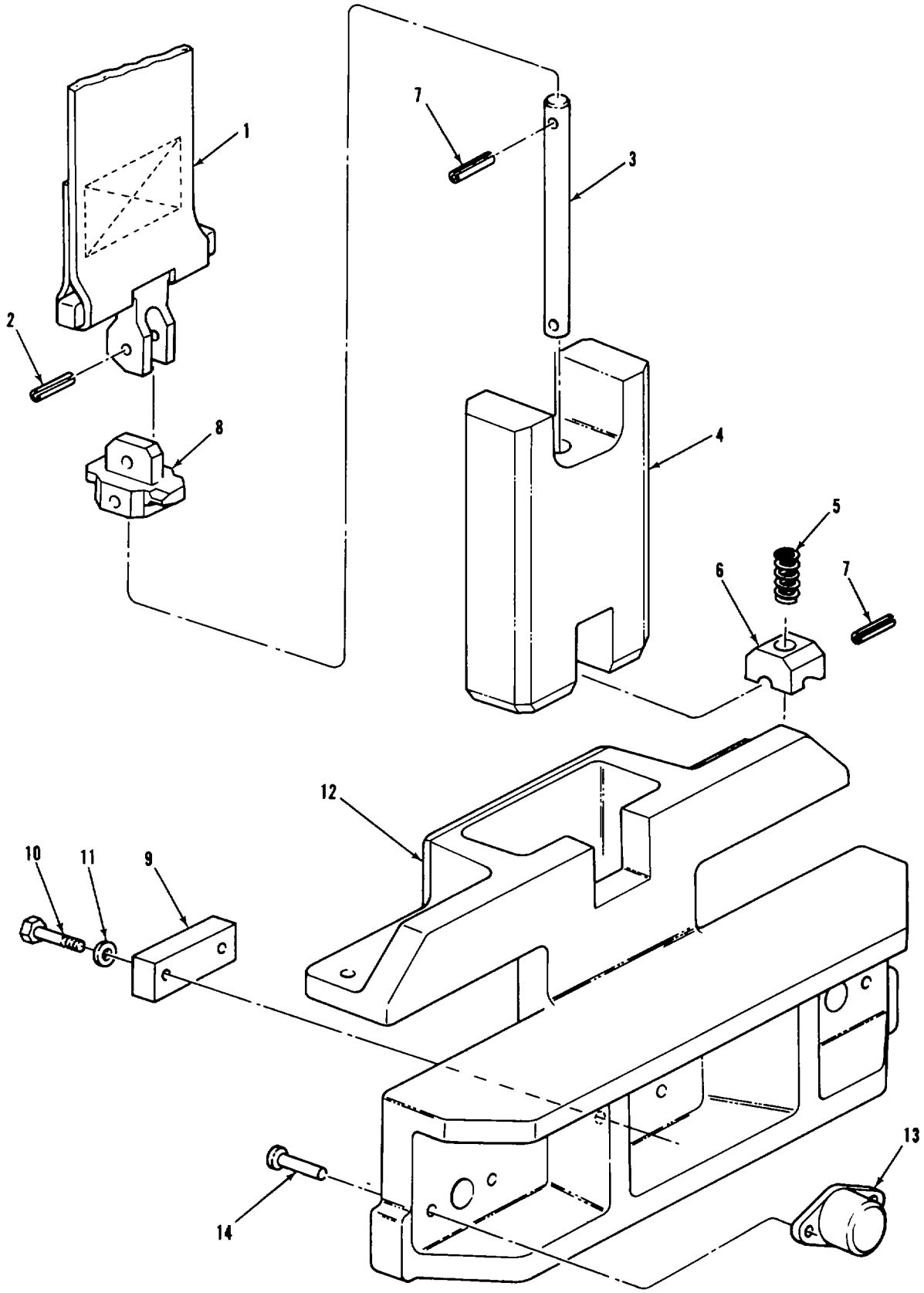

Figure 3-20. Pallet Lock Assembly

FIGURE AND INDEX NO	PART NUMBER	FSCM	DESCRIPTION 1 2 3 4 5 6 7	UNITS PER ASSY	USABLE ON CODE
3-20-	18049 E 400	81868	PALLET LOCK ASSEMBLY (See 62, figure 3-3 and 30, figure 3-4 for NHA.)	REF	
	18049 D 403	81868	.SLIDE BAR ASSEMBLY, Pallet lock	1	
-1	18049 C 412	81868	..STRAP/HANDLE ASSEMBLY, Pallet lock	1	
-2	MS16562-235	96906	..PIN, Roll (AP)	1	
-3	18049 C 411	81868	..ROD, Actuating, pallet lock	1	
-4	18049 D 407	81868	..BAR, Slide, pallet lock	1	
-5	LC-042-F7	84830	..SPRING	1	
-6	18049 C 405	81868	..BLOCK, Cam, pallet lock	1	
-7	MS16562-223	96906	..PIN, Roll (AP)	2	
-8	18049 C 404	81868	..BLOCK, Actuating, pallet lock	1	
-9	18049 C 410	81868	.STOP, Lock, pallet lock	1	
-10	AN3-5A	88044	.BOLT, Hex head (AP)	2	
-11	AN960-10	88044	.WASHER, Flat (AP)	2	
-12	18049 E 402	81868	.BODY, Pallet lock, machined	1	
-13	NAS1031P8	80205	.PLATE, Nut	2	
-14	MS20426AD5-14	96906	.RIVET, Countersunk solid (AP)	4	

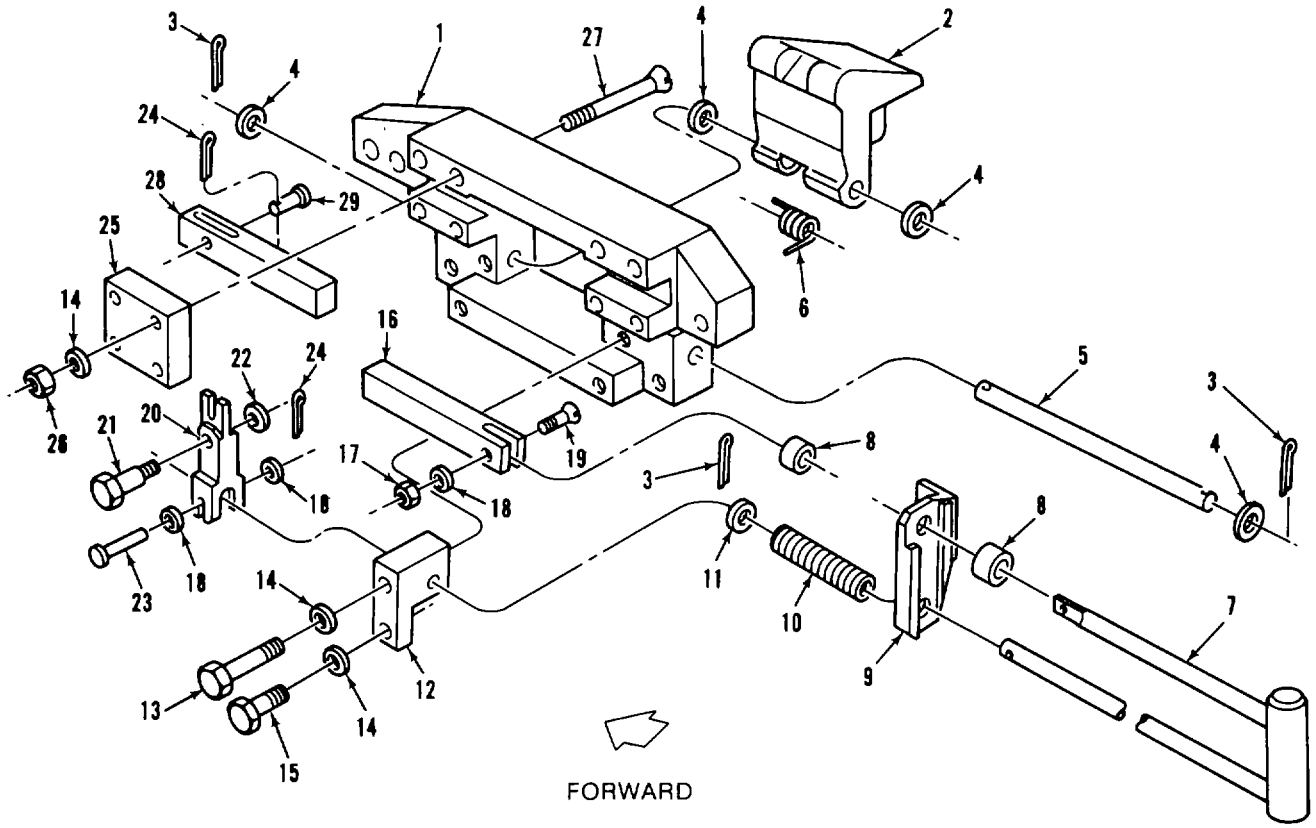

Figure 3-21. Retractable Flange Assembly

FIGURE AND INDEX NO	PART NUMBER	FSCM	DESCRIPTION 1 2 3 4 5 6 7	UNITS PER ASSY	USABLE ON CODE
3-21-	18049 E 300-1	81868	RETRACTABLE FLANGE ASSEMBLY (LH), (See 43, figure 3-5 for NHA.)	REF	A
	18049 E 300-2	81868	RETRACTABLE FLANGE ASSEMBLY (RH), (See 43, figure 3-5 for NHA.)	REF	B
-1	18049 E 301-1	81868	.HOUSING, Retractable flange assembly, left-hand	1	A
	18049 E 301-2	81868	.HOUSING, Retractable flange assembly, left-hand	1	B
-2	18049 C 302	81868	.FLANGE, Retractable	1	
-3	MS24665-353	96906	.PIN, Cotter, split (AP)	3	
-4	18049 C 312	81868	.WASHER, Special, retractable flange assembly (AP)	4	
-5	18049 C 310	81868	.PIN, Retractable flange assembly (AP)	1	
-6	18049 C 311	81868	.SPRING, Torsion, retractable flange assembly	1	
-7	18049 D 305-1	81868	.WELDMENT, Control rod, retractable flange assembly	1	
-8	6434 K30	19710	.COLLAR, Zincal (AP)	2	
-9	18049 C 306-1	81868	.SUPPORT, Retractable flange assembly, left-hand	1	A
	18049 C 306-2	81868	.SUPPORT, Retractable flange assembly, right-hand	1	B
-10	LC-080J-11	84830	.SPRING, Compression	1	
-11	AN960-816	88044	.WASHER, Flat (AP)	1	
-12	18049 C 308	81868	.GUIDE, Retractable flange assembly	2	
-13	AN5-17A	88044	.SCREW, Hex head (AP)	2	
-14	AN960-516	88044	.WASHER, Flat (AP)	8	
-15	AN5-5A	88044	.SCREW, Hex head (AP)	2	
-16	18049 C 304	81868	.BOLT, Slide, retractable flange assembly	1	
-17	MS21044-N4	96906	.NUT, Hex, self-locking (AP)	1	
-18	AN960-416	88044	.WASHER, Flat (AP)	3	
-19	NAS517-4-10	80205	.SCREW, Flat head (AP)	1	
-20	18049 C 309	81868	.LEVER, Retractable flange assembly	1	
-21	MS51975-28	96906	.SCREW, Shoulder, hex socket (AP)	1	
-22	AN960-616	88044	.WASHER, Flat (AP)	1	
-23	MS9464-20	96906	.PIN (AP)	1	
-24	MS24665-132	96906	.PIN, Cotter, split (AP)	2	
-25	18049 C 307	81868	.PLATE, Cover, retractable flange assembly	2	
-26	MS21044-N5	96906	.NUT, Hex, self-locking (AP)	4	
-27	MS24694-S175	96906	.SCREW, Flat head (AP)	4	
-28	18049 C 303	81868	.BOLT, Slide, retractable flange assembly	1	
-29	MS9464-11	96906	.PIN, (AP)	1	

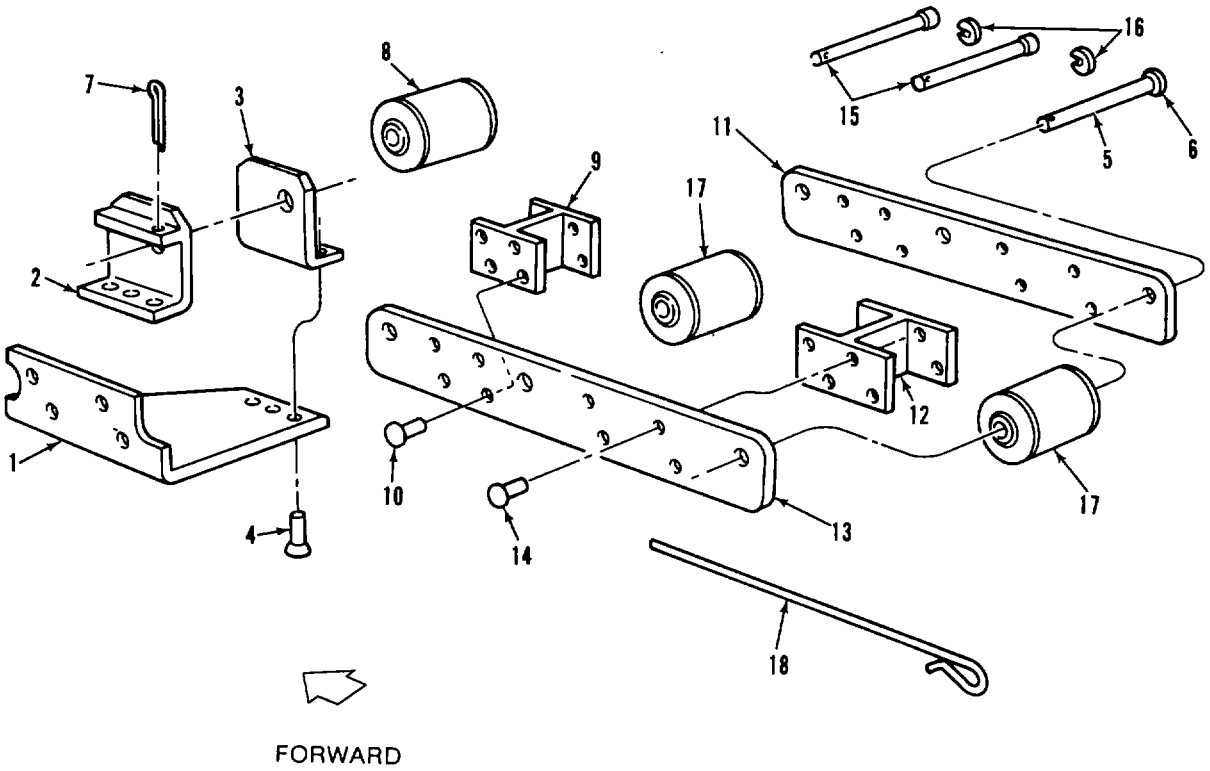

Figure 3-22. Outboard Transition Roller Assembly

FIGURE AND INDEX NO	PART NUMBER	FSCM	DESCRIPTION 1 2 3 4 5 6 7	UNITS PER ASSY	USABLE ON CODE
3-22-	18049 E 280-1	81868	OUTBOARD TRANSITION ROLLER ASSEMBLY (LH) (See 17, figure 3-5 for NHA.)	REF	A
	18049 E 280-2	81868	OUTBOARD TRANSITION ROLLER ASSEMBLY (RH) (See 17, figure 3-5 for NHA.)	REF	B
	18049 D 291-1	81868.	.OUTBOARD SUPPORT ASSEMBLY (LH)	1	A
	18049 D 291-2	81868.	.OUTBOARD SUPPORT ASSEMBLY (RH)	1	B
-1	18049 D 292-1	81868	..SUPPORT ASSEMBLY (LH), Support plate assembly	1	A
	18049 D 292-2	81868	..SUPPORT ASSEMBLY (RH), Support plate assembly	1	B
-2	18049 C 287-2	81868	..CHANNEL, Support, left-hand, support plate assembly	1	A
	18049 C 287-1	81868	..CHANNEL, Support, right-hand, support plate assembly	1	B
-3	18049 C 286-2	81868	..ANGLE, Support, left-hand, support plate assembly	1	A
	18049 C 286-1	81868	..ANGLE, Support, right-hand, support plate assembly	1	B
-4	MS20470B6-11	96906	..RIVET, Solid (AP)	6	
	18049 C 295	81868 .	.SHAFT/HINGE, Transition roller	1	
-5	18049 C 295-1	81868	..SHAFT	1	
-6	5560-37ZD	79136	..RING, Retaining (AP)	1	
-7	MS24665-353	96906 .	.PIN, Cotter (AP)	1	
-8	18049 C 149	81868 .	.ROLLER, Inboard	1	
	18049 E 282-1	81868	.ROLLER FOLLOWER ASSEMBLY (LH)	1	A
	18049 E 282-2	81868.	.ROLLER FOLLOWER ASSEMBLY (RH)	1	B
	18049 E 282-3	81868	..FRAME ASSEMBLY	1	
-9	18049 C 284-1	81868 .	...CROSSMEMBER, Roller follower assembly	1	
-10	MS20470AD6-10	96906	...RIVET, Solid (AP)	12	
-11	18049 D 283-2	81868 .	...PLATE, Side, roller follower assembly	1	
-12	18049 C 284-2	81868 .	...CROSSMEMBER, Roller follower assembly	1	
-13	18049 D 283-1	81868	...PLATE, Side, roller follower assembly	1	
-14	MS20426AD6-10	96906	...RIVET, Countersunk (AP)	4	
	18049 C 128	81868	..TRANSITION ROLLER SHAFT ASSEMBLY	2	
-15	18049 C 128-1	81868	...SHAFT	1	
-16	5560-37ZD	79136	...RING, Retaining (AP)	1	
-17	18049 C 149	81868	..ROLLER, Inboard	2	
-18	AN415-1-7	88044	..PIN, Lock (AP)	1	

3-25. Numerical Index. Following is a numerical index for the Helicopter Internal Cargo Handling System.

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	3-10-4			3-3-	
	3-10-30		18049 J 103	3-2-3	1
18049 E 296-2	3-7-24	14		3-4-	
	3-7-45		18049 J 104	3-2-4	1
	3-8-9			3-4-	
	3-8-30		18049J 105	3-2-5	1
	3-9-3			3-5-	
	3-9-19		18049 J 106	3-2-6	1
	3-10-8			3-5-	
	3-10-31		18049 J 121	3-2-9	1
18049 E 296-3	3-7-35	12			
				3-7-	
	3-7-54		18049 J 122	3-2-10	1
	3-8-1			3-8-	
	3-8-23		18049 J 123	3-2-11	1
	3-9-1			3-9-	
	3-9-17		18049 J 124	3-2-12	1
	3-10-1			3-6-	
	3-10-27		18049 J 225	3-2-13	
18049 E 300-1	3-5-43	1			
				3-11-	
	3-21-		18049 J 225-1	3-11-	1
18049 E 300-2	3-5-43	1	18049 J 226	3-2-14	1
	3-21-			3-11-	
18049 E 301-1	3-21-1	1	18049 J 226-1	3-11-	
18049 E 301-2	3-21-1	1	18133 C 500	3-3-72	21
18049 E 400	3-3-62	4			
	3-4-53				
	3-4-30			3-5-63	
	3-20-			3-6-16	
18049 E 402	3-20-12	4		3-7-8	
18049 E 511-1	3-3-5	1		3-8-66	
18049 E 511-2	3-3-5	1		3-9-38	
18049 E 512-1	3-5-4	8		3-10-75	
	3-5-35			3-11-4	
	3-4-4			3-12-9	
18049 E 512-3	3-3-20	1		3-13-4	
18049 E 512-4	3-3-20	1		3-14-13	
18049 E 515-1	3-7-48	1		3-15-14	
18049 E 515-2	3-7-30	1	28-2-G	3-12-2	30
18049 E 515-3	3-7-51	1		3-12-21	
18049 E 515-4	3-7-33	1		3-14-8	
18049 E 515-5	3-8-8	2		3-15-9	

PART NUMBER	FIGURE AND INDEX NO.	QTY PER END ITEM
353512-1	3-7-12	13
	3-8-48	
	3-8-56	
	3-9-43	
	3-10-61	
	3-10-72	
338018-4	3-7-13	13
	3-8-49	
	3-8-57	
	3-9-44	
	3-10-58	
	3-10-69	
5115-37-015ZD	3-19-2	10
5115-50-ZD	3-16-7	28
	3-18-2	
5560-37ZD	3-7-2A	12
	3-17-3	
	3-17-13	
	3-22-6	
	3-22-13	
6434 K30	3-21-2	4

SECTION IV. TROUBLESHOOTING

3-26. General. The Helicopter Internal Cargo Handling System is a mechanical roller/conveyor type installation. Any malfunction within the system will be due to a few basic causes. The malfunction can be corrected by replacement of missing or damaged components. To determine the cause of a malfunction, isolate the malfunction to a particular area or component. Visually inspect the area for broken or damaged parts. If this does not easily correct the malfunction, refer to Table 3-3.

3-27. Troubles and Remedies. Refer to Table 3-3 for suggested remedies to the troubles listed.

Table 3-3. Troubleshooting

Trouble	Probable Cause	Remedy
Cargo hangs up in one spot.	1. Inboard rollers or outboard rollers not turning freely. Internal Cargo Handling System (See Chapter 3, Section II.)	1a. Clean Helicopter Internal Cargo Handling System. (See Chapter 3, Section II.) 1b. Lubricate Helicopter
	2. Sections of Helicopter Internal Cargo Handling System misaligned.	2. Tighten or replace attaching hardware as required.
	3. Inboard or outboard roller broken.	3. Replace roller.
	4. Inboard or outboard roller loose.	4. Replace roller and/or shaft.
	5. Contact of the main deck outboard guide rail bumper (P/N 18049C202-1, -2, -3) at buffer board attachment bracket screw head.	5. Replace protruding head mounting screw and washer with lower profile head mounting screw. (See figure 3-3, index 41, 42, and 43 for attaching parts).
	6. Ramp guide rails bent inboard creating an interference restriction 463L pallet movement through the rail.	6. The vertical leg of the 18325E215 and 18325E216 ramp rails may be bent outboard using appropriate tools (large soft rubber mallet). Rails should not be bent more than necessary in order to achieve 88.00 to 88.09 clearance.
Helicopter Internal Cargo Handling System rocks, sways or bows excessively under load.	1. Loose 5k tiedown fitting assemblies, 10k fitting assemblies or tiedown fitting assembly, station 360.000.	1. Tighten as required.
	2. Loose or broken outboard rail/roller (main deck) hinge, pallet guide hinge, rail/roller main deck offset (outboard) hinge, offset hinge, half hinge, or pallet guide, hatch hinge.	2. Reattach or replace.
Helicopter Internal Cargo Handling System makes excessive noise.	1. Excess friction.	1. Clean or lubricate. (See Chapter 3, Section II.)

SECTION V. REMOVAL AND STORAGE INSTRUCTIONS

3-28. Removal. Remove the Helicopter Internal Cargo Handling System from the CH47 Helicopter in reverse order of the installation procedures in Chapter 2. The eight 10k fitting assemblies (22, Figure 3-2) and ramp skid pad (20) should be left in place. All removed equipment should be properly tagged and stored to ensure proper installation when desired.

3-29. Storage. The Helicopter Internal Cargo Handling System must be protected against deterioration at all times. Direct contact with rain, sand, dust, etc., must be avoided. TEMPORARY storage may be outdoors only if suitable covering is provided to prevent fouling of closely fitted parts. If exposure has taken place, the system must be cleaned, inspected, and checked thoroughly before installation into an aircraft. EXTENDED storage must be indoors, with complete checkout before each use

3-30. Cleaning. Refer to Chapter 3, Section II, for instructions on cleaning the Helicopter Internal Cargo Handling System.

3-31. Painting. Paint the Helicopter Internal Cargo Handling System in accordance with the following instructions:

WARNING

All spray painting will be accomplished in an exhaust ventilation booth meeting requirements of OSHA 1910.107. Respiratory protective devices will be used when required by local Safety Office and Medical Services Bio-environmental Engineer.

a. When paint wears or chips off aluminum, the exposed surfaces will be recoated and repainted to prevent corrosion.

b. Apply two coats of MX-P-23377 epoxy primer in accordance with MILC-22751.

c. Then apply one coat of semigloss synthetic enamel in accordance with MILSTD808.

3-32. Preservation To preserve the Helicopter Internal Cargo Handling System, refer to paragraphs 3-28, 3-29 and 3-30.

APPENDIX A

REFERENCES

The following forms, technical manuals, specifications, etc., are referred to in this manual:

DA Form 2028, Recommended Changes to Publications and Blank Forms

FSCM Cataloging Handbook H4-1 and H4-2

MIL-L46147, Lubricant, Solid Film, Air-Cured

MILSTD-12, Abbreviations for Use on Drawings and in Specifications, Standards and Technical Documents

MIL-STD-808, Finish, Materials and Processes for Corrsion Prevention and Control in Support Equipment

OSHA 1910.107, Spray Finishing Using Flammable and Combustible Materials

P-D-680, Dry Cleaning Solvent

SF 368, Quality Deficiency Report

TM-55-450-15, Air Movement of Troops and Equipment (Nontactical) HQ DA June 1971

TM-55-450-18, Helicopter Internal and External Loads, CH47 Helicopter, HQ DA August 1970

TM-750-244-1-5, Procedures for Destruction of Aircraft and Associated Equipment to Prevent Enemy Use

DA PAM 738-751, User's Manual for the Army Maintenance Management System - Aviation (TAMMS-A)

MIL-P-23377, Primer Coating, Epoxy Polyamide, Chemical and Solvent Resistant

MIL-C-22751, Coating System, Epoxy-Polyamide, Chemical and Solvent Resistant, Process for Application of

FM 21-11, First Aid for Soldiers

APPENDIX B

MAINTENANCE ALLOCATION CHART

SECTION I

INTRODUCTION

B-1 Maintenance Allocation Chart

a. This Maintenance Allocation Chart (MAC) assigns maintenance functions in accordance with the Three Levels of Maintenance concept for Army aviation. These maintenance levels (categories) Aviation Unit Maintenance (AVUM), Aviation Intermediate Maintenance (AVIM), and Depot Maintenance are depicted on the MAC as:

AVUM, which corresponds to an 0 Code in the Repair Parts and Special Tools List (RPSTL)

AVIM, which corresponds to an F Code in the Repair Parts and Special Tools List (RPSTL)

DEPOT, which corresponds to a D Code in the Repair Parts and Special Tools List (RPSTL)

b. The maintenance to be performed below depot and in the field is described as follows:

(1) Aviation Unit Maintenance (AVUM) activities will be staffed and equipped to perform high frequency "On-Aircraft" maintenance tasks required to retain or return aircraft systems to a serviceable condition. The maintenance capability of the AVUM will be governed by the Maintenance Allocation Chart (MAC) and limited by the amount and complexity of ground support equipment (GSE), facilities required, authorized manning strength, and critical skills available. The range and quantity of authorized spare modules/components will be consistent with the mobility requirements dictated by the air mobility concept. (Assignments of maintenance tasks to divisional company size aviation units will consider the overall maintenance capability of the division, the requirement to conserve personnel and equipment resources, and air mobility requirements).

(a) Company Size Aviation Units: Perform those tasks which consist primarily of preventive maintenance and maintenance repair and replacement functions associated with sustaining a high level of aircraft operational readiness. Perform maintenance inspections and servicing to include preflight, daily, intermediate, periodic (or phased), and special inspections as authorized by the MAC or higher headquarters. Identify the cause of equipment/system malfunctions using applicable technical manual troubleshooting instructions, built-in test equipment (BITE), installed aircraft instruments, or test, measurement, and diagnostic equipment (TMDE). Replace worn or damaged modules/components that do not require complex adjustments or system alinement and which can be removed/installed with available skills, tools, and ground support equipment. Perform operational and continuity checks and make minor repairs to the electrical system. Inspect,

service and make operational, capacity, and pressure checks to hydraulic systems. Perform servicing, functional adjustments, and minor repair/replacement to the flight control, propulsion, power train, and fuel systems. Accomplish air frame repair that does not require extensive disassembly, jigging, or alinement. The manufacture of air frame parts will be limited to those items which can be fabricated with tools and equipment found in current air mobile tool and shop sets. Evacuate unserviceable modules/components and end items beyond the repair capability of AVUM to the supporting AVIM.

(b) Less than Company Size Aviation Units: Aviation elements organic to brigade, group, battalion headquarters, and detachment size units are normally small and have less than ten aircraft assigned. Maintenance taks performed by these units will be those which can be accomplished by the aircraft crew chief or assigned aircraft repairman and will normally be limited preventive maintenance, inspections, servicing, spot painting, stop drilling, application of nonstress patches, minor adjustments, module/component fault diagnosis, and replacement of selected modules/compononts. Repair functions will normally be accomplished by the supporting AVIM unit.

(2) Aviation Intermediate Maintenance (AVIM) provides mobile, responsive "One-stop" maintenance support. (Maintenance functions which are not conducive to sustaining air mobility will be assigned to depot maintenance). AVIM may perform all maintenance functions authorized to be done at AVUM. Repair of equipment for return to user will emphasize support or operational readiness requirements. Authorized maintenance includes replacement and repair of modules/components and end items which can be accomplished efficiently with available skills, tools, and equipment. AVIM established the Direct Exchange (DX) program for AVUM units by repairing selected items for return to stock when such repairs cannot be accomplished at the AVUM level. The AVIM level inspects, troubleshoots, performs diagnostic tests, repairs, adjust, calibrates and alines aircraft system modules/components. AVIM units will have capability to determine the serviceability of specified modules/components removed prior to the expiration of the Time Between Overhaul (TBO) or finite life. Module/component disassembly and repair will support the DX program and will normally be limited to tasks requiring cleaning and the replacement of seals, fittings, and items of common hardware. Air frame repair and fabrication of parts will be limited to those maintenance tasks which can be performed with available tools and test equipment. Unserviceable reparable modules/components and end items which are beyond the capability of AVIM to repair will be evacuated to Depot Maintenance. AVIM will perform aircraft weight and balance inspections and other special inspections which exceed AVUM capability. Provides quick response maintenance support, including aircraft recovery and air evacuation, on-the-job training, and technical assistance through the use of mobile maintenance contact teams. Maintains authorized operational readiness float aircraft. Provides collection and classification services for serviceable/unserviceable material. Operates a cannibalization activity in accordance with AR 750-50. (The aircraft maintenance company within the maintenance battalion of a division will perform AVIM functions consistent with air mobility requirements and conservation of personnel and equipment resources. Additional intermediate maintenance support will be provided by the supporting nondivisional AVIM unit.)

B-2 Use of the Maintenance Allocation Chart (Section II)

a. The Maintenance Allocation Chart assigns maintenance functions to the lowest

category of maintenance based on past experience and the following considerations:

(1) Skills available

(2) Work time required.

(3) Tools and test equipment required and/or available.

b. Only the lowest category of maintenance authorized to perform a maintenance function is indicated. If the lowest maintenance category cannot perform all tasks of any single maintenance function (e.g., test repair), then the higher maintenance level(s) that can accomplish additional tasks will also be indicated.

c. A maintenance function assigned to a maintenance category will automatically be authorized to be performed at any higher maintenance category.

d. A maintenance function that cannot be performed at the assigned category of maintenance for any reason may be evacuated to the next higher maintenance category. Higher maintenance categories will perform the maintenance functions of lower maintenance categories when required or directed by the commander that has the authority to direct such tasking.

e. The assignment of a maintenance function will not be construed as authorization to carry the related repair parts or spares in stock. Information to requisition or otherwise secure the necessary repair parts will be as specified in the associated Repair Parts and Special Tools List (RPSTL).

f. Normally there will be no deviation from the assigned level of maintenance. In cases of operational necessity, maintenance functions assigned to a maintenance level may, on a one-time basis and at the request of the lower maintenance level, be specifically authorized by the maintenance officer of the level of maintenance to which the function is assigned. The special tools, equipment, etc., required by the lower level of maintenance to perform this function will be furnished by the maintenance level to which the function is assigned. This transfer of a maintenance function to a lower maintenance level does not relieve the higher maintenance level of the responsibility for the function. The higher level of maintenance will provide technical supervision and inspection of the function being performed at the lower level.

g. Changes to the Maintenance Allocation Chart will be based on continuing evaluation and analysis by responsible technical personnel and on reports received from field activities.

B-3 Maintenance functions. Maintenance functions will be limited to and defined as follows:

a. Inspect. To determine the serviceability of an item by comparing its physical, mechanical, and/or electrical characteristics with established standards through examination (e.g., by sight, sound, or feel).

b. Test. To verify serviceability by measuring the mechanical, pneumatic, hydraulic, or electrical characteristics of an item and comparing those characteristics with prescribed standards.

c. Service. Operations required periodically to keep an item in proper operating condition, i.e., to clean (includes decontaminate, when required), to preserve, to drain, to paint, or to replenish fuel, lubricants, chemical fluids, or gases.

d. Adjust. To maintain or regulate within prescribed limits, by bringing into proper or exact position, or by setting the operating characteristics to specified parameters.

e. Aline. To adjust specified variable elements of an item to bring about optimum or desired performance.

f. Calibrate. To determine and cause corrections to be made or to be adjusted on instruments or test, measuring, and diagnostic equipments used in precision measurement. Consists of comparisons of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared.

g. Remove/Install. To remove and install the same item when required to perform service or other maintenance functions. Install may be the act of emplacing, seating, or fixing into position a spare, repair part, or module (component or assembly) in a manner to allow the proper functioning of an equipment or system.

h. Replace. To remove an unserviceable item and install a serviceable counterpart in its place. "Replace" is authorized by the MAC and is shown as the 3d position code of the SMR code.

i. Repair. The application of maintenance services', including fault location/troubleshooting[2], removal/installation, and disassembly/assembly procedures[3], and maintenance actions[4] to identify troubles and restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subassembly, module (component or assembly), end item, or system.

j. Overhaul. That maintenance effort (service/action) prescribed to restore an item to a completely serviceable/operational condition as required by maintenance standards in appropriate technical publications (i.e., DMWR). Overhaul is normally the highest degree of maintenance performed by the Army. Overhaul does not normally return an item to like new condition.

k. Rebuild. Consists of those services/actions necessary for the restoration of unserviceable equipment to a like new condition in accordance with original manufacturing standards. Rebuild is the highest degree of materiel maintenance applied to Army equipment. The rebuild operation includes the act of returning to zero those age measurements (hours/miles, etc.) considered in classifying Army equipment/components.

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[1] Services - inspect, test, service, adjust, aline, calibrate, and/or replace.

[2] Fault locate/troubleshoot The process of investigating and detecting the cause of equipment malfunctioning; the act of isolating a fault within a system or unit under test (UUT).

[3] Disassemble/assemble - encompasses the step-by-step taking apart (or breakdown)

of a spare/functional group coded item to the level of its least componency identified as maintenance significant (i.e., assigned an SMR code) for the category of maintenance under consideration.

[4] Actions - welding, grinding, riveting, straightening, facing, remachnining and/or resurfacing.

B-4 Functional Groups. (Columns 1 and 2.) Not Applicable.

B-5 Maintenance Function. (Column 3). Column 3 lists the functions to be performed on the items listed in column 2.

B-6 Maintenance categories and work times. (Column 4)

The maintenance categories (levels) AVUM, AVIM, and DEPOT are listed on the Maintenance Allocation Chart with individual columns that include the work times for maintenance functions at each maintenance level. Work time presentations such as "0.1" indicate the average time it requires a maintenance level to perform a specified maintenance function. If a work time has not been established, the columnar presentation shall indicate " ." Maintenance levels higher than the level of maintenance indicated are authorized to perform the indicated function.

B-7 Tools and test equipment. (Column 5 Section III)

Common tool sets (not indicidual tools), special tools, test, and support equipment required to perform maintenance functions are listed alphabetically in Section III with a reference number to permit cross-referencing to column 5 in the MAC. In addition, the maintenance category authorized to use the device is listed along with the item National stock number (NSN) and, if applicable, the tool number to aid in identifying the tool/device.

B-8 Remarks. (Column 6 and Section IV) Not Applicable.

SECTION II

MAINTENANCE ALLOCATION CHART

NOMENCLATURE OF END ITEMS
HELICOPTER INTERNAL CARGO HANDLING SYSTEM (HICHS)
P/N 18049 J 100

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY AVUM	AVIM	DEPOT	(5) TOOLS AND EQUIPMENT	(6) REMARKS
	ROLLER CONVEYOR ASSEMBLY	Inspect Replace Repair				102 102 102	

Section III. Tool and Test Equipment Requirements

Helicopter Internal Cargo Handling System

(1) Tool or Test Equipment Ref Code	(2) Maintenance Category	(3) Nomenclature	(4) National/NATO Stock Number	(5) Tool Number
102	AVUM	Tool Kit, Air-craft Mechanics-General	5180-00-323-4692	SC518099CLA01

APPENDIX C

OPERATOR'S AND AVIATION UNIT MAINTENANCE

REPAIR PARTS AND SPECIAL TOOLS LIST

SECTION I. INTRODUCTION

1. Scope.
This RPSTL lists and authorizes spares and repair parts required for performance of Aviation Unit maintenance of the Helicopter Internal Cargo Handling Systems (HICHS). It authorizes the requisitioning, issue, and disposition of spares and repair parts as indicated by source, maintenance, and recoverability (SMR) codes.

2. General.
In addition to Section I, Introduction, this Repair Parts and Special Tools List is divided into the following sections:

a. Section II Repair Parts List. A list of spares and repair parts authorized by this RPSTL for use in the performance of maintenance. Parts lists are composed of illustration figures in ascending numerical sequence.

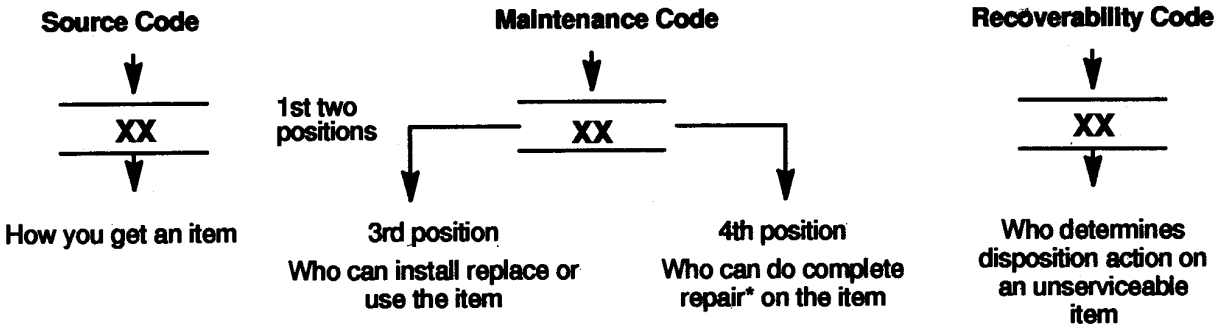
b. Section III - Special Tools List. Not applicable.

c. Section IV National Stock Number and Part Number Index. A list, in National item identification number (NIIN) sequence, of all National stock numbers (NSN) appearing in the listings, followed by a list in alphanumeric sequence of all part numbers appearing in the listings. National stock numbers and part numbers are cross-referenced to each illustration figure and item number appearance.

3. Explanation of Columns (Sections II and III).

a. ITEM NO. (Column (1)). Indicates the number used to identify items called out in the illustration.

b. SMR CODE (Column (2)). The Source, Maintenance, and Recoverability (SMR) code is a 5-position code containing supply/requisitioning information, maintenance category authorization criteria, and disposition instruction, as shown in the following breakout:



* Complete Rear: Maintenance capacity, capability, and authority to perform all corrective maintenance tasks of the "Repair" function in a use/user environment in order to restore serviceability to a failed item.

(1) Source Code. The source code tells you how you get an item needed for maintenance, repair, or overhaul of an end item/equipment. Explanations of source codes follow.

Code	Explanation
PA PB PC** PD PE PF PG	Stocked items; use the applicable NSN to request/requisition items with these source codes. They are authorized to the category indicated by the code entered in the 3rd position of the SMR code. **NOTE : Items coded PC are subject to deterioration.

XA - - Do not requisition an "XA"-coded item. Order its next higher assembly. (Also, refer to the NOTE below.)
XB - - If an "XB" item is not available from salvage, order it using the CAGE Code and part number given.
XC - - Installation drawing, diagram, instruction sheet, field service drawing, that is identified by manufacturer's part number.
XD - - Item is not stocked. Order an "XD"-coded item through normal supply channels using the CAGE Code and part number given, if no NSN is available.

NOTE

Cannibalization or controlled exchange, when authorized, may be used as a source of supply for items with the above source codes, except for those source coded "XA" or those aircraft support items restricted by requirements of AR 700-42.

(2) Maintenance Code. Maintenance codes tells you the level(s) of maintenance authorized to USE and REPAIR support items. The maintenance codes are entered in the third and fourth positions of the SMR Code as follows:

(a) The maintenance code entered in the third position tells you the lowest maintenance level authorized to remove, replace, and use an item. The maintenance code entered in te third position will indicate authorization to one of the following levels of maintenance.

Code	Application/Explanation
C	-Crew or operator maintenance done within aviation unit maintenance.
0	-Aviation unit category can remove, replace, and use the item.

(b) The maintenance Code entered in the fourth position tells whether or not the item is to be repaired and identifies the lowest maintenance level with the capability to do complete repair (i.e., perform all authorized repair functions.) (NOTE: Some limited repair may be done on the item at a lower level of maintenance, if authorized by the Maintenance Allocation Chart (MAC) and SMR codes.) This position will contain one of the following maintenance codes.

CODE	Application/Explanation
0	-Aviation unit is the lowest level that can do complete repair of the item.

(3) Recoverability Code. Recoverability codes are assigned to items to indicate the disposition action on unserviceable items. The recoverability code is entered in the fifth position of the SMR Code as follows:

Recoverability Codes	Application/Explanation
Z	-Nonreparable item. When unserviceable, condemn and dispose of the item at the level of maintenance shown in 3d position of SMR Code.
O	-Reparable item. When uneconomically reparable, condemn and dispose of the item at aviation unit level.

c. FSCM (Column (3). The Federal Supply Code for Manufacturer (FSCM) is a 5-digit numeric code which is used to identify the manufacturer, distributor, or Government agency, etc., that supplies the item.

d. PART NUMBER (Column (4). Indicates the primary number used by the manufacturer (individual, company, firm, corporation, or Government activity), which controls the design and characteristics of the item by means of its engineering drawings, specifications standards, and inspection requirements to identify an item or range of items.

NOTE

When you use a NSN to requisition an item, the item you receive may have a different part number from the part ordered.

e. DESCRIPTION AND USABLE ON CODE (UOC) (Column (5). This column includes the following information:

(1) The Federal item name and, when required, a minimum description to identify the item.

(2) The statement "END OF FIGURE" appears just below the last item description in Column 5 for a given figure in Section II.

f. QTY (Column (6)). The QTY (quantity per figure column) indicates the quantity of the item used in the breakout shown on the illustration figure, which is prepared for an assembly. A "V" appearing in this column in lieu of a quantity indicates that the quantity is variable and quantity may vary from application to application.

4. Explanation of Columns (Sect. IV).

a. NATIONAL STOCK NUMBER (NSN) INDEX.

(1) STOCK NUMBER column. This column lists the NSN by National item identification number (NIIN) sequence. The NIIN consists of the last nine NSN digits of the NSN (i.e., 5305-01-674-1467). When using this column to NIIN

locate an item, ignore the first 4 digits of the NSN. However the complete NSN should be used when ordering items by stock number.

(2) FIG. Column. This column lists the number of the figure where the item is identified/located. The figures are in numerical order in Section II.

(3) ITEM column. The item number identifies the item associated with the figure listed in the adjacent FIG. column. This item is also identified by the NSN listed on the same line.

b. PART NUMBER INDEX. Part numbers in this index are listed by part number in ascending alphanumeric sequence (i.e., vertical arrangement of letter and number combination which places the first letter or digit of each group in order A through Z, followed by the numbers 0 through 9 and each following letter or digit in like order).

(1) FSCM column. The Federal Supply Code for Manufacturer (FSCM) is a 5-digit numeric code used to identify the manufacturer, distributor, or Government agency, etc., that supplies the item.

(2) PART NUMBER column. Indicates the primary number used by the manufacturer (individual, firm, corporation, or Government activity), which controls the design and characteristics of the item by means of its engineering drawings, specifications standards, and inspection requirements to identify an item or range of items.

(3) STOCK NUMBER column. This column lists the NSN for the associated part number and manufacturer identified in the PART NUMBER and FSCM columns to the left.

(4) FIG. column. This column lists the number of the figure where the item is identified/located in Section II.

(5) ITEM column. The item number is that number assigned to the item as it appears in the figure referenced in the adjacent figure number column.

5. Special Information. Not applicable.

6. How to Locate Repair Parts

a. When National Stock Number or Part Number is Not Known.

(1) First. Using the table of contents, determine the assembly group or subassembly group to which the item belongs. This is necessary since figures are prepared for assembly groups and subassembly groups, and listings are divided into the same groups.

(2) Second. Find the figure covering the assembly group or subassembly group to which the item belongs.

(3) Third. Identify the item on the figure and note the item number.

(4) Fourth. Refer to the Repair Parts List for the figure to find the part number for the item number noted on the figure.

(5) Fifth. Refer to the Part Number Index to find the NSN, if assigned.

b. When National Stock Number or Part Number is Known:

(1) First. Using the Index of National Stock Number and Part Numbers find the pertinent National Stock Number or Part Number. The NSN index is in National Item Identification Number (NIIN) sequence (see 4.1(1)). The part numbers in the Part Number index are listed in ascending alphanumeric sequence (see 4.b). Both indexes cross-reference you to the illustration figure and item number of the item you are looking for.

(2) Second. After finding the figure and item number, verify that the item is the one you're looking for, then locate the item number in the repair parts list for the figure.

7. Abbreviations. Not applicable.

SECTION II

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
				FIG. 3-2 HELICOPTER INTERNAL CARGO HANDLING SYSTEM	
1	XDOOO	81868	18049 J 101	LH FWD O.B. ..... RAIL/ROLLER ASSY	
				SEE FIG.3-3 FOR BKDN	1
2	XDOOO	81868	18049 J 102	RH FWD O.B..... RAIL/ROLLER ASSY	
				SEE FIG. 3-3 FOR BKDN.....	1
3	XDOOO	81868	18049 J 103	CENTER LH O.B. RAIL/ROLLER ASSY	
				SEE FIG.3-4 FOR BKDN	1
4	XDOOO	81868	18049 J 104	CENTER RH O.B.RAIL/ROLLER ASSY	
				SEE FIG.3-4 FOR BKDN	1
5	XDOOO	81868	18049 J 105	LH AFT O.B.RAIL/ROLLER ASSY	
				SEE FIG.3-5 FOR BKDN	1
6	XDOOO	81868	18049 J 106	RH AFT O.B.RAIL/ROLLER ASSY	
				SEE FIG.3-5 FOR BKDN	1
7	XDOOO	81868	18049 E 107	LH O.B. ..... GUIDE RAIL/ROLLER ASSY	
				SEE FIG.3-6 FOR BKDN	1
8	XDOOO	81868	18049 E 108	RH O.B..... GUIDE RAIL/ROLLER ASSY	
				SEE FIG.3-6 FOR BKDN	1
9	XDOOO	81868	18049 J 121	FWD I.B. ..... GUIDE/ROLLER ASSY	
				SEE FIG.3-7 FOR BKDN	1
10	XDOOO	81868	18049 J 122	FWD I.B. ..... GUIDE/ROLLER ASSY	
				SEE FIG.3-8 FOR BKDN	1
11	XDOOO	81868	18049 J 123	CENTER I.B. ..... GUIDE/ROLLER ASSY	
				SEE FIG.3-9 FOR BKDN	1
12	XDOOO	81868	18049 J 124	AFT I.B..... GUIDE/ROLLER ASSY	
				SEE FIG.3-10 FOR BKDN	1
13	XDOOO	81868	18049 J 225	LH RAMP I.B..... .....ROLLER ASSY	
				SEE FIG. 3-11	1
14	XDOOO	81868	18049 J 226	RH RAMP I.B. ....ROLLER ASSY	
				SEE FIG. 3-11 FOR BKDN	1
15	XDOOO	81868	18049 E 140	RAMP EXTENSION ROLLER ASSY	
				SEE FIG. 3-12 FOR BKDN.....	2
16	XDOZZ	81868	18049 D 227	MOUNTING BAR ASSY, FWD	1
17	XDOZZ	81868	18049 D 228	MOUNTING BAR ASSY, AFT	1
18	XDOZZ	81868	18049 E 150	RAMP EXTENSION SUPPORT ASSY	2
19	XDOZZ	81868	18049 E 160	RAMP SUPPORT ASSY	1
20	XDOZZ	81868	18049 D 195	RAMP SKID RAD	1
21	PAOZZ	81868	18049 D 117	5K TIEDOWN FITTING ASSY	1
22	XDOZZ	81868	18049 E 207	10K FITTING ASSY	8
23	PAOZZ	81868	18049 C 245	BOLT ASSEMBLY, TIE DOWN	2
24	PAOZZ	81868	18049 C 299	RING PLUG ASSEMBLY,	
				CENTERLINE	10
25	PBOOZ	81868	18049 D 130	REST PLATE	2
26	PAOZZ	81868	18049 D 250	STRAP ASSEMBLY, ROLLER	34
27	PAOZZ	80205	NAS517-4-12	SCREW, MACHINE	2
28	PAOZZ	80205	NAS6608-14	BOLT, SHEAR	16
29	PAOZZ	80205	NAS6608-15	BOLT, SHEAR	16
30	PAOZZ	88044	AN3-1OA	BOLT, MACHINE	28
31	PAOZZ	88044	AN960-10	WASHER, FLAT	36
32	PAOZZ	88044	AN4-11A	BOLT, MACHINE	6
33	PAOZZ	88044	AN960-416	WASHER, FLAT	18

SECTION II

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
34	PAOZZ	80205	NAS334CPAll	SCREW, CLOSE TOLERANCE	6
35	PAOZZ	88044	AN4-12A	BOLT, MACHINE	4
36	PAOZZ	88044	AN4-5A	BOLT, MACHINE	8
37	PAOZZ	96906	MS21044-N4	NUT, SELF-LOCKING	8
38	PAOZZ	88044	AN3-11A	BOLT, MACHINE	8
39	PAOZZ	96906	MS21250-05028	BOLT, SHEAR	16
40	PAOZZ	88044	AN960-516	WASHER, FLAT	32
41	XDOZZ	81868	18049 D 555	BOLT, SPECIAL	16
42	PAOZZ	88044	AN960-816	WASHER, FLAT	16
43	PAOZZ	88044	AN960-816L	WASHER, FLAT	8

END OF FIGURE

SECTION II

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
				FIG. 3-3 OUTBOARD RAIL/ROLLER ASSY, FWD, RIGHT & LEFT HAND	
	XDOOO	81868	18049 J 101	LH FWD O.B. RAIL/ROLLER ASSY	1
	XDOOO	81868	18049 J 102	RH FWD O.B. RAIL/ROLLER ASSY	1
1	XDOZZ	81868	18049 C 206	.SPACER, ROLLER TRAY	1
3	XDOZZ	81868	18049 C 129	.SPACER, ROLLER TRAY	1
7	XDOZZ	81868	18049 C 156	.HINGE, OUTBOARD	2
10	XDOZZ	81868	18049 C 157	.HINGE, OFFSET	2
11	XDOZZ	81868	18049 D 155-3	.PIN, HINGE	2
13	PAOZZ	81868	18049 C 148	.ROLLER, OUTBOARD	4
14	PAOZZ	81868	18049 C 246	.SHAFT ASSEMBLY	6
15	PAOZZ	96906	MS24665-353	.PIN, COTTER	6
16	PAOZZ	81868	18049 C 149	.ROLLER, INBOARD	2
17	XDOZZ	81868	18049 C 129	.SPACER, ROLLER TRAY	5
24	XDOZZ	81868	18049 C 157	.HINGE, OFFSET	2
25	XDOZZ	81868	18049 D 155-3	.PIN, HINGE	2
26	XDOZZ	81868	18049 C 156	.HINGE, OUTBOARD	2
29	PAOZZ	81868	18049 C 148	.ROLLER, OUTBOARD	15
30	PAOZZ	81868	18049 C 246	.SHAFT ASSEMBLY	17
31	PAOZZ	96906	MS24665-353	.PIN, COTTER	17
32	PAOZZ	81868	18049 C 149	.ROLLER, INBOARD	2
33	XDOZZ	81868	18049 C 156	.HINGE, OUTBOARD	1
36	PAOZZ	88044	AN960-816L	.WASHER, FLAT	2
37	PAOZZ	80205	NAS6608-15	.BOLT, SHEAR	2
38	XDOZZ	80205	NAS1031P8	.NUT PLATE, SELF-LOCKING	1
40	XDOZZ	81868	18049 C 202-3	.BUMPER, O.B. GUIDE RAIL	1
41	PAOZZ	96906	MS21042-4	.NUT, SELF-LOCKING	4
42	PAOZZ	88044	AN960-416	.WASHER, FLAT	4
43	PAOZZ	80205	NAS334CPAll	.SCREW, CLOSE TOLERANCE	4
	XDOOO	81868	18049 C 196	.SPLICE PLATE ASSY	1
45	XDOZZ	80205	NAS10O31P8	..NUT PLATE, SELF-LOCKING	4
48	XDOZZ	80205	NAS1031P8	.NUT PLATE, SELF LOCKING	6
50	XDOZZ	81868	18049 C 202-3	.BUMPER, O.B. GUIDE RAIL	1
51	PAOZZ	96906	MS21042-4	.NUT, SELF-LOCKING	10
52	PAOZZ	88044	AN960-416	.WASHER, FLAT	10
53	PAOZZ	80205	NAS334CPAll	.SCREW, CLOSE TOLERANCE	6
56	PAOZZ	81868	18049 C 262	.BUMPER, O.B. GUIDE RAIL	1
57	XDOZZ	81868	18049 C 116-2	.STOP, PALLET, RH	1
57	XDOZZ	81868	18049 C 116-1	.STOP, PALLET, LH	1
58	PAOZZ	80205	NAS517-4-19	.SCREW, MACHINE	4
59	XDOZZ	81868	18049 C 156	.HINGE, OUTBOARD	3
62	PAOOO	81868	18049 E 400	.PALLET LOCK ASSY SEE FIG. 3-20 FOR BKDN	1
63	PAOZZ	96906	MS21042-6	.NUT, SELF-LOCKING	4
64	PAOZZ	88044	AN960-616	.WASHER, FLAT	4
65	PAOZZ	88044	AN960-416	.WASHER, FLAT	4
66	PAOZZ	96906	MS21042-4	.NUT, SELF-LOCKING	4
67	PAOZZ	80205	NAS517-6-15	.SCREW, MACHINE	2

SECTION II

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
68	PAOZZ	88044	AN6-14A	.BOLT, MACHINE	2
69	PAOZZ	88044	AN960-816	.WASHER, FLAT	2
70	PAOZZ	88044	AN8-15A	.BOLT, MACHINE	2
71	PAOZZ	80205	NAS517-4-8	.SCREW, MACHINE	4
71A	PAOZZ	81868	18049 C 109	.NAMEPLATE	1
71B	PAOZZ	96906	MS24625-9	.SCREW, TAPPING	4
72	XDOZZ	81868	18133 C 500	.NAMEPLATE	1
73	XDOZZ	81868	18049 D 155-3	.PIN, HINGE	4

END OF FIGURE

SECTION II

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
				FIG. 3-4 OUTBOARD RAIL/ROLLER ASSY, CENTER RIGHT & LEFT HAND	
	XDOOO	81868	18049 J 103	CENTER LH O.B. RAIL/ROLLER ASSY	1
	XDOOO	81868	18049 J 104	CENTER RH O.B. RAIL/ROLLER ASSY	1
1	XDOZZ	81868	18049 C 129	.SPACER, ROLLER TRAY	4
9	XDOZZ	81868	18049 D 158-1	.HINGE, OFFSET	1
10	XDOZZ	81868	18049 D 158-3	.PIN, HINGE	1
11	XDOZZ	81868	18049 D 158-2	.HINGE, O.B. SHORT	1
12	XDOZZ	81868	18049 C 157	.HINGE, OFFSET	2
13	XDOZZ	81868	18049 D 155-3	.PIN, HINGE	2
14	XDOZZ	81868	18049 C 156	.HINGE, OUTBOARD	2
17	PAOZZ	81868	18049 C 148	.ROLLER, OUTBOARD	16
18	PAOZZ	81868	18049 C 246	.SHAFT ASSEMBLY	20
19	PAOZZ	96906	MS24665-353	.PIN, COTTER	20
20	PAOZZ	81868	18049 C 149	.ROLLER, INBOARD	4
22	XDOZZ	81868	18049 D 158-2	.HINGE, O.B. SHORT	1
	XDOOO	81868	18049 C 196	.SPLICE PLATE ASSY	1
25A	XDOZZ	80205	NAS10O31P8	..NUT PLATE, SELF LOCKING	4
26	PAOZZ	88044	AN960-816L	.WASHER, FLAT	2
27	PAOZZ	80205	NAS6608-15	.BOLT, SHEAR	2
30	PAOOO	81868	18049 E 400	.PALLET LOCK ASSY SEE FIG. 3-20 FOR BKDN	1
31	PAOZZ	96906	MS21042-6	.NUT, SELF-LOCKING	4
32	PAOZZ	88044	AN960-616	.WASHER, FLAT	4
33	PAOZZ	88044	AN960-416	.WASHER, FLAT	4
34	PAOZZ	96906	MS21042-4	.NUT, SELF-LOCKING	4
35	PAOZZ	80205	NAS517-6-15	.SCREW, MACHINE	2
36	PAOZZ	88044	AN960-816	.WASHER, FLAT	1
37	PAOZZ	88044	AN8-15A	.BOLT, MACHINE	1
38	PAOZZ	88044	AN6-14A	.BOLT, MACHINE	2
39	PAOZZ	80205	ANS517-4-8	.SCREW, MACHINE	4
40	XDOZZ	81868	18049 C 255	.TEE, BACKUP	1
43	XDOZZ	81868	18049 C 202-3	.BUMPER, O.B. GUIDE RAIL	1
44	PAOZZ	96906	MS21042-4	.NUT, SELF-LOCKING	4
45	PAOZZ	88044	AN960-416	.WASHER, FLAT	4
46	PAOZZ	80205	NAS334CPAll	.SCREW, CLOSE TOLERANCE	4
47	XDOZZ	80205	NAS1031P8	.NUT PLATE, SELF-LOCKING	6
49	XDOZZ	81868	18049 C 156	.HINGE, OUTBOARD	2
51	XDOZZ	81868	18049 D 158-3	.PIN, HINGE	1
52	XDOZZ	81868	18049 D 155-3	.PIN, HINGE	2
53	XDOZZ	81868	18133 C 500	.NAMEPLATE	1

END OF FIGURE

SECTION II

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
				FIG. 3-5 OUTBOARD RAIL/ROLLERY ASSY, AFT RIGHT & LEFT HAND	
	XDOOO	81868	18049 J 105	LH AFT O.B. RAIL/ROLLER ASSY	1
	XDOOO	81868	18049 J 106	RH AFT O.B. RAIL/ROLLER ASSY	1
1	XDOZZ	81868	18049 C 129	.SPACER, ROLLER TRAY	3
8	XDOZZ	81868	18049 C 156	.HINGE, OUTBOARD	2
10	XDOZZ	81868	18049 C 157	.HINGE, OFFSET	2
11	XDOZZ	81868	18049 D 155-3	.PIN, HINGE	2
13	PAOZZ	81868	18049 C 148	.ROLLER, OUTBOARD	9
14	PAOZZ	81868	18049 C 246	.SHAFT ASSEMBLY	11
15	PAOZZ	96906	MS24665-353	.PIN, COTTER	11
16	PAOZZ	81868	18049 C 149	.ROLLER, INBOARD	2
17	XDOOO	81868	18049 E 280-1	.LH O.B. TRANSITION ROLLER ASSY SEE FIG. 3-22 FOR BKDN	1
17	XDOOO	81868	18049 E 280-2	.RH O.B. TRANSITION ROLLER ASSY SEE FIG. 3-22 FOR BKDN	1
18	PAOZZ	88044	AN4-6A	.BOLT, MACHINE	1
19	PAOZZ	88044	AN960-416	.WASHER, FLAT	4
20	PAOZZ	96906	MS21042-4	.NUT, SELF-LOCKING	4
21	PAOZZ	88044	AN4-7A	.BOLT, MACHINE	1
22	PAOZZ	36659	LS9365-517-4-5	.SCREW, MACHINE	2
23	PAOZZ	96906	MS24665-353	.PIN, COTTER	12
24	PAOZZ	81868	18049 C 148	.ROLLER, OUTBOARD	10
25	PAOZZ	81868	18049 C 247-2	.SHAFT ASSEMBLY	1
26	PAOZZ	88044	AN960-616	.WASHER, FLAT	1
28	PAOZZ	81868	18049 C 149	.ROLLER, INBOARD	2
29	PAOZZ	81868	18049 C 246	.SHAFT ASSEMBLY	11
30	XDOZZ	81868	18049 C 156	.HINGE, OUTBOARD	2
32	XDOZZ	81868	18049 C 157	.HINGE, OFFSET	2
33	XDOZZ	81868	18049 D 155-3	.PIN, HINGE	2
38	XDOZZ	81868	18049 C 129	.SPACER, ROLLER TRAY	4
43	XDOZZ	81868	18049 E 300-1	.LH RETRACT FLANGE ASSY	1
43	XDOZZ	81868	18049 E 300-2	.RH RETRACT FLANGE ASSY	1
44	PAOZZ	80205	NAS517-8-23	.SCREW, MACHINE	4
45	PAOZZ	88044	AN960-816	.WASHER, FLAT	4
46	PAOZZ	96906	MS21044-N8	.NUT, SELF-LOCKING	4
47	PAOZZ	96906	MS21042-5	.NUT SELF-LOCKING	6
48	PAOZZ	88044	AN960-516	.WASHER, FLAT	6
49	PAOZZ	80205	NAS517-5-11	.SCREW, MACHINE	2
50	PAOZZ	80205	NAS517-5-42	.SCREW, MACHINE	4
52	XDOZZ	80205	NAS1031P8	.NUT PLATE, SELF-LOCKING	8
54	XDOOO	81868	18049 E 203	.OUTRIGGER ASSY	1
55	PAOZZ	96906	MS21042-4	.NUT, SELF-LOCKING	8
56	PAOZZ	88044	AN960-416	.WASHER, FLAT	8
57	PAOZZ	80205	NAS334CPA11	.SCREW, CLOSE TOLERANCE	8
58	XDOZZ	81868	18049 C 202-1	.BUMPER, O.B. GUIDE RAIL, LH	1
58	XDOZZ	81868	18049 C 202-2	.BUMPER, O.B. GUIDE RAIL, RH	1
59	XDOZZ	81868	18049 C 156	.HINGE, OUTBOARD	4
62	XDOZZ	81868	18049 D 155-3	.PIN, HINGE	4
63	XDOZZ	81868	18133 C 500	.NAMEPLATE	1
				END OF FIGURE	

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
				FIG. 3-6 RAMP GUIDE RAIL/ROLLER ASSY, RIGHT AND LEFT HAND	
	XDOOO	81868	18049 E 107	LH O.B. GUIDE RAIL/ROLLER ASSY	1
	XDOOO	81868	18049 E 108	RH O.B. GUIDE RAIL/ROLLER ASSY	1
1	PAOZZ	81868	18049 C 148	ROLLER, OUTBOARD	20
2	PAOZZ	81868	18049 C 246	.SHAFT ASSEMBLY	20
3	PAOZZ	96906	MS24665-353	.PIN, COTTER	20
4	XDQZZ	81868	18049 C 129	.SPACER, ROLLER TRAY	4
8	XDOZZ	81868	18049 D 155-2	.ANGLE, HINGE	4
10	XDOZZ	81868	18049 D 155-4	.HINGE,HALF.....	4
13	XDOZZ	81868	18049 D 155-1	.HINGE, HALF	4
15	XDOZZ	81868	18049 D 155-5	.PIN, HINGE	4
16	XDOZZ	81868	18133 C 500	.NAMEPLATE	1
				END OF FIGURE	

SECTION II

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
				FIG. 3-7 CENTERLINE CABLE ROLLER ASSEMBLY.....	
	PAOOO	81868	18426E1000	CENTERLINE CABLE ROLLER ASSEMBLY	1
1	XAOZZ	81868	18049D260	.WELDMENT, PALLET STOP	1
2	XDOZZ	81868	18426C1005	.SHAFT	1
2A	PAOZZ	96906	MS24665-368	.PIN, COTTER.....	2
2B	PAOZZ	88044	AN960-816L	.WASHER, FLAT.....	2
2C	PAOZZ	81868	18426C1006	.ROLLER.....	1
2D	PAOZZ	88044	AN4-21A	.BOLT, MACHINE	4
2E	PAOZZ	96906	MS21044-N4	.NUT, SELF-LOCKING.....	4
2F	PAOZZ	88044	AN960-416L	.WASHER, FLAT.....	4
3	PAOZZ	88044	AN960-616	.WASHER, FLAT.....	4
4	PAOZZ	96906	MS24665-353	.PIN, COTTER.....	2
6	XDOZZ	81868	18049 B 297	.PIN, HINGE.....	24
7	PAOZZ	81868	18049 C 149	.ROLLER, INBOARD.....	2
8	XDOZZ	81868	18133 C 500	.NAMEPLATE	1
	XDOOO	81868	18049 D 191-1	.TIEDOWN ASSY, CENTER RAIL.....	3
9	XDOZZ	81868	18049 D 192-1	..CENTER, TIEDOWN.....	1
12	XDOZZ	98897	353512-1	..RING	1
13	XDOZZ	98897	338018-4	..STRAP	1
14	PAOZZ	88044	AN960-616L	..WASHER, FLAT.....	2
15	PAOZZ	96906	MS21044-N6	..NUT, SELF-LOCKING.....	2
16	PAOZZ	80205	NAS517-6-10	..SCREW, MACHINE.....	2
17	PAOZZ	88044	AN4-1OA	.BOLT, MACHINE	8
18	PAOZZ	88044	AN960-416	.WASHER, FLAT.....	12
19	PAOZZ	96906	MS21044-N4	.NUT, SELF-LOCKING.....	12
20	PAOZZ	88044	AN4-7A	.BOLT, MACHINE	4
22	XDOZZ	81868	18049 C 209	.SPACER, ROLLER TRAY	1
24	XDOZZ	81868	18049 E 296-2 .	.CROSSMEMBER.....	2
26	PAOZZ	81868	18049 C 194	.LEAF, BUTT HINGE.....	12
31	XDOZZ	81868	18049 E 296-1	.CROSSMEMBER	2
35	XDOZZ	81868	18049 E 296-3	.CROSSMEMBER.....	1
39	PAOZZ	81868	18049 C 249	.SHAFT ASSEMBLY	22
40	PAOZZ	81868	18049 C 149	.ROLLER, INBOARD	18
41	PAOZZ	96906	MS24665-353	.PIN, COTTER.....	22
42	XDOZZ	81868	18049 C 510	.ROLLER, INBOARD	4
43	XDOZZ	81868	18049 C 209	.SPACER, ROLLER TRAY	1
45	XDOZZ	81868	18049 E 296-2	.CROSSMEMBER	2
53	XDOZZ	81868	18049 E 296-1	.CROSSMEMBER.....	2
54	XDOZZ	81868	18049 E 296-3	.CROSSMEMBER.....	1
56	PAOZZ	81868	18049 C 194	.LEAF, BUTT HINGE	12
60	PAOZZ	81868	1.8049 C 149	.ROLLER, INBOARD	18
61	PAOZZ	81868	18049 C 249	.SHAFT ASSEMBLY	22
62	PAOZZ	96906	MS24665-353	.PIN, COITER.....	22
63	XDOZZ	81868	18049 C 510	.ROLLER, INBOARD.....	4

END OF FIGURE

SECTION II

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
				FIG. 3-8 INBOARD GUIDE/ROLLER ASSY, FWD	
	XDOOO	81868	18049 J 122	FWD I.B. GUIDE/ROLLER ASSY	1
1	XDOZZ	81868	18049 E 296-3	.CROSSMEMBER	2
3	PAOZZ	81868	18049 C 194	LEAF, BUTT HINGE	9
6	XDOZZ	81868	18049 E 296-1	.CROSSMEMBER	2
9	XDOZZ	81868	18049 E 296-2	.CROSSMEMBER	2
13	XDOZZ	81868	18049 C 517	.LEAF, BUTT HINGE	1
19	PAOZZ	81868	18049 C 149	.ROLLER, INBOARD	18
20	PAOZZ	81868	18049 C 249	.SHAFT ASSEMBLY	23
21	PAOZZ	96906	MS24665-353	.PIN, COTTER	23
22	XDOZZ	81868	18049 C 510	.ROLLER, INBOARD	5
23	XDOZZ	81868	18049 E 296-3	.CROSSMEMBER	2
26	XDOZZ	81868	18049 E 296-1	.CROSSMEMBER	2
30	XDOZZ	81868	18049 E 296-2	.CROSSMEMBER	2
36	PAOZZ	81868	18049 C 194	.LEAF, BUTT HINGE	9
37	XDOZZ	81868	18049 C 517	.LEAF, BUTT HINGE	1
41	PAOZZ	81868	18049 C 149	.ROLLER, INBOARD	18
42	PAOZZ	81868	18049 C 249	.SHAFT ASSEMBLY	23
43	PAOZZ	96906	MS24665-353	.PIN, COTTER	23
44	XDOZZ	81868	18049 C 510	.ROLLER, INBOARD	5
	XDOOO	81868	18049 D 191-1	.TIEDOWN ASSY, CENTER RAIL	2
45	XDOZZ	81868	18049 D 192-1	..CENTER, TIEDOWN	1
48	XDOZZ	98897	353512-1	..RING	1
49	XDOZZ	98897	338018-4	..STRAP	1
50	PAOZZ	88044	AN960-616L	..WASHER, FLAT	2
51	PAOZZ	96906	MS21044-N6	..NUT, SELF-LOCKING	2
52	PAOZZ	80205	NAS517-6-10	..SCREW, MACHINE	2
	XDOOO	81868	18049 D 191-2	.TIEDOWN ASSY CENTER RAIL	1
53	XDOZZ	81868	18049 D 192-2	..CENTER, TIEDOWN	1
56	XDOZZ	98897	353512-1	..RING	1
57	XDOZZ	98897	338018-4	..STRAP	1
58	PAOZZ	88044	AN960-616L	..WASHER, FLAT	2
59	PAOZZ	96906	MS21044-N6	..NUT, SELF-LOCKING	2
60	PAOZZ	80205	NAS517-6-10	..SCREW, MACHINE	2
61	PAOZZ	96906	MS21044-N4	.NUT, SELF-LOCKING	12
62	PAOZZ	88044	AN960-416	.WASHER, FLAT	12
63	PAOZZ	88044	AN4-7A	.BOLT, MACHINE	4
64	XDOZZ	81868	18049 B 297	.PIN, HINGE	20
66	XDOZZ	81868	18133 C 500	.NAMEPLATE	1
67	PAOZZ	88044	AN4-1OA	.BOLT, MACHINE	8

END OF FIGURE

SECTION II

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
				FIG. 3-9 INBOARD GUIDE/ROLLER ASSY, CENTER	
	XDOOO	81868	18049 J 123	CENTER I.B.GUIDE/ROLLER ASSY	1
1	XDOZZ	81868	18049 E 296-3	.CROSSMEMBER	2
3	XDOZZ	81868	18049 E 296-2	.CROSSMEMBER	2
5	PAOZZ	81868	18049 C 194	.LEAF, BUTT HINGE	4
13	PAOZZ	81868	18049 C 149	.ROLLER, INBOARD	8
14	PAOZZ	81868	18049 C 249	.SHAFT ASSEMBLY	10
15	PAOZZ	96906	MS24665-353	.PIN, COTTER	10
16	XDOZZ	81868	18049 C 510	.ROLLER, INBOARD	2
17	XDOZZ	81868	18049 E 296-3	.CROSSMEMBER	2
19	XDOZZ	81868	18049 E 296-2	.CROSSMEMBER	2
24	PAOZZ	81868	18049 C 194	.LEAF, BUTT HINGE	5
29	PAOZZ	81868	18049 C 149	.ROLLER, INBOARD	8
30	PAOZZ	81868	18049 C 249	SHAFT ASSEMBLY	10
31	PAOZZ	96906	MS24665-353	.PIN, COTTER	10
32	XDOZZ	81868	18049 C 510	.ROLLER, INBOARD	2
33	PAOZZ	88044	AN960-416	.WASHER, FLAT	8
34	PAOZZ	88044	AN4-1OA	.BOLT, MACHINE	8
35	PAOZZ	96906	MS21044-N4	.NUT, SELF-LOCKING	8
36	XDOZZ	81868	18049 B 297	.PIN, HINGE	10
38	XDOZZ	81868	18133 C 500	.NAMEPLATE	1
	XDOOO	81868	18049 D 191-1	.TIEDOWN ASSY, CENTER RAIL	2
40	XDOZZ	81868	18049 D 192-1	..CENTER, TIEDOWN	1
43	XDOZZ	98897	353512-1	..RING	1
44	XDOZZ	98897	338018-4	..STRAP	1
45	PAOZZ	88044	AN960-616L	..WASHER, FLAT	2
46	PAOZZ	96906	MS21044-N6	..NUT, SELF-LOCKING	2
47	PAOZZ	80205	NAS517-6-10	..SCREW, MACHINE	2

END OF FIGURE

SECTION II

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
				FIG. 10 INBOARD GUIDE/ROLLER ASSY, AFT	
	XDOOO	81868	18049 J 124	AFT I.B. GUIDE/ROLLER ASSY	1
1	XDOZZ	81868	18049 E 296-3	.CROSSMEMBER	1
4	XDOZZ	81868	18049 E 296-1	.CROSSMEMBER	2
5	PAOZZ	81868	18049 C 194	.LEAF, BUTT HINGE	5
8	XDOZZ	81868	18049 E 296-2	.CROSSMEMBER	1
14	XDOZZ	81868	18049 C 294	.CROSSMEMBER	1
16	PAOZZ	81868	18049 C 149	.ROLLER, INBOARD	12
17	PAOZZ	81868	18049 C 249	.SHAFT ASSEMBLY	14
18	PAOZZ	96906	MS24665-353	.PIN, COTTER	15
19	XDOOO	81868	18049 E 281-2	.RH I.B.TRANSITION ROLLER ASSY	1
20	PAOZZ	88044	AN4-7A	.BOLT, MACHINE	2
21	PAOZZ	96906	MS24694-S101	.SCREW, MACHINE	2
22	PAOZZ	96906	MS21044-N4	.NUT, SELF-LOCKING	4
23	PAOZZ	88044	AN960-416	.WASHER, FLAT	4
24	PAOZZ	81868	18049 C 247-1	.SHAFT ASSEMBLY	1
25	PAOZZ	88044	AN960-616	.WASHER, FLAT	1
27	XDOZZ	81868	18049 E 296-3	.CROSSMEMBER	1
30	XDOZZ	81868	18049 E 296-1	.CROSSMEMBER	2
31	XDOZZ	81868	18049 E 296-2	.CROSSMEMBER	1
36	XDOZZ	81868	18049 C 294	.CROSSMEMBER	1
38	PAOZZ	81868	18049 C 194	.LEAF, BUTT HINGE	5
40	XDOZZ	81868	18049 C 510	.ROLLER, INBOARD	3
42	PAOZZ	81868	18049 C 149	.ROLLER, INBOARD	12
43	PAOZZ	81868	18049 C 249	.SHAFT ASSEMBLY	14
44	PAOZZ	96906	MS24665-353	.PIN, COTTER	15
45	XDOOO	81868	18049 E 281-1	.LH I.B. TRANSITION ROLLER ASSY	1
46	PAOZZ	88044	AN4-7A	.BOLT, MACHINE	2
47	PAOZZ	96906	MS24694-S101	.SCREW, MACHINE	2
48	PAOZZ	96906	MS21044-N4	.NUT, SELF-LOCKING	4
49	PAOZZ	88044	AN960-416	.WASHER, FLAT	4
50	PAOZZ	81868	18049 C 247-1	.SHAFT ASSEMBLY	1
51	PAOZZ	88044	AN960-616	.WASHER, FLAT	1
54	XDOZZ	81868	18049 B 297	.PIN, HINGE	1
	XDOOO	81868	18049 D 191-1	.TIEDOWN ASSY, CENTER RAIL	1
55	XDOZZ	81868	18049 D 192-1	..CENTER, TIEDOWN	1
58	XDOZZ	98897	338018-4	..STRAP	1
59	PAOZZ	88044	AN960-616L	..WASHER, FLAT	2
60	PAOZZ	96906	MS21044-N6	..NUT, SELF-LOCKING	2
61	XDOZZ	98897	353512-1	..RING	1
62	PAOZZ	80205	NAS517-6-10	..SCREW, MACHINE	2
63	PAOZZ	88044	AN4-1OA	.BOLT, MACHINE	8
64	PAOZZ	96906	MS21044-N4	.NUT, SELF-LOCKING	8
65	PAOZZ	88044	AN960-416	.WASHER, FLAT	8
	XDOOO	81868	18049 D 191-3	.TIEDOWN ASSY, CENTER RAIL	1
66	XDOZZ	81868	18049 D 192-3	..CENTER, TIEDOWN	1
69	XDOZZ	98897	338018-4	..STRAP	1
70	PAOZZ	88044	AN960-616L	..WASHER, FLAT	2

SECTION II

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
71	PAOZZ	96906	MS21044-N6	..NUT, SELF-LOCKING	2
72	XDOZZ	98897	353512-1	..RING	2
73	PAOZZ	80205	NAS517-6-10	..SCREW, MACHINE	2
75	XDOZZ	81868	18133 C 500	.NAMEPLATE	1

END OF FIGURE

SECTION II

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
				FIG. 3-11 RAMP INBOARD ROLLER ASSY, LEFT AND RIGHT HAND	
	XDOOO	81868	18049 J 225	LH RAMP I.B. ROLLER ASSY	1
	XDOOO	81868	18049 J 226	RH RAMP I.B. ROLLER ASSY	1
1	PAOZZ	81868	18049 C 148	.ROLLER, OUTBOARD	20
2	PAOZZ	81868	18049 C 246	.SHAFT ASSEMBLY	20
3	PAOZZ	96906	MS24665-353	.PIN, COTTER	20
4	XDOZZ	1868	18133 C 500	.NAMEPLATE	1
6	XDOZZ	81868	18049 C 129	.SPACER	3
9	XDOZZ	81868	18049 C 231-1	.LH SPACER	1
9	XDOZZ	81868	18049 C 231-2	.RH SPACER	1
10	XDOZZ	81868	18049 D 230-1	.LH WELDMENT MOUNTING	1
10	XDOZZ	81868	18049 D 230-2	.RH WELDMENT MOUNTING	1
12	XDOZZ	81868	18049 D 236-1	.LH PLATE MOUNTING	1
12	XDOZZ	81868	18049 D 236-2	.RH PLATE MOUNTING	1
13	XDOZZ	81868	18049 C 238	.SPACER	1
15	XDOZZ	81868	18049 C 237-1	.LH ANGLE	2
15	XDOZZ	81868	18049 C 237-2	.RH ANGLE	2

END OF FIGURE

SECTION II

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
				FIG. 3-12 RAMP EXTENSION ROLLER ASSY	
	XDOOO	81868	18049 E 140	RAMP EXTENSION ROLLER ASSY	2
	PAOZZ	81868	18049 C 204	.PIN, QUICK RELEASE ASSY	6
2	PAOZZ	76691	28-2G	..SWAGING SLEEVE, WIRE	1
3	XDOZZ	72954	COML	..CABLE, 7X7 IN. 0.062 IN.DIA, 7-½ IN.LG, GALVANIZED.NYLON COATED, 3/32 IN.OD	1
4	PAOZZ	81868	18049 C 148	.ROLLER, OUTBOARD	29
5	PAOZZ	81868	18049 C 247-2	.SHAFT ASSEMBLY	25
6	PAOZZ	88044	AN960-616	.WASHER, FLAT	25
9	XDOZZ	81868	18133 C 500	.NAMEPLATE	1
10	PAOZZ	81868	18049 C 205	.SHAFT ASSEMBLY	2
12	XDOZZ	81868	18049 C 144	.SPACER	2
16	XDOZZ	81868	18049 C 145	.SPACER	6
19	XDOZZ	81868	18049 D 146	.PLATE	2
20	XDOZZ	81868	18049 D 147	.PLATE	1
21	PAOZZ	76691	28-2G	.SWAGING SLEEVE, WIRE	6

END OF FIGURE

SECTION II

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
				FIG. 3-17 INBOARD TRANSITION ROLLER ASSY, RIGHT AND LEFT HAND	
	XDOOO	81868	18049 E 281-2	RH I.B. TRANSITION ROLLER ASSY	1
	XDOOO	81868	18049 E 281-1	LH I.B. TRANSITION ROLLER ASSY.....	1
	XDOZZ	81868	18049 E 282-1	.LH ROLLER FOLLOWER ASSY	1
	XDOZZ	81868	18049 E 282-2	.RH ROLLER FOLLOWER ASSY	1
1	PAOZZ	81868	18049 C 149	..ROLLER, INBOARD	2
	PAOZZ	81868	18049 C 128	..SHAFT ASSEMBLY	2
3	PAOZZ	79136	5560-37-ZD	..RING, RETAINING	1
11	PAOZZ	81868	18049 C 149	.ROLLER, INBOARD	1
	PAOZZ	81868	18049 C 295	.SHAFT ASSEMBLY	1
13	PAOZZ	79136	5560-37-ZD	..RING, RETAINING	1
14	PAOZZ	96906	MS24665-353	.PIN, COTTER	1

END OF FIGURE

SECTION II

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
				FIG. 3-20 PALLET LOCK ASSEMBLY	
	PAOOO	81868	18049 E 400	PALLET LOCK ASSY	1
	PAOOO	81868	18049 D 403	SLIDE BAR ASSEMBLY	1
1	XDOZZ	81868	18049 C 412	HANDLE ASSEMBLY	1
2	PAOZZ	96906	MS16562-235	PIN, SPRING	1
3	XDOZZ	81868	18049 C 411	ROD, ACTUATING	1
4	XDOZZ	81868	18049 D 407	BAR, SLIDE	1
5	XDOZZ	84830	LC-042F-7	SPRING	1
6	XDOZZ	81868	18049 C 405	BLOCK, LOCK CAM	1
7	PAOZZ	96906	MS16562-223	PIN, SPRING	2
8	XDOZZ	81868	18049 C 404	BLOCK, ACTUATING	1
10	PAOZZ	88044	AN3-5A	BOLT, MACHINE	2
11	PAOZZ	88044	AN960-10	WASHER, FLAT	2
13	XDOZZ	80205	NAS1031P8	NUT PLATE, SELF-LOCKING	2

END OF FIGURE

SECTION II

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
				FIG. 3-22 OUTBOARD TRANSITION ROLLER ASSY, RIGHT AND LEFT HAND	
	XDOOO	81868	18049 E 280-1	LH O.B.TRANSITION ROLLER ASSY	1
	XDOOO	81868	18049 E 280-2	RH O.B.TRANSITION ROLLER ASSY	1
1	XDOZZ	81868	18049 D 292-1	.SUPPORT PLATE ASSY	1
	PAOZZ	81868	18049 C 295	.SHAFT ASSEMBLY	1
6	PAOZZ	79136	5560-37-ZD	..RING, RETAINING	1
7	PAOZZ	96906	MS24665-353	.PIN, COTTER	1
8	PAOZZ	81868	18049 C 149	.ROLLER, INBOARD	1
	XDOZZ	81868	18049 E 282-1	.LH ROLLER FOLLOWER ASSY	1
	XDOZZ	81868	18049 E 282-2	.RH ROLLER FOLLOWER ASSY	1
	PAOZZ	81868	18049 C 128	..SHAFT ASSEMBLY	2
16	PAOZZ	79136	5560-37-ZD	...RING, RETAINING	1
17	PAOZZ	81868	18049 C 149	.ROLLER, INBOARD	2

END OF FIGURE

SECTION III
SPECIAL TOOLS LIST

NOT APPLICABLE

SECTION IV

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

NATIONAL STOCK NUMBER INDEX

STOCK NUMBER	FIG	ITEM
53054-00-045-3180	3-10	21
	3-10	47
5305-00-051-8493	3-3	71B
5315-00-058-9780	3-20	2
5310-00-141-1795	3-2	33
	3-3	42
	3-3	52
	3-3	65
	3-4	33
	3-4	45
	3-5	19
	3-5	56
	3-7	18
	3-8	62
	3-9	33
	3-10	23
	3-10	49
	3-10	65
5306-00-151-0784	3-2	30
5306-00-151-1415	3-7	2D
5306-00-151-1422	3-2	35
5306-00-151-1423	3-2	32
5306-00-151-1424	3-7	17
	3-8	67
	3-9	34
	3-10	63
5306-00-151-1426	3-5	18
5306-00-151-1427	3-2	36
5310-00-167-0818	3-2	31
	3-20	11
5310-00-167-0820	3-2	40
	3-5	48
5310-00-167-0821	3-3	64
	3-4	32
	3-5	26
	3-7	3
	3-10	25
	3-10	51
	3-12	6
5310-00-167-0823	3-2	42
	3-3	69
	3-4	36
	3-5	45
5310-00-167-0835	3-7	2F
5310-00-167-0837	3-7	14
	3-8	50
	3-8	58
	3-9	45
	3-10	59
	3-10	70
5310-00-167-0839	3-2	43
	3-3	36
	3-4	26
	3-7	2B
5306-00-206-2865	3-3	68
	3-4	38
5305-00-206-3642	3-5	22
5305-00-206-3649	3-3	67
	3-4	35
5305-00-206-3686	3-5	49
5305-00-207-1785	3-3	58
5305-00-207-3738	3-3	71
	3-4	39
5306-00-208-3645	3-3	70
	3-4	37
5315-00-236-8357	3-7	2A
5306-00-274-2119	3-20	10
4030-00-431-5537	3-12	2
	3-12	21
5306-00-515-8064	3-5	21
	3-7	20
	3-8	63
	3-10	20
	3-10	46
5305-00-531-0438	3-2	34
	3-3	43
	3-3	53
	34	46
	3-5	57
5305-00-637-6950	3-7	16
	3-8	52
	3-8	60
	3-9	47
	3-10	62
	3-10	73
5305-00-637-7032	3-2	27
5306-00-685-3027	3-2	38
5310-00-807-1468	3-3	41
	3-3	51
	3-3	66
	3-4	34
	34	44

SECTION IV

ATIONAL STOCK NUMBER INDEX (CONT)

STOCK NUMBER	FIG	ITEM	STOCK NUMBER	FIG	ITEM
	3-5	20		3-6	1
	3-5	55		3-11	1
5310-00-807-1469	3-5	47		3-12	4
5310-00-810-1786	3-3	63	1680-01-220-7086	3-2	21
	3-4	31		3-16	
5315-00-826-3251	3-20	7	1680-01-220-7087	3-17	
5315-00-839-5822	3-3	15		3-22	
	3-3	31	1680-01-220-7088	3-7	1
	3-4	19	1680-01-220-7089	3-7	
	3-5	15	1680-01-220-7090	3-2	23
	3-5	23		3-18	
	3-6	3	1680-01-220-7091	3-2	24
	3-7	4		3-19	
	3-7	41	1680-01-220-7092	3-20	
	3-7	62	1680-01-220-7093	3-12	10
	3-8	21	1680-01-220-7094	3-2	26
	3-8	43	1680-01-220-7095	3-5	25
	3-9	15		3-12	5
	3-9	31	1680-01-220-7096	3-10	24
	3-10	18		3-10	50
	3-10	44	1680-01-220-7097	3-3	14
	3-11	3		3-3	30
	3-17	14		3-4	18
	3-22	7		3-5	14
5310-00-877-5795	3-5	46		3-5	29
5310-00-877-5796	3-2	37		3-6	2
	3-7	19		3-11	2
	3-7	2E	5340-01-220-7099	3-7	26
	3-8	61		3-7	56
	3-9	35		3-8	3
	3-10	22		3-8	36
	3-10	48		3-9	5
	3-10	64		3-9	24
5306-00-935-7528	3-2	39		3-10	5
5310-00-950-0039	3-7	15		3-10	38
	3-8	51	1680-01-220-8045	3-17	
	3-8	59		3-22	
	3-9	46	5365-01-221-1759	3-17	3
	3-10	60		3-17	13
	3-10	71		3-22	6
5306-01-109-8071	3-2	28		3-22	16
1680-01-220-7083	3-3	13	5340-01-221-1760	3-12	
	3-3	29	1680-01-231-9136	3-7	39
	3-4	17		3-7	61
	3-5	13		3-8	20
	3-5	24		3-8	42

SECTION IV

NATIONAL STOCK NUMBER INDEX (CONT)

STOCK NUMBER	FIG	ITEM	STOCK NUMBER	FIG	ITEM
	3-9	14		3-8	19
	3-9	30		3-8	41
	3-10	17		3-9	13
	3-10	43		3-9	29
1680-01-232-1151	3-3	16		3-10	16
	3-3	32		3-10	42
	3-4	20		3-17	1
	3-5	16		3-17	11
	3-5	28		3-22	8
	3-7	7		3-22	17
	3-7	40	3910-01-304-9044	3-7	-
	3-7	60	3990-01-319-6857	3-7	2C
			5315-01-328-3891	3-7	2

SECTION IV

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

PART NUMBER INDEX

FSCM	PART NUMBER	STOCK NUMBER	FIG.	ITEM
88044	ANS-1OA	5306-00-161-0784	3-2	30
88044	AN3-11A	6306-00-685-3027	3-2	38
88044	AN3-5A	5306-00-274-2119	3-20	10
88044	AN4-10A	5306-00-151-1424	8-7	17
			3-8	67
			3-9	34
			3-10	63
88044	AN4-11A	6306-00-151-1423	3-2	32
88044	AN4-12A	5306-00-151-1422	3-2	35
88044	AN4-21A	6306-00-151-1415	3-7	2D
88044	AN4-5A	5306-00-151-1427	3-2	36
88044	AN4-6A	6306-00-151-1426	3-5	18
88044	AN4-7A	5306-00-515-8064	3-5	21
			3-7	20
			3-8	63
			3-10	20
			3-10	46
88044	AN6-14A	5306-00-206-2865	3-3	68
			3-4	38
88044	AN8-15A	5306-00-208-3645	3-3	70
			3-4	37
88044	AN960-10	5310-00-167-0818	3-2	31
			3-20	11
88044	AN960.416	5310-00-141-1795	3-2	33
			3-3	42
			3-3	52
			3-3	65
			3-4	33
			3-4	45
			3-5	19
			3-5	56
			3-7	18
			3-8	62
			3-9	33
			3-10	23
			3-10	49
			3-10	65
88044	AN960-416L	5310-00-167-0835	3-7	2F
88044	AN960-516	5310-00-167-0820	3-2	40
			3-5	48
88044	AN960-616	5310-00-167-0821	3-3	64
			3-4	32
			3-5	26
			3-7	3
			3-10	25
			3-10	51
88044	AN960-616L	5310-00-167-0837	3-7	14
			3-8	50
			3-8	58

SECTION IV

PART NUMBER INDEX (CONT)

FSCM	PART NUMBER	STOCK NUMBER	FIG.	ITEM
			3-9	45
			3-10	59
			3-10	70
88044	AN960-816	5310-00-167-0823	3-2	42
			3-3	69
			3-4	36
			3-5	45
88044	AN960-816L	5310-00-167-0839	3-2	43
			3-3	36
			3-4	26
			3-7	2B
72954	COML		3-12	3
84830	LC-042F-7		3-20	5
36659	LS9365-517-4-5	5305-00-206-3642	3-5	22
96906	MS16562-223	5315-00-826-3251	3-20	7
96906	MS16562-235	5315-00-058-9780	3-20	2
96906	MS210424	5310-00-807-1468	3-3	41
			3-3	51
			3-3	66
			3-4	34
			3-4	44
			3-5	20
			3-5	55
96906	MS21042-5	5310-00-807-1469	3-5	47
96906	MS21042-6	5310-00-810-1786	3-3	63
			3-4	31
96906	MS21044-N4	5310-00-877-5796	3-2	37
			3-7	2E
			3-7	19
			3-8	61
			3-9	35
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80205	NAS517-8-23		3-5	44
80205	NAS6608-14	5306-01-109-8071	3-2	28
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81868	18049 C 145		3-12	16
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81868	18049 C 209		3-7	22
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81868	18049 C 231-1		3-11	9
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81868	18049 C 237-1		3-11	15
81868	18049 C 237-2		3-11	15
81868	18049 C 238		3-11	13
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81868	18049 C 246	1680-01-220-7097	3-3	14
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81868	18049 C 247-1	1680-01-220-7096	3-10	24
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81868	18049 C 247-2	1680-01-220-7095	3-5	25
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81868	18049 C 249	1680-01-231-9136	3-7	39
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81868	18049 C 404		3-20	8
81868	18049 C 405		3-20	6
81868	18049 C 411		3-20	3
81868	18049 C 412		3-20	1
81868	18049 C 510		3-7	42
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81868	18049 C 517		3-8	13
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81868	18049 D 230-1		3-11	10
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81868	18049 D 260	1680-01-220-7088	3-7	1
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81868	18049 E 282-2		3-10	19
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81868	18049 E 282-1		3-17	
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81868	18049 E 296-3		3-7	35
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			3-8	23
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			3-10	1
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81868	18049 E 300-1		3-5	43
81868	18049 E 300-2		3-5	43
81868	18049 E 400		3-3	62
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81868	18049 J 104		3-2	4
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81868	18049 J 105		3-2	5
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81868	18049 J 122		3-2	10
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81868	18426C1005	5315-01-328-3891	3-7	2
81868	18426C1006	3990-01-319-6587	3-7	2C
81868	18426E1000	3910-01-304-9044	3-7	--
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98897	353512-1		3-7	12
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The Metric System and Equivalents

Linear Measure

1 centimeter = 10 millimeters = .39 inch
1 decimeter = 10 centimeters = 3.94 inches
1 meter = 10 decimeters = 39.37 inches
1 dekameter = 10 meters = 32.8 feet
1 hectometer = 10 dekameters = 328.08 feet
1 kilometer = 10 hectometers = 3,280.8 feet

Weights

1 centigram = 10 milligrams = .15 grain
1 decigram = 10 centigrams = 1.54 grains
1 gram = 10 decigram = .035 ounce
1 decagram = 10 grams = .35 ounce
1 hectogram = 10 decagrams = 3.52 ounces
1 kilogram = 10 hectograms = 2.2 pounds
1 quintal = 100 kilograms = 220.46 pounds
1 metric ton = 10 quintals = 1.1 short tons

Liquid Measure

1 centiliter = 10 milliters = .34 fl. ounce
1 deciliter = 10 centiliters = 3.38 fl. ounces
1 liter = 10 deciliters = 33.81 fl. ounces
1 dekaliter = 10 liters = 2.64 gallons
1 hectoliter = 10 dekaliters = 26.42 gallons
1 kiloliter = 10 hectoliters = 264.18 gallons

Square Measure

1 sq. centimeter = 100 sq. millimeters = .155 sq. inch
1 sq. decimeter = 100 sq. centimeters = 15.5 sq. inches
1 sq. meter (centare) = 100 sq. decimeters = 10.76 sq. feet
1 sq. dekameter (are) = 100 sq. meters = 1,076.4 sq. feet
1 sq. hectometer (hectare) = 100 sq. dekameters = 2.47 acres
1 sq. kilometer = 100 sq. hectometers = .386 sq. mile

Cubic Measure

1 cu. centimeter = 1000 cu. millimeters = .06 cu. inch
1 cu. decimeter = 1000 cu. centimeters = 61.02 cu. inches
1 cu. meter = 1000 cu. decimeters = 35.31 cu. feet

Approximate Conversion Factors

To change	*To*	*Multiply by*	*To change*	*To*	*Multiply by*
inches	centimeters	2.540	ounce-inches	Newton-meters	.007062
feet	meters	.305	centimeters	inches	.394
yards	meters	.914	meters	feet	3.280
miles	kilometers	1.609	meters	yards	1.094
square inches	square centimeters	6.451	kilometers	miles	.621
square feet	square meters	.093	square centimeters	square inches	.155
square yards	square meters	.836	square meters	square feet	10.764
square miles	square kilometers	2.590	square meters	square yards	1.196
acres	square hectometers	.405	square kilometers	square miles	.386
cubic feet	cubic meters	.028	square hectometers	acres	2.471
cubic yards	cubic meters	.765	cubic meters	cubic feet	35.315
fluid ounces	milliliters	29,573	cubic meters	cubic yards	1.308
pints	liters	.473	milliliters	fluid ounces	.034
quarts	liters	.946	liters	pints	2.113
gallons	liters	3.785	liters	quarts	1.057
ounces	grams	28.349	liters	gallons	.264
pounds	kilograms	.454	grams	ounces	.035
short tons	metric tons	.907	kilograms	pounds	2.205
pound-feet	Newton-meters	1.356	metric tons	short tons	1.102
pound-inches	Newton-meters	.11296			

Temperature (Exact)

°F	Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C

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