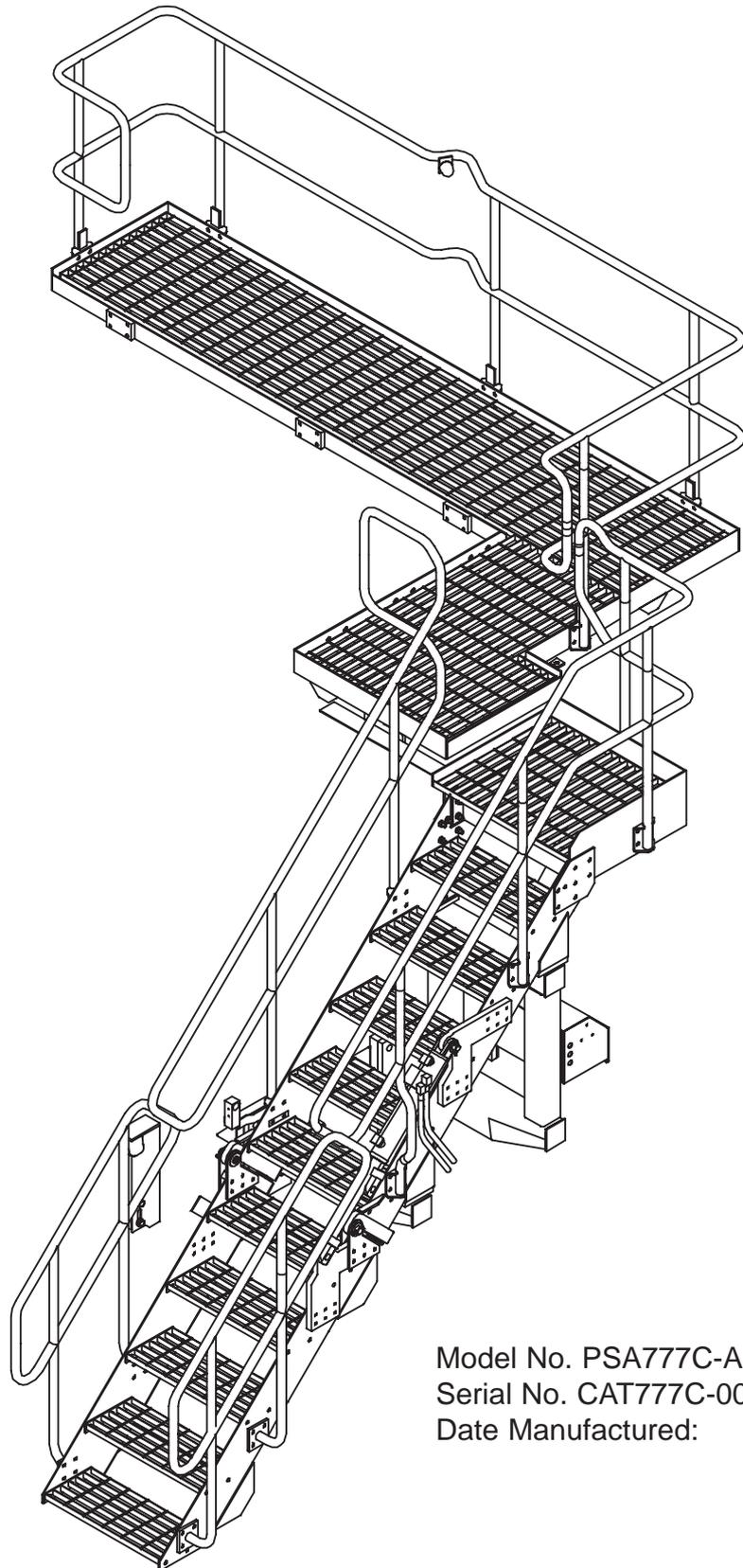


FOLDING RETRACTABLE STAIRWAY

Manual for Cat 777C Haul Truck



Model No. PSA777C-ASSY
Serial No. CAT777C-001-005?
Date Manufactured:

FOLDING STAIRWAY

Caterpillar 777C Haul Truck



CONTENTS

Page 3	<u>Section 1.</u> Installation and Mounting Instructions
4	<u>Section 2.</u> Electrical Installation
7	<u>Section 3.</u> Installation of Hydraulic Lines & Cylinder
8	<u>Section 4.</u> Operating Procedure
9	<u>Section 5.</u> Recommended Maintenance Procedure
10	<u>Section 6.</u> Drawings and Repair Parts Lists
11	6-1 Installation Instruction Drawings
16	6-2 Assembly Complete Parts List
18	6-3 Top Platform Assembly Parts List
19	6-4 Landing Assembly Parts List
20	6-5 Fixed Stair Assembly Parts List
22	6-6 Bottom Stair Assembly Parts List
24	6-7 Hinge & Actuator Assembly
25	6-8 Electrical System & Controls
27	6-9 Hydraulic Cylinder
29	6-10 Power Pack

FOLDING STAIRWAY

Caterpillar 777C Haul Truck



NOTE

Follow all on-site/Mine lifting and safety procedures when installing PSFS to truck

SECTION 1

Installation and Mounting Instructions

See Drawings page 12, 13 & 14

1. Remove existing cabin landing. Attach Bolting Pads to cabin base. Where the (one) thin bolting pad is welded to panelling rather than to a structural member, drill through and extend tapped thread into panelling (or mark & pre-drill panelling ~16 before welding on pad).
2. Bolt Cabin Landing 22 373 to Bolting Pads. It will be necessary to remove the flooring panels from the landing frame in order to fit the attachment bolts. Packing pieces (22 374 03) might be needed between the one thin bolting pad and the frame to correct the alignment of the bolting pads. Also - remove existing ladder in front of cabin and cut off (and trim neatly) the inclined sheeting panel behind the ladder, at or about the fold line.
3. Measure from new cabin landing and fit front mounting pads to bumper. Substantial tack weld only. Temporarily fit whole stair assembly per Drgs 22 390 and 22 392 and check dimensions. Make compensations to suit to correct minor variations. Report major variations.
5. When the set is otherwise installed, fit the (inclined) Stair Landing Post 22 377. Bolting Plate 22 377 03 welds to end of truck bumper generally as seen on Drg 22 392. The flange on top of the post bolts to/supports the stair landing. Make minor changes to suit. Bolt Tie Bar 22 377 07 to the cleat near the top of the post. Weld Tie Cleat 22 377 08 to the structure of the trim panelling beneath the front of the cabin, in front of the front wheel. Drill holes in the Tie to suit. Bolt Tie to Cleat. Trim Tie to length. Check that the wheel will under no circumstances touch or nearly touch the cleat or tie. Make/fit a different cleat if 22 377 08 is unsuitable.
4. Install Mounting arms 22 376. Fit the rubber mudguard curtain where the inclined sheeting panel behind the original ladder was removed. Weld the top mounting strip to the trim panels below the front of the cabin to suit. Weld the bottom mounting plate to the back of the bumper to suit. Shorten and or end the fingers of the bottom mounting plate, to suit.
6. Later, when the stair is installed and hydraulics piped etc fully raise the lower stair. Fit Buffer Socket & Mounting 22 242 in suitable position to receive Buffer when Stair is raised. Pad 22 242 01 welds to truck bumper behind hinged stair. First bolt Socket Bracket 22 242 99 to Pad 22 242 01 with bolts in slots so Bracket is as high as possible relative to Pad. Fit & weld to bumper so Socket sits on Buffer. Adjust so stair is tight in raised position, not swinging with truck movement.

FOLDING STAIRWAY

Caterpillar 777C Haul Truck



SECTION 2

Electrical Installation

SAME AS 785C - CHECK

Remove centre console panel in cabin -
- to do this remove six (6) screws and gear selection knob.

Position stairway indicator panel on centre console, above hour meter.
- drill two mounting screw holes (6mm or 7/32")
- one electrical cable hole (12mm or 15/32")
- do not re-fix console Panel

Remove four (4) screws holding Caterpillar fuse panel behind operator's seat. Drill one hole to insert Caterpillar fuse holder - fit fuse holder, into fuse indicator panel - tighten. Drill size (12mm or 15/32").

Remove rear access panel from back of cabin and run short conduit through the main cable gland to inside centre console, ensuring conduit goes underneath control box.

Connect blue wire start from conduit above to blue wire of cabin indicator panel harness.

In rear access, connect black wire, with 10mm eye terminal to machine ground, and blue wire to outer terminal of newly inserted fuse holder.

Install short blue wire to screw terminal of Caterpillar circuit breaker, and other end to fuse holder.

Run wiring harness from Power Step Folding Stairway magnetic proximity switch around under radiator, and follow cabling/hose routing up to air line/ electrical outlet on rear Right Hand Side of cabin.

On unit 1 to 14, it will be necessary to install into this wiring harness the Deutsch connections and bulkhead fitting, supplied separately to stairways.

Drill hole in RH Cabin access panel - route wiring harness in through access panel, and through to under centre console - connect wires appropriately as colour coded. Hole saw/ drill size (24mm), cable tie harness as appropriate, approximately every 300mm.

FOLDING STAIRWAY

Caterpillar 777C Haul Truck

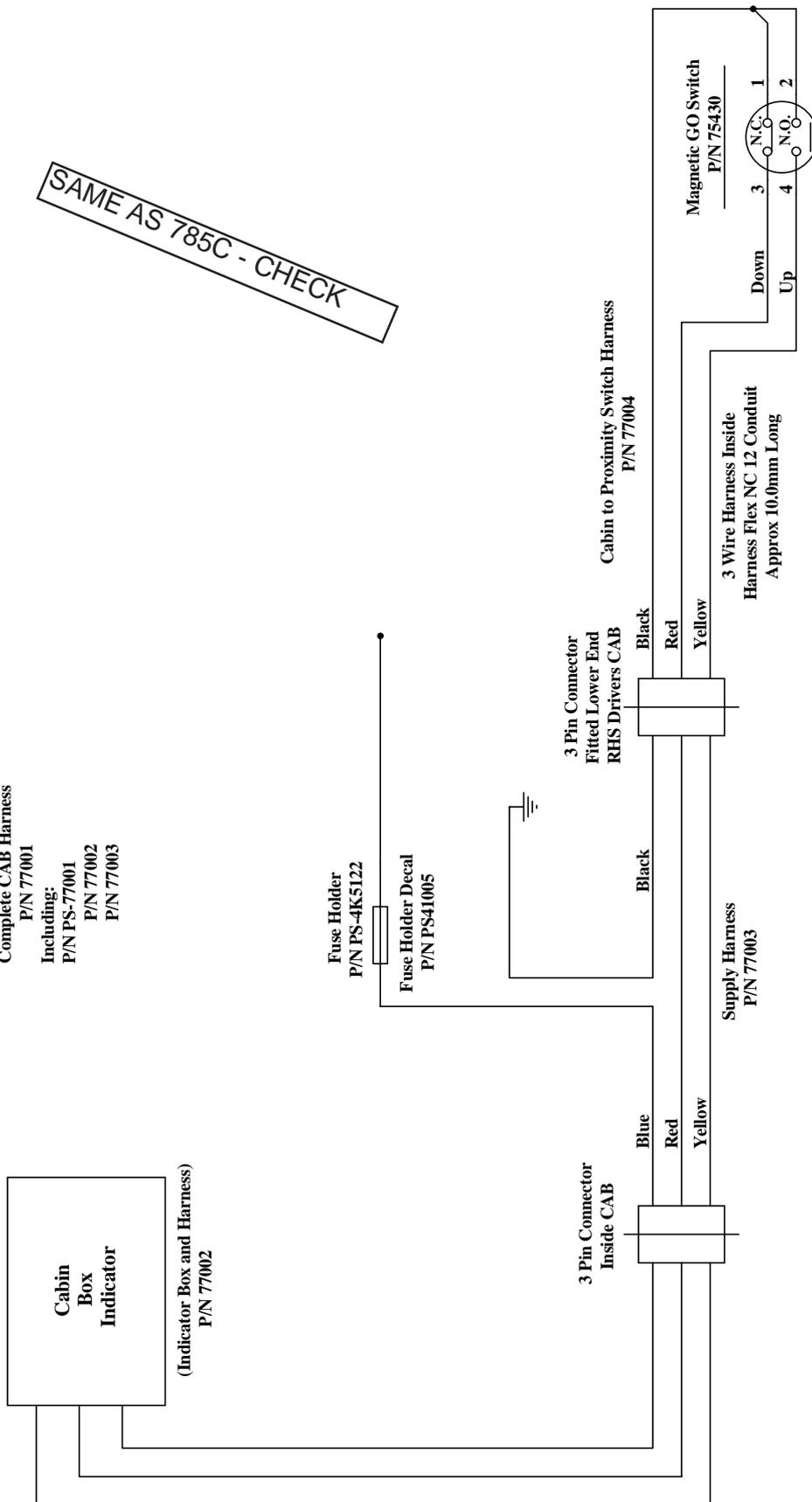


Wiring Harness
P/N 77000

Complete CAB Harness
P/N 77001

Including:
P/N PS-77001
P/N 77002
P/N 77003

SAME AS 785C - CHECK



FOLDING STAIRWAY

Caterpillar 777C Haul Truck



SECTION 3

Installation of Hydraulic Lines and Cylinder

See Drawing Page 27

Notes

(Fitment Hinge and Actuator Assembly)

1. The stair hinge is not to be loaded by extending cylinder force, that is the cylinder must be able to extend to it's full extension length without being restrained by the assembly. If this is not so when the stair is assembled, loosen the various hinge assembly bolts and actuator attachment plate bolts and extend the cylinder under load, allowing everything to re-set. If the cylinder is still loaded alter boltholes etc to allow appropriate re-positioning.
2. Fully tighten hinge assembly bolts and actuator attachment plate bolts as friction-grip bolts.
3. Use hardened flat washers under the heads and nuts of all bolts
4. Bolts all installed with heads facing inwards and nuts facing outwards except for the stair tread bolts.
5. Run Hydraulic Hoses to motor enclosure using clamps supplied
- 6 Note: The Cylinder and Power Pack have been connected in the workshop and test cycled prior to delivery

FOLDING STAIRWAY

Caterpillar 777C Haul Truck



SECTION 4

Operating Procedure

To Lower Stairway (from the machine)

Position machine in a level, safe area, away from the work face, whenever possible. Apply park brake and lower engine speed to idle.

Check that the area below the Ladder Access System is clear of people and obstacles, and lower ladder by operating the two position electrical switch adjacent to the ladder, to the down position by pressing the switch down.

Hold the switch in the down position until ladder is fully lowered.

If the truck is parked on uneven ground, the bottom of the stairway may touch the ground before the ladder is in the fully lowered position.

Should this occur, descend the ladder with caution.

To Raise Stairway

Ascend the ladder onto the landing of the truck.

Ensure the area around the ladder is clear of people and standing to the side, clear of the area the handrails and ladder raises into, operate the electrical switch to the raise position (up).

FOLDING STAIRWAY

Caterpillar 777C Haul Truck



SECTION 5

Recommended Maintenance Procedure

Daily

Visually check stairway and structure for damage, loose components, handrails, etc.

Check for hydraulic oil leaks from hydraulic cylinders, plumbing and hoses.

Notify the appropriate supervisor for any observed damage or malfunction.

500 Hours

Grease the grease nipples on rotation shaft

Check main mounting bolts for torque.

Check hydraulic oil level in power pack and top up as necessary. (Stairway in raised position).

Top up using same hydraulic oil as used in hydraulics of machine.
Thoroughly check all electrical wiring for damage, replace as necessary.

Repeat daily check as above

5000 Hours

Change hydraulic oil in tank of hydraulic power pack (5.0 litres)

It is recommended that the same hydraulic oil be used in the power pack as the hydraulics of the machine.

Grease the grease nipples on rotation shaft.

Check and inspect all main bolts on stairway system.
Retorque if required.

Repeat daily check as above

FOLDING STAIRWAY

Caterpillar 777C Haul Truck



Section 6

Drawings and Repair Parts lists

- 6-1 Installation Instruction Drawings
- 6-2 Assembly Complete
Parts List
- 6-3 Top Platform Assembly
Parts List
- 6-4 Landing Assembly
Parts List
- 6-5 Fixed Stair Assembly
Parts List
- 6-6 Bottom Stair Assembly
Parts List
- 6-7 Hinge & Actuator Assembly
- 6-8 Electrical Controls
- 6-9 Hydraulic Cylinder
- 6-10 Power Pack

FOLDING STAIRWAY

Caterpillar 777C Haul Truck



Section 6-1 Installation Instructions Drawing 1

See notes Page 3

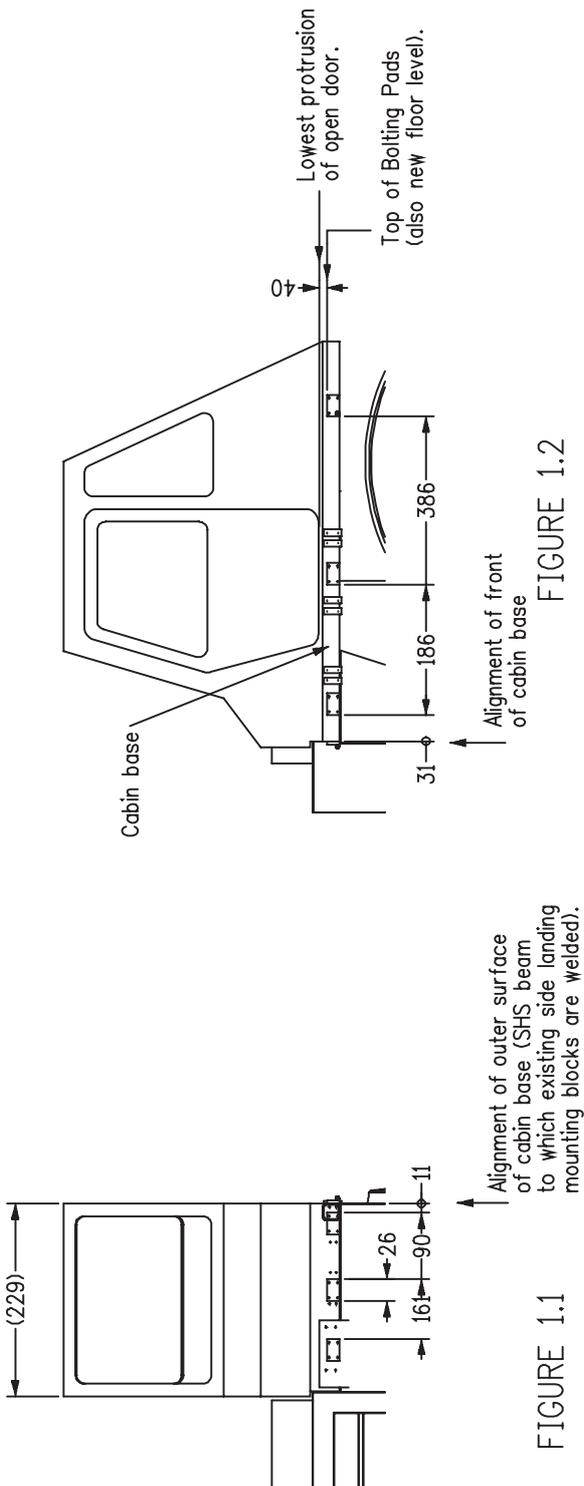


FIGURE 1.1

FIGURE 1.2

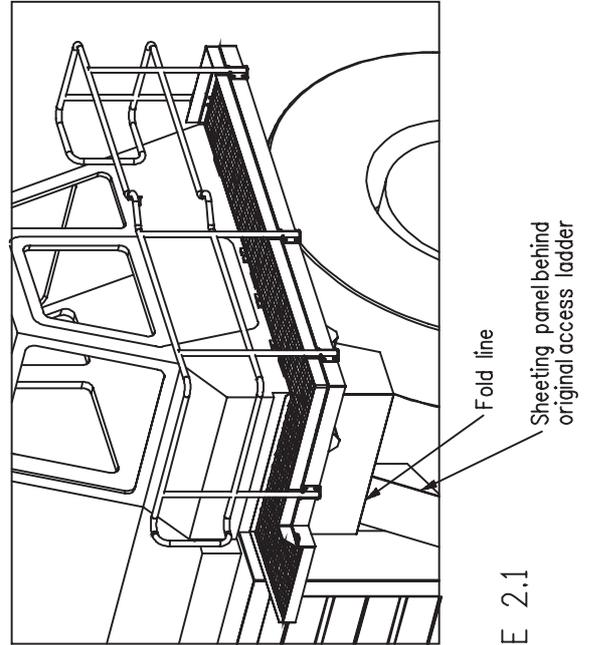


FIGURE 2.1

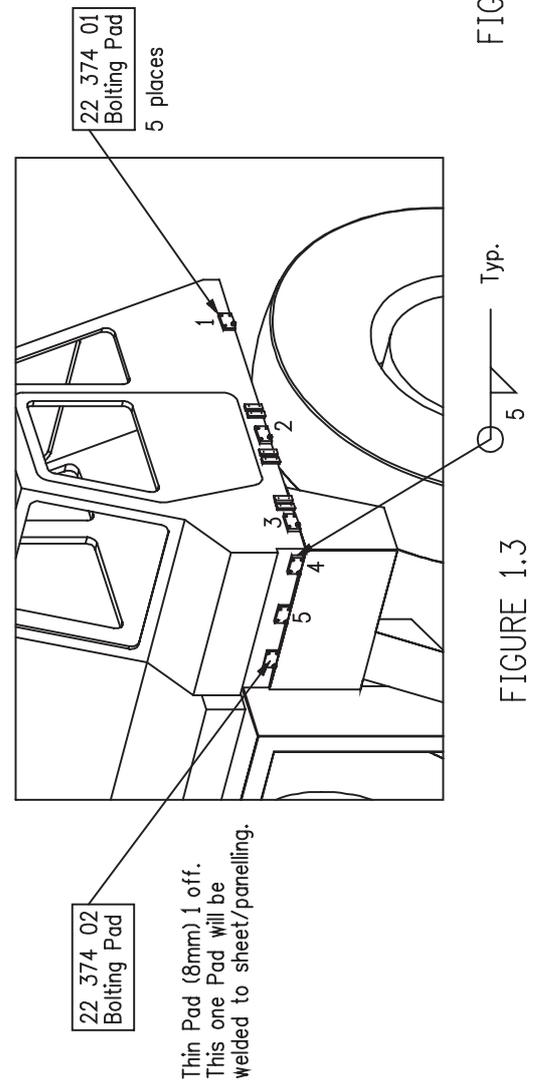


FIGURE 1.3

FOLDING STAIRWAY

Caterpillar 777C Haul Truck



Section 6-1 Installation Instruction Drawing 2

See notes Page 3

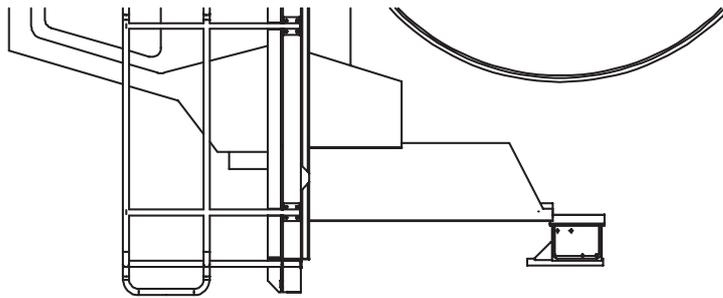


FIGURE 3.2

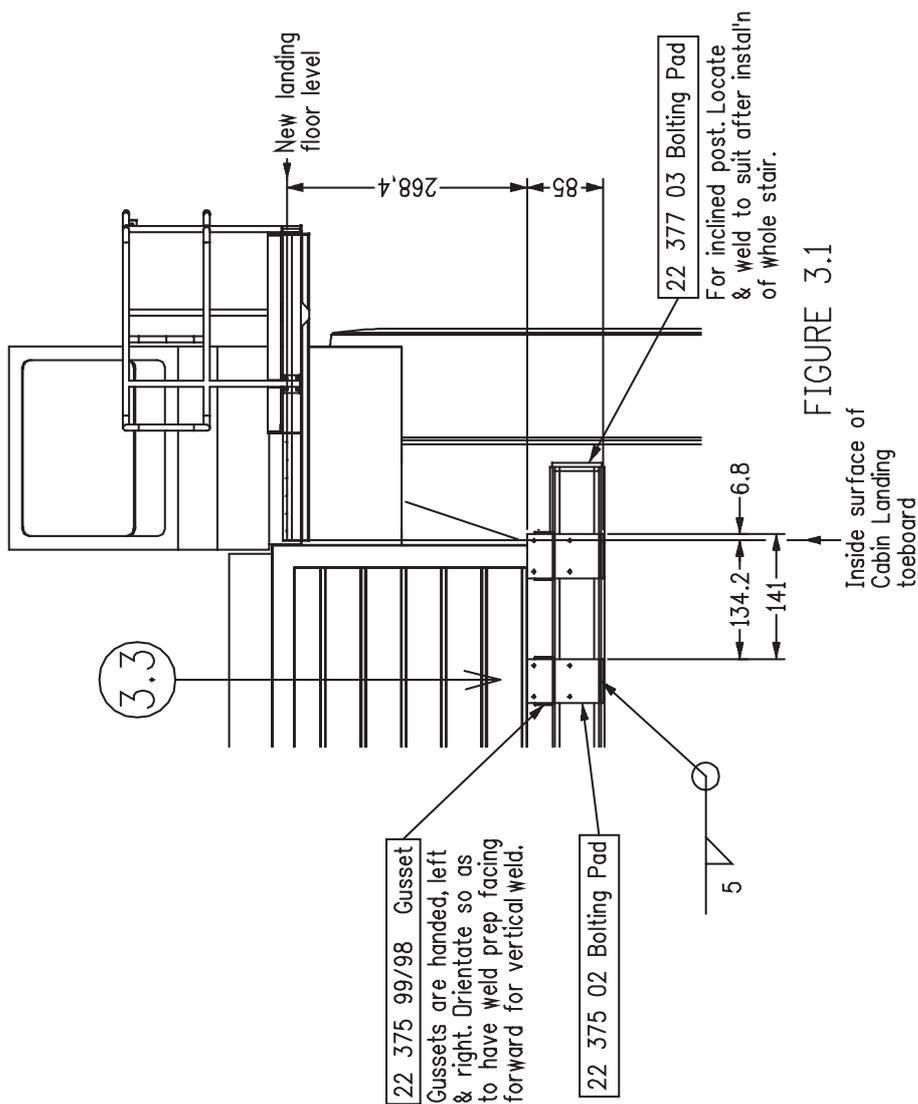
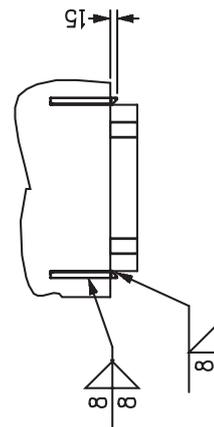


FIGURE 3.1



VIEW 3.3 Welding of Gussets

FOLDING STAIRWAY

Caterpillar 777C Haul Truck



Section 6-1 Installation Instructions Drawing 3

See notes Page 3

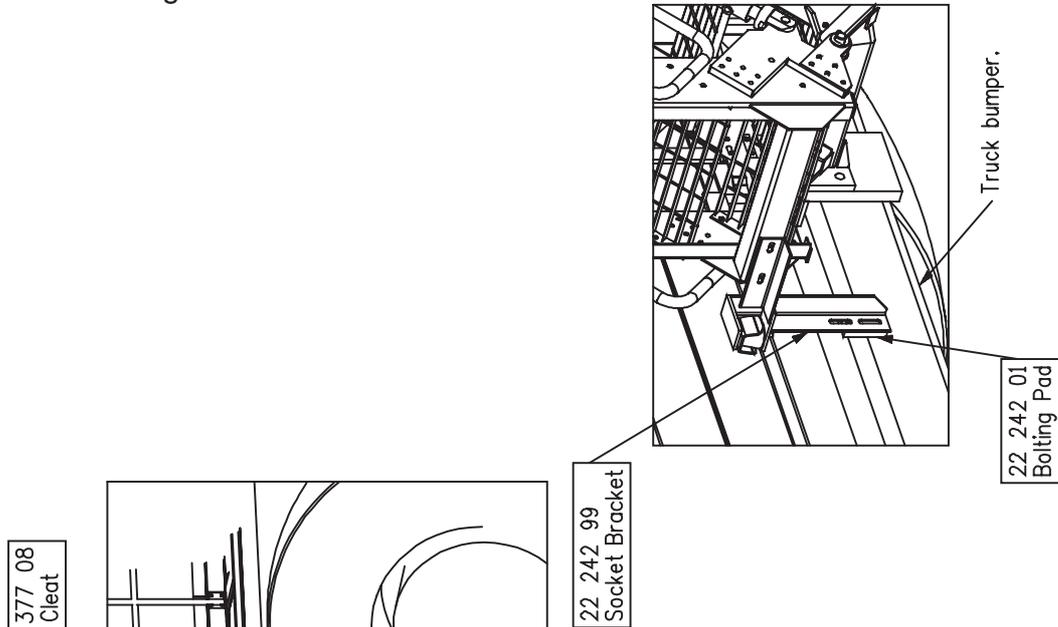


FIGURE 6.1

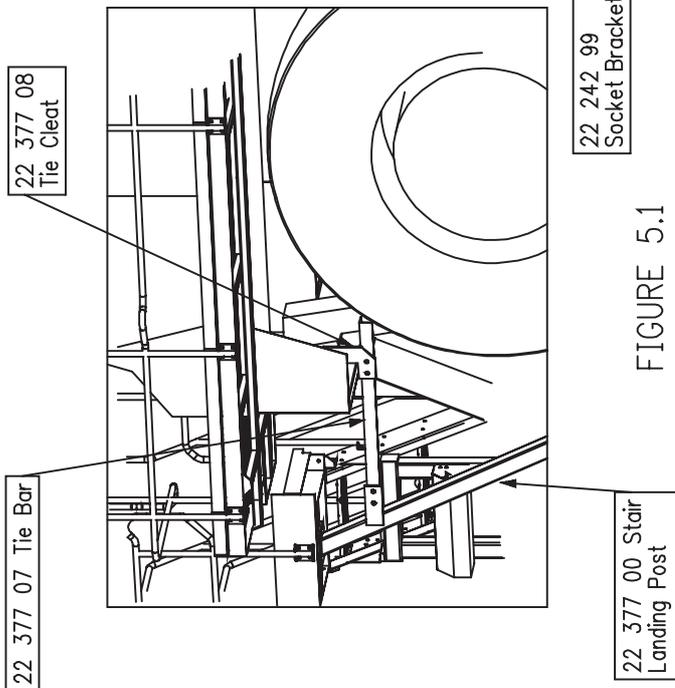


FIGURE 5.1

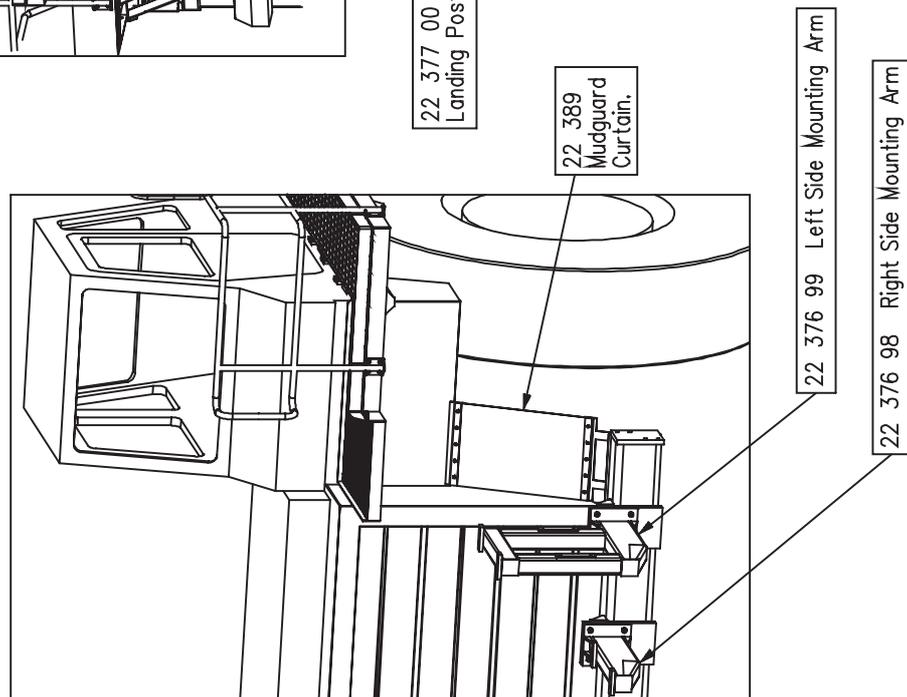


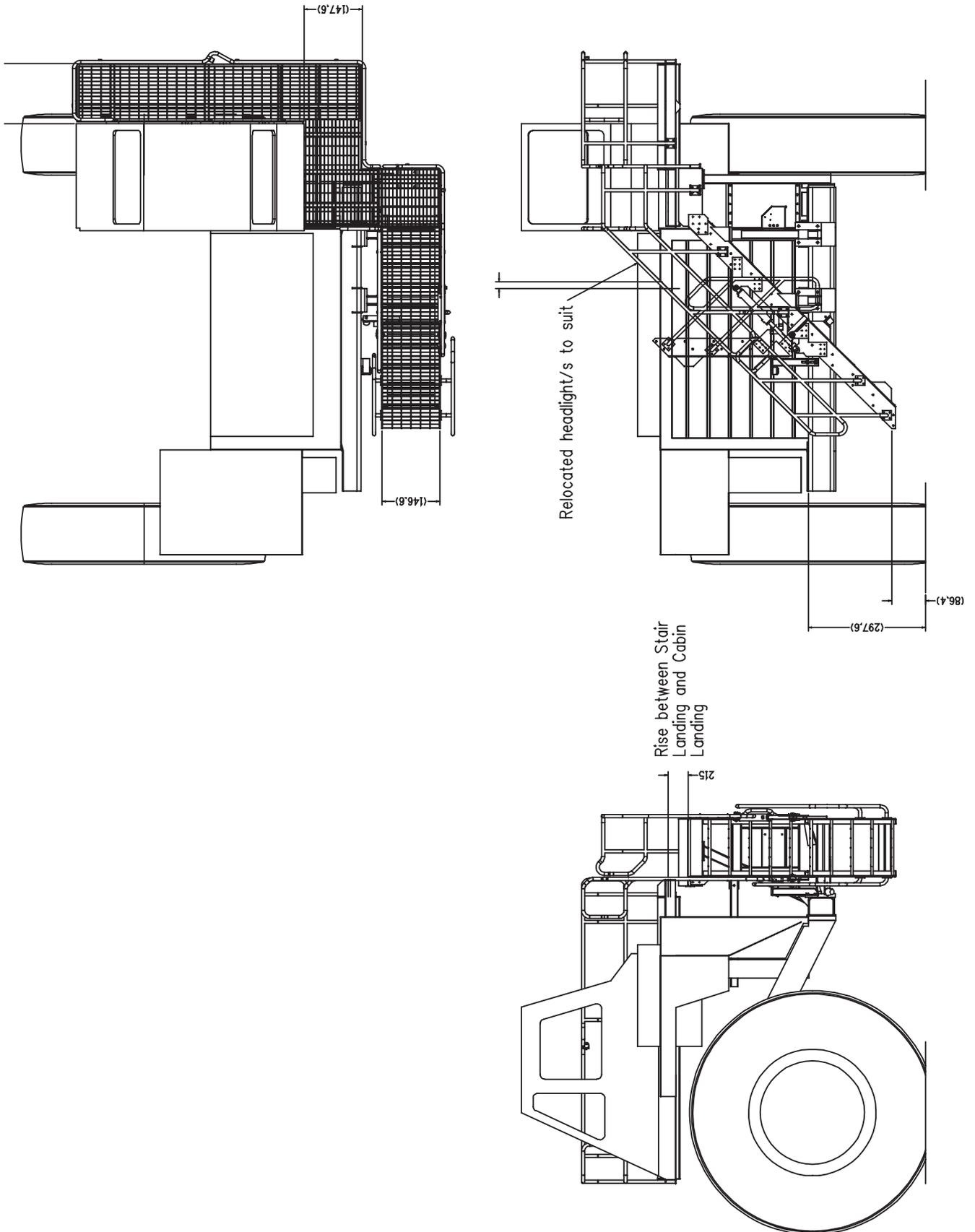
FIGURE 4.1

FOLDING STAIRWAY

Caterpillar 777C Haul Truck



Section 6-1 Installation Instruction Drawing 4

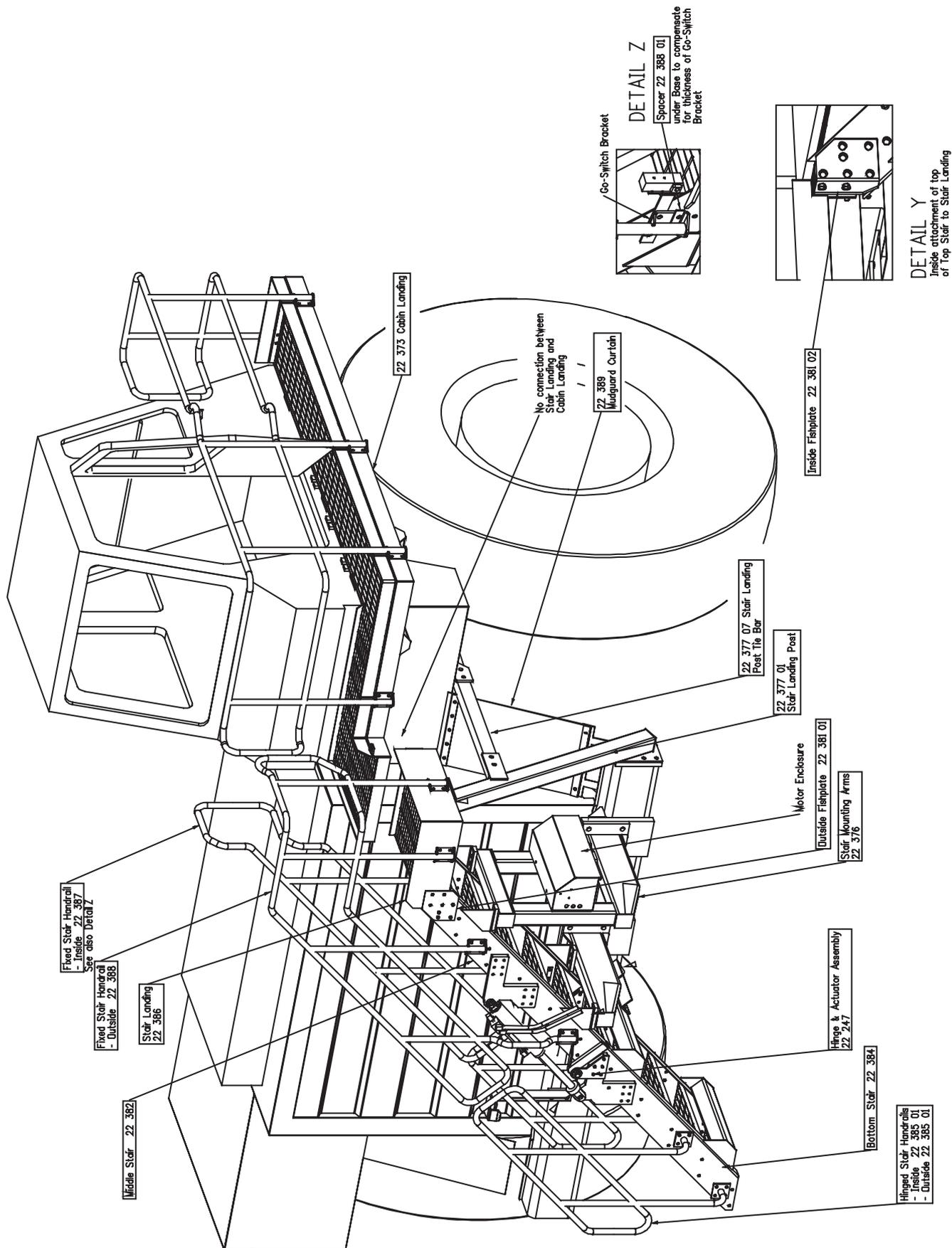


FOLDING STAIRWAY

Caterpillar 777C Haul Truck



Section 6-1 General Assembly Layout Drawing 5

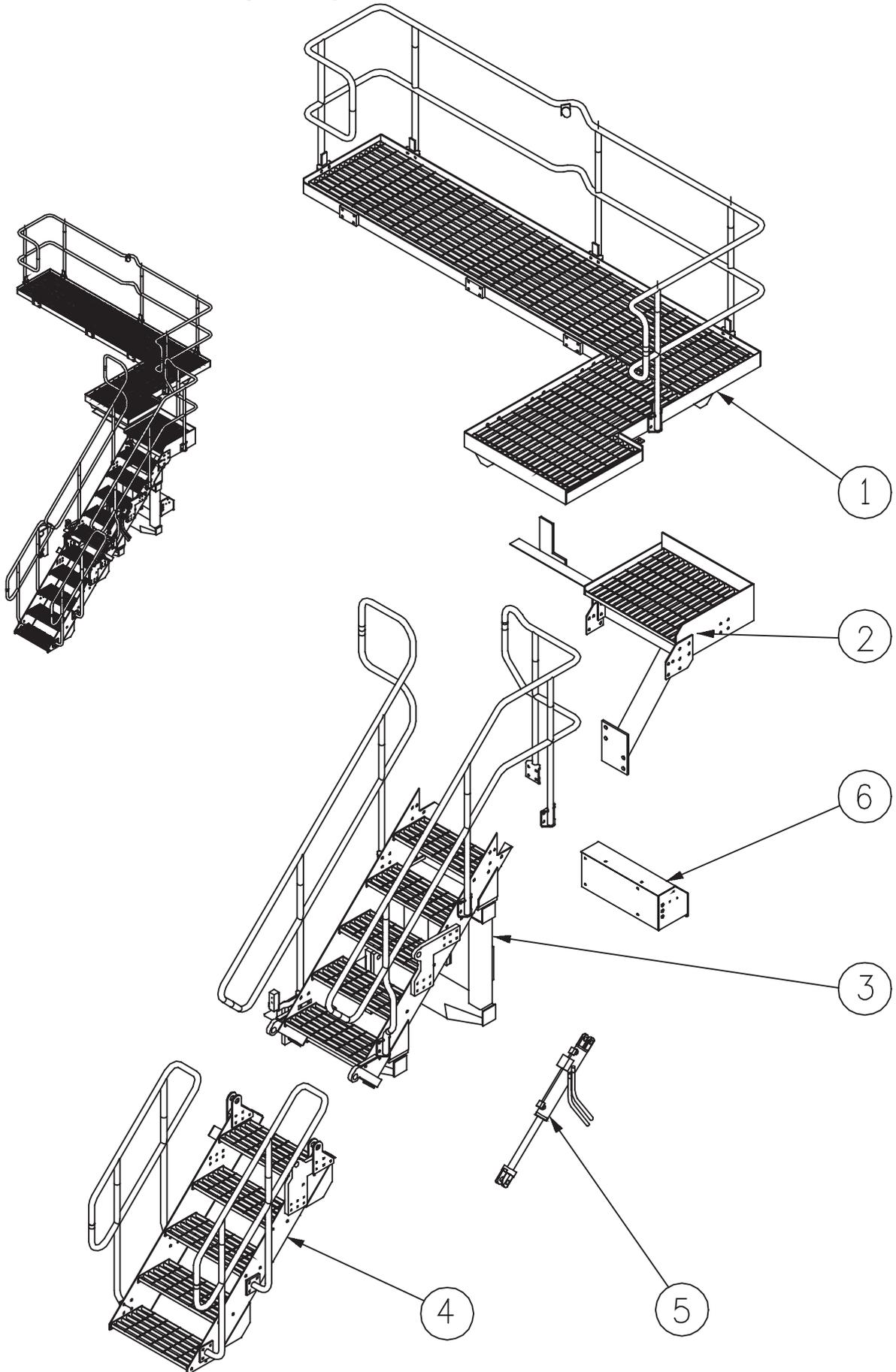


FOLDING STAIRWAY

Caterpillar 777C Haul Truck



Section 6-2 Assembly Complete PSA-777C-ASSEMBLY



FOLDING STAIRWAY

Caterpillar 777C Haul Truck



Section 6-2 Assembly Complete

See Drawing Page 16

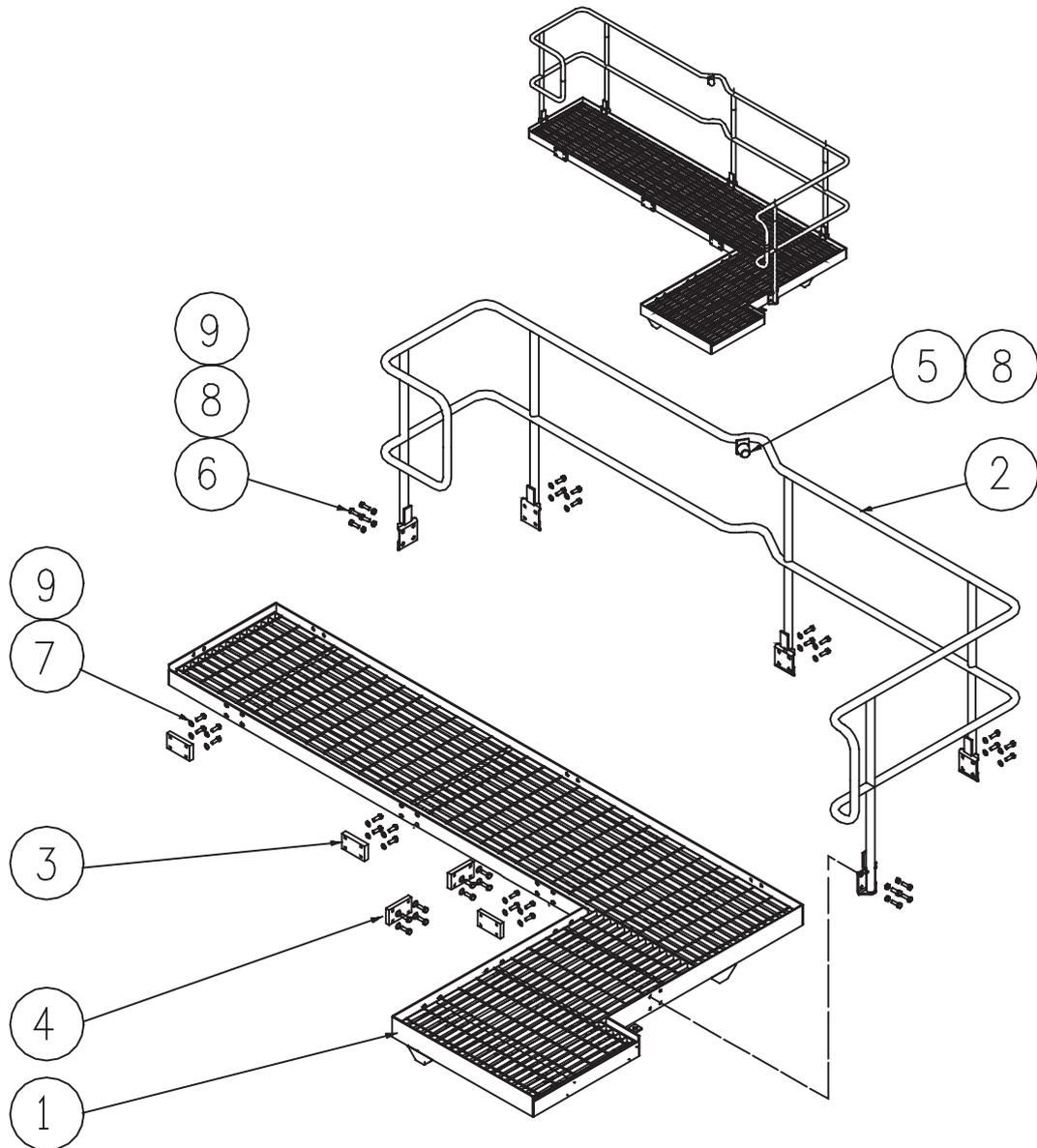
Item	Part No.	Part Name	Qty		
1	PS-22373A	TOP PLATFORM ASSEMBLY (INC.HANDRAILS) REFER TO 6.3 FOR DETAILS	1		
2	PS-22386A	LANDING ASSEMBLY REFER TO 6.4 FOR DETAILS	1		
3	PS-22382A	FIXED STAIR ASSEMBLY (INC.HANDRAILS) REFER TO 6.5 FOR DETAILS	1		
4	PS-22384A	BOTTOM STAIR FABRICATION REFER TO 6.6 FOR DETAILS	1		
5	PS-22247A	HYDRAULIC CYLINDER REFER TO 6.9 FOR DETAILS	1		
6	PS-80103A	POWER PACK REFER TO 6.10 FOR DETAILS	1		

FOLDING STAIRWAY

Caterpillar 777C Haul Truck



Section 6-3 Top Platform Assembly PS-22373A



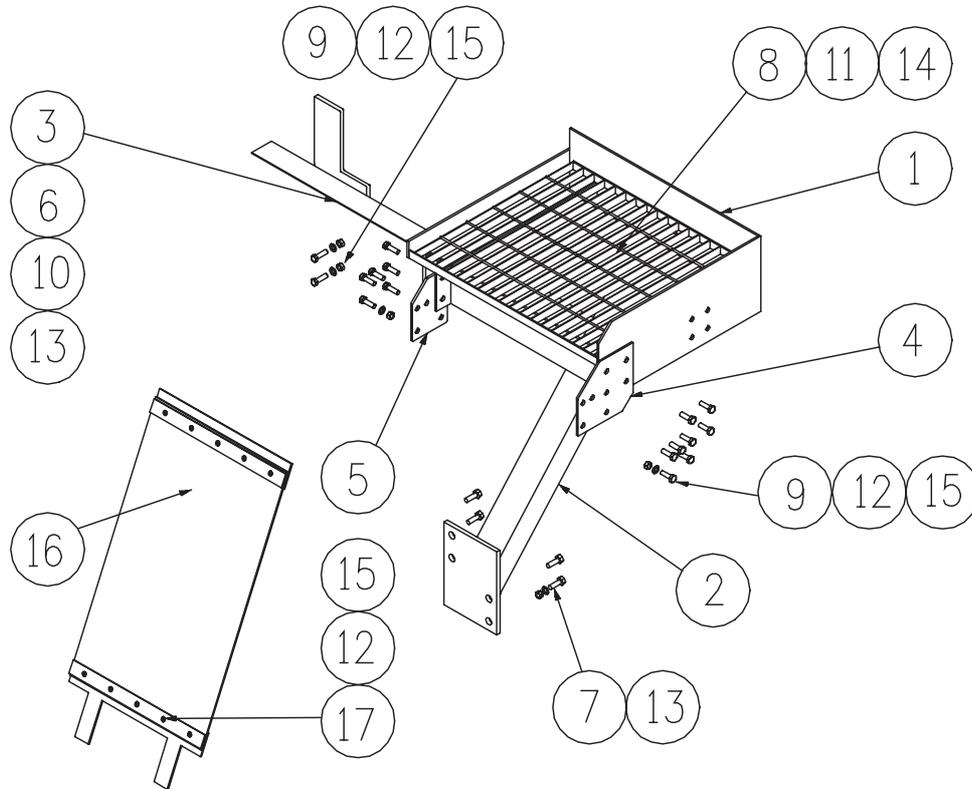
Item	Part No.	Part Name	Qty		
1	PS-22373	PLATFORM ASSEMBLY	1		
2	PS-22372	HANDRAILS	1		
3	PS-22374-01	BOLTING PAD-SIDE	5		
4	PS-22374-02	BOLTING PAD-FRONT	1		
5	PS-40001	BUFFER	1		
6	PS-M12X30ZP	BOLT-M12 x 30	20		
7	CPS-M12X25ZP	BOLT-M12 x 25	24		
8	CPS-M12ZP	NUT-M12	20		
9	CPS-M12WH	WASHER-HARDENED-M12	44		

FOLDING STAIRWAY

Caterpillar 777C Haul Truck



Section 6-4 Landing Assembly PS-22386A



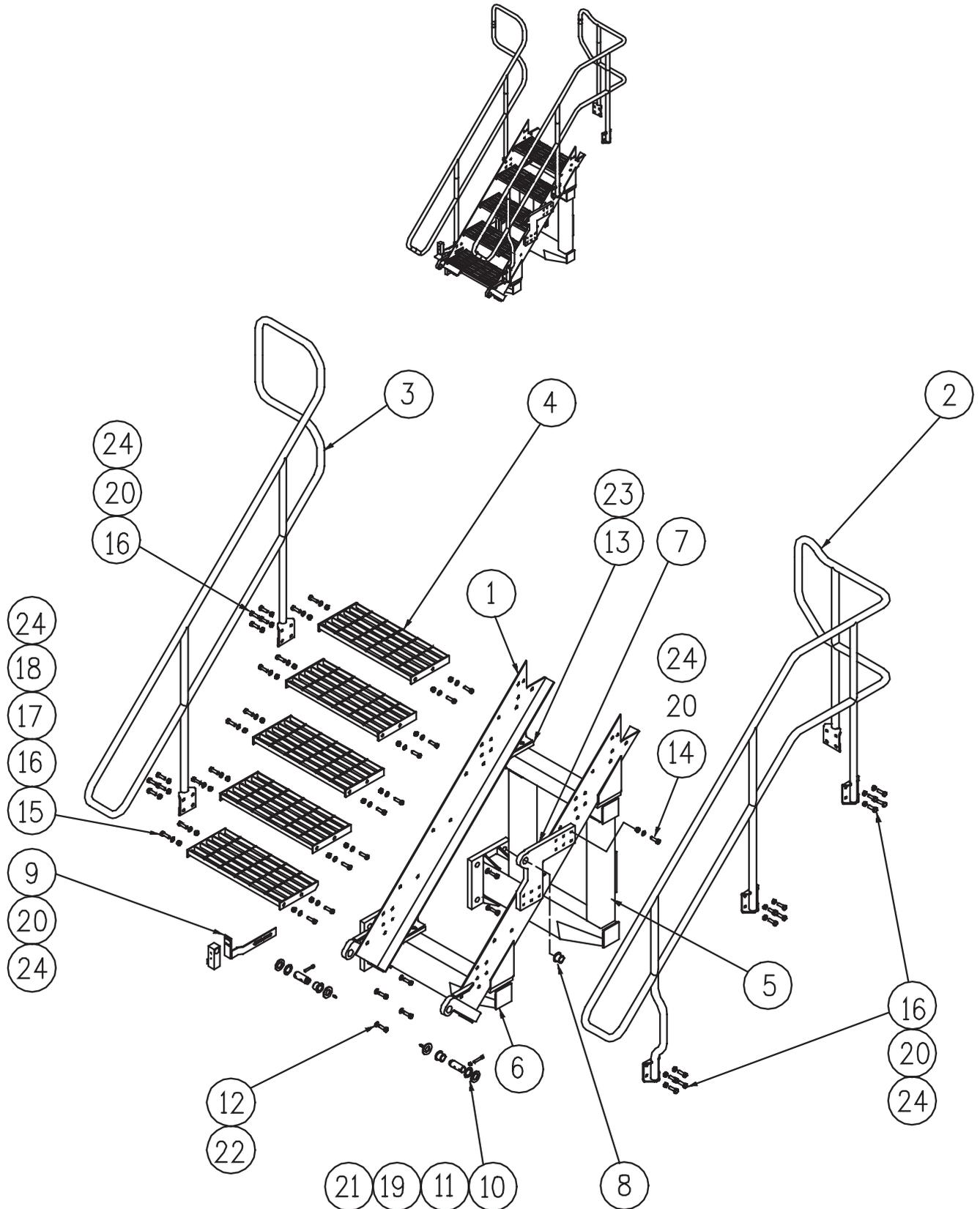
Item	Part No.	Part Name	Qty		
1	PS-22386	LANDING ASSEMBLY	1		
2	PS-22377 01	POST	1		
3	PS-22377-07	POST TIE BAR	1		
4	PS-22381-01	FISHPLATE-OUTSIDE	1		
5	PS-22381-02	FISHPLATE-INSIDE	1		
6	PS-M20X50ZP	BOLT-M20 x 50	4		
7	PS-M20X40ZP	BOLT-M20 x 40	4		
8	CPS-M16X50ZP	BOLT-M16 x 50	4		
9	CPS-M12X30ZP	BOLT-M12 x 30	16		
10	CPS-M20ZP	NUT-M20	4		
11	CPS-M16ZP	NUT-M16	4		
12	CPS-M12ZP	NUT-M12	26		
13	PS-M20WH	WASHER-HARDENED-M20	8		
14	CPS-M16WH	WASHER-HARDENED-M16	4		
15	CPS-M12WH	WASHER-HARDENED-M12	16		
16	PS-22389CPS-	MUDGUARD CURTAIN	1		
17	M12X35ZP	BOLT-M12 x 35	10		

FOLDING STAIRWAY

Caterpillar 777C Haul Truck



Section 6-5 Fixed Stair Assembly PS-22382A



FOLDING STAIRWAY

Caterpillar 777C Haul Truck



Section 6-5 Fixed Stair Assembly PS-22-382A

Parts List

See Drawing Page. 20

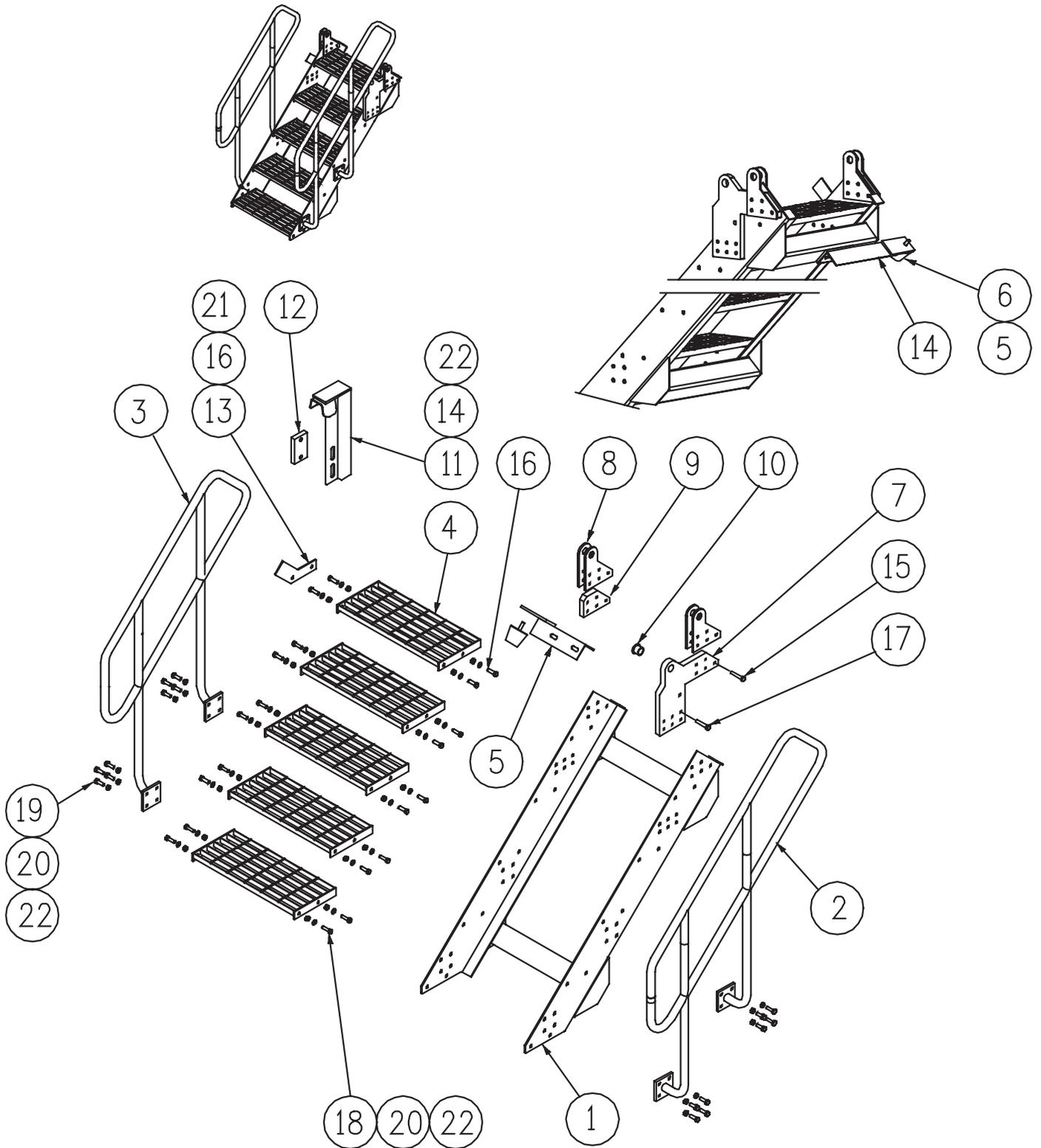
Item	Part No.	Part Name	Qty		
1	PS-22379	STAIR STILE SET	1		
2	PS-22388	OUTER FIXED HANDRAIL	1		
3	PS-22387	INNER FIXED HANDRAIL	1		
4	PS-22266	STAIR TREADS	5		
5	PS-22376-99	LEFT SIDE MOUNTING	1		
6	PS-22376-98	RIGHT SIDE MOUNTING	1		
7	PS-22233-05	FIXED STAIR ACTUATOR ATTACHMENT	1		
8	PS-63009-B	CYL-MOUNTING-BUSH - 1 1/4"ODx1"ID x 28	1		
9	PS-22238	GO SWITCH MOUNTING	1		
10	PS-?	PIVOT PIN	2		
11	PS-?	PIVOT PIN WASHER	4		
12	PS-M24X65ZP	BOLT-M24 x 65	8		
13	CPS-M16X25ZP	BOLT-M16 x 25	8		
14	CPS-M12X50ZP	BOLT-M12 x 50	12		
15	CPS-M12X35ZP	BOLT-M12 x 35	2		
16	CPS-M12X30ZP	BOLT-M12 x 30	42		
17	CPS-M12X25ZP	BOLT-M12 x 25	2		
18	CPS-M12X20ZP	BOLT-M12 x 20	4		
19	CPS-M8x50ZP	BOLT-SOCKET HD.-M8 x 50	4		
20	CPS-M12ZP	NUT-M12	62		
21	CPS-M8NN	NYLOC NUT-M8	2		
22	PS-M24WH	WASHER-HARDENED-M24	8		
23	CPS-M16WH	WASHER-HARDENED-M16	8		
24	CPS-M12WH	WASHER-HARDENED-M12	62		

FOLDING STAIRWAY

Caterpillar 777C Haul Truck



Section 6-6 Bottom Stair Assembly PS-22384A



FOLDING STAIRWAY

Caterpillar 777C Haul Truck



Section 6-6 Bottom Stair Assembly PS-22384A

Parts List

See Drawing Page 22

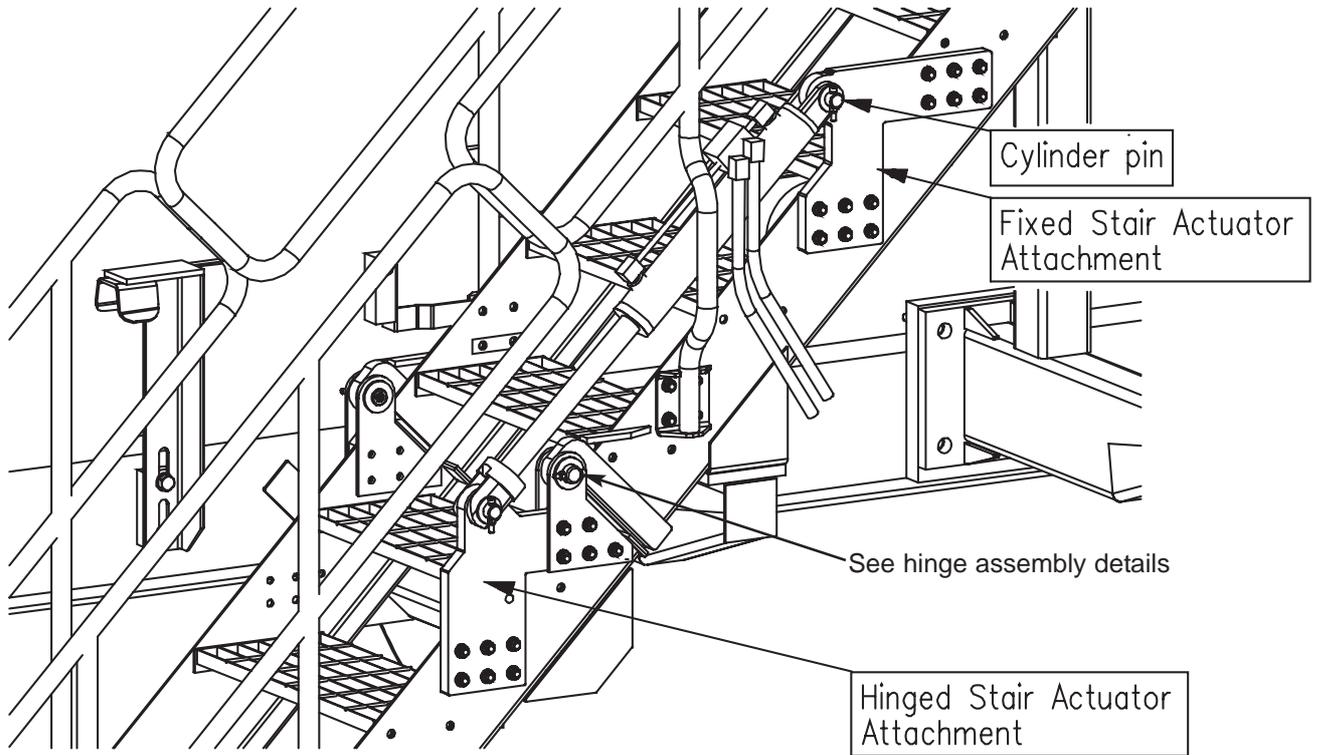
Item	Part No.	Part Name	Qty		
1	PS-22384	STILE ASSEMBLY	1		
2	PS-22385-01	HANDRAIL-INNER	1		
3	PS-22385-02	HANDRAIL-OUTER	1		
4	PS-22380	STAIR TREADS	5		
5	PS22383	BUFFER ARM ASSEMBLY	1		
6	PS-40001	RUBBER STOP	1		
7	PS-22233-04	HINGED STAIRS ACTUATOR ATTACHMENT	1		
8	PS-22233-02	HINGE CHEEK PLATE	4		
9	PS-22233-03	HINGE PLATE SPACER	1		
10	PS-63009-B	CYL-MOUNTING-BUSH - 1 1/4"ODx1"ID x 28	1		
11	PS-22242-99	SOCKET BRACKET	1		
12	PS-22242-01	BOLTING PAD	1		
13	PS-22233-01	SWITCH TARGET	1		
14	CPS-M16X25ZP	BOLT-M16 x 25	4		
15	CPS-M12X65ZP	BOLT-M12 x 65	10		
16	CPS-M12X55ZP	BOLT-M12 x 55	2		
17	CPS-M12X50ZP	BOLT-M12 x 50	18		
18	CPS-M12X35ZP	BOLT-M12 x 35	2		
19	CPS-M12X30ZP	BOLT-M12 x 30	18		
20	CPS-M12ZP	NUT-M12	50		
21	CPS-M16WH	WASHER-HARDENED M16	4		
22	CPS-M12WH	WASHER-HARDENED M12	50		

FOLDING STAIRWAY

Caterpillar 777C Haul Truck

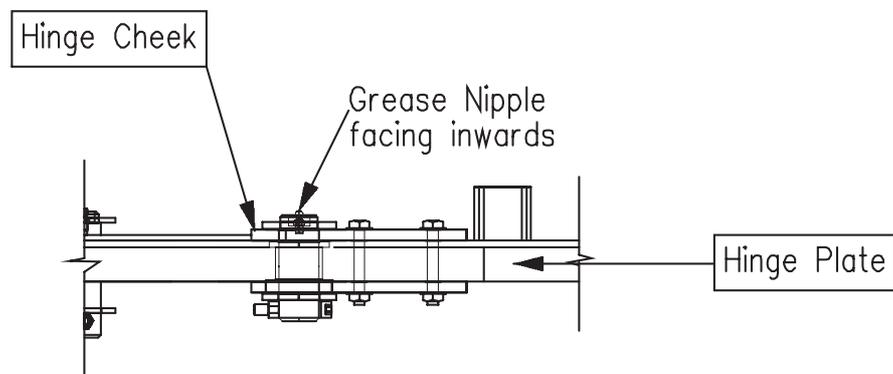


Section 6-7 Hinge and Actuator Cylinder Assembly



Bolts all installed with heads facing inwards and nuts facing outwards except for stair treads

CYLINDER HINGE AND ACTUATOR ASSEMBLY



HINGE ASSEMBLY DETAILS

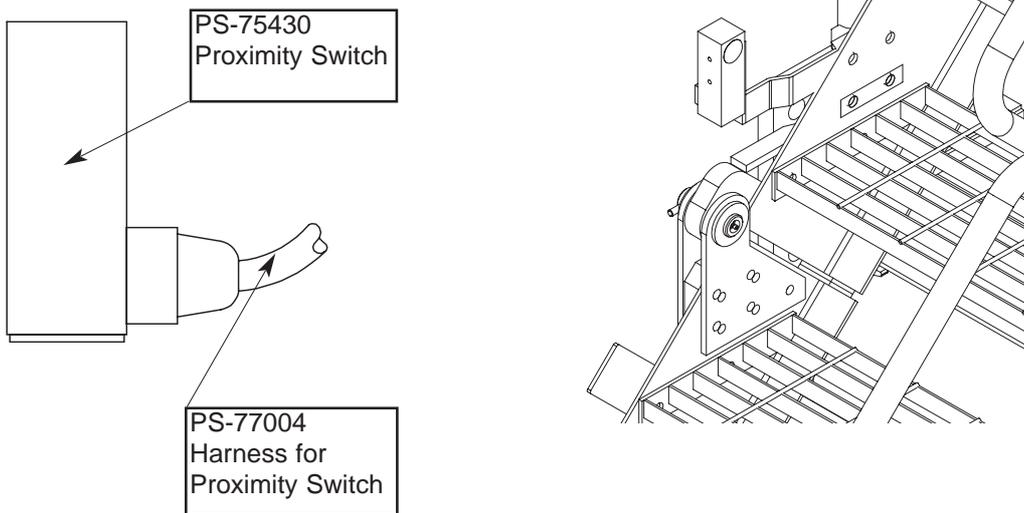
FOLDING STAIRWAY

Caterpillar 777C Haul Truck

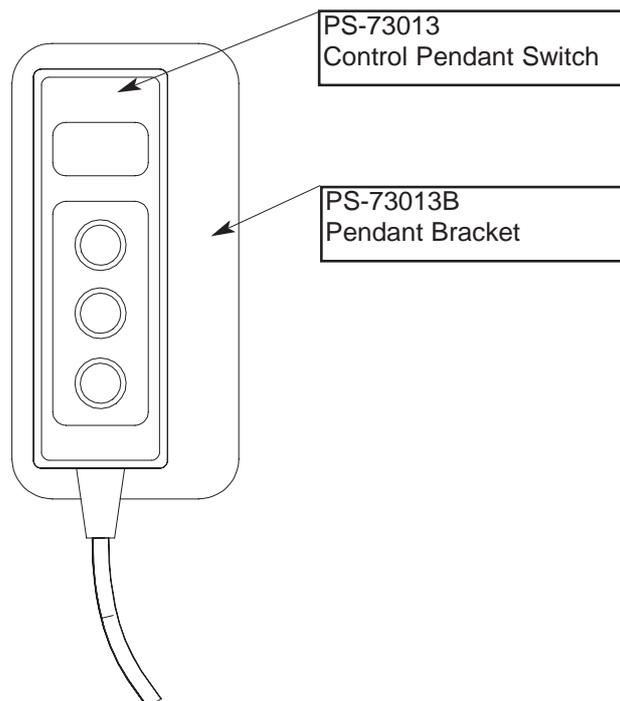


Section 6-8 Electrical System

Proximity Switch Assembly Mounted on Fixed Landing



Control Pendant Switch Mounted on Handrail



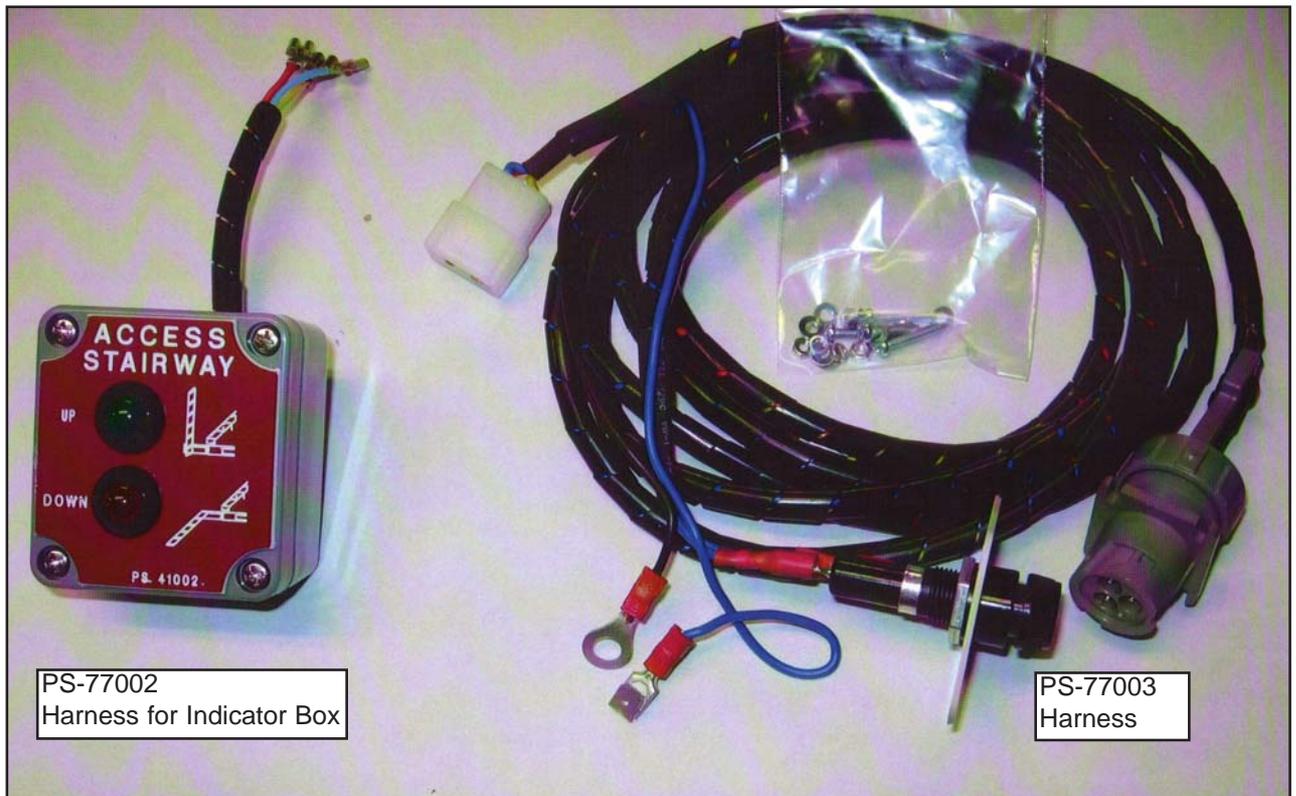
FOLDING STAIRWAY

Caterpillar 777C Haul Truck



Section 6-8 Electrical Controls

Cab Harness & Equipment
Refer Wiring Harness Drawing Page 6

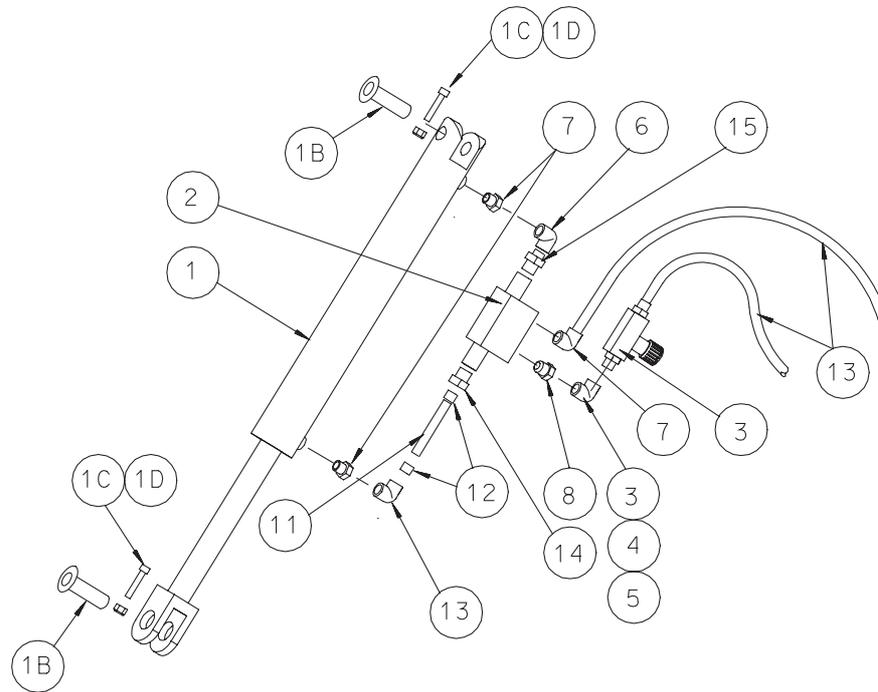


FOLDING STAIRWAY

Caterpillar 777C Haul Truck



Section 6-9 Hydraulic Cylinder



Item	Part No.	Part Name	Qty		
1A	PS-62999	HYDRAULIC CYLINDER 2.5/2"x12" 1.5"Rod	1		
1B	PS-62999-P	PIN 1"- CYLINDER (Ports Perp to pins)	2		
1C	CPS-M8X50	SOCKET HEAD BOLT - M8 x 50	2		
1D	CPS-M8NN	NYLOC NUT - M8	2		
1S	PS-63011K	SEAL KIT (NOT SHOWN)	1		
2	PS-63201	VALVE - PILOT OPERATED LOCKING	1		
3	PS-63202	FLOW CONTROL VALVE	1		
4	PS-63202B	FITTING - JIC NIPPLE	1		
5	PS-63202C	FITTING- JIC SWIVEL	1		
6	PS-61159	FITTING - ELBOW-9/16" JIC	1		
7	PS-61154	FITTING - ELBOW- O RING 1/4BSPPx9/16"JIC	1		
8	PS-61157	FITTING - O RING 1/4BSPPx 9/16"JIC	2		
9	PS-61158-1MM	FITTING - 1mm RESTRICTION 90 DEG	1		
10	PS61163	REDUCER JIC x BSPP	2		
11	PS-61163	TUBE	2		
12	PS-60031-FT	FERRULES	2		
13	PS-60051-2.8	HOSE- HYDR. (9/6"JIC SWIVEL FITTING 2.8M)	2		
14	PS-61156-1MM	FITTING - 1MM RESTRICTION 90 DEG	2		
15	PS-61145	FITTING 9/16 JIC SWIVEL	1		

FOLDING STAIRWAY

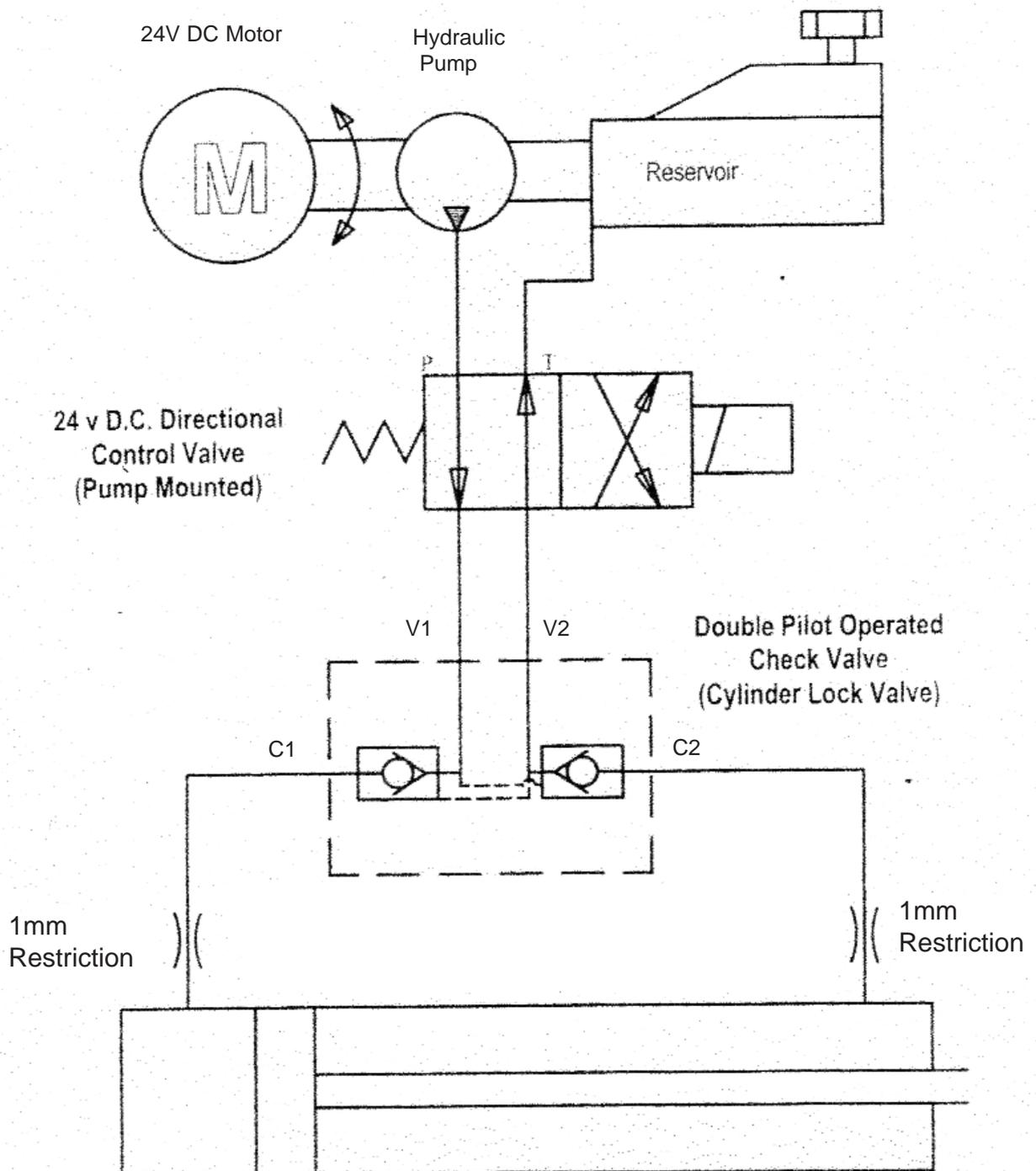
Caterpillar 777C Haul Truck



Section 6-9 Hydraulic Cylinder (Valve Diagram)

See also Drawing Page 27

Double Acting Hydraulic System with
directional Control Valve and Cylinder
Lock Valve

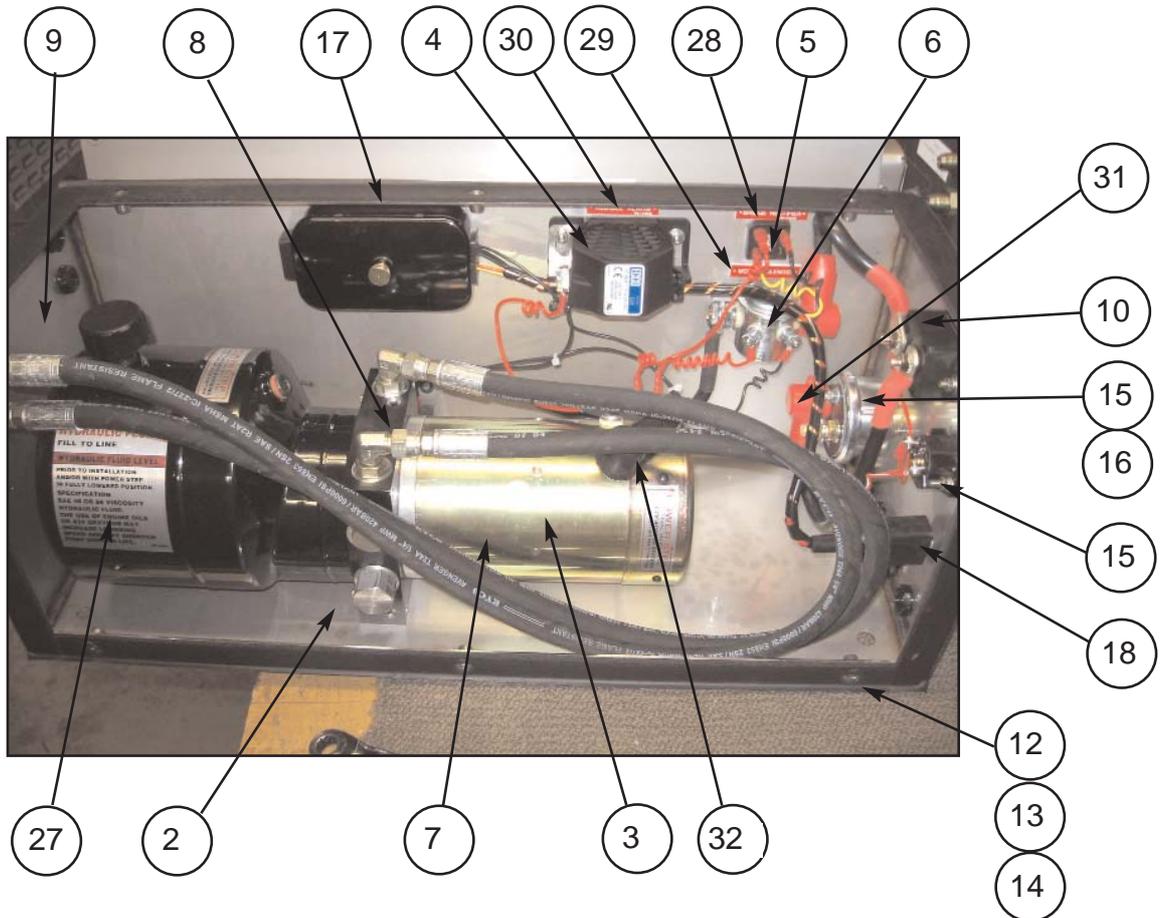
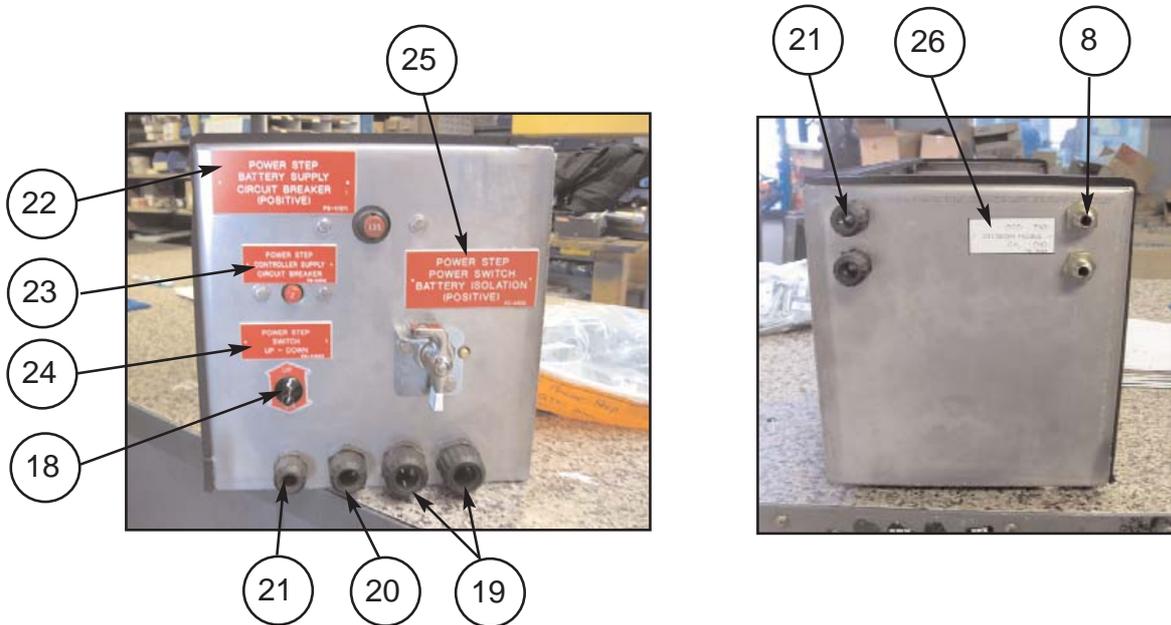


FOLDING STAIRWAY

Caterpillar 777C Haul Truck



Section 6-10 Power Pack PS-80103A-SS



FOLDING STAIRWAY

Caterpillar 777C Haul Truck



Section 6-10. Power Pack

See Photos Page 29 & 30

Item	Part No.	Part Name	Qty		
1	PS-80103A-SS	POWER PACK ASSEMBLY (Incl. Items.2-11)	1		
2	PS-21107SS	MOTOR ENCLOSURE- SEALED ST/ST	1		
3	PS-80103A	POWER PACK	1		
4	PS-75024	AUDIBLE ALARM	1		
5	PS-84214	BRIDGE RECTIFIER	1		
6	PS-82402	SOLENOID	1		
7	PS-60050-900MM	HYDR. HOSES 9/16" JIC STRAIGHT SWIVEL	2		
8	PS-61152	HYDRAULIC FITTING	2		
9	PS-61177	HYDRAULIC FITTING	2		
10	PS-84213	135A CIRCUIT BREAKER	1		
11	PS-84212	5A CIRCUIT BREAKER	1		
12	PS-22505	MOUNTING BLOCK-POWER PACK	2		
13	CPS-M10X25ZP	BOLT-M10 x 25	4		
14	CPS-M10WH	WASHER-HARDENED	4		
15	PS-84303	ISOLATION SWITCH	1		
16	PS-84303-B	ISOLATION SWITCH BRACKET	1		
17	PS-1712080	SEALED WIRING BOX	1		
18	PS-73012	TOGGLE SWITCH KIT	1		
19	CPS-CAB20M20	WIRE HARNESS GLAND	2		
20	CPS-CAB16M20	WIRE HARNESS GLAND	1		
21	CPS-CAB12M16	WIRE HARNESS GLAND	3		
22	PS-41011	DECAL ELECTRICAL	1		
23	PS-41012	DECAL ELECTRICAL	1		
24	PS-41023	DECAL ELECTRICAL	1		
25	PS-41010	DECAL ELECTRICAL	1		
26	PS-41024	DECAL HYDRA-HOSES	1		
27	PS-41041	DECAL OIL TANK	1		
28	PS-41019	DECAL SOLENOID	1		
29	PS-41017	DECAL BRIDGE RECTIFIER	1		
30	PS-41018	DECAL ALARM	1		

FOLDING STAIRWAY

Caterpillar 777C Haul Truck



Section 6-9. Power Pack

See Photos Page 29 & 30

Item	Part No.	Part Name	Qty		
31	PS-73010	RUBBER BOOT RED	3		
32	PS-73009	RUBBER BOOT BLACK	1		
33	PS-73013	SWITCH HANDRAIL	1		
34	PS-73013-B	SWITCH HANDRAIL BRACKET	1		
35	PS-41005	DECAL-5AMP FUSE	1		
36	PS-21988	WIRING WELD ON BUTTONS	8		
37	CPS-ACX1310	WIRING HARNESS CLAMPS	6		
38	PS-60101	HYDRA-HOSE CLAMPS	6		
39	PS-9D-70321	PARK BRAKE SWITCH	1		
40	PS-50005	PARK BRAKE TEE FITTING	1		
41	PS-77006	PARK BRAKE HARNESS	1		
42	PS-77005	HAND RAIL SWITCH HARNESS	1		
43	PS-77004	PROXIMITY MAGNETIC SWITCH HARNESS	1		