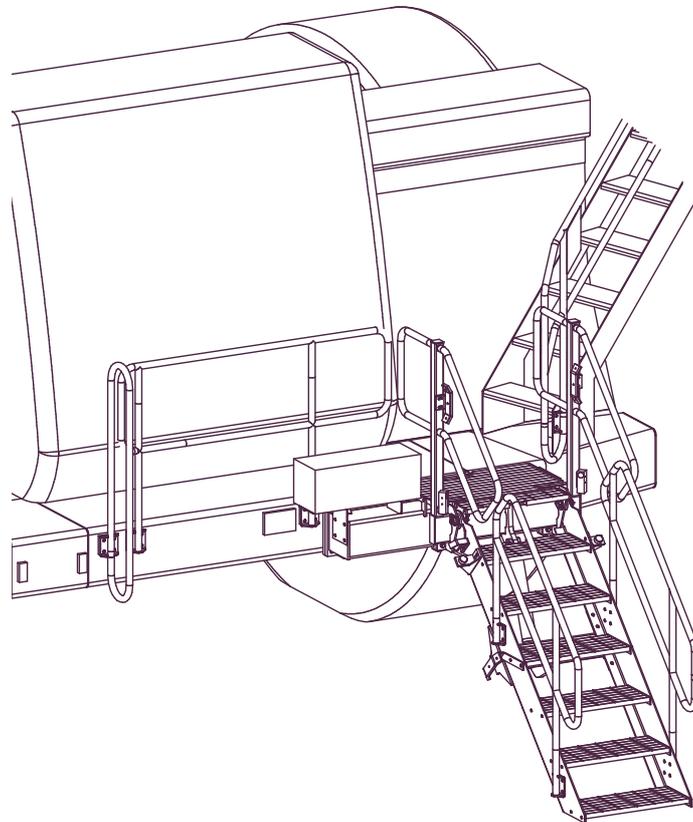




FOLDING STAIRWAY

Manual for Cat 777F Haul Truck



Model No.: PSA-CAT777F-FS
Serial No.:777F-001 - ~
Date Manufactured: Nov. 2009

FOLDING STAIRWAY

Caterpillar 777F Truck



CONTENTS

Page 2	<u>Section 1</u> Mounting and Installation
7	<u>Section 2</u> Electrical Installation
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14	5-3 Stair Assembly Parts List
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21	5-6 Electrical System Controls Wiring Diagrams

FOLDING STAIRWAY

Caterpillar 777F Truck

Section 1. Mounting and Installation

See Page 4

NOTE

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

PROCEDURE

See Pages 4,5 and 6

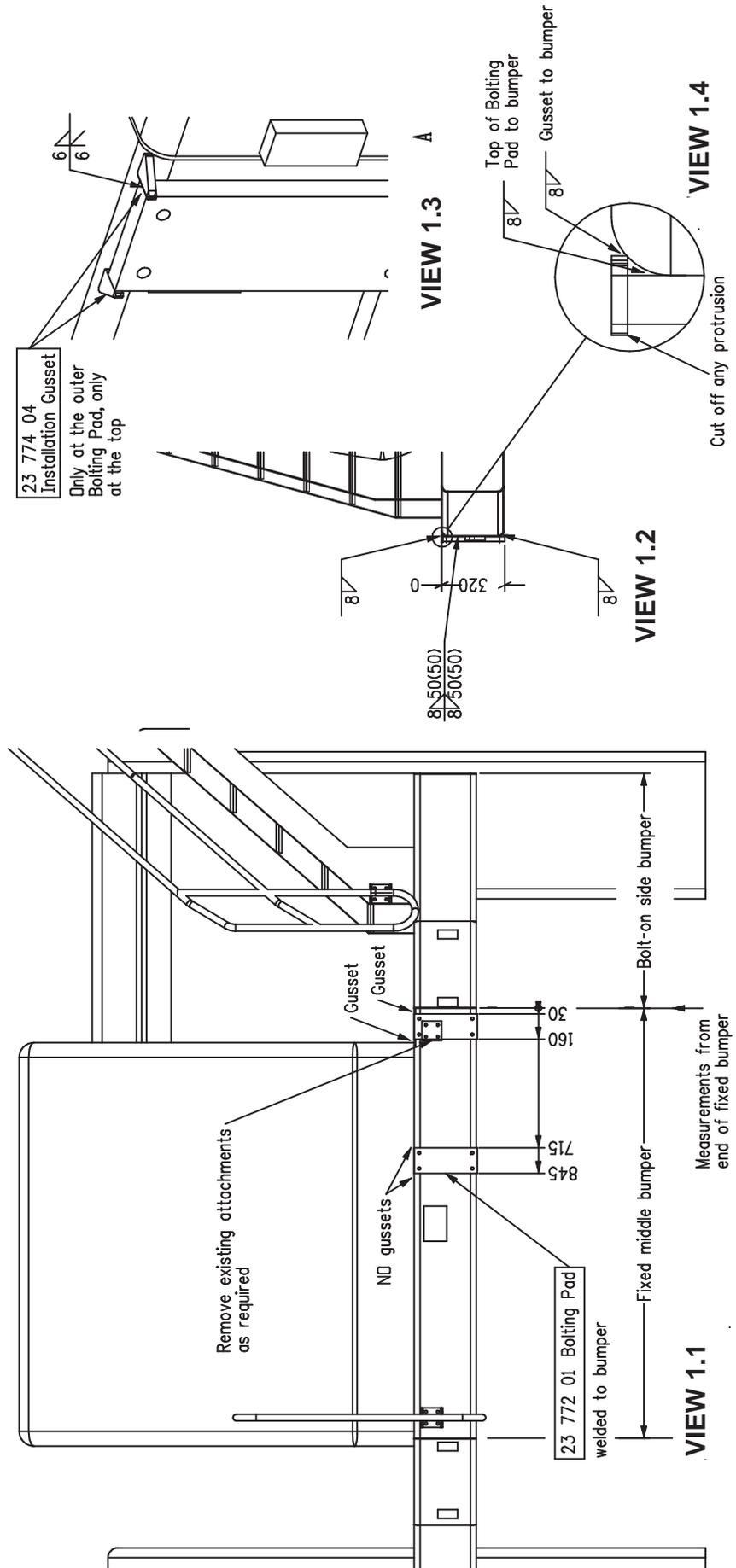
1. Per Views **1.1 & 1.2**, weld Bolting Pads to the front of the truck bumper, after first removing any interfering existing attachments. Per Views **1.3 & 1.4**, fit 23 774 04 Installation Gussets to the top of the outer Bolting Pad.
2. Per Views **2.1 & 2.2**, bolt the Spacer Beam 23 776 to the Bolting Pads.
3. Per Views **3.1 & 3.2**, fit the assembled Stair and Landing to the Spacer Beam.
4. Per View 4.1, weld bolting pads to the front bumper and fit Front Bumper Handrail 23 663. Also weld Switch Mounting Plate 23 664 to the handrail of the original inclined stair, as a mounting for the Power Step stair's control switch.
5. Per Views **3.1, 3.3 & 4.2** adjust the declination of the deployed stair by grinding, or building up with weld and then grinding, the Stop Pads at the top back of each stair stile.
6. Per View **3.2** adjust the position of the Stair Actuator Attachment 23 675 on the back of the stair so that the stair rises to vertical in its' stowed position (full cylinder extension). Adjust Stair Buffer Brackets 23 653 so that the stair is held firm in stowed position.
7. Per View **3.2** adjust the position of Handrail Bumper 23 651 (4 off) so that the handrails are prevented from vibrating when the stair is in its' stowed position and the truck is working.

FOLDING STAIRWAY

Caterpillar 777F Truck



Section 1. Mounting and Installation 23782 Sheet 1

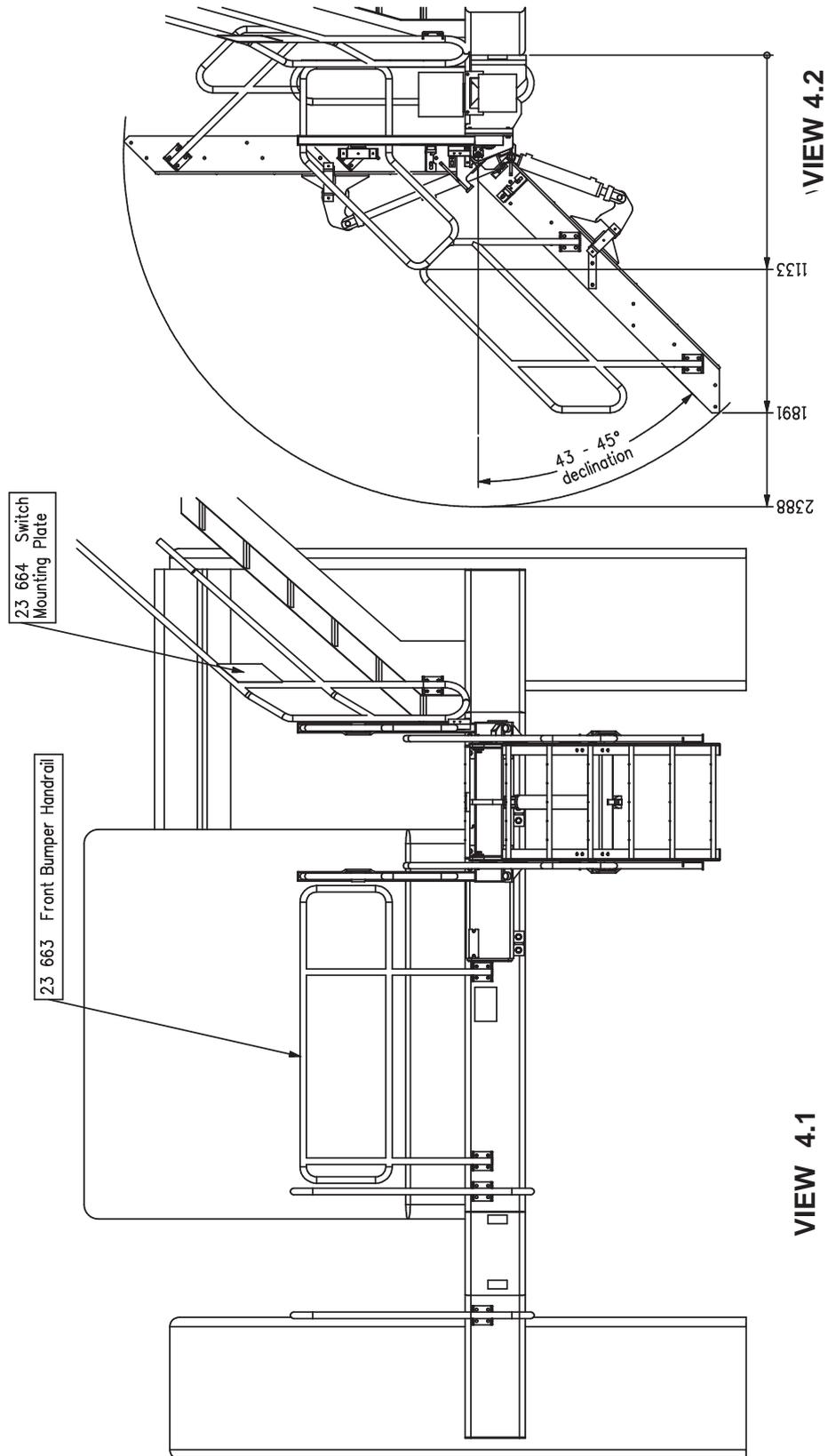


FOLDING STAIRWAY

Caterpillar 777F Truck



Section 1. Mounting and Installation 23782 Sheet 2

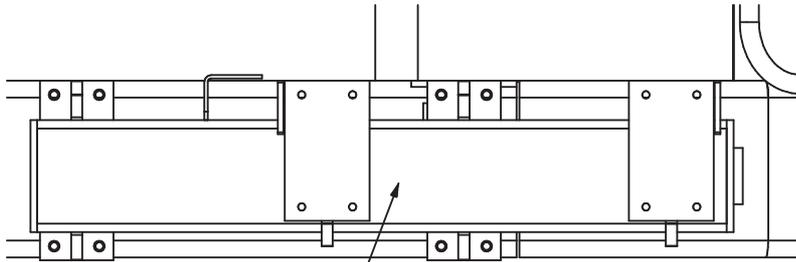


FOLDING STAIRWAY

Caterpillar 777F Truck

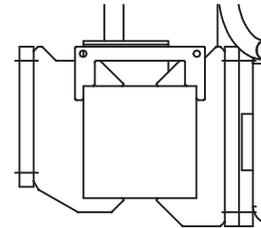


Section 1. Mounting and Installation 23782 Sheet 3

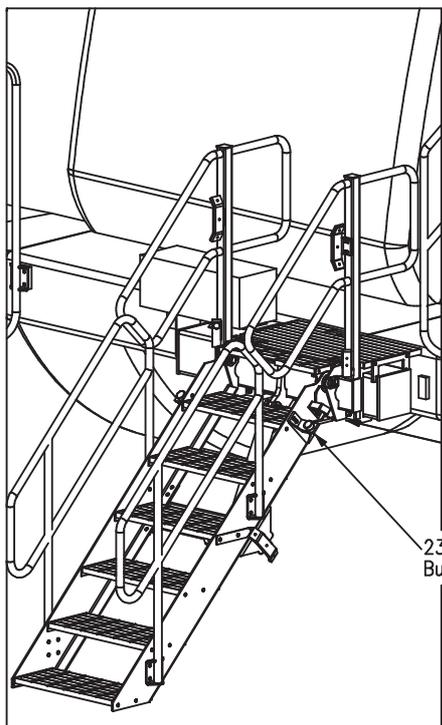


23 776 Spacer Beam

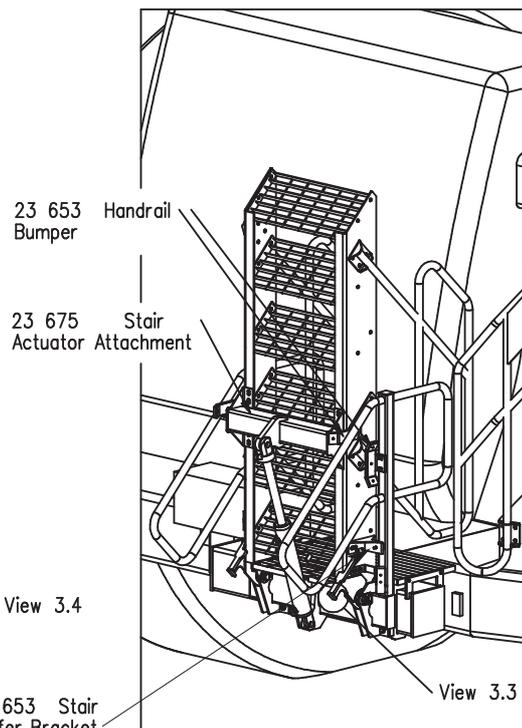
VIEW 2.1



VIEW 2.2



VIEW 3.1

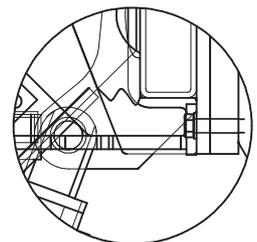


VIEW 3.2

Stop Pad



VIEW 3.3



VIEW 3.4

FOLDING STAIRWAY

Caterpillar 777F Truck



Section 2. Electrical Installation

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.

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.

WARNING

**LOW OR FAULTY BATTERIES WILL VOID
WARRANTY ON THE POWER PACK AND ALL
ELECTRICAL SWITCHES AND COMPONENTS**

FOLDING STAIRWAY

Caterpillar 777F Truck



Section 3. 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 Stair Access System is clear of people and obstacles, and lower Stair by operating the two position electrical switch adjacent to the stair, to the down position by pressing the switch down.

Hold the switch in the down position until Stair 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 Stair with caution.

To Raise Stairway

Ascend the Stair onto the landing of the truck.

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

Hold the switch in the up position until the Stair is in the fully raised position.

The Stair is now raised and stored.

OPERATING NOTES

NOTE: FLOW CONTROL VALVE ADJUSTMENT:

The valve should be positioned to restrict the flow and speed of the Power Step when lowering. Adjust the knob on top of the valve by turning left or right (clockwise) when the step is being lowered, until it is lowering at a safe and reasonable speed.

When it is adjusted, lock the adjusting knob by tightening the grub screw located on the side of the knob.

NOTE: MAGNETIC 'GO' SWITCH ADJUSTMENT:

The switch target trigger area is located on the opposite side and end from the cable entry point on the switch. Once it is mounted to the switch bracket, adjust the switch in or out from the stair steel trigger point, to be within 3mm - 10mm from touching each other when the stair is in the desired rest position.

[DO NOT EXCEED 10mm DISTANCE BETWEEN THE SWITCH AND STRIKER PLATE].

Test by raising and lowering the Power Step a couple of times and adjust again if necessary.

FOLDING STAIRWAY

Caterpillar 777F Truck



Section 4. 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 2 grease nipples on Stair hinge pins.

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.

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

Grease 2 grease nipples on Stair Hinge Pins.

Check and inspect all main bolts on stairway system.

Retorque if required.

Repeat daily check as above.

NOTE.

THE RELIEF PRESSURE OF THE POWERPACK IS TO BE SET TO 2800PSI.

IF THE POWERPACK IS REPLACED, THIS RELIEF PRESSURE WILL NEED TO BE RESET USING INLINE GAUGES.

FAILURE TO DO SO MAY RESULT IN ACCIDENT OR INJURY.

FOLDING STAIRWAY

Caterpillar 777F Truck



Section 5. Assembly Complete - Main Assemblies

See Pg 11

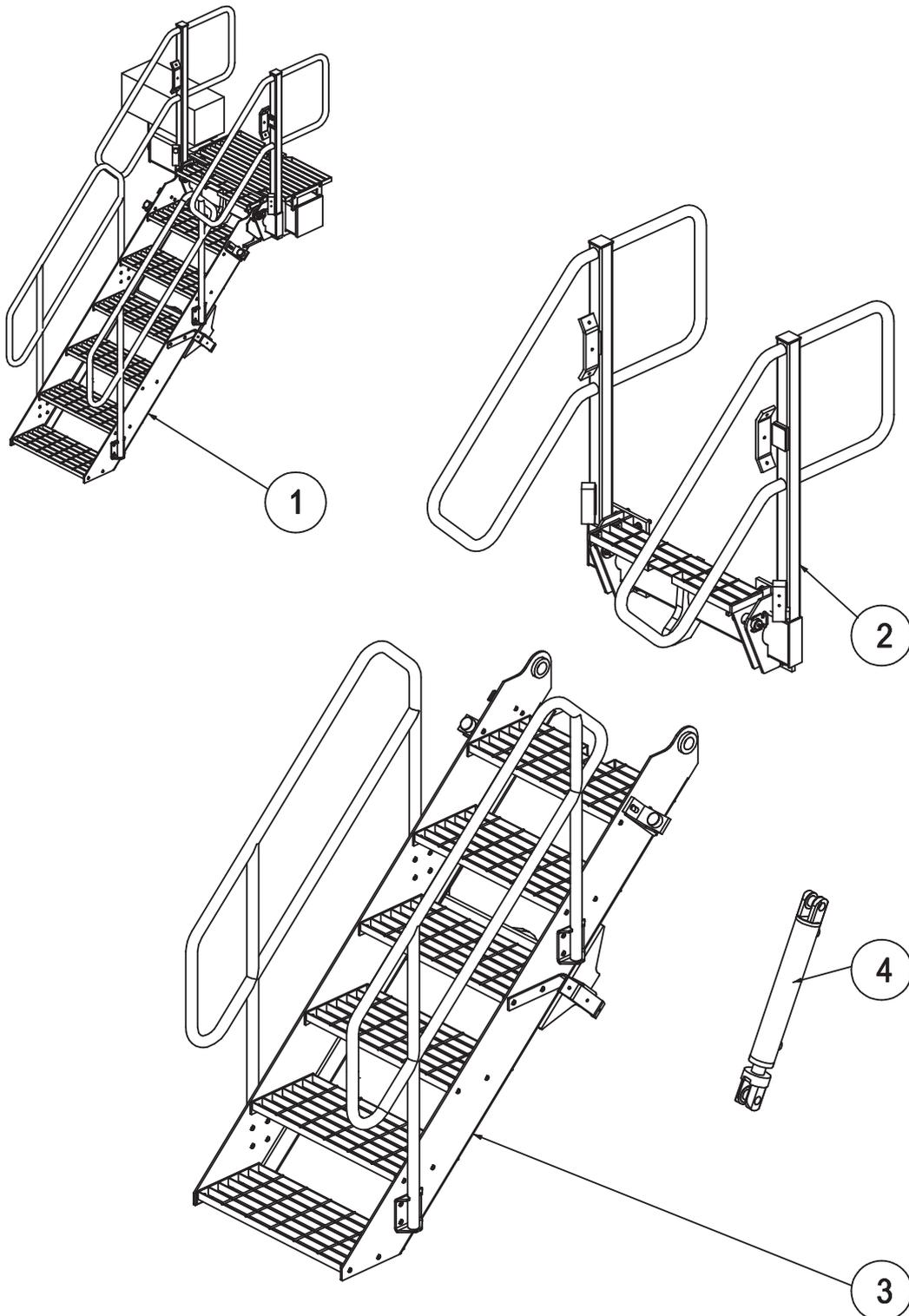
Item	Part No.	Part Name	Qty		
1	PSA-777F-FS	ASSEMBLY COMPLETE	1		
2	PS-23780A	LANDING ASSEMBLY (INC.HANDRAILS) REFER TO 5.2 FOR DETAILS	1		
3	PS-23662A	STAIR ASSEMBLY (INC.HANDRAILS) REFER TO 5.3 FOR DETAILS	1		
4	PS-62999-AH	HYDRAULIC CYLINDER REFER TO 5.4 FOR DETAILS	1		
5	PS-80103A-SLD	POWER PACK REFER TO 5.5 FOR DETAILS	1		

FOLDING STAIRWAY

Caterpillar 777F Truck



Section 5-1. Assembly Complete PS-777F-FS

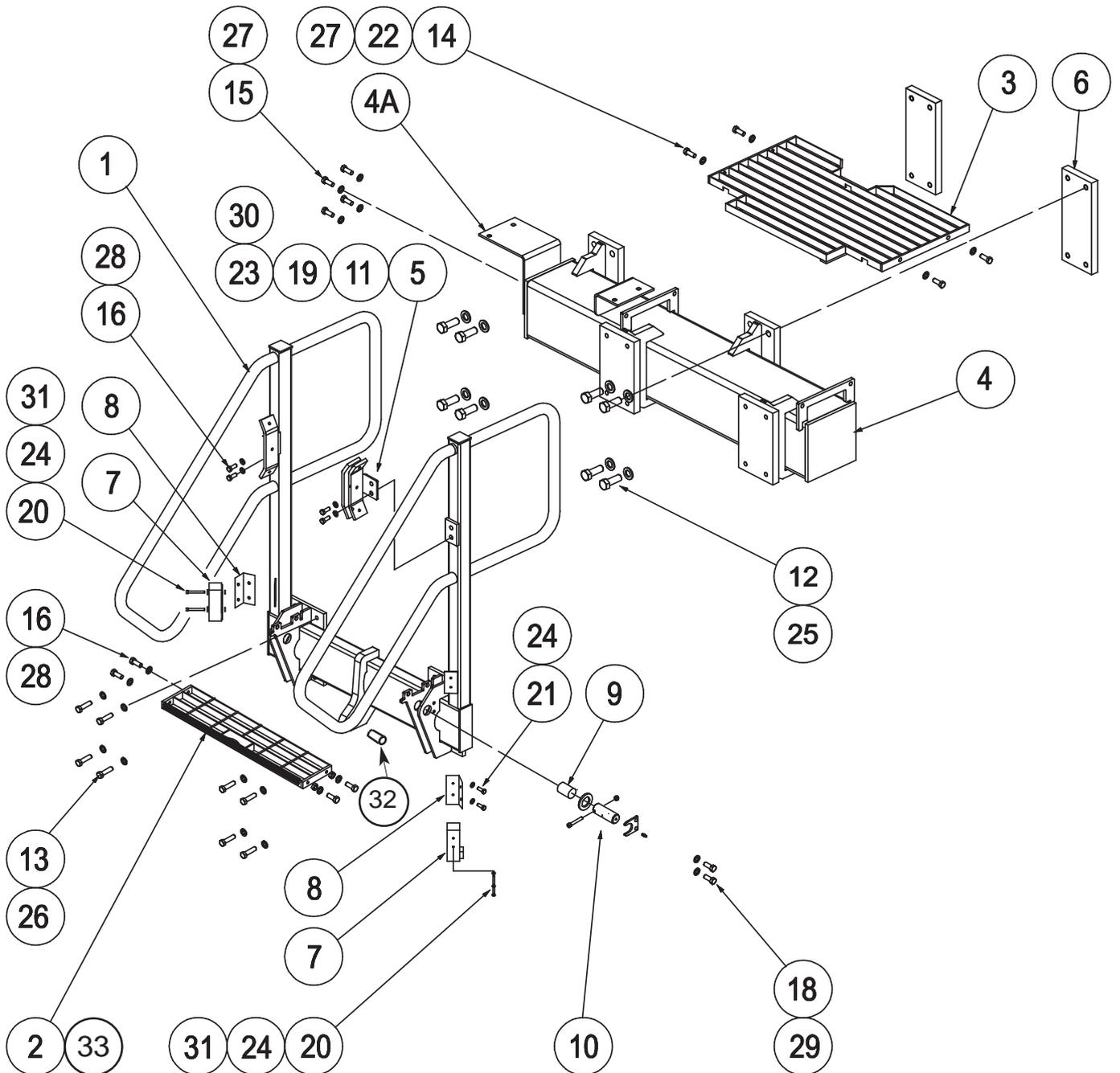


FOLDING STAIRWAY

Caterpillar 777F Truck



Section 5-2. Landing Assembly PS-23780A .



FOLDING STAIRWAY

Caterpillar 777F Truck



Section 5-2. Landing Assembly PS-23780A

Parts List

See Drawing Pg 12

Does not Include Item 7

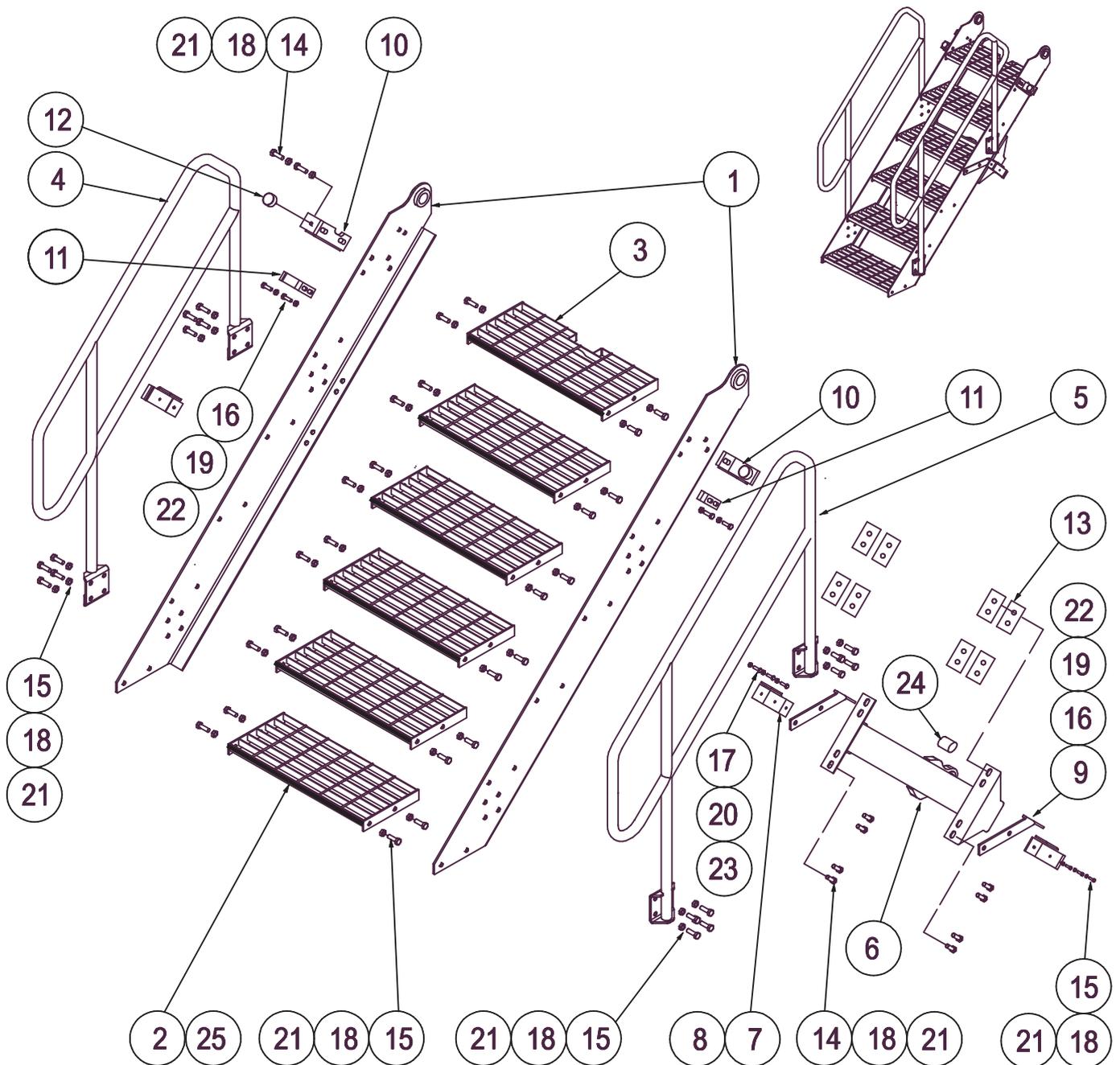
Item	Part No.	Part Name	Qty		
1	PS-23780	LANDING FABRICATION	1		
2	PS-23671	LANDING DECK	1		
3	PS-23790	DECK	1		
4	PS-23776	SPACER BEAM FABRICATION	1		
4A	PS-23775	POWER UNIT MOUNTINGS	1		
5	PS-23651-01	HANDRAIL BUMPERS	2		
6	PS-23772-01	BOLTING PADS - BUMPER	2		
7	PS-75430	GO- SWITCH	2		Ref Pg. 21
8	PS-23788	GO-SWITCH BRACKET	2		
9	PS-23655-02	BUSH-(Nylon)	2		
10	PS-23654	STAIR HINGE PIN ASSY.	2		
11	PS-23651-02	HANDRAIL BUMPER LINER	2		
12	CPS-M20X50ZP	BOLT-M20 x 50	8		
13	CPS-M16X30ZP	BOLT M16 x 30 Socket head	8		
14	CPS-M12X35ZP	BOLT-M12 x 35	4		
15	CPS-M12X25ZP	BOLT-M12 x 25	4		
16	CPS-M10X30ZP	BOLT-M10 x 30	4		
17	CPS-M10X20ZP	BOLT-M10 x 20	4		
18	CPS-M8X16ZP	BOLT-M8 x 16	4		
19	CPS-M6X20ZP	BOLT-M6 x 20 Panhead	6		
20	CPS-M5X50ZP	BOLT-M5 x 50	4		
21	CPS-M5X20ZP	BOLT-M5 x 20	4		
22	CPS-M12NZP	NUT-M12	4		
23	CPS-M6NN	NUT-NYLOC-M6	6		
24	CPS-M5NN	NUT-NYLOC-M5	8		
25	CPS-M20WH	WASHER - HARDENED - M20	8		
26	CPS-M16WH	WASHER - HARDENED - M16	8		
27	CPS-M12WH	WASHER - HARDENED - M12	12		
28	CPS-M10WH	WASHER - HARDENED - M10	8		
29	CPS-M8WH	WASHER - HARDENED - M8	4		
30	CPS-M6WH	WASHER - HARDENED - M6	6		
31	CPS-M5WH	WASHER - HARDENED - M5	16		
32	PS-63009-B	HARDENED BUSH	1		
33	PS-32266-SAN-BY-580	NON-SLIP NOSING	1		

FOLDING STAIRWAY

Caterpillar 777F Truck



Section 5-3. Stair Assembly PS-23662A



FOLDING STAIRWAY

Caterpillar 777F Truck



Section 5-3. Stair Assembly PS-23662A

Parts List

See Drawing Page 14

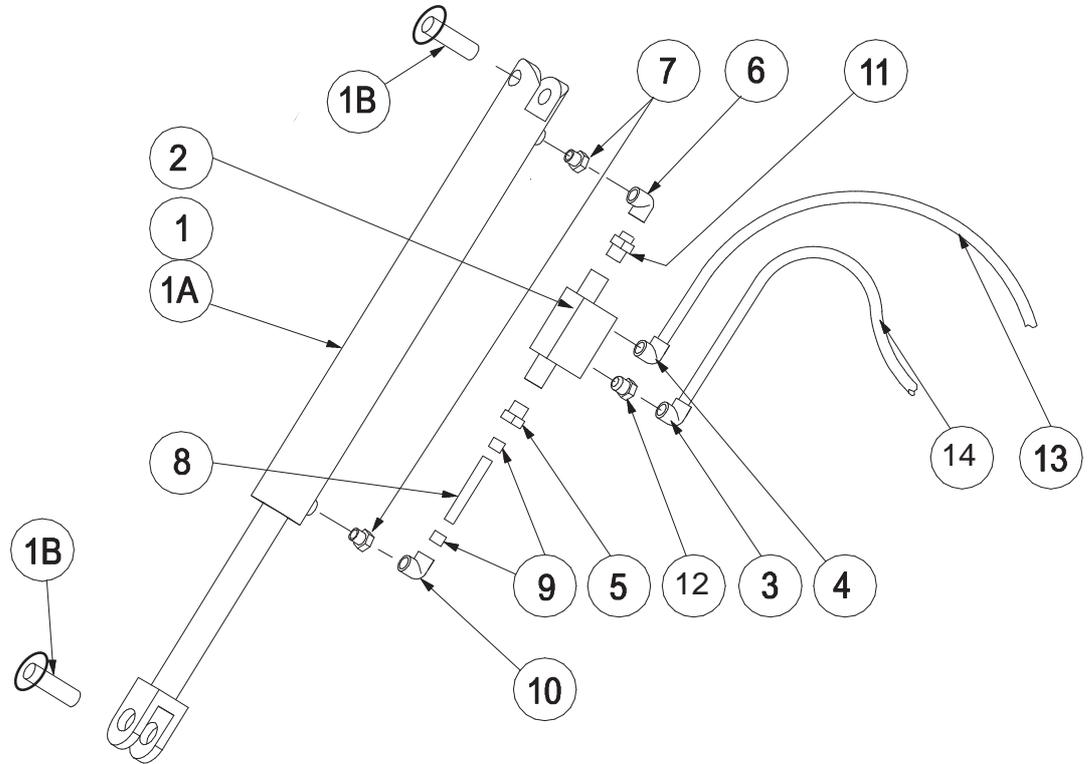
Item	Part No.	Part Name	Qty		
1	PS-23662	STAIR STILES FABRICATION	1	set	
2	PS-22266	STAIR TREADS	5		
3	PS-23659	STAIR TREAD (Modified)	1		
4	PS-23777-99	HANDRAIL-FRONT-INNER	1		
5	PS-23777-98	HANDRAIL-REAR-OUTER	1		
6	PS-P30-006	STAIR ACTUATOR ATTACHMENT	1		
7	PS-23651-01	HANDRAIL BUMPER	2		
8	PS-23651-02	HANDRAIL BUMPER LINER	2		
9	PS-23656	HANDRAIL BUMPER MOUNT	2		
10	PS-23653	STAIR BUFFER BRACKET	2		
11	PS-23789	GO SWITCH STRIKER	2		
12	PS-40001	BUFFER- Mackay M12402055	2		
13	PS-23637	WASHER PLATES	8		
14	CPS-M12X40ZP	BOLT-M12 x 40	12		
15	CPS-M12X30ZP	BOLT-M12 x 30	40		
16	CPS-M10X30ZP	BOLT-M10 x 30	12		
17	CPS-M6X30ZP	BOLT-M6 x 20 Pan Head	6		
18	CPS-M12NZP	NUT-M12	52		
19	CPS-M10NZP	NUT-M10	12		
20	CPS-M6NN	NUT-NYLOC-M6	6		
21	CPS-M12WH	WASHER-HARDENED-M12	104		
22	CPS-M10WH	WASHER-HARDENED-M10	24		
23	CPS-M6WH	WASHER-HARDENED-M6	6		
24	PS-63009B	BSH HARDENED	1		
25	PS-32266-SAN-BY-580	NON-SLIP NOSING	6		

FOLDING STAIRWAY

Caterpillar 777F Truck



Section 5-4. Hydraulic Cylinder Assembly P/No. PS-62999-AH



NOTE: HYDRAULIC CYLINDER ASSEMBLY P/No PS- 62999-AH includes Part No.s 1 to 12

Item	Part No.	Part Name	Qty		
1	PS-62999-A	HYDRAULIC CYL.	1		
	PS-62999-HPK	HARD PLUMBING KIT	1		
1A	PS-62999	HYDRAULIC CYLINDER 2 1/2"	1		
1B	PS-63009-P	PIN - CYLINDER	2		
1S	PS-63103	SEAL KIT (Not shown)	1		
2	PS-63201	VALVE - PILOT OPERATED LOCKING	1		
3	PS-61151	FITTING - ELBOW-7/16" JIC	1		
4	PS-61154	FITTING - ELBOW- O RING 1/4BSPPx9/16" JIC	1		
5	PS-61157	FITTING - O RING 1/4BSPPx 9/16" JIC	1		
6	PS-61158-1MM	FITTING - 1 mm RESTRICTION 90 DEG	1		
7	PS61163	REDUCER JIC x BSPP	2		CYL. END
8	PS-61160	TUBE (Cut to suit) 110mm	1		
9	PS-61147	FERRULES	2		
10	PS-61158-1MM	FITTING - 1mm RESTRICTION 90 DEG	1		
11	PS-61145	FITTING- 9/6" JIC SWIVEL	1		ROD END
12	PS-61153	FITTING-HYDR.-STRAIGHT	1		
13	PS-60051-3.5	HOSE- HYDR. (9/6" JIC SWIVEL FITTING)	1		
14	PS-60050-3.5	HOSE 7/16" (SWIVEL FITTINGS)	1		

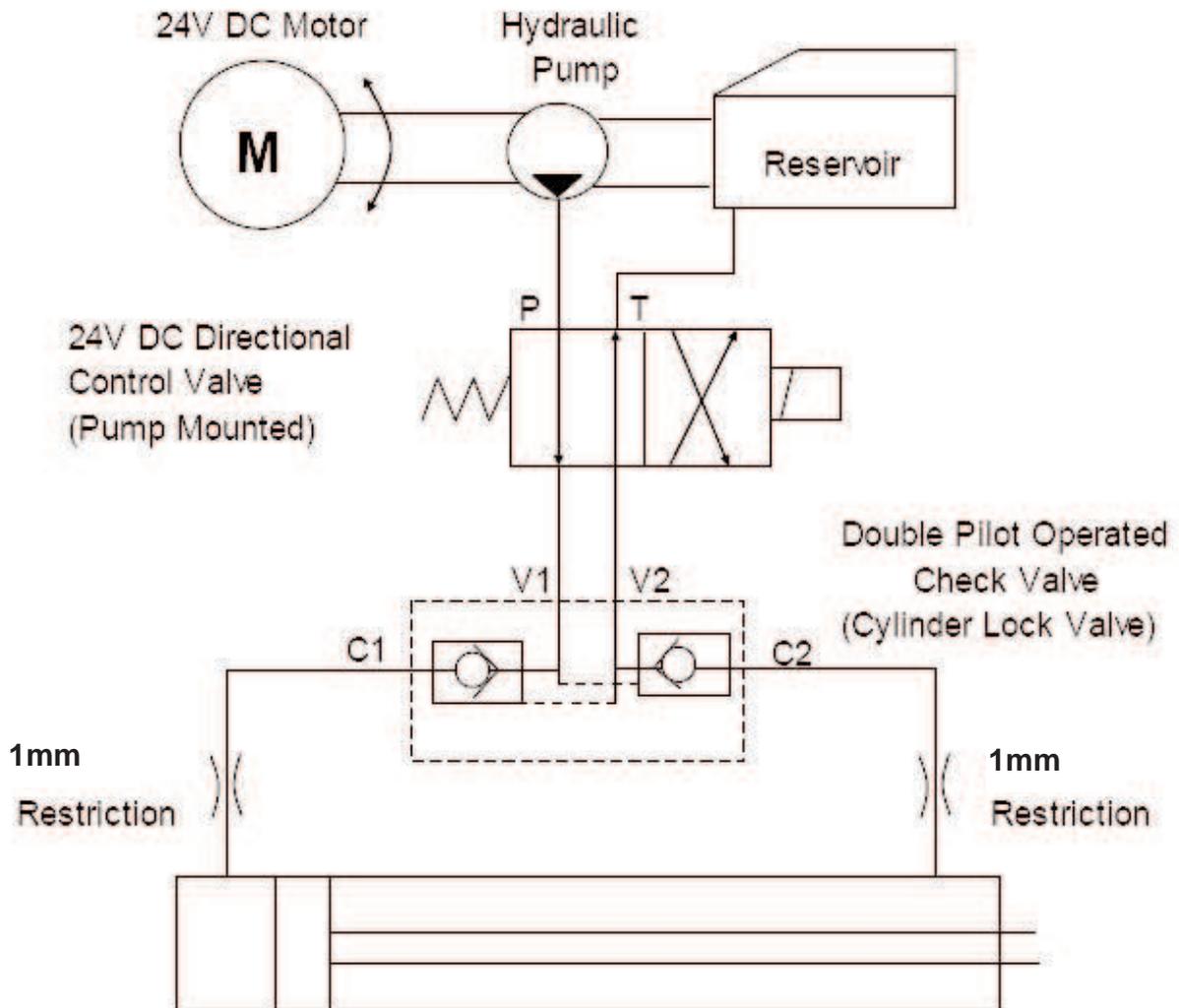
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Caterpillar 777F Truck



Section 5-4. Hydraulic Cylinder Assembly P/No. PS-62999-AH

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



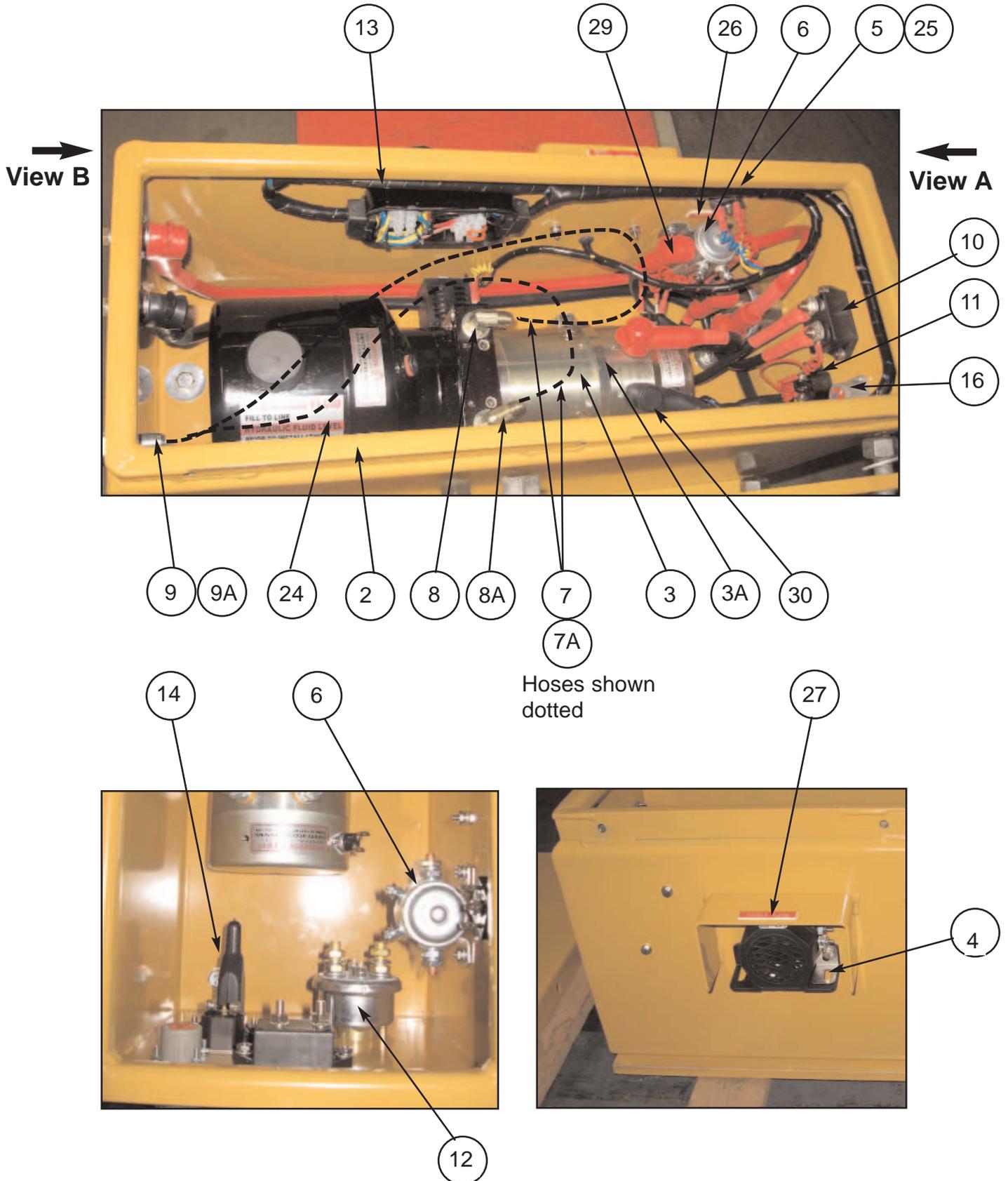
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Caterpillar 777F Truck



Section 5-5. Power Pack PS-80103A-SLD

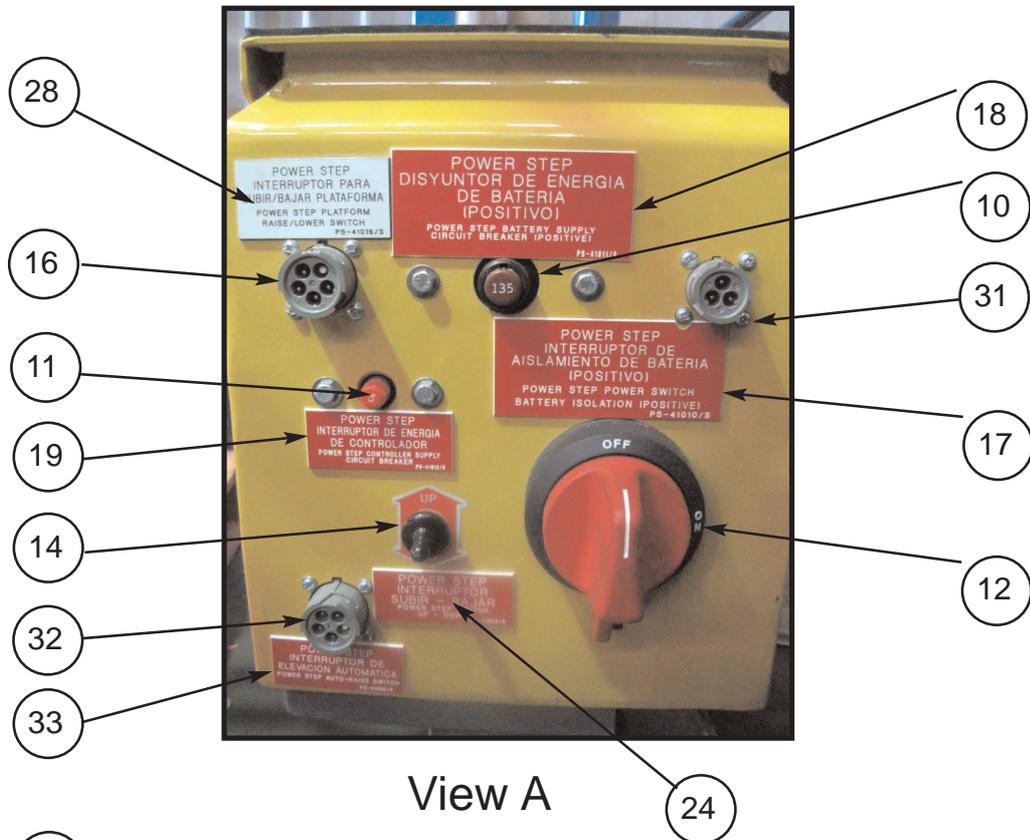
See Parts List Pg 20



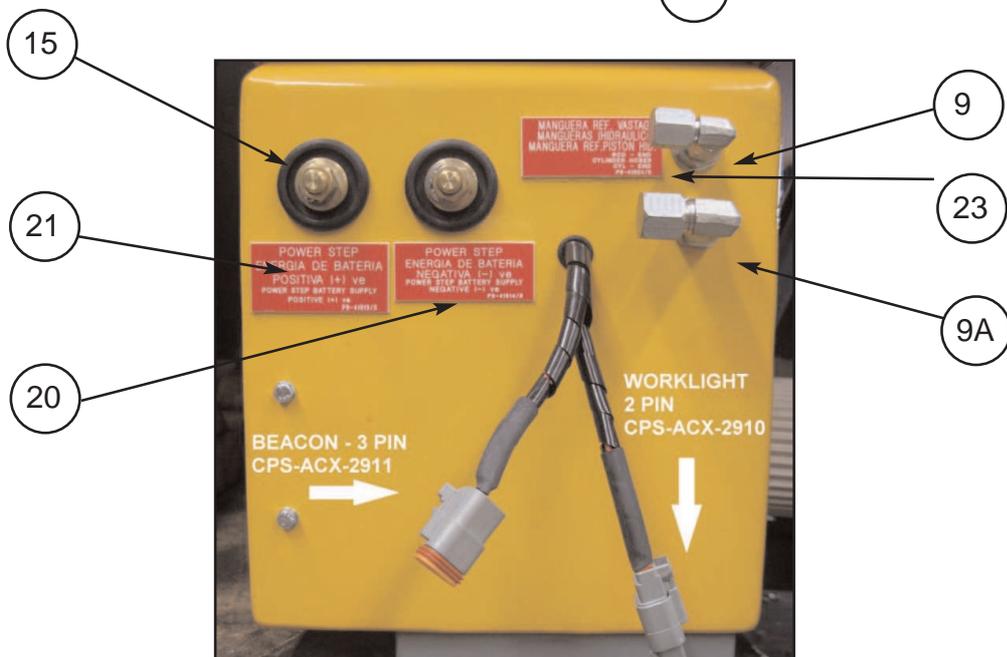
FOLDING STAIRWAY Caterpillar 777F Truck



Section 5-5. Power Pack PS-80103A-SLD See Parts List Pg 20



View A



View B

NOTE.

THE RELIEF PRESSURE OF THE POWERPACK IS TO BE SET TO 2800PSI. IF THE POWERPACK IS REPLACED, THIS RELIEF PRESSURE WILL NEED TO BE RESET USING INLINE GAUGES. FAILURE TO DO SO MAY RESULT IN ACCIDENT OR INJURY

FOLDING STAIRWAY

Caterpillar 777F Truck



Section 5-5. Power Pack PS-80103A-SLD

See Photos Page 18 & 19

Item	Part No.	Part Name	Qty		
1	PS-80103A-SLD	POWER PACK ASSEMBLY	1		
2	PS-21107-METAL	MOTOR ENCLOSURE- SEALED	1		
3	PS-80103A	POWER PACK	1		
3A	PS-80103-CLAMP	CLAMP ELECTRIC MOTOR	1		
4	PS-82415	AUDIBLE ALARM	1		
5	PS-84214	BRIDGE RECTIFIER	1		
6	PS-82492	SOLENOID 24V START MOTOR	1		
7	PS-60051-900MM 9/16"	HYDR. HOSES 9/16"JIC STRAIGHT SWIVEL	1		
7A	PS-60050-900MM 7/16"	HYDR. HOSES 7/16"JIC STRAIGHT SWIVEL	1		
8	PS-61152	HYDRAULIC FITTING 9/16"	1		
8A	PS-61150	HYDRAULIC FITTING 7/16"	1		
9	PS-61177	HYDRAULIC FITTING 9/16"	1		
9A	PS-61176	HYDRAULIC FITTING 7/16"	1		
10	PS-84213	135A CIRCUIT BREAKER	1		
11	PS-84212	5A CIRCUIT BREAKER	1		
12	PS-84303	ISOLATION SWITCH- (INCLUDING BRACKET)	1		
13	PS-1712080	SEALED WIRING BOX	1		
14	PS-73012	TOGGLE SWITCH KIT	1		
15	PS-82493	BATTERY FEED STUDS	2		
16	PS-HD10-5-16P	5 PIN SOCKET	1		
17	PS-41010	DECAL-Battery Isolation	1		
18	PS-41011	DECAL-Battery Supply C/B-135A	1		
19	PS-41012	DECAL-Controller Supply C/B-5A	1		
20	PS-41013	DECAL-Battery Supply-Positive	1		
21	PS-41014	DECAL-Battery Supply-Negative	1		
22	PS-41023	DECAL-Up/Down	1		
23	PS-41024	DECAL HYDRAULIC-HOSES	1		
24	PS-41041	DECAL OIL TANK	1		
25	PS-41019	DECAL BRIDGE RECTIFIER	1		
26	PS-41017	DECAL SOLENOID	1		
27	PS-41018	DECAL ALARM	1		
28	PS-41016	DECAL RAISE/LOWER SWITCH	1		
29	PS-73010	RUBBER BOOT RED	4		
30	PS-73009	RUBBER BOOT BLACK	2		
31	PS-HD10-3-16P	3 PIN SOCKET (PARK BREAK)	1		
32	PS-HD10-5-16P	5 PIN SOCKET (AUTO-RAISE)	1		
33	PS-41032	DECAL AUTO-RAISE SOCKET	1		
34	PS-63202A	FLOW CONTROL VALVE	1		Not shown

FOLDING STAIRWAY

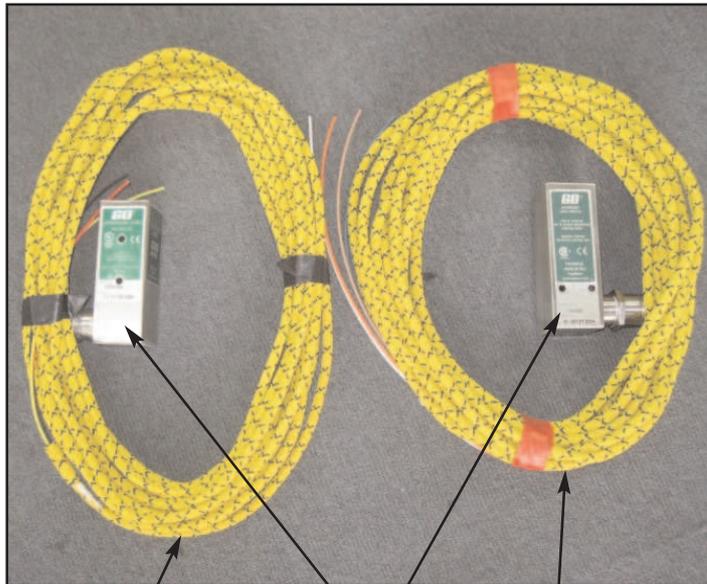
Caterpillar 777F Truck



Section 5-6. Electrical Controls

Proximity Switch Assembly

Mounted on Fixed Landing



5

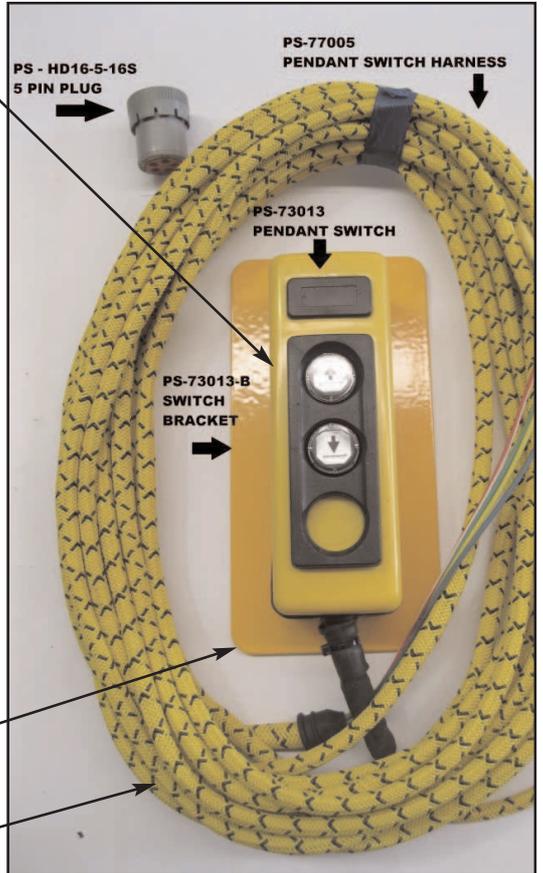
6

4

Control Pendant Switch

Mounted on Handrail

1



2

3

Cab Harness & Equipment

Refer Wiring Harness Drawings



6

7

FOLDING STAIRWAY

Caterpillar 777F Truck



Section 5-6. Electrical - Controls

Item	Part No.	Part Name	Qty		
1	PS-73013	CONTROL PENDANT SWITCH	1		
2	PS-73013-B	CONTROL PENDANT BRACKET	1		
3	PS-77005	HAND RAIL SWITCH HARNESS	1		
4	PS-77009AR	AUTO RAISE HARNESS	1		Optional only
5	PS-77004	CABIN TO SWITCH HARNESS	1		
6	PS-75430	PROXIMITY SWITCH	2		1 x Optional
7	PS-77002	CABIN BOX LED LIGHT INDICATOR	1		
8	PS-77003	WIRING HARNESS IN CABIN	1		

WARNING

LOW OR FAULTY BATTERIES WILL VOID WARRANTY ON THE POWER PACK AND ALL ELECTRICAL SWITCHES AND COMPONENTS

FOLDING STAIRWAY

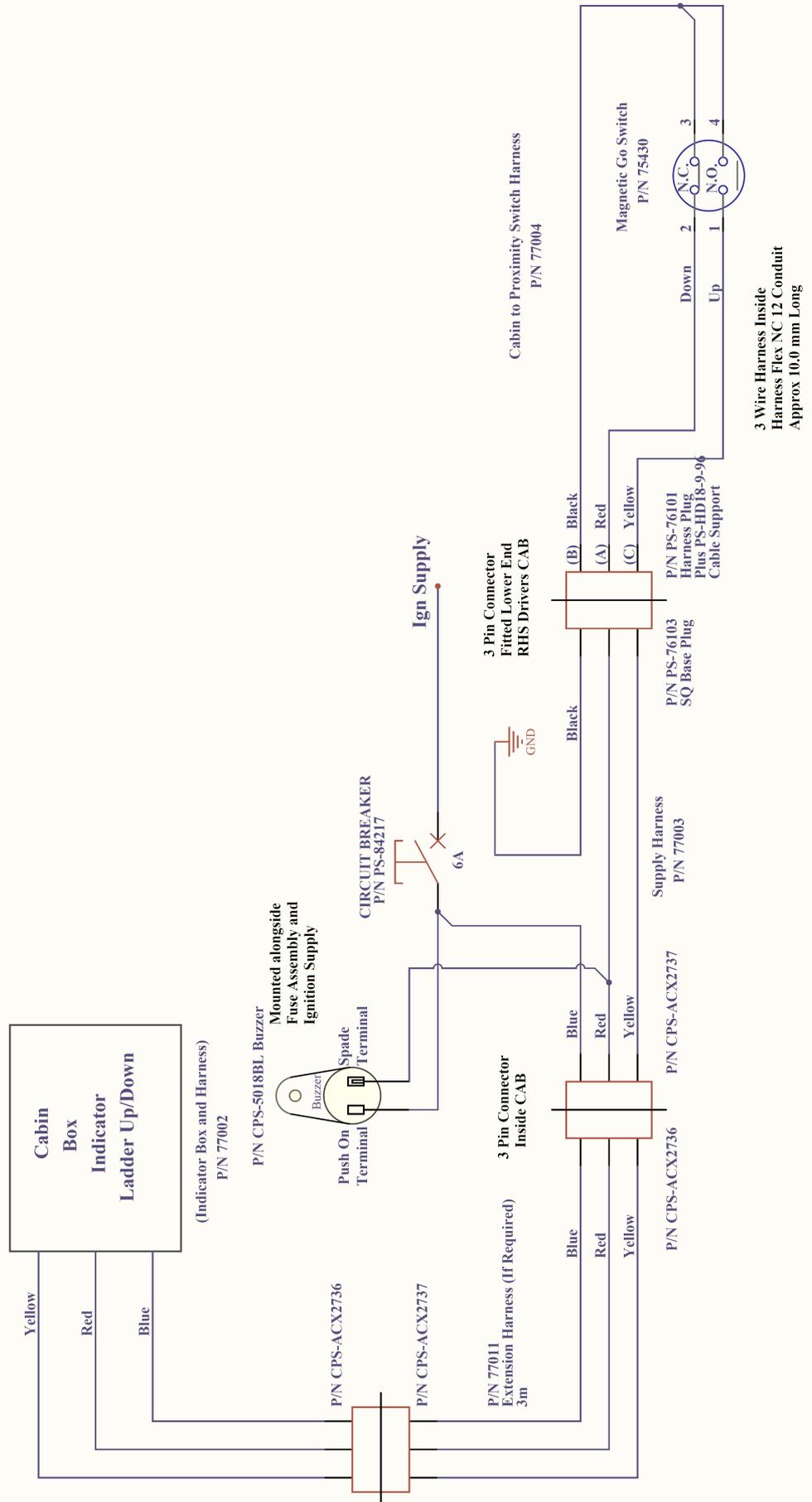
Caterpillar 777F Truck



Section 5-6. Electrical Controls - Wiring 1

0201-02
Sheet 1

LADDER UP/DOWN

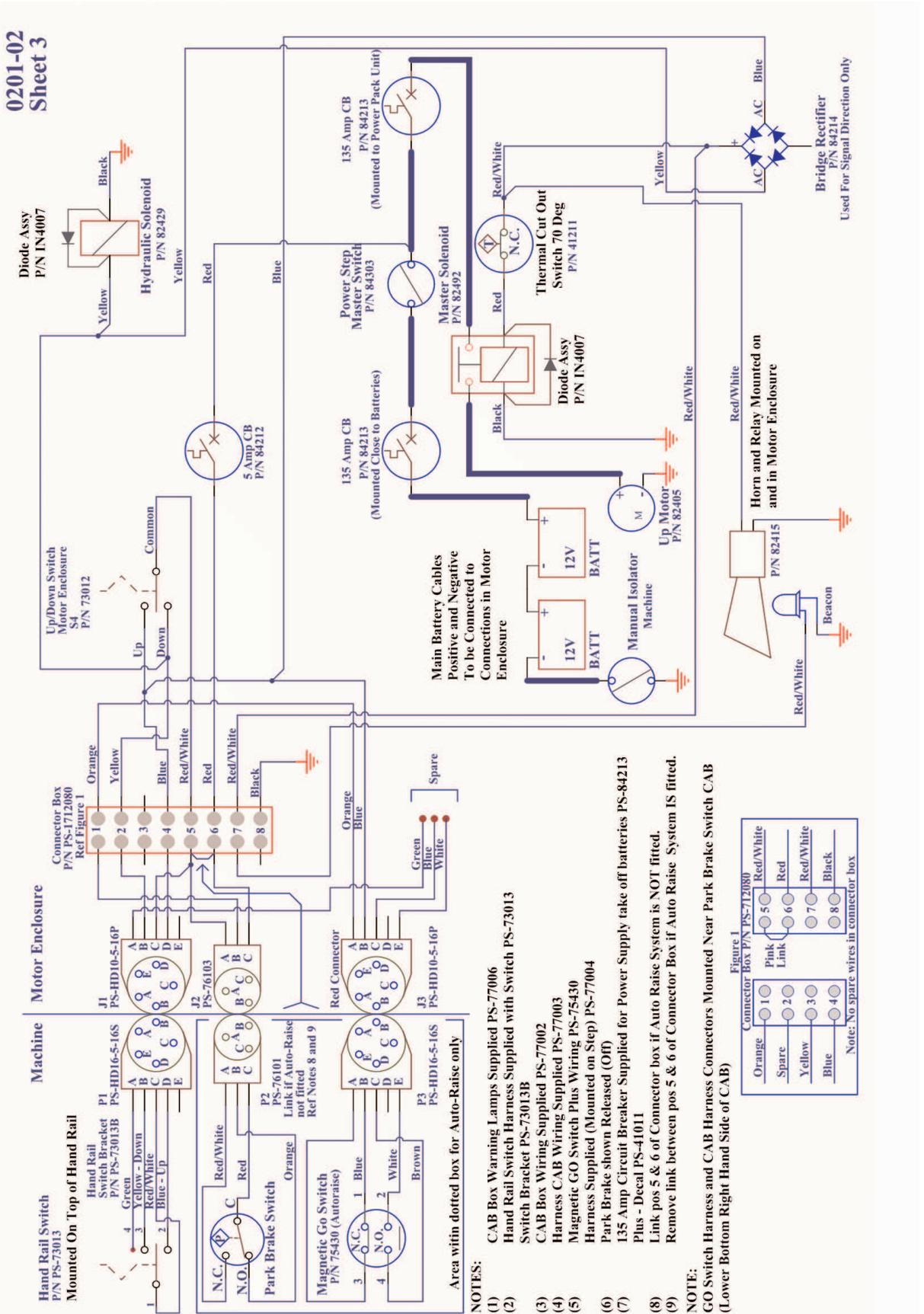


FOLDING STAIRWAY

Caterpillar 777F Truck

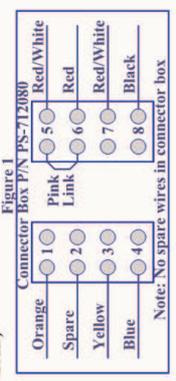


Section 5-6. Electrical Controls - Wiring 2



- NOTES:**
- (1) CAB Box Warning Lamps Supplied with Switch PS-77006
 - (2) Hand Rail Switch Harness Supplied with Switch PS-73013B
 - (3) CAB Box Wiring Supplied PS-77002
 - (4) Harness CAB Wiring Supplied PS-77003
 - (5) Magnetic GO Switch Plus Wiring PS-75430
 - (6) Harness Supplied (Mounted on Step) PS-77004
 - (7) Park Brake shown Released (OFF)
 - (8) 135 Amp Circuit Breaker Supplied for Power Supply take off batteries PS-84213 Plus - Decal PS-41011
 - (9) Link pos 5 & 6 of Connector box if Auto Raise System is NOT fitted. Remove link between pos 5 & 6 of Connector Box if Auto Raise System IS fitted.

NOTE:
GO Switch Harness and CAB Harness Connectors Mounted Near Park Brake Switch CAB (Lower Bottom Right Hand Side of CAB)



FOLDING STAIRWAY

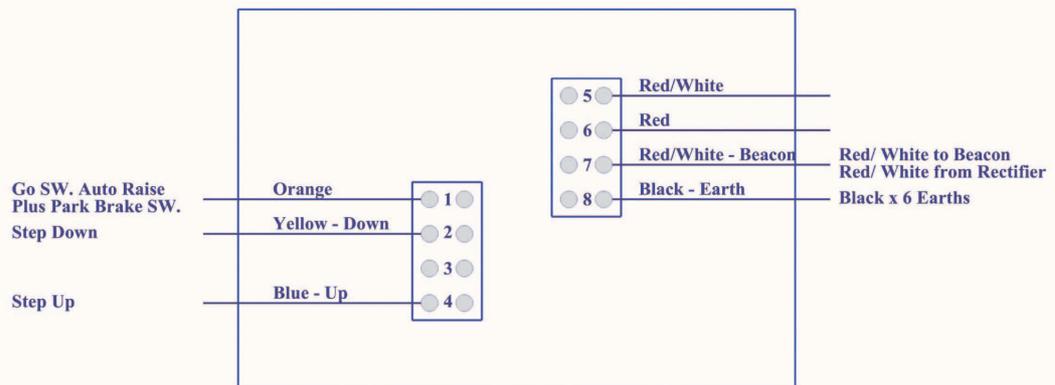
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Wiring Harness



Park Brake Harness - P/No 77006-PB

<u>Plug Term</u>	<u>Colour</u>		<u>Terminal ID.</u>	
(C)	Red	-	COM] Length 10m (Harness Flex No 12)
(A)	Red/White	-	N.C.	
(B)	Orange	-	N.O.	

Go Switch Harness (Auto Raise) P/No 77009-AR

<u>Plug Term</u>	<u>Colour</u>		<u>Terminal ID.</u>	
(B)	Blue	-	No. 1 Terminal N.C. Contact] Length 10m (Harness Flex No 12)
(E)	White (Spare)	-	No. 2 Terminal N.O. Contact	
(A)	Orange	-	No. 3 Terminal N.C. Contact	
(C)	Brown (Spare)	-	No. 4 Terminal N.O. Contact	

Go Switch Harness (Cabin to Go Switch) P/No 77004 (Cabin Indicator Ladder Up/Down)

<u>Plug Term</u>	<u>Colour</u>		<u>Terminal ID.</u>	
(B)	Black	-	No. 1 Terminal N.C. Contact] Length 10m (Harness Flex No 12)
(B)	Black	-	No. 2 Terminal N.O. Contact	
(Bridge No. 1 and No. 2 in Go Switch)				
(A)	Red	-	No. 3 Terminal N.C. Contact	
(C)	Yellow	-	No. 4 Terminal N.O. Contact	

Hand Rail Switch Harness (P/No 77010) (Handrail SW to Power Pack Box)

<u>Plug Term</u>	<u>Colour</u>		<u>SW Contacts</u>		<u>Switch Terminal No.</u>	
(C)	Red/White	-	No 1	-	No 5] Length 10m (Harness Flex No 12)
(D)	Blue	-	No 2	-	No 4	
(B)	Yellow	-	No 3	-	No 2	
(A)	Green	-	No 4	-		

FOLDING STAIRWAY

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Wiring Harness

Go Switch

Auto - Raise Connection

N.C.	-	Orange	-	Blue
N.O.	-	Brown	-	White (Spare)

Go Switch - Cabin Indicator

Up/Down Lights Connection

N.C.	-	Red	-	Black] Linked
N.O.	-	Yellow	-	Black	

Hand Control Switch - Mounted on Hand Rails (P/No 73013)

Power Step Wiring Harness (10m) and Connections Supplied

Contacts

1	-	Red/White	-	Power Supply
2	-	Blue	-	Up Switch
3	-	Yellow	-	Down Switch
4	-	Green	-	Start Sol Motor [FRS Power Pack only (Spare)]

Pendant Switch

Standard Switch Wiring and Connections

