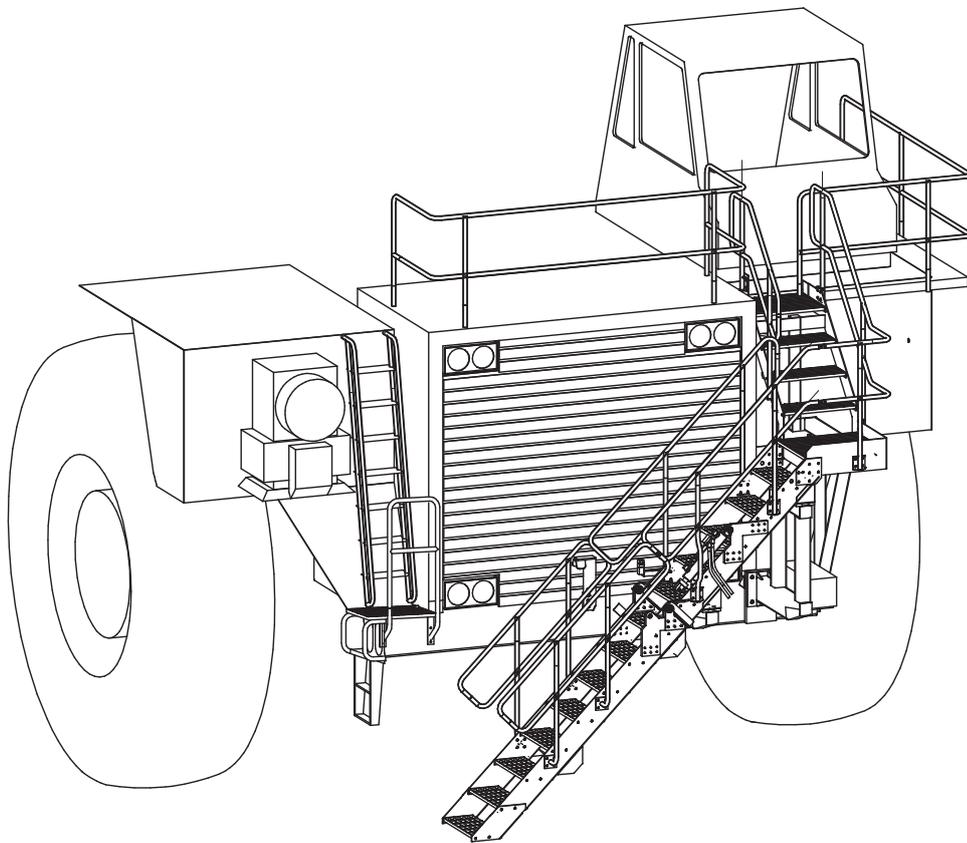


Operations and Maintenance Manual

Cat 789C

Folding Stair Assembly



Model No. PSA789C-FS
Serial No. 789C-FS004
Date Manufactured: June 09

FOLDING STAIRWAY

Caterpillar 789C Haul Truck



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FOLDING STAIRWAY

Caterpillar 789C Haul Truck



Section 1. Installation and Mounting Instructions Bolting Pads 23 471

NOTE

Follow all on-site/Mine lifting and safety procedures when installing Power Step Ladder System to the Truck

PROCEDURE

See Drawing **23471** Pg. 4.

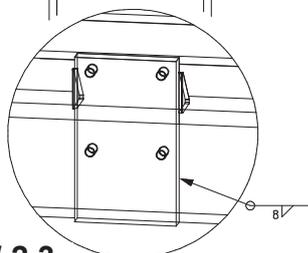
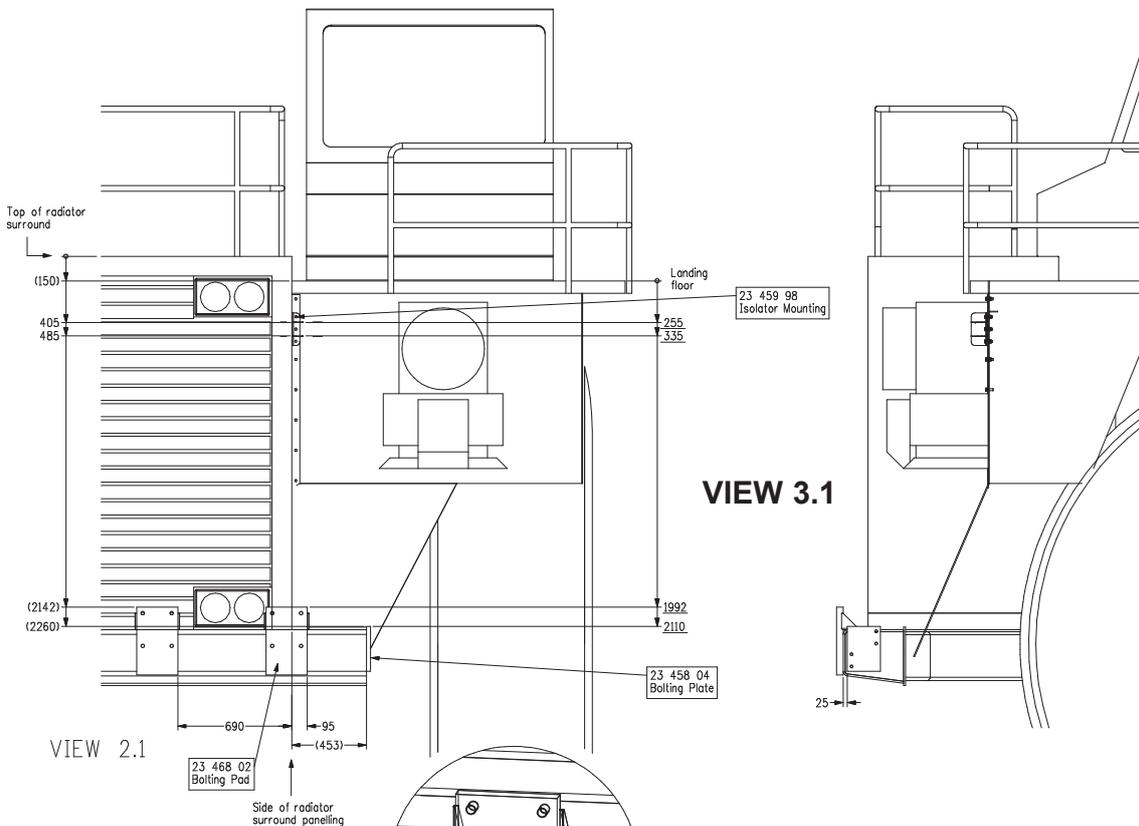
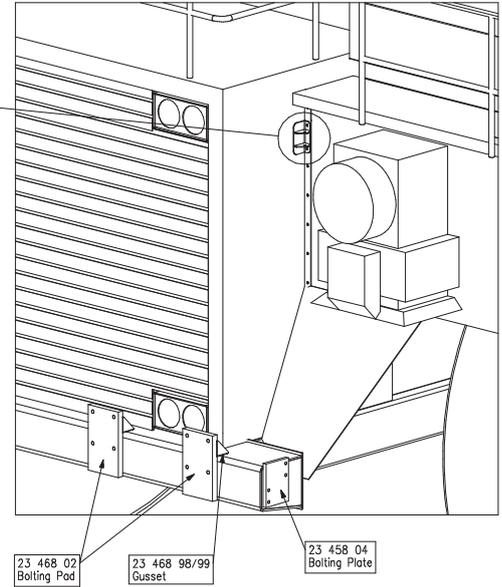
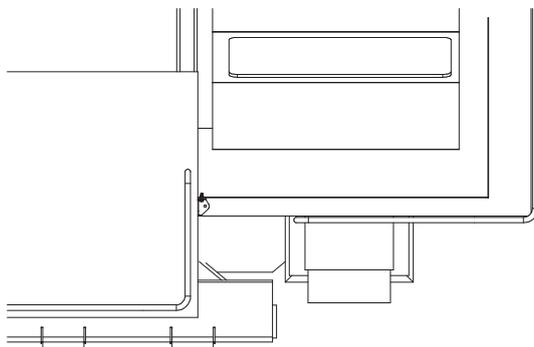
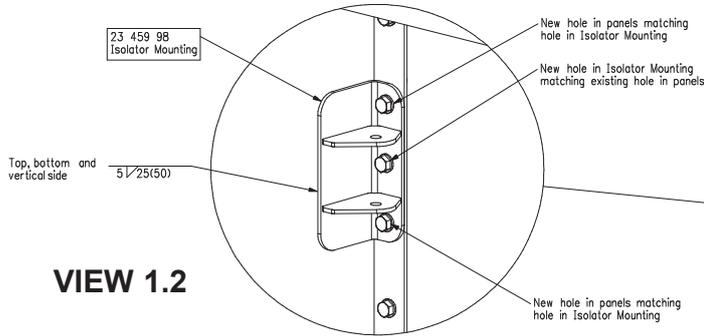
1. Remove the OEM steel ladder (above the bumper), the bumper-top landing plate and the flexible below-bumper ladder from the left side of the truck. Remove just the landing plate and flexible ladder from the left side, leaving the above-bumper ladder.
2. Locate Bolting Pads **23 468 01** on the front of the bumper as shown in View 1.1 with dimensions per View 2.1. Locate **23 458 04** Bolting Plate on the end of the bumper. Underlined dimensions (down from cabin landing) rule if there is a discrepancy between imensions measured down from radiator surround vs dims from cabin floor. Weld Pads/Plates to bumper per details in Views 2.1, 2.2 & 2.3. Attach gussets also.
3. Fit **23 459 98** Isolator Mounting as shown in Views 1.1 & 1.2. Location per dimensions View 2.1

FOLDING STAIRWAY

Caterpillar 789C Haul Truck



Section 1. Installation Instruction Drawings Bolting Pads



Drawing 23471

FOLDING STAIRWAY

Caterpillar 789C Haul Truck



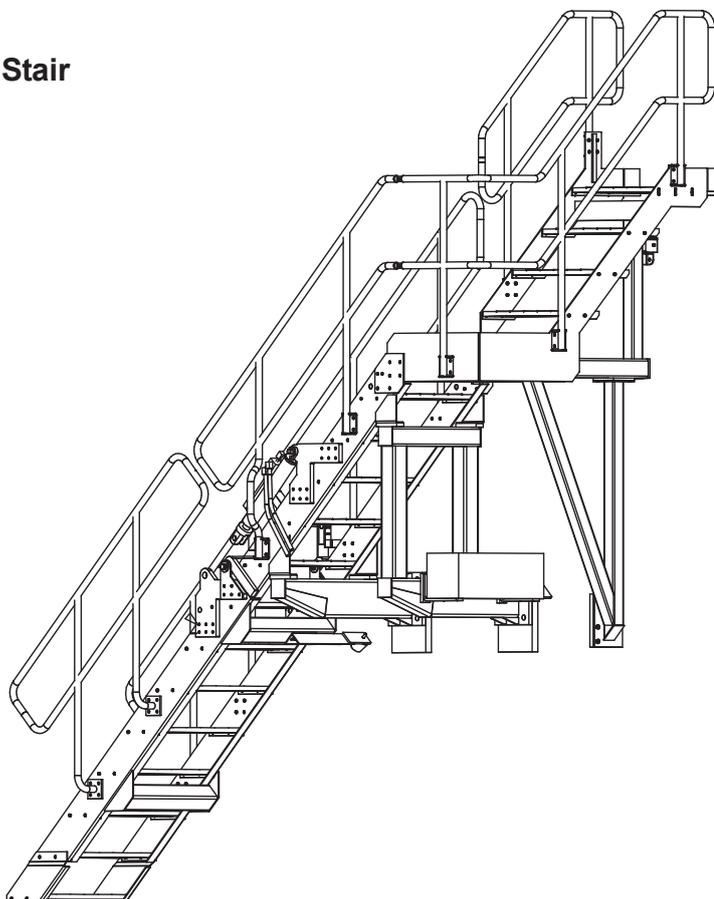
Section 1. Installation and Mounting Instructions - Stair Set

PROCEDURE

Refer Drawing 23473 Pg. 6

1. Middle and Top part of stair to be bolted and lifted together but without the top landing floor panel fitted to the top stair.
Combined assembly is bolted to pads on front of bumper.
Note lifting points for slinging (Painted Red with lift stickers.)
See Views 2 and 3.
2. Fit Mounting Tie **23 459 99** per View 4.
3. Fit top landing floor panel to top of top stair. Trim if necessary. Adjust height to be level with OEM cabin landing floor.
4. Fit Buffer Socket & Mounting **22 242** (with gusset) 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.

Assembled Stair

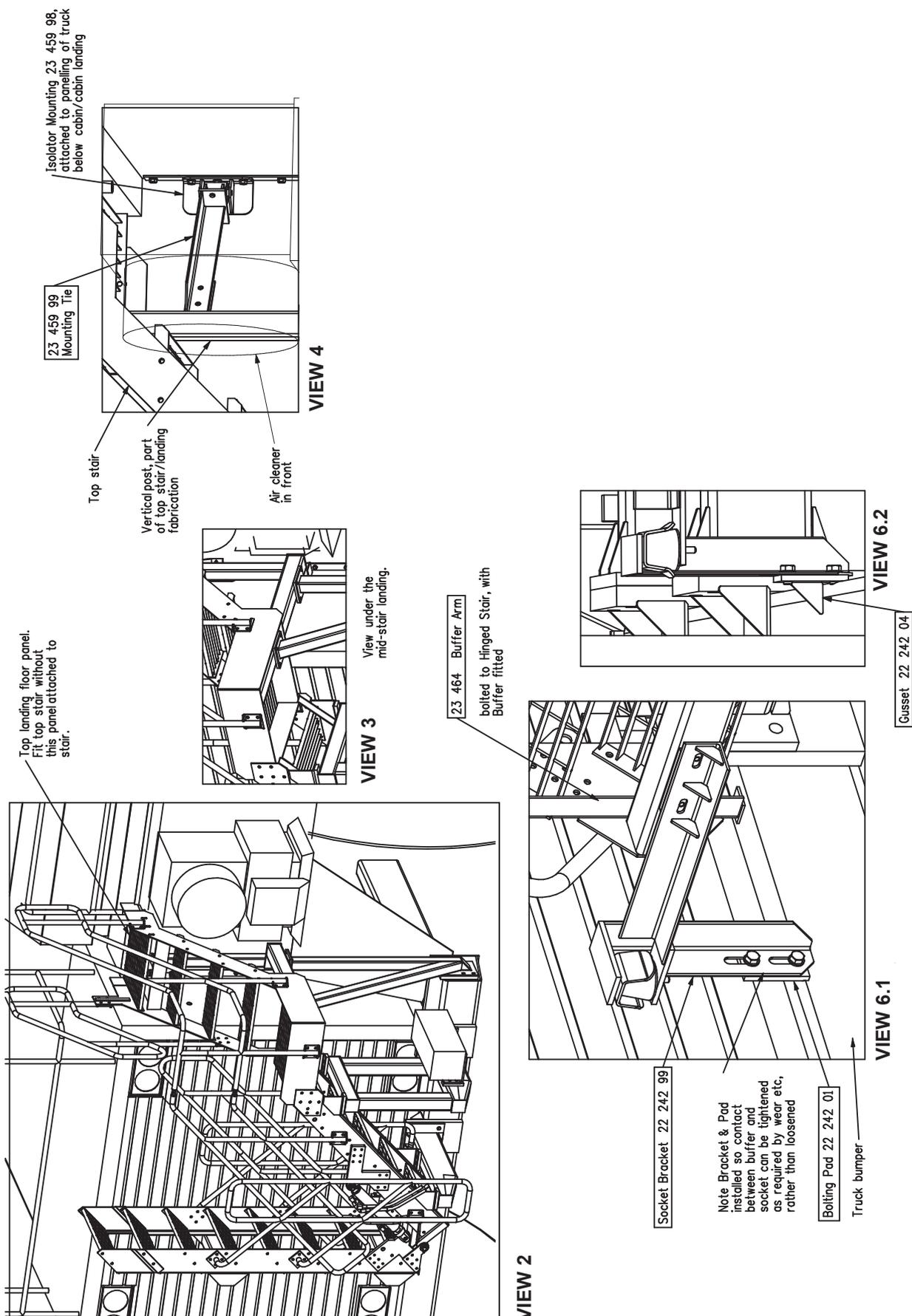


FOLDING STAIRWAY

Caterpillar 789C Haul Truck



Section 1. Installation Instruction Drawings Stair Set Drawing 23473



FOLDING STAIRWAY

Caterpillar 789C Haul Truck



Section 1. Installation Instruction Drawings - Emergency Exit

PROCEDURE

See Drawing Pg 23474 Pg. 8.

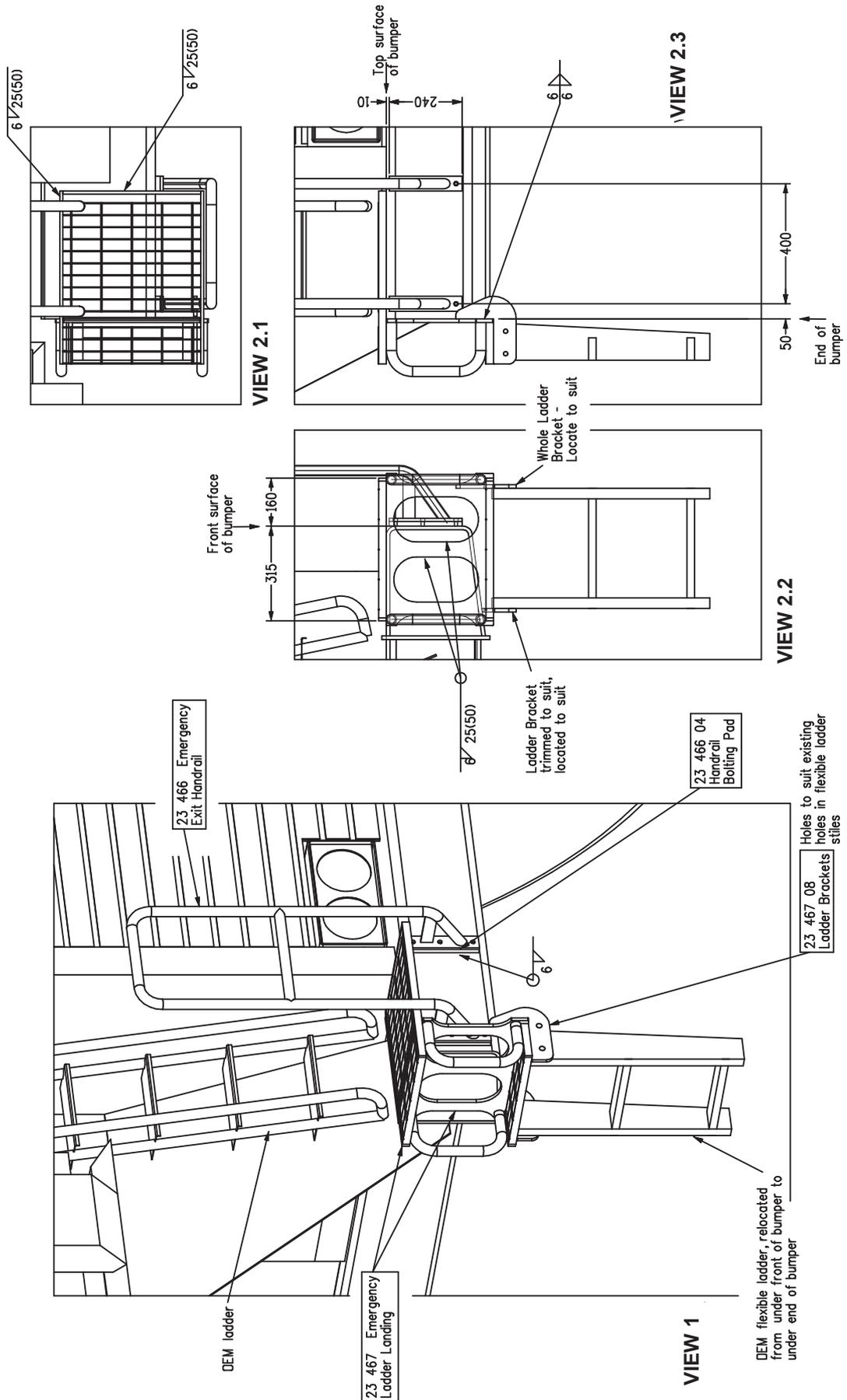
1. Shorten OEM Ladder as required -View 2.2 so that Emergency ladder will fit.
2. Weld the Emergency Ladder Landing to the bumper as shown in View 1. Location and weld details per Views 2.1, 2.2 & 2.3
3. Weld the bolting pads for the Emergency Exit Hand-rail to the front of the bumper, arrangement and weld details per View 1, location per Views 2.2 & 2.3. Bolt Handrail to bolting pads.
4. Weld Ladder Brackets to main plate of Emergency Ladder Landing and to bumper (inner bracket trimmed to suit) in a location to suit the width of the OEM flexible ladder. Drill holes in brackets to suit holes in flexible ladder and attach ladder to Brackets.

FOLDING STAIRWAY

Caterpillar 789C Haul Truck



Section 1. Installation Instruction Drawings Emergency Exit 23 474



FOLDING STAIRWAY

Caterpillar 789C Haul Truck



Section 2. Electrical Installation (Cabin & Wiring harnesses)

Refer also to Wiring Diagrams Electrical

PROCEDURE

Fit Step up/down Warning Beacon in suitable position. (In Cab) as per Photo.

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 Stairway magnetic proximity switch and follow cabling/hose routing up to air line/ electrical outlet on rear Right Hand Side of cabin.

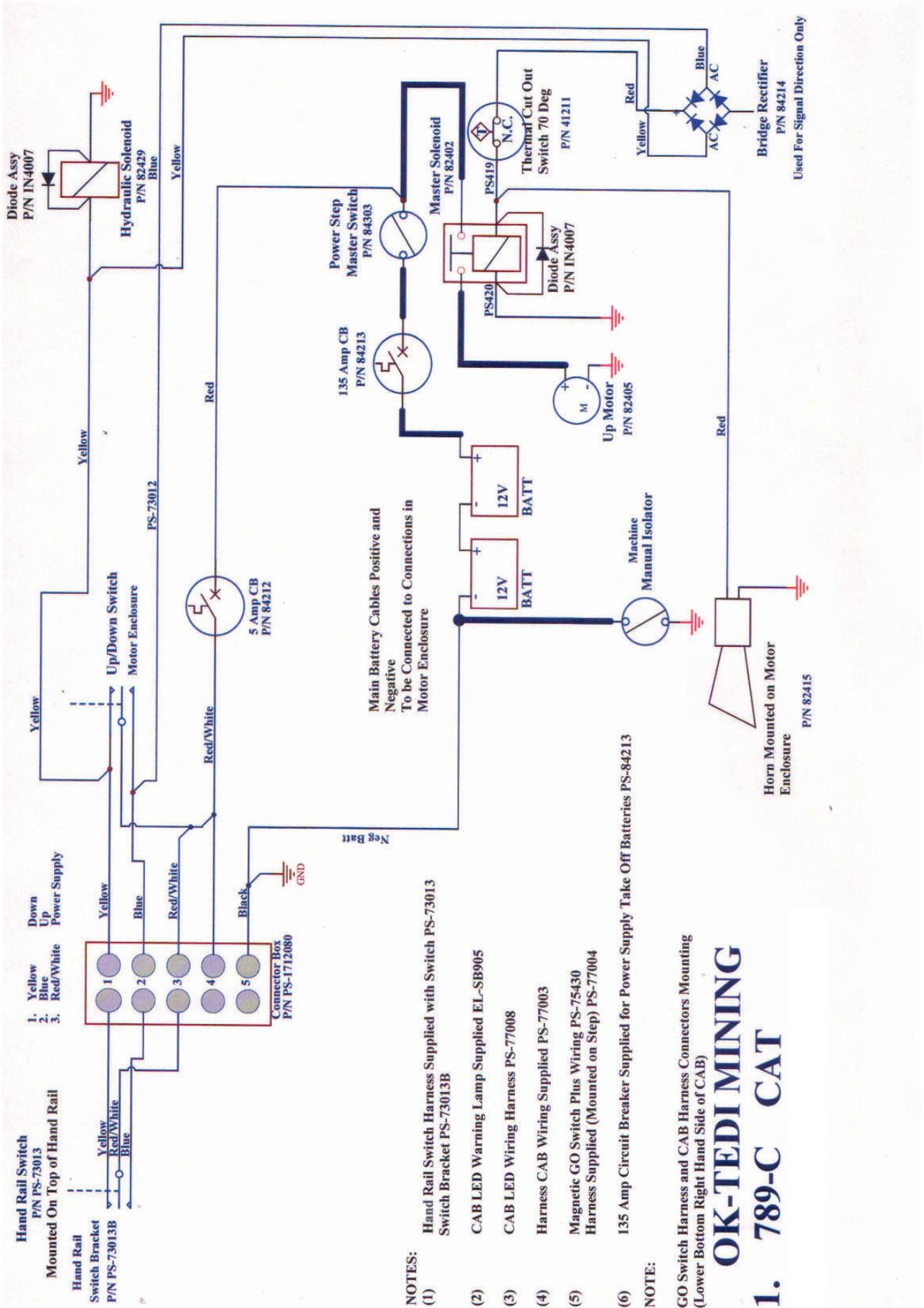
Drill hole in RH Cabin access panel - route wiring harness in through access panel, and through to under centre console - connect wires appropriately as colour coded. Hole saw/ drill size (24mm), cable tie harness as appropriate, approximately every 300mm.

FOLDING STAIRWAY

Caterpillar 789C Haul Truck



Section 2 . Electrical System - Wiring Diagram - Harnesses

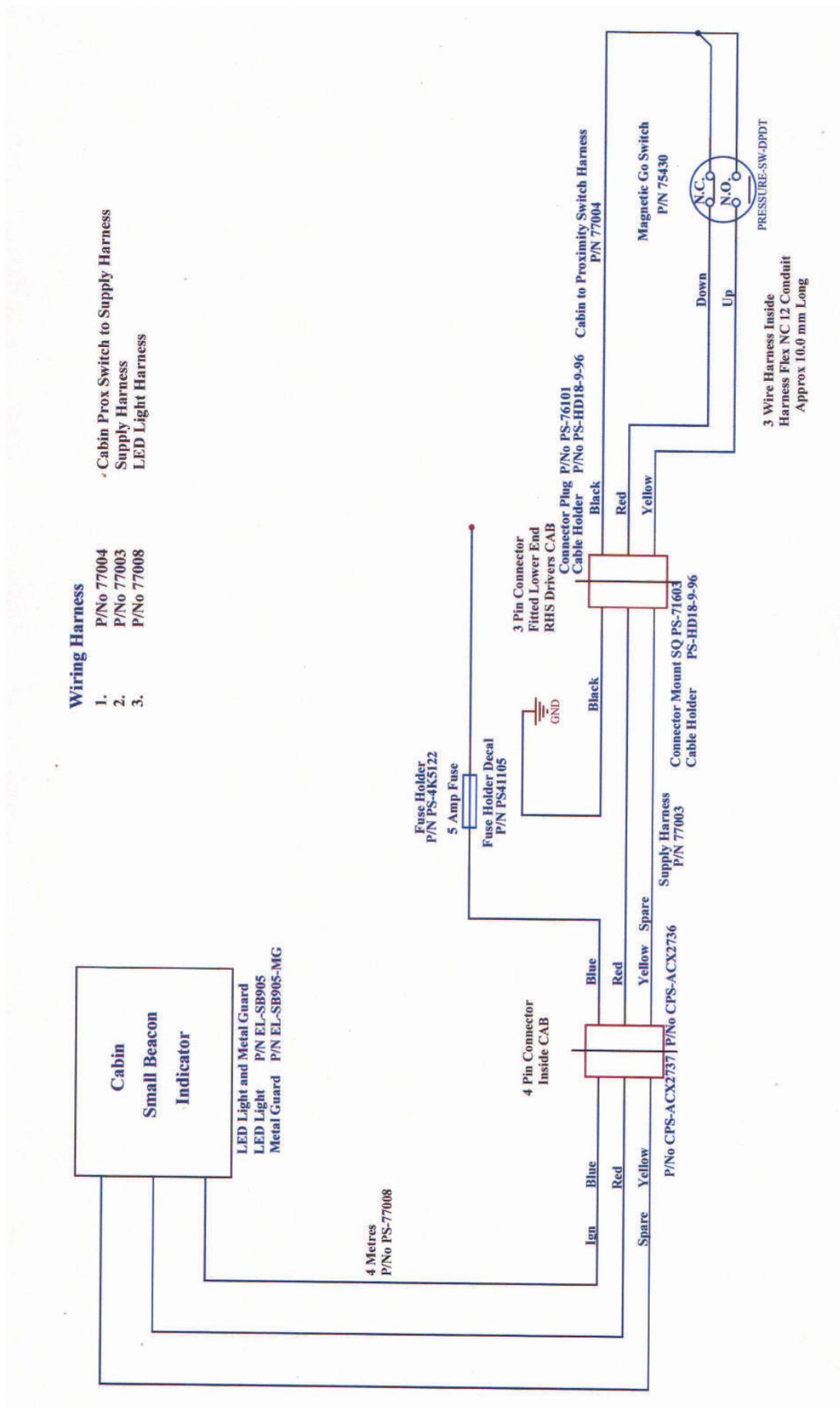


FOLDING STAIRWAY

Caterpillar 789C Haul Truck



Section 2. Electrical System - Wiring Harness



FOLDING STAIRWAY

Caterpillar 789C Haul Truck



Section 3. Installation of Hydraulic Lines and Cylinder

See Drawing Page 13

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 extention 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. Use hardened flat washers under the heads and nuts of all bolts as supplied.
3. Run Hydraulic Hoses to motor enclosure using clamps supplied
4. Note: The Cylinder and Power Pack have been connected in the workshop and cycled prior to delivery.

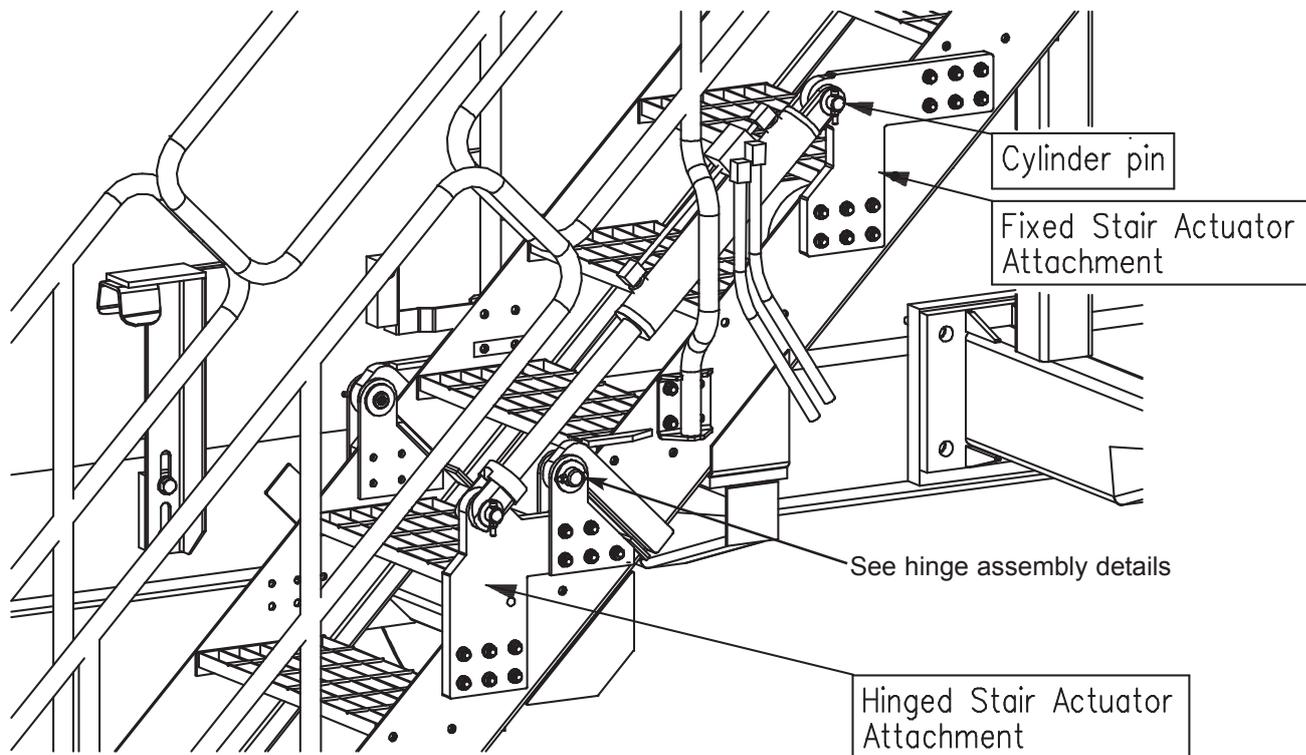
FOLDING STAIRWAY

Caterpillar 789C Haul Truck

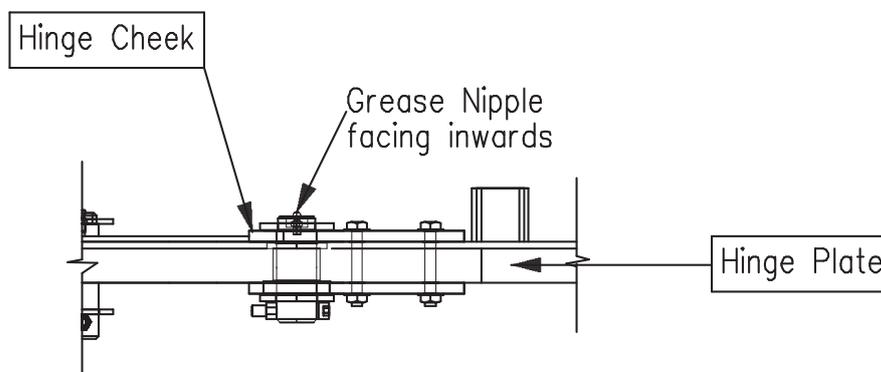


Section 3. Installation of Hydraulic Lines and Cylinder

See Pg. 26 Hydraulics Diagram



CYLINDER HINGE AND ACTUATOR ASSEMBLY



HINGE ASSEMBLY DETAILS
(Refer Parts list on Pg. 24)

FOLDING STAIRWAY

Caterpillar 789C 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 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.

FOLDING STAIRWAY

Caterpillar 789C 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 4 grease nipples on pivot & cylinder pins accessible with the stairway lowered.

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 4 grease nipples on pivot & cylinder pins accessible with the stairway lowered, and accessed from under the stairway.

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

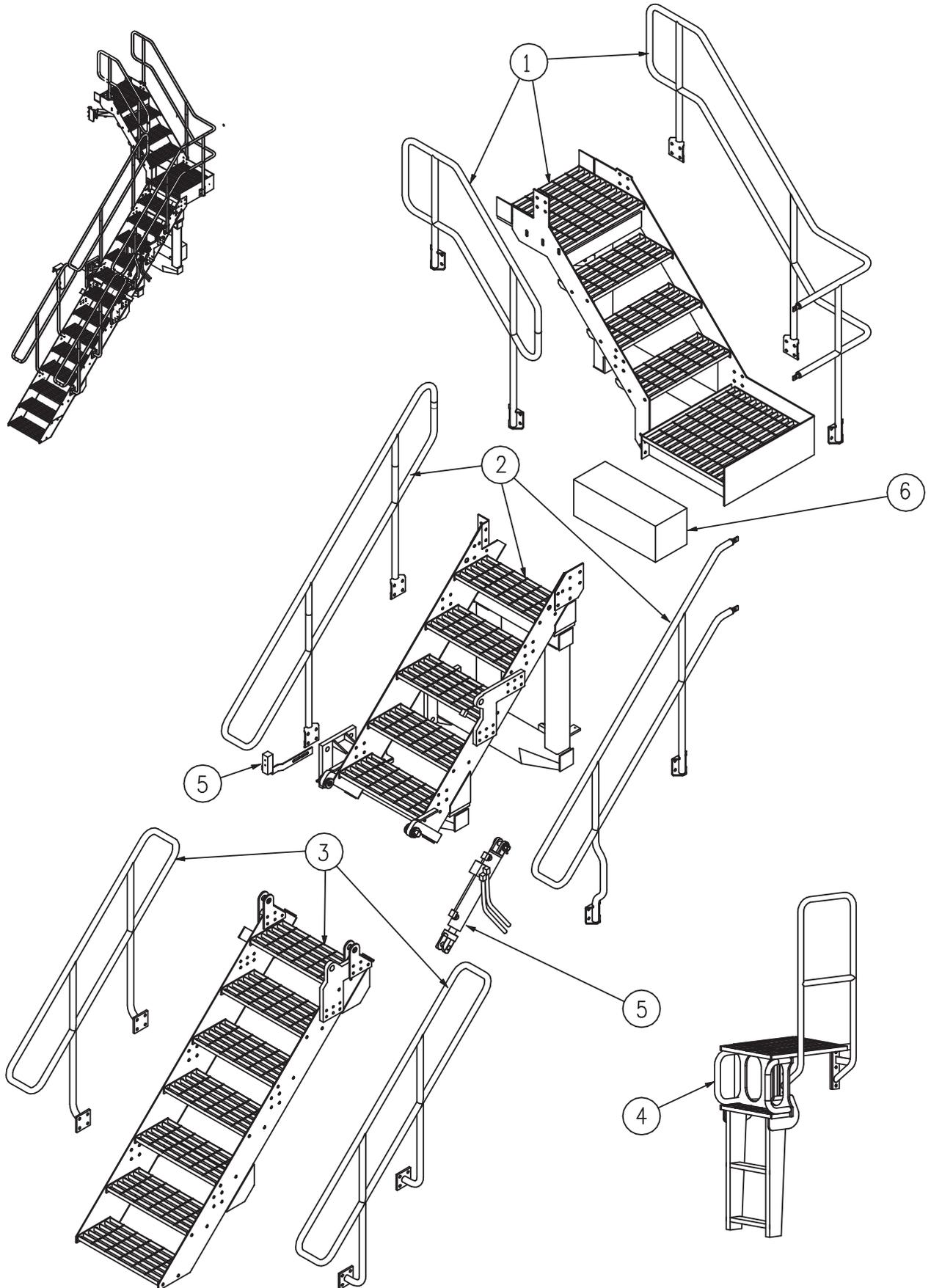
Repeat daily check as above

FOLDING STAIRWAY

Caterpillar 789C Haul Truck



Section 6. Assembly Complete PSA-789C-FS

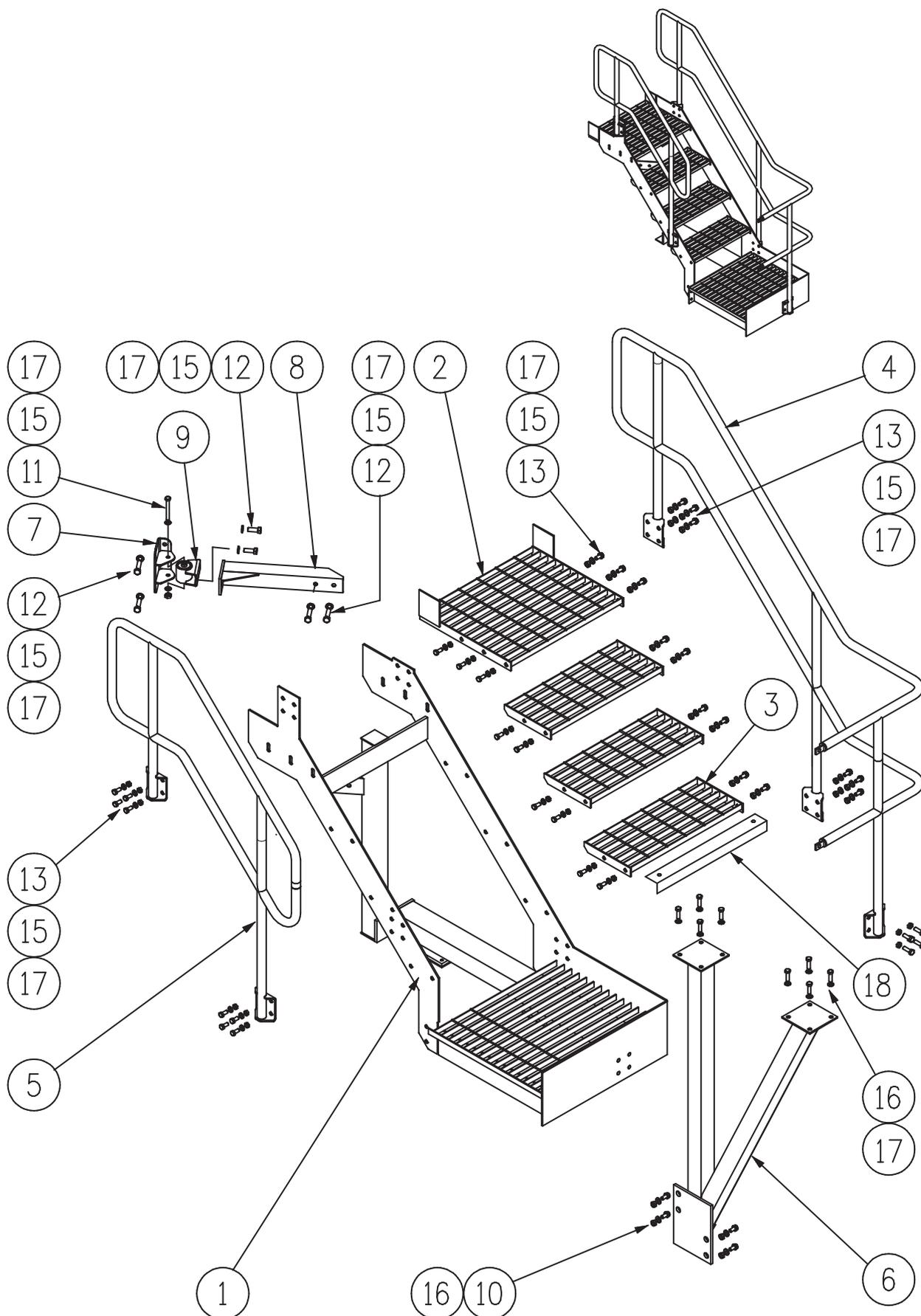


FOLDING STAIRWAY

Caterpillar 789C Haul Truck



Section 6-1. Top Stair & Landing Assembly PS-23456-A



FOLDING STAIRWAY

Caterpillar 789C Haul Truck



Section 6-1. Top Stair & Landing Assembly PS-23456-A

See Pg 17

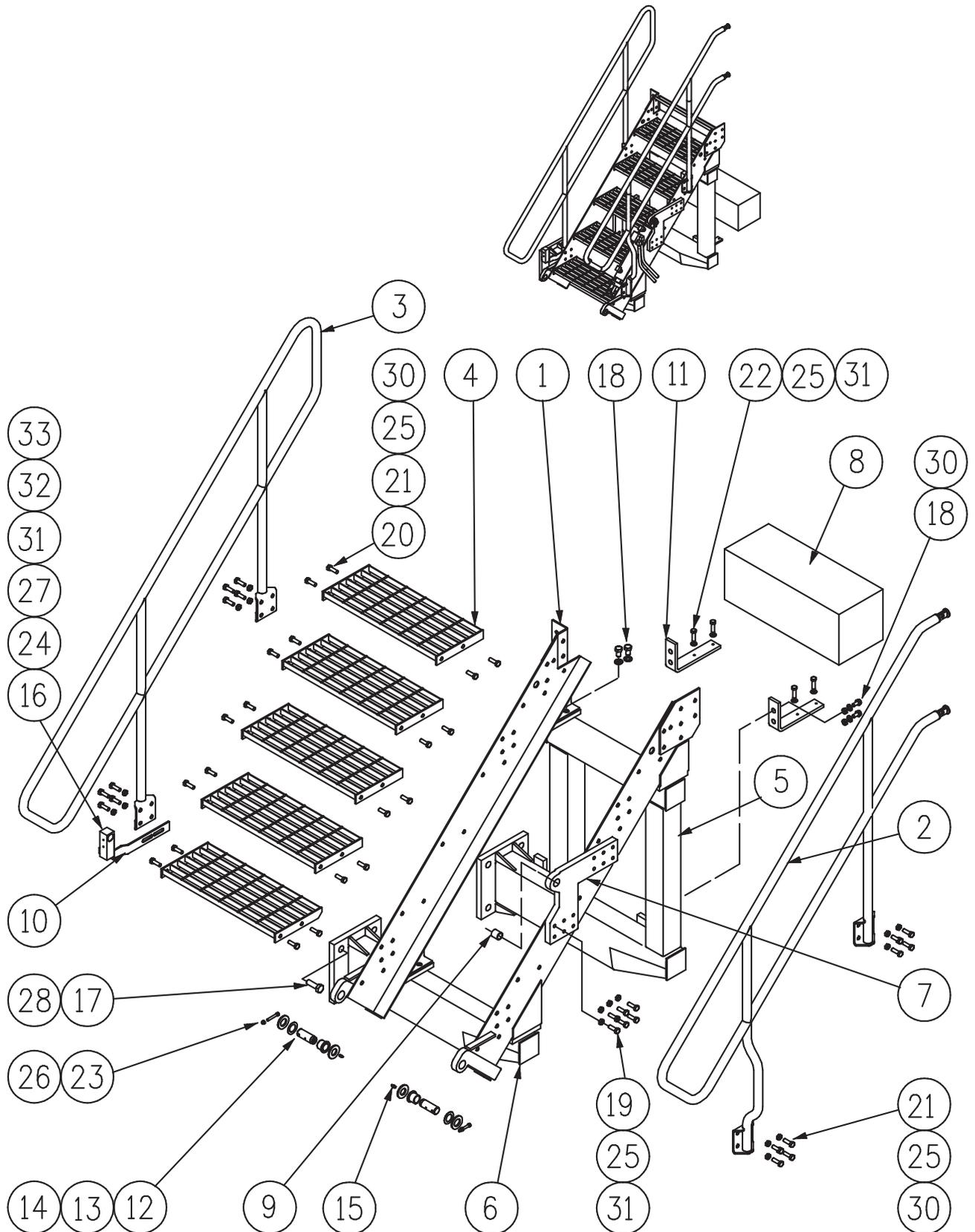
Item	Part No.	Part Name	Qty		
1	PS-23456	TOP STAIR FABRICATION	1		
2	PS-22457	TOP LANDING EXTENSION	1		
3	PS-22266-A	STAIR TREADS	3		
4	PS-23461-A	HANDRAIL-TOP-OUTER	1		
5	PS-23463	HANDRAIL-TOP-INNER	1		
6	PS-23458	LANDING POST FRAME	1		
7	PS-23459-98	ISOLATOR MOUNTING	1		
8	PS-23459-99	TIE	1		
9	PS-21930A	ISOLATOR & BRACKET	1		
10	PS-M20X40ZP	BOLT-M20 x 40	4		
11	CPS-M12X100ZP	BOLT-M12 x 100	1		
12	CPS-M12X35ZP	BOLT-M12 x 35	6		
13	CPS-M12X30ZP	BOLT-M12 x 30	38		
14	CPS-M12X25ZP	BOLT-M12 x 25	8		
15	CPS-M12ZP	NUT-M12	45		
16	CPS-M20WH	WASHER-HARDENED-M20	4		
17	CPS-M25WH	WASHER-HARDENED-M12	100		
18	PS-32266-SAN	NON SLIP NOSING	5		

FOLDING STAIRWAY

Caterpillar 789C Haul Truck



Section 6-2. Middle Stair Assembly PS-23453-A



FOLDING STAIRWAY

Caterpillar 789C Haul Truck



Section 6-2. Middle Stair Assembly PS-23453-A

See Pg 19

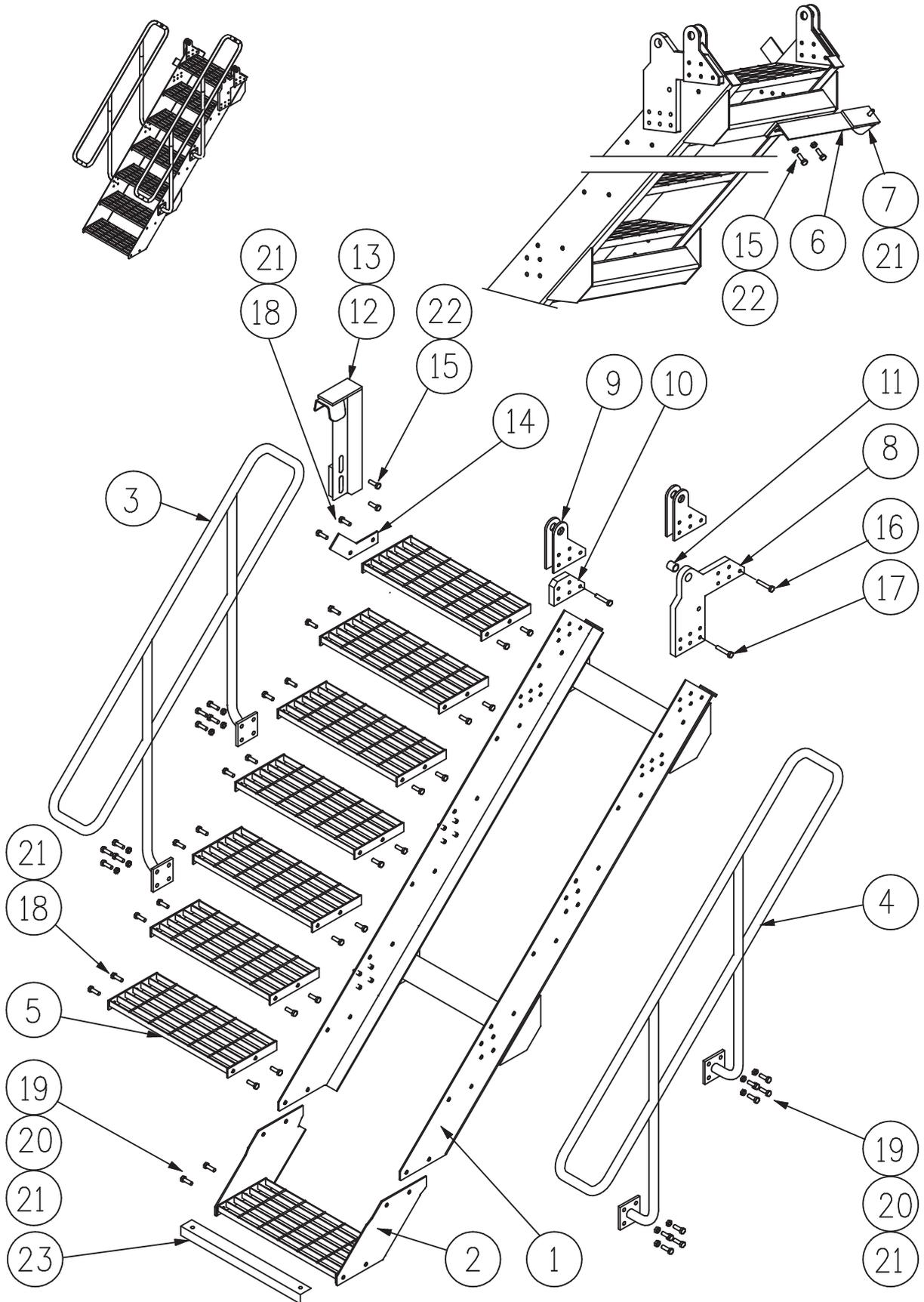
Item	Part No.	Part Name	Qty		
1	PS-23453	STAIR STILE FABRICATION	1		
2	PS-23462-A	HANDRAIL-OUTER- RH	1		
3	PS-23460	HANDRAIL-INNER - LH	1		
4	PS-22266	STAIR TREADS	5		
5	PS-23452-99-A	LEFT SIDE MOUNTING	1		
6	PS-23452-98-A	RIGHT SIDE MOUNTING	1		
7	PS-22233-05-C	FIXED STAIR ACTUATOR ATTACHMENT	1		
8	PS-21107METAL	POWER PACK ENCLOSURE	1		
9	PS-63009B	CYL-MOUNTING-BUSH	1		
10	PS-22238	GO SWITCH MOUNTING BRACKET	1		
11	PS-23452-07-A	BRACKETS-POWER PACK ENCLOSURE	2		
12	PS-22246	HINGE PIN	2		
13	PS-22246-05	BUSH	2		
14	PS-22246-04	SPACER-THIN	2		
15	PS61006-2	GREASE NIPPLE M6 STR.	2		
16	PS-75430	GO SWITCH	1		
17	PS-M24X65ZP	BOLT-M24 x 65	8		
18	CPS-M16X30ZP	BOLT-M16 x 30	12		
19	CPS-M12X50ZP	BOLT-M12 x 50	12		
20	CPS-M12X35ZP	BOLT-M12 x 35	2		
21	CPS-M12X30ZP	BOLT-M12 x 30	36		
22	CPS-M12X25ZP	BOLT-M12 x 25	4		
23	CPS-M8X50ZPSH	BOLT-M8 x 50 Socket/Hd	2		
24	CPS-BSW3/16"X2	BOLT - (Go Switch)	2		
25	CPS-M12NZP	NUT-M12	52		
26	CPS-M8NL	NUT-M8-NYLOC	2		
27	CPS-BSW3/16"NUT	NUT-3/16"S/S NUT	2		
28	CPS-M24WH	WASHER-HARDENED-M24	8		
29	CPS-M16WH	WASHER-HARDENED-M16	12		
30	CPS-M12WH	WASHER-HARDENED-M12	52		
31	CPS-WS/SPRING	WASHER-SPRING-3/16"	2		
32	CPS-WS/S3/16"X1/2"	FLAT WASHER	2		
33	CPS-WS/S3/16"X3/4"	FLAT WASHER	2		
34	PS-32266-SAN	NON SLIP NOSING	5		

FOLDING STAIRWAY

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Section 6-3. Lower Stair Assembly PS-22709A



FOLDING STAIRWAY

Caterpillar 789C Haul Truck



Section 6-3. Lower Stair Assembly PS-22709A

Parts List

See Page 21

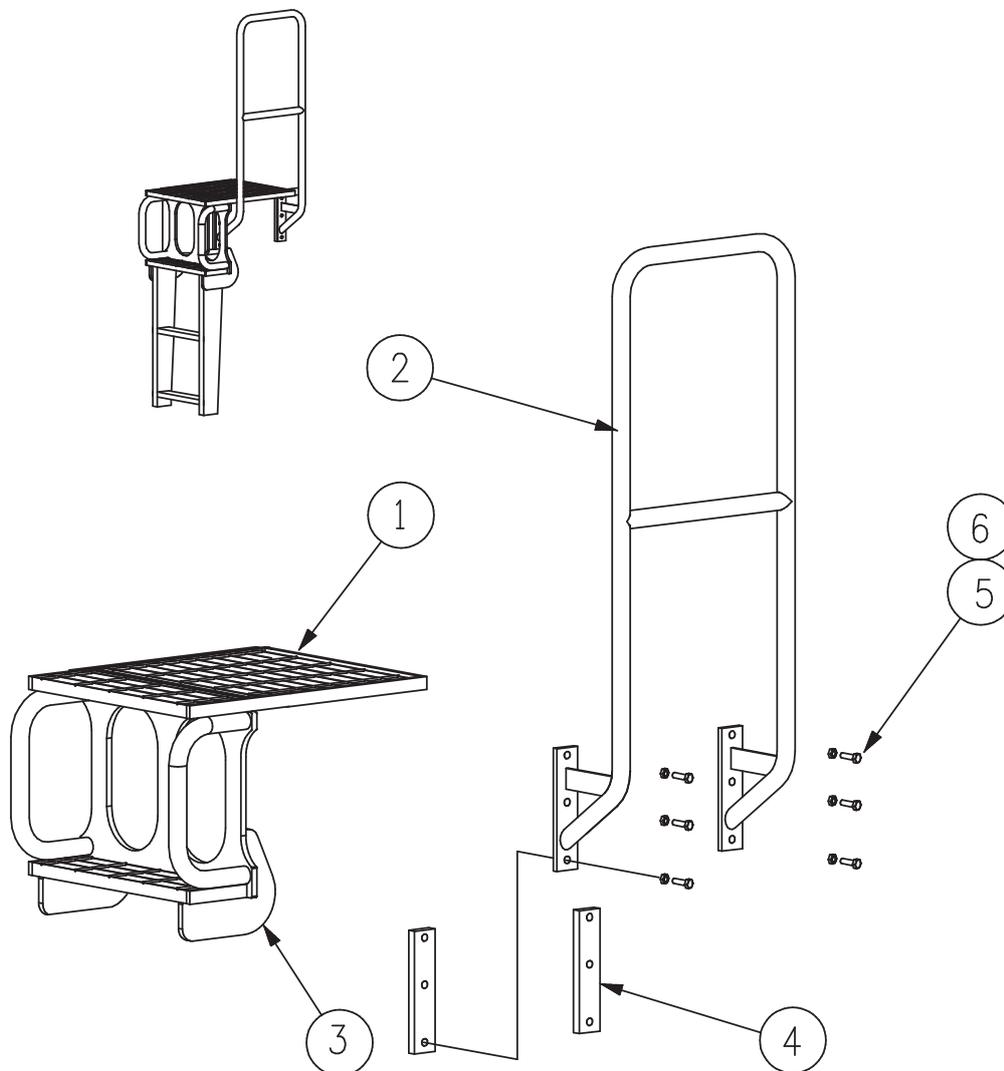
Item	Part No.	Part Name	Qty		
1	PS-22709	STILE ASSEMBLY	1		
2	PS-22465	STAIR EXTENSION	1		
3	PS-22717-01	HANDRAIL-INNER (LH)	1		
4	PS-22717-02	HANDRAIL-OUTER (RH)	1		
5	PS-22266	STAIR TREADS	8		
6	PS-23464	BUFFER ARM	1		
7	PS-40001	RUBBER STOP	1		
8	PS-22233-04C	HINGED STAIRS ACTUATOR ATTACHMENT	1		
9	PS-22233-02C	HINGE CHEEK PLATE	4		
10	PS-22233-03C	HINGE PLATE SPACER	1		
11	PS-63009-B	CYL-MOUNTING-BUSH - 1 1/4"ODx1"ID x 28	1		
12	PS-22242-99C	SOCKET BRACKET	1		
13	PS-22242-01C	BOLTING PAD	1		
14	PS-22233-01C	STRIKER PLATE	1		
15	CPS-M16X30ZP	BOLT-M16 x 30	4		
16	CPS-M12X65ZP	BOLT-M12 x 65	10		
17	CPS-M12X50ZP	BOLT-M12 x 50	6		
18	CPS-M12X35ZP	BOLT-M12 x 35	6		
19	CPS-M12X30ZP	BOLT-M12 x 30	42		
20	CPS-M12NZP	NUT-M12	64		
21	CPS-M12WH	WASHER-HARDENED M12	128		
22	CPS-M16WH	WASHER-HARDENED M16	4		
23	PS-32266-SAN	NON SLIP NOSING	8		

FOLDING STAIRWAY

Caterpillar 789C Haul Truck



Section 6-4. Emergency Exit Ladder PS-23467A



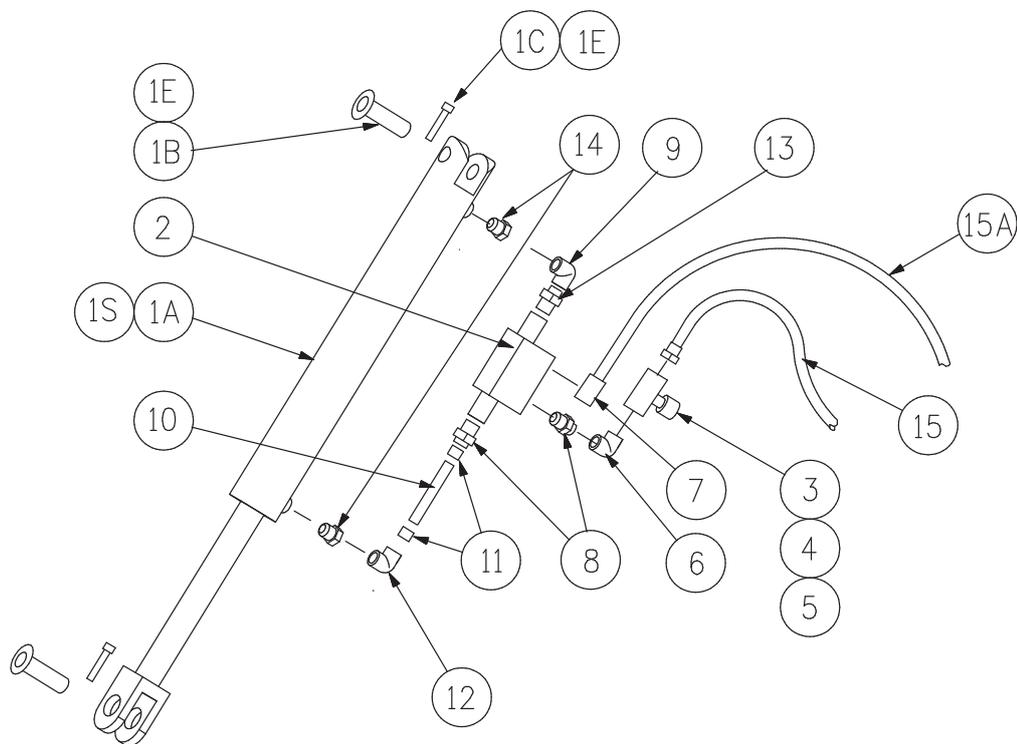
Item	Part No.	Part Name	Qty		
1	PS-23467	EMERGENCY EXIT LANDING	1		
2	PS-23466	EMERGENCY EXIT HANDRAIL	1		
3	PS-23467 08	LADDER BRACKET	2		
4	PS-23466-04	BOLTING PAD	2		
5	PS-M12X30ZP	BOLT-M12x 30	6		
6	CPS-M12WH	WASHER-HARDENED-M12	6		

FOLDING STAIRWAY

Caterpillar 789C Haul Truck



Section 6-5. Hydraulic Cylinder Assembly P/No. PS- 62996-AH



NOTE: P/No. PS- 62996-AH includes Part No.s 1 to 14

Item	Part No.	Part Name	Qty	
1	PS-62996-HPK	HARD PLUMBING KIT	1	
1A	PS-62996A	HYDRAULIC CYLINDER 2 1/2"	1	
1B	PS-22246	PIN - CYLINDER	2	
1C	CPS-M8X50ZP	SOCKET HEAD BOLT - M8 x 50	2	
1D	CPS-M8NL	NYLOC NUT - M8	2	
1E	PS-22246 04	THIN SPACER	2	
1S	PS-63103	SEAL KIT (NOT SHOWN)	1	
2	PS-63201	VALVE - PILOT OPERATED LOCKING	1	
3	PS-63202	FLOW CONTROL VALVE	1	Mount on Motor Enclosure box
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-61153	FITTING-STRAIGHT-O RING 1/4BSPPx7/16" 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	PS-61163	TUBE - 355mm	1	
11	PS-61147	FERRULES	2	
12	PS-61158-1MM	FITTING - 1MM RESTRICTION 90 DEG	1	
13	PS-61155	FITTING	1	
14	PS61163	REDUCER JIC x BSPP	2	
15	PS-60051-1.8M	HOSE- HYDR.	1	
15A	PS-60050-2.8M	HOSE- HYDR.	1	

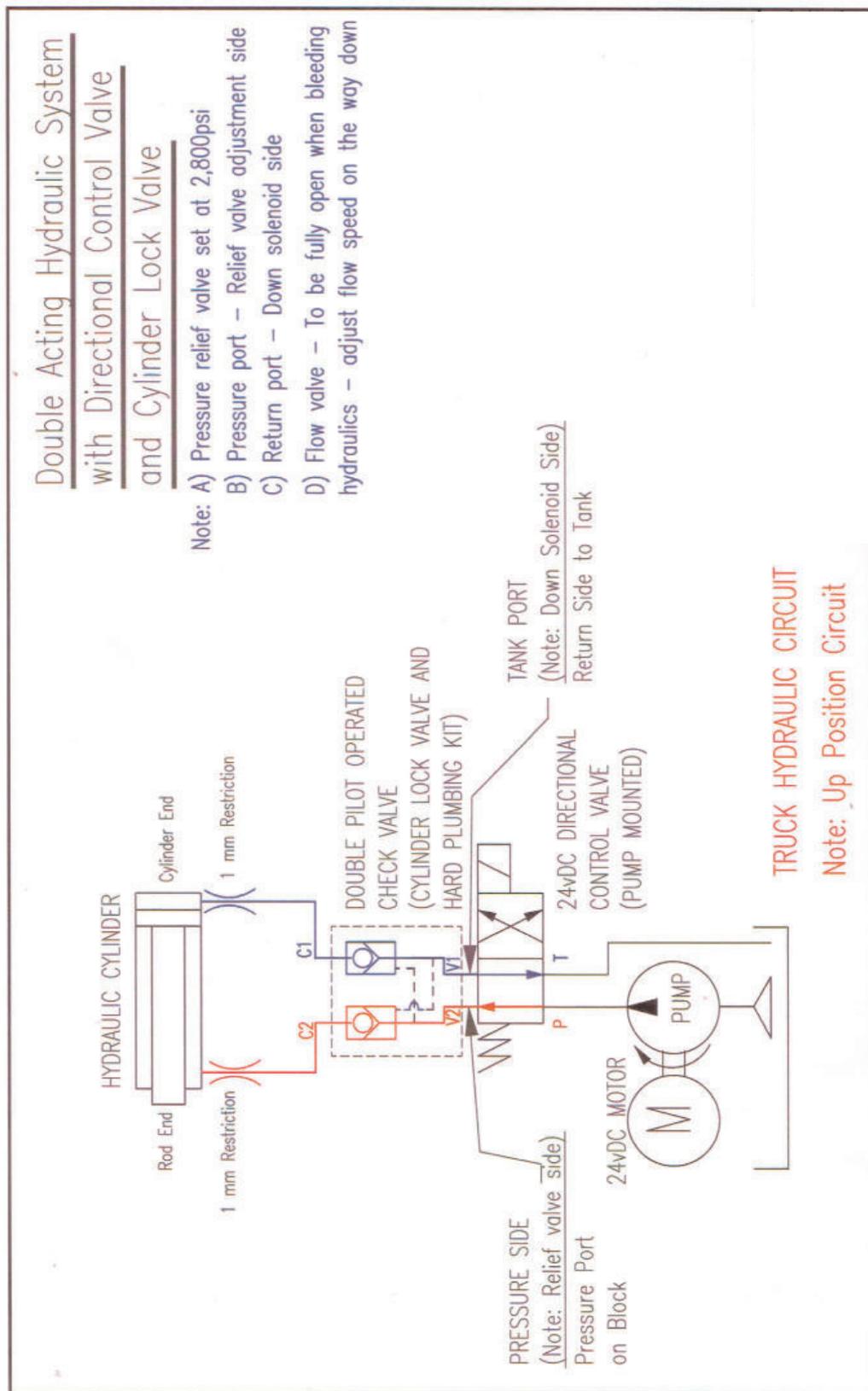
FOLDING STAIRWAY

Caterpillar 789C Haul Truck



Section 6-5. Hydraulic Cylinder (Valve Diagram)

See Drawing Pg. 24



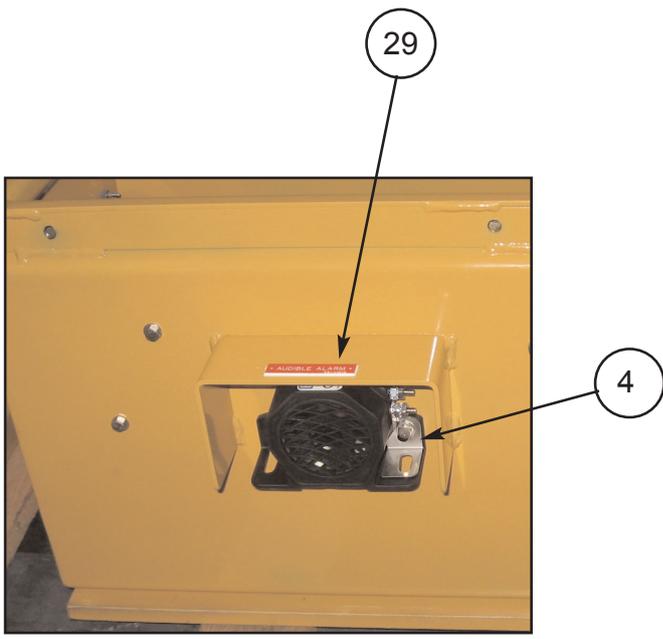
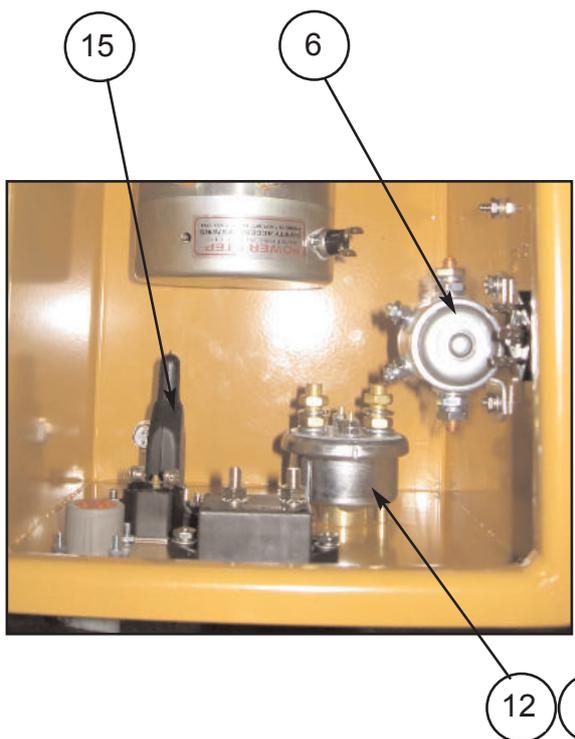
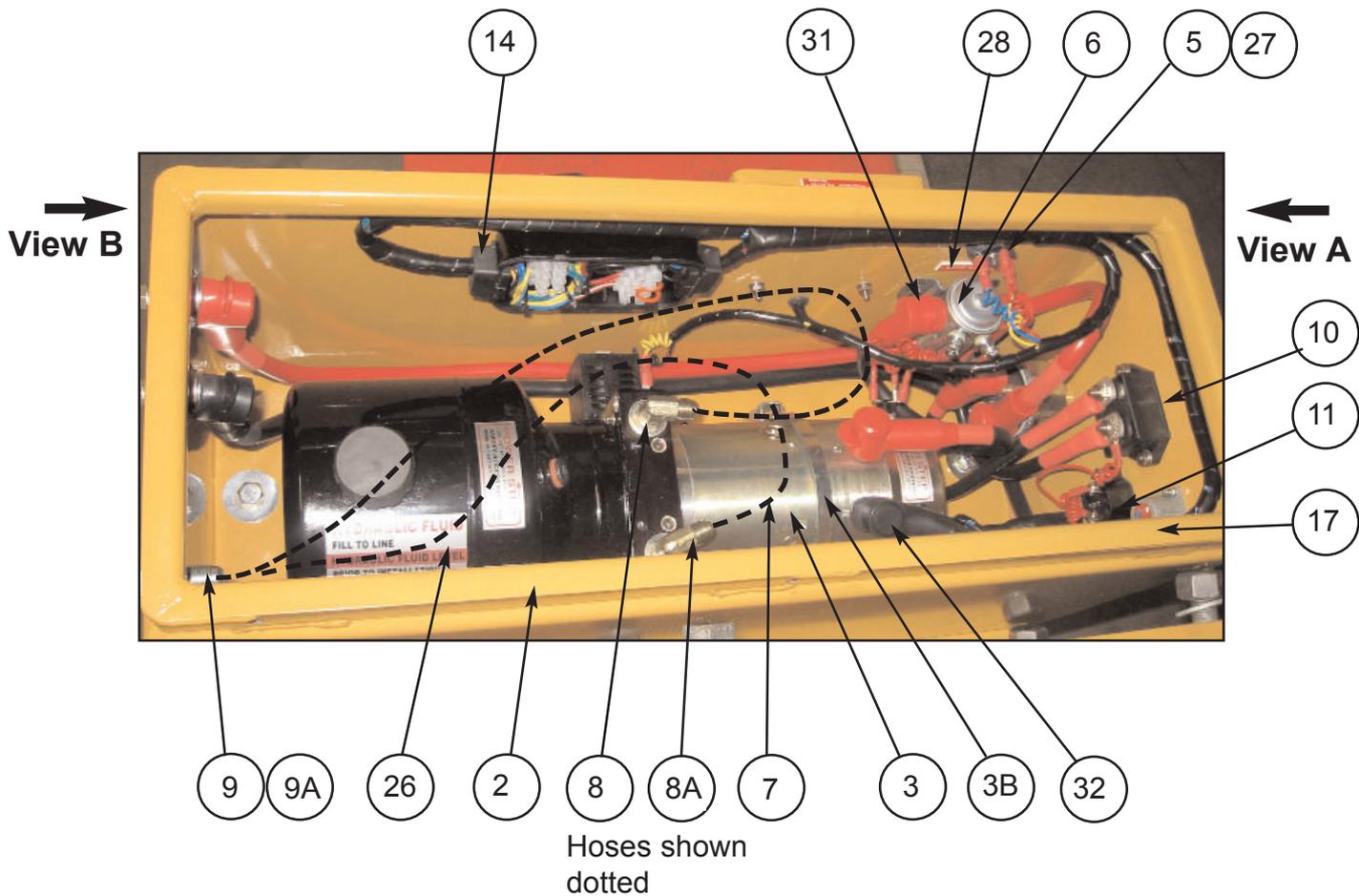
FOLDING STAIRWAY

Caterpillar 789C Haul Truck



Section 6-6 Power Pack PS-80103A-SLD

See Parts List Pg 28



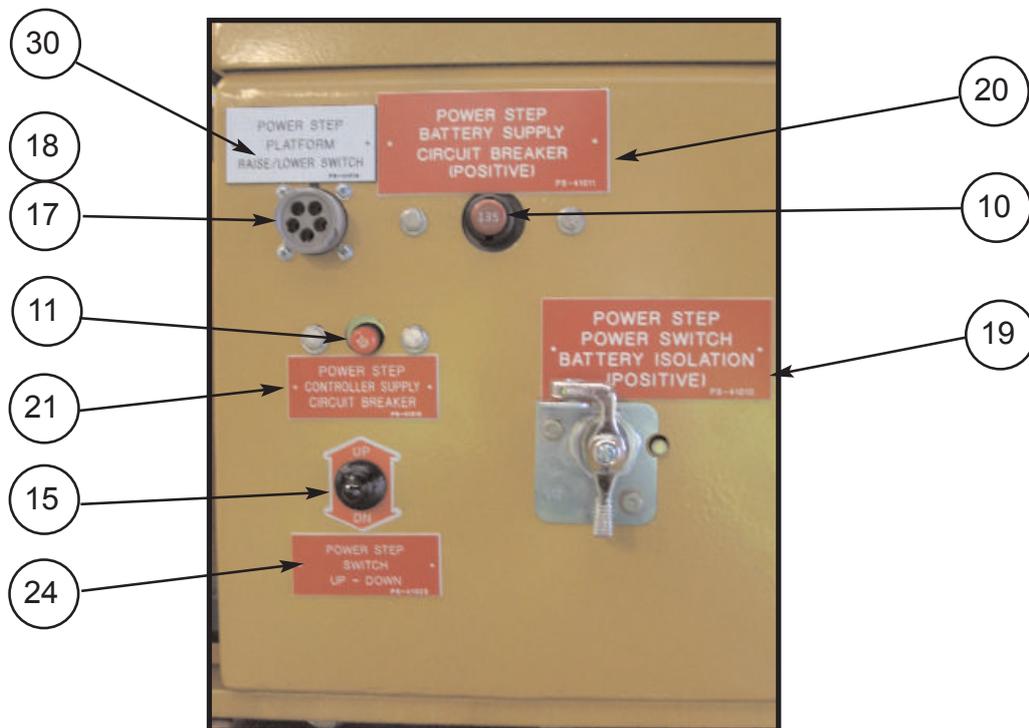
FOLDING STAIRWAY

Caterpillar 789C Haul Truck

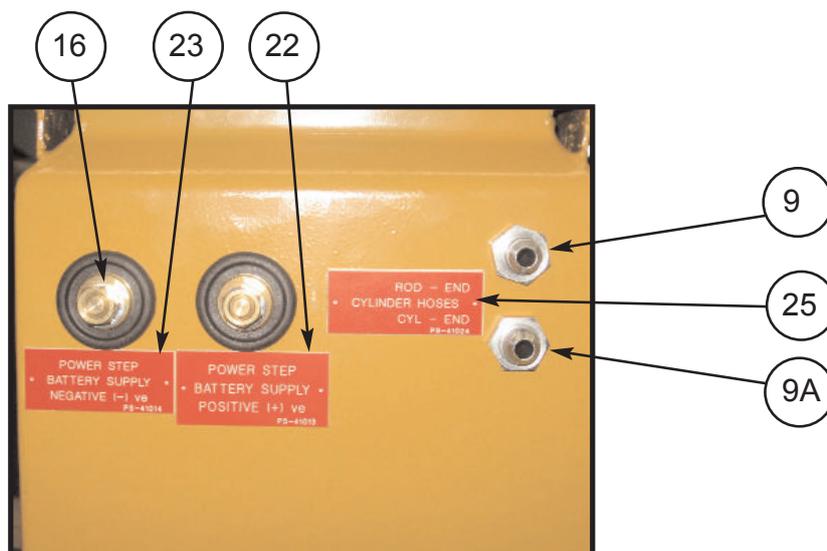


Section 6-6 Power Pack PS-80103A-SLD

See Parts List Pg 28



View A



View B

FOLDING STAIRWAY

Caterpillar 789C Haul Truck



Section 6-6. Power Pack PS-80103A

See Photos Page 26

Item	Part No.	Part Name	Qty		
1	PS-80103A-SLD	POWER PACK ASSEMBLY	1		
2	PS-21107-METAL	MOTOR ENCLOSURE- SEALED ST/ST	1		
3	PS-80103A	POWER PACK	1		
3A	PS-80103-B	MOUNTING PLATE-POWER PACK	1		
3B	PS-80103-CLAMP	CLAMP ELECTRIC MOTOR-POWER PACK	1		
4	PS-82415	AUDIBLE ALARM	1		
5	PS-84214	BRIDGE RECTIFIER	1		
6	PS-82492	SOLENOID 24V START MOTOR	1		
7	PS-60050-900MM 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" JIC.	1		
8A	PS-61150	HYDRAULIC FITTING 7/16" JIC.	1		
9	PS-61177	HYDRAULIC FITTING 9/16" JIC.	1		
9A	PS-61176	HYDRAULIC FITTING 7/16" JIC.	1		
10	PS-84213	135A CIRCUIT BREAKER	1		
11	PS-84212	5A CIRCUIT BREAKER	1		
12	PS-84303	ISOLATION SWITCH	1		
13	PS-84303-B	ISOLATION SWITCH BRACKET	1		
14	PS-1712080	SEALED WIRING BOX	1		
15	PS-73012	TOGGLE SWITCH KIT	1		
16	PS-82493	BATTERY FEED STUDS	2		
17	PS-HD10-5-16P	5 PIN SOCKET	1		
18	PS-HD10-5-16S	5 PIN PLUG	1		
19	PS-41010	DECAL ELECTRICAL	1		
20	PS-41011	DECAL ELECTRICAL	1		
21	PS-41012	DECAL ELECTRICAL	1		
22	PS-41013	DECAL ELECTRICAL	1		
23	PS-41014	DECAL ELECTRICAL	1		
24	PS-41023	DECAL ELECTRICAL	1		
25	PS-41024	DECAL HYDRA-HOSES	1		
26	PS-41041	DECAL OIL TANK	1		
27	PS-41019	DECAL BRIDGE RECTIFIER	1		
28	PS-41017	DECAL SOLENOID	1		
29	PS-41018	DECAL ALARM	1		
30	PS-41016	DECAL RAISE/LOWER SWITCH	1		
31	PS-73010	RUBBER BOOT RED	6		
32	PS-73009	RUBBER BOOT BLACK	3		

FOLDING STAIRWAY

Caterpillar 789C Haul Truck

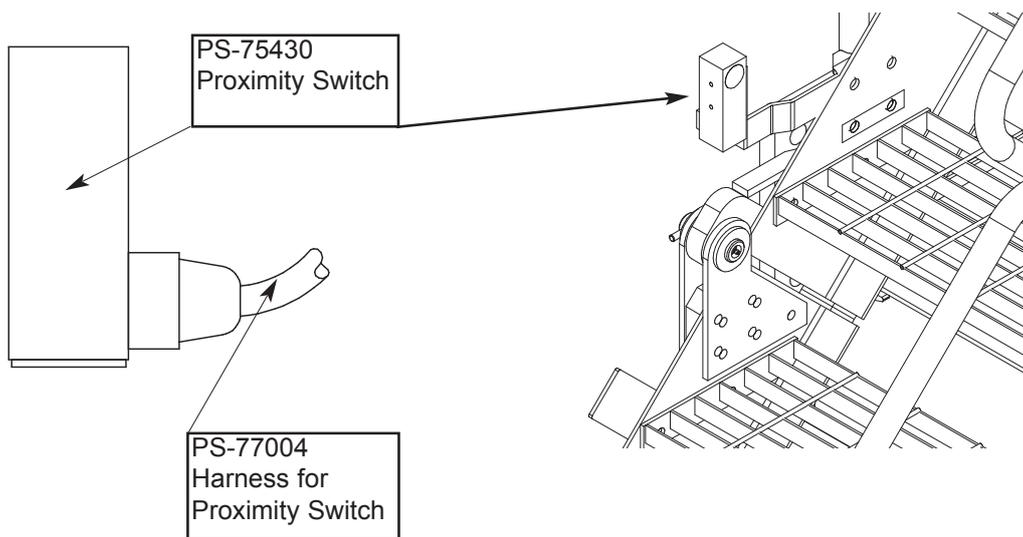


Section 6-7. Electrical System

See Wiring and Harness diagrams pgs. 10 & 11

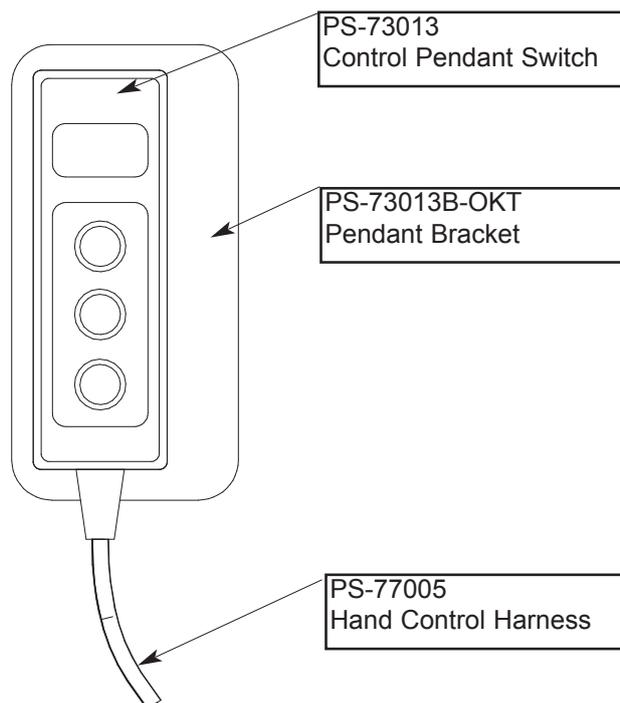
Proximity Switch Assembly

Mounted on Fixed Landing



Control Pendant Switch

Mounted on Handrail

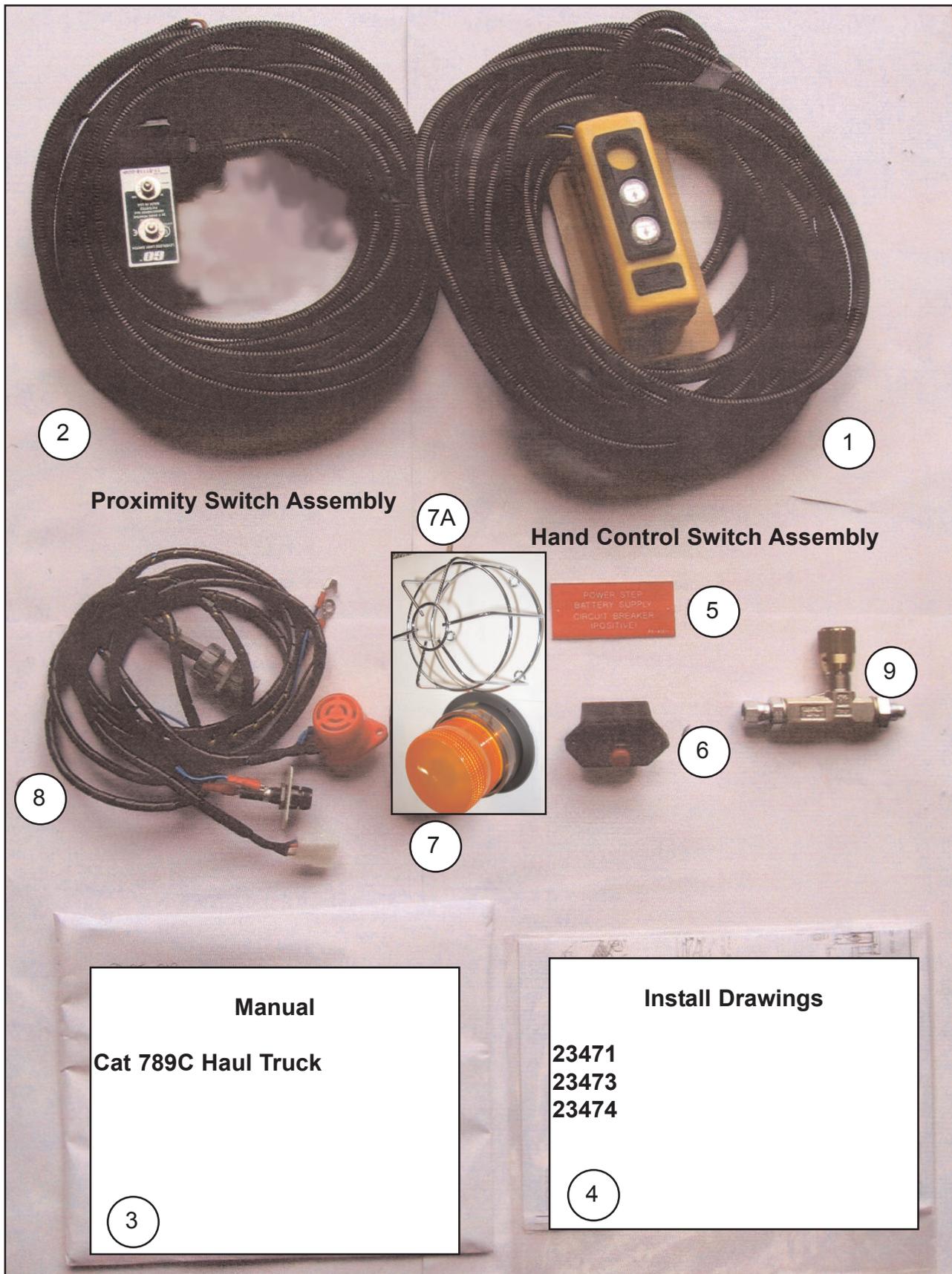


FOLDING STAIRWAY

Caterpillar 789C Haul Truck



Section 6-7. Electrical Controls



FOLDING STAIRWAY

Caterpillar 789C Haul Truck



Section 6-7. Electrical Controls

See Photos Page 29

Item	Part No.	Part Name	Qty		
1	PS-73013	HAND CONTROL SWITCH ASSEMBLY	1		
-	PS-73013B-OKT	BRACKET	1		
-	PS-77005	HARNESS	1		
2	PS-75430	PROXIMITY SWITCH ASSEMBLY	1		
2	PS-77004	HARNESS	1		
3	-	MANUALS	2		
4	-	INSTALLATION DRAWINGS	2		
5	PS-41011	DECAL FOR 135A CIRCUIT BREAKER	1		
6	PS-84213	135A CIRCUIT BREAKER	1		
7	ELSB905	WARNING BEACON	1		
7A	ELSB905-METAL GUARD	METAL GUARD FOR BEACON	1		
7B	PS-77008	BEACON HARNESS (CAB)	1		
8	PS-77003	CONTROL BOX HARNESS-BEACON	1		
9	PS-63202	FLOW CONTROL VALVE ASSEMBLY	1		

WARNING

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