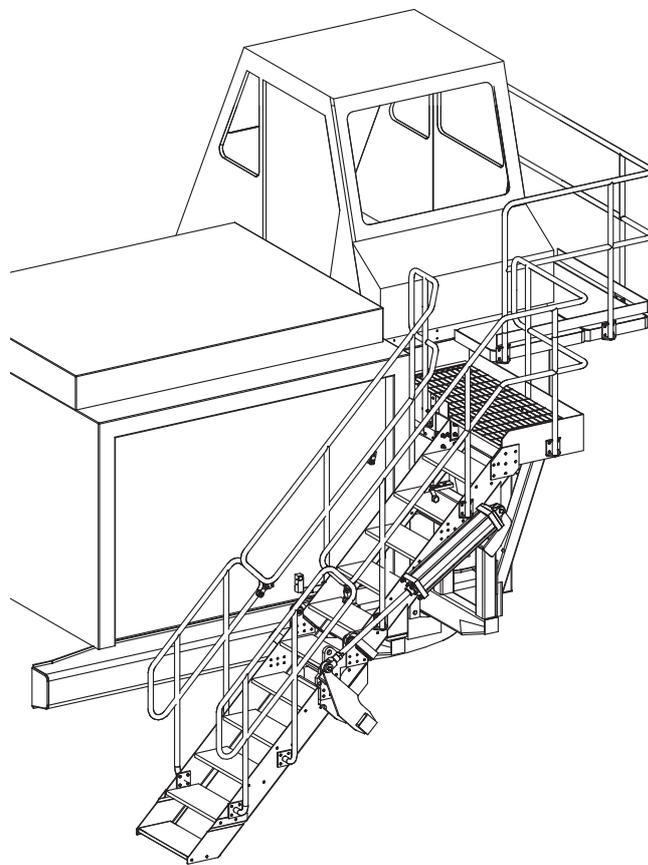


# FOLDING STAIRWAY

## Manual for Cat 777D Truck

### Pneumatic Operation



Model No.PSA-777DA-FS  
Serial No.:777DA - 001- ~  
Date Manufactured: May 2013

# FOLDING STAIRWAY

## Caterpillar 777D Truck

### Pneumatic Operation



## CONTENTS

Page 3	Section 1	<u>Installation and Mounting instructions</u> Installation Drawings Bolting Pads Stairs and Landing Landing Accessories Buffer Bracket Fixed Stair Assembly Lower Stair Assembly
12	Section 2	<u>Recommended Maintenance procedure</u>
13	Section 3	<u>Operating Procedure</u>
	Section 4	<u>Drawings and Repair Parts lists</u>
14	4	Assembly Complete
15	4-1	Landing Assembly Parts List
17	4-2	Fixed Stair Assembly Parts List
19	4-3	Lower Stair Assembly Parts List
21	4-4	Pneumatic Cylinder & Plumbing Parts List
23	4-5	Air Control Box
28	4-6	Electrical Controls Parts List  Wiring Diagram

# FOLDING STAIRWAY

## Caterpillar 777D Truck

### Pneumatic Operation

#### Section 1 Installation Instruction Drawings PS- 24671 & 24673



#### **NOTE**

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

#### **PROCEDURE.**

See Drawing **24671** - **Bolting Pads**

Page 4

1. Remove the original ladder from the left side of the front of the truck below the cabin landing. Leave the panel behind the ladder in place - re-attach the bottom of the panel to the bumper to suit if this attachment has been disturbed in removing the ladder.
2. Measure and fit the 3 bolting pads to the bumper per the dimensions on this page. Attach each bolting pad with a substantial tack weld at four corners, eg 8mm fillet weld x 25mm long.
3. Bolt the Landing Post to the end pad.

See Drawing **24672** - **Stairs and Landing**

Page 5 & 6

See Drawing **24673** - **Landing Accessories**

Page 7

1. Fully weld the three bolting pads to the bumper, per **View Z** - two pads to the front of the bumper and one on the left side end. Fit and weld Gussets to the two pads on the front of the bumper, two gussets per pad, also per **View Z**.
2. Weld the Post Bolting Pad to the beam under the landing per **View Y**. If this pad and the flange on top of the post are not suitably aligned, the tackwelds securing the pad to the beam can be cut and/or broken and the pad can be relocated.
3. Per **View X**, fit the Mounting Strut to the post and landing.
4. Also per **View X**, weld the Isolator Pad to the side of the truck's radiator surround, fit the two isolators and the link bars.
5. Fit the Deck Extension to the rear side of the stair landing per **View W**. Trim the width of the top (deck) surface of the extension if necessary so there is a gap (minimum 10mm) between the extension and any original parts of the truck's cabin or panelling.

# FOLDING STAIRWAY

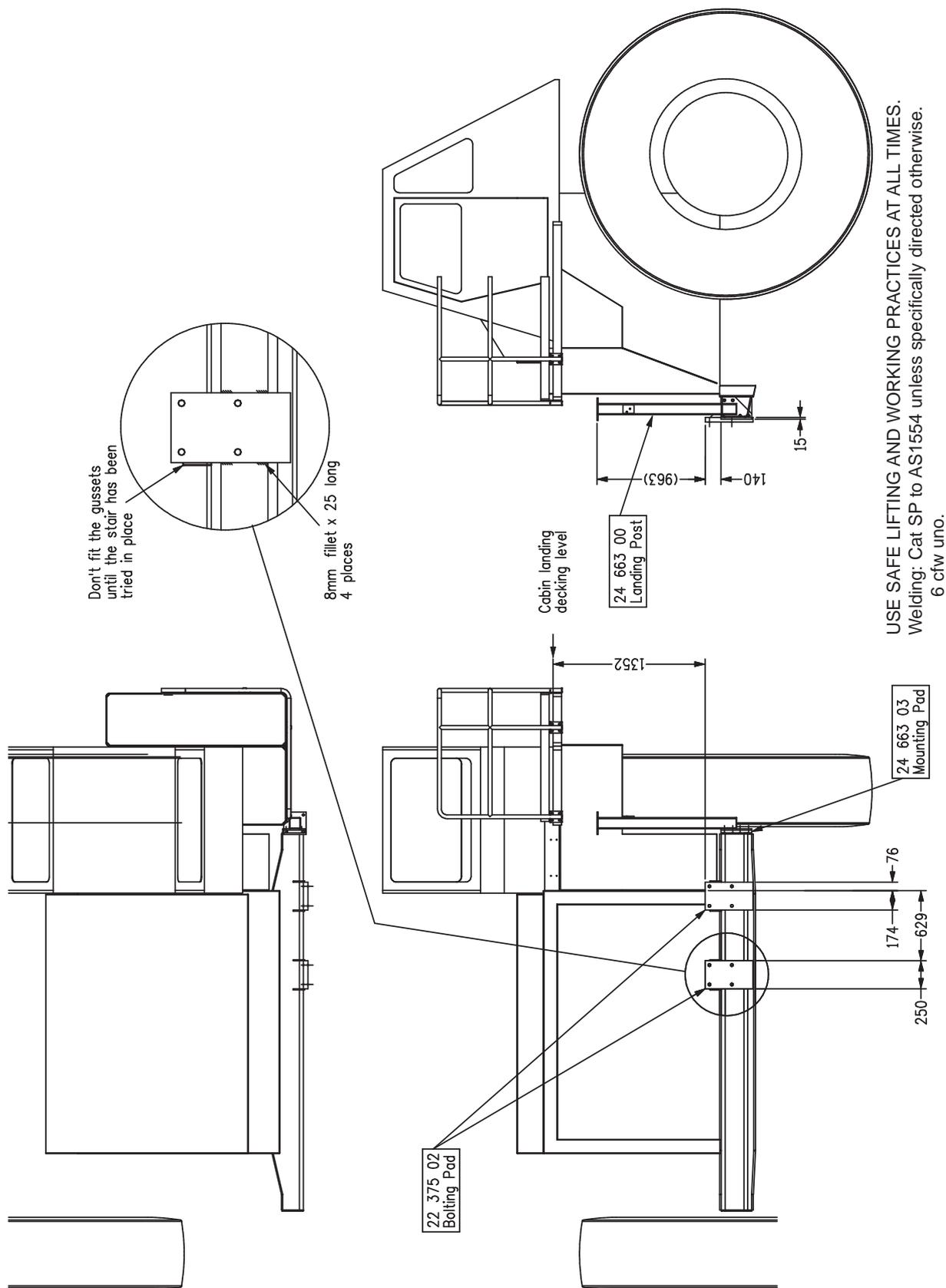
## Caterpillar 777D Truck

Pneumatic Operation

### Section 1 Installation Instruction Drawings



Bolting Pads PS- 24671



# FOLDING STAIRWAY

Caterpillar 777D Truck

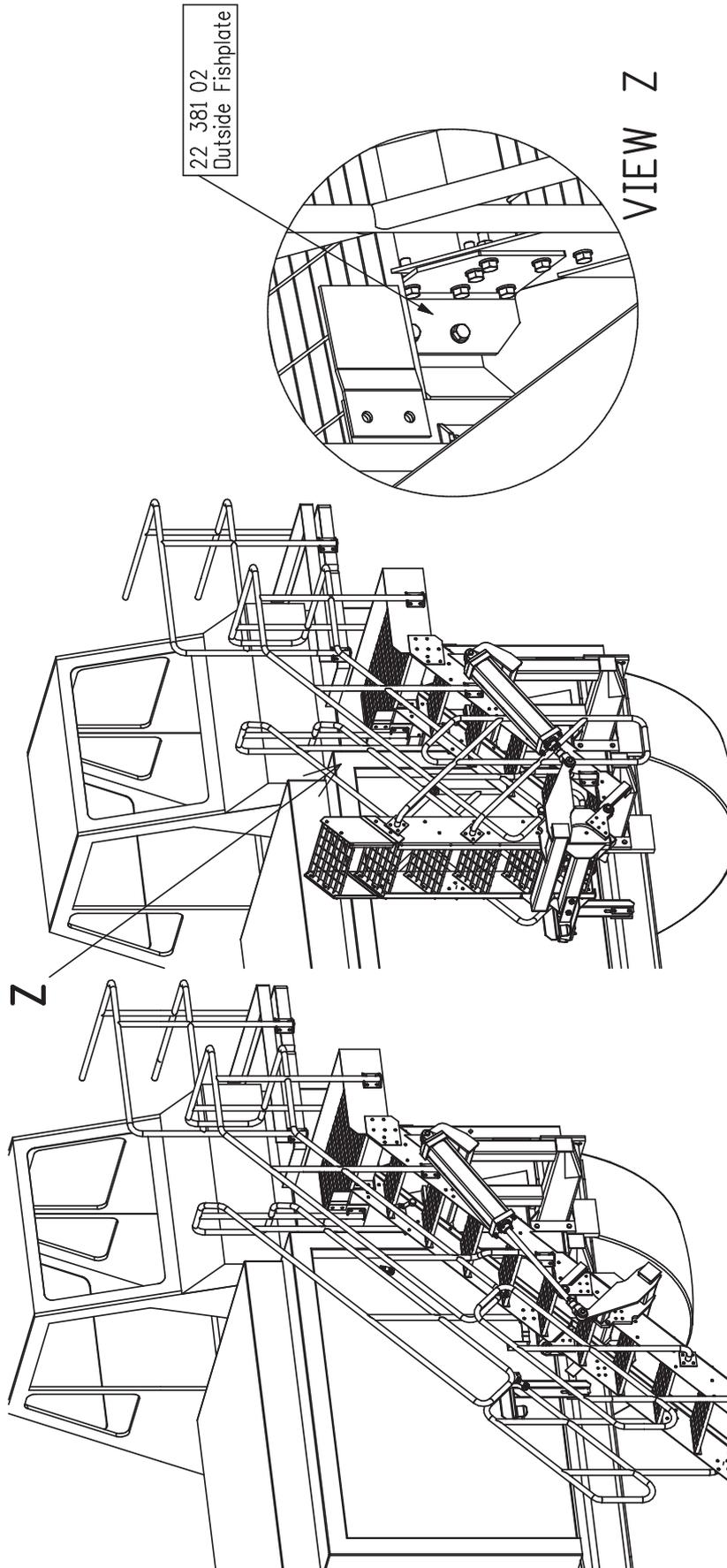
Pneumatic Operation

Section 1 Installation Instruction Drawings

Stairs & Landing Page 1



PS- 24672



USE SAFE LIFTING AND WORKING PRACTICES AT ALL TIMES.  
Welding: Cat SP to AS1554 unless specifically directed otherwise.  
6 cfw uno.

# FOLDING STAIRWAY

Caterpillar 777D Truck

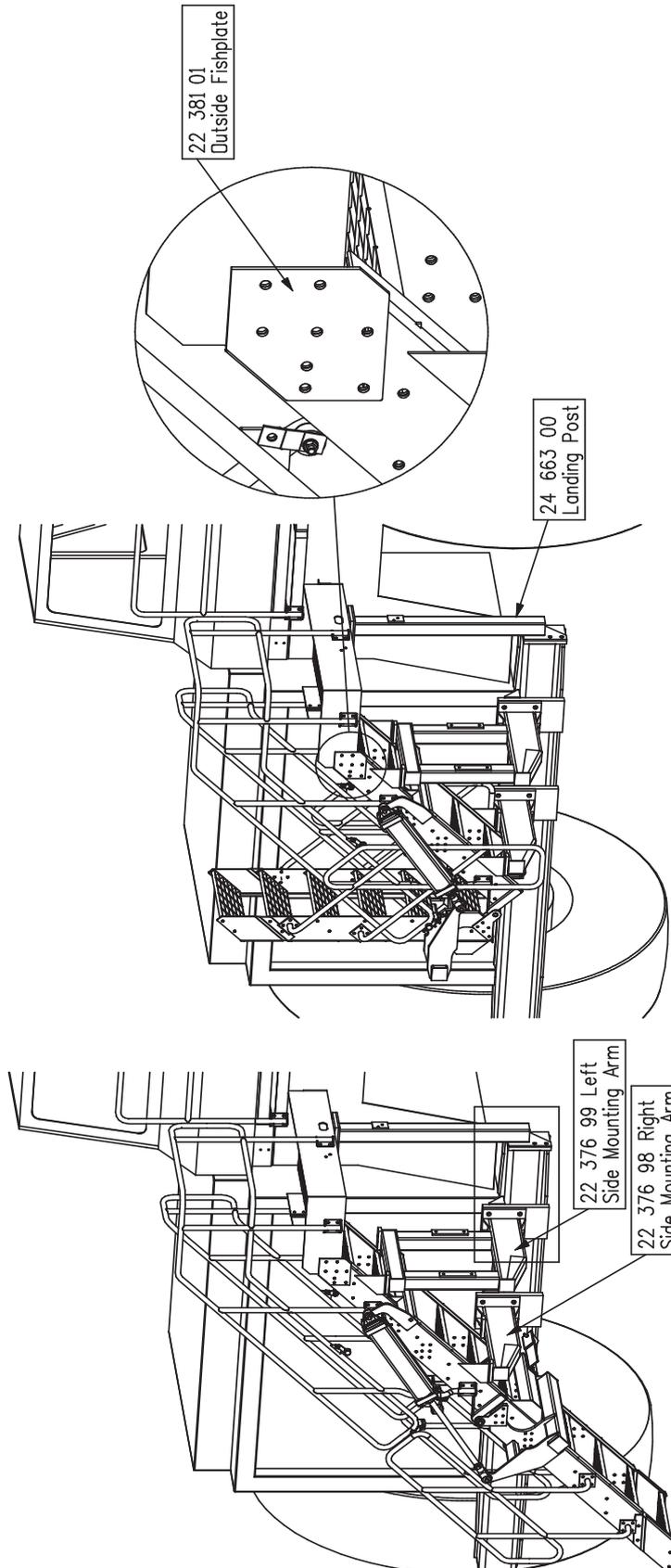
Pneumatic Operation

Section 1 Installation Instruction Drawings

Stairs & Landing Page 2



PS- 24672



USE SAFE LIFTING AND WORKING PRACTICES AT ALL TIMES.  
Welding: Cat SP to AS1554 unless specifically directed otherwise.  
6 cfw uno.

# FOLDING STAIRWAY

## Caterpillar 777D Truck

Pneumatic Operation

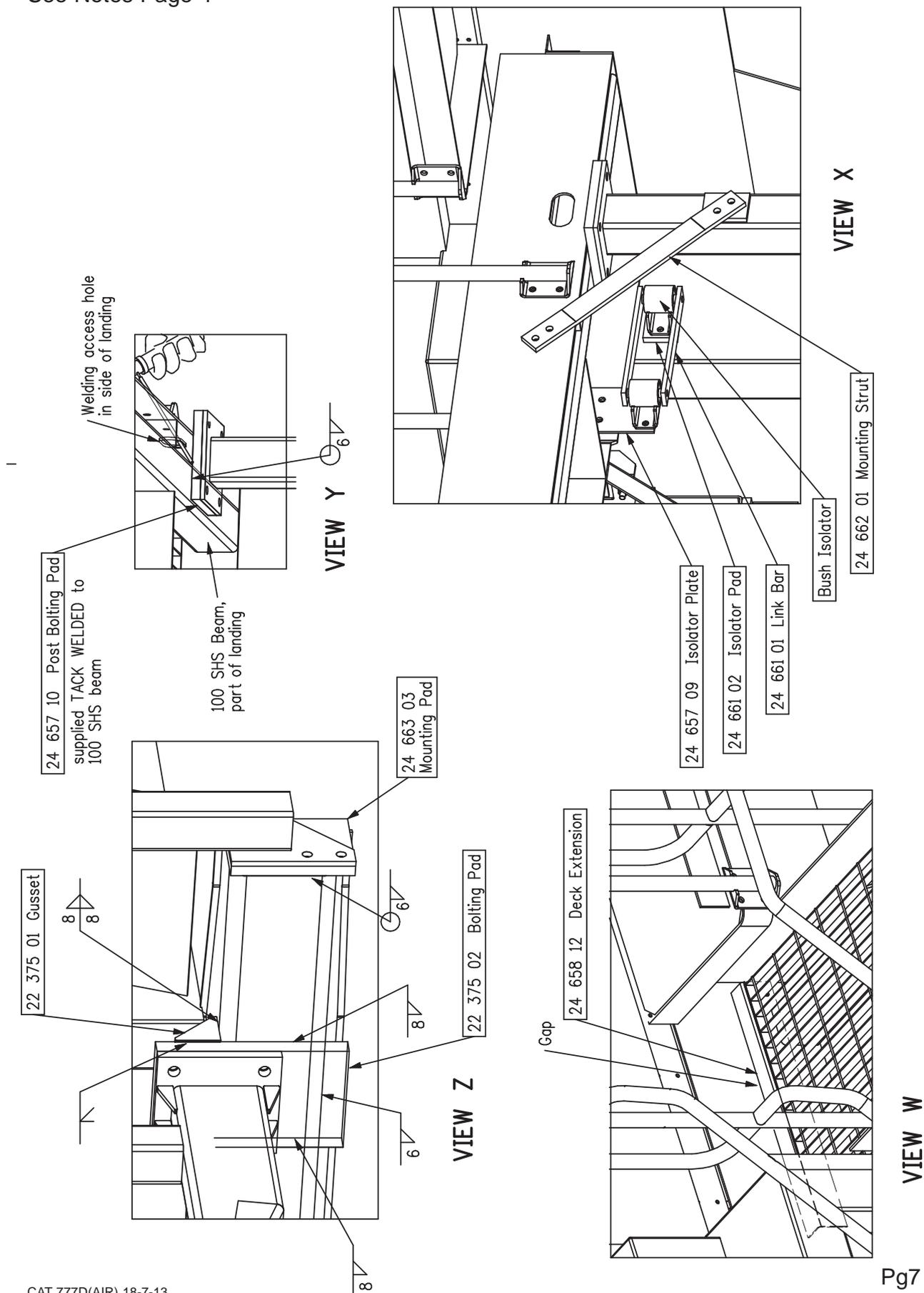
### Section 1 Installation Instruction Drawings

#### Landing Accessories

See Notes Page 4



PS- 24673



# FOLDING STAIRWAY

Caterpillar 777D Truck

Pneumatic Operation

Section 1 Installation Instruction Drawings Buffer Bracket PS- 24674



## **NOTE**

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

## **PROCEDURE**

See Drawing **24674** - Buffer Socket & Mounting

Page 9

Fit Buffer Socket & Mounting 24 654 in suitable position to receive Buffer when Stair is stowed. Pad 24 654 01 welds to truck bumper behind hinged stair.

Before locating and welding Pad to bumper, bolt Socket Bracket to Pad with bolts in slots so Bracket is as high as possible relative to Pad, that is, with adjustment available in slot to allow lowering of Bracket on Pad when required to accommodate future wear in the buffer, hinges and cylinder pins bushes, etc.

The Pad and Bracket can then be hung on the buffer (with the lower stair in its' fully raised, vertical stowed position) to establish the position of the Pad on the bumper. Adjust so stair is tight in raised position, not swinging with the truck's movement.

# FOLDING STAIRWAY

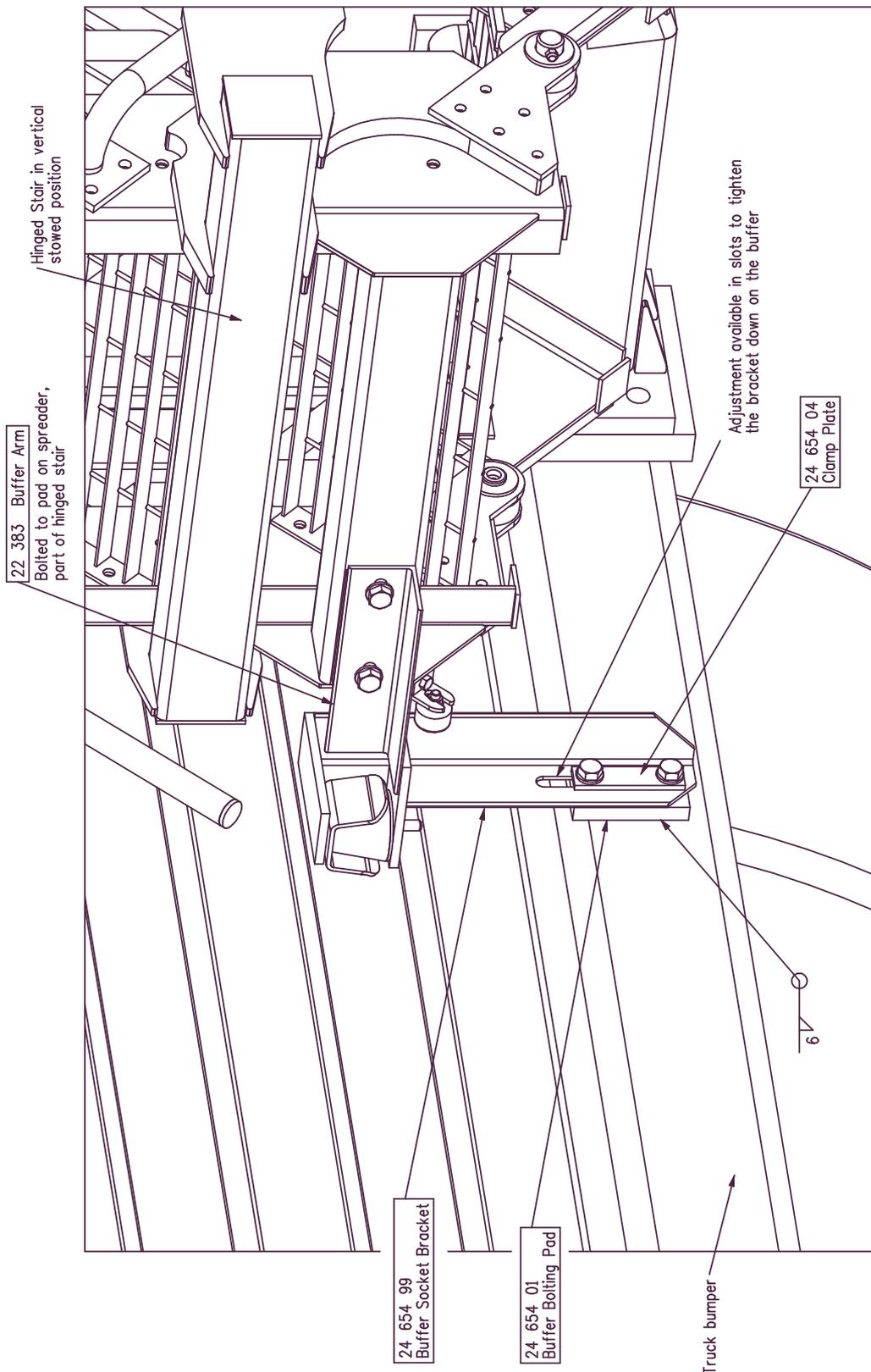
## Caterpillar 777D Truck

### Pneumatic Operation

#### Section 1 Installation Instruction Drawings Buffer Bracket PS- 24674



SEE PROCEDURE Page 8

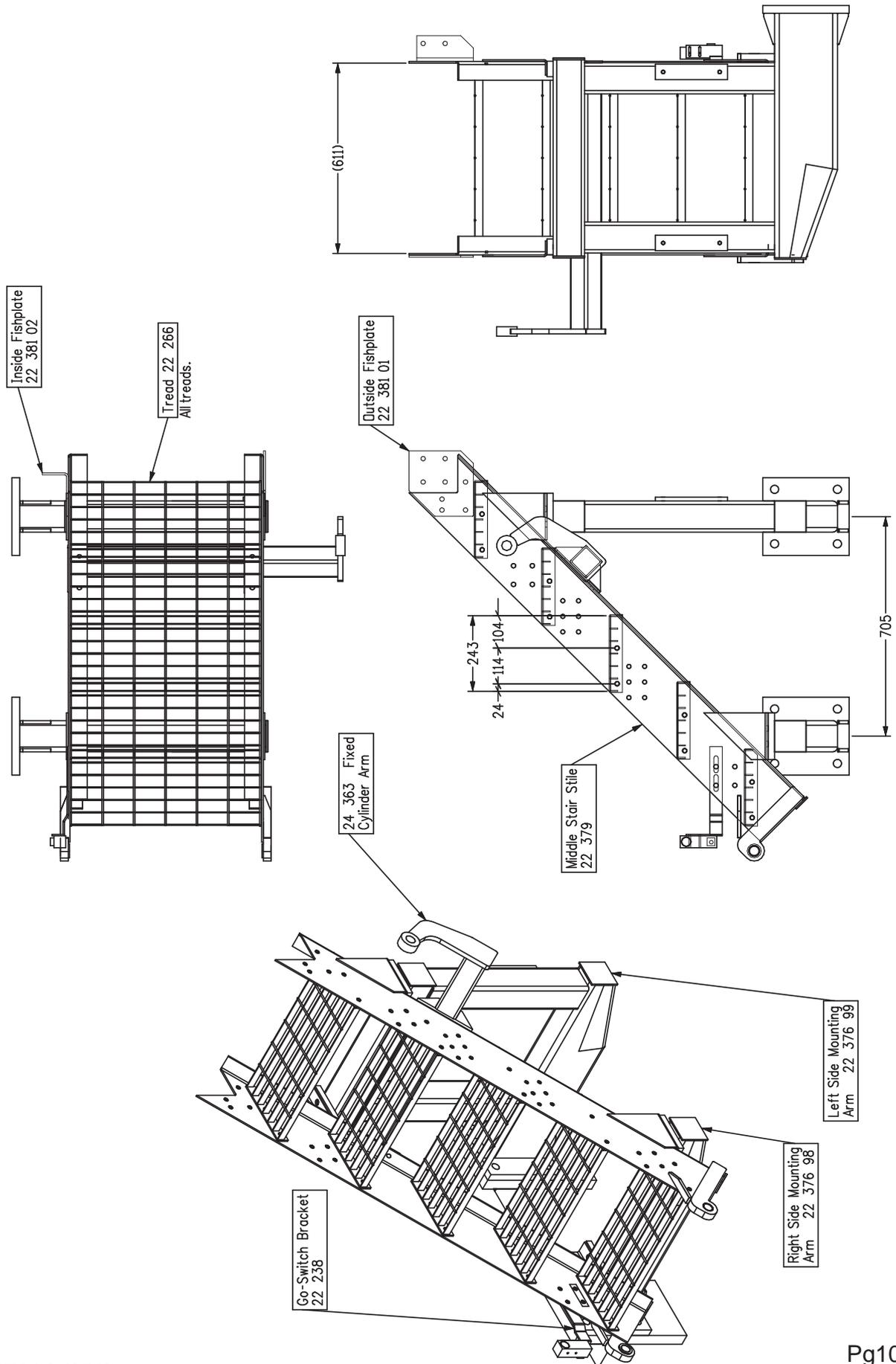


# FOLDING STAIRWAY

Caterpillar 777D Truck

Pneumatic Operation

## Section 1 Installation Instruction Drawings Middle Stair Assy PS- 24651





# FOLDING STAIRWAY

## Caterpillar 777D Truck

### Pneumatic Operation

## Section 2 Recommended Maintenance Procedure



### Daily

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

Notify the appropriate supervisor for any observed damage or malfunction.

### 500 Hours

Check main mounting bolts for torque.

Thoroughly check all electrical wiring & airlines for damage, replace as necessary.

**Repeat daily check as above**

### 5000 Hours

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

**Repeat daily check as above**

# FOLDING STAIRWAY

## Caterpillar 777D Truck

### Pneumatic Operation

### Section 3 Operating Procedure



#### To Lower Ladder (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 air switch adjacent to the ladder, to the down position by pressing the switch down.

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 Ladder

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 air switch to the raise position (up).

The ladder is now raised and stored.

### OPERATING NOTES

#### **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.

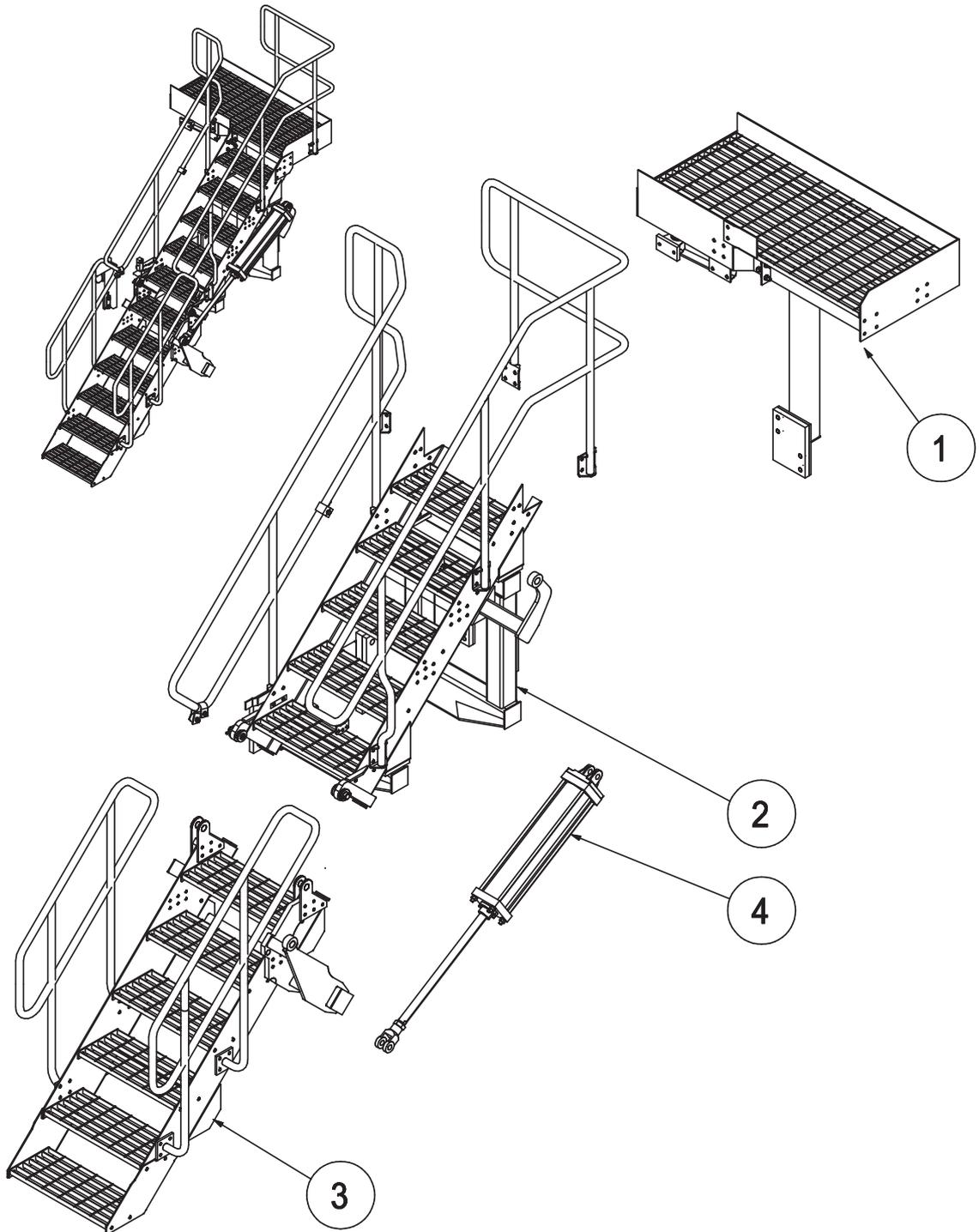
# FOLDING STAIRWAY

Caterpillar 777D Truck

Pneumatic Operation

Section 4 Assembly Complete

PSA-777DA-FS



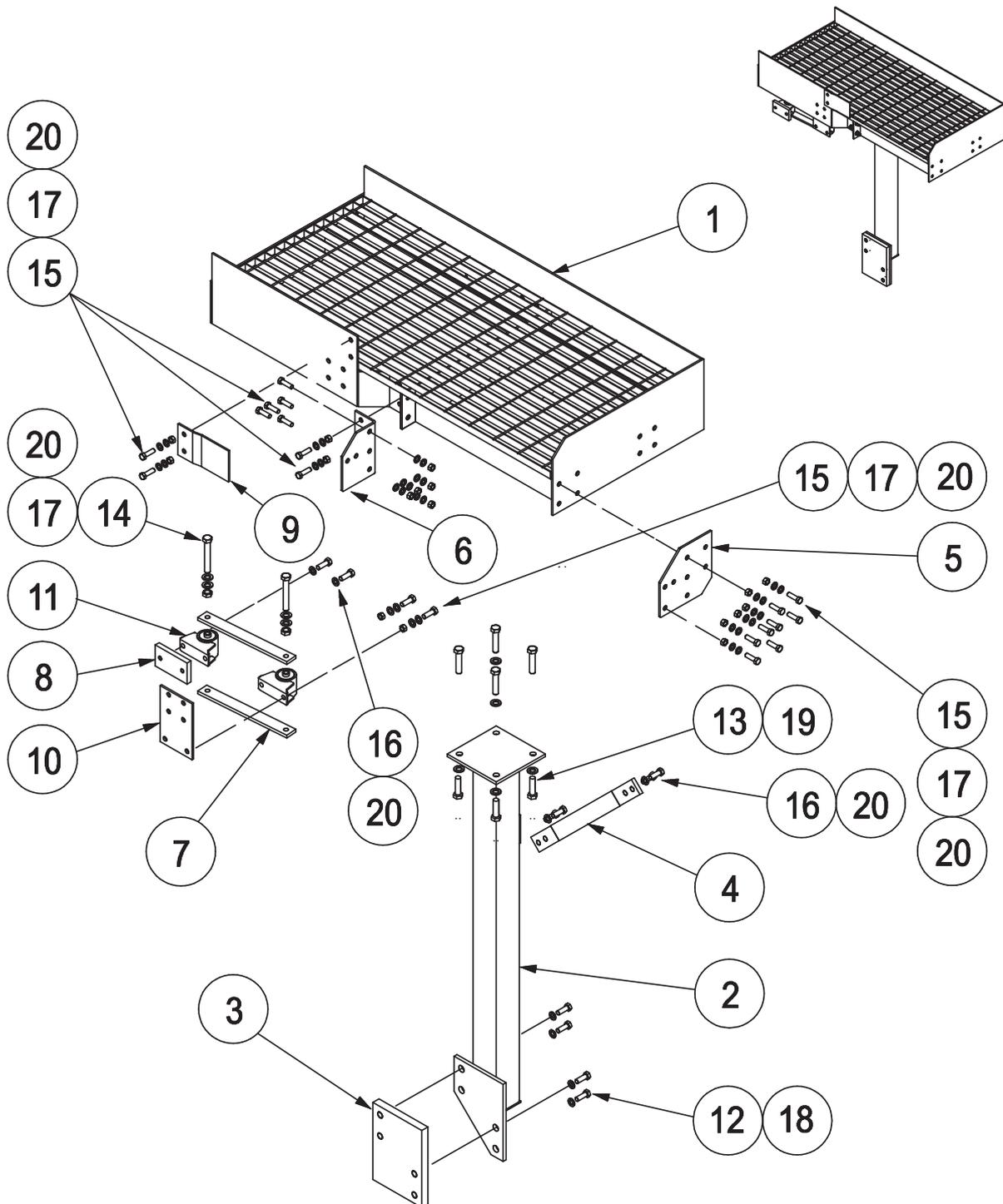
# FOLDING STAIRWAY

Caterpillar 777D Truck

Pneumatic Operation

## Section 4-1 Landing Assembly PS-24660-ASSY

See Parts List Page 16



# FOLDING STAIRWAY

Caterpillar 777D Truck

Pneumatic Operation

**Section 4-1** Landing Assembly PS-24660-ASSY

See Drawing Page 15



Item	Part No.	Part Name	Qty		
1	PS-24660	LANDING FABRICATION	1		
2	PS-24663	LANDING POST	1		
3	PS-24663-03	MOUNTING PLATE	1		
4	PS-24662	MOUNTING BRACE	1		
5	PS-22381-01	OUTER FISHPLATE	1		
6	PS-22381-02	INNER FISHPLATE	1		
7	PS-24661-01	LINK BAR	2		
8	PS-24661-02	ISOLATOR PAD	1		
9	PS-24657-11	LANDING PLATE	1		
10	PS-24657-09	LANDING PLATE	1		
11	PS-21930A	ISOLATOR MOUNTING	2		
12	CPS-M20X30ZP	BOLT-M20 x 30	4		
13	CPS-M16X35ZP	BOLT-M16 x 35	4		
14	CPS-M12X100ZP	BOLT-M12 x 100	2		
15	CPS-M12X30ZP	BOLT-M12 x 30	19		
16	CPS-M12X25ZP	BOLT-M12 x 25	4		
17	CPS-M12NZP	NUT-M12	21		
18	CPS-M20WH	WASHER-HARDENED-M20	4		
19	CPS-M16WH	WASHER-HARDENED-M16	4		
20	CPS-M12WH	WASHER-HARDENED-M12	46		

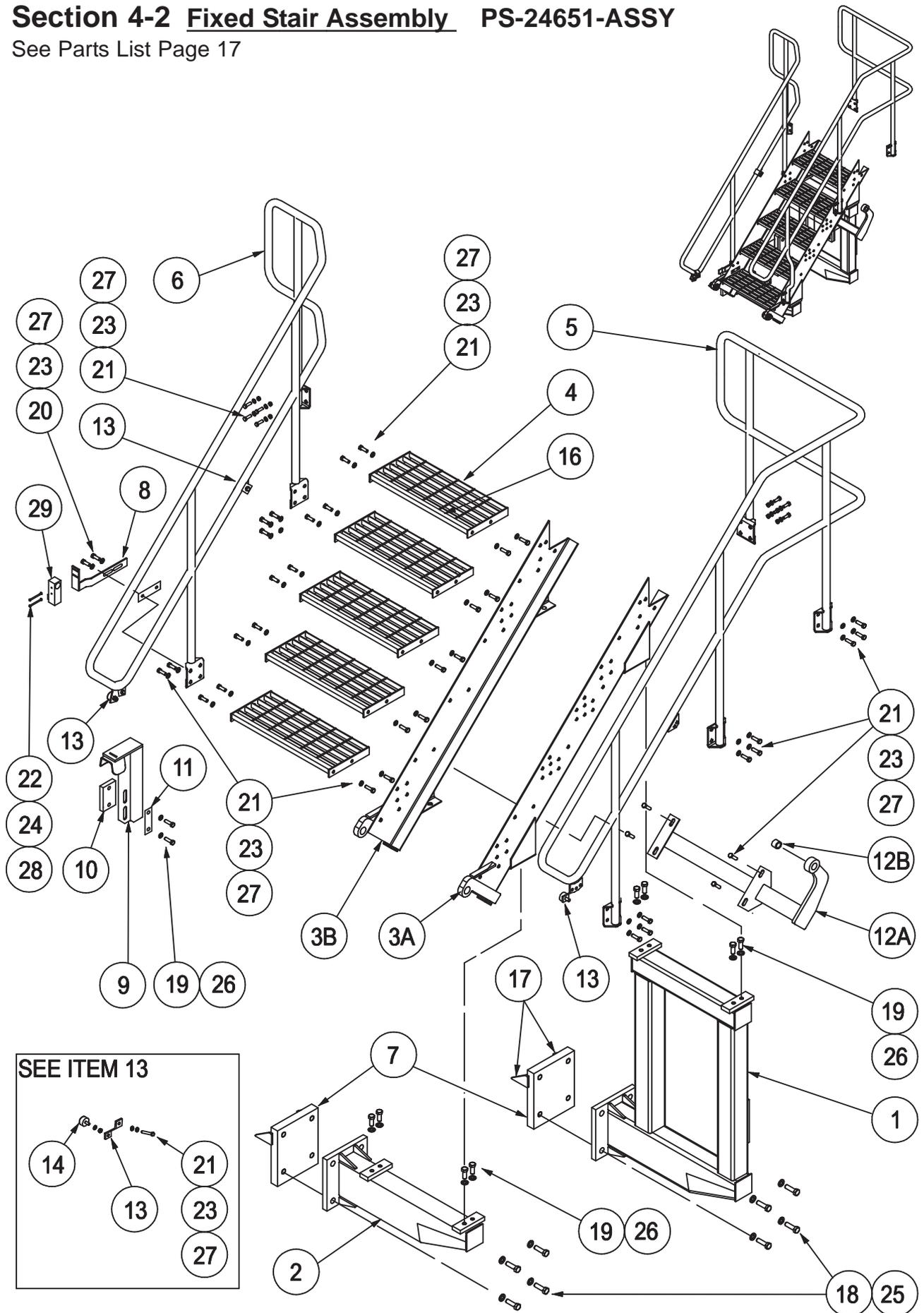
# FOLDING STAIRWAY

Caterpillar 777D Truck

Pneumatic Operation

## Section 4-2 Fixed Stair Assembly PS-24651-ASSY

See Parts List Page 17



# FOLDING STAIRWAY

Caterpillar 777D Truck

Pneumatic Operation

## Section 4-2 Fixed Stair Assembly PS-24651-ASSY

See Drawing Page 17



Item	Part No.	Part Name	Qty		
1	PS-22376-99	MOUNTING ARM-LEFT SIDE	1		
2	PS-22376-98	MOUNTING ARM-RIGHT SIDE	1		
3A	PS-22379-01	STILE FABRICATION-RH	1		
3B	PS-22379-02	STILE FABRICATION-LH	1		
4	PS-22266	TREADS	5		
5	PS-24665	HANDRAIL-OUTER	1		
6	PS-22664	HANDRAIL-INNER	1		
7	PS-22375-02	FRONT BOLTING PADS	2		
8	PS-22238	BRACKET-GO SWITCH	1		
9	PS-24654	BUFFER SOCKET	1		
10	PS-24654-01	BOLTING PAD-BUFFER SOCKET	1		
11	PS-24654-04	CLAMP PLATE-BUFFER SOCKET	1		
12A	PS-24363	CYLINDER ARM-FIXED	1		
12B	PS-24362-02	BUSH-CYLINDER ARM	1		
13	PS-24666-99	BUMPER TAIL	4		
14	PS-1066553	BUFFER MACKAY	4		
15	PS-24384-02	PACKER-GO SWITCH MOUNTING	1		
16	PS-32266-SAN	NON-SLIP NOSING	5		
17	PS-22375-98/99	GUSSETS	4		
18	CPS-M24X60ZP	BOLT-M24 x 60	8		
19	CPS-M16X25ZP	BOLT-M16 x 25	10		
20	CPS-M12X40ZP	BOLT-M12 x 40	2		
21	CPS-M12X30ZP	BOLT-M12 x 30	56		
22	CPS-M5X50ZP	BOLT-M5 x 50	2		
23	CPS-M12NZIP	NUT-M12	58		
24	CPS-M5NN	NUT-M5 NYLOC	2		
25	CPS-M24WH	WASHER-HARDENED-M24	8		
26	CPS-M16WH	WASHER-HARDENED-M16	10		
27	CPS-M12WH	WASHER-HARDENED-M12	116		
28	CPS-M5WH	WASHER-HARDENED-M5	4		
-	-	-	-		
29	PS-75430	GO SWITCH (See Elec Controls pg.)	1		
30	PS-24384	POST PACKERS	6		not shown

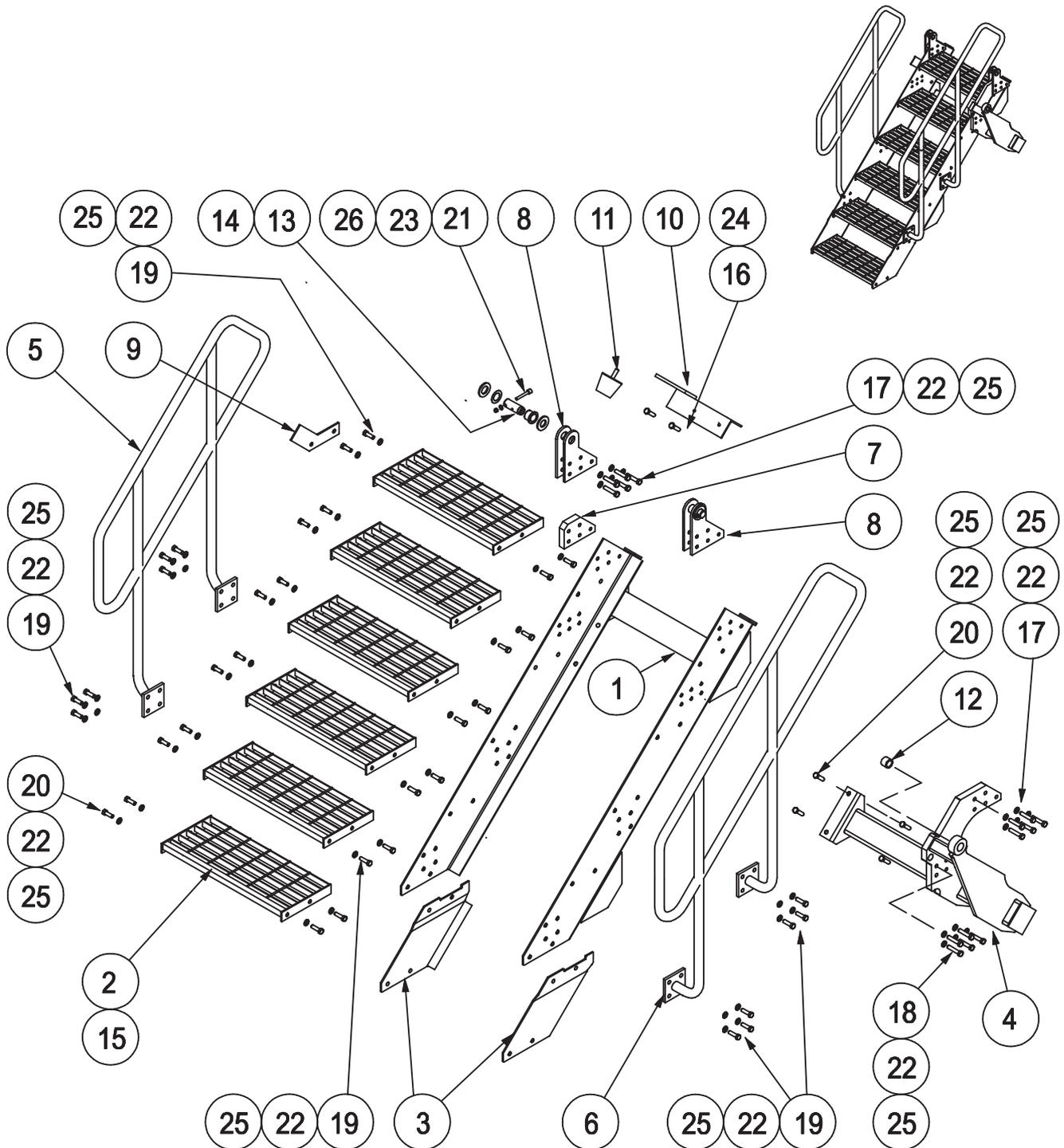
# FOLDING STAIRWAY

Caterpillar 777D Truck

Pneumatic Operation

Section 4-3 Lower Stair Assembly PS-24653-ASSY

See Parts List Page 20



# FOLDING STAIRWAY

Caterpillar 777D Truck

Pneumatic Operation

## Section 4-3 Lower Stair Assembly

See Drawing Page 19



PS-24653-ASSY

Item	Part No.	Part Name	Qty		
1	PS-22380	STILE FABRICATION Incl. 24369	1		
2	PS-22266	STAIR TREADS	6		
3	PS-24652	STAIR EXTENSION (LH & RH Side)	1set		
4	PS-24366	CYLINDER ARM-LOWER	1		
5	PS-22385-02	HANDRAIL-LOWER STAIR-INNER	1		
6	PS-22385-01	HANDRAIL-LOWER STAIR-OUTER	1		
7	PS-24370-03	HINGE PLATE SPACER	2		
8	PS-24370-02	HINGE CHEEK PLATE	4		
9	PS-24370-01	SWITCH TARGET	1		
10	PS-22383-99	BUFFER ARM	1		
11	PS-40001	RUBBER BUFFER	1		
12	PS-24362-02	BUSH-CYLINDER ARM	1		
13	PS-22246	HINGE PIN	2		
14	PS-22246-05	BUSH-HINGE PIN	2		
15	PS-32266-SAN	NON-SLIP NOSING	6		
16	CPS-M16X25ZP	BOLT-M16 x 25	2		
17	CPS-M12X70ZP	BOLT-M12 x 70	10		
18	CPS-M12X50ZP	BOLT-M12 x 50	5		
19	CPS-M12X40ZP	BOLT-M12 x 40	22		
20	CPS-M12X30ZP	BOLT-M12 x 30	20		
21	CPS-M8X50ZP	BOLT-M8 x 50 (pin keeper bolt)	2		
22	CPS-M12NZP	NUT-M12	47		
23	CPS-M8NN	NUT-NYLOC-M8	2		
24	CPS-M16WH	WASHER-HARDENED-M16	2		
25	CPS-M12WH	WASHER-HARDENED-M12	94		
26	CPS-M8WH	WASHER-HARDENED-M8	4		
-	-	-	-		
27	PS-24384	POST PACKERS (not shown)	4		

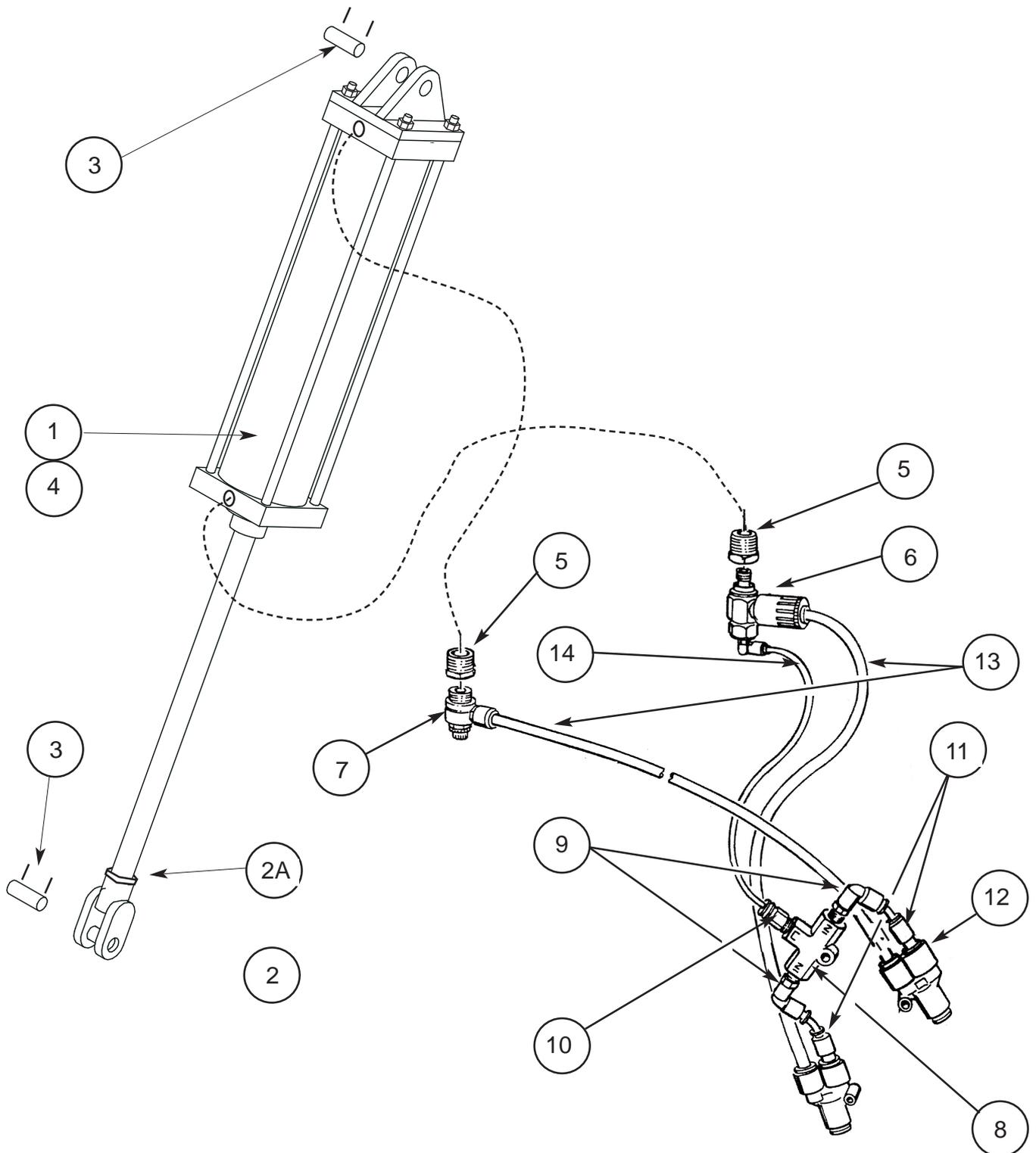
# FOLDING STAIRWAY

Caterpillar 777D Truck

Pneumatic Operation

## Section 4-4 Pneumatic Cylinder and Plumbing PS-50501-A

See Parts List Page 21



**FOLDING STAIR**  
**Caterpillar 777D Truck**  
**Pneumatic Operation**



**Section 4-4 Pneumatic Cylinder and Plumbing PS-50501-A**

See Drawing Page 21

Item	Part No.	Part Name	Qty		
1	PS-50501	CYLINDER	1		
2	PS-50502	CLEVIS	1		
2A	PS-50503	CLEVIS LOCK NUT	1		
3	PS-50504	PIN-CYLINDER WITH SPLIT PINS	2		
4	PS-50501-1	SEAL KIT (not shown)	1		
5	PS-50008	REDUCING BUSH 1/2" BSP - 1/4" BSP	2		
6	PS-51003	LOCK/FLOW CONTROL VALVE	1		
7	PS-51002	FLOW CONTROL VALVE	1		
8	PS-55105	SHUTTLE VALVE	1		
9	PS-55203	ELBOW 1/8"- 4MM 90 DEG.	2		
10	PS-55205	ADAPTOR 1/8"- 4MM STRAIGHT	1		
11	PS-55216	ADAPTOR 8MM- 4MM STRAIGHT	2		
12	PS-55215	JUNCTION JOINER Y 8MM	2		
13	PS-8MM-TUBE	AIR TUBE 8MM	-		
14	PS-4MM-TUBE	AIR TUBE 4MM	-		

# FOLDING STAIRWAY

Caterpillar 777D Truck

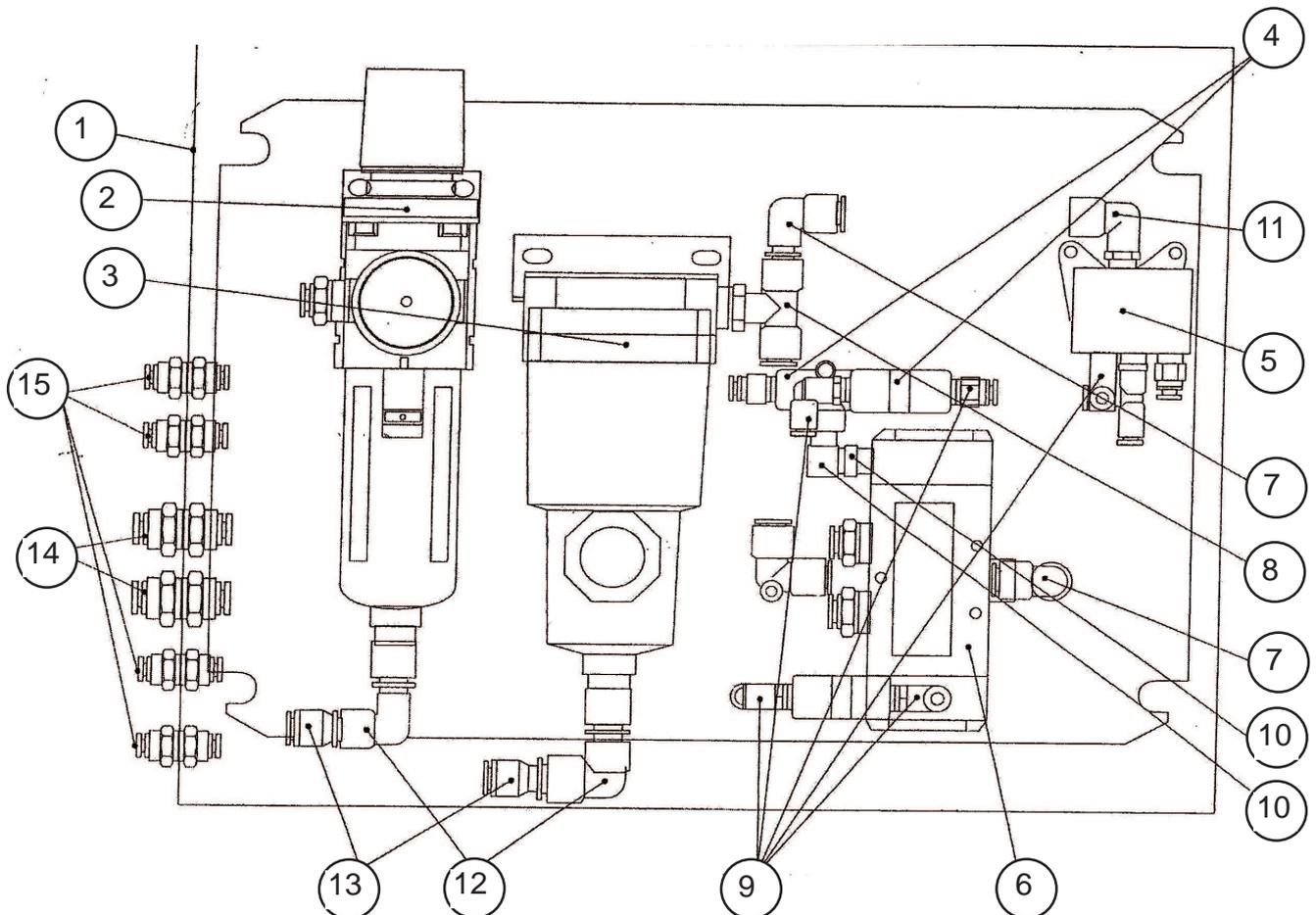
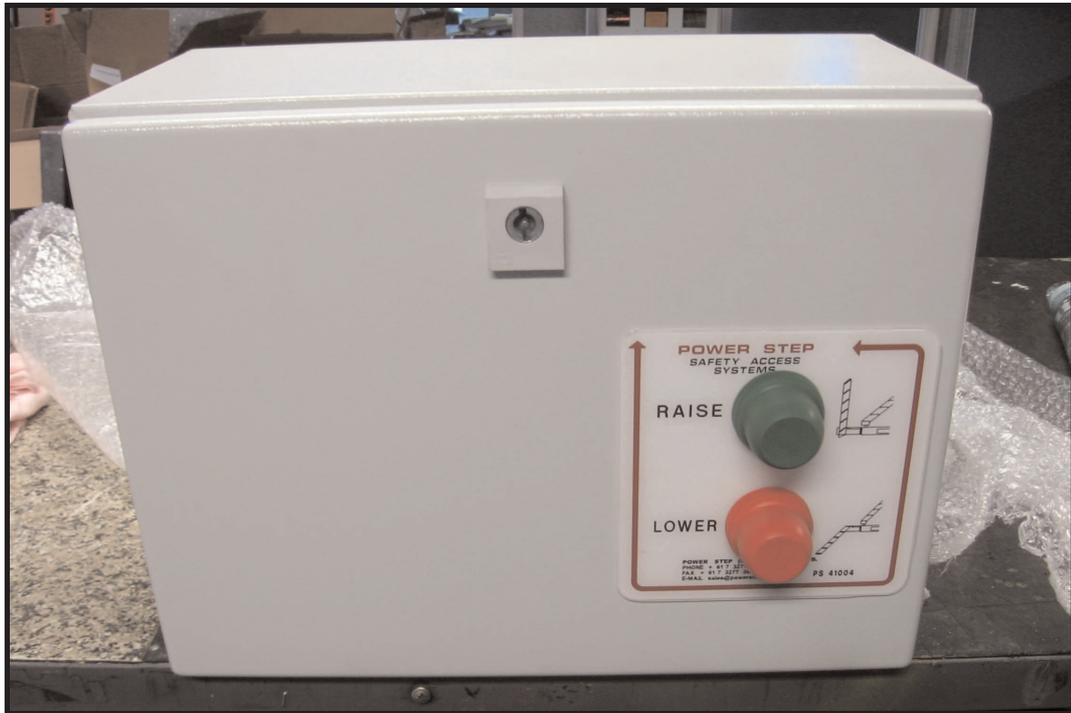
Pneumatic Operation

## Section 4-5 Air Control Box Assy.

See Parts list Page 27



PS-55001



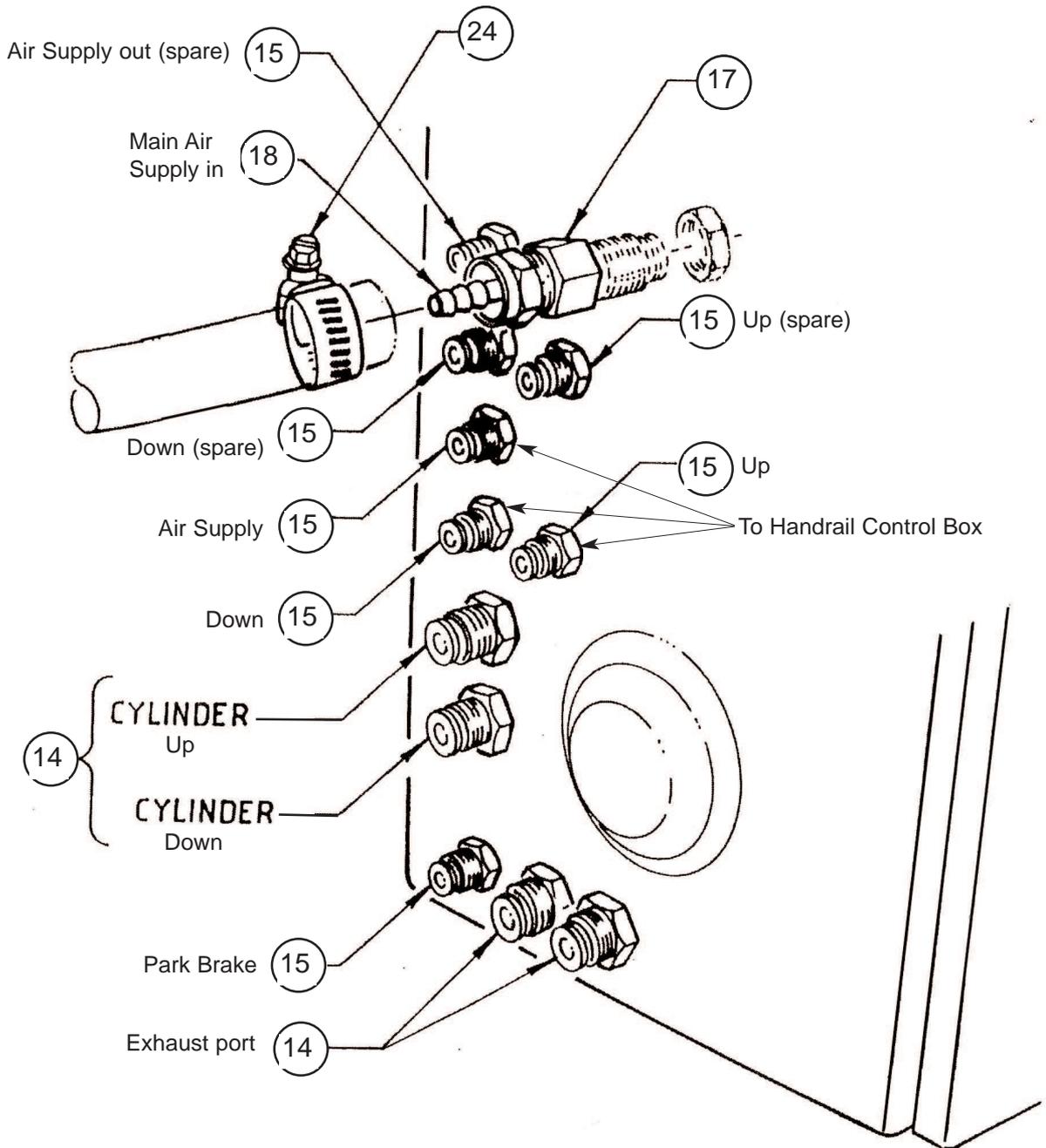
# FOLDING STAIRWAY

## Caterpillar 777D Truck

### Pneumatic Operation

#### Section 4-5 Air Control Box Assy. Fittings

See Parts list Page 27



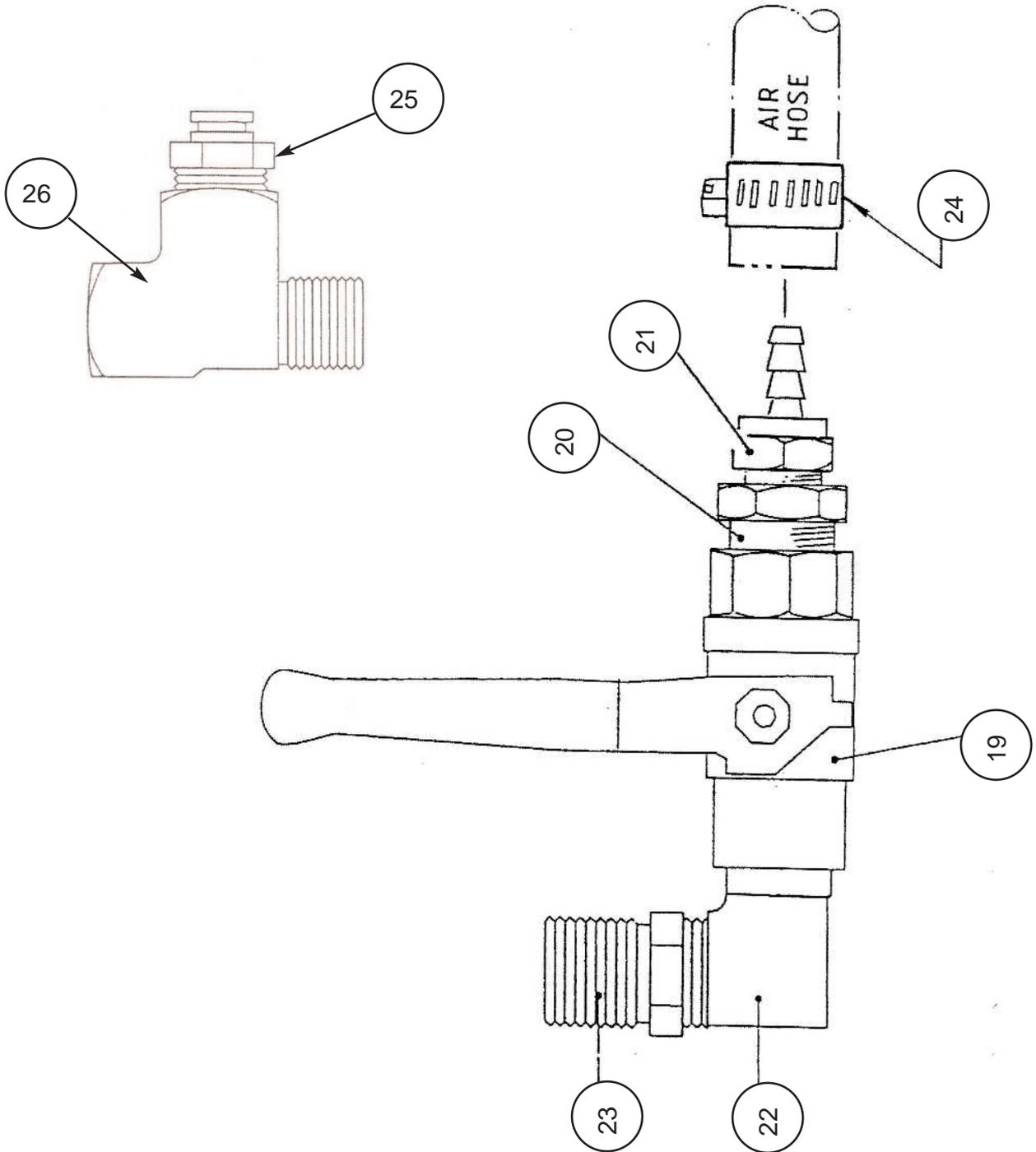
# FOLDING STAIRWAY

Caterpillar 777D Truck

Pneumatic Operation

## Section 4-5 Air Control Box Assy. Fittings

See Parts list Page 27



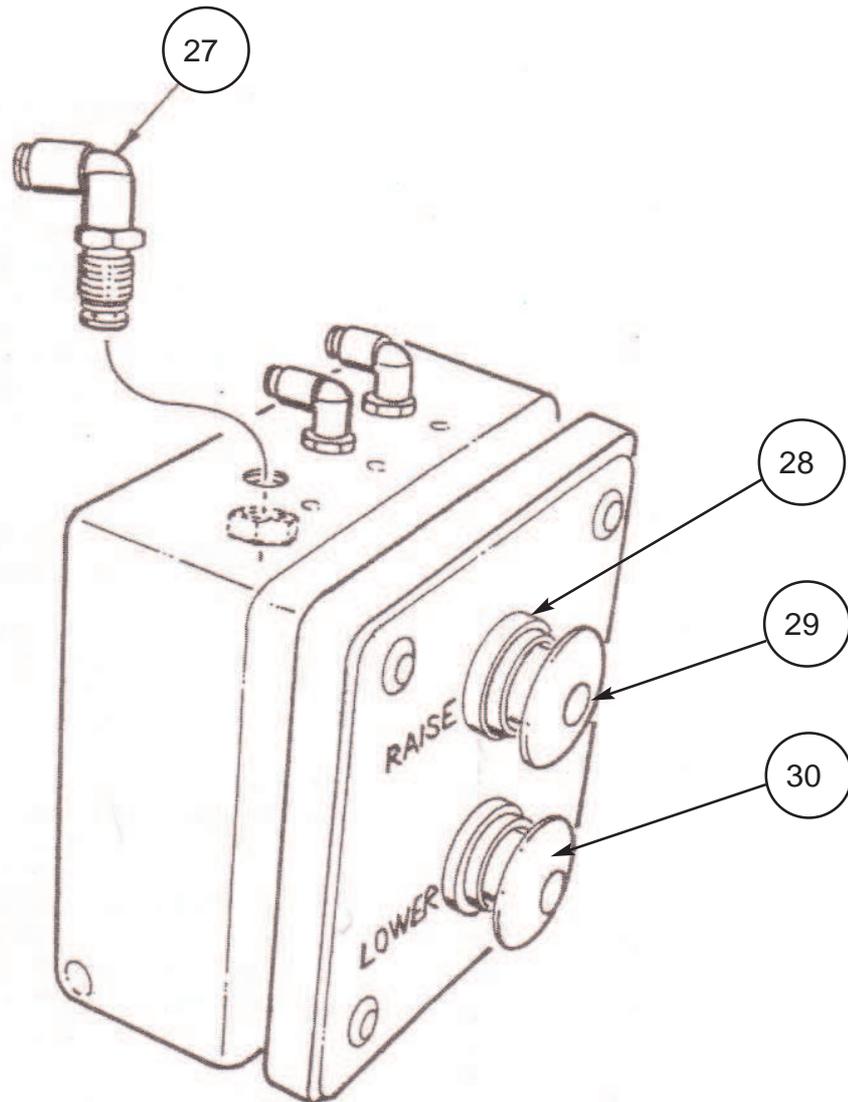
# FOLDING STAIRWAY

Caterpillar 777D Truck

Pneumatic Operation

## Section 4-5 Air Control Box Assy.

See Parts list Page 27



**Handrail Control Box Assembly PS-55002**

**Box Only PS-55012**

# FOLDING STAIRWAY

Caterpillar 777D Truck

Pneumatic Operation

**Section 4-5** Air Control Box Assy.

See Illustrations Pages 23- 26

**PS-55001**

Including items 1-16



Item	Part No.	Part Name	Qty		
1	PS-55011	SEALED ENCLOSURE - BOX ONLY	1		
2	PS-55101	AIR FILTER/REGULATOR	1		
3	PS-55102	MIST SEPARATOR	1		
4	PS-55105	SHUTTLE VALVE	1		
5	PS-55104	PILOT VALVE	1		
6	PS-55103	PILOT VALVE	1		
7	PS-55212	ADAPTOR 8MM 90 DEG. MALE/FEMALE	1		
8	PS-55211	ADAPTOR 3/8"- 8MM TEE	1		
9	PS-55203	ADAPTOR 1/8" - 4MM 90DEG.	5		
10	PS-55402	NIPPLE HEX BRASS 1/8"	1		
11	PS-55403	ELBOW 90DEG. BRASS 1/8"	1		
12	PS-55213	ADAPTOR 10MM/10MM M/F 90 DEG	1		
13	PS-55214	ADAPTOR 10MM/8MM M/F STRAIGHT	2		
14	PS-55201	UNION BULKHEAD 8MM	2		
15	PS-55202	UNION BULKHEAD 4MM	2		
16	PS-55206	ADAPTOR 1/8" - 8MM 90 DEG.	7		
17	PS-55217	FITTING - BULKHEAD 8MM-3/8" BSPF	1		
18	PS-50101	ADAPTOR 3/8"BSPF	1		
19	PS-50003	BALL VALVE 1/2" SELF DRAINING	1		
20	PS-50004	REDUCER 1/2"-3/8" BSPP	1		
21	PS-50101	ADAPTOR 3/8"-8MM	1		
22	PS-50002	ELBOW 1/2"BSPP	1		
23	PS-50001	REDUCING SOCKET 3/4"-1/2" BSPP	1		
24	PS-50101-H	HOSE CLAMP	1		
25	PS-50102	ADAPTOR 1/4"NPT 4MM	1		
26	PS-50005	TEE 1/4 NPT	1		
27	PS-55218	BULK HEAD FITTING - 90Deg.	1		
28	PS-55108	SWITCH KIT	2		
29	PS-55109-BG	GREEN RUBBER COVER	1		
30	PS-55108-BR	RED RUBBER COVER	1		
31	PS-55107	PUSH BUTTON VALVE	2		not shown

# FOLDING STAIRWAY

## Caterpillar 777D Truck

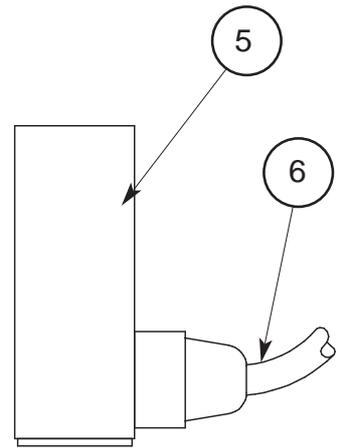
### Pneumatic Operation

### Section 4-6 Electrical Controls

See Parts List Page 28



**Proximity Switch Assembly**  
Mounted on Fixed Landing



**Cab Harness & Equipment**  
Refer Wiring Harness Drawings



**FOLDING STAIR**  
**Caterpillar 777D Truck**  
**Pneumatic Operation**  
**Section 4-6 Electrical Controls**



See Photos Page 27

Item	Part No.	Part Name	Qty		
1	PS-55225	AIR PARK BRAKE HARNESS	1		
2	PS-55227	MAIN AIR HOSE-10M	1		
3	PS-55226	MAIN CONTROL TO HANDRAIL BOX HARNESS-10M	1		
4	PS-55228	MAIN CONTROL BOX TO AIR CYLINDER	1		
5	PS-75430	PROXIMITY SWITCH	1		
6	PS-77004	PROXIMITY SWITCH HARNESS	1		
7	PS-77002	CABIN BOX LED LIGHT INDICATOR	1		
8	PS-77003	WIRING HARNESS	1		

**WARNING**

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

# FOLDING STAIR

## Caterpillar 777D Truck

### Pneumatic Operation

### Section 4-6 Electrical Controls - Wiring Diagram

