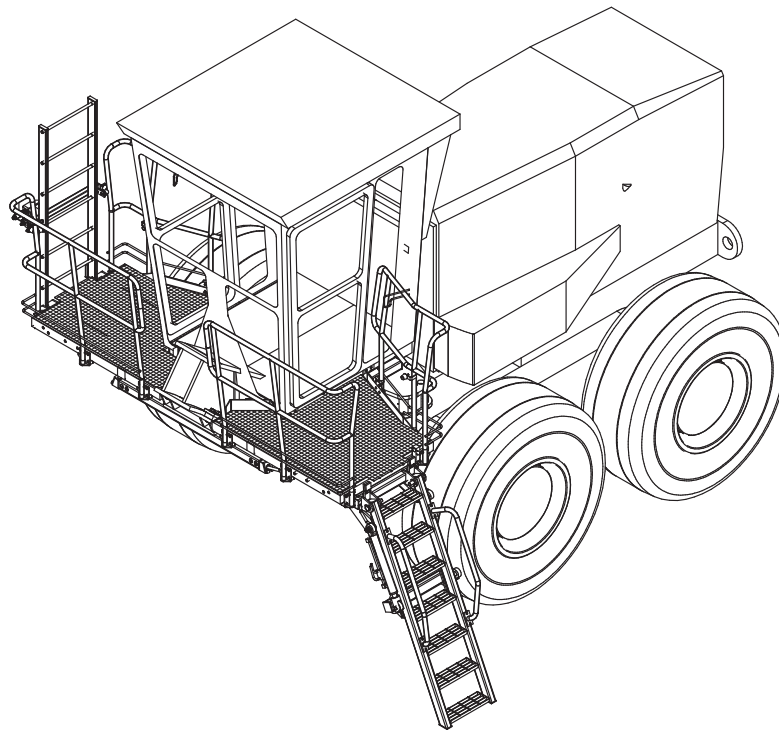




# Power Step Access System for Caterpillar 16H Grader



Model No.: PSA-CAT16H-F/L  
Serial No.: 16H-LAD-002 - ~  
Date Manufactured: 2010

# FOLDING LADDER

## Caterpillar 16H Grader



### CONTENTS

Page 3	Section 1 <u>Installation and Mounting Instructions</u> Installation Drawings
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# FOLDING LADDER

## Caterpillar 16H Grader



### Installation and Mounting Instructions

#### **NOTE**

**Follow all on-site/Mine lifting and safety procedures when installing PowerStep Folding Ladders to Grader.**

## Section 1

### Installation and Mounting Instructions

See General Arrangement **22 438** (for overview and dimensional height checks)

See Drawing **22 946** for Brace mounting location dimensions (Page 4.)

See Drawing **22 428** Pages 5, 6 & 7. Follow instructions for positioning Mountings

See Drawing **22 432** - Platform and Landings (Page 8).

#### **PROCEDURE.** See Dwg. **22 432**

Following on from Drawings 22 946 Brace Mountings and **22 428** Landing Mountings:

1. Per **View 1**, Assemble pairs of Platform Braces
2. Per **View 2**, fit braces to left side of grader. Same on right side.
3. Per **View 3**, fit platform on left side of grader. Same on right side.
4. Per **Views 4 & 5**, fit Left Side Ladder Mounting under left side platform. (no equivalent on right side)
5. Per **Views 6 & 7**, fit handrails to both platforms.
6. Per **Views 6 & 7** weld **22 427 01** Open-Position Latch Striker and **22 427 02** Open-Position Door Buffer Bracket (and then fit buffer) to the rear handrails both sides so as to be able to secure both doors firmly in an open position without rattling and shaking.

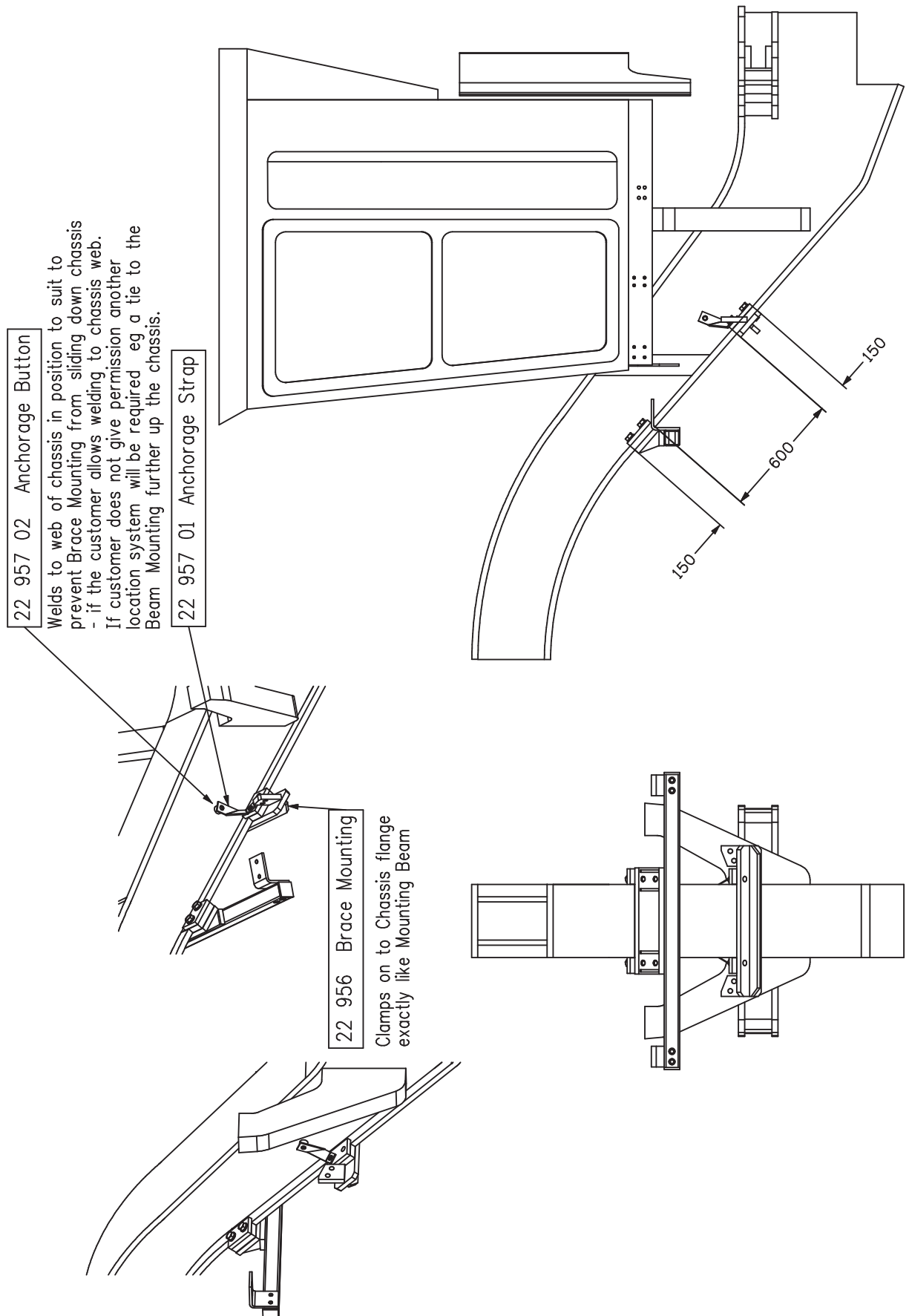
# FOLDING LADDER

## Caterpillar 16H Grader



### Installation and Mounting Instructions

#### Brace Mounting 22 946



# FOLDING LADDER

## Caterpillar 16H Grader

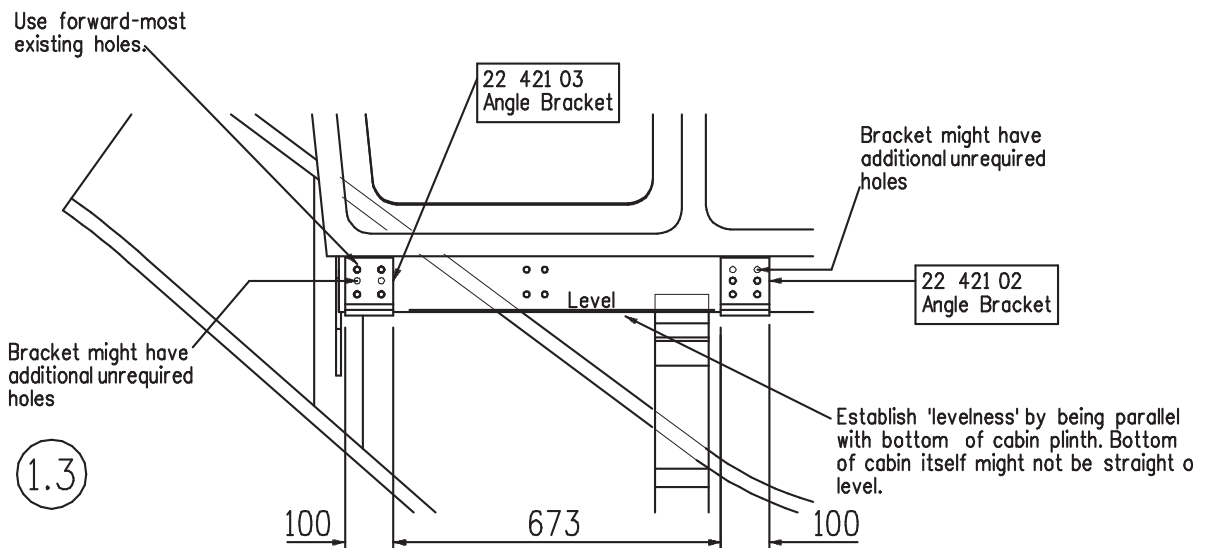
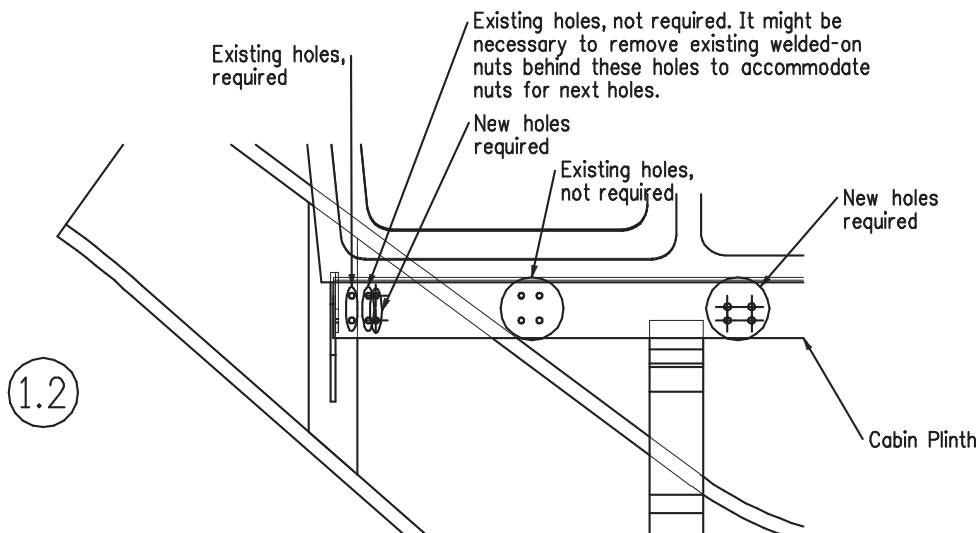
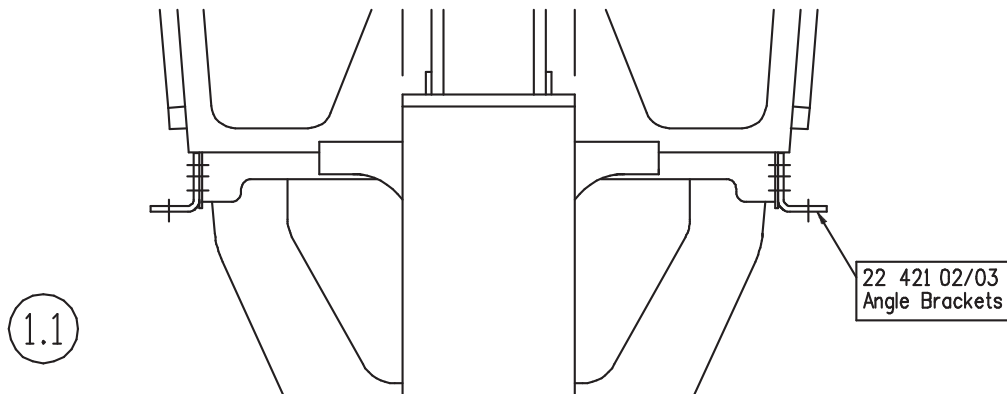


### Section 1 Installation and Mounting Instructions

#### Landing Mountings - 22 428A (Page 1)

1.

Fit Angle Brackets 22 421 02 & 03 to existing cabin plinth, by drilling and/or tapping holes for M12 bolts



# FOLDING LADDER

## Caterpillar 16H Grader

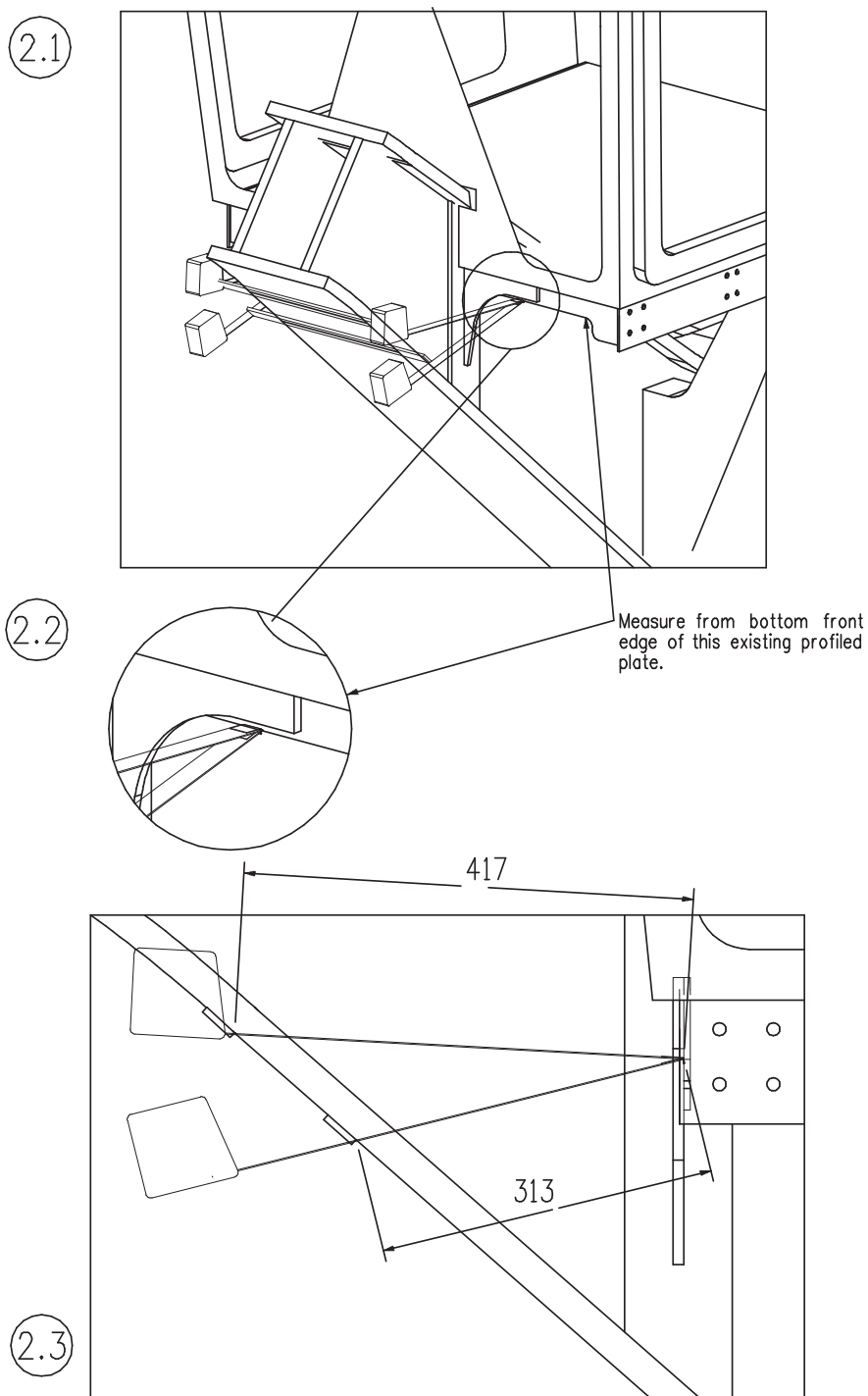


### Section 1 Installation and Mounting Instructions Cont.

#### Landing Mountings - 22 428A (Page 2)

2.

Measure from skirt member under front of cabin and mark two chalk lines across under side of bottom flange of gooseneck beam.



# FOLDING LADDER

## Caterpillar 16H Grader

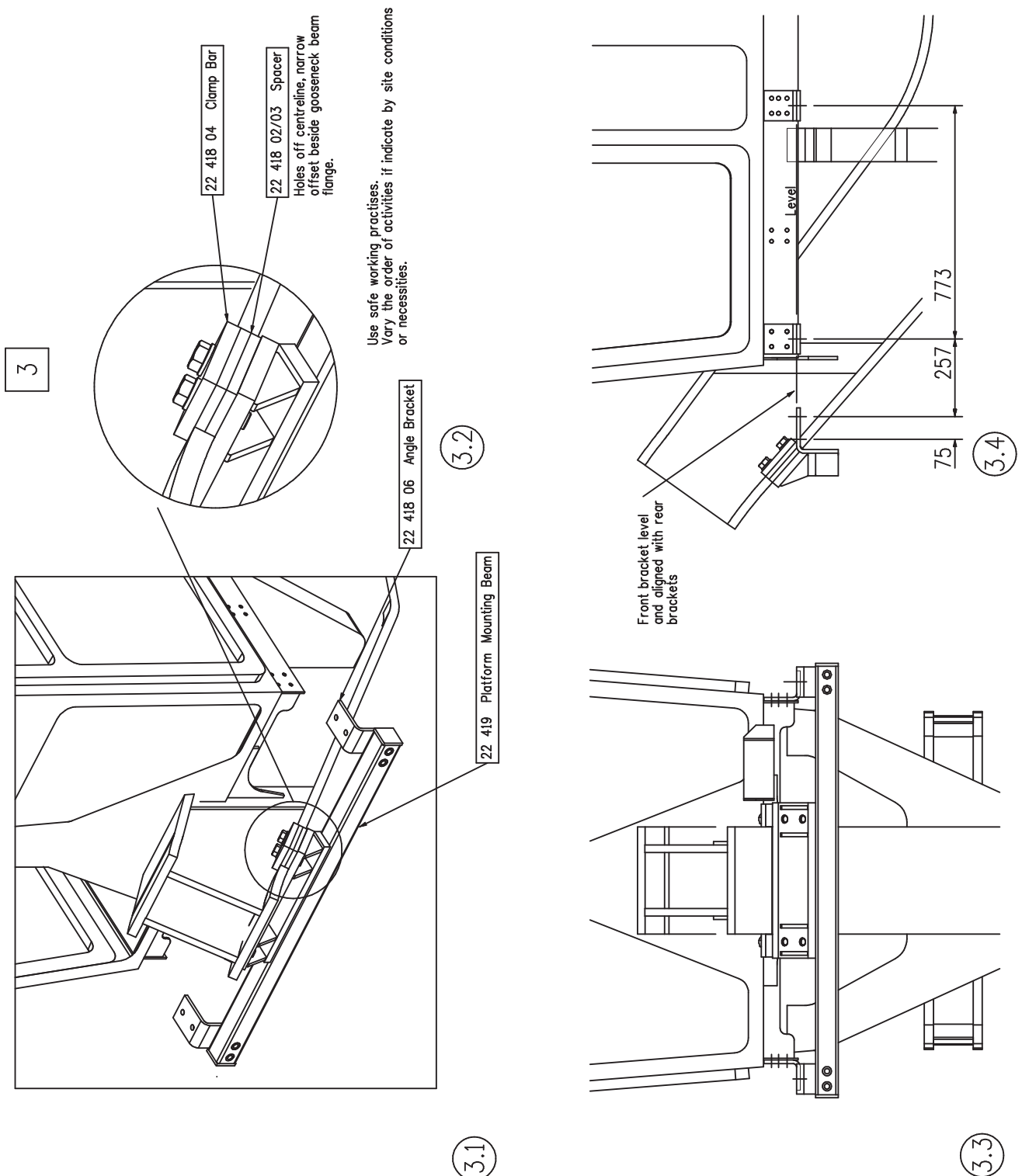


### Section 1 Installation and Mounting Instructions Cont.

#### Landing Mountings - 22 428A (Page 3)

3.

Using the chalklines under the bottom flange of the gooseneck beam (from [2]) as a starting point, attach 22 419A Platform Mounting Beam to the gooseneck beam. If Angle Bracket 22 418 06, bolted to Beam, cannot be made to align with the Brackets attached per [1], another bracket must be made from Spare Flat 22 418 12, to suit.



# FOLDING LADDER

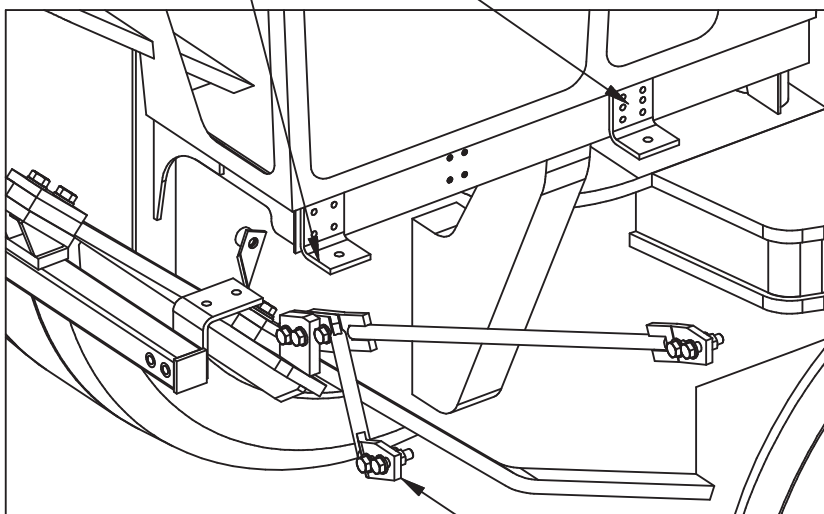
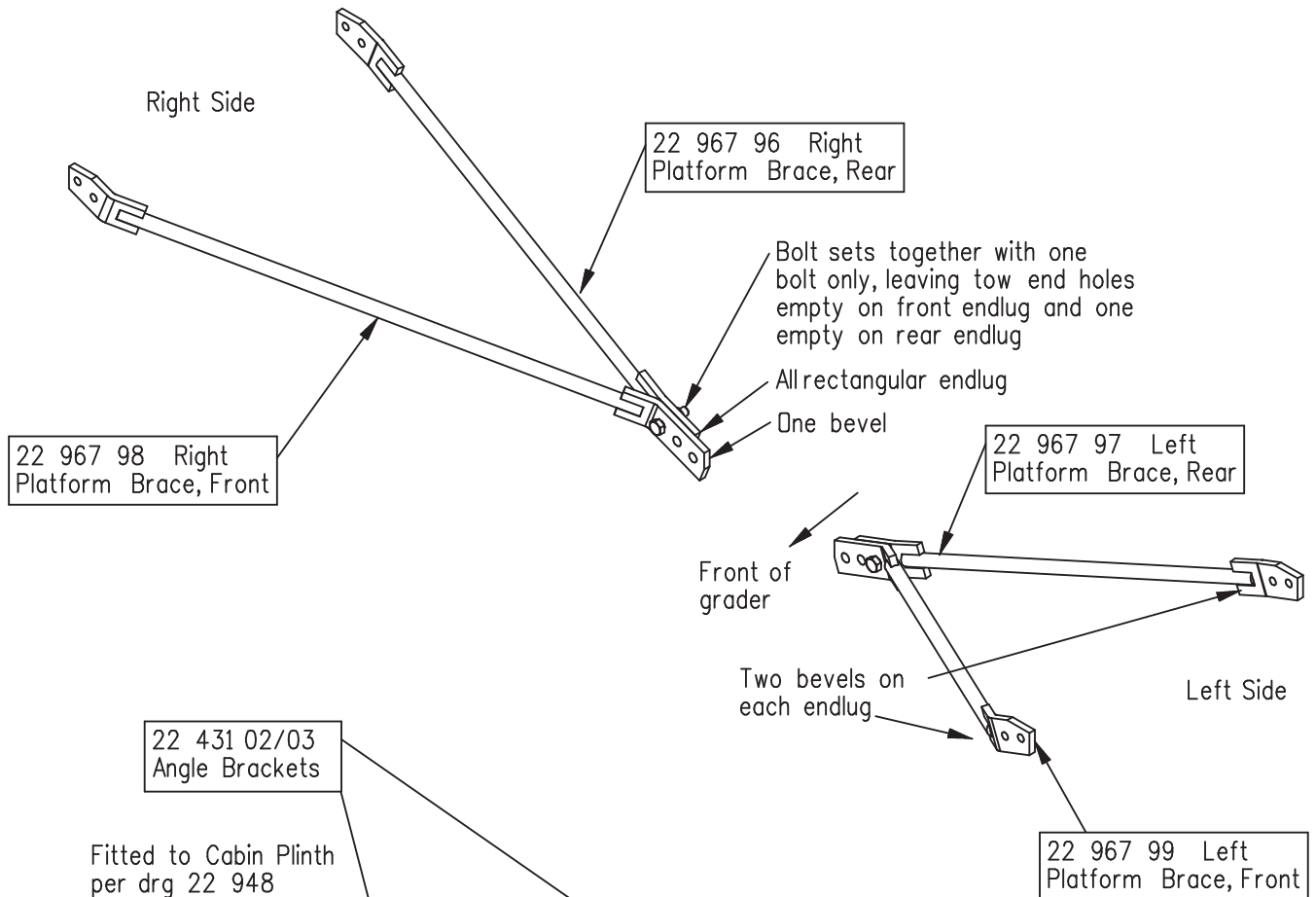
## Caterpillar 16H Grader



### Section 1 Installation and Mounting Instructions

Platform and Ladder 22 432 Page 1

#### VIEW 1 Assembly of Brace Sets



#### VIEW 2

FITMENT OF BRACE SETS

22 956 BRACE MOUNTING

Fitted to Chassis per drg 22 946



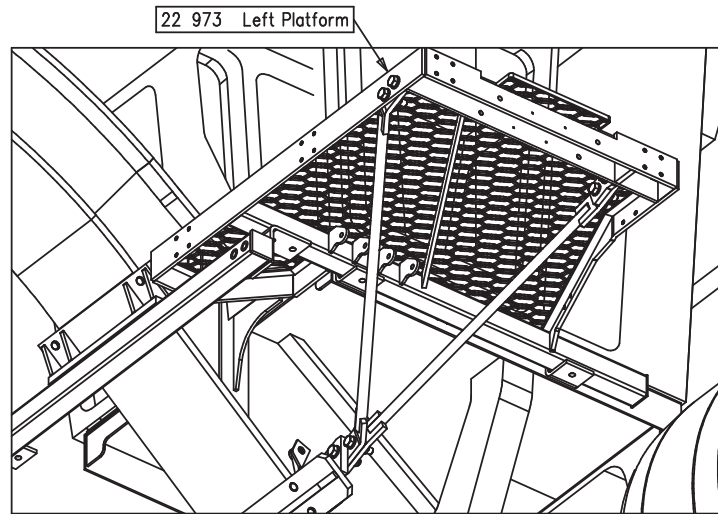
# FOLDING LADDER

## Caterpillar 16H Grader

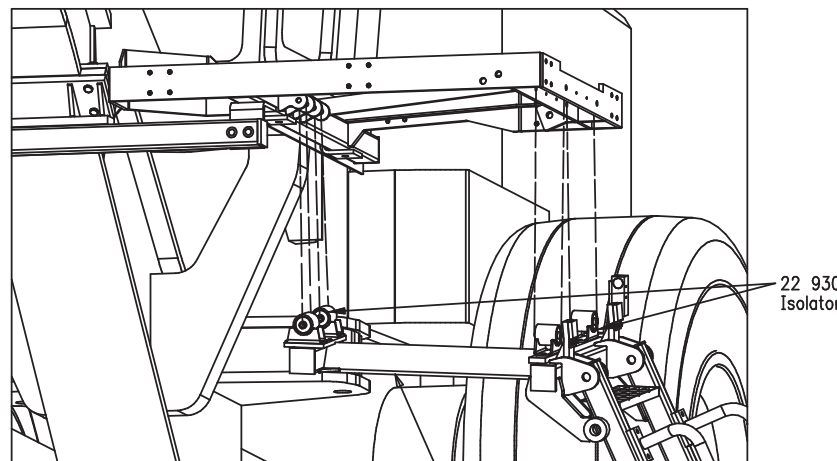


### Section 2 Electrical System - Wiring Diagrams

Platform and Ladder 22 432 Page 2



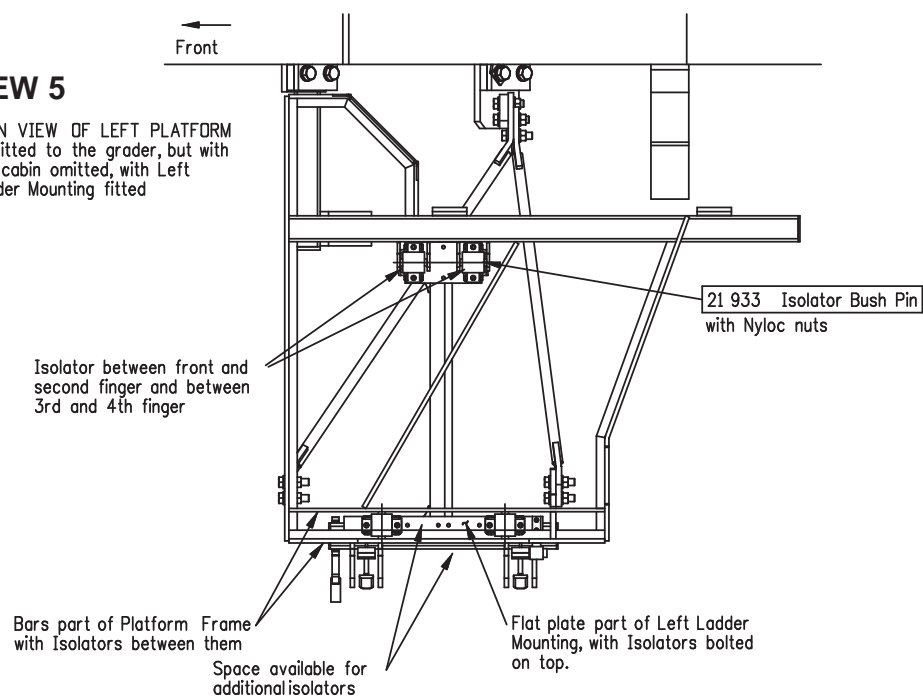
**VIEW 3** INSTALLATION OF PLATORM



**VIEW 4** INSTALLATION OF LEFT SIDE LADDER MOUNTING

**VIEW 5**

PLAN VIEW OF LEFT PLATFORM as fitted to the grader, but with the cabin omitted, with Left Ladder Mounting fitted



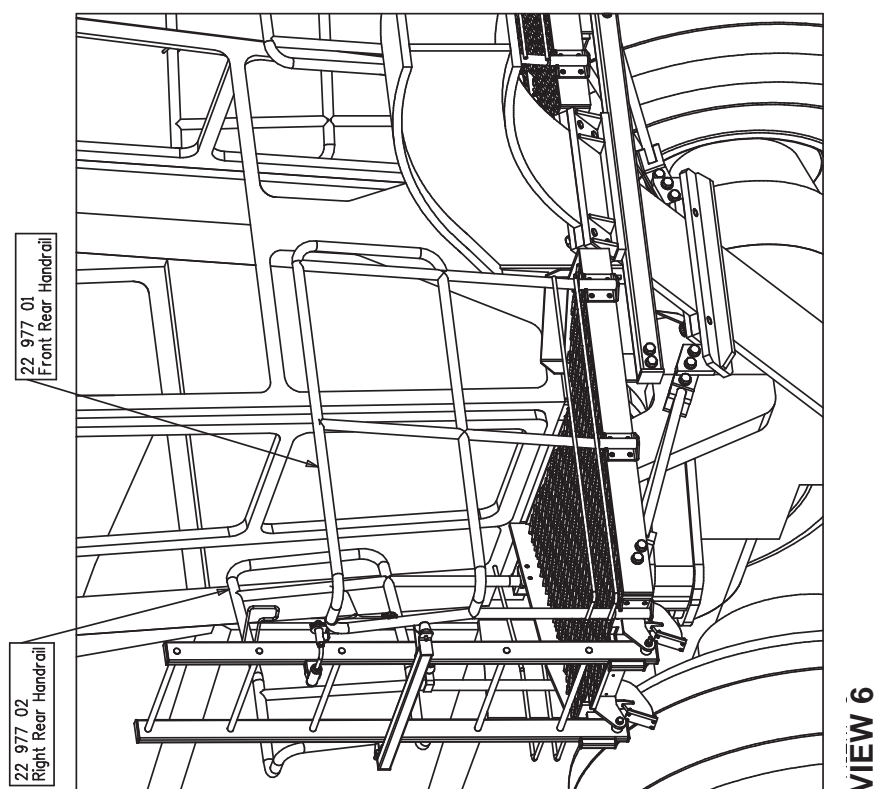
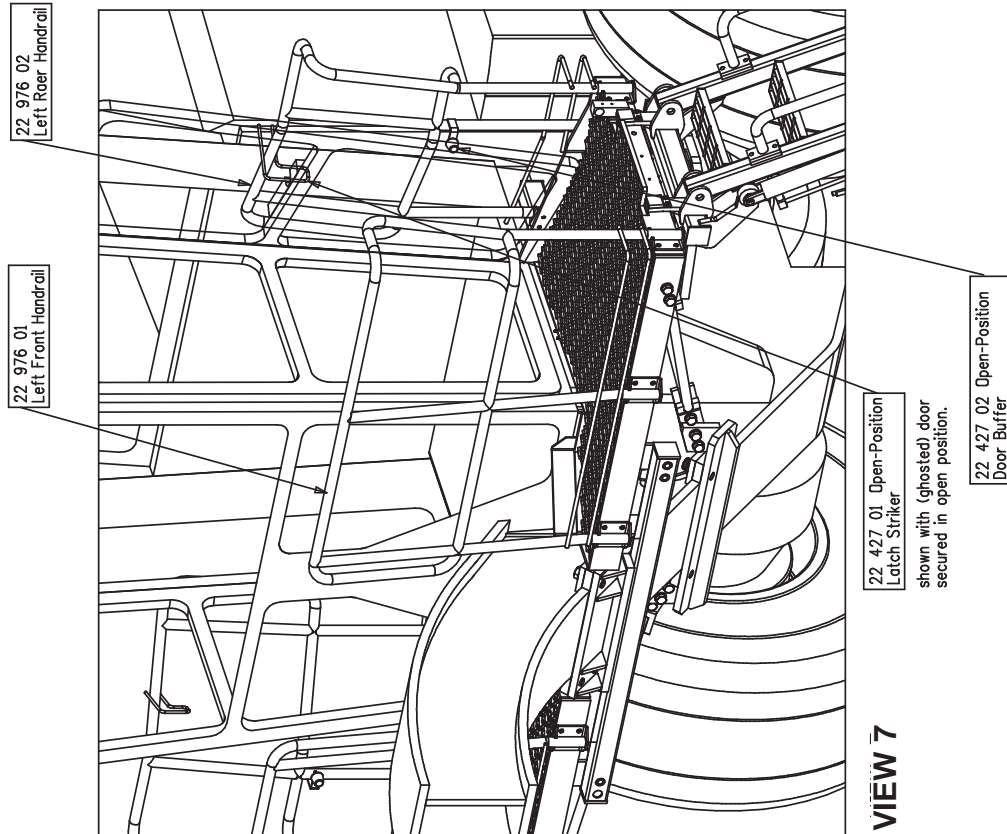
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## Caterpillar 16H Grader



### Section 1 Installation and Mounting Instructions

Bracing Installation Drawings - 22 432 Page 3



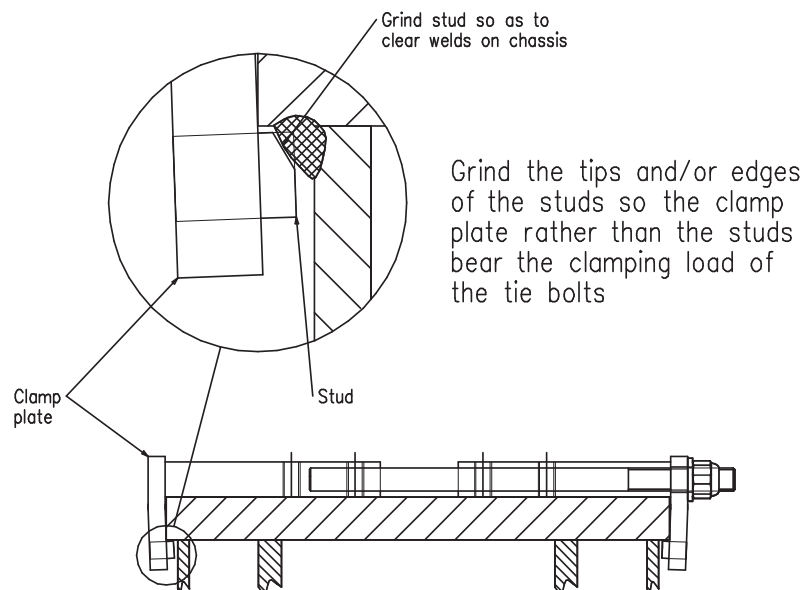
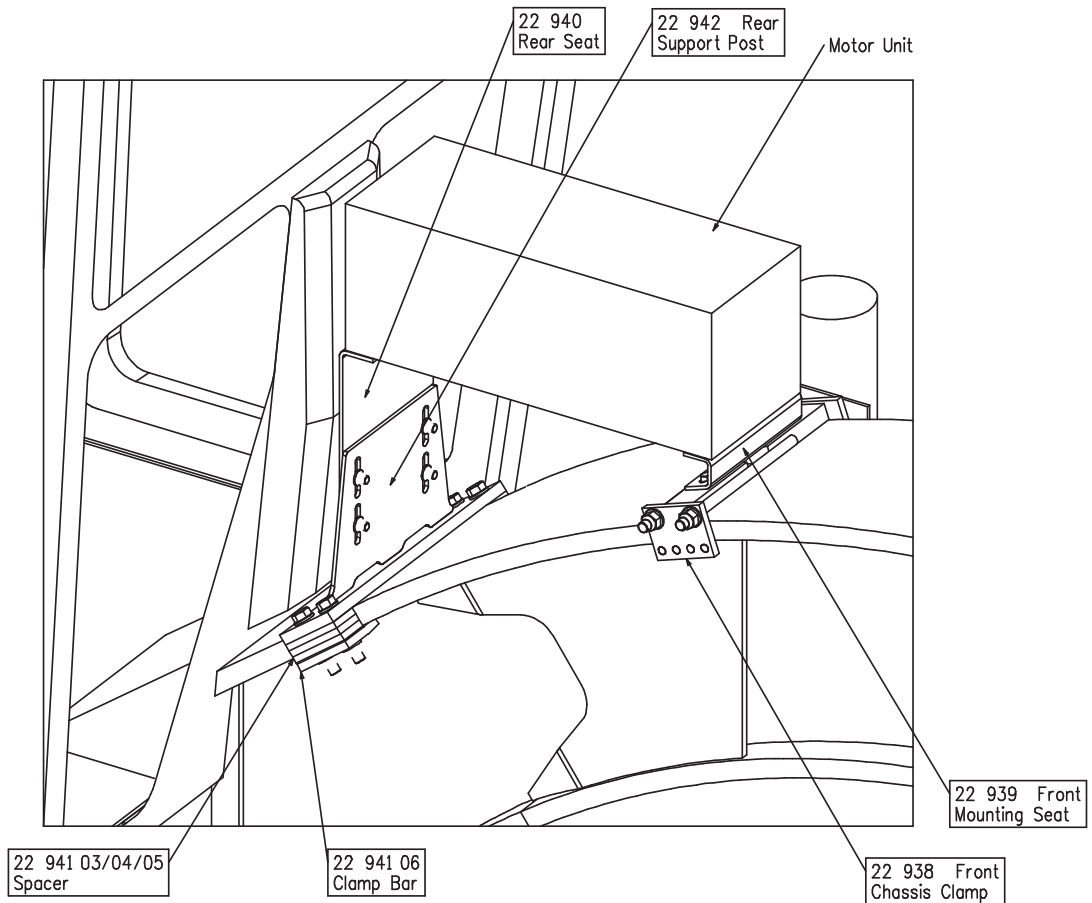
# FOLDING LADDER

## Caterpillar 16H Grader



### Section 1 Installation and Mounting Instructions

Power Pack Enclosure Installation - 22 943 Page 3



# FOLDING LADDER

## Caterpillar 16H Grader



### Section 1 Installation and Mounting Instructions (cont.)

#### Maintenance Notes

#### **NOTE**

**Follow all on-site/Mine lifting and safety procedures when installing PowerStep Ladders to Grader.**

#### **WARNING**

Raising the POWER STEP ladder by external means can create a vacuum in the hydraulic cylinder and create the opportunity to allow air into the hydraulic system, defeating the inherent safety features of the POWER STEP.

This must be avoided, to maintain safe operation of the POWER STEP.

In instances where the use of external means to raise the ladder must be used, please follow the following instructions:

Loosen hard plumbed hydraulic lines on cylinder side of lock valve on cylinder.

Raise ladder by available means.

Note: Make necessary arrangements to collect displaced oil, and be aware that air enters the piston side of the cylinder as ladder is raised.

Lock in raised position.

Re-tighten hydraulic fittings.

**SECURE THE LADDER IN THE RAISED POSITION, MECHANICALLY, CHAIN & TAGOUT THE POWER STEP**

To recommission the POWER STEP:

Loosen hydraulic fittings on cylinder side of lock valve.

Note: Collect displaced oil.

Lower ladder to lowest position, using alternate safety approved means, fully retracting cylinder. Ensure all personnel are clear of step radius.

Operate electrical control switch to purge air from the hydraulic line systems, lock valve and cylinder.

Tighten the hydraulic fittings either side of lock valve to restriction fitting.

Cycle step unloaded several times to purge all air from hydraulic system.

The Power Step will not operate correctly if there is any air in the hydraulic circuit (due to the incorrect operation of the lock valve).

# FOLDING LADDER

## Caterpillar 16H Grader



### **Section 2 Recommended Maintenance Procedure**

#### **Suggested Service Procedure for Maintenance on Motor Grader Power Step**

##### **Daily**

Visually check ladder handrails and structure for damage or any loose components.

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

Notify the appropriate supervisor for any observed damage or malfunction.

##### **250 Hours:**

Check oil level reservoir & top up if required.

Fill/Top up with same oil as used in machine hydraulics to within 25-35mm of top of hydraulic reservoir. As per reservoir decal.

Check Power Step for structural damage, oil leaks or any damaged electrical cables.

Repair/Replace as necessary.

Grease Cylinder Pins & check all pin locking bolts on ladder.

Grease the nipples on the ladder pins.

##### **1000 Hours:**

Check oil level in Reservoir

Fill/Top up with same oil as used in machine hydraulics to within 25-35mm of top of hydraulic reservoir. As per reservoir decal.

Check arm pins for wear in platform locating plates & mounting plates - rebush or repair as necessary.

Grease all pins, hydraulic cylinder and ladder.

##### **6000 Hours:**

Check Cylinder Bushes, replace if necessary. (Fitted to ladder and platforms)

Drain & refill hydraulic tank to correct level.

Check hydraulic hoses.

Remove Hydraulic Cylinder - Check cylinder pins for wear/damage replace if necessary.

Clean motor enclosure, bleed hydraulic system, check for leaks.

Grease the nipples on the hydraulic cylinder pins & ladder pins.

Check and inspect all main bolts on ladder system & isolators for wear.

Check all bolts and nuts. Torque if required.

Check all electrics & components for correct operation.

Repeat daily check as above.

##### **Caution:**

Whenever carrying out maintenance on the hydraulic cylinder, or hydraulic system, ensure that correct restriction orifice fittings are in place at the cylinder.

If 90° restriction orifice fitting is damaged, or has been replaced at some stage with a standard fitting, refer to repair parts list for correct Part No. & appropriate restriction.

Maintenance on the hydraulic system should only be carried out with the platform in the lowered position or locked in position with correct lifting device.

# FOLDING LADDER

## Caterpillar 16H Grader



### 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. Drop blade and rippers. 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 ladder 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 Grader. Ensure the area around the ladder is clear of people and equipment standing to the side, clear of the area the handrails and ladder raises into, operate the electrical switch to the raise position (up). Hold the switch in the up position until the ladder is in the fully raised position. The ladder 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 LADDER

## Caterpillar 16H Grader



### Section 3 Operating Procedure (Cont.)

#### **Park Brake Interlock Control System**

Park brake interlock controller (PBIC) is designed to increase operator safety and minimize the opportunity of damage to the Power Step in operation.

The Park Brake must be applied for the Power Step to operate.

Operation of the (PBIC) is controlled through two (2) change over relays connected through the machine park brake circuit.

The Power Step will only operate with park brake switch applied. The closing of this normally closed circuit, (red/red/white wires) enables the Power Step to be operated, both lowering and raising, with the ignition on or off.

With the lowering of the Ladder the N.O. contacts of the proximity switch on the arms is closed, (yellow/ground) operating the audio visual alarm function in the PBIC in the cabin with the ignition on. The audio visual alarm in the cabin will not operate with ignition off.

The ladder can be both raised and lowered from the operators position in cab by operating the toggle switch located on the PBIC in the cabin to lower the ladder.

Should the Park Brake be released with the Power Ladder out of the raised and locked position, the Ladder alarm will sound for approximately 5 seconds and then the Ladder will raise itself into the operating position.

If for some reason the Ladder starts to lower while the machine is operating the Ladder will operate automatically as per above.



# FOLDING LADDER

## Caterpillar 16H Grader



### Section 3 Operating Procedure- Checklist

#### POWERSTEPS SAFETY ACCESS SYSTEMS CATERPILLAR 16H MOTOR GRADER

##### General Operation:

<u>Hydraulic operation</u>	Raise	Yes	No
	Lower	Yes	No
<u>Lock Valve</u>	Holds ladder correctly	Yes	No
<u>Handrail Switch</u>	Operates ladder in both directions & as indicated on switch decal Cabin door closes.	Yes	No
<u>Cabin Switch</u>	Operates ladder in both directions and as indicated on switch decal.	Yes	No
	Cabin door closes.	Yes	No

##### Park brake interlock

Ignition On/Park Brake released (Ladder in down position) The ladder will rise in 5 seconds.	Yes	No
Ignition On/Park Brake applied The ladder should work up and down.	Yes	No
Ignition Off/Park Brake applied/Ladder lowered No alarms in cab.	Yes	No
Ignition On/Park Brake applied/Ladder lowered Audio visual in cabin operated.	Yes	No

Inspected By: \_\_\_\_\_ Date \_\_\_\_\_

Accepted By: \_\_\_\_\_ Date \_\_\_\_\_

Position: \_\_\_\_\_

Company: \_\_\_\_\_

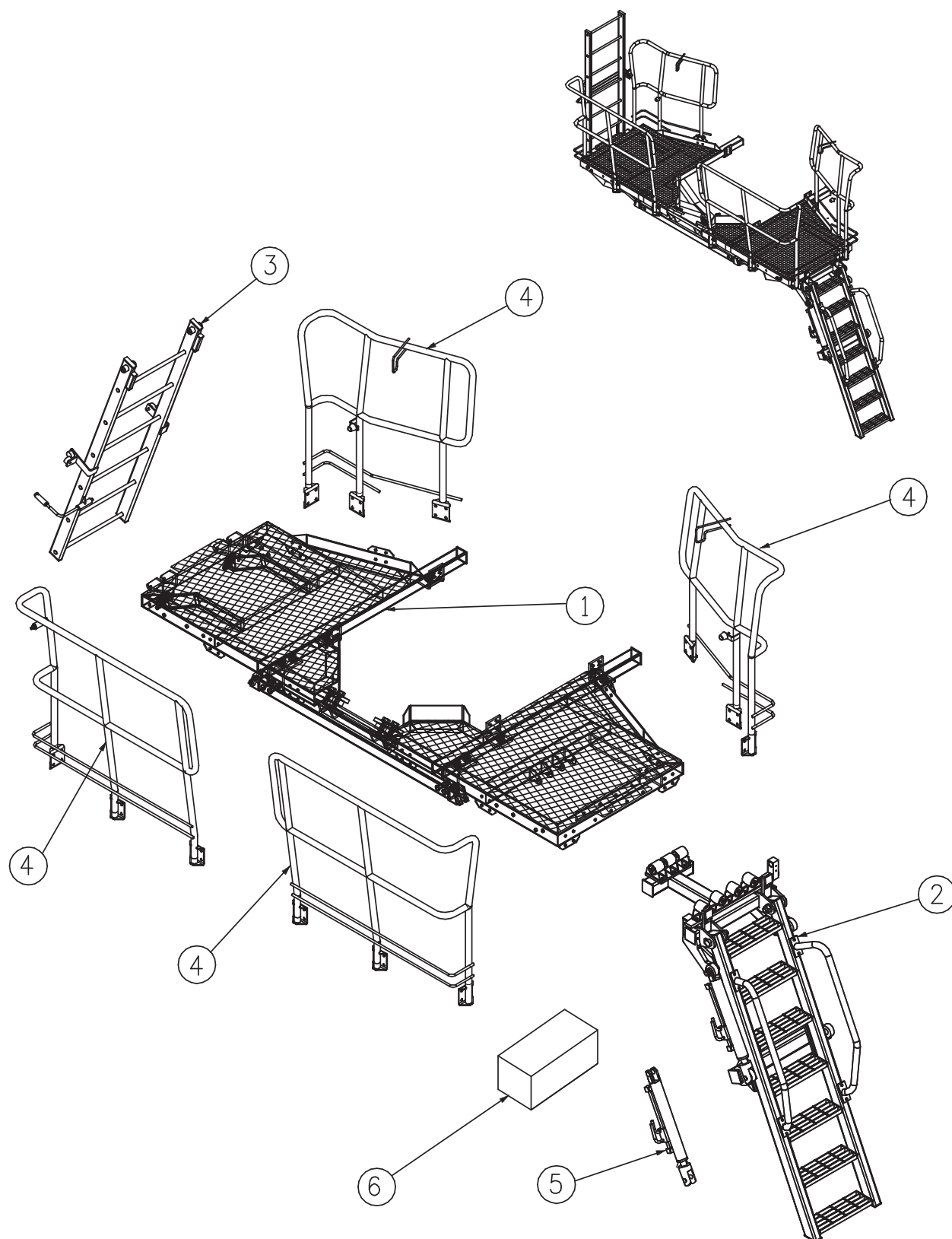


# FOLDING LADDER

## Caterpillar 16H Grader



### Section 4 Assembly Complete

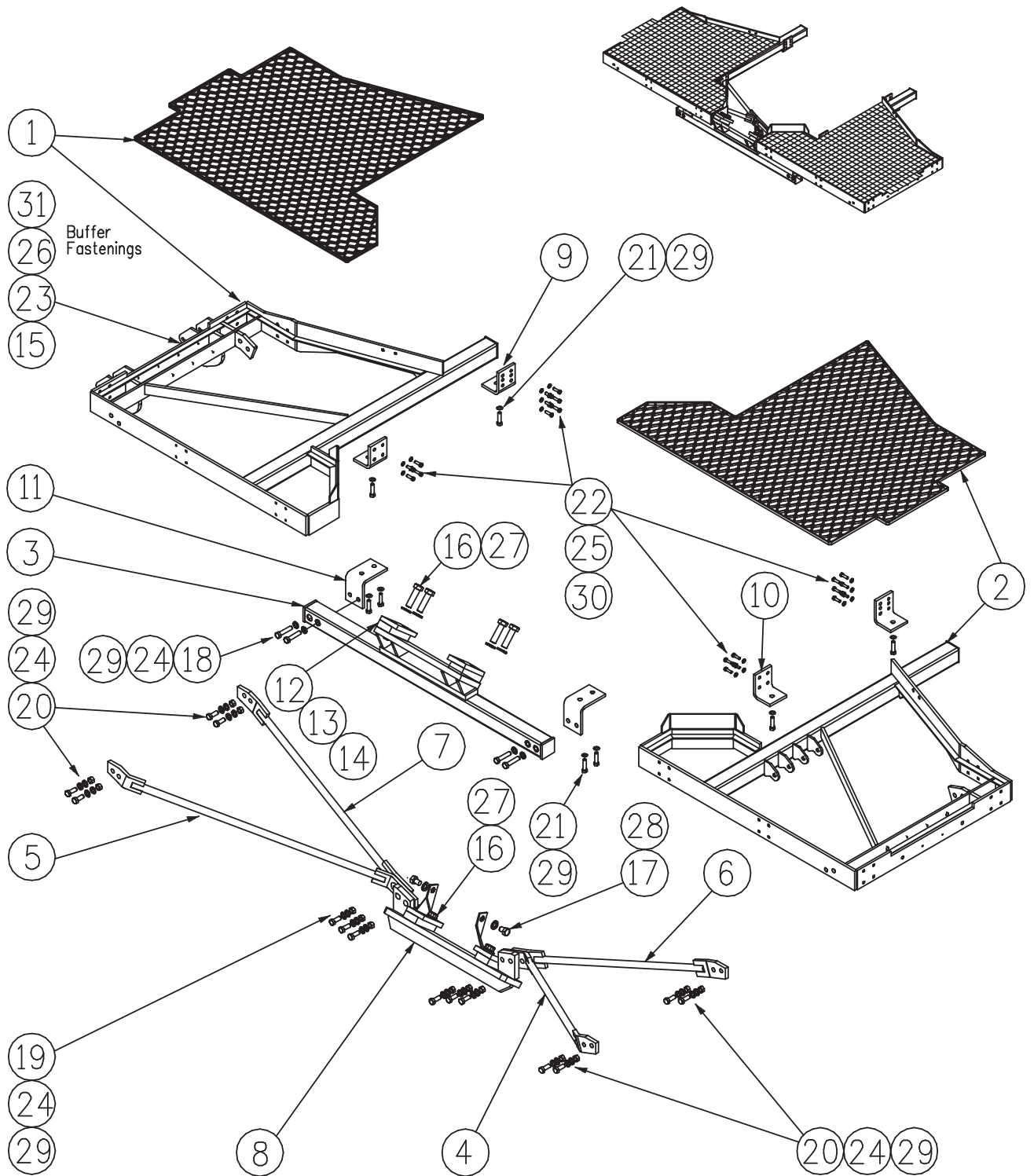


# FOLDING LADDER

## Caterpillar 16H Grader



### Section 4-1 Landing Assembly



# FOLDING LADDER

## Caterpillar 16H Grader



### Section 4-1 Landing Assembly

See Drawing Page 18

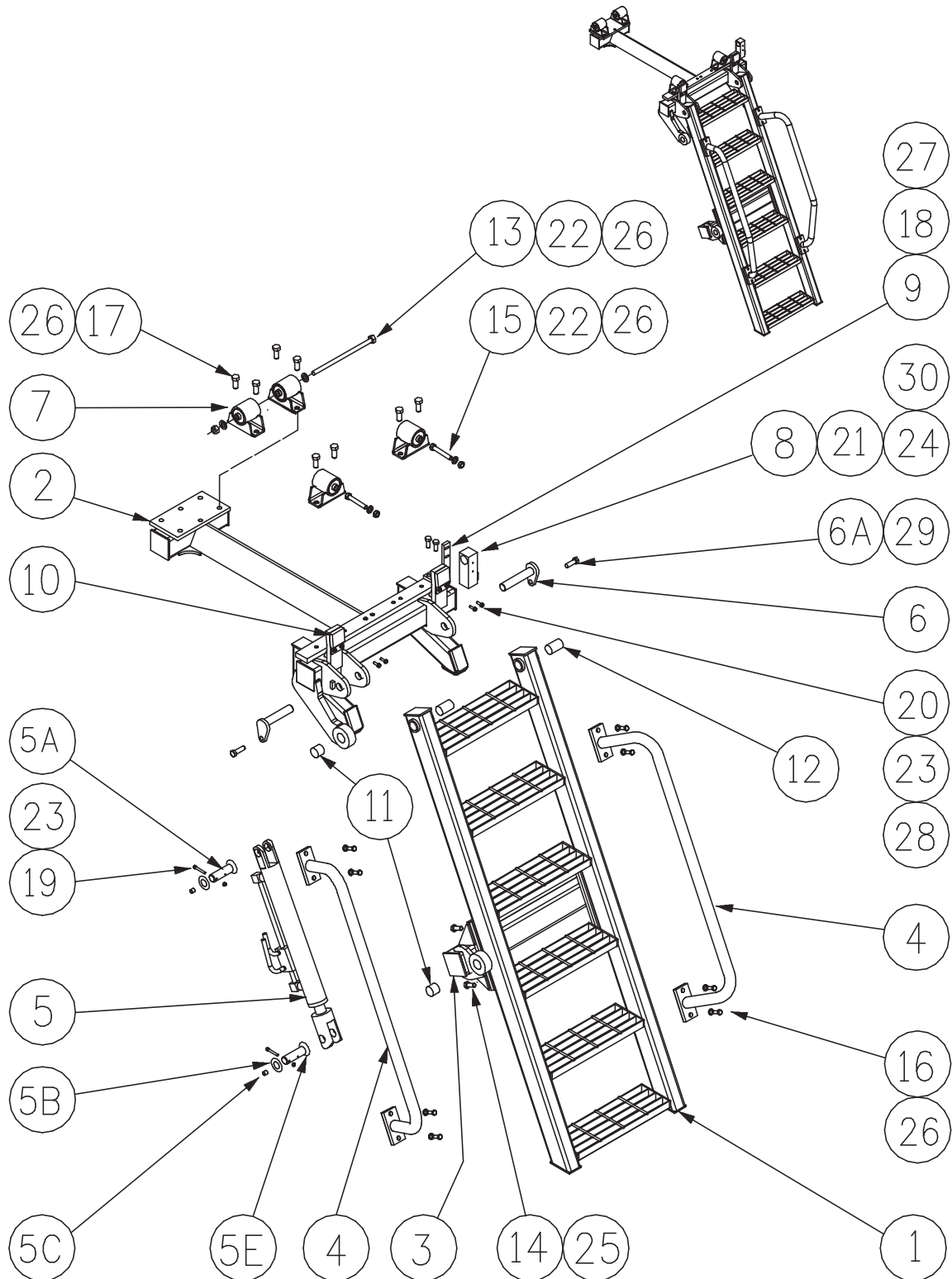
Item	Part No.	Part Name	Qty		
1	PS-22975	PLATFORM RH SIDE	1		
2	PS-22973	PLATFORM LH SIDE	1		
3	PS-22419	PLATFORM MOUNTING BEAM	1		
4	PS-22967-99	PLATFORM BRACE - FRONT - LEFT	1		
5	PS-22967-98	PLATFORM BRACE - FRONT - RIGHT	1		
6	PS-22967-97	PLATFORM BRACE - REAR - LEFT	1		
7	PS-22967-96	PLATFORM BRACE - REAR - RIGHT	1		
8	PS-22956	BRACE MOUNTING	1		
9	PS-22421-02	ANGLE BRACKET - REAR	2		
10	PS-22421-03	ANGLE BRACKET - FRONT	2		
11	PS-22418-06	ANGLE BRACKET -MAIN BEAM	2		
12	PS-22418-02	SPACER-20mm thk.	2		
13	PS-22418-03	SPACER-10mm thk.	2		
14	PS-22418-04	CLAMP BAR	2		
15	PS-22974-05	BUFFER PAD	2		
16	PS-M24X80ZP	BOLT-M24 x 80	8		
17	CPS-M20X30ZP	BOLT-M20 x 30	2		
18	CPS-M16X120ZP	BOLT-M16 x 120	4		
19	CPS-M16X90ZP	BOLT-M16 x 90	6		
20	CPS-M16X60ZP	BOLT-M16 x 60	8		
21	CPS-M16X40ZP	BOLT-M16 x 40	8		
22	CPS-M12X50ZP	BOLT-M12 x 50	20		
23	CPS-M5X30ZP	BOLT-DOMEHEAD-M5 x 30	8		
24	CPS-M16NZIP	NUT-M16	18		
25	CPS-M12NZIP	NUT-M12	20		
26	CPS-M5NN	NUT-NYLOC-M5	8		
27	CPS-M24WH	WASHER-M24	8		
28	CPS-M20WH	WASHER-M20	2		
29	CPS-M16WH	WASHER-M16	44		
30	CPS-M12WH	WASHER-M12	40		
31	CPS-M5WH	WASHER-M5	16		

# FOLDING LADDER

## Caterpillar 16H Grader



### Section 4-2 Main Ladder Assembly



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## Caterpillar 16H Grader



### Section 4-2 Main Ladder Assembly

See Drawing Page 20

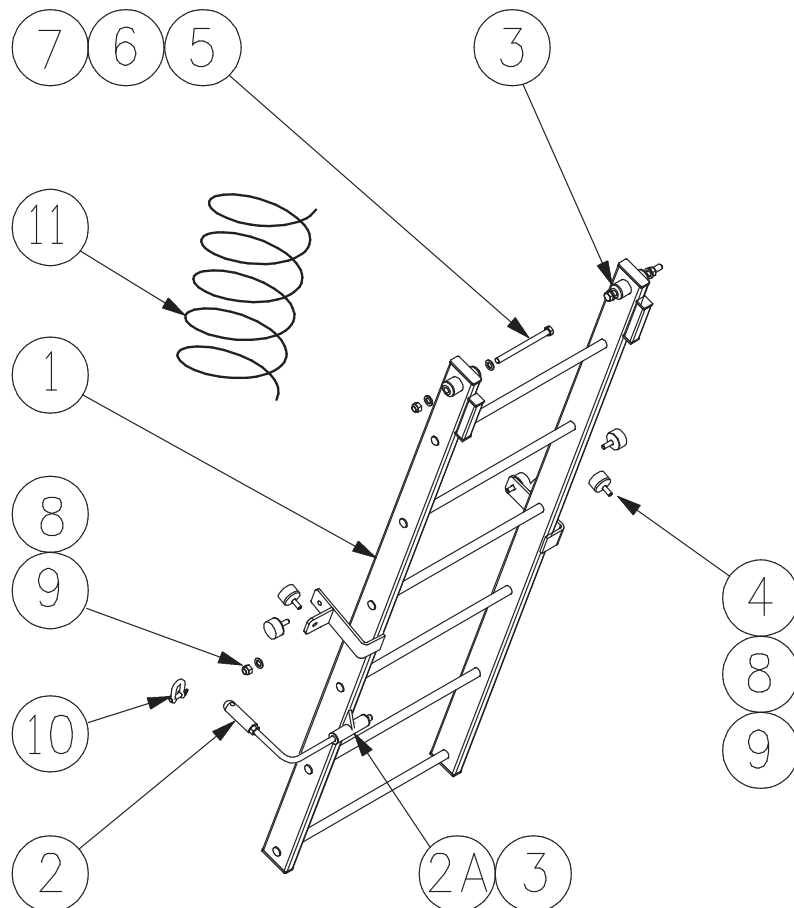
Item	Part No.	Part Name	Qty		
1	PS-22462	MAIN LADDER	1		
2	PS-22979	LEFT SIDE LADDER MOUNTING	1		
3	PS-22947	LADDER ACTUATOR BEAM	1		
4	PS-22464	HANDRAILS-MAIN LADDER-SET	2		
5	PS-63011	CYLINDER	1		
5A	PS-22468-02	CYLINDER PIN-CYL END (77mm)	1		
5B	PS-22468-03	WASHER- CYL. PIN	2		
5C	PS-61006-2	GREASE NIPPLE-6M	2		
5E	PS-22468-01	CYLINDER PIN-ROD END (85mm)	1		
6	PS-23032	LADDER PIN	2		
6A	CPS-M8X20ZP	LADDER PIN BOLT/LOCK	2		
7	PS-21930A	ISOLATORS	4		
8	PS-75430	GO SWITCH	1		
9	PS-22455 05	SWITCH BRACKET	1		
10	PS-22458	LADDER BUFFER	2		
11	PS-63009	PRESS IN HARDENED BUSH - CYL	2		
12	PS-22463C	HINGE BUSH - LADDER	2		
13	PS-21933	BUSH PIN	1		
14	CPS-M16X35ZP	BOLT-M16 x 35	4		
15	CPS-M12X110ZP	BOLT-M12 x 110	2		
16	CPS-M12X25ZP	BOLT-M12 x 25	8		
17	CPS-M12X20ZP	BOLT-M12 x 20	8		
18	CPS-M10X25ZP	BOLT-M10 x 25	2		
19	CPS-M6X60SS	BOLT-M6 x 60 ST/ST	2		
20	CPS-M6X35ZP	BOLT-M6 x 35	2		
21	CPS-M5X50ZP	BOLT-M5 x 50 (Go switch)	2		
22	CPS-M12NZP	NUT-M12	4		
23	CPS-M6NN	NUT-NYLOC-M6 S/S	6		
24	CPS-M5NZP	NUT-NYLOC-M5	2		
25	CPS-M16WH	WASHER-HARDENED-M16	4		
26	CPS-M12WH	WASHER-HARDENED-M12	22		
27	CPS-M10WH	WASHER-HARDENED-M10	2		
28	CPS-M6WH	WASHER-HARDENED-M6	8		
29	CPS-M8WH	WASHER-HARDENED-M8	2		
30	CPS-M5WH	WASHER-HARDENED-M5	4		

# FOLDING LADDER

## Caterpillar 16H Grader



### Section 4-3 Emergency Ladder Assembly



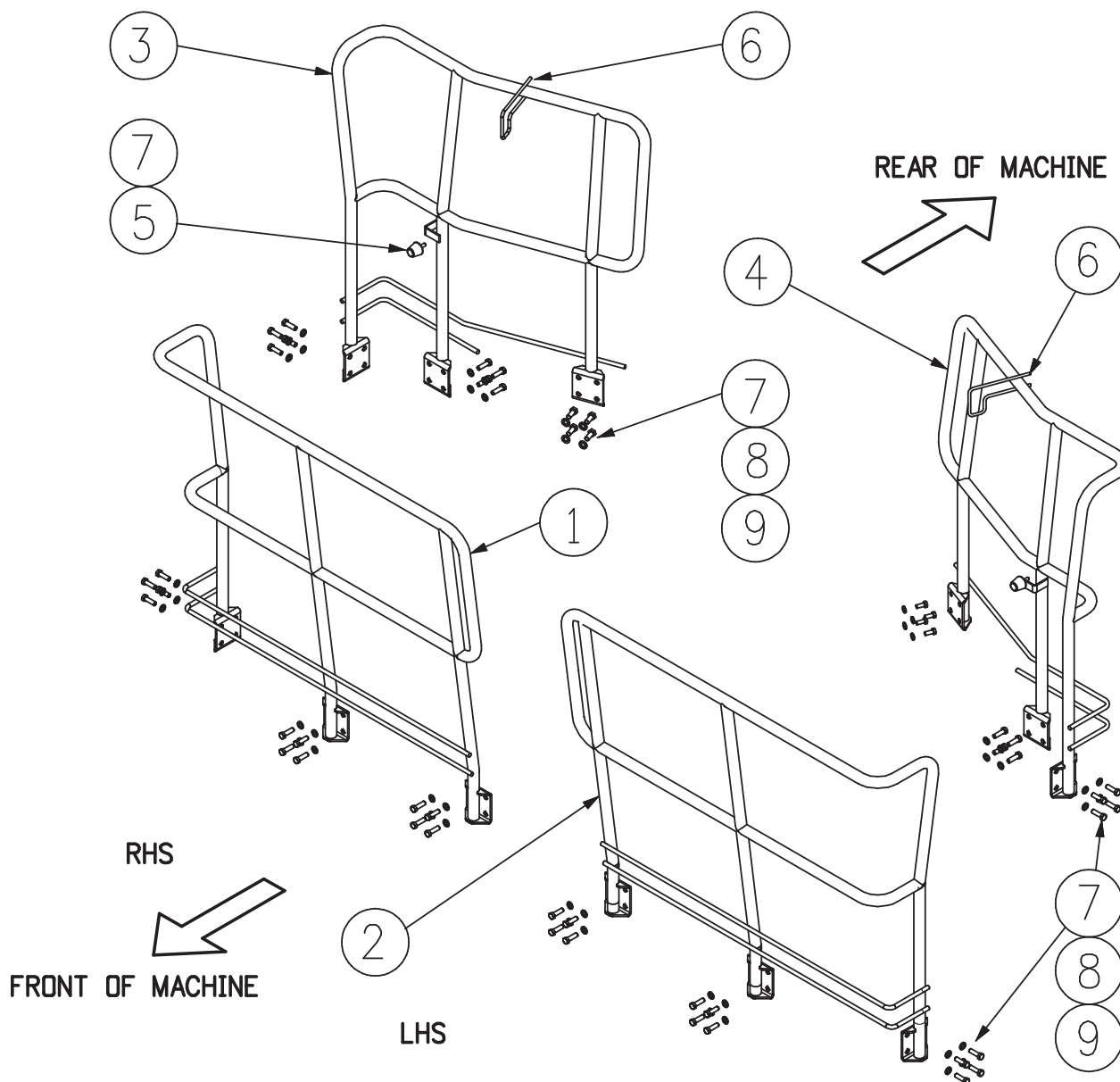
Item	Part No.	Part Name	Qty		
1	PS-22416	EMERGENCY LADDER	1		
2	PS-22945	CATCH ROD ASSEMBLY	1		
2A	PS-22945-98	CATCH MOUNTING	1		
3	PS-S245	BUSH- S245	4		
4	PS-1066553	BUFFER-RUBBER-MACKAY M12402055	4		
5	CPS-M12X130ZP	BOLT-M12 x 130	2		
6	CPS-M12NN	NUT-NYLOC-M12	2		
7	CPS-M12WH	WASHER-HARDENED-M12	4		
8	CPS-M10WH	WASHER-HARDENED-10MM	4		
9	CPS-M10 DOMENUT	DOME NUT	4		
10	PS-19002	"D" SHACKLE	2		
11	CPS-ROPE	ROPE 4mm - 4 Meters	1		

# FOLDING LADDER

## Caterpillar 16H Grader



### Section 4-4 Handrail Assemblies



Item	Part No.	Part Name	Qty		
1	PS-22977-01	HANDRAIL-FRONT-RIGHT	1		
2	PS-22976-01	HANDRAIL-FRONT-LEFT	1		
3	PS-22977-02	HANDRAIL-REAR-RIGHT	1		
4	PS-22976-02	HANDRAIL-REAR-LEFT	1		
5	PS-1066553	BUFFER-RUBBER-INSUL 8 40-99725	2		
6	PS-22427-01	LATCH STRIKER	2		
7	CPS-M12X40ZP	BOLT-M12 x 40	48		
8	CPS-M12NZP	NUT-M12	48		
9	CPS-M12WH	WASHER-HARDENED-M12	96		

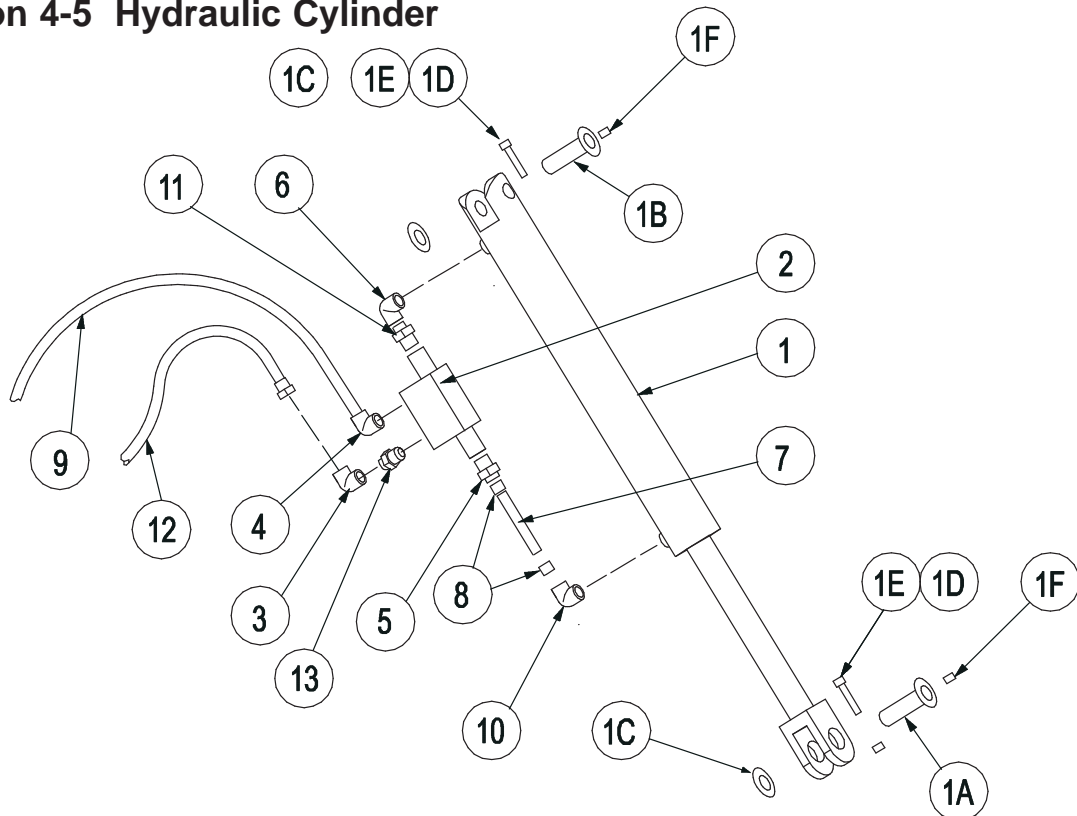


# FOLDING LADDER

## Caterpillar 16H Grader



### Section 4-5 Hydraulic Cylinder



PS-63011-HPK HARD PLUMBING KIT (Items 2-8 and 10-13)

Item	Part No.	Part Name	Qty		
1	PS-63011A	HYDRAULIC CYLINDER 9/16"UNO PORTS	1		
-	PS-63011-SK	SEAL KIT (NOT SHOWN)	1		
1A	PS-22468-01	PIN-ROD END	1		
1B	PS-22468-02	PIN-CYL END	1		
1C	PS-22468-03	WASHER	2		
1D	CPS-M6X60SS	BOLT-M6 x 60 ST/ST	2		
1E	CPS-M6NN	NUT-NYLOC-M6 S/S	2		
1F	PS-61006-2	GREASE NIPPLE	2		
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-61152-0.040"	FITTING - 0.040" RESTRICTION 90 DEG	1		
7	PS-61160-140MM	TUBE -140MM (Cut to size to fit)	2		
8	PS-60031-FT	FERRULES	2		
9	PS-60051-3.5M	HOSE- HYDR. (9/6"JIC SWIVEL FITTING 3.5M)	2		
10	PS-61152-0.030"	FITTING - 0.03" RESTRICTION 90 DEG	1		
11	PS-61145	FITTING 9/16 JIC SWIVEL	1		
12	PS-60050-3.5M	HOSE- HYDR. (7/6"JIC SWIVEL FITTING 3.5M)	1		
13	PS-61153	FITTING - O RING 1/4"BSPPx 7/16"JIC	1		



# FOLDING LADDER

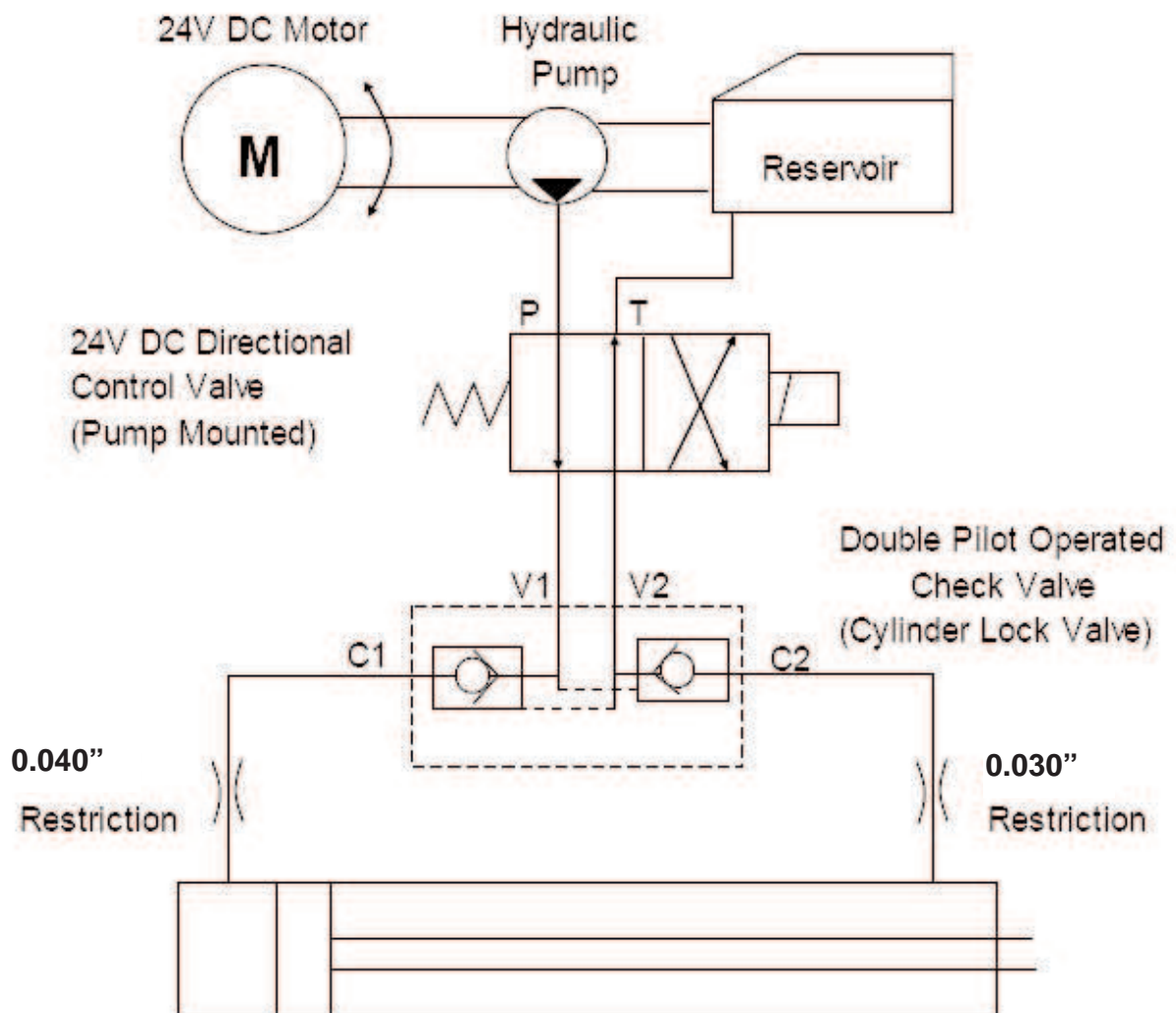
## Caterpillar 16H Grader



### Section 4-5 Hydraulic Cylinder (Valve Diagram)

See also Drawing Page 24

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

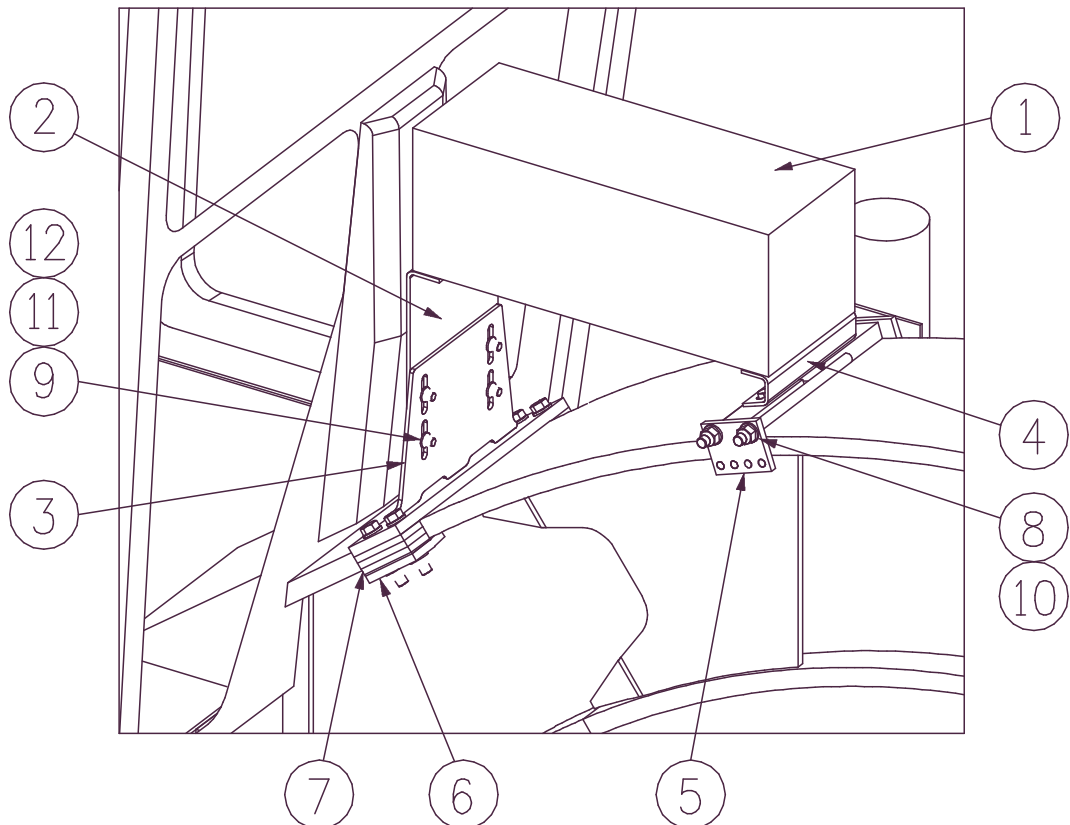


# FOLDING LADDER

## Caterpillar 16H Grader



### Section 4-6 Power Pack- (Enclosure & Mounting)

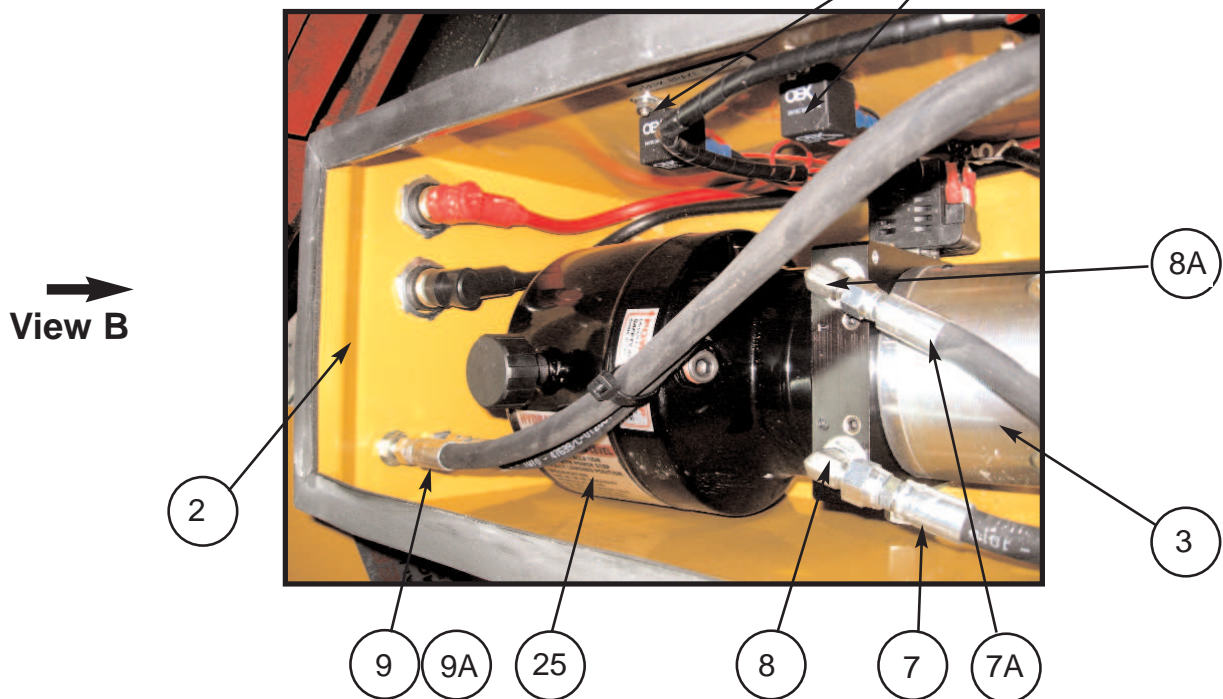
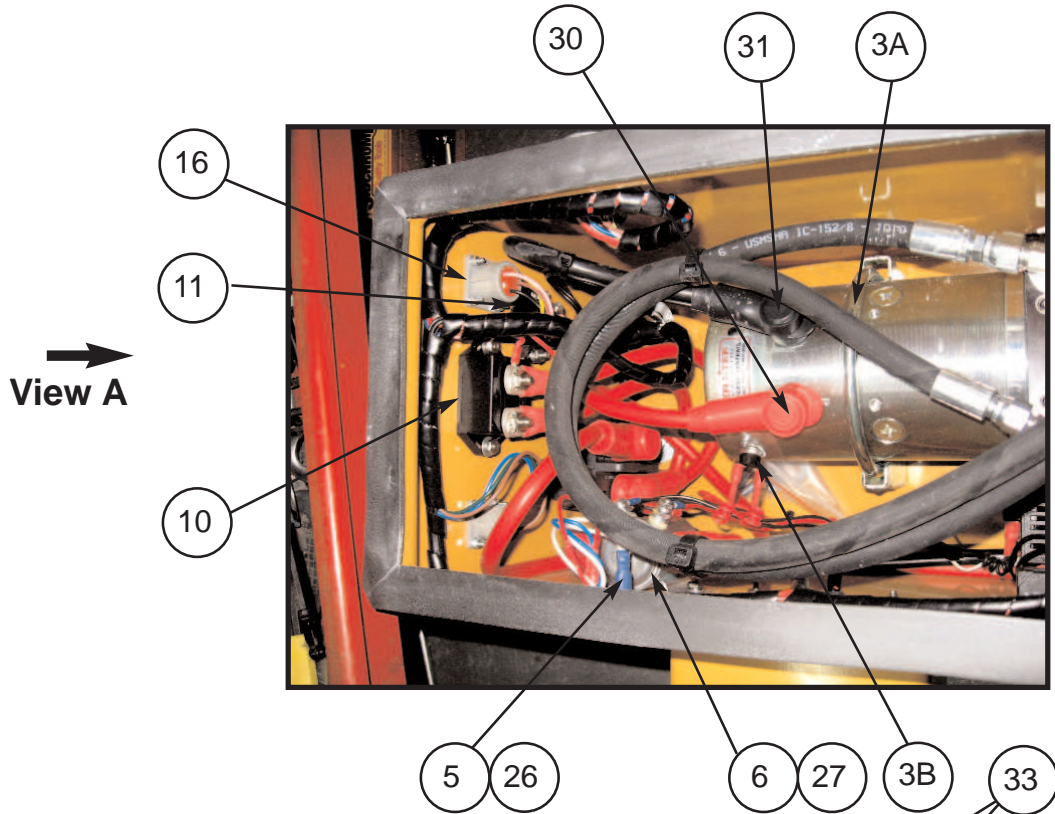


Item	Part No.	Part Name	Qty		
1	PS-21107-METAL	MOTOR UNIT	1		
2	PS-22940	REAR SEAT	1		
3	PS-22942	REAR SUPPORT POST	1		
4	PS-22939	FRONT MOUNTING SEAT	3		
5	PS-22938	FRONT CHASSIS CLAMP	3		
6	PS-22941-06	CLAMP BAR	2		
7	PS-22941-03/04/05	SPACERS (2 of each size)	6		
8	CPS-M12X30ZP	BOLT-M12 x 30	4		
9	CPS-M16NN	NUT-NYLOC-M16	2		
10	CPS-M12NZP	NUT-M12	4		
11	CPS-M16WH	WASHER-M16	4		
12	CPS-M12WH	WASHER-M12	4		

# FOLDING LADDER Caterpillar 16H Grader



**Section 4-6 Power Pack** PS-80103A-16/24H/M  
See Parts List Pg 30

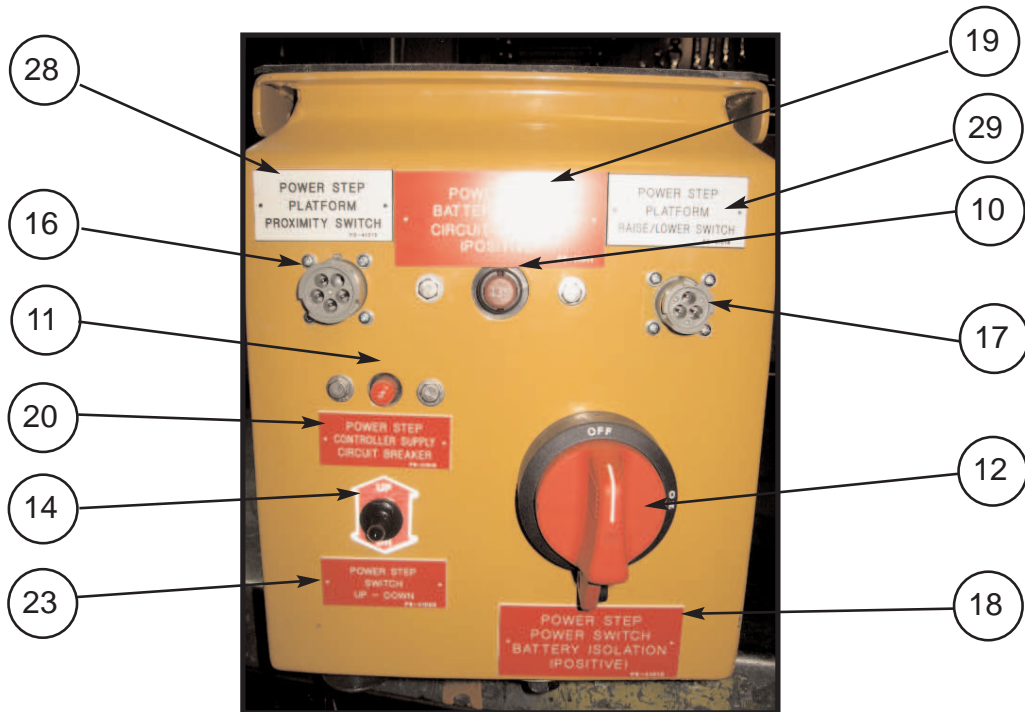


# FOLDING LADDER Caterpillar 16H Grader



## Section 4-6 Power Pack PS-80103A-SLD-16/24H/M

See Parts List Pg 30



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

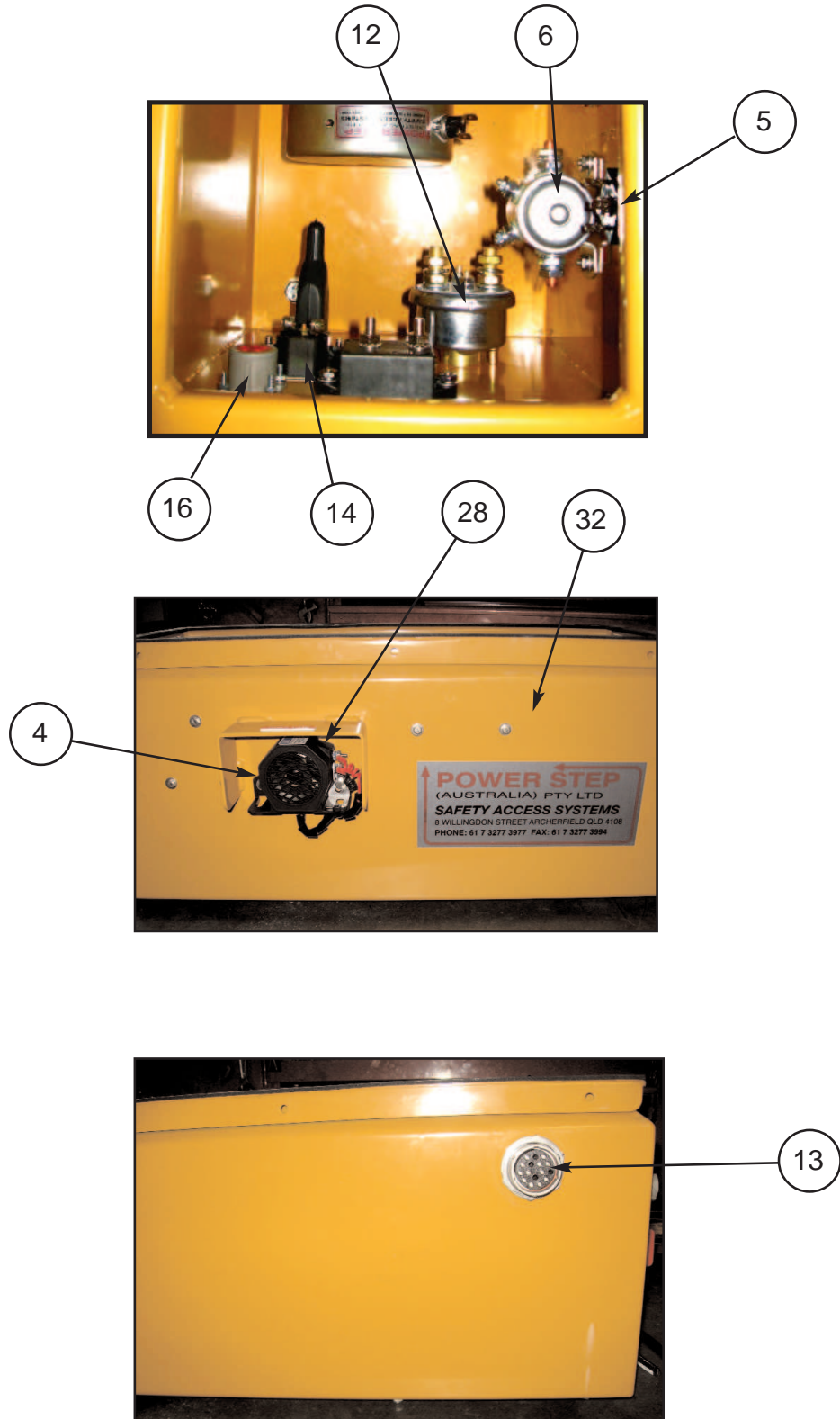
# FOLDING LADDER

## Caterpillar 16H Grader



### Section 4-6 Power Pack PS-80103A-SLD-16/24H/M

See Parts List Pg 30





# FOLDING LADDER

## Caterpillar 16H Grader



### Section 4-6 Power Pack Assembly PS-80103A-SLD-16/24H/M

See Pages 27, 28 & 29

Item	Part No.	Part Name	Qty		
1	PS-80103A-SLD	POWER PACK ASSEMBLY (Incl. Items 2 to 33)	1		
2	PS-21107-METAL	MOTOR ENCLOSURE- SEALED	1		
3	PS-80103A	POWER PACK	1		
3A	PS-80103-CLAMP	CLAMP ELECTRIC MOTOR-POWER PACK	1		
3B	PS-84201-100	HEAT SENSOR	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" 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 - (INCLUDING BRACKET)	1		
13	PS-HD34-24-16SN	16 PIN PLUG	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-HD10-3-16P	3 PIN SOCKET	1		
18	PS-41010	DECAL ELECTRICAL	1		
19	PS-41011	DECAL ELECTRICAL	1		
20	PS-41012	DECAL ELECTRICAL	1		
21	PS-41013	DECAL ELECTRICAL	1		
22	PS-41014	DECAL ELECTRICAL	1		
23	PS-41023	DECAL ELECTRICAL	1		
24	PS-41024	DECAL HYDRA-HOSES	1		
25	PS-41041	DECAL OIL TANK	1		
26	PS-41019	DECAL BRIDGE RECTIFIER	1		
27	PS-41017	DECAL SOLENOID	1		
28	PS-41018	DECAL PROXIMITY SWITCH	1		
29	PS-41016	DECAL RAISE/LOWER SWITCH	1		
30	PS-73010	RUBBER BOOT RED	4		
31	PS-73009	RUBBER BOOT BLACK	2		
32	PS-41022	DECAL - POWER STEP	1		
33	PS-82417	PARK BRAKE RELAY	2		

# FOLDING LADDER

## Caterpillar 16H Grader



### Section 4-7 Electrical System

See Parts List Pg. 32



# FOLDING LADDER

## Caterpillar 16H Grader



### Section 4-7 Electrical System

See Photo Pg. 31

Item	Part No.	Part Name	Qty		
1	PS-ACX0917	BLACK BATTERY CABLE 10M	1		
2	PS-ACX0918	RED BATTERY CABLE 10M	1		
3	PS-77017	GO SWITCH HARNESS	1		
4	PS-73013	HAND CONTROL	1		
5	PS-75402-24H/M	MAIN HARNESS	1		
6	PS-NC12	12MM HARNESS FLEX	1		
7	PS-NC16	16MM HARNESS FLEX	1		
8	PS-NC20	20MM HARNESS FLEX	1		
9	PS-77019	PARK BRAKE HARNESS	1		
10	PS-75051N	MAIN CONTROL BOX	1		
11	NPN	HYDRAULIC HOSE CLAMPS	1		Installation Only
12	NPN	MANUALS AND CD	1		Installation Only
13	NPN	BATTERY LUGS AND BOOTS	1		Installation Only
14	NPN	SPARE BOLTS	3		Installation Only
15	PS-75430	PROXIMITY SWITCH	1		
16	PS-HD36-24-16PN-ASSY	HARNESS PLUG	1		
17	NPN	WIRING BUTTONS AND CLAMPS	1		Install. Kit only
18	PS-84213	135AMP C/BREAKER AND DECAL	1		
19	PS-3E7689	PARK BRAKE PRESSURE SWITCH	1		
20	PS-73013-B	HAND CONTROL BRACKET	1		with item 4
21	PS-77018	HAND CONTROL HARNESS	1		with Item 4

## WARNING

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

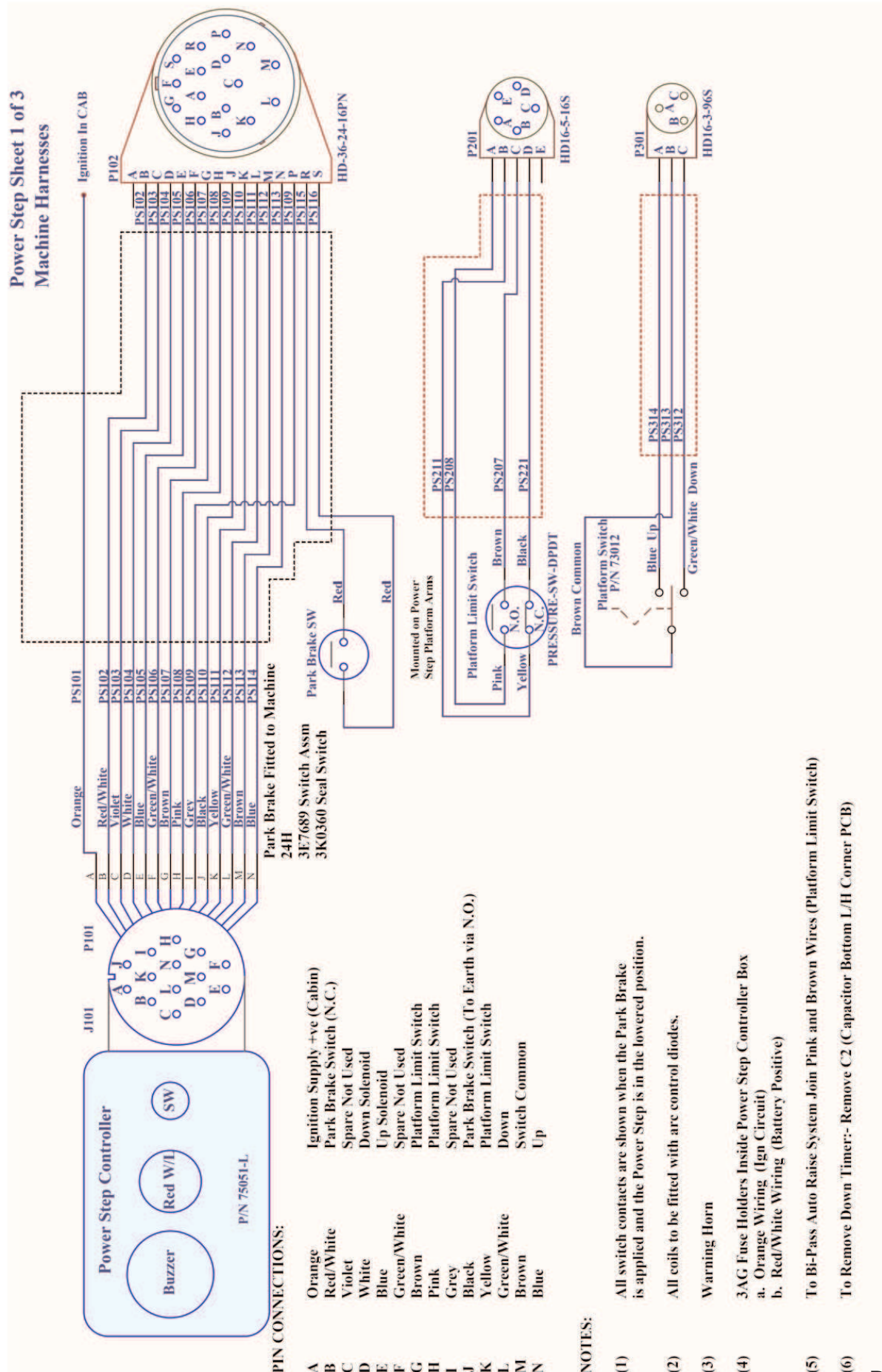


# FOLDING LADDER

## Caterpillar 16H Grader



### Section 4-7 Electrical System - Wiring Diagram 1



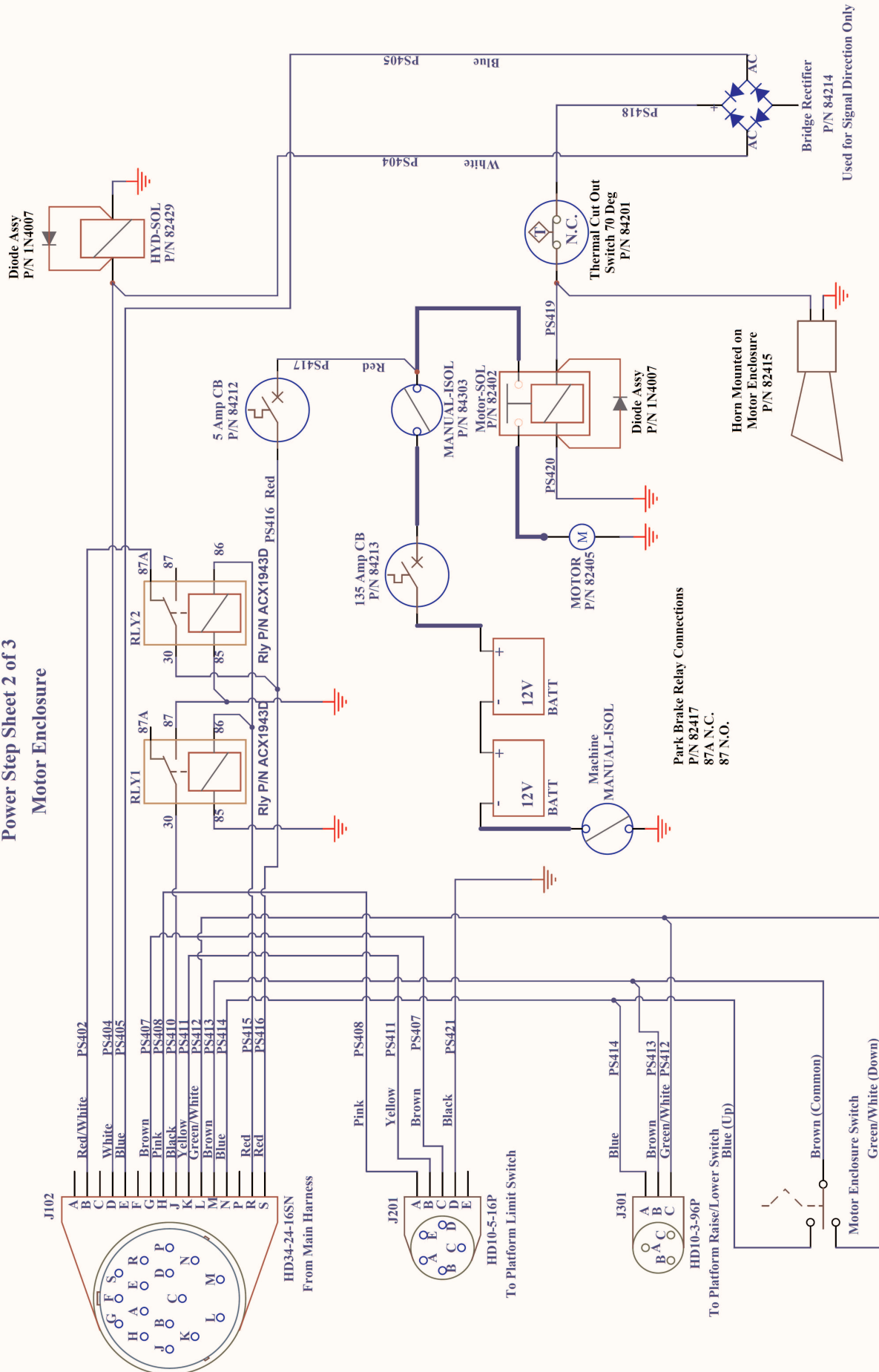
# FOLDING LADDER

## Caterpillar 16H Grader



### Section 4-7 Electrical System - Wiring Diagram 2

Power Step Sheet 2 of 3  
Motor Enclosure



# FOLDING LADDER

## Caterpillar 16H Grader



### Section 4.7 Electrical System - Parts List

#### Power Step Sheet 3 of 3 Parts List

Item	Part Number	Quantity	Description
1	PS-73012	1	Platform Switch (Kit)
2	PS-75051-L	1	Controller
3	PS-75430	1	Platform Limit Switch
4	PS-82402	1	Motor Solenoid
5	PS-82405	1	Pump Motor
6	PS-82415	1	Horn
7	PS-82429	1	Hydraulic Solenoid
8	PS-84201	1	Thermal Cut Out
9	PS-84212	1	5 Amp Circuit Breaker
10	PS-84213	1	135 Amp Circuit Breaker
11	PS-84214	1	Bridge Rectifier
12	PS-84303	1	Power Step Master Switch
<b>Park Brake Switch</b>			
13	A 16 H/G Air Pressure	1	Pressure Switch - 16H Motor Grader
15	PS-82417	2	Change Over Relay
13	B 24H Hydraulic Pressure	1	Pressure Switch - 24H Motor Grader
14	PS-3E7689	1	Seals and O-Ring
15	PS-82417	2	Change Over Relay
13	C Caterpillar Track Type Tractor	1	Pressure Switch - Caterpillar Track Type Tractor
14	PS-3E7689	1	Seals and O-Ring
15	PS-82417	2	Change Over Relay

#### Pressure Switch Connections

PS-85433

Pin 1 Common

Pin 2 N.C.

Pin 4 N.O.

PS-3E7689

Pin A Common

Pin C N.C.

Pin B N.O.