



Operation & Maintenance Manual Supplement

Dozer Access System (Komatsu D375 & D475)

Models: ADE007100
ADE008880
ADE012000



1	OVERVIEW	1	7.1	REFERENCE MATERIAL	13
2	SAFETY	2			
2.1	IMPORTANT SAFETY INFORMATION.....	2			
2.2	SAFETY SIGNS & LABELS	3			
3	PRODUCT IDENTIFICATION INFORMATION ...	5			
3.1	ACCESS SYSTEM – ID PLATE	5			
4	OPERATION SECTION.....	6			
4.1	GENERAL DESCRIPTION	6			
4.2	CONTROLS	6			
5	MOUNTING & DISMOUNTING	8			
5.1	GENERAL INFORMATION	8			
5.2	SYSTEM PREREQUISITES.....	8			
5.3	MOUNTING PROCEDURE.....	9			
5.4	DISMOUNTING PROCEDURE	9			
5.5	EMERGENCY DISMOUNTING PROCEDURE.....	9			
5.6	DISMOUNTING PROCEDURE – PARTIAL OR COMPLETE ACCESS SYSTEM FAILURE	9			
6	MAINTENANCE SECTION.....	10			
6.1	GENERAL HAZARD INFORMATION.....	10			
6.1.1	<i>Crushing & Cutting Prevention.....</i>	<i>10</i>			
6.2	WHEN REQUIRED.....	10			
6.2.1	<i>Circuit Breaker - Reset.....</i>	<i>10</i>			
6.3	BEFORE USE	11			
6.3.1	<i>Walk-Around Inspection.....</i>	<i>11</i>			
6.4	EVERY 1000 SERVICE HOURS OR 6 MONTHS	11			
6.4.1	<i>Bolts and Mounting Hardware.....</i>	<i>11</i>			
6.4.2	<i>Hydraulic System – Inspect</i>	<i>11</i>			
6.4.3	<i>Pivot Points – Lubricate</i>	<i>11</i>			
6.5	EVERY 2000 SERVICE HOURS OR YEARLY	12			
6.5.1	<i>Rubber Bump Stop – Inspect.....</i>	<i>12</i>			
6.6	EVERY 4000 SERVICE HOURS OR 2 YEARS...	12			
6.6.1	<i>Hydraulic Oil Compartment.....</i>	<i>12</i>			
7	LITERATURE REFERENCE MATERIALS	13			

1 Overview

This manual provides all the necessary information to operate and maintain the access system fitted to the Komatsu D475 tractor. Use this information in conjunction with Komatsu information where specified.

The access system consists of a ladder and platform fitted to the side of the tractor for improved access to the operator cab. The ladder and platform are stowed in the vertical position for tractor operation.

When required, the platform, handrails and ladder can be unfolded using controls located inside the cab and on the ripper.

This system is powered by a stand alone hydraulic power pack with audible and visual alarms for operation and monitoring of the access system.

The operation and maintenance manual should be permanently stored in the dozer cab.

Refer to the Parts Manual for replacement parts information for the dozer access system.

Whenever a question arises regarding the information contained within this manual please consult Australian Diversified Engineering Pty Ltd for the latest available information. Selected manuals may be found at www.ade.net.au containing the most up to date information for the product.

2 Safety

2.1 Important Safety Information

Safety precautions and warnings may be listed in this manual and applied to the product (supplied by Australian Diversified Engineering) in the form of safety signs and labels.

Safety signs and labels may be positioned on specific parts of the product to draw attention to objects and situations affecting health and safety. If these hazard warnings are not heeded, bodily injury or death may occur to you or other persons.

The severity of the consequences of the hazard may be easily identified by the alert symbol at the top of the label.

The **DANGER** alert symbol is used to warn of a hazardous situation that is likely to be life threatening. Ensure you are aware of situations and locations on the product displaying this alert symbol.



The **WARNING** alert symbol is used to warn of a hazardous situation that is not likely to be life threatening. Ensure you are aware of situations and locations on the product displaying this alert symbol.



The wording given underneath the **DANGER** or **WARNING** alert symbol will warn of the hazard, the consequences of the hazard followed by information on how to prevent the hazardous situation from occurring.

Some signs placed on the product or machine (which do not contain a safety alert or symbol such as Danger

or Warning) are to indicate that an instruction must be carried out. The label will contain black text on a white background. Read and obey the information contained on these labels.

The **NOTICE** heading may be contained within this manual and is used to highlight or alert to certain aspects of the product. Commonly the **NOTICE** heading is used to highlight the weight of an object or some other form of specific information applicable to the task to be performed.

Australian Diversified Engineering cannot anticipate all possible hazards. For instance, some hazards may be specific to your workplace or the equipment or tool you employ to complete the task.

Plan the job before proceeding. Planning before commencement of the job will help identify possible hazards in the job procedure which can be eliminated or controlled.

Be aware of unintended movement when assembling and disassembling components and ensure machines are isolated in accordance with workplace and supplier instructions when performing maintenance.

Ensure items are installed properly and are not damaged during the installation procedure or during operation of the machine. If damaged or installed incorrectly the product may not operate and perform as intended and may be made unsafe as a result. Ensure all items are repaired or replaced and care is taken when installing items on the machine.

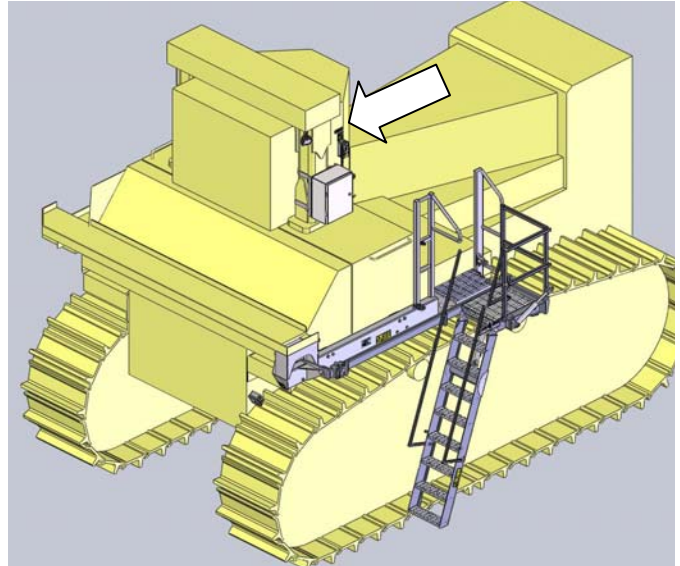
Operate and maintain the machine in accordance with procedures specified by the original equipment manufacturer and information contained within this manual.

2.2 Safety Signs & Labels

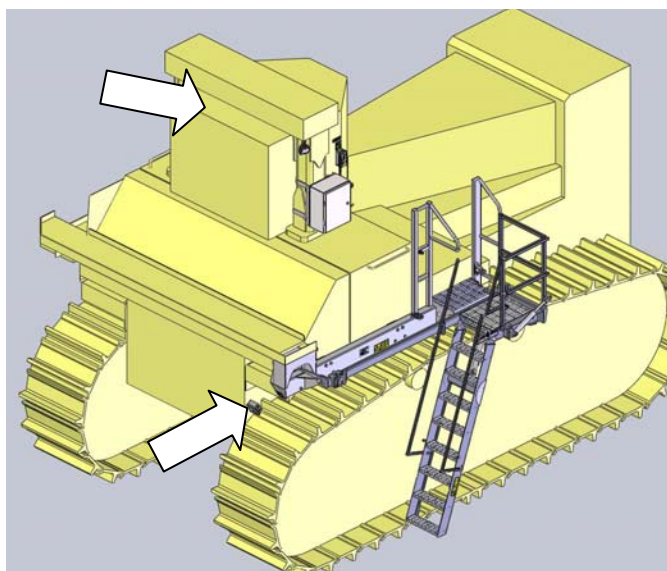
There are several specific safety signs specific to the access system. Their exact location and description of the hazard are reviewed in this section. Make sure that you can read all safety signs. You must replace a label if it is damaged, missing or cannot be read. If a label is on a part that is replaced, make sure a new label is installed on the replaced part. Contact Australian Diversified Engineering for replacement labels.



ADDITIONAL CONTROLS AND COMPONENTS FITTED TO THIS MACHINE FOR OPERATION AND MAINTENANCE OF A FIXED, POWERED OR MANUAL ACCESS SYSTEM. BEFORE OPERATING OR PERFORMING MAINTENANCE ON THIS MACHINE ENSURE THE OPERATION AND MAINTENANCE MANUAL SUPPLIED BY AUSTRALIAN DIVERSIFIED ENGINEERING FOR THIS MACHINE HAS BEEN READ (IN CONJUNCTION WITH ANY OEM OPERATION & MAINTENANCE INSTRUCTIONS) AND UNDERSTOOD. ADE008275

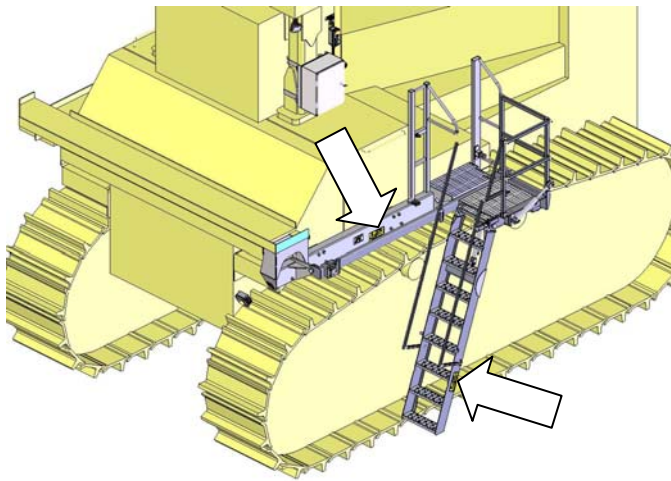


This sign is located inside the cab



This sign is located adjacent to the in-cab and ground level controls for the access system



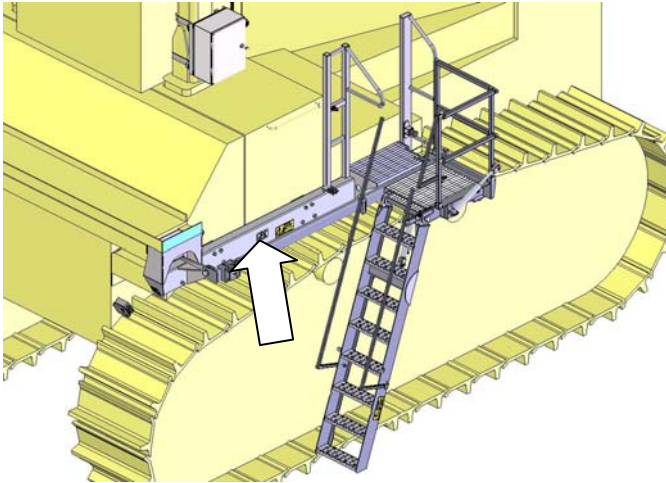
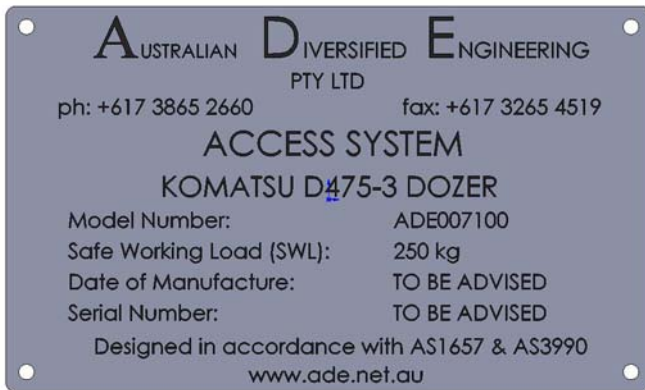


These signs are located on the side of the access system

3 Product Identification Information

3.1 Access System – ID Plate

An ID plate has been fitted to the access system which indicates information such as the model number, date of manufacture and the serial number. Refer to the plate fitted to each machine for specific details.



ID plate for the access system

4 Operation Section

4.1 General Description

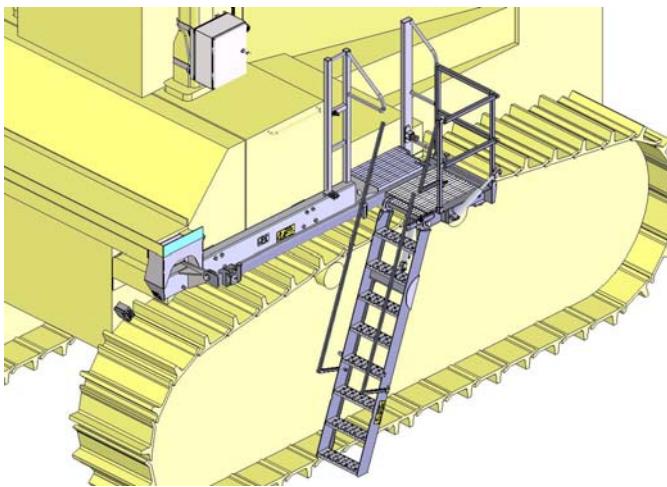
The access system is a three stage electric-over-hydraulic folding system fitted to the right side of the dozer. The access system utilises a 24V DC hydraulic power pack coupled with a manifold of hydraulic sequence valves and pilot operated check valves to drive and control the hydraulic cylinders that raise and lower the access system.

Electrical power is provided to the access system ground level raise & lower controls and the in-cab raise control if:

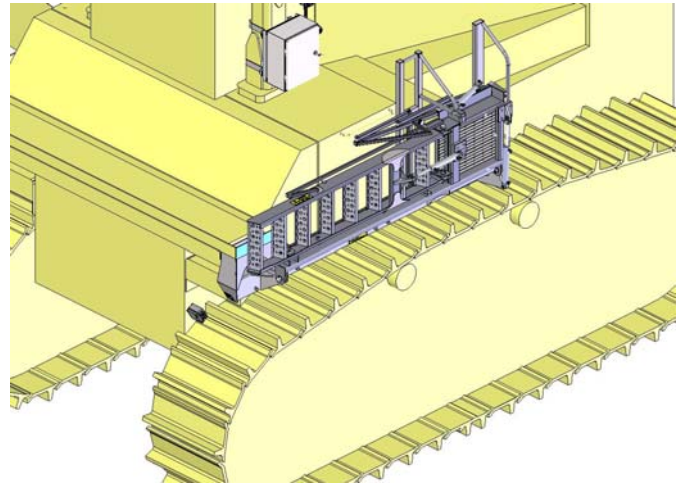
- Battery disconnect switch for the electrical system is in the connected position. Refer to the machine specific Operation and Maintenance Manual for location and use of the battery disconnect switch.

Electrical power is provided to the access system in-cab lower control if:

- Dozer ignition is ON.
- Battery disconnect is connected &
- The park brake is applied.



Access system in the lowered position for mounting and dismounting the machine



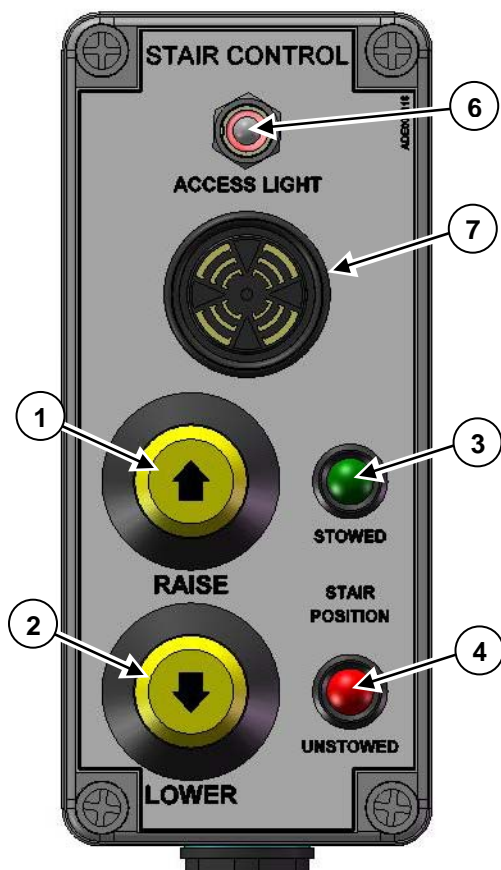
Access system in the raised or stowed position for machine operation

4.2 Controls

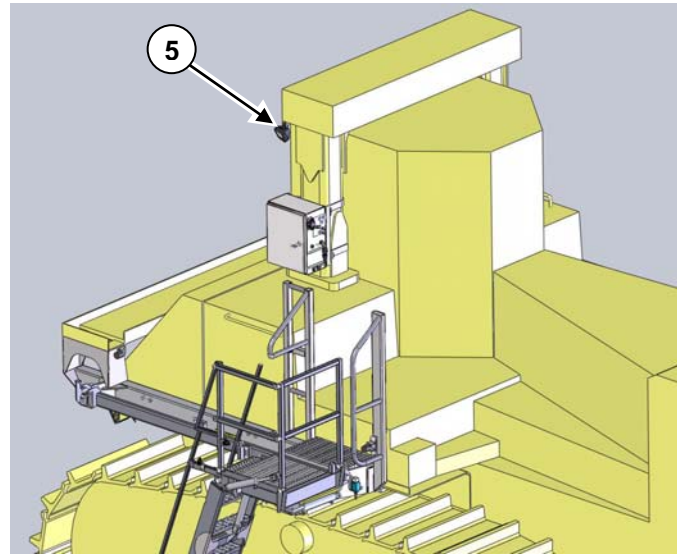
Controls for raising and lowering the access system are located inside the cab and at ground level. Refer to your machine for specific location of the cab and ground level controllers.

The controls for the access system include:

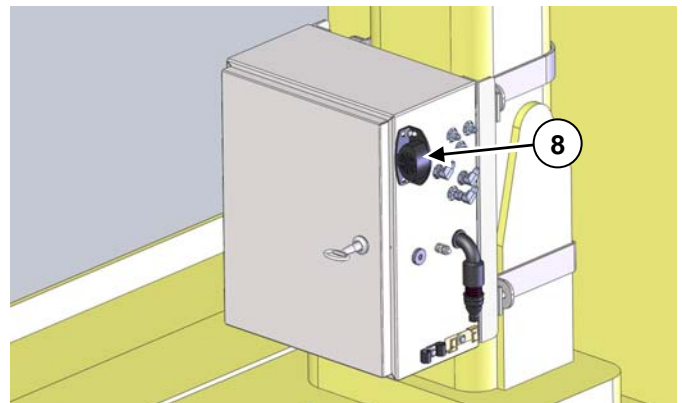
- (1) Raise Control
- (2) Lower Control
- (3) "UNSTOWED" - Red Visual Indicator
- (4) "STOWED" - Green Visual Indicator
- (5) Access Light
- (6) Access Light Switch
- (7) Cab Mounted Audible Alarm
- (8) Hydraulics Cabinet Audible Alarm



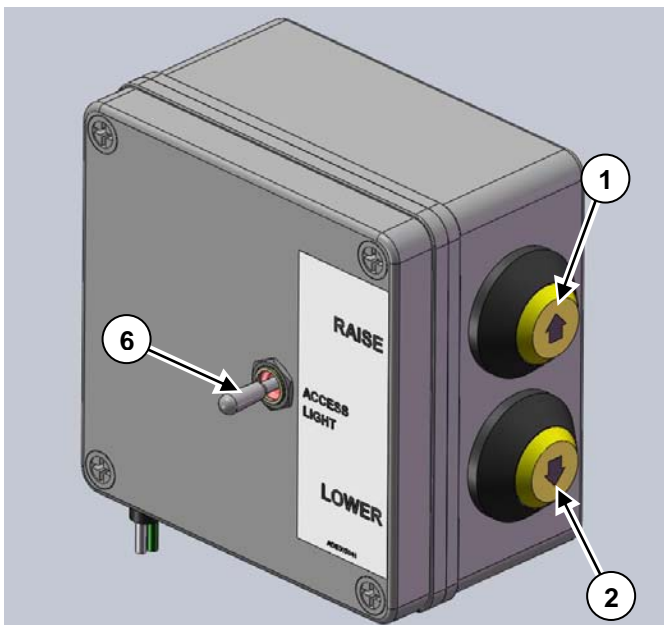
In-cab control panel



Access light (5) on the right side of the ROPS



External audible alarm (8) mounted to the access system hydraulics cabinet mounted on the right ROPS leg



Ground level control panel

(1) & (2) Raise and Lower Controls

Depress the required button to either raise or lower the access system.

The access controls utilised on this machine are of the momentary push button type. This requires the operator to press the button for the duration of raising or lowering. If the button is released at any point in the system operation then power will be cut immediately and the access system will cease to move (commonly known as 'dead-man' controls).

(3) Green Visual Indicator – “STOWED”

Constant illumination when the access system is the stowed position. The access system must be in the stowed position for machine operation and transportation.

(4) Red Visual Indicator – “UNSTOWED”

Red visual indicator flashes depending on the following situation:

- a) Flashing when the system is any position other than the stowed position.
- b) Light flashes in conjunction with sounding of the in-cab mounted audible alarm (7) if the park brake is released and the access system is not in the stowed position.

(5) & (6) Access System Light & Switching

Switching for the access system light is located on the ground level and in-cab control panels. The light automatically switches off after a pre-set period of time.

(7) & (8) Audible Alarms

Audible alarms are mounted on the cab control panel and externally on the hydraulics cabinet mounted to the ROPS leg.

When the access system is being raised or lowered the hydraulics cabinet mounted alarm will sound. When the park brake is released and the access system is not stowed the in-cab audible alarm will sound. Releasing of the park brake will not automatically raise the access system. Ladder raise and lower is via the controls on the in-cab and ground level control panels only.

5 Mounting & Dismounting

5.1 General Information

- Do not operate access when personnel are mounting/dismounting or using system.
- Inspect, and when necessary, clean and have repairs made to steps and handholds before mounting and dismounting.
- Face the ladder when mounting and dismounting the access system ladder.
- Maintain a three-point contact (two feet and one hand or one foot and two hands contact) with the steps and handholds.
- Never jump off the access system.
- Ensure adequate lighting for mounting and dismounting of the machine in low light conditions.
- Ensure that the access system is fully lowered before use.

5.2 System Prerequisites

To allow use of the access system and all operations via the in-cab and ground level control panels:

1. The dozer park brake is applied.
2. The ignition switch is ON.
3. The battery disconnect switch is connected.
4. The ladder is fully lowered with the handrails raised before boarding.

5.3 Mounting Procedure

Do not attempt to access the machine whilst still moving or whilst another operator is in the machine and the engine running. Refer to applicable mine site regulations for approaching machines. If not governed by mine site regulation ensure two-way radio contact has been made with the operator prior to approaching the machine.

To mount the machine using the access ladder:

1. With the access system in the lowered position mount the ladder facing the stairs and access the machine using the ladder whilst maintaining three points of contact. If the access system is not lowered operate the ground level switch to completely lower the system.
2. Ensure that the battery disconnect switch is in the connected position. Refer to the machine specific Operation and Maintenance Manual for location and operation of the battery disconnect switch.
3. Enter the cab and ensuring that the access system is free from personnel, use the in-cab controls to raise the ladder to the stowed position. Once stowed correctly the green visual indicator on the in-cab control panel will be illuminated.
4. Start and operate the machine in accordance with procedures outlined in the Komatsu Operation and Maintenance Manual as well as applicable mine site instructions.

5.4 Dismounting Procedure

To dismount the machine via the access system:

1. Stop the machine in accordance with procedures outlined in the machine specific Komatsu Operation and Maintenance Manual as well as applicable mine site instructions.
2. Ensuring that the ground area is free from personnel use the lower button on the in-cab

control panel to completely lower the access system.

3. Exit the cab.
4. Visually inspect to ensure the access system has lowered and the handrails have raised to the upright position.
5. Mount the access ladder facing the stairs and egress from the machine using the access ladder whilst maintaining three points of contact.
6. Dismount the machine maintaining three point contact at all times.
7. If required raise the access system to the stowed position using the ground level controls.

5.5 Emergency Dismounting Procedure

Safely dismount the machine in an emergency situation via the left or right side of the machine. Refer to further information on alternate exits (if available) in the machine specific Operation & Maintenance Manual.

5.6 Dismounting Procedure – Partial or Complete Access System Failure

To dismount the machine (without the use of the access system) in the event of partial or complete access system failure:

1. Stop the machine in accordance with procedures outlined in the Komatsu Operation and Maintenance Manual as well as applicable mine site instructions.
2. Dismount the machine via the left or right side tracks maintaining three point contact at all times.
3. Ensure the ladder failure is investigated and fault/s repaired.

6 Maintenance Section

WARNING

Unintended machine movement may result in personal injury or death. Before performing maintenance on this machine ensure it has been isolated in accordance with mine site and manufacturer procedures and a Do Not Start Tag has been applied in the appropriate location on the machine.

WARNING

Disconnection of hoses and removal of supporting pins and bolts of the access system may result in unintended machine movement and/or release of stored energy. Personal injury or death may result. Before disassembly of any components of the access system ensure that stored energy has been relieved and components are chocked/blocked to prevent unintended movement.

NOTICE

You must read and understand the warnings and instructions contained in the Safety Section of this manual, before performing any maintenance procedures.

6.1 General Hazard Information

Perform all maintenance unless otherwise specified as follows:

- The machine parked on level ground.
- The park brake engaged.
- The engine stopped.
- The start switch key off and the key removed.
- All disconnect switches locked out and a Do Not Start Tag applied.
- All other external energy sources disconnected from the machine.

6.1.1 Crushing & Cutting Prevention

WARNING

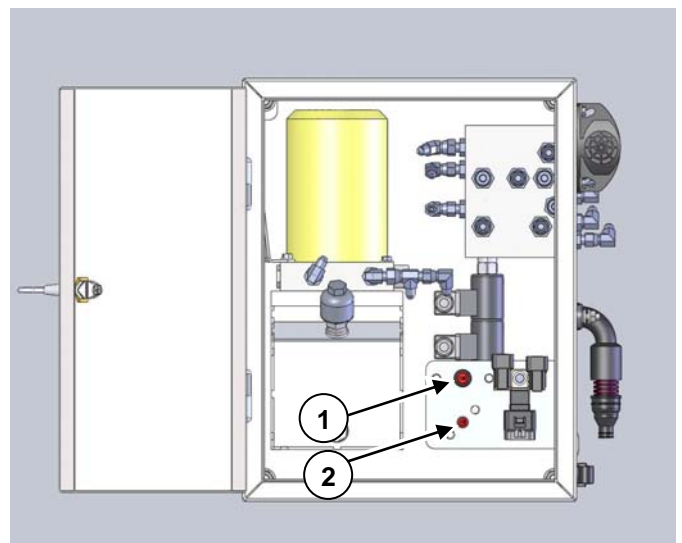
Disconnection of hoses and removal of supporting pins and bolts of the access system may result in unintended machine movement and/or release of stored energy. Personal injury or death may result. Before disassembly of any components of the access system ensure that stored energy has been relieved and components are chocked/blocked to prevent unintended movement.

- Support equipment and attachments properly when working beneath them. Never attempt adjustments while the machine is moving or the engine is running unless otherwise specified.
- Stay clear of all rotating and moving parts.

6.2 When Required

6.2.1 Circuit Breaker - Reset

The electrical system for the access system contains two circuit breakers located inside the hydraulics cabinet. Reset the circuit breakers when required. If a circuit breaker continually trips have the circuit checked.



(1) Main Circuit Breaker – 120 Amp

(2) Switching Circuit Breaker – 10 Amp

6.3 Before Use

6.3.1 Walk-Around Inspection

Perform a walk-around inspection on the machine prior to operation.

- Clean the access steps from any rubbish build-up or debris.
- Visually inspect components for damage and wear and tear. Have any damaged or missing components repaired or replaced.
- Check to ensure that the audible alarms located adjacent to the hydraulic oil compartment and on the in-cab control panel sound whenever the access system controls are activated.
- Visually inspect all hydraulic lines, hoses, fittings and hose clamps for security, damage, deterioration and leaks. Check for pools of oil under the machine which may indicate a possible problem or damaged item.
- Visually inspect all switches of the system. Ensure all visual indicators are operational.
- Check the level of the hydraulic oil compartment. Top-up if required referring to section **Hydraulic Oil Compartment** section in the Maintenance Section of this manual.

6.4 Every 1000 Service Hours or 6 Months

6.4.1 Bolts and Mounting Hardware

Check the tightness of all bolts fitted to the access systems. This includes checking the handrails, access platforms and their mountings.

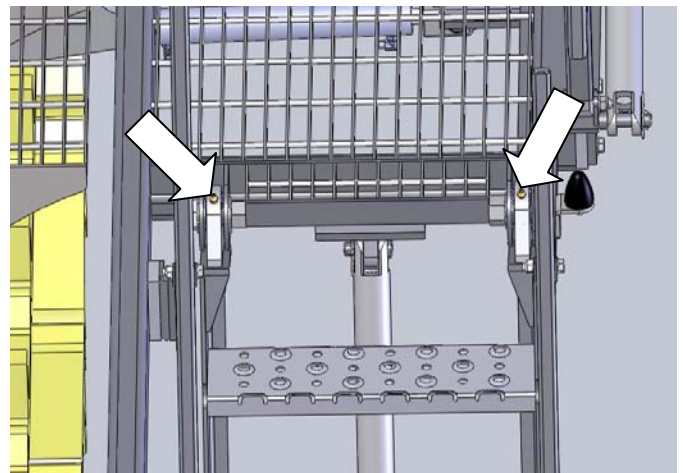
6.4.2 Hydraulic System – Inspect

Inspect all lines, hoses fittings, hose clamps and cylinders for damage and deterioration. If there are any damaged, missing or leaking parts ensure that they are replaced. Check to ensure the mountings for the hydraulic cabinet are secure.

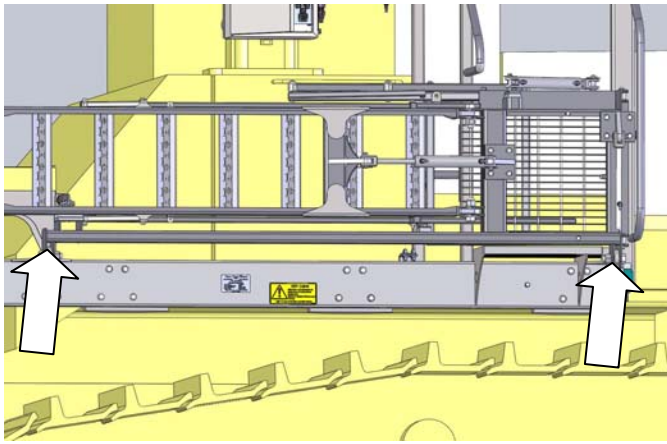
Open the hydraulics cabinet lid and inspect all hoses and fittings for leaks. Replace any items as required. Hydraulic systems and components should be serviced only in consultation with Australian Diversified Engineering.

6.4.3 Pivot Points – Lubricate

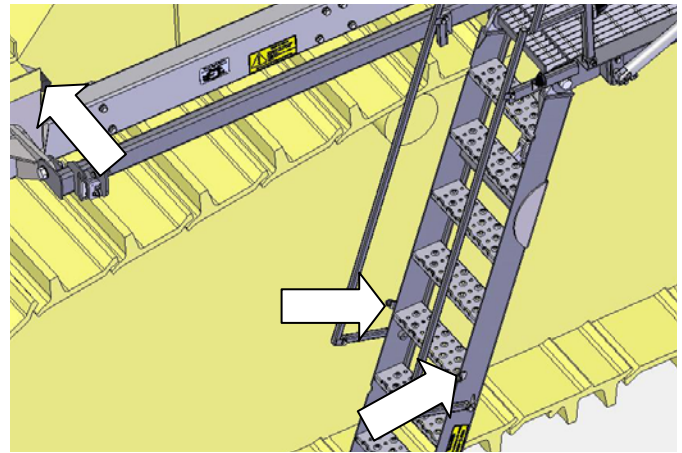
Lubricate main pivot points of the system via the grease fittings with good quality molybdenum based grease. There are four grease fittings for the access system.



Two grease fittings at the pivots for the ladder



Two grease fittings at the pivots for the main frame

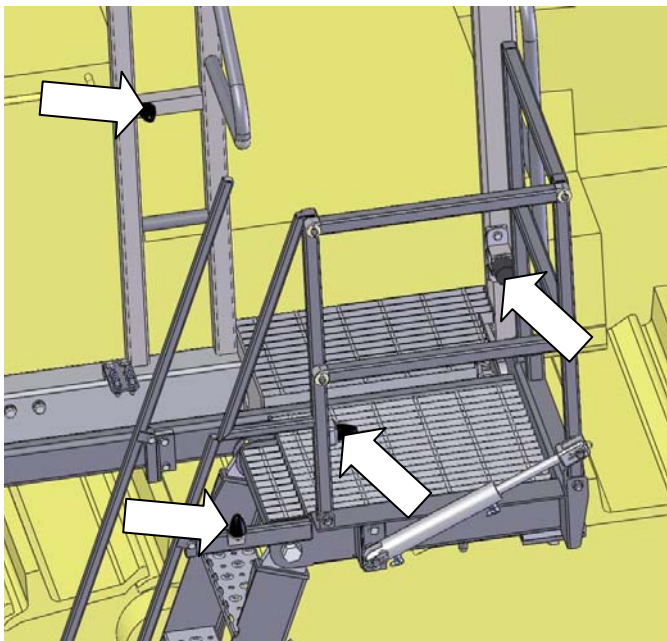


Rubber bump stops

6.5 Every 2000 Service Hours or Yearly

6.5.1 Rubber Bump Stop - Inspect

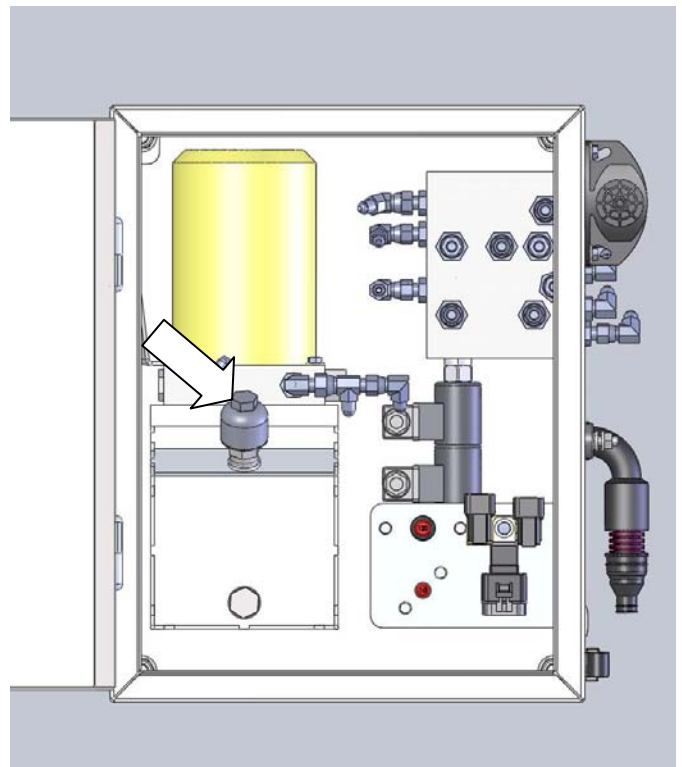
Inspect the condition of the rubber bump stops mounted to the access system. Replace as required.



6.6 Every 4000 Service Hours or 2 Years

6.6.1 Hydraulic Oil Compartment

Replace the hydraulic oil every 24 months / 2 years in consultation with Australian Diversified Engineering. Use only Castrol Hyspin AWH-M ISO Viscosity grade 68 oil or an equivalent specification oil in the hydraulic system.



Fill point cap for the hydraulic oil compartment

7 Literature Reference Materials

7.1 Reference Material

Machine specific Komatsu Operation and Maintenance Manual.