Dear JCB Customer

Even if you have operated this type of equipment before, it is very important that your new machines operations and functions are explained to you by a JCB Dealer Representative following delivery of your new machine.

Following the installation you will know how to gain maximum productivity and performance from your new product.

Please contact your local JCB dealer if the Installation Form has not yet been completed with you.

Your Local JCB Dealer is:

OPERATOR MANUAL

THIS MANUAL SHOULD ALWAYS STAY WITH THE MACHINE

JS120 TRACKED EXCAVATOR

ENGLISH - 9821/2100 - ISSUE 1 - SEPTEMBER 11

Copyright © 2004 JCB SERVICE.
All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any other means, electronic, mechanical, photocopying or otherwise, without prior permission from JCB SERVICE.

A4-6-Range - Printed In India

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Contents **Page No.**

Safety Notices
Important Information 1
The Operator Manual 1
Safety Warnings 1

Introduction
About this Manual 3
Machine Model and Serial Number 3
Using this Manual 3
Left Side, Right Side 3
Cross References 3
Machine Description 4
The JCB Tracked Excavator 4
Intended Use 4
Component Location 6
Safety Check List 8
Safety - Yours and Others 8
General Safety 8
Operating Safety 10
Maintenance Safety 13
Safety Labels 18
Introduction 18
Safety Label Identification 19
Identifying Your Machine 22
Machine Identification Plate 22
Component Identification Plates 23

Operation
Introduction 25
Before Entering the Cab 26
Entering and Leaving the Cab 27
Standard Cab Machines 27
Doors and Windows 28
Opening and Closing the Door 28
Opening and Closing the Front Upper Window 28
Opening and Closing The Front Lower Window 29
Door Sliding Window 29
Seat Controls 30
Introduction 30
Operators Seat/Console 30
Operators Seat - Standard/Heated 30
Air Suspension Seat 31
Seat Belts (if fitted) 32
Static Seat Belt 32
Visibility Aids (if fitted) 33
Mirrors 33
Cab Layout 37
Components Key 37
Drive Controls, Switches and Instruments 38
Drive Controls 38
Switches 39
Instruments 43

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Safety Notices

Important Information

The Operator Manual

Do not operate the machine without an Operator Manual, or if there is anything on the machine you do not understand.

Treat the Operator Manual as part of the machine. Keep it clean and in good condition. Replace the Operator Manual immediately if it is lost, damaged or becomes unreadable.

Safety Warnings



This safety alert system identifies important safety messages in this manual. When you see this symbol, be alert, your safety is involved, carefuly read the message that follows, and inform other operators.

In this publication and on the machine, there are safety notices. Each notice starts with a signal word. The signal word meanings are given below.

⚠ DANGER

Denotes an extreme hazard exists. If proper precautions are not taken, it is highly probable that the operator (or others) could be killed or seriously injured.

INT-1-2-1

⚠ WARNING

Denotes a hazard exists. If proper precautions are not taken, the operator (or others) could be killed or seriously injured.

INT-1-2-2

⚠ CAUTION

Denotes a reminder of safety practices. Failure to follow these safety practices could result in injury to the operator (or others) and possible damage to the machine.

INT-1-2-3

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Operation

Introduction

T2-006_2

The aim of this part of the manual is to guide the operator step-by-step through the task of learning how to operate the machine efficiently and safely. Read the ***Operation*** section through from beginning to end.

Before you start the machine, you must know how the machine operates. Use your manual to identify each control lever, switch, gauge, button and pedal. Do not guess. If there is anything you do not understand, ask your JCB distributor.

The operator must always be aware of events happening in or around the machine. Safety must always be the most important factor when you operate the machine.

When you understand the operating controls, gauges and switches, practice using them. Drive the machine in an open space, clear of people. Get to know the 'feel' of the machine and its driving controls.

Finally, do not rush the job of learning, make sure you fully understand everything in the ***Operation*** section. Take your time and work efficiently and safely.

Remember

BE CAREFUL
BE ALERT
BE SAFE

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Cab Layout

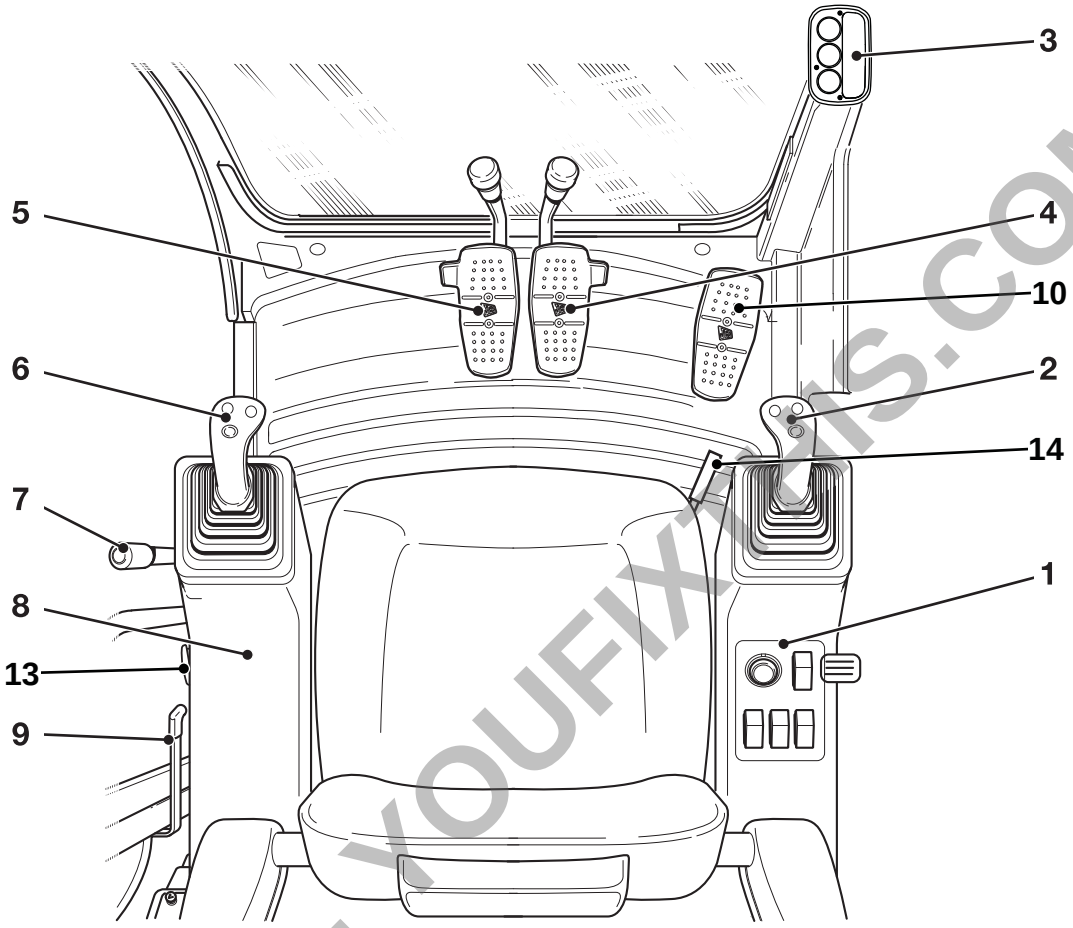


Fig 23.

Components Key

1 Right Console ⇒ *Right Console (40)*

2 Right Excavator Joystick Control ⇒ *Excavating (45)*

3 Display Monitor (adjustable view) ⇒ *Monitor Panel (43)*

4 Right Hand Track Control, see ⇒ *Track Controls (38)*

5 Left Hand Track Control ⇒ *Track Controls (38)*

6 Left Excavator Joystick Control ⇒ *Excavating (45)*

7 Control Lock Lever ⇒ *Control Locks (50)*

8 Left Console ⇒ *Left Console (39)*

9 Door Lock Release Lever ⇒ *Opening and Closing the Door (28)*

10 Optional Circuit Pedal (if fitted) ⇒ *Operating Levers/ Pedals (45)*

11 Not Used

12 Not Used

13 Interior light switch (Timed) ⇒ *Cab Interior Lights (41)*

14 Seat/Console Slide lever ⇒ *Operators Seat/ Console (30)*

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Table 23. Engine overheating (water temperature reads too high)

Cause	Remedy
Low coolant	Refill
Water leakage	Repair
Elongated or oil dirtied belt	Clean or replace
Defective radiator	Repair or replace(1)
Broken fan	Replace(1)
Incorrect mixture of anti-freeze solution	Replace
Defective thermostat	Replace(1)
Defective water pump	Replace(1)
Defective water sensor	Replace(1)

Table 24. Defective battery charge

Cause	Remedy
Improper belt tension	Adjust
Wiring trouble	Repair
Defective battery	Replace
Defective regulator	Replace(1)
Defective alternator	Replace(1)

(1) Indicates jobs which should be done by specialist.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

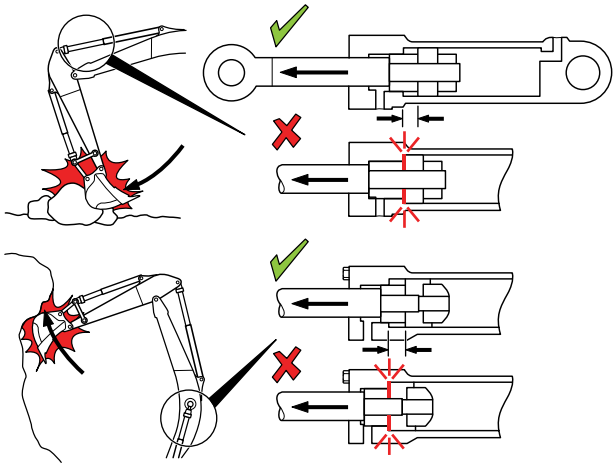


Fig 80.

The cylinders are designed with a cushion mechanism which gradually releases any back pressure. If impact forces are applied at the end of the cylinder stroke the piston will hit the head or bottom end and cause damage. ⇒ *Fig 80. (74)*.

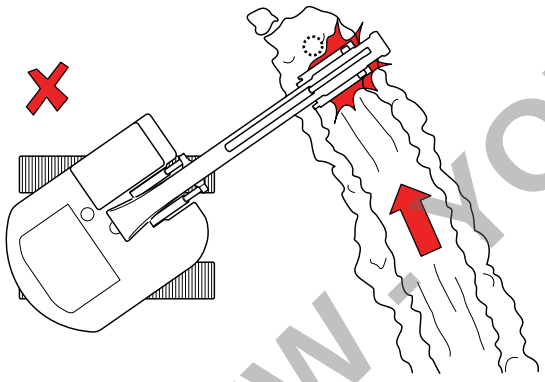


Fig 81.

Whenever possible do not slew the machine to perform dozing tasks. If you must slew the machine to perform a dozing task use a smooth slew action and check there are no obstacles. ⇒ *Fig 81. (74)*.

Slewing the machine to perform dozing tasks will create large side loads on the dig end and this will cause twisting and bending.

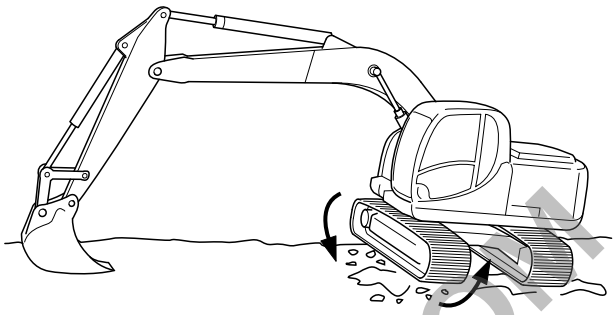


Fig 82.

When operating on muddy ground the tracks will fill with mud. If the machine travels in this condition it will cause wear to the tracks. To reduce wear raise one track off of the ground at a time and rotate the track to remove the mud. ⇒ *Fig 82. (74)*.

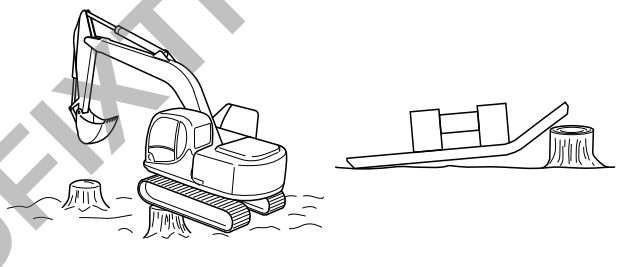


Fig 83.

If the machine travels over obstacles such as tree stumps and rocks the track shoes may bend and a high load will be applied to individual track pins. ⇒ *Fig 83. (74)*.

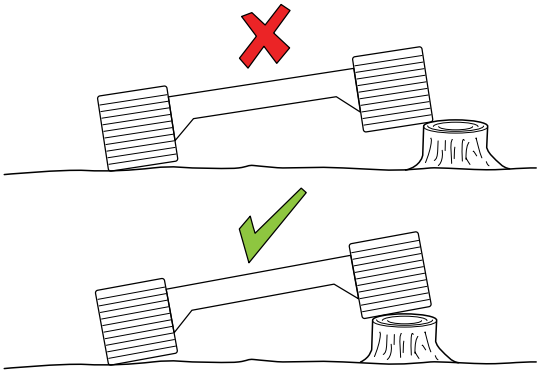


Fig 84.

PREVIEW | YOUFIXTHIS.COM

Download full manual at youfixthis.com

Air Bleeding from the Slew Motor

If air is not completely bled from the slew motor the motor bearing or other parts may be damaged.

1 Prepare the machine. ⇨ ***Prepare the Machine for Maintenance (108)***.

2 Locate the slew motor. ***See Machine Description in Introduction section***.

3 Checking oil procedure.

a Loosen the air bleeding plug **B** and check that oil seeps out from the air bleeding port.

b If no oil comes out, remove the air bleeding plug **B**, and fill the motor case with Hydraulic Oil.

c Tighten the air bleeding plug **B**.

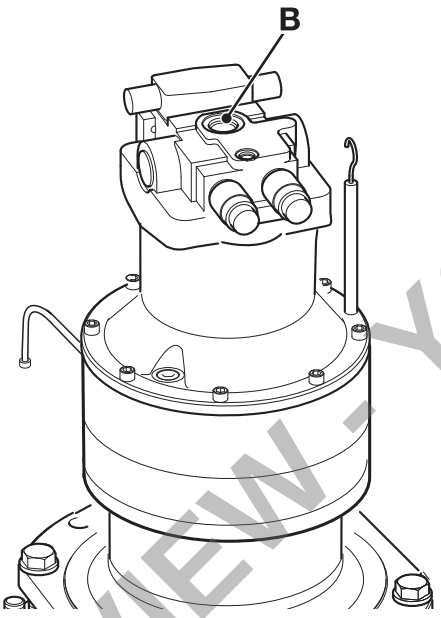


Fig 149.

4 Sealing the system. Idle the engine at low speed and slowly slew the machine left to right evenly, two times.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Service Schedules

Introduction

T3-036_3

⚠ WARNING

Maintenance must be done only by suitably qualified and competent persons.

Before doing any maintenance make sure the machine is safe, it should be correctly parked on level ground.

To prevent anyone starting the engine, remove the starter key. Disconnect the battery when you are not using electrical power. If you do not take these precautions you could be killed or injured.

8-3-1-1

A badly maintained machine is a danger to the operator and the people working around him. Make sure that the regular maintenance and lubrication jobs listed in the service schedules are done to keep the machine in a safe and efficient working condition.

Apart from the daily jobs, the schedules are based on machine running hours. Keep a regular check on the hourmeter readings to correctly gauge service intervals. When there is no hourmeter fitted, use the calendar equivalents to determine the service intervals. Refer to ***Calendar Equivalents***. Do not use a machine which is due for a service. Make sure any defects found during the regular maintenance checks are rectified immediately.

How to Use the Service Schedules

T3-012_4

In the example shown, **A** shows all service requirements to be carried out every 10 hours and **B** shows the requirements to be carried out every 500 hours.

Important: *Services should be carried out at either the hourly interval or calendar interval, whichever occurs first. Refer to* ***Calendar Equivalents****.*

Important: *The intervals given in the schedules must not be exceeded. If the machine is operated under severe conditions (high temperature, dust, water, etc.), shorten the intervals.*

Pre-start Cold Checks, Service Points and Fluid Levels

	Operation	A: 10	50	100[1]	B: 500	1000	2000	8000
ENGINE								
Coolant Quality and Level	- Check	□	□	□	□	□		
Cooling System	- Drain and Refill						□	□
Oil level	- Check	□	□					
Oil and Filter[2][3][4]	- Change				□	□	□	□
Air Cleaner Dust Valve[5]	- Change				□	□	□	□
Air Cleaner Outer Element[5]	- Change					□	□	□
Air Cleaner Inner Element	- Change						□	□
Pre-Cleaner (if fitted)	- Check			□				
Water Seperator	- Check for contamination and Drain		□	□	□	□	□	□
Engine Fuel Filter	- Change					□	□	□
Front End Accessory Drive (FEAD) Belt Condition	- Check				□	□	□	□
Front End Accessory Drive (FEAD) Belt	- Change							□
Engine Mounting Bolts for Tightness	- Check			□	□	□	□	□
All Hoses - Condition	- Check			□	□	□	□	□
Radiator[5]	- Clean				□	□	□	□
Crankcase Ventilation Filter	- Change					□	□	□

795390-1

Calendar Equivalents

Every 10 Hours	=	Daily
Every 50 Hours	=	Weekly
Every 250 Hours	=	Monthly
Every 500 Hours	=	Three Months
Every 1000 Hours	=	Six Months
Every 2000 Hours	=	1 Year
Every 4000 Hours	=	2 Years
Every 5000 Hours	=	2 Years 6 Months

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Storage of the Machine

Introduction

If you will not use the machine for an extended period, you must store the machine correctly. If you prepare the machine carefully and apply on-going care you can prevent deterioration and damage to the machine while it is in storage.

Note: *JCB Dealers must check stock monthly.*

Storage Area

The machine can be stored in a temperature range of:

-40°C to 54°C (-40°F to 129°F).

When possible, you must keep the machine in a dry building or shelter.

If only an outdoor storage area is available, look for a storage area with good drainage.

If the machine is to be out of use for an extended period, careful preparation and on-going care will minimise the possibility of deterioration and damage while in storage.

Prepare the Machine for Storage

1 Clean the machine to remove all unwanted material and corrosive products.

Dry the machine to remove solvents and moisture.

2 Apply grease to the moving parts. Refer to Greasing the Machine.

3 Examine the machine for worn or damaged parts. Replace if necessary.

4 Fill the fuel tank to prevent a build up of condensation in the tank.

5 Examine the coolant condition. Replace if necessary.

6 Examine all fluid levels. Top up if necessary.

Put the Machine into Storage

1 Park the machine on level, solid ground.

Park the machine in a position where the machine is easy to tow (in case the machine does not start at the end of the storage period).

Place suitable timbers under the machine to eliminate direct contact with the ground.

2 Retract all rams and lower the attachments to the ground.

3 Vent the hydraulic system.

4 Remove the starter key.

5 Apply a thin layer of grease or petroleum jelly to all exposed ram piston rods.

6 Remove the battery. Charge the battery.

Keep the battery in warm, dry conditions. Charge the battery periodically.

7 If you keep the machine outdoors, cover the machine with tarpaulins or plastic sheets.

During Storage

Operate the machine functions each week to prevent a build up of rust in the engine and hydraulic circuits, and to minimise deterioration of the hydraulic seals.

1 Clean the machine to remove all unwanted material and corrosives.

Remove the grease or petroleum jelly from the ram piston rods.

2 Install a charged battery.

3 Start the engine.

4 Operate the hydraulic controls.

Make sure that the hydraulic functions operate correctly.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Table 11. JS120

No.	Tightening Point	Bolt Diameter	Wrench mm	Tightening Torque		
				Nm	kgf m	lbf ft
1(1)	Travel Motor	M16	24	288	29.36	212.39
2(1)	Drive Sprocket	M16	24	288	29.36	212.39
3(1)	Idler Wheel	M16	24	288	29.36	212.39
4(1)	Upper (Carrier) Roller	M12	19	116	11.82	85.55
5(1)	Lower (Track) Roller	M16	24	288	29.36	212.39
6(1)	Track Guard	M16	24	288	29.36	212.39
7	Shoe Bolt	M16	24	345	35.17	254.42
8	Counter weight	M30	46	1930	196.74	1423.30
9(1)	Turntable Bearing (Undercarriage)	M16	24	288	29.36	212.39
10(1)	Turntable Bearing (Slew Frame)	M16	24	288	29.36	212.39
11(1)	Slew Equipment	M16	30/36	288	29.36	212.39
12(1)	Engine (Engine Mount)	M16	24	288	29.36	212.39
13(1)	Engine Bracket	M12	19	116	11.82	85.55
14	Radiator	M12	24	116	11.82	85.55
15(1)	Hydraulic Pump	M10	17	67	6.83	49.41
16(1)	Hydraulic Oil Tank	M16	24	288	29.36	212.39
17(1)	Fuel Tank	M16	24	288	29.36	212.39
18(1)	Control Valve	M16	24	288	29.36	212.39
19(1)	Rotary Coupling	M12	19	116	11.82	85.55
20	Cab	M12	24	116	11.82	85.55
21	Battery	M 6	10	13.9	1.42	10.25

(1) Use JCB Threadlocker and sealer (High Strength) and tighten to the torque listed.

Table 12.

Bolt Diameter (size)			M6	M8	M10	M12	M14	M16	M18	M20
Hex bolt	Wrench	mm	10	13	17	19	22	24	27	30
	Tightening Torque	Nm	6.9	15.7	32.3	58.8	98	137.2	196	274.4
		kgf m	0.7	1.6	3.2	5.9	9.8	13.7	19.6	27.4
		lbf ft	5	12	24	43	72	101	145	202
Hex. socket head bolt	Wrench	mm	5	6	8	10	12	14	16	17
	Tightening Torque	Nm	8.8	21.6	42.1	78.4	117.6	176.4	245	343
		kgf m	0.88	2.2	4.2	7.8	11.8	17.6	24.5	34.3
		lbf ft	6.5	16	31	58	87	130	181	253

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

4 For any one machine ensure that the sag '**S**' of both tracks does not differ by more than 2 MM.

⚠ WARNING

When opening the check valve always stand to one side and loosen a little at a time until grease starts to come out. If you over-loosen too much grease could spurt out or the valve cover fly out and cause serious injury.

8-3-4-5

⚠ WARNING

Under no circumstances must the check valve be dismantled or any attempt made to remove the grease nipple from the check valve.

8-3-4-9

If a gap **C** exists between the idler wheel shaft and the track frame, you may use pressure to apply the grease. If there is no gap **C** after the application of grease, then the necessary repairs must be carried out by your JCB distributor. ⇨ ***Fig 152. (🗋 154)***.

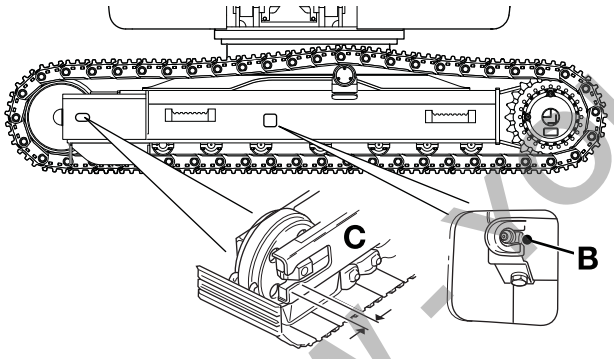


Fig 152.

Note: *Excessive tension can cause the track rail to wear the drive rollers and sprocket, insufficient tension can cause wear to the drive sprocket and track rail.*

5 Lower the Track.

Remove the blocks from beneath the undercarriage and lower the track to the ground using the boom and dipper controls.

6 Repeat for the Opposite Track.

Slew the boom round to the other side and repeat steps **1** to **4** above.

Checking Rollers and Idler Wheels for Oil Leaks

1 Prepare the Machine. ⇨ ***Prepare the Machine for Maintenance (🗋 108)***.

Carry out steps **1** to **3** of ***Cleaning the Tracks***. Block up the undercarriage frame.

⚠ WARNING

Raised Machine

NEVER position yourself or any part of your body under a raised machine which is not properly supported. If the machine moves unexpectedly you could become trapped and suffer serious injury or be killed.

INT-3-3-7_1

2 Look for Oil Leaks.

Check the top and bottom rollers and the idler wheels for oil leaks. If leaks are found contact your JCB distributor for service.

⚠ CAUTION

Do not run the machine if you discover oil leaks in the top or bottom rollers or idler wheels. Failure to rectify such leaks could cause damage to the machine.

8-3-4-6

3 Lower the Track.

Remove the blocks from beneath the undercarriage and lower the track to the ground using the boom and dipper controls.

4 Repeat for the Opposite Track.

Slew the boom to the other side and repeat steps 1 to 3 above.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

PREVIEW ONLY

You're viewing 12 of 186 pages

The full manual includes:

- All 186 pages, complete
- Searchable PDF (find any keyword)
- No watermarks
- Instant download
- Print-ready quality

GET FULL MANUAL NOW

JCB JS120 Operator Manual

Scan or click anywhere
youfixthis.com

Click anywhere on this page to get the full manual