Safety Notices

Important Information

T1-015

The Operator Manual

⚠ WARNING

Study the Operator Manual before starting the machine. You must understand and follow the instructions in the Operator Manual. You must observe all relevant laws and regulations. If you are unsure about anything, ask your JCB dealer or employer. Do not guess, you or others could be killed or seriously injured.

INT-1-1-1_2

Do not operate the machine without an Operator Manual.

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

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 starting the machine, sit in the drivers seat and familiarise yourself with the layout of the cab. 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 outside the cab as well as inside the cab. Safety must always be the most important feature when operating the machine.

When you have familiarised yourself with 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

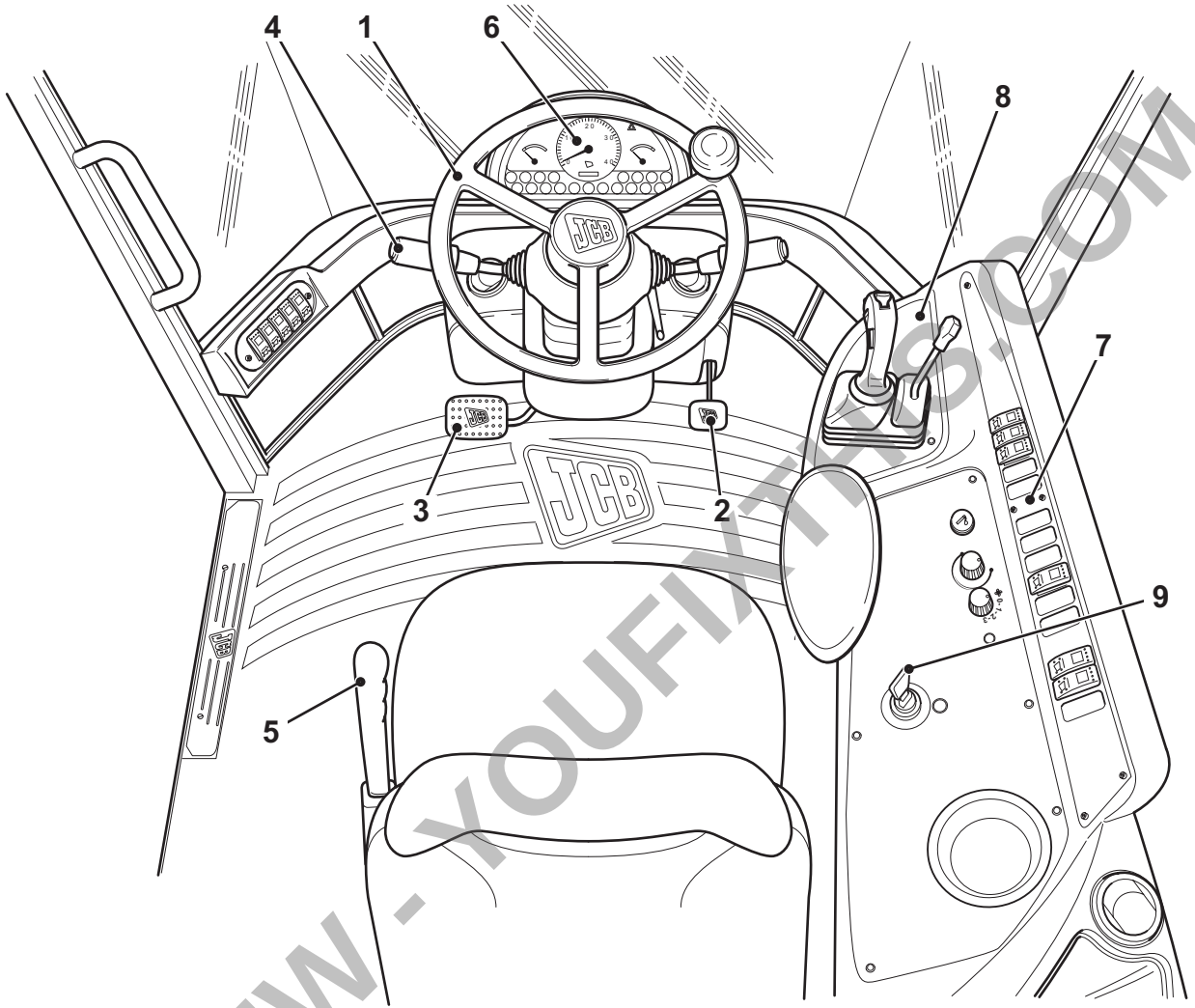


Fig 15.

1 ⇨ *Steering Wheel (23)*.

2 ⇨ *Accelerator Pedal (23)*.

3 ⇨ *Brake Pedal (23)*.

4 ⇨ *Forward/Reverse Lever (if fitted) (23)*.

5 ⇨ *Parking Brake Lever (23)*.

6 ⇨ *Instruments (29)*.

7 ⇨ *Switch Panel (27)*.

8 ⇨ *Operating Levers (34)*.

9 ⇨ *Starter Switch (28)*.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Optional Attachments

Introduction

T4-002

⚠ WARNING

Use only the JCB approved attachments that are specified for your machine. Operating with non-specified attachments can overload the machine, causing possible damage and machine instability which could result in injury to yourself or others.

The use of non-approved attachments could invalidate your warranty.

2-4-5-2_1

A wide range of optional attachments is available to increase the versatility of your machine. Only JCB approved attachments are recommended for use with your machine. Consult your JCB Distributor for the full list of approved attachments available.

JCB attachments are designed and manufactured specifically to suit the machine's hydraulic system, mounting arrangements and safe load requirements. Attachments which are not designed for use with this machine may cause damage and create safety hazards for which JCB cannot be held responsible. In addition the machine's warranty, "CE" and any other legislative compliance may be affected by the use of non JCB approved attachments.

2-4-1-13_2

⚠ CAUTION

If you have an attachment which is not covered in the Operator Manual do not install it, use it or remove it until you have obtained, read and understood the pertinent information. Install attachments only on the machines for which they were designed.

5-5-1-1_2

This part of the manual includes general information on attachment operation and instructions for installation and removal of attachments.

Some attachments are supplied complete with instructions on safety, installing and removing, operation and maintenance. Read and fully understand the information before fitting, using and servicing the attachment. If there is anything you do not understand, ask your JCB Distributor.

Before using any attachment, read again ***Working With The Machine*** in the Operation section and consider how the attachment is going to affect operational safety. With the attachment fitted, there may be changes in the machine's centre of gravity or overall dimensions. This could have an effect on, for example, machine stability, the gradients on which it is safe to operate or the safe distance from power lines.

Practice using attachments off the job before working with them for the first time.

If your machine needs the hydraulic system adapting to facilitate the use of auxiliary attachments, you must consult your distributor. Only suitably qualified personnel must re-route hydraulic hoses.

All optional attachments will have limits on their operation. i.e. lifting capacity, speeds, hydraulic flow rates, etc. Always check in the literature supplied with the attachment or in the SPECIFICATION section of this manual. Some specification limits may also be displayed on the attachments Data/Rating Plate.

⚠ CAUTION

Some attachments may contact parts of the machine when in the fully folded position. Take extra care to avoid damage to the machine.

3-4-1-4

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Testing the Parking Brake

⚠ WARNING

Before testing the park brake make sure the area around the machine is clear of people.

2-2-4-5

1 Park the machine on a firm level surface lower the attachments to the ground. Fully apply the park brake and select neutral on the forward reverse lever. Chock both sides of the front wheels.

2 Release the park brake lever and ensure the adjusting capability of the lever is in the FULLY ADJUSTED position, by turning the lever handle as shown until the stop is reached. .

Important: *The park brake on the 406 machines cannot be adjusted by using the park brake lever as with other JCB machine ranges. The lever adjustment is set when the park brake is set-up and requires no further adjustment.*

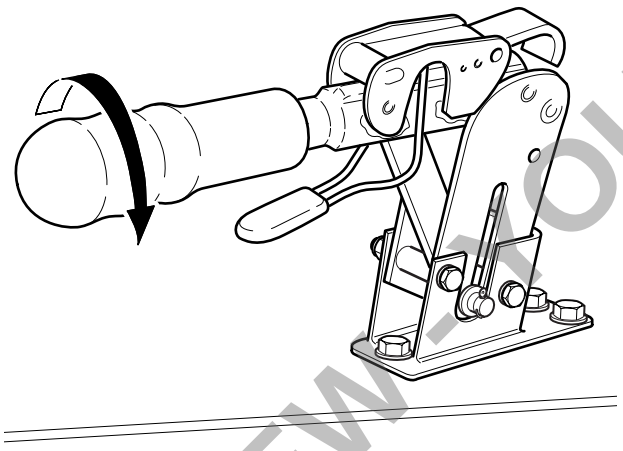


Fig 31.

3 With the park brake fully applied, ensure the park brake lever `locks' in the applied position by `knocking' the lever with the palm of your hand in the direction of release. The park brake lever MUST not release without the safety catch being released.

4 With the park brake fully applied, remove the chocks from the wheels and raise the attachment to just above the travelling position.

⚠ WARNING

If the machine starts to move during the following test, immediately apply the foot brake and reduce the engine speed.

2-2-5-1

Test the brake on a 20% gradient with a suitable, dry surface. Make sure your seat belt is securely fastened.

5 Test the Parking Brake

- **a** Drive the machine onto a 20% gradient.
- **b** With the foot pedal firmly pressed, fully apply the park brake.
- **c** Set the forward/reverse lever to neutral (**N**).
- **d** Slowly release the pressure from the foot brake pedal. If the machine starts to move, immediately re-apply the foot brake, remove the machine from the gradient and contact your JCB Dealer for advice.
- **e** With the foot brake fully released, the park brake should hold the weight of the machine on the gradient without any "creep".

6 Remove the machine from the gradient, lower the attachments to the ground and stop the engine.

If you have any queries concerning this procedure or the parking brake adjustment, consult your local JCB distributor.

⚠ WARNING

Do not use a machine with a faulty park brake.

3-2-3-10_2

⚠ WARNING

Non approved modifications to drive ratios, machine weight or wheel and tyre sizes may adversely affect the performance of the parking brake.

3-2-3-11

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Routine Maintenance

Service Requirements

Introduction

T3-002

Your machine has been designed and built to give maximum performance, economy and ease of use under a wide variety of operating conditions. Prior to delivery, your machine was inspected both at the Factory and by your Distributor to ensure that it reaches you in optimum condition. To maintain this condition and ensure trouble free operation it is important that the routine services, as specified in this Manual, are carried out by an approved JCB Distributor at the recommended intervals.

This section of the Manual gives full details of the service requirements necessary to maintain your JCB machine at peak efficiency.

It can be seen from the Service Schedules on the following pages that many essential service checks should only be carried out by a JCB trained specialist. Only JCB Distributor Service Engineers have been trained by JCB to carry out such specialist tasks, and only JCB Distributor Service Engineers are equipped with the necessary special tools and test equipment to perform such tasks, thoroughly, safely, accurately and efficiently.

JCB regularly updates its Distributors advising them of any product developments, changes in specifications and procedures. Therefore only a JCB Distributor is fully able to maintain and service your machine.

A Service Record Sheet or Book is provided which will enable you to plan your service requirements and keep a service history record. It should be dated, signed and stamped by your Distributor each time your machine is serviced.

Remember, if your machine has been correctly maintained, not only will it give you improved reliability but its resale value will be greatly enhanced.

Owner/Operator Support

JCB together with your Distributor wants you to be completely satisfied with your new JCB machine. If you do encounter a problem however, you should contact your Distributor's Service Department who are there to help you!

You will have been given the names of the relevant service contacts at your Distributor when the machine was installed.

To get the most from your Distributor please help them to satisfy you by:

1 Giving your name, address and telephone number.

2 Quoting your machine model and serial number.

3 Date of purchase and hours of work.

4 Nature of the problem.

Remember, only your JCB Distributor has access to the vast resources available at JCB to help support you. In addition, your Distributor is able to offer a variety of programmes covering Warranty, Fixed Price Servicing, Safety Inspections, including weight tests, covering both legal and insurance requirements.

Service/Maintenance Agreements

To help plan and spread the costs of maintaining your machine, we strongly recommend you take advantage of the many Service and Maintenance Agreements your Distributor can offer. These can be tailor made to meet your operating conditions, work schedule etc.

Please consult your JCB Distributor for details.

Initial Service and Inspection (100 Hours)

T3-005

To further protect your machine's performance it is essential your JCB Distributor carries out an initial service and inspection when the machine is one month old or when it has completed 100 hours of operation (whichever occurs first). You should notify your Distributor in advance to allow the necessary arrangements to be made.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Pre-start Cold Checks, Service Points and Fluid Levels

Table 1. Engine

Operation		10	50	100[1]	100	500	1000	2000	5000
Oil level	- Check	☐							
Oil and Filter	- Change[2]						☐		
Air Cleaner Dust Valve	- Clean[3]			☐	☐		☐		
Air Cleaner Outer Element	- Change[4]						☐		
Air Cleaner Inner Element	- Change							☐	
Fuel System for Leaks and Contamination	- Check	☐		☐			☐		
Fuel Filter	- Change						☐		
Fuel Sedimenter	- Drain and Clean				☐		☐		
Fan Belt Tension/Condition	- Check			☐		☐			
Fan Belt	- Change						☐		
Valve Clearances	- Check and Adjust						☐		
Oil Cooler Hoses - Condition	- Check			☐			☐		
Oil Cooler	- Clean[3]				☐				
External Oil Leaks	- Check	☐					☐		

(1) First 100 Hours Service only, to be completed by your JCB Distributor.
(2) In arduous conditions, change the engine oil and filter after every 250 hours or three months (whichever comes first).
(3) More frequently if operating in dusty working environments.
(4) Change outer element more frequently in dusty operating environments.

Table 2. Transmission and Axles

Operation		10	50	100[1]	100	500	1000	2000	5000
Drop-box Oil	- Change			☐			☐		
Axle Differential Oil	- Change			☐			☐		
Hub Oil	- Change[2]			☐			☐		
Tyre Pressures/Condition	- Change		☐	☐			☐		
Wheel Nut Security	- Change		☐	☐			☐		
Axle Mount Security	- Change			☐			☐		

(1) First 100 Hours Service only, to be completed by your JCB Distributor.
(2) After a hub repair, the new oil should be run to operating temperature and changed again to remove any contamination which entered during te repair. Change the oil again after a further 100 hours to remove any bedding-in wear.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Changing the Oil and Filter

⚠ WARNING

Make the machine safe before working underneath it. Park the machine on level ground, lower the attachments to the ground. Apply the park brake, put the transmission in neutral and stop the engine. Block both sides of all four wheels.

Disconnect the battery, to prevent the engine being started while you are beneath the machine.

GEN-4-1_1

⚠ CAUTION

Hot oil and engine components can burn you. Make sure the engine is cool before doing this job.

2-3-3-2

1 Do steps 1 to 3 of Checking the Oil Level. ⇨ *Checking the Oil Level (77)*.

2 Place a suitable container beneath the drain plug (to catch the oil).

3 Remove the drain plug and drain the oil from the sump.

4 Clean and refit the drain plug. Tighten to 55 Nm (40.6 lbf ft).

5 Unscrew the filter canister **A**. Remember that it will be full of oil.Clean filter head **B**.

6 Add clean engine oil to the new filter canister. Allow time for the oil to pass through the filter element. Smear seal **C** on the new filter canister with clean engine oil.Screw on the new filter canister - hand tight only.Fill the engine with the recommended oil to the MAX mark on the dipstick, through the filler point. Wipe off any spilt oil, refit the filler cap and make sure it is secure. ⇨ *Lubricants and Capacities (59)*.

7 Start the engine. Check for leaks. When the engine has cooled, check the oil level. Close and secure the engine cover.

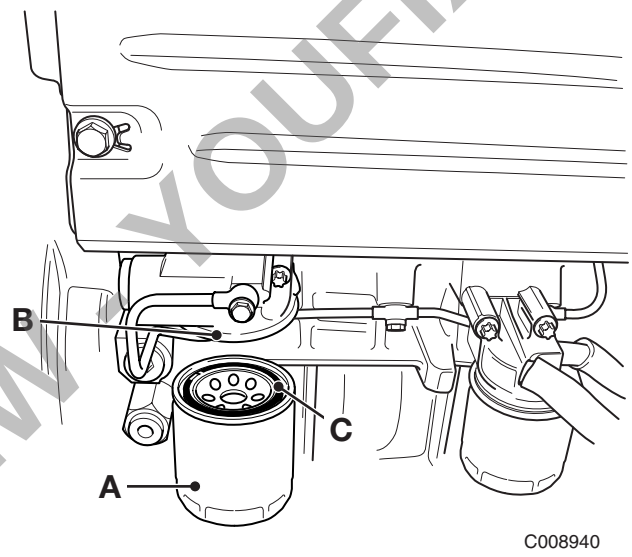


Fig 48.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Machine Description

The JCB Wheeled Loader

Self-propelled wheeled machine with an integral front mounted bucket-supporting structure and linkage, which loads or excavates through forward motion of the machine, and lifts, transports and discharges material.

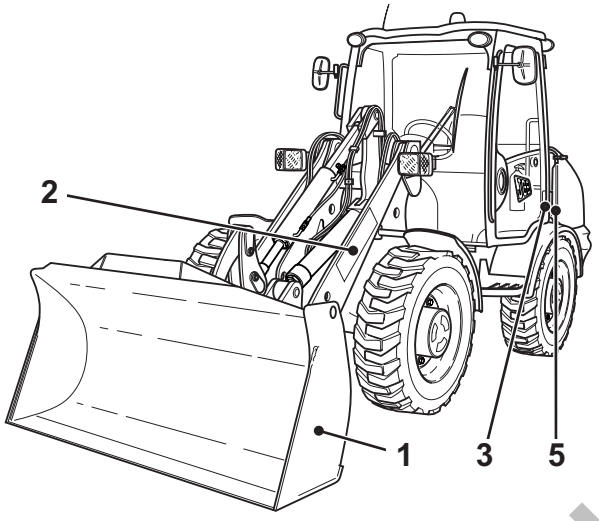


Fig 1.

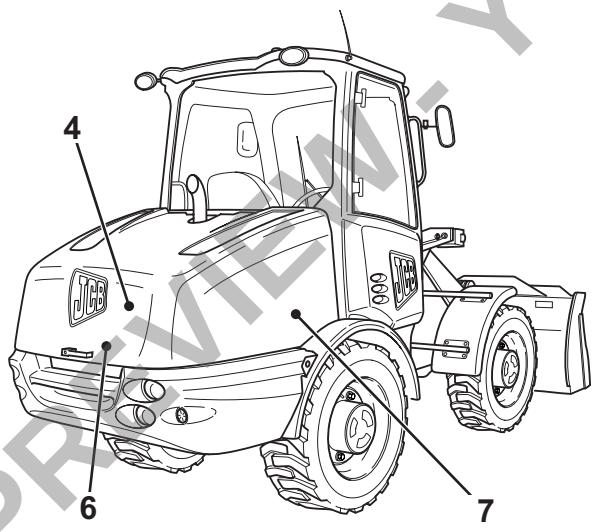


Fig 2.

1 Shovel

2 Loader Arm

3 Hydraulic Oil Filler

4 Hydraulic Oil Tank Sight Glass

5 Diesel Filler

6 Engine Oil Level Dipstick

7 Battery

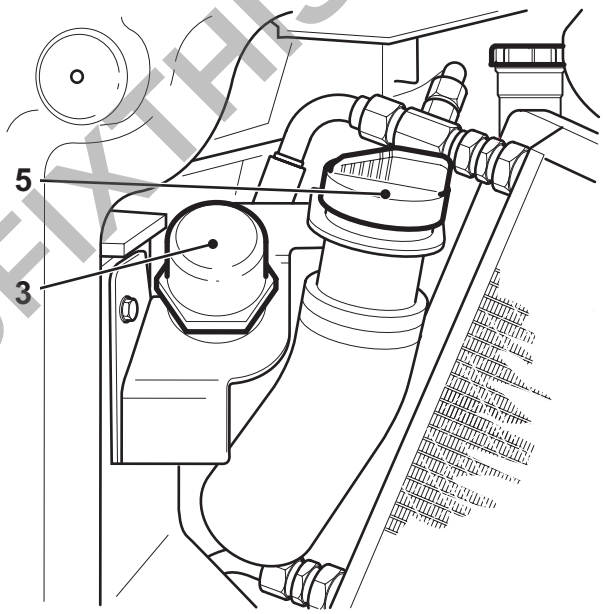


Fig 3.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Static Dimensions

		mm	ft - in
A	Overall length to front of Quickhitch	4605	15 - 1
B	Wheelbase	2100	8 - 11
C	Centre of gravity	1643	5 - 5
D	Minimum ground clearance (to axle)	332	1 - 1
E	Height over cab	2500	8 - 2
F	Width over tyres	1727	5 - 8
G	Load over height	2991	9 - 10
H	Pin height (Maximum)	3131	10 - 3

		Deg.	
J	Chassis oscillation	10°	
K	Dump angle at full height	45°	
L	Roll back at full height	56°	
	Articulation angle	40°	
		Kg	**lb**
	Unladen weight	4687	10333

Note: *Dimensions based on a machine equiped with 12.5 -18 tyres.*

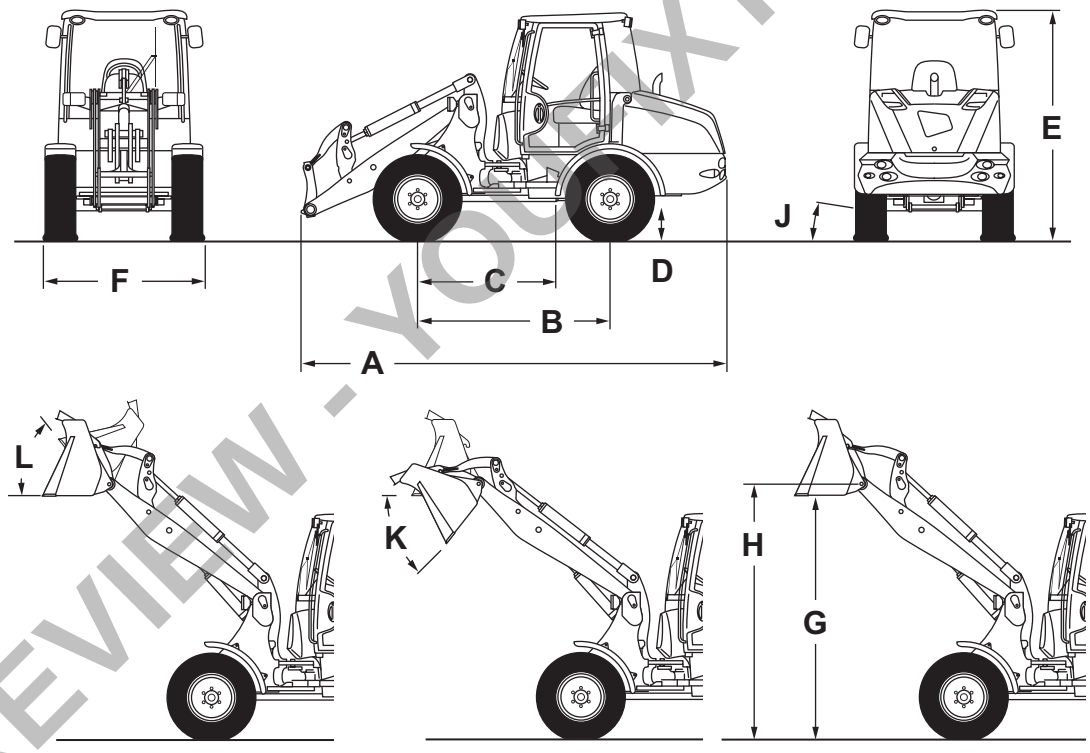


Fig 70.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Contents **Page No.**

Greasing 65
Loader Arms 66
Articulation Joint 67
Propshaft Joints 67
Steering Joints 68
Access Panels 69
Engine Cover 69
Heating and Ventilation 70
Cleaning the Cab Heater Filter 70
Electrical System 71
Battery 71
Jump Starting the Engine 73
Fuses and Relays 74
Engine 77
Checking the Oil Level 77
Changing the Oil and Filter 78
Changing the Engine Air Filter Elements 79
Engine Cooling 80
Alternator Drive Belt 82
Fuel System 83
Types of Fuel 83
Changing the Fuel Filter 85
Draining the Sedimenter Bowl 86
Cleaning the Sedimenter Bowl 86
Bleeding the Fuel System 87
Hydraulic System 88
Checking the Fluid Level 88
Changing the Filter Element 89
Refilling the Hydraulic System 90
Replacing the `Tank' Suction Strainer Filter 91
Replacing the Filter-head Suction Strainer Filter 93
Transmission 94
Transmission Drop-box 94
Front and Rear Axles 96
Tyres and Wheels 99
Tyre Inflation 99
Checking the Wheel Nut Torques 99
Front Window Washer 100
Filling the Reservoir 100

Optional Attachments

Introduction 101
Quickhitch Attachments 102
Quick Release Couplings 103
Connecting and Disconnecting 103
Venting the Service Hose Line 105
Quickhitch Control 106
Engaging the Attachments 106
Disengaging the Attachments 106

Specifications

Lifting (Craning) Regulations and Safe Working Loads 109
Lifting Regulations 109
Safe Working Loads 109
Loader Unit 109

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Table 3. Hydraulics

Operation		10	50	100(1)	100	500	1000	2000	5000
Oil Level	- Check	☐							
Oil Filter	- Change						☐		
Oil	- Change						☐		
Suction Strainer (Tank)(2)	- Change							☐	
Suction Strainer (Filter Head)(3)	- Change							☐	
Hoses, Rams and Pipework for Damage or Leaks	- Check			☐			☐		

(1) First 100 Hours Service only, to be completed by your JCB Distributor.
(2) Strainer filter located inside hydraulic tank.
(3) Strainer filter located in main hydraulic filter head.

Table 4. Brakes

Operation		10	50	100(1)	100	500	1000	2000	5000
Brake System Fluid Level	- Check	☐		☐					
Brake System Fluid	- Change							☐	

(1) First 100 Hours Service only, to be completed by your JCB Distributor.

Table 5. Electrics

Operation		10	50	100(1)	100	500	1000	2000	5000
Battery Electrolyte Level (if applicable)	- Check			☐	☐		☐		
Battery Charge and Condition	- Check			☐	☐		☐		
Battery Terminals for Condition and Tightness	- Check			☐	☐		☐		
Wiring for Chafing/Routing	- Check			☐			☐		

(1) First 100 Hours Service only, to be completed by your JCB Distributor.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

PREVIEW ONLY

You're viewing 12 of 127 pages

The full manual includes:

- All 127 pages, complete
- Searchable PDF (find any keyword)
- No watermarks
- Instant download
- Print-ready quality

GET FULL MANUAL NOW

JCB 406 Operator Manual

Scan or click anywhere
youfixthis.com

Click anywhere on this page to get the full manual