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

LOADALLS - SIDE ENGINE (SA, SB AND SC ENGINE)

ENGLISH - 9811/0400 - ISSUE 10 - DECEMBER 2007

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.

A4-5-Loadall - Printed In England

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Contents **Page No.**

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

Introduction
About This Manual 1
Machine Model and Serial Number 1
Using this Manual 1
Units of Measurement 1
Left Side, Right Side 1
Using the Machine 1
Cab/Canopy 2
Cross References 2
Machine Description 3
The JCB Loadall 3
Component Locations 3
Safety Check List 5
Safety - Yours and Others 5
General Safety 5
Operating Safety 7
Maintenance Safety 11
Safety Decals 16
Introduction 16
Safety Decal Recognition 17
Identifying Your Machine 20
Machine Identification Plate 20
Component Identification Plates 23
Machine Security 26
Introduction 26
JCB Plantguard 26
Construction Equipment Security And Registration Scheme (CESAR) 26

Operation
Introduction 27
Before Entering the Cab 28
Entering and Leaving the Cab 29
Doors and Windows 30
Opening and Closing the Doors 30
Opening and Closing the Upper Door Section 30
Opening and Closing the Rear Window 31
Emergency Exit 31
Seat Controls 33
Introduction 33
Seat Options 33
Suspension Seat (Type 1) 34
Suspension Seat (Type 2) 35
Suspension Seat (Type 3) 36
Seat Belt 37
Inertia Reel Seat Belt 37
Static Seat Belt 38
Cab Layout 39
Component Key 41

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

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

Introduction

About This Manual

Machine Model and Serial Number

This manual provides information for the following model(s) in the JCB machine range:

- 531-70 from SN 1186000 to 1441999
- 533-105 from SN 1186000 to 1441999
- 535-95 from SN 1186000 to 1441999
- 535-125 from SN 1186000 to 1441999
- 535-140 from SN 1186000 to 1441999
- 536-60 from SN 1186000 to 1441999
- 536-70 from SN 1186000 to 1441999
- 540-140 from SN 1186000 to 1441999
- 540-170 from SN 1186000 to 1441999
- 541-70 from SN 1186000 to 1441999

Note: *This manual only applies to the above machines when they are fitted with the JCB Dieselmax Engine (SA, SB and SC Builds only).*

Using this Manual

INT-1-2-5_3

This manual is arranged to give you a good understanding of the machine and its safe operation. It also contains maintenance information and specification data. Read this manual from front to back before using the machine for the first time. Particular attention must be given to all the safety aspects of operating and maintaining the machine.

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.

If there is anything you are not sure about, ask your JCB distributor or employer. Do not guess, you or others could be killed or seriously injured.

General warnings in this chapter are repeated throughout the book, as well as specific warnings. Read all the safety statements regularly, so you do not forget them. Remember that the best operators are the safest operators.

The illustrations in this manual are for guidance only. Where the machines differ, the text and or the illustration will specify.

The manufacturer's policy is one of continuous improvement. The right to change the specification of the machine without notice is reserved. No responsibility will be accepted for discrepancies which may occur between specifications of the machine and the descriptions contained in this publication.

Units of Measurement

T1-001_2

In this publication, the S.I. system of units is used. For example, liquid capacities are given in litres. The Imperial units follow in parentheses ( ) eg 28 litres (6 gal).

Left Side, Right Side

In this manual, 'left' **A** and 'right' **B** mean your left and right when you are seated correctly in the machine.

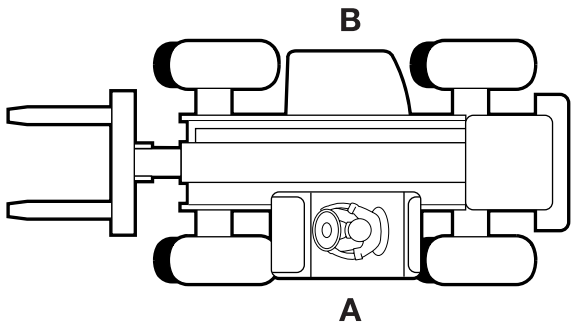


Fig 1.

Using the Machine

T1-002_2

To use the machine efficiently and safely you must know the machine and have the skill to use it. You must abide by all relevant laws, health and safety regulations that apply to the country you are operating in. This manual instructs you on the machine, its controls and its safe operation; it is not a training manual. If you are a new operator, get yourself trained in the skills of using a machine before

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Machine Description

The JCB Loadall

P5-1001

Self propelled, seated operator, wheeled machine for operation on unimproved natural terrain and disturbed terrain. A main structural support is designed to carry an extending boom with a carriage mounted on the front to which forks or an approved attachment can be fitted.

When used normally the machine lifts and places loads by extending/retracting, raising/lowering the boom.

Note: *The illustration(s) show a typical machine model; your machine may look different from the model shown.*

Component Locations

1 Boom
2 Carriage
3 ROPS/FOPS Cab
4 Auxiliary Circuit Quick Release Couplings (QRC)
5 Engine Cover
6 Hydraulic Tank
7 Fuel Tank
8 Battery
9 Hydraulic Tow Hitch (Option)
10 Mechanical Tow Hitch (Option)
11 Isolator Key

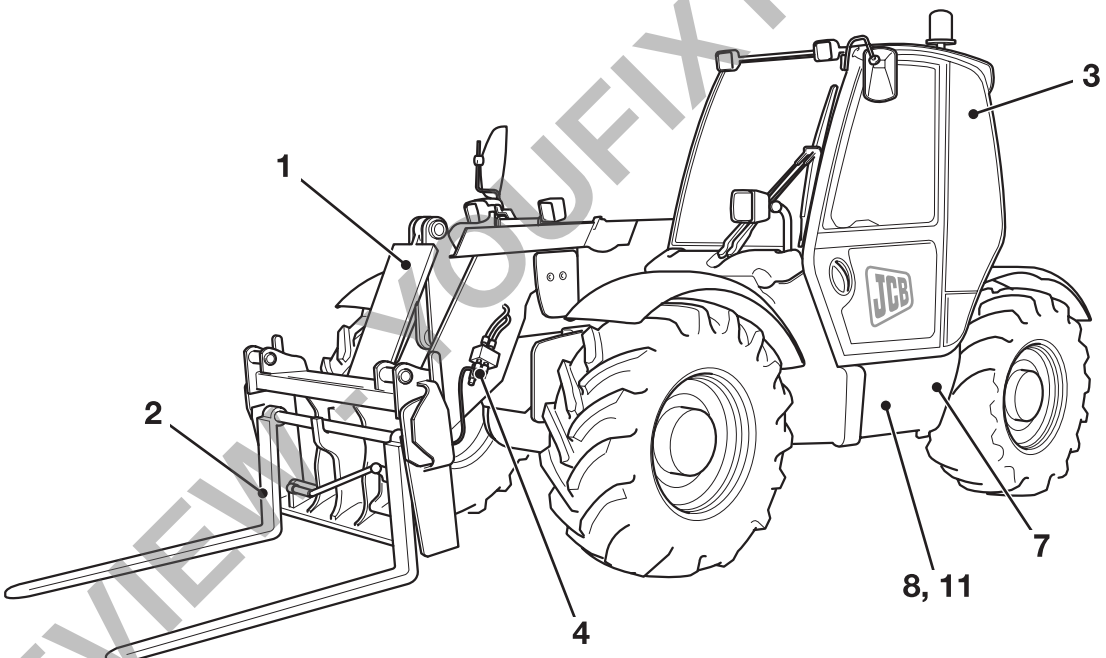


Fig 2.

PREVIEW: YOUFIXTHIS.COM

Download full manual at youfixthis.com

Cab Layout

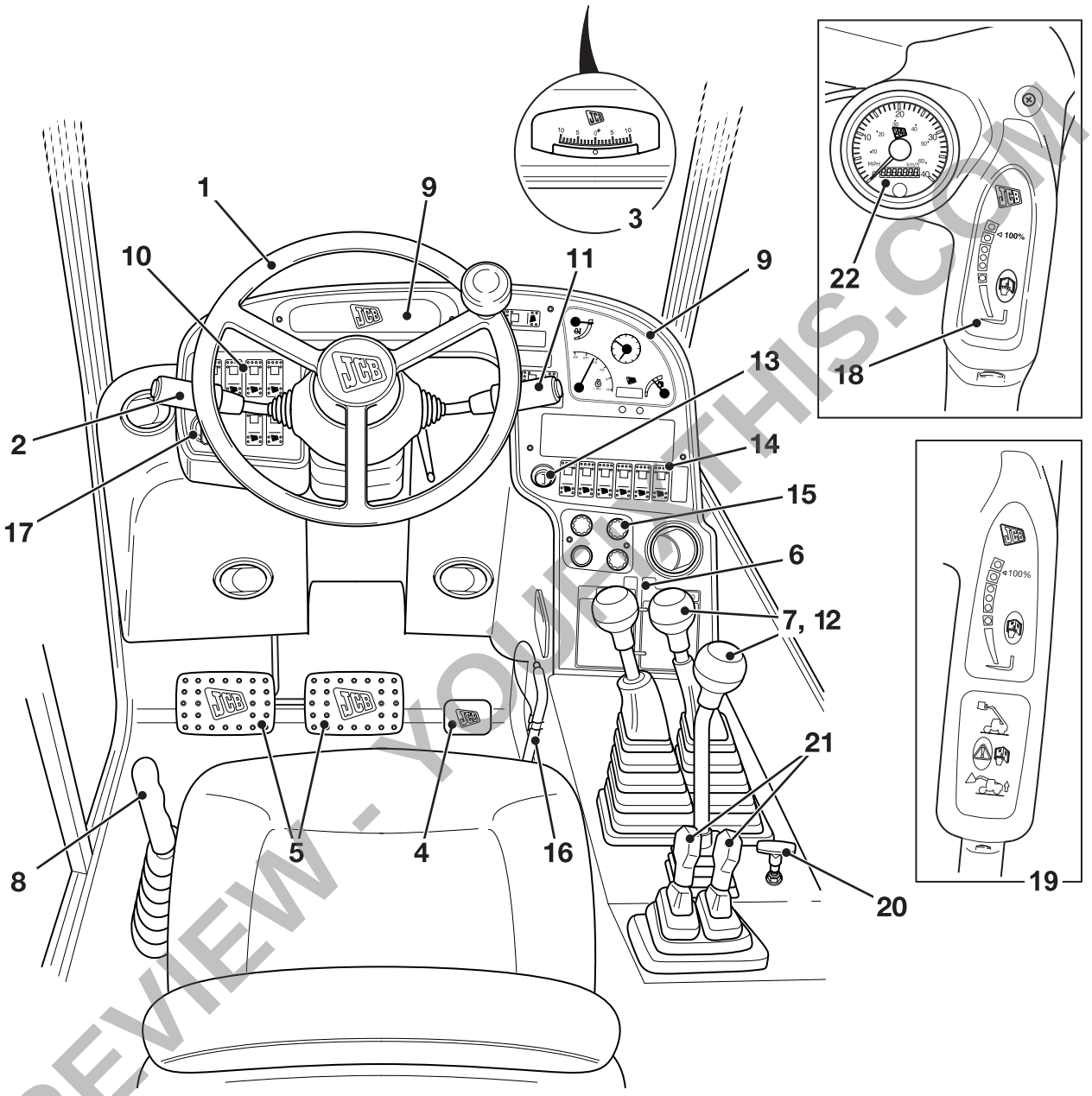


Fig 25.

Note: *The cab layout illustration is of a typical machine, for variations see the relevant page in this manual.*

⇒ Component Key (41).

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Beacon

Important: *We recommend that a flashing beacon is fitted if the machine is travelling on public highways. In certain territories you will be breaking the law if you do not fit a flashing beacon when travelling on public highways - make sure you are complying with local laws.*

A yellow or amber warning beacon kit is available as an option in two different types, either magnetic or retractable:

Beacon **B** has a magnetic base for mounting on the roof.

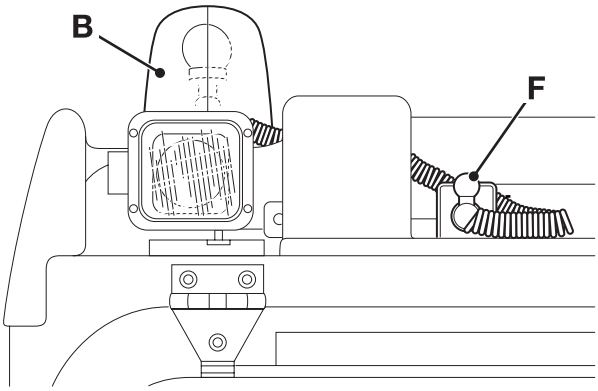


Fig 119.

⇨ *Fig 121. (110)*. The beacon shown is permanently fitted. When in use it should be raised as at **D**. When not in use it should be lowered as at **E**.

In each case, the beacon's plug connects into a socket **F** on the cab roof.

Switch the beacon on by pressing switch **G**. An indicator light in the switch lights when the beacon is operating.

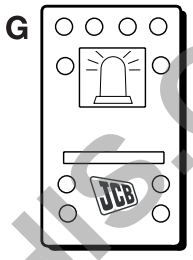


Fig 120.

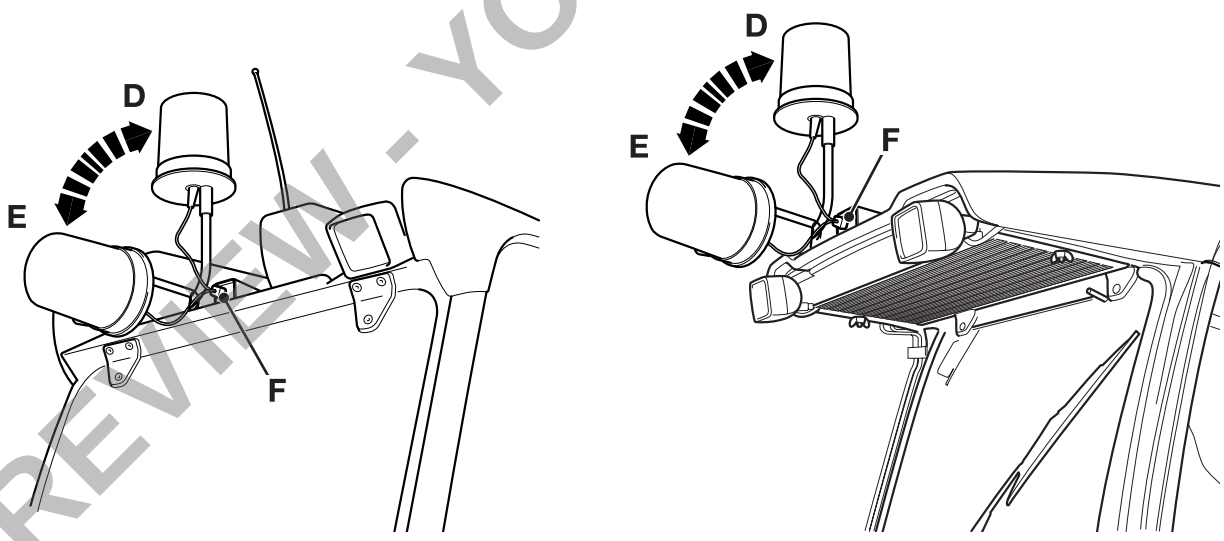


Fig 121.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Driving Across Gradients

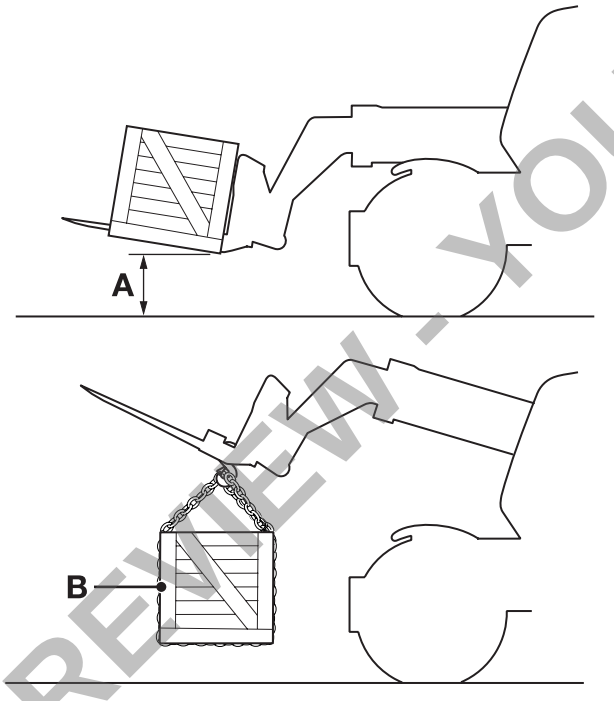
Read and understand the instructions in this manual before you travel across a gradient.

Maximum stability is achieved when the machine is operated on firm level ground. Stability will be reduced when the machine is operated on a cross gradient.

When you travel across a gradient, fully retract the boom and travel slowly at walking pace.

Do not raise the carriage higher than necessary. This would normally be that the lowest point of the load is not more than 500mm (20in) above the ground, with a load which is carried on top of the forks, as shown at **A**. Some loads may be carried suspended below the forks, as shown at **B**. In this case, assess the risk involved before raising the carriage sufficiently to achieve ground clearance.

Remember, be careful, be safe. Your life, or the lives of others could be in danger if you take unnecessary risks.



A348341-2

Fig 146.

Lifting Operations on Gradients

⚠ WARNING

Conducting lifting operations on gradients can be dangerous. The machine can become laterally unstable and tip over if the instructions in this section are not followed and understood. You and others can be seriously injured or killed. Ensure you follow and fully understand the guidelines given in this manual.

0019

Lifting operations should not be undertaken on gradients unless the machine is level across its width (i.e. laterally level).

⚠ WARNING

Stop the machine and apply the park brake before conducting any lifting operations.

0020

Longitudinal and lateral stability are two important safety factors that must be considered if the boom is to be extended, or raised by more than 500mm (20in) above the ground with the machine on a gradient.

Longitudinal Stability

P5-2040

Longitudinal (forward) stability is measured and shown by the Load Moment Indicator (LMI), if fitted, in the cab. Read and understand the section describing the operation of the LMI before lifting with the machine. See ***Load Moment Indicator*** (OPERATION section).

Always operate the machine within the longitudinal stability limits indicated by the load moment indicator (if fitted) or load chart.

Lateral Stability

P5-2043

Ensure you have taken into account all factors that may affect machine stability before a lifting operation is started when working on a gradient. See ***Use of Machines on Gradients And Slopes*** (OPERATION section). Make sure the machine is level across its width to maintain lateral (sideways) stability.

Inclinometer **A** can be used to check if the machine is level.

Level the machine by one of the following methods, depending on machine model and specification.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Service Schedules

Introduction

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.

⚠ 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 firm level ground.

To prevent anyone starting the engine, remove the starter key. Disconnect the battery and block the wheels when you are working beneath the machine.

If you do not take these precautions you could be killed or injured.

9-3-1-1

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. Do not use a machine which is due for a service. Make sure any defects found during the regular maintenance checks are rectified immediately.

Calendar equivalents:

Every 10 Hours = Daily

Every 50 Hours = Weekly

Every 500 Hours = Six Months

Every 1000 Hours = Yearly

Every 2000 Hours = 2 Years

Every 6000 Hours = 6 Years

Note: *Services should be carried out at either the hourly interval or calendar interval, whichever occurs first.*

How to Use the Service Schedules

T3-012_3

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****.*

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

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Fluids, Lubricants and Capacities

Table 5.

ITEM	CAPACITY Litres (Gal)	FLUID/LUBRICANT	INTERNATIONAL SPECIFICATION
Fuel Tank		Diesel Oil	⇨ *Types of Fuel (📄 218)*
531-70, 533-105, 535-95, 536-60, 536-70, 541-70	148 (32.5)		
535-125, 535-140, 540-140, 540-170	125 (27.5)		
Engine (Oil)		JCB Extreme Performance -15°C to 50°C (-5°F to 122°F)(1)	SAE15W/40, ACEA E5/B3/A3, API CH-4/SG
		JCB High Performance -20°C to 40°C (-4°F to 104°F)(1)	SAE10W/30, ACEA E2/B2/A2, API CF-4/SJ
- MIN	12 (2.64)		
- MAX	15 (3.3)		
Engine (Coolant)	22 (4.4)	JCB High Performance Antifreeze and Inhibitor/Water. ⇨ *Coolant Mixtures (📄 164)*.	ASTM D6210
Transmission		JCB Extreme Performance Transmission Fluid(2)	
		-32°C to 40°C (-25°F to 104°F)	10W, EL4117
		-5°C to 40°C (-25°F to 104°F)	SAE30, EL4118
Machines with SC type engine and 4 speed gearbox only.			
- Wet fill	17 (3.7)		
- Dry fill	19 (4.2)		
All other machines			
- Wet fill	21 (4.6)		
- Dry fill	23 (5.0)		
Front Axle			
Housing	17.7 (4.7)	JCB Special Gear Fluid Plus	API-GL-4(3)
Hubs (x2)	1.9 (0.5)		
Rear Axle			
Housing		JCB Special Gear Fluid Plus	API-GL-4
531-70, 533-105, 535-95, 536-60, 536-70, 541-70	10 (2.6)		
535-125, 535-140, 540-140, 540-170	19 (4.2)		
Hubs (x2)	2 (0.5)		
Brake System		JCB Light Hydraulic Fluid(4)	ISO VG15

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Every 50 Hours

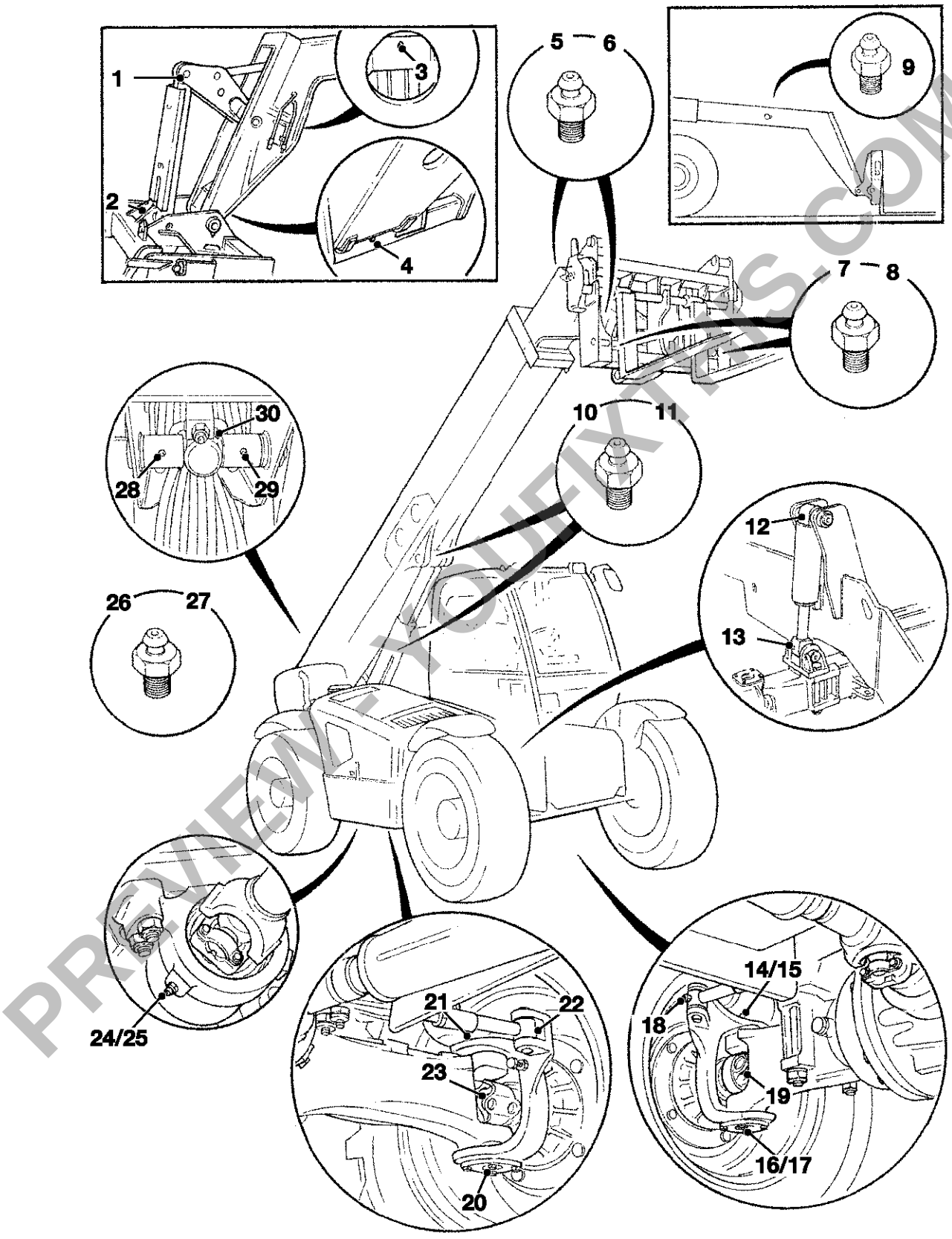


Fig 170. 531-70, 536-70, 541-70

PREVIEW OF YOUFIXTHIS.COM

Download full manual at youfixthis.com

Diagnostic Fault Codes

P5-2014

When the system detects a fault, the audible alarm will sound and various combinations of lights on the display will indicate a fault code for approximately 10 seconds.

The audible alarm and the fault code display cancel after 10 seconds and all LEDs on the display will flash continuously as long as the fault remains. Press and release display button **E** to show the fault code for a further 10 seconds.

When the fault clears, the display will return to normal.

⚠ WARNING

If the Load Moment Indicator is faulty, contact your JCB Distributor. Do not try to repair it yourself.

12-2-1-1

If any of these fault codes are displayed, switch the starter key off and on again. Contact your JCB distributor if the fault does not clear.

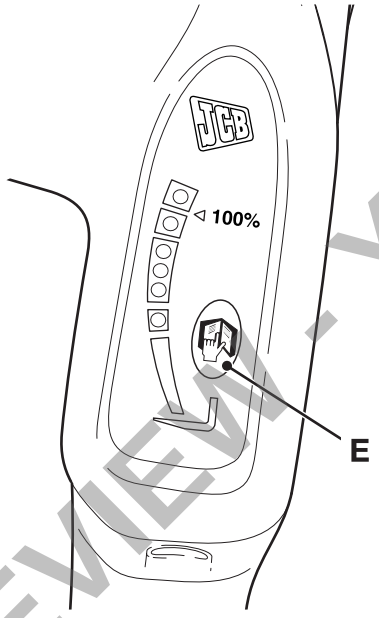


Fig 103.



Error Code 1 - Transducer signal fault

Transducer disconnected or wiring damaged.



Error Code 2 - Calibration out of range

System is incorrectly calibrated.



Error Code 3 - Calibration required

System not calibrated.



Error Code 4 - Display unit faulty

The display box has detected an internal error.



Error Code 5 - Low battery voltage

Battery voltage is below 9 Volts.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Specifications

Static Dimensions

531-70, 541-70

Note: *Dimensions relative to 15.5/80-24 tyres.*

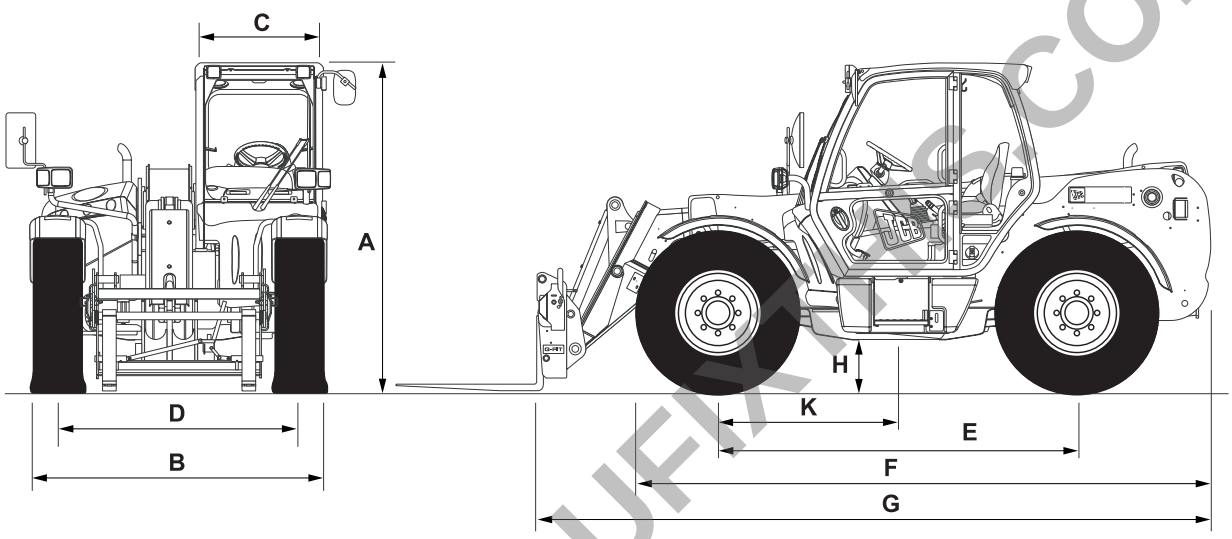


Fig 270.

		531-70		541-70	
		mm	**ft-in**	**mm**	**ft-in**
A	Overall height	2490	8-2	2490	8-2
B	Overall width (over tyres)	2230	7-4	2230	7-4
C	Inside width of cab (between windows)	940	3-1	940	3-1
D	Front track	1810	5-11	1810	5-11
E	Wheelbase	2750	9-0	2750	9-0
F	Overall length to front tyres	4380	14-4	4380	14-4
G	Overall length to front of carriage	4990	16-4	4990	16-4
H	Ground clearance	400	1-4	400	1-4
K	Centre of gravity (unladen)	1420	4-8	1420	4-8
	Outside turn radius (over tyres)	3700	12-2	3700	12-2

Weight (unladen): ⇨ ***Axle Weight Distribution (280)***.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Wear Pads

Boom Wear Pad Clearance

Check the boom wear pad clearances every 500 hours.

Contact your JCB Distributor if the wear pad clearances exceed the maximum stated dimensions.

2-Stage Boom

Table 10. Maximum Gap (Boom Front)

Dimension	mm	in
247-A	37 - 41	1.45 - 1.60
247-B	3	0.12
247-C	3	0.12

Table 11. Maximum Gap (Boom Rear)

Dimension	mm	in
247-A	37 - 41	1.45 - 1.60
247-B	1.5	0.06
247-C	1.5	0.06

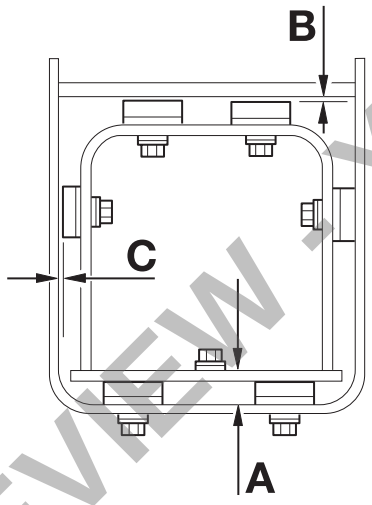


Fig 247. 2-Stage Boom

3-Stage Boom

Table 12. Maximum Gap

Dimension	mm	in
248-A	37 - 41	1.45 - 1.60
248-B	21 - 25	0.83 - 0.98
248-C	3	0.12
248-D	1.5	0.06

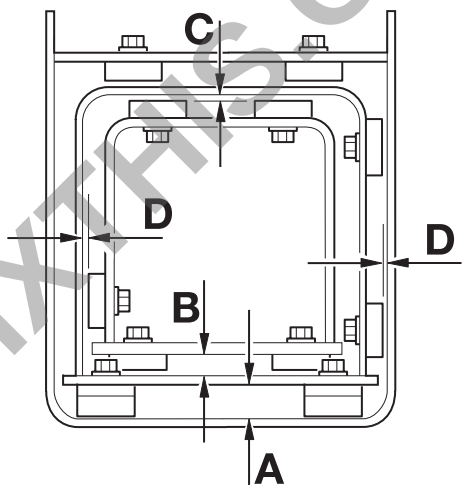


Fig 248. 3-Stage Boom

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

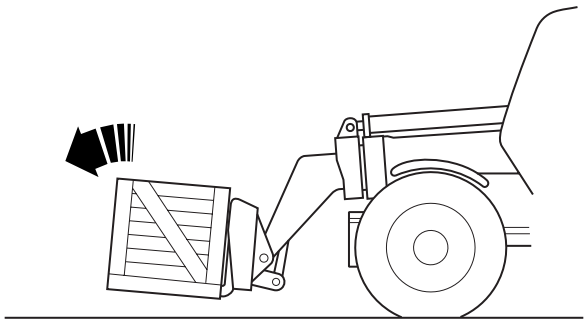


Fig 238.

If the carriage continues moving after the engine has stopped, the hose burst protection valve is faulty. Do not use the machine until the fault has been put right.

Stabiliser Ram (if fitted)

P5-3003

1 Start the engine. Make sure the parking brake is engaged and the transmission is in neutral.

2 Lower the stabilisers. Ensure the stabiliser legs are in the down position and the weight of the machine is supported (i.e. the front wheels are clear of the ground **X**).

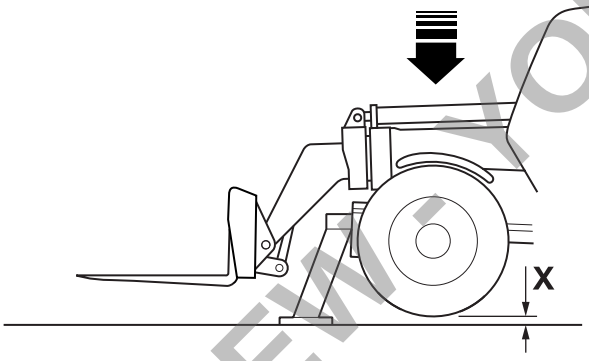


Fig 239.

3 Stop the engine. Operate the stabiliser controls. Check that the front wheels of the machine do not lower to the ground.

If the machine moves when the stabiliser controls are moved with the engine stopped, the hose burst protection valves are faulty. Do not use the machine until the fault has been put right.

Sway Ram (if fitted)

P5-3004

1 Start the engine. Make sure the park brake is engaged and the transmission is in neutral.

2 Sway the machine body approximately halfway to the left and release the sway control lever.

3 Stop the engine. Operate the sway control lever to the left. Check that the machine does not sway.

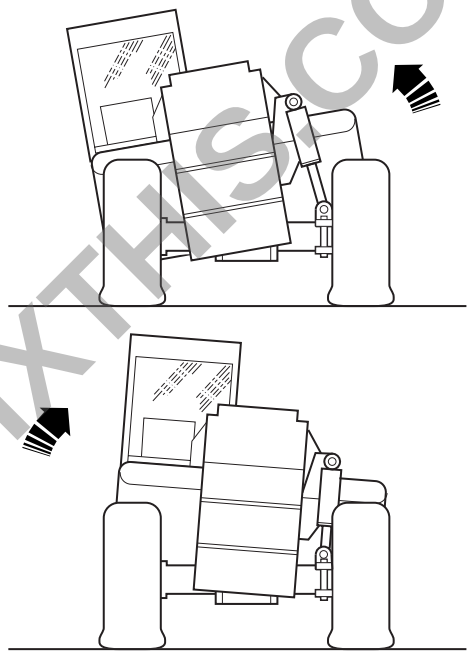


Fig 240.

4 Repeat steps 1 - 3 for right sway.

5 If the body moves when the sway lever is moved with the engine stopped, the hose burst protection valves are faulty. Do not use the machine until the fault has been put right.

PREVIEW YOUFIXTHIS.COM

Download full manual at youfixthis.com

Contents **Page No.**

Drive Controls, Switches and Instruments 42
Drive Controls 42
Switches 49
Instruments 55
Instrument Panel (up to July 2007) 56
Instrument Panel (from July 2007) 57
Torque Lock (6-Speed Transmission) 63
Air Conditioning and Heater Controls 64
Operating Levers 65
Introduction 65
Boom and Carriage Controls 66
Auxiliary Controls 76
Chassis Levelling (Sway) Option 83
Stabiliser Control Option 84
Safety Equipment 86
Control Lever Locks 86
Load Charts 89
Boom Indicators 91
Load Moment Indicator (LMI) 92
LC1 and LC4 Load Control Systems 96
LC2 and LC3 Load Control System 104
Inclinometer 109
Beacon 110
Before Starting the Engine 111
Starting the Engine 113
Preparing the Machine for Travel 115
Preparing for Road Travel 115
Preparing for Site Travel 117
Testing the Park Brake 119
Getting the Machine Moving 120
Operating Practices 120
Operating Procedure 121
Stopping and Parking the Machine 122
Working with the Machine 124
Introduction 124
Safety Practices 124
Risk Assessment 125
Lifting and Loading Operations 126
Safety Warnings 127
Fork Ratings 129
Handling Palleted Loads 130
Uneven Loads 131
Handling Bales 132
Working with a Shovel 133
Use of Machines on Gradients or Slopes 134
Operating in Low and High Temperatures 137
Low Temperatures 137
High Temperatures 137
Mechanical Tow Hitch Option 138
Hydraulic Tow Hitch Option 141
Re-phasing the Steer System 143
4 Wheel Steer Machines Only 143
Moving a Disabled Machine 144
Recovery Hitch 144
Transporting the Machine 145

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

All variants (from July 2007)

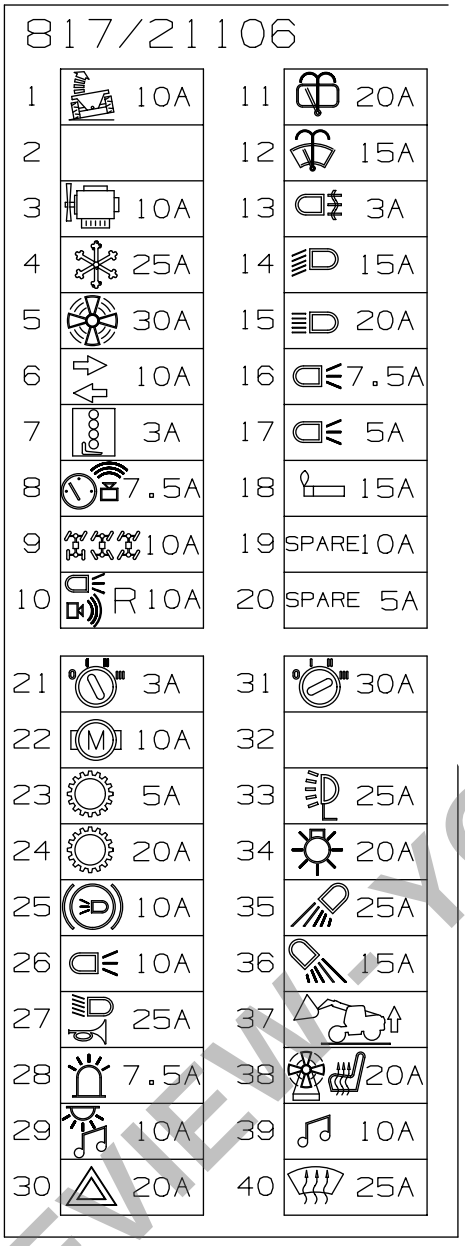


Fig 196.

Note: *All the fuses are shown (including optional equipment fuses). Your machine may not be equipped with all the fuses shown.*

Fuse No.	Circuit	Rating (Amps)
1	Sway hydraulics	10
2	Spare	
3	Engine	10
4	Air-Conditioning	25
5	Heater	30
6	Indicators	10
7	Load Moment Indicator (LMI)	3
8	Instruments	7.5
9	Steer mode selector	10
10	Reversing alarm/lights	10
11	Rear/roof Wiper	20
12	Front wiper	15
13	Fog light	3
14	Dipped Beam	15
15	Main beam	20
16	Left hand sidelights	7.5
17	Right hand sidelights	5
18	Mobile phone/cigarette lighter	15
19	Spare	
20	Spare	
21	Starter relay	3
22	Fuel pump	10
23	Transmission	5
24	Transmission	20
25	Brake lights	10
26	Side lights	10
27	Headlight flasher, horn	25
28	Beacon	7.5
29	Interior light, radio	10
30	Hazard lights	20
31	Neutral start	30
32	Spare	
33	Boom worklight	25
34	Roadlights	20
35	Front worklamps	25
36	Rear worklamps	15
37	Spare	
38	Heated seat, face fan	20
39	Radio	10
40	Heated windows	25

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

PREVIEW ONLY

You're viewing 17 of 310 pages

The full manual includes:

- All 310 pages, complete
- Searchable PDF (find any keyword)
- No watermarks
- Instant download
- Print-ready quality

GET FULL MANUAL NOW

JCB JCB Dieselmax (SA, SB, SC Builds) Operator Manual

Scan or click anywhere
youfixthis.com

Click anywhere on this page to get the full manual