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Safety Notices

Important Information

T1-042

The Operator Manual

⚠ WARNING

You and others can be killed or seriously injured if you operate or maintain the machine without first studying the Operator Manual. You must understand and follow the instructions in the Operator Manual. If you do not understand anything, ask your employer or JCB dealer to explain it.

INT-1-4-2

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

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Machine Description

The JCB 515-40

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.

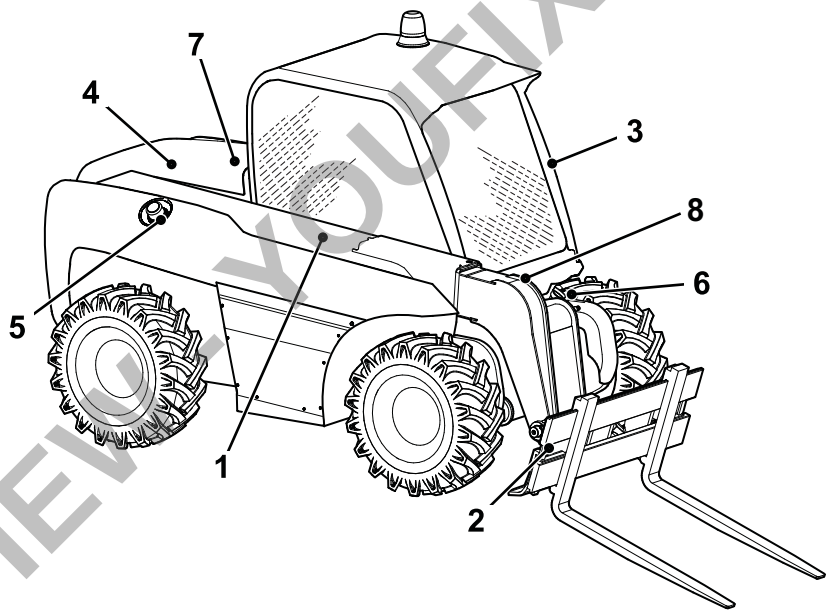
Intended Use

The machine is intended to be used under normal conditions for the applications described in this manual. If the machine is used for other purposes or in dangerous environments, for example in a flammable atmosphere or in areas with dust containing asbestos, special safety regulations must be followed and the machine must be equipped for use in these environments.

Component Location

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

1 Boom
2 Carriage
3 ROPS/FOPS Cab
4 Engine Cover
5 Hydraulic Tank Filler
6 Fuel Tank Filler
7 Battery
8 Proximity Retract Sensor (Option)



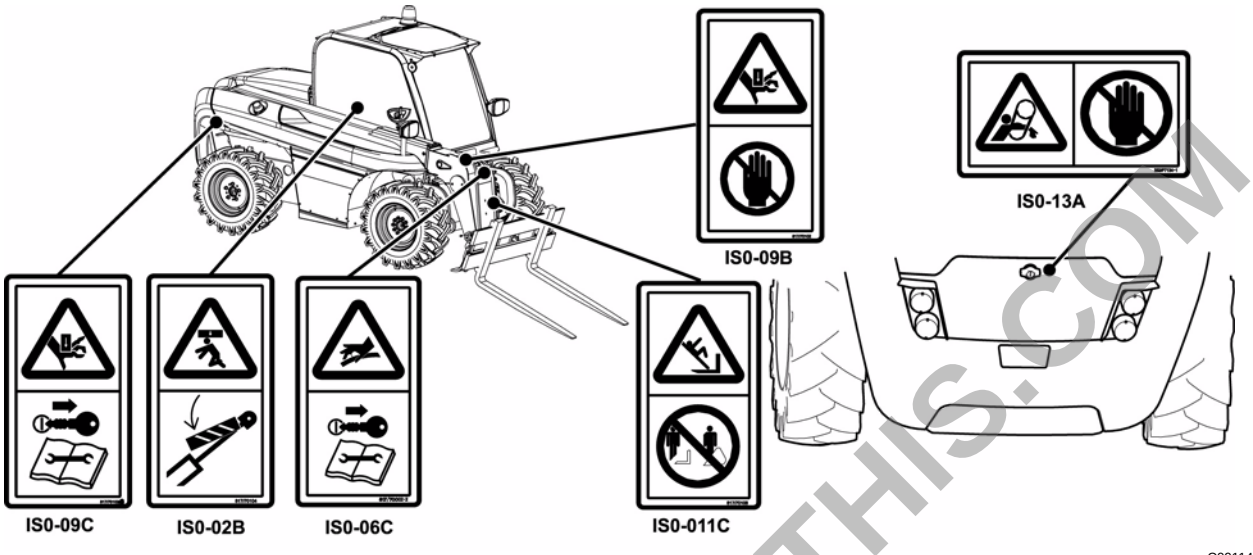
T042520-C1

Fig 2.

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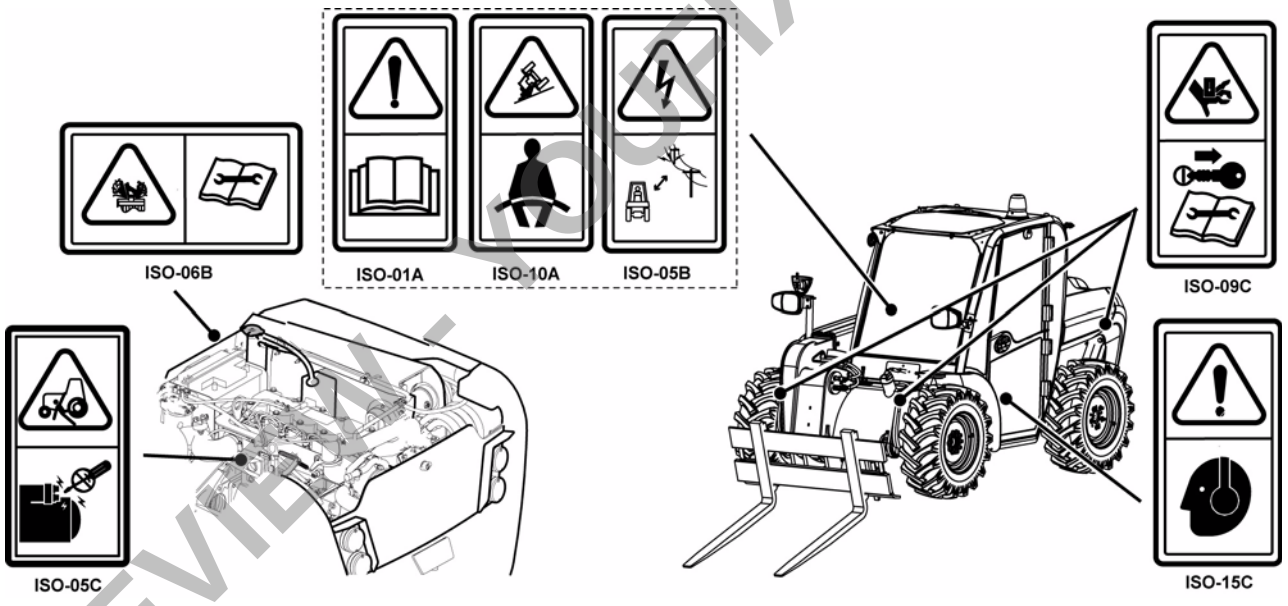
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Safety Label Identification



C091140

Fig 3.



C091140-C1

Fig 4.

Part Numbers and Descriptions

ISO-01A

Part Number: 332/G4040

Description: Warning. Read the operator manual before you operate the machine.



817-70014-3

ISO-10A

Part Number: 332/G4040

Description: Crush hazard. Wear the seatbelt when you operate the machine.



817-70029-3

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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 = Three Months

Every 500 Hours = Six Months

Every 1000 Hours = Yearly

Every 2000 Hours = 2 Years

Note: *More frequent checks of engine components than the engine manufacturer recommends do not invalidate emissions warranty.*

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The Indicator Display

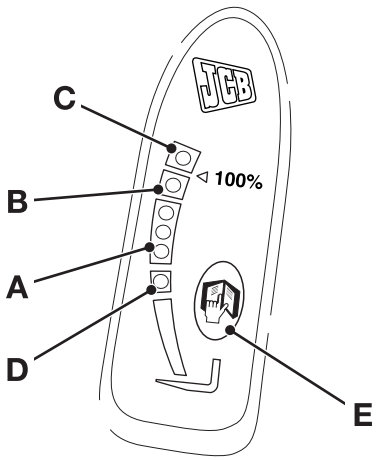


Fig 34.

A	Green LEDs (x3)	Safe when lit.
B	**i** Amber LED (Lit)	Caution - the machine is approaching its stability limits, the hydraulic lower function has slowed down.
	ii Amber LED (Flashing)	The extend/lower functions are disabled. ⇨ *Emergency Override Function (58)*.
C	Red LED	Danger when lit, the machine is at the limit of stability.
D	Power ON indicator	
E	Display button	

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Important: *If the rubber mountings are damaged or showing signs of movement replace the bolts, nuts and mountings.*

Important: *The threads on the mounting bolts* ***A*** *are a preset length so make sure that the nuts are tightened to the top of the thread. The bolt head and nut must be in contact with the rubber mounting. Make sure that the bolt does not move up and down when tightened. If there is movement replace the bolts, nuts and mountings.*

Table 3. Torque Settings

Item	Nm	lbf ft
A	184	136

Note: *Remove the underfloor cover for access to the rear left cab mount.* ***⇨ Underfloor Cover (137)***

Note: *Remove the left instrument panel for access to the bolt on the front left cab mount.* ***⇨ Left Instrument Panel (140)***

Note: *Remove the right cab panel for access to the bolt on the rear right cab mount.* ***⇨ Right Cab Panel (141)***

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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.

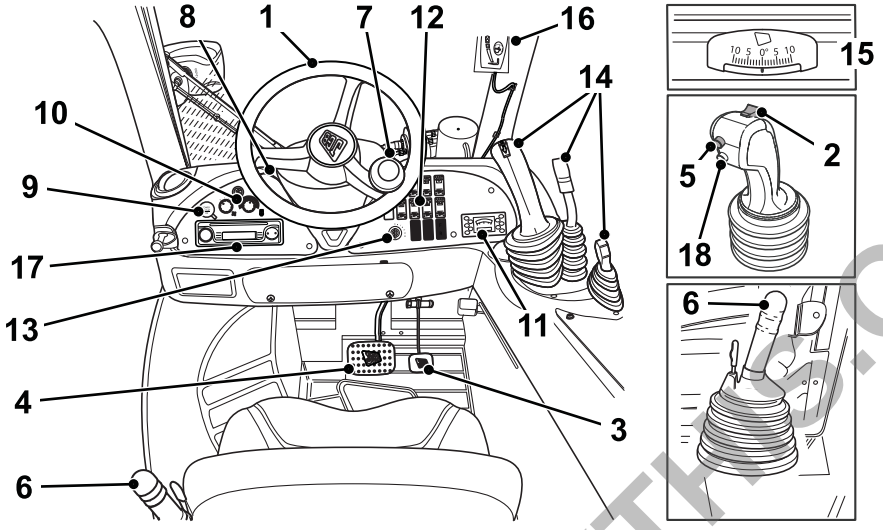
Remember

BE CAREFUL
BE ALERT
BE SAFE

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Cab Layout



T042880

Fig 10.

Component Key

1	⇒ *Steering Wheel (📄 34)*
2	⇒ *Forward/Reverse Switch (📄 34)*
3	⇒ *Accelerator Pedal (📄 34)*
4	⇒ *Brake/Inching Pedal (📄 34)*
5	⇒ *Horn (📄 35)*
6	⇒ *Park Brake Lever (📄 35)*
7	⇒ *Direction Indicator Switch (📄 38)*
8	⇒ *Headlamp Main Beam/Flash Switch (📄 38)*
9	12 Volt Accessory Socket/Cigarette Lighter
10	⇒ *Heater Controls (📄 44)*
11	⇒ *Instrument Panel (📄 40)*
12	⇒ *Console Panel Switches (📄 36)*
13	⇒ *Starter Switch (📄 38)*
14	⇒ *Operating Levers (📄 45)*
15	⇒ *Inclinometer (📄 60)*
16	⇒ *Longitudinal Load Moment Indicator (LLMI) (📄 51)*
17	Radio (if fitted)
18	Not Used

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Hose Burst Protection Valves

Checking the Hose Burst Protection Valves

Introduction

P5-3001_2

The hose burst protection valves 'lock' to prevent uncontrolled movement of the ram pistons if hydraulic pressure fails or a hose bursts. The valves are mounted directly on the rams.

⚠ WARNING

Keep people clear of the machine while you do these checks.

5-3-4-2

Check each movement in turn.

Important: *Ensure the machine is parked on firm level ground before carrying out the following procedures.*

Boom Lift Rams

P5-3031

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

2 Raise the boom to about 45°.

3 With the engine running at mid speed, operate the control lever to lower the boom. While the boom is moving, switch off the engine. Boom movement should slow as the engine slows and stop as the engine stops.

If the boom continues moving after the engine has stopped, both boom hose burst protection valves are faulty. Do not use the machine until the fault has been put right.

Boom Extension Ram

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

2 Raise the boom fully. Extend the boom fully.

3 With the engine running at mid speed, operate the control lever to retract the boom. While the boom is retracting, switch off the engine. Boom movement should slow as the engine slows and stop as the engine stops.

If the boom 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.

Carriage Tilt Ram

1 Pick up a load on the forks. (For example a pack of bricks or some hay bales.) Tilt the carriage fully back. Make sure the park brake is engaged and the transmission is in neutral.

2 Position the boom clear of the ground, just far enough to allow the carriage to be tilted forward.

3 With the engine running at mid speed, operate the control lever to tilt the carriage forward. While the carriage is moving, switch off the engine. Carriage movement should slow as the engine slows and stop as the engine stops.

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.

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	Operation	10	50	100(1)	500	1000	2000
Lights and Indicators (if fitted)	Check	☐	☐	☐	☐	☐	☐
Load Moment Indicator	Check/Calibrate	☐	☐	☐	☐	☐	☐
Neutral Start and Interlock Switch	Check	☐	☐	☐	☐	☐	☐
Starter Motor(2)	Check				☐	☐	☐
Alternator(2) - Output	Check			☐	☐	☐	☐
BODYWORK AND CAB							
Seat/Seat Belt - Operation	Check	☐	☐	☐	☐	☐	☐
Generally for damage and wear (include the ROPS/ FOPS for cracks, welding, etc)	Check	☐	☐	☐	☐	☐	☐
Paintwork - Condition	Check		☐	☐	☐	☐	☐
Inclinometer (if fitted)	Check			☐	☐	☐	☐
Air Conditioning (if fitted)	Check				☐	☐	☐
ATTACHMENTS							
Operation	Check			☐	☐	☐	☐
GENERAL							
Registration/Certificate, SWL Stickers and Load Chart (to suit the territorial requirements)	Check			☐	☐	☐	☐

(1) Initial service and inspection
(2) Jobs which should be done by a specialist.

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