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

MIDI CX BACKHOE LOADER

ENGLISH - 9811/1090 - ISSUE 3 - JUNE 08

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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.

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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**

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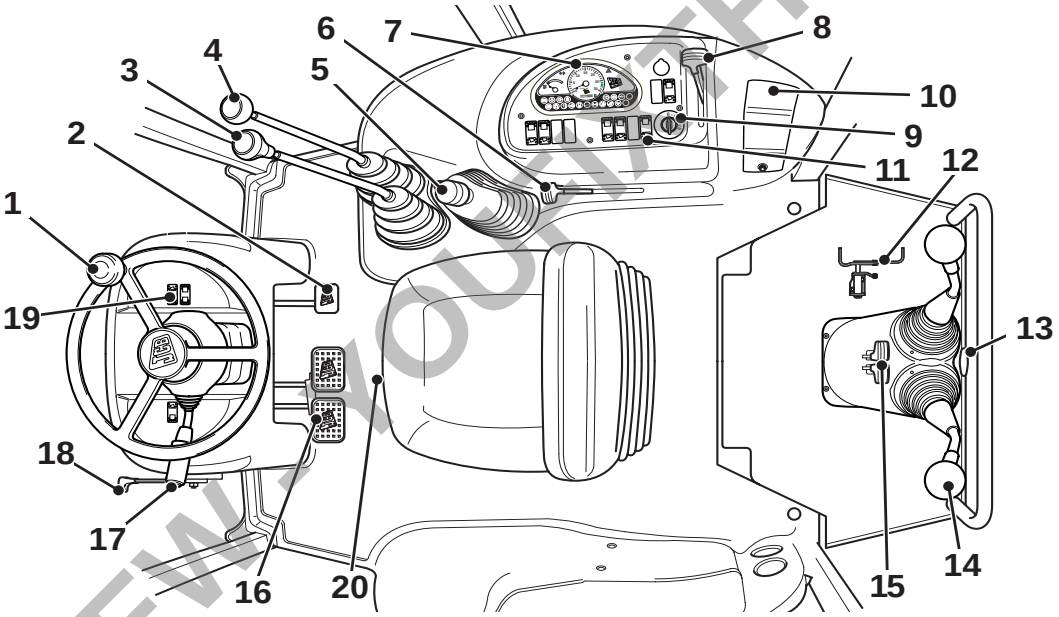


Fig 5.

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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

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Transporting The Machine

⚠ WARNING

The safe transit of the load is the responsibility of the transport contractor and driver. Any machine, attachments or parts that may move during transit must be adequately secured.

5-2-5-9

Note: *Before transporting the machine make sure you will be obeying the rules and laws of all the areas that the machine will be carried through.*

Make sure that the transporting vehicle is suitable. See Static Dimensions (SPECIFICATIONS section) for the dimensions of your machine.

⚠ WARNING

Before moving the machine onto the trailer, make sure that the trailer and ramp are free from oil, grease and ice. Remove oil, grease and ice from the machine tires. Make sure the machine will not foul on the ramp angle. See Static Dimensions in SPECIFICATION section for the minimum ground clearance of your machine.

2-2-7-5U_1

1 Place blocks at the front and rear of the trailer wheels.

2 Move the machine onto the trailer.

a Make sure the ramps are correctly in place and secure.

b Set the loader shovel and backhoe. ⇨ ***Preparing The Machine For Travel (102)***.

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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

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sure any defects found during the regular maintenance checks are rectified immediately.

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	A: 50	A: 100[1]	B: 500	B: 1000	B: 2000	B: 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					☐	☐	☐

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Fluids, Lubricants and Capacities

Note: *New engines DO NOT require a running-in period. The engine/machine should be used in a normal work cycle immediately, glazing of the piston ram bores, resulting in excessive oil consumption, could occur if the engine is gently run-in. Under no circumstances should the engine be allowed to idle for extended periods; (e.g. warming up without load).*

Table 1.

ITEM	CAPACITY		FLUID/LUBRICANT	INTERNATIONAL SPECIFICATION
	US Gal	litres		
Fuel Tank	15.8	60	Diesel Oil	ASTM D975-66T Nos. 1D, 2D
Engine (Oil)	2.5	9.5	**JCB Extreme Performance** (-15°C to +50°C (5°F to 122°F)	SAE15W/40, ACEA E5/B3/ A3,API CH-4/SG

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Windscreen Washer

Checking the Level

1 Make the machine safe with the loader arm lowered. Refer to ***Prepare the Machine for Maintenance***.

2 Remove the washer bottle cap **A**.

3 Fill the windscreen washer bottle with a suitable liquid. The liquid should contain a de-icing fluid to prevent freezing. Do not use engine coolant antifreeze.

4 Install the washer bottle cap **A**.

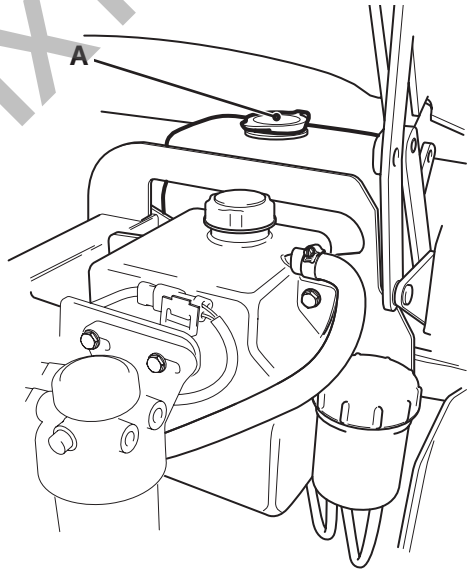


Fig 43.

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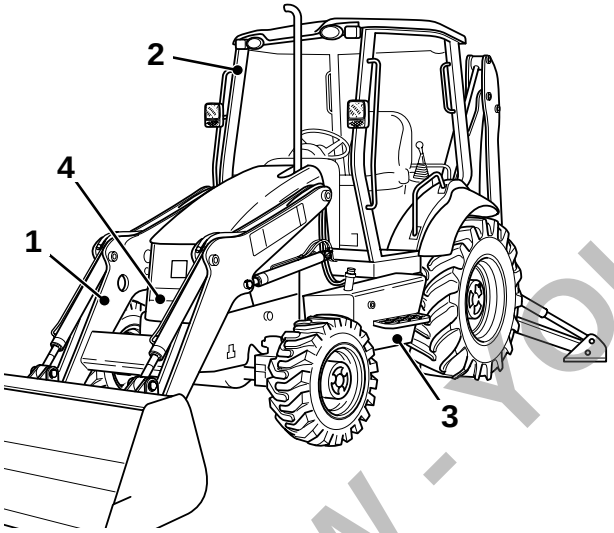


Fig 2.

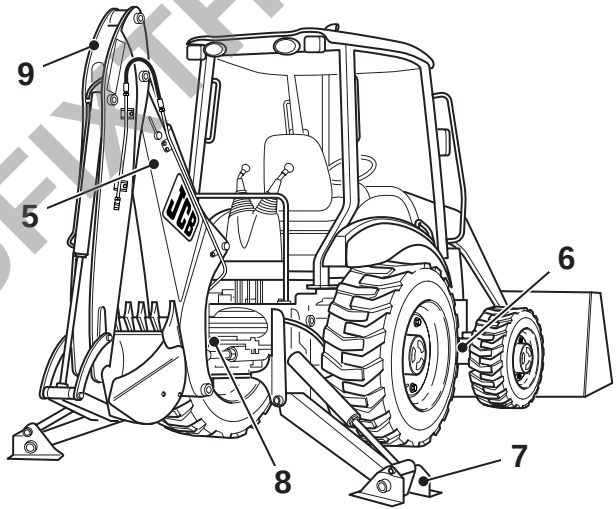


Fig 3.

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Safety Decal Recognition

Table 1.

Label	Part No.	Definition
A	817/70054	Danger. INSTALLING THE SUPPORT DEVICE. 1 Empty the shovel or attachment and raise the lifting means enough to fit the support device. 2 Stop the engine. 3 Remove the support device from its storage position and fit securely to the lift ram. 4 Start the engine. 5 Slowly lower the lifting means onto the support device. Stop lowering immediately the weight of the lifting means is supported by the support device. REMOVING THE SUPPORT DEVICE. 1 Make sure that the drive lever is in the neutral (rest) position. 2 Raise the lifting means to take the weight off the support device. 3 Release the securing strap on the support device and remove the support device from the lift ram. 4 Return the support device to its storage position.
B	817/70053	Warning. Insert the boom support device when performing any service or maintenance work underneath the boom.
C	817/70031	Warning. Pressure hazard. Stop the engine and remove the key before carrying out any servicing and maintenance.
D	817/70089	Warning. Pressurized system. Read operator's handbook before proceeding.
E	817/01803(1)	Label. Lifting point.
F	817/01087(1)	Label. Tie down and towing point.
G	817/70084	Caution. Keep clear. The attachment may roll forward when released.

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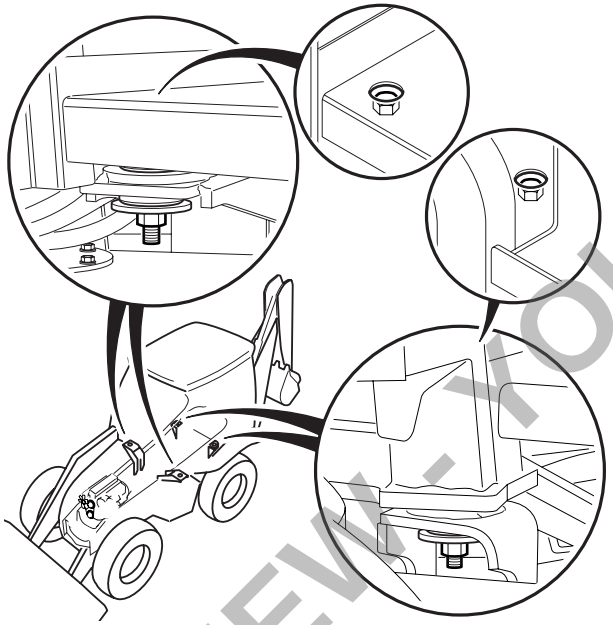


Fig 5.

1 Remove floor trim as required.

2 Lift the floor mat to gain access to the bolts.

Table 2. Torque Settings

Bolts **A** and **B**	205 Nm (150 lbf ft)

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Warning Lights with Audible Alarm

Note: *If any red warning lights come on while the engine is running, stop the engine as soon as it is safe to do so. Do not use the machine until the fault is put right.*

1 No charge.

Lights if the battery charging circuit fails while the engine is running. The light should go out a few seconds after the engine is started.

2 Water or oil temperature high.

Lights if the engine coolant or oil overheats.

3 Engine oil pressure low.

Operates if the engine oil pressure drops too far. The light should go out when the engine is started.

4 Air filter blocked.

When illuminated it could indicate that the engine air filter is blocked. If the air filter warning light comes ON, stop the machine and switch OFF the engine. After a short pause start the engine. If the warning light has extinguished carry on operating the machine in the normal manner.

If the warning light is still illuminated after the engine has been started check that the engine air filter elements are not blocked.

5 Hydraulic oil pressure low.

Lights if the transmission oil pressure drops too far. The light should go out when the engine is started.

6 Hydraulic oil temperature high.

Lights if the transmission oil temperature rises too far.

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Detaching Equipment

If the equipment has PTO option, before detaching observe all safety precautions concerning the PTO. ⇒ *Power Take-Off (PTO) (148)*.

1 Park the machine on firm level ground, operate the controls to lower the equipment to the ground. If required support the equipment so that it will not tip or fall when detached.

2 Switch the engine OFF and remove the key.

3 Set the transmission to neutral and apply the park brake.

4 Disconnect the sway links, remove the locking ring **A** then remove pin **B**.

5 Disconnect the centre link, remove locking clip **C** and then remove pin **D**. Place the link into the stowed position.

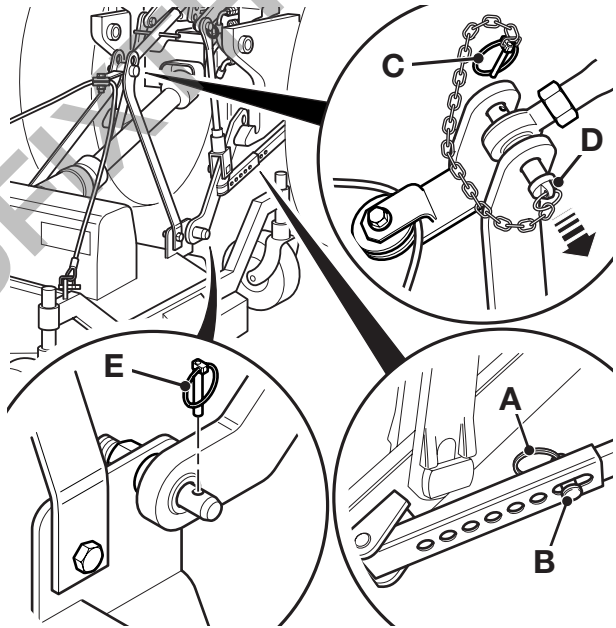


Fig 54.

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considerable corrosion is detected, clean with a wire brush or abrasive paper.

c After cleaning, apply a thin coat of petroleum jelly to the terminal.

2 Re-connect the leads. Connect the earth (-) terminal last.

3 Close and lock the access panels.

Checking the Electrolyte Level

T3-020_2

Maintenance free batteries used in normal temperate climate applications should not need topping up. However, in certain conditions (such as prolonged operation at tropical temperatures or if the alternator overcharges) the electrolyte level should be checked as described below.

1 Get access to the battery. See ***Access Panels***.

2 Disconnect and remove battery. See ***Battery Disconnection/Connection.***

WARNING

Do not top the battery up with acid. The electrolyte could boil out and burn you.

2-3-4-6

3 Remove covers **A**. Look at the level in each cell. The electrolyte should be 6 mm (1/4 in) above the plates. Top up if necessary with distilled water or de-ionized water.

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