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This manual contains operating instructions and operator information for all machine range variants, some of the functions may not be available on your machine.

The maintenance section shows the correct procedures for the regular routine service operations only. Major servicing operations should only be carried out by suitably qualified service engineers using the appropriate service tools where necessary.

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ATTENTION

Study this manual before starting the machine

You must understand and follow the instructions in this manual. Abide by all relevant laws and regulations. If you are unsure about anything, ask your JCB dealer or employer. Do not guess, or you or others could be killed or seriously injured.

In this manual 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 likely that you (or others) could be killed or permanently injured.

WARNING

Denotes a hazard exists. If proper precautions are not taken it is highly likely that you (or others) could be killed or injured.

CAUTION

Denotes a reminder of safety practises. May also direct your attention to unsafe practices which could result in personal injury or damage to the machine.

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INTRODUCTION

This chapter is arranged to guide you step-by-step through the task of learning how to use the machine. Read it through from beginning to end. By the end of the chapter you should have a good understanding of the machine and how to operate it.

Pay particular attention to all safety messages. They are there to warn you of possible hazards. Do not just read them-think about what they mean. Understand the hazards and how to avoid them.

If there is anything you do not understand, ask your JCB dealer, he will be pleased to advise you.

When you have learned where the driving controls are and what they do, practise using them. Practise driving the machine in a safe, open space clear of other people.

Get to know the "feel" of the machine and its driving controls.

Move on to the attachment controls only when you can drive the machine confidently and safely.

Take great care when practising with the attachment controls. Practise in an open space, keep people clear. Do not jerk the controls: operate them slowly until you understand the effect they have on the machine.

Finally, do not rush the job of learning. Take you time and take it safely.

Remember

BE CAREFUL
BE ALERT
BE SAFE

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MOUNTING/DISMOUNTING THE MACHINE

Notice: The illustration shows a typical model; your machine may look different from the model shown.

⚠ WARNING

Always face the machine when mounting or dismounting the cab. Use the step(s) and handrails. Make sure the step(s), handrails and your boot soles are clean and dry. Do not jump from the machine. Do not use the machine controls or lever locks as handholds, use the handrails. Ensure that the control lever lock is engaged. Failure to follow these instructions could result in unexpected movement of the machine..

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WORKING WITH THE EXCAVATOR - continued

Digging near walls

WARNING

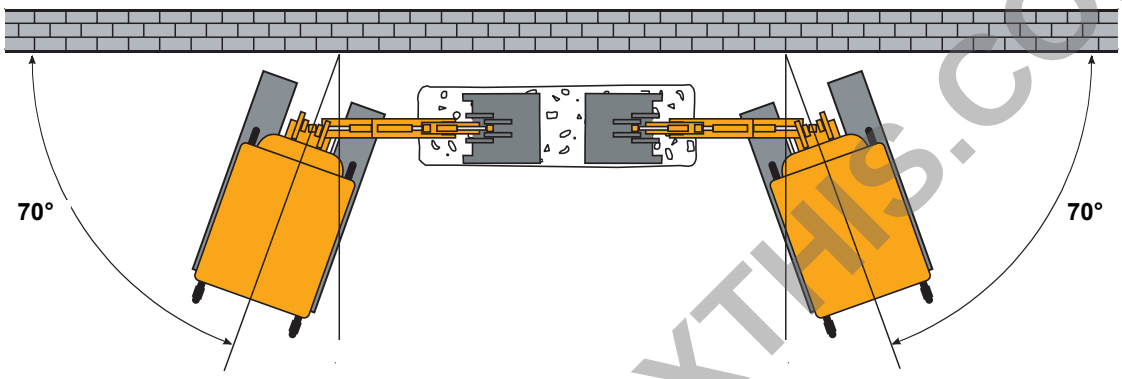
When digging near a wall, take care not to undermine the foundations. The wall could collapse. HOP66

Position the machine close to the wall as shown. Set the machine at an approximate angle of 70° to the wall.

Digging up against obstructions

1 Swing left or right as required.

2 Position the machine so that the bucket is up against the obstruction when fully slewed.



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WORKING WITH THE EXCAVATOR - continued

Digging near walls

WARNING

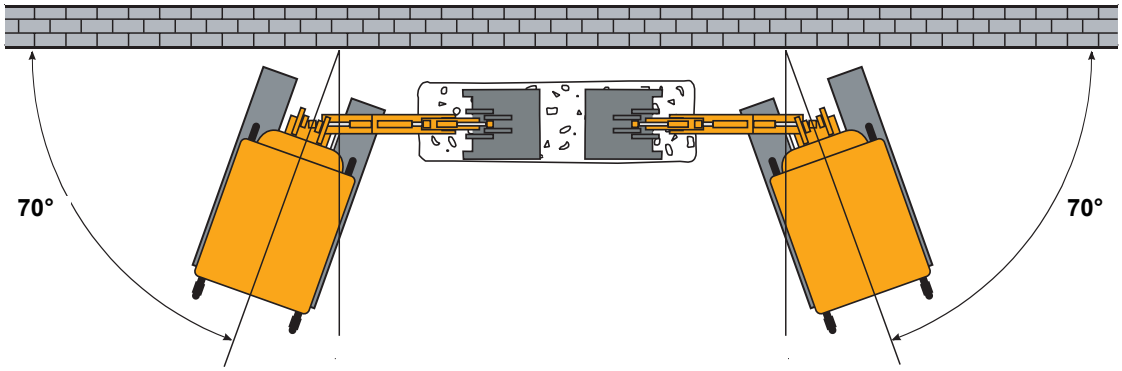
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ATTACHMENTS

Standard machines are equipped with a single acting hydraulic circuit for use with the JCB Hammermaster 70 Hydraulic Breaker and other suitable single-acting hydraulic attachments. Attachments requiring double acting hydraulics, such as JCB Augers, must have additional (optional) pipework fitted.

Note that if you try to use an attachment with the wrong hydraulic circuit, the attachment will not perform correctly and its working life will be greatly reduced.

Attachment Control (Single Acting Circuit)

The attachment is operated by means of a pedal **A**, which should be swung down into the operating position before use. Press down on the toe end of the pedal to operate the attachment. Release the pressure on the pedal to stop the attachment.

Swing the pedal up into the stowage postion when not in use.

Engine Speed

Set the throttle to maximum position when using the Hammermaster 70 Breaker.

WARNING

Fine jets of hydraulic oil at high pressure can penetrate the skin. Do not use your fingers to check for hydraulic oil leaks. Do not put your face close to suspected leaks. Hold a piece of cardboard close to suspected leaks and then inspect the cardboard for signs of hydraulic oil. If hydraulic oil penetrates your skin, get medical help immediately. HYD-001

Attachment Control (Double Acting Circuit)

The attachment is operated by means of a pedal **A**, which should be swung down into the operating position before use. Press down on the toe or heel end of the pedal to achieve the required direction for correct tool operation. Release the pressure on the pedal to stop the attachment.

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TRANSPORTING THE MACHINE

Preparing for road travel

Before loading the machine on to its trailer (see transporting the machine), remove all loose dirt that may otherwise come off and obstruct the highway and damage other vehicles.

Notice: Before transporting the machine make sure you will be obeying the local rules and laws regarding machine transportation of all the areas that the machine will be carried through.

Make sure that the transporting vehicle is suitable. See Maintenance section for the dimensions and weight of your machine. There is a travel height label fitted to the cab.

Try to make sure that the truck driver knows the clearance height before he drives away. See Specification section for machine height figures.

Notice: The transport position height does not include the truck/trailer height, add the two figures together for the clearance height.

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TRANSPORTING THE MACHINE

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FLUIDS, LUBRICANTS, CAPACITIES AND SPECIFICATIONS

Notice: New engines do not require a running in period. The engine/machine should be used in normal work cycle immediately; glazing of the piston cylinder 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). Engines of new machines are filled at the factory with JCB 10W/30 Multigrade oil. This oil should be drained after the first 100 hours operation and the engine filled with the appropriate recommended grade as shown below. JCB 10W/30 should also be used for the first 50 hours operation whenever a new or reconditioned engine is fitted to the machine. After the first 100 hours it is essential that the 10W/30 oil is replaced by the lubricant recommended below.

Item	Capacity US Gal (Liters)	Fluid / Lubricant	International Specification
Fuel Tank	3.8 (14.6)	Diesel oil (see 'Types of Fuel')	ASTM D975-66T Nos 1D, 2D
Engine (Oil) First 100 hours only	0.925 (3.5)	JCB 10W/30 Multigrade above 5°F (above - 15°C) 5W/20 5°F to -13°F (-15°C to -25°C)	MIL-L-46152, API CC/SF API CC/SE (recommended)
After first 100 hours		JCB 15W/40 Multigrade above 14°F (above -10°C) 5W/20 14°F to -13°F (-10°C to -25°C)	SAE 15W/40, MIL-L-46152B AP1 CD/SE MIL-L-2104D AP1 CC/SE or API CD/SE

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FLUIDS, LUBRICANTS, CAPACITIES AND SPECIFICATIONS

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SERVICE SCHEDULES

Service Schedules

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 these Service Schedules are done to keep the machine working at its optimum efficiency.

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 regular maintenance checks are rectified immediately.

⚠ WARNING

Maintenance must be done by suitably qualified personnel. Before attempting any maintenance work, make sure that the machine is safe. Park on a level site and lower the bucket and dozer to the ground.

Every 10 Operating hours (or daily)

whichever occurs first

Clean

1 Machine generally

Check and Adjust where necessary (engine stopped)

2 Generally for damage
3 Hydraulic oil level
4 Engine oil level
5 Engine coolant level
6 Fuel system for leaks
7 Operation of horn and all electrical equipment
8 Track adjustment

Check and Adjust where necessary (engine running)

9 Exhaust (excessive smoke)
10 Dozer operation
11 Excavator operation
12 Track and running gear operation
13 Hourmeter operation

Grease

14 All pivot pins (except Micro undercarriage extension cylinders)

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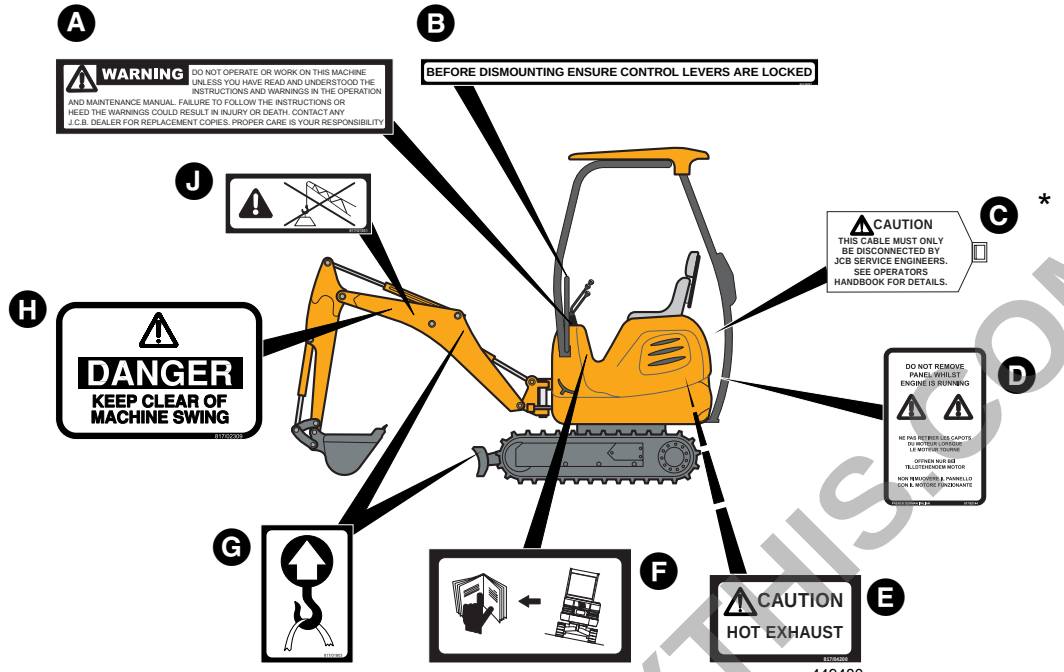
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SAFETY DECALS

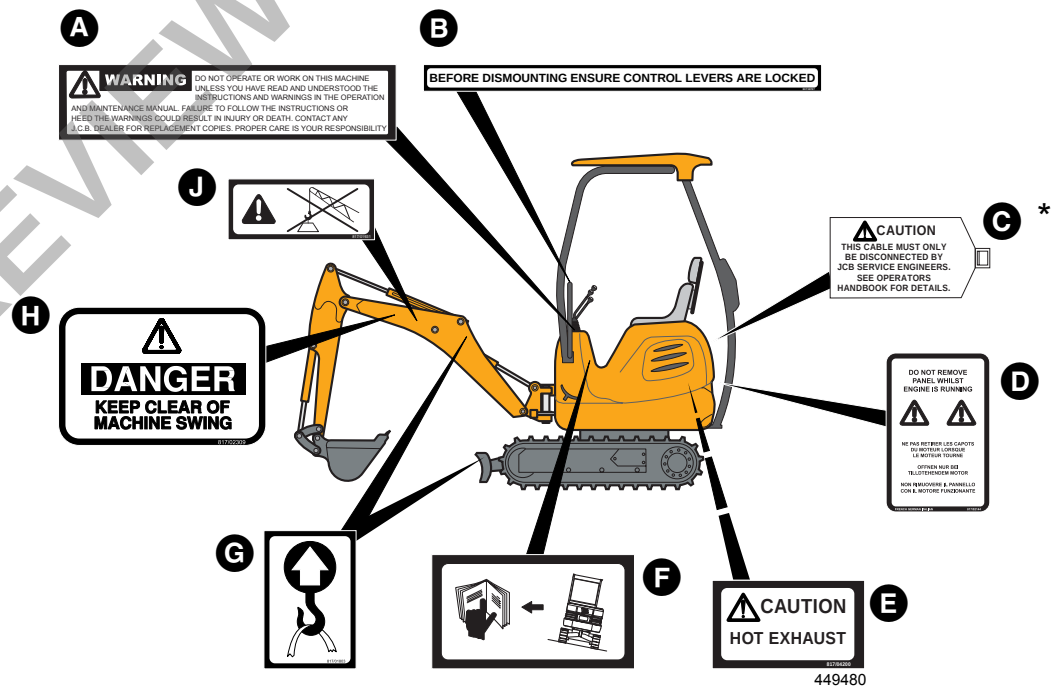


Nota: The decal asterisked above is in the form of a tag which is secured to the hood restraint cable.

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SAFETY DECALS



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BATTERY - continued

⚠ WARNING

Batteries give off an explosive gas. Do not smoke when handling or working on the battery. Keep the battery away from sparks or naked flames.

Battery electrolyte contains sulfuric acid. It can burn if it contacts skin or eyes. Wear goggles and handle the battery carefully to prevent spillage.

Keep metallic items (watches, rings, zippers etc.) away from the battery terminals. Such items could cause a short and burn you.

Set all switches in the cab to OFF before disconnecting or reconnecting the battery. When disconnecting the battery remove the ground (-) lead first. When reconnecting, fit the positive (+) lead first.

Recharge the battery away from the machine, in a well ventilated area. Switch the charging circuit off before connecting or disconnecting the battery. When the battery is reinstalled in the machine, wait five minutes before connecting it up..

First Aid - Electrolyte

Do the following if electrolyte:

Gets in you eyes

Immediately flush with water for 15 minutes, always get medical help.

Is swallowed

Do not induce vomiting. Drink large quantities of water or milk. Then drink milk of magnesia, beaten egg or vegetable oil. Get medical help.

Get on your skin

Flush with water, remove affected clothing, cover burns with a sterile dressing, then get medical help.

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5-3-4-3/1

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ENGINE AND TRACK CONTROLS, SWITCHES AND INSTRUMENTS - continued

Instrument Cluster

Indicators for the engine and related systems are mounted in the instrument cluster in the R.H. console.

A **Charge (Fault) Indicator**
Indicates Alternator operation. Illuminates RED when a fault occurs.

B **Coolant Temperature (High) Indicator**
Illuminates RED when coolant temperature is too high.

C **Engine Oil (Low) Indicator**
Illuminated RED when engine oil pressure is too low.

D **Glow Plugs (On) Indicator**
Illuminates YELLOW when the Glow Plugs are energised.

E **Air Filter (Blocked) Indicator**
Illuminates YELLOW when the Air Filter is blocked.

F Not used on this machine.

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ENGINE AND TRACK CONTROLS, SWITCHES AND INSTRUMENTS - continued

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