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Safety

Safety - Yours and Others

All machinery can be hazardous. When a machine is correctly operated and maintained, it is a safe machine to work with. When it is carelessly operated or poorly maintained it can become a danger to you (the operator) and others.

In this manual and on the machine you will find warning messages. Read and understand them. They inform you of potential hazards and how to avoid them. If you do not fully understand the warning messages, ask your employer or JCB dealer to explain them.

Safety is not just a matter of responding to the warnings. All the time you are working on or with the machine you must be thinking of what hazards there might be and how to avoid them.

Do not work with the machine until you are sure that you can control it.

Do not start any work until you are sure that you and those around you will be safe.

If you are not sure of anything, about the machine or the work, ask someone who knows. Do not assume anything.

Remember:

- Be careful
- Be alert
- Be safe.

Safety Warnings

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.

The signal word 'DANGER' indicates a hazardous situation which, if not avoided, will result in death or serious injury.

The signal word 'WARNING' indicates a hazardous situation which, if not avoided, could result in death or serious injury.

The signal word 'CAUTION' indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

The signal word 'Notice' indicates a hazardous situation which, if not avoided, could result in machine damage.

The safety alert system (shown) also helps to identify important safety messages in this manual and on the machine. When you see this symbol, be alert, your safety is involved. Carefully read the message that follows, and inform other operators.

Figure 2. The safety alert system



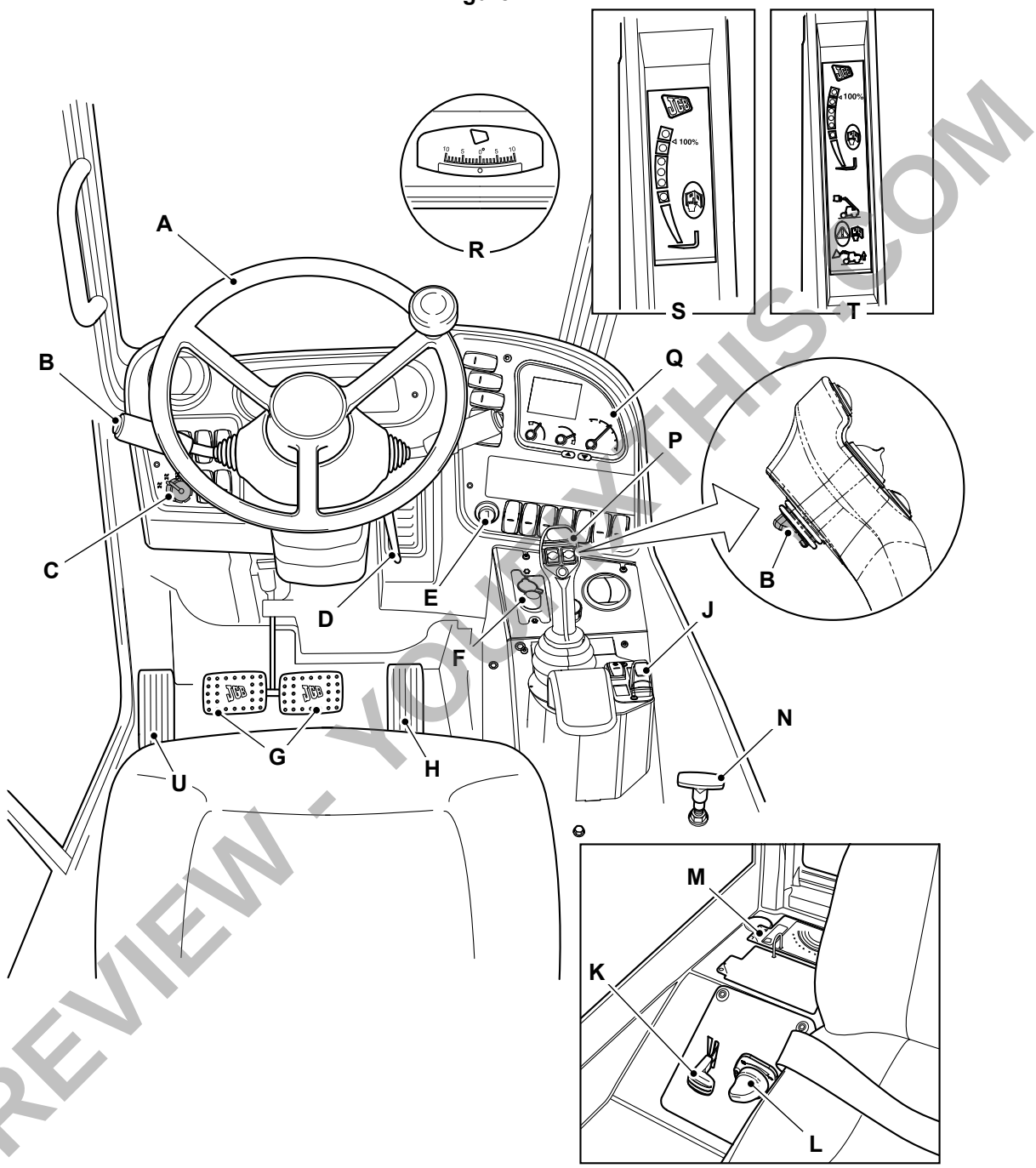
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Operator Station

Component Locations

Figure 12.



A Steering WheelRefer to: Steering Wheel (Page 62).
B Transmission Lever and Gear Selection
C Steer mode selectorRefer to: Steer Mode Control (Page 68).
D Steering column adjustmentRefer to: Steering Column (Page 62).
E Starter switchRefer to: Ignition Switch (Page 20).
F HVAC (Heating Ventilation Air Conditioning) controlsRefer to: Heating, Ventilating and Air-Conditioning (HVAC) (Page 111).
G Service Brake PedalRefer to: Service Brake Pedal (Page 64).
H Accelerator pedalRefer to: Accelerator Pedal (Page 62).
J Handbrake/parkbrake mini leverRefer to: Park Brake (Page 65).
K Hand throttle controlsRefer to: Hand Throttle Control (Page 62).

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Operation
Introduction

General

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.

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.

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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Fire Extinguisher

General

Location

The fire extinguisher is stowed in a bracket to the right of the operator seat. Keep the fire extinguisher in the bracket until you need to use it.

Operation

⚠ **WARNING** Do not use the fire extinguisher in a confined space. Make sure that the area is well ventilated during and after using the fire extinguisher.

WARNING After any use, the extinguisher must be replaced or serviced.

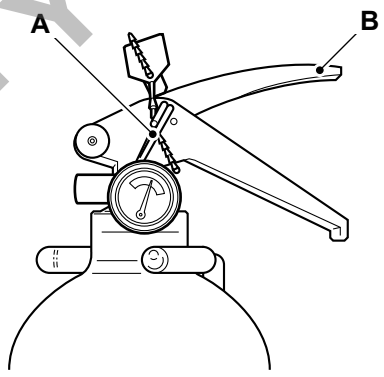
Make sure that you understand how to use the fire extinguisher. If necessary, refer to the instructions found on the fire extinguisher.

Only try to extinguish a fire if the circumstances permit and your safety is not endangered. If necessary, contact your nearest fire department.

Using the fire extinguisher:

1. Move the machine to a safe area to prevent the fire from spreading.
2. Remove the fire extinguisher from its bracket.
3. Remove the safety pin.
4. Aim directly at the fire from an upwind position, if possible.
5. Squeeze the trigger to operate the fire extinguisher, release the trigger to stop the flow.

Figure 119.

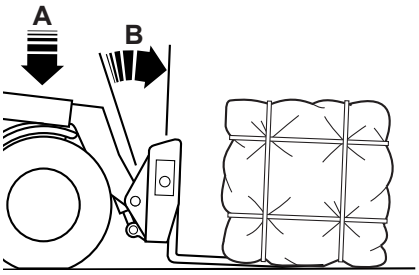


A Safety pin **B** Trigger

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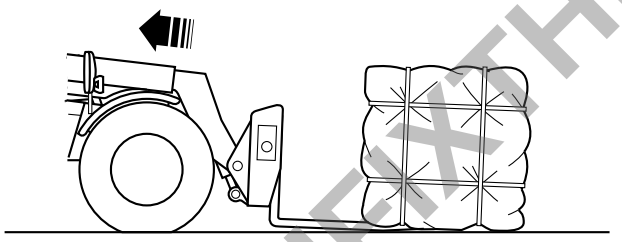
Figure 109.



A Boom lower **B** Carriage extend

3. Retract the boom and withdraw the forks from under the bale.
4. When the forks are clear, return the boom and carriage to the road travel position.

Figure 110.



Working with Irregular Loads

Be careful when you operate the boom and carriage with an uneven load.

1. Find the load's center of gravity. On packaged loads it may be marked on the box. If you cannot find out the load's center of gravity:
   1.1. Do trial lifts at different positions until you are sure the load is stable on the forks.
   1.2. Do not raise the load more than a few centimeters when you do a trial lift.
2. Move the machine so that the load's center of gravity is halfway between the forks.
3. Pick/place the load, this will depend on the type of load.
   3.1. If it is palleted, follow the procedure for palleted loads.
   3.2. If it is not palleted, it may be necessary to secure the load to the forks using suitable chains.
4. Stop the engine before allowing anyone to approach the forks.

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6.1. Slacken the screws on the front axle.

6.2. Install the shims.

6.3. Tighten the screws to the required torque value.

Torque: 95–115N·m (70.1–84.8lb.ft)

6.4. Remove the wheel chocks from each wheel.

Propshaft Removal and Installation

⚠ **WARNING** Make sure that the blocks and towing vehicle will prevent the machine from moving because when the driveshafts have been disconnected the park brake cannot prevent the machine from moving. It is necessary to work under the machine to remove the driveshafts. This job should be done by a qualified mechanic. Anyone working underneath, or near the machine, could be killed or seriously injured if the machine moves.

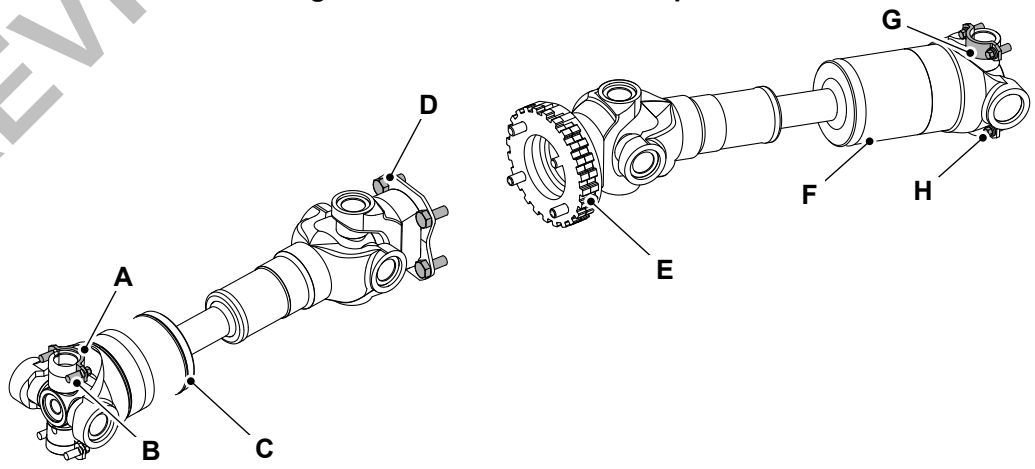
Removal

This procedure should only be carried out by a qualified engineer. If you have any queries concerning this procedure, consult your local JCB dealer.

When disconnecting the propshafts the park brake is still active but as an advisory it is recommended to chock all 4 wheels.

1. Make the machine safe.
   Refer to: Maintenance Positions (Page 193).
2. Before you remove the propshafts, always mark both companion flanges and sliding joints prior to removal.
3. Remove the front, centre and rear undershields when you work under the machine.
   Refer to: Undershield (Page 200).
4. Support the front propshaft and remove the strap retaining bolts and the straps from the axle yoke.
5. Use a crows foot ring spanner to remove the nuts.
6. Support the rear propshaft.
7. Use a crows foot ring spanner to remove the nuts.
8. Remove the nuts and slide the propshaft off the securing studs.

Figure 122. Constructional Propshaft



A Front propshaft bearing strap
B Front propshaft screws
C Front Propshaft
D Screws (x4)
E Speed sensor ring
F Rear Propshaft

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Table 8. Safety Labels

Item	Part No.	Description	Qty.
A	817/70014	Warning. Read the Operator’s Manual before you operate the machine.	1
B	817/70029	Crush hazard. Wear seat belt.	1
C	817/70040	Electrical hazard. Stay a safe distance away from power lines.	1
D	817/70011	Fall from raised attachment. Do not stand or ride on the bucket or forks.	1
E	817/70010	Crushing of whole body. Insert the boom support device before you complete any service or maintenance work underneath the boom.	1
F	817/70008	Crushing of whole body. Keep a safe distance from machine.	1
G	332/P4679	Severing of hands and fingers. Keep clear of/do not reach into rotating parts. Read the Service Manual.	1
H	332/C9978	Run over hazard. Start the engine from the operator's seat only. Do not short across the terminals.	1
J	332/F5855	Pressure hazard. Read the Operator’s Manual.	1

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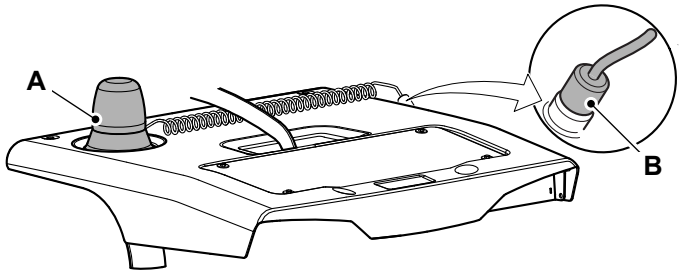
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Notes:

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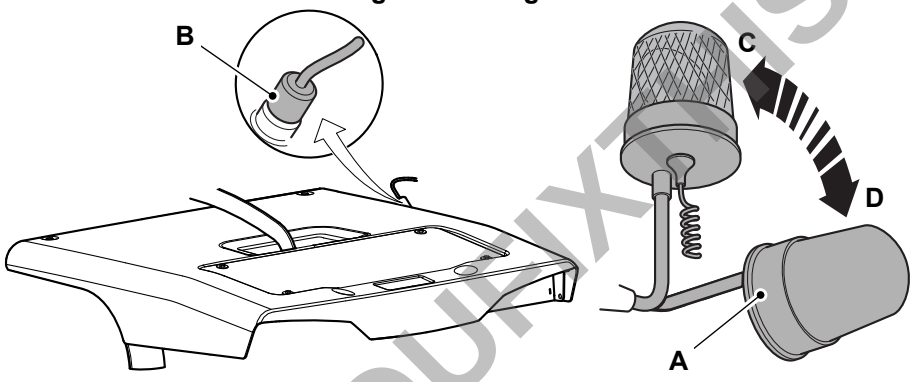
Figure 40. Magnetic Mount



A Beacon **B** Plug

The beacon is permanently installed on the machine. When in use it must be raised in position. When not in use it must be lowered in position. Refer to Figure 41.

Figure 41. Hinged



A Beacon **B** Plug
C Raised position **D** Lowered position

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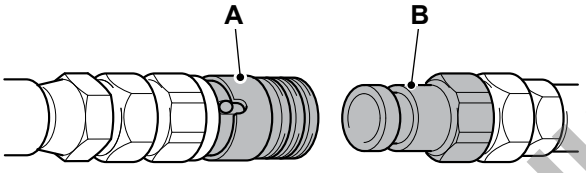
Quick Release Couplings

⚠ **WARNING** The external surfaces of the couplings must be clean before connecting or disconnecting. Ingress of dirt will cause fluid leaks and difficulty in connecting or disconnecting. You could be killed or seriously injured by faulty quick release couplings.

The flat face quick release couplings allow the operator to remove and install attachments swiftly and efficiently.

Generally, your machine pipework will be installed with a female coupling and a male coupling. The optional attachment hoses will also be installed with a female coupling and a male coupling.

Figure 130.



A Female coupling **B** Male coupling

The quick release couplings will be trouble free and relatively easy to connect and disconnect, if they are kept clean and used correctly. The recommendations listed below must always apply when using flat face quick release couplings.

Read the correct connecting and releasing procedures before you install or remove any optional attachment connected with quick release couplings.

Essential do's:

- Before connecting or removing any hydraulic hose, the residual hydraulic pressure trapped in the service hose line must be vented. Make sure the hose service line has been vented before connecting or removing the hoses.
- Always wipe the two mating faces clean before connecting.
- Use caps and plugs when the couplings are disconnected.
- Always align the external locking ball (if used) with the notch in the locking sleeve and then pull the locking sleeve back fully to disconnect.
- If a coupling sticks, first check that pressure has been released. Make sure the locking ball and notch in the locking sleeve are aligned, pull back the sleeve and twist the couplings apart. Sticking is normally caused by dirt in the coupling or physical damage due to abuse.
- Connect and disconnect the new couplings two or three times to work the PTFE seals. Sometimes a new coupling will stick if the seal has not been worked.
- When connecting the couplings, only apply the spanner or grips to the hexagon and nowhere else.
- Avoid damage to the coupling faces. Burrs and scratches cause damage to the seals and cause leaks. They can also impede connection and disconnection of the couplings.
- Periodically lubricate the internal locking balls on the female half of the coupling with silicone grease.

Essential don'ts:

- Never try to reconnect using a damaged half coupling as this will destroy the seals in the mating half and necessitate replacement of both halves.
- Do not leave the coupling where it may be run over by a machine or otherwise crushed, this will distort the sleeve and prevent connection and disconnection.
- Never try to turn the sleeve when the coupling is disconnected as this will cause the locking ball to jam under the locking sleeve and damage the coupling.
- Never try to strip the coupling down, there are no user serviceable parts. If the coupling is damaged it must be replaced with a new one.
- Never hit the center poppet of the coupling to try and release the locked in pressure. This can cause irreparable damage to the coupling and serious injury.
- When connecting the couplings, never clamp on the sleeve of the female or nose of the male, this will cause distortion and/or damage.
- Never subject the couplings to external forces, especially side load. This can decrease the life of the coupling or cause failure.

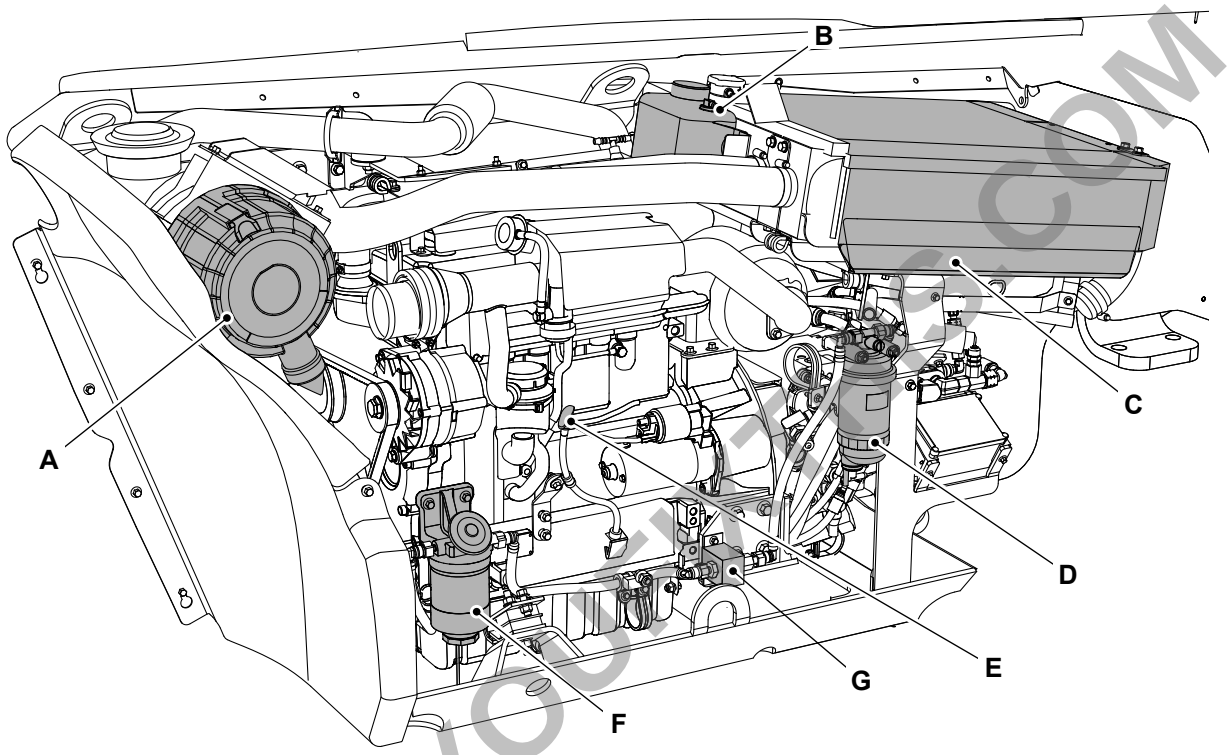
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Service Points

General

Engine Compartment

Figure 187.



A Air filter
B Expansion bottle
C Radiator
D Fuel Filter
E Engine oil dipstick
F Engine fuel filter
G Fuel pump

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