520-40 Machines

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

2 Get access to the engine. Refer to ***Access Panels, Engine Cover***.

3 Release three clips **A** and remove cover **B**.

4 Remove outer element **C**. Take care not to tap or knock the element. If necessary, remove inner element **D**.

5 Clean inside the canister **E**, cover **B** and dust valve **F**.

6 Carefully insert the new elements into the canister. Ensure they are pushed fully into their spigots. Fit cover **B** with dust valve **F** at the bottom.

7 Make sure that the wire is connected to the Air Filter Blocked switch **G**.

8 Close the engine cover.

Note: *Do not run the engine with the dust valve* ***F*** *removed.*

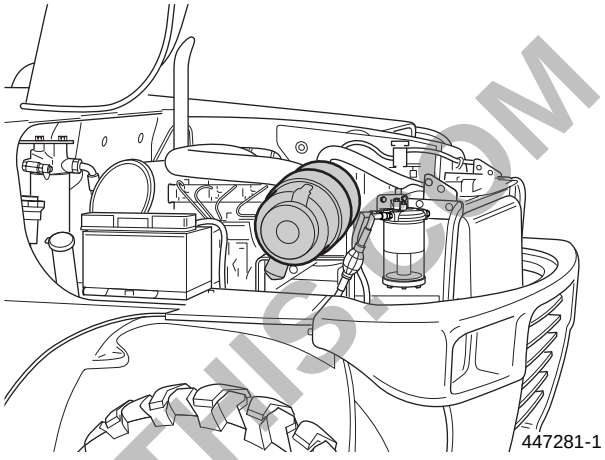


Fig 129.

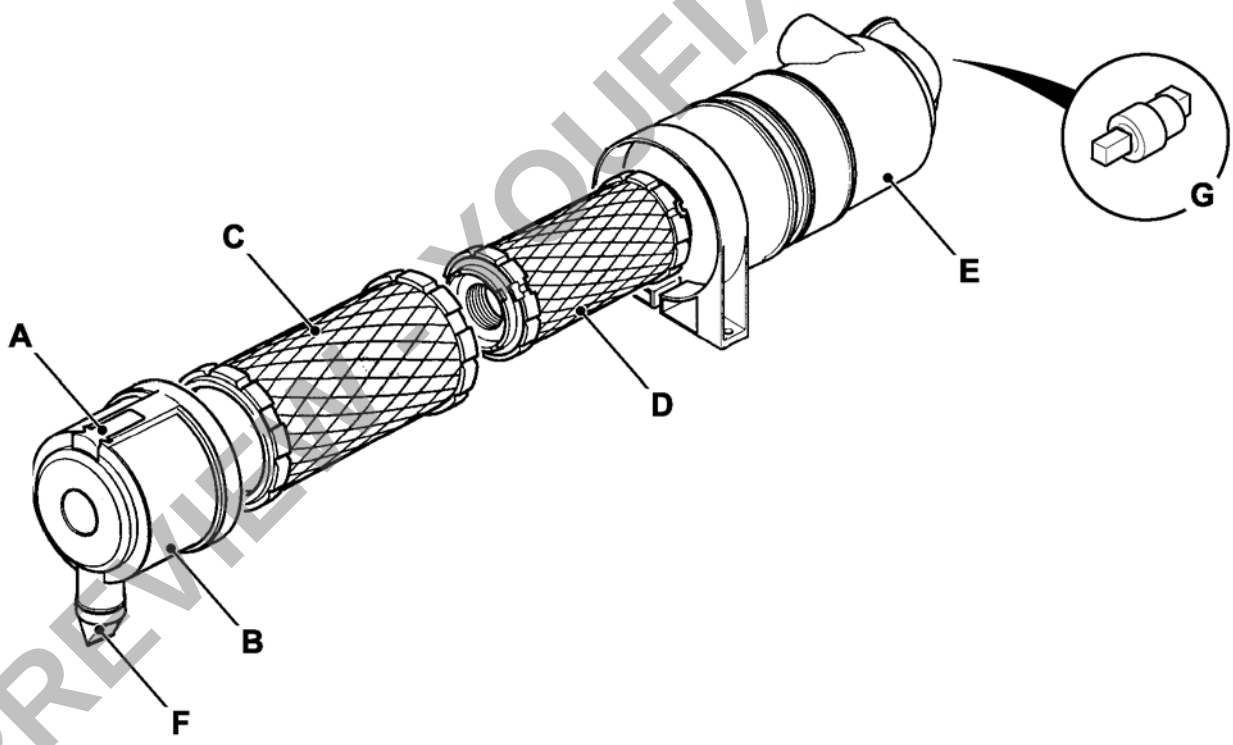


Fig 130.

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Checking the Wheel Nut Torques

T3-014_2

⚠ WARNING

If, for whatever reason, a wheel stud is renewed, all the studs for that wheel must be changed as a set, since the remaining studs may have been damaged.

2-3-2-8

On new machines, and whenever a wheel has been removed, check the wheel nut torques every two hours until they stay correct.

Every day, before starting work, check that the wheel nuts are tight.

Tighten the wheel nuts (in a diagonal sequence) to the torque value shown.

Table 10.

Front		Rear	
Nm	**lbf ft**	**Nm**	**lbf ft**
680	500	680	500

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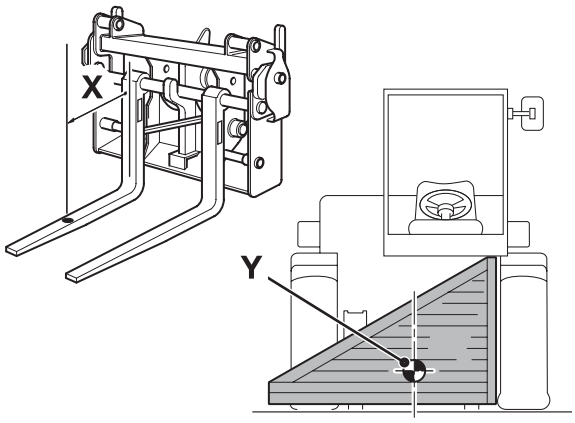


Fig 47.

3 When you know the weight of the load, look on the Load Chart and find the coloured segment with the next highest weight. ⇒ *Fig 48. (🗋 62)*.

For example, on the example Load Chart shown, if your load weight is 1800 kg, find the 2000 kg segment. This is the Maximum Load Segment for your load.

The left-hand edge **B** and the upper edge **C** of this segment show the machine stability limits for your load. You must not angle or extend the boom beyond these limits.

4 After inserting the forks beneath the load, and before lifting the load, check the readings on the boom angle and extension indicators. Find the same readings on the Load Chart.

You will see on the chart that lines run from the boom angle and extension scales, through the coloured area of the chart. Find where the lines for your readings cross. If they cross inside your Maximum Load Segment or to the right of it (see Step 3) the load is within safe limits.

If the lines cross above or on the left of the segment, do not try to pick up the load. Withdraw the forks, retract the boom and try again. If, even with the boom fully retracted, the boom angle and extension readings still cross outside your Maximum Load Segment do not try to lift the load.

5 When the load is on the forks, retract the boom before raising or lowering it. This will reduce the risk of getting the machine unstable. While moving the boom, watch the boom angle and extension indicators. Keep inside the limits for your load.

Note that when the load is high up (say on a scaffolding) you will have to get it clear before fully retracting the boom.

6 Before placing a load, use the Load Chart to find how close you should get the machine to the unload point. You must be able to place the load without crossing the left-hand or upper boundaries of your Maximum Load Segment.

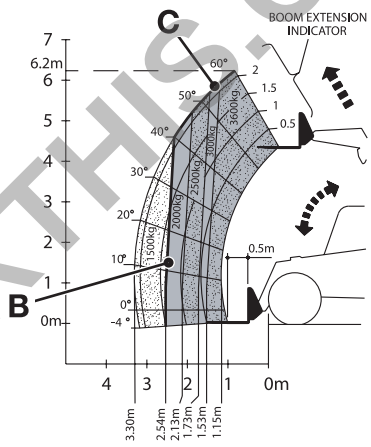


Fig 48. Example Only

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Specifications

Static Dimensions

520-40

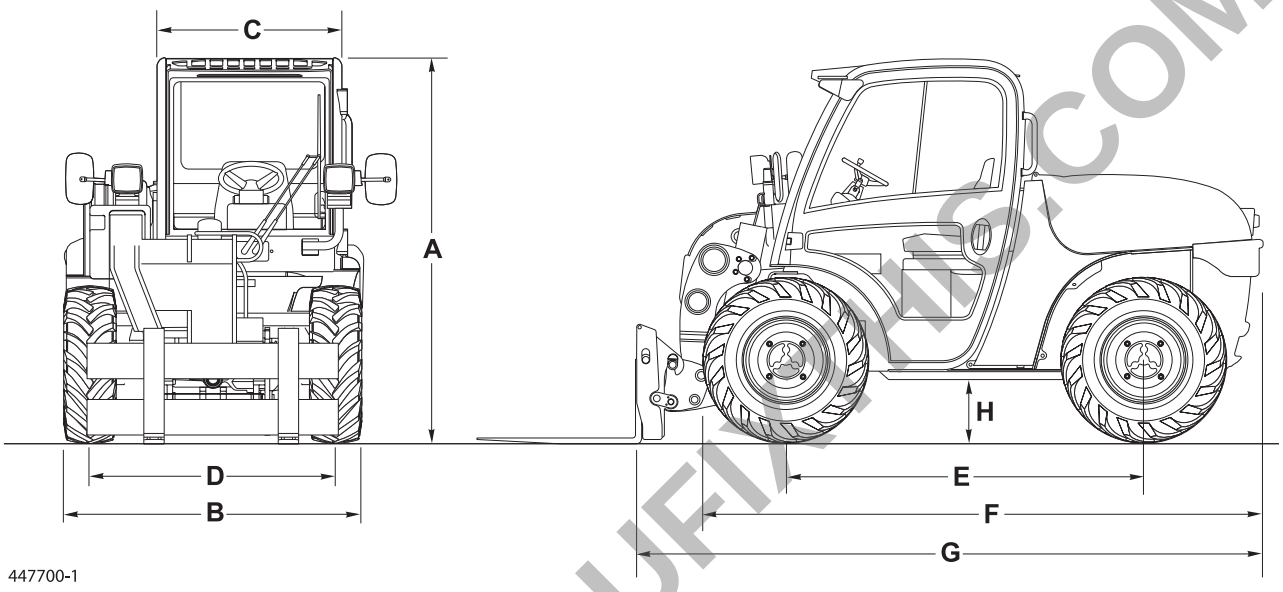


Fig 186.

		520-40
		mm (ft-in)
A	Overall height	1970 (6-6)
B	Overall width (over tyres)(1)	1560 (5-1)
C	Inside width of cab	920 (3-0)
D	Front track	1290 (4-2)
E	Wheelbase	1900 (6-3)
F	Overall length to front tyres	2920 (9-6)
G	Overall length to front of carriage	3380 (11-14)
H	Ground clearance	270 (0-11)
	Turn radius over tyres(1)	3050 (10-0)

(1) Dependant upon tyre specified.

Table 11.

		kg (lb)
	Weight (unladen)	4400 (9700)

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This may be needed every six months or at least annually in some countries to meet and comply with legislation and for insurance purposes.

Check with your local JCB distributor for further advice.

Obtaining Replacement Parts

T3-096

If you use non-genuine JCB parts or consumables, then you can compromise the health and safety of the operator and cause machine failure

A Parts Book for your machine is available from your JCB Distributor. The Parts Book will help you identify parts and order them from your JCB distributor.

Your dealer will need to know the exact model, build and serial number of your machine. See ***Identifying Your Machine (Introduction section)***.

The data plate also shows the serial numbers of the engine, transmission and axle(s), where applicable. But remember if any of these units have been changed, the serial number on the data plate may be wrong. Check on the unit itself.

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Storage of the Machine

T2-043_2

Introduction

If you will not use the machine for an extended period, you must store the machine correctly. If you prepare the machine carefully and apply on-going care you can prevent deterioration and damage to the machine while it is in storage.

Note: *JCB Dealers must check stock monthly.*

Storage Area

The machine can be stored in a temperature range of:

-40°C to 54°C (-40°F to 129°F).

When possible, you must keep the machine in a dry building or shelter.

If only an outdoor storage area is available, look for a storage area with good drainage.

If the machine is to be out of use for an extended period, careful preparation and on-going care will minimise the possibility of deterioration and damage while in storage.

Prepare the Machine for Storage

1 Clean the machine to remove all unwanted material and corrosive products.

Dry the machine to remove solvents and moisture.

2 Apply grease to the moving parts. Refer to ***Greasing the Machine***.

3 Examine the machine for worn or damaged parts. Replace if necessary.

4 Fill the fuel tank to prevent a build up of condensation in the tank.

5 Examine the coolant condition. Replace if necessary.

6 Examine all fluid levels. Top up if necessary.

Put the Machine into Storage

1 Park the machine on level, solid ground.

Park the machine in a position where the machine is easy to tow (in case the machine does not start at the end of the storage period).

Place suitable timbers under the machine to eliminate direct contact with the ground.

2 Retract all rams and lower the attachments to the ground.

3 Vent the hydraulic system.

4 Remove the starter key.

5 Apply a thin layer of grease or petroleum jelly to all exposed ram piston rods.

6 Remove the battery. Charge the battery.

Keep the battery in warm, dry conditions. Charge the battery periodically.

7 If you keep the machine outdoors, cover the machine with tarpaulins or plastic sheets.

During Storage

Operate the machine functions each week to prevent a build up of rust in the engine and hydraulic circuits, and to minimise deterioration of the hydraulic seals.

1 Clean the machine to remove all unwanted material and corrosives.

Remove the grease or petroleum jelly from the ram piston rods.

2 Install a charged battery.

3 Start the engine.

4 Operate the hydraulic controls.

Make sure that the hydraulic functions operate correctly.

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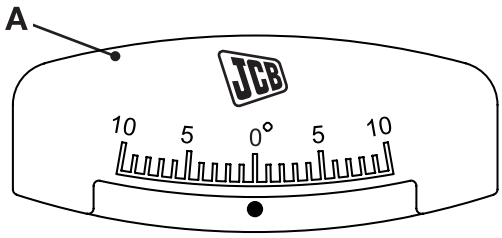
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Inclinometer

P5-2010_3

The lateral position of the machine is indicated by an inclinometer **A** fitted in the cab. Use the inclinometer to check that the machine is level before operating the boom. The machine is level when the inclinometer shows zero degrees (0°). Reposition the machine if a level position cannot be achieved.

For more information, refer to ***Use of Machines on Gradients or Slopes***.



391520-1

Fig 54.

Beacon

In certain territories you will be breaking the law if you do not fit a rotating beacon before you travel on public highways - make sure you are complying with local laws.

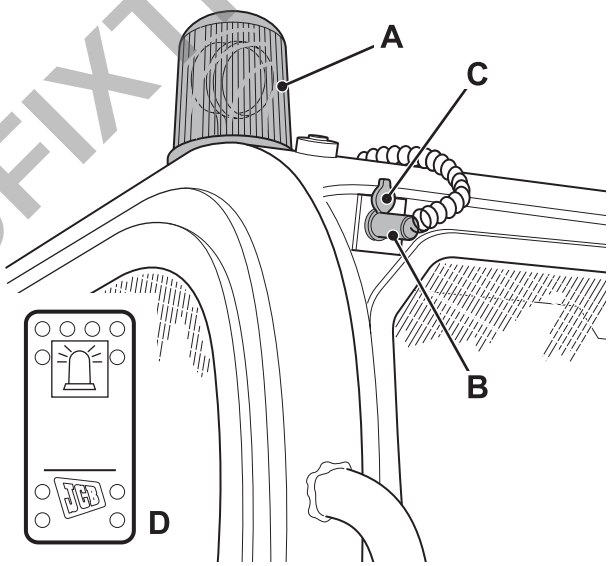
Note: *Be careful when you operate the machine with a beacon. The total height of the machine is increased when the beacon is in the operating position.*

1 Put the beacon **A** on the cab roof.

Note: *The beacon is held in position by a magnetic base.*

2 Put the plug **B** into the cab roof socket **C**.

3 Use the switch **D** to operate the beacon. The indicator light in the switch comes ON when the beacon is operating.



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Fig 55.

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Cab Layout

520-40 Machines

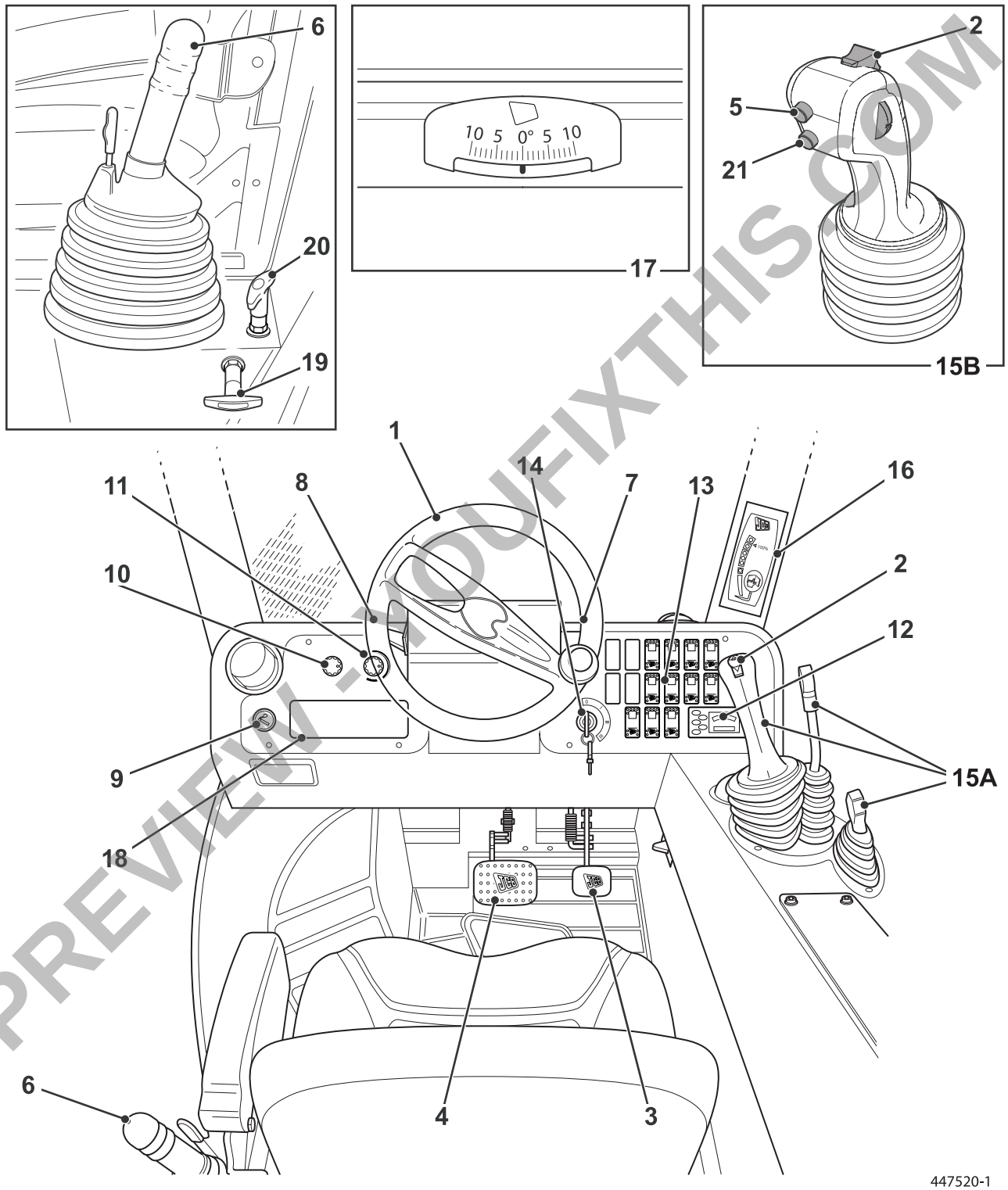


Fig 19.

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Transmission

Gearbox

Checking the Oil Level

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

2 Clean the area around the fill/level plug **A**, then remove the plug. Oil should be level with the bottom of the hole. Add recommended oil if necessary. ⇨ ***Fluids, Lubricants and Capacities (115)***. Clean the plug before refitting it.

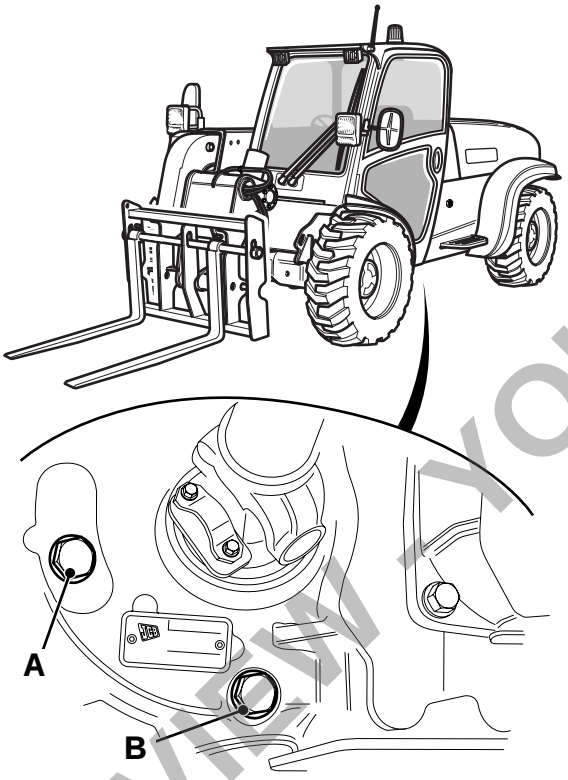


Fig 149.

Changing the Oil

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

⚠ CAUTION

Oil will gush from the hole when the drain plug is removed. Keep to one side when you remove the plug.

2-3-4-2

2 Drain the oil:

a Place a container of suitable size beneath plug **B**, (to catch the oil). ⇨ ***Fluids, Lubricants and Capacities (115)***.

b Remove plug **B** and its washer. Allow the oil to drain out. The drain plug is magnetic. Wipe it clean. (Metallic particles should be carefully removed.)

c Fit plug **B** and its washer.

3 Fill with recommended oil through fill/level hole **A**. Clean the plug before refitting it. Tighten to 79 Nm (60 lbf ft).

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Loading a Truck

T2-004_2

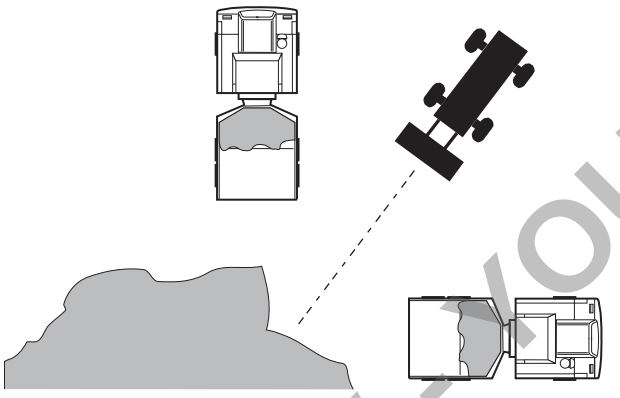
Put the truck(s) at an angle of about 45° to the pile, as shown. This cuts out unnecessary manoeuvring. Allow enough distance for the shovel to reach its unloading height while you are travelling, without slowing down.

Keep the wind on your back. This keeps dust away from you and your machine.

Move your machine as close as possible to the truck before unloading.

If the truck body is about as long as a shovel's width, tip the load into the centre of the truck. If the truck is two shovel-widths long or more, load the front of the truck first.

Do not dump the material in one sudden movement. Roll the shovel forward in stages until it is empty. Use the control lever to rock the shovel back and forth to loosen any sticky material.



145500-2

Fig 73.

Use of Machines on Gradients or Slopes

P5-2019

⚠ WARNING

Ensure that you have been trained and are familiar with the use of machines on gradients, and understand the adverse affects that gradients and site conditions can have on stability. Never use the machine on a gradient if you do not understand the recommended practices for the use of machines in such applications.

0017

There are a number of factors which can adversely affect the stability of the machine and the safety of the machine and operator when used on a gradient.

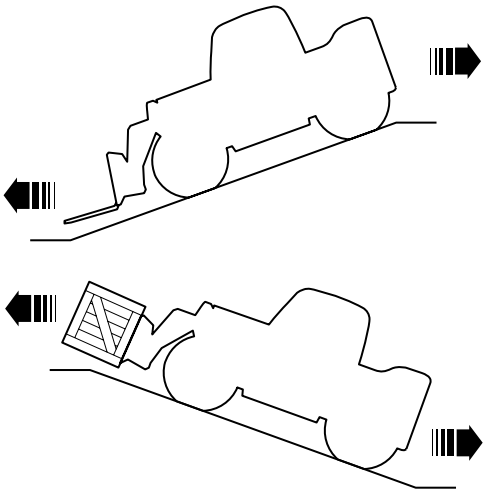
It is essential that a risk assessment of the work to be done is completed, see ***Risk Assessment*** (OPERATION section), and that the operator complies with any safety precautions that the assessment identifies.

Driving Up and Down Gradients

To ensure maximum traction do the following when driving on a gradient.

Drive an unladen machine forward down a gradient and in reverse up a gradient.

Drive a laden machine forward up a gradient and in reverse down a gradient.



S373100

Fig 74.

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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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