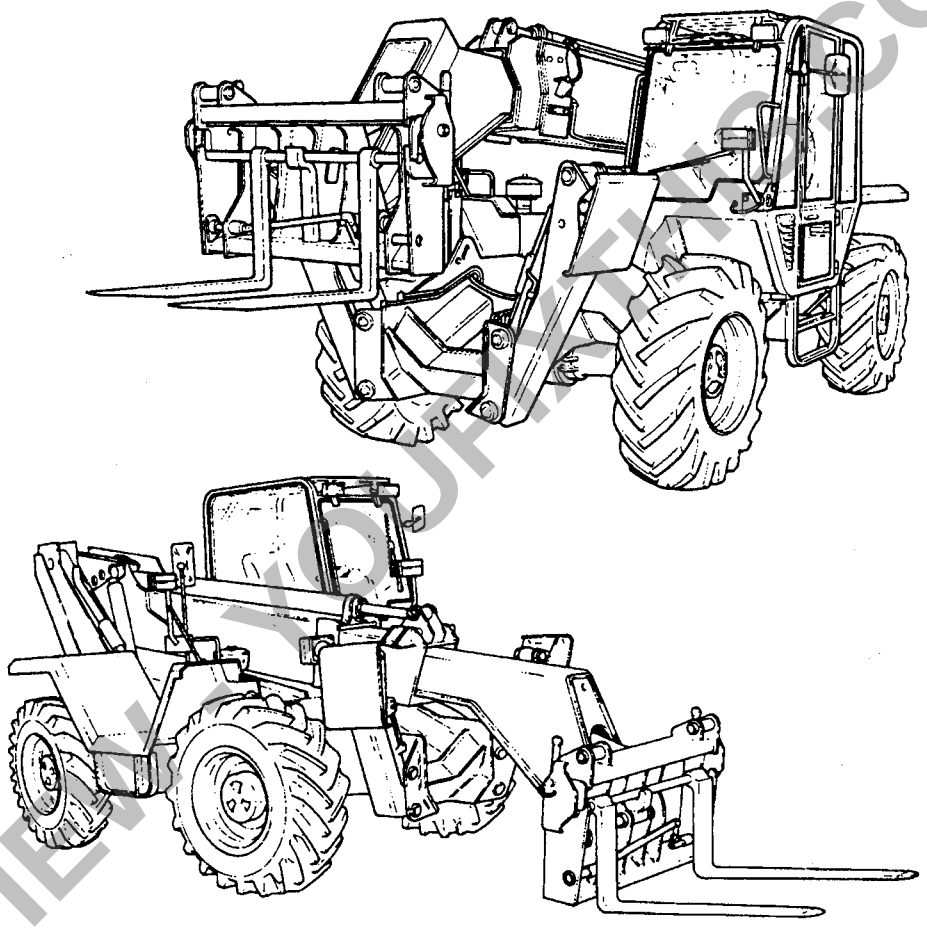
Operator Handbook

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Produced by the Technical Publications department of JCB Service



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LOADALL - SERVO MACHINES

⚠ THIS HANDBOOK MUST BE KEPT IN THE MACHINE AT ALL TIMES ⚠

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Issue 8

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⚠WARNING

Study This Handbook Before Starting The Machine

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

INT-1-1-1

⚠CAUTION

Do not fit an attachment to this machine which is not JCB approved. Consult your JCB distributor before fitting any non approved attachment.

8-4-1-6

In this handbook and on the machine there are safety notices. Each notice starts with a signal word. The meanings of the signal words 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

MACHINE SECURITY

Vandalism and theft of unattended machines is an ever increasing problem and JCB is doing everything possible to help combat this.

JCB PLANTGUARD is a comprehensive package available to help you safeguard your machine. It includes such devices as vandal proof covers, window etching, immobiliser, concealed serial number, battery isolator, Tracker security system and much more.

Remember that the fitting of any one of these security devices will help to minimise not only the damage or loss of your machine but also subsequent lost productivity. It could also result in reduced insurance premiums.

Your JCB Distributor or Dealer will be pleased to provide information on any of these sensible precautions. ACT NOW!

INT-1-2-4

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Control Selector Panel

Key Selector

Key **A** has two functions.

The first position **B** is for remote control option. This machine may be fitted to take remote control. In this position the hydraulic controls in the cab are electrically isolated. When using the remote control option remove the key **A** after selection.

The second position **C** is for cab control of the hydraulics.

Selector Switch

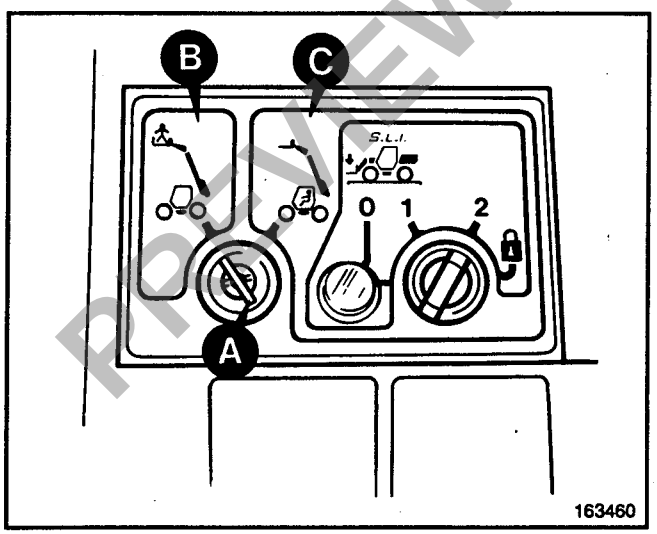
Switch **D** has four functions.

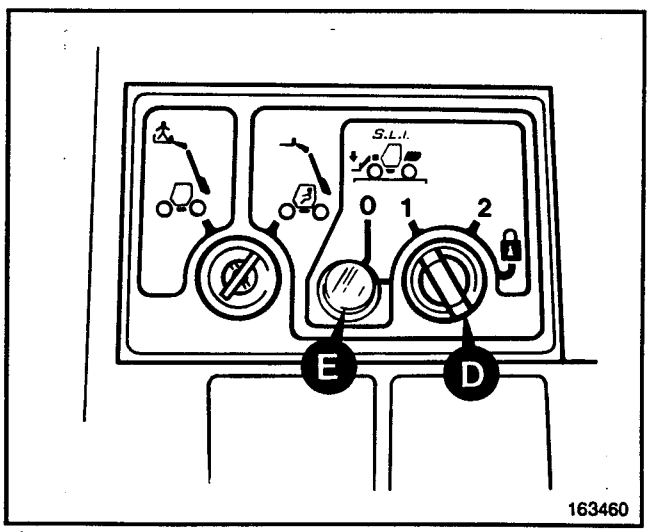
Position **0**. When this position is selected there is no interlock between valve block and safe load indicator. This is indicated by a RED warning light **E**. In this position the machine can be put into a load related unstable condition. There is **Only** indication from the safe load indicator (SLI), no interlock.

Position **1**. When this position is selected the SLI is fully interlocked with the valve block. The interlock between the SLI and the valve operates at 100% safe working load (SWL). The machine can not be put into a load related, front and rear plane unstable condition when this position is selected.

Position **2**. When this position is selected the SLI is fully interlocked with the valve block. The interlock operates at 50% SWL. In this position there is no tilt service available. The machine can not be put into a load related, front and rear plane unstable condition when position **2** is selected. This position MUST be selected when operating with a platform from the cab, key **A** in position **C**.

Position 🔒. When this position is selected all the servo controls are electrically isolated for road travel.





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WARRANTY AND PROCEDURE

Examination of the goods has been made by, or on behalf of the Purchaser and no warranty condition, description or representation on the part of the Manufacturer is given or is to be implied or has been given or is to be implied for anything said or written in the negotiations between the parties or their representatives beyond those mentioned below. Any statutory or other warranty condition, description or representation expressed or implied as to the state quality of fitness for any purpose of the goods is hereby expressly excluded.

In lieu thereof the manufacturer undertakes to make good by repair or replacement at its option any defect in the goods arising, in the Manufacturer's opinion, from faulty design, materials or workmanship which shall become apparent within the warranty period; at the termination of which period all liability on the Manufacturer's part ceases. Provided always and the above warranty is subject to the following conditions, fuller details of which can be provided by the main distributor.

a
The Manufacturer's liability extends only to repair or replacement and it accepts no liability for any consequential or other loss, damage or injury resulting directly or indirectly from any defect in the goods.

b
The Manufacturer's warranty does not extend to failures, defects or damage attributable to to wear and tear, improper adjustments, neglect, alteration of specification or accident.

c
All defective parts must be returned to the Main Distributor immediately together with full particulars of the defects, the machine serial number, the hours worked and the date the machine was supplied by the Main Distributor who will claim on your behalf.

d
The Manufacturer's warranty does not extend to proprietary or other components not of its manufacture, but will as far as possible pass to the purchaser the benefits of any guarantee given to the Manufacturer in respect of such components.

e
In the event of the rejection by the Manufacturer of any claim, the part or parts returned will be destroyed unless specific instructions to the contrary were given when the part or parts were returned.

f
The registration card must be completed at time of machine installation and returned to the Main Distributor.

g
The 100 Hour Service should be completed according to the Manufacturers recommendation and the 100 hours service report kept by the Main Distributor.

h
No claim will be considered if other than genuine parts manufactured by the Manufacturer or to its order and listed in its catalogue are used or if other than the Manufacturers recommended lubricants are used.

i
This warranty should be construed as strictly limited in its application and is valid only for new products in the country of purchase and if the goods shall change hands during the period of this warranty, this warranty will cease to have any effect.

j
The Manufacturer accepts no responsibility for damage by fire or accident of any kind to any goods returned under the terms of this warranty.

k
This warranty shall cease to have effect if the purchaser removes or defaces or alters the Manufacturer's Number or Name Plate or any other numbers or marks affixed to any JCB Product.

l
In respect of machines sold which have been used since the date of manufacture for demonstration purposes the terms of this warranty shall be three months.

World Wide (Feb. 1992)

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CLEANING THE MACHINE (continued)

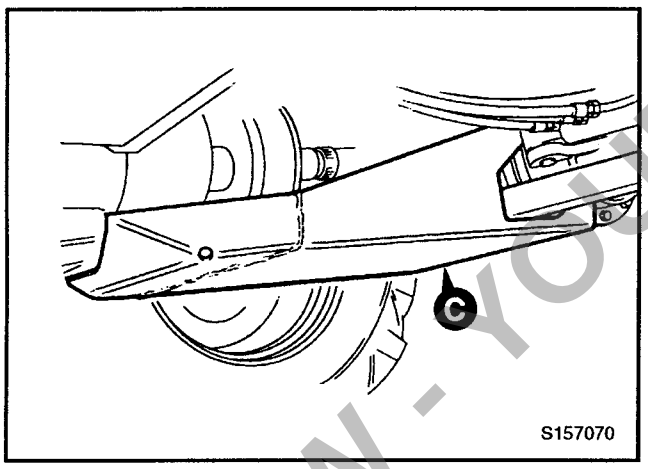
2 Propshaft Guard

⚠ WARNING

Airborne particles of light combustible material such as straw, grass, wood shavings, etc. must not be allowed to accumulate within the engine compartment or in the propshaft guards (when fitted). Please inspect these areas frequently and clean at the beginning of each work shift or more often if required. Before raising the engine cover, ensure that the top is clear of debris.

5-3-1-12/1

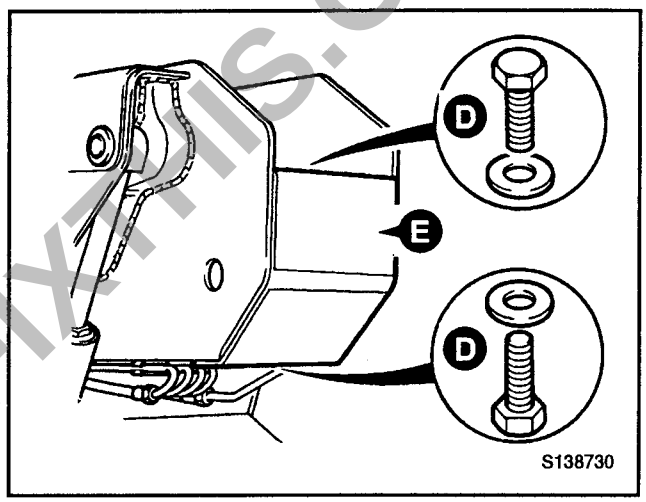
Do not allow mud, stones or combustible material to collect inside the propshaft guard **C** (front section shown only).

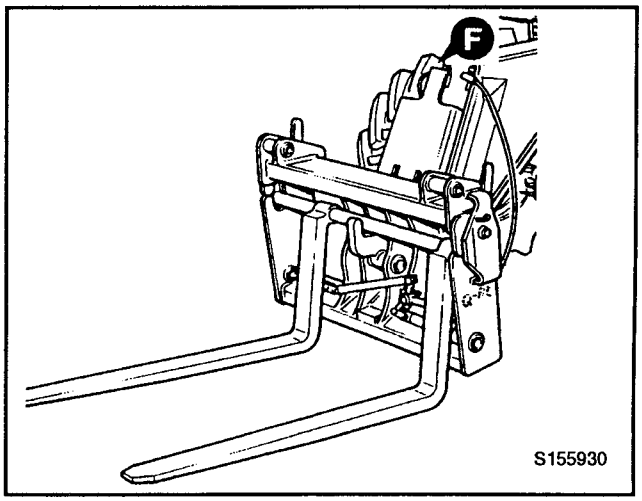


3 Boom

a Debris can collect inside the boom. To release cover **E**, remove bolts **D** .

b Debris can collect inside the boom nose end **F**, clean regularly otherwise debris can build up and cause damage to the tilt ram and linkage.





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FUEL SYSTEM (continued)

There are two types of fuel filter. Type 1 has a glass bowl and is secured in position by a bolt passing through the centre. Type 2 is a one piece spin on filter with sealing rings incorporated in the assembly.

Draining the Filter (Type 1)

1 Open the Bonnet

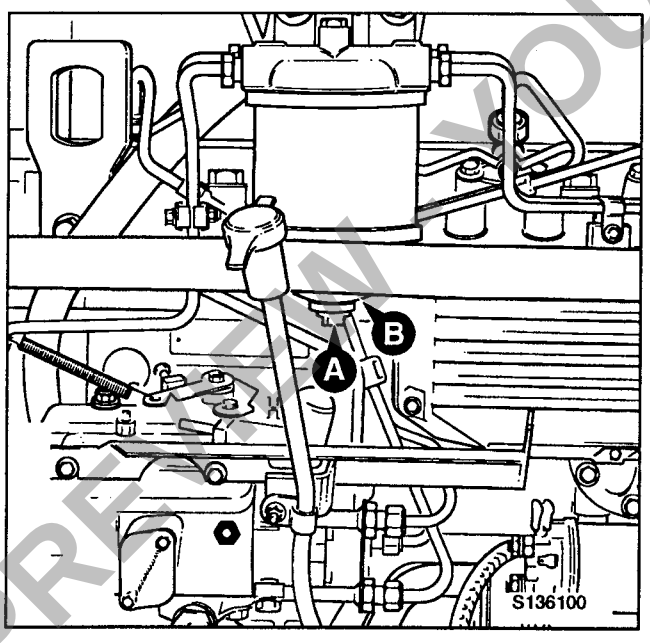
2 Inspect and Drain the Bowl

Look in the bowl **B**. If there is sediment in the bowl, change the element. *See **Changing the Filter Element**.* If there is water but no sediment, drain off the water by opening tap **A**.

⚠ CAUTION

Running the engine with air in the system could damage the fuel injection pump. After maintenance, remove air from the system.

2-3-3-7



Changing the Filter Element (Type 1)

1 Do Steps 1 and 2 of Draining the Filter

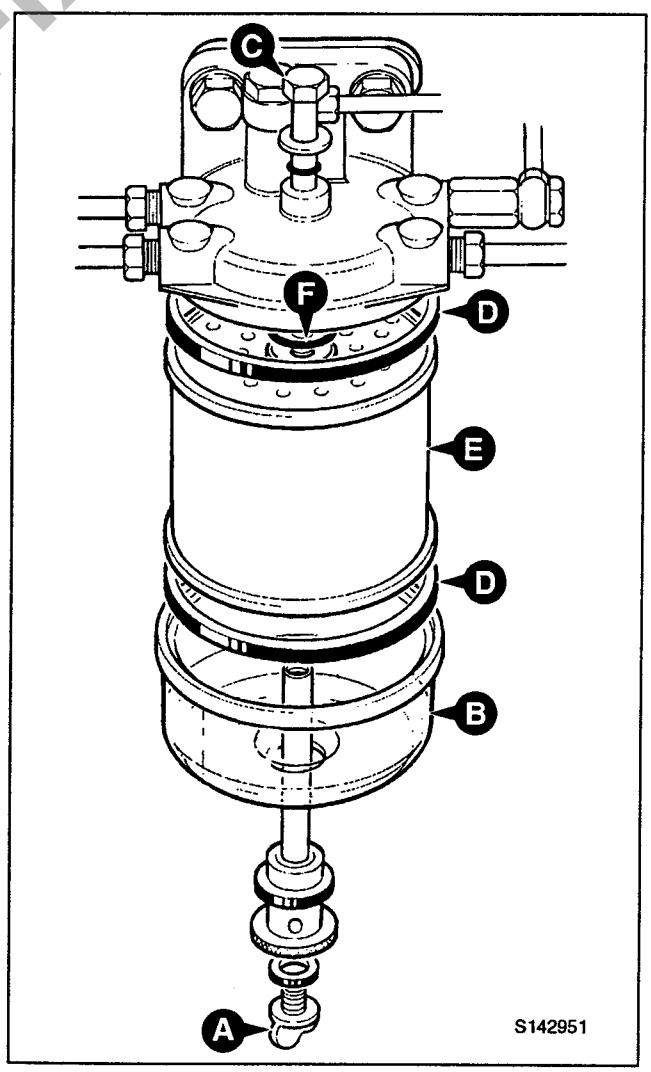
2 Remove the Element

Support bowl **B**; unscrew bolt **C**. Remove the bowl and element **E**. Wash the bowl in clean fuel.

3 Fit the New Element

Install the element **E**, 'O' ring **F**, sealing rings **D** and bowl **B**. Make sure they seat correctly. Tighten bolt **C**. Check for leaks.

4 Bleed the System.



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FUEL SYSTEM

Types of Fuel

Use good quality diesel fuel to get the correct power and performance from your engine. The recommended fuel specification for Perkins engines is given below.

Cetane Number:	45(minimum)
Viscosity:	2.5/4.5 centistokes at 40 °C (104 °F)
Density:	0.835/0.855 kg/litre (0.872/0.904 lb/pint)
Sulphur:	0.5% of mass (maximum)
Distillation:	85% at 350 °C (662 °F)

Cetane Number

Indicates ignition performance. Fuel with a low cetane number can cause cold start problems and affect combustion.

Viscosity

Is the resistance to flow. If this is outside limits, the engine performance can be affected.

Density

Lower density will reduce engine power. Higher density will increase both engine power and exhaust smoke.

Sulphur

High sulphur content can cause engine wear. (High sulphur fuel is not normally found in North America, Europe or Australia.) If you have to use high sulphur fuel you must also use a highly alkaline engine lubricating oil; or change the normal oil more frequently.

Distillation

This indicates the mixture of different hydrocarbons in the fuel. A high ratio of lightweight hydrocarbons can affect the combustion characteristics.

Fuel Standards

Consult your fuel supplier, JCB distributor or Perkins dealer about the suitability of any fuel you are unsure of.

Low Temperature Fuels

Special winter fuels may be available for engine operation at temperatures below 0 °C (32 °F). These fuels have a lower viscosity. They also limit wax formation in the fuel at low temperatures. (*Wax forming in the fuel can stop the fuel flowing through the filter.*)

Flow improvers may also be available. These can be added to the fuel to reduce wax formation.

Petrol

⚠ WARNING

Do not use petrol in this machine. Do not mix petrol with the diesel fuel. In storage tanks the petrol could rise to the top and form flammable vapours.
INT-3-1-6

Advice

If you have to use non-standard fuels, contact your JCB distributor for advice on engine adjustments and oil change periods.

⚠ WARNING

Diesel fuel is flammable; keep naked flames away from the machine. Do not smoke while refuelling the machine or working on the engine. Do not refuel with the engine running. There could be a fire and injury if you do not follow these precautions.
INT-3-2-2

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BRAKES

Checking, Adjusting and Renewing the Parking Brake Pads

⚠ CAUTION

The brake must not be used to slow the machine from travelling speed, except in an emergency otherwise the efficiency of the brake will be reduced.
Whenever the parking brake has been used in an emergency, always renew the brake pads.
4-2-1-1/1

The parking brake should be fully engaged when the lever is pulled all the way up. See ***Testing the Parking Brake*** *in OPERATION section.*

To adjust the parking brake do the following:

⚠ WARNING

Before adjusting the parking brake, make sure that the machine is on level ground. Lower the forks to the ground. Put blocks on both sides of all four wheels. Disconnect the battery so that the engine cannot be started. If you do not take these precautions the machine could run over you.
5-3-2-2

⚠ WARNING

Asbestos dust can damage your lungs. The brake pads contain asbestos. Wear a face mask and gloves when working on or near the brake pads. Dispose of brake dust and used brake pads in accordance with local regulations.
2-1-1-7

1 Check and Adjust the Pad Position

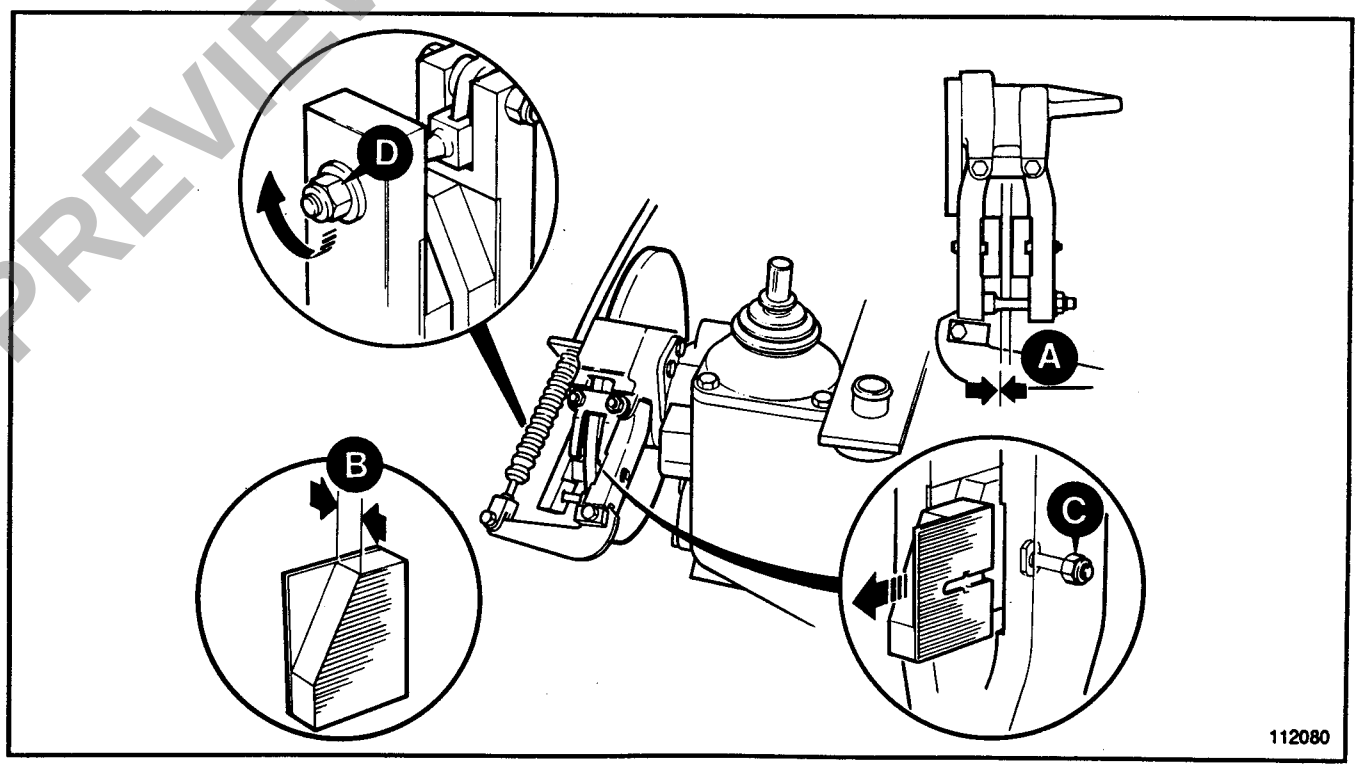
The parking brake disc is located beneath the machine, in front of the Syncro Shuttle. Measure the pad thickness. If the friction material thickness **B** is 3.0 mm (0.125 in) or less fit a new pair of pads. See Step **3**. Check that the pads just touch the disc with the parking brake disengaged (as at **A**). If necessary, adjust the pad position by turning nut **D**. Turn the nut clockwise as shown to close the pads onto the disc.

2 Take Up the Cable Slack

a Disengage the parking brake.
b Turn the handle grip clockwise to take up the cable slack. Turn it only through full or half turns.
c Engage the parking brake. The lever should not require too much force to pull it vertical.
d Test the parking brake.
e If necessary, repeat **a-d** until the parking brake passes the test without you having to use too much force to engage it.

3 Renew the Pads

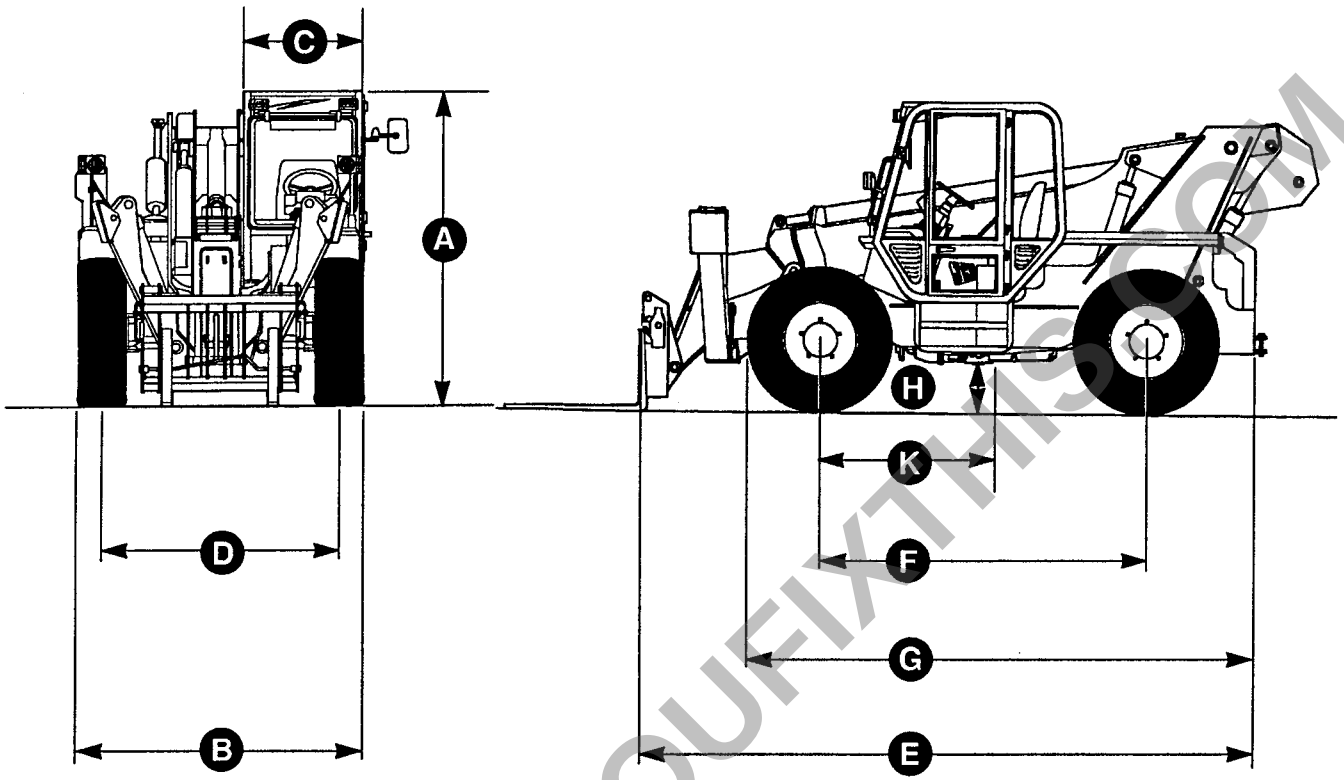
a Back the pads right away from the disc (nut **D**).
b Slacken nut **C**.
c Withdraw the pads.
d Fit the new pads and tighten nut **C**.
e Adjust the brake as in Steps **1** and **2**.



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STATIC DIMENSIONS
530-120, 537-130



DESCRIPTION		DIMENSION	
		530-120	537-130
A	Overall height	2.59 m (8 ft 6 in)	2.59 m (8 ft 6 in)
B	Overall width	2.35 m (7 ft 8 in)	2.46 m (8 ft 1 in)
C	Inside width of cab (between windows)	0.94 m (3 ft 1 in)	0.94 m (3 ft 1 in)
D	Track	1.90 m (6 ft 3 in)	1.98 m (6 ft 6 in)
E	Wheelbase	2.80 m (9 ft 2 in)	2.80 m (9 ft 2 in)
F	Overall length to front tyres	4.91 m (16 ft 1 in)	4.91 m (16 ft 1 in)
G	Overall length to front of Q-Fit carriage	5.81 m (19 ft 1 in)	5.87 m (19 ft 3 in)
H	Ground clearance	0.4 m (1 ft 4 in)	0.4 m (1 ft 4 in)
K	Centre of gravity (unladen, stabilisers raised)	1.28 m (4 ft 2 in)	1.28 m (4 ft 2 in)
	Weight (unladen)	9,640 kg (21,256 lbs) Approximately	11,100 kg (24,458 lbs) Approximately

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HANDLING PALLETED LOADS

⚠ CAUTION

Load and unload on firm, level ground. Always be alert for possible hazards. Take special care when turning or reversing.
5-2-4-7

⚠ WARNING

Make sure you know the weight of the load before lifting or placing it.

Do not exceed the Safe Working Load of your machine. Do not angle or extend the boom outside the limits shown on the Load Charts in the cab. *See **Using the Load Charts and Boom Indicators** (in OPERATION section).*
5-2-4-8

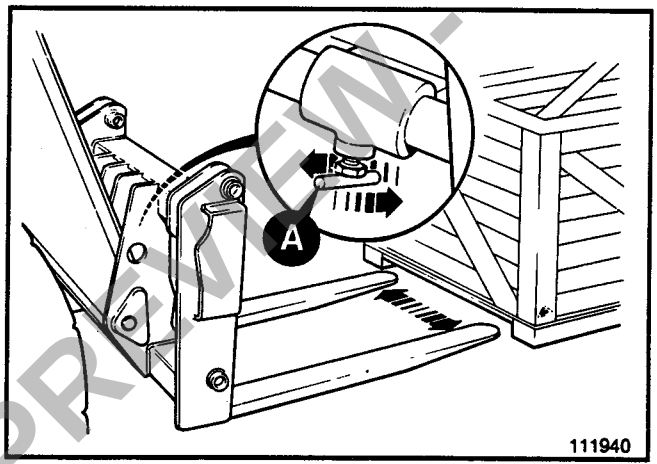
Loading

1 Position the Forks

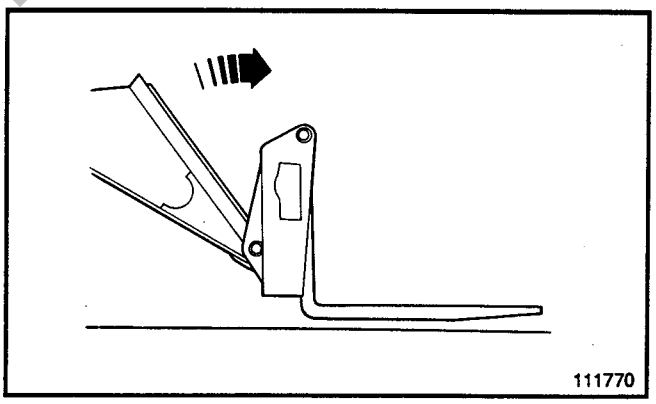
Space the forks as wide as possible to suit the load. Tighten the fork clamping screws **A** *(if fitted).*

2 Position the Machine

a Put the forks in the horizontal position. Fully retract the boom.



111940


111770

b Approach the load on centre, with all wheels straight. Stop the machine, leaving enough room to manoeuvre the boom. Engage the parking brake. Put the transmission in neutral.

c Lower the stabilisers. Check on the inclinometer that the machine is level. Make sure both stabiliser warning lights are illuminated. *(Stabiliser Machines only).*

d If necessary, use the Sway Control to set the forks level with the load. *(Sway Machines only.)*

***Note:** If the load is on a high platform you may have to raise the boom to allow you to get the machine close enough to the load.*

3 Pick up the Load

a Extend the boom, or drive the machine, to insert the forks under the load. Stop when the carriage just touches the load. Check the boom indicators; make sure they are in limits.

⚠ WARNING

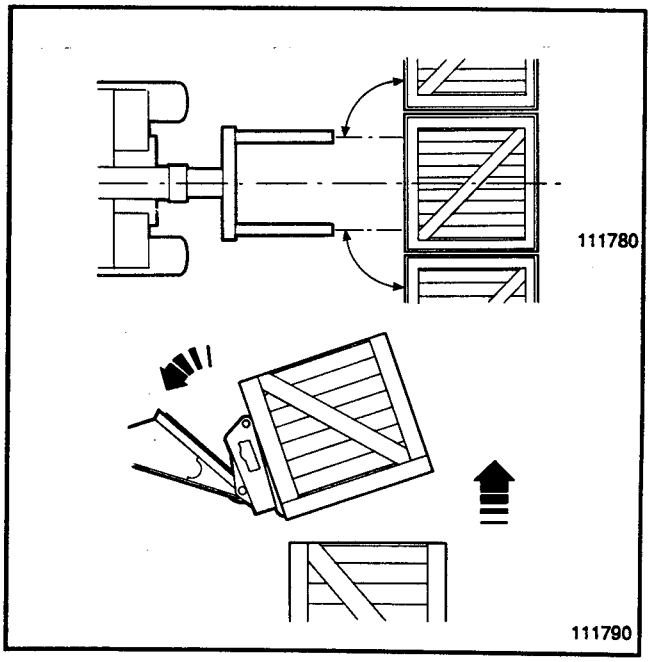
If the machine starts to feel unstable when you begin lifting the load, lower the load immediately.
5-2-4-9

b Raise the load slightly. Tilt the carriage back. Retract the boom fully and lower it into the travel position.

c Set the machine level with its axles. *(Sway Machines only.)*

d Raise the stabilisers and make sure both stabiliser warning lights extinguish. *(Stabiliser Machines only).*

e Carefully drive the machine to the unloading point.


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