

## **OPERATOR'S MANUAL**



LOADALL (ROUGH TERRAIN VARIABLE REACH TRUCK) 530-110, 530-70

EN - 9821/7850 ISSUE 4 - 08/2018

THIS MANUAL SHOULD ALWAYS STAY WITH THE MACHINE



# OPERATOR'S MANUAL

LOADALL (ROUGH TERRAIN VARIABLE REACH TRUCK) 530-110, 530-70

EN - 9821/7850 - ISSUE 4 - 08/2018

This manual contains original instructions, verified by the manufacturer (or their authorized representative).

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## **Foreword**

### The Operator's Manual

#### Ω

You and others can be killed or seriously injured if you operate or maintain the machine without first studying the Operator's Manual. You must understand and follow the instructions in the Operator's Manual. If you do not understand anything, ask your employer or JCB dealer to explain it.

Do not operate the machine without an Operator's Manual, or if there is anything on the machine you do not understand.

Treat the Operator's Manual as part of the machine. Keep it clean and in good condition. Replace the Operator's Manual immediately if it is lost, damaged or becomes unreadable.

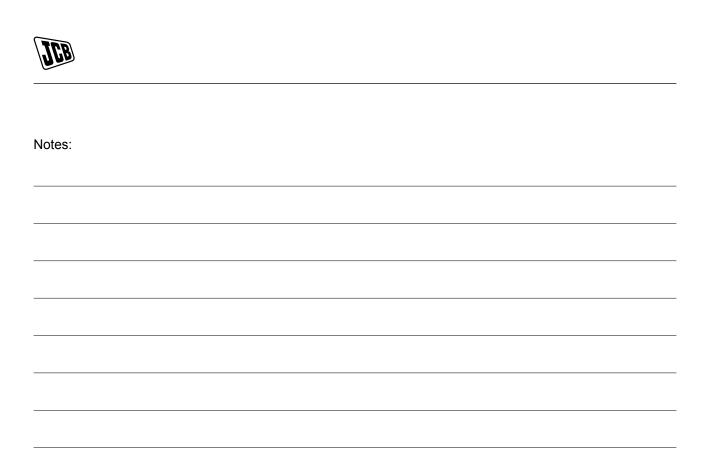
## **Machine Delivery and Installation**

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 (included in this manual) has not yet been completed with you.

Your local JCB Dealer is	





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#### **Acronyms Glossary**

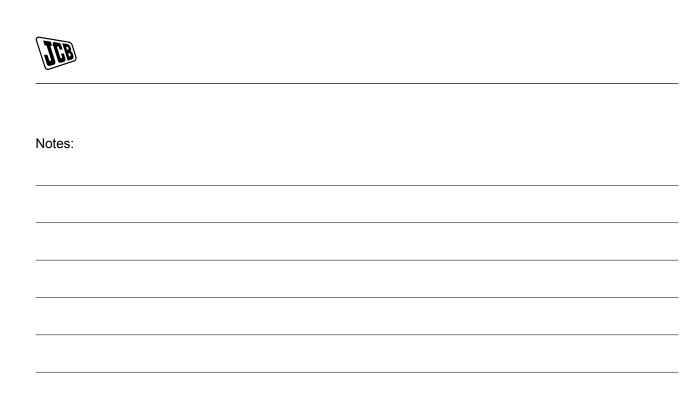
4WD Four Wheel Drive
DEF Diesel Exhaust Fluid
ECU Electronic Control Unit
EGR Exhaust Gas Recirculation
FEAD Front End Accessory Drive

FOPS Falling Object Protective Structure
HVAC Heating Ventilation Air Conditioning
LLMI Longitudinal Load Moment Indicator

LMI Load Moment Indicator

ROPS Roll-Over Protective Structure

RPM Revolutions Per Minute SWL Safe Working Load





## Introduction About this Manual

#### Model and Serial Number

This manual provides information for the following model(s) in the JCB machine range:

Model	From:	То:
530-110	1917406	
530-70	1917406	

## **Using the Manual**

This operator's manual is arranged to give you a good understanding of the machine and its safe operation. It also contains maintenance and technical data.

Read this manual from the front to the back before you use the machine for the first time, even if you have used machines of a similar/same type before as the technical specification, systems and controls of the machine may have changed. Particular attention must be given to all the safety aspects of operating and maintaining the machine.

If there is anything you are not sure about, ask your JCB dealer or employer. Do not guess, you or others could be killed or seriously injured.

The general and specific warnings in this section are repeated throughout the manual. Read all the safety statements regularly, so you do not forget them. Remember that the best operators are the safest operators.

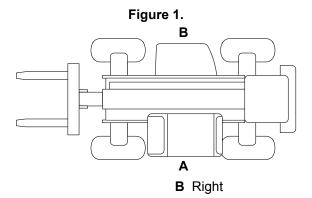
The illustrations in this manual are for guidance only. Where the machines are different, the text and or the illustration will specify.

The manufacturer's policy is one of continuous improvement. The right to change the specification of the machine without notice is reserved. No responsibility will be accepted for discrepancies which may occur between specifications of the machine and the descriptions contained in this manual.

All of the optional equipment included in this manual may not be available in all territories

## Left-Hand Side, Right-Hand Side

In this manual, 'left' and 'right' mean your left and right when you are seated correctly in the machine.



A Left

## Cab/Canopy

This manual frequently makes references to the cab. For example, 'do not operate the machine without an operator's manual in the cab'. These statements also apply to canopy build machines.

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## **Cross References**

In this manual, cross references are made by presenting the subject title in blue (electronic copy only). The number of the page upon which the subject begins is indicated within the brackets. For example: Refer to: Cross References (Page 2).



## 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, you must 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 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 symbol (shown) also helps to identify important safety messages in this manual. When you see this symbol your safety is involved, carefully read the message that follows.

Figure 2. The safety alert system symbol





## **General Safety**

#### **Training**

To operate the machine safely you must know the machine and have the skill to use it. You must abide by all relevant laws, health and safety regulations that apply to the country you are operating in. The operator's manual instructs you on the machine, its controls and its safe operation; it is not a training manual. Ensure that you receive the correct training before operating any machinery. Failing to do so will result in incorrect operation of the machine and you will be putting yourself and others at risk. In some markets, and for work on certain jobsites, you may be required to have been trained and assessed in accordance with an operator competence scheme. Make sure that you and your machine comply with relevant local laws and jobsite requirements – it is your responsibility.

#### **Care and Alertness**

All the time you are working with or on the machine, take care and stay alert. Always be careful. Always be alert for hazards.

#### Clothing

You can be injured if you do not wear the correct clothing. Loose clothing can get caught in the machinery. Keep cuffs fastened. Do not wear a necktie or scarf. Keep long hair restrained. Remove rings, watches and personal jewellery.

#### **Alcohol and Drugs**

It is extremely dangerous to operate machinery when under the influence of alcohol or drugs. Do not consume alcoholic drinks or take drugs before or while operating the machine or attachments. Be aware of medicines which can cause drowsiness.

#### **Feeling Unwell**

Do not attempt to operate the machine if you are feeling unwell. By doing so you could be a danger to yourself and those you work with.

#### **Mobile Phones**

Switch off your mobile phone before entering an area with a potentially explosive atmosphere. Sparks in such an area could cause an explosion or fire resulting in death or serious injury.

Switch off and do not use your mobile phone when refuelling the machine.

#### **Lifting Equipment**

You can be injured if you use incorrect or faulty lifting equipment. You must identify the weight of the item to be lifted then choose lifting equipment that is strong enough and suitable for the job. Make sure that lifting equipment is in good condition and complies with all local regulations.

#### Raised Equipment

Never walk or work under raised equipment unless it is supported by a mechanical device. Equipment which is supported only by a hydraulic device can drop and injure you if the hydraulic system fails or if the control is operated (even with the engine stopped).

Make sure that no-one goes near the machine while you install or remove the mechanical device.

#### **Raised Machine**

Never position yourself or any part of your body under a raised machine which is not correctly supported. If the machine moves unexpectedly you could become trapped and suffer serious injury or be killed.

#### Lightning

Lightning can kill you. Do not use the machine if there is lightning in your area.

#### **Machine Modifications**

This machine is manufactured in compliance with prevailing legislative requirements. It must not be altered in any way which could affect or invalidate its compliance. For advice consult your JCB dealer.



## **Clothing and Personal Protective Equipment (PPE)**

Do not wear loose clothing or jewellery that can get caught on controls or moving parts. Wear protective clothing and personal safety equipment issued or called for by the job conditions, local regulations or as specified by your employer.



Notes:		



## About the Product Introduction

#### General

Before you start using the machine, you must know how the machine operates. Use this part of the 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 dealer.

#### Name and Address of the Manufacturer

JCB India Limited, 23/7 Mathura Road, Ballabhgarh, Haryana - 121004, India

## **Product Compliance**

Your JCB product was designed to comply with the laws and regulations applicable at the time of its manufacture for the market in which it was first sold. In many markets, laws and regulations exist that require the owner to maintain the product at a level of compliance relevant to the product when first produced. Even in the absence of defined requirements for the product owner, JCB recommend that the product compliance be maintained to ensure safety of the operator and exposed persons and to ensure the correct environmental performance. Your product must not be altered in any way which could affect or invalidate any of these requirements. For advice consult your JCB dealer.

For its compliance as a new product, your JCB and some of its components may bear approval numbers and marking's, and may have been supplied with a Declaration/Certificate of Conformity. These marking's and documents are relevant only for the country/region in which the product was first sold to the extent that the laws and regulations required them.

Re-sales and import/export of products across territories with different laws and regulations can cause new requirements to become relevant for which the product was not originally designed or specified. In some cases, pre owned products irrespective of their age are considered new for the purposes of compliance and may be required to meet the latest requirements which could present an insurmountable barrier to their sale/use.

Despite the presence of any compliance related marking's on the product and components, you should not assume that compliance in a new market will be possible. In many cases it is the person responsible for import of a pre owned product into a market that becomes responsible for compliance and who is also considered the manufacturer.

JCB may be unable to support any product compliance related enquiry for a product which has been moved out of the legislative country/region where it was first sold, and in particular where a product specification change or additional certification would have been required in order for the product to be in compliance.

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## **Description**

#### General

The JCB Loadall is a self propelled, seated operator, wheeled machine for operation on unimproved natural terrain and disturbed terrain.

A main structural support is designed to carry an extending boom with a tool carrier mounted on the front to which forks or an approved attachment can be fitted.

When used normally the machine lifts and places loads by extending/retracting, raising/lowering the boom.

#### Intended Use

The machine is intended to be used in normal conditions for the applications described in this manual. If the machine is used for other applications or in dangerous environments, for example in a flammable atmosphere or in areas with dust containing asbestos, special safety regulations must be obeyed and the machine must be equipped for use in these environments.

Make sure you follow the instructions outlined in the operator's manual of the mounted or trailed machinery or trailer. Do not operate the combination tractor-machine or tractor-trailer unless all instructions have been followed.

## Log Moving/Object Handling

Do not use the machine to move or handle logs unless sufficient log protection is installed. You could cause serious injury to yourself and damage to the machine. For more information, contact your JCB dealer.

## **Optional Equipment and Attachments**

A wide range of optional attachments are available to increase the versatility of your machine. Only the JCB approved attachments are recommended for use with your machine. Contact your JCB dealer for the full list of approved attachments available.

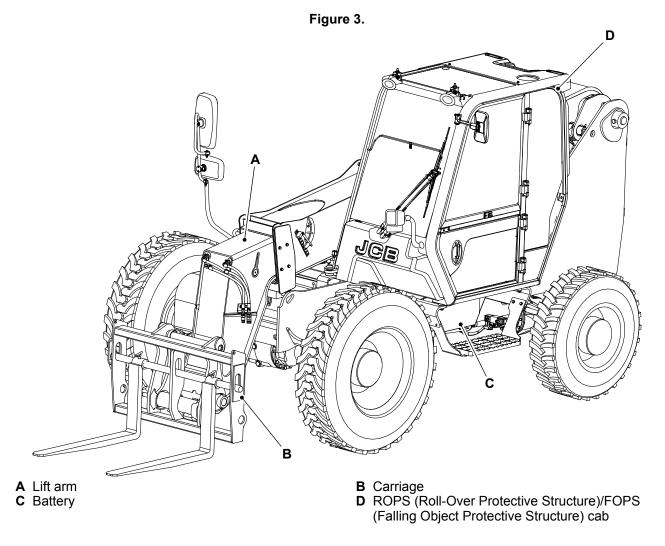
## **Danger Zone**

The danger zone is any zone within and/or around the machinery in which a person is subject to a risk to their health or safety. The danger zone includes the area in immediate proximity to any hazardous moving parts, areas into which working equipment and attachments can be moved to quickly, the machine normal stopping distances and also areas into which the machine can quickly turn under normal conditions of use. Depending on the application at the time, the danger zone could also include the area into which debris, from use of an attachment or working tool, could be projected and any area into which debris could fall from the machine. During the operation of the machine, keep all persons out of the danger zone. Persons in the danger zone could be injured.

Before you do a maintenance task, make the product safe.



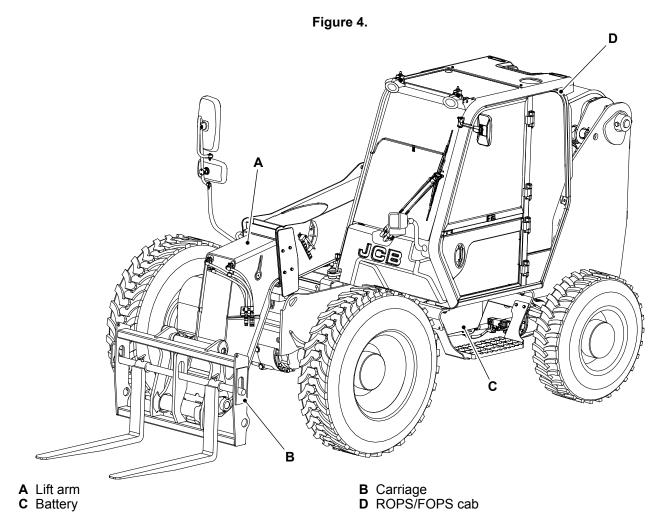
## **Main Component Locations**





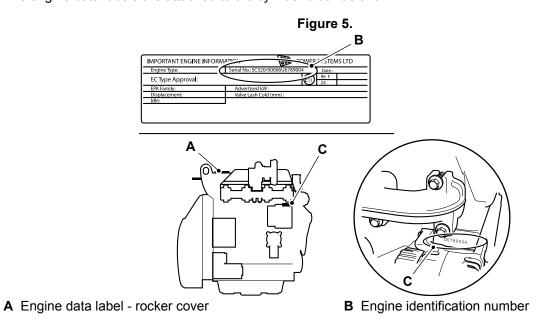
## **Product and Component Identification**

## **Machine**



## **Engine**

The engine data labels are attached to the cylinder block as shown.





#### C Stamp

The data label includes the engine identification number.

Table 1. Example of the engine identification number

	SD	320/40001	U	00001	04
Digit	1-2	3-10	11	12-16	17-18

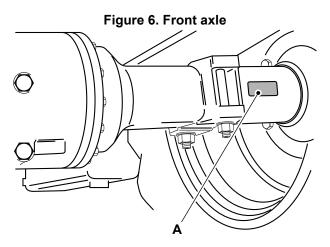
Table 2. Explanation of the engine identification number

Digit	Explanation
1-2	Engine type. SH = 4.4 L electronic common rail fuel injection tier 4i. SD = 4.4 L mechanical fuel injection tier 3. SE = 4.4 L electronic common rail fuel injection tier 3. DE = 4.8 L electronic common rail fuel injection tier 2
3-10	Engine part number
11	Country of manufacture
12-16	Engine serial number
17-18	Year of manufacture

The country of manufacturer, engine serial number and year of manufacture of the engine are also stamped on the cylinder block. Refer to Figure 5.

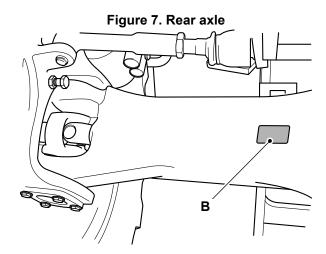
## Axle(s)

The axles have a serial number stamped on a data plate as shown.



A Data plate - front axle





B Data plate - rear axle

#### **Gearbox**

The gearbox has a serial number stamped on a data plate as shown.

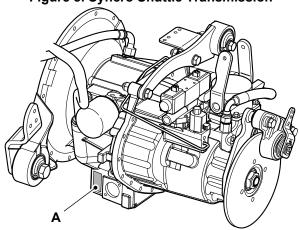


Figure 8. Syncro Shuttle Transmission

A Data plate

## **Operator Protective Structure**

▲ WARNING You could be killed or seriously injured if you operate a machine with a damaged or missing ROPS/FOPS/FOGS. If the ROPS/FOPS/FOGS has been in an accident, do not use the machine until the structure has been renewed. Modifications and repairs that are not approved by the manufacturer may be dangerous and will invalidate the ROPS/FOPS/FOGS certification.

**WARNING** Machines with a ROPS, FOPS,FOGS or TOPS are equipped with a seat belt. The ROPS, FOPS,FOGS or TOPS is designed to give you protection in an accident. If you do not wear the seat belt you could be thrown off the machine and crushed. You must wear a seat belt when using the machine. Fasten the seat belt before starting the engine.

#### **FOPS Data Plate**

▲ WARNING Do not use the machine if the falling objects protection level provided by the structure is not sufficient for the application. Falling objects can cause serious injury.

Your machine is installed with a FOPS (Falling Object Protective Structure) for protection from risk of falling objects. For further information, contact your JCB dealer.



The FOPS has a data plate attached. The data plate indicates what level of protection the structure provides.

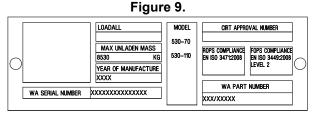
There are two levels of FOPS:

- Level I Impact Protection impact strength for protection from small falling objects (e.g. bricks, small concrete blocks, hand tools) encountered in operations such as highway maintenance, landscaping and other construction site services.
- Level II Impact Protection impact strength for protection from heavy falling objects (e.g. trees, rocks) for machines involved in site clearing, overhead demolition or forestry.

#### **ROPS Data Plate**

▲ WARNING Your machine is installed with a Roll-Over Protective Structure (ROPS) indicating that the purchaser specified the machine for use in applications where there is risk of roll-over. ROPS protects the operator in the event of roll-over. Any damage or modification to the cab structure may invalidate the ROPS certification. If damage has occurred then an authorised JCB dealer should be consulted.

A machine with a ROPS (Roll-Over Protective Structure) can be identified by referring to the cab identification plate. Work place (work site, job site) risk assessment should facilitate the machine selection and the need for an machine with a ROPS.



Data plate - ROPS/FOPS standards

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## **Safety Labels**

#### General

**▲ WARNING** Safety labels on the machine warn you of particular hazards. You can be injured if you do not obey the safety instructions shown.

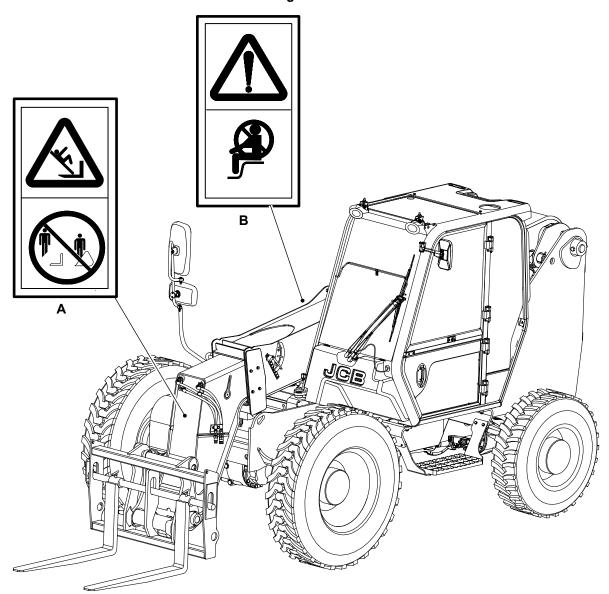
The safety labels are strategically placed around the machine to remind you of possible hazards.

If you need eye-glasses for reading, make sure you wear them when reading the safety labels. Do not overstretch or put yourself in dangerous positions to read the safety labels. If you do not understand the hazard shown on the safety label, then refer to Safety Label Identification.

Keep all of the safety labels clean and readable. Replace a lost or damaged safety label. Make sure the replacement parts include the safety labels where necessary. Each safety label has a part number printed on it, use this number to order a new safety label from your JCB dealer.

## **Safety Label Identification**

Figure 10.





## Table 3. Safety Labels

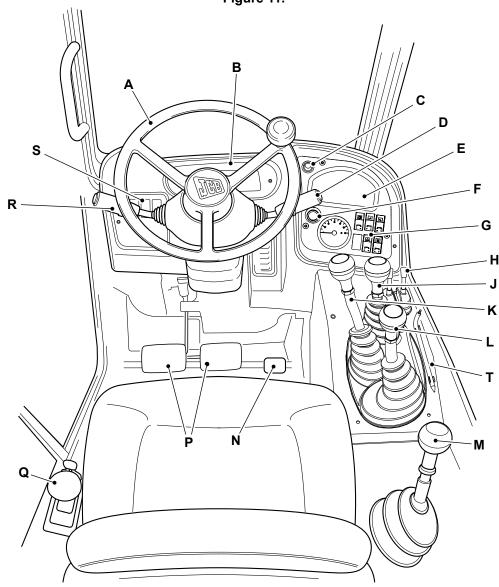
Item	Part No.	Description	Qty.
Α	817/70011	Fall from raised attachment. Do not stand or ride on the bucket or forks.	1
В	334/Y5240	Do not sit here.	1



## **Operator Station**

## **Component Locations**

Figure 11.



- A Steering wheelRefer to: Steering Wheel (Page 50).
- C Auxiliary socket
- E Instrument panelRefer to: Instruments (Page 53).
- G Console switchesRefer to: Introduction (Page 1).
- J Carriage controls Refer to: Operating Levers/ Pedals (Page 60).
- L Auxiliary controlsRefer to: Operating Levers/ Pedals (Page 60).
- N Accelerator pedalRefer to: Drive Controls (Page 50).
- Q Park brakeRefer to: Park Brake (Page 50).
- S Console switchesRefer to: Console Switches (Page 19).

- **B** Warning clusterRefer to: Instruments (Page 53).
- **D** Multi-purpose switch Refer to: Drive Controls
- Ignition switchRefer to: Introduction (Page 1).
- H Stabiliser controlsRefer to: Operation (Page 21).
- K Boom controlsRefer to: Operating Levers/ Pedals (Page 60).
- M Gear leverRefer to: Drive Controls (Page 50).
- Service brake pedalRefer to: Service Brake Pedal (Page 50).
- R Transmission lever and gear selectionRefer to: Drive Controls (Page 50).
- T Control lock pinRefer to: Safety Equipment (Page 49).



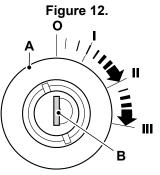
#### **Interior Switches**

## **Ignition Switch**

The ignition key operates the four-position ignition switch. The ignition key can only be inserted or removed in position 0.

If the engine fails to start, the ignition key must be returned to position 0 before the starter motor is re-engaged.

Do not operate the starter motor for more than 20 s without the engine firing. If the engine fires but does not fully start, let the starter motor cool for at least 2 min between starts.



A Ignition switch

**B** Ignition key

**Table 4. Switch Positions** 

Position	Function
0	Off/Stop the Engine: Turn the ignition key to this position to stop the engine.  Make sure the controls are in neutral and the boom is lowered before you stop the engine.
I	On: Turn the ignition key to this position to connect the battery to all of the electrical circuits. The ignition key will return to this position when it is released from position II or position III.
II	This position is not used .
III	Start: Turn the ignition key to this position to operate the starter motor and turn the engine. The ignition switch has an inhibitor to stop the ignition switch being turned ON when the engine is running.

## **Multi-Purpose Switch**

#### **Direction Indicators**

Push the stalk forwards to indicate a left turn. Pull the stalk backwards to indicate a right turn. Place in central position to cancel.

#### Windscreen Wiper

Rotate the switch barrel to activate and cancel the windscreen wipers. The wiper speed can vary dependant on machine specification.

#### Single Speed (Standard)

0 = Off

I = On

#### Two Speed (Optional)

J = Intermittent Wipe



0 = Off

I = Slow

II = Fast

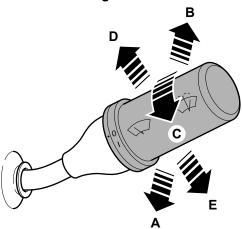
## **Headlights Flash**

Lift the stalk upwards to flash the headlights. Allow the stalk to spring back to central position when finished.

#### Main Beam

When the road lights are switched on via main switch on console, push the stalk downwards to turn on the main beam. Pull the stalk upwards to the central position to turn off main beam.

Figure 13.



- A Backwards Right turnC Rotate Wiper on and off
- E Downwards Main beam

- B Forwards Left Turn
- D Upwards Headlights flash

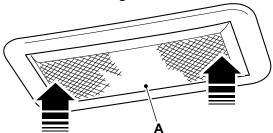
## **Cab Interior Light**

Press either end of the light unit to turn on the cab interior light.

Press the other end of the light unit to turn off the cab interior light.

Make sure the cab interior light is turned off when you intend to leave the machine for a long period of time.

Figure 14.



A Cab interior light



## **Console Switches**

#### General

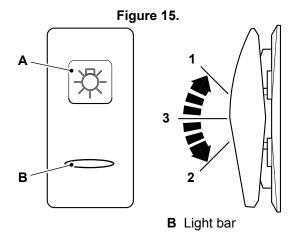
The installed switches and their positions can change according to the specification of the machine.

Each switch has a graphic symbol to show the function of the switch. Before you operate a switch, make sure that you understand its function.

The rocker switches have two or three positions (as shown).

If the switch has a backlight, then the graphic symbol illuminates when the ignition switch or side lights are in the on position.

The light bar illuminates to show that the switch function is active.



#### A Graphic symbol

## **Road Lights**



Three position rocker switch. The switch functions operate front sidelight, headlights and rear tail lights. Position 2 operates when the ignition is in the on and off positions. Position 3 operates when the ignition is in the on position. Machines without headlights or side lights are designed for site use. You may be breaking local laws if you travel on the road without headlights or side lights.

Position: 1 = Off

Position: 3 = Sidelights on.

Position: 2 = Headlights and rear tail lights on (ignition switch on). Position: 2 = Sidelights and rear tail lights on (ignition switch off).

## **Hazard Warning Lights**



Two position rocker switch. The switch functions operate when the ignition switch is in the on and off positions.

Position: 1 = Off

Position: 2 = On. A light on the instrument panel flashes with the outside lights.

## **Front Work Lights**



Two position rocker switch. The switch functions operate when the ignition switch is in the on and off positions.

Position 1: Off

Position 2: Front work lights on

**WARNING!** Do not drive on the road with the work lights switched on. You can interfere with other drivers visibility and cause an accident.

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