OPERATOR'S MANUAL



LOADALL (ROUGH TERRAIN VARIABLE REACH TRUCK)

531-70, 535-95, 536-60, 536-70, 536-70LP, 541-70, 550-80, 560-80

EN - 9831/7650 ISSUE 2 - 06/2018

THIS MANUAL SHOULD ALWAYS STAY WITH THE MACHINE

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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, 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



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Digit 4 to 6	Machine Model
5AD	541-70
5AR	536-70
5AW	550-80
5AY	560-80
5A1	536-70LP
5XA	531X70
5XB	535X95
5XC	536X60
5XD	541X70
5XE	536X70
5X1	536X70 LP
5YW	550Y80
5YY	560Y80

Table 4.

Digit 7	Engine Type
JCB Dieselmax (Tier 4):	
7 (T4F)	55 kW
2 (T4F)	81 kW
3 (T4F)	93 kW
4 (T4F)	108 kW
B (UN3/GB3)	68 kW
C (UN3/GB3)	81 kW
D (UN3/GB3)	93 kW
E (UN3/GB3)	108 kW

Table 5.

Digit 8	Gearbox Model
E	3 Speed (PS750) Agri
F	3 Speed (PS760) Agri Plus
G	4 Speed (PS750) Agri
H	4 Speed (PS760) Agri Plus
J	6 Speed (PS760) Agri Super (lock up converter)
W	DTVT (Dual Technology Variable Transmission) (HM560) Agri Pro
X	4 Speed (PS760) Agri (lock up converter)

Table 6.

Digit 9
Random check letter. The check letter is used to verify the authenticity of a machine's PIN

Table 7.

Digit 10
Year of manufacture. H = 2017, J = 2018 etc.

Table 8.

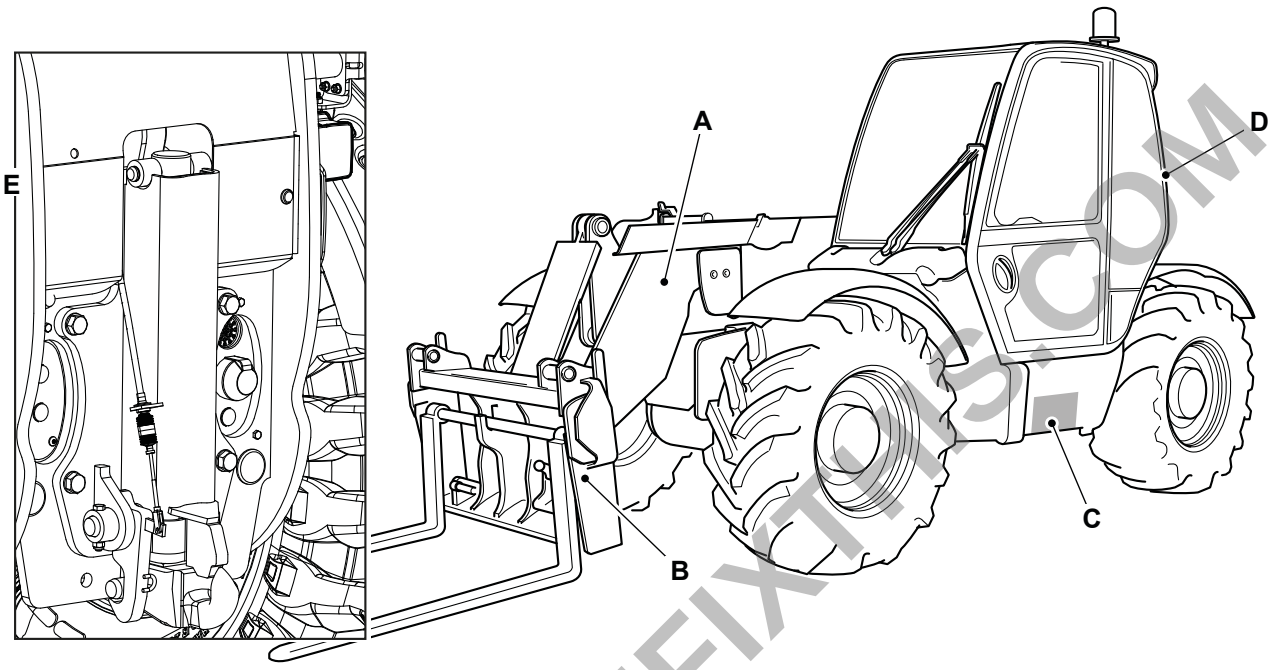
Digit 11 to 17
Machine serial number. Each machine has a unique serial number.

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Main Component Locations

Figure 3.



A Lift arm
B Carriage
C Battery
D ROPS (Roll-Over Protective Structure)/FOPS (Falling Object Protective Structure) cab
E Hydraulic tow hitch

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Figure 16.

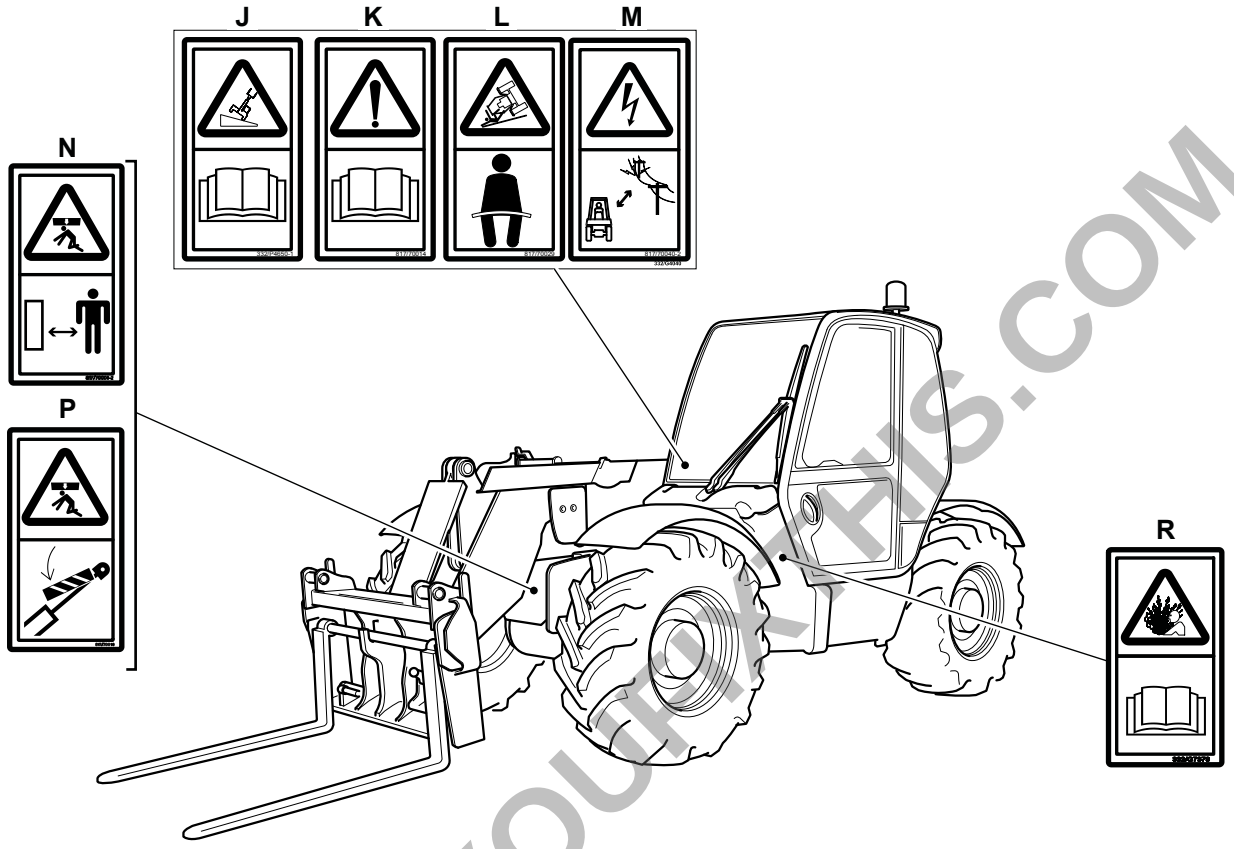


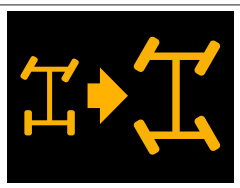
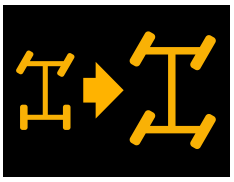
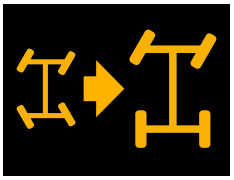
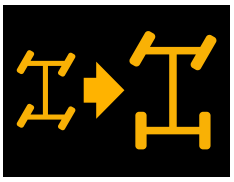
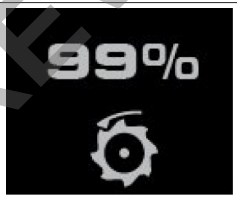
Table 15. Safety Labels

Item	Part No.	Description	Qty.
A	817/70004	Warning. Burns to fingers and hands. Stay a safe distance away.	1
B	332/G7379	Pressure hazard. Read Operator’s Manual.	1
C	332/C9978	Run over hazard. Start the engine from the operator's seat only. Do not short across the terminals.	1
D	332/P7131	Pressure hazard. Read the Service Manual.	1
E	333/D0526	Severing of hands or fingers. Keep clear of/do not reach into the moving parts. Stop the engine and remove the starter key before you start maintenance work. Refer to Maintenance Section in the Operator's Manual.	1
F	332/G7379	Pressure hazard. Read Operator’s Manual.	1
G	817/70004	Warning. Burns to fingers and hands. Stay a safe distance away.	1
H	817/70011	Fall from raised attachment. Do not stand or ride on the bucket or forks.	1
J	332/P4650	Stability hazard. Read the Operator’s Manual.	1
K	817/70014	Warning. Read the Operator’s Manual before you operate the machine.	1
L	817/70029	Warning. Crush hazard. Wear seat belt.	1
M	817/70040	Electrical hazard. Stay a safe distance away from power lines.	1
N	817/70008	Crushing of whole body. Keep a safe distance from machine.	1
P	817/70010	Crushing of whole body. Insert the boom support device before you complete any service or maintenance work underneath the boom.	1
R	332/G7379	Pressure hazard. Read Operator’s Manual.	1

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Table 25.

Icon	Event	Buzzer
	Audible/Visual. Steer mode change from 2WS to 4WS.	No
	Audible/Visual. Steer mode change from 2WS to crab steer.	No
	Audible/Visual. Steer mode change from 4WS to 2WS.	No
	Audible/Visual. Steer mode change from crab steer to 2WS.	No
	Audible/Visual. Cab heater fan speed setting. Number of yellow bars corresponds to current fan speed setting.	No
	Audible/Visual. Constant auxiliary operational position.	No
	Audible/Visual. Constant auxiliary stored position.	No
	Audible/Visual. Constant auxiliary cancelled.	No

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Automatic Refresh Inhibit

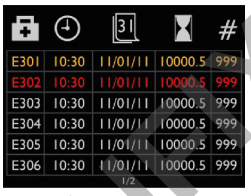
Use this menu item enable/disable the automatic refresh.

1. Go to the machine setup screen.
2. Press the navigation arrows to select the inhibit feature.
3. Auto refresh inhibit active (tick mark), auto refresh inhibit not active (X mark).
4. Press the information switch for more than 2 seconds to confirm the setup.

Fault Log

The fault log screen provides information on the active and previously active faults on the machine. The fault log display screen shows the fault code, time, date, engine hours and number of times that the fault has been active. By default, the fault log display shall only show the active faults. It shall be possible to view active and historical faults by going to the diagnostic menu. Faults shall be displayed in the colour of their severity (critical = red, warning = yellow, trivial = grey).

Figure 84.



If a service fault or critical acknowledgeable fault is recognised by the machine electronic system a fault icon and fault code is displayed on the right side of the home screen. The fault indicator is illuminated amber or red. The buzzer sounds momentarily when a fault is active. The code will remain until it is acknowledged by pressing the information button.

Figure 85.



When a critical non-acknowledgeable fault is active, the left area of the main screen will show the fault icon and right area of the main screen will show the fault code. The fault indicator is illuminated red. The buzzer sounds when a critical fault is active. It sounds until the critical fault is no longer active.

Figure 86.



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Fluids, Lubricants and Capacities

General

JCB recommend that you use the JCB lubricants shown as they have been verified by JCB for use on JCB machines. However, you could use other lubricants that are equivalent to the JCB standards and quality or offer the same machine component protection.

No warranty liability will be accepted for engine failures where unacceptable fuel grades (or their equivalent) have been used at any stage.

Table 84.

Item	Capacity	Fluid/Lubricant	JCB Part Number	Container Size[1]
Fuel Tank	146 L	Diesel Oil	-	See Technical Data, Fluids, Lubricants and Capacities, Fuel.
DEF (Diesel Exhaust Fluid) Tank (minimum to maximum)	13.5 L	DEF	-	See Technical Data, Fluids, Lubricants and Capacities, Diesel Exhaust Fluid.
Engine (Oil)[2]	Min 12.5 L - Max 15 L	JCB Engine Oil UP 5W30 (API CJ-4) -30 –30 °C (-22.0 – 86.0 °F)	4001/3105	20 L
		(USA Only) JCB Engine Oil UP 5W40 (API CJ-4) -30 –46 °C (-22.0 –114.7 °F)	4001/3405	
		JCB Engine Oil UP 10W30 (API CJ-4) -15 –46 °C (5.0 – 114.7 °F)	4001/3005	
		UN3/GB3 Machines only: JCB Engine Oil EP 5W40 (API CH-4/CG-4/CF-4/ CF/SJ, ACEA E2/B3/A3)- -30 –46 °C (-22.0 –114.7 °F)	4001/2705	
Engine (Coolant)[3]	28 L	JCB Antifreeze HP/Coolant + Water	4006/1120	20 L
Transmission (SS750 installed with 81 kW engines)	• Wet fill 11.5 L • Dry fill 13.5 L	JCB Transmission Fluid EP 10W-30, ESP-M2C 33G	4000/2505	20 L
Transmission (PS750 installed with 55 kW and 55 kW engines)	• Wet fill 17 L • Dry fill 19 L	JCB Transmission Fluid EP 10W30, -32 –40 °C (-25.6 – 103.9 °F)[4]	4000/2505	20 L
		JCB Transmission Fluid SAE 30, -5 –46 °C (23.0 –114.7 °F)	4000/2506	20 L
Transmission (PS760 installed with 93 kW and 108 kW engines)	• Wet fill 21 L • Dry fill 23 L	JCB Transmission Fluid EP 10W30, -32 –40 °C (-25.6 – 103.9 °F)	4000/2505	20 L
		JCB Transmission Fluid SAE 30, -5 –46 °C (23.0 –114.7 °F)[4]	4000/2506	20 L

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Pre-start Cold Checks, Service Points and Fluid Levels

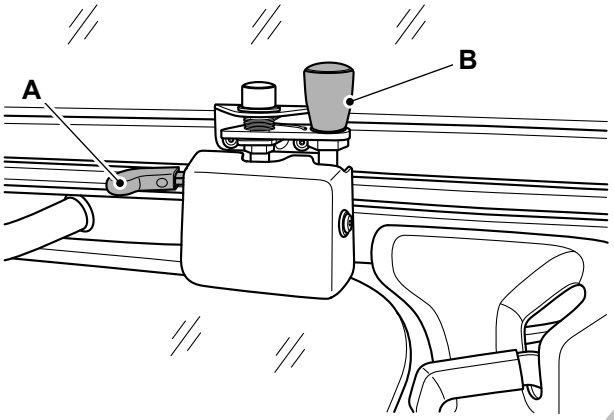
Table 37.

Component	Task	10	50	100 (1)	500	1,000	1,500	2,000
ENGINE								
Coolant Quality and Level	Check	O	O	□	□	□	□	□
Cooling System	Drain and Refill							□
Oil level	Check	O	O	□	□	□	□	□
Oil and Filter(2, 3, 4)	Replace				□	□	□	□
Air Cleaner Dust Valve (5)	Clean				□	□	□	□
Air Cleaner Outer Element (5)	Replace					□		□
DEF (Diesel Exhaust Fluid) Filter(18)	Replace					□		□
Air Cleaner Inner Element	Replace							□
Water Separator (4)	Check for contamination and drain		O	□	□	□	□	□
Water Separator Fuel Filter(6)	Check (condition)				□	□	□	□
Engine Fuel Filter(6)	Replace					□		□
Front End Accessory Drive (FEAD) Belt Condition(4)	Check				□	□	□	□
Front End Accessory Drive (FEAD) Belt(16)	Replace							
Powertrain Mounting Bolts for Tightness	Check			□	□	□	□	□
All Hoses - Condition(5)	Check			□	□	□	□	□
Radiator(5)	Clean				□	□	□	□
Crankcase Ventilation Filter	Replace						□	
Valve Clearances(7)	Check and adjust							□
Oil Filler and Dipstick Seals	Replace							□
Injectors(7, 16)	Replace							
Injector(s) Leak Off Rail(7, 16)	Replace							
High Pressure Fuel Lines(7, 16)	Replace							
TRANSMISSION, AXLES AND STEERING								
Transmission Mount Security	Check			□	□	□	□	□
Transmission Oil Level	Check	O	O	□	□	□	□	□
Transmission Oil(8)	Replace					□		□
Transmission Oil Filter Canister	Replace			□	□	□	□	□
DTVT (Dual Technology Variable Transmission)Transmission Oil Filter Canister	Replace			□	□	□	□	□
Axle Mount Security	Check			□	□	□	□	□
Axle(s) Oil Level	Check		O	□	□	□	□	□
Axle(s) Oil (550-80, 560-80 machines)	Replace			□	□	□	□	□
Axle(s) Oil (Other machines)	Replace				□	□	□	□
Hub Oil Level(9)	Check			□	□	□	□	□

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Figure 26.

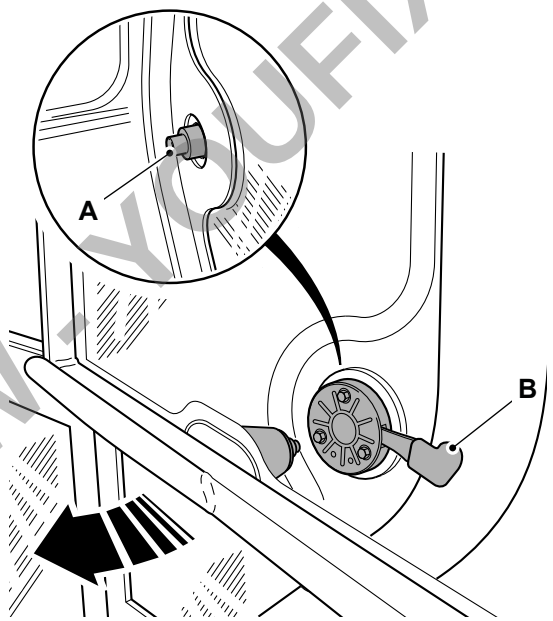


A Lever **B** Door ajar pivot

To close the upper door section:

1. Press the button (if inside the cab) or release the catch (if outside the cab).
2. Swing the door closed until it latches into position.

Figure 27.



A Button **B** Door catch

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Torque Values

General

ROPS/FOPS

Table 94.

Mounting bolts torque	205 N·m

Wheels

Table 95.

	Front Wheel Nut Torque	Rear Wheel Nut Torque
JCB	680 N·m	680 N·m
Dana	650 N·m	650 N·m

Step/Battery Compartment Cover

Table 96.

Mounting bolt torque	25 N·m

Axles

Table 97.

Fill/level plug torque	79 N·m

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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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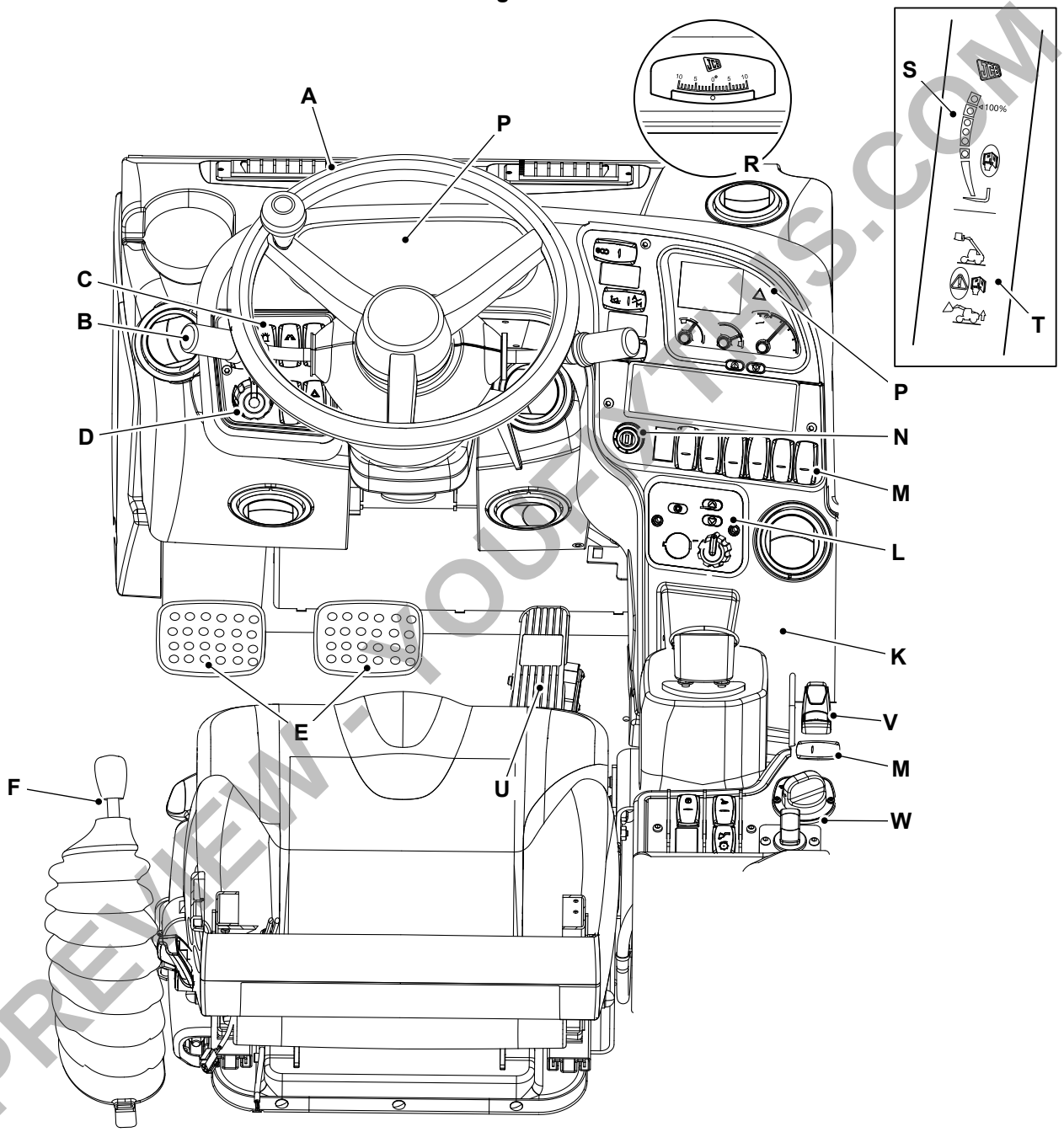
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Operator Station

Component Locations

This cab is certified to category 1 according to EN15695-1-2009. Refer to: Operator Protective Structure (Page 17).

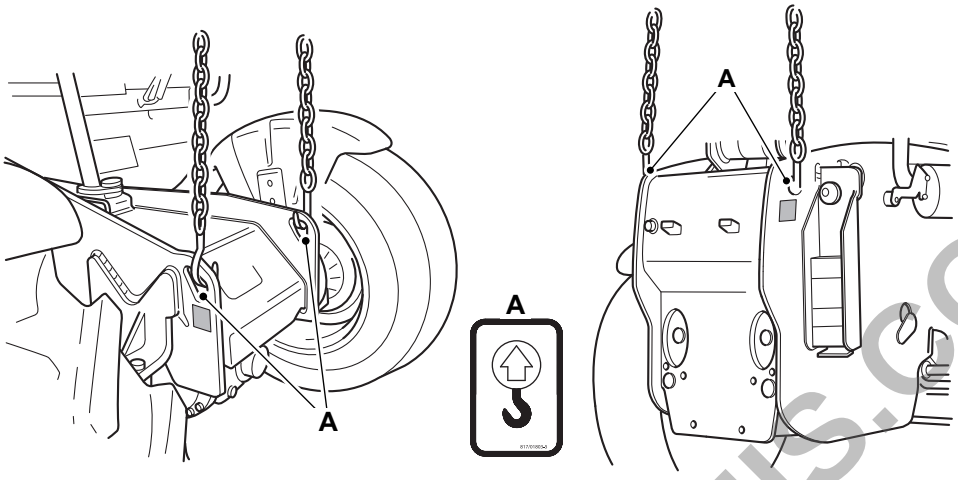
Figure 17.



A Steering wheelRefer to: Steering Wheel (Page 69).
B Transmission Lever and Gear SelectionRefer to: Steering Wheel (Page 69).
C Console switchesRefer to: Introduction (Page 1).
D Steer mode selectorRefer to: Steer Mode Control (Page 77).
E Service brake/inching pedalRefer to: Service Brake Pedal (Page 69).
F Park brake leverRefer to: Park Brake (Page 70).
H Immobiliser
J Hydraulic tow hitch

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Figure 144.



A Lifting point (x4)

(For: 550-80 [T4F], 550X80 [T4F], 560-80 [T4F], 560X80 [T4F])

⚠ **DANGER** Do not stand underneath the raised load during the lifting/lowering procedure. Stand clear and to one side until the load has been safely lowered. Make sure that the area is clear of other people before lowering the load. If you do not follow these precautions you or others could be killed or seriously injured.

CAUTION 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.

Safe Lifting Procedure

Provided a hoist of adequate capacity is available, it is permissible to lift a machine directly onto a suitable transporting vehicle.

For machine weight and dimensions. Refer to: Static Dimensions (Page 267).

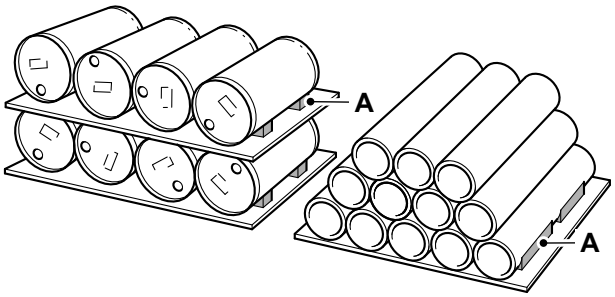
Make sure that the cab door is closed before lifting the machine. Refer to: Doors (Page 40).

1. Remove all attachments.
2. Make the machine safe with the boom lowered.
   Refer to: Maintenance Position - Boom Lowered (Page 204).
3. Remove all loose equipment from machine exterior.
4. Check the unladen weight of the machine.
   Refer to: Static Dimensions (Page 267).
5. Attach lifting equipment to lifting points.
   5.1. The correct lift-point positions are identified on the machine by a label.
6. A suitable lifting beam should be used to align the chains vertically at the chassis lifting points with the drop chains of sufficient length to ensure the lifting beam is clear of the cab.
7. Check that the lifting eye is positioned directly above the machine centre of gravity.

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Figure 134.



A Wedge

Filling the Shovel

⚠ **WARNING** When loading with material from a high bank or pile, remove any overhang first. Watch out for sliding material. If overhanging material falls, you and your machine could be buried.

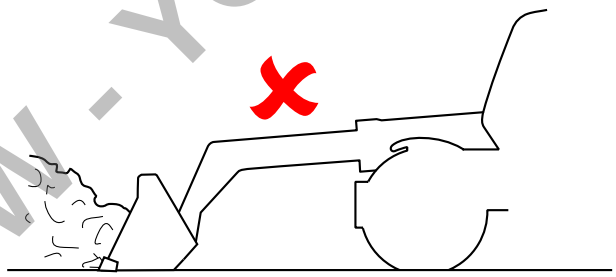
Your machine can be used with a wide variety of attachments, for example shovels. Refer to: Attachments (Page 159).

This information is not intended to be comprehensive, nor to be a substitute for adequate training. Make sure you are trained before you use an attachment.

Notice: *Do not load a shovel with the boom extended. This may cause serious damage to the boom.*

1. Approach the pile with the shovel level and skimming the ground.

Figure 135.



2. When you are loading from a pile of loose material, start at the bottom and follow up its face.
3. When you are loading from a pile of tightly packed material, start at the top and work down.
4. When you are removing material from a high pile, start at a shovel's height from the base. When the height of the pile has been reduced, begin loading from the base.
5. As the shovel enters the pile, start rolling the shovel back while raising it at the same time. This will sweep the shovel up the pile, gathering material as it goes.
6. More power can be given to the loader and speed the operation, by using transmission dump (except DTVT (Dual Technology Variable Transmission)) or inching pedal (DTVT only).

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Notes:

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Work Platforms

General

⚠ **DANGER** Using the forks alone as a working platform is hazardous; you can fall off and be killed or injured. Never use the forks as a working platform.

The use of work platforms with this machine is subject to legislation which varies from territory to territory. It is the responsibility of the owner/operator and supplier of the work platform to ensure compliance with the relevant legislation in the relevant territory. In the case of uncertainty, guidance should be sought from the relevant local or government authority.

JCB supply integrated work platforms solely for use in Europe which comply with the requirements of European Directive 2006/42/EC. Contact your dealer for further details. Health and safety legislation also varies from territory to territory. Customers should check the latest health and safety legislation for the territory in which the work platform is to be used prior to operation.

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