OPERATOR'S MANUAL



JS145W, JS160W

EN - 9821/3800
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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, 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



General Safety

Care and Alertness

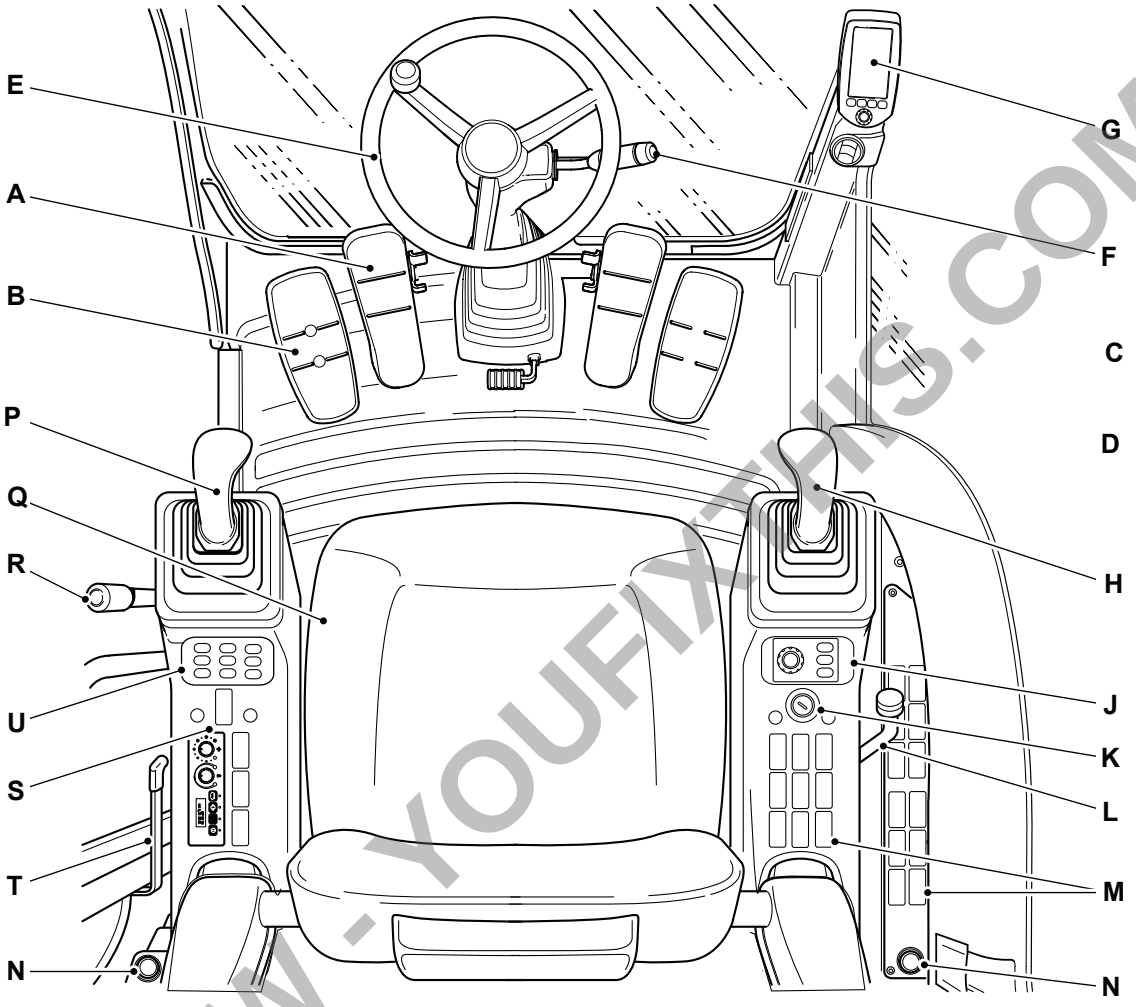
All the time you are working with or on the machine, take care and stay alert. Always be careful. Always be alert for hazards.

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Operator Station

Component Locations

Figure 11.



A TAB (Triple Articulated Boom) pedal, Refer to: About the Machine > Operating Levers/Pedals > Excavator Arm Controls (Page 70).
B Auxiliary pedal, Refer to: About the Machine > Operating Levers/Pedals > Auxiliary Circuit Controls (Page 78).
C Service brake pedalRefer to: About the Machine > Drive Controls > Service Brake Pedal (Page 36).
D Travel pedalRefer to: About the Machine > Drive Controls > Accelerator Pedal (Page 34).
E Steering wheel, Refer to: About the Machine > Drive Controls > Steering Wheel (Page 34).
F Multi purpose steering column switch, Refer to: About the Machine > Drive Controls > Steering Column (Page 34).
G DECU (Display Electronic Control Unit)Refer to: About the Machine > Instruments > Instrument Panel (Page 47).
H Right joystick, Refer to: About the Machine > Operating Levers/Pedals > Excavator Arm Controls (Page 70).
J Machine power band controller, Refer to: About the Machine > Instruments > General (Page 45).
K Ignition switch, Refer to: About the Machine > Interior Switches > Ignition Switch (Page 41).
L Dozer lever, Refer to: About the Machine > Operating Levers/Pedals > Dozer Blade Controls (Page 77).
M Right switch console, Refer to: About the Machine > Console Switches > General (Page 38).
N 12V auxiliary power socket, Refer to: About the Machine > Power Sockets > Auxiliary Power Socket (Page 44).
P Left joystick, Refer to: About the Machine > Operating Levers/Pedals > Excavator Arm Controls (Page 70).

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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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Checking For Damage

General

Refer to the individual condition checks throughout the Maintenance section. Refer to: Maintenance > Maintenance Schedules (Page 185).

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Fluids, Lubricants and Capacities

General

(Otherwise)

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(For: JS145W)

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.

Table 39.

Item	Capacity	Fluid/Lubricant	JCB Part Number	Container Size [1]	Specification
Fuel Tank	253L (55 21/32 UKgal)	Diesel			Refer to: Technical Data > Fluids, Lubricants and Capacities > Fuel (Page 252).
	20.4L (4 16/32 UKgal)				
Engine (Oil)[2]		JCB Engine Oil EP 15W40-10°C (14°F) to 50°C (122°F)	4001/1805	20L (4 13/32 UKgal)	API CH4, ACEA E5
		JCB Cold Climate Engine Oil EP 5W40-20°C (-4°F) to 50°C (122°F)	4001/2705	20L (4 13/32 UKgal)	API CH4, ACEA E5
Cooling System	19.7L (4 11/32 UKgal)	JCB Antifreeze HP/ Coolant	4006/1120	20L (4 13/32 UKgal)	ASTM D6210
Slew Gearbox	2.2L (15/32 UKgal)	JCB HP90 Gear Oil	4000/0301	5L (1 3/32 UKgal)	
			4000/0305	20L (4 13/32 UKgal)	
Hydraulic System	124L (27 9/32 UKgal)	JCB Hydraulic Fluid HP32-20°C (-4°F) to 15°C (59°F)	4002/1024	200L (44UKgal)	
		JCB Hydraulic Fluid HP46-10°C (14°F) to 30°C (86°F)	4002/0803	200L (44UKgal)	
		JCB Hydraulic Fluid HP680°C (32°F) to 40°C (104°F)	4002/0701	200L (44UKgal)	
Slew Ring Bearings	0.75kg (1.65lb)	JCB Special HP Grease	4003/2017	0.4kg (0.9lb)	
Slew Ring Gear Teeth	11kg (24lb)	JCB Special HP Grease	4003/2006	12.5kg (27.6lb)	
Drive Shafts		JCB Special HP Grease	4003/2006	12.5kg (27.6lb)	
All Other Grease		JCB Special HP Grease	4003/2006	12.5kg (27.6lb)	
Differential Axle	12L (2 1/2 UKgal) Rear, 14L (3UKgal) Front	JCB Gear Oil HP Plus	4000/0305	20L (4 13/32 UKgal)	

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3. Install a charged battery.
4. Start the engine.
5. Operate the hydraulic controls. Make sure that the hydraulic functions operate correctly.
6. Prepare the machine for storage.

Take the Machine out of Storage

1. Examine the coolant condition. Replace if necessary.
2. Examine all fluid levels. If necessary, add more fluid.
3. Remove the grease or petroleum jelly from the ram piston rods.
4. Install a charged battery.
5. Start the engine.
6. Operate the hydraulic controls. Make sure that the hydraulic functions operate correctly.

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Torque Values

General

(Otherwise)

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(For: JS145W)

JS145W and Variants

Before and after daily work, check for loose or missing nuts and bolts. Tighten if loose and replace if missing.

Tighten the nuts and bolts after the first 50h of the running-in stage and then every 250h.

Tighten the nuts and bolts, Refer to Table 46.

For the tightening torques of the bolts and nuts not listed, Refer to Table 47.

Table 46.

	Tightening Point	Bolt Diameter	Wrench (mm)	Tightening Torque (N.m)	Checking Torque (N.m)
1(1)	Counter weight	M30	46	1147	1050
2(1)	Turntable bearing (under-carriage)	M16/M20	24/30	296/525	265/470
3(1)	Turntable bearing (slew frame)	M16/M20	24/30	296/525	275/470
4(1)	Slew equipment	M16/M20	24/30	296/525	275/470
5(1)	Engine (engine mount)	M16	24	290	265
6(1)	Engine bracket	M10/M12	17/19	68/118	62/107
7	Radiator	M12	19	104	94
8(1)	Hydraulic pump	M10	17	68	62
9(1)	Hydraulic oil tank	M16	24	250	225
10(1)	Fuel tank	M16	24	250	225
11(1)	Control valve	M16	24	290	265
12(1)	Rotary coupling	M12	19	116	105
13	Battery	M6	10	7	6
14(1)	Propeller shaft	3/8 UNC/ M10	3/8UNC/ 17	55/68	55/62
15(1)	Stab leg frame	M30	46	1147	1050
16(1)	Axle lock cylinders	M18	27	330	297
17(1)	Drive motor	M16	24	94	85
18	Rear axle mounts	M20	30	550	515
19	Transmission	M16	24	94	85
20	Cab	M16	24	132	125
21	Wheel nuts	M24	36	500	475

(1) Use JCB Threadlocker and sealer (High Strength) and tighten to the torque listed.

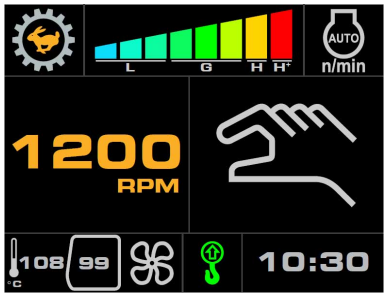
Table 47.

Bolt Diameter (size)			M6	M8	M10	M12	M14	M16	M18	M20
Hex. bolt	Wrench	(mm)	10	13	17	19	22	24	27	30
	Tightening torque	(N.m)	12.5	30	60	104	167	259	506	874

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User/Machine Information

Figure 60.



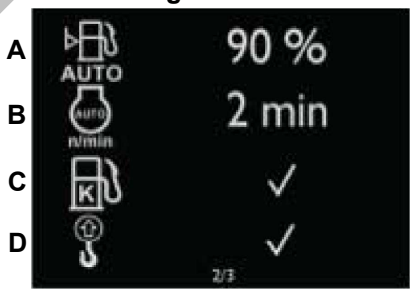
Press the rotary control again to display user/machine information. Turn the rotary control to switch between screens 1, 2 and 3. Press the back button to return. Press the rotary control again on screens 1 to 3 to change settings.

Figure 61.



A Time
B Date
C Units
D Display brightness

Figure 62.

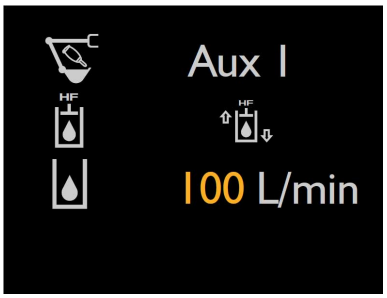


A Auto refuel maximum level
B Auto idle time
C Kerosene
D Overload warning system

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Figure 79.



Turn the rotary control until the flow rate is selected then press the rotary control.

Figure 80.

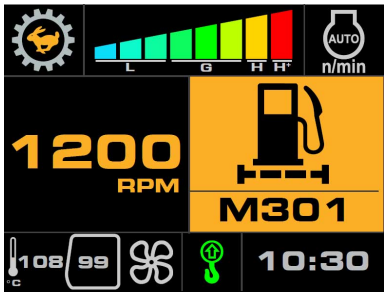


Turn the rotary control to change the flow rate to the desired level. press the back button to return to axillary settings. The default pressure for all selectable flow settings is 170bar (2,464psi).

Faults

If a service fault is recognised by the machines electronic system a fault icon and fault code is displayed on the right side of the home screen. The fault indicator is illuminated amber. The buzzer sounds momentarily when a service fault is active. The code will remain until it is acknowledged by pressing the enter button. The fault indicator remains on if the fault is acknowledged with the enter button. If multiple service faults are active, the fault screen (icon and fault code) shall alternate through the active faults.

Figure 81.

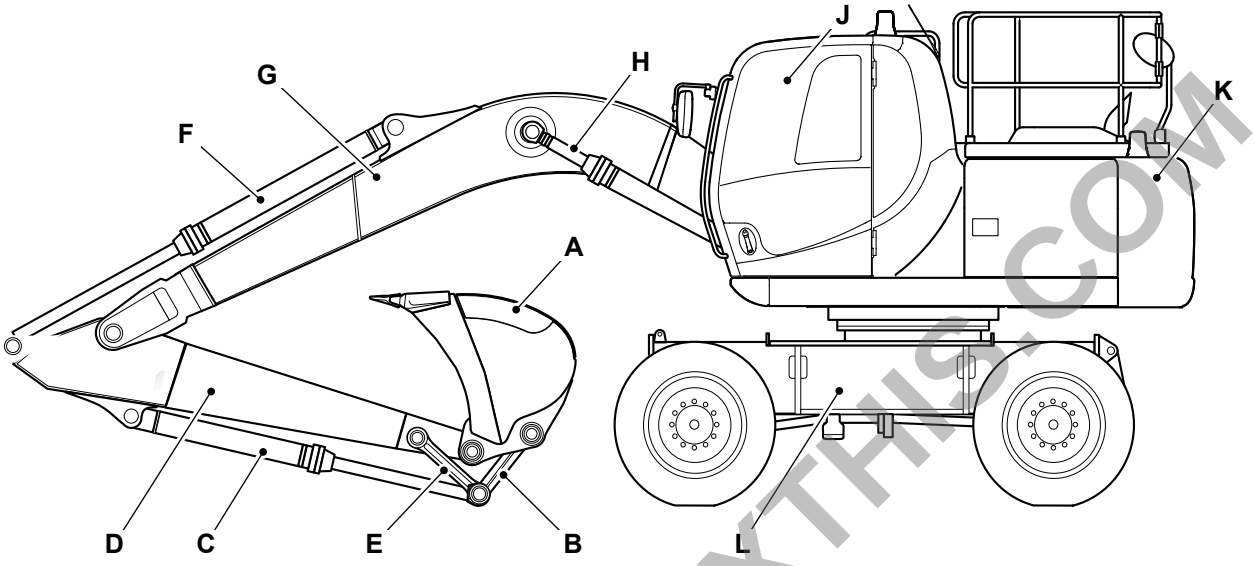


When a critical fault is active, the left area of the main screen will show the fault icon and the right area of the main screen will show the 3 or 4 digit fault code. The fault indicator is illuminated red. The buzzer sounds when a critical fault is active. It sounds until the critical fault is no longer active. The active fault screen alternates with the standard main screen but with a colour substitution:

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Main Component Locations

Figure 3.



A Bucket
B Bucket link
C Bucket ram
D Dipper
E Dipper link
F Dipper ram
G Boom
H Boom ram
J Operators cab
K Counterweight
L Undercarriage

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