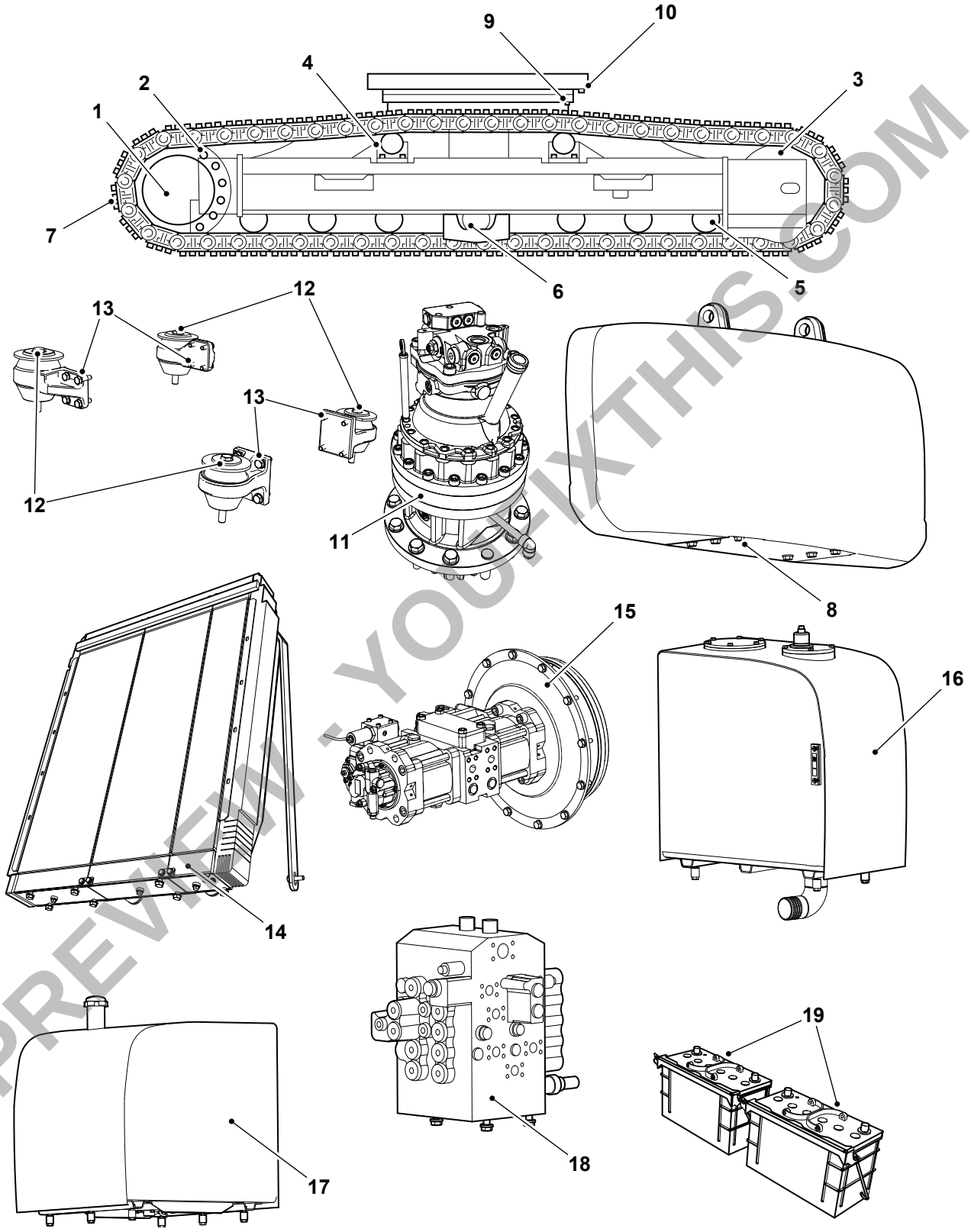
Figure 294.



(For: JS370 [T4i])

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

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Torque Values

General

For: JS330 [T4i] ..... Page 271
For: JS370 [T4i] ..... Page 273
For: JS300 [T4i] ..... Page 276

(For: JS330 [T4i])

JS330 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 63.

For the tightening torques of the bolts and nuts not listed, Refer to Table 64.

Table 63.

	Tightening Point	Bolt Diameter	Wrench (mm)	Tightening Torque (N.m)	Checking Torque (N.m)
1(1)	Travel motor	M24	36	923	831
2(1)	Drive sprocket	M20	30	506	456
3(1)	Idler wheel	M16	24	330	297
4(1)	Upper (carrier) roller	M16	24	259	233
5(1)	Lower (track) roller	M20	30	506	456
6(1)	Track guard	M20	30	506	456
7	Shoe bolt	M20	30	643-757	579-681
8	Counterweight	M27	41	1452	1307
9(1)	Turntable bearing (under-carriage)	M24	36	874	787
10(1)	Turntable bearing (slew frame)	M24	36	874	787
11(1)	Slew equipment	M20/M24	30/36	410/874	369/787
12(1)	Engine (engine mount)	M20	30	290	261
13(1)	Engine bracket	M12	19	104	94
14	Radiator	M16	24	260	211
15(1)	Hydraulic pump	M10	17	60	54
16(1)	Hydraulic oil tank	M16	24	259	233
17(1)	Fuel tank	M16	24	259	233
18(1)	Control valve	M16	24	259	233
19	Battery	M6	10	7	6
20(1)	Rotary coupling	M12	19	104	94
21	Cab	M16	24	196/245	176/221

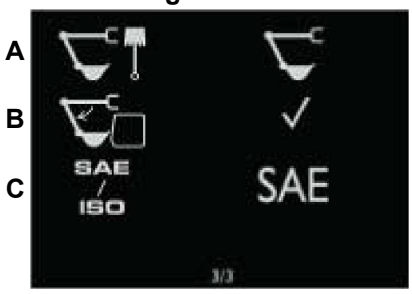
(1) Use JCB Threadlocker and sealer (High Strength) and tighten to the torque listed.

Table 64.

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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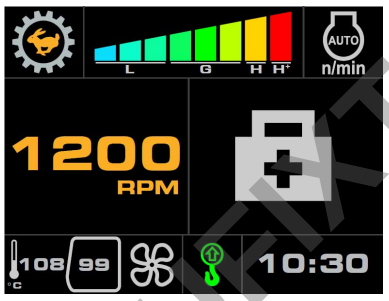
Figure 77.



A Slew/boom priority default
B Dipper arm limiter setup
C ISO/SAE controls selection

Error Log

Figure 78.



Press the rotary control again to display a list of the machine faults recorded. Turn the rotary control to switch between screens 1 and 2. Press the back button to return.

Figure 79.

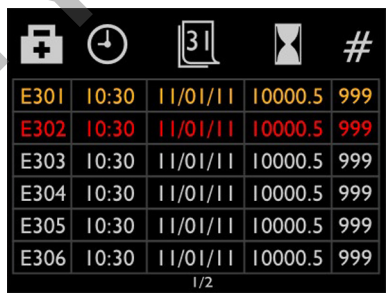
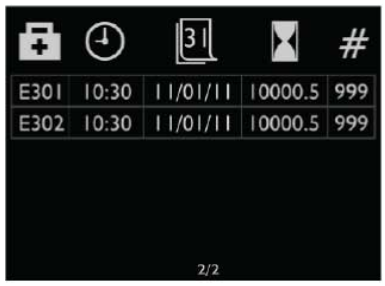


Figure 80.



The fault log screen is used to provide information on the active and previously active faults on the machine. The fault log display screen displays 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 display 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 = gray).

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Entering and Leaving the Operator Station

General

General

⚠ **WARNING** For safety reasons, machines installed with single access canopies from new must not have the barrier removed. The machine must always be entered/exited with the left hand isolator raised via the left hand side.

WARNING Do not enter or exit the cab unless the controls isolation lever is in the fully raised position.

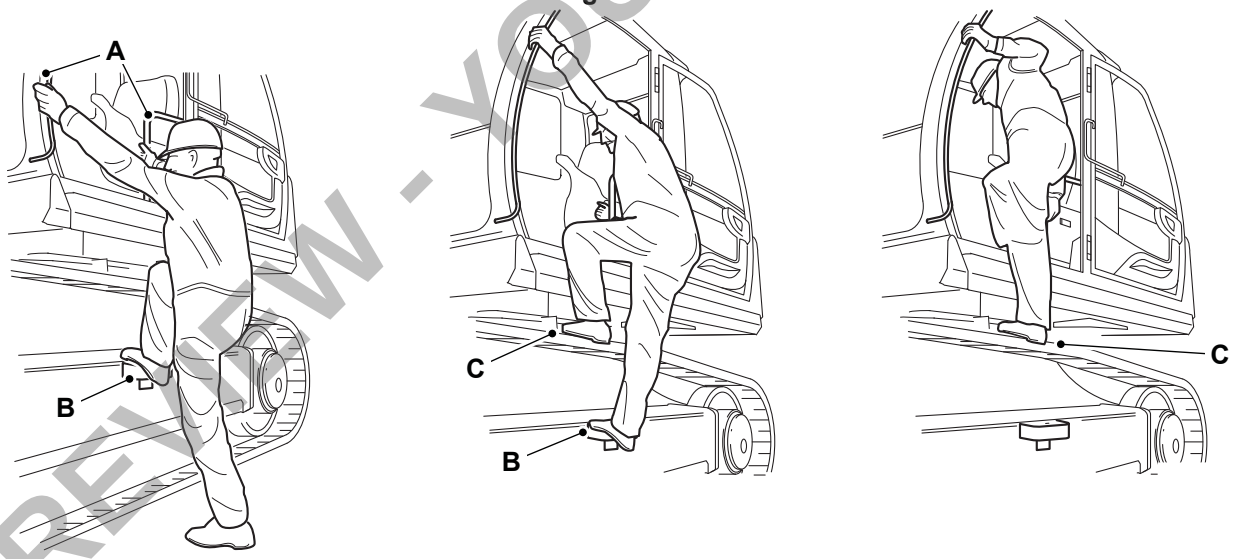
CAUTION Entering or leaving the operator station must only be made where steps and handrails are provided. Always face the machine when entering and leaving. Make sure the step(s), handrails and your boot soles are clean and dry. Do not jump from the machine. Do not use the machine controls as handholds, use the handrails.

Standard Cab Machines

Entering the Cab

1. Open the cab door and if necessary, latch it in the open position.
   Refer to: Operator Door (Page 31).
2. Make sure that the controls lock lever is in the raised position.
   Refer to: Control Lock (Page 58).
3. Hold the two handrails (one each side of the cab entrance), then use the step between the top and bottom tracks to climb onto the top of the track. Refer to Figure 16.

Figure 16.



A Handrails
B Step
C Track

4. Keep hold of the left handrail, then climb into the cab and swing yourself into the operators seat.
5. Close the cab door.

Leaving the Cab

1. Park the machine on solid, level ground with the upper structure parallel to the undercarriage.
2. Lower the attachment.
   Refer to: Excavator Arm Controls (Page 99).

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Maintenance Schedules

General

⚠ **WARNING** Maintenance must be done only by suitably qualified and competent persons.

Before doing any maintenance make sure the machine is safe, it must be correctly parked on solid, level ground.

To prevent anyone starting the engine, remove the ignition key. Disconnect the battery when you are not using electrical power. If you do not take these precautions you could be killed or injured.

A badly maintained machine is a danger to the operator and the people working around the operator. Make sure that the regular maintenance and lubrication tasks listed in the service schedules are done to keep the machine in a safe and efficient working condition.

To ensure the correct functioning of the engine and emissions control system all operation and maintenance must be conducted in accordance with the instructions in this manual. Incorrect operation, maintenance or repair of the engine and emissions control system may lead to reduced product life, loss of performance or malfunctions. It is the machine owner's responsibility to ensure maintenance is conducted properly in accordance with the requirements in this manual.

Apart from the daily tasks, the schedules are based on the machine running hours. Keep a regular check on the hourmeter readings to correctly gauge the service intervals. When there is no hourmeter installed, use the calendar equivalents to determine the service intervals.

Do not use a machine which is due for a service. Make sure any defects found during the regular maintenance checks are corrected immediately.

More frequent checks of engine components than the engine manufacturer recommends do not invalidate emissions warranty.

How to Use the Maintenance Schedules

The schedules show the service tasks which must be done and their intervals.

The services must be done at either the hourly interval or the calendar equivalent, whichever occurs first.

The intervals given in the schedules must not be exceeded. If the machine is operated under severe conditions (high temperature, dust, water, etc.) shorten the intervals.

Table 10.

○	Service task can be completed by a competent operator. Details of how to complete the service task are given in the Operator's Manual.
□	We recommend that a Service Engineer completes the service task. Details of how to complete the service task are given in the Service Manual.

Maintenance Intervals

General

Table 11.

Interval (h)	Calendar Equivalent
10	Daily
50	Weekly
250	Monthly
500	Three months
1000	Six months
2000	Yearly

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(For: JS370 [T4i])

Digging

Monoboom

Figure 279.

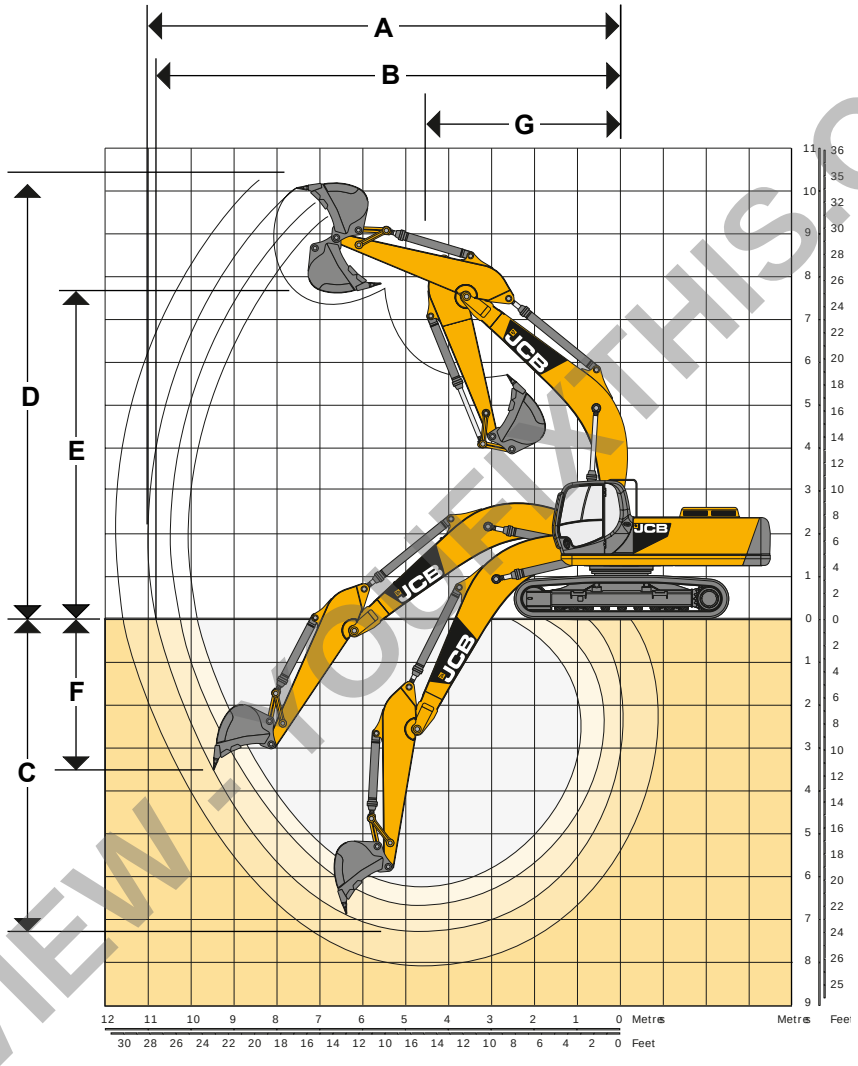


Table 53.

Boom length		**6,450mm**			
Dipper length		**2,210mm**	**2,630mm**	**3,230mm**	**4,030mm**
A	Maximum digging reach	10,060mm	10,460mm	11,020mm	11,760mm
B	Maximum digging reach (on ground)	9,850mm	10,255mm	10,820mm	11,570mm
C	Maximum digging depth	6,250mm	6,680mm	7,270mm	8,070mm
D	Maximum digging height	9,510mm	9,730mm	10,020mm	10,220mm
E	Maximum dumping height	6,800mm	7,000mm	7,260mm	7,570mm
F	Maximum vertical wall cut depth	2,390mm	2,910mm	3,580mm	4,390mm
G	Maximum swing radius	4,740mm	4,710mm	4,570mm	4,620mm

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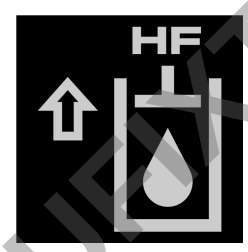
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Figure 100.



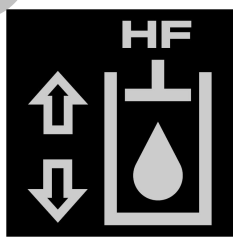
- High-Flow control type select from:
  - Single direction high-flow

Figure 101.



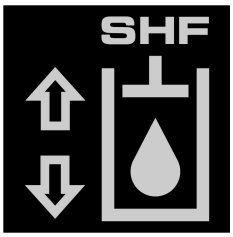
  - Two direction high-flow

Figure 102.



  - Two direction super high-flow

Figure 103.



- High-Flow operating flow- This is normally set according to the recommended flow rating on the attachment data sheet but can be adjusted lower to optimize attachment performance.
- High-Flow operating pressure- This is set normally between 20–50bar (289.9–724.6psi) below the ARV (Auxiliary Relief Valve) pressure and can be adjusted to optimize attachment performance.
- High-Flow ARV pressure- This is set according to the recommended pressure rating on the attachment data sheet.

To edit the Low-Flow settings:

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Deferring Regeneration

If you are about to enter a hazard atmosphere (entering into an enclosed environment for example), it may be necessary to defer auto regeneration mode.

To defer the auto regeneration mode, press the regeneration switch within 5s of the green regeneration symbol being displayed. The operator may also cancel the auto regeneration by cycling the ignition key or by operating the engine stop switch.

If the regeneration is suspended the system will automatically re-initiate the auto regeneration after a pre-set time. If auto regeneration is continuously suspended the engine controller will then request a manual regeneration.

Manual Regeneration

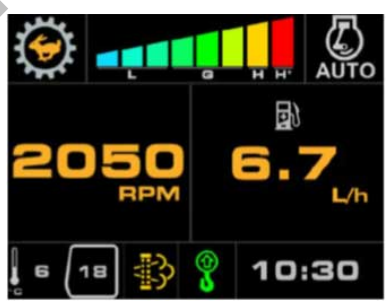
The machine cannot be operated during this form of regeneration.

If an auto regeneration is continuously cancelled then a manual regeneration will be required. The amber regeneration symbol will display for 10s, after this time a flashing amber regeneration symbol will display at the bottom of the screen.

Figure 112.



Figure 113.



To perform a manual regeneration the operator must move the machine to a safe location so as not to cause an obstruction, away from any flammable materials. Position the excavator end on the ground and keep the engine running.

The manual regeneration cycle is initiated by pressing the regeneration switch.

The controls isolate padlock symbol will be displayed for 2s. The time required to perform the manual refresh is shown using an egg timer symbol on the display. During this time the machine cannot be used.

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Attachments
Working with Attachments

Introduction

Attachments

Use only the JCB approved attachments that are specified for your machine. Operating with non-specified attachments can overload the machine, causing possible damage and machine instability which could result in injury to yourself or others.

The use of non-approved attachments could invalidate your warranty.

Metal Splinters

You can be injured by flying metal splinters when driving metal pins in or out. Use a soft faced hammer or copper drift to remove and install metal pins. Always wear personal protective equipment.

Attachments

If you have an attachment which is not covered in the Operator's Manual do not install it, use it or remove it until you have obtained, read and understood the pertinent information. Install attachments only on the machines for which they were designed.

Some attachments are supplied with the instructions on the safety, installation, removal, operation and maintenance procedures. Read and fully understand these procedures before the attachment is installed, used and serviced. If there is anything you do not understand, ask your JCB dealer.

Before you use an attachment, make sure you understand how the attachment will affect the operational safety.

When an attachment is installed, there may be changes in the machines centre of gravity or overall dimensions. These change can effect for example, the machine stability, the gradients on which it is safe to operate or the safe distance from power lines.

Practice with an attachment off the job before you work with it for the first time.

A JCB attachment is designed and manufactured specifically to suit the machines hydraulic system, mounting components and safe load requirements.

An attachment which is not designed for use with the machine can cause damage and create a safety hazard for which JCB cannot be held responsible. Also the machines warranty and any other legislative compliance can be affected by the use of non JCB approved attachments.

If your machine needs the hydraulic system adapting to use an auxiliary attachment, you must consult your JCB dealer. Only suitably qualified personnel must re-route the hydraulic hoses.

All optional attachments will have limits on their operation for example, the lifting capacity, speeds, hydraulic flow rates. Always check the instructions supplied with the attachment or in the Specification section of this manual. Some specification limits may also be shown on the data/rating plate on the attachment.

This section of the Operator's Manual includes general information on the operation of the attachment and the procedures for the installation and removal of the attachment.

Attachments for your Machine

⚠ **CAUTION** Operation of this machine with an earth drill or breaker attached will alter machine stability.

Attachments will help increase the productivity of your machine, for more information contact your JCB dealer.

Remember, do not operate an attachment until you have read and fully understand the attachment operating instructions.

Do not operate or work with attachments until the machine hydraulic oil has reached its normal working temperature.

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Heating, Ventilating and Air-Conditioning (HVAC)

General

The operator must set the controls to obtain the best working environment in the operator station.

Close doors and windows for best HVAC (Heating Ventilation Air Conditioning) performance and in dusty conditions.

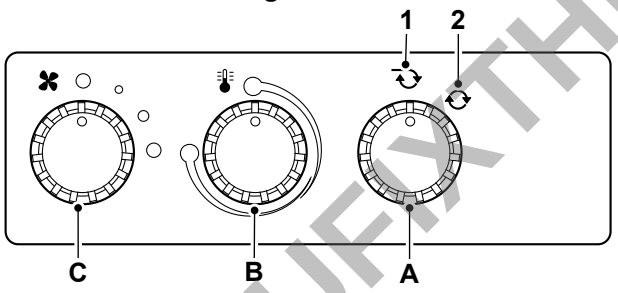
Poor ventilated air can cause tiredness. Do not operate the machine for long periods without ventilation or with the operator station fully closed and the fan turned off.

Air-Conditioning Controls

Heater Only Controls

Introduction

Figure 167.



A Recirculation switch
B Temperature control switch
C 3-speed fan switch
1 Recirculation switch - position '1'
2 Recirculation switch - position '2'

The heater control panel is installed on the left console.

The temperature is adjusted by the recirculation switch, a 3-speed heater fan switch and the temperature control switch.

Adjust the air vents to direct the hot air flow to the front window (for demisting) and/or the cab floor.

Air Control

Turn the recirculation switch to position '1' to let fresh air enter the cab.

Turn the recirculation switch to position '2' to recirculate the air, this should be used when you operate in a dusty working environment. Position '2' can also be used to increase the heater performance during cab warm-up and when machine coolant temperatures are below optimum.

Heat Control

Turn the temperature control switch clockwise to increase the temperature.

Turn the temperature control switch counterclockwise to decrease the temperature.

Heater Fan

Turn the 3-speed fan switch to adjust the speed of the heater fan. This functions only when the ignition key is in position I.

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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



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Notes:

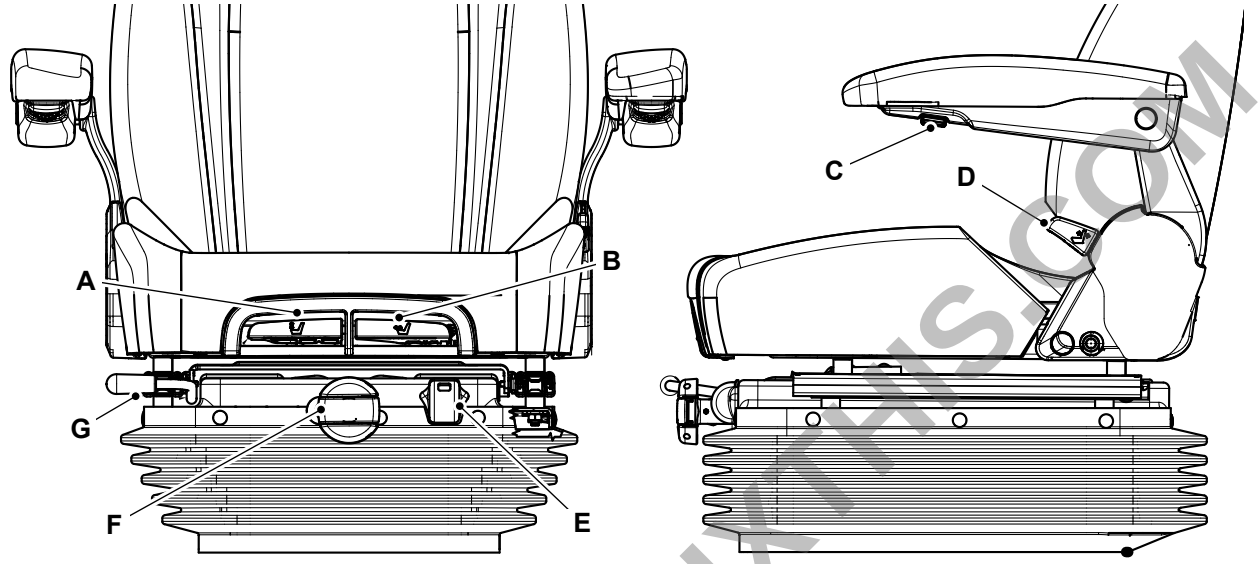
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Seat Options

Mechanical Suspension Seat

Figure 30.



A Cushion tilt lever
B Cushion slide lever
C Armrest adjuster
D Backrest lever
E Indicator
F Suspension adjuster
G Console fore/aft lever

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Getting the Machine Moving

General

Moving the Machine

1. Prepare the machine.
   Refer to: Preparing for Travel (Page 56).
2. Select a general power band.
   Refer to: General (Page 63).
3. Check the area around the machine, then sound the horn to warn other personnel of a machine operation.
4. Use the track controls to move the machine in the required direction.
   Refer to: Track Controls (Page 60).
5. Do not change the travel speed when the machine is moving. Stop the machine, then change the travel speed.
   Refer to: Travel Speed Selector (Page 61).

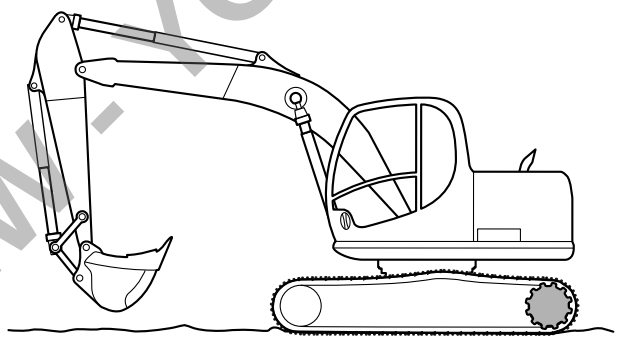
Stability

Pull the dig end close when you travel, to improve the stability of the machine.

Decreasing the Machine Wear

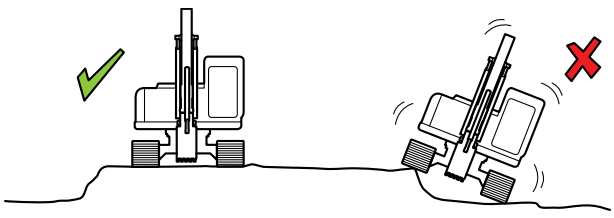
When you travel on level ground keep the drive sprockets at the rear. If the drive sprockets are at the front, the tracks could wear prematurely.

Figure 118.



If you travel with the track raised on one side, it increases the load on the other side of the undercarriage. If possible to decrease the wear, travel on level ground.

Figure 119.

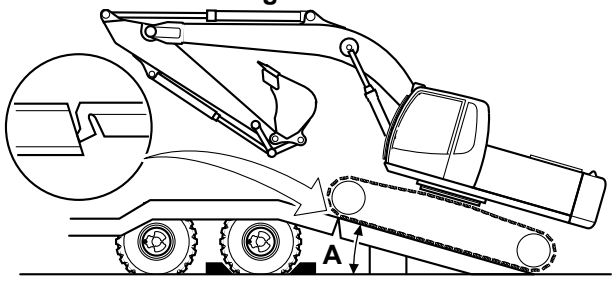


If you travel while using the dig end, it increases the load on the undercarriage and increases its wear.

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Figure 180.



A Angle of the ramp

6. Remove the cover from the exhaust stack.
7. Remove the tying-down accessories and blocks from the machine and stow them.
8. Start the machine.
   Refer to: Starting the Engine (Page 51).
9. Enable the controls.
   Refer to: Control Lock (Page 58).
10. Disengage the slew lock.
    Refer to: Slew Lock (Page 19).
11. Slew the cab to make sure the excavating equipment is in a position where it will not interfere with your view of the ramp and the transport trailer.
    Refer to: Operating Levers/Pedals (Page 99).
12. Lift the bucket.
    Refer to: Excavator Arm Controls (Page 99).
13. If applicable, lift the dozer blade.
14. Drive the machine slowly to the ramps.
15. Continue to drive the machine until the tracks are over the ramps.
16. Slowly drive the machine onto the ramps and off the transport trailer.

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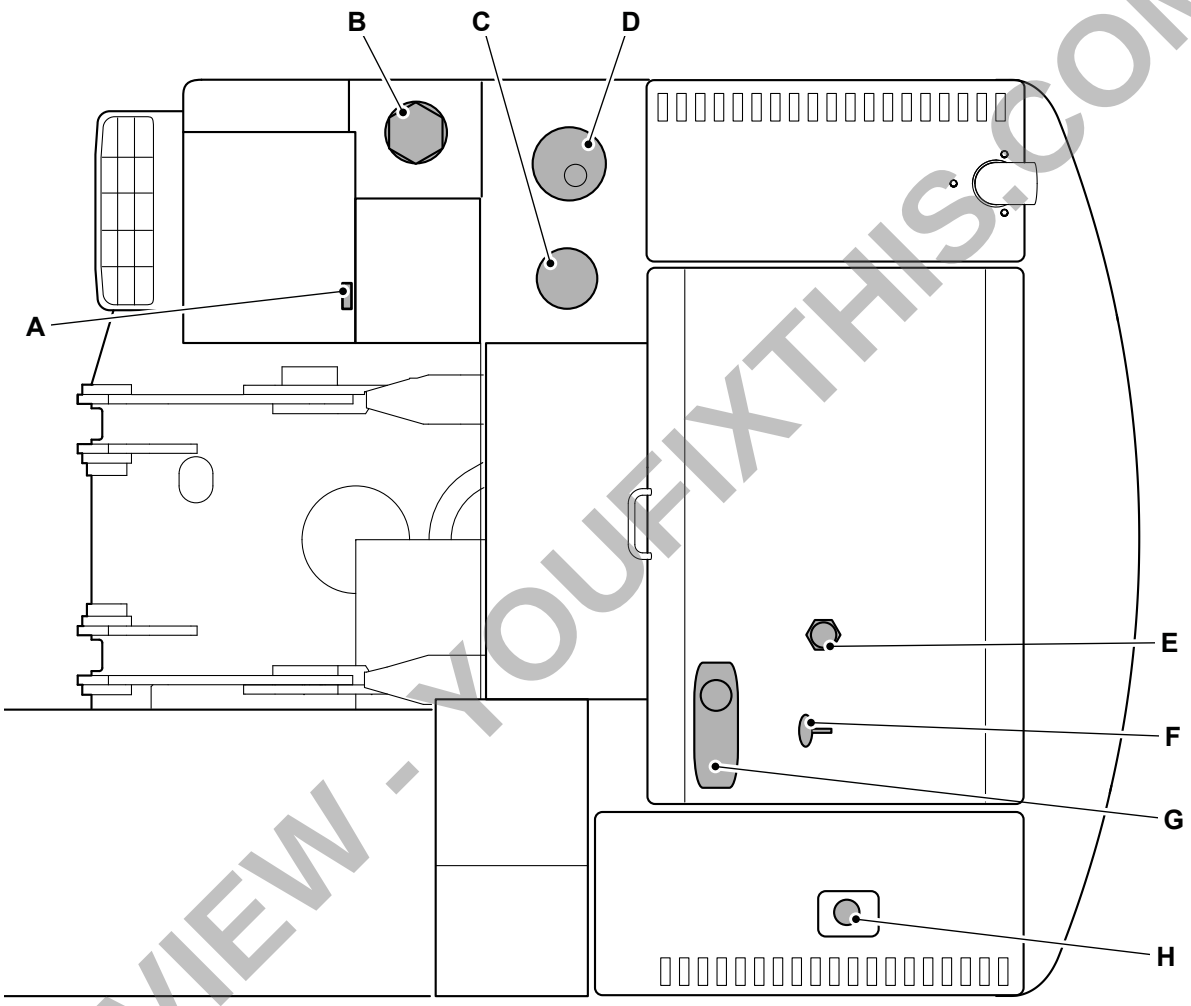
Service Points

General

⚠ **CAUTION** Make sure the steps, handrails, and your footwear soles are clean and dry before climbing onto the machine. Always face the machine when climbing on and off it.

Upper Structure

Figure 217.



A Diesel level indicator
B Fuel filler cap
C Hydraulic oil filler cap
D Hydraulic tank breather
E Engine oil filler cap
F Engine oil dipstick
G Radiator expansion bottle and cap
H Radiator cap

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Table 33.

	Description	NLC	LC
A	Track length on ground	3,990mm	3,990mm
B	Undercarriage overall length	4,843mm	4,843mm
C	Track gauge	2,390mm	2,600mm
D	Width over tracks (600 shoes)	2,990mm	3,200mm
D	Width over tracks (700 shoes)	3,090mm	3,300mm
D	Width over tracks (800 shoes)	3,190mm	3,400mm
D	Width over tracks (900 shoes)	3,290mm	3,500mm

Table 34. Standard Boom

	Dipper lengths	2,500mm	3,100mm	3,700mm
E	Transport length	10,758mm	10,630mm	10,654mm
F	Transport height	3,375mm	3,344mm	3,344mm

Table 35.

	Description	Length
G	Counterweight clearance	1,198mm
H	Tailswing radius	3,251mm
J	Width of superstructure	3,046mm
K	Height over cab	3,181mm
L	Height over grab rail	3,344mm
M	Ground clearance	550mm
N	Track height	1,011mm

(For: JS370 [T4i])

Monoboom

Figure 258.

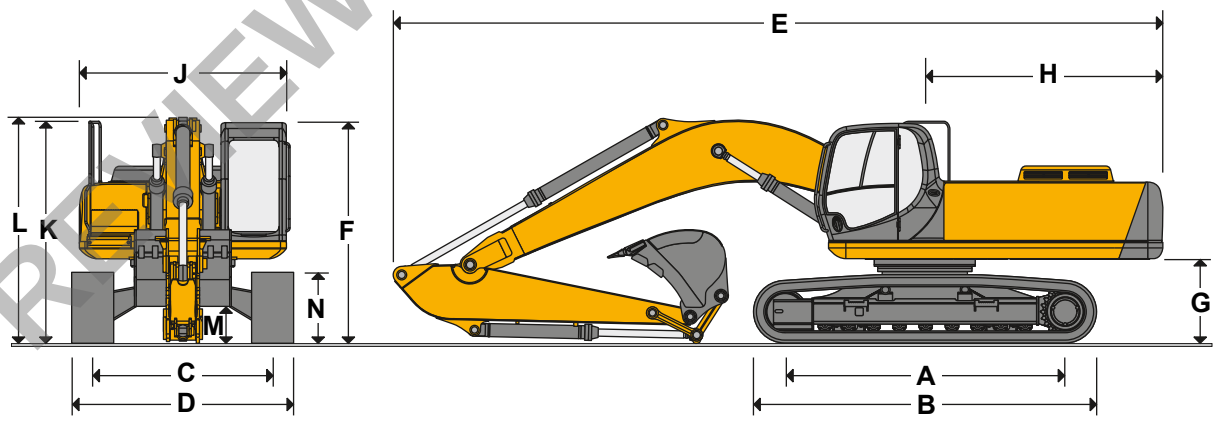


Table 36.

	Description	Length (LC)	Length (NLC)
A	Track length on ground	4,021mm	4,021mm
B	Undercarriage overall length	4,954mm	4,954mm
C	Track gauge	2,600mm	2,390mm
D	Width over tracks (600 shoes)	3,200mm	2,990mm
D	Width over tracks (700 shoes)	3,300mm	3,090mm

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