

Quick Start Guide



Hydradig

110W

JCB

Disclaimer

- > This Quick Reference Guide is to provide quick and simple information to the Operator and does not include any health and safety aspects. In addition, because of our continual development of machines, features described in this Quick Reference Guide may differ from those on your machine. No errors and emissions be entirely ruled out.
- > This Quick Reference Guide **DOES NOT** replace the Operators Manual. You **MUST** read **ALL** the disclaimers and safety and other instructions in the Operators Manual before initially operating this product. Accordingly, no legal claims can be entertained on the basis of the data, illustrations or descriptions in this Quick Reference Guide.
- > This machine should not be operated by any person who isn't appropriately qualified or had the appropriate training.
- > Operation of this machine without periodic maintenance could cause it to malfunction. For more information please contact your JCB Dealer.

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Intended Use

General

- > Machine Type – Excavator
- > Self propelled machine with a wheeled undercarriage
- > Revolving upper structure with boom, dipper, bucket and slew mechanism

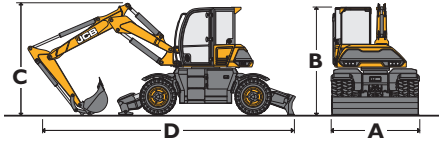
Intended Use

- > Machine intended to be used in normal conditions
- > With bucket fitted, machine work cycle consists of digging, elevating, slewing and discharging of materials
- > Applications include earthmoving, road construction, building and construction, landscaping etc.
- > Can be used for object handling
- > Not intended for use in mining and quarrying applications, demolition, forestry and any explosive atmospheres
- > Must not be used for forestry, used with attachments of unknown weight, used on surfaces with unknown stability – list not exhaustive
- > PPE may be required in certain applications/environments e.g. high silica concentration or asbestos
- > The machine should not be operated by any person who isn't appropriately qualified or had the correct training
- > Prior to use, the machines suitability should be considered with regards to the intended applications and any hazards which may be present

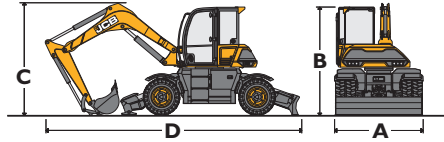
Dimensions

Fig 1

Triple Articulated Boom (TAB)



Mono Boom



TAB Boom Description		Length			
A	External width over dual wheels	mm	2420		
B	Height over cab	mm	2988		
Rear Dozer/Front Stabs					
	Dipper lengths	mm	1650	2000	2250
C	Transport boom height	mm	2988	2988	2988
D	Transport length	mm	7650	7750	7730
Rear Dozer/No Stabs					
	Dipper lengths	mm	1650	2000	2250
C	Transport boom height	mm	2988	2988	2988
D	Transport length	mm	6849	7200	7403
Mass = 10,208kg – 11,343kg (please see data plate)					

MONO Boom Description		Length			
A	External width over dual wheels	mm	2420		
B	Height over cab	mm	2988		
Rear Dozer/Front Stabs					
	Dipper lengths	mm	1650	2000	2250
C	Transport boom height	mm	3132	3305	3437
D	Transport length	mm	7050	7022	6944
Rear Dozer/No Stabs					
	Dipper lengths	mm	1650	2000	2250
C	Transport boom height	mm	2399	2796	3065
D	Transport length	mm	6868	7086	7131
Mass = 10,208kg – 11,343kg (please see data plate)					

Tie Down Points

Fig 2

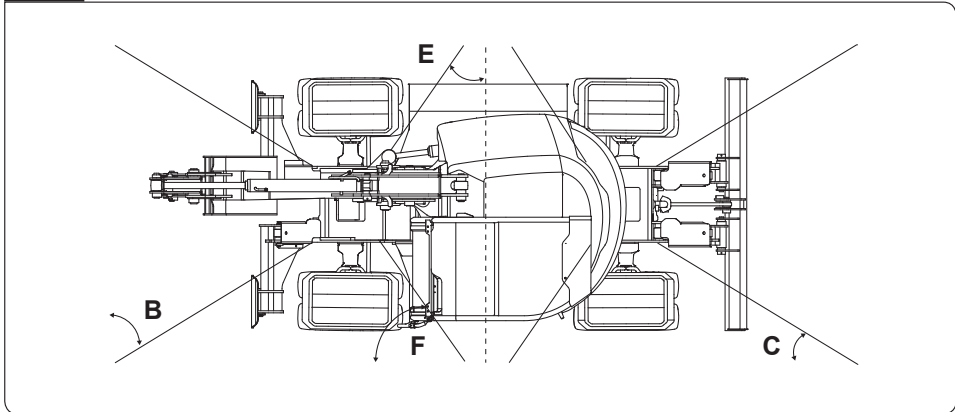
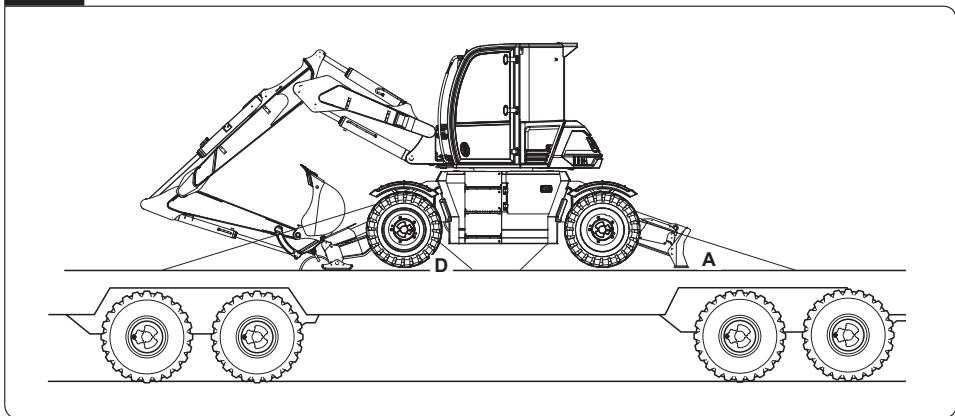


Fig 3



Note: These measurements are based on a 2500mm wide trailer bed. The correct tie down positions are identified on the machine by their labels. Measurements $\pm 100\text{mm}$.

A Angle = $29 \pm 1^\circ$

B Angle = $45 - 47^\circ$

C Angle = $43 - 45^\circ$

D Angle = $26 \pm 1^\circ$

E Angle = $34 - 36^\circ$

F Angle = $54 - 56^\circ$

Tie Down Position Decal



Lifting Points

Fig 4

A Lifting points

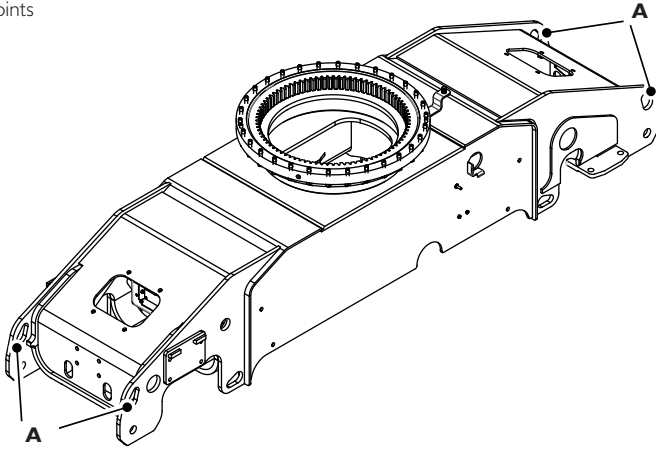
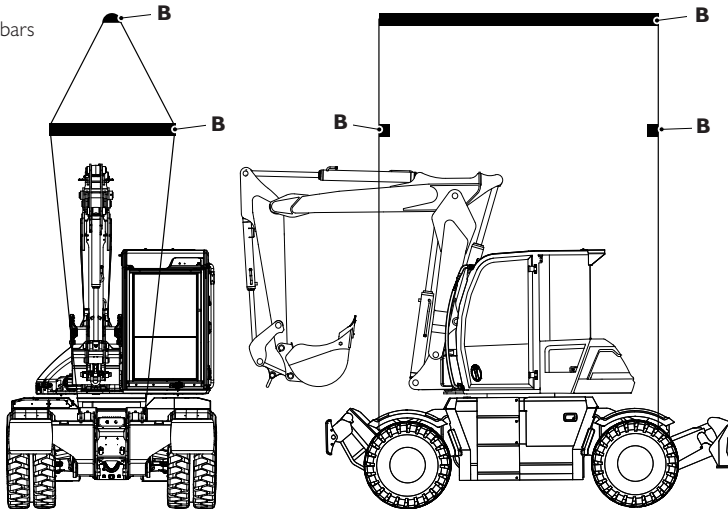


Fig 5

B Spacer bars



Cab Switch and Panel

Fig 6

- A** HVAC (Heating Ventilation Air Conditioning)
- B** Ignition switch
- C** Optional switch console
- D** Switch console
- E** Fire extinguisher
- F** Rotary control
- G** Right joystick
- H** Stabiliser controls
- J** Lights and indicators LED (Light Emitting Diode)s
- K** 12V socket and USB port
- L** Instrument panel
- M** Hazard warning light switch
- N** Park brake switch
- P** Throttle pedal
- Q** Brake pedal
- R** Steering wheel
- S** TAB (Triple Articulated Boom) pedal
- T** Multi function switch
- U** Steering column adjustment
- V** Steer mode selection
- W** Controls isolator lever
- X** Left joystick
- Y** Operator seat

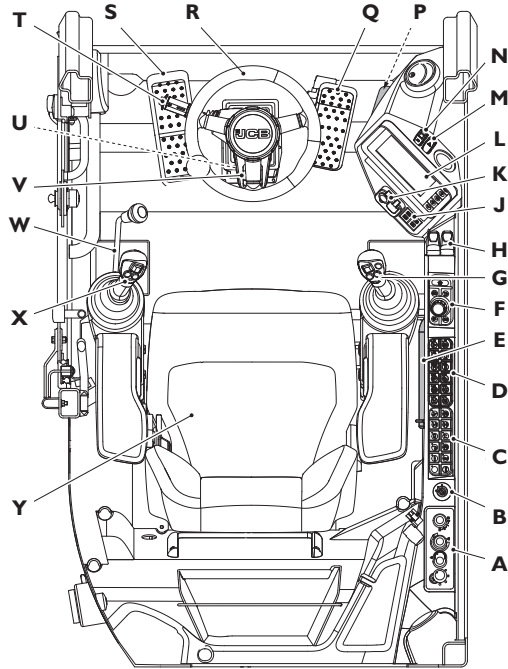


Fig 7

- A** Low flow auxiliaries 1 and 2
- B** Horn
- C** Kingpost swing to high-flow auxiliary changeover
- D** King post swing / Hi-flow auxiliary
- E** Forward / Neutral / Reverse
- F** **Site mode:** Boom to dozer changeover
Highway mode: Highway override
- G** One touch idle
- H** Hammer

Left Hand Joystick



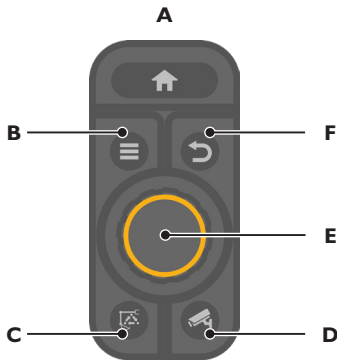
Right Hand Joystick



Rotary Controller & Work Modes

Fig 8

Rotary Controller



- A Home
- B Menu access
- C Work mode
- D Camera
- E Scroll / select
- F Return

The rotary controller can be used to both control the machines RPM and to scroll through the menu system on the machine display (dependant on mode). The rotary can also be used to override the need to crowd the attachment during the quick hitch sequence (depressing the enter button)

Fig 9

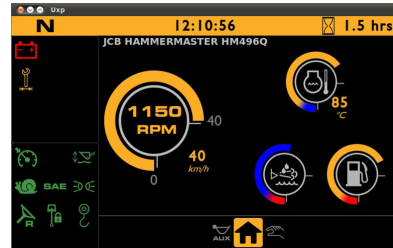


Fig 10

Work Modes

- Eco
- Standard
- Power (+)

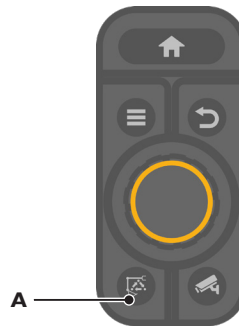
Work modes selection

Press A to cycle through the work modes

Press = Eco Mode – 1600rpm

Press twice = Standard Mode – 1800rpm

Press again = Power (+) Mode – 2000rpm



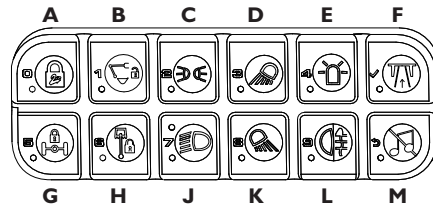
Switches & Controls

Fig 11

Keypad 1

- A** 2 Go
- B** Quick hitch (opt)
- C** Side lights
- D** Front work lights
- E** Beacon (opt)
- F** Highway / Site mode
- G** Axle lock
- H** Slew lock
- J** Dipped headlights

- K** Rear work lights (opt)
- L** Rear fog lights
- M** Radio mute



Keypad 2

- N** Auto drive / Creep speed (opt)
- P** Auto stabilisers up (opt)
- Q** Lift overload (opt)
- R** Rear wash / wiper (opt)
- S** Reversible fan (opt)
- T** ISO / SAE switchover (opt)
- U** Reverse steer (opt)
- V** Front / rear stabilisers (opt)
- W** Smoothride (opt)

- X** Side worklights (opt)
- Y** Hand held tool circuit (opt)
- Z** SCR refresh

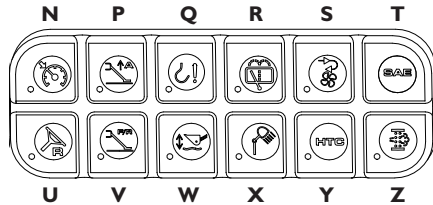
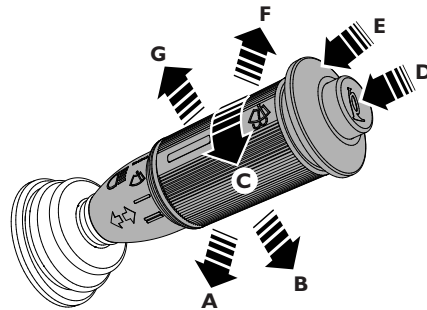


Fig 12

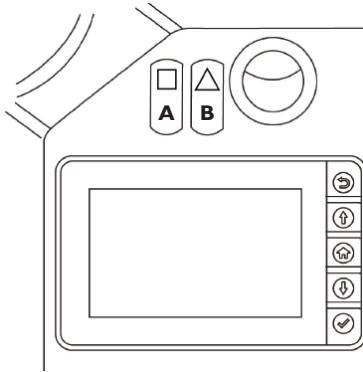
Column Switch

- A** Backwards – Left turn
- B** Forward – Right turn
- C** Rotate – Wiper on and off
- D** Horn
- E** Upwards – Headlights flash
- F** Downwards – Main beam
- G** Windscreen washer



Vehicle & Steering Modes

Fig 13



Park Brake / Hazard Switch

- A Park brake switch
- B Hazard warning switch

Fig 14

Machine modes

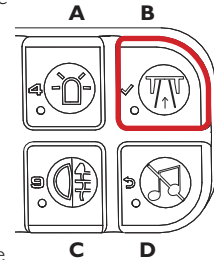
(Machine will default to last used mode)

Site mode – 20Kph Highway mode – 40Kph

Keypad I

Press = Highway mode

Press again = Site mode

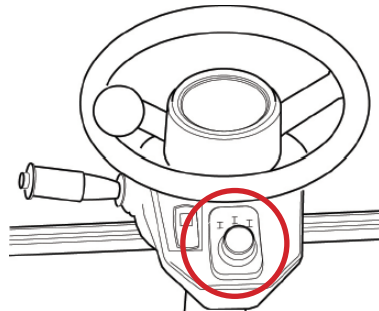


- A Beacon (opt)
- B Site / Highway mode
- C Rear fog lights
- D Radio mute

Fig 15

Steering modes

- A 4 Wheel steer
- B 2 Wheel steer
- C Crab steer



Mode selection

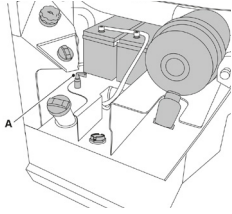
Pull the selector and twist it in direction of mode required.

For correct wheel alignment, please select Two Wheel steer (B) when changing between 4 Wheel Steer and Crab Steer.

Start Up Sequence

1 Insert Isolator Key

Insert isolator key (A) and turn in a clockwise direction.



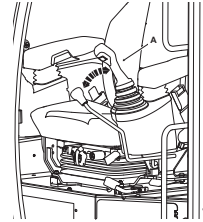
2 Dis-arm immobiliser

Key on to position 1 and if fitted, disarm by entering PIN code using the front switch pack on the right hand console.



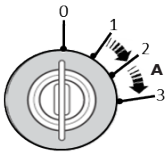
3 Isolate Machine

Ensure the left arm rest is in the raised position.



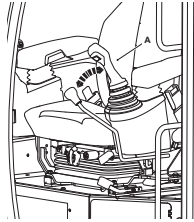
4 Start Machine

From ignition position 1 turn ignition to position 3 (A) to start the machine.



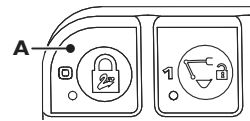
5 Lower LH Arm Rest

Lower the LH arm rest to activate the hydraulics.



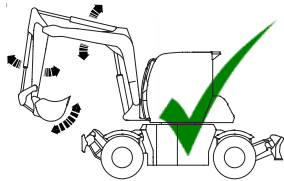
6 Press 2 GO Button

If enabled press 2 GO button (A) to activate hydraulics. Instrument panel will illuminate (B) when active.



7 Operate Machine

All controls are now active and the machine is now ready to use.



Start to Drive

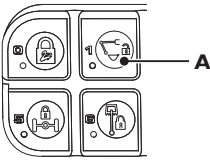
1. Lower LH arm rest (5)
2. Select Gear on RH joystick (Fig 7)
3. Release park brake (Fig 13)
4. Release foot brake and press throttle

Hydraulic Hitch Unlock Sequence

Standard Attachments

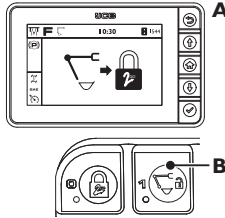
1 Start Unlock Process

To start quick hitch unlock process ensure hydraulics are live then press quick hitch sequence button (A).



2 Confirm Process

Instrument panel will indicate (A). To confirm process press 2 GO button (B).



3 Boom LED Indicator

When the sequence is confirmed the LED on the boom will flash red.

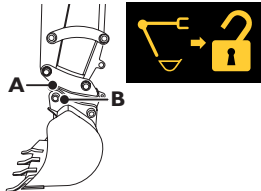
4 Remove Attachment

To disengage the pivot pin crowd attachment for 3 seconds then remove attachment.



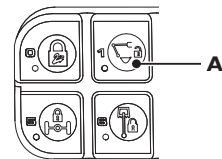
5 Change Attachment

Operate the machine to engage the jaw (A) with the attachment (B) and then full crowd the attachment to align latch.



6 Lock Quick Hitch

To engage the lock on the quick hitch press the quick hitch button (A). Check attachment is locked.



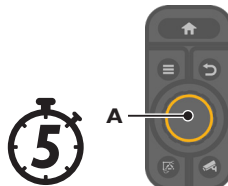
Specialised Attachments

Specialised attachments are any attachment that when crowded fully could foul boom/dipper.

When using a specialised attachment that requires this process to be followed, replace 4 above with **4a & 4b** right, then continue to follow steps 5 and 6 to finish.

4a Crowd Override

For large attachments where crowding is not possible press & hold rotary dial (A) for 5 seconds.



4b Remove Attachment

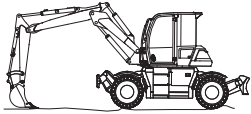
To disengage the pivot pin operate use the dozer lift lever (A) until the hitch unlocks then remove attachment.



Shutdown & Auxiliary Venting

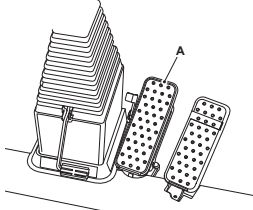
1 Park Machine

Ensure machine slew is central and attachment on the ground.



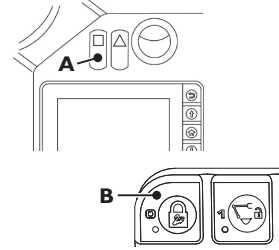
2 Apply Foot Brake

Park machine and apply foot pedal (A) until it locks.



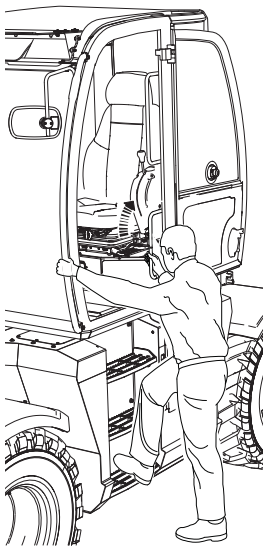
3 Secure Machine

Apply park brake (A) and disable hydraulics (2 Go) (B).



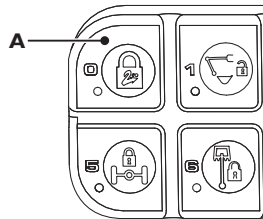
4 Exit Cabin

Switch off all switches. Leave machine using the handrails and footholds.



Auxiliary Venting

1. Make the machine safe
2. Turn the ignition key to the on position
3. Press and hold 2Go button (A), buzzer will sound
4. Operate controls to lower boom to safe position / auxiliary vent
5. Emergency lowering will last for a short duration



Emergency Lowering



Black Helmet – Hydraulics isolated



Green Helmet – Hydraulics active

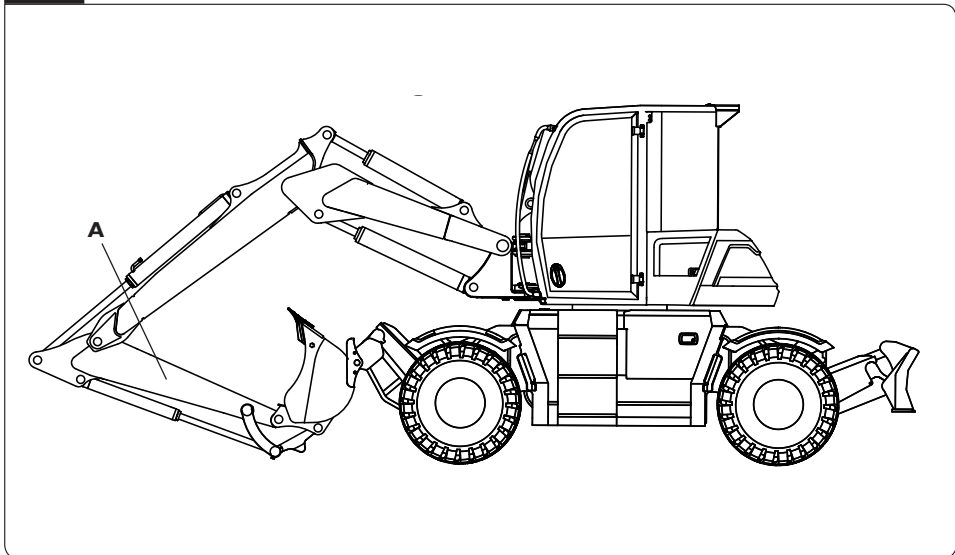


Red Helmet – Emergency lowering. (Press and hold the 2 Go switch (A) for 3 seconds until the red LED illuminates)

Maintenance Position

1. Park the machine on solid, level ground
 - I. Upper structure parallel to the undercarriage
 - II. Set the hand throttle lever to the idle position
2. Lower the dozer blade (if fitted)
3. Lower the excavator so the attachment is flat on the ground (A)

Fig 16



4. Stop the engine
5. Discharge the hydraulic pressure (see aux venting operation)
6. Isolate the controls and remove ignition key
7. Isolate the battery to prevent accidental operation of the engine (Page 16, Fig 17-18)

Service/Maintenance

Daily Checks (10h)	Operator's Manual Page Ref.	Physical/Visual
Tyre pressure check	188-189	Physical
Wheel nuts alignment check	186-187	Visual
Tow hitch condition check	74	Visual
Windscreen washer fluid level check/refill	160	Visual
Oil level check	172-173	Physical
Fuel level check	64	Visual
Coolant quality/level check	218	Visual
Coolant or oil leaks check	172	Visual
Park brake – operation check	184	Physical
Oil level check	172-173	Physical
Service brake operation check	184-185	Physical
Park brake operation check	184	Physical
Brake pressure warning operation check	62 & 171	Physical
Controls isolation safety system operation check	171	Physical
Quickhitch safety system operation check	171	Physical
Neutral start safety system operation check	171	Physical
Overload warning system operation check	171	Physical

Weekly Checks (50h)		Check
Engine filter/sedimenter drain/clean	173	Physical
Fuel tank – water & sediment drain	178	Physical
Primary fuel filter drain/clean	181	Physical
Main fuel filter drain/clean	181	Physical
Fuel filler cap check/clean	179	Physical
Radiator clean/check	108 & 183	Physical
Pivot & links lubricate	165	Physical
Battery inspect	193	Visual

Access Covers

Battery Cover

Fig 17

- A** Cover **B** Handle **C** Lock

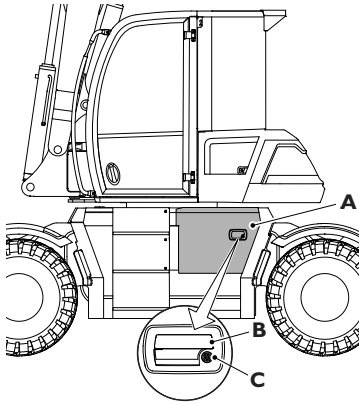
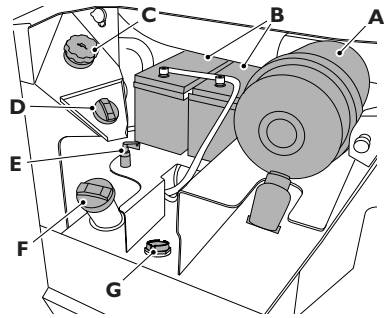


Fig 18

- A** Air filter **E** Isolator
B Batteries **F** Diesel fill
C Hydraulic oil fill **G** Mechanical fuel gauge
D DEF fill



Fuses

Fig 19

- A** Tread plate
B Cover (lower fuses)

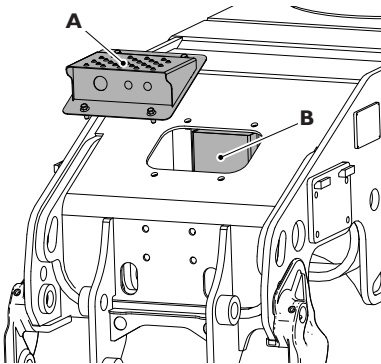
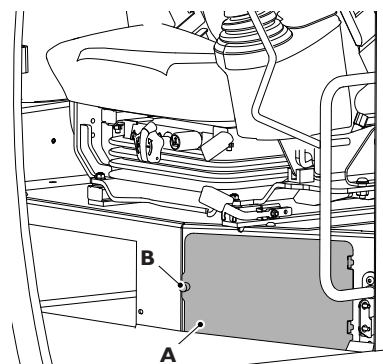


Fig 20

- A** Cover (upper fuses)
B Thumb screw

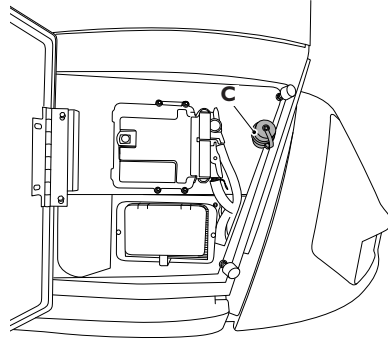
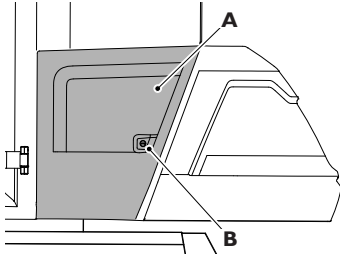


Access Covers

Cab Panel

Fig 21

- A Cover
- B Lock
- C Window washer fill



Engine Compartment

Fig 22

- A Cover
- B Handle
- C Lock
- D Steps

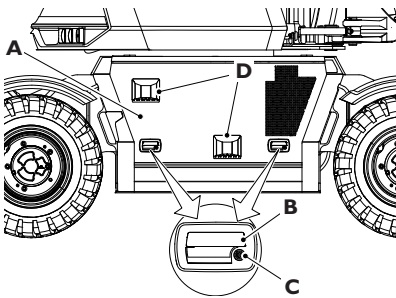
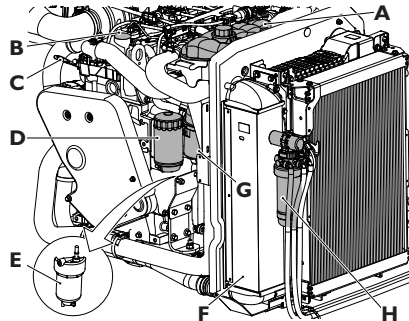


Fig 23

- A Coolant expansion bottle
- B Engine oil fill
- C Engine oil dipstick
- D Engine oil filter
- E Engine fuel filter
- F Cooling pack
- G Crank case ventilation filter
- H Fuel filter / water



Fluids & Lubricants

Item	Capacity	Fluid/lubricant	JCB Part Number	Container Size	Spec
DEF (Diesel Exhaust Fluid)	19L	DEF	-	-	-
Fuel Tank	162L	Diesel	-	-	-
Engine Oil	14L	JCB Engine Oil UP 5W30 -30°C (-22°F) to 30°C (86°F)	4001/3105	20L	API CJ4
		JCB Engine Oil UP 5W40 -30°C (-22°F) to 46°C (115°F)	4001/3405	20L	API CJ4
		JCB Engine Oil UP 10W30 -15°C (-5°F) to 46°C (115°F)	4001/3005	20L	API CJ4
Cooling System	28L	JCB Antifreeze HP/Coolant	4006/1120	20L	ASTM D6210
Hydraulic System	190L	JCB Hydraulic Fluid OP46	4002/2003	20L	-
		JCB Hydraulic Fluid OP32	4002/2805	20L	-
Differential Axle	14.2L Front & Rear	JCB Gear Oil HP Plus	4000/2205	20L	-
Hub Axle (x2)	1.9L (x4)	JCB Gear Oil HP Plus	4000/2205	20L	-
Transmission Dropbox	1.0L	JCB Gear Oil HP Plus	4000/2205	20L	-

JCB part numbers are liable to change and may also vary by region. For the latest information, always check with your dealer/distributor.

Machine Attachments

Description	Weight (kg)	Intended Use	Hydraulic Requirements
Bucket DP 300mm – 900mm BOT	110-207	General excavation / Bulk loading loose material	None
Bucket HD 250mm – 900mm	108-210	Heavy Excavation, hard dig, abrasive materials	None
Bucket GP 250mm – 900mm	98-179	General excavation / Bulk loading loose material	None
Bucket – Tilting grading	340	Grading, finishing, landscaping	1 double acting aux service
Bucket – Grading or Ditching 1524mm & 1830mm	150 & 172	Grading, finishing, landscaping & ditching	None
Jaw Bucket – 24"	280	General excavation, object handling	1 double acting aux service
Tapered Bucket - 12"/42" & 15"/66"	111-185	Ditching	None
Mechanical Quickhitch	101	Quick change of attachments	None
Hydraulic Quickhitch	-	Quick change of attachments	Quickhitch circuit and valve
Patch Planer	500	Precision removal of road surfaces	1 Hi-Flow aux service
Rock Wheel RW40	-	Accurate cutting and profiling of rock and hard materials	1 Hi-Flow aux service
Compactor	-	Compaction of fill and general ground compaction	1 Hi-Flow aux service
Ripper Tooth	-	Breaking up tarmac, concrete, hard or frozen ground	None
Manual Kerb Grab Install Kit	15	Lifting and positioning kerb-stones up to 70kg	None
Manual Rotating Kerb Grab	65	Lifting and positioning kerb-stones up to 70kg	1 Hi-Flow and 1 Lo-Flow aux service
Hydraulic Rotating Kerb Grab	85	Lifting and positioning kerb-stones up to 70kg	1 Hi-Flow and 1 Lo-Flow aux service or 2 Lo-Flow aux service
Earth Drill	105	Drilling 160mm – 460mm holes	1 Hi-Flow aux service
Hammermaster HM386Q & HM496Q	-	Breaking up tarmac, concrete, rock	1 Hi-Flow aux service
Selector Grab SG150	-	Demolition, waste handling, sorting	1 Hi-Flow and 1 Lo-Flow aux service or 2 Lo-Flow aux service

Troubleshooting/FAQs

Issue / FAQ	Resolution/Answer
I can't select the reverse steer option	Reverse steer can only be operated in site mode. To select the function, the machine has to be travelling at less than 1kph (Figure 15)
I can't enable Highway mode	To enable Highway mode: <ul style="list-style-type: none"> • The machine must be stationary • Slew must be centred & controls in neutral • The machine must not be in reverse steer mode
Why won't my stabilisers work?	Ensure that the machine hydraulics (2Go) are on and the machine is in site mode (Figure 11)
I have moved the switch but the steer mode hasn't changed	For steer mode to change, the machines wheels must align in its central position (Figure 15)
My machine will not start	Ensure the correct start up sequence has been followed as shown previously (Page 11)
Why is there an audible buzzer in the cab when I'm lifting a large load?	The boom ram pressure has exceeded 155bar or the dipper is above horizontal. The buzzer is a warning
I can't reposition the excavator end	Are you in Highway mode? The excavator end can be overridden by holding the dozer button or AUX on LH Joystick (a buzzer will sounding indicating the over ride) (Figure 7)
I can't activate the Hydraulics	There are many reasons as to why your 2Go may not work when pressing the button on Keypad 1. Here are some of the following possible reasons: <ul style="list-style-type: none"> • If the side pod is lifted and put back down when machine hydraulics are "on", machine hydraulics will disable and not function again until side pod down and machine in neutral. • The side pod is in the raised position • The machine is in Highway mode • There is a fault on the keypad • Engine isn't switched on • If there is an error on the machine and an error code is displayed on the LCD screen –which would inhibit the hydraulics • If none of the above, contact dealer

Troubleshooting/FAQs

Issue / FAQ	Resolution/Answer
My crab steer won't select after using 4WS	You must use 2WS first in order to re-align the rear axles
Why has the over speed warning shown up on the display	The machine has either exceeded 20Kph or 40kph (dependant on specification). If ignored, machine could go into "de-rate"
What happens if my machine goes into "de-rate"	The machine speed will be restricted to 25% of the machines capability. To reset this, key off and on.
I can't enable slew lock	In order to enable the slew lock, the slew position sensor must be aligned with the lower locating pin, in its central position. Alternatively, it could be a keypad fault.
Can I open the Quick Hitch with the attachment on the ground?	The Quick Hitch can be opened with the attachment on the ground (when display prompts to crowd bucket, can press and hold rotary instead to open QH)
My 40kph machine won't travel faster than 20kph	Check that site mode is off and Highway mode is selected (Figure 14)
How do I operate the Quick Hitch?	Ensure that the hydraulics (2Go) are activated. Press and hold the Quick Hitch button on Keypad 1 for two seconds. Acknowledge within 5 seconds by pressing the "2Go" button. Crowd the bucket ram and stall for two seconds or depress rotary select. Quick Hitch will release. To complete the process, when the bucket is safely attached, press the Quick Hitch button.
How do I enable the Hand Held Tool Circuit (HTC)?	Ensure that the hydraulics (2Go) are activated. Press and hold the HTC button on Keypad 2 until HTC icon is displayed. Once HTC is displayed/activated the side pod can be raised, keeping the HTC hydraulics active (work tool must be connected prior to HTC selection)
What does it mean when my axle lock is on "auto"	When the axle lock function is on auto, the machine will lock it's axles automatically when the footbrake is on (locked) and will disable once footbrake is unlocked (for roading purposes).



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