

# MIDI CX | COMPACT BACKHOE LOADER



A Product of Hard Work







**It's three machines in one**

## THE MOST VERSATILE COMPACT BACKHOE LOADER ... EVER



It's a loader, it's an excavator, it's an industrial tractor. It's the new JCB Midi CX; an all-in-one, compact machine that's designed and built as a true backhoe loader with the added versatility of a removable excavator, allowing you to fit an incredible range of tractor-type attachments. Slotting into the current JCB backhoe range between the 1CX and 2CX, what makes the Midi CX unique is that the excavator can be simply detached by one person in just a few minutes revealing a 3-point linkage and Power Take Off (PTO) drive. This enables the Midi CX to

operate as an industrial tractor, as well as a traditional backhoe loader – utilising a vast range of attachments such as mowers, flails, box scrapers, breakers, spreaders, shovels, buckets, augers, pallet forks and more. The perfect new solution for plant and tool hire companies, local authorities, landscaping contractors, general building contractors and estate managers, the Midi CX is an unrivalled combination of versatility, mobility, ease of use, performance and compact size.

# Genuine JCB backhoe loader performance

Purpose-built BHL with integrated chassis equals a robust, durable build

Servo controls provide precise control and simple operation of the excavator end

Fast travel speed (17.5mph/28kph) and transportability result in high machine utilisation

Powerful breakout forces and anti-spill mechanism give excellent loader performance

Fully glazed ROPS/FOPS cab



One of the main issues with tractor loaders is that they have always been based on lightweight agricultural machines; basically modified tractors with a bolt-on loader and excavator.

The JCB Midi CX is purpose designed as a backhoe loader. So, like the rest of our world-beating BHL range, it features an integrated chassis that's designed to withstand construction site duty cycles. This makes it much stronger, more durable and a better longer-term investment, especially when faced with the rigours of the rental market.

This brand-new machine features a fully glazed, spacious cab with easy access, a simple, ergonomic instrumentation layout, and console-mounted forward and reverse control.

Powered by a 4-cylinder 50hp (37.3kW) engine, the Midi CX has a dig depth of 3048mm (10 feet). The driveline features heavy-duty JCB axles with limited slip differentials on the rear axle, and four-wheel drive is standard to cope with tough terrain. The machine can travel quickly around and between sites for maximum productivity, and for longer distances it can be transported on a 7.5-tonne plant truck.

At the loader end of the Midi CX a low-level, single-piece bonnet gives class-leading visibility. There are also powerful breakout forces, an anti-spill mechanism to retain the load when raising the loader and auxiliary hydraulics for a 6-in-1 shovel and other attachments.

Meanwhile, the excavator design is based on a 2CX and uses twin slew rams, providing excellent backfilling and gradient performance. The excavator auxiliary circuit is compatible with both single and bi-directional attachments such as hammers and earth drills, servo controls give fingertip control, and a narrow boom and dipper again mean that visibility is excellent.







# Ease of use and incredible versatility

Excavator can be detached by one person in just a few minutes

Category 1, 3-point hitch and PTO allow a multitude of attachments to be added

Creep speed controls travel speed independently of engine speed when operating attachments

Hydrostatic transmission makes the machine as easy to drive as an automatic car

Servo controls allow mini and excavator operators to get to grips with the machine quickly



So the Midi CX provides uncompromised backhoe loader performance in restricted areas where the machine's compact size and manoeuvrability come into their own. But now comes the really clever bit.

Detach the backhoe – one person can do it in just a few minutes – and you have what is essentially a tractor, with a category 1, 3-point linkage and 540rpm PTO drive. This combination allows you to use a vast range of rear-mounted attachments, adapting the Midi CX for applications ranging from park maintenance to hedge trimming, and doing the work of a number of different machines including mini excavators, compact loaders and compact tractors.

The transmission comes complete with a creep speed function. This allows you to set the machine's travel speed independently of the PTO speed, a crucial function when powering attachments such as mowers and hedge cutters.

To enhance versatility even further, the front loader features a mechanical, skid steer-compatible quickhitch as standard, providing fast changeover of attachments for landscaping and industrial work. The excavator is also compatible with most 2CX attachments.

Another key difference on this machine is its ease of use, vital for markets where operators may not be fully conversant with standard backhoe loader controls. The servo controls and the hydrostatic transmission make it simple to operate: unlike traditional tractors, which require manual gear changing, the Midi CX has a two-position switch (low speed for site operation work and high speed for roading). And the directional control is operated by a column-mounted selector lever, just like the larger JCB BHLs.

All in all, it's easy to see why this type of compact hybrid machine has become so popular in the US and is now set to take Europe by storm.











## Engine

50hp (37.3kW) naturally aspirated four-cylinder engine

Tier 3 compliant engine

60-litre fuel tank for reduced refuelling and day-long productivity

Pannier-mounted fuel tank for easy refilling

## Transmission

28kph (17.5mph) transmission for fast travel between sites

Two-range (high/low) hydrostatic transmission eliminates the need to change gear

Four-wheel drive and automatic limited slip differential for maximum traction in arduous terrain

Heavy-duty drivetrain to withstand construction site duties

Column-mounted lever for fast, effortless direction change

## Loader

Mechanical quickhitch for fast changeover of attachments

Skid steer-compatible pick-up gives access to a wide range of attachments

Anti-spill mechanism to retain load when raising

Optional auxiliary hydraulic circuit operates an array of attachments

## Tyres

Choice of turf, industrial or agricultural tyres to suit all your applications

## Operator Environment

Front sloping bonnet for excellent forward ground visibility

Adjustable front and rear working lights

Side-opening windows, cab heater, optional air conditioning and adjustable suspension seat keep the operator comfortable

Rear-opening window slides into the roof but projects to provide rain protection for the operator

Innovative rear window design keeps the cab fully enclosed – even when the excavator is removed

## PTO And 3-Point Linkage

Category 1, 3-point linkage and 540rpm PTO – the universal standard

1420kg capacity at lift point makes light work of the heaviest attachment

Link arm drop rate control for different weight attachments

Creep speed control lets you set the travel speed independently of PTO speed

Optional rear tow hitch

## Excavator

Equal length boom and dipper maximises trench length with less repositioning of the machine

Narrow boom and dipper gives superb visibility enhancing operator safety and performance

Rams and hoses are concealed within the boom for increased protection

Quick release mechanism allows the removal of the excavator within minutes to become an industrial tractor loader

Servo controls for fingertip control and ease of operation

Single and bi-directional auxiliary circuit powers a wide range of attachments



### 1 6 IN 1 SHOVEL

- Suitable for dozing, loading, digging, grabbing, spreading and grading
- Maximises productivity giving the operator a wider range of options

### 2 FORKS & FRAMES

- Enables the machine to be utilised for loading and stacking
- Fork length options, reduces possible damage when stacking

### 3 SWEEPER COLLECTOR

- Full width sweeping with optional gutter brush and water sprinkler
- Suitable for light and general duty sweeping applications

### 4 KERBMASTER

- The safe and simple way of handling kerbstones up to 180kg
- Incorporates hose burst check valves for failsafe operation

### 5 EARTHDRILL

- The ideal attachment for accurate and precise drilling
- Choice of standard and heavy-duty flights

### 6 HAMMMASTER

- Durable solid body design provides optimum breaker protection
- Excellent power to weight ratio provides maximum protection

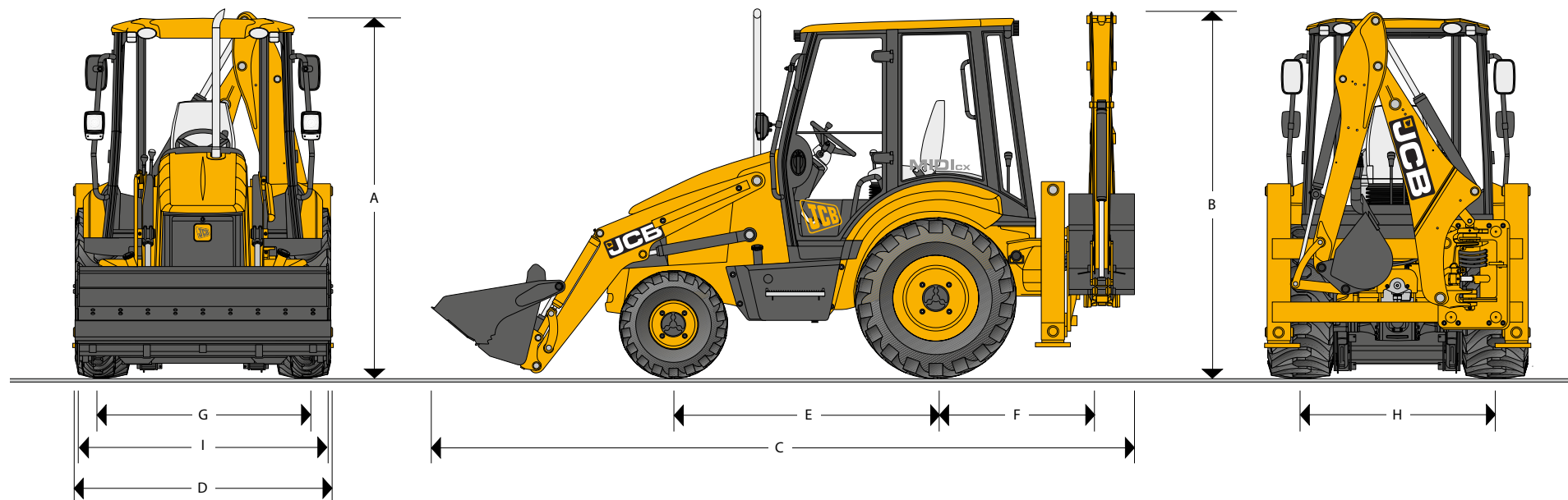
### 7 FERTILISER SPREADER\*

### 8 FINISHING MOWER\*

\* Attachments not available from JCB



MAX. ENGINE POWER: 37.3kW (50hp)    MAX. BACKHOE DIG DEPTH (STANDARD DIPPER): 3048mm (10ft 0in)    LOADER OPERATING LIFT CAPACITY: 1386kg (3055lb)

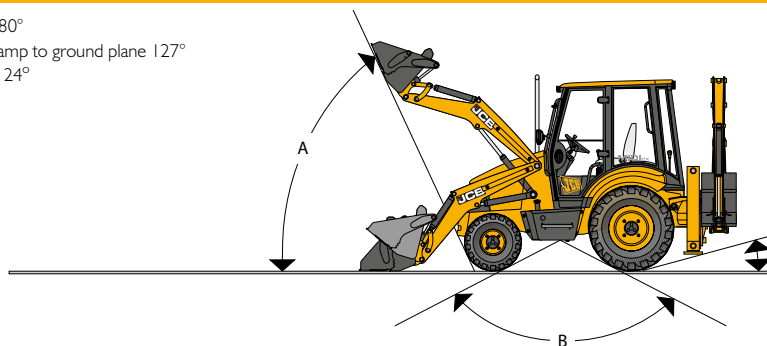


### STATIC DIMENSIONS

| Machine model                | Sideshift<br>mm (ft-in) | Machine model                              | Sideshift<br>mm (ft-in) |
|------------------------------|-------------------------|--|-------------------------|
| A Height to cab              | 2550 (8-4)              | F Slew centre to rear axle centre distance | 1200 (3-9)              |
| B Transport height           | 2550 (8-4)              | G Front wheel track                        | 1510 (4-9)              |
| C Transport length           | 5220 (17-1)             | H Rear wheel track                         | 1370 (4-5)              |
| D Overall width (over tyres) | 1845 (6-1)              | I Shovel width                             | 1845 (6-0)              |
| E Wheelbase                  | 1860 (6-1)              |  |                         |

### GROUND LINE ANGLES

- A Approach angle 80°
- B Interface angle/ramp to ground plane 127°
- C Departure angle 24°



### OPERATING WEIGHT AND MACHINE RATING

|  | kg (lb)     |
|--|-------------|
| <b>Weight</b>  |             |
| Loader with no shovel and backhoe  | 4070 (8973) |
| Loader with GP shovel and backhoe  | 4223 (9310) |
| No back end, fitted with GP shovel, TPH, PTO and creep speed (no links fitted) | 3213 (7083) |
| <b>Machine rating</b>  |             |
| Loader rated operating capacity with GP shovel                                 | 1386 (3055) |
| Loader rated operating capacity with 6-in-1                                    | 1186 (2615) |

### ENGINE

Four cylinder, indirect injection diesel. Naturally aspirated, water cooled.

|                                   |             |                |
|-----------------------------------|-------------|----------------|
| Model                             |             | Perkins 404C22 |
| Displacement                      |             | 2.2 litre      |
| No. of cylinders                  |             | 4              |
| Rated engine RPM                  |             | 2800           |
| <b>Power Ratings</b>              |             |                |
| Rated ISO 14396 (SAE J1995 Gross) | kW (hp)     | 37.3 (50)      |
| <b>Maximun Torque</b>             |             |                |
| Rated ISO 14396 (SAE J1995 Gross) | Nm (lbf ft) | 143 (105)      |
| Max. torque RPM                   |             | 1800           |

Exhaust emissions certified to 97/68/EC stage EU11 IA / Tier 3.  
Power approved to ISO 14396.

### CONTROLS

**Loader:** Single lever control for loader functions with a shadowing lever for auxiliaries, positioned to the right hand side of the operator's seat for ease of operation.

**Excavator:** Standard servo controls offer smooth, low effort and productive backhoe operation, whilst reducing operator fatigue. Joystick controls are sideways adjustable to suit the comfort of the operator.

Optional ISO/SAE change over valve.

Stabiliser levers fall easily to hand, positioned between the excavator controls.

### LIGHTING AND ELECTRICS

12 volt direct electric starting with 65 amp alternator and standard thermostart aid.

- Heavy-duty harness with secured sealed connectors for protection against both water and dust ingress. The connectors conform to IP69 standards.
- Standard battery 680 CCA low maintenance.

Ignition and working lights control switches mounted on the side control panel. Also incorporated in the central control panel are the hour meter and warning light cluster which includes a warning buzzer to draw operator's attention to malfunction.

- Fuses are located in a protected compartment at the rear of the cab.

### TRANSMISSION

Hydrostatic transmission with two speed switch, giving zero to maximum travel speed, both forward and reverse at full power. Operated by a simple forward/reverse lever located under the steering wheel, the speed of the machine is governed by how far the accelerator pedal is pressed. The transmission also acts as the primary braking system.

Travel speed forward: 0-28kph (17.4mph)

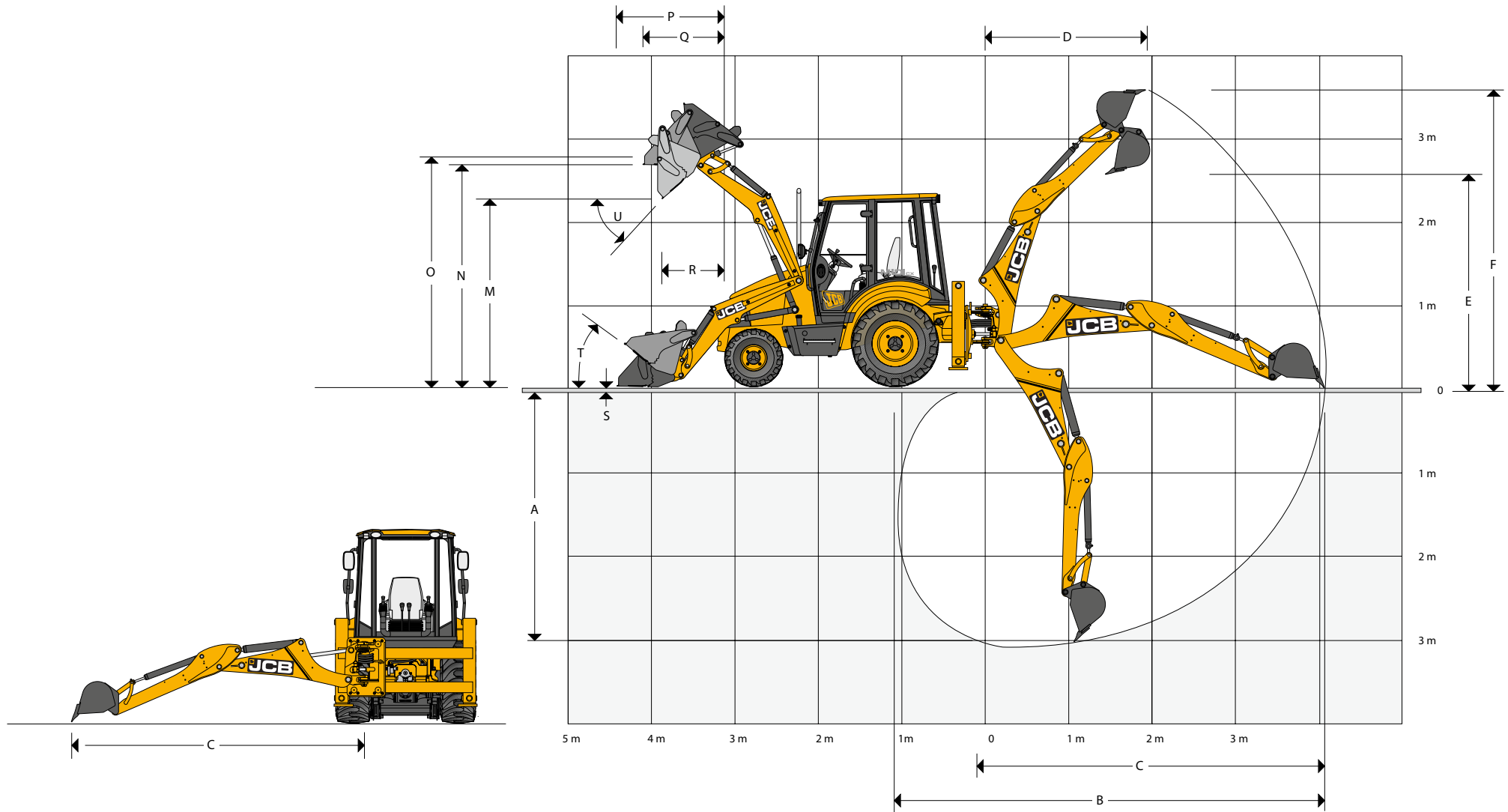
Travel speed reverse: 0-28kph (17.4mph)

### OPERATOR ENVIRONMENT

Full ROPS/FOPS cab (Category 1).

- Exceptional all round visibility
- Ergonomically designed servo excavator controls
- A fully adjustable seat with ergonomically positioned controls to minimise operator fatigue
- Mechanical suspension seat gives the operator a comfortable operating position
- A radio location is provided as standard plus twin speakers for stereo sound
- Cab provides easy access through a single door. Front side window opens either partially or fully for extra ventilation
- Standard features include: lap seat belt, 3 speed fresh air/recycle heater, front and rear screen wash/wipers, front and rear horn, exterior mirrors
- The instrument panel is positioned to the right-hand side for ease of viewing from either the loading or excavating position. Engine speed, fuel gauge are mounted in the panel
- Air conditioning system is optionally available providing the operator with a cool working environment when working in high temperatures





**BACKHOE DIMENSIONS AND PERFORMANCE**

|   |   | Sideshift    |
|---|---|--------------|
| A | SAE Maximum dig depth                         | 3048 (10-0)  |
|   | SAE Maximum dig depth 2ft flat bottom         | 2958 (9-7)   |
| B | SAE Reach – ground level to rear wheel centre | 5010 (16-4)  |
| C | SAE Reach – ground level to slew centre       | 3720 (12-2)  |
| D | SAE Reach – at full height to slew centre     | 1875 (6-2)   |
| E | SAE maximum loadover height                   | 2700 (8-9)   |
| F | SAE maximum working height                    | 3600 (11-8)  |
|   | Swing arc                                     | 180          |
|   | SAE Bucket tearout                            | 2733 (6025)  |
|   | SAE Dipper tearout                            | 2063 (4548)  |
|   | Slew torque                                   | 12.84 (9470) |

**REAR HITCH**

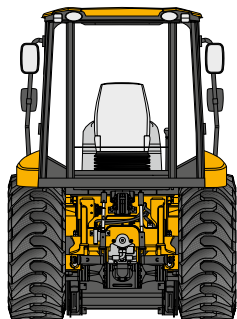
|  |                     |
|--|---------------------|
| 3-point hitch                          | Category I standard |
| Control type                           | Position only       |
| Lift capacity @ link ends              | 1420 (3130)         |
| Lift capacity @ 24in behind lift point | 1135 (2500)         |

Hitch lift arms have a lateral float which allows the draft arms to raise and lower slightly, independently of each other to ease hook-up of rear implements on uneven ground and allow rear implements to follow ground contours, helping to avoid implement damage when operating on uneven ground.

Sway bars have pin adjustment to regulate side-to-side sway of implement.

The link drop rate is controlled by an adjustable valve allowing the operator to adjust the lowering speed of the lift arms to suit the weight of the implement.

Crawl speed control allows the transmission speed to be set independently of the PTO speed to allow maximum hydraulic PTO power and slow travel speed.


**LOADER DIMENSIONS AND PERFORMANCE**

|   |  |                                   |              |
|---|--|-----------------------------------|--------------|
| M | Dump height                                  | mm (ft-in)                        | 2115 (6-9)   |
| N | Loadover height                              | mm (ft-in)                        | 2790 (9-1)   |
| O | Pin height                                   | mm (ft-in)                        | 2940 (9-6)   |
| P | Reach at ground level (toe plate horizontal) | mm (ft-in)                        | 1425 (4-7)   |
| Q | Maximum reach at full height                 | mm (ft-in)                        | 1150 (3-8)   |
| R | Reach at full height – fully dumped          | mm (ft-in)                        | 563 (1-8)    |
| S | Dig Depth (toe plate horizontal) clearance   | mm (ft-in)                        | 76 (0-3)     |
| T | Rollback at ground level                     | degrees                           | 40           |
| U | SAE dump angle                               | degrees                           | 60           |
|   | SAE loader breakout – shovel                 | kN (lb)                           | 25.95 (5830) |
|   | SAE maximum lift capacity to maximum height  | kg (lb)                           | 1578 (3478)  |
|   | Shovel capacity                              | m <sup>3</sup> (yd <sup>3</sup> ) | 0.45 (0.49)  |
|   | Side tip shovel capacity                     | m <sup>3</sup> (yd <sup>3</sup> ) | 0.39 (0.51)  |
|   | Rated operating load with forks @ 500mm      | kg (lb)                           | 814 (1795)   |
|   | Rated operating load with forks @ 400mm      | kg (lb)                           | 900 (1984)   |

**REAR POWER TAKE OFF**

|              |         |              |
|--------------|---------|--------------|
| PTO rated at | kW (hp) | 18.6 (25)    |
| Spline       |         | 1 3/8" shaft |
| Rear PTO     |         | 540rpm       |

**BRAKES**

Brake pedal applied, oil-immersed multi disc inboard brakes with split pedals and independent braking. There are 3 discs each side for the service brakes. When the service brake is applied, the transmission will automatically slow down giving a more positive brake feel.

**STEERING**

Full power hydrostatic system utilising the variable displacement pump via a steering priority valve. In the event of engine failure, emergency steering is maintained.

|                                   |            |             |
|-----------------------------------|------------|-------------|
| Steering Axles                    |            | front       |
| Steering turns – lock to lock     |            | 2.5         |
| Kerb-kerb turning circle          | mm (ft-in) | 3590 (11-8) |
| Kerb-kerb loader clearance circle | mm (ft-in) | 5150 (16-9) |





## TYRES

Front: 10 x 16.5 Galaxy Ind (Standard)

Rear: 12.4 17L24 Galaxy Ind lug (Standard)

The standard tyre fitment provides traction with minimum ground disturbance.

Optional front: 10 x 16.5 Turf tyre (Option)

Optional rear: 17.5 L24 Turf tyre (Option)

## HYDRAULICS

A variable displacement pump is mounted on the main hydrostatic pump, which in turn is mounted directly to the engine. The variable displacement pump supplies oil to steering, excavator and loader services and returns to tank through a full flow filter.

|  |       |     |
|--|-------|-----|
| Main pump – flow @ 2600 rpm                  | l/min | 72  |
| Main pump – flow @ flight                    | l/min | 75  |
| System working pressure – backhoe and loader | bar   | 238 |

## OPTIONAL EQUIPMENT

|  |
|--|
| Smooth Ride System (SRS)   |
| Auxiliary hydraulic supply to loader                                       |
| Auxiliary hydraulic supply to excavator for single and bi-directional flow |
| Quickhitch mounted 6-in-1 shovel   |
| Flashing beacon  |
| 3 point hitch Cat 1 with creep speed and link arm drop rate control        |
| TPH bars   |
| Hydraulic PTO  |
| Aux detent (front)   |
| Excavator mechanical Quickhitch  |
| Street pads  |
| Reverse alarm  |
| Shovel teeth   |
| Toe plate (bolt on)  |
| Side tip shovel (left or right hand, 1850mm width)                         |
| Pallet forks   |
| ISO/SAE excavator change over switch                                       |
| Air conditioning   |
| Turf tyres   |
| Biodegradeable hydraulic oil   |
| Rear draw bar and 7 pin electrics plus hydraulic tipping                   |
| Fire extinguisher  |

## SERVICE CAPACITIES

|                             | ltr (gal)  |
|-----------------------------|------------|
| Hydraulic system incl. tank | 90 (23.7)  |
| Fuel tank                   | 60 (13.2)  |
| Cooling system              | 11.9 (3.1) |
| Engine oil with filter      | 9.5 (2.5)  |
| Rear axle                   | 7 (1.8)    |
| Rear axle – per hub         | 0.6 (0.13) |
| Front axle                  | 5.3 (1.4)  |
| Front axle – per hub        | 0.6 (0.13) |

## JCB SMOOTH RIDE SYSTEM (Optional)

The JCB Smooth Ride System (SRS) consists of a dry nitrogen and oil-filled accumulator installed in line with the loader lift cylinders. When activated, the Smooth Ride System allows the loader arms to float. This action counteracts variations in road and site surfaces and provides the operator with a smooth ride. The JCB Smooth Ride System is manually controlled, via a rocker switch on the instrument panel, for maximum benefit and user flexibility.

## STANDARD EQUIPMENT

|   |
|---|
| Loader anti spill   |
| ROPS/FOPS cab level 1   |
| Hand throttle   |
| Seatbelt  |
| Turning mechanical suspension seat, 180° turn                   |
| ISO pattern excavator controls                                  |
| Handbrake buzzer and ignition warning light                     |
| Neutral start interlock with handbrake and transmission         |
| 12V Auxiliary power socket                                      |
| Horn  |
| Loader Quickhitch (compatible with skid steer type attachments) |
| Front shovel float  |
| Limited slip differential (rear only)                           |
| Adjustable front and rear worklights                            |
| Front and rear wipers   |
| Cab heater  |
| Registration plate bracket and light                            |
| Exterior mirrors  |



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