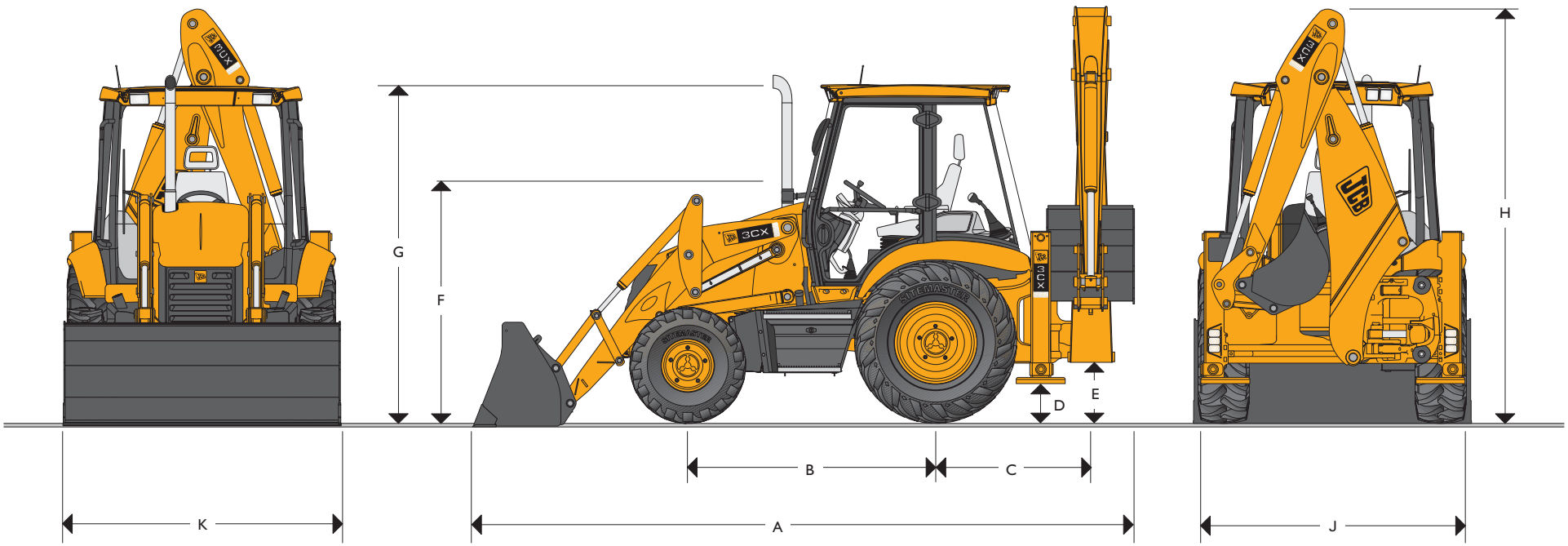
JCB BACKHOE LOADER | 3CX

MAX. ENGINE POWER	63kW (85hp) – Nat. Asp. 68.6kW (92hp) – Turbo
MAX. BACKHOE DIG DEPTH:	4.75 metres (15ft 7in)
MAX. LOADER CAPACITY:	1.1m³ (1.44yd³)



STATIC DIMENSIONS

JCB Backhoe Loaders feature heavy duty one piece mainframe, componentised driveline and fully enclosed engine compartment. All fluid and component compartments are lockable using the ignition key.

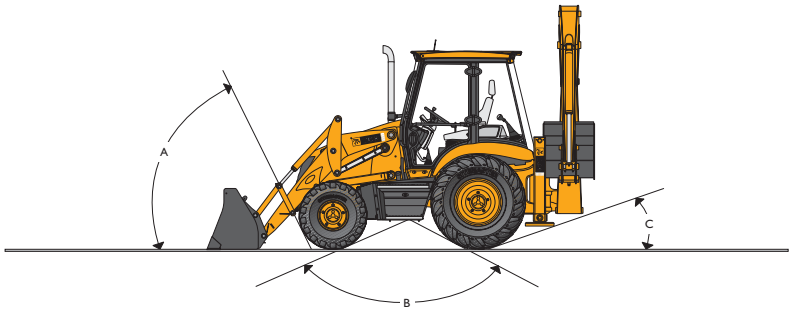
Machine model	3CX
	m (ft-in)
A Total travel length	5.62 (18-5)
B Axle centreline distance	2.17 (7-1)
C Slew centre to rear axle centre distance	1.36 (4-6)
D Stabiliser feet clearance	0.37 (1-2)
E Kingpost clearance	0.52 (1-8)
F Steering wheel centre height	1.94 (6-4)
G Cab roof height	2.87 (9-5)

Machine model	3CX
	m (ft-in)
H Total travel clearance	3.61 (11-10)
J Rear frame width	2.36 (7-9)
K Shovel width	2.35 (7-8)
J* Rear frame width	2.24 (7-4)
K* Shovel width	2.23 (7-4)

* Narrow option

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GROUND LINE ANGLES



A Approach angle 66°
B Interference angle/ramp to ground plane 120°
C Departure angle 20°

OPERATING WEIGHTS

Operating weight includes machine equipped with cab, 610mm excavator bucket and full fuel tank.

Machine model	3CX
	kg (lb)
Standard dipper and GP shovel	7370 (16250)
Extradig and 6-in-1 shovel with forks	8070 (17800)

ENGINE

Four cylinder, direction injection diesel. Water pump, spin-on oil filter, fuel filter, water sediment separator prefilter, dual element air cleaner with internal precleaner, cold start aid.

Machine model		3CX	3CX
Manufacturer		JCB	JCB
Aspiration		Naturally aspirated	Turbocharged
Displacement		4.4 Ltr	4.4 Ltr
No. of cylinders		4	4
Rated engine RPM		2200	2200
Power ratings			
Gross ISO/TR 14396 and SAE J1995	kW (HP)	63 (85)	68.6 (92)
SAE Net ISO 9249 SAE J1349	kW (HP)	61.6 (82.6)	67.2 (90.1)
Maximum torque			
Gross ISO/TR 14396 and SAE J1995	Nm (lbf ft)	320 (236)	390 (287.6)
SAE Net ISO/TR 9249 and SAE J1349	Nm (lbf ft)	315.6 (232.7)	382 (281.8)
Max. torque RPM		1200	1300

STEERING

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

Machine model	3CX – 2	3CX – 4
Axles	Steer only	Steer drive
Steering turns – lock to lock	2¾	2¾
	m (ft-in)	m (ft-in)
Kerb – kerb turning circle – unbraked	8.1 (26-7)	8.1 (26-7)
Loader clearance circle – unbraked	10.4 (34-1)	10.4 (34-1)
Kerb – kerb turning circle – braked	6.9 (22-8)	6.9 (22-8)
Loader clearance circle – braked	9.5 (31-2)	9.5 (31-2)

(Depending on tyre size, ground conditions etc.)

ENGINE SUPPORT SYSTEM

Engine support system is designed for ease of daily checks, routine maintenance and longer service intervals.

Fuel type Diesel.
Fuel filter Replaceable cartridge plus water/sediment separator prefilter.
Air cleaner Dual, dry element type with self cleaning internal air intake precleaner.
Oil filter and lubrication Full flow, spin-on type filter.
Cooling system Hot climate specification, pressurised 14.5 psi (1.0 bar) suction fan. Pressurised recovery tank with integral filler neck.

ELECTRICAL AND INSTRUMENTATION

12 volt negative ground, utilising wiring and connectors meeting IP69 water ingress test standard. Central fuse panel.

Gauges Tachometer, engine coolant temp, fuel level, hourmeter, clock.
Warning system Audible and visual system for engine oil, water in fuel, transmission oil temperature and pressure, park brake, air cleaner, alternator.
Battery 115 A/hr.
Pre-wire Radio speakers (cab), beacon (all).
Horn Controlled from both front and rear.
Alternator 95 amp standard.
Front working lights 2 twin beam fixed position.
Rear working lights 4 adjustable.



JCB TORQUE LOCK (Optional)

An industry exclusive, JCB Torque Lock enables an operator to dramatically reduce travel time and improve fuel efficiency during roading operations.

Torque Lock incorporates a clutch which, when engaged, enables a direct connection between the engine and gearbox. By "locking up" the torque converter slippage is eliminated. Torque Lock engages automatically in 4th gear (Powershift models) or "A" mode (Autoshift models).

Not available on Synchroshuttle models.

TRANSMISSION

The JCB Transmissions are designed and built specifically for JCB Backhoe Loaders. They feature synchronised shifting in all gears. Powershuttle between forward and reverse. Ground speeds are designed to maximise production.
An optional 4 speed powershift transmission enables effortless and fast gear changes. Gears are selected through a twist grip control on the column mounted forward/reverse lever.

Machine model	**3CX**	**3CX**
Manufacturer	JCB	JCB
Type	Syncroshuttle	Powershift
Torque converter	305mm (12")	305mm (12")
Torque converter ratio	3.0:1	2.52:1
Torque Lock	N/A	Option
Gears forward/reverse	4/4	4/4
Gear selection	Manual	Powershift
Shuttle control – F/R	Power shuttle	Power shuttle
Travel speeds	**kph (mph)**	**kph (mph)**
Tyres equipped	**Front 12.5 x 18 Rear 18.4 x 26 T219 JCB S/M**	
Gear 1	5.6 (3.5) F / 5.6 (3.5) R	5.3 (3.3) F / 5.3 (3.3) R
Gear 2	9.0 (5.6) F / 9.0 (5.6) R	9.8 (6.1) F / 9.8 (6.1) R
Gear 3	19.2 (11.9) F / 19.2 (11.9) R	22.6 (14.0) F / 22.6 (14.0) R
Gear 4	34.8 (21.6) F / 34.8 (21.6) R	38.3 (23.8) F / 38.3 (23.8) R

FRONT AXLE

JCB front axles are designed and built specifically for backhoe loaders and accept a wide variety of tyre combinations.

Machine model	**3CX – 2WD**	**3CX – 4WD**
Type		JCB steer drive with torque proportional
Axle ratings	**kg (lb)**	**kg (lb)**
Static load rating		16500 (36375)
Dynamic load rating		5500 (12125)
Oscillation angle	16°	16°
Steering ram	Powered track rod	Powered track rod

REAR AXLE

JCB rear axles are designed and built specifically for backhoe loaders and accept a wide variety of tyre combinations.

Machine model	**3CX**
Type	JCB Epicyclic hub reduction with torque proportional
Limited slip	Option
Axle ratings	**kg (lb)**
Static load rating	21000 (46296)
Dynamic load rating	7000 (15435)

CAB

Excellent visibility (and safety) is provided by the extra large tinted glass areas of 6.4 sq m (70 sq ft). Cab frame is ROPS and FOPS approved for maximum operator protection. ISO standard 3471 and 3449 (SAE J1040 and J231).

- A fully adjustable seat with lumbar support combines with ergonomically positioned controls to minimise operator fatigue.
- The in-cab noise levels are the lowest in the business for maximum operator comfort.
- A radio location is provided as standard plus twin speakers for stereo sound.
- Cab provides easy access through a two door frame. Rear side windows open 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, and flat easy-clean floor.
- The instrument panel is positioned to the right-hand side for ease of viewing from either the loading or excavating position and has an optional lockable cover for vandal proofing. Engine speed, fuel and coolant temperature gauges, (and clock on cab builds) are mounted in the panel.
- A high performance air conditioning system is optionally available on turbo builds providing the operator with a cool working environment when working in high temperatures.
- Mechanical suspension seat gives the operator a comfortable operating position.
- An optionally available heated air suspension seat gives the operator the ultimate comfort with automatic compensation for weight.

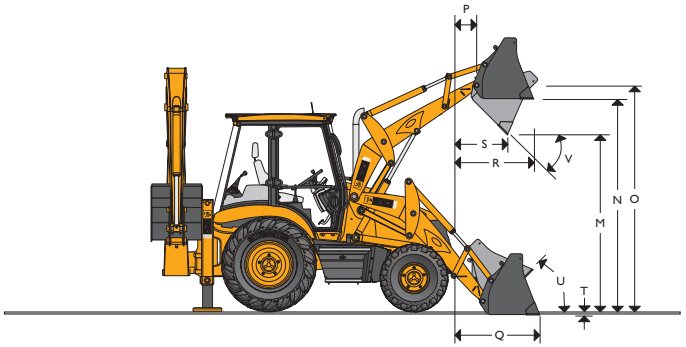
JCB PRECISION CONTROL (Optional)

JCB Precision Control offers smooth, low effort and productive operation, while reducing operator fatigue. Excavator control joysticks are integrated into the seat, which provides increased legroom, improved job visibility and hydraulic excavator ergonomics. A proportional switch is mounted in the joystick to operate JCB's Extradig. An optional joystick mounted switch is also available to operate auxiliary attachments. The low effort mechanical loader control incorporates an optional proportional roller to operate loader mounted attachments.

Best in class hydraulic modulation combined with the greatest digging performance, means that the JCB Precision Control is unmatched in any backhoe loader.

*Not available on naturally aspirated engines.

LOADER DIMENSIONS



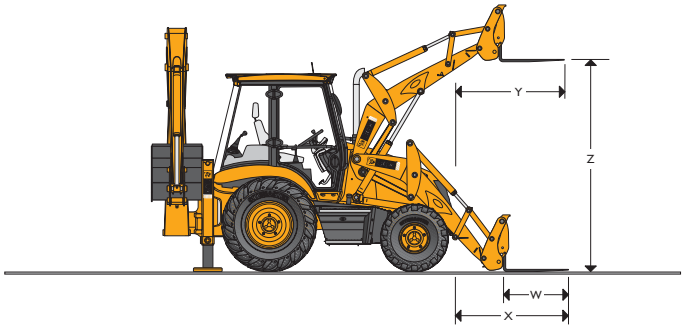
LOADER DIMENSIONS

		GP shovel	6-in-1 shovel
		m (ft-in)	m (ft-in)
M	Dump height	2.74 (9-0)	2.72 (8-11)
N	Load over height	3.23 (10-7)	3.20 (10-6)
O	Loader hinge pin height	3.45 (11-4)	3.45 (11-4)
P	Pin forward reach	0.36 (1-2)	0.36 (1-2)
Q	Reach at ground (toe plate horizontal)	1.42 (4-8)	1.37 (4-6)
R	Max. reach at full height	1.20 (3-11)	1.15 (3-9)
S	Reach at full height fully dumped	0.83 (2-9)	0.78 (2-7)
T	Dig depth	0.07 (0-3)	0.10 (0-4)
U	Roll back at ground	45°	45°
V	Dump angle	43°	43°
	Jaw opening width	–	0.95 (3-1)

LOADER DIMENSIONS – Forklift Performance Data

			6-in-1 shovel mounted forks	Quickhitch mounted forks
			m (ft-in)	m (ft-in)
W	Forks – tine length		1.1 (3-7)	1.1 (3.7)
	Forks – tine width		0.08 (0-3.1)	0.08 (0-3.1)
X	Forks reach at ground level		2.66 (8.9)	2.03 (6-8)
Y	Forks reach at full height		2.25 (7-5)	1.72 (5-8)
Z	Forks lift height – max.		2.92 (9-7)	3.27 (10-9)
	Fork spacing – min		0.2 (0-8)	0.2 (0-8)
	Fork spacing – max		2.17 (7-3)	1.03 (3-4)
	SWL @ 500mm load centres	kg (lb)	1000 (2205)	2000 (4410)

LOADER ATTACHMENTS



LOADER ATTACHMENTS – Direct Mount

Loader buckets are listed according to size and application. Numbers listed below models are bucket shipping weights. All buckets are drilled to accept optional auxiliary cutting edge or teeth. Flat top box section provides rigidity and assists in bucket levelling.

G.P. Shovel		
	Capacity SAE	
Width mm (ft-in)	Rated m^3 (yd^3)	Struck m^3 (yd^3)
2235 (7-4)	1.0 (1.32)	0.83 (1.09)
2350 (7-8)	1.1 (1.44)	0.91 (1.19)
6-in-1 Clamshovel		
	Capacity SAE	
Width mm (ft-in)	Rated m^3 (yd^3)	Struck m^3 (yd^3)
2235 (7-4)	1.0 (1.32)	0.76 (1.00)
2350 (7-8)	1.0 (1.32)	0.76 (1.00)

LOADER

JCB loaders provide parallel lift self levelling on the up and down cycle enhancing load retention and use of optional pallet forks. High capacity buckets combined with high lift and breakout forces maximise productivity.

		G.P. Shovel	6-in-1 Clamshovel
Bucket breakout force	kgf (lbf)	6170 (13603)	6531 (14398)
Loader arm breakout force	kgf (lbf)	4942 (10895)	4732 (10432)
Lift capacity to full height (2235mm wide)	kg (lb)	3479 (7670)	3229 (7119)
Lift capacity to full height (2350mm wide)	kg (lb)	3439 (7582)	3169 (6986)
6-in-1 bucket clamp force	kg (lb)	–	2940 (6480)



BRAKES

The JCB braking system ensures effective, fade-free braking. The self-adjusting, multi-disc arrangement is inboard mounted and is oil immersed for minimum maintenance and a long operating life.

- A 3 position switch allows the selection of 2 wheel drive with two wheel braking; 2 wheel drive with four wheel braking or 4 wheel drive with four wheel braking.
- All machines are fitted with servo assisted brakes as standard for low effort braking.
- Twin brake pedals provide tighter turning circle and enhanced steering control on slippery ground.
- Automatic compensation ensures 'straight' machine braking.
- Disc diameter: 220 mm (8.7 in). Friction area: 129,000 sq.mm (200 sq. in) per brake.
- For syncroshuttle transmissions, the independent parking brake is mounted on the input shaft of the rear axle and will hold the machine on 1:3 gradients. It is an over-centre type, adjustable within the cab, with transmission disconnect to prevent premature brake pad wear. Park brake disc diameter: 280mm (11 in). Friction area 5416 sq. mm (8.4 sq.in).
- For powershift transmissions, the integral park brake is a ball and ramp, oil immersed type located within the transmission and will hold the machine on 1:3 gradients. It is an over-centre type, adjustable within the cab, with transmission disconnect to prevent premature brake pad wear. There are 5 friction brake discs having an outside diameter of 127mm (5 in). Frictional area per brake disc is 47.65 sq. cm (7.39 sq. in) giving a total frictional area of 476.5 sq. cm (73.9 sq. in).

TYRES

Front	12.0 x 18, 10PR Industrial
	12.5 x 18, 10PR Industrial
	335/80 x 18, Radial Traction
	400/70 x 18, Radial Industrial
Rear	16.9 x 28, 12PR Traction or Industrial
	18.4 x 26, 12PR Traction or Industrial
	16.9 x 28, Radial Traction
	480/80 x 26, Radial Industrial

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 or 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.

JCB POWERSLIDE (Optional)

Exclusive to JCB, this option enables the excavator's sideshift carriage to be hydraulically powered across the rearframe by the operation of a pedal or joystick mounted proportional switch (Precision Control) in the cab.
With this feature there is no need to "push" the carriage across with the bucket avoiding ground damage and the need to relocate the whole machine.

HYDRAULIC SYSTEM

The Open Centre system uses twin gear pumps and Hydraulic Speed Control (HSC) with a power modulation valve that automatically varies hydraulic power to match digging conditions for extra performance and power.

- Open centre hydraulic system using simple and reliable high efficiency gear pumps.
- A Power Modulation Valve automatically varies the hydraulic power to match digging conditions to improve performance and efficiency – automatically dumps one pump when 4th gear selected on powershift models.
- The HSC switch enables controlled use of hydraulic response depending upon application.
- Easily used, ergonomically positioned levers give excellent control of the loader and backhoe, thus reducing operator fatigue.
- An independent pump powers the Extradig dipper so that it can extend or retract without breaking the digging cycle. This allows faster cycle times and simultaneous use of the telescopic and normal excavator actions in operations such as grading and bank dressing.
- A full flow 10 micron filter ensures that oil stays free of contaminants.

Engine	Naturally aspirated	Turbo
	l/min (gal/min)	l/min (gal/min)
Main pump output	73 (16)	79 (17.5)
Second pump output	51 (11.5)	57 (12.5)
	bar (lbf/sq in)	bar (lbf/sq in)
System relief pressure	251 (3650)	251 (3650)

SERVICE CAPACITIES

Machine model	3CX
	ltr (gal)
Cooling system	18.5 (4.1)
Fuel tank	160 (35.2)
Engine oil with filter	15 (3.3)
Gearbox with filter	16 (3.5)
Rear axle	16 (3.5)
Front drive axle	16 (3.5)
Hydraulic system incl. tank	132 (29)



BACKHOE ATTACHMENTS – Standard Profile Bucket

Width*	Capacity SAE		Weight (+ Teeth)	
mm (in)	Rated m³ (ft³)	Struck m³ (ft³)	kg (lb)	Teeth
305 (12)	0.06 (2⅛)	0.05 (1¾)	102 (225)	3
400 (16)	0.09 (3)	0.07 (2½)	109 (240)	3
457 (18)	0.12 (4¼)	0.09 (3)	116 (256)	3
610 (24)	0.17 (6)	0.13 (4½)	140 (310)	4
800 (32)	0.24 (8½)	0.17 (6)	162 (355)	5
950 (37)	0.30 (10½)	0.21 (7¼)	198 (435)	5

* Including sidecutters. Width less sidecutters deduct 25mm (1in).

BACKHOE ATTACHMENTS – Deep Profile Bucket

Width*	Capacity SAE		Weight (+ Teeth)	
mm (in)	Rated m³ (ft³)	Struck m³ (ft³)	kg (lb)	Teeth
305 (12)	0.09 (3)	0.07 (2½)	102 (225)	3
457 (18)	0.16 (5½)	0.13 (4½)	122 (269)	3
610 (24)	0.23 (8)	0.18 (6¼)	142 (314)	4
800 (32)	0.30 (10½)	0.24 (8½)	163 (359)	5
950 (37)	0.38 (½)†	0.30 (10½)	183 (403)	5
1100 (43)	0.48 (⅜)†	0.34 (12)	203 (448)	6

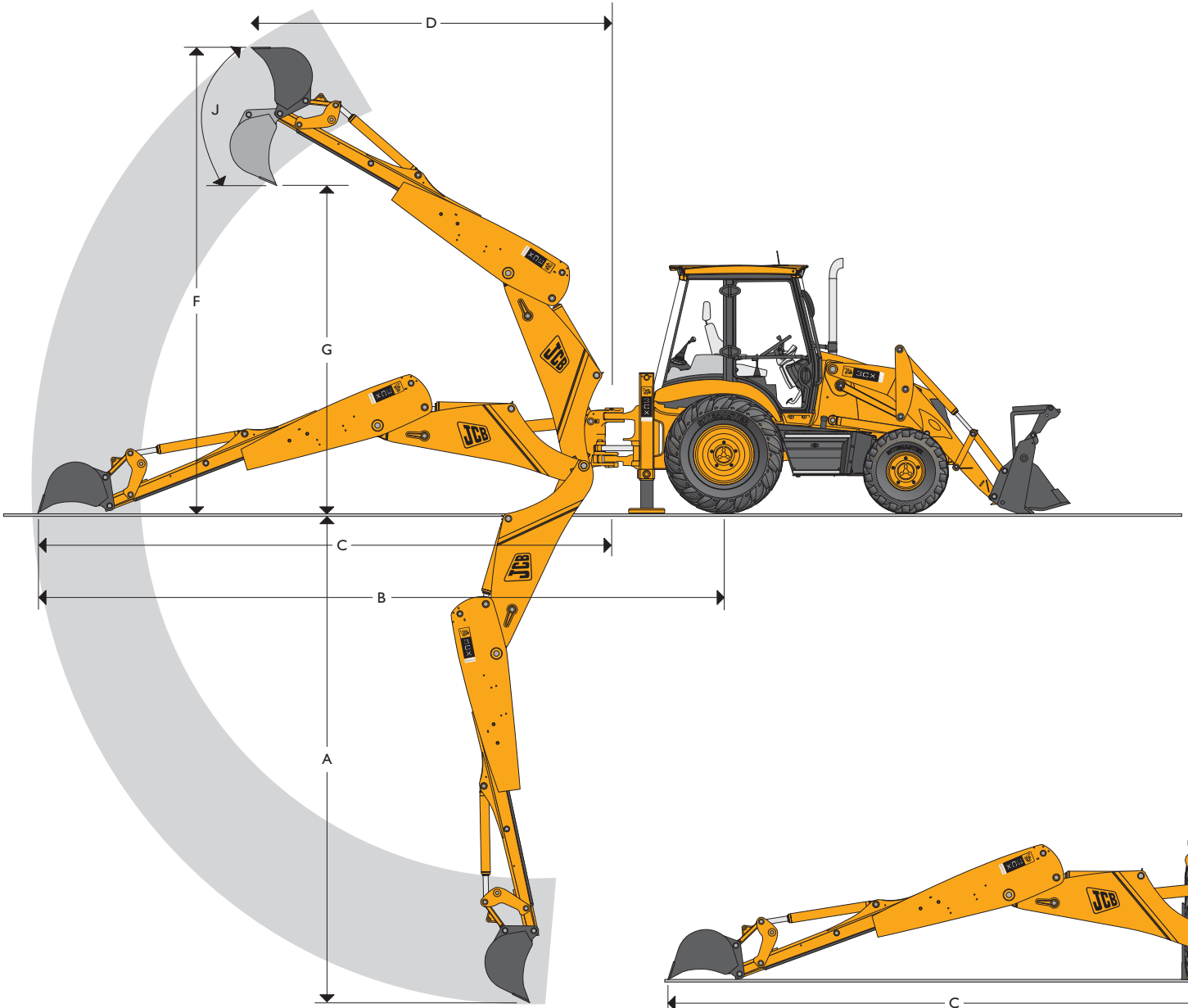
* Including sidecutters. Width less sidecutters deduct 25mm (1in). † Capacity in cu.yd.

BACKHOE DIMENSIONS

			Standard Dipper	Extradig
			m (ft-in)	m (ft-in)
A	SAE max dig depth	Ext	–	5.46 (17-11)
		Ret	4.24 (13-11)	4.24 (13-11)
	SAE 2ft flat bottom	Ext	–	5.43 (17-10)
		Ret	4.21 (13-10)	4.21 (13-10)
	Maximum dig depth with deep profile bucket	Ext	–	5.97 (19-7)
		Ret	4.75 (15-7)	4.75 (15-7)
B	Reach – ground level to rear wheel centre	Ext	–	7.87 (25-10)
		Ret	6.72 (22-1)	6.72 (22-1)
C	Reach – ground level to slew centre	Ext	–	6.52 (21-5)
		Ret	5.37 (17-7)	5.37 (17-7)
D	Reach – at full height to slew centre	Ext	–	3.66 (12-0)
		Ret	2.74 (9-0)	2.74 (9-0)
E	Side reach – to centre line of machine	Ext	–	7.09 (23-3)
		Ret	5.94 (19-6)	5.94 (19-6)
F	SAE operating height	Ext	–	6.35 (20-10)
		Ret	5.53 (18-2)	5.53 (18-2)
G	Maximum loadover height	Ext	–	4.72 (15-6)
		Ret	3.84 (12-7)	3.84 (12-7)
	SAE loadover height	Ext	–	4.32 (14-2)
		Ret	3.4 (11-3)	3.4 (11-3)
H	Total kingpost travel		1.16 (3-10)	1.16 (3-10)
	Narrow rear frame option		1.05 (3-5)	1.05 (3-5)
J	Bucket rotation	Speed	201°	201°

BACKHOE PERFORMANCE

		Standard Dipper	Extradig
		kgf (lbf)	kgf (lbf)
Bucket tearout	Speed	5431 (11948)	5385 (11847)
	Power	6324 (13912)	6228 (13701)
Dipper tearout	Ext	–	2255 (4961)
	Ret	3217 (7077)	3225 (7095)
		kg (lb)	kg (lb)
Lift capacity of bucket pivot at full reach	Ext	–	719 (1582)
	Ret	1584 (3485)	1451 (3192)



A Product of Hard Work



A GLOBAL COMMITMENT TO QUALITY

JCB's total commitment to its products and customers has helped it grow from a one-man business into Britain's largest privately owned manufacturer of backhoe loaders, crawler excavators, wheeled excavators, telescopic handlers, wheeled loaders, dump trucks, rough terrain fork lifts, industrial fork lifts, mini/midi excavators, skid steer loaders and tractors.

By making constant and massive investments in the latest production technology, the JCB factories have become some of the most advanced in Europe.

By leading the field in innovative research and design, extensive testing and stringent quality control, JCB machines have become renowned all over the world for performance, value and reliability.

And with a global sales and service network of over 400 distributors and agents, the company exports over 70% of its production to all five continents.

Through setting the standards by which others are judged, JCB has become one of Britain's most impressive success stories.

JCB cares for the environment. This paper has been produced without the use of elemental chlorine chemicals in the bleaching process.

JCB Sales Limited, Rocester, Staffordshire ST14 5JP. Tel: 01889 590312. Fax: 01889 590588. Web: http://www.jcb.com

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9999/4919 11/05 Issue 5

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