

SPECIFICATION

LOADS MORE



STAGE V

WHEEL LOADER | 457S

Engine power: 282hp (210kW) | Operating weight: 19,551kg | Tipping load: 10,468kg | Standard shovel capacity: 3.3m³

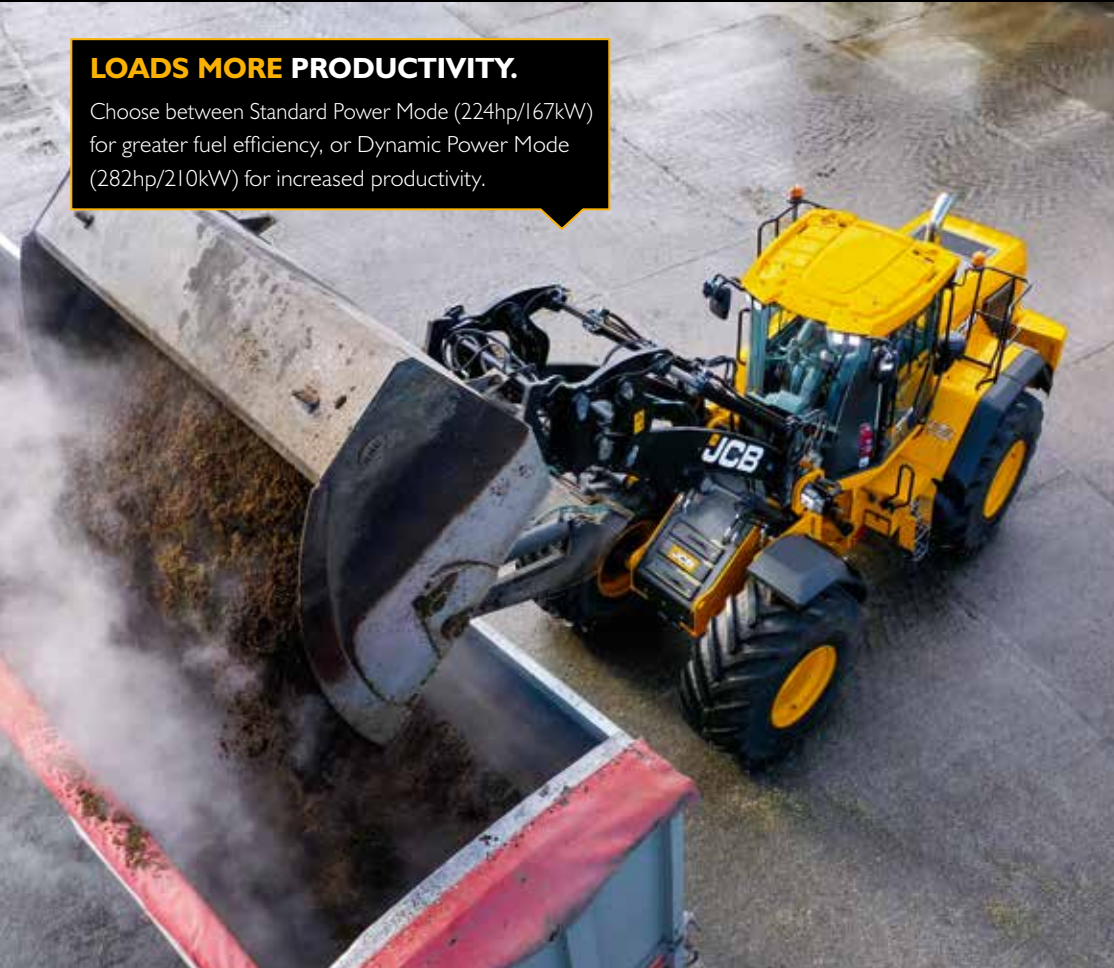


LOADS MORE.

The JCB 457S wheel loader is a machine designed to give you loads more productivity and versatility in comfort. Delivering 282hp and weighing just over 20 tonnes, it has a best in class power-to-weight ratio of 14hp per tonne, enabling loads more pushing, lifting, climbing and roading performance. What more could you want?

LOADS MORE PRODUCTIVITY.

Choose between Standard Power Mode (224hp/167kW) for greater fuel efficiency, or Dynamic Power Mode (282hp/210kW) for increased productivity.



LOADS MORE VERSATILITY.

The 457S is available with both standard lift and high lift arms. An optional tow hitch with integrated camera, provides even greater versatility.



LOADS MORE UPTIME.

A large single-faced widecore cooling pack with automatic reversing fan removes build up chaff ensuring an optimum working temperature.

LOADS MORE COMFORT.

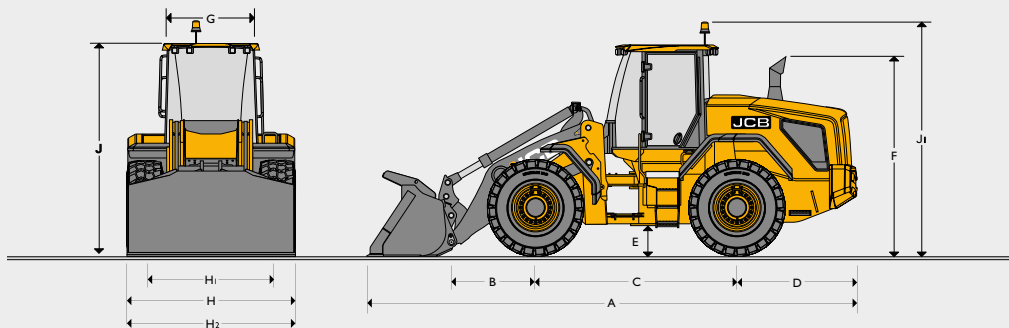
Our proven JCB CommandPlus cab is fitted as standard on the 457S. The spacious 3.4m³ cab provides excellent all-round visibility and a well laid out, ergonomic interface.



LOADS MORE QUALITY.

Advanced manufacturing techniques, including robot welding, accurate machining of componentry and precision paint technology, provide you with a robust, long-lasting machine.

STATIC DIMENSIONS



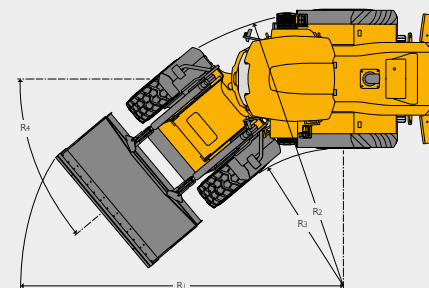
		457S	457S HL
A	Overall Length	mm 8380	8832
B	Axle to pivot pin	mm 1498	1950
C	Wheel Base	mm 3300	3300
D	Axle to counterweight face	mm 1962	1962
E	Minimum ground clearance	mm 557	557
F	Height Over Exhaust	mm 3267	3267
G	Width over cab	mm 1600	1600
H	Max Width over tyres	mm 2969	2969
H1	Wheel track	mm 2234	2234
J	Height Over Cab	mm 3505	3505
	Pin height (maximum)	mm 3864	3864
	Front axle weight	kg 9406	9755
	Rear axle weight	kg 10190	10153
	Total weight	kg 19596	19908
	Inside Turn Radius	mm 3048	3048
	Maximum Turn Radius over Shovel	mm 6586	6794
	Maximum turn radius over tyre	mm 6062	6062
	Articulation Angle	degrees +/-40	+/-40

Data based on machine equipped with direct mounted 3.3m³ QH bucket with toe plates and Trelleborg 710/75 R32 TM2000 Tyres.

HYDRAULICS

		Variable displacement
Pump type		Variable displacement
Pump 1 maximum flow	l/min	153
Pump 1 maximum pressure	bar	220
Pump 2 maximum flow	l/min	153
Pump 2 maximum pressure	bar	170
Hydraulic cycle times at full engine RPM		
Arms raise (full bucket)	Seconds	5.8
Shovel dump (full bucket)	Seconds	1.2
Arms lower (empty bucket)	Seconds	4.1
Total cycle	Seconds	11.1

STATIC DIMENSIONS



		457S	457S HL
R1	Maximum turn radius over shovel	mm 6586	6794
R2	Maximum turn radius over tyre	mm 6062	6062
R3	Inside turn radius	mm 3048	3048
R4	Articulation angle	degrees +/- 40	+/- 40

ENGINE

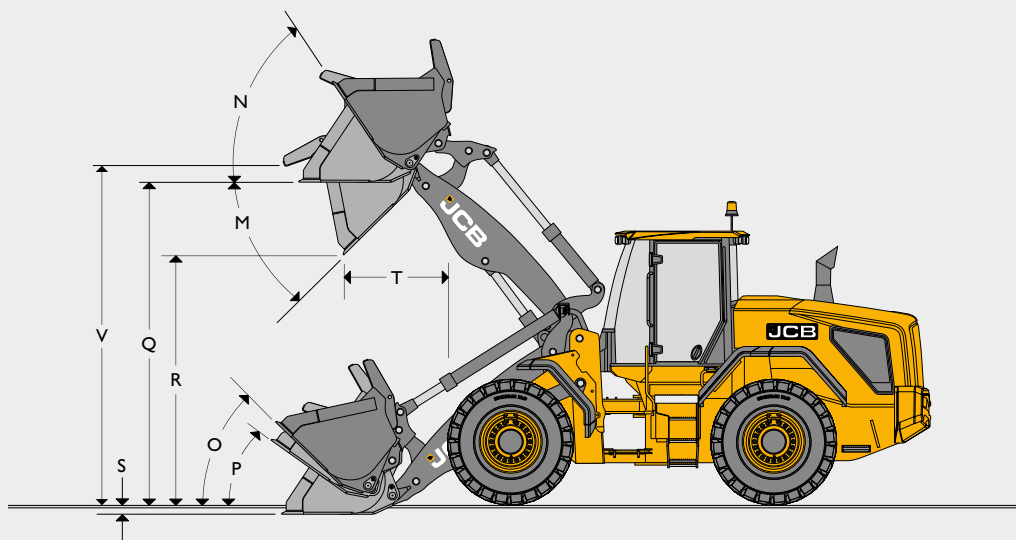
Manufacturer		Cummins
Model		B Series
Capacity	litres	6.7
Aspiration		Turbo Charged
Cylinders		6
Max gross power to SAE J1995/ISO 14396	kW (hp) @ 1900 rpm	210 (282)
Rated gross power to SAE J1995/ISO 14396	kW (hp) @ 2200 rpm	194 (260)
Nett power to ISO 9249	kW (hp) @ 2200 rpm	191 (257)
Max torque	Nm @ 1300 rpm	1200
Valves per cylinder		4
Air cleaner		Cyclonic pre filter with engine fan scavenge system
Fan drive type		Hydraulically driven cooling fan
Emissions		Stage V

TRANSMISSION

		6 Speed LUC Converter (ZF) *Assumes LUC Engaged Gears 1 - 6			
		ZF 6WG210 with lock-up			
Gear		Forward Dynamic Mode	Reverse Dynamic Mode	Forward Comfort Mode	Reverse Comfort Mode
1	kph	5.16	5.44	4.65	4.91
2	kph	8.02	13.62	7.22	12.31
3	kph	12.92	32.21	11.68	29.04
4	kph	19.79		17.86	
5	kph	30.60		27.59	
6	kph	40.00		40.00	

*Max speed restricted to 40kph.

LOADER DIMENSIONS



AXLES

Type	Limited slip differential	Open differential with auto-locking front
Make & Model	ZF MT-L 3095 MK 2 (front and rear)	ZF MT-L 3095 MK 2 (front and rear)
Overall axle ratio	23.334:1	23.334:1
Rear axle oscillation	+/-8	+/-8
Bias ratio	30%	100% (when locked)

2 axle options available: Limited slip differentials or Open differentials with automatic locking.
All axle options feature wheel speed braking and lower heat build up and longer service life.

ELECTRICAL SYSTEM

System voltage	Amps	24
Alternator output	Amps	100
Battery capacity	Amp hour	2 x 110

Connectors to IP67 standard.

TYRE SIZE

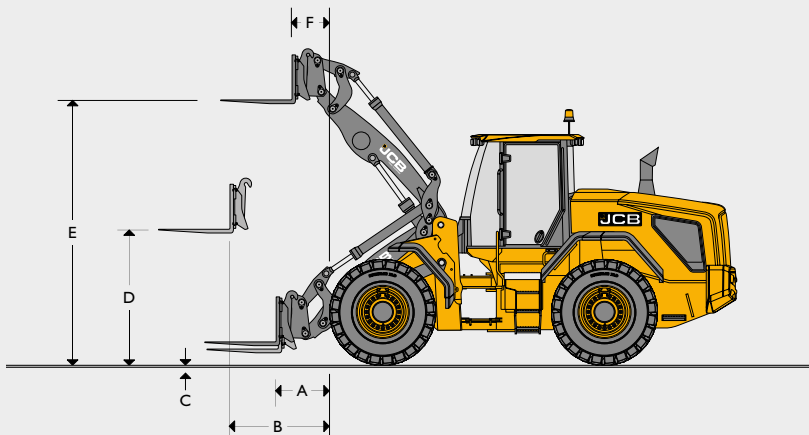
Tyre size	Manufacturer	Type	Rating	Op weight kg	457S		457S HL		Dimensions	
					STL kg	FTTL kg	STL kg	FTTL kg	Vertical mm	Width mm
800/65 R32	Michelin	MEGAXBIB2		+120	+75	+65	+66	+56	-21	31
23.5R25 (Radial)	Michelin	XHA	L3	+240	+151	+129	+132	+113	-130	-68

LOADER DIMENSIONS

Model	Shovel mounting	457S													457S HL																			
		Direct						Quickhitch							Direct						Quickhitch													
Shovel equipment		Tipped teeth		Reversible toeplate		Tipped teeth and reversible toeplate		Tipped teeth		Reversible toeplate		Tipped teeth and reversible toeplate			16ft folding grass fork	Tipped teeth			Reversible toeplate			Tipped teeth and reversible toeplate			Tipped teeth			Reversible toeplate			Tipped teeth and reversible toeplate			16ft folding grass fork
Shovel Capacity (SAE Heaped)	m ³	3.1	3.3	3.3	3.5	3.3	3.5	3.1	3.3	3.3	3.5	3.3	3.5	N/A	2.8	3.1	3.3	3.3	3.5	3.3	3.5	3.1	3.3	3.3	3.5	3.3	3.5	3.1	3.3	3.3	3.5	3.3	3.5	N/A
Shovel Capacity (Struck)	m ³	2.497	2.687	2.648	2.844	2.648	2.844	2.497	2.687	2.648	2.844	2.648	2.844	N/A	2.210	2.497	2.687	2.648	2.844	2.648	2.844	2.497	2.687	2.648	2.844	2.648	2.844	2.497	2.687	2.648	2.844	2.648	2.844	N/A
Shovel Width	mm	2837	2837	2800	2800	2837	2837	2837	2837	2800	2800	2837	2837	2970	2837	2837	2837	2800	2800	2837	2837	2837	2837	2800	2800	2837	2837	2800	2800	2837	2837	2970		
Shovel Weight	kg	1519	1565	1629	1675	1667	1713	1426	1417	1536	1581	1574	1619	1784	1447	1519	1565	1629	1675	1667	1713	1426	1417	1536	1581	1574	1619	1784						
Maximum Material Density	kg/m ³	1817	1694	1690	1580	1681	1572	1707	1592	1586	1484	1581	1476	N/A	1695	1530	1426	1420	1328	1412	1320	1437	1340	1333	1248	1328	1239	N/A						
Tipping Load (Straight)	kg	13461	13365	13332	13246	13284	13186	12691	12607	12574	12490	12540	12430	12267	11357	11387	11304	11273	11189	11215	11130	10745	10672	10632	10558	10598	10500	10292						
Tipping Load (Full Turn)	kg	11267	11179	11151	11062	11093	11003	10582	10506	10468	10391	10434	10333	10167	9493	9487	9410	9375	9297	9318	9240	8911	8844	8800	8733	8768	8676	8473						
Payload	kg	5633	5589	5576	5531	5546	5502	5291	5253	5234	5196	5217	5166	5084	4746	4743	4705	4687	4649	4659	4620	4456	4422	4400	4366	4384	4338	4236						
Maximum Breakout Force	kN	161	153	150	143	150	143	144	138	135	130	135	130	125	176	163	155	151	154	151	154	146	140	135	129	135	129	120						
M Dump Angle Maximum	degrees	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45			
N Roll Back Angle Full Height	degrees	57	57	57	57	57	57	57	57	57	57	57	57	57	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61		
O Roll Back Carry	degrees	48	48	48	48	48	48	48	48	48	48	48	48	48	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50		
P Roll Back at Ground Level	degrees	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44		
Q Load Over Height	mm	4058	4058	4090	4090	4058	4058	4058	4058	4090	4090	4058	4058	4056	4543	4540	4540	4544	4544	4480	4540	4540	4540	4544	4544	4540	4540	4544	4544	4540	4540	4506		
R Dump Height (45 deg Dump)	mm	2982	2940	3131	3089	2982	2940	2876	2834	3025	2983	2876	2831	2793	3373	3437	3479	3585	3544	3437	3479	3331	3289	3480	3438	3331	3289	3057						
S Dig Depth	mm	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25		
T Reach at Dump Height	mm	1210	1252	1100	1142	1210	1252	1316	1358	1206	1248	1316	1358	1449	1403	1339	1403	1339	1297	1449	1407	1339	1297	1233	1191	1343	1301	1483						
V Pin Height	mm	4366	4366	4366	4366	4366	4366	4366	4366	4366	4366	4366	4366	4366	4820	4820	4820	4820	4820	4820	4820	4820	4820	4820	4820	4820	4820	4820	4820	4820	4820	4820		
Reach Maximum (45 deg Dump) Horizontal Arm	mm	2303	2345	2193	2232	2303	2345	2409	2451	2299	2438	2409	2451	2542	2603	2667	2709	2557	2599	2667	2709	2773	2814	2663	2705	2773	2814	2996						
Operating Weight	kg	19168	19214	19263	19309	19312	19358	19455	19500	19551	19596	19579	19644	19804	19298	19480	19526	19575	19621	19624	19670	19767	19812	19863	19908	19891	19956	20116						

*Based on machine fitted with 710/75 R32 tyres and Non // Loader End Geometry.

LOADER DIMENSIONS WITH FORKS



			457S	457S HL
	Fork carriage width	mm	1500	1500
	Length of tines	mm	1220	1220
A	Reach at ground level	mm	1079	1530
B	Reach at arms horizontal	mm	1847	2213
C	Top of tine above ground with arms down	mm	148.5	148.5
D	Arms, horizontal height	mm	2055	2055
E	Arms, maximum height	mm	4263	4718
F	Reach at maximum height	mm	756	784
	Tipping load straight	kg	16187	11654
	Tipping load full turn (40°)	kg	13797	9831
	Payload*	kg	8000	8000
	Attachment weight	kg	610	610
	Operating weight(includes 80Kg operator and full fuel and Urea tanks)	kg	18630	18942

*At the centre of gravity distance 600mm. Based on 80% of FTTL as defined in ISO 8313. Manual fork spacing's at 50mm increments. Class 4A forks (section 150mm x 60mm). Parallel lift loader end option.

SERVICE FILL CAPACITIES

Hydraulic system	litres	240
Fuel tank	litres	400
Engine oil including filter	litres	17
Transmission oil system	litres	42
Axle oil (front)	litres	35
Axle oil (rear)	litres	35
Engine coolant system	litres	30
DEF (Adblue)	litres	75

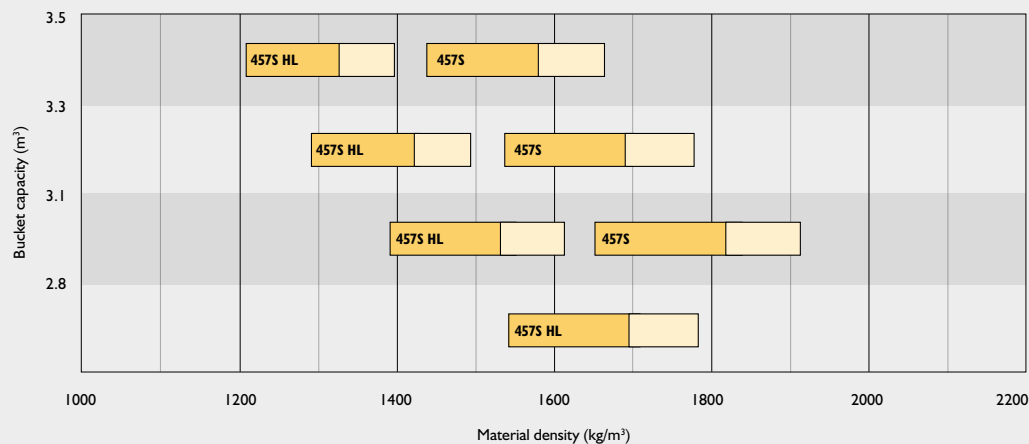
NOISE AND VIBRATION

			Uncertainty	Measurement conditions.
Noise at the operator station	LpA	68 dB	+/- 1 dB	Determined in accordance with the test method defined in ISO 6396 and the dynamic test condition defined on 2000/14/EC.
Noise emission from the machine	LWA	102 dB	+/- 1 dB	Guaranteed equivalent sound power (external noise) determined in accordance with the dynamic test conditions defined in 2000/14/EC.
Whole body vibration	m/s ²	0.63	+/- 0.11 dB	ISO 2631-1:1997 normalised to an 8h reference period and based upon a test cycle comprising of loader work (soil).
Hand-arm vibration	m/s ²	<2.5	N/A	ISO 5349-2:2001 dynamic test conditions.

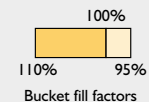
MATERIAL DENSITY

Material	Loose density	Fill factor	Material	Loose density	Fill factor
	kg/m ³	%		kg/m ³	%
Snow (fresh)	200	110	Sodium chloride (dry) (salt)	1300	85
Peat (dry)	400	100	Cement portland	1440	100
Sugar beet	530	100	Limestone (crushed)	1530	100
Coke (loose)	570	85	Sand (dry)	1550	100
Barley	600	85	Asphalt	1600	100
Petroleum coke	680	85	Gravel (dry)	1650	85
Wheat	730	85	Clay (wet)	1680	110
Coal bitumous	765	100	Sand (wet)	1890	110
Fertiliser (mixed)	1030	85	Fire clay	2080	100
Coal anthracite	1046	100	Copper (concentrate)	2300	85
Earth (dry) (loose)	1150	100	Slate	2800	100
Nitrate fertiliser	1250	85	Magnetite	3204	100

BUCKET CAPACITIES



457S = Standard height arm 457S HL = High lift height arm



EQUIPMENT

SERVICE AND MAINTENANCE

LiveLink telematics	•
Engine oil remote drain and fill	•
Grouped pressure test points	•
Lockable tool box	•
Lubrication points accessible from ground level	•

ENGINE

Air cleaner – cyclonic pre filter with engine fan scavenge system	•
Automatically reversing cooling fan	•
Crankcase breather oil trap	•
DEF fluid	•
Electrical opening rear bonnet	•
Epoxy coated radiator / coolers	+
Fixed mounted fan	•
Fuel filter	•
Fuel pre-filter with water trap	•
Hydraulically driven cooling fan	•
Manual override rear bonnet opening	•
-20° cold start	•
DOC/DPF/SCR exhaust emission control	•
Swing out fan	•
Waste gated turbo	•
Widecore radiator	•
110v / 240v engine block heater	+
Auto engine idle shutdown (adjustable in cab)	•

ELECTRICAL

120 amp alternator	•
Amber rotating beacon	•
Electrical adjustable mirrors	•
Heated mirrors	•
External battery isolator	•
Fold down beacon arm	•
Halogen front and rear working lights	•
Hazard warning lights	•
Integrated rear view camera	•
LED front and rear working lights	+
Number plate light kit	•
Parking lights	•
Radio wiring and speakers	•
Rear fog light	•
Reverse alarm and light	•
Smart reverse alarm and light	+
Turn signals	•
360 degree LED working lights	+

ELECTRICAL (CONTINUED)

White noise reverse alarm and light	+
Work lights in rear grille	•
Bonnet operation alarm	•
Blue LED reverse lights	+
Amber LED reverse lights	+
12/24v trailer electrics	+
LED Roadlights	+

DRIVE TRAIN

Operator controlled driving modes - Standard & Dynamic	•
6 speed transmission with lock-up torque converter	•
Epicyclical wheel hub reduction	•
Fixed front axle	•
Gear kick down on loader control lever	•
Indicator glass for transmission oil level	•
Loader lever direction control	•
Neutral start	•
Open differential with automatic locking - 100% (front axle only)	+
Limited slip differentials front and rear	+
Oscillating rear axle	•
Power-inch intelligent clutch cut off on footbrake (selectable)	•
Selectable automatic power shift	•
Speed limiter 40km/h	•
Steering column single lever shift control (direction and gear)	•
Transmission cooler bypass	•

BRAKE SYSTEM

Multi-plate wet disc brakes	•
Sintered brake pads	•
Dual circuit hydraulic power	•
Wheel speed braking	•
Parking disc brake on transmission output shaft	•
Electrical hydraulic park brake actuation	•
Trailer brake hydraulic supply	+
Air brake ready installation	+

OPERATOR STATION

Fully glazed cab	•
Front low windscreen guards	+
Air conditioning	•
Climate control	+
Single lever joystick	•
Multi-lever hydraulic controls	+
Proportional electro hydraulic auxiliary control	•
Air suspension cloth seat	•

OPERATOR STATION (CONTINUED)

Deluxe heated air suspension cloth seat	•
Super deluxe heated and cooled air suspension half leather seat	+
Front roller blind	•
Rear roller blind	•
Cab air intake filter	•
Carbon cab air intake filter	+
12V in cab power socket	•
2 x 12V in cab power socket	•
24V in cab power socket	+
Reversing camera (colour)	•
Fold away adjustable steering column	•
ROPS/FOPS safety structure	•
Interior light	•
Front primary display screen	•
Secondary A post display screen, rotary control menu interface	•
A post mounted membrane switches	•
Variable fan speed control on climatic control system	+
50 mm seat belt	•
75 mm seat belt	+
Fire extinguisher (UK only)	+
Two speed intermittent front windscreen wipe/wash and self-park	•
Single speed rear windscreen wipe/wash and self-park	•
3 speed heater/demisting	•
LH and RH sliding opening windows	•
Floor mat	•
Cup holder	•
Steering wheel spinner knob	•
Internal rear view mirror	•
Tinted cab glass	•
Multi-media port (USB and 3.5mm)	•
Operator stowage	•
Laminated windscreen	•
Heated rear screen	•
Loader control isolator	•
Horn	•
Adjustable armrest	•
Removable storage rubber mats	•
Adjustable seat mounted controls	•
In-cab coolbox	+
Cab floor carpet	+
Tow hitch camera	+
Walk me home lighting	•
Gear selectable torque converter lockup menu	•

EQUIPMENT (CONTINUED)

FRONT PRIMARY DISPLAY

Warning lights	
Direction indicators	•
Master warning	•
High coolant temperature	•
Battery charging condition	•
Low fuel level	•
Warning lights (continued)	
Engine oil pressure	•
Hazard lamps	•
Park brake state	•
Road lights	•
Main beam lights	•
Rear fog lights	•
Engine pre-heat	•
Brake system pressure	•
Differential lock	•
Low steering pressure	•
Buzzer alerts	
Engine air filter blocked	•
Diesel exhaust fluid (DEF)	•
Torque reduction in case of malfunction	•
Amber warning lamp	•
Stop engine	•
Gauge display	
Engine speed	•
Coolant temperature	•
Fuel level	•
LCD screen display	
Current gear	•
Stop engine	•
Torque reduction in case of malfunction	•
Amber warning lamp	•
Diesel exhaust fluid (DEF)	•
Engine air filter blocked	•
Secondary steer system pressure	•
Torque lockup	•
Steer mode	•
Ground speed	•
Engine Speed (numeric display)	•
Clock	•
Hydraulic state	•
Smoothride system (SRS)	•
Beacon	•
Front work lamps	•
Rear work lamps	•

FRONT PRIMARY DISPLAY (CONTINUED)

Heated rear screen	•
Transmission sump temperature	•
Data screens	
DEF level	•
Hydraulic oil temperature	•
Torque convertor temperature	•
Data screens (continued)	
Volume of fuel remaining	•
Total fuel used (resettable)	•
Instantaneous fuel use	•
Average fuel use (resettable)	•
Current date	•
Machine hours	•
Trip distance (resettable)	•
Hours to Service	•
Daily checks	
Engine oil level	•
DEF level	•
RIGHT HAND SECONDARY DISPLAY (OPTIONAL)	
Clock	•
Climate control	•
Fan speed	•
In cab temperature set	•
Machine hours	•
Rear view camera	•
Fuel use	•
Time and date	•
Auxiliary flow rate	•
Hydraulic oil temperature	•
Transmission oil temperature	•
Machine settings screen	
Coolant temperature	•
Engine oil pressure	•
Air filter	•
Transmission sump temperature	•
Transmission torque convertor temperature	•
Hydraulic oil temperature	•
Park brake pressure	•
Battery voltage	•
Help display	•
On-screen Handbook	•
HYDRAULIC SYSTEM	
Smoothride system (SRS)	•

HYDRAULIC SYSTEM (CONTINUED)

Hydraulic quick hitch with in cab isolation	•
Auxiliary ARV kit	+
Auxiliary hydraulic service	•
Twin auxiliary hydraulic service	+
Twin piston pumps with priority steer	•
Emergency steer back-up	•
Biodegradable hydraulic oil	+
Electronic hydraulic isolation	•
Automatic boom kick-out. Detent	•
Automatic bucket positioner	•
Front loader float	•
Indicator glass for hydraulic oil level	•
Hydraulic oil cooler	•

EXTERNAL EQUIPMENT

Front and rear fenders	•
Full rear fenders	•
Front adjustable mud flaps	•
Front wheel spray guards	•
Automatic greasing system	+
Grease gun and cartridge	+
One piece electrical opening bonnet	•
Mesh air intake screens	•
Flexible bottom step	•
Full width rear counterweight	•
Recovery hitch	•
Lifting / tie down lugs	•
Rear counterweight chevrons	+

PROTECTIVE EQUIPMENT

Rear grille guard	+
Safety strut loader arm	•
Light guards	+
Rear belly guard kits	•
Articulation joint safety strut	•
Front rubber apron mat	•

OTHER EQUIPMENT

High lift loader end	+
Rockinger tow hitch (38mm pin)	+

STANDARD •

OPTIONAL +



ONE COMPANY, OVER 300 MACHINES.

Your nearest JCB dealer

Wheel Loader 457S

Engine power: 282hp (210kW) Operating weight: 19,551kg Tipping load: 10,468kg Standard shovel capacity: 3.3m³

JCB Sales Limited, Rokester, Staffordshire, United Kingdom ST14 5JP.

Tel: +44 (0)1889 590312 Email: salesinfo@jcb.com

Download the very latest information on this product range at: www.jcb.com

© 2022 JCB Sales. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any other means, electronic, mechanical, photocopying or otherwise, without prior permission from JCB Sales. All references in this publication to operating weights, sizes, capacities and other performance measurements are provided for guidance only and may vary dependant upon the exact specification of machine. They should not therefore be relied upon in relation to suitability for a particular application. Guidance and advice should always be sought from your JCB Dealer. JCB reserves the right to change specifications without notice. Illustrations and specifications shown may include optional equipment and accessories. The JCB logo is a registered trademark of J C Bamford Excavators Ltd.

