

**NEW**



## **WHEELED LOADING SHOVEL | 457**

Gross engine power: 193kW (258hp) Operating weight: 19.6 – 24.6t Full turn tipping load: 13,690kg Standard shovel capacity: 3.5m<sup>3</sup>



We started with a simple yet expansive brief: to give you the world's very best wheeled loading shovel. The all-new JCB 457 is the result, and we think you'll agree that it's a success. It represents a quantum leap in power, productivity, efficiency, comfort, ease of use and safety. As such, it's an investment that's sure to prove a great business decision for you and your business.

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JCB

JCB

45

SAFETY WARNINGS

# STRENGTH.

THE NEW JCB 457 HAS BEEN BUILT USING ONLY THE MOST ADVANCED PRODUCTION TECHNIQUES AND PREMIUM COMPONENTRY FOR SUPERIOR STRUCTURAL STRENGTH. IT'S BEEN TESTED TO THE LIMIT ON SITES ALL OVER THE WORLD TO MAKE SURE THAT, WHEREVER YOU'RE OPERATING, YOU'LL MAINTAIN TOTAL PRODUCTIVITY.

## Designed to work hard.

- 1 Your new JCB 457 will have benefitted from finite element analysis and rig testing of up to 1 million cycles to ensure superior structural strength and durability. For further peace of mind, cold cell testing guarantees starting performance down to -20°C.
- 2 High tolerances and accurate location of pins and bushes are guaranteed with JCB's precision machining techniques.
- 3 You can specify a 457 for heavy-duty applications like waste or corrosive material handling.
- 4 State-of-the-art manufacturing processes like robot machining, precision paint technology and innovative assembly techniques help to achieve the very highest levels of build quality.

The new MTU engine has all the grunt you need for day-to-day operation, together with a rugged construction that can cope with the sort of sudden hard load change when switching between tasks.





### Protecting ancillaries.

**5** A solid cast rear counterweight protects your 457's back end – including the rear lights and cooling pack – from damage.

### Well articulated.

**6** Hoses are neatly routed and damped through the articulation joint, well away from any pinch points.

**7** The articulation joint has a heavy-duty centre pin and oversized bush, as well as twin taper roller bearings on the bottom box joints. This setup can tolerate both vertical and horizontal loadings for durability and rigidity.

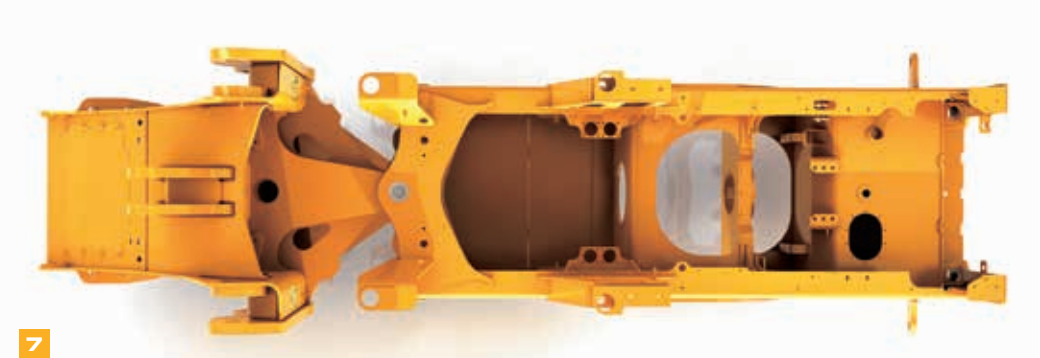
The 457's articulation joint has a heavy-duty box section that's much stronger than a single plate with a boss. Its steering rams are positioned high up and well protected from possible impact and site damage.



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# SPEED.

TIME IS OF THE ESSENCE ON ANY WORKSITE SO THE NEW JCB 457 IS DESIGNED TO PROVIDE THE FASTEST CYCLE TIMES IN THE BUSINESS. POWERFUL TWIN HYDRAULIC PUMPS, A LOAD SENSING VALVE BLOCK AND OPTIONAL 5-SPEED TRANSMISSION WITH TORQUE LOCK-UP PROVIDE SPEED, ACCURACY AND PRODUCTIVITY IN ABUNDANCE.

## Powering it all.

**1** The MTU 6R1000 7.7-litre engine fitted to the new JCB 457 produces a substantial 193kW (258hp) of power, not to mention 1150Nm of torque (6% more than our outgoing model). What's more, it produces all of this at low revs for an incredibly responsive operating experience.



## Loading productivity.

**2** Powerful twin variable displacement piston pump hydraulics can circulate a massive 323 l/min for fast cycle times and excellent multifunctioning capability.

**3** Choose the optional JCB quickhitch and you'll find attachment changing is quick and efficient.

**4** Specify your perfect loader arm: Z-bar linkage (ZX) for high breakout applications or high torque (HT) for parallel lifting and multi attachment work.



There's no need to worry about wasting time and money replacing a diesel particulate filter (DPF) on your 457; its MTU engine meets Tier 4 Final/Stage IV legislation using only exhaust gas recirculation (EGR) and selective catalytic reduction (SCR) methods. This setup also improves fuel economy.



## Loading productivity (continued).

5 High lift and super high lift options equip your 457 for applications involving high loading heights: hopper and lorry loading, for example.

6 With maximum breakout forces of 172kN, this wheel loader has the power to carry out extremely arduous loading jobs.

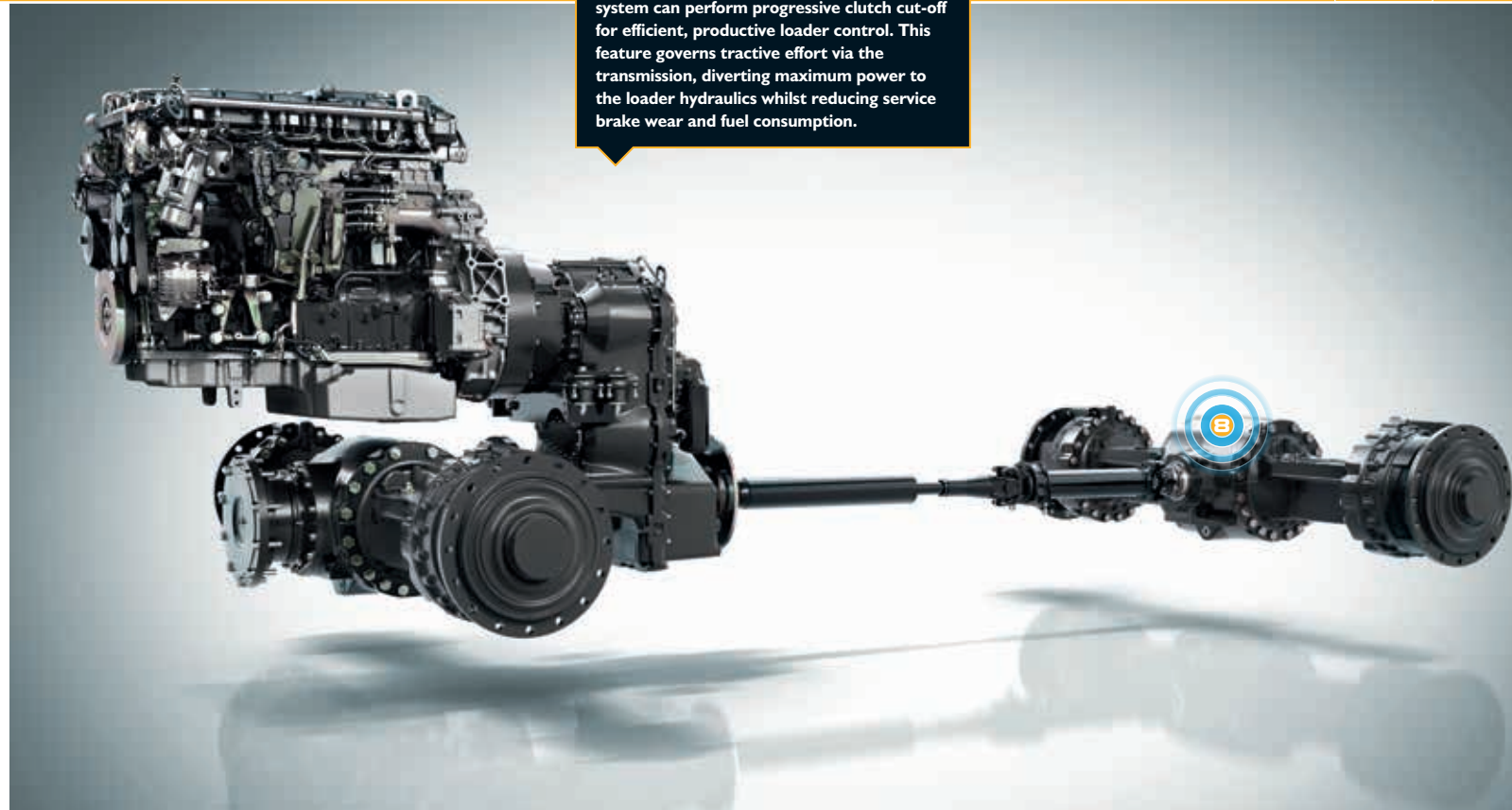
## Drivetrain productivity

7 A smooth 4-speed transmission is fitted as standard, while an optional 5-speed unit makes operation even more slick, with closer gear ratios for improved acceleration, hill climbing and roading performance. The 5-speed gearbox also has torque convertor lock-up to eliminate losses, allowing faster cycle times and improved efficiency.

8 Tailor a 457 to any application with a range of axle options:

- > Open differentials are ideal for hard standing ground conditions.
- > A limited slip differential is perfect for soft, muddy terrain with reduced traction.
- > Open differentials with an automatic locking front diff provide excellent traction in varied ground conditions.

The innovative electronic management system can perform progressive clutch cut-off for efficient, productive loader control. This feature governs tractive effort via the transmission, diverting maximum power to the loader hydraulics whilst reducing service brake wear and fuel consumption.





# POWER.

POWER WITHOUT COMPROMISE HAS LONG BEEN THE RAISON D'ETRE OF ANY LARGE WHEELED LOADING SHOVEL, AND THE NEW JCB 457 TAKES THIS ETHOS TO ANOTHER LEVEL. ITS CUTTING EDGE TIER 4 FINAL/STAGE IV MTU ENGINE BOASTS POWER APLENTY, WHILE THE EFFICIENT, SMOOTH ZF DRIVELINE AND LOW FUEL CONSUMPTION HELP TO MAKE YOUR DECISION EVEN EASIER.

No DPF means unnecessary additional fuel piping is eliminated as is the potentially dangerous temperatures involved in regeneration. The fuel that would have been needed to restore your DPF can be used instead for actual productive work.

## Driving efficiency.

**1** The new JCB 457's MTU engine offers you plenty of low-end torque and maintains it over a wide engine speed range. By using lightweight materials like cast aluminium and synthetics, you can also expect an excellent power-to-weight ratio.

To save on fuel, the engine idle shutdown feature can safely apply the brakes and turn your machine off after a programmable amount of time.

**2** A hydraulic cooling fan automatically reacts to ambient temperature and adjusts the 457's fan speed to optimise cooling and reduce fuel consumption. This also lowers noise on your site.

**3** Opt for the torque lock up 5-speed transmission and you'll get 100% efficiency in second to fifth gears, as well as closer gear ratios to keep engine speeds down. The end result is improved fuel economy.





JCB's innovative variable displacement pumps feed a load-sensing valve block which only consumes power on demand, providing precise, efficient loader control.

## Driving efficiency (continued).

- 4** Wheel speed braking means the brakes on the new 457 rotate at the same speed as the wheels for heat and drag reduction, as well as improved fuel economy.
- 5** Unloaded spool valves in the valve block allow the arms to lower under gravitation – not hydraulic – force; this reduces fuel consumption still further.
- 6** Patented JCB Smoothride load suspension limits shock loadings on your machine. Thus you enjoy reduced material spillage and structural stress, as well as increased operator comfort.
- 7** A choice of 3 or 4-spool hydraulics gives you the scope for invaluable extra versatility.
- 8** Selectable loader arm detents let operators control loader arm height limitations, return to dig settings and float functions, improving safety and productivity.





# COMMANDPLUS.

THE NEW 457 HERALDS THE DAWN OF A NEW ERA IN CAB DESIGN: JCB COMMAND PLUS. THIS UNIQUE APPROACH TO ERGONOMICS IS THE RESULT OF A RADICAL RETHINK AND A RIGOROUS RESEARCH PROGRAMME. EXPECT BEST-IN-CLASS COMFORT, VISIBILITY, ERGONOMICS AND QUIETNESS.

For maximum visibility and minimal replacement costs, we've revised the front screen to incorporate only flat panes.

## See the difference.

**1** You'll immediately notice the totally redesigned ROPS structure; this has allowed the A pillars to be moved to the same width as the rear of the cab, providing a larger interior with a superb panoramic front windscreen. All switches and auxiliary controls are now located on the right-hand A-pillar for easier access.



**2** Using the JCB 457's simple, dedicated menu interface is easily done with an intuitive optional rotary controller.

**3** Controlling the loader is now easier than ever – all of the controls are seat-mounted, even going as far as to move with the seat suspension.



Select the control system that's best for your operators; we offer single lever joystick or multi-lever configurations, both fully electro-hydraulic.

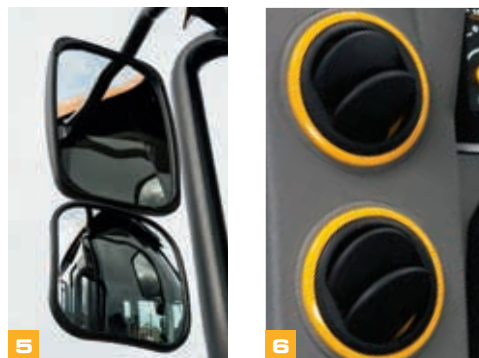
**4** There are two full colour LCD screens to navigate your 457's operating menus, with one doubling as a monitor for the rear view camera (optional).





The noise level in the cab is an incredibly low 68dB(a): so quiet you can hardly hear the engine running.

**5** As standard, the new JCB 457 is equipped with heated external mirrors that can be electronically adjusted from inside the cab.



**6** An all-new air venting system boasts nine demisting vents and six operator vents to maintain visibility and operator comfort at all times. It also operates at a reduced noise level.

**7** After extensive research into operator ergonomics, we've devised the Command Driving Position, which boasts the very optimal control layout for a multitude of different driver shapes and sizes.



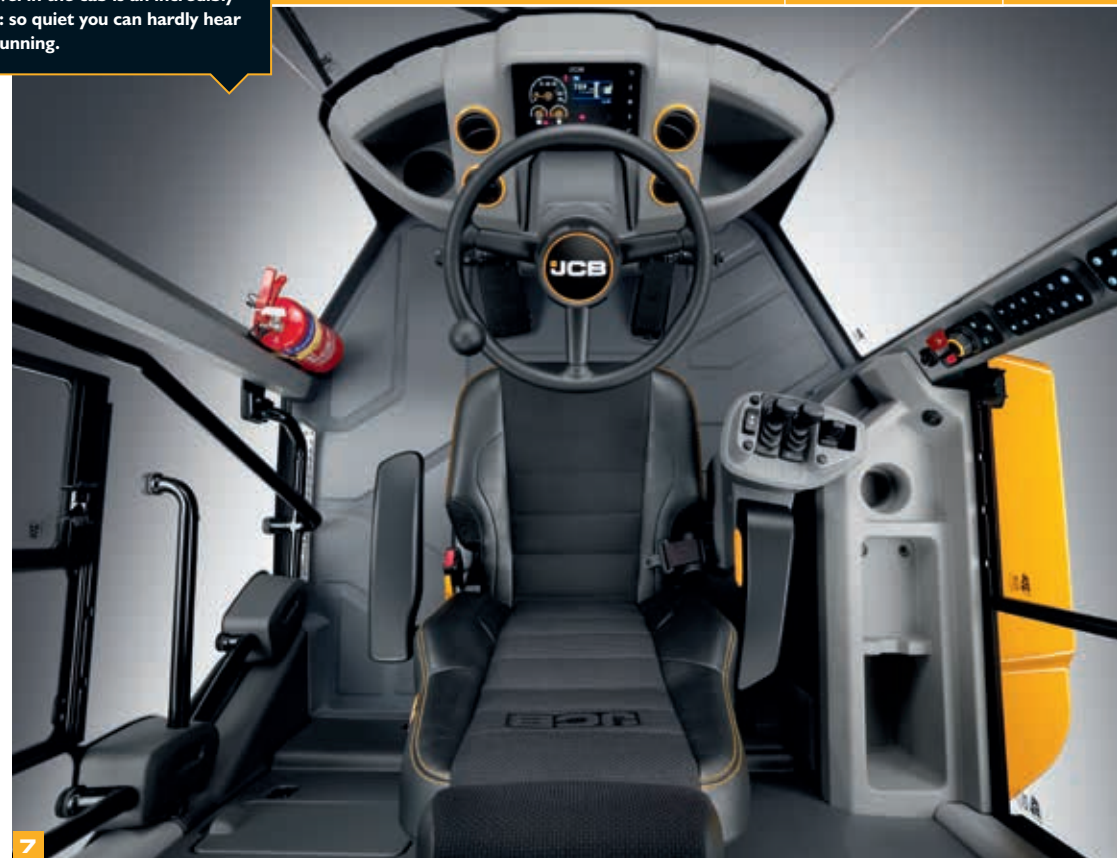
**8** A set and forget feature means that your preferred steering wheel position is stored and can be instantly returned to, even after you've folded the wheel away for easier operator access.

**9** Several seating options are available: there's a premium quality hard-wearing half leather seat, a heated seat or even a cooled one if you plan to operate your JCB 457 in warmer climates.



Air conditioning is a standard feature and there's also the option of automatic climate control to create perfect working temperatures.

With a dedicated media port on board, you can be assured of superb connectivity for all your electronic devices.



## SERVICE.

**MAXIMISING YOUR FLEET'S UPTIME IS OUR NUMBER ONE PRIORITY, AND WE'VE CERTAINLY PULLED OUT ALL THE STOPS ON THE NEW JCB 457. A UNIQUE ONE-PIECE BONNET, EASY GROUND LEVEL ACCESS TO KEY COMPONENTS, LIVELINK TELEMATICS AND WORLD-CLASS AFTERCARE ALL COME AS STANDARD, WITH TAILORED SERVICE PACKAGES AVAILABLE TO SUIT.**

### **Routine maintenance.**

**1** It's easy to get to the engine on a new JCB 457 with a large automatic opening single-piece bonnet.

**2** Accessing the diesel and DEF (Diesel Exhaust Fluid) tanks is similarly straightforward via the lockable grille at the rear of the machine.

Full hydraulic dual circuit braking with multiple oil-immersed discs provides a virtually maintenance-free lifespan.

**3** Most Tier 4 Final Stage IV engines use a costly Diesel Particulate Filter (DPF) that can require replacement at the expense of both money and time. The MTU engine is DPF-free, thus reducing your servicing and running costs.

**4** The standard cooling package is a large single-faced unit so you can be assured of quick, easy and safe cleaning.



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### Less servicing, more service

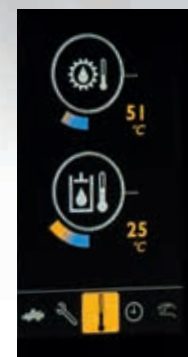
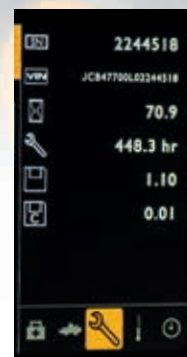
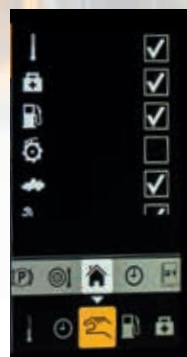
Intelligent electronic monitoring keeps you abreast of your 457's operating condition, providing real-time alerts that help to safeguard both the machine and its operator.

You can check brake, steering and hydraulic system pressures easily courtesy of group test ports.

By using exclusively premium components (MTU engine, ZF transmissions and axles, Rexroth pumps and Parker valve blocks), we've built in long service life as standard.

The main fuse board and relays have been repositioned next to the door for easy access.

Select the widecore cooling pack and reversing fan option to ensure superior cooling efficiency in environments with large amounts of airborne debris.



# SAFETY.

**OPERATORS, BYSTANDERS AND YOUR FLEET ARE WELL PROTECTED AT ALL TIMES BY THE NEW JCB 457. GREAT VISIBILITY INSIDE AND OUT, NON-SLIP SURFACES AND EXCELLENT AIR FILTRATION IS JUST THE BEGINNING.**

## Safely does it.

**1** If you plan to use your wheeled loader for quarry work, it's worth specifying the dedicated quarry safety pack, which includes blue flashing reverse lights, a green operator presence beacon, a rear object detection system, and hi-viz exterior chevrons.

**2** Access steps are inclined and equally spaced, complemented by well positioned grab handles for three points of contact at all times.

**3** On the new JCB 457, you'll find the rear-view mirrors mounted in front of the A-pillars for improved all-round visibility.

Interior mirrors, heated exterior mirrors and bonnet mirrors combine to offer excellent views to every corner of your machine.

**4** Our optional rearward camera displays an unobstructed view from the back of the machine.

**5** Superb visibility in dark conditions is guaranteed with JCB's optional LED lighting.





### Safely does it (continued).

- The new front fender flaps have been carefully designed and honed to keep forward spray to a minimum. This increases safety and decreases debris build-up.
- The new 457's cab is isolator-mounted, compliant with ROPS/FOPS standards, and positively pressurised against dust. You can choose from fresh air and carbon recirculation filters as well.
- Door hinges are now mounted on the B-pillar; this simple change has created much better access via a larger and wider door aperture. It also means you can access the rear of your loader more safely.
- Engines fitted with a DPF pose a greater fire risk because in regeneration mode, extreme heat can be created. The new 457 doesn't need a DPF, so this is no cause for concern.

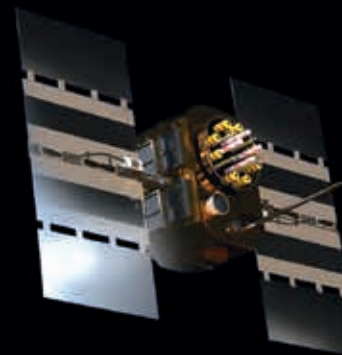


## LIVELINK, WORK SMARTER.

**LIVELINK IS AN INNOVATIVE SOFTWARE SYSTEM THAT LETS YOU MANAGE JCB MACHINES REMOTELY – ONLINE, BY EMAIL OR BY MOBILE PHONE. ACCESS EVERYTHING FROM MACHINE ALERTS TO FUEL REPORTS AND HISTORY INFORMATION, WITH ALL DATA STORED AT A SECURE CENTRE.**

### Productivity and cost benefits

By providing information like idle time monitoring and machine fuel consumption, JCB Livelink helps reduce your fuel usage, saving money and improving productivity. Machine location information can help improve efficiency and perhaps even reduce insurance costs.



### Maintenance benefits

Manage machine maintenance easily – accurate hours monitoring and service alerts improve maintenance planning, while real-time location data helps you manage your fleet. Critical machine alerts and maintenance history records are also available.



### Security benefits

Livelink's real-time geofencing alerts tell you when machines move out of predetermined zones, and real-time curfew alerts inform you of unauthorised usage. Further benefits include real-time location information.





# A GREAT BUSINESS DECISION.

WE'LL PROVIDE YOU WITH FIRST CLASS SUPPORT AND ASSISTANCE TO SUIT YOUR EXACT BUSINESS NEEDS RIGHT FROM DAY ONE. SO WHEREVER YOU ARE, YOUR MACHINE WILL ALWAYS PERFORM TO ITS FULL POTENTIAL – ONE OF MANY REASONS WHY STARTING A WORKING RELATIONSHIP WITH JCB IS A GREAT BUSINESS DECISION.

## Machine selection

Your JCB dealer has the right technical knowledge and expertise to ensure that you assess all the machine options available to you. This includes rental options and new or used machine sales.

## Rebuild and Refurbishment Programme

If your business isn't in a position to buy a brand new machine, then JCB's Rebuild and Refurbishment programme can help you to extend the service life of your current vehicle cost-effectively.

## Technical support

All local JCB dealers have instant access to factory expertise and technical support to provide you with the maximum machine uptime. JCB's Global Parts Centres, meanwhile, deliver around 95% of all parts anywhere in the world within 24 hours.

## Component monitoring

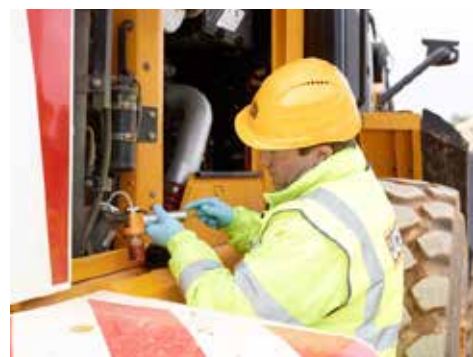
JCB machines benefit from a sophisticated component monitoring programme that provides preventative maintenance and oil sampling to keep everything working at its optimum level.

## Service support

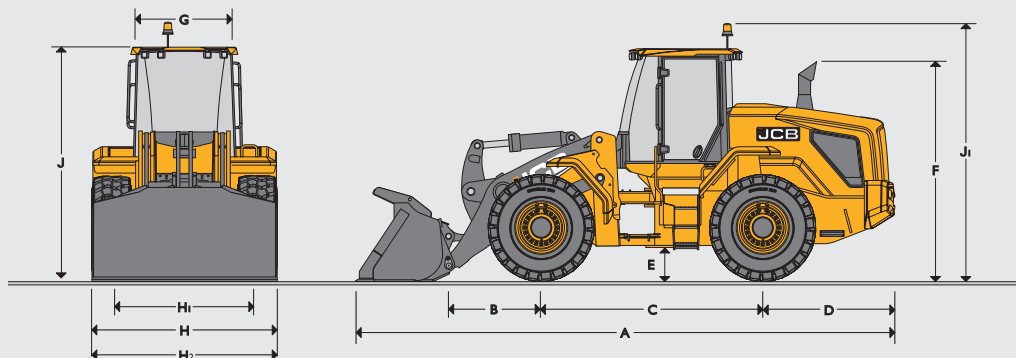
We offer a range of extended warranties, from JCB PremierCover (full comprehensive cover) to JCB PowertrainCover (engine, axles, transmission and hydraulic pump cover). Service agreements, as well as service-only or Repair and Maintenance contracts ensure that we have the up-time of your wheel loading shovel totally covered. Our dealer maintenance specialists around the world charge competitive labour rates, and offer non-obligation quotations as well as fast, efficient repair work.

## Finance and Insurance

Finance and Insurance specialists are always on-hand to provide fast, flexible, competitive quotes. Naturally, packages can be tailored to suit your specific business needs.



STATIC DIMENSIONS



		457 HT	457 HT SHL	457 ZX	457 ZX HL	
A	Overall length	mm	8521	9451	7961	8521
B	Axle to pivot pin	mm	1713	2727	1622	2182
C	Wheel base	mm	3300	3300	3300	3300
D	Axle to counterweight face	mm	1971	1971	1971	1971
E	Minimum ground clearance	mm	473	473	473	473
F	Height over exhaust	mm	3224	3224	3224	3224
G	Width over cab roof	mm	1600	1600	1600	1600
H	Max width over tyres	mm	2699	2699	2699	2699
H1	Wheel track	mm	2100	2100	2100	2100
H2	Max width over fenders	mm	2735	2735	2735	2735
J	Height over cab roof and lowered beacon	mm	3433	3433	3433	3433
J1	Height over raised beacon	mm	3793	3793	3793	3793
	Front axle weight	kg	8841	10765	8858	9426
	Rear axle weight	kg	11693	10678	10916	10683
	Total weight	kg	20534	21443	19774	20109
	Inside turn radius	mm	3183	3183	3183	3183
	Maximum turn radius over shovel	mm	6630	7121	6554	6770
	Maximum turn radius over tyre	mm	5883	5883	5883	5883
	Articulation angle	deg	+/-40	+/-40	+/-40	+/-40

Data based on machine equipped with direct mounted 3.1 m³ bucket with toe plates and bolt on teeth and 23.5- 25 R25 BKT L3.

TRANSMISSION

Type	4 speed non-lock up converter				5 speed with lock up converter (optional)				
	ZF		ZF						
	4WG210		5WG210 with lock-up (unlocked)		5WG210 with lock-up (locked)				
Model	Forward	Reverse	Forward	Reverse	Forward	Reverse	Forward	Reverse	
1	kph	6.0	6.4	6.2	6.6	6.2	6.6		
2	kph	11.8	12.5	11.1	11.6	11.2	11.8		
3	kph	22.4	23.5	16.8	26.7	17.2	28.0		
4	kph	36.1		25.5		26.6			
5	kph			37.6		40.5			

ENGINE

Type	MTU		
Model	6R1000		
Capacity	litres	7.7	
Aspiration	Turbocharger		
Cylinders	6		
Max gross power to SAE J1995/ISO 14396	kW (hp) @ 1600rpm	193 (258)	
Nett power to ISO 9249	kW (hp) @ 1600rpm	191 (256)	
Max torque	Nm @ 1200 – 1600rpm	1150Nm (848lb-ft)	
Valves per cylinder	4		
Air cleaner	Integrated pre-cleaner, scavenged		
Fan drive type	Hydraulic		
Emissions	EPA 40 CFR 89 / Tier 4 Final EU 97/68/EC/STAGE IV		

AXLES

Type	Open differential	Limited slip differential	Open differential with auto-locking front
Make and model	ZF MT-L 3095 MK 2 (front and rear)	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	23.334:1
Rear axle oscillation	+/-11.5	+/-11.5	+/-11.5
Bias Ratio	12%	30%	100% (when locked)

ELECTRICAL SYSTEM

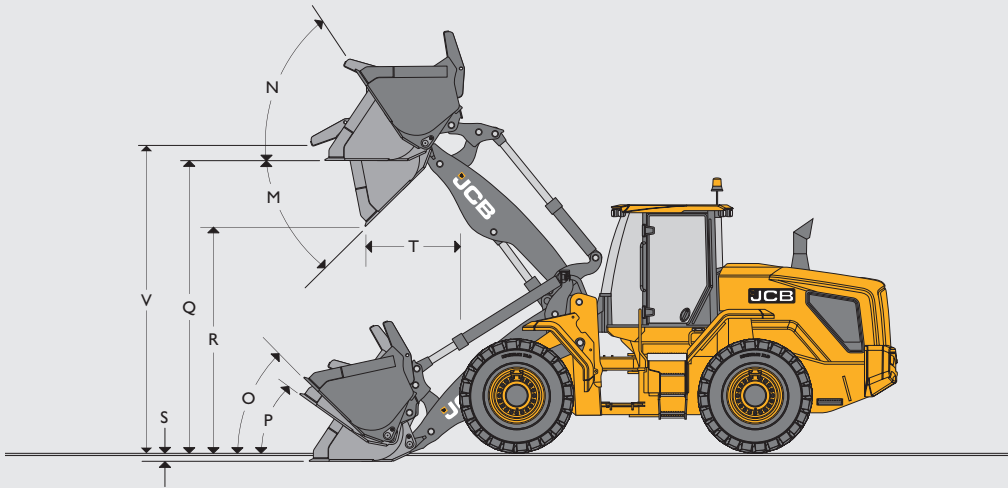
System voltage	Amps	24
Alternator output	Amps	100
Battery capacity	Amp hour	2 x 110

HYDRAULICS

Pump type	Variable displacement	
Pump 1 max. flow	l/min	153
Pump 1 max. pressure	bar	220
Pump 2 max. flow	l/min	153
Pump 2 max. pressure	bar	170
Hydraulic cycle times at full engine		
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

<b>CAB</b>	In-cab noise level – 68dB(A).
<b>STEERING</b>	Hydraulic power steering.
<b>BRAKES</b>	Hydraulic power braking on all wheels. In-board mounted, oil immersed, multi-plate disc brakes. Parking brake, electro-hydraulic disc type operating on transmission output shaft.





## TYRE SIZE

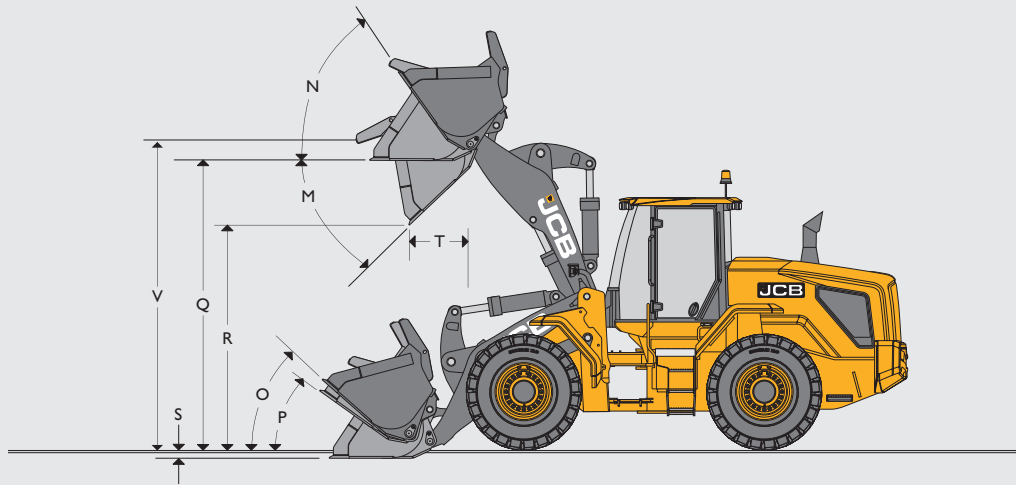
Tyre size	Manufacturer	Type	Rating	Op weight kg	HT		HT SHL		Dimensions	
					STL kg	FDDL kg	STL kg	FDDL kg	Vertical mm	Width mm
23.5R25 (radial)	Michelin	XTLA	L2	-12	-8	-7	-6	-5	-2	-3
650/65R25 (radial)	Michelin	XLD	L3	-92	-63	-55	-47	-41	-56	35
23.5R25 (radial)	Goodyear	TL-3A+	L3	324	221	195	164	145	16	16
23.5R25 (radial)	Goodyear	RT-3B	L3	176	120	106	89	79	12	41
23.5R25 (Crossply)	Goodyear	HRL-3A (20PLY)	L3	-100	-68	-60	-50	-45	24	23
23.5R25 (Crossply)	JCB	SITEMASTER (24PLY)	L3	-92	-63	-56	-47	-41	6	1
23.5R25 (radial)	JCB	EARTHMOVER	L3	160	109	96	81	72	1	6
23.5R25 (radial)	Michelin	XLDD2A	L5	548	374	330	278	246	27	13
23.5R25 (radial)	Michelin	XMINED2	L5	828	565	499	421	371	37	38
23.5R25 (radial)	Goodyear	RL-5K	L5	792	540	477	402	355	9	24
23.5-25 (solid cushion)*	SG Revolution	S2 C2 DWL	-	3124	2130	1881	1586	1400	51	-24
Heavy-duty counterweight	-	-	-	774	1512	1281	1126	954	0	0

\*Heavy duty counterweight replaced by standard counterweight when solid tyres are fitted

## LOADER DIMENSIONS

Assumes machine is fitted with Michelin 23.5R25 XHA2 (L3) tyres and heavy duty counterweight.

Model		457 HT												457 HT SHL												
		Direct						Quickhitch						Direct						Quickhitch						
		General purpose						General purpose						General purpose						General purpose						
Shovel mounting	Shovel type	Tipped teeth		Reversible toeplate		Tipped teeth and toeplate segments		Tipped teeth		Reversible toeplate		Tipped teeth and toeplate segments		Tipped teeth		Reversible toeplate		Tipped teeth and toeplate segments		Tipped teeth		Reversible toeplate		Tipped teeth and toeplate segments		
Shovel capacity (SAE heaped)	m <sup>3</sup>	3.1	3.3	3.3	3.5	3.3	3.5	3.1	3.3	3.3	3.5	3.3	3.5	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
Shovel capacity (struck)	m <sup>3</sup>	2.497	2.687	2.648	2.844	2.648	2.844	2.497	2.687	2.648	2.844	2.648	2.844	2.210	2.497	2.687	2.648	2.844	2.648	2.844	2.497	2.687	2.648	2.844	2.648	2.844
Shovel width	mm	2837	2837	2800	2800	2837	2837	2837	2837	2800	2800	2837	2837	2837	2837	2837	2800	2800	2837	2837	2837	2837	2800	2800	2837	2837
Shovel weight	kg	1519	1565	1629	1675	1667	1713	1426	1417	1536	1581	1574	1619	1447	1519	1565	1629	1675	1667	1713	1426	1417	1536	1581	1574	1619
Maximum material density *	kg/m <sup>3</sup>	2167	2022	2020	1891	2014	1886	2048	1911	1908	1786	1902	1781	1609	1449	1351	1345	1258	1340	1253	1322	1232	1226	1146	1220	1140
Tipping load straight *	kg	15925	15825	15817	15717	15780	15679	15094	15001	14986	14893	14948	14856	10870	10856	10780	10748	10672	10711	10634	10199	10126	10091	10017	10054	9980
Tipping load full turn *	kg	13438	13344	13330	13236	13293	13199	12698	12613	12590	12504	12553	12467	9009	8987	8915	8879	8806	8841	8769	8197	8128	8089	8020	8052	7982
Payload *	kg	6719	6672	6665	6618	6646	6599	6349	6306	6295	6252	6276	6233	4505	4493	4457	4439	4403	4421	4384	4099	4064	4045	4010	4026	3991
Maximum breakout force	kN	161	153	150	143	150	143	144	138	135	130	135	130	175	163	155	152	145	152	145	146	140	137	132	137	132
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
N Roll back angle full height	degrees	57	57	57	57	57	57	57	57	57	57	57	57	58	58	58	58	58	58	58	58	58	58	58	58	58
O Roll back at carry	degrees	52	52	52	52	52	52	52	52	52	52	52	52	54	54	54	54	54	54	54	54	54	54	54	54	54
P Roll back at ground level	degrees	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46
Q Load over height	mm	3999	3999	4031	4031	3999	3999	3999	3999	4031	4031	3999	3999	4962	4965	4965	4997	4997	4965	4965	4965	4965	4997	4997	4965	4965
R Dump height (45 deg dump)	mm	2923	2881	3072	3030	2923	2881	2817	2775	2966	2924	2817	2772	3953	3889	3847	4037	3996	3889	3847	3783	3741	3932	3890	3783	3741
S Dig depth	mm	120	120	88	88	120	120	120	120	88	88	120	120	120	120	120	88	88	120	120	120	120	88	88	120	120
T Reach at dump height	mm	1326	1368	1216	1258	1326	1368	1432	1474	1322	1364	1432	1474	1319	1383	1425	1273	1315	1383	1425	1489	1531	1379	1421	1489	1531
V Pin height	mm	4307	4307	4307	4307	4307	4307	4307	4307	4307	4307	4307	4307	5273	5273	5273	5273	5273	5273	5273	5273	5273	5273	5273	5273	5273
Reach maximum (45 deg dump) horizontal arm	mm	2303	2345	2193	2232	2303	2345	2409	2451	2299	2438	2409	2451	3038	3102	3144	2992	3034	3102	3144	3208	3249	3098	3140	3208	3249
Operating weight (includes 75kg operator and full fuel and DEF tanks)	kg	20152	20198	20262	20308	20300	20346	20379	20424	20489	20534	20527	20572	20989	21061	21107	21171	21217	21209	21255	21288	21333	21398	21443	21436	21481



TYRE SIZE					ZX		ZX HL		Dimensions	
Tyre size	Manufacturer	Type	Rating	Op weight kg	STL kg	FTTL kg	STL kg	FTTL kg	Vertical mm	Width mm
23.5R25 (radial)	Michelin	XTLA	L2	-12	-9	-8	-7	-6	-2	-3
650/65R25 (radial)	Michelin	XLD	L3	-92	-72	-63	-57	-50	-56	35
23.5R25 (radial)	Goodyear	TL-3A+	L3	324	254	224	200	177	16	16
23.5R25 (radial)	Goodyear	RT-3B	L3	176	138	122	109	96	12	41
23.5R25 (Crossply)	Goodyear	HRL-3A (20PLY)	L3	-100	-78	-69	-62	-54	24	23
23.5R25 (Crossply)	JCB	SITEMASTER (24PLY)	L3	-92	-72	-64	-57	-50	6	1
23.5R25 (radial)	JCB	EARTHMOVER	L3	160	125	111	99	87	1	6
23.5R25 (radial)	Michelin	XLDD2A	L5	548	430	380	339	300	27	13
23.5R25 (radial)	Michelin	XMINED2	L5	828	650	574	513	453	37	38
23.5R25 (radial)	Goodyear	RL-5K	L5	792	621	549	490	433	9	24
23.5-25 (solid cushion)*	SG Revolution	S2 C2 DWL	-	3124	2451	2164	1934	1707	51	-24
Heavy duty counterweight	-	-	-	774	1740	1474	1373	1163	0	0

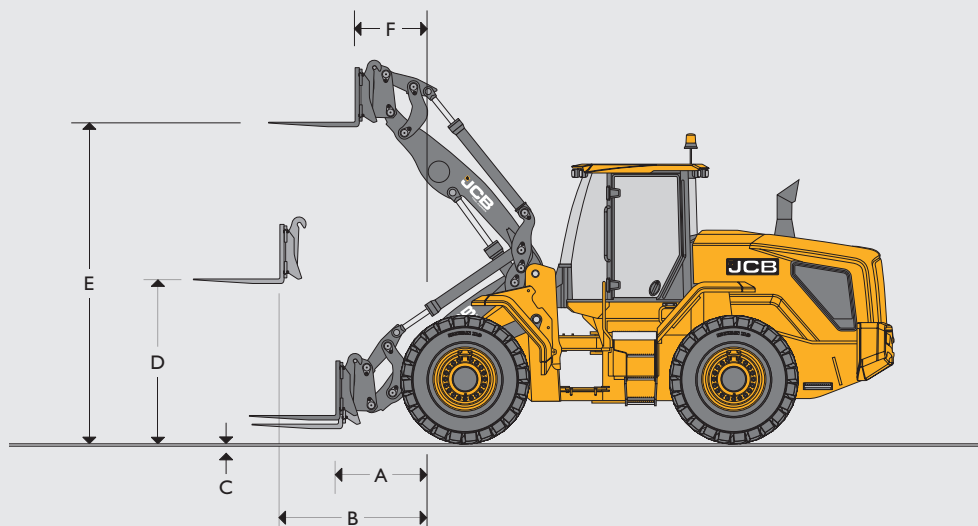
\*Heavy duty counterweight replaced by standard counterweight when solid tyres are fitted

LOADER DIMENSIONS

Assumes machine is fitted with Michelin 23.5R25 XHA2 (L3) tyres and heavy duty counterweight.

Model	457 ZX												457 ZX HL													
	Direct						Quickhitch						Direct						Quickhitch							
	General purpose						General purpose						General purpose						General purpose							
Shovel mounting	Tipped teeth		Reversible toeplate		Tipped teeth and toeplate segments		Tipped teeth		Reversible toeplate		Tipped teeth and toeplate segments		Tipped teeth		Reversible toeplate		Tipped teeth and toeplate segments		Tipped teeth		Reversible toeplate		Tipped teeth and toeplate segments			
Shovel capacity (SAE heaped)	m <sup>3</sup>	3.1	3.3	3.3	3.5	3.3	3.5	3.1	3.3	3.3	3.5	3.3	3.5	2.8	3.1	3.3	3.3	3.5	3.3	3.5	3.1	3.3	3.3	3.5		
Shovel capacity (struck)	m <sup>3</sup>	2.791	2.991	2.933	3.137	2.933	3.137	2.497	2.687	2.648	2.844	2.648	2.844	2.497	2.791	2.991	2.933	3.137	2.933	3.137	2.497	2.687	2.648	2.844		
Shovel width	mm	2837	2837	2800	2800	2837	2837	2837	2837	2800	2837	2837	2837	2837	2837	2837	2800	2837	2837	2837	2837	2800	2800	2837	2837	
Shovel weight	kg	1613	1656	1723	1766	1761	1804	1426	1471	1536	1581	1574	1619	1540	1613	1656	1723	1766	1761	1804	1426	1471	1536	1581	1574	1619
Maximum material density *	kg/m <sup>3</sup>	2247	2096	2095	1961	2089	1956	2146	2007	1999	1877	1993	1871	1876	1672	1556	1554	1452	1549	1447	1593	1487	1482	1388	1476	1383
Tipping load straight *	kg	16510	16403	16402	16295	16364	16258	15829	15770	15719	15660	15681	15622	12546	12395	12293	12287	12185	12250	12148	11863	11795	11762	11695	11728	11660
Tipping load full turn *	kg	13933	13835	13825	13727	13788	13690	13304	13248	13194	13138	13156	13100	10505	10365	10271	10257	10163	10220	10126	9879	9815	9779	9715	9744	9680
Payload *	kg	6967	6918	6913	6864	6894	6845	6652	6624	6597	6569	6578	6550	5252	5182	5135	5129	5082	5110	5063	4940	4908	4889	4857	4872	4840
Maximum breakout force	kN	172	165	161	154	161	154	153	147	143	137	143	137	164	151	145	142	136	142	136	134	129	126	121	126	121
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
N Roll back angle full height	degrees	67	67	67	67	67	67	67	67	67	67	67	67	53	53	53	53	53	53	53	53	53	53	53	53	53
O Roll back at carry	degrees	45	45	45	45	45	45	45	45	45	45	45	45	52	52	52	52	52	52	52	52	52	52	52	52	52
P Roll back at ground level	degrees	39	39	39	39	39	39	39	39	39	39	39	39	44	44	44	44	44	44	44	44	44	44	44	44	44
Q Load over height	mm	3802	3802	3834	3834	3802	3802	3802	3802	3834	3834	3802	3802	4373	4373	4373	4405	4405	4373	4373	4373	4373	4405	4285	4373	4373
R Dump height (45 deg dump)	mm	2740	2698	2890	2848	2740	2698	2620	2578	2770	2728	2620	2578	3374	3310	3268	3460	3418	3310	3268	3190	3148	3340	3298	3190	3148
S Dig depth	mm	120	120	88	88	120	120	120	120	88	88	120	120	164	164	164	132	132	164	164	164	164	132	132	164	164
T Reach at dump height	mm	1301	1343	1191	1233	1301	1343	1421	1463	1311	1353	1421	1463	1315	1379	1421	1269	1311	1379	1421	1499	1541	1389	1431	1499	1541
V Pin height	mm	4110	4110	4110	4110	4110	4110	4110	4110	4110	4110	4110	4110	4680	4680	4680	4680	4680	4680	4680	4680	4680	4680	4680	4680	4680
Reach maximum (45 deg dump) horizontal arm	mm	2140	2182	2029	2071	2140	2182	2260	2302	2149	2191	2260	2302	2553	2617	2659	2507	2549	2617	2659	2737	2779	2627	2669	2737	2779
Operating weight (includes 75kg operator and full fuel and DEF tanks)	kg	19621	19664	19731	19774	19769	19812	19984	20029	20094	20139	20132	20177	19883	19956	19999	20066	20109	20104	20147	20319	20364	20429	20474	20467	20512





#### LOADER DIMENSIONS WITH FORKS

		457 HT	457 HT SHL	457 ZX	457 ZX SHL
Fork carriage width	mm	1500	1500	1500	1500
Length of tines	mm	1220	1220	1220	1220
A Reach at ground level	mm	1173	2140	978	1550
B Reach at arms horizontal	mm	1848	2648	1698	2175
C Top of tine above ground with arms down	mm	35	35	35	-9
D Arms, horizontal height	mm	1935	1935	1935	1935
E Arms, maximum height	mm	4154	5120	3957	4528
F Reach at maximum height	mm	871	929	860	938
Tipping load straight	kg	12225	9045	11392	9557
Tipping load full turn (40°)	kg	10375	7385	9647	8044
Payload*	kg	8000	5908	7717	6435
Attachment weight	kg	610	610	610	610
Operating weight (includes 75kg operator and full fuel and DEF tanks)	kg	19563	20472	19168	19503

\* At the centre of gravity distance 600mm. Based on 80% of FTTL as defined in ISO 8313.

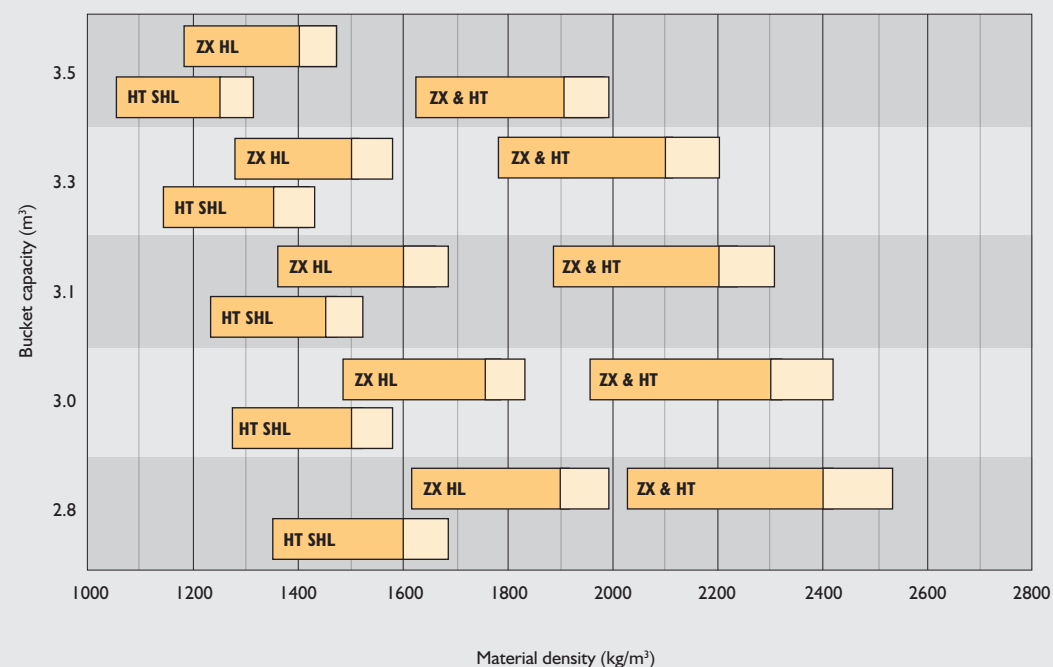
#### SERVICE FILL CAPACITIES

Hydraulic system	litres	240
Hydraulic tank	litres	135
Fuel tank	litres	300
Engine oil including filter	litres	25
Transmission oil system	litres	41 (45 with open diff axles)
Axle oil (front)	litres	35
Axle oil (rear)	litres	35
Engine coolant system	litres	42
DEF tank	litres	42

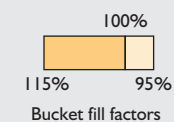
#### MATERIAL DENSITY

Material	Loose density kg/m <sup>3</sup>	Fill factor %	Material	Loose density kg/m <sup>3</sup>	Fill factor %
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 bituminous	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



HT = Standard height arm HL = High Lift arm SHL = Super high lift arm ZX = Z bar



## EQUIPMENT

## SERVICE AND MAINTENANCE

3 year 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	•
SCR engine emission control	•
Swing out fan	+
Waste gated turbo	•
Widewire radiator	+

## ELECTRICAL

100 amp alternator	•
Amber rotating beacon	•
Electrical adjustable mirrors	•
Heated mirrors	•
External battery isolator	•
Fold down beacon arm	•
Green seat belt beacon	+
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	•

## ELECTRICAL (CONTINUED)

White noise reverse alarm and light	+
Work lights in rear grille	•
Bonnet operation alarm	•
Blue led reverse lights	+

## DRIVE TRAIN

4 speed transmission	•
5 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	•
Limited slip differentials front and rear	+
Loader lever direction control	•
Neutral start	•
Open differential	•
Open differential with automatic locking - 100% (front axle only)	+
Oscillating rear axle	•
Power-inch intelligent clutch cut off on footbrake (selectable)	•
Selectable automatic power shift	•
Speed limiter 20km/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	•

## 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	•
Deluxe heated air suspension cloth seat	+
Super deluxe heated and cooled air suspension half leather seat	+
Front roller blind	•
Rear roller blind	+

## OPERATOR STATION (CONTINUED)

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	•
Convex mirror kit (1 on each side)	+
Adjustable seat mounted controls	•

## FRONT PRIMARY DISPLAY

## Warning lights

Direction indicators	•
Master warning	•
High coolant temperature	•
Battery charging condition	•
Low fuel level	•
Engine oil pressure	•
Hazard lamps	•



## EQUIPMENT (CONTINUED)

## FRONT PRIMARY DISPLAY

## Warning lights (continued)

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	•
Heated rear screen	•
Transmission sump temperature	•

## Data screens

DEF level	•
Hydraulic oil temperature	•
Torque convertor temperature	•
Volume of fuel remaining	•
Total fuel used (resettable)	•

## FRONT PRIMARY DISPLAY (CONTINUED)

## Data screens (continued)

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 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	•
JCB biodegradable hydraulic oil	+

## HYDRAULIC SYSTEM (CONTINUED)

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	•
Rear fender chevrons	•
Full tyre coverage fenders	•
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	+
Additional rear counterweight (+774kg)	+

## PROTECTIVE EQUIPMENT

Front cab screen guards	+
Wastemaster package: includes front and rear light guards, front screen guard, front and rear belly guards, rear light guards, widecore radiator, Wastemaster decal.	+
Rear grille guard	+
Fire system	+
Safety strut loader arm	•
Light guards	+
Front belly guard kits	+
Rear belly guard kits	+
Articulation joint safety strut	•
Front rubber apron mat	+

## OTHER EQUIPMENT

High lift loader end (ZX loader only)	+
Super high lift loader end (HT loader only)	+

STANDARD •

OPTIONAL +



**ONE COMPANY, OVER 300 MACHINES.**

Your nearest JCB dealer

**Wheeled Loading Shovel 457**

Gross engine power: 193kW (258hp) Operating weight: 19.6 – 24.6t

Full turn tipping load: 13,690kg Standard shovel capacity: 3.5m<sup>3</sup>

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