

Wheeled Loading Shovel 457



MORE POWER, MORE TORQUE, MORE LIFT, LESS FUEL





A QUALITY PROCESS

WE KNOW THAT A WHEELED LOADING SHOVEL IS A KEY PART OF THE ON-SITE PROCESS, THAT'S WHY THE JCB 457 IS BUILT ON A FOUNDATION OF QUALITY AND RELIABILITY. THE PROCESSES WE'VE USED TO **DESIGN AND MANUFACTURE THE 457 WILL** SAFEGUARD YOUR WORKING PROCESS, HOUR AFTER HOUR, DAY AFTER DAY.

Quality built in

1 Finite element analysis and rig testing ensure superior structural strength and durability. Cold cell testing guarantees starting performance down to -20°C.

Precision machining provides high tolerances and accurate location of pins and bushes.

The 457 can be specified for heavy-duty applications like waste or corrosive material handling.















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 can tolerate both vertical and horizontal loadings for durability and rigidity.

Well articulated

- The 457's articulation joint has a heavy-duty box section much stronger than a single plate with a boss. Steering rams are positioned high up and well protected from possible impact and site damage.
- Hoses are neatly routed and clamped through the 457's articulation joint, well away from any pinch points.

Protecting ancillaries

- Recessed rear lights are protected within the solid counterweight casting.
- The 457's hydraulic tank is positioned high up behind the cab for maximum protection.
- The rear counterweight and cast quarter pillars protect the cooling pack and the back end of the machine from damage.











PRODUCTIVE PERFORMANCE

THE JCB 457 CAN PERFORM GREAT FEATS
OF PRODUCTIVITY. WITH HIGH BREAKOUT
FORCES, IT'S BUCKETLOADS MORE POWERFUL
THAN ITS COMPETITORS AND OUR NEW REAR
CHASSIS LAYOUT PROVIDES 3.3% EXTRA LIFT
CAPACITY THAN THE PREVIOUS MODEL.





Engine productivity

- 1 The Cummins QSL 8.9 litre engine achieves high power (186kW, a 16% increase) and peak torque (1085NM, an 18% increase) at low revs for excellent response. The engine is Tier 4i/Stage 3b emissions compliant, using an exhaust aftertreatment system with particulate filter and oxidation catalyst.
- 1 A variable geometry turbocharger provides increased performance at low engine speed for improved cycle times and tractive effort.

Loading productivity

- JCB's optional quickhitch makes attachment changing on a 457 quick and efficient. The quickhitch is designed to be compatible with aftermarket attachments too.
- Powerful twin variable displacement piston pump hydraulics can circulate a massive 326 l/min for fast cycles and excellent multi function capability.







Loading productivity (continued)

- 4 You can choose your ideal loader arm on a 457, with z-bar linkage (ZX) for high breakout applications or high torque (HT) for parallel lift and multiattachment use.
- 5 Choose a ZX high lift or HT super high lift option and you can use a 457 for higher loading height applications (hopper and lorry loading).



Drivetrain productivity

- The 457's optional 5-speed transmission with torque convertor lock-up provides closer ratios for better acceleration, hill climbing and roading performance. The lock-up element eliminates losses from the torque converter for faster cycle times and improved efficiency.
- The 457's innovative electronic management can perform progressive clutch cut-off for efficient, productive loader control. This feature controls reducing service brake wear and fuel consumption.
- With a range of axle options you can tailor a 457
- axle differential provide excellent traction in varied







EFFICIENT BY DESIGN

THE JCB 457 IS DESIGNED TO MOVE MORE MATERIAL FOR LESS. TO ACHIEVE THIS, WE'VE DESIGNED THE ENGINE, AXLES, DRIVELINE AND HYDRAULICS TO WORK IN HARMONY WITH EACH OTHER, FOR ULTIMATE EFFICIENCY.

An efficient engine

1 Automatic idle returns the 457's engine to 700rpm after 30 secs of inactivity.

The 457's Eco mode limits engine speed to 1800rpm and reduces power to 217hp for reduced fuel consumption. Productivity remains formidable.

An efficient driveline

Our torque lock-up 5 speed transmission option gives 100% efficiency in gears 2 to 5 for improved fuel consumption. Closer gear ratios provide lower engine speed in each gear.

4 Wheel speed braking means the brakes on the 457 rotate at the same speed as the wheels for heat and drag reduction, as well as improved fuel economy. Our engine idle shutdown safely applies the brakes and turns the 457 off after a programmable amount of time.











An efficient hydraulic system

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.

Unloaded spool valves in the valve block mean that arms lower under gravitational, not hydraulic force, reducing fuel consumption.

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









COMFORTABLY SUPERIOR

KEEPING OPERATORS FRESH AND ALERT ALL DAY LONG RESULTS IN INCREASED SAFETY AND PRODUCTIVITY. WITH THAT IN MIND, THE 457'S 3M³ CAB IS ROOMY, EASY TO ACCESS, AND QUIET. IT ALSO HAS EXCELLENT VISIBILITY AND INTUITIVE TO USE ERGONOMIC CONTROLS.



In control

- 1 A tilting and telescopic steering column provides easy adjustment for maximum comfort.
- A range of loader controls; multi-lever, joystick, or joystick with proportional auxiliary controls.
- A stylish, modern central dash display combines analogue dials and a colour LCD screen this can display machine health details, service requirements, operating information and more.











A comfortable environment

4 The 457 has air conditioning and automatic climate control options to create perfect working temperatures.

Internal noise is just 70dbA.



Exterior comforts

- 3 or 4 spool hydraulics and a quickhitch enable many attachments to be used easily for extra versatility.
- The 457's selectable loader arm detents mean operators can set loader arm height limitations, return to dig and float functions for improved safety and productivity.
- JCB Smoothride load suspension limits shock loadings and therefore reduces material spillage and structural stress, as well as increasing operator comfort.
- A 3-piece laminated front screen provides excellent visibility while interior mirrors, heated exterior mirrors, an optional reverse camera and a sloping rear bonnet give good rearward views.







LOW MAINTENANCE LONG INTERVALS

A WHEELED LOADING SHOVEL NEEDS TO SPEND THE MAXIMUM AMOUNT OF TIME HARD AT WORK. WE'VE DESIGNED THE 457 TO DO JUST THAT, WITH LONG SERVICE INTERVALS AND OUALITY COMPONENTS.

Access all areas

- Gain access to the engine bay and cooling pack areas easily with wide-opening gullwing doors.
- The 457 has a large single faced cooling package for unrivalled quick, easy and safe cleaning
- Ground level daily check and grease point access makes life easier and safer.

Looking after itself

- A 457's electronic monitoring system relays machine condition giving real time alerts, safeguarding the machine and operator.
- With the optional auto lubrication kit your 457 will take care of its own greasing requirements.
- The optional widecore cooling pack and reversing fan will ensure cooling efficiency in environments with large amounts of airborne debris.







Green = standard operation Blue = reverse operation

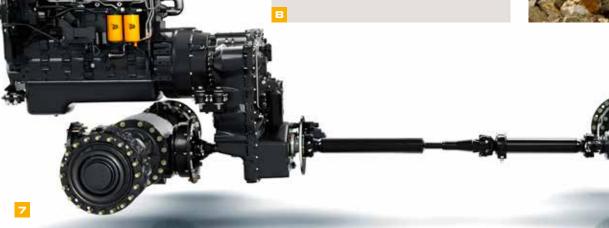
Quality built in

- **Z** By using top components in the 457 (Cummins engine, ZF transmissions and axles, Rexroth pumps and Parker valve blocks), we've built in long service life as standard.
- Ell hydraulic dual circuit braking with multiple oil immersed disks gives the 457's braking system a virtually maintenance-free lifespan.
- Check brake, steering and hydraulic system pressures easily on a 457 with group test ports.











DRIVE SAFELY

THE 457 IS DESIGNED TO KEEP THE OPERATOR SAFE AT ALL TIMES. GREAT VISIBILITY, NON-SLIP SURFACES AND AIR FILTRATION IS JUST THE START.

Safety first

- Our optional rear-view camera displays an unobstructed rear view on an in-cab colour monitor.
- Access steps are inclined and equally spaced, complemented by well positioned grab handles for three points of contact at all times.
- The 457 has interior mirrors, heated exterior mirrors and bonnet mirrors for superb all round visibility.
- 4 Non-slip walkways and additional grab handle options allow for safe moving around the machine.
- The 457's cab is isolator-mounted, compliant with ROPS/FOPS standards, and positively pressurised against dust. You can choose from fresh air, carbon and P3 – HEPA recirculation filters as well.















LIVELINK, KNOWLEDGE IS POWER

JCB LIVELINK IS AN INNOVATIVE SOFTWARE SYSTEM THAT LETS YOU MONITOR AND MANAGE YOUR MACHINES REMOTELY — ONLINE, BY EMAIL OR BY MOBILE PHONE. LIVELINK GIVES YOU ACCESS TO A WHOLE HOST OF USEFUL DATA, INCLUDING MACHINE ALERTS, FUEL REPORTS* AND EVENT HISTORY INFORMATION. ALL YOUR MACHINE INFORMATION IS HANDLED AT A SECURE DATA CENTRE FOR YOUR PEACE OF MIND.

Productivity and cost benefits

For ultimate productivity and cost-saving, JCB LiveLink provides information like idle time monitoring* and machine fuel consumption* to help reduce your fuel usage. Machine location information can improve fleet efficiency and you may even enjoy reduced insurance costs courtesy of the added security that LiveLink brings.

* These features require an electronic engine.





Maintenance benefits

JCB LiveLink makes it easy to manage machine maintenance. Accurate hours monitoring and service alerts improve maintenance planning, and real-time location data helps you manage your fleet. You'll also have access to critical machine alerts and maintenance history records.





Security benefits

Keep your machine operating safely with JCB Livelink. Real-time geofencing alerts tell you when machines move out of predetermined operating zones, and real-time curfew alerts inform you if machines are being used when they're not supposed to be. Real time location information helps you store your machines in the safest places.



VALUE ADDED

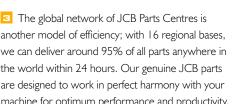
JCB'S WORLDWIDE CUSTOMER SUPPORT IS FIRST CLASS. WHATEVER YOU NEED AND WHEREVER YOU ARE, WE'LL BE AVAILABLE QUICKLY AND EFFICIENTLY TO HELP MAKE SURE YOUR MACHINERY IS PERFORMING TO ITS FULL POTENTIAL.



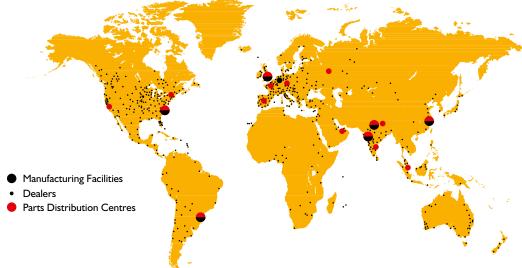
- 1 Our Technical Support Service provides instant access to factory expertise, day or night, while our Finance and Insurance teams are always on hand to provide fast, flexible, competitive quotes.
- **Z** JCB Assetcare offers comprehensive extended warranties and service agreements, as well as service-only or repair and maintenance contracts. Irrespective of what you opt for, our Maintenance teams around the world charge competitive labour rates, and offer non-obligation quotations as well as fast, efficient insurance repair work.



The global network of JCB Parts Centres is another model of efficiency; with 16 regional bases, we can deliver around 95% of all parts anywhere in the world within 24 hours. Our genuine JCB parts are designed to work in perfect harmony with your machine for optimum performance and productivity.

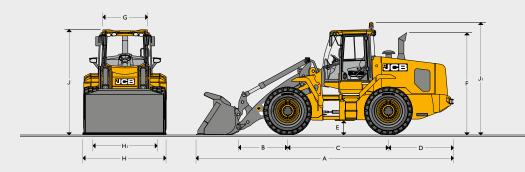






Note: JCB LIVELINK and JCB ASSETCARE may not be available in your region, so please check with your local dealer.

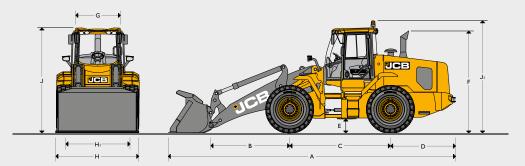
457 HT – STATIC DIMENSIONS – STANDARD HEIGHT ARM



Ma	chine model		457 HT
Α	Overall length	mm	8524
В	Axle to pivot pin	mm	1713
С	Wheel base	mm	3300
D	Axle to counterweight face	mm	1974
Ε	Minimum ground clearance	mm	470
F	Height over exhaust	mm	3318
G	Width over cab	mm	1400
Н	Width over tyres	mm	2702
Hı	Wheel track	mm	2100
J	Height over cab	mm	3370
J١	Overall height (to top of fixed beacon)	mm	3714
	Pin height (maximum)	mm	4304
	Overall operating height	mm	5768
	Front axle weight	kg	8687
	Rear axle weight	kg	11994
	Total weight	kg	20681
	Inside radius	mm	3182
	Maximum radius	mm	6630
	Articulation angle		± 40°

Data based on machine equipped with quickhitch mounted 3.5m³ bucket with toe plate and 23.5 R25 Michelin XHA (L3) radial tyres.

457 HT – STATIC DIMENSIONS – SUPER HIGH LIFT ARM

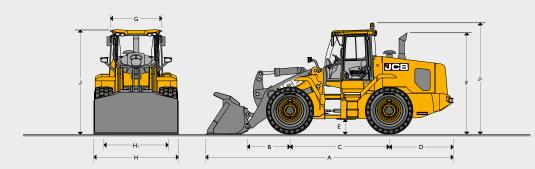


Mad	chine model		457 HT
Α	Overall length	mm	9454
В	Axle to pivot pin	mm	2727
С	Wheel base	mm	3300
D	Axle to counterweight face	mm	1974
Е	Minimum ground clearance	mm	470
F	Height over exhaust	mm	3318
G	Width over cab	mm	1400
Н	Width over tyres	mm	2702
Ηı	Wheel track	mm	2100
J	Height over cab	mm	3370
J١	Overall height (to top of fixed beacon)	mm	3714
	Pin height (maximum)	mm	5270
	Overall operating height	mm	6733
	Front axle weight	kg	10485
	Rear axle weight	kg	11096
	Total weight	kg	21581
	Inside radius	mm	3182
	Maximum radius	mm	7121
	Articulation angle		± 40°

Data based on machine equipped with quickhitch mounted 3.5m³ bucket with toe plate and 23.5 R25 Michelin XHA (L3) radial tyres.

MAX. ENGINE POWER: 186KW (250HP) MAX. OPERATING WEIGHT: 21645KG MAX. LOADER CAPACITY: 3.5M³

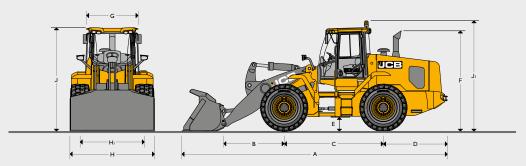
457 ZX – STATIC DIMENSIONS – STANDARD HEIGHT ARM



Mad	hine model		457 ZX
Α	Overall length	mm	7964
В	Axle to pivot pin	mm	1622
С	Wheel base	mm	3300
D	Axle to counterweight face	mm	1974
Е	Minimum ground clearance	mm	470
F	Height over exhaust	mm	3318
G	Width over cab	mm	1400
Н	Width over tyres	mm	2702
Hı	Wheel track	mm	2100
J	Height over cab	mm	3370
JІ	Overall height (to top of fixed beacon)	mm	3714
	Pin height (maximum)	mm	4107
	Overall operating height	mm	5571
	Front axle weight	kg	8129
	Rear axle weight	kg	11053
	Total weight	kg	19182
	Inside radius	mm	3182
	Maximum radius	mm	6554
	Articulation angle		± 40°

Data based on machine equipped with quickhitch mounted 3.5m³ bucket with toe plate and 23.5 R25 Michelin XHA (L3) radial tyres.

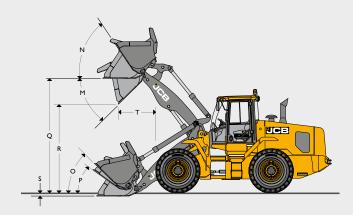
457 ZX – STATIC DIMENSIONS – SUPER HIGH LIFT ARM



Mac	hine model		457 ZX
Α	Overall length	mm	8524
В	Axle to pivot pin	mm	2182
С	Wheel base	mm	3300
D	Axle to counterweight face	mm	1974
Е	Minimum ground clearance	mm	470
F	Height over exhaust	mm	3318
G	Width over cab	mm	1400
Н	Width over tyres	mm	2702
Ηι	Wheel track	mm	2100
J	Height over cab	mm	3370
J١	Overall height (to top of fixed beacon)	mm	3714
	Pin height (maximum)	mm	4677
	Overall operating height	mm	6140
	Front axle weight	kg	8426
	Rear axle weight	kg	11167
	Total weight	kg	19593
	Inside radius	mm	3182
	Maximum radius	mm	6770
	Articulation angle	mm	± 40°

Data based on machine equipped with quickhitch mounted 3.5m³ bucket with toe plate and 23.5 R25 Michelin XHA (L3) radial tyres.

457 HT – LOADER DIMENSIONS – STANDARD HEIGHT ARM



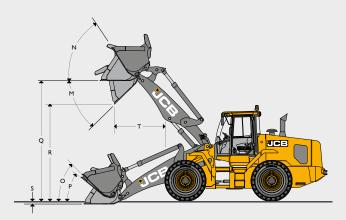
CHANGES TO OPERATING PERFORMANCE AND DIMENSIONS – STANDARD HEIGHT ARM													
					Tippin	ng loads	Dime	nsions					
Tyre size	Manufacturer	Туре	Rating	Op. weight kg	Straight kg	Full turn kg	Vertical mm	Width mm					
23.5R25 (radial)	Michelin	XTLA	L2	-100	-66	-57	-2	0					
23.5R25 (radial)	Goodyear	TL-3A+	L3	324	215	184	19	0					
23.5R25 (radial)	Goodyear	RT-3B	L3	176	117	100	10	0					
23.5-25 (crossply)	Goodyear	HRL-3A	L3	-100	-66	-57	15	0					
23.5-25 (crossply)	Earthmover	20ply	L3	-152	-101	-86	6	0					
23.5R25 (radial)	Earthmover		L3	0	0	0	4	0					
23.5R25 (radial)	Goodyear	GP - 4B	L4	380	252	216	35	0					
23.5R25 (radial)	Michelin	XLDD2A	L5	572	380	325	36	0					
23.5R25 (radial)	Michelin	XMINE D2	L5	808	536	459	36	0					
23.5R25 (radial)	Goodyear	RI - 5K	L5	704	467	400	36	0					
23.5-25 (Solid cushion)*	SG Revolution	SE	-	2324	0	0	30	0					
23.5-25 (Solid cushion)*	SG Revolution	DWL	-	2324	0	0	30	0					

^{*}Additional counterweight removed when solid tyres are fitted.

CHANGES TO OPERATING PERFORMANCE AND DIMENSIONS – STANDARD HEIGHT ARM

Assumes the fitment of Michelin 23.5R25 XHA (L3) tyres.										2			
Bucket mounting		Direct	Direct	Direct	Direct	Direct	Direct	Quickhitch	Quickhitch	Quickhitch	Quickhitch	Quickhitch	Quickhitch
Bucket type		General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	General Purpose
Bucket equipment		Tipped teeth	Tipped teeth	Reversible toeplate	Reversible toeplate	Tipped teeth & toeplate segments	Tipped teeth & toeplate segments	Tipped teeth	Tipped teeth	Reversible toeplate	Reversible toeplate	Tipped teeth & toeplate segments	Tipped teeth & toeplate segments
Bucket 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
Bucket 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
Bucket width	mm	2837	2837	2837	2837	2837	2837	2837	2837	2837	2837	2837	2837
Bucket weight with wearparts	kg	1508	1554	1623	1669	1623	1669	1380	1416	1495	1531	1495	1531
Maximum material density	kg/m³	2099	1958	1950	1825	1950	1825	1989	1855	1846	1728	1846	1728
Tipping load straight	kg	15118	15014	14971	14867	14971	14867	14346	14256	14200	14104	14200	14104
Tipping load full turn	kg	13017	12921	12873	12776	12873	12776	12327	12244	12184	12094	12184	12094
Payload at 50% FTTL	kg	6509	6460	6437	6388	6437	6388	6164	6122	6092	6047	6092	6047
Maximum break out force	kN	161	153	150	143	150	143	144	138	135	130	135	130
M Dump angle maximum	degrees	45°	45°	45°	45°	45°	45°	45°	45°	45°	45°	45°	45°
N Roll back angle at full height	degrees	57°	57°	57°	57°	57°	57°	57°	57°	57°	57°	57°	57°
O Roll back at carry	degrees	52°	52°	52°	52°	52°	52°	52°	52°	52°	52°	52°	52°
P Roll back at ground level	degrees	46°	46°	46°	46°	46°	46°	46°	46°	46°	46°	46°	46°
Q Load over height	mm	4028	4028	4028	4028	4028	4028	4028	4028	4028	4028	4028	4028
R Dump height (45° dump)	mm	2930	2888	3069	3027	2930	2888	2824	2782	2963	2921	2824	2782
S Dig depth	mm	109	109	91	91	109	109	109	109	91	91	109	109
T Reach at dump height	mm	1334	1375	1220	1261	1334	1375	1440	1482	1326	1368	1440	1482
Reach maximum (45° dump)	mm	2310	2352	2196	2238	2310	2352	2416	2458	2302	2344	2416	2458
Operating weight (includes 80kg operator and full fuel tank)	kg	20338	20384	20453	20499	20453	20499	20530	20566	20645	20681	20645	20681

457 HT – LOADER DIMENSIONS – SUPER HIGH LIFT ARM



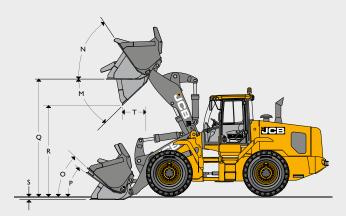
CHANGES TO OPERATING PERFORMANCE AND DIMENSIONS – SUPER HIGH LIFT ARM												
					Tippin	ig loads	Dimensions					
Tyre size	Manufacturer	Туре	Rating	Op. weight kg	Straight kg	Full turn kg	Vertical mm	Width mm				
23.5R25 (radial)	Michelin	XTLA	L2	-100	-50	-43	-2	0				
23.5R25 (radial)	Goodyear	TL-3A+	L3	324	161	138	19	0				
23.5R25 (radial)	Goodyear	RT-3B	L3	176	88	75	10	0				
23.5-25 (crossply)	Goodyear	HRL-3A	L3	-100	-50	-43	15	0				
23.5-25 (crossply)	Earthmover	20ply	L3	-152	-76	-65	6	0				
23.5R25 (radial)	Earthmover		L3	0	0	0	4	0				
23.5R25 (radial)	Goodyear	GP - 4B	L4	380	189	162	35	0				
23.5R25 (radial)	Michelin	XLDD2A	L5	572	284	243	36	0				
23.5R25 (radial)	Michelin	XMINE D2	L5	808	402	344	36	0				
23.5R25 (radial)	Goodyear	RI - 5K	L5	704	350	299	36	0				
23.5-25 (Solid cushion)*	SG Revolution	SE	-	2324	-1085	-895	30	0				
23.5-25 (Solid cushion)*	SG Revolution	DWL	-	2324	-1085	-895	30	0				

^{*}Additional counterweight removed when solid tyres are fitted.

CHANGES TO OPERATING PERFORMANCE AND DIMENSIONS – SUPER HIGH LIFT ARM

Assur	sumes the fitment of Michelin 23.5R25 XHA (L3) tyres.				2					177					
	Bucket mounting		Direct	Direct	Direct	Direct	Direct	Direct	Direct	Quickhitch	Quickhitch	Quickhitch	Quickhitch	Quickhitch	Quickhitch
	Bucket type		General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	General Purpose
	Bucket equipment		Tipped teeth	Tipped teeth	Tipped teeth	Reversible toeplate	Reversible toeplate	Tipped teeth & toeplate segments	Tipped teeth & toeplate segments	Tipped teeth	Tipped teeth	Reversible toeplate	Reversible toeplate	Tipped teeth & toeplate segments	Tipped teeth & toeplate segments
	Bucket capacity (SAE heaped)	m³	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
	Bucket capacity (struck)	m³	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
	Bucket width	mm	2837	2837	2837	2837	2837	2837	2837	2837	2837	2837	2837	2837	2837
	Bucket weight with wearparts	kg	1436	1508	1554	1623	1669	1623	1669	1380	1416	1495	1531	1495	1531
	Maximum material density	kg/m³	1516	1354	1262	1258	1178	1258	1178	1282	1196	1191	1115	1191	1115
	Tipping load straight	kg	10008	9903	9834	9806	9738	9806	9738	9397	9042	9301	9237	9301	9237
	Tipping load full turn	kg	8492	8396	8333	8303	8241	8303	8241	7951	7897	7859	7800	7859	7800
	Payload at 50% FTTL	kg	4247	4198	4167	4152	4121	4152	4121	3975	3948	3930	3901	3930	3901
	Maximum break out force	kN	175	163	155	152	145	152	145	146	140	137	132	137	132
М	Dump angle maximum	degrees	45°	45°	45°	45°	45°	45°	45°	45°	45°	45°	45°	45°	45°
Ν	Roll back angle at full height	degrees	58°	58°	58°	58°	58°	58°	58°	58°	58°	58°	58°	58°	58°
0	Roll back at carry	degrees	54°	54°	54°	54°	54°	54°	54°	54°	54°	54°	54°	54°	54°
Р	Roll back at ground level	degrees	46°	46°	46°	46°	46°	46°	46°	46°	46°	46°	46°	46°	46°
Q	Load over height	mm	4994	4994	4994	4994	4994	4994	4994	4994	4994	4994	4994	4994	4994
R	Dump height (45° dump)	mm	3960	3896	3854	4034	3993	3896	3790	3790	3748	3929	3887	3790	3748
S	Dig depth	mm	109	109	109	91	91	109	109	109	109	91	91	109	109
Т	Reach at dump height	mm	1327	1393	1432	1277	1318	1393	1432	1497	1539	1383	1425	1497	1539
	Reach maximum (45° dump)	mm	3046	3110	3152	2996	3038	3110	3152	3216	3258	3102	3144	3216	3258
	Operating weight (includes 80kg operator and full fuel tank)	kg	21166	21238	21284	21353	21399	21353	21399	21430	21466	21545	21581	21545	21581

457 ZX - LOADER DIMENSIONS - STANDARD HEIGHT ARM



CHANGES TO OPERATING PERFORMANCE AND DIMENSIONS – STANDARD HEIGHT ARM												
					Tippin	ig loads	Dimensions					
Tyre size	Manufacturer	Туре	Rating	Op. weight kg	Straight kg	Full turn kg	Vertical mm	Width mm				
3.5R25 (radial)	Michelin	XTLA	L2	-100	-71	-61	-2	0				
23.5R25 (radial)	Goodyear	TL-3A+	L3	324	230	196	19	0				
23.5R25 (radial)	Goodyear	RT-3B	L3	176	125	107	10	0				
23.5-25 (crossply)	Goodyear	HRL-3A	L3	-100	-71	-61	15	0				
23.5-25 (crossply)	Earthmover	20ply	L3	-152	-108	-92	6	0				
23.5R25 (radial)	Earthmover		L3	0	0	0	4	0				
23.5R25 (radial)	Goodyear	GP - 4B	L4	380	269	230	35	0				
23.5R25 (radial)	Michelin	XLDD2A	L5	572	405	347	36	0				
23.5R25 (radial)	Michelin	XMINE D2	L5	808	572	490	36	0				
23.5R25 (radial)	Goodyear	RI - 5K	L5	704	499	427	36	0				
23.5-25 (Solid cushion)*	SG Revolution	SE	-	3124	467	400	30	0				
23.5-25 (Solid cushion)*	SG Revolution	DWL	-	3124	467	400	30	0				
Optional extra counterweight	-	-	-	800	1546	1275	0	0				

^{*}Additional counterweight removed when solid tyres are fitted.

CHANGES TO OPERATING PERFORMANCE AND DIMENSIONS – STANDARD HEIGHT ARM







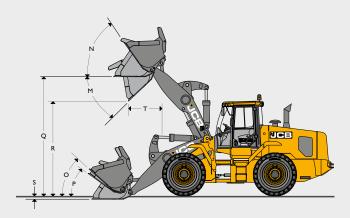






Assu	umes the fitment of Michelin 23.5R25 XHA (L3) tyres.		The state of the s				THE PARTY OF THE P		The state of the s				777		
	Bucket mounting		Direct	Direct	Direct	Direct	Direct	Direct	Direct	Quickhitch	Quickhitch	Quickhitch	Quickhitch	Quickhitch	Quickhitch
	Bucket type		General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	General Purpose
	Bucket equipment		Tipped teeth	Tipped teeth	Tipped teeth	Reversible toeplate	Reversible toeplate	Tipped teeth & toeplate segments	Tipped teeth & toeplate segments	Tipped teeth	Tipped teeth	Reversible toeplate	Reversible toeplate	Tipped teeth & toeplate segments	Tipped teeth & toeplate segments
	Bucket capacity (SAE heaped)	m^3	3.1	3.3	3.1	3.3	3.5	3.3	3.5	3.1	3.3	3.3	3.5	3.3	3.5
	Bucket capacity (struck)	m^3	2.791	2.991	2.791	2.933	3.137	2.933	3.137	2.497	2.687	2.648	2.844	2.648	2.844
	Bucket width	mm	2837	2837	2811	2800	2800	2800	2800	2837	2837	2837	2837	2837	2837
	Bucket weight with wearparts	kg	1602	1645	1612	1722	1765	1722	1765	1380	1416	1495	1531	1495	1531
	Maximum material density	kg/m³	2132	1989	2129	1983	1856	1983	1856	1936	1806	1801	1685	1801	1685
	Tipping load straight	kg	15846	15738	15823	15713	15604	15713	15604	14436	14338	14314	14216	14314	14216
	Tipping load full turn	kg	13219	1312	13198	13090	12992	13090	12992	12003	11915	11886	11796	11886	11796
	Payload at 50% FTTL	kg	6610	6562	6599	6545	6496	6545	6496	6002	5957	5943	5898	5943	5898
	Maximum break out force	kN	172	165	172	161	154	161	154	153	147	143	137	143	137
М	Dump angle maximum	degrees	45°	45°	45°	45°	45°	45°	45°	45°	45°	45°	45°	45°	45°
Ν	Roll back angle at full height	degrees	67°	67°	67°	67°	67°	67°	67°	67°	67°	67°	67°	67°	67°
0	Roll back at carry	degrees	45°	45°	45°	45°	45°	45°	45°	45°	45°	45°	45°	45°	45°
Р	Roll back at ground level	degrees	39°	39°	39°	39°	39°	39°	39°	39°	39°	39°	39°	39°	39°
Q	Load over height	mm	3822	3822	3856	3831	3831	3822	3822	3822	3702	3831	3711	3822	3702
R	Dump height (45° dump)	mm	2741	2699	2765	2887	2845	2741	2699	2621	2559	2767	2725	2621	2559
S	Dig depth	mm	74	74	74	91	91	109	109	74	74	91	91	109	109
Т	Reach at dump height	mm	1183	1135	1207	1085	1039	1183	1135	1301	1255	1205	1159	1301	1255
	Reach maximum (45° dump)	mm	2140	2182	2164	2032	2074	2140	2182	2260	2302	2152	2194	2260	2302
	Operating weight (includes 80kg operator and full fuel tank)	kg	19133	19182	19143	19253	19302	19253	19302	19457	19506	19577	19626	19577	19626

457 ZX – LOADER DIMENSIONS – HIGH LIFT ARM



CHANGES TO OPERATING PERFORMANCE AND DIMENSIONS – HIGH LIFT ARM													
					Tippin	g loads	Dime	nsions					
Tyre size	Manufacturer	Туре	Rating	Op. weight kg	Straight kg	Full turn kg	Vertical mm	Width mm					
23.5R25 (radial)	Michelin	XTLA	L2	-100	-58	-50	-2	0					
23.5R25 (radial)	Goodyear	TL-3A+	L3	324	189	162	19	0					
23.5R25 (radial)	Goodyear	RT-3B	L3	176	103	88	10	0					
23.5-25 (crossply)	Goodyear	HRL-3A	L3	-100	-58	-50	15	0					
23.5-25 (crossply)	Earthmover	20ply	L3	-152	-89	-76	6	0					
23.5R25 (radial)	Earthmover		L3	0	0	0	4	0					
23.5R25 (radial)	Goodyear	GP - 4B	L4	380	222	190	35	0					
23.5R25 (radial)	Michelin	XLDD2A	L5	572	334	286	36	0					
23.5R25 (radial)	Michelin	XMINE D2	L5	808	472	404	36	0					
23.5R25 (radial)	Goodyear	RI - 5K	L5	704	411	352	36	0					
23.5-25 (Solid cushion)*	SG Revolution	SE	-	3124	1824	1560	30	0					
23.5-25 (Solid cushion)*	SG Revolution	DWL	-	3124	1824	1560	30	0					
Optional extra counterweight	-	-	-	800	1274	1051	0	0					

^{*}Additional counterweight removed when solid tyres are fitted.

CHANGES TO OPERATING PERFORMANCE AND DIMENSIONS – HIGH LIFT ARM

Assumes the fitment of Mich	Assumes the fitment of Michelin 23.5R25 XHA (L3) tyres.											25		
Bucket mounting		Direct	Direct	Direct	Direct	Direct	Direct	Direct	Quickhitch	Quickhitch	Quickhitch	Quickhitch	Quickhitch	Quickhitch
Bucket type		General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	General Purpose	General Purpose
Bucket equipmer	nt	Tipped teeth	Tipped teeth	Tipped teeth	Reversible toeplate	Reversible toeplate	Tipped teeth & toeplate segments	Tipped teeth & toeplate segments	Tipped teeth	Tipped teeth	Reversible toeplate	Reversible toeplate	Tipped teeth & toeplate segments	Tipped teeth & toeplate segments
Bucket capacity (SAE heaped) m ³	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
Bucket capacity (struck) m ³	2.497	2.791	2.991	2.933	3.137	2.933	3.137	2.497	2.687	2.648	2.844	2.648	2.844
Bucket width	mm	2837	2837	2837	2800	2800	2800	2800	2837	2837	2837	2837	2837	2837
Bucket weight w	th wearparts kg	1529	1602	1645	1722	1765	1722	1765	1380	1416	1495	1531	1495	1531
Maximum materi	al density kg/m³	1770	1591	1483	1479	1384	1479	1384	1457	1358	1355	1269	1355	1269
Tipping load strai	ght kg	11976	11917	11834	11815	11735	11815	11735	10963	10888	10871	10797	10871	10797
Tipping load full t	urn kg	9910	9861	9789	9765	9692	9765	9692	9033	8966	8945	8878	8945	8878
Payload at 50% F	TTL kg	4955	4931	4894	4883	4846	4883	4846	4516	4483	4473	4439	4473	4439
Maximum break	out force kN	164	151	145	142	136	142	136	134	129	126	121	126	121
M Dump angle max	imum degrees	45°	45°	45°	45°	45°	45°	45°	45°	45°	45°	45°	45°	45°
N Roll back angle at	full height degrees	53°	53°	53°	53°	53°	53°	53°	53°	53°	53°	53°	53°	53°
O Roll back at carry	degrees	52°	52°	52°	52°	52°	52°	52°	52°	52°	52°	52°	52°	52°
P Roll back at grou	nd level degrees	44°	44°	44°	44°	44°	44°	44°	44°	44°	44°	44°	44°	44°
Q Load over height	mm	4393	4393	4393	4402	4402	4393	4393	4393	4273	4402	4282	4393	4273
R Dump height (45	o° dump) mm	3376	3312	3270	3458	3416	3312	3270	3192	3130	3338	3296	3192	3130
S Dig depth	mm	75	75	75	91	91	109	109	75	75	91	91	109	109
T Reach at dump h	eight mm	1099	1259	1213	1162	1117	1259	1213	1379	1333	1283	1237	1379	1333
Reach maximum	(45° dump) mm	2553	2617	2659	2509	2551	2617	2659	2737	2779	2629	2617	2737	2779
Operating weight operator and full		19471	19544	19593	19664	19713	19664	19713	19867	19917	19988	20037	19988	20037

LOADER

The pin, bush and sealing design on all pivot points provide extended maintenance intervals. HT: Widely spaced four ram geometry. ZX: Heavy-duty three ram geometry.

ENGINE		
6-cylinder variable geometry turbo-charged and charge air cooled 8.9l di	esel engine.	
Manufacturer		Cummins
Model		QSL9
Displacement	ltr	8.9
Bore	mm	114
Stroke	mm	145
Aspiration		Variable Geometry Turbocharger
No. of cylinders		6
Max. gross power to SAE J1995/ISO 14396	kW (hp) @ 1800rpm	186 (250)
Rated gross power to SAE J1995/ISO 14396	kW (hp) @ 2200rpm	186 (250)
Nett power to SAE J1349	kW (hp) @ 2100rpm	184 (247)
Gross torque at 1500rpm	Nm (lbf-ft) @ I 500rpm	1085 (800)
Economic working range	rpm	800 – 1800
Torque rise	%	34.1
Valves per cylinder		4
Wet weight	kg	708
Air cleaner		Cyclonic pre filter with scavenge system
Fan drive type		Hydraulic
Emissions:		US EPA Tier 4i, EU Stage IIIB

TRANSMISSION			
Туре		4 speed non-lock up converter	5 speed with lock up torque converter
Make		ZF	ZF
Model		4WG210 (standard)	5WG210 with lock-up (option)
Forward speed I	kph	7.0	7.1
Forward speed 2	kph	13.7	12.6
Forward speed 3	kph	26.1	19.1
Forward speed 4	kph	41.5	29.1
Forward speed 5	kph		42.7
Reverse I	kph	7.3	7.5
Reverse 2	kph	14.4	13.3
Reverse 3	kph	27.4	30.6

ELECTRICAL SYSTEM		
System voltage	Volt	24
Alternator output	Amp hour	70
Battery capacity	Amp hour	2×110

Connectors to IP67 standard.

SERVICE FILL CAPACITIES		
Hydraulic system	litres	135
Fuel system	litres	309
Engine oil (includes filter)	litres	19
Engine coolant	litres	40
Axles	litres	34
Transmission	litres	41

TRANSMISSION

3 axles options available; Torque proportioning differentials, Limited slip differentials or Open differentials with automatic differential locking. All axle options feature wheel speed braking for lower heat build up and longer service life.

Туре	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	±12.5°	±12.5°	±12.5°
Bias ratio	12%	30%	100% (when locked)

SPECIFICATION

457 WHEELED LOADING SHOVEL

LOADER HYDRAULICS

Variable displacement piston pump feed a "load sensing" system providing a fuel efficient and responsive distribution of power as required. Main services are servo actuated from a single lever (joystick) loader control. Auxiliary circuits controlled via additional lever or joystick mounted electrical buttons. Accumulator back-up is available to control loader in the event of loss of pump pressure.

Pump type		Twin variable displacement piston pump
Pump I max. flow	I/min	163
Pump I max. pressure	bar	250
Pump 2 max. flow	I/min	163
Pump 2 max. pressure	bar	160
Hydraulic cycle times at full engine revs		seconds
Arms raise (full bucket)		5.8
Bucket dump (full bucket)		1.2
Arms lower (empty bucket)		4.1
Total cycle		11.1

ПІ					
Ram dimensions		Bore	Rod	Closed centres	Stroke
Bucket ram x2	mm	130	75	1845	1270
Lift ram x2	mm	160	80	1290	744
Steer ram x2	mm	90	50	621	312
ZX					
Ram dimensions		Bore	Rod	Closed centres	Stroke
Bucket ram x l	mm	180	90	1080	570
Lift ram x2	mm	160	80	1290	744
Steer ram x2	mm	90	50	621	312

STEERING	Priority steer hydraulic system with emergency steering. Steering angle \pm 40°. Steer rams fitted with end rod damping to provide cushioned steering at full articulation.
BRAKES	Hydraulic power braking on all wheels, operating pressure 80 bar (1160psi). Dual circuit with accumulator back-up provide maximum safety under all conditions. Oil immersed, multi-plate disc brakes with sintered linings reduce heat build up. Wheel speed braking improves performance and reduce wear. Parking brake, electro-hydraulic disc type operating on transmission output shaft.
CAB	Resiliently mounted ROPS/FOPS structure (tested in accordance with EN3471:2008/EN3449: 2008 (Level 2). Instrumentation analogue/digital display gauges along with full colour LCD screen including selectable machine and operator menus along with service and diagnostic screens. Heating/ventilation provides temperature control, with air conditioning and climate control system as options. Provision of speakers and antenna for radio fitment (radio/CD not included). The cab environment is positively pressurised preventing the ingress of dust including in-cab recirculation filter. Fuse box positioned at rear for access to fuses, relays and diagnostic connectors. In cab noise levels 70dba.
TYRES	A variety of tyre options are available including: 23.5R25 XTLA (L2), 23.5R25 XHA (L3), 23.5R25 TL-3A+ (L3), 23.5R25 RT-3B (L3), 23.5x25x20 ply HRL (L3), 23.5x25x20 ply (L3), 23.5R25 JCB (L3), 23.5R25 XMINE (L5), 23.5R25 XLDD2 (L5), 23.5R25 RL-5K (L5), 23.5R25 DWL (Solid Cushion), 23.5R25 SE (Solid Cushion)
ATTACHMENTS	An extensive range of attachments are available to fit directly or via the JCB quickhitch mounting.

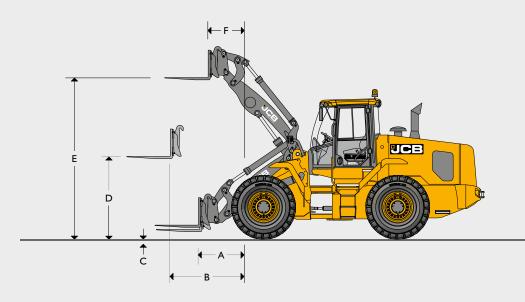
STANDARD EQUIPMENT

HT Loader: Bucket reset mechanism (selectable), loader arm kickout mechanism (selectable), loader control isolator, single lever or multi lever servo control, high torque geometry combines with excellent visibility between arms. ZX Loader: Bucket reset mechanism (selectable), loader arm kickout mechanism (selectable), loader control isolator, single lever or multi lever servo control, high breakout forces with excellent loading characteristics. Engine: Air cleaner - cyclonic pre filter with scavenge system. Variable geometry turbocharger, cooled exhaust gas recirculation, diesel particulate filter, isolated cooling package with hydraulically driven cooling fan. Selectable ECO mode (217hp). Transmission: Single lever shift control, neutral start, 'Power-Inch' Intelligent clutch cut off on footbrake (selectable), direction changes and kickdown on gear selector and loader control lever. Axles: Epicyclic wheel hub reduction, fixed front, oscillating rear. Brakes: Mulit-plate wet disc brakes, sintered brake pads, dual circuit hydraulic power, wheel speed braking. Parking disc brake on transmission output shaft. Hydraulics: Twin piston pumps with priority steer, emergency steer back-up, 2 spool loader circuit with accumulator support, 3rd and 4th spool auxiliary hydraulic circuits available as an option. Steering: Adjustable steering column, "soft feel" steering wheel, 5 turns lock to lock, resilient stops on max lock. Cab: ROPS/FOPS safety structure, interior light, centre mounted master warning light. Electronic monitoring panel with full colour LCD display. Two speed intermittent front windscreen wipe/wash and self park, single speed rear windscreen wipe/wash and self park. 3 speed heater/demisting with replaceable air filter, RH opening windows, sun visor, internal rear view mirror, heated external mirrors, adjustable suspension seat with belt and headrest, operator stowage, laminated windscreen, heated rear screen, loader control isolator, horn, adjustable armrest. Electrical: Road lights front and rear, parking lights, front and rear working lights, reverse alarm and light, rear fog light, battery isolator, radio wiring and speakers, 70 amp alternator, rotating beacon. Bodywork: Front and rear fenders, side and rear access panels, mesh air intake screens, flexible bott om step, full width rear counterweight, recovery hitch, lifting lugs.

OPTIONAL EQUIPMENT

Loader: High lift loader end (ZX loader only), Super high lift loader end (HT loader only), Smoothride system (SRS), hydraulic quickhitch with in-cab pin isolation, parallel lift links (HT loader only - recommended for pallet forks), safety strut, replaceable bucket wear parts. Engine: Widecore radiator, epoxy coated radiator / coolers, automatically reversing cooling fan, engine block heater. Transmission: 5 speed transmission with Lock-up torque converter, transmission cooler bypass. Axles: Limited slip differentials front and rear, Open differential with automatic differential locking - 100% (front axle only). Hydraulics: ARV kit, 3rd hydraulic spool (ZX only, standard on HT), 4th hydraulic spool Cab: Canopy cab, wastemaster cab, air conditioning, Climate control, joystick or multi-lever hydraulic controls, auxiliary hydraulic control on separate lever or joystick mounted (proportional), 24V to 12V in cab converter, cab screen guards, heated air suspension seat, Grammer Actimo XXL seat, front and rear blinds, P3 cab air filter, Carbon cab air filter. Electrical: Reversing camera (colour), additional front and rear work lights, sealed electrics, non-heated mirrors. Bodywork: Full rear fenders, light guards, number plate light kit, white noise reverse alarm, smart reverse alarm, basic belly guard kits. Miscellaneous options: Automatic greasing system, Biodegradable hydraulic oil, fire extinguisher, grease gun and cartridge. Wastemaster package: Includes front and rear light guards, widecore radiator, carbon cab air filter, front screen guard, full belly guarding, Wastemaster decal.

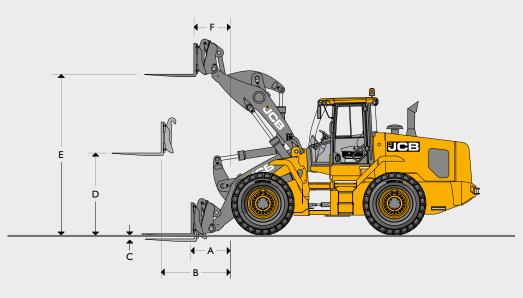
457 HT – LOADER DIMENSIONS – FORK FRAME WITH FORKS



			Standard height arm	Super high lift arm
	Fork carriage width	mm	1500	1500
	Length of tines	mm	1220	1220
Α	Reach at ground level	mm	1175	2143
В	Reach at arms horizontal	mm	1851	2650
С	Tine surface to ground level	mm	50	50
D	Arms horizontal height	mm	1975	1975
Е	Arms maximum height	mm	4194	5160
F	Reach at maximum height	mm	874	931
	Payload **	kg	8000	5945
	Tipping load straight	kg	11653	8588
	Tipping load full turn (40°)	kg	10082	7430
	Attachment weight	kg	590	590

Assumes the machine is fitted with Michelin 23.5R25 XHA (L3) tyres. ** At a centre of gravity distance of 600mm. Based on 80 % of full turn tipping load as defined by ISO 83 I 3. Manual fork spacings at 50mm increments. Class 4A fork section 60 mm x I 50 mm.

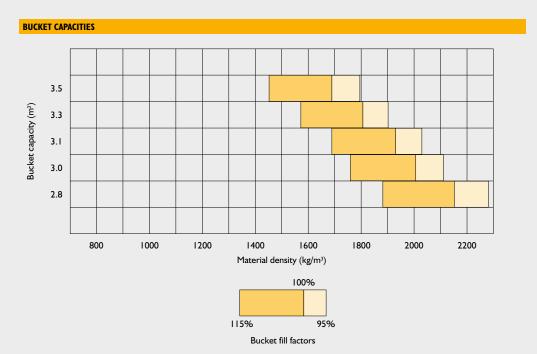
457 ZX – LOADER DIMENSIONS – FORK FRAME WITH FORKS



Assu	umes the fitment of Michelin 23.5R25 XHA (L3) tyres		Standard arm	High lift arm
	Fork carriage width	mm	1500	1500
	Length of tines	mm	1220	1220
Α	Reach at ground level	mm	1084	1644
В	Reach at arms horizontal	mm	1695	2172
С	Below ground level	mm	16	16
D	Arms, horizontal height	mm	1975	1975
Ε	Arms, maximum height	mm	3997	4567
F	Reach at maximum height	mm	735	813
	Payload*	kg	8000	6074
	Tipping load straight	kg	12202	9175
	Tipping load full turn (40°)	kg	10178	7594
	Attachment weight	kg	590	590

*At the centre-of-gravity distance 600mm. Based on 80% of full turn tipping load as defined by ISO 8313. Manual fork spacings at 50mm increments. Class 4A Fork section 150mm \times 60mm.

Material	Loose density	Fill factor
	kg/m³	%
Snow (fresh)	200	110
Peat (dry)	400	100
Sugar beet	530	100
Coke (loose)	570	85
Barley	600	85
Petroleum coke	680	85
Wheat	730	85
Coal bitumous	765	100
Fertiliser (mixed)	1030	85
Coal anthracite	1046	100
Earth (dry) (loose)	1150	100
Nitrate fertiliser	1250	85
Sodium chloride (dry) (salt)	1300	85
Cement portland	1440	100
Limestone (crushed)	1530	100
Sand (dry)	1550	100
Asphalt	1600	100
Gravel (dry)	1650	85
Clay (wet)	1680	110
Sand (wet)	1890	110
Fire clay	2080	100
Copper (concentrate)	2300	85
Slate	2800	100
Magnetite	3204	100













Wheeled Loading Shovel 457

Gross Engine Power: 250hp (186kW)

Operating Weight: 19,302kg

Full Turn Tipping Load: 12,992kg

Standard Bucket Capacity: 3.5m³

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