

**NEW**



## **WHEELED LOADING SHOVEL | 411/417**

411 – Operating weight: 8,688kg Gross rated power: 81kW (108hp) Full turn tipping load: 5,451kg Standard shovel capacity: 1.4m<sup>3</sup>

417 – Operating weight: 9,425kg Gross rated power: 93kW (125hp) Full turn tipping load: 6,042kg Standard shovel capacity: 1.6m<sup>3</sup>



# CLEANER, QUIETER AND MORE EFFICIENT.

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## A QUALITY PROCESS.

We use state-of-the-art manufacturing processes like robot machining, precision paint technology and innovative assembly techniques to achieve the very highest levels of quality.

WE KNOW THAT A WHEELED LOADING SHOVEL IS A KEY PART OF THE ON-SITE PROCESS. THAT'S WHY THE JCB 411 AND 417 ARE BUILT ON A FOUNDATION OF QUALITY AND RELIABILITY. THE PROCESSES WE'VE USED TO DESIGN AND MANUFACTURE THEM 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  $-20^{\circ}\text{C}$ .
- 2 Precision machining provides high tolerances and accurate location of pins and bushes.
- 3 The 411 and 417 can be specified for heavy-duty applications like waste or corrosive material handling.

The hydraulic tank and fuel tank are both integral to the chassis, providing protection as well as structural strength.





### Well articulated.

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

### Protecting ancillaries.

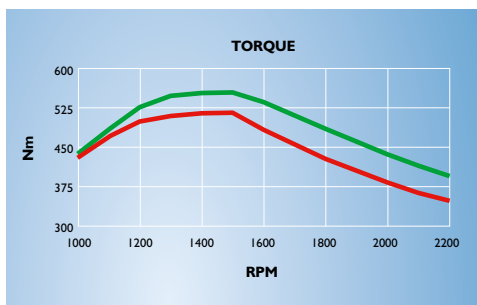
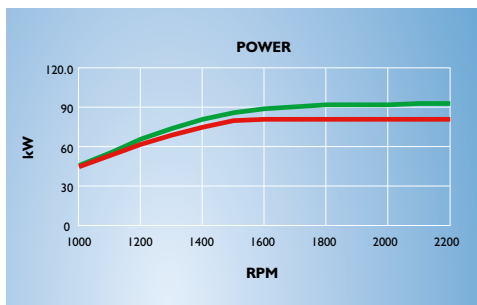
- 6 Rear lights are safely recessed and protected by the solid counterweight casting.
- 7 To protect the bonnet and cooling pack from impact damage, we've fitted a full-width rear counterweight.

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 loads for durability and rigidity.



# PRODUCTIVE PERFORMANCE.

THE 411 AND 417 CAN PERFORM GREAT FEATS OF PRODUCTIVITY. WITH HIGH POWER AND TORQUE, BOTH MACHINES MEET TIER 4i/STAGE 3B EMISSIONS LEGISLATION WITHOUT NEEDING A DPF OR SCR SYSTEM.



— 411 — 417

## Engine productivity.

1 JCB's award-winning EcoMAX 4.4 litre engine delivers great power and torque; in the 411, you get 81 kW (108 hp) and 516 Nm, while the 417 has 93 kW (125 hp) and 550 Nm for even greater performance.

1 With a variable geometry turbo, our EcoMAX T4i engine offers increased performance at low engine speeds for improved cycle times and tractive effort.

## Loading productivity.

2 We've made sure that forward visibility on the 411 and 417 is excellent, while our optional quickhitch makes attachment changing easy and efficient (even with aftermarket attachments).

3 Optional constant flow is available for rotary attachments. Auxiliary flow rate is fully adjustable on the move for precise attachment control.



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### Loading productivity (continued).

4 So that you can perform parallel lifting and use plenty of attachments, both machines are fitted with a high torque (HT) loader arm. This also provides excellent visibility to the attachment at all heights.

Choose a high lift (HL) or super high lift (SHL) on the 411/417 and you can use the machine for higher loading height applications (hopper and lorry loading).

### Drivetrain productivity.

5 Clever JCB electronic management can disconnect the clutch via the brake pedal for efficient, productive loader operation. By controlling tractive effort through the transmission, this feature channels maximum power to the loader hydraulics, reducing service brake wear and fuel consumption.

6 With a choice of axle options you can tailor a 411/417 to any application.

- > Open differentials are ideal for hard standing ground conditions.
- > Limited slip differential is perfect for soft, muddy terrain with reduced traction.



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High Torque (HT)

High Torque High Lift (HT HL)

High Torque Super High Lift (HT SHL)

## EFFICIENT BY DESIGN.

THE JCB 411 AND 417 ARE 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.

Our EcoMAX engine can be adapted to run on lower-grade fuels; you can therefore resell your machine in different territories, which improves residuals.

### An efficient engine.

1 The Tier 4i EcoMAX engine uses less fuel than our Tier 3 engines, saving you money.

The 411 and 417 also save on service costs – EcoMAX doesn't need exhaust after-treatment, so it doesn't require costly heat-resistant lube oils.

2 EcoMAX produces high levels of power and torque at engine speeds as low as 1500 – 1600 rpm for fuel efficient matching of transmission and hydraulics.

### An efficient driveline.

3 High back-off brakes reduce viscous drag during roading and rehandling, which boosts fuel efficiency.





The variable displacement pump on the 417 feeds a load-sensing valve block which only consumes power on demand, providing precise, efficient loader control.

**An efficient driveline (continued).**

4 A viscous coupled engine fan automatically adjusts its speed depending on ambient temperature, optimising cooling, saving fuel and lowering noise.

**An efficient hydraulic system.**

5 Our regenerative dump circuit improves cycle times. It also improves economy by reducing hydraulic power consumption.

6 Using specialist attachments is easy with an adjustable proportional auxiliary flow rate.



## COMFORTABLY SUPERIOR.

KEEPING OPERATORS FRESH AND ALERT ALL DAY LONG RESULTS IN INCREASED SAFETY AND PRODUCTIVITY. WITH THAT IN MIND, THE 3M<sup>3</sup> CAB IS ROOMY, EASY TO ACCESS, AND QUIET. IT ALSO HAS EXCELLENT VISIBILITY AND INTUITIVE ERGONOMIC CONTROLS.

The 411 and 417 have a range of seat options: mechanical or air suspension, vinyl or fabric bases, or even our Actimo XXL option. It's heated with air suspension, lumbar support, armrests, backrest extension and a headrest, all with full adjustment.



### In control.

1 A tilting and telescopic steering column provides easy adjustment for maximum comfort.

2 Choose the control system to suit your operators: multi-lever, joystick and separate auxiliary lever, or our new joystick and electro-hydraulic proportional auxiliary control.

3 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.



The operator environment is insulated from the engine bay by a bulkhead positioned away from the cab to keep noise levels down.



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**A comfortable environment.**

4 The 411 and 417 have air conditioning and automatic climate control options to create perfect working temperatures.

8 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 visibility.



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**Exterior comforts.**

5 3 or 4 spool hydraulics and a quickhitch enable many attachments to be used easily for ultimate versatility.

6 The selectable loader arm detents mean operators can set loader arm height limitations, return to dig and float functions for improved safety and productivity.

7 JCB Smoothride load suspension limits shock loadings and therefore reduces material spillage and structural stress, as well as increasing operator comfort.



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## LOW MAINTENANCE LONG INTERVALS.

A WHEELED LOADING SHOVEL NEEDS TO SPEND THE MAXIMUM AMOUNT OF TIME HARD AT WORK. WE'VE DESIGNED THE 411 AND 417 TO DO JUST THAT, WITH LONG SERVICE INTERVALS AND QUALITY COMPONENTS.



### Access all areas.

- 1 A cyclonic air cleaner reduces debris build up in the air filter while an air intake scavange system removes debris, extending service intervals.
- 2 Ground level daily checks and grease point access make life easier and safer.
- 3 Batteries can be easily accessed with no special tools required.

Gain access to the engine bay and cooling pack areas easily with the large single piece bonnet.

### Looking after itself.

- 4 An electronic monitoring system relays machine condition giving real time alerts, safeguarding the machine and operator.
- 5 With the optional auto lubrication kit your machine will take care of its own greasing requirements.



### Quality built in.

Most T4i engines use a Diesel Particulate Filter (DPF) or SCR requiring additional AdBlue fluid level maintenance. JCB EcoMAX doesn't, reducing service and running costs.

Full hydraulic dual circuit braking with multiple oil immersed disks gives the braking system a virtually maintenance-free lifespan.

To prove how good our EcoMax engines are, we've tested them for 110,000 hours in 70 different machines across the toughest applications and environments.

The standard widecore cooling pack will ensure optimum performance in environments with large amounts of airborne debris.



# DRIVE SAFELY.

THE 411 AND 417 ARE DESIGNED TO KEEP THE OPERATOR SAFE AT ALL TIMES. GREAT VISIBILITY, NON-SLIP SURFACES AND AIR FILTRATION IS JUST THE START.

## Safety first.

- 1 The 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.
- 2 Our optional rear-view camera displays an unobstructed rear view on an in-cab colour monitor.
- 3 The 411 and 417 have interior mirrors, heated exterior mirrors and bonnet mirrors for superb all round visibility.
- 4 The 411 and 417 offer uncompromised visibility; our EcoMAX engine doesn't require bulky exhaust after-treatment, so it's extremely compact, housed beneath a sloping rear bonnet with the exhaust silencer and air intake filter both out of sight.
- 5 Our in-cab electronic two-stage quickhitch isolation protects against uncontrolled release of attachments.



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



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## 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.



## 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

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.

2 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.



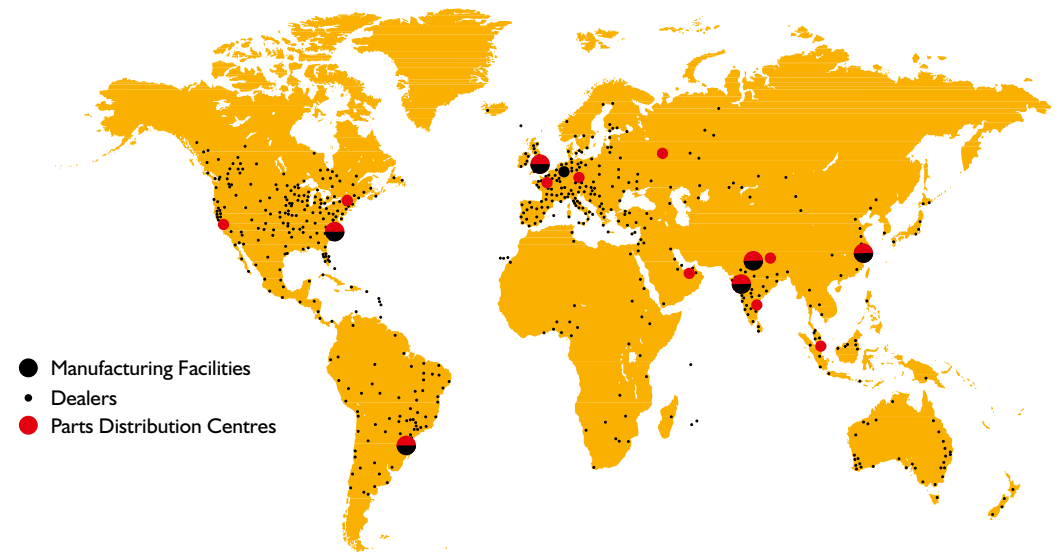
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3 JCB Assetcare offers comprehensive extended warranties and service agreements, as well as service-only or repair and maintenance contracts. Irrespective of what you opt for, our Maintenance teams around the world charge competitive labour rates, and offer non-obligation quotations as well as fast, efficient insurance repair work.



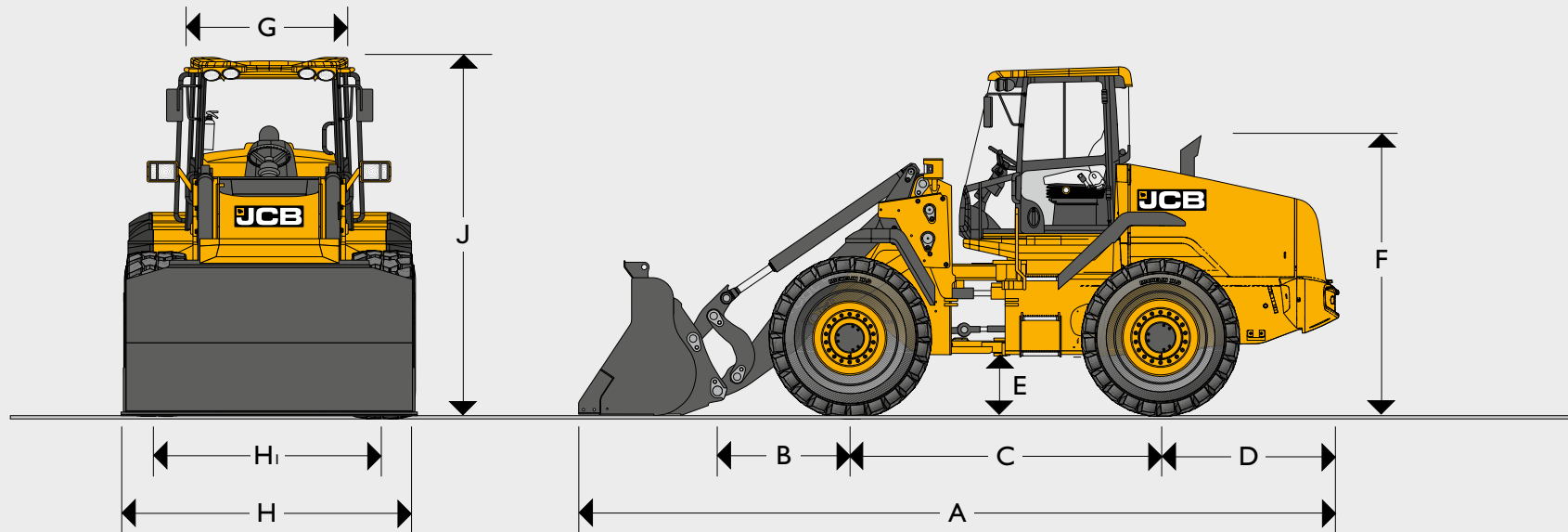
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Note: JCB LIVELINK and JCB ASSETCARE may not be available in your region, so please check with your local dealer.





## STATIC DIMENSIONS

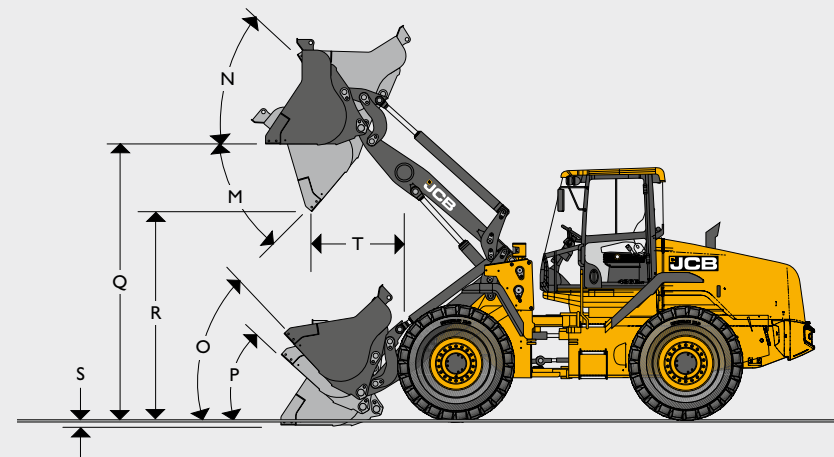


		411 HT	417 HT	417 HT HL	417 HT SHL	
A	Overall length	mm	6229	6290	6491	7143
B	Axle to pivot pin	mm	1226	1110	1311	1963
C	Wheel base	mm	2750	2800	2800	2800
D	Axle to counterweight face	mm	1365	1365	1365	1365
E	Minimum ground clearance	mm	344	371	371	371
F	Height over exhaust	mm	2293	2300	2300	2300
G	Width over cab	mm	1431	1431	1431	1431
H	Width over tyres	mm	2204	2328	2328	2328
Hi	Wheel track	mm	1800	1880	1880	1880
J	Height over cab	mm	3023	3050	3050	3050
	Pin height (maximum)	mm	3569	3566	3946	4411
	Overall operating height	mm	3368	3395	3395	3395
	Front axle weight	kg	3643	4230	4320	5170
	Rear axle weight	kg	5107	5310	5285	4975
	Total weight	kg	8750	9540	9605	10145
	Inside turn radius	mm	2658	2705	2705	2705
	Maximum turn radius over shovel	mm	5351	5463	5542	5840
	Articulation angle	degrees	± 40°	± 40°	± 40°	± 40°

411 data based on machine equipped with direct mounted 1.2 m<sup>3</sup> bucket with toe plates and Michelin 15.5 R25 XHA (L3) radial tyres

417 data based on machine equipped with direct mounted 1.6 m<sup>3</sup> bucket with toe plates and Michelin 17.5 R25 XHA (L3) radial tyres

TYRE SIZE – 411 HT									
411 HT					Standard arms				
Tyre size	Manufacturer	Type	Rating	Op weight kg	STL kg	FTTL kg	Vertical	Width	
15.5 x 25	Goodyear	SGL D/L12 Ply	L2	-38	-6	-5	-46	148	
15.5 x 25	Goodyear	HRL D/L12 Ply	L3	34	6	5	7	-148	
15.5 R25	Michelin	XTLA	L2	50	8	7	-9	-150	
15.5 R25	Michelin	XMINED2	L5	734	115	98	47	-129	
15.5 R25	Michelin	XHA	L3	94	15	13	-7	-143	
17.5 R25	Michelin	SNOPLUS	L2	276	93	90	25	84	
17.5 R25	Michelin	XTLA	L2	224	76	21	21	95	
15.5 R25	Nokian	LOADER GRIP 2	L3	-56	-15	-13	3	-10	
17.5 R25	Nokian	LOADER GRIP	L2	208	55	47	39	81	



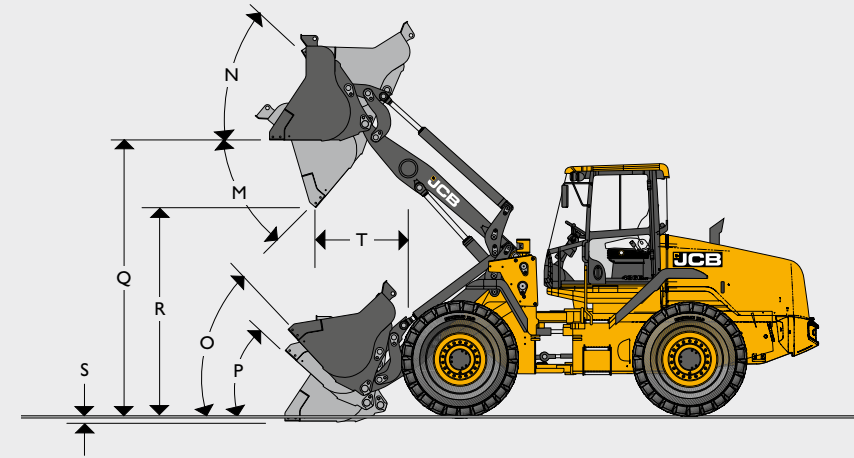
**LOADER DIMENSIONS – 411 HT**

Assumes machine is fitted with Michelin 15.5 R25 XHA tyres.

	Bucket mounting	Bucket type	Direct						Quickhitch						
			Tipped teeth			General purpose			Tipped teeth			General purpose			
			1.2	1.4	1.6	1.2	1.4	1.6	1.2	1.4	1.6	1.2	1.4	1.6	
		Bucket equipment	Tipped teeth			Reversible toeplate			Tipped teeth			Reversible toeplate			
		Bucket capacity (SAE heaped)	m <sup>3</sup>	1.2	1.4	1.6	1.2	1.4	1.6	1.2	1.4	1.6	1.2	1.4	1.6
		Bucket capacity (struck)	m <sup>3</sup>	1.009	1.180	1.362	1.009	1.180	1.362	1.009	1.180	1.362	1.009	1.180	1.362
		Bucket width	mm	2250	2400	2400	2250	2400	2400	2250	2400	2400	2250	2400	2400
		Bucket weight	kg	528	603	638	528	603	638	505	580	614	505	580	614
		Maximum material density	kg/m <sup>3</sup>	2328	1947	1677	2328	1947	1677	2224	1851	1591	2224	1851	1591
		Tipping load straight	kg	6537	6392	6299	6537	6392	6299	6276	6106	6005	6276	6106	6005
		Tipping load full turn	kg	5585	5451	5366	5585	5451	5366	5337	5182	5091	5337	5182	5091
		Payload	kg	2793	2726	2683	2793	2726	2683	2669	2591	2546	2669	2591	2546
		Maximum break out force	kN	73.2	67.7	62.7	73.2	67.7	62.7	67.2	62.3	57.1	67.2	62.3	57.1
M		Dump angle maximum	degrees	47	47	47	47	47	47	47	47	47	47	47	47
N		Roll back angle full height	degrees	41	41	41	41	41	41	41	41	41	41	41	41
O		Roll back at carry	degrees	46	46	46	46	46	46	46	46	46	46	46	46
P		Roll back at ground level	degrees	42	42	42	42	42	42	42	42	42	42	42	42
Q		Load over height	mm	3344	3346	3345	3344	3346	3345	3363	3365	3366	3363	3365	3366
R		Dump height (45° dump)	mm	2780	2718	2668	2780	2718	2668	2749	2687	2638	2749	2687	2638
S		Dig depth	mm	132	130	131	132	130	131	113	113	113	113	113	113
T		Reach at dump height	mm	926	978	1030	926	978	1030	980	1042	1084	980	1042	1084
		Reach maximum (45° dump) – horizontal arm	mm	1661	1724	1774	1661	1724	1774	1719	1782	1832	1719	1782	1832
		Operating weight (includes 80kg operator and full fuel tank)	kg	8621	8688	8722	8621	8688	8722	8830	8897	8931	8830	8897	8931

## TYRE SIZE – 417 HT

417 HT					Standard arms				
Tyre size	Manufacturer	Type	Rating	Op weight kg	STL kg	FTTL kg	Vertical	Width	
17.5 x 25	SG Revolutionr	S2C2		1688	102	87	28	12	
17.5 x 25	SG revolution	SE		1688	102	87	28	12	
17.5 x 25	Goodyear	SGL	L2	-184	-31	-27	2	9	
17.5 x 25	Goodyear	HRL	L3	-52	-9	-7	15	2	
17.5 R25	Michelin	XTLA	L2	-72	-12	-10	-6	17	
17.5 R25	Michelin	XSNOPPLUS	L2	-36	-6	-5	-2	-40	
17.5 R25	Michelin	X-MINE D2	L5	604	102	87	28	32	
17.5 R25	Nokian	L GRIP	L2	40	13	11	12	-3	

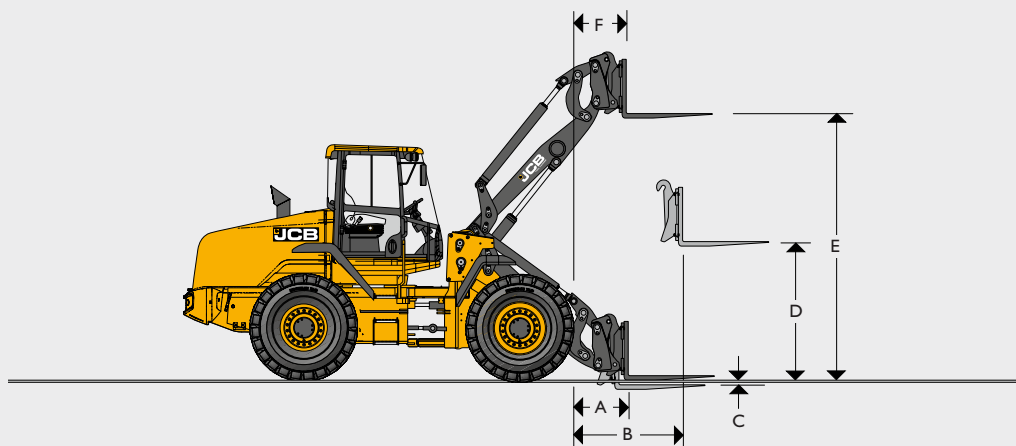


## LOADER DIMENSIONS – 417 HT, 417 HT HL, 417 HT SHL

Assumes machine is fitted with Michelin 17.5 R25 XHA tyres.

Model	417 HT								417 HT HL								417 HT SHL								
	Direct				Quickhitch				Direct				Quickhitch				Direct				Quickhitch				
Bucket type	General purpose																								
Bucket equipment	Tipped teeth		Reversible toeplate		Tipped teeth		Reversible toeplate		Tipped teeth		Reversible toeplate		Tipped teeth		Reversible toeplate		Tipped teeth		Reversible toeplate		Tipped teeth		Reversible toeplate		
Bucket capacity (SAE heaped)	m <sup>3</sup>	1.4	1.6	1.4	1.6	1.4	1.6	1.4	1.6	1.4	1.6	1.4	1.6	1.4	1.6	1.4	1.6	1.4	1.6	1.4	1.6	1.4	1.6	1.4	1.6
Bucket capacity (struck)	m <sup>3</sup>	1.18	1.36	1.18	1.36	1.18	1.36	1.18	1.36	1.18	1.36	1.18	1.36	1.18	1.36	1.18	1.36	1.18	1.36	1.18	1.36	1.18	1.36	1.18	1.36
Bucket width	mm	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400
Bucket weight	kg	658	698	680	720	643	683	665	705	658	698	680	720	643	683	665	705	658	698	680	720	643	683	665	705
Maximum material density	kg/m <sup>3</sup>	2189	1888	2189	1888	2088	1802	2088	1802	2039	1760	2039	1760	1945	1668	1945	1668	1499	1294	1499	1294	1419	1224	1419	1224
Tipping load straight	kg	7236	7141	7236	7141	6932	6844	6932	6844	6748	6666	6748	6666	6469	6392	6469	6392	5038	4976	5038	4976	4803	4745	4803	4745
Tipping load full turn	kg	6129	6042	6129	6042	5847	5767	5847	5767	5707	5632	5707	5632	5445	5337	5445	5337	4196	4139	4196	4139	3972	3918	3972	3918
Payload	kg	3065	3021	3065	3021	2924	2884	2924	2884	2854	2816	2854	2816	2723	2669	2723	2669	2098	2070	2098	2070	1986	1959	1986	1959
Maximum break out force	kN	70	64.6	70	64.6	64.9	59.9	64.9	59.9	70	64.6	70	64.6	64.9	59.9	64.9	59.9	70	64.6	70	64.6	64.9	59.9	64.9	59.9
M Dump angle maximum	degrees	50	50	50	50	51	50	51	50	47	47	47	47	47	46	47	46	45	45	45	45	45	45	45	45
N Roll back angle full height	degrees	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	47	47	47	47	47	47	47	47
O Roll back at carry	degrees	44	44	44	44	43	43	43	43	43	43	43	43	43	43	43	43	45	45	45	45	45	47	45	47
P Roll back at ground level	degrees	41	41	41	41	41	41	41	41	42	42	42	42	42	42	42	42	44	43	44	43	43	45	43	45
Q Load over height	mm	3341	3343	3341	3343	3339	3358	3339	3358	3559	3554	3559	3554	3568	3567	3568	3567	4202	4199	4202	4199	4216	4216	4216	4216
R Dump height (45° dump)	mm	2714	2666	2714	2666	2661	2631	2661	2631	2930	2878	2930	2878	2890	2839	2890	2839	3575	3522	3575	3522	3538	3488	3538	3488
S Dig depth	mm	110	109	110	109	92	92	92	92	116	111	116	111	96	96	96	96	148	152	148	152	132	132	132	132
T Reach at dump height	mm	930	973	930	973	993	1031	993	1031	986	1034	986	1034	1046	1097	1046	1097	1074	1122	1074	1122	1130	1180	1130	1180
Reach maximum (45° dump) – horizontal arm	mm	1639	1688	1639	1688	1697	1746	1697	1746	1790	1839	1790	1839	1848	1897	1848	1897	2319	2369	2319	2369	2377	2427	2377	2427
Operating weight (includes 80kg operator and full fuel tank)	kg	9390	9425	9390	9425	9600	9635	9600	9635	9455	9490	9455	9490	9665	9700	9665	9700	9995	10030	9995	10030	10205	10540	10205	10240

LOADER DIMENSIONS – FORK FRAME WITH FORKS



Assumes the fitment of Michelin 15.5 XHA (L3) tyres for 411 17.5 XHA (L3) tyres for 417		Parallel fork				Non parallel fork			
		411 HT	417 HT	417 HT HL	417 HT SHL	411 HT	417 HT	417 HT HL	417 HT SHL
Fork carriage width	mm	1500	1500	1500	1500	1500	1500	1500	1500
Length of tines	mm	1220	1220	1220	1220	1220	1220	1220	1220
A Reach at ground level	mm	924	787	969	1620	923	785	984	1631
B Reach at arms horizontal	mm	1527	1459	1590	2115	1512	1447	1596	2118
C Below ground level	mm	78	57	55	79	62	68	64	88
D Arms, horizontal height	mm	1671	1745	1744	1744	1626	1735	1735	1735
E Arms, maximum height	mm	3395	3395	3618	4267	3414	3385	3599	4257
F Reach at maximum height	mm	823	829	806	846	776	817	819	853
Payload*	kg	3360	3722	3482	2630	3477	3714	3466	2622
Tipping load straight	kg	4948	5480	5172	3977	5093	5505	5150	3965
Tipping load full turn (40°)	kg	4200	4653	4353	3288	4346	4642	4333	3278
Attachment weight	kg	435	435	435	435	430	430	430	430

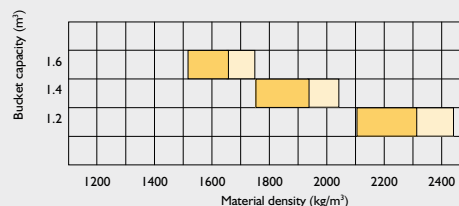
\*At the centre-of-gravity distance 500mm. Based on 80% of full turn tipping load as defined by ISO 8313.

Manual fork spacings at 50mm increments. Fork section 100mm x 50mm.

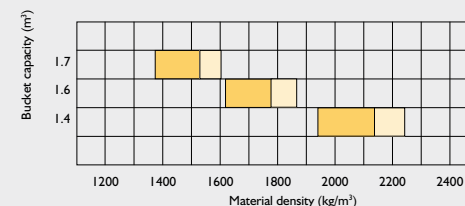
BUCKET SELECTOR

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

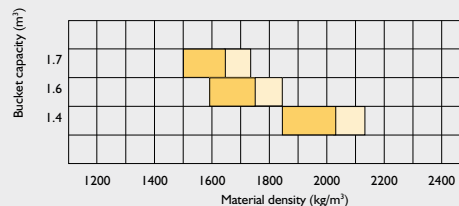
411 - HT



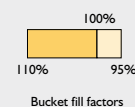
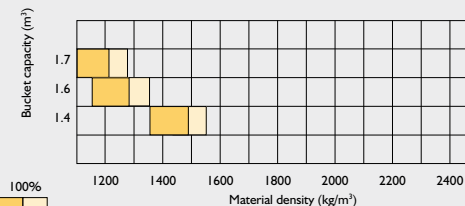
417 - HT



417 - HT HL



417 - HT SHL



ENGINE				
		411		417
Type		4 stroke direct injection		4 stroke direct injection
Model		JCB EcoMAX T4i		JCB EcoMAX T4i
Capacity	litres	4.4		4.4
Bore	mm	103		103
Stroke	mm	132		132
Aspiration		Turbo charged		Turbo charged
Cylinders		4		4
Max gross power to SAE J1995/ISO 14396	kW (hp) @ 2200rpm	81 (108)		93 (125)
Max torque	Nm @ 1500rpm	516		550

TRANSMISSION					
		411		417	
Type		Smooth shift powershift			
Model		ZF 4WG115			
Torque convertor stall ration		3.01:1		2.3:1	
		Forward	Reverse	Forward	Reverse
1 <sup>st</sup> gear	kph	5.3	5.6	5.4	5.7
2 <sup>nd</sup> gear	kph	12.4	13.1	12.6	13.3
3 <sup>rd</sup> gear	kph	27.3	28.6	27.8	29.2
4 <sup>th</sup> gear	kph	39.2	-	40.6	-

AXLES			
411			
Type		Epicyclic hub reduction	
Make & model	Standard fit	JCB PD70 (front & rear)	
Overall axle ratio		18.16:1	
Rear axle oscillation		± 11°	
417			
Type		Epicyclic hub reduction	
Make & model	Standard fit	JCB PD87 (front & rear)	
Overall axle ratio		20.18:1	
Rear axle oscillation		± 11°	

<b>STEERING</b>	Hydraulic power steering system with emergency steering.		
<b>BRAKES</b>	Hydraulic power braking on all wheels. In-board mounted, oil immersed, multi-plate disc brakes. Mechanical disc type parking brake operating on transmission output shaft.		
TYRES	411		417
	15.5 x 25 GOODYEAR SGL, 15.5 x 25 GOODYEAR HRL, 15.5 R25 MICHELIN XHA, 15.5 R25 MICHELIN XTLA, 15.5 R25 MICHELIN X-MINE D2, 17.5 R25 MICHELIN SNOPLUS, 17.5 R25 MICHELIN XTLA, 15.5 R25 NOKIAN LOADER GRIP 2, 17.5 R25 NOKIAN LOADER GRIP		17.5 x 25 SG REVOLUTION S2C2, 17.5 x 25 SG REVOLUTION SE, 17.5 R25 ALLIANCE 724, 17.5 x 25 GOODYEAR SGL, 17.5 x 25 GOODYEAR HRL, 17.5 R25 MICHELIN XHA, 17.5 R25 MICHELIN XTLA, 17.5 R25 MICHELIN XSNOPPLUS, 17.5 R25 MICHELIN X-MINE D2, 17.5 R25 NOKIAN L GRIP

ELECTRICAL SYSTEM			
		411	417
System voltage	Volt	24	24
Alternator output	Amp hour	60	60
Battery capacity	Amp hour	2x110	2x110

LOADER HYDRAULICS									
		411				417			
Pump type		Double gear pump				Variable placement piston pump			
Pump 1 max. flow	l/min	50.6				156			
Pump 1 max. pressure	bar	220				240			
Pump 2 max. flow	l/min	72.6				-			
Pump 2 max. pressure	bar	230				-			
Hydraulic cycle times at full engine revs		Seconds							
		411				417			
Arms raise (full bucket)		5.0				4.9			
Bucket dump (full bucket)		1.1				2.1			
Arms lower (empty bucket)		3.7				3.3			
Total cycle		9.8				10.3			
Ram dimensions		Bore		Rod		Closed centres		Stroke	
		411	417	411	417	411	417	411	417
Bucket ram x2	mm	80	90	50	60	1502	1598	928	927
Lift ram x2	mm	90	100	50	60	1107	1158	743	740
Steer ram x2	mm	60	70	30	40	621	621	312	312

CAB	In-cab noise level – 71 dB(A). External Noise 411: 103dB(A), 417: 104dB(A).

SERVICE FILL CAPACITIES			
		411	417
Hydraulic system	litres	155	155
Fuel tank	litres	133*	133*
Engine oil sump	litres	14	14
Transmission oil system	litres	27	27
Axle oil (front)	litres	23	23
Axle oil (rear)	litres	23	23
Engine coolant system	litres	26	26

\*246 with aux tank

STANDARD EQUIPMENT	Loader: Shovel reset mechanism, loader arm kickout mechanism, loader control isolator, single lever servo control, high torque lift geometry combined with excellent visibility between the arms. Engine: Cyclonic air pre-cleaner with scavenge system, fuel filters, sediment bowl, isolated single faced cooling package, viscous coupled variable speed cooling fan, wide core radiator, no serviceable after treatment of exhaust gas, no external silencer or pre-cleaner, low profile exhaust stack. Transmission: Single lever shift control, speed inhibitor, neutral start, disconnect on footbrake and loader lever. Disconnect isolator switch, direction changes and kick down on rear selector and loader control lever. Axles: Epicyclical wheel hub reduction, fixed front, oscillating rear. Brakes: Multi-plate wet disc brakes, single circuit hydraulic power assisted. Parking disc brake on transmission. Hydraulics: Double gear pump (411)/Variable displacement piston pump (417) with priority steer, emergency steer back-up, 2 spool loader circuit with accumulator support, 3rd spool auxiliary hydraulic circuit as standard. Hydraulic tank located in the rear chassis fabrication. Steering: Adjustable steering column, resilient stops on max lock. Cab: ROPS/FOPS safety structure, interior reading light, centre mounted master warning light, electronic monitoring panel with LCD message 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 replicable air filter, LH and RH opening windows, sun visor, internal rear view mirror, external mirrors, adjustable suspension seat with belt and headrest, operator storage facilities, laminated windscreen, heated rear screen, loader control isolator, horn, adjustable armrest, lower front quarter glass. Electrical: Road lights front and rear, parking lights, front and rear working lights, reverse alarm and light, rear fog light, battery isolator located at cab steps, radio wiring and speakers, 60 amp alternator, rotating beacon. Bodywork: Full chassis integral fender coverage that accommodates all wheel and tyre options, sloping one piece rear bonnet, full width counter weight.
OPTIONAL EQUIPMENT	Auxiliary 4th spool hydraulic service, constant auxiliary flow (on 3rd spool), air conditioning, automatic temperature control, limited slip differentials front/rear, tooth guard, replaceable shovel wear parts, smooth ride system (SRS), engine grid heater, transmission cooler bypass, belly guards, hydraulic quick hitch, reversing camera (colour), auto greasing system, auxiliary control rollers on joystick, 24v to 12v in cab convertor, Wastemaster cab, cab screen guards, light guards, additional front and rear mounted LED work lights, air suspension seat, sun visor, fire extinguisher, number plate light kit, grease gun, broadband sound reverse alarm (BBS), smart reverse alarm, full Wastemaster package.





**ONE COMPANY, OVER 300 MACHINES.**

Your nearest JCB dealer

**Wheeled Loading Shovel 411/417**

411/417 – Operating weight: 8,688kg / 9,425kg Gross rated power: 81kW (108hp) / 93kW (125hp)  
 Full turn tipping load: 5,451kg / 6,042kg Standard shovel capacity: 1.4m<sup>3</sup> / 1.6m<sup>3</sup>

JCB Sales Limited, Rocester, 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](http://www.jcb.com)

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