CASE

WHEEL LOADER

821B/XR
921B/XR

Performance, Power and Control —

The top of the class

The 821B and 921B offer outstanding performance, power and control. Whether you're digging into a bank of gravel or dirt, hauling logs from truck to pile, or working in scrap handling, you'll experience for yourself the precision and power that put these wheel loaders at the top of their class.

Customer-driven features make the 821B and 921B the wheel loaders of choice for maximum productivity and minimum fatigue. The cab design offers controls within easy reach, panoramic vision, and operator comfort. Superior hydraulic capacities and maximum loader productivity make them the right choice for the most demanding jobs. Choose from the standard or extended reach models to meet your specific job requirements.

The Case B Series wheel loaders – 621B, 721B, 821B and 921B – carry on a tradition of exceptional power and control to get the job done every time.

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Operator Environment

The Case B Series cab design delivers unsurpassed comfort and control.

• Panoramic visibility
• Wide-open cab design
• Easy-to-reach controls

The front cab glass area is maximized to enhance forward ***visibility*** for all loading jobs. A sloped rear hood offers greater visibility of the work area than traditional square hoods. The ***wide-open cab design*** allows exceptional visibility when loading trucks or hoppers.

The transmission shifter features lever-controlled forward / reverse, with twist-grip range selection. For improved power into the pile, use the downshift feature when loading in second gear. After depressing the control from the loader lever, the transmission automatically shifts to 1st gear for maximum tractive power, and then automatically shifts back to 2nd gear when the direction is reversed.

Easy-to-reach servo loader controls offer low effort and short throw, fingertip operation. A wrist rest is standard, providing day-long operating comfort. Five loader control options are available to customize to your specific needs.

A suspension seat maximizes operator comfort by allowing adjustments for individual height and weight.

A padded steering wheel with steering knob provides low effort, comfortable operation.

Instrumentation monitors all machine functions such as alternator, parking brake, brake supply pressure, hydraulic oil temperature, hydraulic oil filter, air filter, coolant temperature, fuel level, hourmeter and operating lights. An audible alarm, multi-level warning lights, and liquid crystal bar graphs alert the operator to the status of each individual function.

Standard analog gauges include the tachometer, voltmeter, engine oil pressure and transmission oil temperature.

A quiet cab enhances the working environment to make it even more comfortable.

Engines

The 6T-830 6-cylinder diesel is one of the most fuel-efficient engines in its class. This compact, heavy-duty engine delivers thousands of hours on the job with exceptional reliability.

The high torque engine results in maximum loader performance with increased push power for quick loader cycle time and operator efficiency.

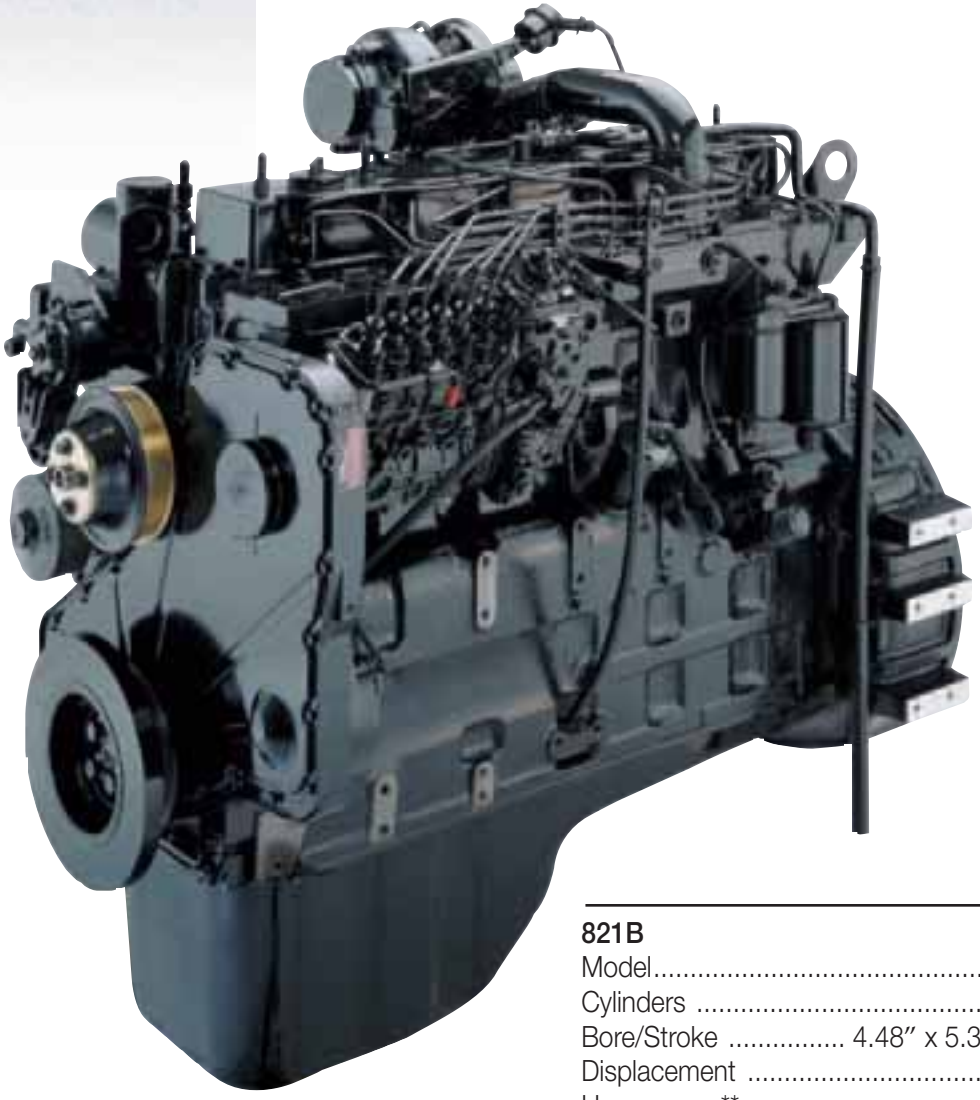
External engine components are incorporated into the block. This reduces wear and heat buildup.

The turbocharged 6T-830 meets industry emission standards* and is one of the most fuel-efficient engines in its size class. It has proven to be an efficient engine in overall work cycle productivity, including digging, backfilling and stockpiling.

There are one-third fewer moving parts on this engine than in more conventional designs. This results in increased reliability, low operating cost and reduced maintenance needs.

This outstanding engine is backed by one of the best warranties in the industry.

*Complies with 1996 U.S. EPA and CARB heavy-duty non-road emissions for 100-750 hp (75-560 kW) engines.



821B

Model	6T-830
Cylinders	6
Bore/Stroke	4.48″ x 5.32″ (114 mm x 135 mm)
Displacement	504 in^3 (8.3 L)
Horsepower**	
SAE Gross	198 148 kW) @ 2000 rpm
SAE Net	185 (138 kW) @ 2000 rpm
Maximum torque**	
SAE Gross	590 lb¥ft (802 N¥m) @ 1400 rpm
SAE Net	573 lb¥ft (780 N¥m) @ 1400 rpm

**Engine horsepower and torque at flywheel per SAE Standard J1349, EEC 80/1269, DIN 6271.

The advanced M11-C270 6-cylinder diesel meets all industry emission standards.* This fuel-efficient, heavy-duty engine is both durable and reliable.

The camshaft is located near the top of the block to allow the use of short push and connecting rods. This results in a stiffer overhead valve and injector train to increase injection pressures for precision fuel metering and more complete combustion.

Turbocharger and aftercooler are standard equipment. Both are designed specifically for the M11-C270 to optimize fuel efficiency. Intake and exhaust systems are on the same side of the engine to eliminate the need for external air crossover. With its compact size and uncluttered design, the M11-C270 provides more space in the engine compartment for easier service access and reduced maintenance time. One of the best warranties in the industry backs the performance and durability of this outstanding engine.

921B

Model	M11-C270
Cylinders	6
Bore/Stroke	4.92″ x 5.79″ (125 mm x 147 mm)
Displacement	661 in^3 (11 L)
Horsepower*	
SAE Gross	270 (201 kW) @ 2100 rpm
SAE Net	248 (185 kW) @ 2100 rpm
Maximum torque*	
SAE Gross	950 lb¥ft (1288 N¥m) @ 1300 rpm
SAE Net	929 lb¥ft (1260 N¥m) @ 1300 rpm

*Engine horsepower and torque at flywheel per SAE Standard J1349, EEC 80/1269, DIN 6271.

*Complies with 1996 U.S. EPA and CARB heavy-duty non-road emissions for 100-750 hp (75-560 kW) engines.

Driveline

Powertrains can really take a beating when shifting back and forth in wheel loader applications. That's why we equipped the 821B and 921B with drivelines built to perform with ease under the toughest conditions.

• Autoshift transmission
• Downshift button

The 4 forward/3 reverse speed full powershift transmission is equipped with hydraulically actuated multi-disc clutches. An electric twist-grip range selector lever is located on the steering column. Both allow quick response to changing conditions in either direction of travel.

Range-sensing forward/reverse shift modulation in 1st and 2nd gear produces smooth directional changes and faster cycle times to improve productivity.

A transmission disconnect feature activates when the left brake is engaged to allow for faster hydraulic response.

Both the 821B and 921B feature ***autoshift transmissions*** activated by a switch on the steering console. Autoshift will work in either 3rd or 4th gear. When 3rd gear is selected, the unit automatically shifts between 2nd and 3rd. When 4th gear is selected, the unit automatically shifts between 2nd, 3rd and 4th gears. Modulation is electronically controlled to increase operator comfort and driveline component life.

The ***downshift button*** allows the operator to shift instantly from 2nd to 1st gear for greater push power into the pile — then automatically upshifts into 2nd gear when backing out of the pile.

A single-stage integral torque converter with 3-to-1 stall ratio reduces shockloads to the powertrain by automatically adjusting torque to job requirements.

Outboard-mounted planetary drive axles are standard.

Limited slip differentials on the 821B and torque-proportioning axles on the 921B automatically provide ground-gripping traction in adverse conditions.

Self-adjusting, fade-resistant outboard mounted, multiple wet disc brakes are located at the ends of each axle. Five friction brake discs between metal discs have a total of 415 in^2 (2678 cm^2) of stopping power for each wheel on the 821B and 903 in^2 (5826 cm^2) on the 921B.

Separate hydraulic brake circuits for front and rear actuation provide independent system security. The left pedal electrically neutralizes power flow to the wheels before the brakes are applied. This system can be controlled by an on/off switch on the instrument panel so that the left pedal transmission disconnect is deactivated to brake against power. The right pedal applies brakes only.

Engaging the parking brake applies a disc brake on the transmission output shaft and disconnects the transmission to prevent drive-through.

821B TRAVEL SPEEDS MPH (km/h)

	1st	2nd	3rd	4th
Forward	4.7 (7.6)	7.7 (12.4)	15.4 (24.8)	23.8 (38.3)
Reverse	4.7 (7.6)	7.7 (12.4)	15.4 (24.8)	

Per SAE J1233, at rated engine speed (2000 rpm). Note: Engine at full throttle, 23.5 x 25 tires.

921B TRAVEL SPEEDS MPH (km/h)

	1st	2nd	3rd	4th
Forward	5.1 (8.2)	8.5 (13.7)	18.0 (29.0)	25.2 (40.5)
Reverse	5.1 (8.2)	8.5 (13.7)	18.0 (29.0)	

Per SAE J1233, at rated engine speed (2100 rpm). Note: Engine at full throttle, 26.5 x 25 tires.


821B
821B

Steering/Articulation

A full 40° turn each side of center allows precise maneuvering in tight quarters and wide-open spaces.

Hydrostatic power steering lets you turn with minimal effort. The stop-to-stop steering ratio is 4.0 turns.

Heavy-duty upper and lower plates on the center-pivot articulation have double-tapered roller bearings with up to 1,000 hour lube intervals.

Two double-acting cylinders [3.5″ (89 mm) on the 821B and 4″ (102 mm) on the 921B] steer the machines so that the front and rear wheels always track. The outside turning radius on the 821B with 23.5 x 25 tires is 18′10″ (5.75 m). The outside turning radius on the 921B with 26.5 x 25 tires is 20′2″ (6.14 m).

Hydraulic hoses are routed through alignment clamps to help prevent wear.

Loader

The 821B and 921B offer superior maneuverability, efficiency and performance.

- ***Patented ride control (optional)***
- ***Precise metering***
- ***Automatic return-to-dig, return-to-travel***
- ***Five loader control lever options***

The optional patented Case *ride control* absorbs shock for a comfortable ride with less spillage. Ride control enhances the ride over all types of terrain with either an empty or a full bucket. It reduces fore and aft pitching motion as well as shock loads for faster operation and increased productivity.

An SAE rated breakout force of 36,018 lb (16 334 kg) using a 3.50 yd^3 (2.68 m^3) bucket with teeth puts the 821B at the top of its class. A 23,448 lb (10 634 kg) full turn tipping load means that the 821B can handle 3,350 lb per cubic yard (1519 kg/m^3) of material.

On the 921B, the SAE rated breakout force of 49,289 lb (22 357 kg) using a 5.0 yd^3 (3.82 m^3) bucket with teeth makes it one of the best on the market.

The 921B's 34,178 lb (15 503 kg) full turn tipping load means it can easily handle 3,400 lb per cubic yard (2017 kg/m^3) of material.

Servo loader controls with electromagnetic detents give you *precision metering* when you need it.

Automatic return-to-dig, return-to-travel and height control let you concentrate on maneuvering rather than positioning the loader.

Forward/reverse modulated shift shortens overall cycle time for maximum productivity in loader applications. Automatic upshift from 1st to 2nd when backing out of the pile speeds up the cycle time even more.

For those situations where extra dump height and a longer reach are needed, choose the optional 821B XR or 921B XR. The 821B XR has a dump height of 10′9″ (3.28 m) and a hinge pin height of 13′11″ (4.24 m) using a 3.50 yd^3 bucket without teeth. The 921B XR has a dump height of 12′2″ (3.70 m) and a hinge pin height of 15′10″ (4.83 m) using a 4.75 yd^3 bucket without teeth.

Cycle Times

Standard and XR	821B	921B
Raise (with rated bucket load)	6.2 sec	6.2 sec
Dump (with rated bucket load)	1.6 sec	1.5 sec
Lower (empty, float down)	3.8 sec	3.7 sec

When you see the Case Ride Control decal, you can be assured you're getting the smoothest ride available. The Case patented Ride Control option delivers an even ride over all types of terrain, increasing productivity and comfort.

Hydraulics

Providing you with more breakout force, load capacity and faster cycle times is what the 821B and 921B are all about. An open-center hydraulic system gives you the power and speed you need.

Hydraulic pumps provide reliable system flow to parallel circuits.

Positive pressure on the hydraulic reservoir assures a constant flow of oil to the pumps. A sight gauge placed on the reservoir lets you conveniently check the oil level on a regular basis.

High-pressure hydraulic hoses and steel hydraulic lines are routed for easy accessibility.

FILTRATION:

(2) 10-micron, full-flow, replaceable, spin-on cartridges on the return line. Condition indicator lights for the filters. 100 mesh wire screen on the inlet side.

LOADER CONTROL VALVE:

Sectional, open-center with positive low-pressure regeneration for bucket dump. Two, three or four-spool valves available with one, two or three loader control lever options for lift, dump and auxiliary.

LOADER HYDRAULIC PUMP CAPACITY:

821B

79.2 gpm @ 2200 rpm @ 2200 psi
(300 L/min @ 2200 r/min
@ 15 170 kPa)
System relief pressure:
2810 psi (19 375 kPa)

921B

106 gpm @ 2100 rpm @ 2850 psi
(401 L/min @ 2100 r/min
@ 19 650 kPa)
System relief pressure:
2850 psi (19 650 kPa)

STEERING HYDRAULIC PUMP CAPACITY:

821B

48.3 gpm @ 2200 rpm @ 2810 psi
(183 L/min @ 2200 r/min
@ 19 375 kPa)
Steering relief pressure:
2810 psi (19 375 kPa)

921B

68 gpm @ 2100 rpm @ 2850 psi
(257 L/min @ 2100 r/min
@ 19 650 kPa)
Steering relief pressure:
2850 psi (18 960 kPa)

821B HYDRAULIC CYLINDERS

	Diameter	Stroke	Rod
Loader			
Lift (2)	6.0″ (152 mm)	31.8″ (808 mm)	3.5″ (89 mm)
Dump (1)	7.0″ (178 mm)	22.8″ (579 mm)	3.5″ (89 mm)
Steering			
Articulation (2)	3.5″ (89 mm)	17.1″ (434 mm)	1.8″ (46 mm)
Clam	5.0″ (127 mm)	14.0″ (356 mm)	2.5″ (64 mm)

921B HYDRAULIC CYLINDERS

	Diameter	Stroke	Rod
Loader			
Lift (2)	7.0″ (178 mm)	34.2″ (868 mm)	4.0″ (102 mm)
Dump (1)	8.0″ (203 mm)	29.3″ (745 mm)	4.0″ (102 mm)
Steering			
Articulation (2)	4.0″ (102 mm)	20.3″ (517 mm)	2.0″ (51 mm)

Serviceability

Serviceability is important, and you can depend on Case to make servicing easy.

- ***Easy access for maintenance***
- ***Articulation pivots have lube intervals up to 1,000 hours***
- ***Convenient sight gauges***

Outboard planetaries and brakes provide ***easy access for maintenance*** to maximize uptime productivity.

Upper and lower pivot points are sealed to protect the tapered roller bearings from external contamination with ***1,000-hour lube intervals***.

All pivot pins on the loader are secured by a bolted teardrop retainer for positive hold.

The two-stage air cleaner with pre-cleaner on the 821B minimizes airborne dirt and reduces air filter maintenance requirements. The 921B has an aspirated air cleaner system for extended filter life.

Convenient sight gauges allow instant groundline status checks of the transmission and hydraulic oil. The 821B has a radiator coolant level bottle and the 921B has a coolant level gauge.

U-joints are lubed for life. Service is easy with a bolted loader cylinder design and conveniently located groundline accessible grease zerks. Sealed loader linkage pins and bushings have up to 100-hour service intervals.

821B SERVICE CAPACITIES

Cooling system		33.9 qt (32.1 L)
Fuel tank		70.8 gal (268 L)
Engine crankcase		20 qt (18.9 L)
Crankcase and filter		22 qt (20.8 L)
Transmission and torque converter		
Total in system		28 qt (26.5 L)
Service (w/filter)		13 qt (12.3 L)
Total hydraulic system		46 gal (174.1 L)
Hydraulic reservoir		23.8 gal (90.1 L)
Axles (each)		
Differential (1)	front	22 qt (20.8 L)
	rear	16 qt (15 L)
Each hub (2)	front	6.5 qt (6 L)
	rear	6 qt (5.7 L)
Total	front	35 qt (33 L)
	rear	28 qt (26.5 L)

921B SERVICE CAPACITIES

Cooling system	50 qt (47.3 L)
Fuel tank	104 gal (393.7 L)
Engine crankcase	36 qt (34.1 L)
Crankcase and filter	39 qt (36.9 L)
Transmission and torque converter	
Total in system	46 qt (43.5 L)
Service (w/filter)	30 qt (28.4 L)
Total hydraulic system	60.3 gal (228.3 L)
Hydraulic reservoir	32 gal (121.1 L)
Axles (each — front and rear)	
Differential (1)	38.4 qt (36.3 L)
Each hub (2)	14.4 qt (13.6 L)
Total	67.2 qt (63.6 L)

Electrical

	821B	921B
Voltage	24 volts, negative ground	24 volts, negative ground
Alternator	65 amp	70 amp
Batteries	2 (12 volt)	2 (12 volt)
	650 cold-cranking amps @ 0¡ F (-18¡ C)	800 cold-cranking amps @ 0¡ F (-18¡ C)

Standard Z-Bar Performance Data

Spec loader is a fully serviced unit that includes all standard equipment, 23.5 x 25, 12PR L2 tires, front and rear fenders, ROPS cab w/heater, standard 5,400 lb (2449 kg) counterweight and 175 lb (79 kg) operator.

	EXCAVATING					STOCKPILING			4 IN 1® MULTIPURPOSE			
BUCKET CONFIGURATION	**3.50 yd³ Bucket only**	**Bucket w/teeth**	**Bucket w/bolt-on edge**	**Bucket w/teeth & segments**	**Bucket w/coupler**	**4.00 yd³ Bucket only**	**Bucket w/bolt-on edge**	**Bucket w/coupler**	**3.00 yd³ Bucket only**	**Bucket w/teeth**	**Bucket w/bolt-on edge**	**Bucket w/coupler**
SAE rated heaped capacity	3.50 yd³ (2.68 m³)	3.50 yd³ (2.68 m³)	3.67 yd³ (2.81 m³)	3.67 yd³ (2.81 m³)	3.61 yd³ (2.76 m³)	3.92 yd³ (3.00 m³)	4.09 yd³ (3.13 m³)	4.03 yd³ (3.08 m³)	3.04 yd³ (2.32 m³)	3.04 yd³ (2.32 m³)	3.22 yd³ (2.46 m³)	3.04 yd³ (2.32 m³)
SAE struck capacity	3.03 yd³ (2.32 m³)	3.03 yd³ (2.32 m³)	3.17 yd³ (2.42 m³)	3.17 yd³ (2.42 m³)	3.11 yd³ (2.38 m³)	3.41 yd³ (2.61 m³)	3.55 yd³ (2.71 m³)	3.51 yd³ (2.68 m³)	2.52 yd³ (1.93 m³)	2.52 yd³ (1.93 m³)	2.71 yd³ (2.07 m³)	2.52 yd³ (1.93 m³)
Bucket weight	2,750 lb (1247 kg)	3,068 lb (1392 kg)	3,279 lb (1487 kg)	3,484 lb (1580 kg)	3,835 lb (1740 kg)	2,975 lb (1349 kg)	3,504 lb (1589 kg)	4,019 lb (1823 kg)	4,396 lb (1994 kg)	4,714 lb (2138 kg)	4,896 lb (2221 kg)	5,319 lb (2413 kg)
Bucket width	109″ (2.77 m)	110.3″ (2.80 m)	109″ (2.77 m)	110.3″ (2.80 m)	105.5″ (2.68 m)	109″ (2.77 m)	109″ (2.77 m)	109″ (2.77 m)	109″ (2.77 m)	110.4″ (2.81 m)	109″ (2.77 m)	105.5″ (2.68 m)
Loader clearance circle, bucket at carry	41′3″ (12.57 m)	41′10″ (12.75 m)	41′5″ (12.62 m)	41′10″ (12.75 m)	41′5″ (12.62 m)	41′5″ (12.62 m)	41′8″ (12.70 m)	41′7″ (12.67 m)	41′2″ (12.55 m)	41′10″ (12.74 m)	41′5″ (12.62 m)	41′2″ (12.55 m)
SAE breakout force	36,391 lb (16 507 kg)	36,018 lb (16 337 kg)	33,667 lb (15 271 kg)	35,700 lb (16 193 kg)	32,835 lb (14 894 kg)	32,795 lb (14 876 kg)	30,476 lb (13 824 kg)	30,800 lb (13 971 kg)	40,047 lb (18 165 kg)	39,592 lb (17 959 kg)	36,714 lb (16 653 kg)	37,655 lb (17 080 kg)
SAE tipping load straight*	29,486 lb (13 375 kg)	29,068 lb (13 185 kg)	28,818 lb (13 072 kg)	28,557 lb (12 953 kg)	28,422 lb (12 892 kg)	29,222 lb (13 255 kg)	28,542 lb (12 946 kg)	28,104 lb (12 748 kg)	27,091 lb (12 288 kg)	26,682 lb (12 103 kg)	26,460 lb (12 002 kg)	28,875 lb (13 097 kg)
SAE tipping load at 40° turn*	23,864 lb (10 825 kg)	23,448 lb (10 636 kg)	23,201 lb (10 524 kg)	22,942 lb (10 406 kg)	22,807 lb (10 345 kg)	23,599 lb (10 704 kg)	22,924 lb (10 398 kg)	22,498 lb (10 205 kg)	21,659 lb (9824 kg)	21,255 lb (9641 kg)	21,035 lb (9541 kg)	23,237 lb (10 540 kg)
SAE operating load	11,932 lb (5412 kg)	11,724 lb (5318 kg)	11,601 lb (5262 kg)	11,471 lb (5203 kg)	11,403 lb (5172 kg)	11,800 lb (5352 kg)	11,462 lb (5199 kg)	11,249 lb (5102 kg)	10,830 lb (4912 kg)	10,627 lb (4820 kg)	10,518 lb (4771 kg)	11,618 lb (5270 kg)
SAE operating weight*	37,040 lb (16 801 kg)	37,358 lb (16 945 kg)	37,569 lb (17 041 kg)	37,774 lb (17 134 kg)	38,125 lb (17 293 kg)	37,265 lb (16 903 kg)	37,794 lb (17 143 kg)	38,309 lb (17 377 kg)	38,686 lb (17 548 kg)	39,004 lb (17 692 kg)	39,186 lb (17 774 kg)	39,609 lb (17 966 kg)

* For selected option changes, adjust operating weight and tipping loads as shown in the following table.

SELECTED OPTIONS - BUCKETS

	Operating Weight Adjustment	3.50 yd³ Tipping Load Adjust. 40° turn	4.00 yd³ Light Material Tipping Load Adjust. 40° turn	3.00 yd³ 4 IN 1® Tipping Load Adjust. 40° turn
23.5 x 25 12PR L2	0 (0)	0 (0)	0 (0)	0 (0)
23.5 x 25 12PR L3	+380 lb (+172 kg)	+484 lb (+220 kg)	+485 lb (+220 kg)	+456 lb (+207 kg)
23.5 x R25 XHA TL☆	+860 lb (+390 kg)	+1,302 lb (+591 kg)	+1,307 lb (+593 kg)	+1,213 lb (+550 kg)
20.5 x 25 16PR L2	-1,340 lb (-608 kg)	-540 lb (-245 kg)	-540 lb (-245 kg)	-521 lb (-236 kg)
20.5 x 25 16PR L3	-1,012 lb (-459 kg)	+116 lb (+53 kg)	+118 lb (+54 kg)	+90 lb (+41 kg)
20.5 x R25 XTLA TL☆	-1,296 lb (-588 kg)	-313 lb (-142 kg)	-312 lb (-142 kg)	-311 lb (-141 kg)
20.5 x R25 XHA TL☆	-916 lb (-415 kg)	+84 lb (+38 kg)	+86 lb (+39 kg)	+62 lb (+28 kg)
4,400 lb (1996 kg) ctwt ILO 5,400 lb (2449 kg) counterweight	-1,000 lb (-454 kg)	-1,552 lb (-704 kg)	-1,556 lb (-706 kg)	-1,477 lb (-670 kg)
ROPS canopy	-295 lb (-134 kg)	-197 lb (-89 kg)	-198 lb (-90 kg)	-187 lb (-85 kg)

NOTE: Ballast is not recommended with 5,400 lb (2449 kg) counterweight or 23.5 x 25 tires.

For selected option changes, adjust operating weight and tipping loads as shown in the following table.

SELECTED OPTIONS

	FORKS		MATERIAL HANDLING BOOM	
			Retracted	Extended
	Operating Weight Adjustment	Tipping Load Adjust. 40° turn	Tipping Load Adjust. 40° turn	Tipping Load Adjust. 40° turn
23.5 x 25 12PR L2	0 (0)	0 (0)	0 (0)	0 (0)
23.5 x 25 12PR L3	+380 lb (+172 kg)	+286 lb (+130 kg)	+87 lb (+39 kg)	0 (0)
23.5 x R25 XHA TL☆	+860 lb (+390 kg)	+722 lb (+328 kg)	+92 lb (+42 kg)	0 (0)
20.5 x 25 16PR L2	-1,340 lb (-608 kg)	-415 lb (-188 kg)	-316 lb (-143 kg)	0 (0)
20.5 x 25 16 PR L3	-1,012 lb (-459 kg)	-61 lb (-28 kg)	-106 lb (-48 kg)	0 (0)
20.5 x R25 XTLA TL☆	-1,296 lb (-588 kg)	-299 lb (-136 kg)	-251 lb (-114 kg)	0 (0)
20.5 x R25 XHA TL☆	-916 lb (-415 kg)	-62 lb (-28 kg)	-98 lb (-44 kg)	0 (0)
4,400 lb (1996 kg) ctwt ILO 5,400 lb (2449 kg) counterweight	-1,000 lb (-454 kg)	-1,056 lb (-479 kg)	-750 lb (-340 kg)	0 (0)
ROPS canopy	-295 lb (-134 kg)	-135 lb (-61 kg)	-96 lb (-44 kg)	0 (0)

NOTE: Ballast is not recommended with 5,400 lb (2449 kg) counterweight or 23.5 x 25 tires.

FORKS

w/Pro 2000 Coupler

Fork clearance –
Ground to top of tine ..... 12′2″ (3.71 m)

Fork reach – maximum ..... 63.4″ (1.61 m)

Overall height ..... 14′8″ (4.47 m)

Fork tine size ..... 3″ x 7″ x 66″ (76 mm x 178 mm x 1.68 m)

Weight –
Fork attachment, forks and coupler ..... 3,046 lb (1382 kg)

Fork width (maximum)
Outside to outside of tine ..... 60″ (1.52 m)

Fork load center ..... 33″ (838 mm)

SAE tipping load
– straight ..... 18,824 lb (8538 kg)
– 40˚ turn ..... 15,365 lb (6969 kg)

SAE operating load ..... 7,683 lb (3485 kg)

Clearance circle –
forks in carry position ..... 41′11″ (12.78 m)

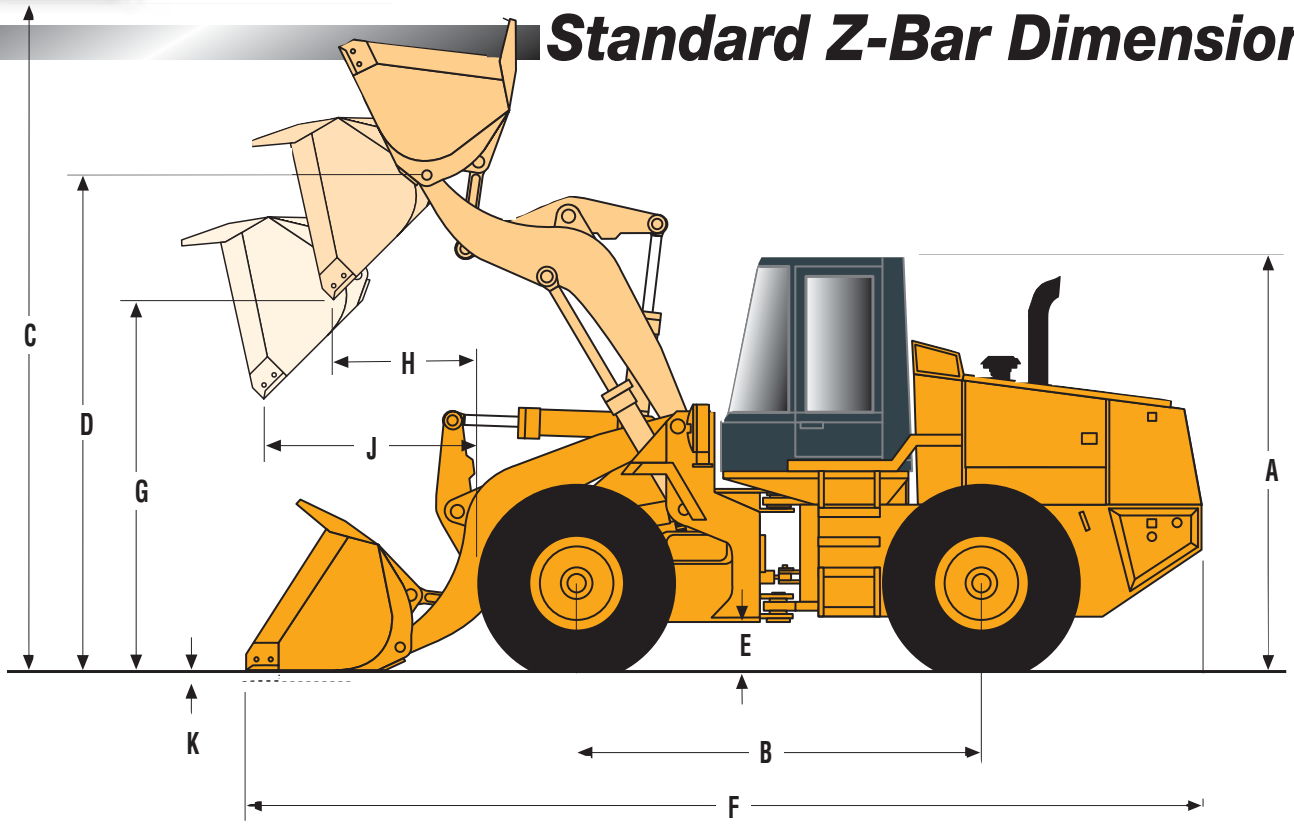
SAE operating weight ..... 37,336 lb (16 935 kg)

MATERIAL HANDLING BOOM

w/Pro 2000 Coupler

	Retracted	Extended
Length (coupler pivot pin to hook)	109.0″ (2.77 m)	157.0″ (3.99 m)
Reach (max.) boom level	13′0″ (3.96 m)	17′0″ (5.18 m)
Clearance hook to ground (max. reach)	7′4″ (2.24 m)	7′4″ (2.24 m)
Clearance – hook to ground (lift cylinder fully extended w/45˚ rollback)	19′11″ (6.07 m)	22′10″ (6.96 m)
Below ground level – lift cylinder fully retracted w/40˚ dump	5′2″ (1.57 m)	7′10″ (2.39 m)
Weight (of boom and coupler)	2,571 lb (1166 kg)	2,571 lb (1166 kg)
SAE tipping load - straight	11,076 lb (5024 kg)	7,658 lb (3474 kg)
SAE tipping load - 40˚ turn	10,962 lb (4972 kg)	7,647 lb (3469 kg)
SAE operating load	5,481 lb (2486 kg)	3,824 lb (1735 kg)
Clearance circle - arm in carry position - hinge pin @ 20˚ - boom level	40′7″ (12.37 m)	46′6″ (14.17 m)
Clearance circle - arm in carry position - hinge pin @ 20˚ - full rollback	37′9″ (11.51 m)	39′3″ (11.96 m)
SAE operating weight	36,861 lb (16 720 kg)	36,861 lb (16 720 kg)

Standard Z-Bar Dimensions



Dimensions are for standard loader with 23.5 x 25 12PR L2 tires and 3.50 yd^3 (2.68 m^3) bucket.

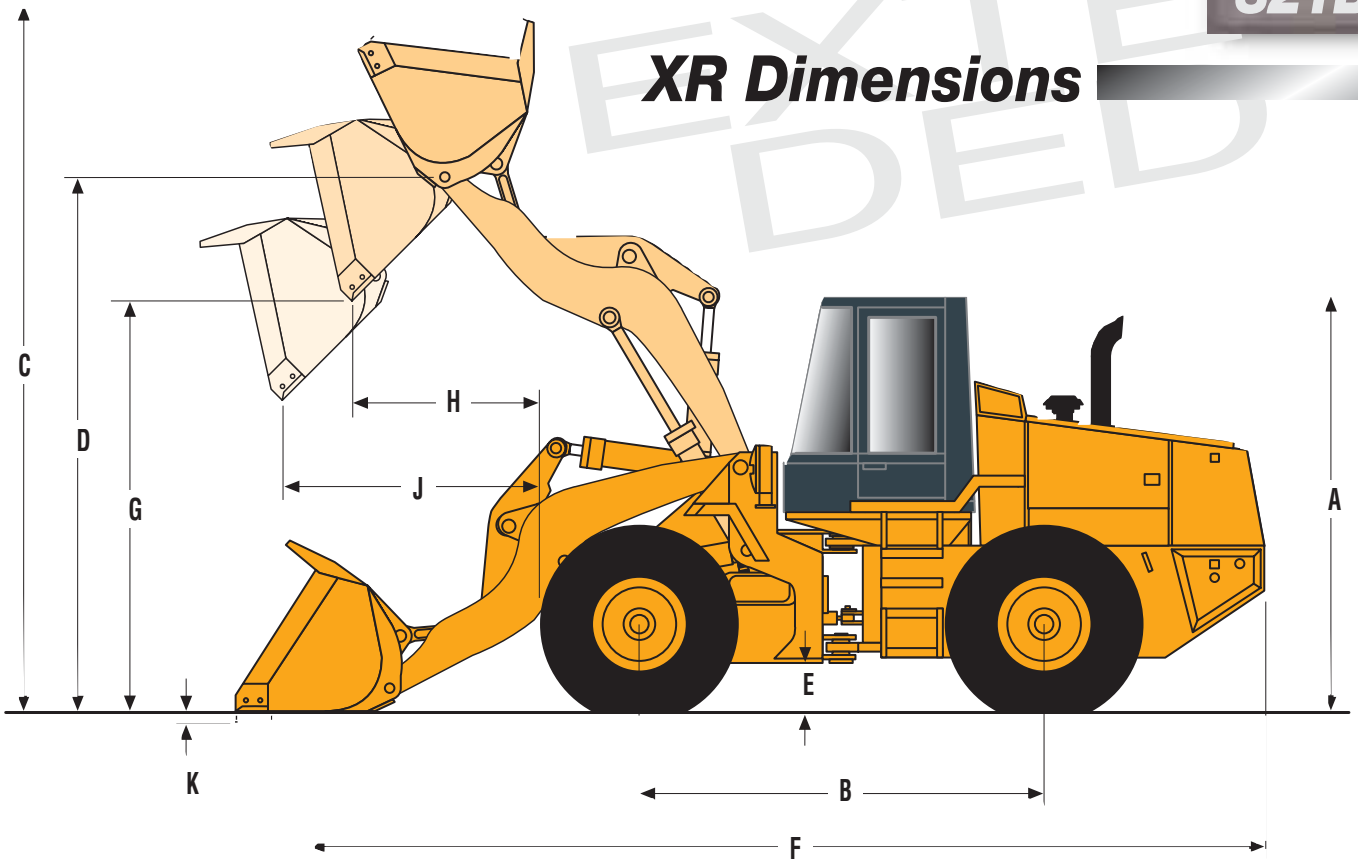
	Tread width	82″ (2.08 m)
	Width over tires	106.4″ (2.70 m)
A.	Height to top of cab/canopy	10′11″ (3.33 m)
B.	Wheelbase	125.8″ (3.19 m)
C.	Overall height to top of raised bucket	17′7″ (5.35 m)
D.	Hinge pin height, fully raised	12′11″ (3.95 m)
E.	Ground clearance	15.8″ (401 mm)

BUCKET CONFIGURATION

	EXCAVATING					STOCKPILING			4 IN 1® MULTIPURPOSE			
	3.50 yd^3 bucket only	Bucket w/ teeth	Bucket w/bolt-on edge	Bucket w/teeth & segments	Bucket w/coupler	4.00 yd^3 Bucket only	Bucket w/bolt-on edge	Bucket w/coupler	3.00 yd^3 Bucket only	Bucket w/teeth	Bucket w/bolt-on edge	Bucket w/coupler
F. Overall length	24′6″ (7.47 m)	25′4″ (7.72 m)	24′10″ (7.57 m)	25′4″ (7.72 m)	24′10″ (7.57 m)	24′10″ (7.57 m)	25′2″ (7.67 m)	25′1″ (7.65 m)	24′4″ (7.42 m)	25′3″ (7.70 m)	24′8″ (7.52 m)	24′4″ (7.42 m)
G. Dump clearance @ full height — 45¡	9′9″ (2.97 m)	9′2″ (2.79 m)	9′6″ (2.90 m)	9′2″ (2.79 m)	9′6″ (2.90 m)	9′5″ (2.87 m)	9′3″ (2.82 m)	9′4″ (2.84 m)	9′10″ (3.00 m)	9′2″ (2.79 m)	9′7″ (2.92 m)	9′10″ (3.00 m)
H. Bucket reach @ full height — 45¡	43.6″ (1.11 m)	49.0″ (1.25 m)	44.7″ (1.14 m)	49.0″ (1.25 m)	46.6″ (1.18 m)	46.7″ (1.19 m)	47.9″ (1.22 m)	48.6″ (1.23 m)	37.4″ (950 mm)	42.9″ (1.09 m)	38.5″ (978 mm)	42.4″ (1.08 m)
J. Bucket reach @ 7′ (2.13 m) — 45¡	66.3″ (1.68 m)	68.1″ (1.73 m)	66.1″ (1.68 m)	68.1″ (1.73 m)	67.9″ (1.72 m)	67.9″ (1.72 m)	67.6″ (1.71 m)	68.9″ (1.75 m)	60.3″ (1.53 m)	62.2″ (1.58 m)	60.1″ (1.53 m)	65.6″ (1.67 m)
K. Dig depth below groundline	3.1″ (79 mm)	4.4″ (112 mm)	4.4″ (112 mm)	4.4″ (112 mm)	3.1″ (79 mm)	3.1″ (79 mm)	4.4″ (112 mm)	3.1″ (79 mm)	7.2″ (183 mm)	8.5″ (216 mm)	8.4″ (214 mm)	3.1″ (79 mm)

(The above dimensions are affected by bucket configuration)

XR Dimensions



Dimensions are for units fully serviced with 23.5 x 25 12PR L2 tires and 3.50 yd^3 (2.68 m^3) bucket.

	Tread width	82″ (2.08 m)
	Width over tires	106.4″ (2.70 m)
A.	Height to top of cab/canopy	10′11″ (3.33 m)
B.	Wheelbase	125.8″ (3.19 m)
C.	Overall height to top of raised bucket	18′7″ (5.66 m)
D.	Hinge pin height	13′11″ (4.26 m)
E.	Ground clearance	15.8″ (401 mm)

BUCKET CONFIGURATION

	EXCAVATING					STOCKPILING			4 IN 1® MULTIPURPOSE			
	3.50 yd^3 bucket only	Bucket w/teeth	Bucket w/bolt-on edge	Bucket w/teeth & segments	Bucket w/coupler	4.00 yd^3 Bucket only	Bucket w/bolt-on edge	Bucket w/coupler	3.00 yd^3 Bucket only	Bucket w/teeth	Bucket w/bolt-on edge	Bucket w/coupler
F. Overall length	26′5″ (8.05 m)	27′3″ (8.31 m)	26′9″ (8.15 m)	27′3″ (8.31 m)	26′9″ (8.15 m)	26′9″ (8.15 m)	27′1″ (8.26 m)	27′0″ (8.23 m)	26′3″ (8.00 m)	27′1″ (8.26 m)	26′7″ (8.10 m)	26′3″ (8.00 m)
G. Dump clearance @ full height – 45°	10′9″ (3.28 m)	10′2″ (3.10 m)	10′6″ (3.20 m)	10′2″ (3.10 m)	10′6″ (3.20 m)	10′6″ (3.20 m)	10′3″ (3.13 m)	10′4″ (3.15 m)	10′10″ (3.30 m)	10′2″ (3.10 m)	10′7″ (3.23 m)	10′10″ (3.30 m)
H. Bucket reach @ full height – 45°	57.4″ (1.46 m)	62.9″ (1.60 m)	58.5″ (1.49 m)	62.9″ (1.60 m)	60.4″ (1.53 m)	60.5″ (1.54 m)	61.7″ (1.57 m)	62.4″ (1.59 m)	51.2″ (1.30 m)	56.7″ (1.44 m)	52.4″ (1.33 m)	56.2″ (1.43 m)
J. Bucket reach @ 7′ (2.13 m) – 45°	86.1″ (2.19 m)	88.6″ (2.25 m)	86.1″ (2.19 m)	88.6″ (2.25 m)	87.9″ (2.23 m)	88.0″ (2.24 m)	87.9″ (2.23 m)	89.1″ (2.26 m)	80.1″ (2.03 m)	82.6″ (2.10 m)	80.1″ (2.03 m)	85.3″ (2.17 m)
K. Dig depth below groundline	16.3″ (414 mm)	17.6″ (447 mm)	17.6″ (447 mm)	17.6″ (447 mm)	16.3″ (414 mm)	16.3″ (414 mm)	17.6″ (447 mm)	16.4″ (417 mm)	20.4″ (518 mm)	21.7″ (551 mm)	21.7″ (551 mm)	16.3″ (414 mm)

(The above dimensions are affected by bucket configuration)

XR Performance Data

Spec loader is a fully serviced unit that includes all standard equipment, 23.5 x 25, 12PR L2 tires, front and rear fenders, ROPS cab w/heater, standard 5,400 lb (2449 kg) counterweight and 175 lb (79 kg) operator.

BUCKETS

	EXCAVATING					STOCKPILING			4 IN 1® MULTIPURPOSE			
BUCKET CONFIGURATION	**3.50 yd³ Bucket only**	**Bucket w/teeth**	**Bucket w/bolt-on edge**	**Bucket w/teeth & segments**	**Bucket w/coupler**	**4.00 yd³ Bucket only**	**Bucket w/bolt-on edge**	**Bucket w/coupler**	**3.00 yd³ Bucket only**	**Bucket w/teeth**	**Bucket w/bolt-on edge**	**Bucket w/coupler**
SAE heaped capacity	3.50 yd³ (2.68 m³)	3.50 yd³ (2.68 m³)	3.67 yd³ (2.81 m³)	3.67 yd³ (2.81 m³)	3.61 yd³ (2.76 m³)	3.92 yd³ (3.00 m³)	4.09 yd³ (3.13 m³)	4.03 yd³ (3.08 m³)	3.04 yd³ (2.32 m³)	3.04 yd³ (2.32 m³)	3.22 yd³ (2.46 m³)	3.04 yd³ (2.32 m³)
SAE struck capacity	3.03 yd³ (2.32 m³)	3.03 yd³ (2.32 m³)	3.17 yd³ (2.42 m³)	3.17 yd³ (2.42 m³)	3.11 yd³ (2.38 m³)	3.41 yd³ (2.61 m³)	3.55 yd³ (2.71 m³)	3.51 yd³ (2.68 m³)	2.52 yd³ (1.93 m³)	2.52 yd³ (1.93 m³)	2.71 yd³ (2.07 m³)	2.52 yd³ (1.93 m³)
Bucket weight	2,750 lb (1247 kg)	3,068 lb (1392 kg)	3,279 lb (1487 kg)	3,484 lb (1580 kg)	3,835 lb (1740 kg)	2,975 lb (1349 kg)	3,504 lb (1589 kg)	4,019 lb (1823 kg)	4,396 lb (1994 kg)	4,714 lb (2138 kg)	4,896 lb (2221 kg)	5,319 lb (2413 kg)
Bucket width	109″ (2.77 m)	110.3″ (2.80 m)	109″ (2.77 m)	110.3″ (2.80 m)	109″ (2.77 m)	105″ (2.67 m)	105″ (2.67 m)	109″ (2.77 m)	109″ (2.77 m)	110.4″ (2.80 m)	109″ (2.77 m)	109″ (2.77 m)
Loader clearance circle, bucket at carry	43′2″ (13.16 m)	43′11″ (13.38 m)	43′5″ (13.23 m)	43′11″ (13.38 m)	43′5″ (13.23 m)	43′5″ (13.23 m)	43′8″ (13.32 m)	43′7″ (13.29 m)	43′1″ (13.14 m)	43′10″ (13.36 m)	43′4″ (13.21 m)	43′4″ (13.21 m)
SAE breakout force	30,302 lb (13 745 kg)	30,064 lb (13 637 kg)	28,080 lb (12 737 kg)	29,749 lb (13 494 kg)	27,282 lb (12 375 kg)	27,269 lb (12 369 kg)	25,377 lb (11 511 kg)	25,562 lb (11 595 kg)	33,732 lb (15 301 kg)	33,475 lb (15 184 kg)	31, 016 lb (14 069 kg)	30,309 lb (13 748 kg)
SAE tipping load straight*	22,279 lb (10 106 kg)	21,881 lb (9925 kg)	21,645 lb (9818 kg)	21,397 lb (9706 kg)	21,167 lb (9601 kg)	22,017 lb (9987 kg)	21,372 lb (9694 kg)	20,818 lb (9443 kg)	20,223 lb (9173 kg)	19,836 lb (8997 kg)	19,628 lb (8903 kg)	18,920 lb (8582 kg)
SAE tipping load at 40° turn*	18,031 lb (8179 kg)	17,636 lb (8000 kg)	17,403 lb (7894 kg)	17,156 lb (7782 kg)	16,939 lb (7683 kg)	17,770 lb (8060 kg)	17,130 lb (7770 kg)	16,611 lb (7535 kg)	16,092 lb (7299 kg)	15,708 lb (7125 kg)	15,502 lb (7032 kg)	14,891 lb (6754 kg)
SAE operating load	9,016 lb (4090 kg)	8,818 lb (4000 kg)	8,702 lb (3947 kg)	8,578 lb (3891 kg)	8,469 lb (3841 kg)	8,885 lb (4030 kg)	8,565 lb (3885 kg)	8,305 lb (3767 kg)	8,046 lb (3650 kg)	7,854 lb (3563 kg)	7,751 lb (3516 kg)	7,445 lb (3377 kg)
SAE operating weight*	37,443 lb (16 984 kg)	37,761 lb (17 128 kg)	37,972 lb (17 224 kg)	38,176 lb (17 316 kg)	38,528 lb (17 476 kg)	37,668 lb (17 086 kg)	38,197 lb (17 326 kg)	38,712 lb (17 559 kg)	39,089 lb (17 730 kg)	39,407 lb (17 875 kg)	39,588 lb (17 957 kg)	40,012 lb (18 149 kg)

* For selected option changes, adjust operating weight and tipping loads as shown in the following table.

SELECTED OPTIONS

	Operating Weight Adjustment	**3.50 yd³ Tipping Load Adjust. 40° turn**	**4.00 yd³ Light Material Tipping Load Adjust. 40° turn**	**3.00 yd³ 4 IN 1® Tipping Load Adjust. 40° turn**
23.5 x 25 12PR L2	0 (0)	0 (0)	0 (0)	0 (0)
23.5 x 25 12PR L3	+380 lb (+172 kg)	+360 lb (+163 kg)	+361 lb (+164 kg)	+340 lb (+154 kg)
23.5 x R25 XHA TL☆	+860 lb (+390 kg)	+927 lb (+420 kg)	+930 lb (+422 kg)	+873 lb (+396 kg)
20.5 x 25 16PR L2	-1,340 lb (-608 kg)	-465 lb (-211 kg)	-465 lb (-211 kg)	-446 lb (-202 kg)
20.5 x 25 16 PR L3	-1,012 lb (-459 kg)	-5 lb (-2 kg)	-5 lb (-2 kg)	-14 lb (-6 kg)
20.5 x R25 XTLA TL☆	-1,296 lb (-588 kg)	-310 lb (-141 kg)	-310 lb (-141 kg)	-302 lb (-137 kg)
20.5 x R25 XHA TL☆	-916 lb (-416 kg)	-16 lb (-7 kg)	-15 lb (-7 kg)	-23 lb (-10 kg)
ROPS canopy	-295 lb (-134 kg)	-158 lb (-72 kg)	-158 lb (-72 kg)	-151 lb (-69 kg)

NOTE: Ballast is not recommended.

* For selected option changes, adjust operating weight and tipping loads as shown in the following table.

SELECTED OPTIONS

FORKS w/Pro 2000 Coupler*

	Operating Weight Adjustment	Tipping Load Adjust. 40° turn
23.5 x 25 12PR L2	0 (0)	0 (0)
23.5 x 25 12PR L3	+380 lb (+172 kg)	+245 lb (+111 kg)
23.5 x 25 XHA TL☆	+860 lb (+390 kg)	+610 lb (+277 kg)
20.5 x 25 16PR L2	-1,340 lb (-608 kg)	-376 lb (-171 kg)
20.5 x 25 16 PR L3	-1,012 lb (-459 kg)	-80 lb (-36 kg)
20.5 x 25 XTLA TL☆	-1,296 lb (-588 kg)	-280 lb (-127 kg)
20.5 x 25 XHA TL☆	-916 lb (-416 kg)	-77 lb (-35 kg)
ROPS canopy	-295 lb (-134 kg)	-119 lb (-54 kg)

NOTE: Ballast is not recommended.

MATERIAL HANDLING BOOM w/Pro 2000 Coupler**

Retracted Tipping Load Adjust. 40° turn	Extended Tipping Load Adjust. 40° turn
0 (0)	0 (0)
+162 lb (+74 kg)	+129 lb (+59 kg)
+395 lb (+179 kg)	+311 lb (+141 kg)
-291 lb (-132 kg)	-242 lb (-110 kg)
-103 lb (-47 kg)	-95 lb (-43 kg)
-233 lb (-106 kg)	-196 lb (-89 kg)
-95 lb (-43 kg)	-86 lb (-39 kg)
-88 lb (-40 kg)	-72 lb (-33 kg)

*Spec loader includes all standard equipment, front and rear fenders, 66″ (1.68 m) forks, 23.5 x 25 12PR L2 tires, ROPS cab w/heater, 5,400 lb (2449 kg) counterweight and 175 lb (79 kg) operator.

**Spec loader includes all the above with material handling arm in lieu of forks.

FORKS

w/Pro 2000 Coupler

Fork clearance – ground to top of tine ..... 13′3″ (4.04 m)

Fork reach – maximum ..... 81.7″ (2.08 m)

Overall height ..... 15′8″ (4.77 m)

Fork tine size ..... 3″ x 7″ x 66″ (76 mm x 178 mm x 1.68 m)

Weight –
Fork attachment, forks and coupler ..... 3,046 lb (1382 kg)

Fork width (maximum) – outside to outside of tine ..... 60″ (1.52 m)

Fork load center ..... 33″ (838 mm)

SAE tipping load
– straight ..... 16,010 lb (7262 kg)
– 40˚ turn ..... 13,016 lb (5904 kg)

SAE operating load ..... 6,508 lb (2,952 kg)

Clearance circle – forks in carry position ..... 44′2″ (13.46 m)

SAE operating weight ..... 37,739 lb (17 118 kg)

MATERIAL HANDLING BOOM

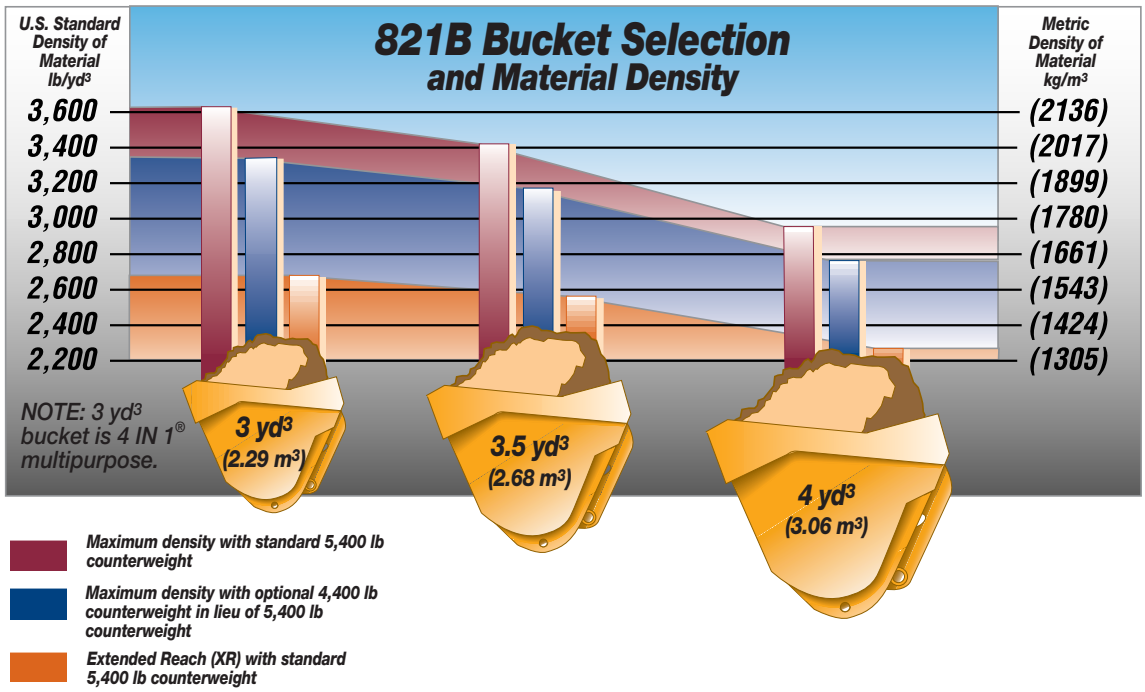
	w/Pro 2000 Coupler Retracted	Extended
Length (coupler pivot pin to hook)	109.0″ (2.77 m)	157.0″ (3.99 m)
Reach (max.) boom level	14′7″ (4.45 m)	18′7″ (5.66 m)
Clearance – hook to ground (max. reach)	7′4″ (2.24 m)	7′4″ (2.24 m)
Clearance – hook to ground (lift cylinder fully extended w/45˚ rollback)	20′11″ (6.38 m)	23′9″ (7.24 m)
Below ground level – lift cylinder fully retracted w/40˚ dump	6′4″ (1.93 m)	9′0″ (2.74 m)
Weight (of boom and coupler)	2,571 lb (1166 kg)	2,571 lb (1166 kg)
SAE tipping load – straight	11,734 lb (5322 kg)	9,279 lb (4209 kg)
–40˚ turn	9,669 lb (4386 kg)	7,866 lb (3568 kg)
SAE operating load	4,835 lb (2193 kg)	3,933 lb (1784 kg)
Clearance circle - arm in carry position - hinge pin @ 20˚ – boom level	43′1″ (13.13 m)	49′4″ (15.04 m)
– full rollback	39′0″ (11.89 m)	43′4″ (13.21 m)
SAE operating weight	37,264 lb (16 903 kg)	37,264 lb (16 903 kg)

Bucket Selection

The charts below are guides to sizing buckets based on material density, and are based on average working conditions. Additional factors, such as tires, counterweight, terrain, weather and options must be considered in bucket selection.

To determine optimum bucket size:

1. Determine density of material being handled using the Material Density Chart below.
2. Locate density in the column (U.S. or Metric) next to the 821B Bucket Selection Illustration.
3. Follow density along its horizontal line to find which bucket(s) can be used for that material density.



Material Density Chart*

Material	Density (Loose)
Caliche	2,100 lb/yd³ (1250 kg/m³)
Clay	
Natural bed	2,800 lb/yd³ (1600 kg/m³)
Dry	2,500 lb/yd³ (1480 kg/m³)
Wet	2,800 lb/yd³ (1660 kg/m³)
With gravel, dry	2,400 lb/yd³ (1420 kg/m³)
With gravel, wet	2,600 lb/yd³ (1540 kg/m³)
Coal	
Anthracite, broken	1,850 lb/yd³ (1100 kg/m³)
Bituminous, broken	1,400 lb/yd³ (830 kg/m³)
Earth	
Dry, packed	2,550 lb/yd³ (1510 kg/m³)
Wet, excavated	2,700 lb/yd³ (1600 kg/m³)
Loam	2,100 lb/yd³ (1250 kg/m³)
Granite, broken	
or large crushed	2,800 lb/yd³ (1660 kg/m³)

Material	Density (Loose)
Gravel	
Dry	2,550 lb/yd³ (1510 kg/m³)
Pit run (graveled sand)	3,250 lb/yd³ (1930 kg/m³)
Dry 1/2″ to 2″ (13 to 51 mm)	2,850 lb/yd³ (1690 kg/m³)
Wet 1/2″ to 2″ (13 to 51 mm)	3,400 lb/yd³ (2020 kg/m³)
Limestone, broken or crushed	2,600 lb/yd³ (1540 kg/m³)
Sand	
Dry	2,400 lb/yd³ (1420 kg/m³)
Wet	3,100 lb/yd³ (1840 kg/m³)
With gravel, dry	2,900 lb/yd³ (1720 kg/m³)
With gravel, wet	3,400 lb/yd³ (2020 kg/m³)
Sandstone, broken	2,550 lb/yd³ (1510 kg/m³)
Shale	2,100 lb/yd³ (1250 kg/m³)
Slag, broken	2,950 lb/yd³ (1750 kg/m³)
Stone, crushed	2,700 lb/yd³ (1600 kg/m³)
Topsoil	1,600 lb/yd³ (950 kg/m³)

*Actual material density will vary from these typical values.

821B Standard Equipment

- Articulation lock
- Air pre-cleaner, (two element dry-type)
- Analog electronic instrument cluster
- Auto downshift
- Automatic return-to-dig , height control, return-to-travel , self-leveling
- Automatic shift transmission
- Backup alarm
- Brakes — 4-wheel, outboard, wet disc
- Bucket position indicator
- Canopy — ROPS
- Counterweight package — 5,400 lb (2449 kg)
- Declutch
- Diesel engine — turbo
- Electronic instrument cluster
- Engine side doors
- Fenders: front and rear
- Fuse circuit protection
- Horn
- Hydraulic oil cooler
- Key start switch
- Lights
  Front and rear halogen flood lights
  Combined tail and stop lights
  Driving lights
  Turn signals
  Warning flashers — 4-way
- Limited slip differentials (front & rear)
- Loader control levers with hydraulic power assist and electromagnetic detents
- Master electrical disconnect
- Operator convenience package (steering knob, wrist rest)
- Parking brake — disc
- Power steering
- Pusher fan
- Rearview mirror, inside
- Suspension seat (deluxe) with 2" retractable seat belt
- Tilt steering column
- Transmission oil cooler
- Vandal protection lockup package
- Windshield wiper, front and rear
- Windshield washer, front
- 4F/3R powershift transmission
- 4-wheel drive
- 24-volt, 65 amp alternator

821B Optional Equipment

- Air conditioning (cab)
- Auxiliary hydraulics
- Beacon: rotating
- Buckets
  3.50 yd^3 (2.68 m^3) General Purpose
  4.00 yd^3 (3.06 m^3) Stockpiling
  3.00 yd^3 (2.29 m^3) 4 IN 1®
- Bucket accessories
  Teeth (2-piece, set of 9)
  Teeth with edge segments
  Bolt-on edge
- Bucket coupler
- Cab (pressurized) with heater & defroster (all the above with air conditioner)
- Counterweight 4,400 lb (1996 kg) ILO 5,400 lb (2449 kg)
- Cold start aid (ether)
- Drawbar pin
- Drawbar pintle
- Forks - 66" (1.68 m)
- Lever conversions
- Lift and tie-down brackets
- Material handling boom
- Mirrors (2 exterior)
- No-spin rear differential
- Retractable seat belt (3")
- Ride control
- Wheels and tires 20.5 x 25, L2, L3 and radials
- (XR) Extended reach loader — (special feature)

Standard Z-Bar Performance Data

Spec loader is a fully serviced unit that includes all standard equipment, 26.5 x 25, L3 20PR tires, front and rear fenders, ROPS cab w/heater & A/C, standard 4,800 lb (2177 kg) counterweight and 175 lb (79 kg) operator.

EXCAVATING BUCKETS

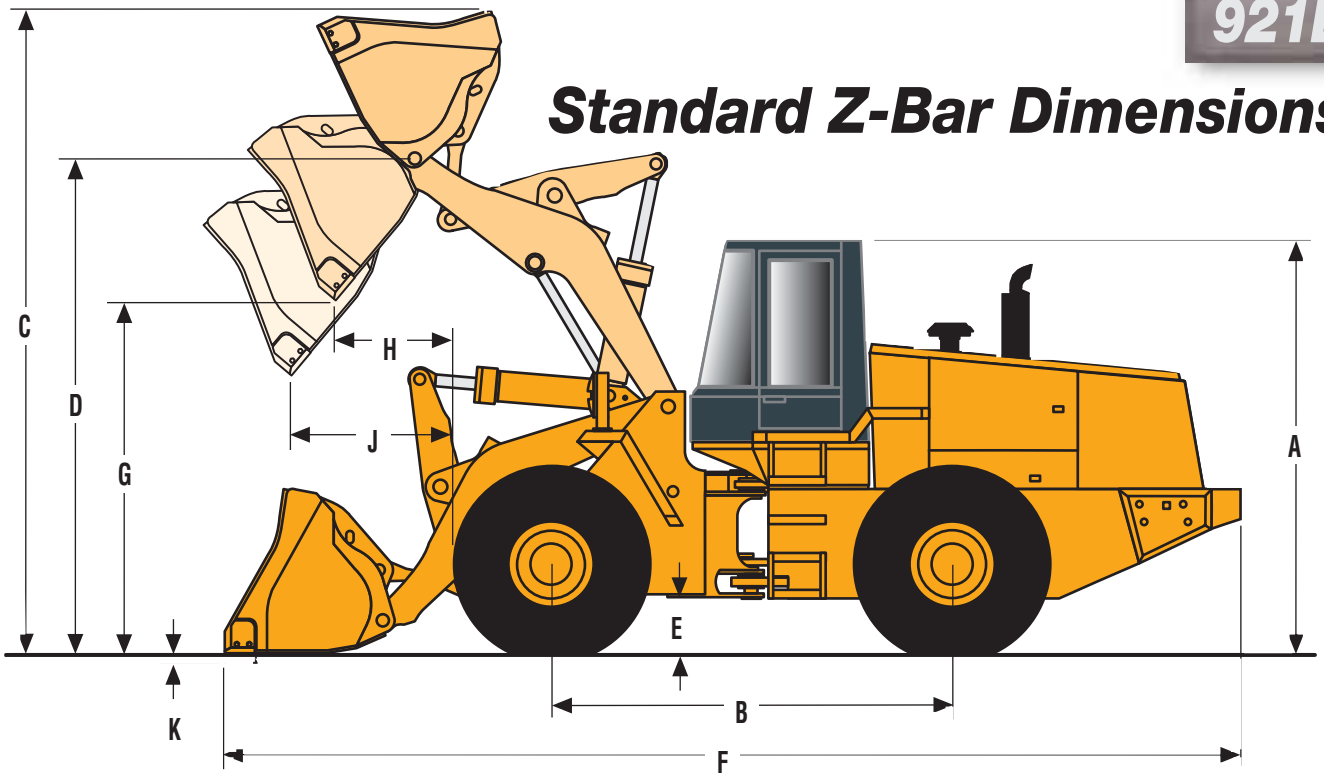
BUCKET CONFIGURATION	4.75 yd³ Bucket only	Bucket w/teeth	Bucket w/bolt-on edge	Bucket w/teeth & segments	5.0 yd³ Bucket only	Bucket w/teeth	Bucket w/bolt-on edge
SAE heaped capacity	4.75 yd³ (3.63 m³)	4.75 yd³ (3.63 m³)	5.0 yd³ (3.82 m³)	5.0 yd³ (3.82 m³)	5.0 yd³ (3.82 m³)	5.0 yd³ (3.82 m³)	5.25 yd³ (4.01 m³)
SAE struck capacity	3.81 yd³ (2.91 m³)	3.81 yd³ (2.91 m³)	4.02 yd³ (3.07 m³)	4.02 yd³ (3.07 m³)	4.38 yd³ (3.35 m³)	4.38 yd³ (3.35 m³)	4.6 yd³ (3.52 m³)
Bucket weight	3,537 lb (1604 kg)	3,855 lb (1749 kg)	4,172 lb (1892 kg)	4,335 lb (1966 kg)	3,698 lb (1677 kg)	4,335 lb (1966 kg)	4,333 lb (1965 kg)
Bucket width	120″ (3.05 m)	122.3″ (3.11 m)	120″ (3.05 m)	122.3″ (3.11 m)	120″ (3.05 m)	122.3″ (3.11 m)	120″ (3.05 m)
Loader clearance circle, bucket at carry	44′4″ (13.51 m)	45′1″ (13.74 m)	44′6″ (13.56 m)	45′1″ (13.74 m)	44′4″ (13.51 m)	45′1″ (13.74 m)	44′7″ (13.59 m)
SAE breakout force	50,275 lb (22 804 kg)	49,583 lb (22 490 kg)	46,391 lb (21 043 kg)	49,197 lb (22 315 kg)	49,154 lb (22 296 kg)	49,289 lb (22 357 kg)	45,398 lb (20 592 kg)
SAE tipping load straight*	42,661 lb (19 351 kg)	42,241 lb (19 160 kg)	41,837 lb (18 977 kg)	41,634 lb (18 885 kg)	42,843 lb (19 433 kg)	42,095 lb (19 094 kg)	42,011 lb (19 056 kg)
SAE tipping load at 40¡ turn*	34,108 lb (15 471 kg)	33,692 lb (15 282 kg)	33,295 lb (15 102 kg)	33,094 lb (15 011 kg)	34,178 lb (15 503 kg)	33,437 lb (15 167 kg)	33,358 lb (15 131 kg)
SAE operating load	17,054 lb (7736 kg)	16,846 lb (7641 kg)	16,647 lb (7551 kg)	16,547 lb (7506 kg)	17,089 lb (7751 kg)	16,719 lb (7584 kg)	16,679 lb (7565 kg)
SAE operating weight*	50,547 lb (22 928 kg)	50,864 lb (23 072 kg)	51,181 lb (23 215 kg)	51,344 lb (23 289 kg)	50,708 lb (23 001 kg)	51,344 lb (23 289 kg)	51,342 lb (23 288 kg)

* For selected option changes, adjust operating weight and tipping loads as shown in the following table.

SELECTED OPTIONS	Operating Weight Adjustment	Tipping Load Adjustment Straight	Tipping Load Adjustment 40° Turn
26.5 x 25 L2 20PR (dirt)	-452 lb (-205 kg)	-952 lb (-432 kg)	-1,014 lb (-460 kg)
26.5 x 25 L3 20PR (sand, firm surface)	0	0	0
26.5 x 25 L4 20PR (rock)	+1,164 lb (+528 kg)	+1,388 lb (+630 kg)	+1,387 lb (+629 kg)
26.5 x 25 L5 20PR (abrasive rock)	+1,592 lb (+722 kg)	+2,111 lb (+958 kg)	+2,166 lb (+982 kg)
26.5 x R25 XRD1A☆ (rock)	+1,452 lb (+659 kg)	+1,094 lb (+496 kg)	+1,090 lb (+494 kg)
26.5 x R25 XHA TL☆ (sand, firm surface)	+460 lb (+209 kg)	+238 lb (+108 kg)	+382 lb (+173 kg)
3,300 lb (1497 kg) counterweight ILO 4,800 lb (2177 kg) counterweight	-1,500 lb (-680 kg)	-3,535 lb (-1603 kg)	-2,659 lb (-1206 kg)
ROPS canopy	-295 lb (-134 kg)	-270 lb (-122 kg)	-221 lb (-100 kg)

NOTE: Ballast is not recommended.

Standard Z-Bar Dimensions



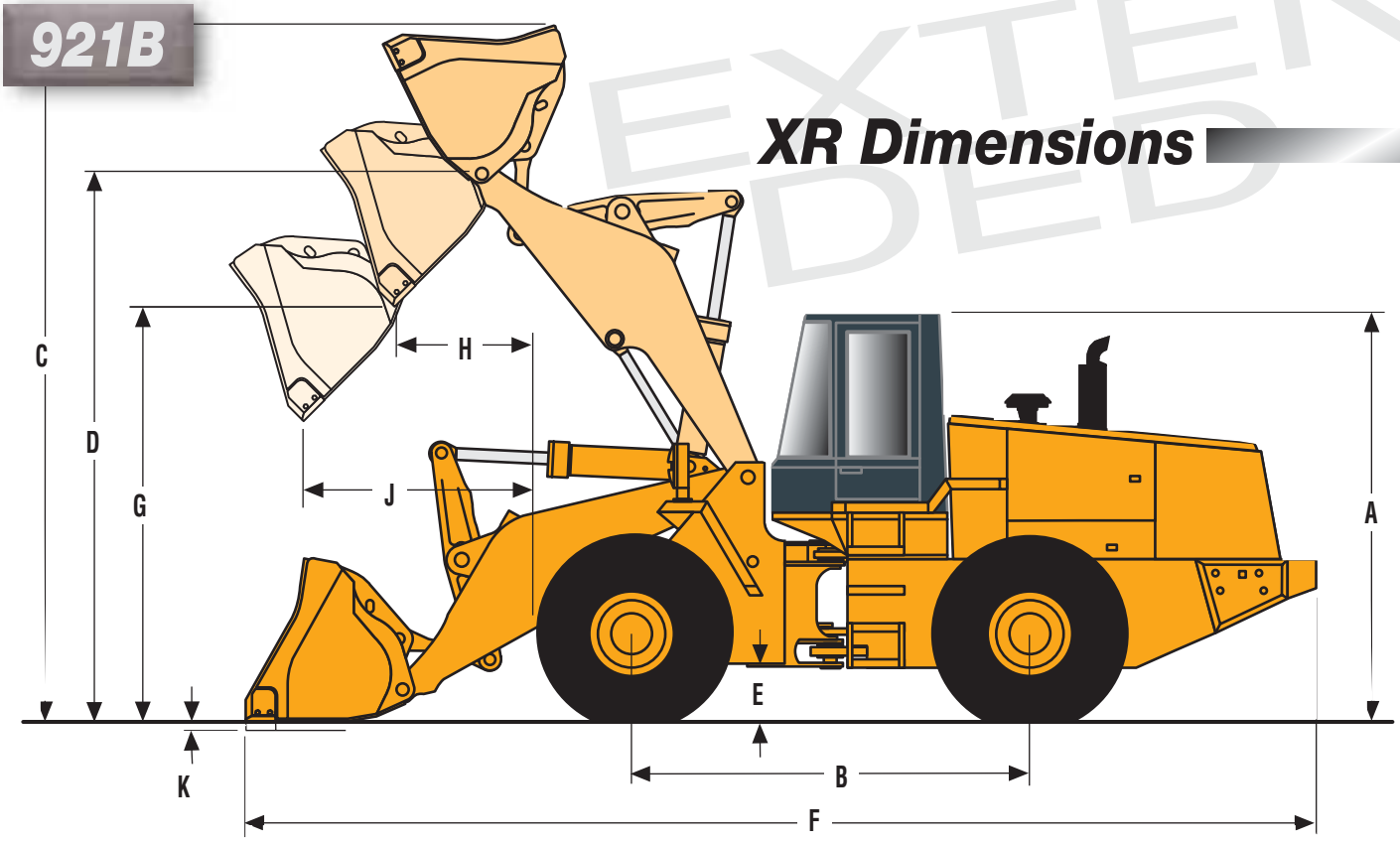
Dimensions are for standard loader with 26.5 x 25 L3 20PR tires and 4.75 yd^3 (3.63 m^3) bucket.

	Tread width	87″ (2.21 m)
	Width over tires	115.6″ (2.94 m)
A.	Height to top of cab/canopy	11′9″ (3.58 m)
B.	Wheelbase	134″ (3.40 m)
C.	Overall height to top of raised bucket	18′6″ (5.64 m)
D.	Hinge pin height, fully raised	14′1″ (4.29 m)
E.	Ground clearance	17.5″ (445 mm)

BUCKET CONFIGURATION	4.75 yd^3 bucket only	Bucket w/teeth	Bucket w/bolt-on edge	Bucket w/teeth & segments	5.00 yd^3 bucket only	Bucket w/teeth	Bucket w/bolt-on edge
F. Overall length	28′1″ (8.56 m)	29′0″ (8.84 m)	28′5″ (8.66 m)	29′0″ (8.84 m)	28′2″ (8.59 m)	29′0″ (8.84 m)	28′6″ (8.69 m)
G. Dump clearance @ full height — 45¡	10′4″ (3.15 m)	9′8″ (2.95 m)	10′1″ (3.07 m)	9′8″ (2.95 m)	123.2″ (3.13 m)	115.7″ (2.94 m)	120″ (3.05 m)
H. Bucket reach @ full height — 45¡	43.2″ (1.10 m)	49.0″ (1.25 m)	44.5″ (1.13 m)	49.0″ (1.25 m)	43.9″ (1.12 m)	49.0″ (1.25 m)	45.2″ (1.15 m)
J. Bucket reach @ 7′ (2.13 m) — 45¡	68.8″ (1.75 m)	71.1″ (1.81 m)	68.9″ (1.75 m)	71.1″ (1.81 m)	69.2″ (1.76 m)	71.1″ (1.81 m)	69.3″ (1.76 m)
K. Dig depth below groundline	1.2″ (30 mm)	2.8″ (71 mm)	2.4″ (61 mm)	2.8″ (71 mm)	1.2″ (30 mm)	2.8″ (71 mm)	2.5″ (64 mm)

(The above dimensions are affected by bucket configuration)

XR Dimensions



Dimensions are for units fully serviced with standard equipment, 26.5 x 25 L3 20PR tires and 4.75 yd^3 (3.63 m^3) bucket.

	Tread width	87″ (2.21 m)
	Width over tires	115.6″ (2.94 m)
A.	Height to top of cab/canopy	11′9″ (3.58 m)
B.	Wheelbase	134″ (3.40 m)
C.	Overall height to top of raised bucket	20′4″ (6.20 m)
D.	Hinge pin height	15′10″ (4.83 m)
E.	Ground clearance	17.5″ (445 mm)

BUCKET CONFIGURATION

		4.75 yd^3 bucket only	Bucket w/teeth	Bucket w/bolt-on edge	Bucket w/teeth & segments	5.00 yd^3 bucket only	Bucket w/teeth	Bucket w/bolt-on edge
F.	Overall length	29′11″ (9.12 m)	30′10″ (9.40 m)	30′3″ (9.22 m)	30′10″ (9.40 m)	30′0″ (9.14 m)	30′10″ (9.40 m)	30′4″ (9.25 m)
G.	Dump clearance @ full height — 45¡	12′2″ (3.71 m)	11′5″ (3.48 m)	11′10″ (3.61 m)	11′5″ (3.48 m)	12′1″ (3.68 m)	11′5″ (3.48 m)	11′9″ (3.58 m)
H.	Bucket reach @ full height — 45¡	46.2″ (1.17 m)	52.1″ (1.32 m)	47.6″ (1.21 m)	52.1″ (1.32 m)	46.9″ (1.19 m)	52.1″ (1.32 m)	48.3″ (1.23 m)
J.	Bucket reach @ 7′ (2.13 m) — 45¡	87.9″ (2.23 m)	90.7″ (2.30 m)	88.1″ (2.24 m)	90.7″ (2.30 m)	88.3″ (2.24 m)	90.7″ (2.30 m)	88.6″ (2.25 m)
K.	Dig depth below groundline	1.7″ (43 mm)	3.3″ (84 mm)	3.0″ (76 mm)	3.3″ (84 mm)	1.7″ (43 mm)	3.3″ (84 mm)	3.0″ (76 mm)

(The above dimensions are affected by bucket configuration)

XR Performance Data

Spec loader is a fully serviced unit that includes all standard equipment, 26.5 x 25, L3 20PR tires, front and rear fenders, ROPS cab w/heater & A/C, standard 4,800 lb (2177 kg) counterweight, optional lighting package and 175 lb (79 kg) operator.

EXCAVATING BUCKETS

BUCKET CONFIGURATION	4.75 yd³ Bucket only	Bucket w/teeth	Bucket w/bolt-on edge	Bucket w/teeth & segments	5.0 yd³ Bucket only	Bucket w/teeth	Bucket w/bolt-on edge
SAE heaped capacity	4.75 yd³ (3.63 m³)	4.75 yd³ (3.63 m³)	5.0 yd³ (3.82 m³)	5.0 yd³ (3.82 m³)	5.0 yd³ (3.82 m³)	5.0 yd³ (3.82 m³)	5.25 yd³ (4.01 m³)
SAE struck capacity	3.81 yd³ (2.91 m³)	3.81 yd³ (2.91 m³)	4.02 yd³ (3.07 m³)	4.02 yd³ (3.07 m³)	4.38 yd³ (3.35 m³)	4.38 yd³ (3.35 m³)	4.6 yd³ (3.52 m³)
Bucket weight	3,537 lb (1604 kg)	3,855 lb (1749 kg)	4,172 lb (1892 kg)	4,335 lb (1966 kg)	3,698 lb (1677 kg)	4,335 lb (1966 kg)	4,333 lb (1965 kg)
Bucket width	120″ (3.05 m)	122.3″ (3.11 m)	120″ (3.05 m)	122.3″ (3.11 m)	120″ (3.05 m)	122.3″ (3.11 m)	120″ (3.05 m)
Loader clearance circle, bucket at carry	46′1″ (14.05 m)	46′10″ (14.28 m)	46′4″ (14.12 m)	46′10″ (14.28 m)	46′1″ (14.05 m)	46′10″ (14.28 m)	46′4″ (14.12 m)
SAE breakout force	50,434 lb (22 876 kg)	49,792 lb (22 585 kg)	46,577 lb (21 127 kg)	49,406 lb (22 410 kg)	49,310 lb (22 367 kg)	49,498 lb (22 452 kg)	45,581 lb (20 675 kg)
SAE tipping load straight*	33,360 lb (15 132 kg)	32,956 lb (14 949 kg)	32,568 lb (14 773 kg)	32,372 lb (14 684 kg)	33,398 lb (15 149 kg)	32,670 lb (14 819 kg)	32,600 lb (14 787 kg)
SAE tipping load at 40¡ turn*	26,863 lb (12 185 kg)	26,461 lb (12 002 kg)	26,078 lb (11 829 kg)	25,883 lb (11 740 kg)	26,864 lb (12 185 kg)	26,141 lb (11 857 kg)	26,073 lb (11 827 kg)
SAE operating load	13,432 lb (6093 kg)	13,231 lb (6001 kg)	13,039 lb (5914 kg)	12,942 lb (5870 kg)	13,432 lb (6093 kg)	13,070 lb (5928 kg)	13,037 lb (5913 kg)
SAE operating weight*	51,496 lb (23 358 kg)	51,814 lb (23 502 kg)	52,131 lb (23 646 kg)	52,294 lb (23 720 kg)	51,657 lb (23 431 kg)	52,294 lb (23 720 kg)	52,292 lb (23 719 kg)

* For selected option changes, adjust operating weight and tipping loads as shown in the following table.

SELECTED OPTIONS	Operating Weight Adjustment	Tipping Load Adjustment Straight	Tipping Load Adjustment 40° Turn
26.5 x 25 L2 20PR (dirt)	-452 lb (-205 kg)	-648 lb (-294 kg)	-691 lb (-313 kg)
26.5 x 25 L3 20PR (sand, firm surface)	0	0	0
26.5 x 25 L4 20PR (rock)	+1,164 lb (+528 kg)	+1,015 lb (+460 kg)	+1,010 lb (+458 kg)
26.5 x 25 L5 20PR (abrasive rock)	+1,592 lb (+722 kg)	+1,511 lb (+685 kg)	+1,540 lb (+699 kg)
26.5 x R25 XRD1A★ (rock)	+1,452 lb (+659 kg)	+882 lb (+400 kg)	+840 lb (+381 kg)
26.5 x R25 XHA TL★ (sand, firm surface)	+460 lb (+209 kg)	+193 lb (+88 kg)	+258 lb (+117 kg)
3,300 lb (1497 kg) counterweight ILO 4,800 lb (2177 kg) counterweight	-1,500 lb (-680 kg)	-2,946 lb (-1336 kg)	-2,279 lb (-1034 kg)
ROPS canopy	-295 lb (-134 kg)	-226 lb (-103 kg)	-191 lb (-87 kg)

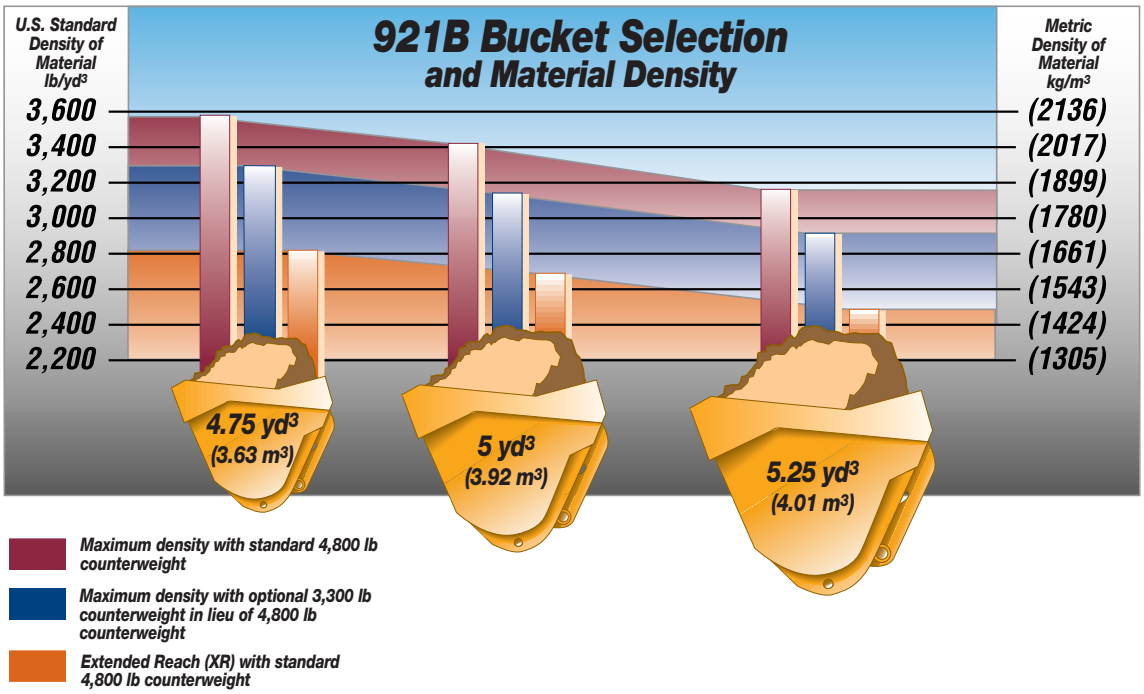
NOTE: Ballast is not recommended.

Bucket Selection

The charts below are guides to sizing buckets based on material density, and are based on average working conditions. Additional factors, such as tires, counterweight, terrain, weather and options must be considered in bucket selection.

To determine optimum bucket size:

1. Determine density of material being handled using the Material Density Chart below.
2. Locate density in the column (U.S. or Metric) next to the 921B Bucket Selection Illustration.
3. Follow density along its horizontal line to find which bucket(s) can be used for that material density.



Material Density Chart*

Material	Density (Loose)
Caliche	2,100 lb/yd³ (1250 kg/m³)
Clay	
Natural bed	2,800 lb/yd³ (1600 kg/m³)
Dry	2,500 lb/yd³ (1480 kg/m³)
Wet	2,800 lb/yd³ (1660 kg/m³)
With gravel, dry	2,400 lb/yd³ (1420 kg/m³)
With gravel, wet	2,600 lb/yd³ (1540 kg/m³)
Coal	
Anthracite, broken	1,850 lb/yd³ (1100 kg/m³)
Bituminous, broken	1,400 lb/yd³ (830 kg/m³)
Earth	
Dry, packed	2,550 lb/yd³ (1510 kg/m³)
Wet, excavated	2,700 lb/yd³ (1600 kg/m³)
Loam	2,100 lb/yd³ (1250 kg/m³)
Granite, broken	
or large crushed	2,800 lb/yd³ (1660 kg/m³)

Material	Density (Loose)
Gravel	
Dry	2,550 lb/yd³ (1510 kg/m³)
Pit run (graveled sand)	3,250 lb/yd³ (1930 kg/m³)
Dry 1/2″ to 2″ (13 to 51 mm)	2,850 lb/yd³ (1690 kg/m³)
Wet 1/2″ to 2″ (13 to 51 mm)	3,400 lb/yd³ (2020 kg/m³)
Limestone, broken or crushed	2,600 lb/yd³ (1540 kg/m³)
Sand	
Dry	2,400 lb/yd³ (1420 kg/m³)
Wet	3,100 lb/yd³ (1840 kg/m³)
With gravel, dry	2,900 lb/yd³ (1720 kg/m³)
With gravel, wet	3,400 lb/yd³ (2020 kg/m³)
Sandstone, broken	2,550 lb/yd³ (1510 kg/m³)
Shale	2,100 lb/yd³ (1250 kg/m³)
Slag, broken	2,950 lb/yd³ (1750 kg/m³)
Stone, crushed	2,700 lb/yd³ (1600 kg/m³)
Topsoil	1,600 lb/yd³ (950 kg/m³)

*Actual material density will vary from these typical values.

Standard Equipment

- Analog electronic instrument cluster gauges
- Articulation lock
- Air pre-cleaner, aspirated (two element dry-type)
- Automatic return-to-dig , height control, return-to-travel , self-leveling
- Automatic shift transmission
- Backup alarm
- Brakes — 4-wheel, outboard, wet disc
- Bucket position indicator
- Canopy — ROPS
- Counterweight package — 4,800 lb (2177 kg) w/integral drawbar
- Declutch
- Diesel engine — turbo, after-cooled
- Engine side doors
- Fenders: front and rear
- Front windshield washer
- Fuse circuit protection
- Horn
- Hydraulic oil cooler
- Key start switch
- Lights
  Front and rear halogen flood lights
  Combined tail and stop lights
  Driving lights
  Turn signals
  Warning flashers — 4-way
- Loader control levers with hydraulic power assist and electromagnetic dents
- Master electrical disconnect
- Operator convenience package (steering knob, wrist rest)
- Parking brake — disc
- Power steering
- Pusher fan
- Rear wiper
- Rearview mirror, inside
- Suspension seat (deluxe) with 3" retractable seat belt
- Tilt steering column
- Torque proportioning differential
- Transmission oil cooler
- Vandal protection lockup package
- 4F/3R powershift transmission
- 4-wheel drive
- 24-volt, 70 amp alternator

Optional Equipment

- Air conditioning (cab)
- Air suspension seat
- Auxiliary hydraulics
- Auxiliary steering
- Beacon: rotating
- Buckets
  4.75 yd^3 (3.63 m^3)
  5.0 yd^3 (3.82 m^3)
- Bucket accessories
  Teeth (2-piece, set of 8)
  Teeth with edge segments
  Bolt-on edge
- Cab (pressurized) with heater, defroster, front and rear wipers, front washer, visor and sunshade (all the above with air conditioner)
- Counterweight
  3,300 lb (1497 kg) ILO 4,800 lb (2177 kg) wo/drawbar
- Cold start aid (ether)
- Lever conversions
- Lift and tie-down brackets
- Mirrors (2 exterior)
- Ride control
- Wheels and tires
  26.5 x 25, L2, L3, L4, L5 and radials
- (XR) Extended reach loader — (special feature)

PRODUCT SUPPORT

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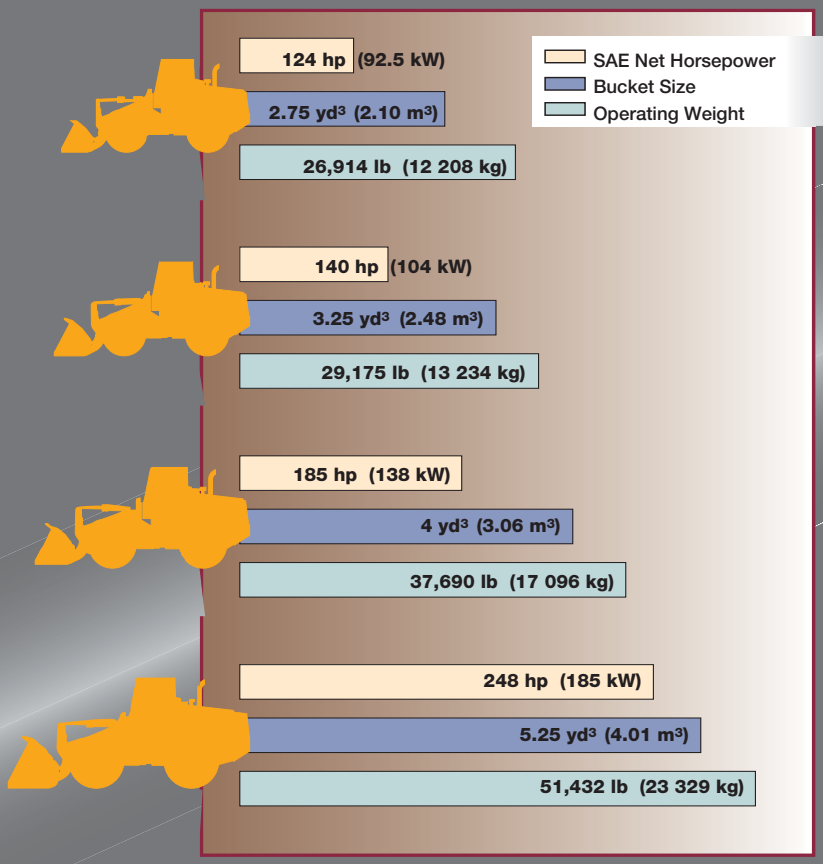
Always read the Operator's Manual before operating any equipment. Inspect equipment before using it, and be sure it is operating properly. Follow the product safety signs and use any safety features provided.



LOADER MODELS	Standard	Extended Reach (XR)	Tool Carrier (XT)
621B	●	●	●
721B	●	●	●
821B	●	●	
921B	●	●	

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NOTE: All specifications are stated in accordance with SAE Standards or Recommended Practices, where applicable.

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