

80C

EXCAVATOR

SPECIFICATIONS



CONSTRUCTION EQUIPMENT

Engine

80C

Type	Isuzu CC-4JG1 – naturally aspirated direct-injection diesel
Rated power	52 SAE net hp (39 kW) @ 2,100 rpm
Cylinders	4
Displacement	187 cu. in. (3.06 L)
Maximum net torque	142 lb.-ft. (192 Nm) @ 1,700 rpm
Fuel consumption, typical	1.5 to 2.5 gal./hr. (5.7 to 9.5 L/h)
Cooling fan	suction-type
Electrical system	24 volt with 30-amp alternator
Batteries (two 12 volt)	reserve capacity: 180 min.
Off-level capacity	70% (35 deg.)

Hydraulic System

Main pumps	three variable-displacement axial-piston open center
Maximum flow	2 x 16.6 gpm (2 x 63 L/min.) / 1 x 13.9 gpm (1 x 52.5 L/min.)
Pilot pump	one gear
Maximum rated flow	5.9 gpm (22.5 L/min.)
Pressure setting	570 psi (3930 kPa)
Dozer blade pump	one gear
System operating pressure	
Implement circuits	3,770 psi (25 988 kPa)
Travel circuits	4,550 psi (31 380 kPa)
Swing circuits	3,270 psi (22 546 kPa)
Blade circuit	3,770 psi (25 988 kPa)
Oil filtration	one 10-micron full-flow return filter with by-pass / one pilot oil filter / one suction filter

Cylinders

Boom (1)	
Bore	4.5 in. (115 mm)
Rod diameter	2.6 in. (65 mm)
Stroke	34.8 in. (885 mm)
Arm (1)	
Bore	3.7 in. (95 mm)
Rod diameter	2.4 in. (60 mm)
Stroke	35.4 in. (900 mm)
Bucket (1)	
Bore	3.3 in. (85 mm)
Rod diameter	2.2 in. (55 mm)
Stroke	28.7 in. (730 mm)

Swing Mechanism

Swing speed	0–11.3 rpm
Swing torque	10,200 lb.-ft. (13 840 Nm)

Undercarriage

Carrier rollers (per side)	1
Track rollers (per side)	5
Idlers (per side)	1
Shoes, triple semi-grouser (per side)	38
Track guides	front
Track adjustment	hydraulic
Travel speed	
Low	0–2.1 mph (0–3.4 km/h)
High	0–3.1 mph (0–5.0 km/h)
Drawbar pull	12,350 lb. (5602 kg)

Ground Pressure Data

Average ground pressure with dozer blade	<i>With 24-in. (600 mm) triple semi-grouser shoes (recommended for general/soft terrain)</i>
Standard one-piece boom	3.63 psi (25.03 kPa)
Offset boom	4.06 psi (28.13 kPa)

Capacities

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Fuel tank.....	36 gal. (136 L)
Cooling system	6.1 qt. (5.8 L)
Engine lubrication, including filter	10.5 qt. (9.9 L)
Hydraulic tank.....	15.5 gal. (58.7 L)
Hydraulic system.....	26.4 gal. (100 L)
Propel gearbox (each)	2.6 qt. (2.5 L)

Operating Weights

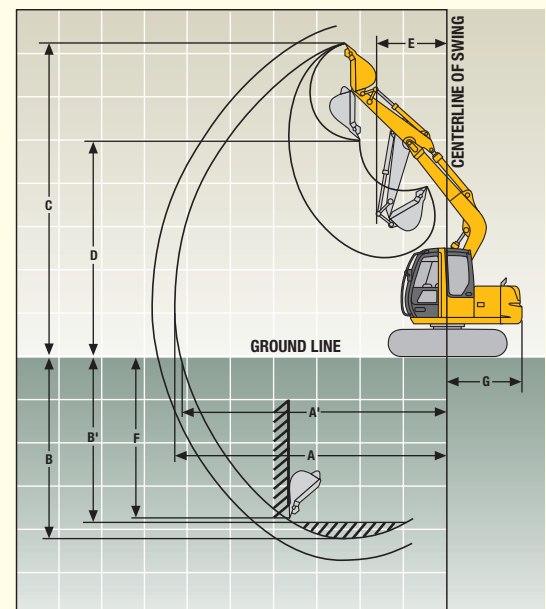
	<i>With offset boom</i>	<i>With one-piece boom</i>
With full fuel tank; 175-lb. (79 kg) operator; blade; 24-in. (600 mm) triple semi-grouser shoes; 5-ft. 4-in. (1.62 m) arm; and 0.36-cu. yd. (0.28 m ³), 30-in. (760 mm), 522-lb. (237 kg) bucket.....	17,910 lb. (8125 kg)	15,905 lb. (7215 kg)

Component Weights

Undercarriage with 24-in. (600 mm) triple semi-grouser shoes and blade.....	6,481 lb. (2940 kg)
Upperstructure for standard one-piece boom with full fuel tank (less front attachments and 1,763-lb. [800 kg] counterweight).....	5,112 lb. (2319 kg)
Upperstructure for offset boom with full fuel tank (less front attachments and 1,763-lb. [800 kg] counterweight).....	5,112 lb. (2319 kg)
Standard one-piece boom (with boom and arm cylinders).....	1,082 lb. (491 kg)
Offset boom (with boom and arm cylinders).....	1,986 lb. (902 kg)
Boom cylinder only.....	203 lb. (92 kg)
Arm with bucket cylinder and linkage	
5 ft. 4 in. (1.62 m).....	567 lb. (257 kg)
6 ft. 11 in. (2.12 m).....	653 lb. (296 kg)
Counterweight.....	1,763 lb. (800 kg)
0.36-cu. yd. (0.28 m ³), 30-in. (760 mm) bucket	522 lb. (237 kg)

Operating Information

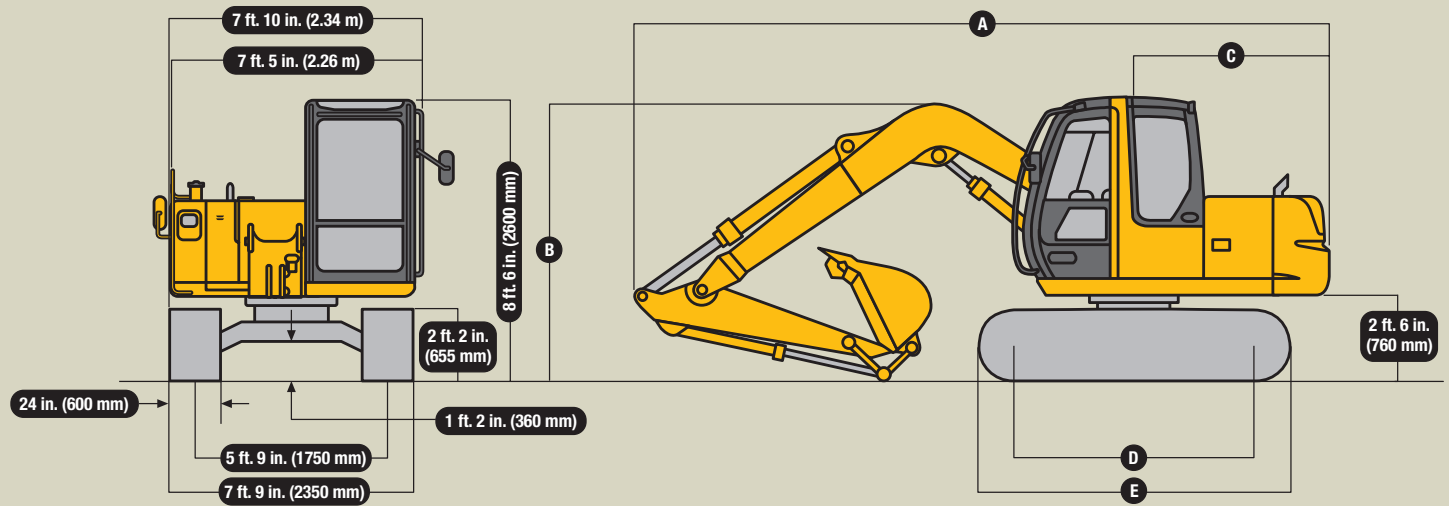
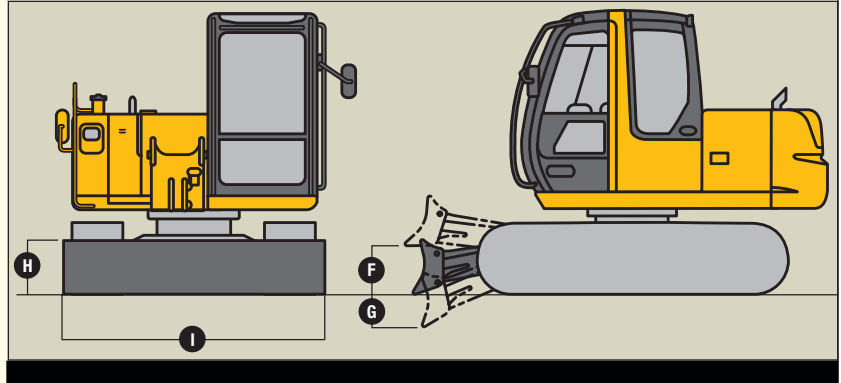
	<i>Arm Length 5 ft. 4 in. (1.62 m)</i>	<i>Arm Length 6 ft. 11 in. (2.12 m)</i>
Arm force with 30-in. (760 mm), 0.36-cu. yd. (0.28 m ³), 522-lb. (237 kg) heavy-duty bucket.....	8,425 lb. (37.5 kN)	7,190 lb. (32.0 kN)
Bucket digging force with 30-in. (760 mm), 0.36-cu. yd. (0.28 m ³), 522-lb. (237 kg) heavy-duty bucket.....	11,220 lb. (49.9 kN)	11,220 lb. (49.9 kN)
Lifting capacity over front @ ground level 15-ft. (4.57 m) reach.....	2,988 lb. (1355 kg)	4,385 lb. (1989 kg)
A Maximum reach.....	20 ft. 6 in. (6.25 m)	22 ft. 2 in. (6.74 m)
A' Maximum reach @ ground level.....	20 ft. (6.10 m)	21 ft. 8 in. (6.60 m)
B Maximum digging depth.....	13 ft. 5 in. (4.09 m)	15 ft. 1 in. (4.60 m)
B' Maximum digging depth @ 8-ft. (2.44 m) flat bottom.....	12 ft. 3 in. (3.74 m)	14 ft. 2 in. (4.31 m)
C Maximum cutting height.....	23 ft. 3 in. (7.09 m)	24 ft. 7 in. (7.49 m)
D Maximum dumping height.....	16 ft. 10 in. (5.13 m)	18 ft. 2 in. (5.53 m)
E Minimum swing radius.....	5 ft. 8 in. (1.72 m)	6 ft. 10 in. (2.08 m)
F Maximum vertical wall.....	12 ft. 3 in. (3.73 m)	14 ft. 1 in. (4.28 m)
G Tail swing radius.....	5 ft. 9 in. (1.75 m)	5 ft. 9 in. (1.75 m)



Dimensions

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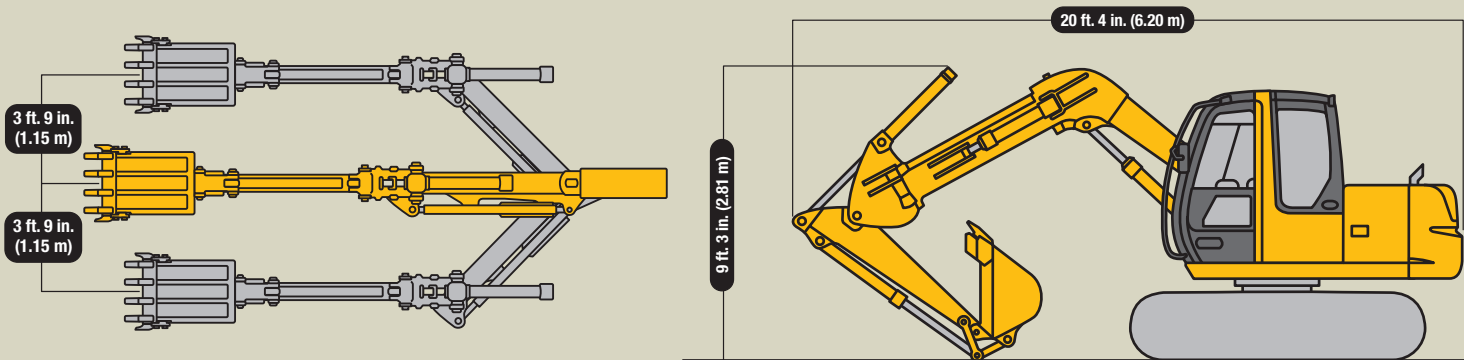
A	With 5-ft. 4-in. (1.62 m) arm.....	19 ft. 11 in. (6.08 m)
	With 6-ft. 11-in. (2.12 m) arm.....	20 ft. 1 in. (6.12 m)
B	With 5-ft. 4-in. (1.62 m) arm.....	8 ft. 4 in. (2.55 m)
	With 6-ft. 11-in. (2.12 m) arm.....	9 ft. 5 in. (2.88 m)
C	Rear-end length/swing radius.....	5 ft. 9 in. (1.75 m)
D	Distance between idler/sprocket centerline	7 ft. (2.14 m)
E	Undercarriage length.....	9 ft. 1 in. (2.77 m)
F	Blade lift height.....	1 ft. 4 in. (400 mm)
G	Blade cut below grade.....	11 in. (280 mm)
H	Blade height.....	1 ft. 5 in. (435 mm)
I	Blade width.....	7 ft. 7 in. (2.32 m)



Dimensions for Offset Boom

	<i>With No Boom Offset</i>	<i>With Offset to Left</i>	<i>With Offset to Right</i>
With 5-ft. 4-in. (1.62 m) arm only			
Maximum digging depth*.....	13 ft. 8 in. (4.16 m)	12 ft. 2 in. (3.71 m)	12 ft. 2 in. (3.71 m)
Maximum digging depth with 8-ft. (2.44 m) flat bottom*	12 ft. 5 in. (3.78 m)	10 ft. 11 in. (3.33 m)	10 ft. 11 in. (3.33 m)
Maximum reach @ ground level	20 ft. 3 in. (6.165 m)	19 ft. 2 in. (5.84 m)	19 ft. 2 in. (5.84 m)
Maximum dumping height.....	16 ft. 9 in. (5.05 m)	15 ft. 5 in. (4.70 m)	15 ft. 5 in. (4.70 m)
Maximum cut outside of track with 24-in. (600 mm) triple semi-grouser shoes and 0.36-cu. yd. (0.28 m ³), 30-in. (760 mm), 522-lb. (237 kg) bucket.....	14 in. (355 mm)		14 in. (355 mm)

*Maximum digging depth will be less in applications where offset boom interferes with edge of trench.



Lift Capacities

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Boldface italic type indicates hydraulic-limited capacities; lightface type indicates stability-limited capacities, in lb. (kg). Ratings at bucket lift hook, machine equipped with 24-in. (600 mm) shoes; 0.36-cu. yd. (0.28 m³), 30-in. (760 mm), 522-lb. (237 kg) bucket; and situated on firm, uniform supporting surface. Total load includes weight of cables, hook, etc. Figures do not exceed 87 percent of hydraulic capacities or 75 percent of weight needed to tip machine.

Load Point Height	5 ft. (1.52 m)		10 ft. (3.05 m)		15 ft. (4.57 m)		20 ft. (6.10 m)	
	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side
<i>With standard one-piece boom, 5-ft. 4-in. (1.62 m) arm, and blade on ground</i>								
10 ft. (3.05 m)			3,678 (1668)	3,678 (1668)	3,235 (1467)	2,849 (1292)		
5 ft. (1.52 m)			6,033 (2737)	5,020 (2277)	3,139 (1424)	2,687 (1219)		
Ground Line			5,695 (2583)	4,710 (2136)	2,988 (1355)	2,543 (1153)		
-5 ft. (-1.52 m)	7,935 (3599)	7,935 (3599)	5,670 (2572)	4,687 (2126)	2,946 (1336)	2,503 (1135)		
-10 ft. (-3.05 m)			5,210 (2363)	4,844 (2197)				
<i>With standard one-piece boom, 6-ft. 11-in. (2.12 m) arm, and blade on ground</i>								
15 ft. (4.57 m)					2,570 (1166)	2,570 (1166)		
10 ft. (3.05 m)			2,835 (1286)	2,835 (1286)	2,795 (1268)	2,795 (1268)		
5 ft. (1.52 m)			5,288 (2399)	5,191 (2355)	3,600 (1633)	2,739 (1242)	2,437 (1105)	1,667 (756)
Ground Line			7,075 (3209)	4,744 (2152)	4,385 (1989)	2,561 (1162)		
-5 ft. (-1.52 m)	6,604 (2996)	6,604 (2996)	7,264 (3295)	4,638 (2104)	4,636 (2103)	2,480 (1125)		
-10 ft. (-3.05 m)	10,373 (4705)	10,373 (4705)	6,098 (2766)	4,730 (2146)				
<i>With offset boom, 5-ft. 4-in. (1.62 m) arm, and blade on ground</i>								
15 ft. (4.57 m)			2,614 (1186)	2,614 (1186)				
10 ft. (3.05 m)			3,549 (1610)	3,549 (1610)	2,917 (1323)	2,778 (1260)		
5 ft. (1.52 m)					3,490 (1583)	2,462 (1117)		
Ground Line					3,963 (1798)	2,188 (992)		
-5 ft. (-1.52 m)			5,992 (2718)	4,029 (1828)	3,866 (1754)	2,113 (958)		
-10 ft. (-3.05 m)			4,285 (1944)	4,285 (1944)				

Buckets

A full line of buckets is offered to meet a wide variety of applications. Tooth selection includes either the John Deere Fanggs® tooth or Tiger, Twin Tiger, Flare, or Star tooth. Replaceable cutting edges are available through John Deere parts.

Type Bucket	Bucket Width		Bucket Capacity*		Weight		Bucket Dig Force		Arm Dig Force 5 ft. 4 in. (1.62 m)		Arm Dig Force 6 ft. 11 in. (2.12 m)		Bucket Tip Radius		No. Teeth
	in.	mm	cu. yd.	m ³	lb.	kg	lb.	kN	lb.	kN	lb.	kN	in.	mm	
Heavy-Duty	18	460	0.19	0.15	421	191	11,185	49.8	8,500	37.8	7,190	32.0	39.0	991	4
Plate Lip	24	610	0.27	0.21	495	225	11,185	49.8	8,500	37.8	7,190	32.0	39.0	991	5
	30	760	0.36	0.28	522	237	11,185	49.8	8,500	37.8	7,190	32.0	39.0	991	6
	36	915	0.45	0.34	544	247	11,185	49.8	8,500	37.8	7,190	32.0	39.0	991	7
	42	1065	0.65	0.50	584	265	11,185	49.8	8,500	37.8	7,190	32.0	39.0	991	8
Ditching	42	1065	0.53	0.41	472	214	12,465	55.4	8,845	39.3	7,435	33.1	34.1	866	0
	48	1220	0.60	0.46	492	223	12,465	55.4	8,845	39.3	7,435	33.1	34.1	866	0
	60	1525	0.75	0.57	564	256	12,465	55.4	8,845	39.3	7,435	33.1	34.1	866	0

*All capacities are SAE heaped ratings.

80C Excavator

Key: ● Standard equipment ▲ Optional or special equipment

80C Engine

- Auto-idle system
- Batteries (two 12 volt), 180-min. (1,250 CCA) reserve capacity
- Dual element dry-type air filter
- Enclosed fan guard (conforms to SAE J1308)
- Engine coolant to -34°F (-37°C)
- Fuel filter with water separator
- Full-flow oil filter
- Radiator trash screen
- Tier II EPA off-road emission compliant
- Underhood muffler with vertical curved end exhaust stack

Hydraulic System

- Auxiliary valve section
- Hydraulic pilot controls
- Reduced-drift valve for boom down
- Spring-applied, hydraulically released automatic swing brake
- ▲ Auxiliary hydraulic and electric pilot controls
- ▲ Hydraulic filter restriction indicator kit

Undercarriage

- Planetary final drive with axial piston motors
- Propel motor shields
- Two-speed propel
- Track guides, front idler
- Triple semi-grouser shoes, 24 in. (600 mm)
- Undercarriage with blade
- Upper carrier roller (1)

Upperstructure

- Counterweight, 1,763 lb. (800 kg)
- Right- and left-hand mirrors
- Vandal locks with ignition key: Cab door / Engine hood / Fuel cap / Service doors

80C Front Attachments

- Arm, 5 ft. 4 in. (1.62 m)
- ▲ Arm, 6 ft. 11 in. (2.12 m)
- Bucket-to-arm clearance adjustable bushing (except ditching buckets)
- Centralized lubrication system
- Dirt seals on all bucket pins
- No-boom-arm
- ▲ Auxiliary hydraulic lines with shutoff valve
- ▲ Boom cylinder with plumbing to mainframe
- ▲ Buckets: Ditching / Heavy duty / Side cutters and teeth
- ▲ Hydraulic coupler

Operator's Station

- Adjustable seat with independent control positions (seat-to-pedals)
- AM/FM stereo
- Auto climate control/air conditioner, 20,000 Btu/hr. (5.9 kW), heater and pressurizer
- Cell-phone power outlet, 12 volt, 60 watt, 5 amp
- Coat hook
- Deluxe suspension cloth seat with 4-in. (100 mm) adjustable armrests and lumbar support
- Front windshield wiper with intermittent speed
- Gauges (illuminated): Engine coolant / Fuel
- Horn, electric on left control lever
- Hourmeter, electric
- Hydraulic shutoff lever, all controls
- Interior light
- Large cup holder
- Machine Information Center (MIC)

*See your John Deere dealer for further information.

80C Operator's Station (continued)

- Mode selectors (illuminated): Power modes – two / Travel modes – two
- Monitor system with alarm features: Auto-idle indicator light / Engine air cleaner restriction indicator light / Engine coolant temperature indicator light with audible alarm / Engine oil pressure indicator light with audible alarm / Fluid level: Engine coolant level indicator light and engine oil level indicator light / Low alternator charge indicator light / Low fuel indicator light / Preheat indicator
- Motion alarm with cancel switch (conforms to SAE J994)
- Propel pedals and levers
- Seat belt, 2 in. (51 mm), retractable
- ▲ Seat belt, 3 in. (76 mm), non-retractable
- Tinted glass
- Transparent tinted overhead hatch with sunshade
- ▲ Alternate pilot control pattern
- ▲ Circulation fan
- ▲ Protection screen for cab lower front window
- ▲ Rear secondary exit window kit
- ▲ Window vandal protection covers
- ▲ 24- to 12-volt D.C. radio convertors, 10 amp

Electrical

- 30-amp alternator
- Blade-type multi-fused circuits
- Positive terminal battery covers

Lights

- Halogen work lights: One mounted on boom / One mounted on frame

Control Owning and Operating Costs

Customer Personal Service (CPS) is part of John Deere's proactive, fix-before-fail strategy on machine maintenance that will help control costs, increase profits, and reduce stress. Included in this comprehensive lineup of ongoing programs and services are:

Fluid analysis program – tells you what's going on inside *all* of your machine's major components so you'll know if there's a problem *before* you see a decline in performance. Fluid analysis is included in most extended coverage and preventive-maintenance agreements.

Component life-cycle data – gives you vital information on the projected life span of components and lets you make informed decisions on machine maintenance by telling you approximately how many hours of use you can expect from an engine, transmission, or hydraulic pump. This information can be used to preempt catastrophic downtime by servicing major components at about 80 percent of their life cycle.

Preventive Maintenance (PM) agreements – give you a fixed cost for maintaining a machine for a given period of time. They also help you avoid downtime by ensuring that critical maintenance work gets done right and on schedule. On-site preventive maintenance service performed where and when you need it helps protect you from the expense of catastrophic failures and lets you avoid waste-disposal hassles.

Extended coverage – gives you a fixed cost for machine repairs for a given period of time so you can effectively manage costs. Whether you work in a severe-service setting or just want to spread the risk of doing business, this is a great way to custom-fit coverage for your operation. And an extended coverage contract also travels well because it's backed by John Deere and is honored by *all* Deere construction dealers.

Customer Support Advisors (CSAs) – Deere believes the CSA program lends a *personal* quality to Customer Personal Service (CPS). Certified CSAs have the knowledge and skills for helping make important decisions on machine maintenance and repair. Their mission is to help you implement a plan that's right for *your* business and take the burden of machine maintenance off your shoulders.



JOHN DEERE

Net engine power is with standard equipment including air cleaner, exhaust system, alternator, and cooling fan, at standard conditions per SAE J1349 and DIN 6270B, using No. 2-D fuel at 35 API gravity. No derating is required up to 10,000-ft. (3050 m) altitude. Gross power is without cooling fan.

Specifications and design subject to change without notice. Wherever applicable, specifications are in accordance with PCSA and SAE standards. Except where otherwise noted, these specifications are based on a unit with 0.36-cu. yd. (0.28 m³), 30-in. (760 mm), 522-lb. (237 kg) bucket; 24-in. (600 mm) triple semi-grouser shoes; counterweight; 5-ft. 4-in. (1.62 m) arm; full fuel tank; and 175-lb. (79 kg) operator; and standard equipment.

