



## ENGINE

Make	FPT
Model	F4HFE613S
Emissions Certification	Tier 4 Final
Emissions Technology	SCR/DOC
Type	4-stroke, turbocharged and air-to-air cooled
Cylinders	6-cylinder in-line
Bore/Stroke	4.09 x 5.20 in (104 x 132 mm)
Displacement	411 in <sup>3</sup> (6.7 L)
Fuel	#2 Diesel, #1 and #2 mixture permitted for cold temperatures
Fuel injection	Direct injection – electronic
Fuel filter	Replaceable, spin-on cartridge
Fuel pump	Bosch CP 3.3
Gradeability:	
Side-to-side	35°
Fore and aft	35°
Air filter	Dry type elements w/ warning restriction indicator
Mid-mount cooling module:	Mid-mount air/water
Fan – hydraulic driven:	
Style	8 blade puller
Diameter	32 in (813 mm)
Water pump	Integral
Engine oil pump operating angle ratings:	
Side-to-side	35°
Fore and aft	35°
Oil filtration	Replaceable, full flow spin-on cartridge
Engine speeds	RPM
Rated – full load	2000
Horsepower:	
Maximum Power Mode:	
Peak gross @ 1800 RPM	230 hp (172 kW)
Net rated @ 2000 RPM	206 hp (153 kW)
Peak net @ 1800 RPM	211 hp (158 kW)
Standard Power Mode:	
Peak gross @ 1700 RPM	208 hp (155 kW)
Net rated @ 2000 RPM	178 hp (133 kW)
Peak net @ 1700 RPM	193 hp (144 kW)

Economy Power Mode:	
Peak gross @ 1400 RPM	169 hp (126 kW)
Net rated @ 2000 RPM	123 hp (92 kW)
Peak net @ 1400 RPM	161 hp (120 kW)

Torque – peak:	
Maximum Power Mode:	
Gross @ 1300 RPM	873 lb-ft (1 184 N-m)
Net @ 1300 RPM	845 lb-ft (1 145 N-m)
Standard Power Mode:	
Gross @ 1300 RPM	745 lb-ft (1 010 N-m)
Net @ 1300 RPM	716 lb-ft (971 N-m)
Economy Power Mode:	
Gross @ 1300 RPM	664 lb-ft (900 N-m)
Net @ 1300 RPM	635 lb-ft (861 N-m)

Torque rise:	
Maximum power range	47%

NOTE: Gross horsepower and torque per SAE J1995.  
Net horsepower and torque per SAE J1349.

## DRIVETRAIN

Transmission:	4F/3R Proportional w/ Electronic Control Module torque sensing autoshift/manual shift and modulation
Gears	Helical cut
Gear ratios – 4-speed	Forward/Reverse
1st	3.754/3.551
2nd	2.184/2.071
3rd	1.072/1.017
4th	0.636/ —
Gear ratios – 5-speed	Forward/Reverse
1st	3.921/3.718
2nd	2.255/2.138
3rd	1.466/0.894
4th	0.942/ —
5th	0.613/ —
Torque converter:	
Stall ratio – 4-speed	2.28:1
Stall ratio – 5-speed	2.42:1

Differential:	Limited slip differential, front – up to 72.5% of available axle torque to wheel w/ traction Limited slip differential, rear – up to 72.5% of available axle torque to wheel w/ traction
Rear axle oscillation	24° total
Front and rear axles:	
Differential ratio	4.11
Planetary ratio	6.00
Final axle ratio	24.67

Heavy-duty axles – optional:	Front axle equipped w/ locking differential Rear axle equipped w/ open differential
Planetaries	Outboard

Service brakes:	Hydraulically actuated, maintenance-free, multiple wet disc w/ accumulator to all four wheels
Brake surface area:	
Rear hub	600 in <sup>2</sup> (0.387 m <sup>2</sup> )
Front and opt. rear hub	721 in <sup>2</sup> (0.465 m <sup>2</sup> )

Parking brakes:	Spring-applied hydraulic release disc on transmission output shaft neutralizes power flow to wheels when engaged
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	Travel speeds – 4-speed transmission:	
	Forward	Reverse
	mph (kph)	mph (kph)
1st	4.4 (7.1)	4.7 (7.5)
2nd	7.4 (12.0)	7.8 (12.6)
3rd	14.5 (23.3)	15.2 (24.4)
4th	22.8 (36.6)	—

	Travel speeds – 5-speed transmission:	
	Forward	Reverse
	mph (kph)	mph (kph)
1st	4.1 (6.6)	4.4 (7.0)
2nd	7.1 (11.4)	7.4 (12.0)
3rd	10.6 (17.1)	17.2 (27.7)
4th	16.4 (26.4)	—
5th	24.9 (40.0)	—

NOTE: Travel speeds at full engine throttle w/ 23.5-R25 L3 Radial tires.

## ELECTRICAL

Voltage	24 Volts, negative ground
Alternator	120 amp
Batteries (2)	12-volt

## OPERATOR ENVIRONMENT

ROPS cab AC w/ heat; Key start; Articulated power steering w/ tilt column; Fully adjustable, suspension seat; Foot throttle; Single lever loader control w/ fully adjustable wrist rest, 2 cup holders; 2 interior rear view mirrors; 2 in (51 mm) retractable seat belt; Multiple storage trays; Single brake pedal; F/N/R shuttle switch; External rearview mirrors; Pressurized air filtering; Anti-glare window strip; Front and Rear Defroster; Side window, partial/fully open; 2 Dome lights; Wipers, rear and intermittent front; Windshield washers, front and rear; Rubber floor mat; Horn.

Displays/Gauges:	Digital: Transmission oil temperature; Hydraulic oil temperature; Engine coolant temperature; Fuel level; DEF level.
LCD screen:	Hour meter; Engine speed; Travel speed; Time; Automatic transmission indication; Current gear selection; FNR indication; DeClutch indication; Engine mode indication; Trip computer A/B; Fuel consumption; Multiple languages, Metric/English; Engine diagnostics; Transmission diagnostics; Warning prompts; Error reporting; Diff. Lock*; DEF gauge.

Audible/Visual alarms:	Warning lights: Four-way flashers and turn signals; Brake pressure; Lamp/high beam indication; Grid heater*.
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Caution warnings:

Parking brake; Coolant temperature; Hydraulic oil temperature; Transmission oil temperature; Air filter; Transmission filter; Hydraulic filter; Alternator; Low fuel.

Critical warnings:

Engine oil pressure; Brake pressure; Steering pressure – w/ aux steering\*; Coolant temperature; Hydraulic oil temperature; Transmission oil temperature.

Backup alarm

Maintenance reminders:

Cab air filter; Engine oil filter; Fuel pre-filter; DEF tank vent filter; SCR supply filter; Hydraulic oil and filter; Engine air filter; Engine coolant drive belt; Cab recirculation filter; Engine breather filter; Transmission breather; Front and rear axle fluid; SCR supply module filter.

NOTE: \*If equipped w/ option.

**OPERATING WEIGHT**

Z-Bar

Unit equipped w/ 23.5-R25 L3 Radial tires; ROPS cab w/ heater and A/C; Heavy-duty counterweight – 4,940 lb (2 241 kg); Heavy-duty batteries; Front and rear fenders; Lights; Full fuel; 165 lb (75 kg) operator; 4.25 yd³ (3.2 m³) MD pin on w/ bolt on edge:

40,057 lb (18 170 kg)

XR

Unit equipped w/ 23.5-R25 L3 Radial tires; ROPS cab w/ heater and A/C; Heavy-duty counterweight – 4,940 lb (2 240 kg); Heavy-duty batteries; Front and rear fenders; Lights; Full fuel; 165 lb (75 kg) operator; 4.25 yd³ (3.2 m³) MD pin on w/ bolt on edge:

40,648 lb (18 438 kg)

**HYDRAULICS**

Main pump – steering/implement:

Closed center pressure/flow compensated

Tandem variable displacement – load-sensing:

Max rated flow x2: 31.6 gpm @ 2000 RPM (120 L/min @ 2000 RPM)

Loader control valve:

Closed-center, sectional 2, 3 or 4-function w/ control for lift, tilt and auxiliary hydraulics

Loader auxiliary steering:

Hydraulic orbital center-pivot articulating w/ on-demand oil flow

High pressure standby:

Implement 3,625 psi (25 000 kPa)  
Steering 3,500 psi (24 132 kPa)

Filtration:

Filtered vent w/ relief on hydraulic reservoir, maintains 3-5 psi on reservoir, 10-micron, return filter furnishes only clean oil to all components of the system

**SERVICE CAPACITIES**

Fuel tank 76.0 gal (288.0 L)

DEF tank – Diesel Exhaust Fluid:

Usable 9.8 gal (37.1 L)  
Total 15.6 gal (58.9 L)

Hydraulic system:

Reservoir 24.0 gal (90.8 L)  
Total 47.0 gal (178.0 L)

Transmission:

Service w/ filter 9.0 gal (34.1 L)

Front and rear axle:

Front axle 42.3 qt (40.0 L)  
Rear axle 42.3 qt (40.0 L)

Engine oil w/ filter 16.0 qt (15.1 L)

Cooling system 32.0 qt (30.0 L)

**OTHER SPECIFICATIONS**

Lift cylinder:

Bore diameter 5.5 in (140 mm)  
Rod diameter 3.0 in (76 mm)  
Stroke 33.3 in (846 mm)

Dump cylinder:

Bore diameter 6.5 in (165 mm)  
Rod diameter 3.5 in (90 mm)  
Stroke 23.6 in (600 mm)

Loader:

Z-Bar loader linkage; Single control for lift and tilt; Positive hold float; Automatic return-to-dig; Automatic height control; Automatic return-to-travel; Brake pedal transmission disconnect; Bucket position indicator on bucket.

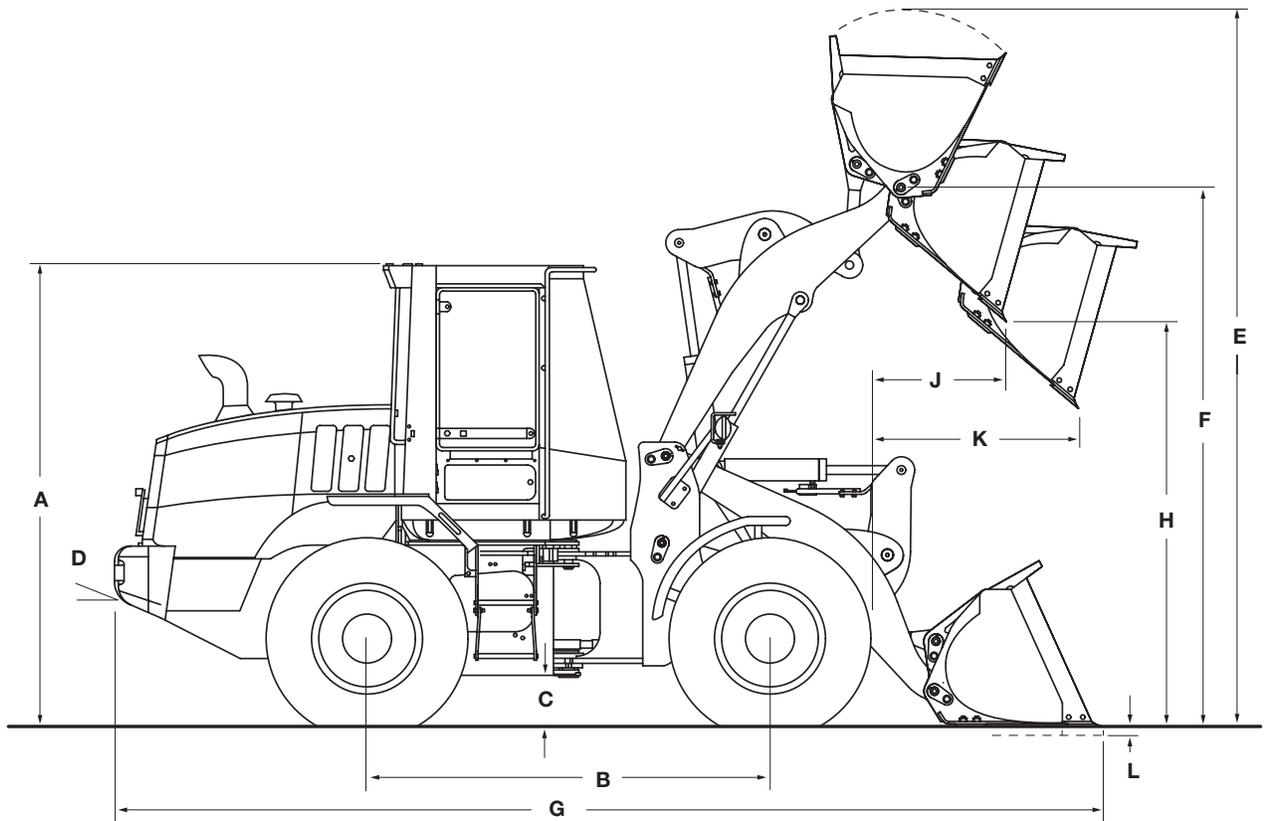
Cycle time:

Raise w/ rated bucket load 6.2 sec  
Dump w/ rated bucket load 1.2 sec  
Float down 2.5 sec

Sound level in Cab (LpA) 68 dB(A)

Exterior sound level (LwA) 104 dB(A)

NOTE: Sound level data tested in accordance with ISO6395, 6396, 3744.



Line drawings are for illustrative purpose only and may not be exact representation of unit.

## DIMENSIONS

A. Height to top of ROPS cab	136.2 in (3 460 mm)
Height to drawbar	42.6 in (1 081 mm)
B. Wheelbase	131.5 in (3 340 mm)
C. Ground clearance	17.0 in (431 mm)
D. Angle of departure	29°
Width:	
Overall* without bucket	111.4 in (2 829 mm)
Centerline tread	87.8 in (2 230 mm)
Turning radius* – outside	236.3 in (6 003 mm)
Turning angle:	
From center	40°
Total angle	80°
Rear axle oscillation – total	24°

NOTE: \*Dimensions taken with 23.5-R25 L3 Radial tires. Additional dimensions on pages 4 through 8.

## WEIGHT ADJUSTMENTS

Select Options	Weight Adjustment	Tipping Load Adjustment Straight: Deflected*	Tipping Load Adjustment 40° Turn: Deflected*
23.5-R25 L2 Bias	-748 lb (-339 kg)	-610 lb (-277 kg)	-971 lb (-440 kg)
23.5-R25 L2 Radial tires	-28 lb (-13 kg)	-104 lb (-47 kg)	-133 lb (-60 kg)
23.5-R25 Snow Radial Tires	+52 lb (+24 kg)	+162 lb (+73 kg)	+166 lb (+75 kg)
Light counterweight	-1,655 lb (-751 kg)	-3,514 lb (-1 594 kg)	-2,770 lb (-1 257 kg)

NOTE: Unit equipped with Z-Bar loader arms, 4.25 yd<sup>3</sup> (3.2 m<sup>3</sup>) general purpose pin on bucket with bolt-on edge, 23.5-R25 L3 Radial tires, ROPS cab with heater and air conditioner, heavy counterweight, heavy-duty batteries, front and rear fenders, full fuel and 165 lb (75 kg) operator. Adjust select options from rated weight.  
\*Tipping loads: ISO 14397-1 Deflected Tires.

**PERFORMANCE SPECS**

<b>821G Z-Bar*</b>		<b>3.5 yd<sup>3</sup> (2.7 m<sup>3</sup>) Bucket with Bolt-on Edge - Pin On</b>	<b>3.2 yd<sup>3</sup> (2.4 m<sup>3</sup>) Bucket with Teeth - Pin On</b>	<b>4.25 yd<sup>3</sup> (3.2 m<sup>3</sup>) Bucket with Bolt-on Edge - Pin On</b>
Operating weight		39,723 lb (18 018 kg)	39,584 lb (17 955 kg)	40,057 lb (18 170 kg)
<b>E.</b> Operating height – fully raised with spillguard		209.5 in (5 322 mm)	209.5 in (5 322 mm)	215.4 in (5 471 mm)
<b>F.</b> Hinge pin height – fully raised		162.2 in (4 120 mm)	162.2 in (4 120 mm)	162.2 in (4 120 mm)
<b>G.</b> Overall length – bucket level on ground		308.4 in (7 834 mm)	314.3 in (7 983 mm)	315.1 in (8 004 mm)
Dump angle – fully raised		55°	55°	55°
<b>H.</b> Dump height – fully raised, 45° dump		121.8 in (3 094 mm)	118.0 in (2 998 mm)	117.3 in (2 981 mm)
<b>J.</b> Bucket reach – fully raised, 45° dump		38.9 in (989 mm)	43.4 in (1 101 mm)	43.4 in (1 102 mm)
<b>K.</b> Bucket reach – 7 ft 0 in (2.13 m) height, 45° dump		64.3 in (1 633 mm)	67.1 in (1 704 mm)	66.8 in (1 696 mm)
<b>L.</b> Dig depth – edge below ground		2.5 in (63 mm)	2.5 in (64 mm)	3.1 in (78 mm)
Operating load – ISO Rigid Tires		14,653 lb (6 646 kg)	14,885 lb (6 752 kg)	14,251 lb (6 464 kg)
Operating load – ISO Deflected Tires		12,653 lb (5 739 kg)	12,857 lb (5 832 kg)	12,257 lb (5 560 kg)
Maximum material density – ISO Rigid Tires		4,187 lb/yd <sup>3</sup> (2 484 kg/m <sup>3</sup> )	4,652 lb/yd <sup>3</sup> (2 760 kg/m <sup>3</sup> )	3,353 lb/yd <sup>3</sup> (1 990 kg/m <sup>3</sup> )
Maximum material density – ISO Deflected Tires		3,615 lb/yd <sup>3</sup> (2 145 kg/m <sup>3</sup> )	4,018 lb/yd <sup>3</sup> (2 384 kg/m <sup>3</sup> )	2,884 lb/yd <sup>3</sup> (1 711 kg/m <sup>3</sup> )
Tipping load – ISO Rigid Tires:	Straight	33,583 lb (15 233 kg)	34,089 lb (15 463 kg)	32,719 lb (14 841 kg)
	40° turn	29,306 lb (13 293 kg)	29,771 lb (13 504 kg)	28,503 lb (12 929 kg)
Tipping load – ISO Deflected Tires:	Straight	31,229 lb (14 165 kg)	31,697 lb (14 378 kg)	30,374 lb (13 777 kg)
	40° turn	25,305 lb (11 478 kg)	25,714 lb (11 664 kg)	24,514 lb (11 119 kg)
Lift capacity:	Full height	22,334 lb (10 131 kg)	22,490 lb (10 201 kg)	21,980 lb (9 970 kg)
	Ground	41,169 lb (18 674 kg)	41,508 lb (18 828 kg)	40,434 lb (18 341 kg)
Breakout force with tilt cylinder		40,608 lb (18 420 kg)	44,051 lb (19 981 kg)	35,288 lb (16 007 kg)
Loader clearance circle with bucket		519.5 in (13 196 mm)	522.6 in (13 275 mm)	523.3 in (13 291 mm)

<b>821G XR</b>		<b>3.5 yd<sup>3</sup> (2.7 m<sup>3</sup>) Bucket with Bolt-on Edge - Pin On</b>	<b>3.2 yd<sup>3</sup> (2.4 m<sup>3</sup>) Bucket with Teeth - Pin On</b>	<b>4.25 yd<sup>3</sup> (3.2 m<sup>3</sup>) Bucket with Bolt-on Edge - Pin On</b>
Operating weight		40,314 lb (18 286 kg)	40,175 lb (18 223 kg)	40,648 lb (18 438 kg)
<b>E.</b> Operating height – fully raised with spillguard		226.9 in (5 763 mm)	226.9 in (5 764 mm)	232.8 in (5 912 mm)
<b>F.</b> Hinge pin height – fully raised		179.6 in (4 561 mm)	179.6 in (4 562 mm)	179.6 in (4 561 mm)
<b>G.</b> Overall length – bucket level on ground		327.6 in (8 322 mm)	333.5 in (8 470 mm)	334.3 in (8 490 mm)
Dump angle – fully raised		49°	49°	49°
<b>H.</b> Dump height – fully raised, 45° dump		139.2 in (3 535 mm)	135.4 in (3 440 mm)	134.7 in (3 422 mm)
<b>J.</b> Bucket reach – fully raised, 45° dump		43.4 in (1 102 mm)	47.8 in (1 214 mm)	47.8 in (1 215 mm)
<b>K.</b> Bucket reach – 7 ft 0 in (2.13 m) height, 45° dump		81.2 in (2 062 mm)	84.2 in (2 139 mm)	84.0 in (2 132 mm)
<b>L.</b> Dig depth – edge below ground		5.1 in (130 mm)	5.2 in (131 mm)	5.7 in (145 mm)
Operating load – ISO Rigid Tires		11,622 lb (5 272 kg)	11,805 lb (5 355 kg)	11,286 lb (5 119 kg)
Operating load – ISO Deflected Tires		10,193 lb (4 623 kg)	10,358 lb (4 698 kg)	9,862 lb (4 473 kg)
Maximum material density – ISO Rigid Tires		3,321 lb/yd <sup>3</sup> (1 970 kg/m <sup>3</sup> )	3,689 lb/yd <sup>3</sup> (2 189 kg/m <sup>3</sup> )	2,655 lb/yd <sup>3</sup> (1 576 kg/m <sup>3</sup> )
Maximum material density – ISO Deflected Tires		2,912 lb/yd <sup>3</sup> (1 728 kg/m <sup>3</sup> )	3,237 lb/yd <sup>3</sup> (1 921 kg/m <sup>3</sup> )	2,320 lb/yd <sup>3</sup> (1 377 kg/m <sup>3</sup> )
Tipping load – ISO Rigid Tires:	Straight	26,828 lb (12 169 kg)	27,223 lb (12 348 kg)	26,109 lb (11 843 kg)
	40° turn	23,244 lb (10 543 kg)	23,610 lb (10 709 kg)	22,571 lb (10 238 kg)
Tipping load – ISO Deflected Tires:	Straight	25,220 lb (11 440 kg)	25,593 lb (11 609 kg)	24,509 lb (11 117 kg)
	40° turn	20,385 lb (9 247 kg)	20,717 lb (9 397 kg)	19,723 lb (8 946 kg)
Lift capacity:	Full height	20,496 lb (9 297 kg)	20,650 lb (9 367 kg)	20,146 lb (9 138 kg)
	Ground	31,551 lb (14 311 kg)	31,877 lb (14 459 kg)	30,790 lb (13 966 kg)
Breakout force with tilt cylinder		41,299 lb (18 733 kg)	44,797 lb (20 319 kg)	35,879 lb (16 275 kg)
Loader clearance circle with bucket		538.0 in (13 665 mm)	541.8 in (13 761 mm)	542.5 in (13 780 mm)

<b>821G</b>		<b>Z-Bar/XR</b>	<b>Z-Bar/XR</b>	<b>Z-Bar/XR</b>
Maximum rollback:	Ground	41°/37°	41°/37°	41°/37°
	Carry position	45°/43°	45°/43°	45°/43°
	@ Full height	59°/60°	59°/60°	59°/60°
Maximum grading angle with bucket – back dragging		59°/62°	60°/63°	60°/63°
SAE bucket capacity – struck		2.90 yd <sup>3</sup> (2.22 m <sup>3</sup> )	2.75 yd <sup>3</sup> (2.10 m <sup>3</sup> )	3.63 yd <sup>3</sup> (2.78 m <sup>3</sup> )
	Heaped	3.50 yd <sup>3</sup> (2.68 m <sup>3</sup> )	3.20 yd <sup>3</sup> (2.45 m <sup>3</sup> )	4.25 yd <sup>3</sup> (3.25 m <sup>3</sup> )
Bucket width – outside		119.3 in (3 030 mm)	119.2 in (3 027 mm)	119.3 in (3 030 mm)
Bucket weight		3,064 lb (1 390 kg)	2,925 lb (1 327 kg)	3,398 lb (1 541 kg)

**PERFORMANCE SPECS**

<b>821G Z-Bar*</b>	<b>4.0 yd<sup>3</sup> (3.1 m<sup>3</sup>) Bucket with Teeth - Pin On</b>	<b>4.5 yd<sup>3</sup> (3.4 m<sup>3</sup>) Bucket with Bolt-on Edge - Pin On</b>	<b>3.5 yd<sup>3</sup> (2.7 m<sup>3</sup>) Bucket with Bolt-on Edge - ACS Coupler</b>
Operating weight	39,916 lb (18 106 kg)	40,123 lb (18 200 kg)	41,223 lb (18 699 kg)
<b>E.</b> Operating height – fully raised with spillguard	215.4 in (5 471 mm)	216.7 in (5 505 mm)	214.0 in (5 437 mm)
<b>F.</b> Hinge pin height – fully raised	162.2 in (4 120 mm)	162.2 in (4 120 mm)	162.1 in (4 118 mm)
<b>G.</b> Overall length – bucket level on ground	321.0 in (8 153 mm)	316.5 in (8 039 mm)	316.5 in (8 040 mm)
Dump angle – fully raised	55°	55°	55°
<b>H.</b> Dump height – fully raised, 45° dump	113.6 in (2 885 mm)	116.5 in (2 958 mm)	116.4 in (2 956 mm)
<b>J.</b> Bucket reach – fully raised, 45° dump	47.8 in (1 215 mm)	44.4 in (1 128 mm)	44.2 in (1 124 mm)
<b>K.</b> Bucket reach – 7 ft 0 in (2.13 m) height, 45° dump	69.4 in (1 762 mm)	67.4 in (1 712 mm)	67.2 in (1 706 mm)
<b>L.</b> Dig depth – edge below ground	3.1 in (78 mm)	3.1 in (78 mm)	3.3 in (83 mm)
Operating load – ISO Rigid Tires	14,477 lb (6 567 kg)	14,186 lb (6 435 kg)	13,128 lb (5 955 kg)
Operating load – ISO Deflected Tires	12,457 lb (5 650 kg)	12,189 lb (5 529 kg)	11,253 lb (5 104 kg)
Maximum material density – ISO Rigid Tires	3,619 lb/yd <sup>3</sup> (2 148 kg/m <sup>3</sup> )	3,153 lb/yd <sup>3</sup> (1 871 kg/m <sup>3</sup> )	3,751 lb/yd <sup>3</sup> (2 226 kg/m <sup>3</sup> )
Maximum material density – ISO Deflected Tires	3,114 lb/yd <sup>3</sup> (1 848 kg/m <sup>3</sup> )	2,709 lb/yd <sup>3</sup> (1 607 kg/m <sup>3</sup> )	3,215 lb/yd <sup>3</sup> (1 908 kg/m <sup>3</sup> )
Tipping load – ISO Rigid Tires:			
Straight	33,209 lb (15 063 kg)	32,581 lb (14 778 kg)	30,293 lb (13 741 kg)
40° turn	28,954 lb (13 133 kg)	28,373 lb (12 870 kg)	26,256 lb (11 910 kg)
Tipping load – ISO Deflected Tires:			
Straight	30,829 lb (13 984 kg)	30,231 lb (13 713 kg)	28,105 lb (12 748 kg)
40° turn	24,913 lb (11 300 kg)	24,377 lb (11 057 kg)	22,507 lb (10 209 kg)
Lift capacity:			
Full height	22,138 lb (10 042 kg)	21,913 lb (9 939 kg)	20,759 lb (9 416 kg)
Ground	40,760 lb (18 488 kg)	40,294 lb (18 277 kg)	33,901 lb (15 377 kg)
Breakout force with tilt cylinder	37,922 lb (17 201 kg)	34,301 lb (15 559 kg)	34,091 lb (15 463 kg)
Loader clearance circle with bucket	526.5 in (13 373 mm)	524.0 in (13 311 mm)	524.1 in (13 311 mm)

<b>821G XR</b>	<b>4.0 yd<sup>3</sup> (3.1 m<sup>3</sup>) Bucket with Teeth - Pin On</b>	<b>4.5 yd<sup>3</sup> (3.4 m<sup>3</sup>) Bucket with Bolt-on Edge - Pin On</b>	<b>3.5 yd<sup>3</sup> (2.7 m<sup>3</sup>) Bucket with Bolt-on Edge - ACS Coupler</b>
Operating weight	40,507 lb (18 373 kg)	40,714 lb (18 467 kg)	41,814 lb (18 966 kg)
<b>E.</b> Operating height – fully raised with spillguard	232.8 in (5 912 mm)	234.1 in (5 946 mm)	231.4 in (5 878 mm)
<b>F.</b> Hinge pin height – fully raised	179.6 in (4 561 mm)	179.6 in (4 561 mm)	179.5 in (4 559 mm)
<b>G.</b> Overall length – bucket level on ground	340.1 in (8 638 mm)	335.6 in (8 525 mm)	335.6 in (8 525 mm)
Dump angle – fully raised	49°	49°	49°
<b>H.</b> Dump height – fully raised, 45° dump	130.9 in (3 326 mm)	133.8 in (3 399 mm)	133.7 in (3 397 mm)
<b>J.</b> Bucket reach – fully raised, 45° dump	52.3 in (1 327 mm)	48.9 in (1 241 mm)	48.7 in (1 236 mm)
<b>K.</b> Bucket reach – 7 ft 0 in (2.13 m) height, 45° dump	86.8 in (2 205 mm)	84.6 in (2 150 mm)	84.4 in (2 144 mm)
<b>L.</b> Dig depth – edge below ground	5.7 in (145 mm)	5.7 in (145 mm)	5.9 in (150 mm)
Operating load – ISO Rigid Tires	11,464 lb (5 200 kg)	11,229 lb (5 093 kg)	10,350 lb (4 695 kg)
Operating load – ISO Deflected Tires	10,024 lb (4 547 kg)	9,803 lb (4 446 kg)	8,999 lb (4 082 kg)
Maximum material density – ISO Rigid Tires	2,866 lb/yd <sup>3</sup> (1 701 kg/m <sup>3</sup> )	2,495 lb/yd <sup>3</sup> (1 481 kg/m <sup>3</sup> )	2,957 lb/yd <sup>3</sup> (1 755 kg/m <sup>3</sup> )
Maximum material density – ISO Deflected Tires	2,506 lb/yd <sup>3</sup> (1 487 kg/m <sup>3</sup> )	2,178 lb/yd <sup>3</sup> (1 293 kg/m <sup>3</sup> )	2,571 lb/yd <sup>3</sup> (1 526 kg/m <sup>3</sup> )
Tipping load – ISO Rigid Tires:			
Straight	26,495 lb (12 018 kg)	25,979 lb (11 788 kg)	24,109 lb (10 936 kg)
40° turn	22,929 lb (10 400 kg)	22,457 lb (10 186 kg)	20,700 lb (9 389 kg)
Tipping load – ISO Deflected Tires:			
Straight	24,874 lb (11 283 kg)	24,386 lb (11 061 kg)	22,600 lb (10 251 kg)
40° turn	20,048 lb (9 094 kg)	19,605 lb (8 893 kg)	17,998 lb (8 164 kg)
Lift capacity:			
Full height	20,302 lb (9 209 kg)	20,079 lb (9 108 kg)	18,931 lb (8 587 kg)
Ground	31,106 lb (14 110 kg)	30,646 lb (13 901 kg)	29,021 lb (13 164 kg)
Breakout force with tilt cylinder	38,553 lb (17 488 kg)	34,876 lb (15 820 kg)	34,663 lb (15 723 kg)
Loader clearance circle with bucket	546.4 in (13 879 mm)	543.4 in (13 804 mm)	543.5 in (13 804 mm)

<b>821G</b>		<b>Z-Bar/XR</b>	<b>Z-Bar/XR</b>	<b>Z-Bar/XR</b>
Maximum rollback:	Ground	42°/37°	41°/37°	42°/38°
	Carry position	45°/43°	45°/43°	45°/43°
	@ Full height	59°/60°	59°/60°	59°/60°
Maximum grading angle with bucket – back dragging		61°/64°	60°/63°	60°/63°
SAE bucket capacity – struck		3.44 yd <sup>3</sup> (2.63 m <sup>3</sup> )	3.78 yd <sup>3</sup> (2.89 m <sup>3</sup> )	2.90 yd <sup>3</sup> (2.22 m <sup>3</sup> )
Heaped		4.00 yd <sup>3</sup> (3.06 m <sup>3</sup> )	4.50 yd <sup>3</sup> (3.44 m <sup>3</sup> )	3.50 yd <sup>3</sup> (2.68 m <sup>3</sup> )
Bucket width – outside		119.2 in (3 027 mm)	119.3 in (3 030 mm)	119.3 in (3 030 mm)
Bucket weight		3,256 lb (1 477 kg)	3,464 lb (1 571 kg)	4,564 lb (2 070 kg)

**PERFORMANCE SPECS**

<b>821G Z-Bar*</b>	<b>3.2 yd<sup>3</sup> (2.4 m<sup>3</sup>) Bucket with Teeth - ACS Coupler</b>	<b>4.0 yd<sup>3</sup> (3.06 m<sup>3</sup>) Bucket with Bolt-On Edge - ACS Coupler</b>	<b>3.8 yd<sup>3</sup> (2.91 m<sup>3</sup>) Bucket with Teeth - ACS Coupler</b>
Operating weight	41,082 lb (18 634 kg)	41,483 lb (18 816 kg)	41,342 lb (18 752 kg)
<b>E.</b> Operating height – fully raised with spillguard	214.0 in (5 437 mm)	218.8 in (5 558 mm)	218.8 in (5 558 mm)
<b>F.</b> Hinge pin height – fully raised	162.1 in (4 118 mm)	162.1 in (4 118 mm)	162.1 in (4 118 mm)
<b>G.</b> Overall length – bucket level on ground	322.4 in (8 188 mm)	320.9 in (8 151 mm)	326.8 in (8 299 mm)
Dump angle – fully raised	55°	55°	55°
<b>H.</b> Dump height – fully raised, 45° dump	112.6 in (2 860 mm)	113.6 in (2 886 mm)	109.8 in (2 790 mm)
<b>J.</b> Bucket reach – fully raised, 45° dump	48.7 in (1 236 mm)	47.8 in (1 213 mm)	52.2 in (1 326 mm)
<b>K.</b> Bucket reach – 7 ft 0 in (2.13 m) height, 45° dump	69.7 in (1 771 mm)	69.4 in (1 762 mm)	71.8 in (1 823 mm)
<b>L.</b> Dig depth – edge below ground	3.3 in (84 mm)	3.1 in (79 mm)	3.2 in (80 mm)
Operating load – ISO Rigid Tires	13,339 lb (6 051 kg)	12,975 lb (5 886 kg)	14,613 lb (6 628 kg)
Operating load – ISO Deflected Tires	11,440 lb (5 189 kg)	11,077 lb (5 024 kg)	12,259 lb (5 560 kg)
Maximum material density – ISO Rigid Tires	4,169 lb/yd <sup>3</sup> (2 473 kg/m <sup>3</sup> )	3,244 lb/yd <sup>3</sup> (1 925 kg/m <sup>3</sup> )	3,845 lb/yd <sup>3</sup> (2 282 kg/m <sup>3</sup> )
Maximum material density – ISO Deflected Tires	3,575 lb/yd <sup>3</sup> (2 121 kg/m <sup>3</sup> )	2,769 lb/yd <sup>3</sup> (1 643 kg/m <sup>3</sup> )	3,226 lb/yd <sup>3</sup> (1 914 kg/m <sup>3</sup> )
Tipping load – ISO Rigid Tires:			
Straight	30,752 lb (13 949 kg)	29,981 lb (13 599 kg)	33,733 lb (15 301 kg)
40° turn	26,678 lb (12 101 kg)	25,951 lb (11 771 kg)	29,225 lb (13 256 kg)
Tipping load – ISO Deflected Tires:			
Straight	28,532 lb (12 942 kg)	27,762 lb (12 593 kg)	30,896 lb (14 014 kg)
40° turn	22,880 lb (10 378 kg)	22,154 lb (10 049 kg)	24,517 lb (11 121 kg)
Lift capacity:			
Full height	20,916 lb (9 487 kg)	20,500 lb (9 299 kg)	20,789 lb (9 430 kg)
Ground	35,573 lb (16 136 kg)	32,373 lb (14 684 kg)	39,661 lb (17 990 kg)
Breakout force with tilt cylinder	36,578 lb (16 591 kg)	31,163 lb (14 135 kg)	33,269 lb (15 090 kg)
Loader clearance circle with bucket	527.3 in (13 394 mm)	526.5 in (13 374 mm)	529.9 in (13 459 mm)

<b>821G XR</b>	<b>3.2 yd<sup>3</sup> (2.4 m<sup>3</sup>) Bucket with Teeth - ACS Coupler</b>	<b>4.0 yd<sup>3</sup> (3.06 m<sup>3</sup>) Bucket with Bolt-On Edge - ACS Coupler</b>	<b>3.8 yd<sup>3</sup> (2.91 m<sup>3</sup>) Bucket with Teeth - ACS Coupler</b>
Operating weight	41,672 lb (18 902 kg)	42,074 lb (19 084 kg)	41,932 lb (19 020 kg)
<b>E.</b> Operating height – fully raised with spillguard	231.4 in (5 878 mm)	236.2 in (5 999 mm)	236.2 in (5 999 mm)
<b>F.</b> Hinge pin height – fully raised	179.5 in (4 560 mm)	179.5 in (4 559 mm)	179.5 in (4 559 mm)
<b>G.</b> Overall length – bucket level on ground	341.5 in (8 673 mm)	340.0 in (8 636 mm)	345.9 in (8 785 mm)
Dump angle – fully raised	49°	49°	49°
<b>H.</b> Dump height – fully raised, 45° dump	130.0 in (3 301 mm)	131.0 in (3 327 mm)	127.2 in (3 231 mm)
<b>J.</b> Bucket reach – fully raised, 45° dump	53.1 in (1 349 mm)	52.2 in (1 326 mm)	56.6 in (1 439 mm)
<b>K.</b> Bucket reach – 7 ft 0 in (2.13 m) height, 45° dump	87.2 in (2 216 mm)	86.8 in (2 204 mm)	89.5 in (2 274 mm)
<b>L.</b> Dig depth – edge below ground	5.9 in (151 mm)	5.8 in (146 mm)	5.8 in (147 mm)
Operating load – ISO Rigid Tires	10,519 lb (4 771 kg)	10,198 lb (4 626 kg)	11,279 lb (5 116 kg)
Operating load – ISO Deflected Tires	9,152 lb (4 151 kg)	8,833 lb (4 007 kg)	9,660 lb (4 382 kg)
Maximum material density – ISO Rigid Tires	3,287 lb/yd <sup>3</sup> (1 950 kg/m <sup>3</sup> )	2,549 lb/yd <sup>3</sup> (1 513 kg/m <sup>3</sup> )	2,968 lb/yd <sup>3</sup> (1 761 kg/m <sup>3</sup> )
Maximum material density – ISO Deflected Tires	2,860 lb/yd <sup>3</sup> (1 697 kg/m <sup>3</sup> )	2,208 lb/yd <sup>3</sup> (1 310 kg/m <sup>3</sup> )	2,542 lb/yd <sup>3</sup> (1 508 kg/m <sup>3</sup> )
Tipping load – ISO Rigid Tires:			
Straight	24,474 lb (11 101 kg)	23,799 lb (10 795 kg)	26,290 lb (11 925 kg)
40° turn	21,038 lb (9 543 kg)	20,396 lb (9 251 kg)	22,557 lb (10 232 kg)
Tipping load – ISO Deflected Tires:			
Straight	22,944 lb (10 407 kg)	22,272 lb (10 102 kg)	24,433 lb (11 082 kg)
40° turn	18,304 lb (8 303 kg)	17,667 lb (8 013 kg)	19,322 lb (8 764 kg)
Lift capacity:			
Full height	19,087 lb (8 658 kg)	18,674 lb (8 470 kg)	18,970 lb (8 604 kg)
Ground	29,326 lb (13 302 kg)	28,592 lb (12 969 kg)	29,852 lb (13 541 kg)
Breakout force with tilt cylinder	37,188 lb (16 868 kg)	31,694 lb (14 376 kg)	33,832 lb (15 346 kg)
Loader clearance circle with bucket	547.4 in (13 904 mm)	546.4 in (13 880 mm)	550.5 in (13 982 mm)

<b>821G</b>	<b>Z-Bar/XR</b>	<b>Z-Bar/XR</b>	<b>Z-Bar/XR</b>
Maximum rollback:			
Ground	42°/38°	42°/37°	42°/37°
Carry position	45°/43°	45°/43°	45°/43°
@ Full height	59°/60°	59°/60°	59°/60°
Maximum grading angle with bucket – back dragging	61°/64°	61°/64°	63°/65°
SAE bucket capacity – struck	2.75 yd <sup>3</sup> (2.10 m <sup>3</sup> )	3.41 yd <sup>3</sup> (2.61 m <sup>3</sup> )	3.25 yd <sup>3</sup> (2.48 m <sup>3</sup> )
Heaped	3.20 yd <sup>3</sup> (2.45 m <sup>3</sup> )	4.00 yd <sup>3</sup> (3.06 m <sup>3</sup> )	3.80 yd <sup>3</sup> (2.91 m <sup>3</sup> )
Bucket width – outside	119.2 in (3 027 mm)	119.3 in (3 030 mm)	119.2 in (3 027 mm)
Bucket weight	4,422 lb (2 006 kg)	4,824 lb (2 188 kg)	4,682 lb (2 124 kg)

**PERFORMANCE SPECS**

<b>821G Z-Bar*</b>		<b>3.6 yd<sup>3</sup> (2.75 m<sup>3</sup>) Bucket with Bolt-On Edge - JRB Coupler</b>	<b>3.2 yd<sup>3</sup> (2.45 m<sup>3</sup>) Bucket with Teeth - JRB Coupler</b>	<b>4.0 yd<sup>3</sup> (3.06 m<sup>3</sup>) Bucket with Bolt-on Edge - JRB Coupler</b>
Operating weight		41,110 lb (18 647 kg)	40,969 lb (18 583 kg)	41,430 lb (18 792 kg)
<b>E.</b> Operating height – fully raised with spillguard		216.2 in (5 491 mm)	216.2 in (5 492 mm)	221.9 in (5 636 mm)
<b>F.</b> Hinge pin height – fully raised		162.1 in (4 118 mm)	162.2 in (4 119 mm)	162.1 in (4 118 mm)
<b>G.</b> Overall length – bucket level on ground		319.2 in (8 108 mm)	325.1 in (8 256 mm)	325.1 in (8 258 mm)
Dump angle – fully raised		55°	55°	55°
<b>H.</b> Dump height – fully raised, 45° dump		114.7 in (2 914 mm)	110.9 in (2 818 mm)	110.9 in (2 817 mm)
<b>J.</b> Bucket reach – fully raised, 45° dump		46.5 in (1 181 mm)	50.9 in (1 293 mm)	51.0 in (1 295 mm)
<b>K.</b> Bucket reach – 7 ft 0 in (2.13 m) height, 45° dump		68.6 in (1 743 mm)	71.1 in (1 806 mm)	71.2 in (1 807 mm)
<b>L.</b> Dig depth – edge below ground		3.1 in (79 mm)	3.1 in (80 mm)	3.1 in (79 mm)
Operating load – ISO Rigid Tires		12,945 lb (5 872 kg)	13,152 lb (5 966 kg)	12,618 lb (5 723 kg)
Operating load – ISO Deflected Tires		11,097 lb (5 034 kg)	11,280 lb (5 117 kg)	10,768 lb (4 884 kg)
Maximum material density – ISO Rigid Tires		3,596 lb/yd <sup>3</sup> (2 134 kg/m <sup>3</sup> )	4,110 lb/yd <sup>3</sup> (2 439 kg/m <sup>3</sup> )	3,155 lb/yd <sup>3</sup> (1 872 kg/m <sup>3</sup> )
Maximum material density – ISO Deflected Tires		3,083 lb/yd <sup>3</sup> (1 829 kg/m <sup>3</sup> )	3,525 lb/yd <sup>3</sup> (2 092 kg/m <sup>3</sup> )	2,692 lb/yd <sup>3</sup> (1 597 kg/m <sup>3</sup> )
Tipping load – ISO Rigid Tires:	Straight	29,859 lb (13 544 kg)	30,309 lb (13 748 kg)	29,157 lb (13 225 kg)
	40° turn	25,891 lb (11 744 kg)	26,304 lb (11 931 kg)	25,236 lb (11 447 kg)
Tipping load – ISO Deflected Tires:	Straight	27,708 lb (12 568 kg)	28,126 lb (12 758 kg)	27,004 lb (12 249 kg)
	40° turn	22,194 lb (10 067 kg)	22,560 lb (10 233 kg)	21,537 lb (9 769 kg)
Lift capacity:	Full height	20,848 lb (9 456 kg)	21,005 lb (9 528 kg)	20,513 lb (9 305 kg)
	Ground	31,046 lb (14 082 kg)	32,481 lb (14 733 kg)	28,363 lb (12 865 kg)
Breakout force with tilt cylinder		32,313 lb (14 657 kg)	34,565 lb (15 678 kg)	28,871 lb (13 096 kg)
Loader clearance circle with bucket		525.6 in (13 349 mm)	528.9 in (13 433 mm)	529.0 in (13 437 mm)

<b>821G XR</b>		<b>3.6 yd<sup>3</sup> (2.75 m<sup>3</sup>) Bucket with Bolt-On Edge - JRB Coupler</b>	<b>3.2 yd<sup>3</sup> (2.45 m<sup>3</sup>) Bucket with Teeth - JRB Coupler</b>	<b>4.0 yd<sup>3</sup> (3.06 m<sup>3</sup>) Bucket with Bolt-on Edge - JRB Coupler</b>
Operating weight		41,701 lb (18 915 kg)	41,559 lb (18 851 kg)	42,021 lb (19 060 kg)
<b>E.</b> Operating height – fully raised with spillguard		233.6 in (5 933 mm)	233.6 in (5 933 mm)	239.3 in (6 078 mm)
<b>F.</b> Hinge pin height – fully raised		179.5 in (4 560 mm)	179.5 in (4 560 mm)	179.5 in (4 559 mm)
<b>G.</b> Overall length – bucket level on ground		338.3 in (8 593 mm)	344.2 in (8 742 mm)	344.2 in (8 743 mm)
Dump angle – fully raised		49°	49°	49°
<b>H.</b> Dump height – fully raised, 45° dump		132.1 in (3 355 mm)	128.3 in (3 259 mm)	128.3 in (3 258 mm)
<b>J.</b> Bucket reach – fully raised, 45° dump		50.9 in (1 293 mm)	55.3 in (1 406 mm)	55.4 in (1 408 mm)
<b>K.</b> Bucket reach – 7 ft 0 in (2.13 m) height, 45° dump		86.0 in (2 184 mm)	88.7 in (2 254 mm)	88.8 in (2 256 mm)
<b>L.</b> Dig depth – edge below ground		5.7 in (146 mm)	5.8 in (147 mm)	5.8 in (146 mm)
Operating load – ISO Rigid Tires		10,237 lb (4 644 kg)	10,404 lb (4 719 kg)	9,955 lb (4 515 kg)
Operating load – ISO Deflected Tires		8,903 lb (4 038 kg)	9,055 lb (4 107 kg)	8,622 lb (3 911 kg)
Maximum material density – ISO Rigid Tires		2,844 lb/yd <sup>3</sup> (1 687 kg/m <sup>3</sup> )	3,251 lb/yd <sup>3</sup> (1 929 kg/m <sup>3</sup> )	2,489 lb/yd <sup>3</sup> (1 477 kg/m <sup>3</sup> )
Maximum material density – ISO Deflected Tires		2,473 lb/yd <sup>3</sup> (1 467 kg/m <sup>3</sup> )	2,830 lb/yd <sup>3</sup> (1 679 kg/m <sup>3</sup> )	2,155 lb/yd <sup>3</sup> (1 279 kg/m <sup>3</sup> )
Tipping load – ISO Rigid Tires:	Straight	23,834 lb (10 811 kg)	24,193 lb (10 974 kg)	23,232 lb (10 538 kg)
	40° turn	20,475 lb (9 287 kg)	20,807 lb (9 438 kg)	19,910 lb (9 031 kg)
Tipping load – ISO Deflected Tires:	Straight	22,346 lb (10 136 kg)	22,686 lb (10 290 kg)	21,745 lb (9 863 kg)
	40° turn	17,807 lb (8 077 kg)	18,110 lb (8 215 kg)	17,243 lb (7 821 kg)
Lift capacity:	Full height	19,023 lb (8 629 kg)	19,179 lb (8 699 kg)	18,692 lb (8 479 kg)
	Ground	28,764 lb (13 047 kg)	29,068 lb (13 185 kg)	28,087 lb (12 740 kg)
Breakout force with tilt cylinder		32,861 lb (14 905 kg)	35,147 lb (15 942 kg)	29,366 lb (13 320 kg)
Loader clearance circle with bucket		545.3 in (13 850 mm)	549.3 in (13 951 mm)	549.4 in (13 955 mm)

<b>821G</b>		<b>Z-Bar/XR</b>	<b>Z-Bar/XR</b>	<b>Z-Bar/XR</b>
Maximum rollback:	Ground	42°/37°	42°/37°	42°/37°
	Carry position	45°/43°	45°/43°	45°/43°
	@ Full height	59°/60°	59°/60°	59°/60°
Maximum grading angle with bucket – back dragging		61°/63°	62°/65°	62°/65°
SAE bucket capacity – struck		2.90 yd <sup>3</sup> (2.22 m <sup>3</sup> )	2.75 yd <sup>3</sup> (2.10 m <sup>3</sup> )	3.41 yd <sup>3</sup> (2.61 m <sup>3</sup> )
	Heaped	3.60 yd <sup>3</sup> (2.75 m <sup>3</sup> )	3.20 yd <sup>3</sup> (2.45 m <sup>3</sup> )	4.00 yd <sup>3</sup> (3.06 m <sup>3</sup> )
Bucket width – outside		119.3 in (3 030 mm)	119.2 in (3 027 mm)	119.3 in (3 030 mm)
Bucket weight		4,450 lb (2 019 kg)	4,309 lb (1 955 kg)	4,770 lb (2 164 kg)

**PERFORMANCE SPECS**

<b>821G</b>	<b>Z-Bar*</b> <b>3.8 yd<sup>3</sup> (2.9 m<sup>3</sup>) Bucket with Teeth - JRB Coupler</b>	<b>XR</b> <b>3.8 yd<sup>3</sup> (2.9 m<sup>3</sup>) Bucket with Teeth - JRB Coupler</b>
Operating weight	41,289 lb (18 728 kg)	41,879 lb (18 996 kg)
<b>E.</b> Operating height – fully raised with spillguard	221.9 in (5 637 mm)	239.3 in (6 078 mm)
<b>F.</b> Hinge pin height – fully raised	162.1 in (4 118 mm)	179.5 in (4 559 mm)
<b>G.</b> Overall length – bucket level on ground	331.0 in (8 406 mm)	350.1 in (8 892 mm)
Dump angle – fully raised	55°	49°
<b>H.</b> Dump height – fully raised, 45° dump	107.1 in (2 721 mm)	124.5 in (3 162 mm)
<b>J.</b> Bucket reach – fully raised, 45° dump	55.4 in (1 408 mm)	59.9 in (1 521 mm)
<b>K.</b> Bucket reach – 7 ft 0 in (2.13 m) height, 45° dump	73.5 in (1 866 mm)	91.4 in (2 322 mm)
<b>L.</b> Dig depth – edge below ground	3.2 in (80 mm)	5.8 in (147 mm)
Operating load – ISO Rigid Tires	12,820 lb (5 815 kg)	10,118 lb (4 589 kg)
Operating load – ISO Deflected Tires	10,948 lb (4 966 kg)	8,771 lb (3 978 kg)
Maximum material density – ISO Rigid Tires	3,374 lb/yd <sup>3</sup> (2 002 kg/m <sup>3</sup> )	2,663 lb/yd <sup>3</sup> (1 580 kg/m <sup>3</sup> )
Maximum material density – ISO Deflected Tires	2,881 lb/yd <sup>3</sup> (1 709 kg/m <sup>3</sup> )	2,308 lb/yd <sup>3</sup> (1 370 kg/m <sup>3</sup> )
Tipping load - ISO Rigid Tires:		
Straight	29,595 lb (13 424 kg)	23,584 lb (10 697 kg)
40° turn	25,640 lb (11 630 kg)	20,236 lb (9 179 kg)
Tipping load – ISO Deflected Tires:		
Straight	27,412 lb (12 434 kg)	22,078 lb (10 015 kg)
40° turn	21,895 lb (9 931 kg)	17,541 lb (7 957 kg)
Lift capacity:		
Full height	20,670 lb (9 376 kg)	18,847 lb (8 549 kg)
Ground	29,604 lb (13 428 kg)	28,385 lb (12 875 kg)
Breakout force with tilt cylinder	30,698 lb (13 925 kg)	31,221 lb (14 161 kg)
Loader clearance circle with bucket	532.4 in (13 523 mm)	553.5 in (14 059 mm)

<b>821G</b>	<b>Z-Bar</b>	<b>XR</b>
Maximum rollback:		
Ground	42°	37°
Carry position	45°	43°
@ Full height	59°	60°
Maximum grading angle with bucket – back dragging	64°	67°
SAE bucket capacity – struck	3.25 yd <sup>3</sup> (2.48 m <sup>3</sup> )	3.25 yd <sup>3</sup> (2.48 m <sup>3</sup> )
Heaped	3.80 yd <sup>3</sup> (2.91 m <sup>3</sup> )	3.80 yd <sup>3</sup> (2.91 m <sup>3</sup> )
Bucket width – outside	119.2 in (3 027 mm)	119.2 in (3 027 mm)
Bucket weight	4,629 lb (2 100 kg)	4,629 lb (2 100 kg)

NOTE: \*Z-Bar performance data shown with full counterweight.

Performance data unit equipped with 23.5-R25 L3 Radial tires, ROPS cab with heater and air conditioner, full counterweight, standard batteries, front and rear fenders, full fuel and 165 lb (75 kg) operator. Specifications per SAE J732, J1234, J695, J742, and J818.

## STANDARD EQUIPMENT

### OPERATOR ENVIRONMENT

See page 1

### ENGINE

Case/FPT F4HFE613S  
Tier 4 Final Certified  
Selective Catalytic Reduction (SCR) with Diesel Oxidation Catalyst  
Selectable work modes:  
Maximum Power  
Standard Power  
Economy Power  
Auto Power  
Turbocharger  
Charge air cooling  
Automatic belt tensioner  
Integral engine oil cooling  
Fuel filter with water trap  
Dual-element dry-type air cleaner  
Hydraulic-driven cooling fan  
Air-cooled radiator  
Mid-mounted cooling module  
Common rail electronic fuel injection

### LOADER

See page 2 – Operating weight,  
Other specifications

### DRIVETRAIN

4-wheel drive  
4F/3R Selectable autoshift/manual shift transmission  
Electronic Control Module – programmable, computer controlled proportional shifting with programmable gear selection

Onboard diagnostics  
Single lever electronic shift control  
F/N/R switch in loader control handle  
Downshift button  
Torque converter  
Limited-slip differentials  
Outboard planetary axles  
Transmission oil cooler  
Brake pedal transmission disconnect – declutch  
Hydraulic wet disc brakes  
Spring-applied hydraulic release parking brake  
Limp-Home Mode  
Greaseable rear axle trunnion  
3-piece rims

### HYDRAULICS

Electro-hydraulic (EH) joystick loader control  
Low-effort steering  
Hydraulic driven cooling fan  
Diagnostic quick couplers  
Split flange hydraulic connections – 1 in or greater  
Hydraulic oil cooler

### ELECTRICAL

Alternator and voltage regulator  
Battery isolator/electrical disconnect  
120 amp alternator  
(2) 700 CCA 12-volt batteries  
Electric starter  
Lights:  
2 Front and 2 rear halogen flood lights  
2 Front driving headlights – high/low beam with integrated turn signals  
2 LED stop/tail lights with integrated turn signals  
Key start/stop switch  
Backup alarm  
Centrally located fuse box with all electrical circuits protected  
Remote jump start posts

### OTHER

Electric hood lift  
Front and rear fenders, partial coverage  
Heavy counterweight  
Drawbar hitch  
Articulation locking bar  
Lift arm locking bar  
Lift and tie-down points – front/rear  
Grouped remote-mounted ecology drains:  
Engine oil  
Engine coolant  
Hydraulic oil

### TELEMATICS

CASE SiteWatch™ Telematics – includes hardware and a 3-yr Advanced data subscription

## OPTIONAL EQUIPMENT

### OPERATOR ENVIRONMENT

Cloth-covered heated air-suspension seat  
Leather trimmed heated air seat with active suspension  
Cloth mechanical suspension seat  
Headrest  
3 in (76 mm) retractable seat belt  
Sound Shield noise suppression package  
Bluetooth radio, 12V AM/FM with auxiliary input  
Radio-ready – 12 or 24-volt with auxiliary power – 12-volt  
Cab convenience package:  
Rear sun shade, interior mirror, under the seat drawer, coat hook, 12V accessory port, and an ash tray  
In cab powered cooler box  
In cab accessory mount  
LED rotating beacon  
Rear view camera  
External rear view mirrors  
External heated rear view mirrors  
Front LED driving/headlights  
LED front and rear work lights  
Extra front-facing LED work lights

### DRIVETRAIN

5F/3R Autoshift/manual shift transmission, lockup torque converter, PowerInch de-clutch  
Heavy-duty axles:  
Larger size rear axle with hydraulically-actuated differential lock on front axle, open differential on rear axle. Recommended for applications on hard surfaces or with solid tires.  
Cold weather package:  
Heavy-duty (2) 950 CCA 12V batteries  
Grid heater  
Fuel heater  
Hydraulic oil cooler bypass  
Low temperature hydraulic oil  
Fast-warm hydraulic valve

### HYDRAULICS

Auxiliary hydraulics  
Ride Control™  
Secondary steering  
Joystick steering with and without secondary steering  
2-function loader valve with single access control  
3-function loader valve with 3 lever control or with joystick plus lever  
4-function loader valve with joystick and 2 lever control

### LOADER

XR extended reach version  
Attachment auxiliary hydraulics  
Coupler systems – JRB or ACS compatible  
Buckets – see pages 4 through 8  
4 – 1 clamp buckets  
Forks

### TIRES

23.5 x 25 L2 bias – dirt/traction  
23.5 x 25 L3 bias – rock  
23.5-R25 L2 radial – dirt/traction  
23.5-R25 L3 radial – rock  
23.5-R25 radial Michelin SnoPlus  
Spare wheels and tires  
Axle oscillation stops

### ADVANCED ENGINE AIR FILTRATION

Variable speed hydraulic reversing fan  
Full-view air pre-cleaner  
Sy-Klone® ejector type pre-cleaner

### OTHER

Additional RH steps and platform with standard or wide fenders  
Side guards for rear frame  
Tool box – ground level access  
Light counterweight – Z-Bar  
Fire extinguisher  
License plate bracket  
12.4 mph (20 kph) maximum speed control  
Special paint  
Skid plate and transmission  
Standard fenders with right and left hand steps  
Wide full coverage fenders with right and left hand steps

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CASE Construction Equipment is biodiesel-friendly. NOTE: All engines meet current EPA emissions regulations. All specifications are stated in accordance with SAE Standards or Recommended Practices, where applicable.



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.

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821G

10 of 10