

Z-BAR/WHEEL LOADER TIER 2



1. ENGINE

Make	FPT	Style	8 blade puller	
Model	F4HFE613S	Diameter	32 in (813 mm)	
Emissions Certification	Tier 2 Final	Water pump	Integral	
Emissions Technology	SCR/DOC		Engine oil pump operating angle ratings:	
Type	4-stroke, turbocharged and air-to-air cooled	Side-to-side	35°	
Cylinders	6-cylinder in-line	Fore and aft	35°	
Bore/Stroke	4.09 x 5.20 in (104 x 132 mm)	Oil filtration	Replaceable, full flow spin-on cartridge	
Displacement	411 in3 (6.7 L) Fuel #2 Diesel, #1 and #2 mixture permitted for cold temperatures	Engine speeds	RPM	
Fuel injection	Direct injection – electronic	Rated – full load	2000	
Fuel filter	Replaceable, spin-on cartridge		Horsepower:	
Fuel pump	Bosch CP 3.3		Maximum Power Mode:	
	Gradeability:		Peak gross @ 1800 RPM	230 hp (172 kW)
Side-to-side	35°	Net rated @ 2000 RPM	206 hp (153 kW)	
Fore and aft	35°	Peak net @ 1800 RPM	211 hp (158 kW)	
Air filter	Dry type elements w/ warning restriction indicator		Standard Power Mode:	
	Mid-mount cooling module:		Peak gross @ 1700 RPM	208 hp (155 kW)
	Mid-mount air/water	Net rated @ 2000 RPM	178 hp (133 kW)	
	Fan – hydraulic driven:	Peak net @ 1700 RPM	193 hp (144 kW)	

2. DRIVETRAIN

Transmission:		
4F/3R Proportional w/ Electronic Control Module torque sensing autoshift/manual shift and modulation		
Gears	Helical cut	
Gear ratios – 4-speed		
1st	Forward/Reverse 3.754/3.551	
2nd	2.184/2.071	
3rd	1.072/1.017	
4th	0.636/ —	
Gear ratios – 5-speed		
1st	Forward/Reverse 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 ² (0.387 m ²)	
Front and opt. rear hub	721 in ² (0.465 m ²)	
Parking brakes:		
Spring-applied hydraulic release disc on transmission output shaft neutralizes power flow to wheels when engaged		
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.

3. ELECTRICAL

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

4. 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*.

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.

5. 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)

6. HYDRAULICS

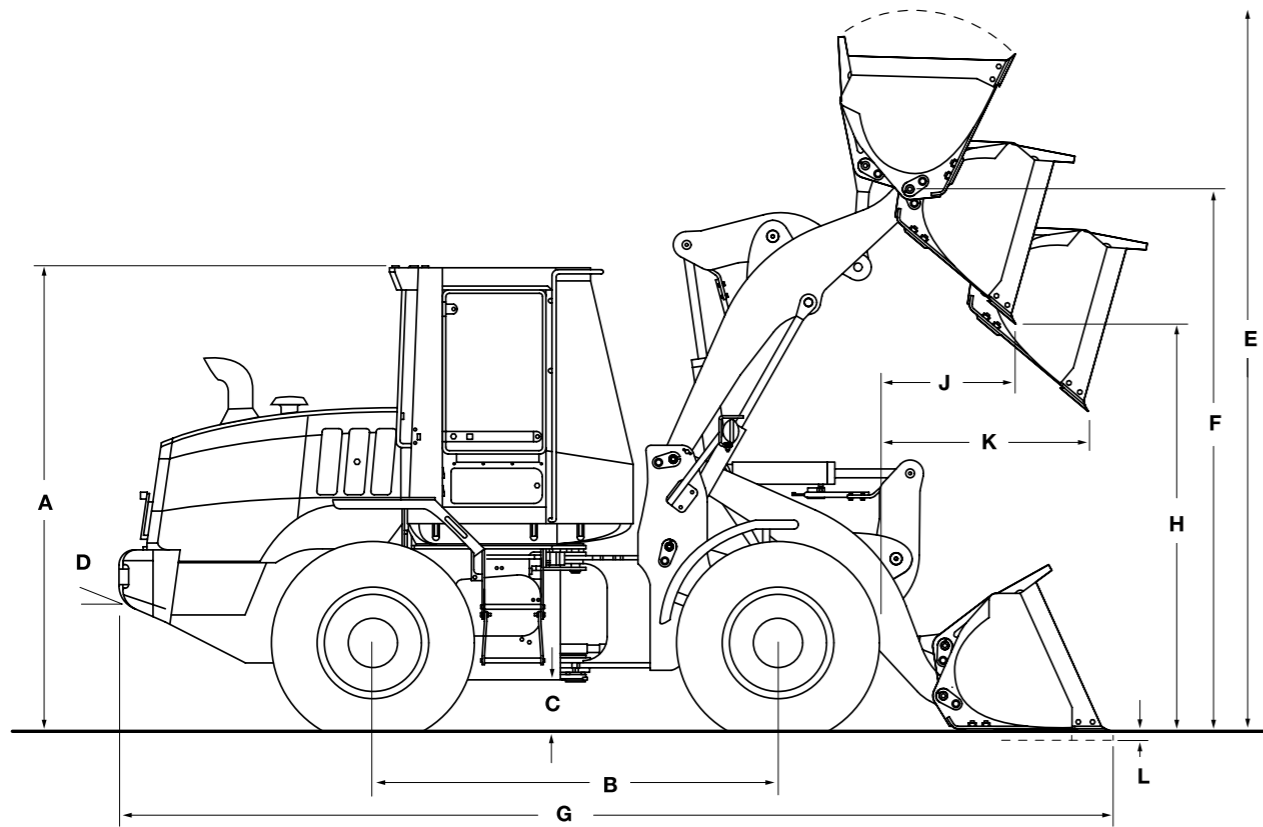
Main pump – steering/implement:	
Closed center pressure/flow compensated	
Tandem variable displacement – load-sensing:	
Max rated flow x2:	31.6 gpm @ 2000 RPM (120 L/min @ 2000 RPM)
Loader control valve:	
Closed-center, sectional 2, 3 or 4-function w/ control for lift, tilt and auxiliary hydraulics	
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	

7. 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)

8. 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 yd³ (3.2 m³) 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

W190D Z-Bar*	3.5 yd ³ (2.7 m ³) Bucket with Bolt-on Edge - Pin On	3.2 yd ³ (2.4 m ³) Bucket with Teeth - Pin On	4.25 yd ³ (3.2 m ³) Bucket with Bolt-on Edge - Pin On
Operating weight	39,723 lb (18 018 kg)	39,584 lb (17 955 kg)	40,057 lb (18 170 kg)
E. Operating height – fully raised with spillguard	209.5 in (5 322 mm)	209.5 in (5 322 mm)	215.4 in (5 471 mm)
F. Hinge pin height – fully raised	162.2 in (4 120 mm)	162.2 in (4 120 mm)	162.2 in (4 120 mm)
G. 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°			
H. Dump height – fully raised, 45° dump	121.8 in (3 094 mm)	118.0 in (2 998 mm)	117.3 in (2 981 mm)
J. Bucket reach – fully raised, 45° dump	38.9 in (989 mm)	43.4 in (1 101 mm)	43.4 in (1 102 mm)
K. 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)
L. 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 ³ (2 484 kg/m ³)	4,652 lb/yd ³ (2 760 kg/m ³)	3,353 lb/yd ³ (1 990 kg/m ³)
Maximum material density – ISO Deflected Tires	3,615 lb/yd ³ (2 145 kg/m ³)	4,018 lb/yd ³ (2 384 kg/m ³)	2,884 lb/yd ³ (1 711 kg/m ³)
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)

PERFORMANCE SPECS

W190D Z-Bar*	4.0 yd3 (3.1 m3) Bucket with Teeth - Pin On	4.5 yd3 (3.4 m3) Bucket with Bolt-on Edge - Pin On	3.5 yd3 (2.7 m3) Bucket with Bolt-on Edge - ACS Coupler
Operating weight	39,916 lb (18 106 kg)	40,123 lb (18 200 kg)	41,223 lb (18 699 kg)
E. Operating height – fully raised with spillguard	215.4 in (5 471 mm)	216.7 in (5 505 mm)	214.0 in (5 437 mm)
F. Hinge pin height – fully raised	162.2 in (4 120 mm)	162.2 in (4 120 mm)	162.1 in (4 118 mm)
G. 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°
H. Dump height – fully raised, 45° dump	113.6 in (2 885 mm)	116.5 in (2 958 mm)	116.4 in (2 956 mm)
J. Bucket reach – fully raised, 45° dump	47.8 in (1 215 mm)	44.4 in (1 128 mm)	44.2 in (1 124 mm)
K. 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)
L. 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/yd3 (2 148 kg/m3)	3,153 lb/yd3 (1 871 kg/m3)	3,751 lb/yd3 (2 226 kg/m3)
Maximum material density – ISO Deflected Tires	3,114 lb/yd3 (1 848 kg/m3)	2,709 lb/yd3 (1 607 kg/m3)	3,215 lb/yd3 (1 908 kg/m3)
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)

PERFORMANCE SPECS

W190D Z-Bar*	3.2 yd3 (2.4 m3) Bucket with Teeth - ACS Coupler	4.0 yd3 (3.06 m3) Bucket with Bolt-On Edge - ACS Coupler	3.8 yd3 (2.91 m3) Bucket with Teeth - ACS Coupler
Operating weight	41,082 lb (18 634 kg)	41,483 lb (18 816 kg)	41,342 lb (18 752 kg)
E. Operating height – fully raised with spillguard	214.0 in (5 437 mm)	218.8 in (5 558 mm)	218.8 in (5 558 mm)
F. Hinge pin height – fully raised	162.1 in (4 118 mm)	162.1 in (4 118 mm)	162.1 in (4 118 mm)
G. 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°
H. Dump height – fully raised, 45° dump	112.6 in (2 860 mm)	113.6 in (2 886 mm)	109.8 in (2 790 mm)
J. Bucket reach – fully raised, 45° dump	48.7 in (1 236 mm)	47.8 in (1 213 mm)	52.2 in (1 326 mm)
K. 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)
L. 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/yd3 (2 473 kg/m3)	3,244 lb/yd3 (1 925 kg/m3)	3,845 lb/yd3 (2 282 kg/m3)
Maximum material density – ISO Deflected Tires	3,575 lb/yd3 (2 121 kg/m3)	2,769 lb/yd3 (1 643 kg/m3)	3,226 lb/yd3 (1 914 kg/m3)
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)

PERFORMANCE SPECS

W190D Z-Bar*	3.6 yd3 (2.75 m3) Bucket with Bolt-On Edge - JRB Coupler	3.2 yd3 (2.45 m3) Bucket with Teeth - JRB Coupler	4.0 yd3 (3.06 m3) Bucket with Bolt-on Edge - JRB
Coupler			
Operating weight	41,110 lb (18 647 kg)	40,969 lb (18 583 kg)	41,430 lb (18 792 kg)
E. Operating height – fully raised with spillguard	216.2 in (5 491 mm)	216.2 in (5 492 mm)	221.9 in (5 636 mm)
F. Hinge pin height – fully raised	162.1 in (4 118 mm)	162.2 in (4 119 mm)	162.1 in (4 118 mm)
G. 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°
H. Dump height – fully raised, 45° dump	114.7 in (2 914 mm)	110.9 in (2 818 mm)	110.9 in (2 817 mm)
J. Bucket reach – fully raised, 45° dump	46.5 in (1 181 mm)	50.9 in (1 293 mm)	51.0 in (1 295 mm)
K. 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)
L. 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/yd3 (2 134 kg/m3)	4,110 lb/yd3 (2 439 kg/m3)	3,155 lb/yd3 (1 872 kg/m3)
Maximum material density – ISO Deflected Tires	3,083 lb/yd3 (1 829 kg/m3)	3,525 lb/yd3 (2 092 kg/m3)	2,692 lb/yd3 (1 597 kg/m3)
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)

PERFORMANCE SPECS

W190D Z-Bar*	3.8 yd3 (2.9 m3) Bucket with Teeth - JRB Coupler
Operating weight	41,289 lb (18 728 kg)
E. Operating height – fully raised with spillguard	221.9 in (5 637 mm)
F. Hinge pin height – fully raised	162.1 in (4 118 mm)
G. Overall length – bucket level on ground	331.0 in (8 406 mm)
Dump angle – fully raised	55°
H. Dump height – fully raised, 45° dump	107.1 in (2 721 mm)
J. Bucket reach – fully raised, 45° dump	55.4 in (1 408 mm)
K. Bucket reach – 7 ft 0 in (2.13 m) height, 45° dump	73.5 in (1 866 mm)
L. Dig depth – edge below ground	3.2 in (80 mm)
Operating load – ISO Rigid Tires	12,820 lb (5 815 kg)
Operating load – ISO Deflected Tires	10,948 lb (4 966 kg)
Maximum material density – ISO Rigid Tires	3,374 lb/yd3 (2 002 kg/m3)
Maximum material density – ISO Deflected Tires	2,881 lb/yd3 (1 709 kg/m3)
Tipping load - ISO Rigid Tires: Straight	29,595 lb (13 424 kg)
40° turn	25,640 lb (11 630 kg)
Tipping load – ISO Deflected Tires: Straight	27,412 lb (12 434 kg)
40° turn	21,895 lb (9 931 kg)
Lift capacity: Full height	20,670 lb (9 376 kg)
Ground	29,604 lb (13 428 kg)
Breakout force with tilt cylinder	30,698 lb (13 925 kg)
Loader clearance circle with bucket	532.4 in (13 523 mm)

W190D Z-Bar*

Maximum rollback: Ground	42°
Carry position	45°
@ Full height	59°
Maximum grading angle with bucket – back dragging	64°
SAE bucket capacity – struck	3.25 yd3 (2.48 m3)
Heaped	3.80 yd3 (2.91 m3)
Bucket width – outside	119.2 in (3 027 mm)
Bucket weight	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

FPT F4HFE613S
Tier 2 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

FLEET SYSTEM 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

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.

