



544K-II SPECIFICATIONS

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Engine		544K-II Z-BAR / HIGH-LIFT		
Manufacturer and Model	John Deere PowerTech™ E 6068H	John Deere PowerTech™ Plus 6068H		
Non-Road Emission Standard	EPA Tier 3/EU Stage IIIA and Brazil MAR-I emissions	EPA Tier 3/EU Stage IIIA and Brazil MAR-I emissions		
Cylinders	6	6		
Valves per Cylinder	2	4		
Displacement	6.8 L (414 cu. in.)	6.8 L (414 cu. in.)		
Peak Power (ISO 9249)				
Net	122 kW (163 hp) at 1,900 rpm	122 kW (163 hp) at 1,800 rpm		
Gross	128 kW (172 hp) at 1,900 rpm	128 kW (172 hp) at 1,900 rpm		
Peak Torque (ISO 9249)				
Net	659 Nm (486 lb.-ft.) at 1,600 rpm	683 Nm (504 lb.-ft.) at 1,100 rpm		
Gross	687 Nm (507 lb.-ft.) at 1,600 rpm	713 Nm (526 lb.-ft.) at 1,700 rpm		
Net Torque Rise	39%	45%		
Fuel System (electronically controlled)	High-pressure common rail	High-pressure common rail		
Lubrication	Full-flow spin-on filter and integral cooler	Full-flow spin-on filter and integral cooler		
Aspiration	Turbocharged, charge air cooled	Turbocharged, charge air cooled		
Air Cleaner	Under-hood, dual-element dry type, restriction indicator in cab monitor for service			
Cooling				
Fan Drive	Hydraulically driven, proportionally controlled, fan aft of coolers			
Electrical				
Electrical System	24 volt with 80-amp alternator (optional 100-amp alternator)			
Batteries (2 – 12 volt)	750 CCA (each)			
Lights	Driving lights with guard, turn signals, and flashers; stop- and taillight; work lights: front (4) and rear (2)			
Transmission System				
Type	Countershaft-type PowerShift™			
Torque Converter	Single stage, single phase			
Shift Control	Electronically modulated, adaptive, load and speed dependent			
Operator Interface	Steering-column or joystick-mounted F-N-R and gear-select lever; kick-down button on hydraulic lever			
Shift Modes	Manual/auto (1st–D or 2nd–D); Quick-Shift button with 2 selectable modes: kick-down or kick-up/down; and adaptive clutch cutoff			
	<i>Standard 5-Speed With Lockup Torque Converter [LUTC]</i>		<i>Optional 5-Speed Without LUTC</i>	
Maximum Travel Speeds (with 20.5 R 25 tires)	<i>Forward</i>	<i>Reverse</i>	<i>Forward</i>	<i>Reverse</i>
Gear 1	5.8 km/h (3.6 mph)	6.3 km/h (3.9 mph)	5.2 km/h (3.2 mph)	5.5 km/h (3.4 mph)
Gear 2	12.0 km/h (7.5 mph)	12.7 km/h (7.9 mph)	10.9 km/h (6.8 mph)	11.5 km/h (7.2 mph)
Gear 3	18.6 km/h (11.6 mph)	29.1 km/h (18.1 mph)	16.6 km/h (10.3 mph)	25.3 km/h (15.7 mph)
Gear 4	27.7 km/h (17.2 mph)	N/A	23.8 km/h (14.8 mph)	N/A
Gear 5	40.0 km/h (24.9 mph)	N/A	37.6 km/h (23.4 mph)	N/A
Axles/Brakes				
Final Drives	Heavy-duty inboard-mounted planetary			
Differentials	Hydraulic locking front with conventional rear – standard; dual locking front and rear – optional			
Rear Axle Oscillation, Stop to Stop (with 20.5 R 25 tires)	24 deg. (12 deg. each direction)			
Brakes (conform to ISO 3450)				
Service	Hydraulically actuated, inboard sun-shaft mounted, single disc; oil cooled – optional			
Parking	Automatic spring applied, hydraulically released, driveline mounted, sealed wet multi disc			
Tires/Wheels (see page 20 for complete tire adjustments)				
	<i>Tread Width</i>	<i>Width Over Tires</i>		
Michelin 20.5 R 25, 1 Star L-3	1950 mm (76.8 in.)	2574 mm (101.3 in.)		
Serviceability				
Refill Capacities				
Fuel Tank With Lockable Cap	325 L (86 gal.)			
Cooling System	22.5 L (23.8 qt.)			
Engine Oil With Vertical Spin-On Filter	19 L (20 qt.)			
Transmission Reservoir With Vertical Filter	18.5 L (19.5 qt.)			
Axle Oil (front and rear, each)	17 L (18 qt.)			
Hydraulic Reservoir and Filter	92 L (24.3 gal.)			
Park Brake Oil (wet disc)	0.3 L (10 oz.)			
Hydraulic System/Steering				
Pump (loader and steering)	Variable-displacement, axial-piston pump; closed-center, pressure-compensating system			
Maximum Rated Flow at 6895 kPa (1,000 psi) and 2,200 rpm	188 L/m (50 gpm)			
System Relief Pressure (loader and steering)	25 166 kPa (3,650 psi)			
Loader Controls	2-function valve, joystick control or fingertip controls, hydraulic-function enable/disable, optional 3rd- and 4th-function valve with auxiliary lever			
Steering (conforms to ISO 5010)	Steering-column-mounted, twist-grip shift lever; Quick-Shift button on hydraulic lever			
Type	Power, fully hydraulic			
Articulation Angle	80-deg. arc (40 deg. each direction)			

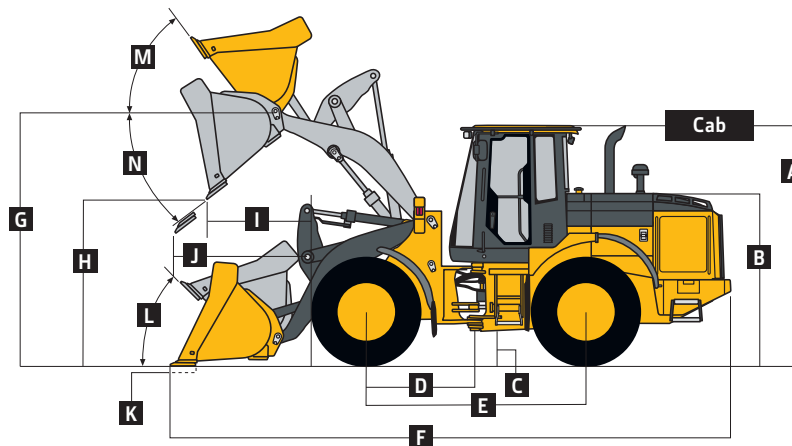
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Hydraulic System/Steering <i>(continued)</i>		544K-II Z-BAR / HIGH-LIFT
Turning Radius (measured to centerline of outside tire)		5.00 m (16 ft. 5 in.)
Hydraulic Cycle Times		
Raise		5.8 sec.
Dump		1.2 sec.
Lower (float down)		3.2 sec.
Total		10.2 sec.

Dimensions and Specifications with Pin-On Bucket



544K-II Z-BAR AND HIGH-LIFT LOADERS WITH PIN-ON BUCKET

	Z-Bar	High-Lift
	<i>Narrow 2.3-m³ (3.0 cu. yd.) general-purpose with bolt-on edge</i>	<i>Narrow 2.3-m³ (3.0 cu. yd.) general-purpose with bolt-on edge</i>
Dimensions With Bucket		
A Height to Top of Cab	3.24 m (10 ft. 8 in.)	3.24 m (10 ft. 8 in.)
B Hood Height	2.30 m (7 ft. 7 in.)	2.30 m (7 ft. 7 in.)
C Ground Clearance	0.40 m (15.7 in.)	0.40 m (15.7 in.)
D Length From Centerline to Front Axle	1.45 m (4 ft. 9 in.)	1.45 m (4 ft. 9 in.)
E Wheelbase	2.93 m (9 ft. 7 in.)	2.93 m (9 ft. 7 in.)
F Overall Length, Bucket on Ground	7.43 m (24 ft. 4 in.)	7.75 m (25 ft. 5 in.)
G Height to Hinge Pin, Fully Raised	3.82 m (12 ft. 6 in.)	4.17 m (13 ft. 8 in.)
H Dump Clearance, 45 deg., Full Height	2.76 m (9 ft. 1 in.)	3.11 m (10 ft. 3 in.)
I Reach, 45-deg. Dump, Full Height	0.99 m (3 ft. 3 in.)	0.99 m (3 ft. 3 in.)
J Reach, 45-deg. Dump, 2.13-m (7 ft. 0 in.) Clearance	1.46 m (4 ft. 10 in.)	1.76 m (5 ft. 9 in.)
K Maximum Digging Depth	95 mm (3.72 in.)	221 mm (8.7 in.)
L Maximum Rollback at Ground Level	42 deg.	37 deg.
M Maximum Rollback, Boom Fully Raised	55 deg.	50 deg.
N Maximum Bucket Dump Angle, Fully Raised	49 deg.	46 deg.
Loader Clearance Circle, Bucket Carry Position	11.65 m (38 ft. 3 in.)	11.96 m (39 ft. 3 in.)
Specifications with Bucket		
Capacity, Heaped	2.3 m ³ (3.0 cu. yd.)	2.3 m ³ (3.0 cu. yd.)
Capacity, Struck	2.0 m ³ (2.6 cu. yd.)	2.0 m ³ (2.6 cu. yd.)
Bucket Weight With Bolt-On Cutting Edge	1066 kg (2,350 lb.)	1066 kg (2,350 lb.)
Bucket Width	2.54 m (8 ft. 4 in.)	2.54 m (8 ft. 4 in.)
Breakout Force	10 115 kg (22,300 lb.)	9351 kg (20,615 lb.)
Tipping Load, Straight, No Tire Deflection	11 103 kg (24,478 lb.)	9528 kg (21,006 lb.)
Tipping Load, Straight, With Tire Deflection	10 533 kg (23,221 lb.)	9090 kg (20,040 lb.)
Tipping Load, 40-deg. Full Turn, No Tire Deflection	9619 kg (21,206 lb.)	8228 kg (18,140 lb.)
Tipping Load, 40-deg. Full Turn, With Tire Deflection	8883 kg (19,584 lb.)	7656 kg (16,878 lb.)
Rated Operating Load, 50% Full-Turn Tipping Load, No Tire Deflection (conforms to ISO 14397-1)*	4809 kg (10,602 lb.)	4114 kg (9070 lb.)
Rated Operating Load, 50% Full-Turn Tipping Load, With Tire Deflection (conforms to ISO 14397-1)*	4441 kg (9,791 lb.)	3828 kg (8439 lb.)
Operating Weight	13 121 kg (28,927 lb.)	13 240 kg (29,189 lb.)

Loader operating information is based on machine with identified linkage and standard equipment, PowerTech E 6068H (EPA Tier 3/EU Stage IIIA and Brazil MAR-I emissions) engine, ROPS cab, rear cast bumper/counterweight, transmission side-frame guards, bottom guards, standard tires, full fuel tank, and 79-kg (175 lb.) operator. This information is affected by changes in tires, ballast, and different attachments, and assumes no tire deflection per the standard ISO 14397-1 section 5.

*Rated operating capacity based on Deere attachments only.

Adjustments to Operating Weights and Tipping Loads

With Buckets

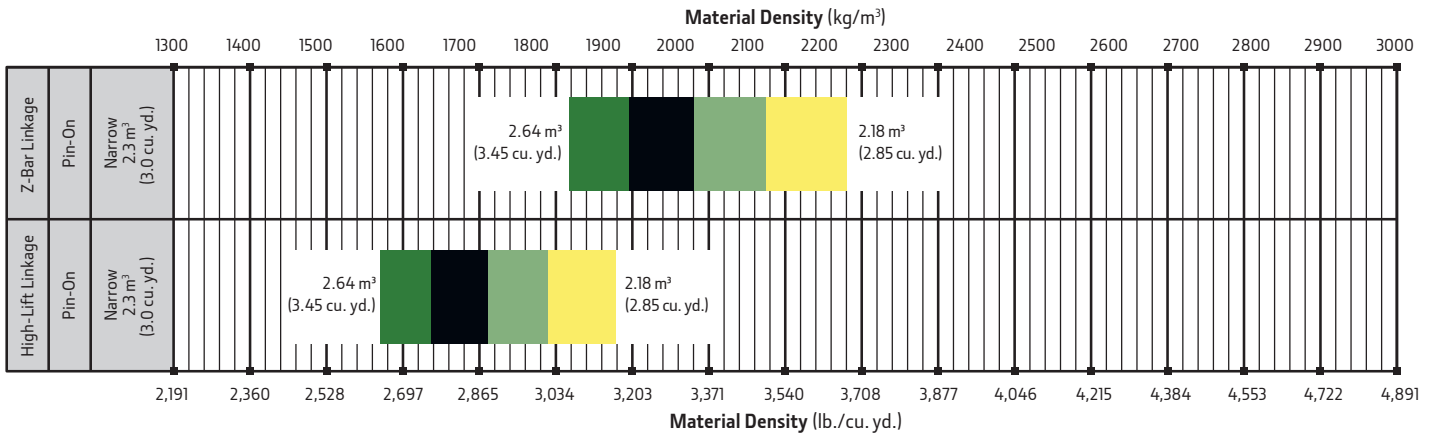
544K-II Z-BAR / HIGH-LIFT

Adjustments to operating weights, tipping loads, and tires are based on Z-Bar machine with pin-on 2.3-m³ (3.0 cu. yd.) general-purpose bucket with bolt-on cutting edge, ROPS cab, rear cast bumper/counterweight, transmission side-frame guards, bottom guards, standard tires, full fuel tank, and 79-kg (175 lb.) operator*

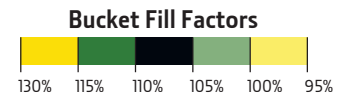
Add (+) or deduct (-) kg (lb.) as indicated for loaders with 3-piece rims	Operating Weight	Tipping Load, Straight	Tipping Load, 40-deg. Full Turn	Tread Width	Width Over Tires	Vertical Height
John Deere PowerTech E 6068H	0 kg (0 lb.)	0 kg (0 lb.)	0 kg (0 lb.)	N/A	N/A	N/A
John Deere PowerTech Plus 6068H	28 kg (90 lb.)	90 kg (198 lb.)	73 kg (162 lb.)	N/A	N/A	N/A
Michelin 20.5 R 25, 1 Star L-3	0 kg (0 lb.)	0 kg (0 lb.)	0 kg (0 lb.)	0 mm (0 in.)	0 mm (0 in.)	0 mm (0 in.)
Bridgestone 20.5 R 25, 1 Star L-3	+44 kg (+97 lb.)	+32 kg (+71 lb.)	+28 kg (+62 lb.)	0 mm (0 in.)	-5 mm (-0.2 in.)	-5 mm (-0.2 in.)
Titan 20.5-25, 16 PR L-2	-256 kg (-564 lb.)	-186 kg (-410 lb.)	-164 kg (-362 lb.)	0 mm (0 in.)	-2 mm (-0.1 in.)	+3 mm (+0.1 in.)
Firestone 20.5-25, 16 PR L-2	-276 kg (-608 lb.)	-201 kg (-443 lb.)	-180 kg (-397 lb.)	0 mm (0 in.)	-2 mm (-0.1 in.)	+3 mm (+0.1 in.)
Firestone 20.5-25, 16 PR L-3	-296 kg (-653 lb.)	-215 kg (-474 lb.)	-190 kg (-419 lb.)	0 mm (0 in.)	-2 mm (-0.1 in.)	+9 mm (+0.4 in.)
Pirelli 20.5 R 25 1 Star L-3	-16 kg (-35 lb.)	-12 kg (-26 lb.)	-10 kg (-22 lb.)	0 mm (0 in.)	+2 mm (+0.1 in.)	+7 mm (+0.3 in.)
Titan 20.5-25 16 PR L-3	-296 kg (-653 lb.)	-215 kg (-474 lb.)	-190 kg (-419 lb.)	0 mm (0 in.)	+2 mm (+0.1 in.)	+7 mm (+0.3 in.)
Michelin 20.5 R 25 XLDN L-3	-16 kg (-35 lb.)	-12 kg (-26 lb.)	-10 kg (-22 lb.)	0 mm (0 in.)	+2 mm (+0.1 in.)	-3 mm (-0.11 in.)
CaCl ₂ in 20.5-25, L-3 Rear Tires, 75% Fill	+825 kg (+1,820 lb.)	+1010 kg (+2,227 lb.)	+891 kg (+1,964 lb.)	N/A	N/A	N/A

*May change based on vehicle configuration, weight, or tire-pressure adjustments.

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LOOSE MATERIALS	kg/m³	lb./cu. yd.	LOOSE MATERIALS	kg/m³	lb./cu. yd.
Chips, pulpwood	288	486	Limestone, coarse, sized	1570	2,646
Cinders (coal, ashes, clinkers)	673	1,134	Limestone, mixed sizes	1682	2,835
Clay and gravel, dry	1602	2,700	Limestone, pulverized or crushed	1362	2,295
Clay, compact, solid	1746	2,943	Sand, damp	2083	3,510
Clay, dry in lump loose	1009	1,701	Sand, dry	1762	2,970
Clay, excavated in water	1282	2,160	Sand, voids, full of water	2083	3,510
Coal, anthracite, broken, loose	865	1,458	Sandstone, quarried	1314	2,214
Coal, bituminous, moderately wet	801	1,350	Shale, broken crushed	1362	2,295
Earth, common loam, dry	1218	2,052	Slag, furnace granulated	1955	3,294
Earth, mud, packed	1843	3,105	Stone or gravel, 37.5 to 87.5-mm		
Granite, broken	1538	2,592	(1.5 to 3.5 in.) size	1442	2,430
Gypsum	2275	3,834	Stone or gravel, 18.75-mm (0.75 in.) size	1602	2,700



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Additional equipment

Key: ● Standard ▲ Optional or special See your John Deere dealer for further information.

524	544	624	Engine
●	●	●	Wet-sleeve cylinder liners
		●	Automatic glow plugs for cold start
●	●	●	Programmable auto-idle and auto shutdown
●	●	●	Selected idle adjustment from 900–1,250 rpm
●	●	●	Starter protection
●	●	●	Automatic derating for exceeded system temperatures
●	●	●	Serpentine drive belt for automatic tensioner
●	●		Under-hood prescreened air intake
		●	Electrical fuel-priming pump
●	●	●	Dual-stage fuel filter and water separator
●	●	●	500-hour vertical spin-on oil filter
▲	▲	▲	Centrifugal engine air pre-cleaner
▲	▲	▲	Chrome exhaust stack
▲	▲		Automatic ether starting aid (recommended for cold starts below –12 deg. C [10 deg. F])
Powertrain			
●	●	●	Axle oil temperature sensing
●	●	●	Programmable maximum high gear
●	●	●	Clutch calibration engaged from monitor
●	●	●	2,000-hour vertical spin-on transmission filter
●	●	●	Transmission fill tube and sight gauge
▲	●	●	Front locking differential
▲	▲	▲	Rear locking differential
●	●	●	Transmission diagnostic ports
	●	●	5-speed transmission with lockup torque converter
●	▲	▲	5-speed transmission with non-lockup torque converter
▲	▲	▲	Automatic differential lock
▲	▲	▲	Wheel-spin control
Quad-Cool™ Cooling System			
●	●	●	Heavy-duty, trash-resistant radiator and high-ambient cooling package
●	●	●	2-side access to all coolers
●	●	●	Isolated from engine compartment
●	●	●	Engine radiator
●	●	●	Integral engine oil cooler
●	●	●	Hydraulic oil cooler (oil to air)
●	●	●	Transmission oil cooler (oil to air)
●	●	●	Charge air cooler (air to air)
●	●	●	Coolant recovery tank
●	●	●	Antifreeze, –37 deg. C (–34 deg. F)
●	●	●	Cool-on-demand, hydraulically driven, swing-out fan
●	●	●	Enclosed fan safety guard
▲	▲	▲	Automatic reversing fan drive
▲	▲	●	Axle and service-brake coolers

524	544	624	Hydraulics
●	●	●	Automatic return-to-dig bucket positioner
●	●	●	In-cab adjustable automatic boom-height kickout/return to carry
●	●	●	Reservoir with sight gauge and fill strainer
●	●	●	Hydraulic diagnostic ports
●	●	●	4,000-hour in-tank filter
●	●	●	2 function — joystick with F-N-R
▲	▲	▲	2 function — joystick with steering column F-N-R
▲	▲	▲	2 function — 2-lever fingertip controls and steering column F-N-R
▲	▲	▲	3 function — joystick with F-N-R and 3rd-function auxiliary lever
▲	▲	▲	3 function — 3-lever fingertip controls and steering column F-N-R
▲	▲	▲	Ride control, automatic with monitor-adjustable speed settings
Steering Systems			
●	●	●	Conventional steering wheel with spinner knob
Electrical			
●	●	●	Solid-state electrical power-distribution system
●	●	●	Lockable master electrical-disconnect switch
●	●	●	Battery-terminal safety covers
●	●	●	By-pass start safety cover at starter
●	●	●	Pre-wired for beacon/strobe light
●	●	●	Lights: Halogen driving lights with guards (2) / Front (4) and rear (2) cab work lights / Turn signals and flashers / LED stop- and taillights
▲			Lights: Halogen driving lights with guards (2) / Front cab work lights (2) and rear (2) / Turn signals and flashers / LED stop- and taillights
▲	▲	▲	Heavy-duty front LED turn signal and marker lights
●	●	●	Programmable courtesy lights
●	●	●	Horn, electric
●	●	●	Reverse warning alarm
●	●	●	Multi-function/multi-language LCD color monitor includes: Digital instruments — Analog display (hydraulic oil temperature, engine coolant temperature, transmission oil temperature, and engine oil pressure) / Digital display (engine rpm, transmission gear/direction indicator, hour meter, fuel level, speedometer, and odometer)
●	●	●	Indicator lights: Standard and selected options / Amber caution and red stop
●	●	●	Operator-warning messages

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Additional equipment *(continued)*

Key: ● Standard ▲ Optional or special See your John Deere dealer for further information.

524	544	624	Electrical <i>(continued)</i>
●	●	●	Built-in diagnostics: Diagnostic-code details / Sensor values / Calibrations / Individual circuit tester
▲	▲	▲	Electrical corrosion-prevention package
▲	▲	▲	AM/FM/Weather-Band (WB) radio
●	●	●	24- to 12-volt, 8-amp converter
Operator's Station			
●	●	●	Quiet Cab with air conditioning/heater
●	●	●	Keyless start with multiple security modes
●	●	●	Sealed-switch module with function indicators
●	●	●	Seat with deep foam, fabric cover, and adjustable air suspension
●	●	●	Seat with backrest extension, deep foam, fabric cover, and adjustable air suspension
●	●	●	Hydraulic controls integrated to seat
●	●	●	Seat belt, 76 mm (3 in.), with retractor
●	●	●	Cup holders (2)
●	●	●	Lunch-box/cooler holder
●	●	●	Dome and reading light
●	●	●	12-volt power port
●	●	●	Rubber floor mat
●	●	●	Tilt steering column
●	●	●	Operator's manual storage compartment
●	●	●	Outside (2) and inside (1) rearview mirrors
●	●	●	Left-side operator-station access
●	●	●	Slip-resistant steps and ergonomic handholds
●	●	●	Sun visor
●	●	●	Front and rear intermittent windshield wiper and washers
▲	▲	▲	Beacon bracket
▲	▲	▲	Rear camera
▲	▲	▲	Rear camera with radar object-detection system
●	●	●	LOADRITE™ L2180™ Payload Scale Ready
Loader Linkage			
●	●	●	Z-Bar loader linkage
▲	▲	▲	High-lift Z-Bar loader linkage

524	544	624	Buckets and Attachments
●	●	●	Full line of Deere pin-on buckets
▲	▲	▲	Full line of Deere hook-on buckets and forks
Overall Vehicle			
●	●	●	JDLINK™ Ultimate wireless communication system (available in specific countries; see your dealer for details)
●	●	●	NeverGrease™ rear-axle oscillation
▲	▲	▲	NeverGrease steering cylinders
●	●	●	Front and rear tie-downs
●	●	●	Rear cast bumper with rear hitch and locking pin
●	●	●	Articulation locking bar
●	●	●	Loader boom service locking bar
●	●	●	40-deg. steering articulation to each side with rubber-cushion stops on frame
●	●	●	Vandal protection with lockable engine enclosures, right counterweight storage, battery box, and filler access for radiator/fuel/hydraulic transmission
●	●	●	Left-side service steps and handholds
●	●	●	Storage compartment
●	●	●	Fuel-tank fill strainer
●	●	●	Heavy-duty fuel-tank guard
●	●	●	Ground-level fueling
●	●	●	Same-side ground-level daily servicing
●	●	●	20.5-25 L3 16 PR tires on 3-piece rims
▲			17.5-25 L3 16 PR tires on 3-piece rims
●	●	●	Environmental drains for engine, transmission, hydraulic oils, and engine coolant
●	●	●	Fluid-sampling ports for engine, transmission, hydraulic and axle oils, and engine coolant
●	●	●	Fenders, front
▲	▲	▲	Fender, full-coverage, front
▲	▲	▲	Fenders, full-coverage, front and rear
▲	▲	▲	Transmission side-frame guards
▲	▲	▲	Bottom guards, front frame and transmission
▲	▲	▲	Lift eyes

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