

ENGINE

Make	FPT
Model	F2CFE614F
Emissions Certification	Tier 4 Final
Type	4-stroke, turbocharged and air-to-air cooler
Cylinders	6-cylinder in-line
Bore/Stroke	4.61 x 5.31 in (177 x 135 mm)
Displacement	531 in ³ (8.7 L)
Fuel	#2 Diesel, #1 and #2 mixture permitted for cold temperatures
Fuel injection	Direct injection – electronic
Fuel filter	Replaceable, full flow spin-on cartridge
Fuel pump	Bosch CP 3.3
Gradeability:	
Side-to-side	35°
Fore and aft	35°
Air filter	2-element dry type w/ warning restriction indicator
Mid-mount cooling module:	Mid-mount air/water
Fan – hydraulic driven:	
Style	9 blade puller
Diameter	34.5 in (876 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	2100

Horsepower:

Maximum Power Mode:

Peak gross @ 1800 RPM	347 hp (259 kW)
Net rated @ 2100 RPM	284 hp (212 kW)
Peak net @ 1800 RPM	320 hp (239 kW)

Standard Power Mode:

Peak gross @ 1700 RPM	322 hp (240 kW)
Net rated @ 1700 RPM	300 hp (223 kW)
Peak net @ 2100 RPM	262 hp (195 kW)

Economy Power Mode:

Peak gross @ 1400 RPM	279 hp (208 kW)
Net rated @ 1400 RPM	266 hp (199 kW)
Peak net @ 1800 RPM	218 hp (163 kW)

Torque – peak:

Maximum Power Mode:

Gross @ 1100 RPM	1,183 lb-ft (1 604 N-m)
Net @ 1100 RPM	1,153 lb-ft (1 564 N-m)

Standard Power Mode:

Gross @ 1400 RPM	1,143 lb-ft (1 550 N-m)
Net @ 1400 RPM	1,096 lb-ft (1 485 N-m)

Economy Power Mode:

Gross @ 1300 RPM	1,088 lb-ft (1 475 N-m)
Net @ 1300 RPM	1,047 lb-ft (1 419 N-m)

Torque rise:

Maximum power range	50%
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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
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Torque converter:

Stall ratio	2.51:1
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Differential:

Open Type Differential

Rear axle oscillation	24° total
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Front and rear axles:

Differential ratio	4.25
Planetary ratio	6.35
Final axle ratio	27.00

Special application axles – optional:

Front axle equipped w/ locking differential
Rear axle equipped w/ open differential

Planetaries	Outboard
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Service brakes:

Hydraulically actuated, maintenance-free, multiple wet disc w/ accumulator to all four wheels

Brake surface area:

Front hub – each	1,144 in ² (0.738 m ²)
Rear hub – each	1,144 in ² (0.738 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 mph (kph)	Reverse mph (kph)
1st	4.3 (6.9)	4.3 (6.9)
2nd	7.2 (11.6)	7.2 (11.6)
3rd	11.0 (17.7)	15.8 (25.5)
4th	23.2 (37.4)	—

NOTE: Travel speeds at full engine throttle w/ 26.5 x 25 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; Engine coolant temperature; Fuel level; DEF level.

LCD screen:

Hour meter; Time; FNR indication; Trip computer; Metric/english; Differential lock*; Engine speed; Automatic trans indication; DeClutch indication; Fuel consumption; Engine diagnostics; Error reporting; Travel speed; Current gear selection; Engine mode indication; Multiple languages; Transmission diagnostics.

Audible/Visual alarms:

Warning lights:

Four-way flashers; High beam lights; Grid heater*; Low brake pressure; Parking brake.

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/ ROPS cab w/ heater and A/C; Standard counterweight; 26.5-R25 L3 Radial Tires; 5.25 yd³ (4.8 m³) GP pin-on w/ bolt on edge; Full fuel; 165 lb (75 kg) operator:
61,650 lb (27 964 kg)

XR
Unit equipped w/ ROPS cab w/ heater and A/C; Standard counterweight; 26.5-R25 L3 Radial Tires; 5.25 yd³ (4.8 m³) HD pin-on w/ bolt on edge; Full fuel; 165 lb (75 kg) operator:
63,443 lb (28 777 kg)

HYDRAULICS

Pump – steering/implement:
Closed center pressure/flow compensated

Variable displacement – load-sensing:
50.2 gpm @ 2000 RPM
(190 L/min @ 2000 RPM)

Loader control valve:
Closed-center, sectional 2, 3 or 4-function w/ pilot control for lift, tilt and auxiliary hydraulics, electromagnetic detents in float, raise and rollback

Loader auxiliary steering:
Hydraulic orbital center-pivot articulating w/ on-demand oil flow

High pressure standby:
Implement 3,650 psi (25 165 kPa)
Steering 3,495 psi (24 097 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	125 gal (473.0 L)
DEF tank – Diesel Exhaust Fluid:	
Usable capacity	16 gal (61.0 L)
Total	24 gal (90.8 L)

Hydraulic system:	
Reservoir	35 gal (134.0 L)
Total	66 gal (250.0 L)

Transmission:	
Service w/ filter	12 gal (45.4 L)

Front and rear axle:	
Front axle	68 qt (64.0 L)
Rear axle	68 qt (64.0 L)

Engine oil w/ filter	30 qt (26.5 L)
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Cooling system	15 gal (56.8 L)
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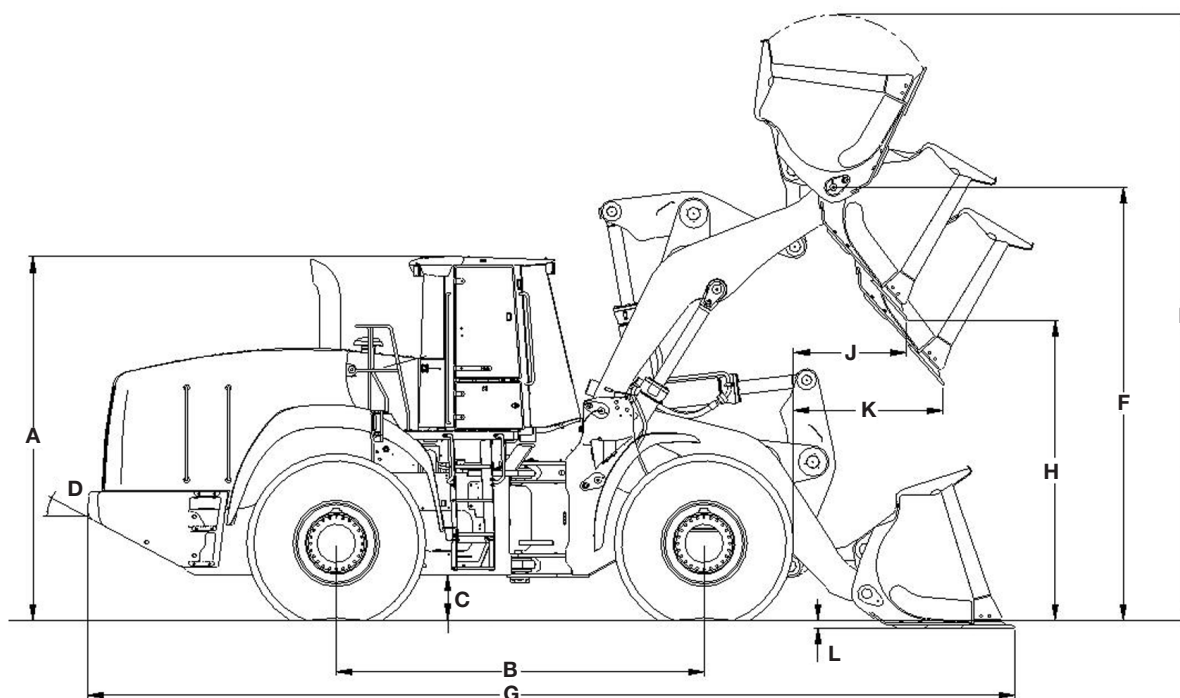
OTHER SPECIFICATIONS

Lift cylinder:	
Bore diameter	7.00 in (177.8 mm)
Rod diameter	4.50 in (114.3 mm)
Stroke	34.48 in (875.8 mm)

Dump cylinder:	
Bore diameter	8.00 in (203.2 mm)
Rod diameter	5.00 in (127.0 mm)
Stroke	27.35 in (694.7 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	6.5 sec
Dump w/ rated bucket load	1.4 sec
Power down	2.8 sec
Float down	2.6 sec



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

DIMENSIONS

A. Height to top of ROPS cab	140.8 in (3 579 mm)
Height to drawbar	44.8 in (1 137 mm)
B. Wheelbase	139.8 in (3 550 mm)
C. Ground clearance	17.2 in (437 mm)
D. Angle of departure, rear	23°
Width:	
Overall* without bucket	117.2 in (2 978 mm)
Centerline tread	90.6 in (2 300 mm)
Turning radius* – outside	250.6 in (6 366 mm)
Turning angle:	
From center	40°
Total angle	80°
Rear axle oscillation – total	26°

NOTE: *Dimensions taken with 26.5-R25 L3 Radial Tires. Additional dimensions on pages 4 through 5.

WEIGHT ADJUSTMENTS

Select Options	Weight Adjustment	Tipping Load Adjustment Straight	Tipping Load Adjustment 40° Turn
26.5 x 25 L5 Radial Tires	+1,138 lb (+516 kg)	+1,743 lb (+791 kg)	+1,711 lb (+776 kg)

NOTE: Unit equipped with Z-Bar loader arms, 6.25 yd³ (4.8 m³) pin on bucket w/ bolt-on edge, 26.5-R25 L3 Radial Tires, ROPS cab with heater and A/C, full counterweight, front and rear fenders, full fuel and 165 lb (75 kg) operator. Adjust select options from rated weight.

PERFORMANCE SPECS

1121G Z-Bar*	5.25 yd³ GP (4.0 m³) Bucket with Bolt-on Edge	5.1 yd³ GP (3.9 m³) Bucket with Teeth Only	6.25 yd³ GP (4.8 m³) Bucket with Bolt-on Edge
Operating weight	61,288 lb (27 800 kg)	61,284 lb (27 798 kg)	61,650 lb (27 964 kg)
SAE bucket capacity – struck	4.53 yd³ (3.46 m³)	4.33 yd³ (3.31 m³)	5.45 yd³ (4.17 m³)
Heaped	5.25 yd³ (4.01 m³)	5.06 yd³ (3.90 m³)	6.25 yd³ (4.78 m³)
Bucket width – outside	125.8 in (3 195 mm)	126.9 in (3 223 mm)	125.8 in (3 195 mm)
Bucket weight	4,580 lb (2 077 kg)	4,575 lb (2 075 kg)	4,941 lb (2 241 kg)
E. Operating height – fully raised with spillguard	235.8 in (5 988 mm)	235.8 in (5 988 mm)	242.0 in (6 147 mm)
F. Hinge pin height – fully raised	175.2 in (4 450 mm)	175.2 in (4 450 mm)	175.2 in (4 449 mm)
G. Overall length – bucket level on ground	355.1 in (9 020 mm)	362.3 in (9 202 mm)	361.1 in (9 172 mm)
Dump angle – fully raised	50°	50°	50°
H. Dump height – fully raised, 45° dump	130.2 in (3 306 mm)	125.5 in (3 188 mm)	126.3 in (3 209 mm)
J. Bucket reach – fully raised, 45° dump	45.5 in (1 156 mm)	50.8 in (1 290 mm)	50.1 in (1 273 mm)
K. Bucket reach – 7 ft 0 in (2.13 m) height, 45° dump	77.5 in (1 967 mm)	80.8 in (2 051 mm)	80.4 in (2 043 mm)
Operating load – ISO Deflected Tires	19,470 lb (8 832 kg)	19,594 lb (8 888 kg)	19,228 lb (8 722 kg)
Maximum material density – ISO Deflected Tires	3,709 lb/yd³ (2 201 kg/m³)	3,842 lb/yd³ (2 280 kg/m³)	3,077 lb/yd³ (1 826 kg/m³)
Tipping load – ISO Deflected Tires:			
Straight	49,094 lb (22 269 kg)	49,411 lb (22 412 kg)	48,672 lb (22 077 kg)
40° turn	38,940 lb (17 663 kg)	39,188 lb (17 775 kg)	38,457 lb (17 444 kg)
Lift capacity:			
Full height	33,076 lb (15 003 kg)	33,024 lb (14 979 kg)	32,710 lb (14 837 kg)
Ground	58,279 lb (26 435 kg)	58,807 lb (26 674 kg)	56,904 lb (25 811 kg)
Breakout force with tilt cylinder	56,245 lb (25 512 kg)	60,336 lb (27 368 kg)	49,934 lb (22 650 kg)
Maximum rollback:			
Ground	44°	45°	44°
Carry position	51°	51°	51°
@ Full height	65°	65°	65°
L. Dig depth	4.4 in (111 mm)	4.6 in (116 mm)	4.4 in (111 mm)
Maximum grading angle with bucket – back dragging	60°	60°	60°
Loader clearance circle	561.6 in (14 266 mm)	566.6 in (14 391 mm)	564.9 in (14 347 mm)

1121G XR	5.25 yd³ GP (4.0 m³) Bucket with Bolt-on Edge	5.1 yd³ GP (3.9 m³) Bucket with Teeth Only	6.25 yd³ GP (4.8 m³) Bucket with Bolt-on Edge
Operating weight	63,082 lb (28 613 kg)	63,078 lb (28 611 kg)	63,443 lb (28 777 kg)
E. Operating height – fully raised with spillguard	252.2 in (6 406 mm)	252.2 in (6 406 mm)	258.4 in (6 564 mm)
F. Hinge pin height – fully raised	191.6 in (4 867 mm)	191.6 in (4 867 mm)	191.6 in (4 867 mm)
G. Overall length – bucket level on ground	371.2 in (9 428 mm)	378.3 in (9 609 mm)	377.2 in (9 580 mm)
Dump angle – fully raised	50°	50°	50°
H. Dump height – fully raised, 45° dump	146.6 in (3 724 mm)	141.9 in (3 606 mm)	142.8 in (3 626 mm)
J. Bucket reach – fully raised, 45° dump	47.2 in (1 199 mm)	52.5 in (1 333 mm)	51.8 in (1 315 mm)
K. Bucket reach – 7 ft 0 in (2.13 m) height, 45° dump	92.0 in (2 338 mm)	95.5 in (2 427 mm)	95.2 in (2 417 mm)
Operating load – ISO Deflected Tires	17,469 lb (7 924 kg)	17,573 lb (7 971 kg)	17,205 lb (4 804 kg)
Maximum material density – ISO Deflected Tires	3,328 lb/yd³ (1 974 kg/m³)	3,446 lb/yd³ (2 045 kg/m³)	2,753 lb/yd³ (1 633 kg/m³)
Tipping load – ISO Deflected Tires:			
Straight	43,234 lb (19 611 kg)	43,505 lb (19 733 kg)	42,641 lb (19 342 kg)
40° turn	34,939 lb (15 848 kg)	35,146 lb (15 942 kg)	34,410 lb (15 608 kg)
Lift capacity:			
Full height	31,599 lb (14 333 kg)	31,564 lb (14 317 kg)	31,251 lb (14 175 kg)
Ground	48,983 lb (22 218 kg)	49,384 lb (22 400 kg)	47,783 lb (21 674 kg)
Breakout force with tilt cylinder	56,776 lb (25 753 kg)	60,916 lb (27 631 kg)	50,409 lb (22 865 kg)
Maximum rollback:			
Ground	42°	42°	42°
Carry position	49°	49°	49°
@ Full height	66°	66°	66°
L. Dig depth	4.4 in (111 mm)	4.6 in (116 mm)	4.4 in (111 mm)
Maximum grading angle with bucket – back dragging	63°	62°	62°
Loader clearance circle	577.6 in (14 671 mm)	583.1 in (14 810 mm)	581.3 in (14 765 mm)

PERFORMANCE SPECS

1121G Z-Bar*	6.1 yd ³ GP (4.7 m ³) Bucket with Teeth Only
Operating weight	61,646 lb (27 962 kg)
SAE bucket capacity – struck	5.25 yd ³ (4.01 m ³)
Heaped	6.10 yd ³ (4.66 m ³)
Bucket width – outside	126.9 in (3 223 mm)
Bucket weight	4,937 lb (2 240 kg)
E. Operating height – fully raised with spillguard	242.0 in (6 147 mm)
F. Hinge pin height – fully raised	175.2 in (4 449 mm)
G. Overall length – bucket level on ground	368.3 in (9 354 mm)
Dump angle – fully raised	50°
H. Dump height – fully raised, 45° dump	121.7 in (3 090 mm)
J. Bucket reach – fully raised, 45° dump	55.4 in (1 406 mm)
K. Bucket reach – 7 ft 0 in (2.13 m) height, 45° dump	83.5 in (2 121 mm)
Operating load – ISO Deflected Tires	19,347 lb (8 775 kg)
Maximum material density – ISO Deflected Tires	3,172 lb/yd ³ (1 882 kg/m ³)
Tipping load – ISO Deflected Tires:	
Straight	48,974 lb (22 214 kg)
40° turn	38,693 lb (17 551 kg)
Lift capacity:	
Full height	32,662 lb (14 815 kg)
Ground	57,397 lb (26 035 kg)
Breakout force with tilt cylinder	53,151 lb (24 109 kg)
Maximum rollback:	
Ground	45°
Carry position	51°
@ Full height	65°
L. Dig depth	4.6 in (116 mm)
Maximum grading angle with bucket – back dragging	61°
Loader clearance circle	569.9 in (14 475 mm)

1121G XR	6.1 yd ³ GP (4.7 m ³) Bucket with Teeth Only
Operating weight	63,439 lb (28 776 kg)
E. Operating height – fully raised with spillguard	258.4 in (6 564 mm)
F. Hinge pin height – fully raised	191.6 in (4 867 mm)
G. Overall length – bucket level on ground	384.3 in (9 761 mm)
Dump angle – fully raised	50°
H. Dump height – fully raised, 45° dump	138.1 in (3 508 mm)
J. Bucket reach – fully raised, 45° dump	57.1 in (1 449 mm)
K. Bucket reach – 7 ft 0 in (2.13 m) height, 45° dump	98.5 in (2 502 mm)
Operating load – ISO Deflected Tires	17,302 lb (7 848 kg)
Maximum material density – ISO Deflected Tires	2,836 lb/yd ³ (1 683 kg/m ³)
Tipping load – ISO Deflected Tires:	
Straight	42,899 lb (19 458 kg)
40° turn	34,605 lb (15 696 kg)
Lift capacity:	
Full height	31,218 lb (14 160 kg)
Ground	48,157 lb (21 844 kg)
Breakout force with tilt cylinder	53,667 lb (24 343 kg)
Maximum rollback:	
Ground	42°
Carry position	49°
@ Full height	66°
L. Dig depth	4.6 in (116 mm)
Maximum grading angle with bucket – back dragging	62°
Loader clearance circle	586.8 in (14 906 mm)

NOTE: *Z-Bar performance data shown w/ standard counterweight.
Performance data unit equipped with 26.5-R25 L3 Radial tires, ROPS cab w/ heater and A/C, standard counterweight, full fuel and 165 lb (75 kg) operator.
Specifications per SAE J732, J1234, J695, J742, and J818.

STANDARD EQUIPMENT

OPERATOR ENVIRONMENT

ROPS/FOPS cab structure
See page 1

ENGINE

Case/FPT F2CFE614F
Tier 4 Final certified
Selectable work modes:
 Maximum power
 Auto power
 Standard power
 Economy power
Automatic shutdown – idle reduction device
Turbocharger
Charge air cooling
Automatic fan belt tensioner
Integral engine oil cooling
Fuel filter with water trap
Dual-element dry-type air cleaner
Hydraulic-driven cooling fan
Air-cooled radiator
Rear-mounted cooling module
Common rail electronic fuel injection

LOADER

See page 2

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
Heavy Duty Axles:
 With locking differential on front axle,
 open differential on rear axle
Single lever electronic shift control
F/N/R switch in loader control handle
Downshift button
Torque converter
Outboard planetary axles
Transmission oil cooler
Brake pedal transmission disconnect
Hydraulic wet disc brakes
Spring-applied hydraulic release
 parking brake
Limp-Home Mode
Greaseable rear axle trunnion

HYDRAULICS

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

ELECTRICAL

120 amp alternator and voltage regulator
Battery isolator/electrical disconnect
(2) 900 CCA 12-volt batteries
Electric starter
Lights:
 Front and rear halogen flood lights
 2 Front driving headlights – high/low beam
 2 Front flood
 2 Rear flood
 2 LED stop and tail lights
 Front and rear turn signal/flash
Key start/stop switch
Centrally located fuse box with all electrical
 circuits protected
Backup alarm
Remote jump posts

OTHER

Electric hood lift
Front and rear fenders
Standard counterweight
Drawbar hitch
Articulation locking bar
Lift arm locking bar
Lift and tie-down points – front/rear
Backup alarm
Remote drain points
3-piece rims

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
3 in (76 mm) seatbelt
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
LED rotating beacon
Joystick steering
External rear view mirrors
Rear view camera
LED Front and Rear work lights
Extra front-facing LED work lights
LED Light packages

DRIVETRAIN

Special application axles with locking front differential
Axle oscillation stops
Cold weather package:
Engine block heater
Fuel heater
Hydraulic oil cooler bypass
Low temperature hydraulic oil
Grid heater
Ejector type pre-cleaner

HYDRAULICS

Auxiliary hydraulics
Ride Control
Secondary steering
3- or 4-spool loader valves with 2- or 3-lever loader control
Variable speed hydraulic reversing fan

LOADER

Extended reach XR
Attachment auxiliary hydraulics
Buckets – see pages 4 and 5

TIRES

26.5 x 25 L3 Bias
26.5-R25 L3 Radial
26.5 x 25 L5 Bias
26.5-R25 L5 Radial

OTHER

Special paint
Full coverage fenders
Tool box
Fire extinguisher
Side guards for rear frame
License plate brackets, front and rear
12 mph (20 kph) maximum speed control

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