CASE CONSTRUCTION 621F XT/XR WHEEL LOADER TIER 4 FINAL CERTIFIED

ENGINE

Make	FPT
Model	F4HFE613W
Emissions Certification	Tier 4 Final
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^3 (6.7 L)
Fuel	#2 Diesel, #1 and #2 mixture permitted for cold temperatures
Fuel injection	Direct injection – electronic
Fuel filter	Replaceable
Fuel pump	Bosch
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 angles ratings:	
Side-to-side	35°
Fore and aft	35°
Oil filtration	Replaceable
Engine speeds	RPM
Rated – full load	2000
Horsepower:	
Maximum Power Mode:	
Peak gross @ 1800 RPM	172 hp (128 kW)
Net rated @ 2000 RPM	152 hp (113 kW)
Peak net @ 1800 RPM	162 hp (121 kW)
Standard Power Mode:	
Peak gross @ 1800 RPM	156 hp (116 kW)
Net rated @ 2000 RPM	138 hp (103 kW)
Peak net @ 1800 RPM	146 hp (109 kW)
Economy Power Mode:	
Peak gross @ 1500 RPM	133 hp (99 kW)
Net rated @ 2000 RPM	101 hp (75 kW)
Peak net @ 1500 RPM	125 hp (93 kW)

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

ENGINE (cont.)

Torque – peak:	
Maximum Power Mode:	
Gross @ 1600 RPM	538 lb·ft (730 N·m)
Net @ 1600 RPM	510 lb·ft (692 N·m)
Standard Power Mode:	
Gross @ 1300 RPM	530 lb·ft (719 N·m)
Net @ 1300 RPM	508 lb·ft (689 N·m)
Economy Power Mode:	
Gross @ 1200 RPM	527 lb·ft (715 N·m)
Net @ 1200 RPM	508 lb·ft (689 N·m)
Torque rise:	
Maximum power range	33%

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
Torque converter:	
Stall ratio – 4-speed	2.66:1
Differential: Limited slip w/ 30% transfer on front and rear axles	
Rear axle oscillation	24° total
Front and rear axles:	
Differential ratio	3.18
Planetary ratio	6.40
Final axle ratio	20.34
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:	
Front hub – each	481 in^2 (0.31 m^2)
Rear hub – each	481 in^2 (0.31 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)	4.5 (7.3)
2nd	8.4 (13.5)	8.8 (14.2)
3rd	14.8 (23.9)	15.5 (25.0)
4th	24.0 (38.6)	—

NOTE: Travel speeds at full engine throttle w/ 20.5 x 25 L3 tires.

ELECTRICAL

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

OPERATOR ENVIRONMENT

ROPS/FOPS cab w/ heat and AC; Key start; Articulated power steering w/ tilt column; Fully adjustable, suspension seat; Foot throttle; 1-Lever loader control w/ wrist rest; Cup holder; Coat hook; 1 Interior rearview mirror; 2 in (51 mm) retractable seat belt; Storage tray behind seat; Lunch box compartment; Single brake pedal; F/N/R shuttle switch; Glove box; Pressurized air filtering; Anti-glare window strip; Defroster; Side window, partial/fully open; Dome light; Wipers, rear and intermittent front; Windshield washers, front and rear; Rubber floor mat; Horn.

Displays/Gauges:

Analog:

Transmission oil temperature; Hydraulic oil temperature; Fuel level; Engine coolant temperature.

LCD screen:

Hour meter; Engine speed; Travel speed; Time; Automatic transmission indication; Current gear selection; FNR indication; DeClutch indication; Engine mode indication; Trip computer; Fuel consumption; Multiple languages, Metric/English; Engine diagnostics; Transmission diagnostics; Warning prompts; Error reporting; DEF gauge; Diff. lock*.

Audible/Visual alarms:

Warning lights:

Four-way flashers and turn signals; Brake pressure; Lamp/high beam indication; Grid heater*.

Caution alarm:

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

Critical alarm:

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

Backup alarm

NOTE: *If equipped w/ option.

OPERATING WEIGHT

Z-Bar

Unit equipped w/ 2.75 yd³ (2.1 m³) Case pin on bucket w/ edge; 20.5R25 XTLA TL* tires; ROPS cab w/ heater and A/C; Std. battery; Heavy counterweight – 1,950 lb (885 kg); Front and rear fenders; Lights; 175 lb (79 kg) operator:
26,711 lb (12 116 kg)

XT

Unit equipped w/ 2.5 yd³ (1.9 m³) CNH w/ edge and coupler; 20.5R25 XTLA TL* tires; ROPS cab w/ heater and A/C; Std. battery; Heavy counterweight – 1,950 lb (885 kg); Front and rear fenders; Lights; 175 lb (79 kg) operator:
27,538 lb (12 491 kg)

XR

Unit equipped w/ 2.5 yd³ (1.9 m³) Case pin on bucket w/ edge; 20.5R25 XTLA TL* tires; ROPS cab w/ heater and A/C; Std. battery; Heavy counterweight – 1,950 lb (885 kg); Front and rear fenders; Lights; 175 lb (79 kg) operator:
27,073 lb (12 280 kg)

HYDRAULICS

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

Variable displacement – load sensing:
45.2 gpm @ 2000 RPM
(171 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	3,625 psi (25 000 kPa)
Steering	3,499 psi (24 132 kPa)

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

SERVICE CAPACITIES

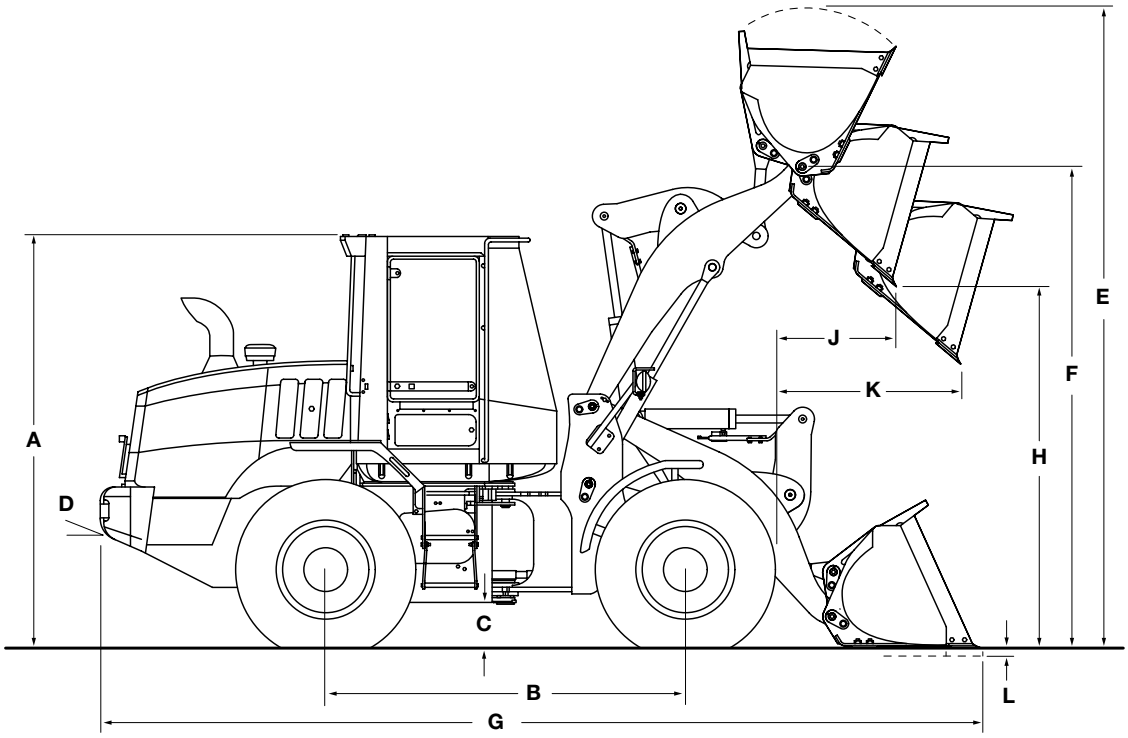
Fuel tank	65.0 gal (246.0 L)
DEF tank – Diesel Exhaust Fluid:	
Usable capacity	9.8 gal (37.1 L)
Total	15.6 gal (58.9 L)
Hydraulic system:	
Reservoir	24.0 gal (90.8 L)
Total	39.0 gal (147.6 L)
Transmission:	
Service w/ filter	7.1 gal (26.7 L)
Front and rear axle:	
Front axle	5.8 gal (22.0 L)
Rear axle	5.8 gal (22.0 L)
Front and rear axle – optional:	
Front axle	5.8 gal (22.0 L)
Rear axle	5.8 gal (22.0 L)
Engine oil w/ filter	3.5 gal (13.2 L)
Cooling system	7.1 gal (26.8 L)

OTHER SPECIFICATIONS

Lift cylinder:	
Bore diameter	4.7 in (120.6 mm)
Rod diameter	2.5 in (63.5 mm)
Stroke	31.0 in (787.6 mm)
Dump cylinder – Z-Bar and XR:	
Bore diameter	5.0 in (127.0 mm)
Rod diameter	3.0 in (76.2 mm)
Stroke	24.4 in (619.7 mm)
Dump cylinder – XT:	
Bore diameter	4.5 in (114.0 mm)
Rod diameter	2.5 in (63.5 mm)
Stroke	32.3 in (819.9 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	
Z-Bar	6.3 sec
XR	6.3 sec
XT	6.5 sec
Dump w/ rated bucket load	
Z-Bar	1.2 sec
XR	1.2 sec
XT	2.4 sec
Power down:	
Z-Bar	4.4 sec
XR	4.4 sec
XT	4.2 sec
Float down:	
Z-Bar	4.8 sec
XR	4.8 sec
XT	4.2 sec



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

DIMENSIONS

A. Height to top of ROPS cab	133.7 in (3 395 mm)
Height to drawbar	42.6 in (1 081 mm)
B. Wheelbase	114.2 in (2 900 mm)
C. Ground clearance	14.6 in (370 mm)
D. Angle of departure	27°
Width:	
Overall* without bucket	99.3 in (2 523 mm)
Centerline tread	76.8 in (1 950 mm)
Turning radius* – outside	206.5 in (5 245 mm)
Turning angle:	
From center	40°
Total angle	80°
Rear axle oscillation, total	24°

NOTE: *Dimensions taken with 20.5R25 Michelin XTLA tires. For transport dimensions, refer to specific bucket width and overall length on pages 4 through 8.

WEIGHT ADJUSTMENTS

Select Options	Weight Adjustment	Tipping Load Adjustment Straight	Tipping Load Adjustment 40° Turn
20.5 x 25 12 ply L2 tires	-99 lb (-45 kg)	-73 lb (-33 kg)	-64 lb (-29 kg)
20.5 x 25 16 ply L2 tires	-44 lb (-20 kg)	-31 lb (-14 kg)	-29 lb (-13 kg)
20.5 x 25 12 ply L3 tires	+229 lb (+104 kg)	+165 lb (+75 kg)	+146 lb (+66 kg)
20.5 R25 XHA TL tires	+381 lb (+173 kg)	+276 lb (+125 kg)	+245 lb (+111 kg)
Standard counterweight	-853 lb (-387 kg)	-2,022 lb (-917 kg)	-1,693 lb (-768 kg)

NOTE: Unit equipped with Z-Bar loader arms, 2.5 yd^3 (1.9 m^3) general purpose pin on bucket with bolt-on edge, 20.5R25 XTLA Michelin tires, ROPS cab with heater and air conditioner, full counterweight, standard batteries, front and rear fenders, full fuel and 175 lb (79 kg) operator. Adjust select options from rated weight.

PERFORMANCE DATA

621F Z-Bar*	2.5 yd³ GP Pin On (1.9 m³) Bucket with Bolt-on Edge	2.5 yd³ GP Pin On (1.9 m³) Bucket with Teeth Only	2.75 yd³ GP Pin On (2.1 m³) Bucket with Bolt-on Edge
SAE bucket capacity – struck	2.1 yd³ (1.64 m³)	2.1 yd³ (1.57 m³)	2.3 yd³ (1.77 m³)
Heaped	2.5 yd³ (1.91 m³)	2.4 yd³ (1.83 m³)	2.7 yd³ (2.05 m³)
Bucket width – outside	102.4 in (2 602 mm)	102.4 in (2 602 mm)	102.4 in (2 602 mm)
Bucket weight	1,918 lb (870 kg)	1,832 lb (831 kg)	1,989 lb (902 kg)
E. Operating height – fully raised with spillguard	194.0 in (4 928 mm)	194.0 in (4 928 mm)	195.1 in (4 956 mm)
F. Hinge pin height – fully raised	150.8 in (3 831 mm)	150.8 in (3 831 mm)	150.8 in (3 831 mm)
G. Overall length – bucket level on ground	285.0 in (7 239 mm)	290.8 in (7 386 mm)	288.0 in (7 315 mm)
Dump angle – fully raised	52°	52°	52°
H. Dump height – fully raised, 45° dump	114.0 in (2 896 mm)	110.3 in (2 801 mm)	112.1 in (2 847 mm)
J. Bucket reach – fully raised, 45° dump	36.2 in (919 mm)	40.3 in (1 023 mm)	38.1 in (969 mm)
K. Bucket reach – 7 ft 0 in (2.13 m) height, 45° dump	57.8 in (1 468 mm)	60.0 in (1 524 mm)	58.8 in (1 493 mm)
Operating load – ISO	9,905 lb (4 493 kg)	10,040 lb (4 554 kg)	9,780 lb (4 436 kg)
Operating load – SAE	8,944 lb (4 057 kg)	9,065 lb (4 112 kg)	8,827 lb (4 004 kg)
Maximum material density – ISO	3,963 lb/yd³ (2 351 kg/m³)	4,195 lb/yd³ (2 489 kg/m³)	3,647 lb/yd³ (2 164 kg/m³)
Maximum material density – SAE	3,578 lb/yd³ (2 123 kg/m³)	3,789 lb/yd³ (2 248 kg/m³)	3,293 lb/yd³ (1 954 kg/m³)
Tipping load – ISO:			
Straight	22,558 lb (10 232 kg)	22,844 lb (10 362 kg)	22,282 lb (10 107 kg)
40° turn	19,811 lb (8 986 kg)	20,077 lb (9 107 kg)	19,559 lb (8 872 kg)
Tipping load – SAE:			
Straight	21,076 lb (9 560 kg)	21,345 lb (9 682 kg)	20,816 lb (9 442 kg)
40° turn	17,890 lb (8 115 kg)	18,133 lb (8 225 kg)	17,655 lb (8 008 kg)
Lift capacity:			
Full height	16,316 lb (7 401 kg)	16,411 lb (7 444 kg)	16,237 lb (7 365 kg)
Maximum reach	23,023 lb (10 443 kg)	23,124 lb (10 489 kg)	22,935 lb (10 403 kg)
Ground	26,158 lb (11 865 kg)	27,615 lb (12 526 kg)	24,745 lb (11 224 kg)
Breakout force with tilt cylinder	27,223 lb (12 348 kg)	24,046 lb (10 907 kg)	25,426 lb (11 533 kg)
Maximum rollback:			
Ground	40°	40°	40°
Carry position	43°	43°	43°
@ Maximum reach	52°	52°	52°
@ Full height	55°	55°	55°
L. Dig depth	2.9 in (74 mm)	3.1 in (80 mm)	3.1 in (80 mm)
Maximum grading angle with bucket – back dragging	58°	59°	59°
Loader clearance circle with bucket	451.5 in (11 469 mm)	454.9 in (11 554 mm)	453.2 in (11 512 mm)

621F XR	2.5 yd³ GP Pin On (1.9 m³) Bucket with Bolt-on Edge	2.5 yd³ GP Pin On (1.9 m³) Bucket with Teeth Only	2.75 yd³ GP Pin On (2.1 m³) Bucket with Bolt-on Edge
E. Operating height – fully raised with spillguard	210.3 in (5 341 mm)	210.3 in (5 341 mm)	211.4 in (5 369 mm)
F. Hinge pin height – fully raised	167.1 in (4 244 mm)	167.1 in (4 244 mm)	167.1 in (4 244 mm)
G. Overall length – bucket level on ground	301.2 in (7 650 mm)	306.9 in (7 796 mm)	304.1 in (7 725 mm)
Dump angle – fully raised	46°	46°	46°
H. Dump height – fully raised, 45° dump	130.3 in (3 309 mm)	126.5 in (3 214 mm)	128.3 in (3 259 mm)
J. Bucket reach – fully raised, 45° dump	36.8 in (934 mm)	40.9 in (1 038 mm)	38.7 in (984 mm)
K. Bucket reach – 7 ft 0 in (2.13 m) height, 45° dump	71.7 in (1 820 mm)	74.1 in (1 882 mm)	72.8 in (1 848 mm)
Operating load – ISO	8,221 lb (3 729 kg)	8,329 lb (3 778 kg)	8,122 lb (3 684 kg)
Operating load – SAE	7,516 lb (3 409 kg)	7,617 lb (3 455 kg)	7,421 lb (3 366 kg)
Maximum material density – ISO	3,288 lb/yd³ (1 951 kg/m³)	3,481 lb/yd³ (2 065 kg/m³)	3,029 lb/yd³ (1 797 kg/m³)
Maximum material density – SAE	3,007 lb/yd³ (1 784 kg/m³)	3,182 lb/yd³ (1 888 kg/m³)	2,768 lb/yd³ (1 642 kg/m³)
Tipping load – ISO:			
Straight	18,819 lb (8 536 kg)	19,052 lb (8 642 kg)	18,603 lb (8 438 kg)
40° turn	16,442 lb (7 458 kg)	16,660 lb (7 557 kg)	14,839 lb (6 731 kg)
Tipping load – SAE:			
Straight	17,760 lb (8 056 kg)	17,983 lb (8 157 kg)	17,553 lb (7 962 kg)
40° turn	15,031 lb (6 818 kg)	15,234 lb (6 910 kg)	14,839 lb (6 731 kg)
Lift capacity:			
Full height	15,840 lb (7 185 kg)	15,933 lb (7 227 kg)	15,765 lb (7 151 kg)
Maximum reach	20,463 lb (9 282 kg)	20,576 lb (9 333 kg)	20,366 lb (9 238 kg)
Ground	25,426 lb (11 533 kg)	25,651 lb (11 635 kg)	25,192 lb (11 427 kg)
Breakout force with tilt cylinder	28,069 lb (12 732 kg)	24,773 lb (11 237 kg)	26,202 lb (11 885 kg)
Loader clearance circle with bucket	466.3 in (11 844 mm)	470.0 in (11 939 mm)	468.2 in (11 893 mm)

PERFORMANCE DATA

621F Z-Bar*	2.75 yd³ GP Pin On (2.1 m³) Bucket with Teeth Only	3.0 yd³ LM Pin On (2.3 m³) Bucket with Bolt-on Edge	3.0 yd³ (2.3 m³) Bucket with Grapple with Bolt-on Edge
SAE bucket capacity – struck	2.2 yd³ (1.70 m³)	2.6 yd³ (1.96 m³)	2.6 yd³ (1.96 m³)
Heaped	2.6 yd³ (1.98 m³)	3.0 yd³ (2.29 m³)	3.0 yd³ (2.29 m³)
Bucket width – outside	102.4 in (2 602 mm)	102.4 in (2 602 mm)	102.4 in (2 602 mm)
Bucket weight	1,903 lb (863 kg)	2,090 lb (948 kg)	3,554 lb (1 612 kg)
E. Operating height – fully raised with spillguard	195.1 in (4 956 mm)	198.1 in (5 033 mm)	198.1 in (5 031 mm)
F. Hinge pin height – fully raised	150.8 in (3 831 mm)	150.8 in (3 831 mm)	150.7 in (3 829 mm)
G. Overall length – bucket level on ground	293.7 in (7 461 mm)	290.7 in (7 383 mm)	290.7 in (7 385 mm)
Dump angle – fully raised	52°	52°	51°
H. Dump height – fully raised, 45° dump	108.3 in (2 751 mm)	110.3 in (2 802 mm)	110.2 in (2 799 mm)
J. Bucket reach – fully raised, 45° dump	42.2 in (1 072 mm)	39.9 in (1 013 mm)	39.9 in (1 013 mm)
K. Bucket reach – 7 ft 0 in (2.13 m) height, 45° dump	60.9 in (1 547 mm)	59.6 in (1 515 mm)	59.6 in (1 514 mm)
Operating load – ISO	9,912 lb (4 496 kg)	9,650 lb (4 377 kg)	8,876 lb (4 026 kg)
Operating load – SAE	8,946 lb (4 508 kg)	8,697 lb (3 945 kg)	7,879 lb (3 574 kg)
Maximum material density – ISO	3,828 lb/yd³ (2 271 kg/m³)	3,218 lb/yd³ (1 909 kg/m³)	2,960 lb/yd³ (1 756 kg/m³)
Maximum material density – SAE	3,455 lb/yd³ (2 050 kg/m³)	2,899 lb/yd³ (1 720 kg/m³)	2,628 lb/yd³ (1 559 kg/m³)
Tipping load – ISO:			
Straight	22,566 lb (10 236 kg)	22,000 lb (9 979 kg)	20,443 lb (9 273 kg)
40° turn	19,824 lb (8 992 kg)	19,299 lb (8 754 kg)	17,752 lb (8 052 kg)
Tipping load – SAE:			
Straight	21,081 lb (9 562 kg)	20,536 lb (9 315 kg)	18,909 lb (8 577 kg)
40° turn	17,895 lb (8 117 kg)	17,394 lb (7 890 kg)	15,761 lb (7 149 kg)
Lift capacity:			
Full height	16,332 lb (7 408 kg)	16,129 lb (7 316 kg)	14,709 lb (6 672 kg)
Maximum reach	23,036 lb (10 449 kg)	22,818 lb (10 350 kg)	21,438 lb (9 724 kg)
Ground	26,081 lb (11 830 kg)	23,226 lb (10 535 kg)	19,048 lb (8 640 kg)
Breakout force with tilt cylinder	22,635 lb (10 267 kg)	23,966 lb (10 871 kg)	21,599 lb (9 797 kg)
Maximum rollback:			
Ground	40°	40°	41°
Carry position	43°	43°	44°
@ Maximum reach	52°	52°	53°
@ Full height	55°	55°	55°
L. Dig depth	3.4 in (86 mm)	3.4 in (86 mm)	3.5 in (88 mm)
Maximum grading angle with bucket – back dragging	60°	59°	61°
Loader clearance circle with bucket	456.7 in (11 599 mm)	454.8 in (11 552 mm)	454.6 in (11 548 mm)

621F XR	2.75 yd³ GP Pin On (2.1 m³) Bucket with Teeth Only	3.0 yd³ LM Pin On (2.3 m³) Bucket with Bolt-on Edge	3.0 yd³ (2.3 m³) Bucket with Grapple with Bolt-on Edge
E. Operating height – fully raised with spillguard	211.4 in (5 369 mm)	214.4 in (5 446 mm)	198.1 in (5 031 mm)
F. Hinge pin height – fully raised	167.1 in (4 244 mm)	167.1 in (4 244 mm)	150.7 in (3 829 mm)
G. Overall length – bucket level on ground	309.8 in (7 870 mm)	306.7 in (7 791 mm)	290.7 in (7 385 mm)
Dump angle – fully raised	46°	46°	51°
H. Dump height – fully raised, 45° dump	124.6 in (3 164 mm)	126.6 in (3 215 mm)	110.2 in (2 799 mm)
J. Bucket reach – fully raised, 45° dump	42.8 in (1 088 mm)	40.5 in (1 029 mm)	39.9 in (1 013 mm)
K. Bucket reach – 7 ft 0 in (2.13 m) height, 45° dump	75.2 in (1 909 mm)	73.7 in (1 873 mm)	59.6 in (1 514 mm)
Operating load – ISO	8,230 lb (3 733 kg)	8,014 lb (3 635 kg)	8,876 lb (4 026 kg)
Operating load – SAE	7,520 lb (3 411 kg)	7,315 lb (3 318 kg)	7,879 lb (3 574 kg)
Maximum material density – ISO	3,177 lb/yd³ (1 885 kg/m³)	2,672 lb/yd³ (1 585 kg/m³)	2,960 lb/yd³ (1 756 kg/m³)
Maximum material density – SAE	2,904 lb/yd³ (1 723 kg/m³)	2,439 lb/yd³ (1 447 kg/m³)	2,628 lb/yd³ (1 559 kg/m³)
Tipping load – ISO:			
Straight	18,834 lb (8 543 kg)	18,376 lb (8 335 kg)	20,443 lb (9 273 kg)
40° turn	15,040 lb (6 822 kg)	16,030 lb (7 271 kg)	17,752 lb (8 052 kg)
Tipping load – SAE:			
Straight	17,771 lb (8 061 kg)	17,326 lb (7 859 kg)	18,909 lb (8 577 kg)
40° turn	15,040 lb (6 822 kg)	14,630 lb (6 636 kg)	15,761 lb (7 149 kg)
Lift capacity:			
Full height	15,856 lb (7 192 kg)	15,662 lb (7 104 kg)	14,709 lb (6 672 kg)
Maximum reach	20,479 lb (9 289 kg)	20,241 lb (9 181 kg)	21,438 lb (9 724 kg)
Ground	25,415 lb (11 528 kg)	24,903 lb (11 296 kg)	19,048 lb (8 640 kg)
Breakout force with tilt cylinder	23,307 lb (10 572 kg)	24,685 lb (11 197 kg)	21,599 lb (9 797 kg)
Loader clearance circle with bucket	472.0 in (11 990 mm)	470.0 in (11 938 mm)	456.1 in (11 585 mm)

PERFORMANCE DATA

621F Z-Bar*	4.5 yd³ LM Pin On (3.4 m³) Bucket with Bolt-on Edge	2.5 yd³ GP Pin On (1.9 m³) Bucket on Z-Bar Coupler (JRB-Compatible) with Bolt-on Edge	2.5 yd³ GP Pin On (1.9 m³) Bucket on Z-Bar Coupler (JRB-Compatible) with Teeth Only
SAE bucket capacity – struck	4.5 yd³ (3.44 m³)	2.1 yd³ (1.62 m³)	2.1 yd³ (1.57 m³)
Heaped	4.5 yd³ (3.44 m³)	2.5 yd³ (1.90 m³)	2.4 yd³ (1.83 m³)
Bucket width – outside	102.4 in (2 602 mm)	102.4 in (2 602 mm)	102.6 in (2 605 mm)
Bucket weight	2,180 lb (989 kg)	2,815 lb (1 277 kg)	2,727 lb (1 237 kg)
E. Operating height – fully raised with spillguard	212.9 in (5 407 mm)	200.3 in (5 087 mm)	200.3 in (5 088 mm)
F. Hinge pin height – fully raised	150.8 in (3 831 mm)	150.8 in (3 830 mm)	150.8 in (3 830 mm)
G. Overall length – bucket level on ground	302.8 in (7 691 mm)	293.8 in (7 462 mm)	299.6 in (7 609 mm)
Dump angle – fully raised	51°	52°	52°
H. Dump height – fully raised, 45° dump	102.2 in (2 597 mm)	108.3 in (2 752 mm)	104.6 in (2 657 mm)
J. Bucket reach – fully raised, 45° dump	47.9 in (1 216 mm)	42.9 in (1 089 mm)	47.0 in (1 193 mm)
K. Bucket reach – 7 ft 0 in (2.13 m) height, 45° dump	63.0 in (1 599 mm)	61.6 in (1 564 mm)	63.5 in (1 613 mm)
Operating load – ISO	9,218 lb (4 181 kg)	8,854 lb (4 016 kg)	8,975 lb (4 071 kg)
Operating load – SAE	8,234 lb (3 735 kg)	7,959 lb (3 610 kg)	8,069 lb (3 660 kg)
Maximum material density – ISO	2,050 lb/yd³ (1 216 kg/m³)	3,563 lb/yd³ (2 114 kg/m³)	3,750 lb/yd³ (2 225 kg/m³)
Maximum material density – SAE	1,839 lb/yd³ (1 091 kg/m³)	3,202 lb/yd³ (1 900 kg/m³)	3,371 lb/yd³ (2 000 kg/m³)
Tipping load – ISO:			
Straight	21,032 lb (9 540 kg)	20,278 lb (9 198 kg)	20,538 lb (9 316 kg)
40° turn	18,435 lb (8 362 kg)	17,705 lb (8 031 kg)	17,948 lb (8 141 kg)
Tipping load – SAE:			
Straight	19,586 lb (8 884 kg)	18,909 lb (8 577 kg)	19,152 lb (8 687 kg)
40° turn	16,548 lb (7 506 kg)	15,917 lb (7 220 kg)	16,138 lb (7 320 kg)
Lift capacity:			
Full height	16,061 lb (7 285 kg)	15,373 lb (6 973 kg)	15,468 lb (7 016 kg)
Maximum reach	22,767 lb (10 327 kg)	22,035 lb (9 995 kg)	22,137 lb (10 041 kg)
Ground	17,710 lb (8 033 kg)	17,650 lb (8 006 kg)	18,437 lb (8 363 kg)
Breakout force with tilt cylinder	18,517 lb (8 399 kg)	21,821 lb (9 898 kg)	23,096 lb (10 476 kg)
Maximum rollback:			
Ground	41°	40°	40°
Carry position	44°	43°	43°
@ Maximum reach	53°	52°	52°
@ Full height	55°	55°	55°
L. Dig depth	4.4 in (112 mm)	3.0 in (75 mm)	3.2 in (82 mm)
Maximum grading angle with bucket – back dragging	64°	60°	62°
Loader clearance circle with bucket	462.1 in (11 737 mm)	456.7 in (11 599 mm)	460.3 in (11 692 mm)

621F XR	4.5 yd³ LD Pin On (3.44 m³) Bucket with Bolt-on Edge	2.5 yd³ GP Pin On (1.9 m³) Bucket on Z-Bar Coupler (JRB-Compatible) with Bolt-on Edge	2.5 yd³ GP Pin On (1.9 m³) Bucket on Z-Bar Coupler (JRB-Compatible) with Teeth Only
E. Operating height – fully raised with spillguard	229.1 in (5 820 mm)	216.5 in (5 500 mm)	216.5 in (5 500 mm)
F. Hinge pin height – fully raised	167.1 in (4 244 mm)	167.0 in (4 243 mm)	167.0 in (4 243 mm)
G. Overall length – bucket level on ground	318.7 in (8 096 mm)	310.0 in (7 873 mm)	315.7 in (8 018 mm)
Dump angle – fully raised	46°	46°	46°
H. Dump height – fully raised, 45° dump	118.5 in (3 010 mm)	124.6 in (3 165 mm)	120.9 in (3 070 mm)
J. Bucket reach – fully raised, 45° dump	48.5 in (1 232 mm)	43.5 in (1 104 mm)	47.6 in (1 208 mm)
K. Bucket reach – 7 ft 0 in (2.13 m) height, 45° dump	77.7 in (1 974 mm)	75.8 in (1 926 mm)	78.0 in (1 982 mm)
Operating load – ISO	7,703 lb (3 494 kg)	7,348 lb (3 333 kg)	7,449 lb (3 379 kg)
Operating load – SAE	7,004 lb (3 177 kg)	6,684 lb (3 032 kg)	6,777 lb (3 074 kg)
Maximum material density – ISO	1,712 lb/yd³ (1 016 kg/m³)	2,958 lb/yd³ (1 755 kg/m³)	3,113 lb/yd³ (1 847 kg/m³)
Maximum material density – SAE	1,557 lb/yd³ (924 kg/m³)	2,690 lb/yd³ (1 596 kg/m³)	2,832 lb/yd³ (1 680 kg/m³)
Tipping load – ISO:			
Straight	17,679 lb (8 019 kg)	16,945 lb (7 686 kg)	17,161 lb (7 784 kg)
40° turn	15,408 lb (6 989 kg)	14,698 lb (6 667 kg)	14,899 lb (6 758 kg)
Tipping load – SAE:			
Straight	16,634 lb (7 545 kg)	15,953 lb (7 236 kg)	16,160 lb (7 330 kg)
40° turn	14,010 lb (6 355 kg)	13,367 lb (6 063 kg)	13,556 lb (6 149 kg)
Lift capacity:			
Full height	15,598 lb (7 075 kg)	14,919 lb (6 767 kg)	15,011 lb (6 809 kg)
Maximum reach	20,106 lb (9 120 kg)	19,396 lb (8 798 kg)	19,509 lb (8 849 kg)
Ground	24,037 lb (10 903 kg)	23,402 lb (10 615 kg)	23,625 lb (10 716 kg)
Breakout force with tilt cylinder	19,010 lb (8 623 kg)	22,522 lb (10 216 kg)	23,817 lb (10 803 kg)
Loader clearance circle with bucket	478.0 in (12 140 mm)	471.9 in (11 987 mm)	475.9 in (12 089 mm)

PERFORMANCE DATA

621F Z-Bar*	2.5 yd³ GP Pin On (1.9 m³) Bucket on Z-Bar Coupler (ACS-Compatible) with Bolt-on Edge	2.5 yd³ GP Pin On (1.9 m³) Bucket on Z-Bar Coupler (ACS-Compatible) with Teeth Only
SAE bucket capacity – struck	2.1 yd³ (1.64 m³)	2.1 yd³ (1.57 m³)
Heaped	2.5 yd³ (1.91 m³)	2.4 yd³ (1.83 m³)
Bucket width – outside	102.4 in (2 602 mm)	102.6 in (2 605 mm)
Bucket weight	3,007 lb (1 364 kg)	2,930 lb (1 329 kg)
E. Operating height – fully raised with spillguard	199.2 in (5 059 mm)	199.2 in (5 060 mm)
F. Hinge pin height – fully raised	150.7 in (3 829 mm)	150.8 in (3 830 mm)
G. Overall length – bucket level on ground	292.1 in (7 419 mm)	297.8 in (7 563 mm)
Dump angle – fully raised	52°	52°
H. Dump height – fully raised, 45° dump	109.5 in (2 781 mm)	105.8 in (2 687 mm)
J. Bucket reach – fully raised, 45° dump	41.7 in (1 059 mm)	45.7 in (1 162 mm)
K. Bucket reach – 7 ft 0 in (2.13 m) height, 45° dump	61.0 in (1 550 mm)	63.0 in (1 600 mm)
Operating load – ISO	8,889 lb (4 032 kg)	9,004 lb (4 084 kg)
Operating load – SAE	7,981 lb (3 620 kg)	8,087 lb (3 668 kg)
Maximum material density – ISO	3,556 lb/yd³ (2 110 kg/m³)	3,762 lb/yd³ (2 232 kg/m³)
Maximum material density – SAE	3,192 lb/yd³ (1 894 kg/m³)	3,379 lb/yd³ (2 005 kg/m³)
Tipping load – ISO:		
Straight	20,382 lb (9 245 kg)	20,633 lb (9 359 kg)
40° turn	17,776 lb (8 063 kg)	18,010 lb (8 169 kg)
Tipping load SAE:		
Straight	18,988 lb (8 613 kg)	19,224 lb (8 720 kg)
40° turn	15,959 lb (7 239 kg)	16,171 lb (7 335 kg)
Lift capacity:		
Full height	15,194 lb (6 892 kg)	15,278 lb (6 930 kg)
Maximum reach	21,868 lb (9 919 kg)	21,958 lb (9 960 kg)
Ground	18,684 lb (8 475 kg)	19,535 lb (8 861 kg)
Breakout force with tilt cylinder	22,527 lb (10 218 kg)	23,885 lb (10 834 kg)
Maximum rollback:		
Ground	40°	40°
Carry position	43°	43°
@ Maximum reach	52°	52°
@ Full height	55°	55°
L. Dig depth	2.9 in (73 mm)	3.1 in (79 mm)
Maximum grading angle with bucket – back dragging	60°	61°
Loader clearance circle with bucket	455.6 in (11 573 mm)	459.2 in (11 663 mm)

621F XR	2.5 yd³ GP Pin On (1.9 m³) Bucket on Z-Bar Coupler (ACS-Compatible) with Bolt-on Edge	2.5 yd³ GP Pin On (1.9 m³) Bucket on Z-Bar Coupler (ACS-Compatible) with Teeth Only
E. Operating height – fully raised with spillguard	215.4 in (5 472 mm)	215.5 in (5 473 mm)
F. Hinge pin height – fully raised	167.0 in (4 242 mm)	167.0 in (4 243 mm)
G. Overall length – bucket level on ground	308.2 in (7 829 mm)	313.9 in (7 973 mm)
Dump angle – fully raised	46°	46°
H. Dump height – fully raised, 45° dump	125.7 in (3 194 mm)	122.0 in (3 100 mm)
J. Bucket reach – fully raised, 45° dump	42.3 in (1 074 mm)	46.3 in (1 177 mm)
K. Bucket reach – 7 ft 0 in (2.13 m) height, 45° dump	75.2 in (1 909 mm)	77.4 in (1 966 mm)
Operating load – ISO	7,348 lb (3 333 kg)	7,443 lb (3 376 kg)
Operating load – SAE	6,673 lb (3 027 kg)	6,764 lb (3 068 kg)
Maximum material density – ISO	2,940 lb/yd³ (1 744 kg/m³)	3,110 lb/yd³ (1 845 kg/m³)
Maximum material density – SAE	2,670 lb/yd³ (1 584 kg/m³)	2,827 lb/yd³ (1 677 kg/m³)
Tipping load – ISO:		
Straight	16,969 lb (7 697 kg)	17,176 lb (7 791 kg)
40° turn	14,696 lb (6 666 kg)	14,888 lb (6 753 kg)
Tipping load – SAE:		
Straight	15,964 lb (7 241 kg)	16,160 lb (7 330 kg)
40° turn	13,349 lb (6 055 kg)	13,528 lb (6 136 kg)
Lift capacity:		
Full height	14,733 lb (6 683 kg)	14,817 lb (6 721 kg)
Maximum reach	19,246 lb (8 730 kg)	19,348 lb (8 776 kg)
Ground	23,442 lb (10 633 kg)	23,651 lb (10 728 kg)
Breakout force with tilt cylinder	23,259 lb (10 550 kg)	24,641 lb (11 177 kg)
Loader clearance circle with bucket	470.8 in (11 958 mm)	474.7 in (12 058 mm)

PERFORMANCE DATA

621F XT	2.5 yd³ (1.9 m³) Bucket JRB-Compatable Coupler with Bolt-on Edge	2.5 yd³ (1.9 m³) Bucket JRB-Compatable Coupler with Teeth Only	2.5 yd³ (1.9 m³) Bucket ACS-Compatable Coupler with Bolt-on Edge	2.5 yd³ (1.9 m³) Bucket ACS-Compatable Coupler with Teeth Only
E. Operating height – fully raised with spillguard	210.7 in (5 353 mm)	212.0 in (5 384 mm)	207.6 in (5 274 mm)	207.6 in (5 274 mm)
F. Hinge pin height – fully raised	155.8 in (3 958 mm)	155.8 in (3 958 mm)	155.8 in (3 957 mm)	155.8 in (3 958 mm)
G. Overall length – bucket level on ground	302.3 in (7 679 mm)	308.1 in (7 826 mm)	296.6 in (7 534 mm)	302.3 in (7 679 mm)
Dump angle – fully raised	55°	55°	55°	55°
H. Dump height – fully raised, 45° dump	107.8 in (2 737 mm)	104.0 in (2 642 mm)	111.5 in (2 831 mm)	107.8 in (2 737 mm)
J. Bucket reach – fully raised, 45° dump	51.3 in (1 304 mm)	55.4 in (1 406 mm)	47.1 in (1 196 mm)	51.1 in (1 299 mm)
K. Bucket reach – 7 ft 0 in (2.13 m) height, 45° dump	70.2 in (1 782 mm)	72.0 in (1 828 mm)	68.0 in (1 726 mm)	70.0 in (1 777 mm)
Operating load – ISO	8,261 lb (3 747 kg)	8,278 lb (3 755 kg)	8,389 lb (3 805 kg)	8,497 lb (3 854 kg)
Operating load – SAE	7,3810 lb (3 352 kg)	7,410 lb (3 361 kg)	7,491 lb (3 398 kg)	7,591 lb (3 443 kg)
Maximum material density – ISO	3,324 lb/yd³ (1 972 kg/m³)	3,459 lb/yd³ (2 489 kg/m³)	3,356 lb/yd³ (1 991 kg/m³)	3550 lb/yd³ (2 106 kg/m³)
Maximum material density – SAE	2,973 lb/yd³ (1 764 kg/m³)	3,096 lb/yd³ (1 837 kg/m³)	2,997 lb/yd³ (1 778 kg/m³)	3,172 lb/yd³ (1 882 kg/m³)
Tipping load – ISO:				
Straight	18,938 lb (8 590 kg)	18,969 lb (8 604 kg)	19,266 lb (8 739 kg)	19,498 lb (8 844 kg)
40° turn	16,519 lb (7 493 kg)	16,557 lb (7 510 kg)	16,777 lb (7 610 kg)	16,991 lb (7 707 kg)
Tipping load – SAE:				
Straight	17,615 lb (7 990 kg)	17,646 lb (8 004 kg)	17,897 lb (8 118 kg)	18,113 lb (8 216 kg)
40° turn	14,778 lb (8 115 kg)	14,819 lb (6 722 kg)	14,983 lb (6 796 kg)	15,179 lb (6 885 kg)
Lift capacity:				
Full height	14,123 lb (6 406 kg)	14,191 lb (6 437 kg)	14,043 lb (6 370 kg)	14,185 lb (6 434 kg)
Maximum reach	20,417 lb (9 261 kg)	20,492 lb (9 295 kg)	20,188 lb (9 157 kg)	20,289 lb (9 203 kg)
Ground	30,056 lb (13 633 kg)	29,901 lb (13 563 kg)	34,701 lb (15 740 kg)	35,918 lb (16,292 kg)
Breakout force with tilt cylinder	22,794 lb (11 339 kg)	22,897 lb (10 386 kg)	25,194 lb (11 428 kg)	26,698 lb (12 110 kg)
Loader clearance circle with bucket	453.7 in (11 523 mm)	456.3 in (11 590 mm)	451.3 in (11 462 mm)	453.8 in (11 527 mm)

NOTE: *Z-Bar performance data shown with full counterweight.
Performance data unit equipped with 20.5R25 Michelin XHA TL tires, ROPS cab with heater and A/C, full counterweight, standard batteries, front and rear fenders, full fuel and 175 lb (75 kg) operator. Specifications per SAE J732, J1234, J695, J742 and J818.

STANDARD EQUIPMENT

OPERATOR ENVIRONMENT

See page 1

ENGINE

Case/FPT F4HFE613W

Tier 4 Final Certified

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

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

DRIVETRAIN (continued)

Torque converter

Limited-slip differentials – Z-Bar

Heavy-duty axles – XT/XR:
with auto-locking front differential, rear conventional differential and with bronze sintered brake pads

Outboard planetary axles

Transmission oil cooler

Brake pedal transmission disconnect (declutch)

Hydraulic wet disc brakes

Spring-applied hydraulic release parking brake

Limp-Home Mode

Greasable rear axle trunnion

3-piece rims

HYDRAULICS

2-function loader valve with joystick control

Low-effort steering

Hydraulic driven cooling fan

Diagnostic quick couplers

Split flange hydraulic connections – 1 in or greater

LOADER

See page 2 – Operating weight, Other specifications

ELECTRICAL

Alternator and voltage regulator

Electrical disconnect

120 amp alternator

(2) 700 CCA 12-volt batteries

ELECTRICAL (continued)

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 receptacle

TELEMATICS

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

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

Remote drain points

Grouped remote-mounted ecology drains:
- Engine oil
- Engine coolant
- Hydraulic oil

OPTIONAL EQUIPMENT

OPERATOR ENVIRONMENT

Heated cloth-covered air suspension seat

Cloth mechanical suspension seat

Headrest

3 in (76 mm) retractable seat belt

Sound Shield noise suppression package

Cab with heater only – no AC

Radio-ready – 12 or 24-volt with auxiliary power – 12-volt

AM/FM stereo radio

Cab convenience package: ashtray, 24V cigar lighter and cell phone holder

Rotating beacon

Right hand brake pedal

External rearview mirrors

External rearview mirrors, heated

In-cab accessory mount – no rear view camera

Rear view camera with accessory mount

Extra front-facing work lights

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

DRIVETRAIN

Heavy-duty axles – Z-Bar:
with auto-locking front differential, rear conventional differential and with bronze sintered brake pads

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

TIRES

20.5-25 12 PR L2 bias – dirt/traction

20.5-25 12 PR L3 bias – rock

20.5 R25 L2 radial – dirt/traction

20.5 R25 L3 radial – rock

20.5 R25 radial Michelin SnoPlus

20.5 R25 radial Bridgestone Snow Wedge

SolidFlex HD solid tires on adapter rims

Spare wheels and tires

Axle oscillation stops

LOADER

XR extended reach version

XT tool carrier version

Attachment auxiliary hydraulics

Coupler systems – JRB or ACS compatible

Buckets – see pages 4 through 7

4 – 1 clamp buckets

Forks

ADVANCED ENGINE AIR FILTRATION

Heavy Debris cooling system:
- Slanted cooling module cover
- Auto reversing fan
- Sy-Klone® ejective air pre-cleaner
- Increased cooling fin spacing
- Added cooling module sealing

Variable speed hydraulic reversing fan

Full view air pre-cleaner

Sy-Klone® ejective air 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

GUARDING

Skid plate, transmission and front chassis bottom guards

Windscreen guard

Specialized guarding package:
- Windscreen, articulation, front cover, chassis bottom, skid plate, transmission, lift cylinder, front lights, fuel tank, metal wrapped hoses and cylinder debris ejectors

CASE Customer Assistance
866-54-CASE6

NOTE: All specifications are stated in accordance with SAE Standards or Recommended Practices, where applicable.

NOTE: All engines meet current EPA emissions requirements.

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CASE CONSTRUCTION

www.casece.com

Form No. CCE201503621F
Replaces Form No. CCE201411621F

Printed in U.S.A.

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