# WHEEL LOADER



SINCE 1842.

## 921G

ENGINE	
Make	FPT
Model	F4HFE613R
Emissions Certification	Tier 4 Final
Emissions Technology	SCR/DOC
	-stroke, turbocharged
Туро	and air-to-air cooled
Cylinders	6-cylinder in-line
Bore/Stroke 4.09 x 5	5.20 in (104 x 132 mm)
Displacement	411 in <sup>3</sup> (6.7 L)
	sel, #1 and #2 mixture
	for cold temperatures
Fuel injection Direction	t 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 w/ warnii	Dry type elements ng restriction indicator
Mid-mount cooling module with Mid-mount Air/Wa	w/ auto reversing fan: ter w/ Lube Oil Cooler
Fan – hydraulic driven:	
Style	8 blade puller
Diameter	32 in (813 mm)
Water pump	Integral
Engine oil pump operating a	
Side-to-side Fore and aft	35° 35°
Oil filtration	Replaceable,
	flow spin-on cartridge
Engine speeds	RPM
Rated - full load	2000
Horsepower – Maximum Po	wer:
Peak gross @ 1600 RPM	255 hp (190 kW)
Net rated @ 2000 RPM	224 hp (167 kW)
Peak net @ 1600 RPM	242 hp (180 kW)
Torque – Maximum Power:	050 lb ft /1 200 N>
Gross @ 1300 RPM Net @ 1300 RPM	959 lb·ft (1.300 N·m) 930 lb·ft (1.261 N·m)
Net torque rise:	550 ID IT (1.201 IN III)
Maximum power range	58%
NOTE O	11 045

NOTE: Gross horsepower and torque per SAE

J1995. Net horsepower and torque per SAE

J1349.

## **DRIVETRAIN**

Transmission:
4F/3R Proportional w/ Electronic Control
Module torque sensing autoshift/manual

shift and modulation

Gears Helical cut

Gear ratios Forward/Reverse

1st 4.152/3.937

Gear ratios	Forward/Reverse
1st	4.152/3.937
2nd	2.184/2.071
3rd	1.072/1.017
4th	0.636/ —
Torque converter:	

Stall ratio – 4-speed

Differential: Front axle equipped w/ locking differential

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

Rear axle oscillation 24° total

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Front and rear axles:	
Differential ratio	4.11
Planetary ratio	6.00
Final axle ratio	24.67
Planetaries	Outboard

Service brakes:

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

Brake surface area:

Front hub – each 841 in² (0.542 m²) Rear hub – each 721 in² (0.465 m²)

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	4.0 (6.4)	4.2 (6.8)
2nd	7.4 (12.0)	7.8 (12.6)
3rd	14.3 (23.1)	15.0 (24.2)
4th	22.4 (36.0)	_

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

## **ELECTRICAL**

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

## **OPERATOR ENVIRONMENT**

ROPS cab AC w/ heat: 8" LCD touchscreen display, adjustable armrest w/ 3 configurable buttons; Key start; Articulated power steering w/ tilt column; Fully adjustable, heated air-ride seat w/ headrest; AM/FM Bluetooth radio w/ auxiliary input; Cab convenience package: rear sun shade, interior mirror, under the seat drawer, 12V accessory port, & coat hook; Foot throttle; Single lever (joystick) loader control w/ fully adjustable wrist rest, 2 cup holders; 2 interior rear view mirrors: 3 inch (76 mm) retractable seat belt: Integrated 4-corner strobe; Multiple storage trays; Single brake pedal; F/N/R shuttle switch; Left and Right external rear view mirrors: Sound suppression kit; 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:

2.283:1

Transmission 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\*.

Audible/Visual alarms:

Warning lights:

Four-way flashers and turn signals; Brake pressure; Lamp/high beam indication; Engine Block 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.

## **OPERATING WEIGHT**

Z-Bar

Unit equipped w/ 23.5-R25 L3 Radial tires; ROPS cab w/ heater and A/C; Heavy-duty counterweight – 6,435 lb (2 919 kg); Heavy-duty batteries; Front and rear fenders; Lights; Full fuel; 165 lb (75 kg) operator; 4.75 yd³ (3.6 m³) MD pin on w/ bolt on edge:

45,070 lb (20 443 kg)

#### **HYDRAULICS**

Main pumps – steering/implement:
Closed center pressure/flow compensated

Tandem variable displacement – load-sensing:

Max. rated flow P1: 42.6 gpm @ 2000 RPM (162 L/min @ 2000 RPM)

Max. rated flow P2: 31.6 gpm @ 2000 RPM

(120 L/min @ 2000 RPM)

Loader control valve:

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

Loader auxiliary steering:

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

High pressure standby:

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

Filtration:

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

## **SERVICE CAPACITIES**

Fuel tank	76.0 gal (288.0 L)		
DEF tank - Diesel Exhaust Fluid:			
Usable	9.8 gal (37.1 L)		
Total	15.6 gal (58.9 L)		
Hydraulic system:			
Reservoir	29.0 gal (110.0 L)		
Total	53.0 gal (200.0 L)		
Transmission:			
Service w/ filter	36.0 qt (34.1 L)		
Front and rear axle:			
Front axle	44.4 qt (42.0 L)		
Rear axle	42.3 qt (40.0 L)		
Engine oil w/ filter	16.0 qt (15.1 L)		
Cooling system	32.0 qt (30.0 L)		

### OTHER SPECIFICATIONS

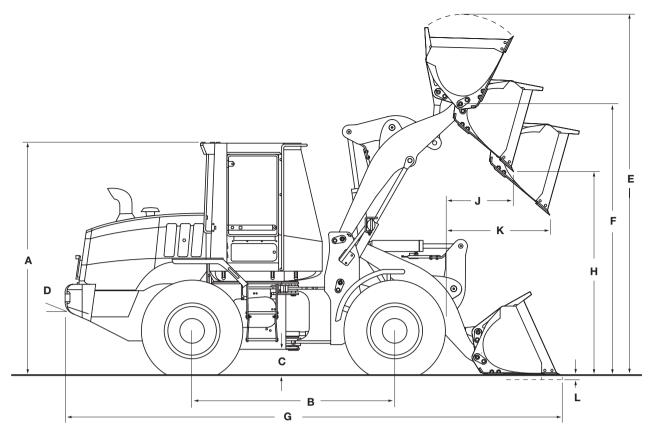
Lift cylinder:	
Bore diameter	6.0 in (152.4 mm)
Rod diameter	3.5 in (88.9 mm)
Stroke	33.3 in (845.7 mm)
Dump cylinder:	
Bore diameter	7.0 in (177.8 mm)
Rod diameter	4.0 in (101.6 mm)
Stroke	23.6 in (600 mm)

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	6.3 sec
Dump w/ rated bucket load	1.5 sec
Float down	3.6 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**

Bimeriolono	
A. Height to top of ROPS cab	136.2 in (3.464 mm)
Height to drawbar	42.7 in (1.085 mm)
B. Wheelbase	131.5 in (3.340 mm)
C. Ground clearance	17.1 in (435 mm)
D. Angle of departure	29°
Width:	
Overall* without bucket	111.4 in (2.829mm)
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 6.

## **WEIGHT ADJUSTMENTS**

Select Options	Weight Adjustment	Tipping Load Adjustment Straight: Deflected*	Tipping Load Adjustment 40° Turn: Deflected*
23.5-R25 L2 Radial tires	-28 lb (-13 kg)	-102 lb (-46 kg)	-177 lb (-53 kg)
23.5-R25 L3 Bias tires	-504 lb (-229 kg)	-459 lb (-208 kg)	-1,048 lb (-475 kg)

NOTE: Unit equipped with Z-Bar loader arms, 4.75 yd³ (3.6 m³) 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**

921G Z-Bar*	4.75 yd³ (3.6 m³) Bucket with Bolt-on Edge - Pin On	4.6 yd <sup>3</sup> (3.5 m <sup>3</sup> ) Bucket with Teeth - Pin On
Operating weight	45,070 lb (20.443 kg)	44,929 lb (20.379 kg)
E. Operating height – fully raised with spillguard	220.1 in (5.589 mm)	220.1 in (5.589 mm)
F. Hinge pin height – fully raised	162.4 in (4.124 mm)	162.4 in (4.124 mm)
G. Overall length – bucket level on ground	322.7 in (8.198 mm)	328.6 in (8.347 mm)
Dump angle – fully raised	55°	55°
H. Dump height – fully raised, 45° dump	114.6 in (2.912 mm)	110.9 in (2.816 mm
J. Bucket reach – fully raised, 45° dump	46.8 in (1.189 mm)	51.2 in (1.302 mm)
K. Bucket reach – 7 ft 0 in (2.13 m) height, 45° dump	68.9 in (1.750 mm)	71.4 in (1.813 mm)
L. Dig depth	2.9 in (74 mm)	2.9 in (75 mm)
Operating load – ISO Rigid Tires	15,544 lb (7.051 kg)	15,775 lb (7.156 kg)
Operating load – ISO Deflected Tires	14,264 lb (6.470 kg)	14,479 lb (6.567 kg)
Maximum material density – ISO Rigid Tires	3,272 lb/yd³ (1.942 kg/m³)	3,429 lb/yd³ (2.035 kg/m³)
Maximum material density – ISO Deflected Tires	3,003 lb/yd³ (1.782 kg/m³)	3,148 lb/yd³ (1.868 kg/m³)
Tipping load – ISO Rigid Tires: Straight	37,921 lb (17.201 kg)	38,448 lb (17.440 kg)
40° turn	31,088 lb (14.101 kg)	31,551 lb (14.311 kg)
Tipping load – ISO Deflected Tires: Straight	35,693 lb (16.190 kg)	36,187 lb (16.414 kg)
40° turn	28,529 lb (12.940 kg)	28,958 lb (13.135 kg)
Lift capacity: Full height	26,722 lb (12.120 kg)	26,882 lb (12.193 kg)
Ground	45,618 lb (20.692 kg)	47,935 lb (21.743 kg)
Breakout force with tilt cylinder	37,688 lb (17.095 kg)	40,265 lb (18.264 kg)
Loader clearance circle with bucket	525.8 in (13.356 mm)	529.1 in (13.440 mm)

921G	Z-Bar	Z-Bar
Maximum rollback: Ground	41°/37°	41°/37°
Carry position	45°/43°	45°/43°
@ Full height	59°/60°	59°/60°
Maximum grading angle with bucket – back dragging	61°/63°	62°/64°
SAE bucket capacity – struck	4.08 yd³ (3.12 m³)	3.98 yd³ (3.04 m³)
Heaped	4.75 yd³ (3.63 m³)	4.60 yd³ (3.52 m³)
Bucket width – outside	119.3 in (3.030 mm)	119.2 in (3.027 mm)
Bucket weight	3,674 lb (1.666 kg)	3,532 lb (1.602 kg)

## **PERFORMANCE SPECS**

921G Z-Bar*	4.0 yd³ (3.1 m³) Bucket with Bolt-on Edge - JRB Coupler	3.8 yd <sup>3</sup> (2.9 m³) Bucket with Teeth - JRB Coupler	4.0 yd <sup>3</sup> (3.1 m <sup>3</sup> ) Bucket with Bolt-on Edge - ACS Coupler	3.8 yd <sup>3</sup> (2.9 m <sup>3</sup> ) Bucket with Teeth - ACS Coupler
Operating weight	46,166 lb (20.941 kg)	46,025 lb (20.877 kg)	46,220 lb (20.965 kg)	46,078 lb (20.901 kg)
E. Operating height – fully raised with spillguard	222.1 in (5.641 mm)	222.1 in (5.641 mm)	219.0 in (5.562 mm)	219.0 in (5.563 mm)
F. Hinge pin height – fully raised	162.3 in (4.123 mm)	162.3 in (4.123 mm)	162.3 in (4.122 mm)	162.3 in (4.123 mm)
G. Overall length – bucket level on ground	328.2 in (8.337 mm)	334.1 in (8.486 mm)	324.0 in (8.230 mm)	329.9 in (8.379 mm)
Dump angle – fully raised	55°	55°	55°	
H. Dump height – fully raised, 45° dump	111.1 in (2.821 mm)	107.3 in (2.725 mm)	113.8 in (2.890 mm)	110.0 in (2.794 mm)
J. Bucket reach – fully raised, 45° dump	51.0 in (1.295 mm)	55.4 in (1.408 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	71.3 in (1.810 mm)	73.6 in (1.869 mm)	69.4 in (1.764 mm)	71.9 in (1.826 mm)
L. Dig depth	2.9 in (75 mm)	3.0 in (76 mm)	2.9 in (75 mm)	3.0 in (76 mm)
Operating load – ISO Rigid Tires	14,056 lb (6.376 kg)	14,268 lb (6.472 kg)	14,458 lb (6.558 kg)	14,679 lb (6.658 kg)
Operating load – ISO Deflected Tires	12,882 lb (5.843 kg)	13,079 lb (5.933 kg)	13,249 lb (6.010 kg)	13,454 lb (6.103 kg)
Maximum material density – ISO Rigid Tires	3,514 lb/yd³ (2.085 kg/m³)	3,755 lb/yd³ (2.228 kg/m³)	3,615 lb/yd³ (2.145 kg/m³)	3,863 lb/yd³ (2.292 kg/m³)
Maximum material density – ISO Deflected Tires	3,220 lb/yd³ (1.911 kg/m³)	3,442 lb/yd³ (2.042 kg/m³)	3,312 lb/yd³ (1.965 kg/m³)	3,541 lb/yd³ (2.101 kg/m³)
Tipping load – ISO Rigid Tires: Straight 40° turn	34,496 lb (15.647 kg) 28,112 lb (12.751 kg)	34,979 lb (15.866 kg) 28,537 lb (12.944 kg)	35,472 lb (16.090 kg) 28,916 lb (13 .116 kg)	35,976 lb (16.318 kg) 29,358 lb (13.317 kg)
Tipping load – ISO Deflected Tires: Straight 40° turn	32,471 lb (14.728 kg) 25,763 lb (11.686 kg)	32,926 lb (14.935 kg) 26,158 lb (11.865 kg)	33,380 lb (15.141 kg) 26,498 lb (12.019 kg)	33,854 lb (15.356 kg) 26,908 lb (12.205 kg)
Lift capacity: Full height Ground	25,513 lb (11.573 kg) 33,475 lb (15.184 kg)	25,673 lb (11.645 kg) 34,900 lb (15.830 kg)	25,510 lb (11.571 kg) 38,169 lb (17.313 kg)	25,864 lb (11.732 kg) 48,195 lb (21.861 kg)
Breakout force with tilt cylinder	33,854 lb (15.356 kg)	35,974 lb (16.317 kg)	36,514 lb (16.562 kg)	38,959 lb (17.671 kg)
Loader clearance circle with bucket	529.0 in (13.437 mm)	532.4 in (13.523 mm)	526.5 in (13.374 mm)	529.9 in (13.459 mm)

921G	Z-Bar	Z-Bar	Z-Bar	Z-Bar
Maximum rollback: Ground	41°/37°	41°/37°	41°/37°	41°/37°
Carry position	45°/43°	45°/43°	45°/43°	45°/43°
@ Full height	59°/60°	59°/60°	59°/60°	59°/60°
Maximum grading angle with bucket –	62°/65°	64°/67°	61°/64°	63°/65°
back dragging				
SAE bucket capacity – struck	3.41 yd³ (2.61 m³)	3.25 yd <sup>3</sup> (2.48 m <sup>3</sup> )	3.41 yd <sup>3</sup> (2.61 m <sup>3</sup> )	3.25 yd³ (2.48 m³)
Heaped	4.00 yd³ (3.06 m³)	3.80 yd³ (2.91 m³)	4.00 yd <sup>3</sup> (3.06 m <sup>3</sup> )	3.80 yd³ (2.91 m³)
Bucket width – outside	119.3 in (3.030 mm)	119.2 in (3.027 mm)	119.3 in (3.030 mm)	119.2 in (3.027 mm)
Bucket weight	4,770 lb (2.164 kg)	4,629 lb (2.100 kg)	4,824 lb (2.188 kg)	4,682 lb (2.124 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.

## OPERATOR ENVIRONMENT

See page 1.

## **ENGINE**

FPT F4HFE613R

Tier 4 Final Certified

Selective Catalytic Reduction (SCR) with

Diesel Oxidation Catalyst

Selectable work modes:

Maximum Mode

Smart Mode

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 with

hydraulically driven auto reversing fan

Engine block heater

Sound suppression kit

Ejector type air precleaner

Common rail electronic fuel injecti

## **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

Heavy-duty axles:

With locking front differential

and open/conventional rear differential

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**

Adjustable Electro-hydraulic – EH joystick loader control and 3 configurable buttons

Adjustable EH settings:

Smooth

Moderate

Agaressive

Auxiliary Hydraulics

Ride Control™

Locking hydraulics for coupler

EH Parallel Lift

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

Liahts:

Integrated 4-corner strobe

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

External rear view mirrors

Heavy counterweight

Drawbar hitch

Articulation locking bar

Lift arm locking bar

Lift and tie-down points - front /rear

Rear frame side covers

License plate brackets; front bracket

and lit rear bracket

Rubber steering stops

Standard fenders with Left hand and

Right hand steps

Grouped remote-mounted ecology drains:

Engine oil

Engine coolant

Hydraulic oil

## **OPERATOR ENVIRONMENT**

Leather trimmed heated air seat with active suspension
In cab powered cooler box
In cab accessory mount
Rear view camera
External heated rear view mirrors
Front LED driving/headlights
LED front and rear work lights – 4 front, 2 rear

## **DRIVETRAIN**

Cold weather package:
Heavy-duty (2) 950 CCA 12V batteries
Fuel heater
Hydraulic oil cooler bypass
Low temperature hydraulic oil
Fast-warm hydraulic valve

## HYDRAULICS Secondary steering

Integrated Payload System

Tire Pressure Monitoring System
2-function EH loader control with one
auxiliary function
4-function EH loader control with two
proportional auxiliary controls
2 Single axis EH levers and one
auxiliary function
Joystick steering with or without

## **LOADER**

secondary steering

Attachment auxiliary hydraulics Coupler systems – JRB or ACS compatible Buckets – see pages 4 through 5

### **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 Axle oscillation stops

### **OTHER**

12.4 mph (20 kph) maximum speed control Special paint Skid plate and transmission Wide full coverage fenders with right and left hand steps



CASE Corporation reserves the right to make improvements in design or changes in specifications at any time without incurring any obligation to install them on units previously sold. The specifications, descriptions, and illustrative materials contained here reflect correctly the data known up to the publication date, but are subject to changes with no previous notice. The illustrations may include optional equipment and accessories and may not include all standard equipment.

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