

**TIER 4 FINAL CERTIFIED** 



ENGINE	
Model	FPT F5H FL463 A
Emissions Certification	n Tier 4 Final
Туре	4-stroke
Cylinders	4
Bore/Stroke	$3.9 \times 4.3 \text{ in}$ (99 x 110 mm)
Displacement	207 in <sup>3</sup> (3.4 L)
Fuel injection	High pressure, common rail injection
Fuel	Diesel
Fuel filter	Spin on, Beta (4) = 20
Air filter	Dry type element arning restriction indicator

Exhaust aftertreatment:

Cooled Exhaust Gas Recirculation (CEGR) w/ Diesel Oxidation Catalyst (DOC)

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Radiator: Core type	All aluminum
Fan: Style	Direct drive
Lubrication/cooling oil pump: Style	Integral

Engine oil:

Pump:

Rotor Pump w/ deep sump pan, plate cooled & pressurized under piston nozzles

Pump operating angle ratings:

Side-to-side	Rated 35°
Fore and aft	Rated 35°
Oil filtration	Spin on, full flow
Engine speeds	RPM
Rated - full load	2500
Low idle	950
High idle – no load	2500
Horsepower @ 2500 RPM:	

Gross	74 hp (55 kW)
Net	70 hp (52 kW)

Peak torque @ 1400 RPM:

Gross	232 lb·ft (314 N·m)
Net	227 lb·ft (308 N·m)

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

DRIVETRAIN	
Transmission	Hydrostatic transmission
Pump relief	6,092 psi (42 000 kPa)
Pump flow @ 2500 RPM	1 37.0 gpm (140 L/min)
Differential: Open standard/limited	slip or 100% lock opt.
Front axles: Differential ratio Planetary ratio Final axle ratio	3.67 6.00 22.00
Gear box: 1st ratio	2.46
Gear box HS: 1st ratio 2nd ratio	2.75 1.16
Planetaries	Outboard
Service brakes: Master cylinder hydrau wet disc on front axle	ulically actuated,
Parking brake:	

Mechanical, caliper on front axle		
Travel speeds	Forward	Reverse
	mph (kph)	mph (kph)
1st Low	3.7 (6.0)	3.7 (6.0)
2nd High	12.4 (20.0)	12.4 (20.0)
Travel speeds - HS	Forward	Reverse
	mnh (knh)	mnh (knh)

mph (kph) mph (kph) 1st Low 3.3 (5.3) 3.3 (5.3) 2nd Hiah 8.9 (14.4) 8.9 (14.4) 3rd High 20.6 (33.1) 20.6 (33.1)

NOTE: Travel speeds at full engine throttle w/ 365/80 B20 tires.

#### **ELECTRICAL** Voltage 12 Volts

Alternator	120 amp
Batteries	95 AHR, 900 CCA

## **OPERATOR ENVIRONMENT**

ROPS: ISO 3471: 2,008 lb (6 800 kg); Base and Deluxe Cab w/ heater and A/C; Key start; Articulated power steering w/ tilt column; Full adjustable, cloth suspension seat; Foot throttle; Single joystick w/ electronic speed shift control F/N/R switch and proportional loader control; Cup holder; Retractable seat belt; Storage tray on Deluxe Cab; Sun screen - front; Opening side window; Dome light; Wipers - front and rear; 12-volt auxiliary power; Lighter cigar and ashtray; Pocket cellular phone; Coat hook; External rearview mirrors; Loader control lockout.

Electronic information center

Displays/Gauges:

Vehicle speed; Hourmeter; Floating functionality on; High flow functionlity on; Clock: Vehicle directions: Gear number engaged; PM Catalyst icons.

Indicator lights:

Diff. lock; Main hydraulic enabled; Turn light left and right; Rear work lamps; Work lamps; Main high beam; Side lights; Stop; Warning signal; Rabbit; Hand brake; Brake fluid level; Quick coupler on; Ride Control on; Creep speed; PM Catalyst; Low fuel level; Clogging air filter; Engine oil pressure; Glow plug; Alternator changing.

Audible alarms:

Caution alarm; Critical alarm; Backup alarm.

NOTE: If equipped w/ option.

#### **OPERATING WEIGHT**

7-Bar:

Unit equipped w/ ROPS/FOPS cab w/ heater, standard HD counterweight, 365/80 R20 Dunlop tires, front and rear fenders, 1.3 yd3 (1.0 m3) general purpose bucket w/ edge, full fuel, 165 lb (75 kg) operator:

13,633 lb (6 184 kg)

## **HYDRAULICS**

Pump - steering/implement: Open-centered pressure/flow compensated

Fixed gear type:

Standard flow: Max. 22.5 gpm @ 3,336 psi

(Max. 85 L/min @ 230 bar)

Optional high flow:

Max. 34.3 gpm @ 2,901 psi (Max. 130 L/min @ 200 bar)

Loader control valve:

Open-center, Hydraulic Loader Control w/ single lever includes: Forward/Neutral/ Reverse switch, Floating switch, Low/High Travel mode switch, Auxiliary Function Roller

Loader auxiliary steering

Main relief pressure 3,336 psi (23 000 kPa)

Filtration:

15-micron, full flow replaceable cartridges on return line

## SERVICE CAPACITIES

Fuel tank	22.7 gal (86.0 L)
Hydraulic system:	
Reservoir	10.6 gal (40.0 L)
Total	14.0 gal (53.0 L)
Front and rear axle:	
Front axle	2.3 gal (8.7 L)
Rear axle	2.6 gal (10.0 L)
Rear axle HS	2.5 gal (9.5 L)
Engine oil w/ filter	1.8 gal (7.0 L)
Cooling*	3.4 gal (13.0 L)

NOTE: \*1.72 gal (6.5 L) antifreeze + 1.72 gal (6.5 L) water.

OTHER SPECIFICATIONS	
Lift cylinders	Two (2)
Bore diameter	3.25 in (82.5 mm)
Rod diameter	1.97 in (50.0 mm)
Stroke	29.57 in (751.0 mm)
Tilt cylinder:	
Bore diameter	3.49 in (88.7 mm)
Rod diameter	2.25 in (57.1 mm)
Stroke	19.96 in (507.0 mm)

Z-Bar:
Z-Bar loader linkage
Single control for lift and tilt
Positive hold float
Hydraulic attachment coupler:
Skid steer compatible/horizontal
pin compatible

Loader:

Cycle time:

Z-Bar:

Raise w/ rated bucket load

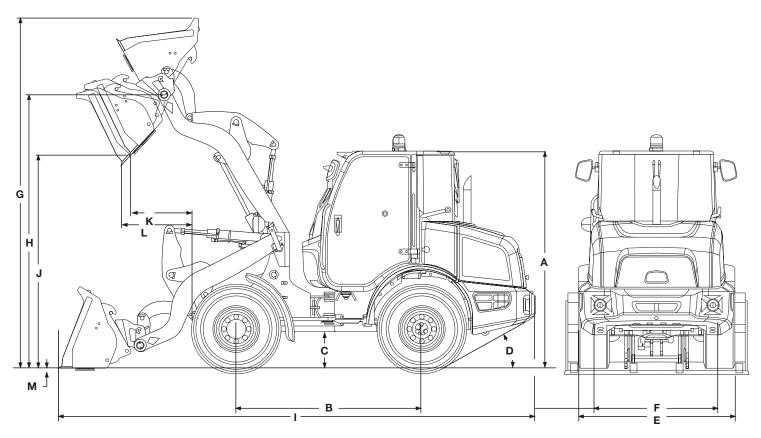
Dump w/ rated bucket load

Lower – empty

5.8 sec

1.7 sec

3.8 sec



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

DIMENSIONS	
A. Height to top of ROPS cab	105.5 in (2 680 mm)
B. Wheelbase	87.6 in (2 225 mm)
C. Ground clearance under shaft	19.4 in (493 mm)
Ground clearence under axles	14.6 in (370 mm)
D. Angle of departure	32°
Width:	
E. Overall without bucket	73.2 in (1 860 mm)
F. Centerline tread	59.1 in (1 500 mm)
Turning radius – outside	157.0 in (3 987 mm)
Turning angle:	
From center	40°
Total angle	80°
Rear axle oscillation – total	20°

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321F Z-Bar	1.3 yd³ GP (1.0 m³) GP Bucket with Bolt-on Edge	1.7 yd <sup>3</sup> GP (1.3 m <sup>3</sup> ) LM Bucket with Bolt-on Edge
ISO bucket capacity – struck	1.05 yd³ (0.8 m³)	1.44 yd <sup>3</sup> (1.1 m <sup>3</sup> )
Heaped	1.31 yd <sup>3</sup> (1.0 m <sup>3</sup> )	1.70 yd³ (1.3 m³
Bucket width – outside	82.7 in (2 100 mm)	82.7 in (2 100 mm)
Bucket weight – includes coupler and added components	1,045 lb (474 kg)	1,142 lb (518 kg)
G. Operating height – fully raised with spillguard	176.0 in (4 471 mm)	182.1 in (4 626 mm)
H. Hinge pin height – fully raised	133.7 in (3 395 mm)	133.7 in (3 395 mm)
Overall length – bucket level on ground	234.3 in (5 952 mm)	237.6 in (6 036 mm)
Dump angle – fully raised	45°	47°
J. Dump height – fully raised, 45° dump	98.1 in (2 493 mm)	96.0 in (2 438 mm)
K. Bucket reach – fully raised, 45° dump	39.5 in (1 003 mm)	43.1 in (1 095 mm)
L. Bucket reach – 7 ft 0 in (2.13 m) height, 45° dump	53.0 in (1 347 mm)	55.0 in (1 396 mm)
M. Dig depth	3.3 in (83 mm)	3.2 in (83 mm)
Operating Load (ROC) - ISO	4,265 lb (1 934 kg)	4,316 lb (1 958 kg)
Maximum material density – ISO	3,261 lb/yd³ (1 935 kg/m³)	2,538 lb/yd³ (1 506 kg/m³)
Tipping load – ISO:	, , , , , , , , , , , , , , , , , , , ,	, , , , , ,
Straight	10,301 lb (4 672 kg)	10,255 lb (4 652 kg
40° turn	8,530 lb (3 869 kg)	8,632 lb (3 916 kg
Lift capacity:		
Full height	8,354 lb (3 789 kg)	8,253 lb (3 744 kg
Maximum reach	10,503 lb (4 764 kg)	10,406 lb (4 720 kg)
Ground	13,163 lb (5 970 kg)	12,975 lb (5 885 kg)
Breakout force with tilt cylinder	10,076 lb (4 570 kg)	9,021 lb (4 092 kg
Maximum rollback:		
@ Ground	37°	37
@ Carry position	44°	44
@ Maximum reach	54°	53'
@ Full height	53°	53
Maximum grading angle with bucket – back dragging	65°	66°
Loader clearance circle with bucket	373.9 in (9 496 mm)	376.1 in (9 554 mm)

FORKS	
321F Z-Bar	
Fork length	47.2 in (1 200 mm)
Fork weight – includes coupler	394 lb (869 kg)
Operating load – level ground	4,998 lb (2 267 kg)
Operating mass	13,468 lb (6 109 kg)
Tipping load – straight	7,372 lb (3 344 kg)
Tipping load – 40° turn	6,247 lb (2 834 kg)
Fork load center	19.7 in (500 mm)

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#### STANDARD EQUIPMENT

## **OPERATOR ENVIRONMENT**

See page 1

#### **ENGINE**

FPT F5H FL463 A Fuel filter with water trap Dual element air cleaner

## LOADER

See page 2

#### DRIVETRAIN

4-wheel drive

Open - front and rear axles

Hydrostatic transmission

Single joystick with electronic speed shift control F/N/R switch and proportional

loader control

Outboard planetary axles

Hydraulic wet disc brakes

Mechanical parking brake

#### **HYDRAULICS**

3-spool loader control valve

3 Diagnostic quick couplers

Adjustable electro hydraulic (EH) loader controls Smooth, moderate & aggressive settings for both lift and tilt responsiveness:

Return to Dig

Hydraulic skid steer compatible coupler

Connect under pressure connectors Remote drain of hydraulic oil

Aux. Hydraulic drain line coupling Auxiliary flow 22.5 gpm @ 3,336 psi

(85 l/min @ 230 bar)

#### **OTHER**

Front and rear fenders

2 Front driving headlights - high/low beam

2 Rear flood lights

2 Stop tail lights and backup light

Front and rear turn signal/flash

Drawbar pin

Articulation locking pin

Tie-down and Lift-up point - front and rear

Backup alarm

Tool box

Rotating beacon

Wired for radio

Bucket position indicator

Front electrical socket for powered attachments

## OPTIONAL EQUIPMENT

#### **OPERATOR ENVIRONMENT**

Creep speed 0 - 3.1 mph (5 kph)

TeleScop adjustable steering column on

Deluxe Cab

Canopy cab

Rotating beacon

Limited slip - front and rear axles

100% lock - front and open rear axles

Horizontal pin coupler

Radio, antenna, and speakers

#### LOADER

Buckets - see performance data:

General purpose standard

General purpose light material

STD forks

Auto Ride Control

Cold weather with Block Heater - Two 680 CCA batters and Low-temp Hytran oil

Optional High Flow:

Max 34.3 gpm @ 3,336 psi (Max 130 L/min @ 200 bar)

#### **TIRES**

405/70 R20 SPT9 L2 DUNL

14.5-20MPT-04 MITAS

365/80 R20 SPT L2(DL) - Standard

365/80 R20 EM MITAS

405/70 R20 EM MITAS

550/45 R22.5 Flotation Tire

360/80 Nokian Tri 2 Snow

#### OTHER

CASE SiteWatch Telematics LED work lights, 2 front and 2 Rear

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