



COMPACT TRACK LOADER

**TIER 4 FINAL CERTIFIED** 



Model	FPT F5B FL413 D*C001	
Emissions Certification	Tier 4 Final	
Type D	iesel 4-stroke, Turbo, D.I.	
Cylinders	4	
Bore/Stroke	3.9 x 4.3 in (99 x 110 mm)	
Displacement	207 in <sup>3</sup> (3.4 L)	
Fuel injection	Direct, high pressure common rail – HPCR	
Fuel	#2 Diesel	
Fuel filter: Pre-filter Main filter	Beta (30) = 200/spin-on Beta (4) = 20/spin-on	
Air intake gate	Turbocharged w/ waste and external cooled EGR	
Exhaust aftertreatment	Selective Catalytic Reduction (SCR)	
Cooling	Liquid	
Engine speeds High idle – no load Rated – full load Low idle	RPM 2500 +/- 25 2500 1150 +/- 25	
Horsepower @ 2500 RPM – SAE J1349: Gross 90 hp (67 kW)		

Peak torque @ 1400 RPM

Net

Radiator: Aluminum bar and plate Core type Core size area 319 in<sup>2</sup> (0.206 m<sup>2</sup>) Rows of tubes x columns 21 rows Cap pressure 16 +/- 2 psi (1.10 +/- 0.14 bar)

84 hp (63 kW)

282 lb·ft (383 N·m)

Fan:

22 in (560 mm) Diameter Ratio 0.96:1 standard, 1.1:1 high-flow

Water pump:

Style Centrifugal Flow 47.8 gpm (181 L/min)

Engine lubrication pump:

Rotor pump w/ deep sump pan, plate cooler and pressurized under-piston nozzles

Pump operating angle ratings: Side to side 45° Bucket up 35° **Bucket Down** 45°

## LIFT GEOMETRY

Vertical Lift

#### **DRIVETRAIN**

Drive pump controls Servo-assist mechanical Pump to engine ratio 2.81 in<sup>3</sup> (46 cm<sup>3</sup>) Displacement Flow @ rated engine RPM: @ 97% efficiency 29.4 gpm (111 L/min) Charge pressure 360 psi (24.5 bar) System relief pressure 5,220 psi (360 bar) Drive pump controls Electro-hydraulic Pump to engine ratio 1:1 2.75 in<sup>3</sup> (45 cm<sup>3</sup>) Displacement Flow @ rated engine RPM: @ 97% efficiency 28.8 gpm (109 L/min) Charge pressure 362 psi (24.5 bar) System relief pressure 5,220 psi (360 bar) Drive motors: 3.10 in<sup>3</sup> (50.9 cm<sup>3</sup>) Max. displacement Displacement: 2.02 in<sup>3</sup> (33.1 cm<sup>3</sup>) High speed Motor RPM @ high idle and 97% efficiency: 2-speed Motor torque @ max. displacement and relief

pressure, calculated @ 5,220 psi (360 bar): 4,654 lb·ft (6 310 N·m) Travel speed:

Low range 5.5 mph (8.9 kph) High range 8.0 mph (12.9 kph)

Final drive:

Planetary gearbox w/ 2-speed motor

7,414 lb (3 370 kg) Tractive effort Parking brake:

Type Spring-applied, hydraulic release multiple disc. Engagement Depress on/off brake button on handle or instrument panel,

raise seat bar, get off seat or stop engine.

## **ELECTRICAL**

Alternator	160 amp
Starter	4.29 hp (3.2 kW)
Battery	12-volt low-maintenance
1,000 cold-cran	king amps @ 0° F (-18° C°)

#### **OPERATOR ENVIRONMENT**

ROPS/FOPS Level 1 canopy w/ side screens; Keyed start ignition; Tilt ROPS/FOPS; Rear window w/ emergency escape; Suspension Seat, vinvl w/ 2 in (51 mm) retractable 3 point lap seat belt; Hand and foot throttles; Alarm package back-up and horn; Rearview mirror; Headliner; Dome Light; Top window; Cup holder; 12V Power plug socket; Foot rest; Seat pocket; Padded seat bar w/ integral armrests; Loader control lockout system; Electric parking brake control; Operator's compartment floor cleanout; Proportional

auxiliary hydraulic control - on joystick; Advanced Instrument Cluster w/ digital hour meter, tachometer, Fuel level LCD bar graph w/ alarm, diagnostic features and security lockout; Electrohydraulic controls: For drive/steering, loader functions. Switchable between H and ISO patterns, Adjustable sensitivity of controls.

Warning lights with alarms:

Engine coolant temperature: Engine oil pressure: Engine malfunction; Hydraulic charge pressure; Hydraulic filter restriction; Hydraulic oil temperature: Critical system stop, Engine system, Hydraulic system, Electrical and diagnostic system.

Warning alarms:

Battery voltage - plus display; Oil service.

Indicator light:

Engine preheat; Parking brake; Seat bar reminder.

#### **OPERATING WEIGHT**

Unit equipped w/ open cab; 165 lb operator; 78 in Heavy Duty bucket; full of fuel:

10,610 lb (4 823 kg) Shipping weight 10,267 lb (4 667 kg) Add-on weights: Side cab glass 47 lb (21.3 ka) Polycarbonate cab door 75 lb (34.0 kg) Glass cab door w/ wiper 75 lb (34.0 kg) Suspension seat 22 lb (10.0 kg) Additional counterweight 600 lb (273 kg)

### **HYDRAULICS**

HYDRAULICS	
Implement pump type	Gear
Displacement:	
Standard aux.	2.23 in <sup>3</sup> (36.6 cm <sup>3</sup> )
High-flow aux.	1.42 in <sup>3</sup> (23.3 cm <sup>3</sup> )
Standard flow @ rated	engine RPM:
@ 100% efficiency	24.2 gpm (91.5 L/min)
Optional high-flow @ ra	ted engine RPM:
@ 100% efficiency	39.5 gpm (149 L/min)
Enhanced high-flow @ i	rated engine RPM:
@ 100% efficiency	35.0 gpm (132.5 L/min)
Loader control valve:	
Type 3 spool/op	pen center/series - series
Relief pressure	3,450 psi (238 bar)
Port relief pressures:	
Loader raise	3,625 psi (250 bar)
Bucket curl	3,916 psi (270 bar)
Bucket dump	3,625 psi (250 bar)
Hydraulic lines:	
Tubing	ORFS + 37° JIC Flare
Loop hoses	SAE 100 R19
Hydraulic oil cooler:	
Number of fins	10 per inch (3.94 per cm)
Number of tube rows	v columne 0 har/hlate

Number of tube rows x columns 9 bar/plate Area 138.7 in<sup>2</sup> (890 cm<sup>2</sup>)

Hydraulic filter Beta (4) = 75/spin-on

HYDRAULICS CONT.	1
Lift cylinders: Bore diameter Rod diameter Stroke Closed length	2.75 in (69.85 mm) 1.75 in (44.5 mm) 35.7 in (908 mm) 53.9 in (1 369 mm)
Bucket cylinders: Bore diameter Rod diameter	3.0 in (76.2 mm) 1.5 in (38.1 mm)

Stroke

Closed length

Fuel Tank	25.5 gal (96.5 L)
Engine oil w/ filter	8.9 qt (8.5 L)
Hydraulic system:	
Reservoir	6.0 gal (22.7 L)
Total	11.9 gal (45.4 L)
Diesel Exhaust Fluid (DEF) T	ank 2.8 gal (10.7 L)

SERVICE CAPACITIES

PERFORMANCE SPECS	,			
Rated operating capacity – ROC*:				
35% of tipping load	3,150 lb (1 432 kg)			
50% of tipping load	4,500 lb (2 045 kg)			
w/ additional counterweight	4,700 lb (2 135 kg)			
Tipping load*	9,000 lb (4 091 kg)			
Breakout forces @ 3,150 psi (217 bar)*:				
Bucket Cylinders	9,188 lb (41.8 kN)			
Lift cylinders - hydraulic limit	7,773 lb (35.3 kN)			
Cycle times:				

NOTE: \*Measured using 78 in (1.98 m) heavy-duty bucket.

5.1 sec

3.5 sec

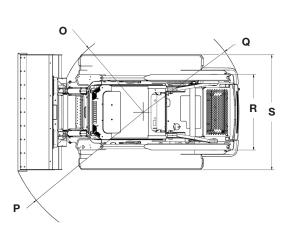
2.7 sec

2.0 sec

<b>A</b>		K G
	B	C H
		E F

15.9 in (405 mm)

24.3 in (617.0 mm)



Raise

Lower

Dump

Roll back

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

DIMENSIONS	
A. Overall operating height:	
with foundry/excavating bucket	161.4 in (4.10 m
with heavy duty bucket	165.6 in (4.21 m
with low profile extended bucket	170.4 in (4.33 m
Height to:	101.01.70.01
B. Bucket hinge pin	131.6 in (3.34 m
C. Top of ROPS  D. Bottom of level bucket, fully raised	80.4 in (2.04 m 123.2 in (3.13 m
	123.2 IN (3.13 M
Overall length:  E. without attachment with coupler	100 0 in /2 05 m
F. with foundry/excavating bucket on ground	120.2 in (3.05 m 144.4 in (3.67 m
with heavy duty bucket	148.6 in (3.78 m
with low profile extended bucket	153.5 in (3.89 m
G. Maximum dump angle	45.3'
H. Dump height:	
with foundry/excavating bucket	104.1 in (2.65 m) @ 45.0°
with heavy duty bucket	101.1 in (2.57 m) @ 45.0°
I. Dump reach at maximum height with low profile extended bucket	35.1 in (0.89 m) @ 45.0
Maximum attachment rollback:	
J. Bucket on ground	32.0
K. Bucket at full height	83.1
L. Track on ground	64.5 in (1.64 m
M. Ground clearance – bottom of belly pan	9.5 in (0.24 m
N. Angle of departure	32.0
Clearance circle:	
O. without bucket	57.7 in (1.47 m
P. with 78 in (1.98 m) foundry/excavating bucket on ground	87.8 in (2.23 m
Q. Clearance circle rear	68.6 in (1.74 m
R. Track gauge	58.6 in (1.49 m
S. Over the track width	76.5 in (1.94 m

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TRACK SELECTION			
Туре	Area	Ground Pressure	Width to Outside Track
17.7 in (450 mm)	2,286 in <sup>2</sup> (1.48 m <sup>2</sup> )	4.6 psi (31.7 kPa)	76 in (1.93 m)

OPTIONAL BUCKETS			
Туре	Width	Weight	Heaped Capacity
Dirt & Foundry	78 in (1.98 m)	440 lb (200 kg)	17.7 ft <sup>3</sup> (0.50 m <sup>3</sup> )
Low Profile Extended	78 in (1.98 m)	540 lb (245 kg)	19.1 ft <sup>3</sup> (0.54 m <sup>3</sup> )
	84 in (2.13 m)	575 lb (262 kg)	20.5 ft <sup>3</sup> (0.58 m <sup>3</sup> )
Light Material	84 in (2.13 m)	540 lb (245 kg)	27.5 ft <sup>3</sup> (0.78 m <sup>3</sup> )
Heavy-Duty	78 in (1.98 m)	530 lb (240 kg)	15.5 ft <sup>3</sup> (0.44 m <sup>3</sup> )
	84 in (2.13 m)	550 lb (250 kg)	17.0 ft <sup>3</sup> (0.48 m <sup>3</sup> )
Heavy-Duty Extended with SmartFit Teeth	78 in (1.98 m)	697 lb (316 kg)	18.9 ft <sup>3</sup> (0.54 m <sup>3</sup> )
	84 in (2.13 m)	728 lb (330 kg)	20.5 ft <sup>3</sup> (0.58 m <sup>3</sup> )

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#### STANDARD EQUIPMENT

#### **OPERATOR ENVIRONMENT**

See page 1

#### **ENGINE**

Dual element air cleaner Organic Acid Technology (OAT) Anti-freeze solution to -34° F Fuel tank - 25.5 gal (U.S.) Over and under radiator and oil cooler 3-stack after cooler/radiator/oil cooler configuration

Glow plugs

Integral engine oil cooler

Fuel filter with water trap 1,000 CCA 12V battery

Master electrical disconnect

Jump start terminal

#### DRIVETRAIN

2-speed hydrostatic four wheel drive SAHR disc parking brake

## **HYDRAULICS**

Auxiliary hydraulics: @ 3,450 psi (238 bar) - 24.2 gpm (91.5 L/min)

6 micron oil filtration system

3-spool loader control valve

Auxiliary hydraulic disconnects. ISO flat-face - connect-under-pressure with case drain

Hydraulic circuit pedal lock

Auxiliary function lockout override

Loader lift lockout override

Heavy-duty hydraulic oil cooler

Loader arm float position

Loader function lockout system

#### LOADER

Manual attachment coupler Vertical lift geometry Loader lift arm support strut SAE operating load: 3,150 lbs Tipping load: 9,000 lbs

#### **TRACKS**

**Rubber Tracks** 

#### **OTHER STANDARD FEATURES**

Halogen lights - 2 front, 2 side, 2 rear flood

Pre-wired for rotating beacon

Lockable service access hood

Single-point daily servicing

Rear tail lights

Remote oil and fuel filters

Block heater

Debris ingression sealing

Mounting points for add-on counterweights

### **OPTIONAL EQUIPMENT**

#### **OPERATOR ENVIRONMENT**

Enclosed cab:

Fully sealed and pressurized - FSP Glass door with wiper and washer Sliding side windows - removable Ventilation system with integrated heater Heater and air conditioner AM/FM Bluetooth radio with 2 speakers and USB port

Keyless start ignition

8 in Color LCD Display

Economy Mode (auto idle shutdown)

Auto Engine Protection Shutdown

Mechanical hand controls

Hand and foot controls:

Hand controls the loader drive function and foot controls the bucket and boom

Deluxe cloth, air suspension seat, with heater and lumbar support

Demolition cab door with polycarbonate **Ignition Timeout** 

Machine Settings User Access Levels Operator Security Codes

#### **HYDRAULICS**

High-flow auxiliary hydraulics - combined: @ 3,450 psi (238 bar) - 39.5 gpm (149 L/min)

Enhanced High-Flow auxiliary hydraulics - EHF: @ 4,000 psi (276 bar) - 35.0 gpm (132.5 L/min)

Second auxiliary hydraulics Hydraulic one-way self-leveling Ride control

## LOADER

Auxiliary front electric control Hydraulic attachment coupler

## DRIVETRAIN

Creep Speed Mode

## OTHER

Language decals Buckets - see page 3 Bolt-on bucket cutting edges Bolt-on heavy-duty bucket spill guard Special paint Offsite service arrangement SiteWatch Telematics

## FACTORY SUPPLIED ATTACHMENTS

Rotating beacon Four point lift hook 48 in (1.22 m) pallet forks

#### SERVICE PARTS

FOPS Level 2

Add-on counterweights Road lights Four-corner LED strobe Single point lift hook Aspirator Precleaner

3 inch (76.2 mm) retractable seat belt Bolt-on heavy-duty bucket teeth

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