## **PRELIMINARY**



# 850M

CRAWLER DOZER LT/WT/LGP

**TIER 4 FINAL CERTIFIED** 



ENGINE				
Model	FPT F4HFE413P*A008			
Emissions Certification	Tier 4 Final Certified			
Cylinders	4			
Displacement	275 in <sup>3</sup> (4.5 L)			
Fuel injection	Common rail			
Fuel	#2 Diesel			
Fuel filter	Spin-on w/			
	in-line strainer			
Air intake	Cross-flow			
Cooling	Liquid			
Engine speeds	RPM			
High idle - no load	2000			
Rated - full load	2000 +/- 50			
Low idle	1100 +/- 25			
Horsepower @ 2000 RPM - SAE J1349:				
Net	112 hp (84 kW)			
Gross	120 hp (90 kW)			

Pump	Deep sump plate cooler
	w/ pressurized under-piston nozzles

Engine lubrication:

Pump operating angle ratings:
Side-to-side 35°
Fore and aft 45°

Oil filtration Replaceable, spin-on full-flow cartridge

Radiator:
Fins per inch 8.5

Fan:
Diameter 21.6 in (550 mm)
Ratio 1.1:1

DRIVETRAIN	
Dual path hydrostatic Pump Motor	: Variable axial piston Variable bent axis piston
Max drawbar pull*	41,010 lb (182.4 kN)
Transmission	Single lever control – electronic straight tracking
Transmission oil filter replaceable w	4 micron, spin-on / 100 mesh suction screen
Travel speeds*: Forward Reverse	5.4 mph (8.7 kph) 5.4 mph (8.7 kph)
Parking brakes F	leavy-duty, spring-applied, hydraulic release disc
Steering brakes	Hydrostatic
Final drive	2 helical gear duction to planetary output
Ratio	62.4:1
Transmission cooling: Type Core size	Oil to water 417 in2 (0.27 m2)

NOTE: \*Measured using standard track chain. Increase travel speeds by 4% and reduce drawbar pull by 4% with the optional Max Life track chain.

#### **ELECTRICAL**

Alternator	120 amp
Battery	(2) 12-volt, low-maintenance
925 cold-cranking amps @ -4° F (-20° C)	
Electrical Syste	em 24 Volts

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#### **OPERATOR ENVIRONMENT**

Optional ROPS cab; Single lever control for speed, steering and direction; Cloth air suspension seat w/ back adjustment; Retractable 2 in (51 mm) seat belt; Adjustable armrest; Two foot rest; Rearview mirror; Two door windshield wipers; Dome light; 12-volt accessory outlet; Headliner; Floor mat.

Warning lights:

Air filter; Alternator; Diagnostic fault indicator; Engine coolant temperature; Engine oil pressure; Hydraulic filter; Low fuel level; Park brake engaged; Service soon indicator; Transmission filter; Transmission charge pressure; Transmission temperature.

#### Gauges:

Battery voltage; Fuel level; Digital hour meter/ tachometer/diagnostic/service reminder; Transmission oil temperature; Transmission speed indicator; Water temperature; Diesel Exhaust Fluid (DEF) level.

#### Audible warnings:

Engine coolant temperature; Engine oil pressure; Low fuel level; Transmission charge pressure; Temperature/hydraulic temperature.

#### **OPERATING WEIGHT**

Unit equipped w/ ROPS, full fuel tank, 170 lb (77 kg) operator, drawbar, side shield, track guides, backup alarm, horn and lights.

Long track	21,980 lb (9 970 kg)
Wide Track	22,750 lb (10 320 kg)
LGP	23,250 lb (10 547 kg)
Add-on weights:	
Drawbar	84 lb (38 kg)
Ripper - 3 shank	1,400 lb (635 kg)
Winch	1,001 lb (454 kg)
Front counterweight	827 lb (375 kg)
Cab	560 lb (254 kg)
MAX LIFE chain:	
18 in (457 mm)	39 lb (17.7 kg)
20 in (508 mm)	39 lb (17.7 kg)
24 in (610 mm)	87 lb (39 kg)
28 in (711 mm)	87 lb (39 kg)
Center rock guard	326 lb (148 kg)
Sweeps	139 lb (63 kg)

#### **HYDRAULICS**

Bore diameter Rod diameter

Stroke

Pump flow @ 2000 RPM @ 3,000 psi (20 684 kPA) 20.3 gpm (78.8 L/min) Lift cylinder Two (2) Bore diameter 3.50 in (88.9 mm) Rod diameter 1.75 in (44.4 mm) Stroke 14.26 in (362.1 mm) Angle cylinder Two (2) Bore diameter 3.50 in (88.9 mm) Rod diameter 1.75 in (44.4 mm) Stroke 14.56 in (369.9 mm) Tilt cylinder One (1)

3.50 in (88.9 mm)

1.75 in (44.4 mm)

5.39 in (137.0 mm)

SERVICE CAPACITIES	
Fuel tank	50.0 gal (189.0 L)
Engine oil w/ filter	13.0 qt (12.3 L)
Engine oil w/o filter	12.2 qt (11.5 L)
Engine cooling system	5.75 gal (21.8 L)
Hydraulic reservoir	26 gal (98.4 L)
Track rollers - each	0.27 qt (0.26 L)
Front idler	0.35 qt (0.33 L)
Carrier roller	0.20 qt (0.19 L)
DEF tank	12.0 gal (45.4 L)

#### **OTHER SPECIFICATIONS**

Undercarriage:

Track adjustment Hydraulic Frame Rigid suspension

Length of track on the ground:

 SALT HD
 92.6 in (2 352 mm)

 MAX LIFE
 93.4 in (2 373 mm)

 Track link pitch
 6.73 in (171 mm)

 Track shoe height
 2.09 in (53 mm)

 Pin diameter
 1.42 in (36 mm)

Bushing diameter:

 SALT HD
 2.39 in (60.7 mm)

 MAX LIFE
 3.15 in (80 mm)

 Track shoes per side
 40

 Track rollers per side
 7

 Carrier rollers per side
 1

Track roller rail diameter 7.48 in (190 mm)

Track on ground:

Shoe area:

18 in (457 mm) 3,334 in² (21 507 cm²) 20 in (508 mm) 3,704 in² (23 896 cm²) 24 in (610 mm) 4,448 in² (28 694 cm²) 28 in (711 mm) 5,184 in² (33 445 cm²)

Track:

Long track:

18 in (457 mm) closed grousers and SALT HD 18 in (457 mm) open grousers and MAX LIFE 20 in (508 mm) closed grousers and SALT HD 20 in (508 mm) open grousers and MAX LIFE

Wide track:

20 in (508 mm) closed grousers and SALT HD 20 in (508 mm) open grousers and MAX LIFE 24 in (610 mm) closed grousers and SALT HD 24 in (610 mm) open grousers and MAX LIFE Low ground pressure:

28 in (711 mm) closed grousers and SALT HD 28 in (711 mm) open grousers and MAX LIFE

Blade:

Variable blade pitch
Lift speed – per second
Cutting edge
Width
Thickness:
96 in
104 in

52° – 60°
19.7 in (500 mm)
19.7 in (500 mm)
8.0 in (203 mm)
0.62 in (15.875 mm)
0.75 in (19.05 mm)

Ripper:

Max penetration
Width
Cut width
Max ground clearance
Max. number of shanks
Tooth spacing:

14.0 in (355 mm)
73.1 in (1 856 mm)
70.1 in (1 781 mm)
16.8 in (426 mm)
3

w/ 3 teeth Hydraulic cylinder Diameter Stroke

112 in

120 in

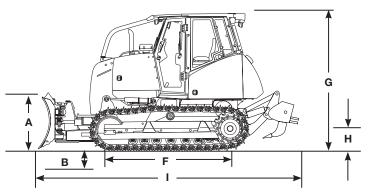
124 in

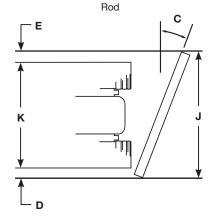
30.9 in (785 mm) Double-acting 3.9 in (99.1 mm) 8.4 in (213 mm) 1.75 in (44.5 mm)

0.62 in (15.875 mm)

0.75 in (19.05 mm)

0.75 in (19.05 mm)





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

DIMENSIONS					
	Long Track (LT)		Wide	Wide Track (WT)	
Blade width	104 in (2 640 mm)	112 in (2 845 mm)	112 in (2 845 mm)	120 in (3 048 mm)	124 in (3 150 mm
SAE blade capacity	2.16 yd <sup>3</sup> (1.65 m <sup>3</sup> )	2.35 yd³ (1.80 m³)	2.35 yd³ (1.80 m³)	2.53 yd³ (1.93 m³)	2.62 yd <sup>3</sup> (2.00 m <sup>3</sup>
A. Blade height	36.0 in (910 mm)	36.0 in (910 mm			
B. Blade lift above ground	34.0 in (864 mm)	34.0 in (864 mm			
C. Blade depth below ground	19.2 in (488 mm)	19.2 in (488 mm			
Blade angle both directions	25°	25°	25°	25°	25
D. Cast reach	-0.7 in (-17.3 mm)	3.4 in (86.3 mm)	-2.6 in (-66.5 mm)	0.9 in (22.0 mm)	0.6 in (14.9 mm
E. Cut reach	12.5 in (318.1 mm)	16.5 in (418.2 mm)	10.5 in (265.7 mm)	14.0 in (355.8 mm)	13.9 in (352.0 mm
Blade tilt, each end – up to 8.3°	8.9 in (226 mm)	8.9 in (226 mm)	8.9 in (226 mm)	9.49 in (241 mm)	9.49 in (241 mm
Track gauge	62.0 in (1.57 m)	62.0 in (1.57 m)	70.0 in (1.78 m)	70.0 in (1.78 m)	70.0 in (1.78 m
Maximum shoe width	20.0 in (508 mm)	20.0 in (508 mm)	24.0 in (610 mm)	24.0 in (610 mm)	28.0 in (711 mm
F. Length of track on ground:					
SALT HD	92.6 in (2 352 mm)	92.6 in (2 352 mm			
MAX LIFE	93.4 in (2 373 mm)	93.4 in (2 373 mm			
Area of track on ground	3,704 in <sup>2</sup> (2.38 m <sup>2</sup> )	3,704 in <sup>2</sup> (2.38 m <sup>2</sup> )	4,448 in <sup>2</sup> (2.87 m <sup>2</sup> )	4,448 in <sup>2</sup> (2.87 m <sup>2</sup> )	5,186 in <sup>2</sup> (3.34 m
Ground pressure	5.3 psi (0.37 bar)	5.3 psi (0.37 bar)	4.5 psi (0.31 bar)	4.5 psi (0.31 bar)	4.0 psi (0.28 ba
G. Height to top of cab	9 ft 1 in (2 769 mm)	9 ft 1 in (2 769 mn			
with air conditioning	9 ft 2 in (2 794 mm)	9 ft 2 in (2 794 mn			
H. Ground clearance	14.4 in (366 mm)	14.4 in (366 mm			
Length:					
Blade straight with drawbar	14 ft 9 in (4 567 mm)	14 ft 9 in (4 567 mr			
I. Blade straight with ripper	17 ft 8 in (5 277 mm)	17 ft 8 in (5 277 mm			
Width:					
J. Blade straight	8 ft 8 in (2 642 mm)	9 ft 4 in (2 845 mm)	9 ft 4 in (2 845 mm)	10 ft 0 in (3 048 mm)	10 ft 4 in (3 150 mr
Blade angled	8 ft 1 in (2 440 mm)	8 ft 8 in (2 643 mm)	9 ft 0 in (2 587 mm)	9 ft 4 in (2 821 mm)	10 ft 1 in (2 911 mn
K. Over track	6 ft 9 in (2 066 mm)	6 ft 10 in (2 083 mm)	7 ft 4 in (2 322 mm)	7 ft 10 in (2 386 mm)	8 ft 2 in (2 488 mn

NOTE: Ground clearance and overall height dimensions are with the grousers fully penetrated. Add 2.07 in (52.5 mm) if unit is on solid surface.

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#### STANDARD EQUIPMENT

#### **OPERATOR ENVIRONMENT**

See page 1

#### **ENGINE**

Pusher fan

F4HFE413P\*A008 Tier 4 Final Certified Automatic fan belt tensioner Integral engine oil cooling Fuel filter Dual element air cleaner 120 amp alternator 925 CCA 24-volt battery Engine side panels Anti-freeze to -34° F

#### DRIVETRAIN

Dual path infinitely variable, single-lever controlled hydrostatic drive, with electronic straight tracking, power turns and counter-rotation

Final drive:

Triple reduction; helical gear/planetary decelerator with hydrostatic drive retardation

Spring-applied hydraulic release parking brake

#### BLADE

52° - 60° variable pitch. with integral adjustment tool Single lever control for blade lift, angle and tilt

#### UNDERCARRIAGE

Hydraulic track adjusters Easy clean track covers Case Lubricated Track Chain Permanently lubricated track and carrier rollers Track adjuster guard Track guides - front and rear

Shock resistance idler mounting

#### **OTHER**

Anti-vandalism package Backup alarm Horn Work lights: 2 front 1 rear Master disconnect switch

Mirror Pre-cleaner

Front pull hook Rear transmission guard

#### **TELEMATICS**

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

#### **OPTIONAL EQUIPMENT**

#### **OPERATOR ENVIRONMENT**

Cab with heat, A/C, defroster, lights Seat belt - 3 in (76 mm) Rear wiper for cab Radio

#### **HYDRAULICS**

4-spool hydraulic valve for field-installed ripper

#### REAR MOUNTED EQUIPMENT

Ripper - 5 position with 3 shanks Hydraulic pump with PTO Rear tow hook Drawbar

#### **BLADES**

96 in (2 438 mm) 104 in (2 642 mm) 112 in (2 855 mm) 120 in (3 058 mm) 124 in (3 160 mm)

# **GUARDS**

Sweeps Center rock guard

#### **SCREENS**

Radiator brush screen Sandblast screen

#### **OTHER**

Environmental drains Case Extended Life Track Additional work lights Front counterweight Blade guidance ready - Trimble Blade guidance ready - Leica Blade guidance ready - Topcon Rearview mirror Cold start aid - grid heater: with dual 12-volt battery

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