# **850M**

# LT/WT/LGP CRAWLER DOZER TIER 4 INTERIM CERTIFIED

#### **ENGINE**

| Model               | FPT F4HFE413P               |
|---------------------|-----------------------------|
|                     | Tier 4 Interim 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 | 2220 +/- 50                 |
| Rated - full load   | 2000                        |
| Low idle            | 1100 +/- 25                 |
| Horsepower @ 2220 F | RPM – SAE J1349:            |

Horsepower @ 2220 RPM – SAE J1349:

Net 112 hp (84 kW) Gross 120 hp (90 kW)

# **Engine lubrication:**

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

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 hydrost     | atic:                                      |
|-----------------------|--|
| Pump                  | Variable axial piston                      |
| Motor                 | Variable bent axis piston                  |
| Max. drawbar pul      | 1* 42,813 lb (190.4 kN)                    |
| Transmission          | Single lever control                       |
|                       | electronic straight tracking               |
| Oil filter            | 4-micron, spin-on, replaceable             |
| Travel speeds*:       |  |
| Forward               | 5.8 mph (9.3 kph)                          |
| Reverse               | 5.8 mph (9.3 kph)                          |
| Parking brakes        | Heavy-duty, spring-applied,                |
| -                     | hydraulic release disc                     |
| Steering brakes       | Hydrostatic                                |
| Final drive           | 2 helical gear                             |
|                       | reduction to planetary output              |
| Ratio                 | 62.4:1                                     |
| Transmission cooling: |  |
| Type                  | Oil to water                               |
| Core size             | 417 in <sup>2</sup> (0.27 m <sup>2</sup> ) |

NOTE: \*Measured using standard track chain. Increase travel speeds by 4% and reduce drawbar pull by 4% w/ the optional CELT track chain.

#### **ELECTRICAL**

| Alternator                              | 120 amp                      |
|---|------------------------------|
| Batteries                               | (2) 12-volt, low-maintenance |
| 925 cold-cranking amps @ -4° F (-20° C) |                              |
| Electrical system                       | n 24 Volts                   |

# **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**

| Long track          | 21,560 lb (9 779 kg)  |
|---------------------|-----------------------|
| Wide track          | 22,330 lb (10 129 kg) |
| Low ground pressure | 22,830 lb (10 355 kg) |
| Add-on weights:     |                       |
| Drawbar             | 84 lb (38 kg)         |
| Ripper              | 1,400 lb (635 kg)     |
| Winch               | 1,001 lb (454 kg)     |
| Front counterweight | 827 lb (375 kg)       |
| Cab                 | 560 lb (254 kg)       |
| CELT chain:         |                       |
| 18 in (457 mm)      | 141 lb (64 kg)        |
| 20 in (508 mm)      | 128 lb (58 kg)        |
| 24 in (610 mm)      | 141 lb (64 kg)        |
| 28 in (711 mm)      | 141 lb (64 kg)        |
| Center rock guard   | 340 lb (154 kg)       |
| Sweeps              | 139 lb (63 kg)        |
|                     |                       |

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

# **HYDRAULICS**

| Pump flow @ 2000 RPM | l @ 3,000 psi (207 bar): |
|----------------------|--------------------------|
|                      | 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                   |
| Bore diameter        | 3.50 in (88.9 mm         |
| Rod diameter         | 1.75 in (44.4 mm         |
| Stroke               | 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    | 23.75 gal (90.0 L) |
| Final drive – per side | 15.0 qt (14.2 L)   |
| Track rollers – each   | 0.26 qt (0.25 L)   |
| Front idlers – each    | 0.52 qt (0.49 L)   |
| Carrier rollers - each | 0.25 qt (0.24 L)   |
| DEF tank               | 12.0 gal (45.4 L)  |
|                        |                    |

# **OTHER SPECIFICATIONS**

| OTTIER SPECIFICATIONS                           |  |
|---|--|
|   |  |
| Hydraulic                                       |  |
| Rigid suspension                                |  |
| 93 in (2 352 mm)                                |  |
| 6.73 in (171 mm)                                |  |
| 2.06 in (52 mm)                                 |  |
| 1.32 in (33 mm)                                 |  |
| 2.24 in (57 mm)<br>3.0 in (76 mm)               |  |
| 40  |  |
| 7   |  |
| 1   |  |
| 7.48 in (190 mm)                                |  |
|   |  |
| _   |  |
| 3,334 in <sup>2</sup> (21 507 cm <sup>2</sup> ) |  |
| 3,704 in <sup>2</sup> (23 896 cm <sup>2</sup> ) |  |
| 4,448 in <sup>2</sup> (28 694 cm <sup>2</sup> ) |  |
| 5,184 in <sup>2</sup> (33 445 cm <sup>2</sup> ) |  |
|   |  |

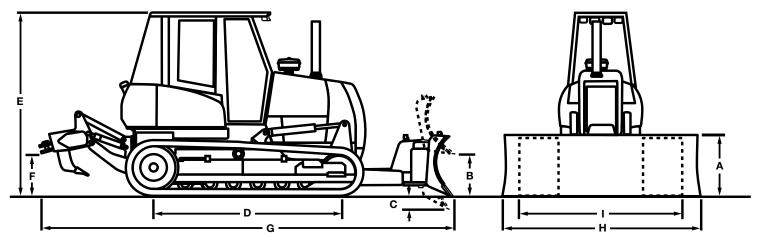
# **OTHER SPECIFICATIONS (CONTINUED)**

| OTHER SPECIFICATIONS (CONT             |
|--|
| Track:                                 |
| Long track:                            |
| 18 in (457 mm) closed grousers and CLT |
| 18 in (457 mm) open grousers and CELT  |
| 20 in (508 mm) closed grousers and CLT |
| 20 in (508 mm) open grousers and CELT  |
| Wide track:                            |
| 20 in (508 mm) closed grousers and CLT |
| 20 in (508 mm) open grousers and CELT  |
| 24 in (610 mm) closed grousers and CLT |
| 24 in (610 mm) open grousers and CELT  |
|  |

| Low ground pressure:                   |                         |  |
|--|-------------------------|--|
| 28 in (711 mm) closed grousers and CLT |                         |  |
| 28 in (711 mm) open grousers and CELT  |                         |  |
| Blade:                                 |                         |  |
| Variable blade pitch                   | 56°+/- 4°               |  |
| Lift speed – per second                | 19.7 in (500 mm)        |  |
| Cutting edge                           | Reversible, replaceable |  |
| Width                                  | 8.0 in (203 mm)         |  |
| Thickness                              | 0.75 in (19 mm)         |  |
|  |                         |  |

Track (continued):

| Ripper:   |   |
|---|---|
| Max. penetration                                | 14.2 in (361 mm)  |
| Width   | 71.1 in (1 806 mm)  |
| Cut width                                       | 69.5 in (1 765 mm)  |
| Max. ground clearance                           | 17.7 in (450 mm)  |
| Max. number of shanks                           | 3   |
| Tooth spacing:<br>with 3 teeth                  | 30.9 in (785 mm)  |
| Hydraulic cylinder<br>Diameter<br>Stroke<br>Rod | Double-acting<br>3.9 in (99.1 mm)<br>8.4 in (213 mm)<br>1.75 in (44.5 mm) |
|   |   |



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

# **DIMENSIONS**

|  | Long Track (LT)                              |  | Wide Track (WT)                               |  | Low Ground<br>Pressure (LGP)                   |
|--|--|--|---|--|--|
| 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 yd³ (1.65 m³)                           | 2.35 yd³ (1.80 m³)                             | 2.35 yd <sup>3</sup> (1.80 m <sup>3</sup> )   | 2.53 yd³ (1.93 m³)                             | 2.62 yd³ (2.00 m³)                             |
| A. Blade height  | 36.0 in (910 mm)                             | 36.0 in (910 mm)                               | 36.0 in (910 mm)                              | 36.0 in (910 mm)                               | 36.0 in (910 mm)                               |
| B. Blade lift above ground                                 | 34.4 in (874 mm)                             | 34.4 in (874 mm)                               | 34.4 in (874 mm)                              | 34.4 in (874 mm)                               | 34.4 in (874 mm)                               |
| C. Blade depth below ground                                | 19.0 in (483 mm)                             | 19.0 in (483 mm)                               | 19.0 in (483 mm)                              | 19.0 in (483 mm)                               | 19.0 in (483 mm)                               |
| Blade angle both directions                                | 25°  | 25°  | 25°   | 25°  | 25°  |
| 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)                               |
| <b>D.</b> Length of track on ground: CLT                   | 93.0 in (2.35 m)                             | 93.0 in (2.35 m)                               | 93.0 in (2.35 m)                              | 93.0 in (2.35 m)                               | 93.0 in (2.35 m)                               |
| 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 <sup>2</sup> )   |
| 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 bar)                             |
| E. Height to top of cab with air conditioning              | 9 ft 1 in (2 769 mm)<br>9 ft 2 in (2 794 mm) | 9 ft 1 in (2 769 mm)<br>9 ft 2 in (2 794 mm)   | 9 ft 1 in (2 769 mm)<br>9 ft 2 in (2 794 mm)  | 9 ft 1 in (2 769 mm)<br>9 ft 2 in (2 794 mm)   | 9 ft 1 in (2 769 mm)<br>9 ft 2 in (2 794 mm)   |
| F. Ground clearance  | 14.2 in (361 mm)                             | 14.2 in (361 mm)                               | 14.2 in (361 mm)                              | 14.2 in (361 mm)                               | 14.2 in (361 mm)                               |
| Length:  |  |  |   |  |  |
| Blade straight with drawbar  G. Blade straight with ripper | ,  | 14 ft 5 in (4 394 mm)<br>17 ft 2 in (5 232 mm) | ,   | 14 ft 5 in (4 394 mm)<br>17 ft 2 in (5 232 mm) | 14 ft 5 in (4 394 mm)<br>17 ft 2 in (5 232 mm) |
| Width:   |  | ·  |   |  | •  |
| H. Blade straight  | 8 ft 8 in (2 642 mm)                         | 9 ft 4 in (2 845 mm)                           | ,   | 10 ft 0 in (3 048 mm)                          | 10 ft 4 in (3 150 mm)                          |
| Blade angled  I. Over track                                | 7 ft 8 in (2 337 mm)<br>6 ft 8 in (2 030 mm) | 8 ft 6 in (2 590 mm)<br>6 ft 8 in (2 030 mm)   | 8 ft 6 in (2 590 mm)<br>7 ft 10 in (2 390 mm) | 9 ft 3 in (2 820 mm)<br>7 ft 10 in (2 390 mm)  | 9 ft 4 in (2 845 mm)<br>8 ft 2 in (2 490 mm)   |

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.

# **STANDARD EQUIPMENT**

#### **OPERATOR ENVIRONMENT**

See page 1

#### **ENGINE**

F4HFE413P

Tier 4 Interim 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

Pusher fan

# **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 (2 630 mm)

112 in (2 855 mm)

120 in (3 050 mm)

124 in (3 150 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



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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