

MINOTAUR

COMPACT DOZER LOADER

TIER 4 FINAL CERTIFIED



ENGINE

| Model | FPT F5B FL413 D*C005 |
|---|--|
| Emissions Certification | n Tier 4 Final |
| Туре | Diesel 4-stroke, Turbo, D.I. |
| Cylinders | 4 |
| Bore/Stroke | 3.9 x 4.3 in (99 x 110 mm) |
| Displacement | 207 in ³ (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 aftertreatmen | t Selective Catalytic |

| | nec | Juction (SCR) |
|------------------------------------|--------------------|---------------|
| | Diesel Oxidation C | atalyst (DOC) |
| Cooling | | Liquid |
| Engine speeds | | RPM |
| High idle - no | load | 2500 +/- 25 |
| Rated - full loa | ad | 2500 |
| Low idle | | 1150 +/- 25 |
| Horsepower @ 2500 RPM - SAE J1349: | | |

| Horsepower | @ 2500 RPM – SAE J1 | 349: |
|------------|---------------------|--------------|
| Gross | 11 | 4 hp (85 kW) |
| Net | 11 | 4 hp (85 kW) |
| | | |

| Peak torque @ 1400 RPM | 339 lb·ft (460 N·m) |
|------------------------|------------------------|
| | 000 10 11 (100 14 111) |

| Radiat | 10 | ۲: |
|--------|----|----|
| 0 | 4. | |

Aluminum bar and plate Core type Core size area 253 in² (0.163 m²) Rows of tubes x columns 19 rows Cap pressure 16 +/- 2 psi (1.10 +/- 0.14 bar)

Fan:

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

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° 35° Bucket up **Bucket Down** 45°

LIFT GEOMETRY

Vertical Lift

DRIVETRAIN

Drive pump controls Electro-hydraulic Pump to engine ratio 1:1 3.7 in³ (60 cm³) Displacement Flow @ rated engine RPM:

@ 96% efficiency

37.9 gpm (143.5 L/min) Charge pressure 377 psi (26 bar) System relief pressure 5,800 psi (400 bar)

Drive Motors - Steel Undercarriage:

Max. displacement 3.28 in³ (53.8 cm³) Flow @ rated engine RPM @ 96% efficiency: 1.83 in³ (30.0 cm³)

Motor torque @ max. displacement and relief pressure, calculated @ 5,800 psi (400 bar): 6,895 lb·ft (9 348 N·m)

Drive Motors - Rubber Undercarriage:

3.0 in³ (49.1 cm³) Max. displacement Flow @ rated engine RPM @ 96% efficiency: 1.83 in³ (30.0 cm³)

Motor torque @ max. displacement and relief pressure, calculated @ 5,800 psi (400 bar): 4,840 lb·ft (6 562 N·m)

Travel speed - Steel Track:

Low range 3.1 mph (5 kph) High range 5.9 mph (9.5 kph)

Travel speed - Rubber Track:

Low range 5.0 mph (8.0 kph) High range 8.7 mph (14.0 kph)

Final drive:

Planetary gearbox w/ 2-speed motor

17,834 lb (8 106 kg) Tractive effort - Steel Tractive effort - Rubber 10,995 lb (4 998 kg) Drawbar pull - Steel 25,826 lb (11 739 kg) Drawbar pull - Rubber 15,655 lb (7 116 kg)

Parking brake:

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

raise seat bar, get off seat or stop engine.

ELECTRICAL

Alternator 145 amp 4.29 hp (3.2 kW) Starter Battery 12-volt low-maintenance 950 cold-cranking amps @ 0° F (-18° C°)

OPERATOR ENVIRONMENT

Enclosed cab (ROPS/FOPS Level 1): Fully sealed and pressurized – FSP Glass door w/ wiper and washer, Sliding side windows – removable, Ventilation system w/ integrated heater, Heater and air conditioner, AM/FM Bluetooth radio w/ 2 speakers and USB port; Keyless start ignition; 8 in Color LCD Display; Economy Mode (auto idle shutdown); Auto Engine Protection Shutdown; Deluxe cloth, air suspension seat, w/ heater and lumbar support; 2 in (51 mm) retractable 3 pt lap seat belt; Ignition Timeout; Machine Settings; User Access Levels; Operator Security Codes;

Hand and foot throttles; Alarm package - backup and horn; Rearview mirror; Headliner; Dome Light; Top window; Cup holder; 12V Power plug socket; Foot rest; Seat pocket; Arm rests; 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; Electro-hydraulic controls: For drive/steering, loader functions, Switchable between Dozer and ISO patterns, Adjustable sensitivity of controls.

Warning lights w/ 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 belt reminder.

OPERATING WEIGHT

Unit equipped w/ closed cab & 18 in steel tracks; 165 lb operator; 96" 6 way blade; full of fuel: w/ ripper 18,600 lb (8 444 kg) w/o ripper 18,800 lb (8 527 kg) Shipping weight: w/ ripper 18,300 lb (8 318 kg) w/o ripper 18,500 lb (8 409 kg) Add-on weights: Side cab glass 47 lb (21.3 kg) Polycarbonate cab door 75 lb (34.0 kg) 75 lb (34.0 kg) Glass cab door w/ wiper Air Ride Seat 20 lb (9.1 kg) Additional counterweight Not Available

HYDRAULICS

Axial Piston Implement pump type Displacement: Enhanced high-flow aux. 3.8 in³ (63.0 cm³) Standard flow @ rated engine RPM: @ 100% efficiency 24.2 gpm (91.5 L/min) Standard high-flow @ rated engine RPM: @ 100% efficiency 41.6 gpm (157 L/min)

Enhanced high-flow @ rated engine RPM: @ 100% efficiency 41.6 gpm (157 L/min)

Loader control valve: Type

Relief pressure 3,450 psi (238 bar) Port relief pressures: Loader raise 4,279 psi (295 bar) Bucket curl 4,351 psi (300 bar) Bucket dump 2,683 psi (185 bar)

Hvdraulic lines:

Tubing ORFS + 37° JIC Flare Loop hoses SAE 100 R19

Hydraulic oil cooler:

Number of fins 10 per inch (4 per cm) Number of tube rows x columns 21 bar/plate 298.2 in² (1 920 cm²) Area

4 spool

| HYDRAULICS CONT. | |
|-------------------|-----------------------|
| Hydraulic filter | Beta (4) > 50/spin-on |
| Lift cylinders: | |
| Bore diameter | 3.25 in (82.5 mm) |
| Rod diameter | 2.25 in (57.1 mm) |
| Stroke | 38.8 in (985 mm) |
| Closed length | 59.6 in (1 515 mm) |
| Bucket cylinders: | |
| Bore diameter | 3.25 in (82.5 mm) |
| Rod diameter | 1.75 in (44.5 mm) |
| Stroke | 19.7 in (500 mm) |
| Closed length | 31.5 in (800 mm) |
| - | |
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SERVICE CAPACITIES

| Fuel Tank | 30.8 gal (116.5 L) |
|----------------------|--------------------|
| Engine oil w/ filter | 8.9 qt (8.5 L) |
| Hydraulic system | 10.7 gal (40.5 L) |

Diesel Exhaust Fluid (DEF) Tank 3.3 gal (12.4 L)

G



 Rated operating capacity – ROC*:

 35% of tipping load
 3,850 lb (1 750 kg)

 50% of tipping load
 5.500 lb (2 500 kg)

 Tipping load*
 11,000 lb (4 990 kg)

Breakout forces @ 3,150 psi (217 bar)*:

Bucket Cylinders 12,907 lb (57.4 kN) Lift cylinders 12,084 lb (53.8 kN)

Cycle times:

 Raise
 4.2 sec

 Lower
 2.2 sec

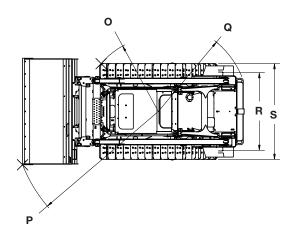
 Dump
 2.3 sec

 Roll back
 1.6 sec

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



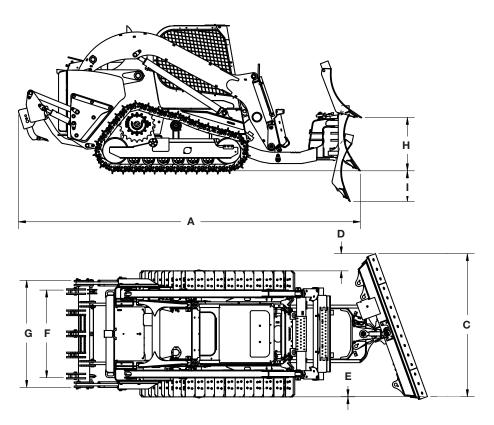
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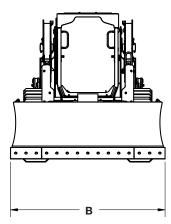


Line drawings are for illustrative purpose only and may not be exact representation of unit.

| DIMENSIONS | |
|--|---------------------------------------|
| A. Overall operating height: | |
| with heavy duty bucket | 176.5 in (4.48 m) |
| with XHD bucket | 189.6 in (4.82 m) |
| Height to: | |
| B. Bucket hinge pin | 140.2 in (3.56 m) |
| C. Top of ROPS | 84.6 in (2.15 m) |
| D. Bottom of level bucket, fully raised | 133.3 in (3.39 m) |
| Overall length: | |
| E. without attachment with coupler | 129.5 in (3.29 m) |
| F. with heavy duty bucket on ground | 159.1 in (4.04 m) |
| with XHD bucket | 172.7 in (4.39 m) |
| G. Maximum dump angle | 46.1° |
| H. Dump height: | |
| with heavy duty bucket | 109.0 in (2.77 m) @ 46.1° |
| with XHD bucket | 99.2 in (2.52 m) @ 46.1° |
| I. Dump reach at maximum height with heavy duty bucket | 39.0 in (0.99 m) @ 46.1° |
| Maximum attachment rollback: | |
| J. Bucket on ground | 30° |
| K. Bucket at full height | 84° |
| L. Track on ground – 14 in Steel/18 in Steel | 66 in (1.68 m) |
| L. Track on ground – Rubber | 74 in (1.88 m) |
| M. Ground clearance – bottom of belly pan | 12.6 in (0.32 m) |
| N. Angle of departure | 28.2° (with Ripper)/37.7° (no Ripper) |
| Clearance circle: | |
| O. without bucket or blade – Steel Track | 66.3 in (1.69 m) |
| O. without bucket or blade – Rubber Track | 67.4 in (1.71 m) |
| P. with 84 in (2.13 m) heavy duty bucket on ground – 18 in Steel Track | 101.3 in (2.57 m) |
| Q. Clearance circle rear – Steel Track | 70.5 in (1.79 m) |
| R. Track gauge | 60.6 in (1.54 m) |
| S. Over the track width – 18 in Steel Track (see page 4 for other track sizes) | 78.6 in (2.00 m) |

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

| DIMENSIONS | | |
|---|--------------------|--------------------------------|
| | 14 in Steel Track | 18 in Steel Track/Rubber Track |
| A. Overall length with Blade: | | |
| without Ripper | 168.8 in (4.29 m) | 168.8 in (4.29 m) |
| with Ripper | 191.1 in (4.86 m) | 191.1 in (4.86 m) |
| B. Straight Blade Width | 90 in (2.28 m) | 96 in (2.44 m) |
| C. Blade Cut Width | 84.6 in (2.15 m) | 90.2 in (2.29 m) |
| D. Cast Reach Track Coverage | 10.2 in (0.26 m) | 11.0 in (0.28 m) |
| E. Cut Reach Track Coverage | -0.2 in (-0.005 m) | 0.6 in (0.016 m) |
| F. Ripper Cut Width (Maximum) | 51.9 in (1.32 m) | 51.9 in (1.32 m) |
| G. Overall Ripper Width | 63.2 in (1.61 m) | 63.2 in (1.61 m) |
| H. Blade Lift Above Ground | 25.4 in (0.65 m) | 25.4 in (0.65 m) |
| I. Blade Depth Below Ground | 16.4 in (0.42 m) | 16.4 in (0.42 m) |
| Blade Maximum Tilt (in each direction) | 6.3° | 6.3° |
| Blade Maximum Angle (in each direction) | 20° | 20° |
| Blade Pitch | 52° - 60° | 52° - 60° |

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| TRACK SELECTION | | | |
|---|---|--------------------|------------------------|
| Туре | Area | Ground Pressure | Width to Outside Track |
| 14 in (356 mm) SALT HD - Steel Track (Single Grouser) | 1,849 in ² (1.2 m ²) | 9.8 psi (67.6 kPa) | 74.6 in (1.89 m) |
| 18 in (457 mm) SALT HD - Steel Track (Triple Grouser) | 2,377 in ² (1.5 m ²) | 7.9 psi (54.4 kPa) | 78.6 in (2.00 m) |
| 17.7 in (450 mm) – Rubber Track | 2,630 in ² (1.7 m ²) | 6.7 psi (46.2 kPa) | 78.3 in (1.99 m) |

| OPTIONAL BUCKETS | | | |
|--|----------------|-----------------|---|
| Туре | Width | Weight | Heaped Capacity |
| Dirt & Foundry | 78 in (1.98 m) | 440 lb (200 kg) | 17.7 ft ³ (0.50 m ³) |
| Low Profile Extended | 78 in (1.98 m) | 540 lb (245 kg) | 19.1 ft ³ (0.54 m ³) |
| | 84 in (2.13 m) | 575 lb (262 kg) | 20.5 ft ³ (0.58 m ³) |
| Light Material | 84 in (2.13 m) | 540 lb (245 kg) | 27.5 ft ³ (0.78 m ³) |
| Heavy-Duty | 78 in (1.98 m) | 530 lb (240 kg) | 15.5 ft ³ (0.44 m ³) |
| | 84 in (2.13 m) | 550 lb (250 kg) | 17.0 ft ³ (0.48 m ³) |
| Heavy-Duty Extended with SmartFit Teeth | 78 in (1.98 m) | 697 lb (316 kg) | 18.9 ft ³ (0.54 m ³) |
| | 84 in (2.13 m) | 728 lb (330 kg) | 20.5 ft ³ (0.58 m ³) |
| XHD (Extra Heavy Duty) | 84 in (2.13 m) | 900 lb (410 kg) | 33.8 ft ³ (0.96 m ³) |
| XHD (Extra Heavy Duty) with SmartFit Teeth | 84 in (2.13 m) | 990 lb (450 kg) | 33.8 ft ³ (0.96 m ³) |

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STANDARD EQUIPMENT

OPERATOR ENVIRONMENT

See page 1

ENGINE

Charge Air Cooler (CAC)

Dual element air cleaner

Organic Acid Technology (OAT)

Anti-freeze solution to -34° F

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

Master electrical disconnect

Jump start terminal

Hydraulically driven reversible fan

DRIVETRAIN

2-speed hydrostatic four wheel drive SAHR disc parking brake Switchable control patterns: Dozer & ISO 16 virtual speeds in dozer mode

Foot pedal modes - Accelerate, Trans and Decelerate

HYDRAULICS

Auxiliary hydraulics:

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

High-flow auxiliary hydraulics:

@ 3,450 psi (238 bar) - 41.6 gpm (157 L/min)

Enhanced High-Flow auxiliary hydraulics - EHF: @ 4,100 psi (283 bar) - 41.6 gpm (157 L/min)

6 micron oil filtration system

4-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

Auxiliary front electric control

Hydraulic one-way self leveling

Auto Ride Control

Creep Speed Mode

Auxiliary flow control within cab

BLADE

52° - 60° variable pitch; with integral adjustment tool

Single lever control for blade lift, angle and tilt

PRECISION BLADE GUIDANCE

Blade Guidance Ready

LOADER

Hydraulic attachment coupler Vertical lift geometry Loader lift arm support pin

UNDERCARRIAGE

Heavy Duty Steel Tracks Sealed and Lubricated Track Chain (SALT)

OTHER STANDARD FEATURES

LED 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

TELEMATICS

Transport Protection

CASE SiteWatch™ Telematics - includes hardware and a 5-yr data subscription SiteConnect Module providing remote diagnostics capability

OPTIONAL EQUIPMENT

OPERATOR ENVIRONMENT

Open Cab (ROPS/FOPS Level 1) w/ side screens; Keyed Start

Mechanical Suspension Seat - Vinyl Demolition cab door with polycarbonate

REAR MOUNTED EQUIPMENT

Ripper - 5 position with 3 shanks Replaceable Ripper Teeth

Drawbar

DRIVETRAIN

EZ Trac - suspension track with bogey wheel design

SERVICE PARTS

Road lights

Four-corner LED strobe

Precleaner

3 inch (76.2 mm) retractable seat belt

Bolt-on heavy-duty bucket teeth

Rotating beacon

Four point lift hook

48 in (1.22 m) pallet forks

1150 CCA battery for high altitude

Fire Extinguisher

Tamper resistant front door bracket

Attachment Hose Kit

Extra counterweights not offered for this model

Front coupler hose protection guard

OTHER

Language decals Buckets - see page 4

Bolt-on bucket cutting edges

Special paint

Tracks - see page 4

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SAFETY™ Always read the Operator's Manual before operating any equipment. Inspect equipment before using it, and be sure it is operating properly. Follow the product safety signs and use any safety features provided.

Form No. CCE202310DL550 Replaces Form No. CCE202205DL550

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