

# 650M

CRAWLER DOZER
LT/WT/LGP

**TIER 4 FINAL CERTIFIED** 



	· · · · · · · · · · · · · · · · · · ·
Model	FPT F5C F5HFL463D*G003
Emissions Certificat	tion Tier 4 Final Certified
Cylinders	4
Displacement	207.5 in <sup>3</sup> (3.4 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	2340 +/- 50
Rated - full load	2200
Low idle	1100 +/- 25
Horsepower @ 2200	0 RPM – SAE J1349:

Engine lubrication:

Net

Gross

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

68 hp (50.6 kW)

73.8 hp (55 kW)

full-flow cartridge

Pump operating angle ratings:

Side-to-side	35°
Fore and aft	45°
Oil filtration	Replaceable, spin-on

Radiator:

Core size area 367.5 in² (2 370.8 cm²) Rows of tubes 24

Fan:

Diameter 20 in (500 mm) Ratio 1.1:1

DRIVETRAIN	
Dual path hydrostatic	Variable axial piston
Motor  Max. drawbar pull*	Variable bent axis piston 39,086 lb (173.9 kN)
Transmission	Single lever control – electronic straight tracking
Transmission oil filter	4 micron, spin-on replaceable
Travel speeds*: Forward Reverse	5.0 mph (8 kph) 5.0 mph (8 kph)
Parking brakes	Heavy-duty, spring-applied, hydraulic pressure release
Steering brakes	Hydrostatic
Final drive	2 helical gear eduction to planetary output
Ratio	62.4:1
Transmission cooling Type Core size	Oil to air 216.9 in <sup>2</sup> (1 399.3 cm <sup>2</sup> )

#### **ELECTRICAL**

track chain.

Alternato	or 120 amp
Battery	12-volt low-maintenance
	925 cold-cranking amps @ 0° F (-18 C)

Increase travel speeds by 4% and reduce drawbar pull by 4% with the optional Max-Life

Electrical system 12 Volts

## **OPERATOR ENVIRONMENT**

Optional ROPS cab; Single lever control for speed, steering and direction; Forward/reverse speed ratio selector; Adjustable armrests; Foot rests; Retractable seat belt, 2 in (51 mm); Rear view mirror; Seat tilts for access.

Warning lights:

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

Gauges:

Battery voltage; Fuel level; Digital hourmeter/tachometer/diagnostics/service reminder; Transmission oil temperature; Water temperature.

Audible warnings:

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

## **OPERATING WEIGHT**

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

Long track	15,803 lb (7 168 kg)
Wide track	16,405 lb (7 441 kg)
Low ground pressure	16,839 lb (7 638 kg)
Add-on weights: Drawbar Ripper – 3 shank Winch Front counterweight Cab Max-Life chain Center rockguard Sweeps Dual batteries	128 lb (58 kg) 1,400 lb (635 kg) 1,861 lb (844 kg) 838 lb (380 kg) 1,874 lb (850 kg) 115 lb (52 kg) 157 lb (71 kg) 110 lb (50 kg) 60 lb (27 kg)
90 in blade 96 in blade 109 in blade 120 in blade SALT w/ 15.6 in closed shoe Max-Life w/ 15.6 in open sh SALT w/ 20 in closed shoe Max-Life w/ 20 in open shoe SALT w/ 24 in closed shoe Max-Life w/ 24 in open shoe	oe2,595 lb (1 177 kg) 2,889 lb (1 310 kg) 2,951 lb (1 338 kg) 3,210 lb (1 456 kg)

## **HYDRAULICS**

Pump flow @ 2000 RPM @ 3,000 psi (20 880 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 15.53 in (394.5 mm) Angle cylinder Two (2) Bore diameter 3.50 in (88.9 mm) 1.75 in (44.5 mm) Rod diameter 13.46 in (342.0 mm) Stroke Tilt cylinder One (1) Bore diameter 3.50 in (88.9 mm) Rod diameter 1.75 in (44.4 mm) 5.39 in (137 mm) Stroke

SERVICE CAPACITIES	
Fuel tank	40.8 gal (154.4 L)
Engine oil w/ filter	13 qt (12.3 L)
Engine oil w/o filter	12.2 qt (11.5 L)
Engine cooling system	23.9 qt (22.6 L)
Hydraulic reservoir	16.5 gal (72.7 L)
Final drive – per side	16 qt (15.1 L)
Track rollers – each	0.16 qt (0.15 L)
Front idlers – each	0.34 qt (0.326 L)
Carrier rollers – each	0.13 qt (0.136 L)

## **OTHER SPECIFICATIONS**

Undercarriage:

Track adjustment Hydraulic Frame Rigid suspension

Length of track on ground:

85 in (2 159 mm) 6.125 in (155.575 mm)

Track shoe height 2.06 in (52 mm)
Pin diameter 1.125 in (28.575 mm)

Bushing diameter:

Track link pitch

SALT track

Max-Life track

Bolt diameter

Track shoes per side

Carrier rollers per side

Track roller per side

Track roller rail diameter

2.13 in (54 mm)

2.68 in (68 mm)

0.625 in (16 mm)

40

Track rollers per side

5.98 in (152 mm)

Track on ground:

Shoe area:

15.6 in (395 mm) 2,644 in² (17 056 cm²) 20 in (508 mm) 3,372 in² (21 755 cm²) 24 in (610 mm) 4,083 in² (26 340 cm²)

Track:

Long Track:

15.6 in (395 mm) closed grousers and SALT 15.6 in (395 mm) open grousers and Max-Life

Wide Track:

15.6 in (395 mm) closed grousers and SALT 15.6 in (395 mm) open grousers and Max-Life 20 in (508 mm) closed grousers and SALT 20 in (508 mm) open grousers and Max-Life LGP:

24 in (610 mm) closed grousers and SALT 24 in (610 mm) open grousers and Max-Life

Blade:

 $\begin{tabular}{llll} Variable blade pitch & 52^\circ - 60^\circ \\ Lift speed - per second & 19.7 in (500 mm) \\ Cutting edge & Reversible, replaceable \\ Width & 8.0 in (203 mm) \\ Thickness & 0.625 in (16 mm) \\ \end{tabular}$ 

Ripper:

Max. penetration:

15.3 in (389 mm) w/ grousers

penetrated - see below

 Width
 73.1 in (1 856 mm)

 Cut width
 70.1 in (1 781 mm)

 Max. ground clearance
 15.5 in (393 mm)

 Points
 Replaceable

Max. number of shanks Tooth spacing:

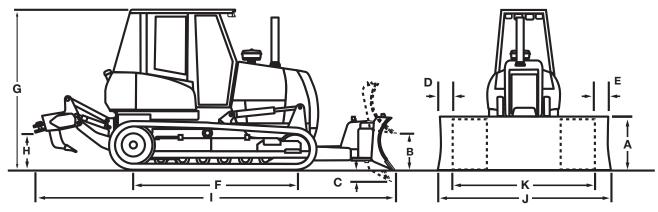
 w/ 3 teeth
 31 in (785 mm)

 Hydraulic cylinder
 Double-acting

 Diameter
 3.9 in (99.02 mm)

 Stroke
 8.4 in (213 mm)

 Rod
 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)	Long Track (LT, WT)	Wide Track (WT)	Low Ground Pressure (LGP
Blade width	90 in (2 286 mm )	96 in (2 438 mm)	109 in (2 769 mm)	120 in (3 048 mm)
SAE blade capacity	1.58 yd <sup>3</sup> (1.21 m <sup>3</sup> )	1.69 yd³ (1.29 m³)	2 yd³ (1.48 m³)	2.15 yd <sup>3</sup> (1.64 m <sup>3</sup> )
A. Blade height	33.1 in (841 mm)			
B. Blade lift above ground	35.1 in (892 mm)			
C. Blade depth below ground	21.0 in (533 mm)			
Blade angle both directions	22.7°	22.7°	22.7°	22.7°
D. Cast reach	11.4 in (288.4 mm)	14.1 in (358.7 mm)	12.3 in (312.7 mm)	15.4 in (390.7 mm)
E. Cut reach	-0.37 in (-9.5 mm)	2.39 in (60.8 mm)	0.58 in (14.7 mm)	3.65 in (92.8 mm)
Blade tilt, each end – up to 9.7°	7.72 in (196 mm)	8.23 in (209 mm)	9.33 in (237 mm)	10.28 in (261 mm)
Track gauge	56.47 in (1.43 m)	56.47 in (1.43 m)	68 in (1.73 m)	68 in (1.73 m)
Maximum shoe width	15.6 in (395 mm)	15.6 in (395 mm)	20 in (508 mm)	24 in (610 mm)
F. Length of track on ground:				
Max-Life	85 in (2.16 m)			
Area of track on ground	2,644 in <sup>2</sup> (1.71 m <sup>2</sup> )	2,644 in <sup>2</sup> (1.71 m <sup>2</sup> )	3,400 in <sup>2</sup> (2.19 m <sup>2</sup> )	4,083 in <sup>2</sup> (2.63 m <sup>2</sup> )
Ground pressure	5.98 psi (41.2 kPa)	5.98 psi (41.2 kPa)	6.07 psi (41.9 kPa)	4.12 psi (28.4 kPa)
G. Height to top of ROPS	8 ft 8 in (2 648 mm)			
Height to top of cab	0 # 0 != (0 050 ====)	0.4.0 :- (0.050)	0 ft 0 in (0 050 mm)	0.4.0 :- (0.050
with air conditioning	8 ft 9 in (2 653 mm)			
H. Ground clearance	13.07 in (332 mm)			
Length:				
Blade straight with drawbar	13 ft 8 in (4 180 mm)			
I. Blade straight with ripper	16 ft 3 in (4 951 mm)			
Width:				
J. Blade straight	7 ft 6 in (2 286 mm)	8 ft 0 in (2 438 mm)	9 ft 1 in (2 769 mm)	10 ft 0 in (3 048 mm)
Blade angled	7 ft 1 in (2 159 mm)	7 ft 7 in (2 299 mm)	8 ft 7 in (2 613 mm)	9 ft 5 in (2 871 mm)
K. Over track	6 ft 0 in (1 829 mm)	6 ft 0 in (1 829 mm)	7 ft 0 in (2 122 mm)	7 ft 8 in (2 337 mm)

650M 2 of 3

#### STANDARD EQUIPMENT

## **OPERATOR ENVIRONMENT**

See page 1

#### **ENGINE**

FPT F5C F5HFL463D\*G003

Tier 4 Final Certified

Automatic fan belt tensioner

Integral engine oil cooling

Fuel filter

Dual element radial seal air cleaner

120 amp alternator

925 CCA 12-volt battery

Engine side panel

Anti-freeze to -34°F

Pusher fan

Radiator - Anti-sandblast

#### DRIVETRAIN

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

Final drive:

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

Decelerator with hydrostatic drive retardation

Automatic spring-applied parking brake

10 incremental speed settings - Operator preference settings for max speed, shuttle sensitivity and steering sensitivity

#### BLADE

52° – 60° variable pitch

Single lever control for blade lift, angle and tilt

90 in (2.29 m) blade 650M LT

96 in (2.44 m) blade 650M LT/WT

109 in (2.8 m) blade 650M WT

120 in (3.0 m) blade 650M LGP

## UNDERCARRIAGE

Hydraulic track adjusters

Easy clean track covers

Case sealed and lubricated track chain

Permanently lubricated track and

carrier rollers H.D. track covers

Track adjuster quard

Track gauge - 56 in or 68 in

Track guides - front and rear

Length of track on ground - 85 in

High visibility track idler

Heavy duty track frame, sprocket and mounting pads

#### OTHER

Anti-vandalism package

Backup alarm

Hinged grill

Decelerator

Final drive seal guard

Hand throttle

Horn

Work lights:

2 front 1 rear

Master disconnect switch

Mirror

Operator's manual enclosure

O-ring face seal hydraulic fittings

Pre-cleaner

Vertical spin-on hydraulic/filters

Hydraulics - 3 spool valve

Fuse circuit protection

Single key start switch

Pre-wired for work lights

Two additional power sources availabe for heater, air seat or auxiliary 12 volt power port

Crankcase

Transmission bottom

CASE ProCare - 3-yr/3000-hr factory warranty, planned maintenance and SiteWatch™ Telematics

## **TELEMATICS**

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

#### OPTIONAL EQUIPMENT

## **OPERATOR ENVIRONMENT**

Cab with heater, 22,700 BTU (6.65 kW)/hr air conditioner, defroster, front windshield washer and 2F-1R lights

3 in (76 mm) seat belt

Deluxe air suspension seat

#### **HYDRAULICS**

4 spool hydraulic valve for field-installed ripper

## **REAR MOUNTED EQUIPMENT**

Ripper, parallelogram 5 slots with 3 shanks

## **BLADES**

90 in (2.29 m)

96 in (2.44 m)

109 in (2.77 m)

120 in (3.05 m)

## **GUARDS**

Brush guards (Sweeps) Center rockguard

## **SCREENS**

Rear ROPS and cab

Side ROPS

Radiator brush screen

## **OTHER**

Case Max-Life track

Cold start aid (Grid Heater)

Counterweight, front

Drawbar

Front pull hook

Lights - halogen, 2 front, 1 rear for

cab or ROPS

Retrieval hitch

Special paint

Turbo precleaner

Winch drive PTO

Rear Wiper for cab

Lights without brush guard

Lights with brush guard

Diagnostics check fittings

Environmental drains

Lift/Tow decals (Export)

## CaseCE.com

©2017 CNH Industrial America LLC. All rights reserved. CASE is a trademark registered in the United States and many other countries. owned by or licensed to CNH Industrial N.V., its subsidiaries or affiliates. CNH Industrial Capital is a trademark in the United States and many other countries, owned by or licensed to CNH Industrial N.V., its subsidiaries or affiliates. Printed in U.S.A. Contains 10% post-consumer fiber.

IMPORTANT: CASE Construction Equipment Inc. reserves the right to change these specifications without notice and without incurring any obligation relating to such change. Availability of some models and equipment builds vary according to the country in which the equipment is used. The illustrations and text may include optional equipment and accessories and may not include all standard equipment. Your CASE dealer/distributor will be able to give you details of the products and their specifications available in your area.



CASE Construction Equipment is biodieselfriendly. NOTE: All engines meet current EPA emissions regulations. All specifications are stated in accordance with SAF Standards or Recommended Practices, where applicable.



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. CCE201710650M Replaces Form No. CCE201709650M

650M 3 of 3