



## ENGINE - VHP

Model	FPT F4HE9687C, Tier 3 certified Compliant w/ EPA regulations effective January 2011 Electronic control
Type	4-stroke, turbocharged and air-to-air cooled
Cylinders	6-cylinder in-line
Bore/Stroke	4.09 x 5.17 in (104 x 132 mm)
Displacement	409 in <sup>3</sup> (6.7 L)
Fuel	Diesel
Fuel injection	Common Rail
Cooling	Liquid
Horsepower @ 2200 RPM – SAE J1995:	
Gross	193/205/220 hp (144/153/164 kW)
Net	178/190/205 hp (133/142/153 kW)
Maximum torque @ 1500 RPM:	
	612/649/686 ft-lb (830/880/930 N-m)

## DRIVETRAIN

Rear axle	Graziano, planetary
Differential	Hydraulic lock, operator controlled
Inboard brakes	Wet disc
Number of discs/brake	5
Brake surface area	2,220 in <sup>2</sup> (14 326 cm <sup>2</sup> )
Tandems:	
Type	Welded plate
Oscillation	20° each way
Front axle	High strength, welded steel
Oscillation	15.3° each direction
Wheel lean	20° left/right
Tires – standard	14.0 x 24 12PR TL G2 Firestone
Rims	1-piece 9 in x 24 in (227 mm x 610 mm)

Transmission type:	Direct drive countershaft Powershift w/ electronic shift control and inching pedal
Pump flow @ 2200 RPM	29.5 gpm (112 L/min)
Sump	Integral
Speeds	8 forward/4 reverse
Shifting	Single lever, bump style automatic electronic control
Diagnostics	On-board
Speeds:	
Forward:	mph (km/h)
1st	2.7 (4.3)
2nd	3.7 (6.0)
3rd	5.2 (8.4)
4th	7.3 (11.8)
5th	10.4 (16.7)
6th	14.4 (23.1)
7th	20.2 (32.5)
8th	27.8 (44.8)
Reverse:	mph (km/h)
1st	2.5 (4.0)
2nd	5.0 (8.0)
3rd	9.8 (15.8)
4th	19.3 (31.0)

## ELECTRICAL

Voltage	24 Volts, negative ground
Alternator	90 amp
Batteries	2 – Low-maintenance 1010 CCA – 100 Ah (20 hr rate)
Work lights:	
Headlights – 2; Turn signals, front/rear;	
Stop/tail – 2; Rear mounted floods – 2;	
Front mounted floods – 2.	
Backup alarm	Standard

## OPERATOR ENVIRONMENT

ROPS/FOPS cab – SAE J231, ISO 3449; Adjustable operator's console; Adjustable cloth suspension seat w/ 3 in (76 mm) retractable seat belt; Safety glass; Dome light; Inside rearview mirror; Outside rearview mirrors; Cup holder; Storage tray; 12-volt outlet; Radio ready – 12 Volt; Electrical master switch – automatic; Heater/defroster/pressurizer; Air conditioner; Sound suppression; Delphi AM/FM Radio w/ CD; Cab doors – left/right; Steps – left/right; Steering wheel; Windshield wiper – front; Windshield washer – front.

## OPERATING WEIGHT

W/ 14 ft (4.27 m) moldboard, 17.5-25 tires, front counterweight, 175 lb (79 kg) operator and full fuel:

	33,796 lb (15 330 kg)
Weight, front axle	10,141 lb (4 600 kg)
Weight, rear axle	23,656 lb (10 730 kg)
Blade pressure	18,519 lb (8 400 kg)

## HYDRAULICS

System design	Closed center, load sensing
Hydraulic pump	Load sensing piston pump, variable displacement, pressure and flow compensated
Rated flow @ 2200 RPM	49 gpm (187 L/min)
Control valve	9 section
Side shift and pitch	Hydraulic
Saddle	5 positions
Diagnostic quick couplers	8

## SERVICE CAPACITIES

Engine	4.4 gal (17.5 L)
w/ filter change	4.7 gal (18.5 L)
Fuel	90 gal (341 L)
Transmission	5.0 gal (23 L)
w/ filter change	6.6 gal (25 L)
Radiator	10.5 gal (40 L)
Hydraulic reservoir	24.0 gal (90 L)
Hydraulic system	50.2 gal (190 L)
Circle gearbox	0.75 gal (2.8 L)
Rear axle center	11.6 gal (44 L)
Total axle	11.6 gal (44 L)
Tandem case, each	18.41 gal (69 L)

## OTHER SPECIFICATIONS

Steering:	
Type	Hydrostatic power steering
Turns – lock-to-lock	4.75
Pump capacity @ 2200 engine RPM:	
	11.1 gpm (41.8 L/min)
Relief pressure	2,200 psi (151 bar) Integral w/ priority valve
Cylinder – 2:	
	2.0 in bore x 11.85 in stroke x 1.0 in rod dia. (50.8 mm x 301.0 mm x 25.4 mm)
Supplemental steering	Integral
Articulation:	
Type	Hydraulic actuated – w/ lock valve
Range	25° left/right
Controls	Hydraulic

**MAINFRAME**

Type	All welded box
Front section:	
Size	10.0 in x 11.73 in (254 mm x 298 mm)
Weight – each side	124.7 lb-ft (172.8 kg/m)
Rear section:	
Size	4.75 in x 11.75 in (121 mm x 299 mm)
Weight – each side	55.6 lb-ft (84.0 kg/m)

**DRAWBAR**

Type:	"A" frame welded construction with center mounted circle turn motor
Ball and circle	Shim adjustable

**MOLDBOARD**

Type	High-carbon steel
Shape	Involute curve
Length	14 ft 0 in (4 267 mm)
Height	23.6 in (600 mm)
Thickness	0.875 in (22 mm)
End bits	2, interchangeable
Blade pitch positions:	
Normal pitch	47°
Minimum pitch	42°
Maximum pitch	87°
Blade shift:	
Right	27.0 in (686 mm)
Left	20.9 in (533 mm)
Max. bank cutting angle:	
Right	90°
Left	90°
Max. ground penetration	28 in (711.2 mm)
Max. lift above ground	17.5 in (445 mm)

**CIRCLE**

Type	Welded construction
Diameter:	
Max. outside	68.9 in (1 752 mm)
Vertical member	63.0 in (1 600 mm)
Rotation	360°
Speed	1.2 RPM (7.2°/second)
Drive	Hydraulic motor
Type	Roller geroter
Displacement	15.26 in <sup>3</sup> /Rev. (0.25 L/Rev.)
Rated hydraulic flow	19.8 gpm (75 L/min)

**ATTACHMENTS****SCARIFIER**

Type	Front mounted
Width of cut	46 in (1 168 mm)
Teeth	5
Optional	11
Tooth spacing	9.0 in (229 mm)
Optional	4.5 in (114 mm)
Lift above ground	20.75 in (527 mm)
Max. penetration	12.5 in (318 mm)
Weight	1,256 lb (570 kg)
	Includes front attachment group

**PUSH BLOCK**

Type	Front mounted
Weight	1,084 lb (492 kg)

**REAR RIPPER**

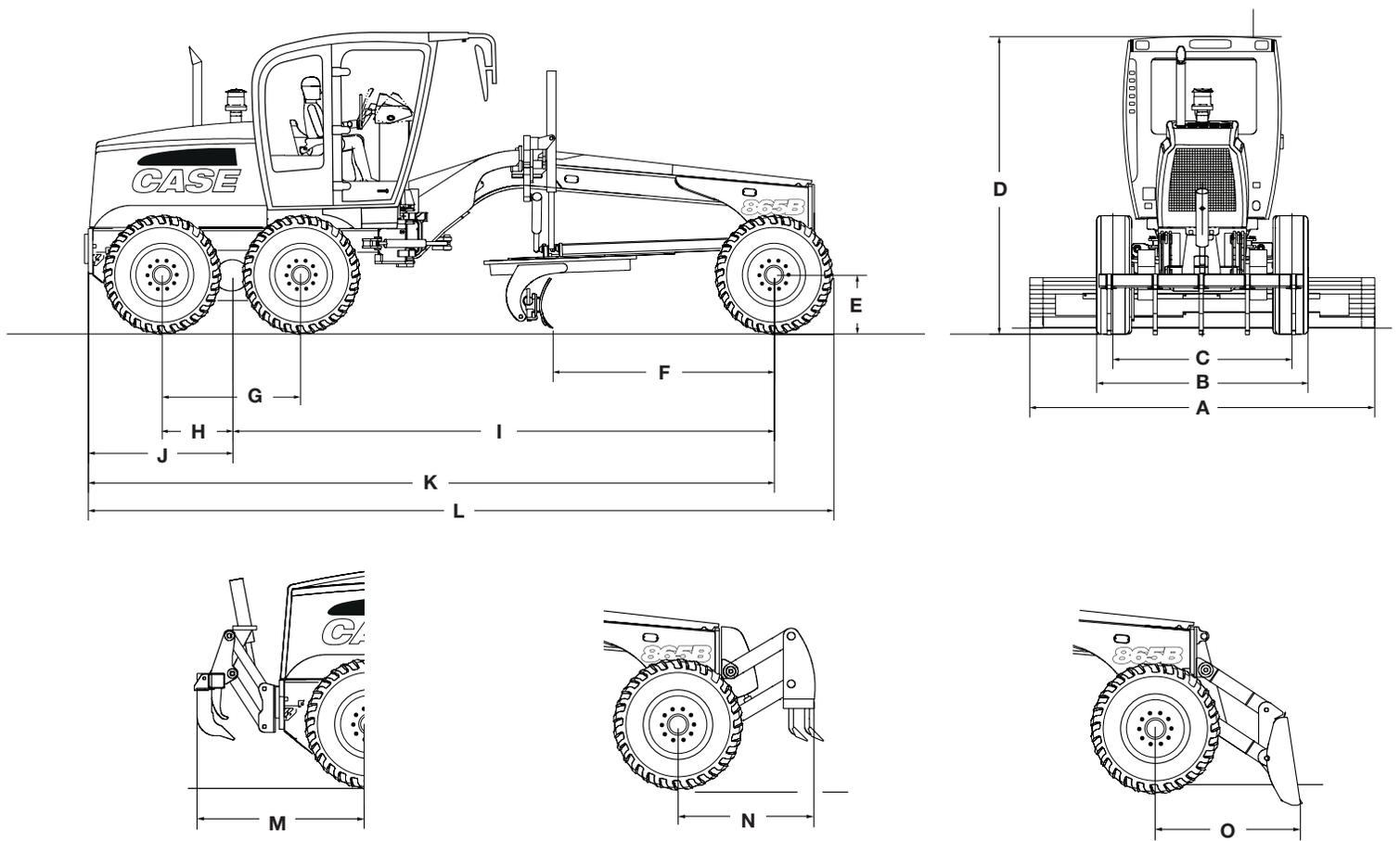
Type	Parallel
Ripper teeth	3
Optional	5
Scarifier teeth	5
Optional	9
Width of cut	86.4 in (2 195 mm)
Lift above ground:	
Ripper teeth	20.38 in (518 mm)
Scarifier teeth	27.67 in (703 mm)
Max. penetration:	
Ripper teeth	17.22 in (437 mm)
Scarifier teeth	9.43 in (252 mm)
Weight	2,167 lb (985 kg)

**DOZER BLADE**

Type	Front mounted
Width	109 in (2 762 mm)
Height	37.5 in (953 mm)
Lift above ground	24.5 in (622 mm)
Penetration	6.5 in (165 mm)
Weight	2,568 lb (1 165 kg)
	Includes front attachment group

**COUNTERWEIGHT**

Type	Front mounted
Weight	1,084 lb (492 kg)



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

## DIMENSIONS

<b>A.</b> Blade width	14 ft 0 in (3 962 mm)
<b>B.</b> Distance between outside edges of tires	8 ft 2 in (2 452 mm)
<b>C.</b> Wheel tread – rim 9 x 24 - one piece rim	6 ft 11 in (2 106 mm)
<b>D.</b> Height to top of cab – low profile	10 ft 4 in (3 150 mm)
<b>E.</b> Tire radius – when static	2 ft 0 in (610 mm)
<b>F.</b> Blade base	8 ft 5 in (2 562 mm)
<b>G.</b> Distance between tandem axles	5 ft 2 in (1 594 mm)
<b>H.</b> Distance between tandem center and wheel	2 ft 7 in (797 mm)
<b>I.</b> Wheelbase	20 ft 5 in (6 219 mm)
<b>J.</b> Distance between tandem center and rear end of machine	5 ft 5 in (1 650 mm)
<b>K.</b> Distance between front axle and rear end of machine	25 ft 10 in (7 869 mm)
<b>L.</b> Overall length – without ripper or front attachment	28 ft 0 in (8 534 mm)
<b>M.</b> Distance between rear tires and rear ripper	6 ft 8 in (2 028 mm)
<b>N.</b> Distance between front tires and front scarifier	5 ft 0 in (1 520 mm)
<b>O.</b> Distance between front tires and front dozer blade	5 ft 4 in (1 626 mm)
Outside tire turning radius	23 ft 9 in (7 250 mm)
Ground clearance – rear axle	24.5 in (622 mm)
Ground clearance – front axle	24.5 in (622 mm)

NOTE: All units equipped with 14.0 x 24-10 PR tires, ROPS cab with heater and A/C, std. battery, full fuel, 175 lb (79 kg) operator. Specifications per ISO 7134.

## STANDARD EQUIPMENT

### OPERATOR ENVIRONMENT

See page 1

### ENGINE

FPT F4HE9687C turbocharged diesel  
Tier 3 certified  
Temperature controlled cooling fan  
Charge air cooler  
Air intake grid heater  
Common rail electronic fuel injection  
Hydraulic driven cooling fan  
Auto idle

### DRIVETRAIN

Hydraulic differential lock

### HYDRAULICS

Closed center, load sensing hydraulic system  
Controls for all functions  
9 section control valve  
Hydraulic moldboard side shift and pitch  
5-position saddle  
14 ft x 23.6 in (4 267 x 600 mm) moldboard  
8 hydraulic diagnostic quick couplers  
Front and rear piping for hydraulic attachment

## OPTIONAL EQUIPMENT

### MOLDBOARDS

12 ft x 22 in (3 658 x 559 mm), involute curve  
13 ft x 23.6 in (4 267 x 600 mm), involute curve  
Extensions – 2 ft (610 mm)  
Front Float Control  
Moldboard Float Control  
Lift cylinder/side shift accumulators  
Lift cylinder accumulators

### OPERATOR ENVIRONMENT

Front windows openable with rear window defroster  
Lower front wiper/washers  
Rear windshield washer  
Air suspension seat  
Sunshade

### TIRES

14.0 x 24-12 PR

### INSTRUMENTS

Analog displays/Gauges:  
Fuel level; Engine coolant temperature;  
Transmission oil temperature;  
Hydraulic oil temperature.  
Monitor Functions:  
Hour meter; Engine speed; Travel speed; Current gear selection; FNR indication; Clock; Trip computer; Fuel consumption; Fuel level percentage; Oil pressure; Coolant temperature; Engine oil temperature; Transmission oil temperature; Hydraulic oil temperature; Turbocharger air temperature; Differential lock indicator; Gear selection indicator; Engine diagnostics; Transmission diagnostics; System voltage; Error reporting; Warning prompts; Indicator warning lamps – main warning, parking brake, low brake pressure, high beams, turn signals, hazard lights, low fuel.

### TIRES

13.0 x 24-12 PR  
14.0 x 24-10 PR  
14.0 x 24-12 PR  
14.0 x R24 XGLA  
14.0 x R24 Snoplus  
16.0 x 24-12 PR  
17.5 x 25-12 PR  
17.5 x 25-16 PR  
17.5 x R25 XTLA  
17.5 x R25 Snoplus

### ELECTRICAL

2 – Front mounted working lights  
2 – Floodlights at moldboard  
2 – Floodlights at articulation  
Snow wing lighting package

### ELECTRICAL

2 – Heavy-duty batteries – 1010 CCA  
Electronic Systems Monitor  
Horn  
Alternator – 90 amp  
Backup alarm  
Headlights  
2 – Turn signals front  
2 – Tail lights with turn signals, brake lights  
Flood lights – cab mounted

### TELEMATICS

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

### OTHER

Bidirectional engine cooling fan  
Cold weather package  
Fire extinguisher  
Strobe light  
Tool box – without tools  
Deluxe tool box – with tools  
Tire inflator kit  
Spare wheel  
Spare wheel support  
Slow moving vehicle sign  
Rear pull hook

### ATTACHMENTS

Front pull hook  
Front counterweight  
Front dozer blade  
Front scarifier  
Front push plate  
Front support and lift cylinder  
Rear ripper

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