**ENGINE - VHP**

**Model**
- FPT F4HE9687C, Tier 3 certified
- Compliant with 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 in³ (6.7 L)

**Fuel**
- Diesel

**Fuel injection**
- Common Rail

**Type**
- Electronically controlled

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**Fuel injection**
- Common Rail

**Type**
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**Electricity**

- **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** with 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; Sunshade.

**OPERATING WEIGHT**

- **W/ 14 ft (4.27 m) moldboard, 17.5-25 tires, front counterweight, 175 lb (79 kg) operator and full fuel**: 35,273 lb (16 000 kg)
- **Weight, front axle**: 11,133 lb (5 050 kg)
- **Weight, rear axle**: 24,140 lb (10 950 kg)
- **Blade pressure**: 19,048 lb (8 640 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 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**: 18.4 gal (69 L)

**OTHER SPECIFICATIONS**

- **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

**Diagnostics**

- **On-board**
### 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 (4267 mm)

**Height**
- 23.6 in (600 mm)

**Thickness**
- 0.875 in (22 mm)

**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: 69.0 in (1752 mm)
- Vertical member: 63.0 in (1600 mm)

**Rotation**
- 360°

**Speed**
- 1.2 RPM (7.2°/second)

**Drive**
- Hydraulic motor

**Type**
- Roller geroter

**Displacement**
- 15.26 in³/Rev. (0.25 L/Rev.)

**Rated hydraulic flow**
- 19.8 gpm (75 L/min)

### ATTACHMENTS

#### SCARIFIER

**Type**
- Front mounted

**Width of cut**
- 46 in (1168 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

#### REAR RIPPER

**Type**
- Parallel

**Ripper teeth**
- 3

**Optional**
- 5

**Scarifier teeth**
- 5

**Optional**
- 9

**Width of cut**
- 92.13 in (2340 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**
- 1,874 lb (850 kg)

Includes front attachment group

#### PUSH BLOCK

**Type**
- Front mounted

**Weight**
- 1,084 lb (492 kg)

#### SCARIFIER

**Type**
- Front mounted

**Width of cut**
- 46 in (1168 mm)

**Teeth**
- 5

**Optional**
- 11

**Tooth spacing**
- 9.0 in (229 mm)

**Optional**
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**Lift above ground**
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Includes front attachment group

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- 1,874 lb (850 kg)

Includes front attachment group

#### DOZER BLADE

**Type**
- Front mounted

**Width**
- 109 in (2762 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 (1165 kg)

Includes front attachment group

#### DOZER BLADE

**Type**
- Front mounted

**Weight**
- 1,084 lb (492 kg)
**DIMENSIONS**

A. Blade width 14 ft 0 in (3,962 mm)

B. Distance between outside edges of tires 8 ft 2 in (2,452 mm)

C. Wheel tread – rim 9 x 24 - one piece rim 6 ft 10 in (2,106 mm)

D. Height to top of cab – low profile 10 ft 4 in (3,150 mm)

E. Tire radius – when static 2 ft 0 in (610 mm)

F. Blade base 8 ft 5 in (2,562 mm)

G. Distance between tandem axles 5 ft 2 in (1,594 mm)

H. Distance between tandem center and wheel 2 ft 7 in (797 mm)

I. Wheelbase 20 ft 5 in (6,219 mm)

J. Distance between tandem center and rear end of machine 5 ft 5 in (1,650 mm)

K. Distance between front axle and rear end of machine 25 ft 10 in (7,869 mm)

L. Overall length – without ripper or front attachment 28 ft 0 in (8,534 mm)

M. Distance between rear tires and rear ripper 6 ft 8 in (2,028 mm)

N. Distance between front tires and front scarifier 5 ft 0 in (1,520 mm)

O. 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.

Line drawings are for illustrative purpose only and may not be exact representation of unit.
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
Moldboard Float Control
8 hydraulic diagnostic quick couplers
Front and rear piping for hydraulic attachment

OPTIONAL EQUIPMENT

MOLDBOARD
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
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

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.

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

FORM NO. CCE201701865BAWD
Replaces Form No. CCE201503865BAWD