# **GRADER**



SINCE 1842.

# **845B SERIES 2**

<b>ENGINE</b>	
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FPT Brand F4HE9687W\*J108 Model Туре Electronic, diesel, 4-stroke, direct injection,

turbocharged, Tier 3 certified

Cylinders Bore and stroke 4.09 in x 5.17 in (104mm x 132mm) 408.86 in3 (6,7 l) Cylinder volume

Power @ 2200 rpm Gross (SAE J1995)

150/173 HP (112/129 kW)

Net (SAE J1349)

140/160 HP (104/119 kW)

Maximum torque @ 1500 rpm

Gross (SAE J1995)

486/560 lbf.ft (659/758 Nm)

Net (SAE J1349)

436/500 lbf.ft (591/678 Nm)

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## **POWER TRAIN**

Rear axle 1 ft 3 in (380 mm) Ground clearance Differential Torque proportioning \*Brakes Disk, in oil bath Number of disks per brake

Tandem

Type Welded panel 7' 2.7" x 2' 0.8" x 8" (2204 x 631 x 201 mm) Oscillation 20° in each direction Command chain pitch 2 in (50,8 mm) Thickness of inner and external side wall 0.75 in (19 mm) Front axle

Welded high resistance steel Type Oscillation 15° in each direction Wheel lean 20° in each direction Ground clearance 1 ft 11 in (580 mm) Tyres 14 X 24 - 10PR - G2 Rims 9" (Single piece) \*SAE J150 3450 (brake performance)

## **ELECTRICAL SYSTEM**

Voltage	24 V (with grounding)	
Alternator	90 A	
Batteries	2x100 Ah – low maintenance	
Lights		
Front headlight with turn signals (2)		
Brake light and rear turn signals (2)		
Rear cab mounted work light (2)		
Front cab mounted work light (2)		
Monitoring of electronic systems		

# **HYDRAULIC SYSTEM**

Type	Close	ed centre, load-sensing
Hydraulic pump		
ec		on pump, variable flow, h load sensing system
Nominal flow @ 2	2200 rpm	49 gpm (186 l/min)
Control valve		9 sections
Diagnostic quick	counters	8

# **TRANSMISSION**

Brand				ZF
Model		ZF TC	LOCK U	P 6WG – 160
Туре	Tor	que conv	erter with	lock up (also
functioning	as	Direct	Drive)	Powershift,
electronic	0		,	automatic,
no inching p	edal fo	r progress	sive advar	ice
Rated flow @	2.000	rpm	22.4 g	pm (85 l/min)
Crankcase				Integral
Drive gears			6 forwa	rd / 3 reverse
Travel control Automatic electronic control, single "pulsing" lever and automatic module				
Fault diagnostics system On-board			On-board	
Speeds – mph (km/h)				
		Forward	d	Reverse
1st		3.1 (5,0	)	3.3 (5,3)
2nd		4.8 (7,7	)	7.8 (12,6)
3rd		7.4 (11.	.9)	18.1 (29.2)
4th		11.4 (18	.4)	-
5th		17.2 (27	,	-
6th		26.6 (42	2.8)	-

## **STEERING**

Туре	Hydrostatic steering
Angle - right and left	42°
Steering wheel turns (lock-to-l	ock) 4,5
Pump capacity @ 2.200 rpm	11 gpm (41.8 l/min)
Pressure relief	2530 psi (175 bar)
built into the	steering priority valve
Cylinders	2
Diameter	2 in (50,8 mm)
Stroke	11.8 in (301 mm)
Rod diameter	1 in (25,4 mm)
Supplemental steering	Built-in
SAE J53 and J1511	

# **ARTICULATION**

Туре	Hydraulically driven (with lock out system)
Range	25° left/right
Controls	Hydraulic

# **DRAWBAR**

Type	"A" frame welded construction		
	with centre mounted circle turn motor		
Connection	with the chassis		

# Shim adjustable ball stud

# **CIRCLE**

Туре	Welded construction
Maximum outside diameter	5 ft 9 in (1752,6 mm)
Rotation	360°
Speed	1,2 rpm (7,2°/second)
Power drive	Hydraulic motor
Туре	Roller Geroter
Nominal hydraulic flow	25 gpm (95 l/min)

# **CAPACITIES**

Engine	4 gal (15 l)
with filter change	4.2 gal (16 l)
Fuel	95 gal (360 l)
Transmission	6.6 gal (25 l)
with filter change	6.9 gal (26 l)
Engine water cooling system	8.5 gal (32 l)
Hydraulic oil reservoir	23.8 gal (90 l)
Total hydraulic system	39.10 gal (148 l)
Circle gearbox	0.74 gal (2,8 l)
Tandem case (each)	18.2 gal (69 l)

# **MISCELLANEOUS**

Front counterweight	With no front implement
	and with rear ripper
Sadle	5 positions

# **MOLDBOARD**

Туре	High-carbon steel
Shape	Involute curve
Width	12 ft (3658 mm)
Height (curved profile)	2 ft 0.5 in (622 mm)
Thickness	0.86 in (22 mm)
Cutting edge	2, Interchangeable
Blade pitch positions	
Normal pitch	47°
Minimum pitch	42°
Maximum pitch	87°
Blade shift	
Right	2 ft 3 in (686 mm)
Left	1 ft 9 in (533 mm)
Maximum bank cutting angle	
Rear (left and right)	90°
Ground penetration (max.)	2 ft 4 in (711,2 mm)
Lift above the ground (max.)	1 ft 5.5 in (444,5 mm)

# **SCARIFIER**

Blade side shift and pitch

Туре	Mounted on the front
Cutting width	3 ft 10 in (1168 mm)
Teeth	5 (optional, 11)
Spacing between teeth	9 in (229 mm) 4.5 in (114 mm, optional)
Lift above ground	1 ft 8 in (527 mm)
Maximum penetration	1 ft 0.5 in (318 mm)
Weight	1256 lb (570 kg)

Hydraulic type

# **OPERATING WEIGHT**

With a moldboard of 12 ft (3658 mm), full tank, cab, headlights, STD batteries, 14x24 12L-G2, light ripper and front counterweight.

	34.006 lb (15.425 kg)
Weight, front axle	8.911 lb (4.042 kg)
Weight, rear axle	25.095 lb (11.383 kg)
Blade pull force	22.635 lb (10.267 kg)
Blade penetration force	15.155 lb (6.874 kg)
Ripper penetration force	17.209 lb (7.806 kg)

# **CHASSIS**

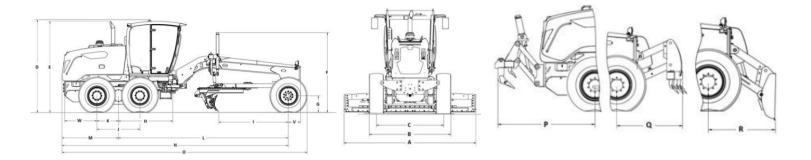
Type	Full welded box
Front section	
Size	10 x 11.7 in (254 x 298 mm)
Weight	103,1 lb/ft (153,3 kg/m)
Rear section	
Size	7.48" x 12.87" (190 x 327mm)
Weight	72.0 lb/ft (107,2 kg/m)

# **REAR RIPPER**

Туре	Parallelogram
Cutting width	7 ft 1 in (2.165 mm)
Ripper teeth	5
Lift above ground Scarified teeth	2 ft 4 in (703 mm)
Maximum penetration Ripper teeth	1 ft (306 mm)
Weight	1.410 lb (640 kg)

# **FRONT BLADE**

Туре	Front mounted width
Width	9 ft 0.7 in (2762 mm)
Height	3 ft 1.5 in (953 mm)
Lift above ground	2 ft 0.4 in (622 mm)
Penetration	6.5 in (165 mm)
Weight	2568 lb (1165 kg)



A – Blade width	12' 0" (3658 mm)
B - Distance between wheels measured at outside of tyres	8' 2.2" (2.495 mm)
(Total width for transport)	
C - Distance between the wheels	6' 9.6" (2.074 mm)
D - Height to top of cab	
High profile cab Low profile cab	11' 1.8" (3400 mm) 10' 6" (3200 mm)
E - Height to top of engine exhaust pipe	10' 10.8" (3323 mm)
F - Height to top of the blade lift cylinder	10' 0" (3047 mm)
G - Static tyre radius	2' 0" ( 610 mm)
H - Distance from centre of tandem to chassis pivot pin	6' 5" (1.958 mm)
I – Distance between front axle and blade	8' 5.0" (2562 mm)
J - Distance between centre of rear tyres	5' 1.9" (1571.8 mm)
K - Distance between centre of tandem and wheel	2' 6.9" (785.9 mm)
L - Wheelbase	20' 5" (6219 mm)
M - Distance between centre of tandem and rear section of the equipment	6' 9.3" (2064 mm)
N - Distance between the front wheel axle and the rear of the equipment	27' 2" (8283 mm)
O – Total length	29' 4.6" (8957 mm)
P - Distance between rear tyres and rear ripper	7' 2.5" (2196 mm)
Q - Distance between front tyres and front scarified	5' 0" (1513 mm)
R - Distance between front tyres and front blade	5' 4" (1619 mm)
Turning radius (outside the tyres)	23' 9" (7250 mm)

All units equipped with 14 x 24 12L - G2 tyres, ROPS/FOPS open cab, standard battery, full fuel tank, operator weighing 175 lb (79 kg), specifications per ISO 7134.

## STANDARD EQUIPMENT

#### **Operator Cab**

ROPS/FOPS high closed cab (fixed front window) with:

Air conditioning (\*)

Adjustable cloth mechanical suspension seat with 2" (50.8 mm) seat belt

Adjustable operator console

Pedal accelerator

Manual accelerator

Front upper windshield wiper with washer Dome light

Internal and external rearview mirrors

12 V socket (\*)

Automatic master switch

Steps on the right-hand and left-hand sides

(\*) Only available in closed cabs

All ROPS/FOPS cabs are certified according to standards SAE J1040 (ROPS) and SAE J231 (FOPS).

### **Engine**

FPT 6.7 I turbocharged, diesel,

Tier 3 certified

Electronic fuel injection

Dry air filter with primary and secondary safety elements

Air pre-filter with cyclonic dust ejector

90 A alternator

10.5 hp (7.8 kW) starter motor

Tilting hood with electric opening and closing

#### **Hydraulic System**

Closed centre, load-sensing hydraulic system 9-section control valve

Hydraulic control for all functions:

blade lifting (right and left side), circle turn, circle side shift, wheel lean, chassis

articulation, blade side shift and pitch, front and rear accessories

Diagnostic centre with 8 quick couplers

Movable saddle with 5 service positions and electro-hydraulic lock

Blade 12' x 2' x 0.86" (3658 x 622 x 22 mm)

Hydraulic axial piston pump

Hydraulic engine fan

#### **Brakes**

Multi-disk oil-bathed service brakes applied on four rear wheels, with two parallel circuits: one for right tandem wheels and another for left tandem wheels. With nitrogen accumulator safety system. Dry disc parking brakes, applied by spring and

hydraulic release.

#### Tyres

9" Rim single piece / 14 x 24 - 12L - G2

#### Other

Standard tool set

Drawbar / Standard circle

#### Axles

Torque proportioning differential Limited Slip

## Steering

Hydrostatic steering with built-in emergency system

#### Instruments

Electronic Information Centre

Indicators/gauges:

Speedometer

Tachometer

F/N/R direction selected

Transmission modes - automatic/manual

Selected Gear

Engine coolant temperature

Fuel level

Transmission oil temperature

Hydraulic oil temperature

Hour meter

Fuel consumption

Engine diagnostics

DeClutch activation indicator

Transmission diagnostics

## Indicator lights

Low fuel level Flood lights

High Beam

Brake pressure

Main alert

Parking brake

# Audible alerts

Caution alert Emergency alert Reverse alarm

### **Electrical System**

Lights

Front headlight with turn signal (2)

Brake light and rear turn signals (2) Rear cab mounted work light (2)

Front cab mounted work light (2)

24 V system (2 12 V / 1010 CCA batteries)

Electronic systems monitoring

Hooter

Hour meter

Reverse alarm

#### **Transmission**

ZF Transmission, torque converter type with lock up (also functions as Direct Drive), Powershift, 6 forward and 3 reverse speeds, automatic gear shifting, emergency device in case of electrical failure (Limp-Home).

#### **Rear Implement**

Light ripper with 5 teeth

1.433 lb (650 kg)

### Front Implement

Front counterweight 1.146 lb (520 kg)



### Conformities ISO Standards SAE

Cab ROPS	SAE J1040
Cab FOPS	SAE J231
Power	
Gross	SAE J1995
Net	SAE J1349
Torque	
Gross	SAE J1995
Net	SAE J1349
Brakes	SAE J150/ISO-3450
Parking Brake	ISO-3450
Steering	SAE J53 / J1511
Additional steering	SAE 1011 / ISO-5010
Turning radius	ISO-7457
Hydraulic motor turning radiu	s SAE J499
Engine	
External noise	SAE 1372 / ISO-6393
Cab	
Internal noise	SAE J919
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### OPTIONAL EQUIPMENT

### Cabine (ROPS/FOPS)

Open cab

Closed high cab (front flip-down window)
Closed low cab (fixed front window)
Closed low cab (front flip-down window)

#### Other

Heater and fan for closed cab Acoustic insulation for closed cab

Fire extinguisher

Windshield washer and lower windshield wipers Rear windshield washer and wipers

Radio

Tandem locking device Sun visor (front and rear) Rear defroster

## Front implement

Dozer blade 2568 lb (1165 kg)
Light push plate 1084 lb (492 kg)
Heavy push plate 1763 lb (800 kg)
Front scarifier with 5 teeth, 6 additional teeth
for front scarifier 1521 lb (690 kg)
Dozer blade float electrovalve

#### Rear implement

Ripper medium 3 teeth 5 scarifier Rear pull hook Machine lifting bracket

#### Blade

Blade 13' x 2' 2" x 0.86" (3962 x 671 x 22 mm)
Blade 14' x 2' 2" x 0.86" (4267 x 671 x 22 mm)
Right blade extension 2' (610 mm)
Left blade extension 2' (610 mm)
Heavy Duty cutting edge Additional

#### Work lights

2 work lights behind the blade2 service lights in front of the moldboard2 rear implement work lights

# Lock/Floating/Anti-shock – Moldboard and circle

Moldboard lifting cylinder lock valve
Moldboard float electrovalve
(incorporates lock valve)
Anti-shock electrovalve
with 2 accumulators for moldboard
Anti-shock electrovalve
with 3 accumulators for moldboard and circle

Vinyl seat with mechanical suspension

### Seat/Safety belt

Cloth seat with air suspension
Seat belt 3" (76,5 mm)

### Other optional items

Beacon light
Luxury tool box
Toolbox without tools with support, fixed

on front chassis

on front chassis
Slow moving vehicle sign

Electric pump to inflate tires

Spare tire bracket

Axles

Conventional differential with four-wheel brake and differential lock with activation electrohydraulic (rear axle)

### Tires and rims mounted

Tubeless tires

10" rim – 3-piece / 14x24 tyre – 12L – G2 13" rim – one-piece / 17.5x25 tyre – 12L – L2 14" rim – 3-piece / 17.5x25 tyre – 12L – L2 14" rim – 3-piece / 17.5x25 tyre – 16L – L3

#### Tube tires

9" rim – one-piece / 14x24 tyre – 12L – G2 10" rim – 3-piece / 14x24 tyre – 12L – G2

#### Tubeless radial tires

9" rim – single-piece / 14x24 tyre – 12L – L2 RADIAL XGLA2 10" rim – 3-piece / 14x24 tyre – 12L – L2 RADIAL XGLA2

#### Rims

9" rim – one-piece with valve
10" rim – 3-piece with valve
13" rim – one-piece with valve
14" rim – 3-piece with valve



Site Watch™ Fleet monitoring and tracking management system through satellite or mobile phone

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