GRADER



865B SERIES 2

ENGINE

FPT Brand Model F4HE9687C*J109 Type Electronic, diesel, 4-stroke, direct injection, turbocharged, Tier 3 certified Cylinders 6 Bore and stroke 4.09 x 5.19 in (104 x 132 mm) Cylinder volume 408.86 in³ (6,7 l) Power @ 2200 rpm Gross (SAE J1995) 193/205/220 hp (144/153/164 kW) Net (SAE J1349)

Maximum torque @ 1500 rpm

Gross (SAE J1995) 612/649/685 lbf.ft (830/880/930 Nm) Net (SAE J1349)

548/581/613 lbf.ft (743/788/832 Nm)

2 in (50,8 mm)

178/190/205 hp (133/142/153 kW)

POWER TRAIN

Command chain pitch

Rear axle

Ground clearance
Differential
Conventional planetary with
electro-hydraulic lock 100%, operator driven
*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

Question

1 ft 3 in (380 mm)
Coscillation

Thickness of inner and external side wall 0.75 in (19 mm)

Front axle
Type Welded high resistance steel
Oscillation 15° in each direction

Wheel lean 20° in each direction Ground clearance 1 ft 11 in (580 mm)

Tyres	17,5 X 25 12 PLY RATE	- L2 tubeless
Rims		14" (3 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

Diagnostic quick couplers

Туре	Closed centre, load-sensing
Hydraulic pump	
	Axial piston pump, variable flow,

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TRANSMISSION

STEERING

Туре	Hydraulic steering
Angle - right and left	42°
Steering wheel turns (lock-to-le	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

туре	A frame weided construction	
	with centre mounted circle turn motor	
Connection with the chassis		
	01.	

Shim adjustable ball stud

"A" (----- ! ---

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	Gearmotor
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	2.95 qt (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	13 ft (3962 mm)
Height (curved profile)	2 ft 2 in (671 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)
Blade side shift and pitch	Hydraulic type

SCARIFIER

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)

OPERATING WEIGHT

With a blade of 13 ft (3962 mm), ful tank, cab, headlights, STD batteries, 17,5 X 25 12PR - L2, light ripper and front counterweight.

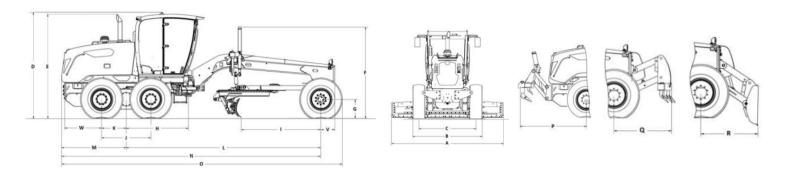
	37.338 lb (16.936 kg)
Weight, front axle	10.218 lb (4.635 kg)
Weight, rear axle	27.119 lb (12.301 kg)
Blade pull force	24.457 lb (11.093 kg)
Blade penetration force	17.377 lb (7.882 kg)
Ripper penetration force	19.316 lb (8.762 kg)

REAR RIPPER

Parallelogram
7 ft 2 in (2.195 mm)
3 large + 5 smal
+ 2 large + 4 smal
1 ft 8 in (518 mm)
2 ft 4 in (703 mm)
1 ft 5 in (437 mm)
9.9 in (252 mm)
1753 lb (795 kg)

FRONT BLADE

Туре	Front mounted
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	13' (3.962 mm)
B - Distance between wheels measured at outside of tyres	8' 8" (2.663 mm)
(Total width for transport)	
C - Distance between the wheels	7' 1" (2.168 mm)
D - Height to top of cab	
High profile cab	11' 1.8" (3.400 mm)
Low profile cab	10' 6" (3.200 mm)
E - Height to top of engine exhaust pipe	10' 10.8" (3.323 mm)
F - Height to top of the blade lift cylinder	10' (3.047 mm)
G - Static tyre radius	2' (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" (2.562 mm)
J - Distance between centre of rear tyres	5' 1.9" (1.572 mm)
K - Distance between centre of tandem and wheel	2' 6.9" (786 mm)
L - Wheelbase	20' 5" (6.219 mm)
M - Distance between centre of tandem and	
rear section of the equipment	6' 9.3" (2.064 mm)
N - Distance between the front wheel axle	
and the rear of the equipment	27' 2" (8.283 mm)
O - Total length	29' 4.6" (8.957 mm)
P – Distance between rear tyres and ripper	7' 5.5" (2.273 mm)
Q - Distance between front tyres and front scarifier	5' (1.520 mm)
R - Distance between front tyres and front blade	5' 4" (1.626 mm)
Turning radius (outside the tyres)	
Turning to the Right Side	24' 7.3" (7.500 mm)
Turning to the Left Side	25' 3.1" (7.700 mm)

All units equipped with 17,5 X 25 12PR - L2 tyres, ROPS/FOPS cab, standard battery, full fuel tank, operator weighing 165 lb (75 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

Safety glass

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

Swing-up 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 13' x 2' 2" x 0.86" (3962 x 671 x 22 mm)

Hydraulic axial piston pump

Hydraulic motor 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.

Tvres

14" Rim 3 pieces / 17,5 x 25 - 12PR - L2 Tubeless

Other

Standard tool set

Drawbar / Standard circle

Axles

Conventional differential with four-wheel brake and differential lock with activation electrohydraulic

(rear axle)

Steering

Hydraulic 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 Back up 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

Back up 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

Ripper with 3 large teeth and 5 small teeth

1753 lb (795 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

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

Additional teeth for ripper 2 large and 4 small Rear pull hook Machine lifting bracket

Blade

Blade 12' x 2' x 0.86" (3658 x 622 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

Seat/Safety belt

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

Other optional items

Beacon light
Luxury tool box
Toolbox without tools with support,
fixed on front chassis
Slow moving vehicle sign
Electric pump to inflate tires
Spare tire bracket

Tires and rims mounted

Tubeless tires

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

Tube tires

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

Tubeless radial tires

9" rim – single-piece / 14x24 tyre – L2
RADIAL XGLA2
10" rim – 3-piece / 14x24 tyre – L2
RADIAL XGLA2
13" rim – single-piece / 17.5x25 tyre – XTLA
14" rim – 3-piece / 17.5x25 tyre – XTLA

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



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