



## ENGINE - VHP

Model	NEF N67 F4HGE614L*V003 Tier 4 Final / Stage V certified
Type	4-stroke, turbocharged charge air cooled, electronically controlled, no EGR
Cylinders	6-cylinder in-line
Displacement	6.7 L
Fuel	Diesel
Fuel injection	High pressure electronic common rail
Cooling	Liquid
Horsepower @ 2100 RPM – ISO 14396/ECE R120: Net	173/192 hp (129/142 kW)
Maximum torque @ 1400 RPM:	627 ft·lb (850 N·m)

## DRIVETRAIN

Rear axle	Graziano, planetary
Differential	Hydraulic lock, operator controlled
Inboard brakes	Wet disc
Number of discs/brake	5
Brake surface area	2,225 in <sup>2</sup> (14 336 cm <sup>2</sup> )
Tandems:	
Type	Welded plate
Oscillation	15° each way
Front axle	High strength, welded steel
Oscillation	15° each direction
Wheel lean	20.3° left/right
Tires – standard	17.5 - 25 EM SGL TL Goodyear
Rims	1-piece 14/1.3 in x 25 in (38.1 mm x 635 mm)
Transmission type:	Direct drive countershaft Powershift w/ electronic shift control and inching pedal
Pump flow @ 2000 RPM	22.4 gpm (85 L/min)
Sump	Integral
Speeds	6 forward/3 reverse
Shifting	Single lever, bump style automatic electronic control
Diagnostics	On-board
Speeds:	MECHANICAL EH
Forward:	mph (km/h) mph (km/h)
1st	3.1 (5.0) 3.0 (4.8)
2nd	4.8 (7.7) 4.7 (7.5)
3rd	7.3 (11.8) 9.8 (15.7)
4th	11.1 (17.9) 11.1 (17.8)
5th	16.1 (26.0) 16.1 (25.9)
6th	23.6 (38.0) 23.0 (37.0)
Reverse:	mph (km/h) mph (km/h)
1st	3.3 (5.4) 3.2 (5.1)
2nd	7.8 (12.6) 7.6 (12.3)
3rd	17.3 (27.9) 16.9 (27.2)

## ELECTRICAL

Voltage	24 Volts, negative ground
Alternator	90 amp
Batteries	2 – Low-maintenance 800 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 certified (SAE J231, ISO 3449) air conditioned and heated low profile pressurized cab; Openable front window; 8" always active touch-screen display upon key on with machine usage reports, fault codes and alarms, fuel consumption and maintenance report; Dual side cab access with fully swinging doors, tinted safety glasses, front and rear sunshield, openable front windows; Adjustable operator's console and controls, steering wheel, indicator lights; Air suspension seat with 3 in (76 mm) retractable seat belt and adjustable armrests; Dome light; Inside and outside rearview mirrors; Cup holder; Storage tray; 12-volt outlet; AM/FM radio; Sound suppression; Steps – left/right; Front and rear windshield wiper; Front and rear windshield washer; Rear window defroster; Coat hook; Storage box left and right; Hand operated throttle dial.

## OPERATING WEIGHT

W/ 12 ft (3.66 m) moldboard, 17.5 - 25 EM SGL GY Goodyear tires, front counterweight, rear ripper – 5 teeth, 175 lb (79 kg) operator and full fuel:	
856D	33,995 lb (15 420 kg)
856D AWD	34,877 lb (15 820 kg)
Weight, front axle:	
856D9,	186 lb (4 167 kg)
856D AWD	9,407 lb (4 267 kg)
Weight, rear axle:	
856D	24,808 lb (11 253 kg)
856D AWD	25,470 lb (11 553 kg)
Blade pressure:	
856D	16,720 lb (7 519 kg)
856D AWD	17,006 lb (7 714 kg)

## HYDRAULICS

System design	Closed center, load sensing
Hydraulic pump	Load sensing piston pump, variable displacement, pressure and flow compensated
Rated flow @ 2100 RPM	
856D EH	47 gpm (178 L/min)
836D MECHANICAL	33.2 gpm (126 L/min)
Control valve	10 section
Side shift and pitch	Hydraulic
Saddle	5 positions
Diagnostic quick couplers	8

**SERVICE CAPACITIES**

Engine	3.3 gal (12.5 L)
Fuel	73.4 gal (278 L)
Transmission	7.1 gal (27 L)
Radiator	8.45 gal (32 L)
Hydraulic reservoir	23.8 gal (90 L)
Hydraulic system:	
856D	23.8 gal (90 L)
856D AWD	23.8 gal (90 L)
Circle gearbox	0.66 gal (2.5 L)
Rear axle center	9.5 gal (36 L)
Tandem case, each	16.9 gal (64 L)

**OTHER SPECIFICATIONS**

Steering:	
836D MECH	Open Center, Reaction, without LS
836D EH	Closed center, Reaction, LS, dual displacement
Turns – lock-to-lock	10
Pump capacity @ 2100 engine RPM:	7 gpm (32 L/min)
Relief pressure	2,176 psi (150 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, no external stop
Range	28° left/right
Controls	Hydraulic

**MAINFRAME**

Type	All welded box
Front section:	
Size	11.8 in x 11.8 in (300 mm x 300 mm)
Weight – each side	110.2 lb-ft (164 kg/m)
Rear section:	
Size	10.2 in x 3.5 in (260 mm x 90 mm)
Weight – each side	82.9 lb-ft (123.4 kg/m)

**DRAWBAR**

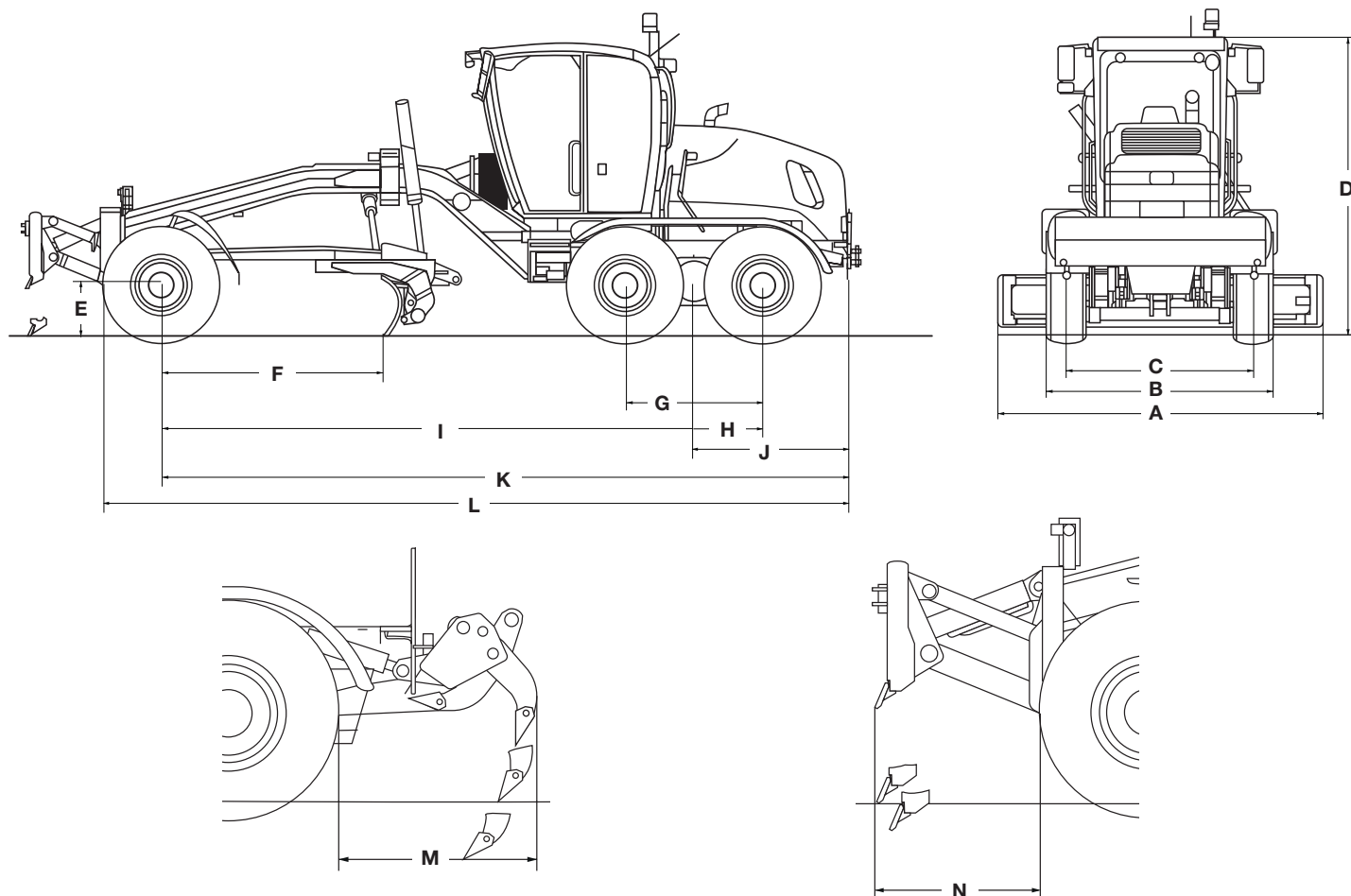
Type:	“A” frame welded construction with center mounted circle turn motor
Ball and circle	Shim adjustable

**MOLDBOARD**

Type	High-carbon steel
Shape	Involute curve
Length	12 ft 0 in (3 658 mm)
Height	23.7 in (603 mm)
Thickness	0.787 in (20 mm)
End bits	2, interchangeable
Blade pitch positions:	
Normal pitch	49°
Minimum pitch	34°
Maximum pitch	84°
Blade shift:	
Right	29.72 in (755 mm)
Left	25.39 in (645 mm)
Max. bank cutting angle:	
Right	100°
Left	112°
Max. ground penetration	19.7 in (500 mm)
Max. lift above ground	18.9 in (480 mm)

**CIRCLE**

Type	Welded construction
Diameter:	
Max. outside	69.0 in (1 260 mm)
Vertical member	63.0 in (1 600 mm)
Rotation	360°
Speed	2.02 RPM (12.1°/second)
Drive	Hydraulic motor
Type	Roller geroter
Displacement	6.1 in³/Rev. (0.10 L/Rev.)
Rated hydraulic flow	19.8 gpm (75 L/min)



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

DIMENSIONS	856D	856D AWD
A. Blade width	12 ft 0 in (3 658 mm)	12 ft 0 in (3 658 mm)
B. Distance between outside edges of tires	8 ft 4 in (2 549 mm)	8 ft 5 in (2 555 mm)
C. Wheel tread – rim 14/1.3 x 25 – one piece rim	6 ft 11 in (2 094 mm)	6 ft 11 in (2 094 mm)
D. Height to top of cab – low profile	10 ft 4 in (3 150 mm)	10 ft 4 in (3 150 mm)
E. Tire radius – when static	1 ft 11 in (584 mm)	1 ft 11 in (584 mm)
F. Blade base	8 ft 3 in (2 504 mm)	8 ft 3 in (2 504 mm)
G. Distance between tandem axles	5 ft 2 in (1 573 mm)	5 ft 2 in (1 573 mm)
H. Distance between tandem center and wheel	2 ft 7 in (787 mm)	2 ft 7 in (787 mm)
I. Wheelbase	20 ft 3 in (6 023 mm)	20 ft 3 in (6 023 mm)
J. Distance between tandem center and rear end of machine	5 ft 10 in (1 785 mm)	5 ft 10 in (1 785 mm)
K. Distance between front axle and rear end of machine	25 ft 5 in (7 808 mm)	25 ft 5 in (7 808 mm)
L. Overall length – without ripper or front attachment	30 ft 3 in (9 371 mm)	30 ft 3 in (9 371 mm)
M. Distance between rear tires and rear ripper	5 ft 9 in (1 755 mm)	5 ft 9 in (1 755 mm)
N. Distance between front tires and front dozer blade	5 ft 0 in (1 532 mm)	5 ft 0 in (1 532 mm)
Outside tire turning radius	23 ft 11 in (7 300 mm)	23 ft 11 in (7 300 mm)
Ground clearance – rear axle	14.9 in (379 mm)	14.9 in (379 mm)
Ground clearance – front axle	21.8 in (554 mm)	21.8 in (554 mm)

NOTE: All units equipped with 17.5 - 25 EM SGL TL Goodyear tires, ROPS cab with heater and A/C, std. battery, full fuel, 175 lb (79 kg) operator. Specifications per ISO 7134.

## STANDARD EQUIPMENT

### ENGINE

F4HGE614L\*V003 NEF 6 cyl. CR TAA 4V  
turbocharged diesel  
Tier 4 Final / Stage V Certified  
Temperature controlled cooling fan  
SCR only exhaust gas after-treatment, no EGR  
Charge air cooler  
Air intake grid heater  
Common rail electronic fuel injection  
Hydraulic driven cooling fan  
Auto idle  
Cold start up to 9.4F (-23°C)  
Air cleaner/pre-cleaner with scavenge line  
and safety element  
Variable fan speed

### DRIVETRAIN

Hydraulic differential lock  
Immobilization disc brake on transmission  
Powershift transmission with 6 Forward and  
3 Reverse speeds with integrated torque  
converter  
Hydraulic dual circuit brake system  
Hydrostatic front wheel drive D.C.V.  
Electronic Drive Control Volume and  
hydraulic differential – FWD version only  
Internal gearing:  
Covered, Backlash-free and maintenance  
free slewing ring operation on 360°  
Hydrostatic power steering  
Circle drive without overload clutch  
Rear axle with automatic/manual gear shifting  
Transmission with automatic/manual  
gear shifting

### HYDRAULICS

Load sensing hydraulic system  
Controls for all functions  
10 section control valve  
Hydraulic moldboard side shift and pitch  
5-position saddle  
11 ft x 20.7 in (3 355 x 526 mm) moldboard  
8 hydraulic diagnostic quick couplers  
Front and rear piping for hydraulic attachment  
Moldboard support no scarifier  
Oscillating front axle with hydraulic  
lean adjustment  
Oscillating tandem axle with automatic  
no-spin differential  
Hydraulic circle turn – 360°  
Hydraulic system lock valves for blade lift,  
blade shift, front wheel lean, blade pitch,  
articulation and special equipment  
Lock valve lift cylinder blade  
Blade float

### FLOAT TIRES

405/70 R20 SPT9  
TPMS - tire pressure monitoring system

### INSTRUMENTS

Digital displays/Gauges:  
Fuel level; Engine coolant temperature;  
Transmission oil temperature;  
Hydraulic oil temperature.  
Monitor Functions:  
Hour meter; Automatic trans indication;  
DEF/Ad blue level indication; Floating – if  
activated; FWD aggressive mode; Error  
prompt; Park brake message; Clutch  
engagement status; Vehicle moving – yes/  
no; 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; Keypad diagnostics; UCM  
diagnostics; Speed limit module; Support  
for different severities – White/ Yellow/ Red;  
System voltage; Error reporting; Warning  
prompts; Indicator warning lamps – main  
warning, parking brake, low brake pressure,  
low steering pressure, Pre-glow, high  
beams, turn signals, hazard lights, low fuel

### ELECTRICAL

2 – Heavy-duty batteries – 800 CCA  
Battery main switch  
Electronic Systems Monitor  
Horn  
Alternator – 90 amp  
Headlights  
2 – Turn signals front  
2 – Tail lights with turn signals, brake lights  
Flood lights – cab mounted  
Rear view camera  
2 – Front mounted working lights  
2 – Floodlights at moldboard  
2 – Floodlights at articulation  
2 – Floodlights rear  
Backup alarm

### OTHER

Front counterweight  
Rear counterweight  
Front fender with hinged mudflaps  
Rear fender  
Wheel chocks x 2  
Standard tooling  
Drive Shaft Maintenance Free  
Rear Ripper Maintenance Free  
Dozer Maintenance Free  
Beacon  
Toolbox with tools

### TELEMATICS

CASE SiteWatch™ Telematics – includes  
hardware and a 5-yr Advanced  
data subscription for 2-way communication

**OPTIONAL EQUIPMENT**

**MOLDBOARDS**

- 11 ft x 23.6 in (3 355 x 600 mm)
- 13 ft x 23.7 in (3 962 x 603 mm)
- Extensions – 2 ft (610 mm)
- Front Float Control
- Moldboard Float Control
- Lift cylinder/side shift accumulators
- Lift cylinder accumulators
- Moldboard with overload clutch
- Moldboard side plates left/right

**OPERATOR ENVIRONMENT**

- Front windows openable with rear window defroster
- Lower front wiper/washers
- Rear windshield washer
- Air conditioning
- Low Profile Cab
- Radio
- Air suspension seat, heated, moveable arm rests

**HYDRAULICS**

- Rear ripper hydraulic predisposition
- Environment friendly hydraulic oil - Panolin

**TIRES**

- 17.5 R25 XTLA G2 Michelin
- 17.5 R25 XHA Michelin

**ATTACHMENTS**

- Front pull hook
- Front counterweight – 1,682 lb (763 kg)
- Rear counterweight – 557.7 lb (253 kg)
- Front dozer blade
- Moldboard scarifier
- Moldboard ripper
- Front push plate
- Front support and lift cylinder
- Rear ripper with 3 or 5 teeth with or without protective device



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



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.