

I 1406A & I 1406AF Series V Haulage Tractors

ENGINE	REAR AXLE	UNLADEN MACHINE SPEEDS (GOVERNED)	ELECTRICAL SYSTEM
Model John Deere 6068HF285	Bell structural steel 13-ton axle	1406A: 1st gear 10,3 km/hr 2nd gear 19,0 km/hr 3rd gear 25,0 km/hr 4th gear 36,0 km/hr 5th gear 40,0 km/hr 6th gear 40,0 km/hr	Voltage 24 V
Configuration Six-cylinder, in-line	Static load rating 32 500 kg	1406AF: 1st gear 9,7 km/hr 2nd gear 18,0 km/hr 3rd gear 23,7 km/hr 4th gear 34,0 km/hr 5th gear 40,0 km/hr 6th gear 40,0 km/hr	Alternator rating 24V/80A
Emission certification Tier 3/Stage IIIA	Dynamic load rating 13 000 kg		Battery rating 100 Ah x 2
Aspiration Turbo charged & A/A intercooled	FRONT AXLE		CAB
Displacement 6.8 Litre	1406A: Bell 1406AF: Carraro cast iron, steering axle, centre pivot, side input		Fully enclosed with HVAC.
Net power 139 hp / 104 kW	Static load rating 1406A: 7 590 kg 1406AF: 5 750 kg		ROPS certified to ISO5700:2013.
Torque Rise 32%	Dynamic load rating 1406A: 3 600 kg 1406AF: 3 600 kg		FOPS certified to ISO27850:2013.
Governed engine speed 2 200 rpm	STEERING SYSTEM	SUSPENSION	Mounting Rubber
Maximum torque (Net, Nm @ rpm) 598 Nm @ 1 500 rpm	Single steering cylinder with through-rod and adjustable tie-rod ends.	Front 1406A: Coil springs on front axle. 1406AF: Centre pivot above the axle.	Operator seat Mechanical suspension. Lap strap restraining belt.
Compression ratio 19:1	BRAKING SYSTEM AND BRAKING FORCE	Rear None	Ventilation Heater ventilation & airconditioning (HVAC).
Engine/transmission cooling Custom built high debris tolerant cooling pack with wide spacing. Transmission cooler mounted side by side with the radiator and the CAC.	Disc brakes Service brake Rear axle braking only. 430 mm ventilated dry disc using pneumatic dual function actuator.	HYDRAULIC SYSTEM	Operator trainer seat Optional side mounted rigid seat with lap strap restraining belt.
Engine exhaust/retardation Rectangular canister silencer integrated in line in the exhaust system/Engine valve J - brake.	Park brake Rear axle braking only. Spring applied, pneumatic release.	Pump application Pump supplying steering (with priority flow valve) and hitch lift and trailer auxiliary (2 function direct lever control valve).	Guarding Full-size expanded mesh rear window cab guard.
Engine air cleaner Dual stage air filter with heavy duty pre-cleaner.	Brake system charge & release pressure 8,5 bar	Rated flow @ engine Governed rpm 61,2 L/min	Instrumentation Air pressure, engine speed, machine speed, engine coolant temperature, fuel level and hour meter permanently displayed. Audible warning buzzer and colour change to red as warning of undesirable conditions.
TRANSMISSION	Braking force Brake torque per wheel: 25 412 Nm	Control valve relief pressure 210 bar	
Model Allison #2500	Specification compliance SANS 1447-1:2007 Ed.2	STEERING SYSTEM	FRONT BODYWORK
Torque converter layout Hydrodynamic with lock-up in 1-6 gears and converter mode in gears 1 & 2.	WHEELS	Steering orbitrol valve	Bonnet Front section one-piece fibre glass bonnet. Hinges towards rear at an angle of 70 degrees for full-service access to coolers, engine and transmission.
TRANSFER CASE	1406A Wheels 600/65R38 315/80R22.5	Lock-to-lock turns 3,5	Grill Part of the bonnet.
Layout 1406A: N/A 1406AF: Mounted off the rear differential	1406AF Wheels 420/70R24 580/70R38	PNEUMATIC SYSTEM	
		System pressure 8,5 bar	
		Air reservoir capacity 30 L	
		Auxiliary (trailer) air supply Quick coupler at vehicle rear	

Fluid tanks

Side-side diesel / hydraulic tank.
Optional long-range spill over tank mounted to LHS of chassis.

Rear mudguards

Steel with integrated tail-lights and front indicator lights.

OPTIONS

- FM radio
- Fleetm@tic®
- Underside belly plates
- 140L Long-range tank
- Trainer seat
- Front guard

DRIVE-BY NOISE EMISSION

SANS 10205:2007

88 dBA

HITCH

Certified capacity:
5 097 kg
Hitch forward of rear axle:
63 mm

FLUID CAPACITIES

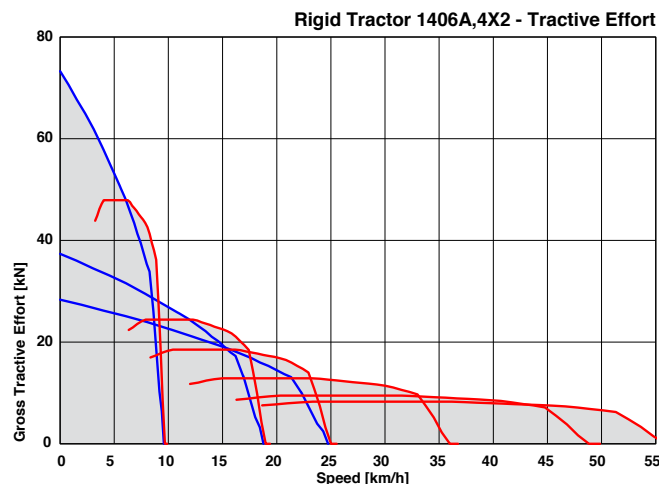
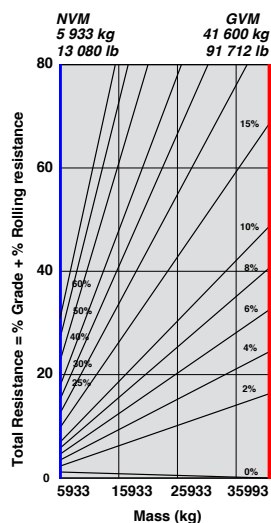
• Hydraulic oil	94 L
• Diesel:	
- standard	160 L
• Front axle oil	8,5 L
• Rear axle oil	32 L
• Engine oil	19 L
• Transmission oil	28 L
• Transfer case oil:	
- 1406A	N/A
- 1406AF	2,5 L

OPERATING MASS

	1406A	1406AF
• Unladen front	2 191 kg	2 901 kg
• Unladen rear	3 427 kg	3 460 kg
• Unladen total	5 618 kg	6 361 kg
• Rated rear axle load	8 000 kg	8 000 kg
• Hitch loading @ rated rear axle load	4 200 kg	4 200 kg
• Laden front	2 514 kg	3 224 kg
• Laden rear	7 861 kg	7 894 kg
• Laden total gross vehicle mass (GVM)	10 375 kg	11 118 kg
• Allowable gross combination Mass (GCM)	48 000 kg	48 000 kg

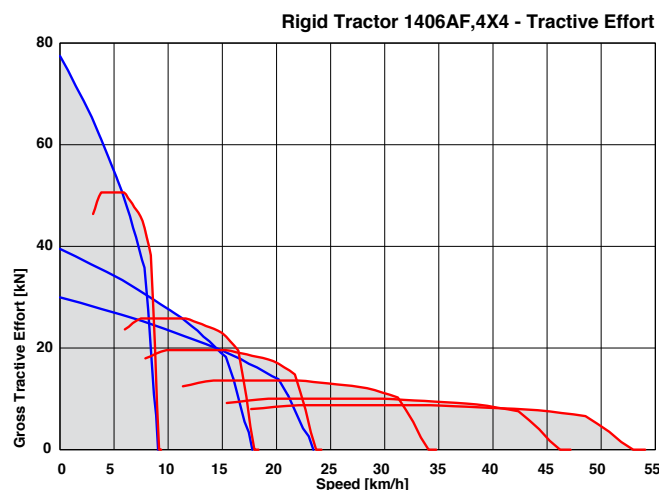
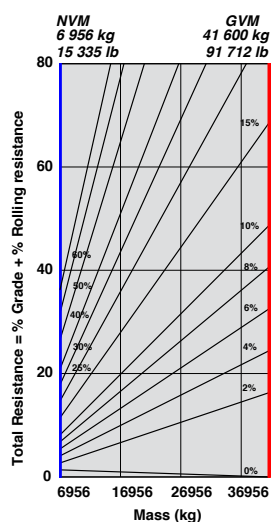
Gradeability/Rimpull

1. Determine the GCM (mass) of the rig.
2. Estimate grade and find the corresponding (red) line.
3. Where vertical (mass) line and red (grade) line cross.
4. Draw a horizontal line to intersect tractive chart on the right.
5. Drop a vertical line at that point and read off the maximum speed at a given grade and mass.



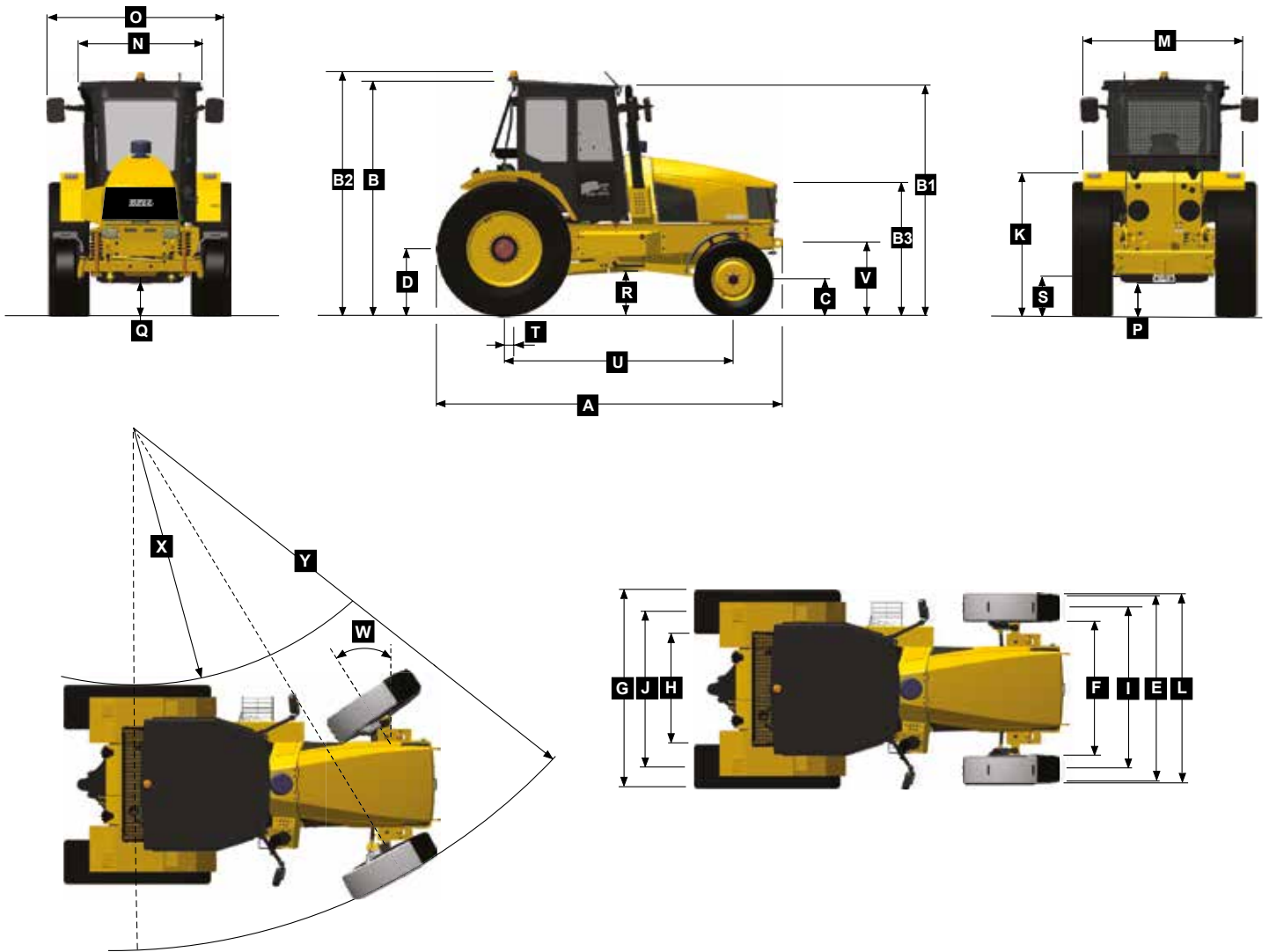
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I406A Series V

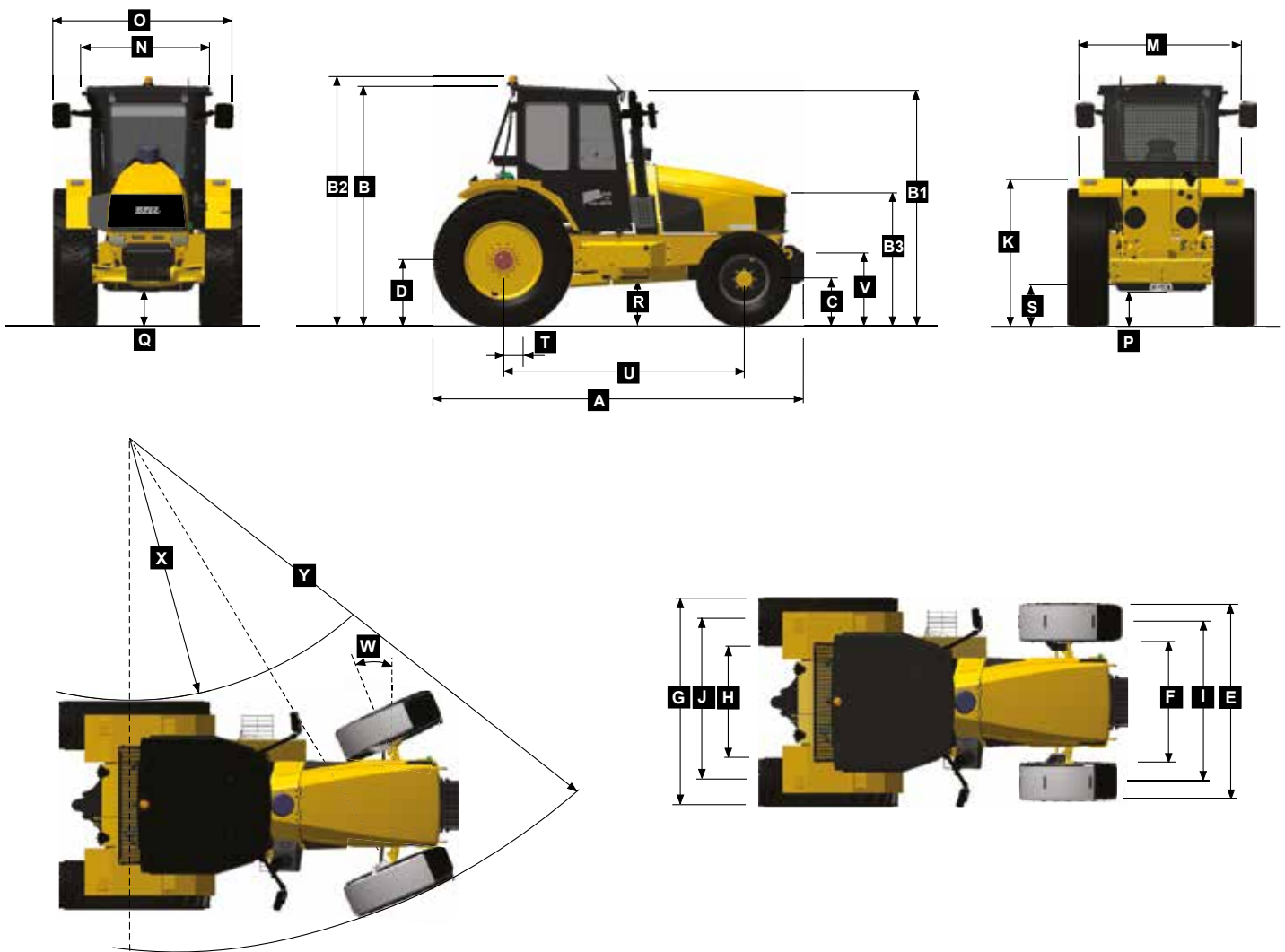
I Dimensions



Machine Dimensions

A	Length-Transport Position	4 697 mm	L	Width over Mudguards Front	2 380 mm
B	Height-Cab	3 197 mm	M	Width over Mudguards Rear	2 172 mm
B1	Height-Exhaust Stack	3 146 mm	N	Width over Cab	1 675 mm
B2	Height-Rotating Beacon	3 317 mm	O	Width over Mirrors - Operating Position	2 393 mm
B3	Height-Bonnet Front	1 845 mm	P	Ground Clearance - Hitch	461 mm
C	Height-Front Axle Centre (Rolling Radius)	543 mm	Q	Ground Clearance - Front Axle	521 mm
D	Height-Rear Axle Centre (Rolling Radius)	915 mm	R	Ground Clearance - Max	648 mm
E	Width over Tyres-Front - 315/80 R22.5	2 292 mm	S	Height-Hitch Ball Centre	552 mm
F	Inside Tyre Width-Front	1 668 mm	T	Rear Axle Centre to Ball Hitch Centre	63 mm
G	Width over Tyres-Rear - 540/80 R38	2 476 mm	U	Front Axle Centre to Rear Axle Centre	3 106 mm
H	Inside Tyre Width - Rear	1 376 mm	V	Front Tie Down Height	1 036 mm
I	Tyre Track Width - Front	1 980 mm	W	Maximum Steering Angle	34°
J	Tyre Track Width - Rear	1 926 mm	X	Inner Turning Circle Radius	3 814 mm
K	Height-Rear Mudguard	1 963 mm	Y	Outer Turning Circle Radius	7 030 mm

Dimensions



Machine Dimensions

A	Length-Transport Position	4 844 mm	M	Width over Mudguards Rear	2 172 mm
B	Height-Cab	3 195 mm	N	Width over Cab	1 675 mm
B1	Height-Exhaust Stack	3 104 mm	O	Width over Mirrors-Operating Position	2 393 mm
B2	Height-Rotating Beacon	3 313 mm	P	Ground Clearance-Hitch	458 mm
B3	Height-Bonnet Front	1 755 mm	Q	Ground Clearance-Front Axle	500 mm
C	Height-Front Axle Centre (Rolling Radius)	627 mm	R	Ground Clearance-Max	616 mm
D	Height-Rear Axle Centre (Rolling Radius)	918 mm	S	Height-Hitch Ball Centre	550 mm
E	Width over Tyres-Front-420/70 R24	2 288 mm	T	Rear Axle Centre to Ball Hitch Centre	54 mm
F	Inside Tyre Width-Front	1 450 mm	U	Front Axle Centre to Rear Axle Centre	3 142 mm
G	Width over Tyres-Rear-580/70 R38	2 510 mm	V	Front Tie Down Height	946 mm
H	Inside Tyre Width-Rear	1 342 mm	W	Maximum Steering Angle	25°
I	Tyre Track Width-Front	1 869 mm	X	Inner Turning Circle Radius	5 554 mm
J	Tyre Track Width-Rear	1 926 mm	Y	Outer Turning Circle Radius	8 617 mm
K	Height-Rear Mudguard	1 962 mm			