

# I 1406A & I 1406AF Series V Haulage Tractors

## ENGINE

**Model**  
John Deere 6068HF285

**Configuration**  
Six-cylinder, in-line

**Emission certification**  
Tier 3/Stage IIIA

**Aspiration**  
Turbo charged & A/A intercooled

**Displacement**  
6.8 Litre

**Net power**  
139 hp / 104 kW

**Torque Rise**  
32%

**Governed engine speed**  
2 200 rpm

**Maximum torque (Net, Nm @ rpm)**  
598 Nm @ 1 500 rpm

**Compression ratio**  
19:1

**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.

**Engine exhaust/retardation**  
Pneumatic Exhaust Brake

**Engine air cleaner**  
Dual stage air filter with heavy duty pre-cleaner.

## TRANSMISSION

**Model**  
Allison #2500

**Torque converter layout**  
Hydrodynamic with lock-up in 1-6 gears and converter mode in gears 1 & 2.

## TRANSFER CASE

**Layout**  
1406A: N/A  
1406AF: Mounted off the rear differential

## REAR AXLE

Bell structural steel 13-ton axle

**Static load rating**  
32 500 kg

**Dynamic load rating**  
13 000 kg

## FRONT AXLE

1406A: Bell  
1406AF: Carraro cast iron, steering axle, centre pivot, side input

**Static load rating**  
1406A: 7 590 kg  
1406AF: 5 750 kg

**Dynamic load rating**  
1406A: 3 600 kg  
1406AF: 3 600 kg

## STEERING SYSTEM

Single steering cylinder with through-rod and adjustable tie-rod ends.

## BRAKING SYSTEM AND BRAKING FORCE

**Disc brakes**  
**Service brake**  
Rear axle braking only. 430 mm ventilated dry disc using pneumatic dual function actuator.

**Park brake**  
Rear axle braking only. Spring applied, pneumatic release.

**Brake system charge & release pressure**  
8,5 bar

**Braking force**  
Brake torque per wheel: 25 412 Nm

**Specification compliance**  
SANS 1447-1:2007 Ed.2

## WHEELS

**1406A Wheels**  
600/65R38  
315/80R22.5

**1406AF Wheels**  
420/70R24  
580/70R38

## UNLADEN MACHINE SPEEDS (GOVERNED)

**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

**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

## SUSPENSION

**Front**  
1406A: Coil springs on front axle.  
1406AF: Centre pivot above the axle.

**Rear**  
None

## HYDRAULIC SYSTEM

**Pump application**  
Pump supplying steering (with priority flow valve) and hitch lift and trailer auxiliary (2 function direct lever control valve).

**Rated flow @ engine Governed rpm**  
61,2 L/min

**Control valve relief pressure**  
210 bar

## STEERING SYSTEM

Steering orbitrol valve

**Lock-to-lock turns**  
3,5

## PNEUMATIC SYSTEM

**System pressure**  
8,5 bar

**Air reservoir capacity**  
30 L

**Auxiliary (trailer) air supply**  
Quick coupler at vehicle rear

## ELECTRICAL SYSTEM

**Voltage**  
24 V

**Alternator rating**  
24V/80A

**Battery rating**  
100 Ah x 2

## CAB

Fully enclosed with HVAC.

ROPS certified to ISO5700:2013.

FOPS certified to ISO27850:2013.

**Mounting**  
Rubber

**Operator seat**  
Mechanical suspension. Lap strap restraining belt.

**Ventilation**  
Heater ventilation & airconditioning (HVAC).

**Operator trainer seat**  
Optional side mounted rigid seat with lap strap restraining belt.

**Guarding**  
Full-size expanded mesh rear window cab guard.

**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.

## FRONT BODYWORK

**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.

**Grill**  
Part of the bonnet.

## 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

## 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

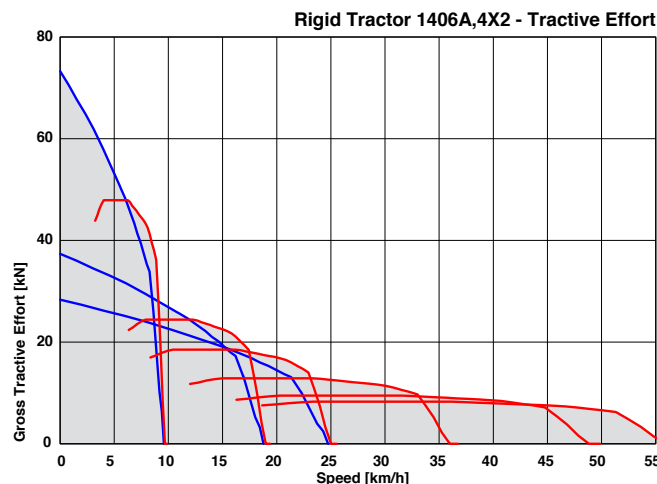
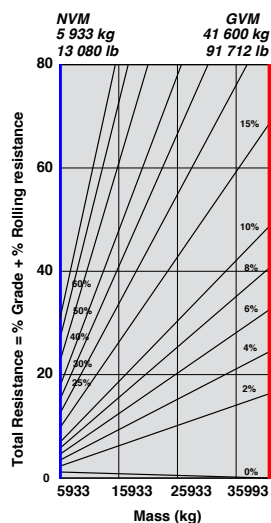
## DRIVE-BY NOISE EMISSION

SANS 10205:2007

88 dBA

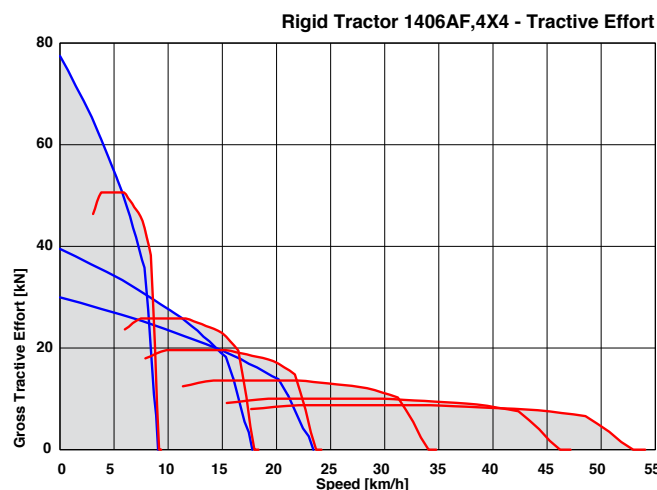
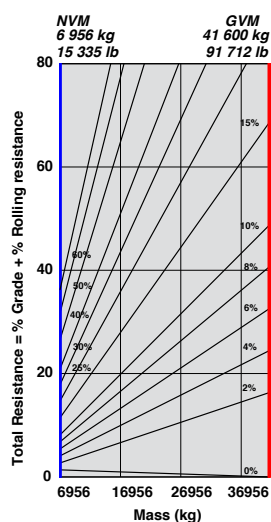
## Gradeability/Rimpull

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.



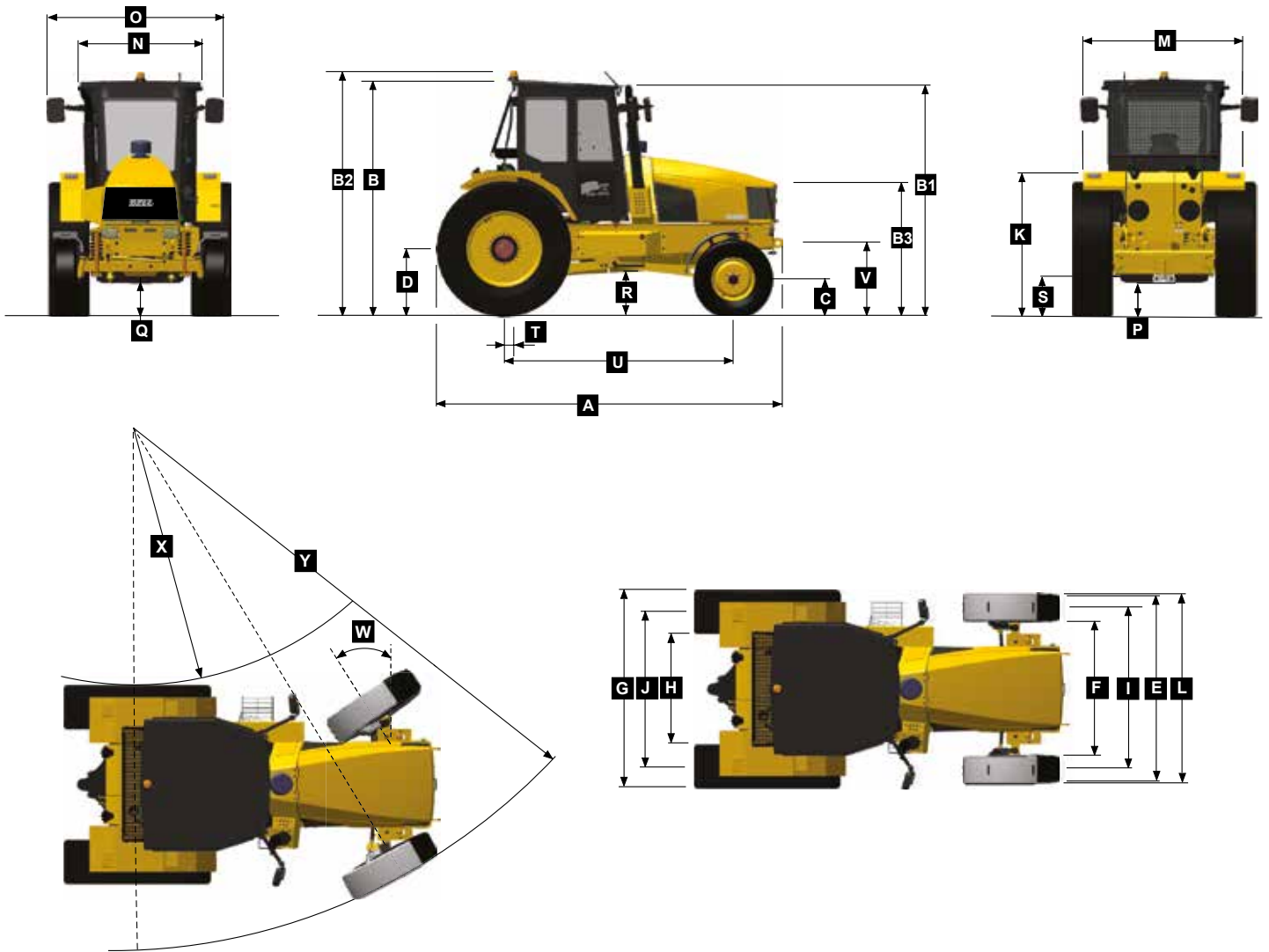
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# I406A Series V

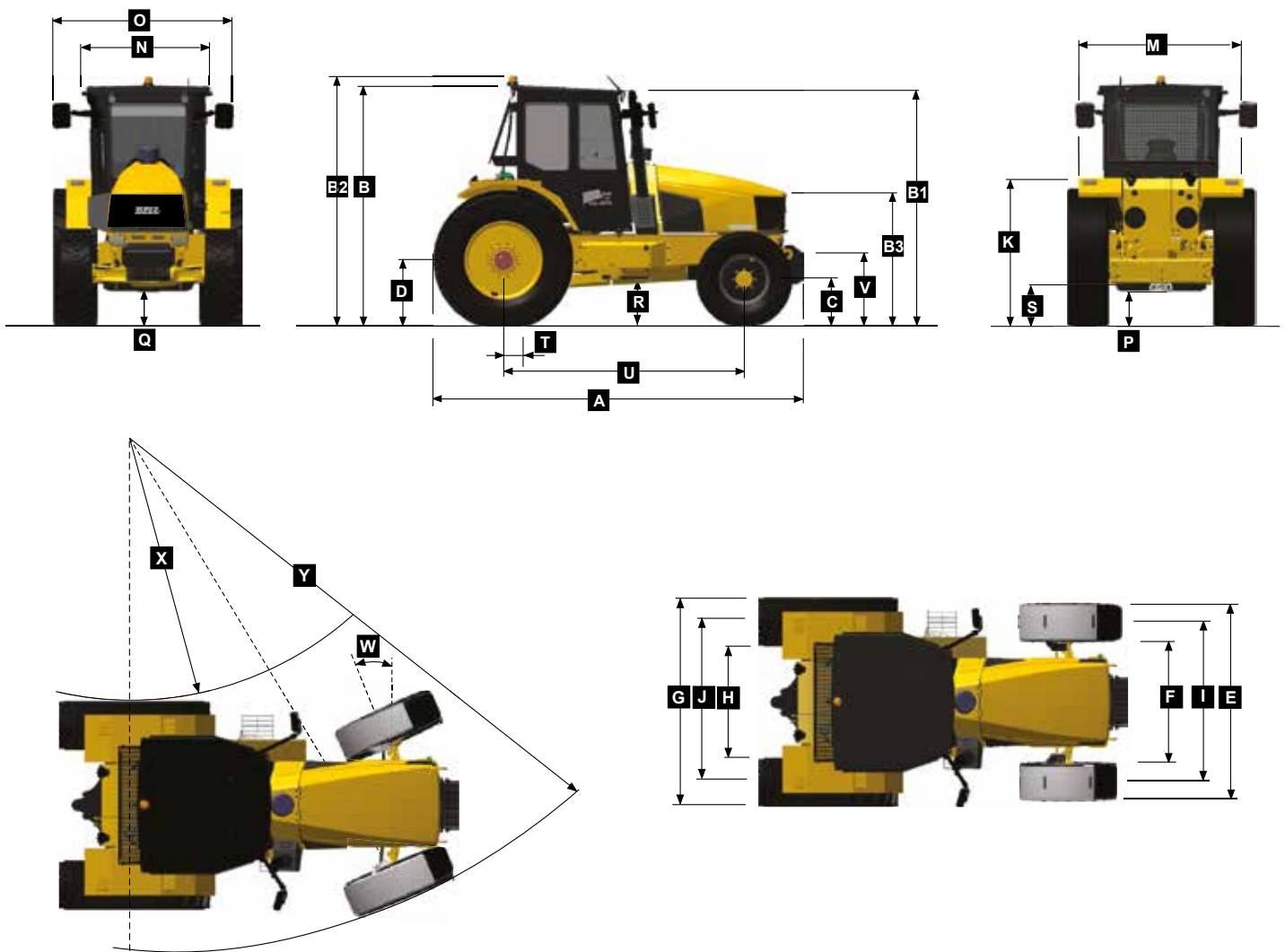
## Dimensions



### 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			