

## 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**  
200 hp (149 kW)

**Torque rise**  
32%

**Governed engine speed**  
2 400 rpm

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

**Compression ratio**  
19:1

**Engine/transmission cooling**  
Custom built high debris tolerant cooling pack with spacing. Transmission cooler mounted side by side with the radiator and the CAC.

**Engine exhaust/retardation**  
Pneumatically engaged exhaust brake.

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

## TRANSMISSION

**Model**  
Allison #3000

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

## TRANSFER CASE

**Layout**  
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

Carraro cast iron, steering axle, centre pivot, side input

**Static Load Rating**  
5 750 kg

**Dynamic Load Rating**  
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

420/70R24

580/70R38

## UNLADEN MACHINE SPEEDS (GOVERNED)

1st gear	9,8 km/hr
2nd gear	18,3 km/hr
3rd gear	24,2 km/hr
4th gear	34,6 km/hr
5th gear	40,0 km/hr
6th gear	40,0 km/hr

## SUSPENSION

**Front**  
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  
153 L/min (hi-flow option)

**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.

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

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

**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
- Hi-flow hydraulic
- Front guard

## DRIVE-BY NOISE EMISSION

**SANS 10205:2007**  
88 dBA

## HITCH

Certified capacity:  
5 097 kg

Hitch forward of rear axle:  
65 mm

## FLUID CAPACITIES

### Standard option

- 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 2,5 L

### Long range/Hi-flow option

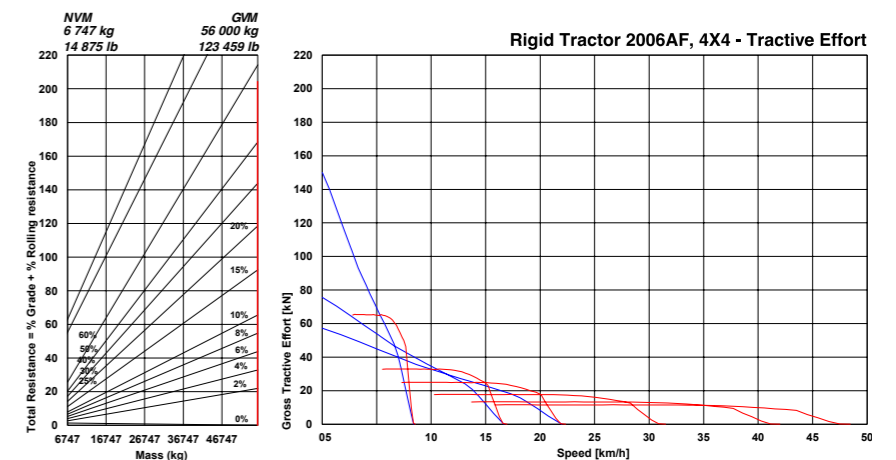
- Hydraulic oil 132 L
- Fuel tank 253 L

## OPERATING MASS

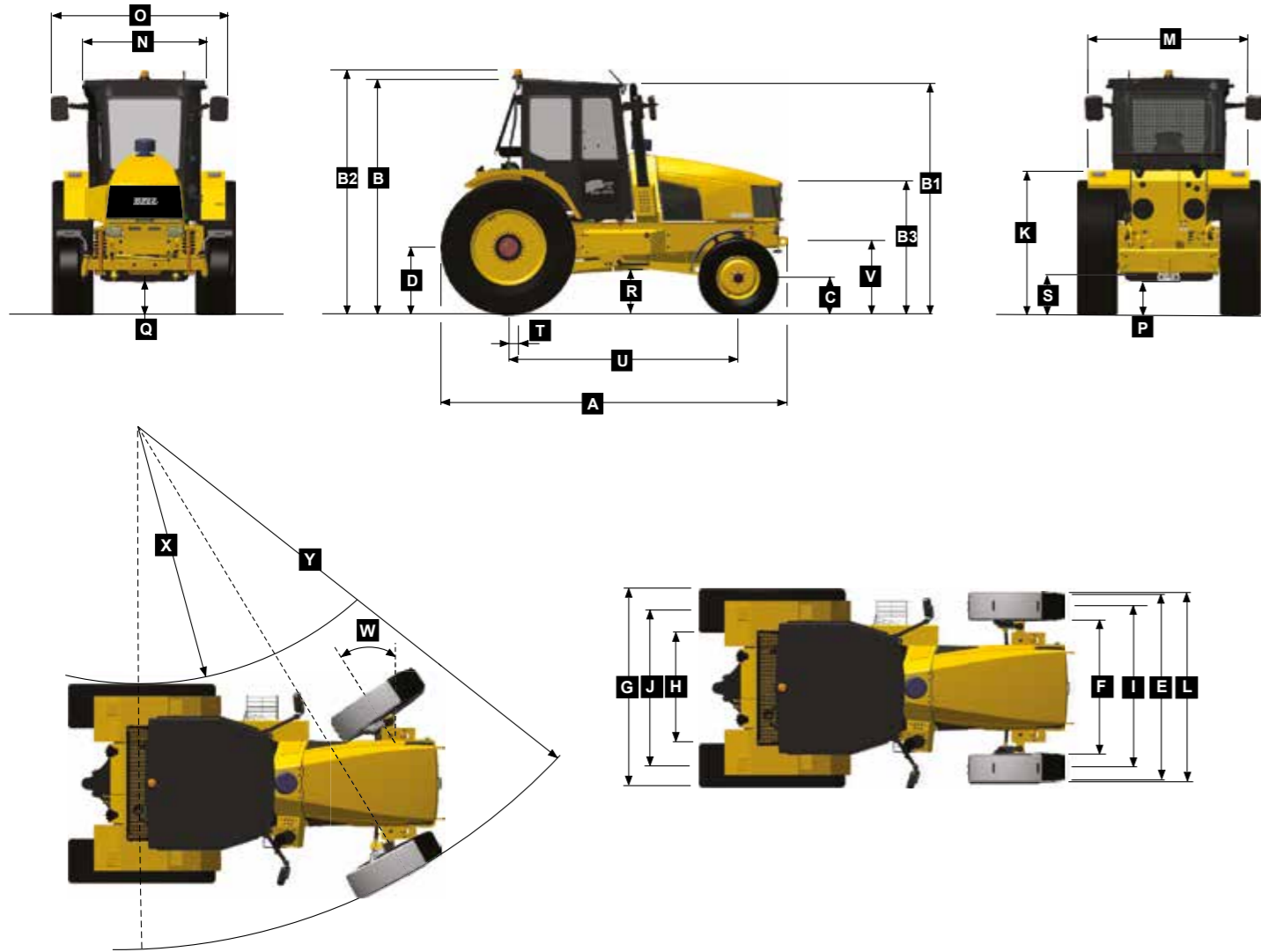
- Unladen front 2 941 kg
- Unladen rear 3 540 kg
- Unladen total 6 481 kg
- Rated rear axle load 8 000 kg
- Hitch loading @ rated rear axle load 4 200 kg
- Laden front 3 269 kg
- Laden rear 7 980 kg
- Laden total gross vehicle mass (GVM) 11 249 kg
- Allowable gross combination mass (GCM) 56 000 kg

## 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.



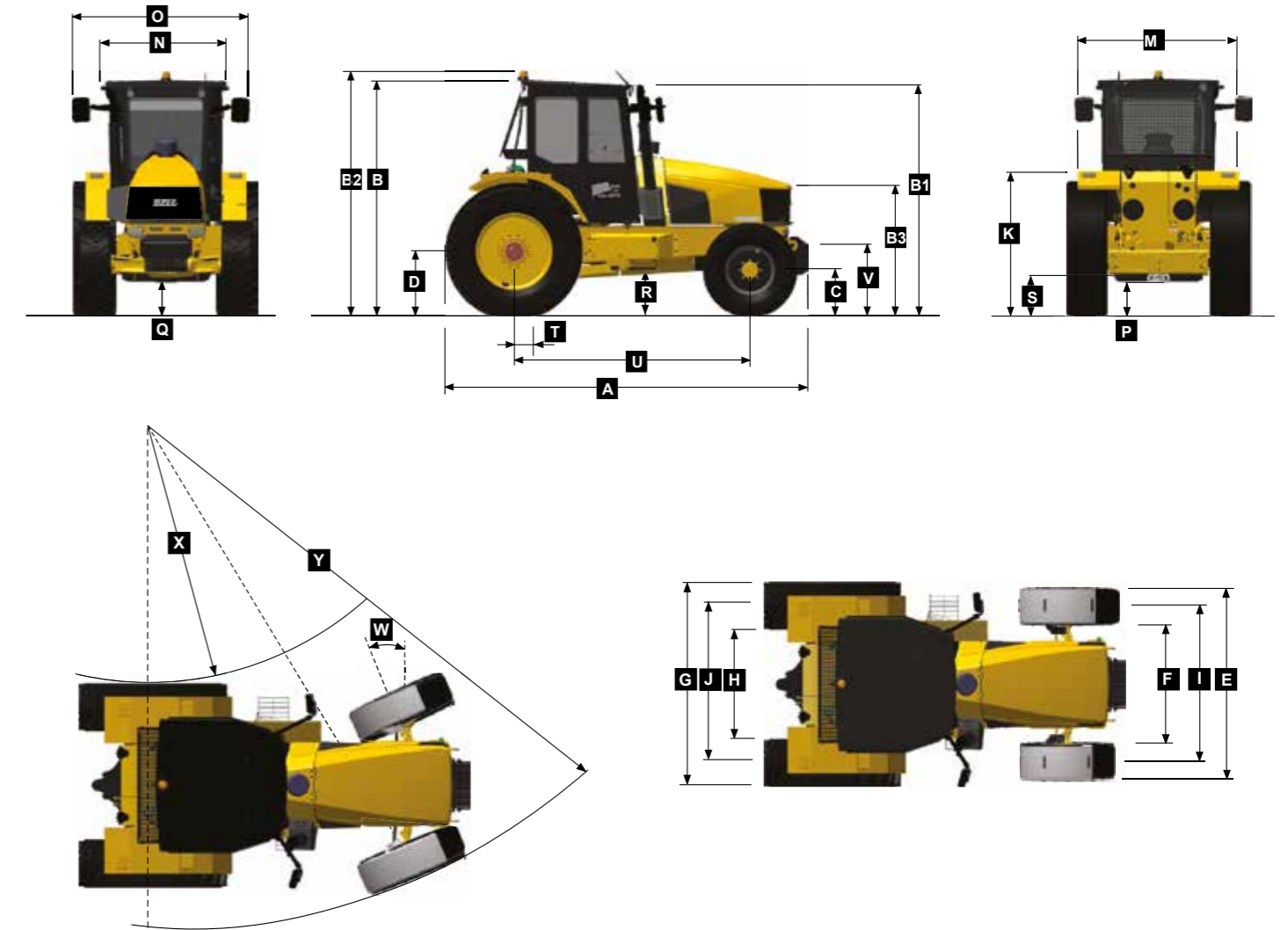
Dimensions



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			