

# Timber Trucks

BELL TIMBER HAULERS AND LONG RANGE FORWARDERS

TH302E | TH302E HP | TH403E | TH403EN | TF302E | TF403E

Stage II Certified



**BELL**



# The right choice

As a global leader in the manufacture, distribution and support of material handling equipment, Bell Equipment brings you the world class Timber Truck.

The ergonomically designed cab is packed with the latest automotive technology and state-of-the-art tooling to enhance the operator's experience.

- The standard sound-suppression package significantly reduces noise levels and operator fatigue.
- A fully adjustable air-suspension seat with variable damping, auto height adjust according to operator weight, pneumatic lumbar support and multipoint harness provide best-in-class comfort and safety.
- The rotatable seat in the Bell Forwarder cab enables the operator to drive the Timber Truck and easily load and offload material from the comfort and safety of the cab.
- A sky roof, full glass access door, high visibility mirrors and modern styling all enhance cab visibility.



Reliable braking is of paramount importance within the timber industry. The combination of innovative solutions complimenting our industry leading braking design provides the best-in-class braking system.

- You won't find retarder pedals or levers in a Bell Truck. Retarder aggressiveness is simply set on the switch pad. Everything else is automatic.
- Dual circuit hydraulically actuated brakes deliver consistent "on-the-mark" braking, even in cold weather and steep slopes. The 240 kW Timber Trucks are equipped with wet disc brakes while the 205 kW Timber Trucks have dry disk brakes.
- Class-leading engine braking and automated transmission retardation deliver superior braking power and reduce service brake wear.
- For comfortable productivity the A-frame suspension system coupled with hydropneumatic suspension struts reduce the lateral vibration often experienced with off-road conditions. A superior suspension seat provides additional isolation for the operator.
- Rough terrain demands tough suspensions. Heavy-duty components absorb shocks and come back for more while providing you with superior suspension travel and ground clearance.
- The wide track width ensures reliable stability while loading.





Designed with safety and ease of operation in mind; safety critical operations, such as the park brake and crane functions, are automatically applied or limited in unsafe conditions. Automatic Traction Control (ATC) is achieved through the automatic application of the Inter-axle Differential Lock (IDL) while driving.

Bell Timber Trucks leverage the advanced design of our international class leading ADT design providing high reliability and efficiency.

Wherever in the world you take your Timber Truck, you can be guaranteed of Bell Equipment's technical support which is offered through the company's network of customer service centres and dealers.



# Timber Truck TH302E, TH403EN & TF302E

## ENGINE

**Manufacturer**  
Mercedes Benz

**Model**  
OM906LA

**Configuration**  
Inline 6, turbocharged and intercooled

**Gross Power**  
205 kW (275 hp) @ 2 200 rpm

**Net Power**  
198 kW (265 hp) @ 2 200 rpm

**Gross Torque**  
1 100 Nm (811 lbf) @  
1 200-1 600 rpm

**Displacement**  
6,37 litres (389 cu.in)

**Auxiliary Brake**  
Exhaust valve brake  
Engine valve brake

**Fuel Tank Capacity**  
**TH302E & TF302E**  
379 litres (100 US gal)

**TH403EN**  
342 litres (90 US gal)

**Certification**  
OM906LA meets EU Stage II/  
EPA Tier 2 emissions regulations

## TRANSMISSION

**Manufacturer**  
Allison

**Model**  
3500PR ORS

**Configuration**  
Fully automatic planetary  
transmission with integral  
retarder.

**Layout**  
Engine mounted

**Gear layout**  
Constant meshing planetary  
gears, clutch operated

**Gears**  
6 Forward, 1 Reverse

**Clutch Type**  
Hydraulically operated multi-  
disc

**Control Type**  
Electronic

**Torque Control**  
Hydrodynamic with lock-up in  
all gears

## TRANSFER CASE

**Manufacturer**  
Kessler

**Series**  
W1400

**Layout**  
Remote mounted

**Gear Layout**  
Three in-line helical gears

**Output Differential**  
Interaxle 33/67 proportional  
differential. Automatic inter-axle  
differential lock.

## AXLES

**Manufacturer**  
Bell

**Model**  
15T

**Differential**  
High input limited slip  
differential with spiral bevel  
gears.

**Final Drive**  
Outboard heavy duty  
planetary on all axles

## BRAKING SYSTEM

**Service Brake**  
Dual circuit, full hydraulic  
actuation dry disc brakes with  
8 calipers (4F, 2M, 2R).

Maximum brake force:  
184 kN (41 400 lbf)

TF302E can be supplied with  
dual circuit, full hydraulic  
actuation wet disc brakes on  
front and middle axles.

Maximum brake force:  
187 kN (42 000 lbf)

Wet brake oil is circulated  
through a filtration and cooling  
system.

**Park & Emergency**  
Spring applied, air released  
driveline mounted disc

Maximum brake force:  
195 kN (43 900 lbf)

**Auxiliary Brake**  
Automatic exhaust valve  
brake and engine valve brake.  
Automatic, adjustable,  
integral, hydrodynamic  
transmission retarder. Output  
shaft speed dependant.

**Total Retardation Power**  
250 kW (335 hp) continuous  
539 kW (723 hp) maximum

## WHEELS

**Type**  
Radial Earthmover

**Tyre**  
**TH302E & TF302E**  
23.5R25

**TH403EN**  
20.5R25

## FRONT SUSPENSION

Semi-independent, leading  
A-frame supported by hydro-  
pneumatic suspension struts.

## REAR SUSPENSION

Pivoting walking beams with  
laminated rubber suspension  
blocks.

## HYDRAULIC SYSTEM

Full load sensing system serving  
the prioritised steering, body  
tipping and brake functions.  
A ground-driven, load sensing  
emergency steering pump  
is integrated into the main  
system.

**Pump Type**  
Variable displacement load  
sensing piston.

**Flow**  
165 l/min (44 gal/min)

**Pressure**  
28 Mpa (4 061 psi)

**Filter**  
5 microns

## STEERING SYSTEM

Double acting cylinders, with  
ground-driven emergency  
steering pump.

**Lock to lock turns**  
4,1

**Steering Angle**  
45°

## PNEUMATIC SYSTEM

Air drier with heater and  
integral unloader valve,  
serving park brake and  
auxiliary functions.

**System Pressure**  
810 kPa (117 psi)

## ELECTRICAL SYSTEM

**Voltage**  
24 V

**Battery Type**  
Two AGM (Absorption Glass  
Mat) type.

**Battery Capacity**  
2 X 75 Ah

**Alternator Rating**  
28 V 80 A

## VEHICLE SPEEDS

1st	7 km/h	4 mph
2nd	15 km/h	9 mph
3rd	23 km/h	14 mph
4th	35 km/h	22 mph
5th	47 km/h	29 mph
6th	50 km/h	31 mph
R	7 km/h	4 mph

## CAB

ROPS/FOPS certified 72 dBA  
internal sound level measured  
according to ISO 6396.

## Load Capacity & Ground Pressure

		TH302E		TF302E		TH403EN	
		UNLADEN kg	LADEN kg	UNLADEN kg	LADEN kg	UNLADEN kg	LADEN kg
Operating weights	Front	8 804	9 676	11 500	12 372	9 480	12 498
	Middle	1 693	13 257	4 634	16 198	3 659	14 150
	Rear	2 206	13 670	4 694	16 158	4 025	14 516
	Total (GVM)	12 703	36 603	20 828	44 728	17 164	41 164
<b>Load Capacity (kg)</b>		24 000		24 000		24 000	
<b>Bunk Area (m<sup>3</sup>)*</b>		35.2		35.2		43.2	

\*Calculated with the maximum rated log length

# Timber Truck TH302E HP, TH403E & TF403E

## ENGINE

**Manufacturer**  
Mercedes Benz

**Model**  
OM926LA

**Configuration**  
Inline 6, turbocharged and intercooled

**Gross Power**  
240 kW (322 hp) @ 2 200 rpm

**Net Power**  
228 kW 95% (306 hp) @ 2 200 rpm

**Gross Torque**  
1 300 Nm (959 lbft) @ 1 200-1 600 rpm

**Displacement**  
7,2 litres (439 cu.in)

**Auxiliary Brake**  
Exhaust valve brake  
Engine valve brake

**Fuel Tank Capacity**  
**TH403E & TH302E HP**  
379 litres (100 US gal)

**TF403E**  
302 litres (80 US gal)

**Certification**  
OM926LA meets EU Stage II/EPA Tier 2 emissions regulations

## TRANSMISSION

**Manufacturer**  
Allison

**Model**  
3400P ORS

**Configuration**  
Fully automatic planetary transmission

**Layout**  
Engine mounted

**Gear layout**  
Constant meshing planetary gears, clutch operated

**Gears**  
6 Forward, 1 Reverse

**Clutch Type**  
Hydraulically operated multi-disc

**Control Type**  
Electronic

**Torque Control**  
Hydrodynamic with lock-up in all gears

## TRANSFER CASE

**Manufacturer**  
Kessler

**Series**  
W1400

**Layout**  
Remote mounted

**Gear Layout**  
Three in-line helical gears

**Output Differential**  
Interaxle 33/67 proportional differential. Automatic inter-axle differential lock.

## AXLES

**Manufacturer**  
Bell

**Model**  
18T

**Differential**  
High input limited slip differential with spiral bevel gears

**Final Drive**  
Outboard heavy duty planetary on all axles

## BRAKING SYSTEM

**Service Brake**  
Dual circuit, full hydraulic actuation wet disc brakes on front and middle axles. Wet brake oil is circulated through a filtration and cooling system.

Maximum brake force:  
187 kN (42 000 lbf)

**Park & Emergency**  
Spring applied, air released driveline mounted disc

Maximum brake force:  
251 kN (56 400 lbf)

**Auxiliary Brake**  
Automatic engine valve brake. Automatic retardation through electronic activation of wet brake system.

**Total Retardation Power**  
265 kW (355 hp) continuous  
494 kW (662 hp) maximum

## WHEELS

**Type**  
Radial Earthmover

**Tyre**  
23.5 R 25

## FRONT SUSPENSION

Semi-independent, leading A-frame supported by hydro-pneumatic suspension struts.

## REAR SUSPENSION

Pivoting walking beams with laminated rubber suspension blocks.

## HYDRAULIC SYSTEM

Full load sensing system serving the prioritised steering, body tipping and brake functions. A ground-driven, load sensing emergency steering pump is integrated into the main system.

**Pump Type**  
Variable displacement load sensing piston

**Flow**  
165 l/min (44 gal/min)

**Pressure**  
28 Mpa (4 061 psi)

**Filter**  
5 microns

## STEERING SYSTEM

Double acting cylinders, with ground-driven emergency steering pump.

**Lock to lock turns**  
4,1

**Steering Angle**  
45°

## PNEUMATIC SYSTEM

Air drier with heater and integral unloader valve, serving park brake and auxiliary functions.

**System Pressure**  
810 kPa (117 psi)

## ELECTRICAL SYSTEM

**Voltage**  
24 V

**Battery Type**  
Two AGM (Absorption Glass Mat) type

**Battery Capacity**  
2 X 75 Ah

**Alternator Rating**  
28 V 80 A

## VEHICLE SPEEDS

1st	8 km/h	5 mph
2nd	14 km/h	9 mph
3rd	20 km/h	12 mph
4th	29 km/h	18 mph
5th	43 km/h	26 mph
6th	50 km/h	31 mph
R	8 km/h	5 mph

## CAB

ROPS/FOPS certified 72 dBA internal sound level measured according to ISO 6396.

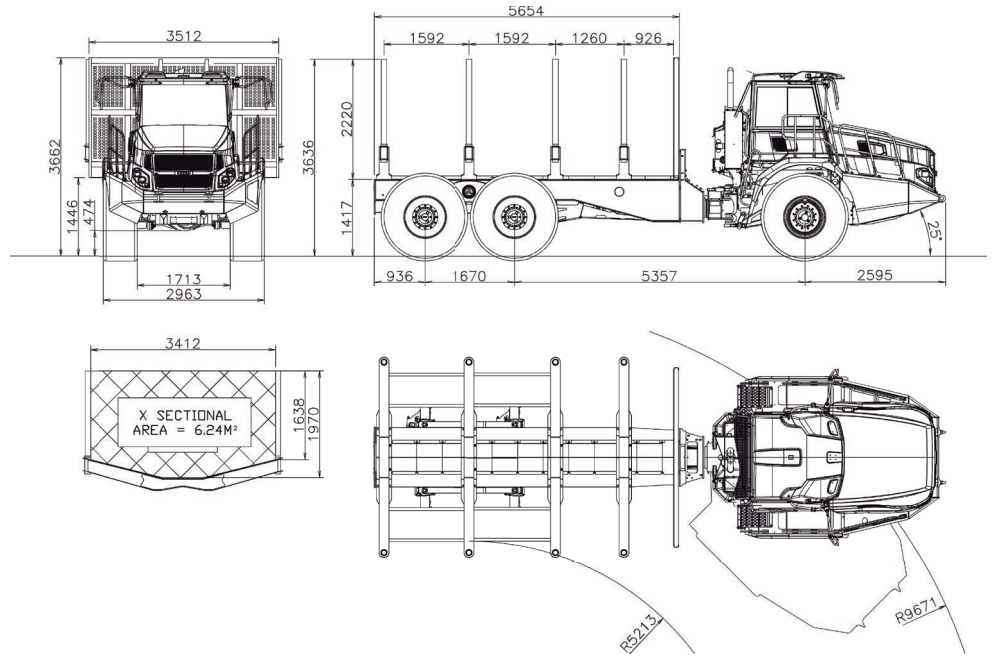
## Load Capacity & Ground Pressure

		TH302E HP		TH403E		TF403E	
		UNLADEN kg	LADEN kg	UNLADEN kg	LADEN kg	UNLADEN kg	LADEN kg
Operating weights	Front	8 804	9 676	10 320	13 954	13 016	15 702
	Middle	1 693	13 257	3 659	15 842	6 600	17 701
	Rear	2 206	13 670	4 025	16 208	6 513	17 614
	Total (GVM)	12 703	36 603	18 004	46 004	26 129	51 017
<b>Load Capacity (kg)</b>		24 000		28 000		24 888	
<b>Bunk Area (m<sup>3</sup>)*</b>		35.2		44.75		44.75	

\*Calculated with the maximum rated log length

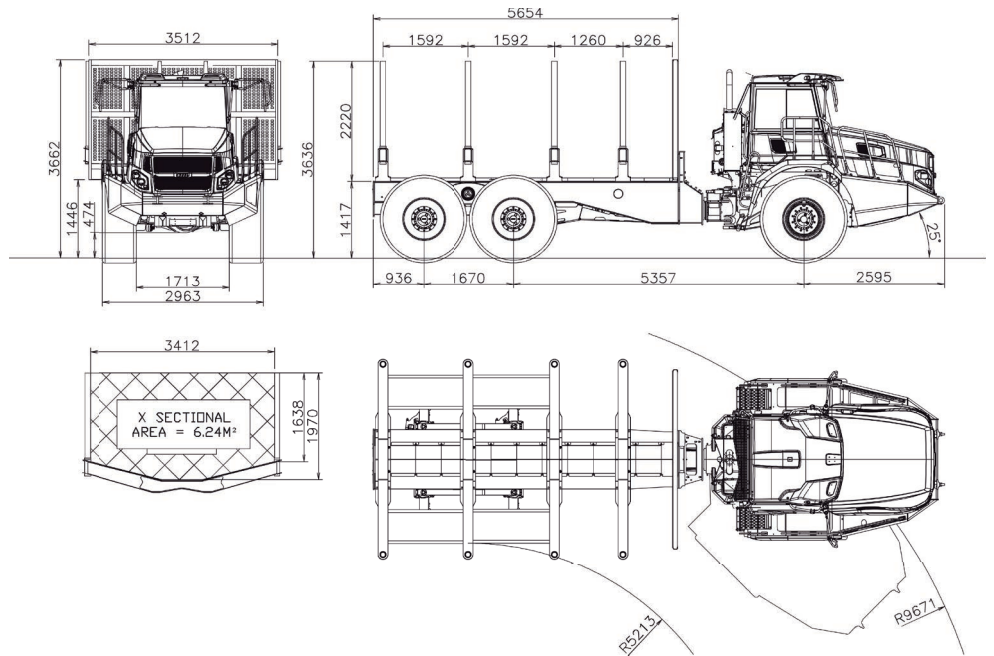
## TH302E Hauler

Engine: 205 kW  
 Tyres: 23.5R25  
 Axle Width: 2 963 mm  
 Max Speed: 50 km/h  
 Base machine: B25E



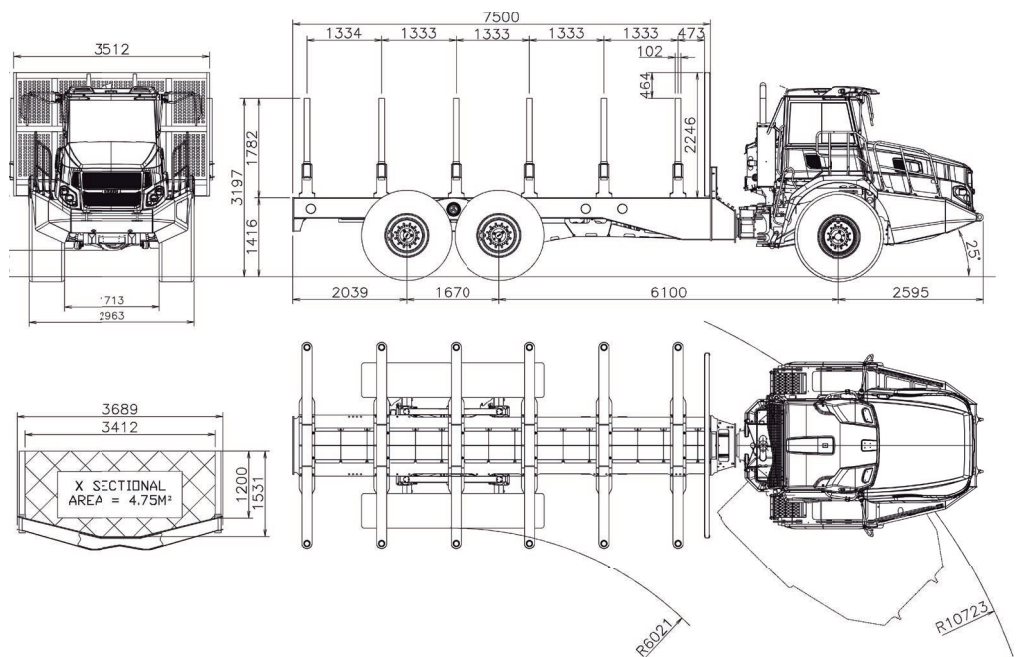
## TH302E HP Hauler

Engine: 240 kW  
 Tyres: 23.5R25  
 Brakes: WDB  
 Axle Width: 2 963 mm  
 Max Speed: 50 km/h  
 Base machine: B30E



## TH403E Hauler

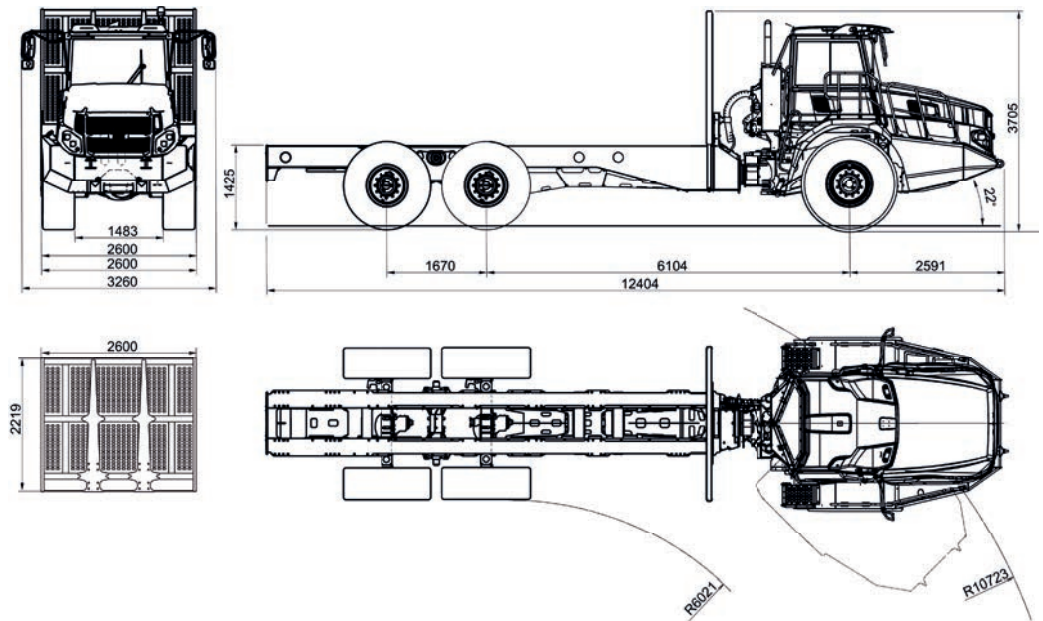
Engine: 240 kW  
 Tyres: 23.5R25  
 Axle Width: 2 963 mm  
 Max Speed: 50 km/h  
 Base machine: B30E





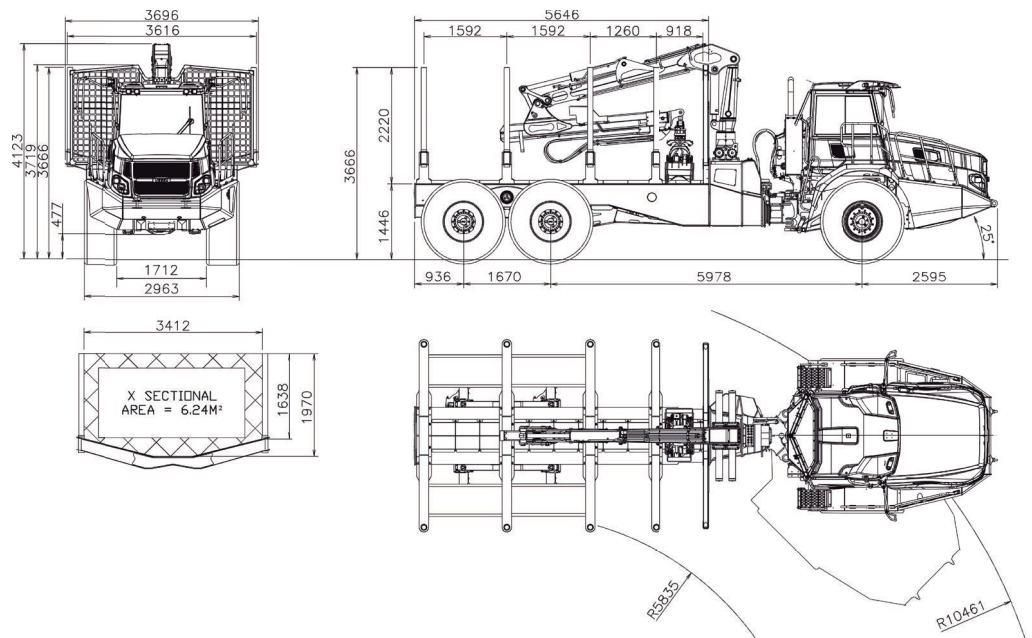
## TH403EN Hauler

Engine: 205 kW  
 Tyres: 20.5R25  
 Axle Width: 2 650 mm  
 Max Speed: 50 km/h  
 Base machine: B25E



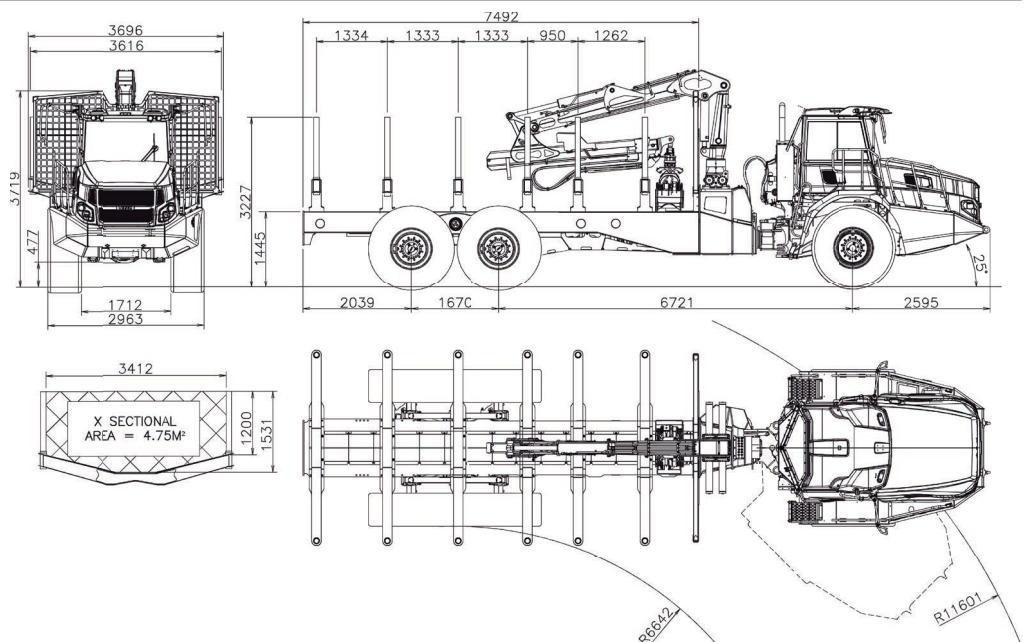
## TF302E Forwarder

Engine: 205 kW  
 Tyres: 23.5R25  
 Axle Width: 2 963 mm  
 Max Speed: 50 km/h  
 Base machine: B25E



## TF403E Forwarder

Engine: 240 kW  
 Tyres: 23.5R25  
 Axle Width: 2 963 mm  
 Max Speed: 50 km/h  
 Base machine: B30E







All dimensions are shown in millimeters, unless otherwise stated between brackets. Under our policy of continuous improvement, we reserve the right to change technical data and design without prior notice. Photographs featured in this brochure may include optional equipment. Blu@dvantage™ is a trademark of Bell Equipment Co. (PTY) Ltd. AdBlue® is a registered trademark of VDA.

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Strong Reliable Support**

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