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, TF302E & TH403EN

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 lbft) @ 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
Load Capacity (kg)		24 000		24 000		24 000	
Bunk Area (m^3)*		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.

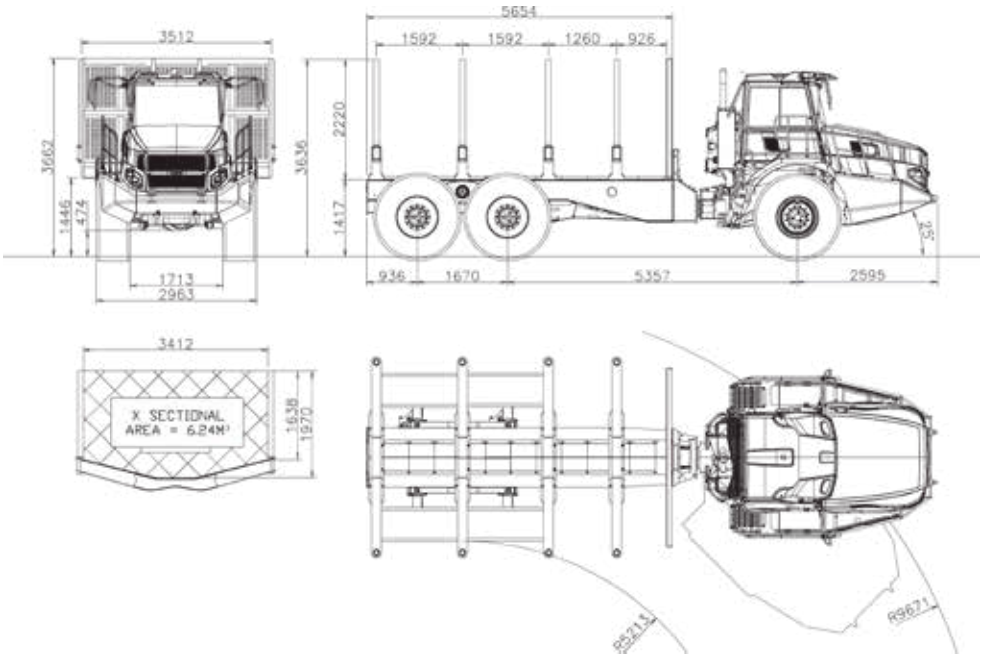
Load Capacity & Ground Pressure

		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
Load Capacity (kg)		24 000		28 000		24 888	
Bunk Area (m^3)*		35.2		44.75		44.75	

**Calculated with the maximum rated log length*

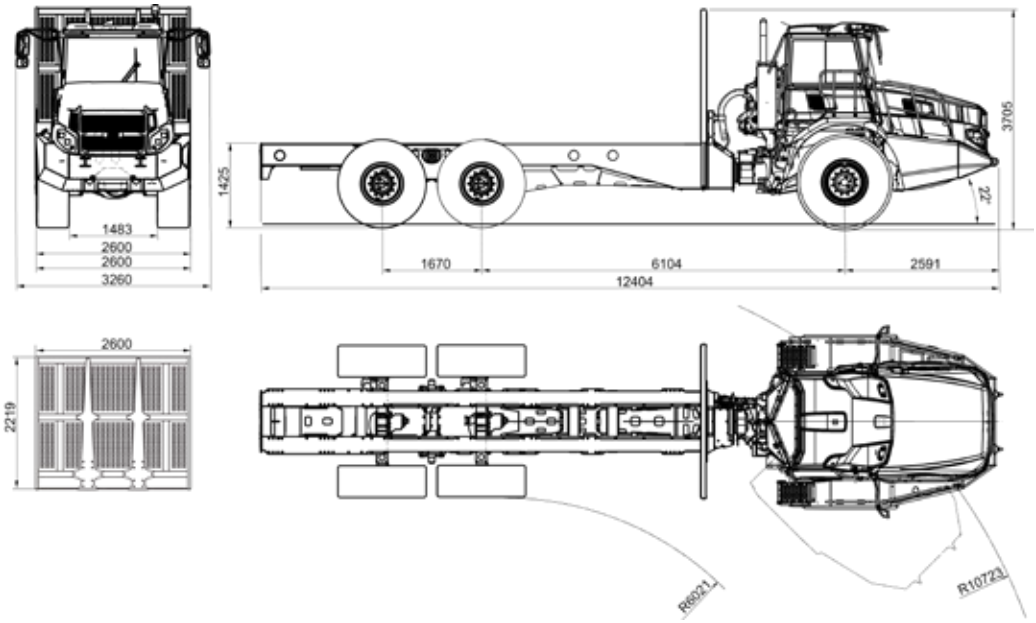
TH302E Hauler

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



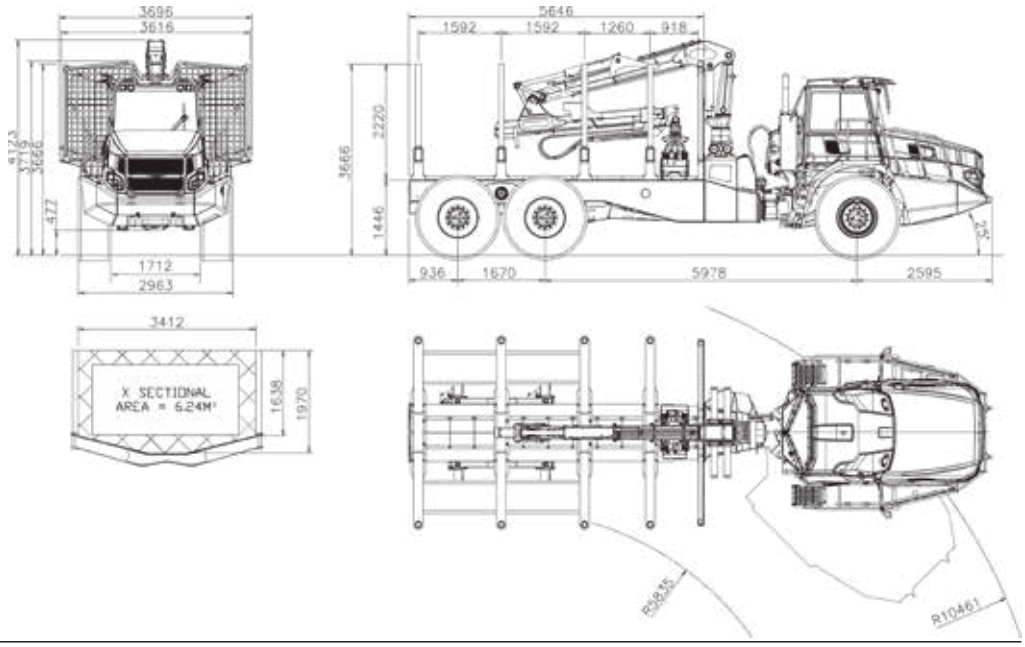
TH403EN Hauler

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



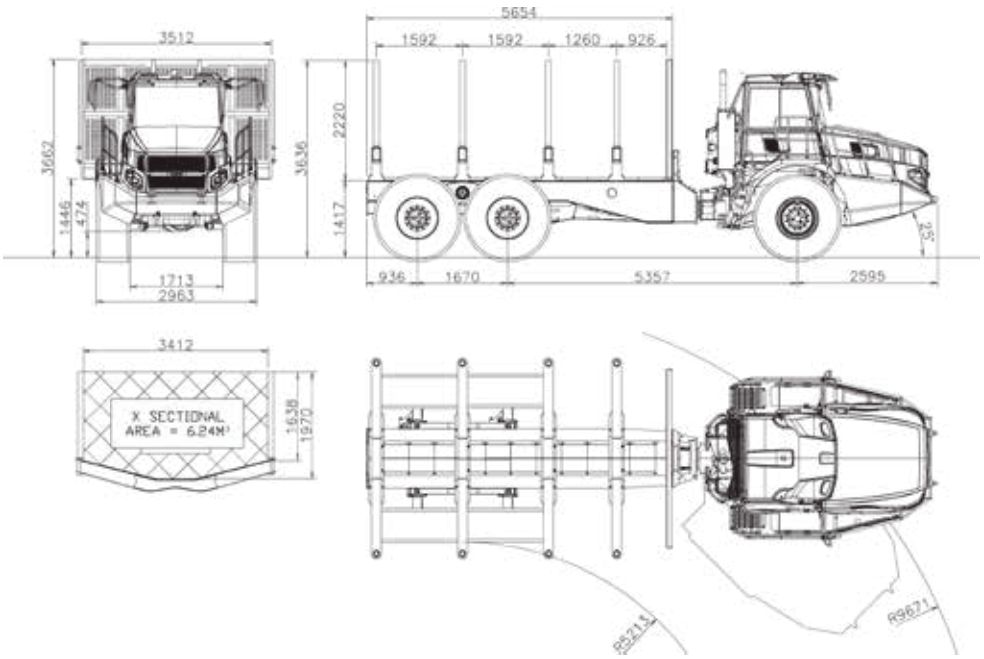
TF302E Forwarder

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



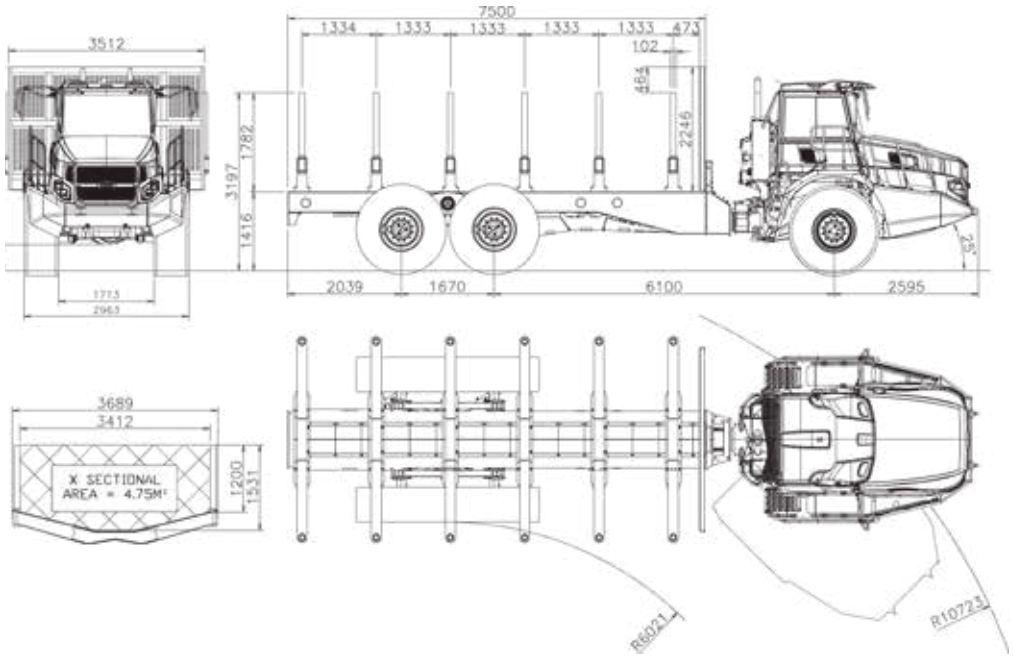
TH302E HP Hauler

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



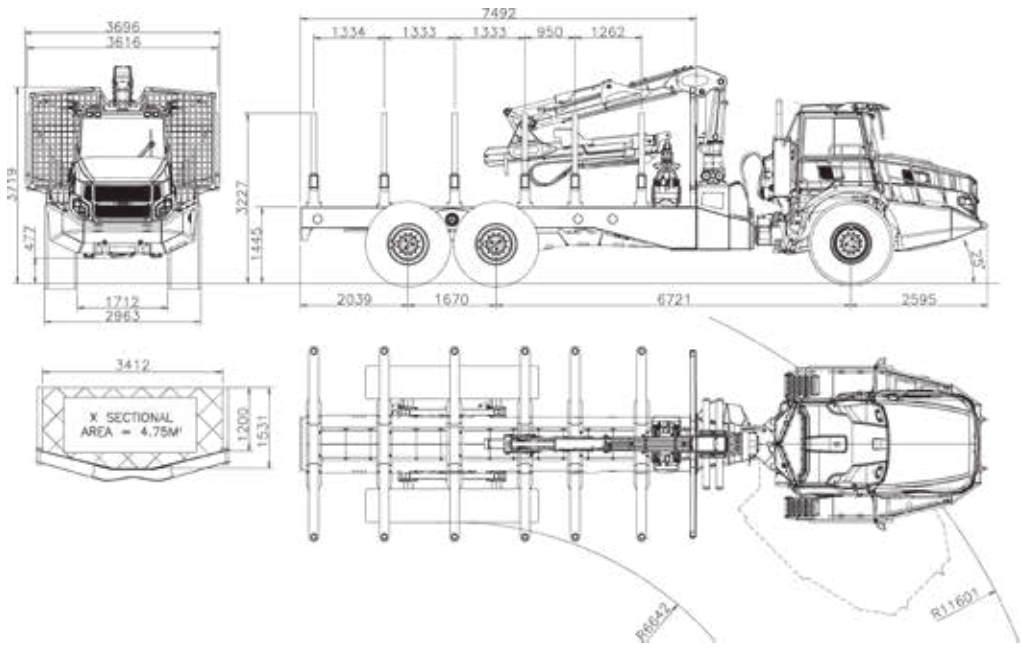
TH403E Hauler

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



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.

BELL INTERNATIONAL: Tel: +27 (0)35-907 9431
E-mail: marketing@bellequipment.com Web: www.bellequipment.com

Tel: +61 (0)8 9355 2442
Tel: +49 (0)6631 / 91 13 0
Tel: +27 (0)11 928 9700
Tel: +33 (0)5 55 89 23 56
Tel: (704) 655 2802
Tel: +44 (0)1283 712862

Strong Reliable Machines
Strong Reliable Support

BELL

• J845E32 • J896E32 • J8A5E32 • J848E32 • J894E32 • J849E32

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