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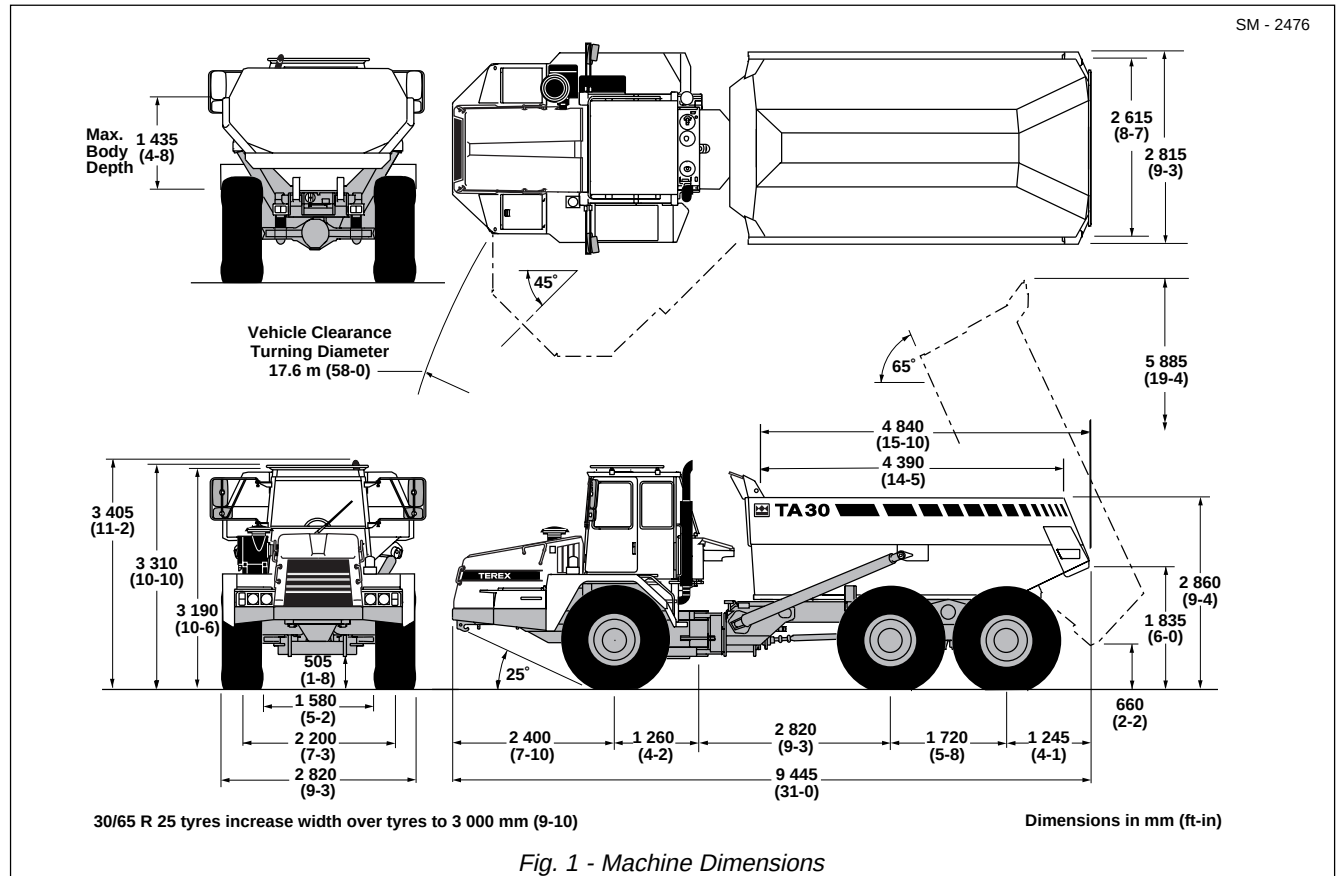
Articulated Dumptruck

Maintenance Manual



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TECHNICAL PUBLICATIONS DEPARTMENT
TEREX EQUIPMENT LIMITED
MOTHERWELL, SCOTLAND ML1 5RY
REF. NO. SM 799



ENGINE

Make/Model Cummins MTA11-C300
 Type Four cycle, low emission, direct injection diesel,
 water-cooled, turbocharged and aftercooled.
 Gross power at 2 100 rev/min 224 kW (300 hp, 304 PS)
 Net power at 2 100 rev/min 214 kW (287 hp, 291 PS)

Note: Gross power rated to SAE J1995 Jun 90. Engine
 emission meets USA EPA/CARB MOH 40 CFR 89 and
 EU NRMM (non-road mobile machinery) directive.

Maximum Torque ... 1 376 Nm (1 015 lbf ft) at 1 300 rev/min
 Number of cylinders/configuration 6, in line
 Bore x Stroke 125 x 147 mm (4.92 x 5.79 in)
 Total Displacement 10.8 litres (660 in³)
 Air cleaner Dry type, double element
 Starting Electric
 Maximum Speed (No load) 2 450 rev/min
 Maximum Speed (Full load) 2 100 rev/min
 Idle Speed 675/750 rev/min
 Safe Operating Angle 43°/94% Grade

TRANSMISSION

Make/Model ZF 6WG 260 II Automatic
 with manual override. The transmission assembly consists
 of a torque converter close-coupled to a countershaft-type
 gearbox with integral output transfer gearing. Automatic
 shifting throughout the range, with kickdown feature. Lockup
 action in all forward gears. A torque proportioning output
 differential transmits drive permanently to front and rear
 axles. This differential may be locked by the driver for use in
 difficult traction conditions. Standard integral hydraulic
 retarder which is automatically operated should the engine

overspeed. Blocked filter indicator and filter bypass system
 provide valve block with additional protection from unfiltered
 oil.

Pressures:

Main 16 + 2 bar (232 + 30 lbf/in²)
 Lockup (Wk) 14 ± 1 bar (190 ± 15 lbf/in²)
 Converter 'IN' 7.6 bar (110 lbf/in²) at 2 300 rev/min
 Converter 'OUT' 4.8 bar (70 lbf/in²) at 2 300 rev/min
 Converter Relief Valve 8.5 bar (123 lbf/in²)
 Retarder 5.5 bar (80 lbf/in²)

Temperatures:

Normal 80° - 110° C (176° - 230° F)
 Maximum 120° C (248° F)

Stall Speed 1 655 ± 50 rev/min

Ratios:

Torque Converter 1.84:1
 Transmission Refer to table

Forward						
Gear	1	2	3	4	5	6
Ratio	5.35	3.45	2.21	1.42	0.97	0.62
km/h	5.0	8.0	12.5	19.5	29.0	45.0
mile/h	3.0	5.0	8.0	12.0	18.0	28.0
Reverse						
Gear	1	2	3			
Ratio	5.35	2.21	0.97			
km/h	5.0	12.5	29.0			
mile/h	3.0	8.0	18.0			

General Information - Technical Data

Section 000-0000

AXLES

Three axles in permanent all-wheel drive with differential coupling between each axle to prevent driveline wind-up. Heavy duty axles with fully-floating axle shafts and outboard planetary reduction gearing.

Automatic limited slip differentials in each axle. Centre axle incorporates a through-drive differential to transmit drive to the rear axle. Locking of this differential is actuated simultaneously with the transmission output differential lock.

Ratios:

Differential	3.44:1
Planetary	6.35:1
Total Reduction	21.85:1

SUSPENSION

Front: Axle is carried on the leading arms of a sub-frame pivoting on the main frame. Suspension is by flexible air bellows with four heavy duty hydraulic dampers.

Axle Vertical Travel 127 mm (5 in)

Rear: Each axle is coupled to the frame by three rubber-bushed links with lateral restraint by transverse link. Pivoting inter-axle balance beams equalise load on each axle. Suspension movement is cushioned by rubber/metal laminated compression units between each axle and underside of balance beam ends.

Axle Vertical Travel ± 130 mm (5.12 in)
Axle Oscillation $\pm 12^\circ$

BRAKES

Air assisted hydraulic dry disc on each wheel with two heavy-duty callipers per disc at the front and a single heavy-duty calliper per disc at the rear. Independent circuits for front and rear brake systems. Overstroke actuates warning light. Brake system meets ISO 3450, SAE J1473.

Air System Pressure 7.6 bar (110 lbf/in²)
Total Air Reservoir Capacity 55 litres (3 356 in³)
Hydraulic Brake Fluid Capacity 2.64 litres (0.68 US gal)

Parking: Spring-applied, air-released disc on rear driveline.

Emergency: Emergency brake control actuates the service brakes. Automatic application of service brakes should pressure fall in the brake air system.

Retardation: Hydraulic retarder integral with transmission.

WHEELS AND TYRES

Wheels: 5-piece earthmover rims with 12 stud fixing
Size:

Standard 25 x 19.50 in for 23.5 R25** tyres
Optional 25 x 22.00 in for 30/65 R25** tyres

Tyres:

Standard 23.5 R25**
Optional 30/65 R25**

Inflation Pressures (Bridgestone):

	Front	Rear
23.5 R25**	4.0 bar (58 lbf/in ²)	4.8 bar (69 lbf/in ²)
30/65 R25**	4.3 bar (62 lbf/in ²)	4.3 bar (62 lbf/in ²)

Note: Tyre pressures should be regarded as nominal only. It is recommended that for tyres both listed and unlisted, the user should consult the tyre manufacturer and evaluate all job conditions in order to make the proper selection.

HYDRAULIC SYSTEM

Steering and Body Hoist

The steering and body hoist systems are supplied with oil from a common tank by the main hydraulic pump. Gear pump driven from power takeoff on transmission. System components are protected by full flow filtration on the return line.

Pump:

Type Gear
Capacity at 2 300 rev/min 4.49 litre/s (71 US gal/min)

Steering System

Hydrostatic power steering by two single-stage, double-acting, cushioned steering cylinders. Emergency steering pressure is provided by a ground driven pump mounted on the rear of the transmission. An audible alarm and warning light indicates should the emergency system activate. Conforms to ISO 5010, SAE J53.

System Pressure 241 bar (3 500 lbf/in²)
Steering Angle to either side 45°
Lock to Lock Turns, steering wheel 4
Vehicle Clearance Circle (SAE) 17.6 m (58 ft)

Body Hoist System

Two single-stage, double-acting hoist rams, cushioned at both ends of stroke. Electro servo assisted hoist control.

System Pressure 221 bar (3 200 lbf/in²)
Control Valve Pilot Operated, Open Centre
Body Raise Time (loaded) 12 sec
Body Lower Time (power down) 7.5 sec

ELECTRICAL SYSTEM

Type 24 volt, Negative Ground
Battery Two, 12 Volt, 143 Ah each
Accessories 24 Volt
Alternator 70 Amp

BODY

Of all welded construction, fabricated from high hardness (min. 360 BHN) 1 000 MPa (145 000 lbf/in²) yield strength steel. 25° tail chute angle provides good load retention without tailgate.

Plate Thicknesses:
Floor and Tailchute 15 mm (0.59 in)
Sides 12 mm (0.47 in)
Front 8 mm (0.31 in)

Volume:
Struck (SAE) 13.0 m³ (17.0 yd³)
Heaped 2:1 (SAE) 16.0 m³ (21.0 yd³)

SERVICE CAPACITIES

Fuel tank 330 litres (87 US gal)
Hydraulic System
(steering & body) 200 litres (52.8 US gal)
Engine Crankcase 40 litres (10.5 US gal)
Cooling System 59 litres (15.6 US gal)
Transmission & filters (dry fill) 52 litres (13.8 US gal)
Transmission & filters (wet fill) 26 litres (6.9 US gal)
Differentials - Front & Rear (each) 11 litres (2.9 US gal)
Differential - Centre 14 litres (3.7 US gal)
Planetaries (each) 3.5 litres (0.9 US gal)
Service Brakes 3 litres (0.79 US gal)
Air Conditioning Compressor 0.125 litres (0.033 US gal)

TYPICAL NOISE LEVELS

Operator Ear (ISO 6394) 79 dbA

*Exterior Sound Rating (SAE J88 JUN 86) TBA dbA

*- The above result is for the mode giving the highest exterior sound level when measured and operated as per the prescribed procedures of the standard. Results shown are for the vehicle in base configuration.

Note: Noise Level Exposure to the operator and bystander personnel may be higher depending upon proximity to buildings, rock piles, machinery, etc.. The actual job site Noise Level Exposure must be measured and applicable regulations complied with in respect to Employee Hearing Protection.

Vehicle Weights		
Standard Vehicle	kg	lb
Net Distribution		
Front Axle	10 585	23 335
Centre Axle	5 000	11 025
Rear Axle	4 970	10 955
Vehicle, Net	20 555	45 315
Payload	27 000	59 525
Gross Distribution		
Front Axle	14 450	31 860
Bogie Axle, leading	16 545	36 470
Bogie Axle, rear	16 560	36 510
Vehicle, Gross	47 555	104 840
Bare Chassis	16 025	35 330
Body	4 000	8 820
Body Hoists (Pair)	530	1 170

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