

# ARTICULATED DUMP TRUCK

**TIER 4F TA400**



## Specifications

Maximum Payload	41.9 tons (38 tonne)
Heaped Capacity	30 yd <sup>3</sup> (23.0 m <sup>3</sup> )
Gross Power	444 hp (331 kW)

## Features

- ▶ High powered, heavy-duty truck providing class leading performance and ability to go where others can't follow
- ▶ World class Scania engine providing industry-leading fuel efficiency
- ▶ Latest generation Selective Catalytic Reduction (SCR) combined with Exhaust Gas Regeneration (EGR) technology to meet US EPA Tier 4 Final
- ▶ Does not require a diesel particulate filter (DPF), reducing maintenance and fuel consumption

# SPECIFICATIONS

## ENGINE

Engine	Scania DC13
Type	6 cylinder, in-line, four cycle, water cooled, turbocharged with air to air charge cooling, direct injection, electronic engine management and engine exhaust brake
Piston Displacement	775 in <sup>3</sup> (12.7 litres)
Bore x Stroke	5.1 x 6.3 in (130 x 160 mm)
Gross Power	444 hp (331 kW) @ 2,100 rpm
Net Power	443 hp (330 kW) @ 2,100 rpm
Maximum Torque	1,663 lbf ft (2,255 Nm) @ 1,300 rpm
Gross Power rated	ISO 3046
Engine Emissions	US EPA Tier 4 Final / EU Stage 4.
Electrical	24 volt electric start. 100A alternator. Two 12 volt 175 Ah batteries
Air Cleaner	Dry-type air cleaner with safety element, automatic dust ejector and restriction indicator
Fan	Modulating fan reduces noise level and consumes engine power as required. Note: Net hp with fan clutch disengaged
Altitude	Electronic derate 10,663 - 13,123 ft (3,250 - 4,000 m)

## TRANSMISSION

Allison HD4560 with integral retarder mounted directly to the engine, fully automatic transmission with planetary gearing, electronic control with six forward and one reverse gear.

Remote mounted 2 speed transfer gearbox taking drive from the transmission and feeding it via a lockable differential to front and rear wheels.

Speeds mph (km/h)	Gear	Ratio 1		Ratio 2	
		Forward	Reverse	Forward	Reverse
1		3.7 (6.0)	3.1 (5.0)	6.0 (9.5)	4.8 (7.8)
2		7.0 (11.3)	-	10.0 (16.0)	-
3		10.3 (16.5)	-	15.7 (25.3)	-
4		16.0 (25.6)	-	24.4 (39.2)	-
5		21.0 (33.9)	-	32.3 (51.9)	-
6		26.0 (41.7)	-	40.0 (63.8)	-

## AXLES

Three axles in permanent all-wheel drive (6x6) with differential coupling between each axle to prevent driveline wind-up. Heavy duty axles with full floating axle shafts and outboard planetary reduction gearing. Automatic limited slip differentials in each axle. Leading rear axle incorporates a through drive differential to transmit drive to the rearmost axle. This differential and the dropbox output differential are locked simultaneously using one switch selected by the operator.

Differential ratio	3.70 : 1
Planetary reduction	6.35 : 1
Overall Drivetrain reduction	23.50 : 1

## SUSPENSION

**Front** Four trailing links and a panhard rod locate the front axle giving a high roll centre. The optimized front axle position along with the wide spaced main and rebound mounts, mounted directly above the axle and long suspension travel, combine with the two heavy duty dampers each side to give excellent handling and ride.

**Rear** Each axle is coupled to the frame by three rubber-bushed links with lateral restraint by a transverse link. Pivoting inter-axle balance beams equalise load on each rear axle. Suspension movement is cushioned by rubber/metal laminated compression units between each axle and underside of balance beam ends. Pivot points on leading and trailing links are rubber-bushed and maintenance-free.

## STEERING

Hydrostatic power steering by two double-acting cushioned steering cylinders with pressure supplied by a variable displacement / load sensing piston pump. Secondary steering pressure is provided by a ground driven pump mounted on the dropbox. An audible alarm and warning light indicates should the second system activate.

Steering angle to either side	45°
Lock to lock turns, steering wheel	4
System pressure	3,500 lbf/in <sup>2</sup> (240 bar)
SAE Turning Radius	30-2 ft/ins (9,185 mm)
Clearing Radius	31-9 ft/ins (9,675 mm)

## FRAME

Front and rear frames are all-welded high grade steel fabrications with rectangular box-section beams forming the main side and cross members. Inter-frame oscillation is provided by a large diameter cylindrical coupling which houses nylon bushings. Frames articulated 45° to either side for steering by means of two widely-spaced pivot pins in back-to-back sealed taper roller bearings.

## BODY

All-welded construction, fabricated from high hardness (min 360 BHN) 1 000 Mpa yield strength steel. Dual slope tailchute improves material ejection from body.

Plate thickness:	Floor and tailchute	0.6 in (15.0 mm)
	Sides	0.47 in (12.0 mm)
	Front	0.31 in (8.0 mm)
Volume:	Struck	22.8 yd <sup>3</sup> (17.4 m <sup>3</sup> )
	Heaped 2:1 (SAE)	30 yd <sup>3</sup> (23.0 m <sup>3</sup> )

## HOIST

Two single-stage, double-acting hoist cylinders, cushioned at the base end. Variable displacement / load sensing piston pump driven from power take-off on transmission. Full flow return line filtration. Full electro-hydraulic hoist control, with electronic detent in power down.

System pressure	3,500 lbf/in <sup>2</sup> (240 bar)	Raise (loaded)	12.5 seconds
Pump output flow rate	1.43 gal/sec (5.4 liter/sec)	Lower	8 seconds

## BRAKES

All hydraulic braking system with sealed, forced oil cooled, multi discs on all axles. Independent circuits for front and rear brake systems.

Parking	Spring-applied, hydraulic-released disc on rear driveline
Secondary	Secondary brake control actuates service and parking brakes

## CAPACITIES

Fuel Tank	130.5 gal (350 liters)
Hydraulic System (Steering & Body)	90 gal (341 liters)
Engine Crankcase	11.8 gal (45 liters)
Cooling System	18.5 gal (70 liters)
Transmission (inc filters and cooler)	12.7 gal (48 liters)
Differential – Front & Rear (each)	10 gal (38 liters)
Differential – Centre	10.3 gal (39 liters)
Planetaries – (each)	2.2 gal (8.5 liters)
Brake Cooling System	49.7 gal (188 liters)
DEF System (only applicable on Tier 4i model)	13.7 gal (38 liters)
Drop Box	4.5 gal (17 liters)

## TIRES AND WHEELS

Tires	Standard 29.5
Rims	Standard 25x25.00
Wheels	3-piece earthmover rims with 19 stud fixing

## GROUND PRESSURE

These figures are at 15% shrinkage of unloaded radius and specified weights using: Tires 29.5 R25

Unloaded	
Front	16.2 psi (112 kPa)
Rear	7.7 psi (53 kPa)
Loaded	
Front	17.5 psi (121 kPa)
Rear	26.1 psi (180 kPa)

## WEIGHTS

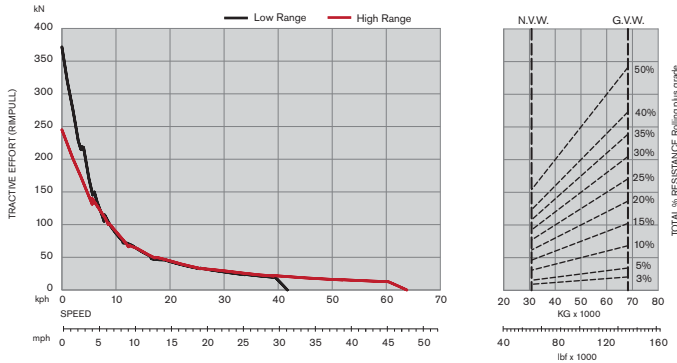
Net Distribution	
Front Axle	36,861 lbs (16,720 kg)
Bogie Axle, Leading	17,328 lbs (7,860 kg)
Bogie Axle, Trailing	16,799 lbs (7,620 kg)
Vehicle, Net	69,203 lbs (31,390 kg)
Payload	83,775 lbs (38,000 kg)
Gross Distribution	
Front Axle	40,785 lbs (18,500 kg)
Bogie Axle Leading	55,336 lbs (25,100 kg)
Bogie Axle, Trailing	55,468 lbs (25,160 kg)
Vehicle Gross	152,978 lbs (69,390 kg)
Bare Chassis	54,444 lbs (24,760kg)
Body	11,905 lbs (5,400 kg)
Hoists, pair	1,455 lbs (660 kg)

# PERFORMANCE DATA

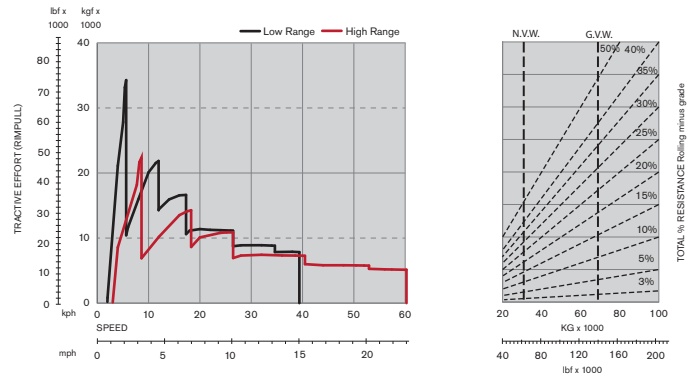
# TIER 4F TA400

Graphs based on 2% Rolling Resistance

## GRADEABILITY

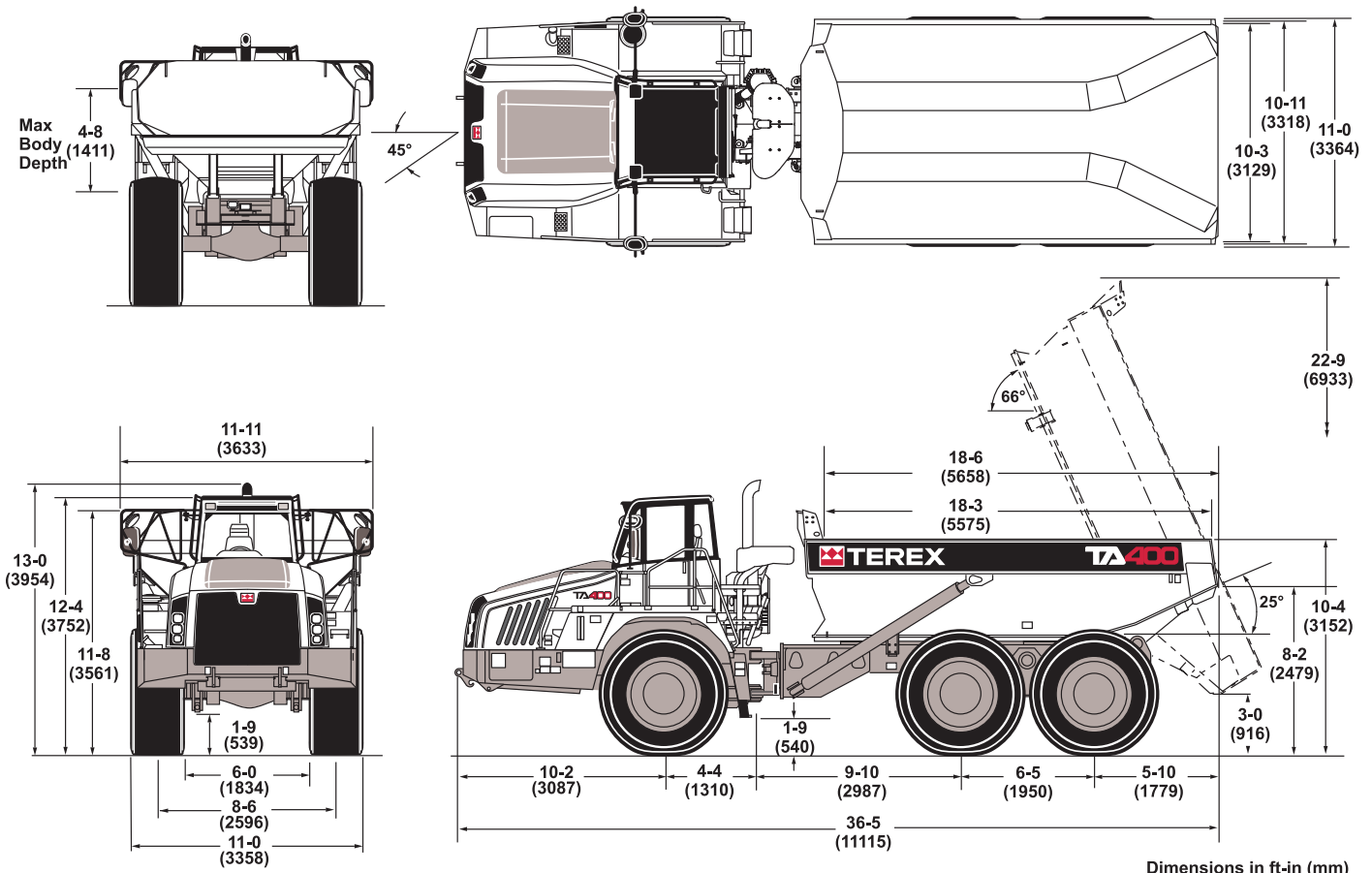


## RETARDATION



Instructions: From intersection of vehicle weight with percentage resistance line read across to determine maximum gear attainable, and then downwards for vehicle speed.

## DIMENSIONS



Dimensions in ft-in (mm)

MOT02103

# STANDARD SPECIFICATION

## CAB AND OPERATOR

Air Conditioning	Mug Holder
Air Filter Restriction Indicator	Rear Vision Camera/Monitor
Auxiliary Power Outlets 12V & 24V	ROPS/FOPS Protection ISO3471/3449
CD/Tuner/MP3 Connectivity	Seat Belts Retractable J386
Coat Hook	Seat, Operator, Air Suspension, High Back, Headrest and Adjustable Armrests
Engine/Transmission/Hydraulic Diagnostic Facility	Seat, Trainer
Heating, Ventilation & Air Conditioning System (HVAC)	Steering Wheel, tilt/telescopic
Insulation, Thermal and Acoustic	Storage Compartment
Interior Light	Sun Visor (Internal)
Mirror Rear View (4)	Tinted Glass
Window Protection Grille, Rear	Wiper and Washer, Front and Rear Windows

## WARNING LIGHTS & AUDIBLE ALARM

Alternator Charging	Engine 'STOP'
Body Up	Exhaust Brake
Brake Cooling Oil Pressure	Front Brake Accumulator Pressure
Brake Cooling Oil Temperature	Headlight High Beam
Differential Lock	Headlights Active
Dropbox High/Low Oil Pressure	Hydraulic Oil Level Low
Dropbox High Ratio Selected	Hydraulic Oil Filter Change
Dropbox High Oil Temperature	Low Fuel
Dropbox Low Ratio Selected	Parking Brake
Direction Indicator	Rear Brake Accumulator Pressure
Engine Air Filter Change	Secondary Steering
Engine 'CHECK'	Transmission Check
Engine Coolant Level Low	Transmission High Oil Temperature
Engine Oil Pressure Low	Transmission Retarder
Engine Over-speed Active	

## GAUGES

Body Tip Counter	Hourmeter
DEF Level Gauge (T4 variant only)	Hydraulic oil Temperature
DEF Level Warning (T4 variant only)	Speedometer/Digital Odometer/Tripmeter
Engine Coolant Temperature	Tachometer
Fuel Consumption/Usage	Transmission Oil Temperature
Fuel Level	

## LIGHTS

Direction and Hazard Warning Indicators (LED on Rear)	Side and Tail (LED)
Front Working Lights, Roof Mounted	2 Halogen Headlamps Dipped Beam
Reverse Warning	2 Halogen Headlamps Main Beam

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**Terex Trucks Americas**  
8800 Rostin Road, Southaven, MS 38671 USA  
Tel: + 1 (888) 90-TEREX  
[www.terextrucks.com](http://www.terextrucks.com)

## GENERAL

Articulation and Oscillation Lock	Mudflaps at Front and Centre
Battery Master Switch	Neutral Start Interlock
Body Prop	Pivot Protection Guard
Brakes Fully Hydraulic Dual Circuit System	Rear Light Guards
Diagnostic Pressure Test Points	Reverse Alarm Audible J994
Differential Locks	Secondary Steering
Electronic Assisted Body Hoist Control	Security Kit
Engine/Transmission/Hydraulic Electronic Management Systems	Tilting Cab for Maintenance
Engine Underguard	Tow Points, Front and Rear
Exhaust Muffler	Transmission Downshift Inhibitor
Handrails on Fenders	Transmission Oil Cooler
Horn, Electric 117db	Transmission Retarder
Hydraulic Filter Restriction Indicator	Transmission Sump Guard
Hydraulic Oil Cooler	Tyre Inflation Nitrogen
Modulating Cooling Fans	Exhaust Brake

## OPTIONAL EQUIPMENT

### BODY OPTIONS

Body Side Extensions	Spillguard Extension
Heated Body	Top Tailgate
Liner Plates	

### MIRRORS

Mirror Front Mounted	Mirrors Heated
Mirror with Wide Angle	

### LIGHTS

Beacon Flashing	Rear Working Lights, Roof Mounted
Fog Rear	Reverse Flashing

### OTHER OPTIONS

Automatic Lubrication	Payload Monitoring System
Fire Extinguisher	Seat Heated
First Aid Kit	Tool Kit
Parking Brake Guard	