



SANDVIK TH320 UNDERGROUND TRUCK

TECHNICAL SPECIFICATION



Sandvik TH320 is a narrow 20 metric tonne truck designed for small and medium-sized hard rock mines, fitting in a 3 x 3 meter heading. Despite the relatively high payload capacity, this underground truck has the same overall width as most 15-ton trucks on the market. As all Sandvik underground mining trucks, it is designed to operate fully loaded and at high speeds on long spiral haulage ways with up to 20% gradients.

Available with a standard forward facing, open operator compartment or with an optional forward facing, fully enclosed and air conditioned cabin, Sandvik TH320 offers superior comfort without compromising visibility.

Advantages:

- Narrow size enables operation in 3x3 meter headings
- Excellent payload capacity reduces the need for additional trucks
- Efficient LED lights reduce eye fatigue and risk of collision, while long LED lifetime offers lower cost of ownership compared to halogen lights
- Ground-level daily maintenance for safer service
- Optional ejector box for tight backfill haulage

CAPACITIES

Maximum Payload capacity (SAE heaped 2:1)	20 000 kg
Standard dump box	10.5 m ³
Dump box range	10.5 - 13.8 m ³

SPEEDS (LEVEL/LOADED)

1st gear	5.1 km/h
2nd gear	9.0 km/h
3rd gear	15.7 km/h
4th gear	27.8 km/h

DUMP BOX MOTION TIMES & MOVEMENTS

Discharging time	14.0 sec
Dumping angle	65 °

OPERATING WEIGHTS *

Total operating weight	22 600 kg
Front axle	16 770 kg
Rear axle	5 830 kg

LOADED WEIGHTS *

Total loaded weight	42 600 kg
Front axle	21 100 kg
Rear axle	21 500 kg

* Unit weight is dependent on the selected options

OPERATIONAL CONDITIONS AND LIMITS

Environmental temperature	From -20°C to +45°C
Standard operating altitude	With engine Mercedes OM 926 LA from -1500 m to +2500 m at 25 °C without rated power derate

REQUIREMENTS AND COMPLIANCE

Compliance with 2006/95/EC Low voltage directive

Design based on EN 1889-1. Machines for underground mines.
Mobile machines working underground. Safety.
Part 1: Rubber tyred vehicles.

Electrical system based on IEC 60204-1. Safety of machinery –
Electrical equipment of machines – Part 1: General requirements

CONTAINS FLUORINATED GREENHOUSE GASES (closed cabin
option)
Refrigerant R134a under pressure max 38 bar/550 PSI:
Filled weight: 1,8 kg
CO₂e: 2,574 tons
GWP: 1430
Information based on the F Gas Regulation (EU) No 517/2016

POWER TRAIN

ENGINE

Diesel engine	Mercedes OM 926 LA Tier 3
Output	240 kw (322 hp) @ 2200 rpm
Torque	1300 Nm @ 1300 rpm
Number of cylinders	In-line 6
Displacement	7.2 l
Cooling system	Liquid cooled
Combustion principle	4-stroke, direct injection, turbo, after cooler
Air Filtration	Dry type
Electric system	24 V
Emissions	Tier 3, Euro Stage III A
Ventilation rate (Ultra low sulphur diesel)	CANMET 22,500 CFM m ³ /s (CSA Ventilation)
Exhaust system	Catalytic converter with muffler
Average fuel consumption at 50 % load	30.0 l/h
Fuel tank refill capacity	350 l

CONVERTER

Dana C8000 Series with Lock up

TRANSMISSION

Manual transmission with electric remote shifting system.
Four forward and four reverse gears.

Dana 6000 Series

AXLES

Front axle	Dana 19D series spring applied hydraulic operated brakes, equipped with standard differential, oscillation
Rear axle	Dana 19D series spring applied hydraulic operated brakes, equipped with standard differential, fixed

TIRES

Tire size (Tires are application
approved. Brand and type
subject to availability.) 18.0 R 25 E4

OPERATOR'S COMPARTMENT

CABIN (Cabin option replaces the standard canopy)

ROPS certification according to EN ISO 3471

FOPS certification according to EN ISO 3449

Sealed, air conditioned, over pressurized, noise suppressed
closed cabin

Sound absorbent material to reduce noise

Laminated glass windows

Cabin mounted on rubber mounts to the frame to reduce vibrations

Air conditioning unit located outside the cabin to reduce noise inside
the cabin

Cyclone pre-filter for A/C device

No high pressure hoses in the operator's compartment

Inclinometers to indicate operating angle

Emergency exit

Floor washable with water to reduce dust

Three-point contact access system with replaceable and colour
coded handles and steps

Remote circuit breaker switch

CANOPY (Standard)

ROPS certification according to EN ISO 3471

FOPS certification according to EN ISO 3449

No high pressure hoses in the operator's compartment

Inclinometers to indicate operating angle

Emergency exit

Floor washable with water to reduce dust

Three-point contact access system with replaceable and colour
coded handles and steps

Remote circuit breaker switch

OPERATOR'S SEAT

Low frequency suspension
Height adjustment
Adjustment according to the operator's weight
Fore-aft isolation
Padded and adjustable arm rests
Adjustable lumbar support
Selectable damping
Two-point seat belt

DASHBOARD AND DISPLAYS

Critical warnings and alarms	Displayed with light
Instrument Panel	Electrical gauges, 2.8" Display
Instrument Panel	Illuminated switches
My Sandvik Digital Services Knowledge Box™ on-board hardware	Option

FRAME

REAR AND FRONT FRAME

High strength structure with optimized material thicknesses. Reduced own weight for higher overall hauling capacity and long structural lifetime. Welded steel construction.

Tanks	Tanks are part of the frame structure
Automatic central lubrication	Standard

HYDRAULICS

Door interlock for brakes and box hydraulics	Standard
Oil cooler for hydraulic and transmission oil	Capability up to 46°C ambient temperature
Fittings	ORFS
Hydraulic oil tank capacity	378 l
Sight glass for oil level	1 pcs

STEERING HYDRAULICS

Full hydraulic power steering, center articulated with double acting steering Cylinders. Open-center system with a gear pump and wheel steer control.

Steering main valve	Pilot operated
Steering hydraulic cylinders	114 mm, 2 pcs
Steering pump	Gear pump
Emergency steering	Option

DUMP BOX HYDRAULICS

Full hydraulic open-center system with one gear pump. Oil flows to the dump box hydraulic system from the pump when the steering system is not in use. Joystick dump box control.

Hydraulic pump	Gear pump
Control valve	Pilot operated
Main valve	Pilot operated
Cylinders	159 mm, 2 pcs

BRAKES

Service brakes are spring applied; hydraulically operated multi disc wet brakes on all wheels. Two independent circuits: one for the front and one for the rear axle. Service brakes also function as an emergency and parking brake. Brake system performance complies with requirements of EN ISO 3450, AS2958.1 and SABS 1589

Neutral brake	Standard
Automatic brake activation system, ABA	Standard
Electrically driven emergency brake release pump	Standard
Brake pedal valve	Foot operated pedal, fully modulated

ELECTRICAL EQUIPMENT

MAIN COMPONENTS

Alternator	24 V 150 A
Batteries	2 X 12V, 950 CCA
Starter	24 V, 5.5 kW
Driving lights	LED lights: 4 pcs in front 2 pcs in rear
Working lights	LED light, 1 pc rear of cabin
Reverse camera	Option
Parking, brake and indicator (blinkers) lights	LED lights: 2 pcs in front 2 pcs in rear
Control system	Color display, inbuilt system diagnostics
Reverse alarm	Standard
Flashing beacon	Standard
Marker lights	Standard

INCLUDED SAFETY FEATURES

FIRE SAFETY

Portable fire extinguisher	Standard, 6 kg
Hot side - cold side design	Standard
Isolation of combustibles and ignition sources	Standard
Heat insulation on exhaust manifold, turbo, and isolated exhaust pipe	Standard

ENERGY ISOLATION

Lockable main switch, ground level access	Standard
Emergency stop push buttons according to EN ISO 13850	Standard
Pressure release in the radiator cap	Standard
Automatic discharge for pressure accumulators (brake system and pilot circuit)	Standard
Frame articulation locking device	Standard
Mechanical dump box locking device	Standard
Wheel chocks and brackets	Standard

DOCUMENTATION

STANDARD MANUALS

Operator's Manual	English and other EU languages
Maintenance Manual	English and other EU languages
Parts Manual	English
Service and Repair Manual	English
ToolMan	2 x USB stick in pdf format, includes all the manuals
Decals	English and other EU languages

AVAILABLE BOXES

With 90% fill factor

Box capacity (m ³)	10.5 m ³	12 m ³	13.8 m ³	9.6 m ³ ejector box
Material broken density (kg/m ³)	2120 kg/ m	1850 m ³	1610 m ³	1600 m ³
Total height (mm)	2350	2691	2490	2444

OPTIONS

Spare rim 13.00-25/3.0 (for tyres 18.0R25)
Enclosed operator's cabin with A/C and heater
Cover grills for lamps
Mercedes-Benz engine exhaust brake
Harsh condition package (epoxy coated coolers, Ni Cr coated cylinders)
Proximity Detection System Interface
Jump start interface
Wiggins fuel fill system
Fire suppression system ANSUL, 1 tank, 6 nozzles, including auto shutdown
Fire suppression system ANSUL, 1 tank, 6 nozzles, CHECKFIRE, including auto shutdown
Eclipse™ fire suppression system with auto shut down, Sustain or Extreme agent delivered separately
Reversing camera
Emergency steering
My Sandvik Digital Services Knowledge Box™: on-board hardware



GRADE PERFORMANCE

Mercedes OM 926 LA Tier 3 (3% rolling resistance assumed, with lock-up engaged)

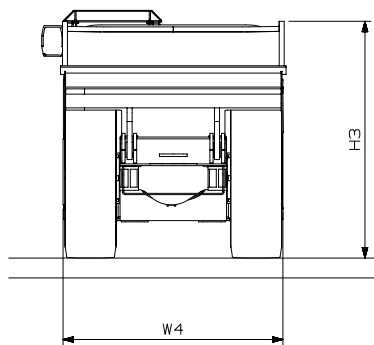
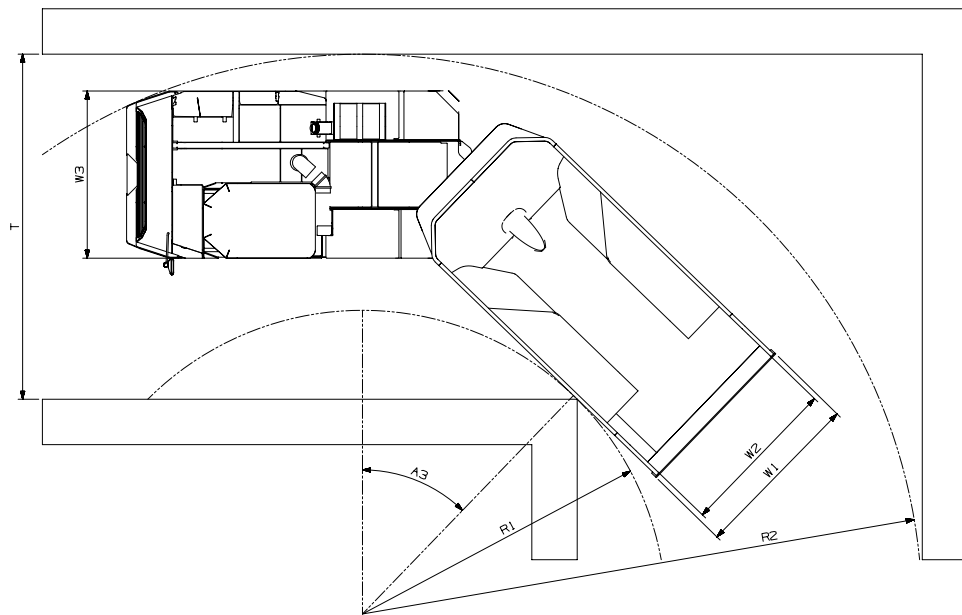
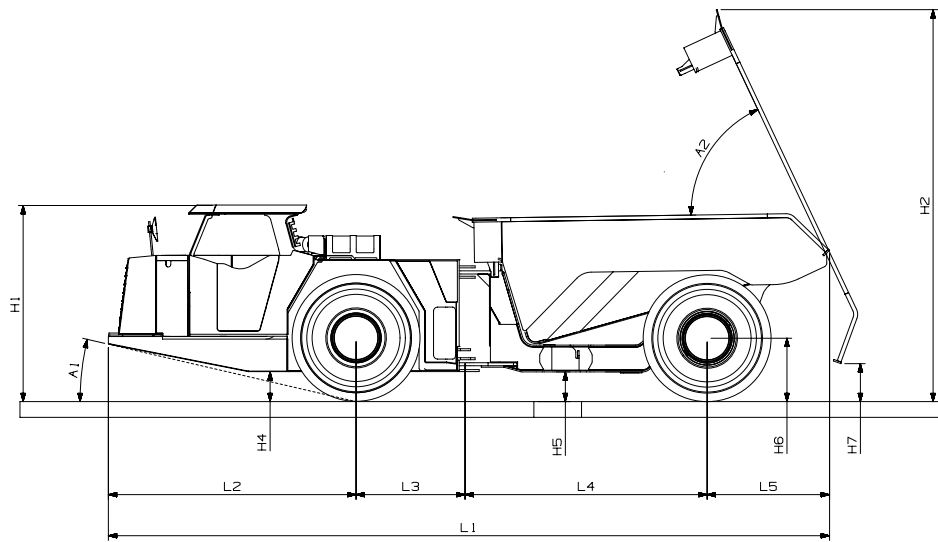
Empty

Percent grade	0.0	4.0	8.0	10.0	12.5	14.3	17.0	20.0
Ratio			1:12	1:10	1:8	1:7	1:6	1:5
1st gear (km/h)	5.1	5.1	5.0	5.0	5.0	5.0	5.0	4.9
2nd gear (km/h)	9.1	9.0	8.9	8.9	8.8	8.8	8.7	8.6
3rd gear (km/h)	15.9	15.6	15.3	15.2	14.8	14.0	12.9	11.4
4th gear (km/h)	28.4	27.5	23.2	19.7				

Loaded

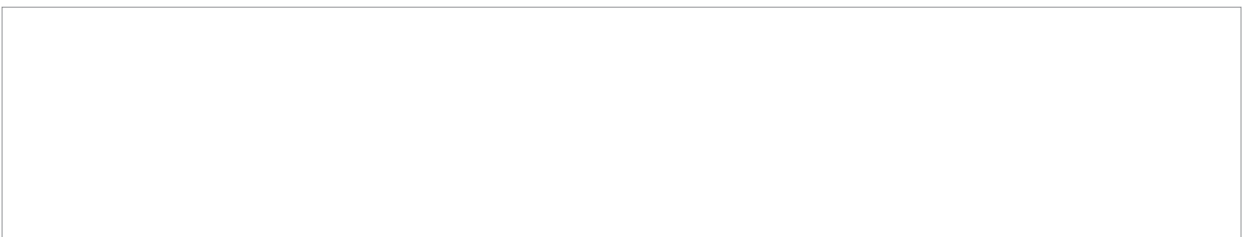
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Ratio			1:12	1:10	1:8	1:7	1:6	1:5
1st gear (km/h)	5.1	5.0	5.0	4.9	4.9	4.9	4.8	4.8
2nd gear (km/h)	9.0	8.8	8.7	8.6	8.1	7.7	6.9	6.0
3rd gear (km/h)	15.7	15.2	12.4	10.4				
4th gear (km/h)	27.8	19.3						





DIMENSIONS

	Standard		
Dump box alternatives (m ³)	10.5 m ³	12.0 m ³	13.8 m ³
Material broken density (kg/m ³) (FF 0.9)	2120 kg/m ³	1850 kg/m ³	1610 kg/m ³
L1 (mm)	9080	9080	9232
L2 (mm)	3119	3119	3119
L3 (mm)	1372	1372	1372
L4 (mm)	3048	3048	3048
L5 (mm)	1542	1541	1693
H1 (mm)	2497	2497	2497
H2 (mm)	4973	5095	5019
H3 (mm)	2350	2691	2490
H4 (mm)	381	381	381
H5 (mm)	382	382	382
H6 (mm)	805	805	805
H7 (mm)	442	426	291
W1 (mm)	2234	2210	2591
W2 (mm)	2134	2108	2489
W3 (mm)	2210	2210	2210
W4 (mm)	2180	2180	2180
A1	13°	13°	13°
A2	65°	65°	65°
A3	44°	44°	44°
R1 (mm)	4015	4026	3836
R2 (mm)	7401	7401	7401
T (mm)	4562	4554	4688



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