

Sandvik TH540

Technical Specification



APPLICATIONS

The Sandvik TH540 is a high performance 40 tonne articulated underground dump truck for use in 5,0 x 5,0 meter haulage ways. Operator safety, health and comfort are enhanced by the enclosed, vibration isolation, ISO approved cabin. The TH540 is well suited for:

- level or steep ramp production haulage in medium to large mines
- mine development projects in medium to large mines
- tunneling projects with restricted height
- 3 pass loading with the Sandvik LH514 loader

Capacities

Payload capacity	40 000 kg	88 200 lb
Dump box	22,0 m ³	28,8 yd ³

Main dimensions

Total length	10 696mm	421 "
Maximum width	3 065 mm	121 "
Height	2 896 mm	114 "
Height of the box	2 876 mm	113 "

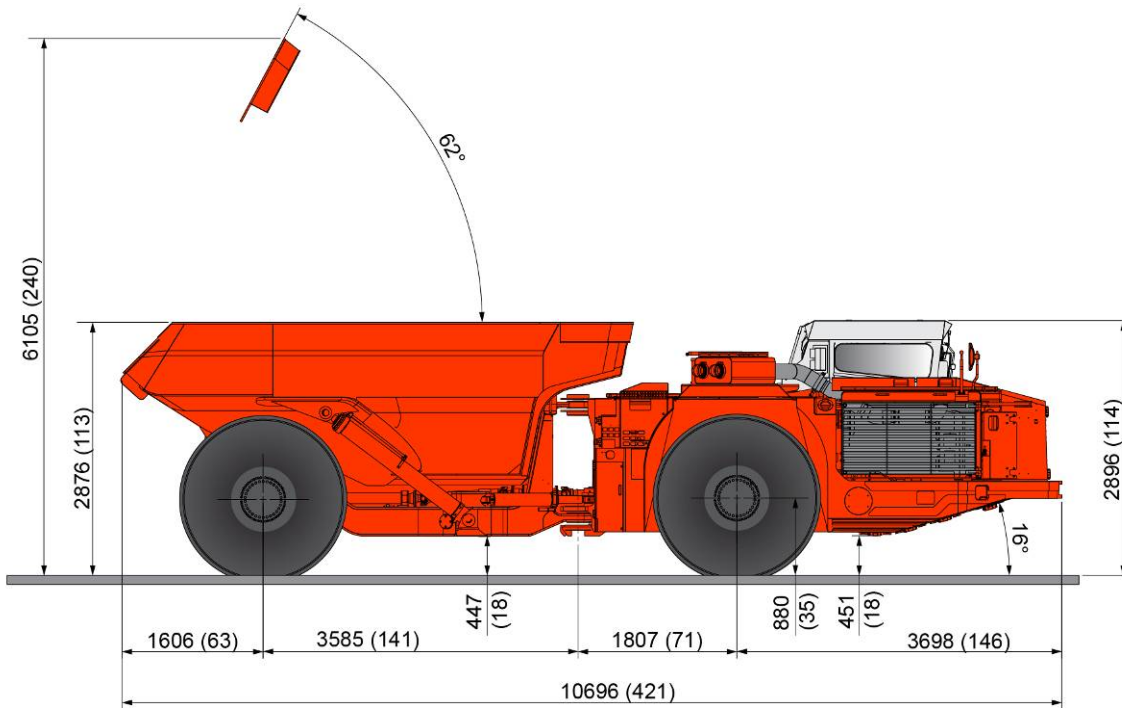
Dump Box Motion Times & Movements

Discharging time	14,0 sec
Dumping angle	61 °

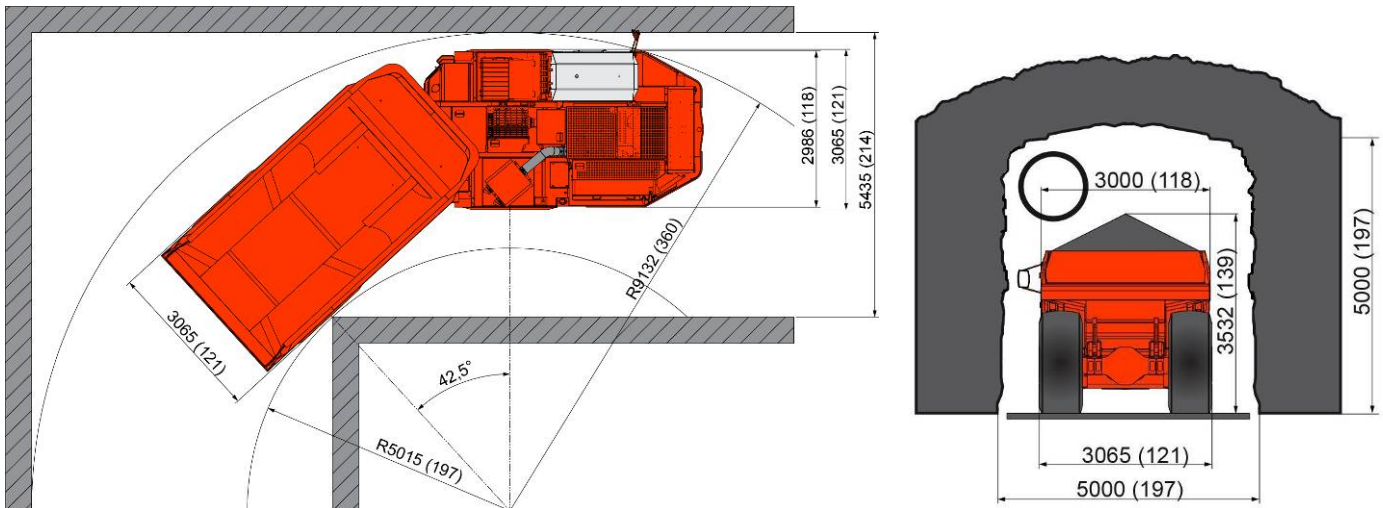
Speeds Forward & Reverse (Level / Loaded)

1st gear	5,5 km/h	3,4 mph
2nd gear	7,2 km/h	4,5 mph
3rd gear	9,8 km/h	6,1 mph
4th gear	13,0 km/h	8,1 mph
5th gear	17,2 km/h	10,7 mph
6th gear	22,8 km/h	14,2 mph
7th gear	31,1 km/h	19,3 mph
Reversing with 1st and 3rd gear		

DIMENSIONS (SIDE VIEW)



DIMENSIONS (TOP AND REAR VIEW)



POWER TRAIN

Engine

Diesel engine	Volvo TAD1640VE (Tier 2)
Output	405 kW (543 hp) @ 1 900 rpm
Torque	2 761 Nm @ 1 200 rpm
Number of cylinders	In-line 6
Displacement	16,1 l
Cooling system	Liquid cooled
Combustion principle	4-stroke, direct injection, turbo charged, after cooled
Air filtration	Dry type
Electric system	24 V
Exhaust system	Heat shield for exhaust manifold & turbo
Average Fuel Consumption	49,0 l/h (at 50% load)
Fuel Tank Capacity	700 l (185 gal)

Converter

Dana C9000 series	With lock-up
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Transmission

Dana 8000 series	Power shift transmission with automatic electric shift. Seven gears forward and two reverse.
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Axles

Front axle	Kessler D106, oscillation $\pm 13^\circ$
Rear axle	Kessler D106, fixed

Tires

Tire size	29.5R25 E4**
Brand and type subject to availability	

VEHICLE WEIGHTS

Operating weights

Total operating weight	34 700 kg	76 400 lb
Front axle	25 900 kg	57 000 lb
Rear axle	8 800 kg	19 400 lb

Loaded weights

Total loaded weight	74 700 kg	164 600 lb
Front axle	37 200 kg	82 000 lb
Rear axle	37 500 kg	82 700 lb

STANDARD OPERATORS COMPARTMENT

ISO certified ROPS/FOPS cabin with air conditioning		
Height	2 896 mm	114"

FRAME

Rear and front frame	Welded steel box construction
Central hinge	Box constructed, adjustable lower bearing

STEERING HYDRAULICS

Fully hydraulic, center articulated, power steering with two double acting cylinders. Closed centre system with a load sensing piston pump and pilot operated orbital wheel steering.

Turning Radius

Turning angle	$\pm 42,5^\circ$	
Inner	5 015 mm	197"
Outer	9 132 mm	360"

Main Components

Hydraulic pump	Variable displacement piston pump
Control valve	Pilot operated
Cylinders	125 mm bore X 90 mm rod

DUMP BOX HYDRAULICS

Full hydraulic system, equipped with variable displacement piston pump. Oil flow to box hydraulic system from the steering hydraulics. Oil flow from the brake circuit pump is divided to the brake system and the oil cooler motor.

Main Components

Hydraulic pump	Variable displacement piston pump
Control valve	Solenid operated
Cylinders (2)	160 mm bore 110 mm rod
Hydraulic oil tank capacity	225 l (60 gal)

BRAKES

Service brakes are spring applied, hydraulically released, liquid cooled (LCB) multi-disc brakes on all wheels with two separate circuits for the front and rear axles. Service brakes also function as an emergency brake, when the emergency brake system is engaged.

Main Components

Pressure accumulator	Piston type with charging valve
Brake valve	foot operated pedal, fully modulated
Brake hydraulic tank	100 l (26,4 gal)
Automatic Brake Activation	ABA

ELECTRICAL EQUIPMENT

Alternator	2 x 28 V 140 A, Bosch
Batteries	2 x 12V, 160 Ah
Starter	24V
Lights	
• Driving	4 x H365W, front & rear
• Working	1 pc (H3 65 W)
• Parking	4 pcs
• Brake	2 pcs
• Turn signals	4 pcs
Instrumentation	5,7 in LCD display

SAFETY AND ERGONOMICS

ROPS/FOPS certified operators compartment
Low frequency suspension seat
Adjustable armrests
Seat belt
Lockable main switch
Reverse alarm (CEN)
External shutdown, 2 pcs in rear
ABA brake system

STANDARD MANUALS

Instructions Manual	
- Operator's Manual	Hard copy, EU-languages
- Maintenance Manual	Hard copy, EU-languages
Parts Manual	Hard copy, English
Service and Repair Manual	Hard copy, English
ToolMan CD (2 pcs)	Electronic, in pdf. format, includes all the above manuals

OTHER STANDARD EQUIPMENT

Auxiliary Engine Brake - Volvo VEB (D16 only)
Cyclone pre-filter for A/C device
Fire extinguisher, 12 kg (CEN)
Flashing beacon
Reversing camera
Wheel chocks and brackets

OPTIONAL EQUIPMENT

Alternative Engines

- Volvo TAD1344VE, Euro Stage Tier 2
352 kW (472 hp) @2100rpm,
2248 Nm @ 1260rpm
- Volvo TAD1660VE, Euro stage 3B / Tier 4i
405 kW (543 hp) @ 1900 rpm,
2761 Nm @ 1200 rpm

Alternative boxes

Material density (t/m ³)	2,2	2,0	1,7
Volume (m ³)	18,0	20,0	24,0
Width(mm)	3 000	3 000	3 150
Ejector box 20,0 m ³ , width 2 980 mm			

Additional Options

- Electrical retarder TELMA
- Lower cabin, 2670 mm
- Cover grills for lamps
- Gear limit TBA
- Emergency steering (CEN)
- Fire suppression system Sandvik FS1000 with auto engine shutdown
- Fire suppression system ANSUL, two tank system with 8 nozzles (CEN) including auto engine shutdown
- Fire suppression system ANSUL, two tank system with 8 nozzles (CEN), CHECKFIRE, including auto engine shutdown
- Jump start
- Spare rim 29.5R25
- Cold climate package (incl. cabin heater, cabin window defroster and side mirrors with defrost system)
- Safety rails
- Wiggins fuel fill system
- Wiggins fill set (hydr., transmission and engine oil)
- LinkOne spare part manual
- CatBase spare part manual
- Accordance with CE norms (CEN)
- Pressure accumulator certificates
- Tyre Pressure Monitoring System
- Driving direction lights

GRADE PERFORMANCE

Volvo TAD1640VE Tier 2 and
 TAD1660 Tier 4i

Calculated with 2% rolling
 resistance

With lock-up

Empty

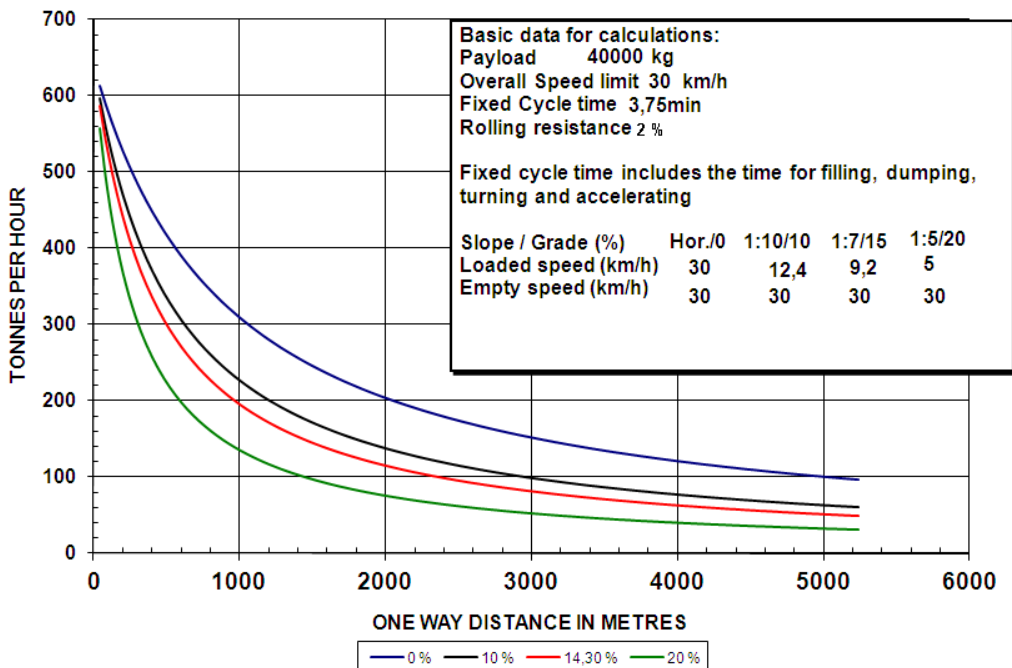
Percent grade	0	5	10	15	20
1 st gear (km/h)	5,5	5,4	5,4	5,4	5,4
2 nd gear (km/h)	7,2	7,2	7,1	7,1	7,0
3 rd gear (km/h)	9,8	9,7	9,7	9,6	9,5
4 th gear (km/h)	13,0	12,8	12,7	12,5	12,4
5 th gear (km/h)	17,2	16,9	16,6	16,4	14,4
6 th gear (km/h)	22,8	22,3	21,8	19,4	
7 th gear (km/h)	31,1	30,1	26,1		

Loaded

Percent grade	0	5	10	15	20
1 st gear (km/h)	5,5	5,4	5,3	5,3	5,2
2 nd gear (km/h)	7,2	7,1	7,0	6,9	6,6
3 rd gear (km/h)	9,8	9,6	9,4	8,8	5,0
4 th gear (km/h)	12,9	12,6	11,8	9,2	
5 th gear (km/h)	17,1	16,5	12,4		
6 th gear (km/h)	22,6	20,3			
7 th gear (km/h)	30,6				

PRODUCTIVITY CURVE

TH540
PRODUCTIVITY CURVE



Sandvik Mining and Construction Reserves the right to change this specification without further notice.



TRACTIVE EFFORT CURVE

TH540

Volvo TAD1660VE Tier 2 and 4i, 405 kW/1900rpm

Converter 16.7 /offset 1:1
 29.5R25 tyres

