The Sandvik TH551i is a high productivity 51 tonne articulated underground dump truck for use in 5 x 5 meter haulage ways.

This next generation intelligent truck is a safer, efficient, high capacity and easy to maintain underground truck for optimized fleet management.

Sandvik TH551i truck features a wide range of intelligence integrated technology, such as Sandvik Intelligent Control system, My Sandvik Digital Services and Automation Readiness as standard, supplemented with Onboard Weighing System option for tracking the payload. With the latest addition of the AutoMine™ Trucking Onboard option, the Sandvik TH551i enables autonomous haulage for both transfer level and decline ramp application.

The Sandvik TH551i offers a reliable and safer solution that can significantly increase the efficiency and productivity of customers' operations while decreasing the cost per tonne, providing smart productivity for our customers.

Operator safety, health and comfort are enhanced by the mining focused, sound suppressed, ROPS and FOPS certified cabin.

The Sandvik TH551i is well suited for:
- level or ramp production haulage in large mines
- mine development projects in large mines
- 3 pass loading with the Sandvik LH517 loader
CONVERTER
Allison with lock-up

UP BOX
Katsa  Ratio 1:1

DROP BOX
Katsa  Ratio 1:1

AXLES
Front axle  Kessler D106 series, spring applied hydraulic operated brakes, hydraulic suspension
Rear axle  Kessler D106 series, spring applied hydraulic operated brakes, fixed

TIRES
Tire size (Tires are application approved. Brand and type subject to availability.)  35/65 R33 -E4

OPERATOR’S COMPARTMENT
CABIN
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 and heating unit as a standard
Cyclone pre-filter for A/C device
Adjustable steering wheel
No high pressure hoses in the operator’s compartment
Inclinometers to indicate operating angle
Emergency exit
Illuminated steps to the cabin
Three-point contact access system with replaceable and colour coded handles and steps
12 V output
Remote circuit breaker switch
Mirrors defrost
Trainer’s seat (behind operator)

POWER TRAIN
ENGINE
Diesel engine  Volvo TAD1642VE-B (Tier 2)
Volvo engine brake
Output  515 kW (691 hp) @ 1900 rpm
Torque  3221 Nm @ 1300 rpm
Number of cylinders  In-line 6
Displacement  16.1 l
Cooling system  Liquid cooled
Combustion principle  4-stroke, direct injection, turbo, after cooler
Air filtration  Dry type
Electric system  24 V
Emissions  Tier 2, Euro Stage II
Ventilation rate (Ultra low sulphur diesel)  CANMET 48,100 CFM m3/s, MSHA 45000 Ventilation Rate
Particulate index (Ultra low sulphur diesel)  MSHA Particulate Ventilation Index 5,000 CFM
Exhaust system  Catalytic converter with muffler
Average fuel consumption at 50% load  46.0 l/h
Fuel tank capacity  840 l

OPERATIONAL CONDITIONS AND LIMITS
Environmental temperature  From -20°C to +50°C
Standard operating altitude  With engine Volvo TAD1642VE-B from -1500 m to +1000 m at 25 °C without rated power derate

REQUIREMENTS AND COMPLIANCE
Compliance with 2006/95/EC Low voltage directive
Compliance with 2004/108/EC Electromagnetic compatibility directive
Compliance with 2006/42/EC Machinery directive (Equipment for EU area, achieved with relevant options)
Design based on MDG 15. Guideline for mobile and transportable equipment for use in mines. (Equipment for Australia, achieved with relevant options)
Electrical system based on IEC 60204-1. Safety of machinery – Electrical equipment of machines – Part 1: General requirements
CONTAINS FLUORINATED GREENHOUSE GASES
Refrigerant R134a under pressure max 38 bar/550 PSI:
Filled weight: 1,500 kg
CO2e: 2,145 tons
GWP: 1430
Information based on the F Gas Regulation (EU) No 517/2016

OPERATIONAL CONDITIONS AND LIMITS
Environmental temperature  From -20°C to +50°C
Standard operating altitude  With engine Volvo TAD1642VE-B from -1500 m to +1000 m at 25 °C without rated power derate

TRANSMISSION
Fully automatic transmission with electric shifting system and retarder. Six gears forward and one reverse
Allison 6625

AXLES
Front axle  Kessler D106 series, spring applied hydraulic operated brakes, hydraulic suspension
Rear axle  Kessler D106 series, spring applied hydraulic operated brakes, fixed

TIRES
Tire size (Tires are application approved. Brand and type subject to availability.)  35/65 R33 -E4

OPERATIONAL CONDITIONS AND LIMITS
Environmental temperature  From -20°C to +50°C
Standard operating altitude  With engine Volvo TAD1642VE-B from -1500 m to +1000 m at 25 °C without rated power derate

CONVERTER
Allison with lock-up
STEERING HYDRAULICS

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

- **Steering main valve**: Pilot operated
- **Steering hydraulic cylinders**: 140 mm, 2 pcs
- **Steering pump**: Variable displacement piston pump
- **Emergency steering**: Option

DUMP BOX HYDRAULICS

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

- **Hydraulic pump**: Variable displacement piston pump
- **Control valve**: Solenoid operated
- **Main valve**: Solenoid operated
- **Cylinders**: 180 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
- **Brake oil tank capacity**: 100 l

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.

- **Central hinge**: Adjustable lower bearing
- **Tanks**: Tanks are stand alone structures bolted onto main frame
- **Automatic central lubrication**: Standard

HYDRAULICS

- **Filling pump for hydraulic oil**: Standard
- **Door interlock for brake hydraulics**: Standard
- **Oil cooler for hydraulic and transmission oil**: Capability up to 55°C ambient temperature
- **Fittings**: ORFS
- **Hydraulic oil tank capacity**: 280 l
- **Sight glass for oil level**: 2 pcs

ELECTRICAL EQUIPMENT

MAIN COMPONENTS

- **Alternator**: 28 V, 150 A
- **Batteries**: 2 X 12V 180 Ah
- **Starter**: 24 V, 7 kW
- **Driving lights**: LED lights
  - 4 pcs in front
  - 4 pcs in rear
- **Working lights**: LED lights
  - 4 pcs in front
  - 4 pcs in rear
- **Reverse Camera**: Standard
- **Parking, brake and indicator (blinkers) lights**: LED lights
  - 2 pcs in front
  - 2 pcs in rear
- **Control system**: 5.7” Color display, 5 modules, inbuilt system diagnostics
- **Reverse alarm (CEN)**: Standard
- **Flashing beacon**: Standard
### INCLUDED SAFETY FEATURES

**FIRE SAFETY**
- Portable fire extinguisher: 12 kg (CEN)
- 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
  - 1 pc in cabin
  - 1 pc in front frame
  - 2 pcs in rear frame

**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

### OPTIONS

**SAFETY OPTIONS**
- Fire suppression system ANSUL, 2 tanks, 8 nozzles (CEN), including auto shutdown (not for automation)
- Fire suppression system ANSUL, 2 tanks, 8 nozzles (CEN), CHECKFIRE, including auto shutdown
- Fire suppression system Sandvik Eclipse with auto shutdown
- Safety rails
- Emergency steering (CEN)
- Tyre Pressure Monitoring System
- AutoMine® Trucking: Onboard Package

**ALTERNATIVE ENGINE**
- **Diesel engine**: Volvo TAD1662VE, engine brake
- **Requirements**: Ultra low sulphur fuel and AdBlue
- **Output**: 515 kw (690 hp) @ 1800 rpm
- **Torque**: 3220 Nm @ 1200 rpm
- **Emissions**: Tier 4i / Euro Stage III B
- **Ventilation rate (Ultra low sulphur diesel)**: CANMET 22,900 CFM
  - MSHA 21,000 CFM
- **Particulate index (Ultra low sulphur diesel)**: MSHA Particulate Ventilation
  - Index CFM 3,000
- **Average fuel consumption at 50% load**: 46 l/h

**ELECTRICAL OPTIONS**
- Jump start interface

**OTHER OPTIONS**
- Cover grills for lamps
- Spare rim 33-28.00/3.5 (for tyres 35/65R33)
- Wiggins quick filling set for fuel and oils (hydraulic, engine and transmission)
- Wiggins fuel fill system
- Arctic package 120V or 230V (preheater for hydr. oil, brake oil transmission, up-box, drop box and engine)
- Live oil sampling
- ToolMan CD
- Customer specific disassembly and slewing drawings / instructions
- Integrated jacking system
- Integrated weighing system
- Service stand
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