SANDVIK LH514
UNDERGROUND LOADER
SUPERIOR HYDRAULIC POWER

Fast bucket filling
Sandvik LH514 smart boom geometry is optimized to provide highest in class breakout forces for fast bucket filling and handling of oversized rocks. The powerful boom and bucket hydraulics combined with smart geometry enable the use of both lift and tilt functions simultaneous when penetrating the muck pile, making one-pass bucket filling easy and contributing to high fill factors.

Efficient load sense hydraulics
The proven load sense hydraulic system with variable displacement piston pumps provides on demand pressure and flow for greater efficiency, enabling increased tractive effort during loading and reduced fuel consumption.

De-clutch and automatic bucket shaking
The electrohydraulic controls include an easy button operated de-clutch function for truck loading and automatic bucket shaking for shorter dumping times. Steering and boom soft stops reduce shock loads and vibration and extend cylinder lifetime.

Production monitoring
Sandvik Integrated Weighing System (IWS) accurately measures payload when lifting the boom as well as the number of buckets filled during a shift and records the results to My Sandvik Digital Services Knowledge Box™. The Knowledge Box™ can transfer this production monitoring data through Wi-Fi connection for access via My Sandvik internet portal. Alternatively, data can be downloaded manually onto a USB stick. Payload monitoring can assist in maximizing productivity, identifying training needs and reducing overloading.
High tramming speeds
The compact Sandvik LH514 with its high power to weight ratio provides the highest in class tramming speeds for shorter cycle times and higher productivity. The advanced powertrain technology includes a proven transmission with automatic gear shifting and optional torque converter lock up ensuring fast ramp speeds to quickly clear tunnel headings for rapid advance rates.

Durable axles use limited slip differentials to maintain traction and spring applied hydraulic release brakes (SAHR) for safe braking. Vehicle top speed can also be adjusted with gear limiting to improve safety in narrow tunnels and rough roads.

Fuel efficient Tier 2 engine for high altitudes
A robust 256kW Tier 2 engine with catalytic purifier and muffler delivers long engine lifetime in underground mining conditions. This fuel efficient 13 litre engine is also calibrated for use in high altitude conditions to maintain performance, low emissions and reliability.

Low MSHA and CANMET ventilation rates with Tier 4f engine
Sandvik LH514 is also available with a Tier 3 compliant engine or a low emission Tier 4 final engine. The Tier 4 final engine delivers low MSHA and CANMET ventilation rates with ultra-low Sulphur diesel fuel. The exhaust after treatment system of the Tier 4 final engine consists of a selective catalytic reduction system (SCR), which uses diesel exhaust fluid to reduce emissions of nitrogen oxides. This SCR solution delivers the most robust and reliable Tier 4 final emissions compliance without sacrificing performance and fuel efficiency. The Tier 4f engine is equipped with an engine brake.
AUTOMINE®
AND OPTIMINE®
COMPATIBILITY

Sandvik LH514 has been designed for use with AutoMine®, Sandvik’s robust mining automation system for increased safety, productivity and lower costs.

AutoMine®
Sandvik AutoMine® is the industry leader in automation for underground loaders and trucks. This high-performing, comprehensive solutions is working around the world, backed by Sandvik experts across the globe. The Optional Sandvik AutoMine® readiness allows retrofitting of the AutoMine® Onboard Package for autonomous use later during the Sandvik LH514 lifetime.

OptiMine®
Take optimization further with OptiMine®, the powerful suite of digital tools for real time visualization, analysis, and optimization of mining production and processes. OptiMine® integrates all relevant data into one source, delivering both real-time and predictive insights to improve operations.

Knowledge Box™
The Knowledge Box™ onboard Sandvik LH514 transfers monitoring data through a Wi-Fi connection to the My Sandvik internet portal for visualization of fleet health, productivity and utilization. Transferred data can also be used by OptiMine®, an analytics and process optimization suite to improve mining process efficiency.

Line of sight radio remote control
Sandvik LH514 can be equipped with a line of sight radio remote control, available with a direct can-bus connection to the Sandvik Intelligent Control System. An additional video camera system is available for improved visibility when loading by radio remote control. A recovery kit option releases equipment brakes by pulling a hook at the rear of the loader to retrieve the equipment from under unsupported roof, in case it is required.

Proximity Detection System Interface
A Proximity Detection System (PDS) interface option is also available on Sandvik LH514 for mines to interface with their site PDS system. The PDS interface offers easy installation and connection to the Sandvik Intelligent Control System with the capability to slow down and stop the loader on the signal from the PDS system.
Check out Sandvik LH514, loader in the labyrinth video (youtube.com)
EASE OF MAINTENANCE & SERVICEABILITY

AUTOMATIC CENTRAL LUBRICATION SYSTEM
The standard automatic central lubrication system optimizes grease consumption and extends the life of the bushes and bearings. Activated by Sandvik Intelligent Control System when the parking brake is released, hard to reach areas are well lubricated and service time is reduced. The boom uses hollow pins which are lighter and easier to remove, along with new bush lip seals to prevent the ingress of dirt, reducing wear.

GROUND LEVEL SERVICE
Sandvik LH514 has been designed with smart placement of key service areas and safer service access. An electric filling pump for hydraulic oil quickly fills the hydraulic tank through a filter to ensure clean oil to protect the hydraulic system components. Hydraulic test points are accessible at ground level.

SANDVIK INTELLIGENT CONTROL SYSTEM
To minimize the need to move around the machine or use special tools, the 7” touch screen color display in the operator’s compartment provides service information, easy system diagnostics and alarm log files. An automatic brake test with diagnostics and logging can also be performed from the display.

HOT SIDE – COLD SIDE
The cold side of the loader includes ground level access to engine fuel filters. An efficient Power Core engine filter is housed well within the frame for impact protection and utilizes an ejector valve system for increased filter lifetime. The fuel tank is sized to ensure continuous operation for a full working shift. An optional fast filling system for fuel and oils increases equipment availability by reducing fueling time by up to 80% as well as eliminating fuel and oil spills.

The hot side includes heat shielding for exhaust components, backed up by an optional Eclipse™ fire suppression system from Sandvik to improve fire safety.
SAFETY ONBOARD
Energy isolation can be achieved with a lockable main switch. Standard onboard wheel chocks can be used to ensure the machine remains stationary. Maintenance access to the top of the machine includes three-point high contrast handles and anti-slip steps on both front and rear frames. Optionally available easy to assemble safety rails on the rear of the machine reduce risks of falling.

SWING-OUT RADIATOR FANS
Unique easy-to-clean engine cooler with swing-out fans allow effective cleaning from both sides of the radiator core. Designed for high ambient temperatures, the V-tube radiator features replaceable copper tubes for fast and easy repair. Corrosion resistant brass tubes are included in the harsh conditions package, available as an option.

LOW COST OF OWNERSHIP

STRONG RESISTANCE TO SHOCK LOADS
Welded steel box structures used in the frame and boom provide strong resistance to shock loads and are optimized to reduce stresses as well as extend frame lifetime. Computer designed frames using Finite Element Analysis (FEA) are made of high strength structural steel for superior strength to weight ratio.

LONGER LIFETIME AND EASIER MAINTENANCE WITH EXTENSIVE STEEL PIPING
Extensive use of hydraulic steel piping throughout Sandvik LH514 delivers longer lifetime and easier maintenance access than traditional hydraulic hoses.

Separate side-mounted brake, hydraulic and transmission cooling provides increased performance in hot conditions underground. A more efficient cooling circuit results in lower oil temperatures, reducing stress on the system, extending component lifetimes, and minimizing oil leaks.

LOWER BUCKET MAINTENANCE COSTS AND REDUCED DOWN TIME
SHARK™ Ground Engaging Tools (G.E.T.) are available on a wide range of bucket sizes, optimized for loader productivity and extended bucket service life. Available as either mechanical or weld on systems, G.E.T. solutions provide lower overall bucket maintenance costs and reduced downtime.

MAINTENANCE KITS AND PERFORMANCE FLUIDS
Tailor-made maintenance kits include all relevant parts and other materials for planned maintenance.

Sandvik Performance Fluids preserve the machine’s high performance. Smooth operation throughout its lifetime can be ensured with Sandvik Long-Life Engine, Transmission and Hydraulic Oils, which are available in different viscosity grades.
SAFETY AND OPERATOR COMFORT

ROPS AND FOPS CERTIFIED CABIN OR CANOPY
Sandvik LH514 is available with a robust ROPS and FOPS certified open canopy or closed cabin, both protecting the operator in case of rolling over or falling objects.

The sealed and pressurized cabin is air-conditioned and uses dust and noise resistant upholstery materials, has 3-layer laminated safety glass windows, emergency exits, and illuminated cabin entrance with three-point contact handles and anti-slip steps. The cabin door has an improved locking mechanism increasing reliability, and a magnetic interlock ensuring disengagement of boom, bucket and steering functions when the door is opened.

ADJUSTABLE JOYSTICK ARMRESTS AND LOW FREQUENCY SUSPENSION SEAT
This loader is fitted with an adjustable low frequency suspension seat with two-point seat belt. Padded armrests and adjustable joysticks can be configured to suit the operator. The electro-hydraulic joystick controls for steering and boom movements eliminate hydraulic hoses inside the cabin and reduce potential hydraulic hazards.

RIDE CONTROL
The optional ride control system dampens the boom and bucket movement by a nitrogen accumulator, providing a smoother ride over rough ground and less spillage when carrying loads at high tramping speed.

7” TOUCH SCREEN COLOR DISPLAY
The 7” color touch screen display has all the needed information and alarms on one large display giving the operator more time to keep eyes on the road. Dark background graphics with clear symbols are designed for the underground environment to reduce eye fatigue. The Sandvik Intelligent Control system monitors and warns the operator before failures occur, preventing severe damage and potential loss of production.

IMPROVED VISIBILITY
Sandvik LH514 is fitted with adjustable, high-power LED lights as standard. Operator visibility can be further improved with a lift kit as well as right-hand side and rear facing monitoring cameras. An additional cabin heater element for the air conditioning is available for cold climate conditions.
SANDVIK 365 PARTS & SERVICES

PROUDLY KEEPING YOU ON TRACK!
Sandvik 365 Parts & Services offer a variety of possibilities to enhance your Sandvik LH514 loader’s performance. As an OEM, we provide the best-suited choices to preserve your machine’s high performance throughout its lifetime. These consist of highly skilled service specialists supporting you 365 days a year, all using Sandvik Genuine parts and components complemented by a range of robust tools. In addition, you get to enjoy the benefits of advanced digital services and a global infrastructure dedicated to keeping your Sandvik fleet on track.

BENEFIT FROM OUR 365 SOLUTIONS
Our Sandvik 365 Parts & Service solutions will enable your equipment to function safely at peak condition and allow you to achieve the most demanding production targets. Our aftermarket portfolio attends all possible needs throughout your equipment’s lifecycle, ranging from the most basic and traditional offerings to the most sophisticated ones.

YOUR EQUIPMENT UPTIME IS OUR FOCUS – SANDVIK 365 COMPONENT SOLUTIONS
We have all your key components available to you under our various commercial offerings to suit your needs. Whether you have an ad-hoc failure or you are planning your maintenance in advance – we can assist, manage your components to maximize your uptime.

MAXIMIZE YOUR PRODUCT LIFETIME WITH SANDVIK 365 REBUILD SOLUTIONS
One of the most effective ways to optimize equipment lifecycle lies in the quality and range of the Sandvik Rebuild Solutions. Planning and executing rebuilds at optimal intervals helps you keeping your equipment’s operating cost and productivity on track. A rebuild by the manufacturer can optimize your total cost of ownership (TCO) and increase the level of predictability around our fleet lifecycle.

CHOOSE FROM OUR RANGE OF SERVICE AGREEMENTS
With Sandvik Service Agreements, you can improve productivity and minimize unplanned downtime by making use of our expertise, systems and processes. They can be adapted to the specific level of support you require – helping you proactively manage your fleet and avoid any unexpected surprises.

GAIN PRODUCTIVITY THROUGH CONNECTIVITY
365 My Sandvik Digital Service solutions will provide you with visualization of fleet utilization, productivity, safety and health on 24/7 basis. The digital service dashboards can be accessed through the My Sandvik customer portal, where you can subscribe to My Sandvik Insight or Productivity. This way, My Sandvik Digital Service Solutions enable you to minimize unplanned downtime and set exact targets for improvement.
Sandvik LH514 is a high capacity underground loader for hard rock applications.

Sandvik LH514 combines smart geometry with powerful thrust, high breakout forces, responsive controls and high tramming speeds. The advanced but still robust loader provides fast bucket filling, high fill factors, fast cycle times and proven reliability for underground mining use.

Sandvik LH514 is equipped with Sandvik Intelligent Control System, the backbone of the loader. The control system monitors the equipment productivity and health, and enables multiple smart solutions, such as the optionally available Integrated Weighing System and AutoMine® loading readiness for fully automated use.

SHARK™ Ground Engaging Tools (G.E.T.) are available on a wide range of bucket sizes, optimized for loader productivity and extended bucket service life.

### TECHNICAL SPECIFICATION
### SANDVIK LH514

<table>
<thead>
<tr>
<th>CAPACITIES</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tramming capacity</td>
<td>14 000 kg</td>
</tr>
<tr>
<td>Break out force, lift</td>
<td>28 042 kg</td>
</tr>
<tr>
<td>Break out force, tilt</td>
<td>23 453 kg</td>
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<tr>
<td>Standard bucket</td>
<td>5.4 m³</td>
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<table>
<thead>
<tr>
<th>SPEEDS FORWARD &amp; REVERSE (LEVEL/LOADED) WITH VOLVO TAD1340VE ENGINE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st gear</td>
</tr>
<tr>
<td>2nd gear</td>
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<tr>
<td>3rd gear</td>
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<tr>
<td>4th gear</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>BUCKET MOTION TIMES</th>
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</thead>
<tbody>
<tr>
<td>Raising time</td>
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<tr>
<td>Lowering time</td>
</tr>
<tr>
<td>Dumping time</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>OPERATING WEIGHTS</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total operating weight</td>
<td>38 100 kg</td>
</tr>
<tr>
<td>Front axle</td>
<td>16 700 kg</td>
</tr>
<tr>
<td>Rear axle</td>
<td>21 400 kg</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LOADED WEIGHTS</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total loaded weight</td>
<td>52 100 kg</td>
</tr>
<tr>
<td>Front axle</td>
<td>38 625 kg</td>
</tr>
<tr>
<td>Rear axle</td>
<td>13 475 kg</td>
</tr>
</tbody>
</table>
TRANSMISSION
Power shift transmission with modulation. Dana 6422, automatic gear shift control, four gears forward and reverse.

CONVERTER
Dana C9602 No lock-up

POWER TRAIN
ENGINE
Diesel engine Volvo TAD1340VE
Output 256 kW @ 2100 rpm
Torque 1 770 Nm @ 1260 rpm
Engine brake No
Number of cylinders In-line 6
Displacement 12.78 l
Cooling system Liquid cooled and piston pump driven cooler fan
Combustion principle 4-stroke, direct injection, turbo with intercooler
Air filtration Two stage filtration, dry type
Electric system 24 V
Emissions Tier 2, Euro Stage II
Ventilation rate CANMET 9.96 m³/s, MSHA 15500 CFM
Particulate index MSHA 10500 CFM
Exhaust system Catalytic purifier and muffler, double wall exhaust pipe
Average fuel consumption at 40% load 33.0 l/h
Fuel tank refill capacity 540 l

CONVERTER
Dana C9602 No lock-up

OPERATIONAL CONDITIONS AND LIMITS
Environmental temperature From -20°C to +50°C
Standard operating altitude With engine Volvo TAD1340VE from -1500 m to +3000 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 (closed cabin option)
Refrigerant R134a under pressure max 38 bar/550 PSI:
Filled weight: 2,000 kg
CO2e: 2,860 tons
GWP: 1430
Information based on the F Gas Regulation (EU) No 517/2016

STEERING HYDRAULICS
Full hydraulic, centre-point articulation, power steering with two double acting cylinders. Steering lock. Steering main valve Open circuit type Steering hydraulic cylinders 125 mm, 2 pcs Steering pump Piston type, LS controlled Steering and servo hydraulic pumps Piston type

AXLES

TIRES
Tire size (Tires are application approved. Brand and type subject to availability) 26.5x25 L5S 36 ply

HYDRAULICS
Electric filling pump for hydraulic oil
Door interlock for brakes and boom, bucket, and steering hydraulics
Oil cooler for hydraulic and transmission oil capability up to 50°C ambient temperature
ORFS fittings
MSHA approved hoses
Hydraulic oil tank capacity 240 l
Sight glass for oil level, 2 pcs

BUCKET HYDRAULICS
The oil flow from steering hydraulic pump is directed to bucket hydraulics when steering is not used.
Joystick bucket and boom control (electric), equipped with piston pump that delivers oil to the bucket hydraulic main valve.
Boom system Z-link
Lift cylinders 160 mm, 2 pcs
Dump cylinder 200 mm, 1 pc
Main valve Open circuit type
Pump for bucket hydraulics Piston type, LS controlled

BRAKES
Service brakes are spring applied; hydraulically operated multidisc 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
Automatic brake activation system, ABA
Electrically driven emergency brake release pump
Brake oil tank capacity 75 l
OPERATOR’S COMPARTMENT

Sandvik LH514 is available with a robust ROPS and FOPS certified cabin or canopy, both protecting the operator in case of roll over or falling objects.

The optional sealed and pressurized cabin is air-conditioned and uses dust and noise resistant upholstery materials, has 3-layer laminated safety glass windows, emergency exits, illuminated cabin entrance with three-point contact handles and anti-slip steps.

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
- Adjustable joysticks
- 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
- 12 V output
- Remote circuit breaker switch

CANOPY (Standard)
- ROPS certification according to EN ISO 3471
- FOPS certification according to EN ISO 3449
- Adjustable joysticks
- 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
- 12 V output
- Remote circuit breaker switch

CONTROL SYSTEM, DASHBOARD AND DISPLAYS

A 7” colour display with advanced touch screen functionality has all the needed information and alarms on one large display giving the operator more time to keep eyes on the road. Dark background graphics with clear symbols are designed for the underground mining environment to reduce eye fatigue. The Sandvik Intelligent Control system monitors and warns the operator before failures occur, preventing severe damage and potential loss of production.

- Sandvik Intelligent Control System
- Critical warnings and alarms displayed as text and with light
- 7” color display with touch screen function and adjustable contrast and brightness, illuminated switches
- My Sandvik Digital Services Knowledge Box™ on-board hardware

OPERATOR’S SEAT
- Low frequency suspension
- Height adjustment
- Adjustment according to the operator’s weight
- Padded and adjustable arm rests
- Two-point seat belt
- Fore-aft isolation With cabin option only
- Adjustable lumbar support With cabin option only
- Selectable damping With cabin option only

MEASURED VIBRATION LEVEL

Whole body vibration was determined while operating the loader in a simulated working cycle consisting of loading, unloading and driving with and without load. The value is determined applying standards EN 1032 and ISO 2631-1.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum r.m.s.value $a_r$ [m/s²]</td>
<td>0.95</td>
</tr>
<tr>
<td>VDVw over 15 min period [m/s 1.75]</td>
<td>8.26</td>
</tr>
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</table>

MEASURED SOUND LEVEL

The sound pressure level and sound power level at the operator’s compartment, in a closed cabin, have been determined in stationary conditions on high idle and at full load, with engine Volvo TAD1340VE Tier 2.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Sound pressure level $L_p$ [dB re 20 μPa]</td>
<td>74 dB</td>
</tr>
<tr>
<td>Sound power level $L_{PA}$ [dB re 1 pW]</td>
<td>122 dB</td>
</tr>
</tbody>
</table>

FRAME

- High strength structure with optimized material thicknesses.
- Reduced own weight for higher overall hauling capacity and long structural lifetime. Welded steel construction.
- Adjustable upper bearing in central hinge
- Rear tanks bolted to frame, hydraulic tank and cabin base both bolted and welded to frame
- Automatic central lubrication
ELECTRICAL EQUIPMENT

MAIN COMPONENTS

- Alternator: 24 V, 150 A
- Batteries: 2 x 12 V, 180 Ah
- Starter: 9 kW, 24 V

Driving lights
- LED lights: 2 pcs in front, 4 pcs in rear, 4 pcs in cabin

Working lights
- LED lights, 1 pc under boom

Parking, brake and indicator (blinker) lights
- LED lights: 2 pcs in front, 2 pcs in rear

Control system with 7" Color display, 5 modules, built-in system diagnostics

Reverse alarm (CE)

Included Safety Features

FIRE SAFETY
- Portable fire extinguisher, 12 kg (CE)
- Hot side - cold side design
- Isolation of combustibles and ignition sources
- Heat insulation on exhaust manifold, turbo, and isolated exhaust pipe

ENERGY ISOLATION
- Lockable main switch, ground level access
- Emergency stop push buttons according to EN ISO 13850: 1 pc in cabin, 2 pcs in rear of the loader
- Pressure release in the expansion tank cap
- Automatic discharge for pressure accumulators (brake system and pilot circuit)
- Frame articulation locking device
- Mechanical boom locking device
- Wheel chocks and brackets

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, Russian, French
- ToolMan: 2 x USB stick in pdf format, includes all the manuals
- Decals: English, Finnish, Swedish, Spanish, Russian, French, Polish, Portuguese, Turkish, German, Norwegian, Estonian, Chinese, Greek

GRADE PERFORMANCE

Volvo TAD1340VE (standard engine)

Empty

<table>
<thead>
<tr>
<th>Percent grade</th>
<th>0.0</th>
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<th>4.0</th>
<th>6.0</th>
<th>8.0</th>
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<td>1:7</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>1st gear (km/h)</td>
<td>5.9</td>
<td>5.9</td>
<td>5.8</td>
<td>5.8</td>
<td>5.8</td>
<td>5.7</td>
<td>5.7</td>
<td>5.7</td>
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<tr>
<td>2nd gear (km/h)</td>
<td>10.5</td>
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<td>10.4</td>
<td>10.3</td>
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<tr>
<td>3rd gear (km/h)</td>
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<td>18.0</td>
<td>17.8</td>
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<td>17.8</td>
<td>17.7</td>
<td>17.7</td>
<td>16.5</td>
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<tr>
<td>4th gear (km/h)</td>
<td>32.9</td>
<td>32.3</td>
<td>26.7</td>
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<td>21.5</td>
<td>21.5</td>
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Loaded

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<tr>
<td>2nd gear (km/h)</td>
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<td>10.2</td>
<td>9.5</td>
<td>8.2</td>
<td>7.5</td>
<td>6.7</td>
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<tr>
<td>3rd gear (km/h)</td>
<td>18.3</td>
<td>18.0</td>
<td>17.7</td>
<td>17.3</td>
<td>14.7</td>
<td>12.4</td>
<td>12.4</td>
<td>12.4</td>
<td>12.4</td>
</tr>
<tr>
<td>4th gear (km/h)</td>
<td>32.7</td>
<td>32.8</td>
<td>28.8</td>
<td>28.8</td>
<td>28.8</td>
<td>28.8</td>
<td>28.8</td>
<td>28.8</td>
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</tr>
</tbody>
</table>
OPTIONS

- Closed cabin
- Cabin lift kit (150 mm)
- Disabled 4th gear (mandatory in EU)
- Line of sight radio remote control (HBC CAN)
- Line of sight radio remote control (HBC CAN) with video camera system
- Radio remote control interface HBC (analogue, not with automation)
- Recovery kit (brake release by pulling the hook)
- Driving direction lights (red / green)
- Fire suppression system ANSUL, 2 tanks, 8 nozzles (CE) including auto engine shutdown (not for automation)
- Fire suppression system ANSUL, 2 tanks, 8 nozzles (CE), Checkfire including auto engine shutdown
- Eclipse™ fire suppression system with auto shut down, Sustain or Extreme agent delivered separately
- Extra fire extinguisher 12kg
- Safety rails
- Emergency steering (CE)
- AutoMine® Onboard package
- AutoMine® Loading readiness
- Jump start interface
- Monitoring camera system
- Proximity Detection System (PDS) Interface
- Additional cabin heater element for air conditioning
- Cover grills for lamps
- Converter with lock-up, Dana SOH
- Spare rim 22.00-25/3.0 (for tires 26.5-25)
- Ride control
- Wiggins quick filling set for fuel and oils (hydraulic, engine and transmission)
- Integrated weighing system (IWS)
- Electric loader towing kit
- CE Declaration of conformity (CE)
- Accordance with KA requirements for Chinese market
- Arctic package 120 V / 230 V

AVAILABE BUCKETS

<table>
<thead>
<tr>
<th>TYPE</th>
<th>VOLUME</th>
<th>WIDTH</th>
<th>MAX. MATERIAL DENSITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>BareLip</td>
<td>6.2 m³</td>
<td>2700 mm</td>
<td>2400 kg/m³</td>
</tr>
<tr>
<td>BareLip</td>
<td>7.0 m³</td>
<td>3000 mm</td>
<td>2000 kg/m³</td>
</tr>
<tr>
<td>G.E.T. (standard)</td>
<td>5.4 m³</td>
<td>2770 mm</td>
<td>2600 kg/m³</td>
</tr>
<tr>
<td>G.E.T.</td>
<td>6.2 m³</td>
<td>2770 mm</td>
<td>2200 kg/m³</td>
</tr>
<tr>
<td>G.E.T.</td>
<td>7.0 m³</td>
<td>3070 mm</td>
<td>1900 kg/m³</td>
</tr>
<tr>
<td>G.E.T. Half Arrow</td>
<td>7.0 m³</td>
<td>3060 mm</td>
<td>1900 kg/m³</td>
</tr>
</tbody>
</table>

OPTIONAL ENGINE

<table>
<thead>
<tr>
<th>Diesel engine</th>
<th>Output</th>
<th>Engine brake</th>
<th>Emissions</th>
<th>Average fuel consumption at 40% load</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volvo TAD1171VE</td>
<td>265 kW @ 2 100 rpm</td>
<td>Yes</td>
<td>Tier 4 Final</td>
<td>29 l/h</td>
</tr>
<tr>
<td>Volvo TAD1350VE</td>
<td>256 kW @ 1 900 rpm</td>
<td>No</td>
<td>Euro Stage III</td>
<td>29 l/h</td>
</tr>
<tr>
<td>Volvo TAD1350VE</td>
<td>256 kW @ 1 900 rpm</td>
<td>No</td>
<td>Euro Stage IV</td>
<td>29 l/h</td>
</tr>
</tbody>
</table>