VOLVO ARTICULATED HAULERS

A25D 4X4

VOLVO

The perfect machine for mines, tunnels and quarries

Volvo's articulated haulers have once again proven their availability, flexibility and capacity when it comes to cost-effective hauling of earth and other materials. With articulated steering and the frame joint, they have often proved to be superior to other methods and vehicles in really tough off-road conditions. The new four-wheel A25D 4x4 combines the power, effectiveness and productivity of the larger haulers with outstanding maneuverability and mobility. The A25D 4x4 is the perfect choice for underground operations, in narrow tunnels and in quarries.

Outstanding turn radius and turn-around capacity

A prerequisite for operating in tunnels is a tight turn radius and the ability to turn around in narrow passages. The Volvo A25D 4x4 is uniquely equipped with turn-around wheels, making it possible to turn around the hauler in tunnels as narrow as 31 ft.
The machine is very maneuverable even without the turn-around wheels, due to the short wheel base which is 1' 4" shorter than on the earlier model. This gives exceptional mobility, making the A25D 4x4 a flexible all-round machine suitable for a wide range of applications.

Short dump time

The new design makes the D-series an award winner with its excellent combination of function and form.
The body of the A25D 4x4 is of a completely new design, with a flat bottom and no chute. Combined with low dump height, these features give the A25D a very short dump time.
Few articulated haulers on the market – if any – have the same short dump time; important seconds that add up to valuable and productive time over many long shifts.

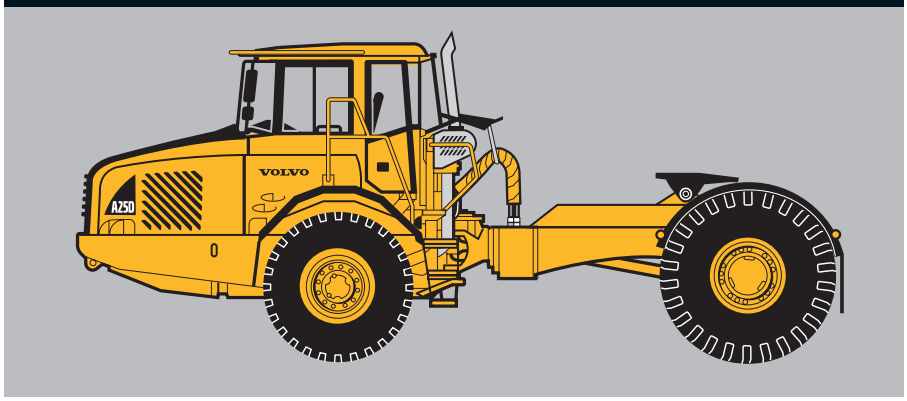
Better performance and higher productivity

The A25D 4x4's excellent maneuverability, short dump time and increased payload combine to give 14% higher productivity than the earlier model A25C 4x4.

A safe and comfortable workplace

In the 1960s, it was Volvo that developed and created the articulated hauler concept. Since then, we've been the leader in the market, especially when it comes to safety and the operator's environment. Safety has characterized the development of the A25D 4x4, down to the last detail. The ergonomically designed, safe and comfortable operator's environment makes the operator effective, even during those long shifts.

A25D 4x4 with fifth wheel equipped for alternative segment



- High performance and productivity
- Volvo's unique hydro-mechanical self-compensating steering system
- Short dump time: 7 sec.
- Low sound level
- Wide door opening without threshold
- ROPS and FOPS is standard
- Flexible and maneuverable


VOLVO


A25D
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VOLVO
A25D


VOLVO

The A25D 4x4 in detail

Service

The Contronic Monitoring System monitors all major fluid levels, minimizing daily and weekly service times.
Time to next service and the status of vital vehicle systems is shown to the operator on a display in the instrument panel.

Service accessibility: Fold-down front grill with access ladder to remote filter bank, located in front of engine.
Large, 90° opening hood for total engine access.
Remote drain hose and swing-out radiator for easy cleaning.

Fill capacities

Crankcase	38 l	**(10.0 US gal)**
Fuel tank	400 l	**(106.0 US gal)**
Cooling system	71 l	**(18.7 US gal)**
Transmission total	41 l	**(10.8 US gal)**
Dropbox	8.5 l	**(2.2 US gal)**
Front axle	33 l	**(8.7 US gal)**
Rear axle	52 l	**(13.7 US gal)**
Hydraulic tank	175 l	**(46.0 US gal)**

Engine

Volvo inline 6-cylinder, direct injected electronically-controlled, turbocharged, intercooled 4-stroke low-emission diesel engine with wet replaceable cylinder liners.

Fan: Hydrostatically driven, thermostatically controlled variable speed radiator fan consuming power only when needed.

Engine brake: Exhaust retarder.

Make, model	**Volvo D10BACE2***
Max power at	33.3 r/s **(2 000 r/min)**
SAE J1995 Gross	228 kW **(306 hp)**
Flywheel power at	33.3 r/s **(2 000 r/min)**
SAE J1349 Net, DIN 6271***	227 kW **(304 hp)**
Max torque at	22.5 r/s **(1 350 r/min)**
SAE J1995 Gross	1 375 Nm **(1014 lb ft)**
SAE J1349 Net, DIN 6271***	1 365 Nm **(1007 lb ft)**
Displacement total	9.6 l **(586 in^3)**

*) Meets US (EPA) step 2, California (CARB) step 2 and Europe (EU) step 2.
***) With fan at normal speed.

With fan operating at full speed, the flywheel power is 214 kW **(287 hp)**, and maximum torque is 1 276 Nm **(914 lb ft)** which corresponds to DIN 70020.

Electrical system

All cables, sockets and pins are identified.
Cables are enclosed in plastic conduits and secured to main frame.
Halogen lights.
Prewired for options.
Connectors meet IP67 standard for waterproofing as necessary.

Voltage	24 V
Battery capacity	2x170 Ah
Alternator	1.54 kW (55 A)
Starter motor	6.6 kW **(8.8 hp)**

Drivetrain

Volvo components are specifically designed for hauler applications.

Torque converter: Single-stage with free-wheeling stator and automatic lock-up on all gears.

Transmission: Fully-automatic planetary transmission with six forward gears and two reverse gears, with a built-in variable hydraulic retarder.

Dropbox: Volvo design, single-stage.

Axles: Volvo design with fully floating axle shafts and planetary type hub reductions.

Differential locks: One longitudinal and two transverse with 100% lock-up function, operator selectable on the move.

Configuration: 4-wheel drive.

Torque converter	2.37:1
Transmission	Volvo PT 1560
Dropbox	Volvo IL 1
Axles	Volvo AH 64 / AH 71E

Speed:

Forward		
1	8 km/h	**(5.0 mph)**
2	12 km/h	**(7.5 mph)**
3	22 km/h	**(13.6 mph)**
4	31 km/h	**(19.3 mph)**
5	40 km/h	**(24.8 mph)**
6	53 km/h	**(32.9 mph)**
Reverse		
1	8 km/h	**(5.0 mph)**
2	13 km/h	**(8.1mph)**

Brake system

Dual circuit system with air-hydraulic disc brakes. Meets ISO 3450 and SAE J1473 at total machine weight.

Service brakes: Dry discs on all wheels.

Circuit division: One circuit for front axle and one for rear axle.

Parking brake: Spring-applied disc brake on the propeller shaft, designed to hold a loaded machine on a grade up to 18%. When the parking brake is applied, the longitudinal differential is locked.

Compressor: Gear-driven by engine.

Retarder: Hydraulic, infinitely variable, integrated in transmission.
Total retarding capability including transmission retarder and exhaust retarder, see graph.

Steering system

Hydro-mechanical self-compensating articulated steering for safe and accurate high-speed hauling. Fast acting, low effort steering with 3.4 turns lock-to-lock for slow speed maneuverability.

Cylinders: Two double-acting steering cylinders.

Secondary steering: Meets ISO 5010 at total machine weight.

Steering angle: ±45°

Suspension

Volvo's unique maintenance-free 3-point suspension system. The front axle is suspended at three points, which results in independent movement needed in rough terrain.

Front axle: One hollow rubber spring on each side. A cross stay provides the stability. Two shock absorbers on each side.

Rear axle: No suspension

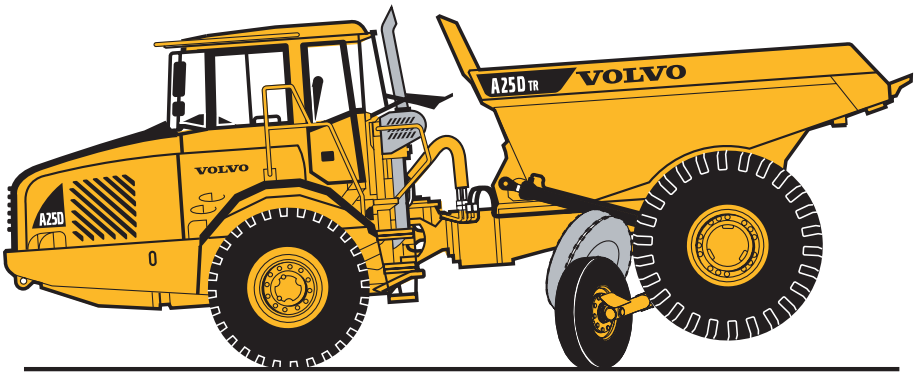
Cab

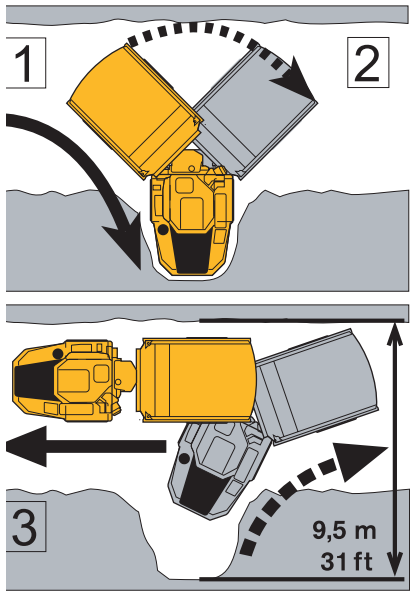
The Volvo cab is ergonomically designed for operator comfort and excellent visibility. Wide threshold-free door opening and ergonomic cab entrance. Insulating rubber pads to reduce vibrations. Tilt/ telescopic steering wheel. Overhead console for radio and storage. Dash-mounted Operator's Communication System. Storage bins.

Standard: ROPS/FOPS tested and approved. (ISO 3471, SAE J1040) /(ISO 3449, SAE J231) standards.

Heater and defroster: Filtered fresh air, four-speed fan and pressurized cab to maintain a clean operating environment.
Multi-level air outlets and separate defroster vents for all windows.

Operator's seat: Adjustable operator´s seat with flameproof upholstery. Retractable seatbelt.
Sound level in cab, ISO 6396 74 dB (A)





A25D 4x4 Turn-Around (Optional)

Turn-around system. Turns 180° in 25 seconds. A width of only 9.5 m (31 ft) is needed to turn the machine 180° in a 3-step operation. The turn-around system is hydraulically operated from the operator's seat and raises the unloaded trailer unit, thus enabling the steering hydraulics to swing the trailer through 90°.

1. Drive up to the turning point, steer the tractor unit fully to one side and engage the brakes.
2. Raise the trailer unit and steer the maximum 90°.
3. Lower the trailer and reverse away from the turning point.

Weights		Ground Pressure		Load Capacity	
Operating weight includes all fluids, operator and tires.		At 15% sinkage of unloaded radius and specified weights.		Body volume according to SAE 2:1.	
Tires	Front: 23.5R25, Rear: 29.5R25		Front: 23.5R25, Rear: 29.5R25		
Operating weight unloaded		**Unloaded**			
Front	12 400 kg **27 337 lb**	Front	125 kPa **18.1 psi**	**Load capacity**	24 000 kg **26.5 sh tn**
Rear	7 070 kg **15 587 lb**	Rear	49 kPa **7.1 psi**	**Body, struck**	9.5 m^3 12.4 **yd^3**
Total	19 470 kg **42 924 lb**	**Loaded**		**Body, heaped**	13.0 m^3 **17.0 yd^3**
Payload	24 000 kg **52 911 lb**	Front	159 kPa **23.0 psi**		
Total weight		Rear	194 kPa **28.1 psi**		
Front	15 650 kg **34 502 lb**				
Rear	27 820 kg **61 333 lb**				
Total	43 470 kg **95 835 lb**				

Hydraulic system

Load-sensing, variable displacement, piston pumps, consume power only when needed.

Pumps: Four engine-driven variable displacement load-sensing piston pumps driven by the flywheel PTO. One ground-dependent piston pump for secondary steering mounted on the dropbox.

Filter: One fiberglass filter with magnetic core.

Pump capacity per pump:

Engine dependent..... 140 l/min... **(37.0 US gpm)**
Ground dependent ... 142 l/min... **(37.5 US gpm)**
at shaft speed ..... 52.5 r/s .... **(3 150 r/min)**
Working pressure..... 25 MPa..... **(3626 psi)**

Body

Load and dump brake: With the engine running, the service brakes on the rear axle are applied and transmission is shifted to neutral.

Body material: Hardened and tempered steel body, flat plate design made of high-strength steel.

Front..... 10 mm..... **(0.39")**
Sides..... 10 mm..... **(0.39")**
Bottom..... 16 mm..... **(0.63")**
Yield strength, min .... 950 N/mm^2 .. **(138 000 psi)**
Tensile strength, min 1 200 N/mm^2 .. **(174 000 psi)**
Hardness ..... 400 HB

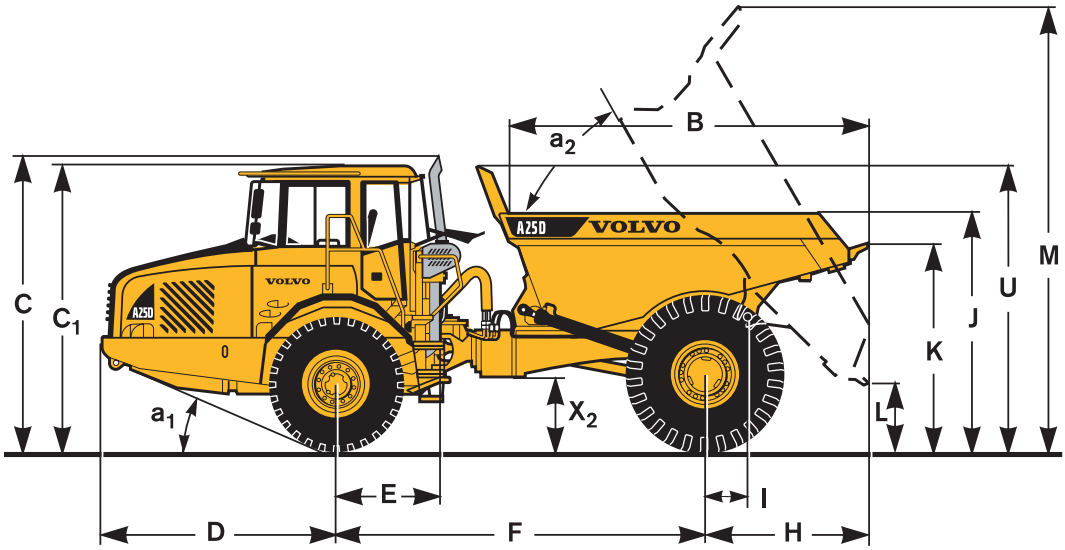
Dump cylinders: Two single-stage double-acting cylinders.

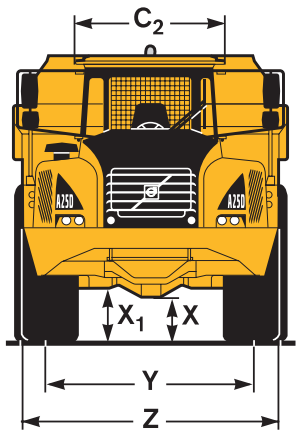
Dumping angle..... 59°
Dumping time with load..... 7 s
Lowering time..... 7 s

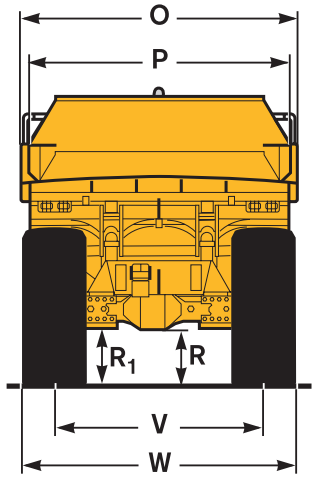
Specifications

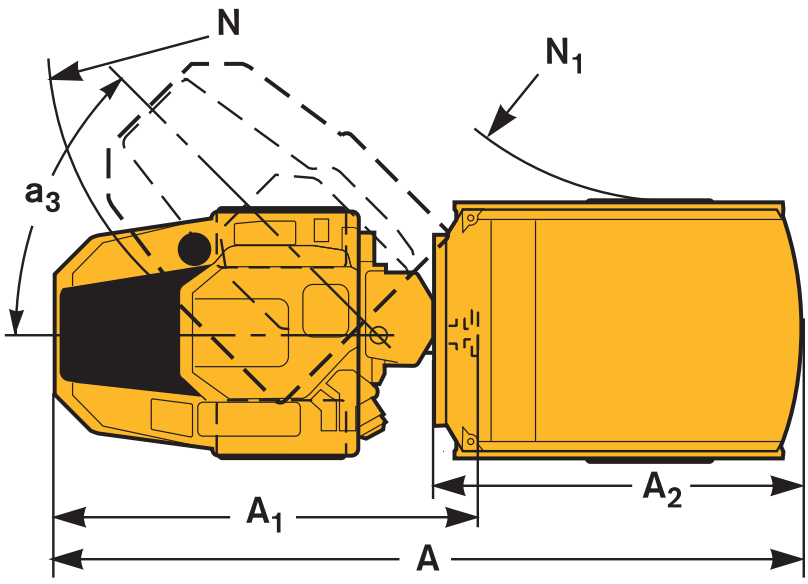
Pos	Metric	Imp.
A	8 939 mm	29'4"
A_1	4 954 mm	16'3"
A_2	4 558 mm	14'11"
B	4 219 mm	13'10"
C	3 470 mm	11'5"
C_1	3 332 mm	10'11"
C_2	1 768 mm	5'10"
D	2 766 mm	9'1"
E	1 210 mm	4'0"
F	4 254 mm	13'11"
H	1 919 mm	6'4"
I	495 mm	1'7"
J	2 794 mm	9'2"
K	2 416 mm	7'11"
L	773 mm	2'6"
M	5 176 mm	17'0"
N	7 092 mm	23'3"
N_1	3 197 mm	10'6"
O	3 130 mm	10'3"
P	2 930 mm	9'7"
R	637 mm	2'1"
R_1	664 mm	2'2"
U	3 317 mm	10'11"
V	2 374 mm	7'9"
W	3 117 mm	10'3"
X	461 mm	1'6"
X_1	585 mm	1'11"
X_2	886 mm	2'11"
Y	2 258 mm	7'5"
Z	2 859 mm	9'5"
a_1	23.1°	23.1°
a_2	59°	59°
a_3	45°	45°

Unloaded machine with 23.5R25 / 29.5R25 tires)









STANDARD EQUIPMENT

Safety
ROPS/ FOPS protected cab
Service platform for ease of service
Anti-slip material on hood and fenders
Hazard lights
Horn
Protective grille for rear window
Rearview mirrors
Retractable 3-inch safety belt
Secondary steering
Steering joint locking assembly
Dump body lock
Windshield wipers with interval function
Windshield washers

Comfort
Tilt/telescopic steering wheel
Cab heater with filtered fresh air and defroster
Overhead console for radio and storage
Sun visor
Tinted glass
Can holder /storage tray
Cigarette lighter
Ashtray
Space for lunch cooler
Storage box
Air suspended, electrically-heated operator's seat
Instructor seat with safety belt
Air conditioning
Radio

Engine
Direct injected, electronically-controlled
Turbocharged, intercooled
Remote oil drain plug
Remote oil filters, for ease of access
Preheater for easier cold starts
Exhaust retarder

Electrical system
55 A alternator
Battery disconnect switch
Extra 24 V socket for lunch cooler
Back-up alarm
Lights:
- Headlights
- Parking lights
- Direction indicators
- Rear lights
- Back-up
- Brake lights
- Cab lighting
- Instrument lighting

Operator information interface
Gauges:
- Speedometer
- Tachometer
- Brake pressure
- Fuel
- Transmission oil temperature

Pilot lights for all switches
Warning lights grouped and easy-to-read
Central warning (3 levels) for all vital functions

Centrally positioned information display:
- Automatic pre-start checks
- Operation information, easy-to-use menu
- Troubleshooting diagnostics
- Hour meter
- Clock
- Machine settings

Drivetrain
Automatic transmission
Torque converter with automatic lock-up
Dropbox, single-stage
Hydraulic variable retarder
100% longitudinal differential lock
100% differential locks in all axles

Brakes
Air-hydraulic disc brakes
Two circuit brake system
Parking brake on prop shaft

Body
Body prepared for exhaust heating
Load and Dump Brake

Tires
Front: 23.5R25, Rear: 29.5R25

Other
Air drier
Electrical hood opening

OPTIONAL EQUIPMENT
(Standard on certain markets)

Safety
Fire-extinguisher and first aid kit

Service and maintenance
Tool kit with tire inflation unit

Engine
Heavy-duty air cleaner
Electric engine heater (120V or 240V)
External emergency engine stop
Delayed engine stop
High engine idle speed

Electrical
Work lights, roof-mounted
Work lights, rear-facing, fender-mounted
Rotating beacon, collapsible mount
Rear vision system (monochrome or color)
Anti-theft system (prevents engine start)
Alternator, heavy-duty 80 A

Cab
Electrically-heated rearview mirrors
Cable kit for cab heater (120V or 240V)

Body
Body exhaust heating kit
Wear plates

External
Wheel blocks
Additional front bumper (rubber)

Other
Turn-around system, a width of only 9.5 m (31 ft) is needed to turn the machine
Synthetic hydraulic oil (biologically degradable)
Arctic oil kit
Toolbox

Technology on Human Terms

The Volvo Construction Equipment is one of the world's leading manufacturers of construction machines, with a product range encompassing wheel loaders, excavators, articulated haulers, motor graders, and compact equipment.

The tasks they face vary considerably, but they all share one vital feature: technology that helps man perform better, safely, efficiently, and with care of the environment. We refer to it as Technology on Human Terms.

The sheer width of the product range means it is always possible to choose exactly the right machine and attachment for the job. Each machine also comes with the quality, continuity, and security which is represented by the Volvo name. The security of the service and parts organization; the security of always having immediate access to leading-edge research and technical development are part of the Volvo name. A machine from Volvo meets the highest demands in all kinds of jobs, under all conditions, the world over.

Volvo Construction Equipment develops, manufactures, and markets construction equipment. We are a Volvo company with production facilities on four continents and a market presence in over 100 countries.

VOLVO

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