

V O L V O



Volvo Articulated Haulers 42.0t 57 km/h 496 hp

A45

Volvo Construction Equipment

A45

With a new 42-tonne payload and proven best-in-class off-road performance, get ready more productivity than ever more in the A45.



More productive than ever

Featuring a new Volvo drivetrain and 92,594-Pounds payload, the Volvo A45 is engineered for unrivalled off-road performance, operator comfort and maximum uptime. Combine this with features such as intuitive operator interface, superior visibility, and exceptional durability, and you can count on the A45 to deliver enhanced productivity, profitability, and reliability to your operation.



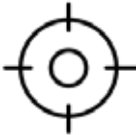
Intuitive in-cab interface

- All essential in-cab information conveniently displayed on just two screens
- Interactive, integrated Volvo Co-Pilot display
- Dynamic instrument cluster in-front of steering wheel



A new level in operator comfort

- Easy access/egress
- Direct field of vision which exceeds industry standards
- Lighting and cameras
- Enhanced storage options
- Easy cleaning
- Range of suspension configurations



Unbeatable off-road performance

- Volvo Automatic Traction control (ATC) with Terrain Memory
- Automatic drive combinations including 6x6 and 6x4
- All-terrain bogie
- Hydro-mechanical steering
- Downhill speed control
- Dynamic and predictive gear selection
- Superior tipping stability



Haulers and beyond

- Haul Assist with On-Board Weighing
- Connected Map and Performance Indicator
- Future proofed software architecture
- Connected to Uptime
- Operator Training Program
- Service contracts
- Optimal pass-matching with Volvo loading tools



5% reduction in service costs

- 250-hour greasing intervals
- 1000-hour engine service intervals
- Industry leading service access
- Remote monitoring and service alerts
- Enhanced electrical service center



42-tonne payload

- New Volvo drivetrain
- Reinforced axles

Intuitive operator interface

Operators can stay in-the-know and focussed on the task at hand thanks to all essential in-cab information conveniently displayed on just two screens. The interactive, integrated Volvo Co-Pilot display offers easy control over essential functions like radio, camera settings, climate control, and machine status. This is combined with the dynamic instrument cluster, positioned in front of the steering wheel, which provides essential vehicle data at a glance.

New Volvo Drivetrain

The new Volvo drivetrain means Volvo DNA runs throughout the entire machine. The result is more fuel efficiency, more productivity and Volvo-renowned quality and reliability. The intelligent Terrain Memory function identifies and remembers slippery road segments to ensure optimized traction control and outstanding off-road mobility.

Enhanced visibility

Visibility is key to a safe, efficient and productive working day and thanks to the redesigned cab panels and wider wiper coverage, operators benefit from a direct field of vision which exceeds industry standards. Work lights activated via the integrated Volvo Co-Pilot are now located on the pillar, providing increased illumination to further optimize visibility.

Haul Assist with On-Board Weighing

Haul Assist, powered by the integrated Volvo Co-Pilot, is a set of tools designed to help you get even more productivity and efficiency from your Volvo Articulated Hauler. A key feature of Haul Assist is On-Board Weighing, which provides real-time payload information which can help to eliminate carry-back and overloading. The result is peak productivity, reduced fuel consumption and less machine wear.

42-tonne payload

Make your operation more productive than ever before with a new 42-tonne payload. The new Volvo transmission and reinforced axles take the already outstanding levels of productivity you expect from a Volvo articulated hauler to new heights.



5% reduction in service costs

Reduce service costs by up to 5% over 12 000-hours of operation thanks to simplified servicing, longer change intervals and easy component access. Benefit from industry leading greasing intervals of 250 hours for maximum uptime, along with Volvo Engine Oil and High Performance Filters which offer 1 000 hour engine service intervals.

Unbeatable off-road performance

The A45 delivers unbeatable off-road performance in its class with features including the proven Volvo drivetrain, automatic drive combinations (including 100% differential locks), all-terrain bogie and hydro-mechanical steering for unmatched traction, stability and precision control. With Volvo Dynamic Drive, dynamic and predictive gear selection adapts to the operating conditions at hand, for improved comfort and fuel efficiency.



Volvo A45 in detail

Engine

V-ACT, 16 liter, 6-cylinder straight VGT (Variable Geometry Turbocharged) diesel engine with 4 valves per cylinder, overhead camshaft and electronically controlled unit injectors. It has wet replaceable cylinder liners and replaceable valve guides and valve seats. The engine has cooled EGR (Exhaust Gas Recirculation) and exhaust after treatment with EAT-Muffler (Exhaust After treatment) including DOC (Diesel Oxidation Catalyst), DPF (Diesel Particulate Filter) and SCR (Selective Catalytic Reduction) with an electronically controlled UDS (Urea Dosing System). After treatment system features passive DPF regeneration with an AHI (After treatment Hydro carbon Injection) device as back up.

| | | |
|------------------------------|-----------------|-------|
| Engine model | Volvo | D 16J |
| Max power - SAE J1995 Gross | kW | 365 |
| | hp | 496 |
| at engine speed | r/min | 1 900 |
| Max torque - SAE J1995 Gross | Nm | 2 600 |
| | at engine speed | r/min |
| Displacement | l | 16.1 |

Electrical system

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

| | | |
|------------------|------|-------------|
| Voltage | V | 24 |
| Battery | V | 2 x 12 |
| Battery capacity | Ah | 2 x 225 |
| Alternator | kW/A | 3.396 / 120 |
| Starter motor | kW | 9 |

Drivetrain

Torque converter with built-in lock-up function.
Transmission: Fully automatic Volvo PowerTronic planetary transmission with nine forward gears and three reverse gears. The transmission has the ability to skip gears for fast and accurate gear selection.
Dropbox: Volvo-developed, in-line design with high ground clearance and 100% longitudinal "dog clutch" type differential lock.
Axles: Heavy duty, purpose built Volvo design with fully floating axle shafts, planetary type hub reductions and 100% dog clutch type diff-lock. Automatic traction control system (ATC).

| | | |
|------------------|-------|-------------|
| Torque converter | | 2.1:1 |
| Transmission | Volvo | PT 3209 |
| Dropbox | Volvo | IL2 ATC |
| Axles | Volvo | ARB50/45/50 |

Brake system

Fully hydraulic, wet multiple disc brakes with enclosed, forced oil-cooled discs on all wheels. Two circuit brake system. Complies with ISO 3450 at total machine weight.

Circuit division: One circuit for front axle and one for bogie axles.

Parking brake: Spring-applied disc brake acting on the trailer unit propeller shaft. When the parking brake is applied, the longitudinal differential locked.

Retarder: Service brake retarder function and Volvo Engine Brake (VEB).

Steering System

Hydro-mechanical articulated steering, self compensating design. Two double-acting steering cylinders.

Steering angle: 3,4 steering wheel turns lock-to-lock, $\pm 45^\circ$.

Steering system: including secondary steering fulfills ISO 5010.

Chassis

Frames: box type, heavy duty. High strength steel, robot welded.

Rotating hitch: 100% maintenance free, fully sealed, with permanently greased tapered roller bearings

Cab

Mounted on rubber pads. Ergonomically designed. Unobstructed wide angle forward view. Operator centrally positioned above the front axle. ergonomically positioned controls.

Electronic controlled climate unit with automatic controlled temperature and functionality with high thermal comfort and clean air.

The controls, switches, and instruments in the cab of the hauler machine are designed with a strong focus on ergonomics and the appropriateness of information content for the operator. These elements are strategically placed to provide operators with intuitive access to critical functions while minimizing distractions. Ergonomics play a pivotal role in the design, ensuring that controls are within easy reach and that their layout minimizes operator fatigue during long shifts. The primary 8" display, positioned directly in front of the operator, serves as a central hub for monitoring vital machine functions, displaying information in a clear and organized manner. The 12" secondary display complements this by enhancing situational awareness. The information presented on these displays is carefully curated to deliver the most pertinent data, alerts, and notifications, enabling operators to make informed decisions swiftly and accurately.

Safety: ROPS/FOPS standards approved according to ISO3471, SAE J1040 / ISO3449, SAE J231.

| | | |
|---|----|-----|
| Sound level in cab (ISO 6396) - L _{PA} | dB | 72 |
| External sound level (ISO 6395) - L _{WA} | dB | 112 |

Internal sound level with sound kit: 70 dB(A)

External sound level with sound kit: 110 dB(A)



Hydraulic system

Four variable displacement piston pumps driven by the flywheel PTO. Two load-sensing used for steering and tipping and two electrical controlled used for fan, brake cooling and brake power supply. One ground-dependent piston pump for secondary steering mounted on the dropbox. Two return oil filters with magnetic cores provide effective oil filtration

| | | |
|-----------------------------|-----|----|
| System max working pressure | MPa | 28 |
|-----------------------------|-----|----|

Dumping System

Patented Load and Dump Brake.

Dumping Cylinders: two single stage double acting cylinders.

| | | |
|------------------------|---|----|
| Tipping angle | ° | 69 |
| Tipping time with load | s | 12 |
| Lowering time | s | 10 |

Body

Plate thickness

| | | |
|------------------|-------------------|-------|
| Front | mm | 8 |
| Sides | mm | 11 |
| Bottom | mm | 14 |
| Chute | mm | 16 |
| Material | HB450 steel | |
| Yield strength | N/mm ² | 1 150 |
| Tensile strength | N/mm ² | 1 350 |

Load Capacity

Standard Body

| | | |
|------------------|----------------|--------|
| Load capacity | kg | 42 000 |
| Body, struck | m ³ | 20.3 |
| Body, heaped 2:1 | m ³ | 25.5 |

With overhung tailgate

| | | |
|------------------|----------------|------|
| Body, struck | m ³ | 20.9 |
| Body, heaped 2:1 | m ³ | 26.7 |

Suspension

Front suspension: Three point suspension consisting of a-stay fitted to the frame structure by a spherical rubber bushing, shock absorbers with accumulators and cross stays.

Rear suspension: 3-point bogie beam suspension consisting of a straddle-mounted bogie beam with maintenance free rubber bearings, flexible rubber pads, cross stays and a-stay



Specifications

REFILL CAPACITIES

| | | A45J |
|----------------------|---|-------|
| Crankcase | l | 54 |
| Fuel tank | l | 563 |
| Cooling system | l | 55 |
| Brake cooling system | l | 133 |
| Transmission | l | 50 |
| Dropbox | l | 9 |
| Axles, front/bogie | l | 26/53 |
| Hydraulic tank | l | 199 |
| DEF/AdBlue® | l | 53 |

®registered trademark of the Verband der Automobilindustrie e.V. (VDA)

SPEED

| | | A45J |
|----------------|------|------|
| Forward | | |
| 1 | km/h | 6.2 |
| 2 | km/h | 8.6 |
| 3 | km/h | 12.5 |
| 4 | km/h | 17.0 |
| 5 | km/h | 21.5 |
| 6 | km/h | 26.7 |
| 7 | km/h | 36.0 |
| 8 | km/h | 46.4 |
| 9 | km/h | 57.0 |
| Reverse | | |
| 1 | km/h | 6.0 |
| 2 | km/h | 8.2 |
| 3 | km/h | 16.3 |

OPERATING WEIGHT UNLOADED

| | | A45J |
|--------------|-----------|-----------------|
| Tires | | 29.5R25* |
| Front | kg | 17 910 |
| Rear | kg | 14 390 |
| Total | kg | 32 300 |
| Payload | kg | 42 000 |

Operating weight includes all fluids and operator

*) A45J with tires 875/65R29, add 300 kg /axle

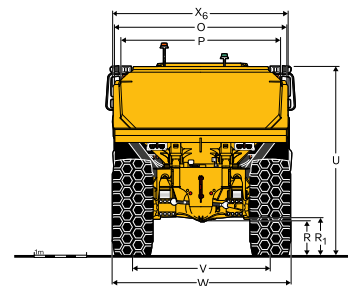
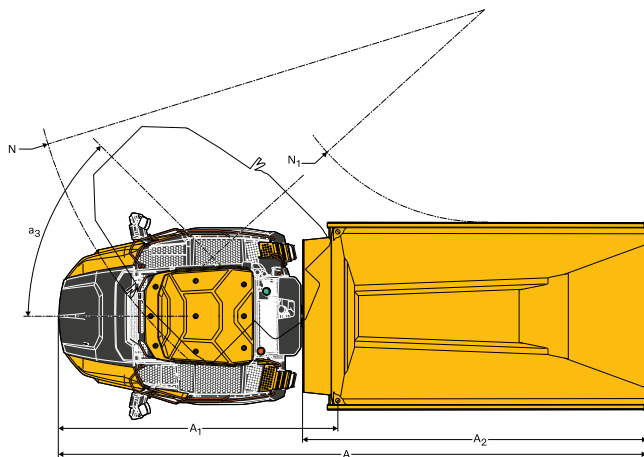
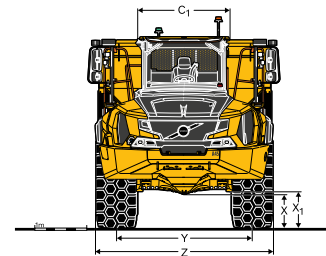
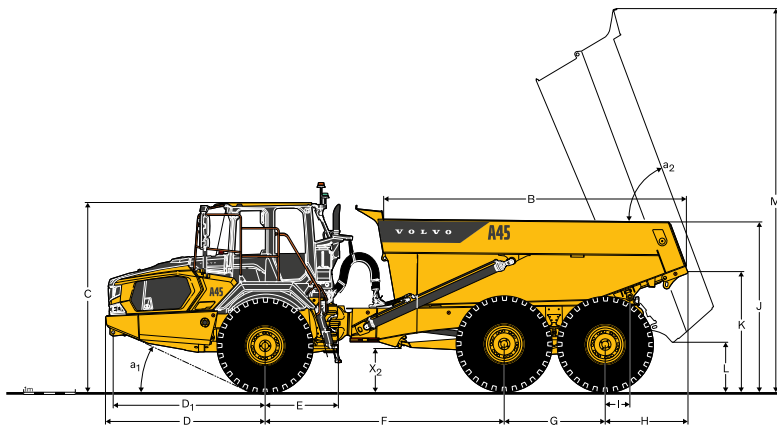
TOTAL WEIGHT

| | | A45J |
|--------------|-----------|-----------------|
| Tires | | 29.5R25* |
| Front | kg | 22 920 |
| Rear | kg | 51 370 |
| Total | kg | 74 290 |

*) A45J with tires 875/65R29, add 300 kg /axle

GROUND PRESSURE

| | | A45J | |
|-----------------|-----|----------------|------------------|
| Tires | | 29.5R25 | 875/65R29 |
| Unloaded | | | |
| Front | kPa | 128 | 107 |
| Rear | kPa | 51 | 44 |
| Loaded | | | |
| Front | kPa | 164 | 137 |
| Rear | kPa | 183 | 153 |



DIMENSIONS

| Pos | Unit | A45J |
|----------------|------|--------|
| A | mm | 11 261 |
| A ₁ | mm | 5 459 |
| A ₂ | mm | 6 418 |
| B | mm | 5 861 |
| C | mm | 3 626 |
| C ₁ | mm | 1 819 |
| D | mm | 3 084 |
| D ₁ | mm | 2 941 |
| E | mm | 1 277 |
| F | mm | 4 628 |
| G | mm | 1 940 |
| H | mm | 1 609 |
| I | mm | 494 |
| J | mm | 3 272 |
| K | mm | 2 434 |
| L | mm | 951 |
| M | mm | 7 400 |
| N | mm | 9 144 |
| N ₁ | mm | 4 429 |
| O | mm | 3 324 |

DIMENSIONS

| Pos | Unit | A45J |
|----------------|------|-------|
| P | mm | 3 118 |
| Q | mm | 2 820 |
| R | mm | 652 |
| R ₁ | mm | 744 |
| S | mm | 2 651 |
| T | mm | 3 458 |
| U | mm | 3 574 |
| V | mm | 2 636 |
| W | mm | 3 401 |
| X | mm | 579 |
| X ₁ | mm | 671 |
| X ₂ | mm | 818 |
| Y | mm | 2 636 |
| Z | mm | 3 400 |
| a ₁ | ° | 25,3 |
| a ₂ | ° | 69 |
| a ₃ | ° | 45 |

A45J: Unloaded machine with 29.5R25 tires.

Equipment

STANDARD EQUIPMENT

Cab/Operator environment

Operator seat with head restraint (air suspended and heated)

Electronic Climate Control

Cup holder / storage tray

Cell phone holder

Instructor seat with seat belt

Overhead console for CC Radio, Tachograph, etc.

Air suspended / heated operator seat

Sliding window

Cooled / Heated storage box

Front sun visor

Tilt/telescopic steering wheel

Loud speakers (4)

Dynamic instrument cluster and integrated Co-Pilot

Automatic pre-start checks

Troubleshooting diagnostics

Engine

Preheater for easier cold starts

VEB (exhaust retarder EPG + compression brake)

Wheels and tires

29.5R25

Electric powertrain

6x4 and 6x6 Automatic Traction Control (ATC)

Dog clutch type 100% diff-locks in all axles

Cruise Control

Dropbox with longitudinal diff-lock

Torque converter with automatic lock-up in all gears

Electrical system

Battery disconnect switch

Electrical Interface

Charging studs

Power outlets

USB-C 2.0 (2)

USB-A 3.0 (1)

24V (2)

Exterior and Interior lights (all LED)

Brake system

Two circuit, fully hydraulic, wet discs on all axles (externally cooled)

Down Hill Speed Control

Hill assist

Load & Dump Brake

Retarder pedal

Parking brake on propeller shaft

STANDARD EQUIPMENT

Dumping System

Body prepared for exhaust heating and optional equipment

Safety

Anti-slip steps and platforms with handrails

Dump body lock

Steering joint lock

Harness anchor points

Rear-view mirrors

Retractable 3-inch 2-point safety belt

ROPS / FOPS protected Care Cab

Secondary steering

Dump support system

Positioning indicators (front and rear)

Entrance camera

Service and Maintenance

Grouped service points and filters

Electrical fuel priming pump

Prepared for fast fueling equipment

Ambient and service lights (LED)

Electrical engine hood

Belly plate with integrated service hatches

Drainage hoses

Tool box

Front service ladder

OPTIONAL EQUIPMENT

Engine

Air filter, heavy duty

Engine heater, electric

Engine heater, diesel

Engine shutdown timer

External emergency engine stop

Operator Environment

Noise reduction kit (fulfils 2000/14/EC)

Anchorage, operator's manual

Cab heating / ventilation timer

Cable kit, for cab heater

Cab air filter (Asbestos dust protection)

Cab air filter (Carbon)

Rear view mirrors, adjustable, el.heated

Sun blinds, side windows

Universal key

Premium operator seat with head restraint (air suspended, cooled / heated), 2-point belt

Premium operator seat with head restraint (air suspended, cooled / heated), 3-point belt

Armrest for operator seat

Hands-free microphone

Radio AM / FM / DAB

Wheels and tires

875/65R29

Drivetrain

Long haul kit, dropbox cooling

Speed limiter (25/30 km/h)

Electrical system

Warning beacon, LED

Seatbelt indicator, external

Working lights front and rear, LED

Rear view camera

Front view camera

Reverse alarm

PDS interface, Safemine

Tire Pressure Monitoring System

OPTIONAL EQUIPMENT

Suspension

Rubber front suspension

Hydraulic front suspension

Dumping System

Body exhaust heating

Front spillguard, extra

Side extension, 200 mm

Side extension, 400 mm

Side extension, light material

Tailgate, overhung, wire-operated

Tailgate, overhung, linkage-operated

Tailgate, underhung

Wear plates, 450 HB

Wear plates heavy duty, 450 HB

Safety and security

Fire suppression system

Warning triangle

First aid kit and fire extinguisher

Fire extinguisher, external

Wheel chocks

Service and maintenance

Auto Lube system

Centralized greasing

Tool kit

Other

Arctic oil kit

Fast fuelling system

Jump start connector, ISO-type

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