

# **VOLVO ARTICULATED HAULERS**

**A25D, A30D, A35D, A40D**



**VOLVO**

# Volvo haulers – for higher productivity

Everyday, our haulers prove their power, flexibility and operational reliability on work sites all over the world. Now, we've developed the new generation of articulated haulers. The D-series, with increased payload and body capacities, can haul bigger loads, and faster – at a lower cost. Regardless of terrain and ground conditions. Volvo haulers are designed to ensure effectiveness through high availability – making your operation even more efficient.

The objective of Volvo's machine development is to boost your productivity. That's why we have developed our haulers even further and equipped them with new features that improve the efficiency of your operation. The comfortable operator environment is based on a proven cab design concept and suspension. In combination with new engines and transmission, it allows you to operate at higher average speeds. Our new patented Load & Dump brake and faster dumping hydraulics are just a couple of examples of how we've stepped up the pace and work capacity on loading and dumping sites.

## **Higher load capacity**

Haul even bigger loads. The dump body holds a bigger volume, and load capacity has been increased.

## **Safe downhill operation**

Easy to maintain speed downhill. The user-friendly retardation system facilitates control of the machine regardless of the terrain.

## **Increased rimpull**

Faster uphill operation. Shifting is automatic, and the operator simply selects the most suitable drive combination.

## **Faster dumping**

Gain time at the dumping site. The steering system makes it easy to position the hauler with great accuracy. The dumping system and the Load & Dump brake provide ease of operation, stability and effectiveness.

## **Optimized workenvironment**

Keeps the operator going on long shifts. Good operator comfort means high productivity.

## **Excellent off-road performance**

Takes you anywhere. Volvo haulers feature superior off-road characteristics.

## **Higher availability**

For maximized uptime. Volvo haulers offer high availability. Service needs have been minimized.





# Volvo haulers – for lower operating costs

All main components for our haulers are developed in-house by Volvo, for example, the drivetrain, frame, cab, electronics and software. This generates results: higher productivity, higher reliability and service friendliness. That's how we've been able to reduce the already low operating costs even more.

## Better serviceability

Less downtime for service. The hauler concept is designed for optimal serviceability and access.

## Minimized maintenance

Extended service interval times. Fewer oil and filter changes give higher availability, lower operating costs and reduced environmental impact. Automatic level checks and fewer lube points for more uptime.

## Flexible operating modes

Minimizes drivetrain and tire wear. Various drive combinations give you flexibility: 6x4 drive on good ground conditions results in less tire wear and lower fuel consumption. 100% differential locks on all axles when operating off-road. Operator selectable on the move.

## Long lasting value

Maintain a high resale value. Long-life components assure fewer repairs and a high second-hand value.

## Fuel efficient

Save all the way. Volvo haulers have low fuel consumption – in fact, the industry's lowest per hauled ton.





# Volvo haulers

## – for a high level of safety

Volvo haulers have excellent maneuverability, powerful steering and reliable brakes. Productivity increases, just like safety – in all stages of your operation. The D-series features Volvo's frontrunner technology, automatically giving you overall peace of mind.

### Improved access for service

Ease of servicing. Required maintenance work is reduced. Level checks are handled by the information system. Slip resistant surfaces and handrails provide easy and safe access to move around on the machine.

### Enhanced visibility

Minimize blind spots. Volvo haulers are designed for good visibility around the machine.

### Automatic emergency brake

Ensure secondary braking readiness. The automatic emergency brake function helps provide for hauler safety.

### Intelligent communication system

The operator's communication system warns the operator if, for example, the dump body is up and also indicates that the seat belt is unbuckled or the door is open.

### Meet environmental requirements

Invest for the future. Volvo haulers fulfill current governing legislation with regards to emissions, external noise level and recycling.

### Reduced waste

Reduce the amount of waste oil. Extended service intervals and fewer oil changes save limited resources.

### Recycling

Prepared for recycling – from the beginning. The haulers are developed for recycling of components and oil.

### Cleaner air

Save fuel. New engine with the industry's lowest fuel consumption per hauled ton. Electronic engine controls help provide for lower emissions.





# Operator environment and comfort – for a more effective work environment

## Volvo haulers offer a world-class operator's environment.

The foundation is the ergonomically designed cab with low sound levels, as well as the proven and simple yet comfortable front suspension. Rough operating conditions do not affect the operator's concentration and have no effect on the operator's performance during long shifts. Steering and braking have good reactions to the operator, similar to the steering feel of a truck.

## Passive safety

The new, well-designed cab is an award winner. It is built using high-strength steel and meets ROPS/FOPS standards. Operator awareness is enhanced with features such as indication of raised dump body, unbuckled seat belt and open door.

The instructor's seat is located so that the instructor has access to important controls (within easy reach).

The operator's position is high for optimal visibility, yet protected by the front plate of the dump body.

## Active safety

Volvo's self-compensating, hydro-mechanical steering system gives an accurate feel for the road – similar to the steering feel of a truck.

The steering is stable at high speeds and powerful when operating in off-road conditions. The heavy-duty design of the system ensures consistent steering performance for the entire life of the machine.

These features make the Volvo steering system superior to all other systems on the market.

The rounded and sloped hood improves visibility for the operator.

## Great cab to work in

It's easy to access the cab. Correctly sized and positioned cab steps and a wide door opening without a threshold. The cab is sound-insulated, spacious and pleasant with a well-designed, modern and practical interior.

The cab features a centrally located operator's seat and large glass areas. In combination with well-placed cab pillars and large rear-view mirrors, it offers exceptional visibility all around the machine. Excellent visibility means less operator fatigue, higher productivity and a safe work area.

Well-placed and user-friendly controls, ergonomic operator's seat, tilt-telescopic steering wheel and an effective climate control system all contribute to maintaining high operator efficiency and long-term high productivity.

## Clear information

The user-friendly operator's communication system provides simple and easy-to-understand information. The system registers and saves operating information during the work cycle. All information is displayed in order of importance. The reliable communication system helps to make maximum production possible, even in severe operating conditions.

## Practical interior

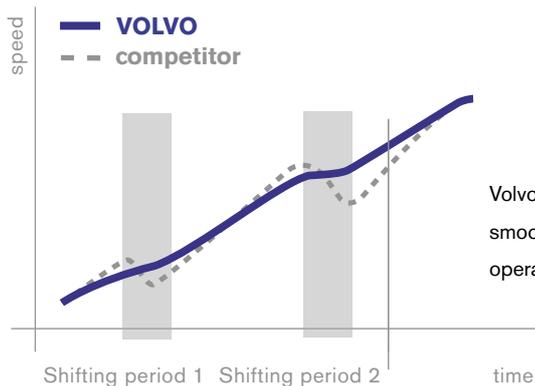
The cab's interior is characterized by excellent practical and ergonomic solutions, and it's easy to keep clean.

When lowered, the instructor's seat becomes a table, next to a convenient 24 volt outlet. There is plenty of storage space for a lunchbox or cooler. To keep the floor clear, the hauler is equipped with several storage compartments, inside and outside the cab.

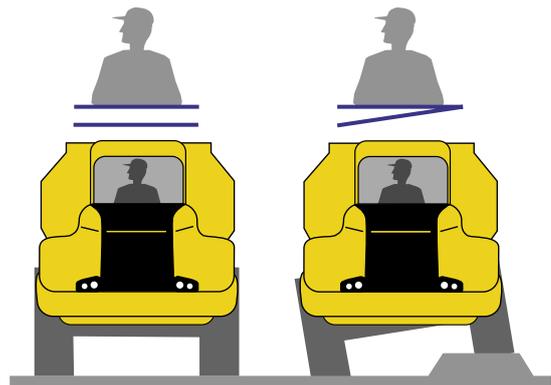
## Optional equipment

If you want to enhance the operator's environment further, there is a wide range of optional equipment, from sun visors and air conditioning to a rear vision system.

## Comfort when shifting



The three-point suspension allows the operator to sit straight and comfortably, even when operating over rough ground and uneven surfaces.





# Drivetrain

## – well-matched for maximum performance

Volvo's articulated haulers are equipped with a well-matched drivetrain for optimal use of engine power, torque and rimpull. Correctly matched and Volvo-designed drivetrain components, specifically developed for hauler applications, provide outstanding performance, high productivity, low fuel consumption and ensure long machine life. With Volvo's haulers, you can set the benchmark for the highest average speeds on a wide range of work sites and applications. Our proven hauler transmission is unique. It's developed and purpose-built to give maximum performance.

### Electronic engine control

Volvo haulers are equipped with turbo-charged high-performance low-emission diesel engines, featuring electronically controlled injection and intercooler. Cooling is thermostat controlled, with a variable speed fan that only runs when there's a cooling demand, which means optimal use of power and lower fuel consumption.

The engine is electronically controlled by the machine's advanced electronic system. Downtime for service is minimized and uptime is maximized for high productivity.

### Optimal shifting quality

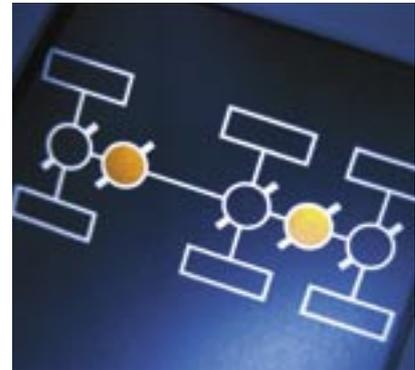
Volvo's automatic planetary transmission, Powertronic, gives high shifting quality. The transmission has

been designed so that shifting takes place at the right time to optimize rimpull and fuel economy and to extend drivetrain life. The dropbox is also optimized for the hauler concept, giving high ground clearance under the hitch. Transmission cooling is controlled by need.

### Power – when and where it's needed

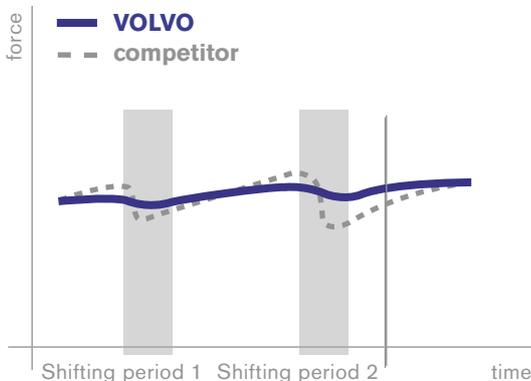
Volvo's haulers offer superior flexibility. On good haul roads, you can select 6x4 drive, which reduces tire wear and fuel consumption since fewer drive components are engaged. Only Volvo gives operators the option of selecting 6x4 drive.

When operating in rough conditions, you can select 6x6 drive – and 100% differential locks on one or all



axes. Volvo's drive combinations and 100% differential locks have been field-proven for years and are extremely reliable. The operator can engage and disengage different drive combinations on the move. This is a distinct and important advantage, especially when ground conditions change, as they often do, between the haul road and the dumping site. We also equip our haulers with various tire options for different applications.

### Rimpull when shifting



The electronically controlled transmission allows the Volvo haulers to maintain high and constant speed during shifting.





# Brakes and retarder

## – increase productivity and reduce costs

Volvo haulers have service brakes on all wheels, and are not dependent on drivetrain components during braking. A40D is equipped with fully sealed, oil-cooled wet disc brakes, while the other hauler models are equipped with dry disc brakes. Fully sealed wet brakes are available as optional equipment for the A35D. The brake system has two separate circuits. If the pressure in both circuits should fail at the same time, the automatic emergency brake function is activated through application of the parking brake.

### User-friendly retardation system

All Volvo haulers have a hydraulic retarder integrated in the transmission.

The retarder's quick response and good sustained braking action makes it easier for the operator to run the hauler with optimum average speed throughout the cycle, at the same time reducing wear on the service brakes.

The foot-operated system is a user-friendly and effective alternative, allowing the operator to keep both hands on the steering wheel.

In the A35D and A40D, the retarder works together with a Volvo-patented engine brake: VEB (Volvo Engine Brake). The A25D and A30D are equipped with an exhaust retarder.

### Unique Load & Dump brake

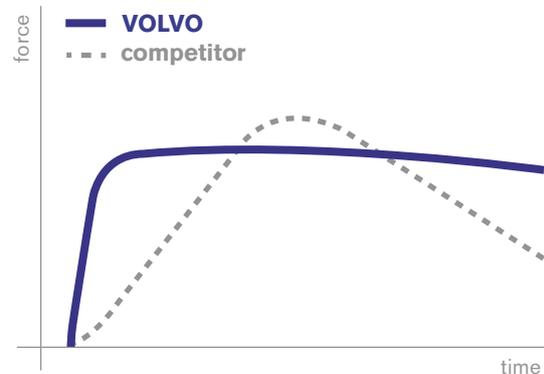
The new generation of Volvo's articulated haulers feature the new and

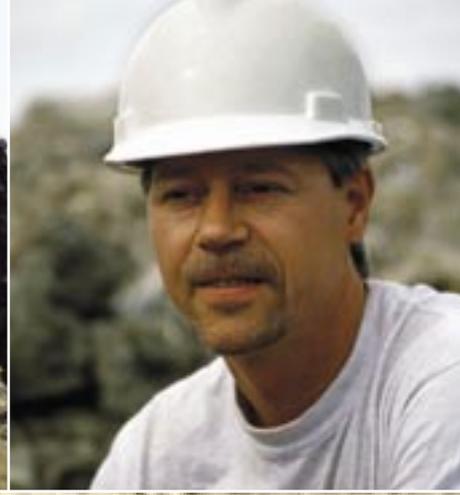
Volvo-patented load and dump brake. With a simple press of a button, the transmission is shifted to neutral and all load unit service brakes are activated.

The brakes are released automatically when the gearshift control lever is moved past the neutral position once again.



**Braking force with retardation system**





# Frames and suspension – Ensure superior stability and maneuverability

The steering, drivetrain, frame components and the machine's centers of gravity are designed to work together. The combination allows our haulers to operate with high stability and control at high average speeds, even on long and difficult haul routes. The high ground clearance, the robust steel construction of the underbody and skid plates, as well as excellent bogie movement mean that our haulers can handle the roughest and hardest-to-reach loading and dumping sites. The frame design of the previous hauler generation has been improved with bearings of new design that minimize or eliminate lubrication needs.



## Heavy-duty suspension

All axles have a maintenance-free three-point suspension. Three-point suspension makes it possible for each axle to move independently in rough operating conditions, which gives less stress on the frame, optimal ground contact and rimpull while the body remains level.

The well-functioning, reliable and proven design with rubber springs and shock absorbers provide very good operator comfort.

Volvo's proven bogie system, well-known for its reliability and long suspension stroke, is at work under the load unit. The bogie system is centered around a heavy-duty bogie member rubber bushing.

## Rugged frame

The underside of the machine has no fragile plastic parts or exposed joints. It's made of steel right through. All components are well-protected either above or in the frame construction.



The reliable three-point suspension consists of heavy duty components. A durable design that gives a comfortable smooth ride.



# Body and dump system – For faster dumping

The Volvo hauler's exceptional capacities for steering, maneuvering and mobility make it easy to get the hauler into the right position for loading. It's easy to load the body. Its shape promotes even distribution of the load regardless of loading tool. The load body is a rugged flat plate design made of impact-resistant high-strength steel. The front has a spill guard that effectively protects the frame joint components from material spills. The load body chute has the right length and angle to prevent spills, for example, when hauling uphill. The dumping system has all the needed power, even for dumping up a steep slope.

## High-efficiency dumping

When dumping, the shape of the load body promotes release of the load and ensures that it ejects far beyond the rear wheels. The machine's high ground clearance, high placement of the dump hinge and the shape of the load body make it possible to run the machine forward with the body up, without displacing the dumped material or contact with the dump edge when dumping over an edge. The need for dozers on the dumping site is minimized.

The new dumping hydraulics with higher pressure and greater oil flow have reduced dumping times. The two powerful double-acting hoist cylinders quickly lift and lower a full load with optimal control.

## Optional equipment

The load body can be adapted to different materials with optional equipment such as tailgates, body side extensions, body heating and extra front spill guard.





# Service and maintenance – For higher availability

The new haulers have stepped into the future, where the demand for minimized service and reduced service downtime is becoming more important. When you operate Volvo haulers, the daily service requirements are reduced by using monitored oil and fluid level checks as well as new advanced types of bearings. We have succeeded in reducing the service needs to a low level.

## Coordination advantages

At pace with the ever-increasing environmental requirements, electronics are making their way into the machines – and we've used that to the greatest extent.

By coordinating electronic development for the machines, we have attained several advantages: Volvo has one system, whereas others are forced to handle and maintain several different systems. Volvo's system can read off various machine data, which allows direct analyses of machine operation and quick diagnostics. Performance of Volvo haulers is optimized due to communication between components.

Since other Volvo CE products and Volvo trucks also use these systems, component coordination and experience are great advantages.

## Easy access for service – high serviceability

Volvo haulers feature new and practical solutions, like the easily accessed filters and better accessibility around the engine. These are just a couple of all the improvements we've introduced to make the Volvo D-series the world's most service-friendly hauler!

Required service points have good access, and servicing is easy from conveniently located service platforms or from the ground level. Slip-resistant material around the cab and handrails along the cab roof facilitate work, such as washing windshields and side windows.

## Spare parts and service contracts

Volvo is the frontrunner when it comes to worldwide service. One of

the great challenges we face is training mechanics and supporting them with an organization for quick distribution of spare parts.

At Volvo, we put considerable effort and work into coordinating components between the different machine types, all to minimize the amount of parts.

We also offer special tools as well as service and support contracts.





# The A25D – A30D in detail

## Service

The computerized information system monitors all 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 hoses and swing-out radiator for easy cleaning.

## Fill capacities

Crankcase.....	40 l
Fuel tank.....	400 l
Cooling system .....	115 l
Transmission total .....	41 l
Dropbox.....	8,5 l
Axles, front/ rear.....	33 l
First bogie axle .....	34 l
Hydraulic tank .....	175 l

## Engine

Volvo inline 6-cylinder, direct injected welectronically 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.

## A25D

Make, model.....	Volvo D9AAAE2*
Make, model .....	Volvo D9AABE2**
Max power at .....	35 r/s (2 100 r/min)
SAE J1995 Gross .....	224 kW (305 hp)
Flywheel power at .....	35 r/s (2 100 r/min)
SAE J1349 Net, DIN 6271***	223 kW (303 hp)
Max torque at .....	20 r/s (1 200 r/min)
SAE J1995 Gross .....	1 700 Nm
SAE J1349 Net, DIN 6271***	1 689 Nm
Displacement total .....	9,4 l

With fan operating at full speed, the flywheel power is 210 kW (285 hp) and maximum torque is 1 589 Nm which corresponds to DIN 70020.

## A30D

Make, model.....	Volvo D9AAAE2*
Make, model .....	Volvo D9AADE2**
Max power at .....	31,7 r/s (1 900 r/min)
SAE J1995 Gross .....	252 kW (343 hp)
Flywheel power at .....	31,7 r/s (1 900 r/min)
SAE J1349 Net, DIN 6271***	251 kW (341 hp)
Max torque at .....	20 r/s (1 200 r/min)
SAE J1995 Gross .....	1 700 Nm
SAE J1349 Net, DIN 6271***	1 689 Nm
Displacement total .....	9,4 l

With fan operating at full speed, the flywheel power is 238 kW (324 hp) and maximum torque is 1 589 Nm which corresponds to DIN 70020.

\*) Meets Europe (EU) step 2.

\*\*) Meets US (EPA) step 2, California (CARB) step 2 and Europe (EU) step 2.

\*\*\*) with fan at normal speed.



## 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 .....	2,24 kW (80 A)
Starter motor .....	7 kW (9,4 hp)

## Drivetrain

Volvo components, 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 three transverse with 100% lock-up function, operator selectable on the move.

**Configuration:** 6x4 or 6x6 drive, operator selectable on the move.

	A25D	A30D
Torque converter.....	2,37:1.....	2,37:1
Transmission, Volvo .....	PT 1562.....	PT 1562
Dropbox.....	IL 1.....	IL 1
Axles, Volvo .....	AH 56.....	AH 64

## Speed:

Forward	
1 .....	8 km/h
2 .....	12 km/h
3 .....	22 km/h
4 .....	31 km/h
5 .....	40 km/h
6 .....	53 km/h
Reverse	
1 .....	8 km/h
2 .....	13 km/h

## 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 bogie axles.

**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 transmission.

**Retarder:** Hydraulic, infinitely variable, integrated in transmission.

Total retarding capability including transmission retarder and exhaust retarder, see graph.

## Steering system

Hydromechanical 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.

**Supplementary steering:** Complies with ISO 5010 at total machine weight.

**Steering angle:** ±45°

## Suspension

Volvo's unique maintenance-free 3-point suspension system. The axles are 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.

**Bogie:** Volvo's unique terrain bogie permits long suspension travel and independent wheel movement, keeps the body level, retaining the load.

Weights			Ground Pressure				Load Capacity		
Operating weight includes all fluids and operator			At 15% sinkage of unloaded radius and specified weights.				Body volume according to SAE 2:1		
	A25D	A30D		A25D	A30D			A25D	A30D
Tires	23,5R25	750/65R25	Tires	23,5R25	750/65R25	23,5R25			
<b>Operating weight unloaded</b>			<b>Unloaded</b>			<b>Std. Body</b>			
Front	12 160 kg	12 500 kg	Front	123 kPa	101 kPa	127 kPa	Load capacity	24 000 kg	28 000 kg
Rear	9 400 kg	10 560 kg	Rear	48 kPa	43 kPa	54 kPa	Body, struck	11,7 m <sup>3</sup>	13,6 m <sup>3</sup>
Total	21 560 kg	23 060 kg	<b>Loaded</b>				Body, heaped	15,0 m <sup>3</sup>	17,5 m <sup>3</sup>
Payload	24 000 kg	28 000 kg	Front	144 kPa	121 kPa	152 kPa	<b>With underhung tailgate</b>		
<b>Total weight</b>			Rear	159 kPa	146 kPa	183 kPa	Body, struck	12,0 m <sup>3</sup>	13,8 m <sup>3</sup>
Front	14 140 kg	14 990 kg					Body, heaped	15,3 m <sup>3</sup>	18,0 m <sup>3</sup>
Rear	31 420 kg	36 070 kg					<b>With overhung tailgate</b>		
Total	45 560 kg	51 060 kg					Body, struck	12,1 m <sup>3</sup>	14,0 m <sup>3</sup>
							Body, heaped	15,6 m <sup>3</sup>	18,1 m <sup>3</sup>
							<b>With over and under hung tailgate</b>		
							Body, struck	12,1 m <sup>3</sup>	--
							Body, heaped	15,6 m <sup>3</sup>	--

### Cab

Volvo cab, ergonomically designed for high 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. 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 seat belt.

Sound level in cab, ISO 6396 74 dB (A)

### 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 fibreglass filter with magnetic core.

#### Pump capacity per pump:

Engine-dependent ..... 140 l/min  
 Ground-dependent ..... 142 l/min  
 at shaft speed ..... 52,5 r/s (3 150 r/min)  
 Working pressure ..... 25 MPa

### 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 ..... 8 mm  
 Sides ..... 12 mm  
 Bottom ..... 14 mm  
 Chute ..... 14 mm  
 Yield strength ..... 1000 N/mm<sup>2</sup>  
 Tensile strength ..... 1 250 N/mm<sup>2</sup>  
 Hardness ..... 400 HB

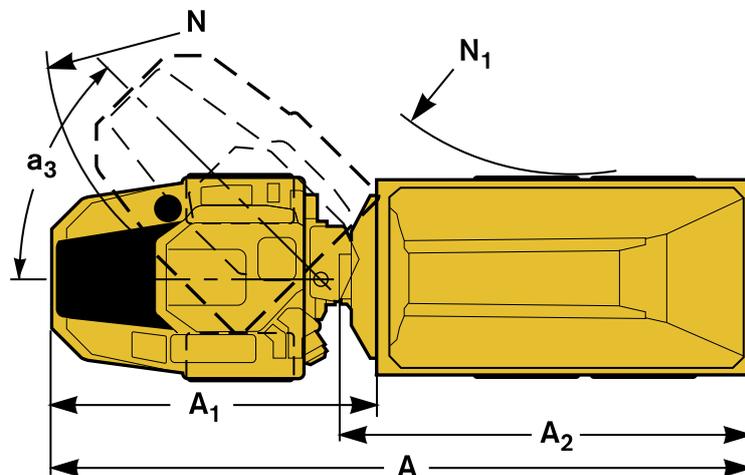
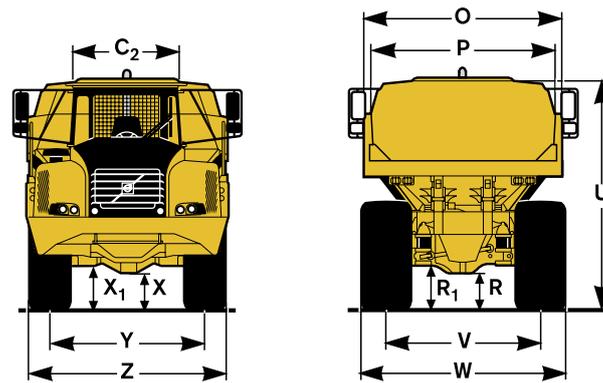
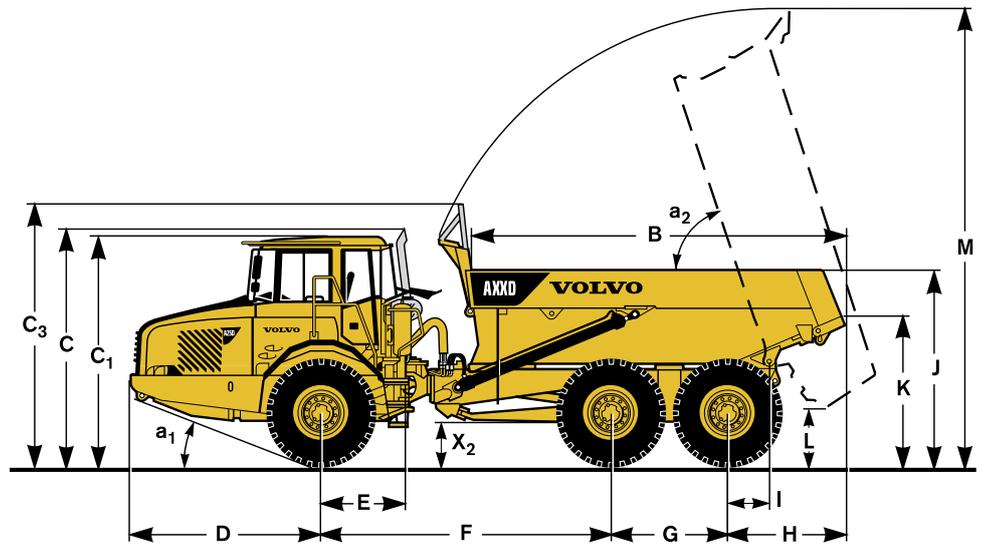
**Dumping Cylinders:** Two single stage double acting cylinders.

	A25D	A30D
Tipping angle.....	74°	70°
Tipping time with load.....	12 s	12 s
Lowering time.....	9 s	9 s

# Specifications A25D – A30D

Pos	Metric (mm)		Imperial (Feet)	
	A25D	A30D	A25D	A30D
A	10 220	10 297	33'6"	33'9"
A <sub>1</sub>	4 954	4 954	16'3"	16'3"
A <sub>2</sub>	5 764	6 002	18'11"	19'8"
B	5 152	5 339	16'11"	17'6"
C	3 428	3 428	11'3"	11'3"
C <sub>1</sub>	3 318	3 318	10'11"	10'11"
C <sub>2</sub>	1 768	1 768	5'10"	5'10"
C <sub>3</sub>	3 760	3 834	12'4"	12'7"
D	2 764	2 764	9'1"	9'1"
E	1 210	1 210	4'0"	4'0"
F	4 175	4 175	13'8"	13'8"
G	1 670	1 670	5'6"	5'6"
H	1 610	1 688	5'3"	5'6"
I	608	608	2'0"	2'0"
J	2 778	2 856	9'1"	9'4"
K	2 102	2 181	6'11"	7'2"
L	677	686	2'3"	2'3"
M	6 559	6 592	21'6"	21'8"
N	8 105	8 105	26'7"	26'7"
N <sub>1</sub>	4 079	4 037	13'5"	13'3"
O	2 700	2 900	8'10"	9'6"
P	2 490	2 706	8'2"	8'11"
R	512	513	1'8"	1'8"
R <sub>1</sub>	634	635	2'1"	2'1"
U	3 257	3 310	10'8"	10'10"
V	2 258	2 216	7'5"	7'3"
V*	-----	2 258	-----	7'5"
W	2 859	2 941	9'5"	9'8"
W*	-----	2 859	-----	9'5"
X	456	456	1'6"	1'6"
X <sub>1</sub>	581	582	1'11"	1'11"
X <sub>2</sub>	659	659	2'2"	2'2"
Y	2 258	2 216	7'5"	7'3"
Y*	-----	2 258	-----	7'5"
Z	2 859	2 941	9'5"	9'8"
Z*	-----	2 859	-----	9'5"
a <sub>1</sub>	23,5°	23,5°	-----	-----
a <sub>2</sub>	74°	70°	-----	-----
a <sub>3</sub>	45°	45°	-----	-----

A25D: Unloaded machine with 23,5R25  
A30D: Unloaded machine with 750/65R25  
\* A30D with optional 23,5R25 tires



## STANDARD EQUIPMENT A25D – A30D

### 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  
Rear-view 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  
Sun visor  
Tinted glass  
Can holder /storage tray  
Cigarette lighter  
Ashtray  
Space for lunch cooler  
Storage box  
Instructor seat with seat belt

### Engine

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

### Electrical system

80 A alternator  
Battery disconnect switch  
Extra 24 V socket for lunch cooler  
Lights:

- Headlights
- Parking lights
- Direction indicators
- Rear lights
- Back-up lights
- 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

Central positioned information display:

- Automatic pre-start checks
- Operation information, easy-to-find menu
- Troubleshooting diagnostics
- Hour meter
- Clock
- Machine settings

### Drivetrain

Automatic transmission  
Torque converter with automatic lock-up  
Dropbox, single-stage  
Hydraulic variable retarder  
6x4 or 6x6 operator selectable drive modes  
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

A25D: 23,5R25  
A30D: 750/65R25

### Other

Air drier

## OPTIONAL EQUIPMENT A25D – A30D

(Standard on certain markets)

### Safety

Fire-extinguisher and first aid kit

### Service and maintenance

Tool kit with tire inflation unit  
Electrical hood opening

### Engine

Extra air cleaner, heavy-duty  
Electric engine heater (120V or 240V)  
External emergency engine stop  
Delayed engine stop

### Electrical

Work lights, roof mounted  
Work lights, rear-facing, fender-mounted  
Rotating beacon, collapsible mount  
Back-up alarm  
Rear vision system  
Anti-theft system (prevents engine start)  
Headlights for left-hand traffic

### Cab

Air suspended, electrically heated operator's seat  
Electrically heated rear-view mirrors  
Air conditioning  
Radio installation kit  
Radio  
Cable kit for cab heater (120V or 240V)  
Window tint film

### Body

Body exhaust heating kit

#### A25D

Underhung tailgate, link operated  
Overhung tailgate, link operated (only in combination with underhung gate)  
Overhung tailgate, wire operated

#### A30D

Underhung tailgate, link operated  
Overhung tailgate, wire operated

Wear plates

Extra front spillguard  
Upper side extension, 200 mm

### Tires

A30D: 23,5R25

### External

Rear mudflaps

### Other

Synthetic hydraulic oil (biologically degradable)  
Arctic oil kit  
Toolbox  
Towing Hitch

*Under our policy of continual product improvement, we reserve the right to change specifications and design without prior notice. The illustrations do not necessarily show the standard version of the machine.*

# The A35D – 40D in detail

## Service

The computerized information system monitors all 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 hoses and swing-out radiator for easy cleaning.

## Fill capacities

	A35D	A40D
Crankcase.....	50 l.....	50 l
Fuel tank.....	480 l.....	480 l
Cooling system .....	117 l.....	117 l
Transmission total .....	48,5 l.....	48,5 l
Dropbox.....	10,5 l.....	10,5 l
Per axle .....	48 l.....	55 l
Brake cooling tank.....	- - .....	103 l
Hydraulic tank .....	250 l.....	250 l

## Engine

Volvo inline 6-cylinder, direct injected electronically controlled, turbocharged, inter-cooled 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:** VEB (Volvo Engine Brake) includes compression and exhaust brake.

### A35D

Make, model .....	Volvo D12C ABE2*
Make, model .....	Volvo D12C ADE2**
Max power at .....	30 r/s (1 800 r/min)
SAE J1995 Gross .....	289 kW (393 hp)
Flywheel power at .....	30 r/s (1 800 r/min)
SAE J1349 Net, DIN 6271***	285 kW (388 hp)
Max torque at .....	20 r/s (1 200 r/min)
SAE J1995 Gross .....	1 950 Nm
SAE J1349 Net, DIN 6271***	1 915 Nm
Displacement total .....	12 l

\*\*\* A35D) With fan operating at full speed, the flywheel power is 277 kW (377 hp) and maximum torque is 1 860 Nm which corresponds to DIN 70020.

### A40D

Make, model .....	Volvo D12C AAE2*
Make, model .....	Volvo D12C ACE2**
Max power at .....	30 r/s (1 800 r/min)
SAE J1995 Gross .....	313 kW (426 hp)
Flywheel power at .....	30 r/s (1 800 r/min)
SAE J1349 Net, DIN 6271***	309 kW (420 hp)
Max torque at .....	20 r/s (1 200 r/min)
SAE J1995 Gross .....	2 100 Nm
SAE J1349 Net, DIN 6271***	2 056 Nm
Displacement total .....	12 l

\*\*\* A40D) With fan operating at full speed, the flywheel power is 301 kW (409 hp) and maximum torque is 2 010 Nm which corresponds to DIN 70020.

\*) Meets US (EPA) step 2, California (CARB) step 2 and Europe (EU) step 2.

\*\*) Meets Europe (EU) step 2.

The D12C engine is emission certified as a Family Engine with the following output data:

Rated power at .....	31,7 r/s (1 900 rpm)
SAE J1995 Gross .....	280 kW (381 hp)
Max torque at .....	20 r/s (1 200 r/min)
SAE J1995 Gross .....	2100 Nm



## 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 .....	7,2 kW (10 hp)

## Drivetrain

Volvo components, specifically designed for hauler applications.

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

**Transmission:** Electronically controlled, fully automatic planetary transmission with six forward gears and two reverse gears, with an integral variable hydraulic retarder.

**Dropbox:** Volvo design with high and low function, power take-off and differential with 100% lock-up function. Separate dropbox oil cooling.

**A40D:** Automatic upshift low range to high range in 6th gear.

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

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

**Configuration:** 6x4 or 6x6 drive, operator selectable on the move.

	A35D	A40D
Torque converter.....	1,95:1 .....	1,95:1
Transmission, Volvo .....	PT 1862.....	PT 1862
Dropbox, Volvo .....	FL992.....	FL 1002
Axles, Volvo .....	AH 64.....	AHW 71

## Speed:

	A35D	A40D
Low gear forward		
1 .....	5 km/h .....	6 km/h
2 .....	8 km/h .....	9 km/h
3 .....	15 km/h .....	16 km/h
4 .....	21 km/h .....	24 km/h
5 .....	27 km/h .....	31 km/h
6 .....	35 km/h .....	41 km/h
Automatic upshift to 6th gear, High range .....		55 km/h

	A35D	A40D
High gear forward		
1 .....	9 km/h .....	9 km/h
2 .....	13 km/h .....	13 km/h
3 .....	23 km/h.....	23 km/h
4 .....	34 km/h .....	33 km/h
5 .....	43 km/h .....	42 km/h
6 .....	56 km/h .....	55 km/h

	A35D	A40D
Low gear reverse		
1 .....	5 km/h.....	6 km/h
2 .....	9 km/h.....	10 km/h
High gear reverse		
1 .....	8 km/h .....	8 km/h
2 .....	14 km/h .....	14 km/h

## Brake system

### A35D

Fully hydraulic brakes on all axles. Two circuits. Well protected components. Meets ISO 3450 and SAE J1473 at total machine weight.

**Service brakes:** Dry discs on all wheels.

### A40D

Fully hydraulic brakes with enclosed, forced oil-cooled multiple discs on all axles. Two circuits. Separate brake cooling for each axle. Meets ISO 3450 and SAE J1473 at total machine weight.

**Service brakes:** Wet multiple disc brakes on all wheels.

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

Weights			Ground Pressure					Load Capacity		
Operating weight includes all fluids and operator			At 15% sinkage of unloaded radius and specified weights.					Body volume according to SAE 2:1		
	A35D	A40D		A35D		A40D			A35D	A40D
Tires	26,5R25*	29,5R25**	Tires	26,5R25	775/65R29	29,5R29	875/65R29			
<b>Operating weight unloaded</b>			<b>Unloaded</b>					<b>Std. Body</b>		
Front	15 320 kg	16 300 kg	Front	128 kPa	110 kPa	115 kPa	100 kPa	Load capacity	32 500 kg	37 000 kg
Rear	12 980 kg	14 970 kg	Rear	54 kPa	46 kPa	53 kPa	47 kPa	Body, struck	15,2 m <sup>3</sup>	16,9 m <sup>3</sup>
Total	28 300 kg	31 270 kg	<b>Loaded</b>					Body, heaped	20,0 m <sup>3</sup>	22,5 m <sup>3</sup>
Payload	32 500 kg	37 000 kg	Front	149 kPa	128 kPa	135 kPa	118 kPa	<b>With overhung tailgate</b>		
<b>Total weight</b>			Rear	180 kPa	153 kPa	172 kPa	150 kPa	Body, struck	15,5 m <sup>3</sup>	17,2 m <sup>3</sup>
Front	17 770 kg	19 170 kg						Body, heaped	20,7 m <sup>3</sup>	23,2 m <sup>3</sup>
Rear	43 030 kg	49 100 kg								
Total	60 800 kg	68 270 kg								
*) A35D with tires 775/65R29, add 200 kg/ axle										
**) A40D with tires 875/65R29, add 300 kg/ 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 transmission.

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

**Volvo Engine Brake:** Standard. Operator selectable application together with service brakes or when accelerator pedal is released. Always engaged together with retarder. Total retarding capability including transmission retarder and engine brake, VEB, see graph.

#### Steering system

Hydromechanical 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 axles are suspended at three points, which results in independent movement needed in rough terrain.

**Front axle:** The front suspension consists of one rubber spring, a stabilizer and three shock absorbers on each side.

**Bogie:** Volvo's unique terrain bogie permits long suspension travel and independent wheel movement, keeps the body level, retaining the load.

#### Cab

Volvo cab, ergonomically designed for high 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. Dash-mounted Operator's Communication System. Storage bins.

**Standard:** ROPS/FOPS tested and approved. (ISO 3471, SAE J1 040) / (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:** Fully adjustable, mechanically or air suspended operator's seat with flameproof upholstery. Retractable seat belt.

**Trainer seat:** Standard, with seat belt and back rest.

**Sound level in cab:** ISO 6396 .. 72 dB (A) at max. speed ..... 76 dB (A)

#### Hydraulic system

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

**Pumps:** Six engine-driven, 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.

**Filtration:** Through two glass fibreglass with magnetic cores.

#### Pump capacity per pump:

Engine-dependent ..... 143 l/min  
Ground-dependent ..... 202 l/min  
at shaft speed ..... 47,5 r/s (2 850 r/min)  
Working pressure ..... 25 MPa

#### Body

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

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

Front ..... 8 mm  
Sides ..... 12 mm  
Bottom/ Chute ..... 16 mm  
Yield strength ..... 1 000 N/mm<sup>2</sup>  
Tensile strength ..... 1 250 N/mm<sup>2</sup>  
Hardness ..... 400 HB

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

Tipping angle ..... 70°  
Tipping time with load ..... 12 s  
Lowering time ..... 10 s

# Specifications A35D – A40D

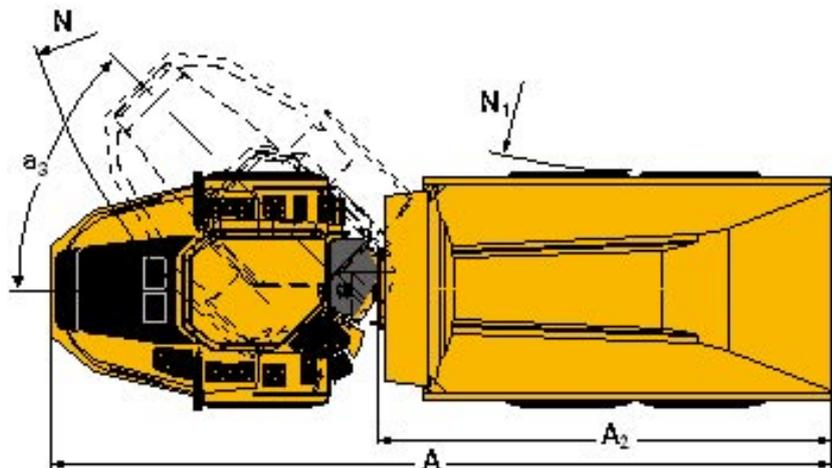
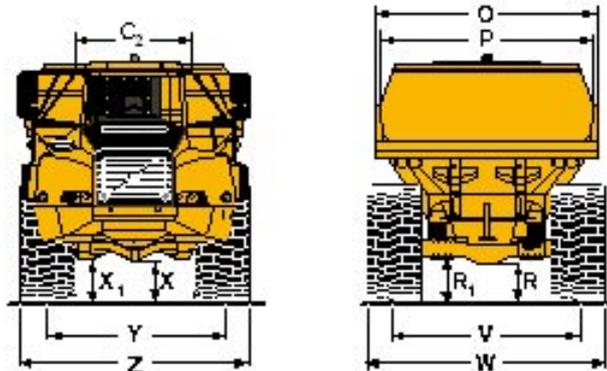
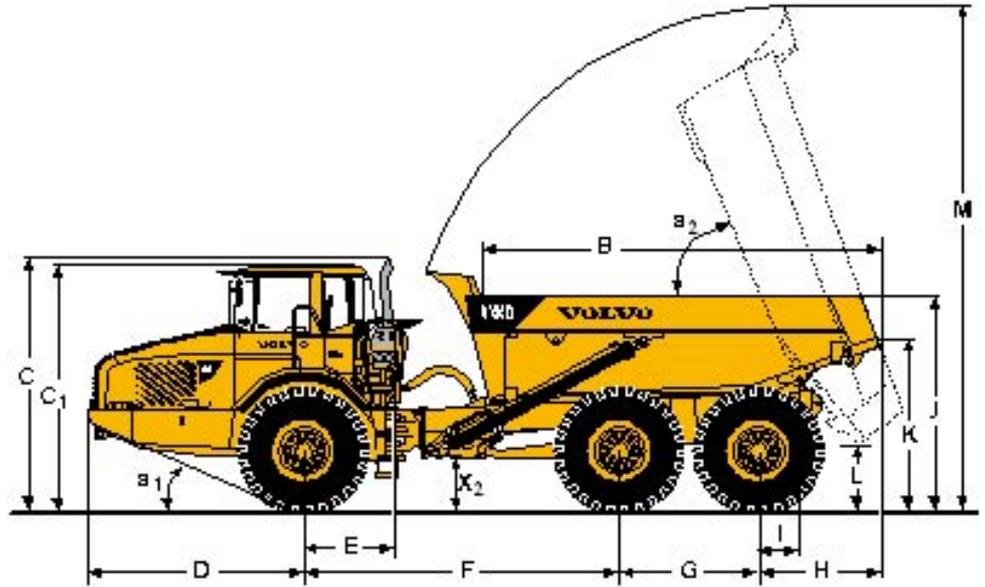
Pos	Metric (mm)		Imperial (Feet)	
	A35D	A40D	A35D	A40D
A	11 178	11 287	36'8"	37'0"
A <sub>2</sub>	6 224	6 428	20'5"	21'1"
B	5 527	5 730	18'2"	18'10"
C	3 681	3 746	12'1"	12'3"
C <sub>1</sub>	3 560	3 626	11'8"	11'11"
C <sub>2</sub>	1 768	1 768	5'10"	5'10"
C <sub>3</sub>	3 987	4 093	13'1"	13'5"
D	3 103	3 103	10'2"	10'2"
E	1 275	1 275	4'2"	4'2"
F	4 501	4 448	14'9"	14'7"
G	1 820	1 940	6'0"	6'4"
H	1 754	1 796	5'9"	5'11"
I	725	638	2'5"	2'1"
J	2 912	3 075	9'7"	10'1"
K	2 302	2 492	7'7"	8'2"
L	915	906	3'0"	3'0"
M	7 242	7 384	23'9"	24'3"
N	8 720	8 863	28'7"	29'1"
N <sub>1</sub>	4 397	4 238	14'5"	13'11"
O	3 103	3 268	10'2"	10'9"
P	2 870	3 078	9'5"	10'1"
R	584	654	1'11"	2'2"
R <sub>1</sub>	670	751	2'2"	2'6"
U	3 528	3 590	11'7"	11'9"
V	2 515	2 636	8'3"	8'8"
V*	2 625	-----	8'7"	-----
W	3 208	3 432	10'6"	11'3"
W*)**	3 410	3 570	11'2"	11'9"
X	572	617	1'11"	2'2"
X <sub>1</sub>	606	639	1'0"	2'1"
X <sub>2</sub>	720	765	2'4"	2'6"
Y	2 515	2 636	8'3"	8'8"
Y*	2 625	-----	8'7"	-----
Z	3 208	3 432	10'6"	11'3"
Z*)**	3 410	3 570	11'2"	11'9"
a <sub>1</sub>	23°	25°	23°	25°
a <sub>2</sub>	70°	70°	70°	70°
a <sub>3</sub>	45°	45°	45°	45°

A35D: Unloaded machine with 26,5R25

A40D: Unloaded machine with 29,5R29

\*) A35D with optional 775/65R29 tires

\*\*) A40D with optional 875/65R29 tires



## STANDARD EQUIPMENT A35D – A40D

### Safety

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

### Comfort

Tilt/ telescopic steering wheel  
Ashtray  
Cab heater with filtered fresh air and defroster  
Can holder / storage tray  
Cigarette lighter  
Instructor seat with backrest and retractable seat belt  
Overhead console for radio  
Space for lunch cooler  
Storage box  
Sun visor, front window  
Tinted glass

### Engine

Direct injected, electronically controlled  
Volvo Engine Brake, VEB  
Coolant filter  
Intercooler, air-to-air cooler  
Remote oil filters, for ease of access  
Remote oil drain plug and hose  
Preheater for easier cold starts  
Turbocharged

### Electrical system

Alternator  
Battery disconnect switch  
Electrical outlets, 24V in cab  
Lights:  
• Headlights, main/dipped  
• Parking lights  
• Direction indicators  
• Rear lights  
• Back-up lights  
• Brake lights  
• Cab lighting  
• Instrument lighting  
• Control panel lighting  
Pilot lights for all switches

### Operator information interface

Gauges:  
• Speedometer  
• Tachometer  
• Brake pressure  
• Fuel  
• Transmission oil temperature

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

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

### Drivetrain

Automatic transmission, electronically controlled  
Torque converter with automatic lock-up  
Variable hydraulic transmission retarder  
Dropbox with high/low range  
6x4 or 6x6 operator selectable drive modes  
100% longitudinal differential lock  
100% differential locks in all axles

### Brakes

**A35D**  
Two circuit, fully hydraulic disc brakes on all axles.

**A40D**  
Two circuit, fully hydraulic brakes with enclosed, forced oil-cooled multiple discs on all axles.  
Separate brake cooling for each axle.

Volvo Engine Brake (VEB) activation in brake pedal  
Parking brake on prop shaft

### Body

Body prepared for exhaust heating  
Load and Dump brake

### Tires

A35D: 26,5R25  
A40D: 29,5R25

### Other

Air drier  
Tool box

## OPTIONAL EQUIPMENT A35D – A40D

(Standard on certain markets)

### Safety

Fire-extinguisher and first aid kit

### Service and maintenance

Tool kit with tire inflation unit  
Electrical hood opening

### Engine

Extra air cleaner, heavy-duty  
Engine coolant pre-heater (120V or 240V)  
External emergency stop  
Delayed engine stop

### Electrical

Work lights, roof-mounted  
Work lights, rear-facing, fender-mounted  
Rotating beacon, collapsible mount  
Back-up alarm  
Rear vision system  
Anti-theft system (prevents engine start)  
Headlights for left-hand traffic

### Cab

Heated, mechanically or air suspended, fully adjustable operator's seat  
Air conditioning  
Armrests  
Head restraint  
Cable kit for cab heater (120V or 240V)  
Electrically heated rear-view mirrors  
Radio installation kit  
Radio  
Window tint film, side windows

### Brakes

A35D: Fully hydraulic, forced oil-cooled wet disc brakes  
Brake guards

### Body

Body exhaust heating kit  
Extra front spillguard  
Overhung tailgate, wire operated  
Wear plates, kit delivery  
Upper side extension, 200 mm

### Tires

A35D: 775/65R29  
A40D: 875/65R29

### External

A40D: Mudguard wideners (for 875/65R29 tires)  
Rear mudflaps

### Other

Synthetic hydraulic oil (biologically degradable)  
Arctic oil kit



## Technology on Human Terms

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 more.

The tasks they face vary considerably, but they all share one vital feature: technology which helps man to 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 strength of the service and parts organizations; 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 very 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.*

For more information please visit our website: [www.volvo.com](http://www.volvo.com)

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# VOLVO

## Construction Equipment

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