

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

Hauls 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.

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 work environment

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.

Reliable

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

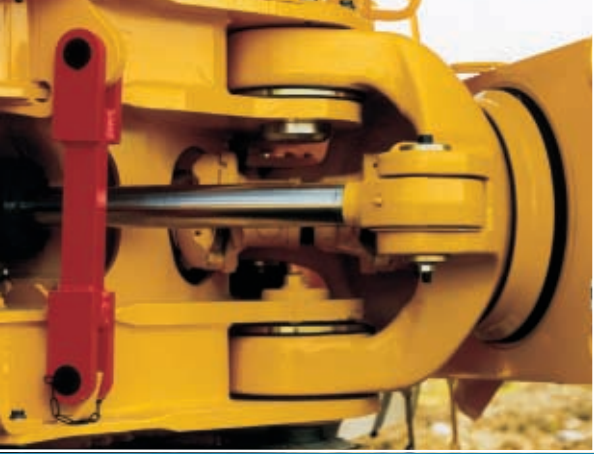
Durable

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."

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

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

Automatic emergency brake

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

Intelligent communication system

Machine work safety. The Contronic information 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

Reduces 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

Saves 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.

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.

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 Contronics information 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

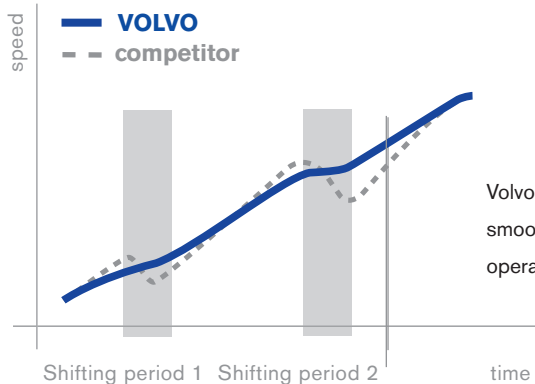
The cab's interior is characterized by excellent practical and ergonomic solutions, and it's easy to keep clean.

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

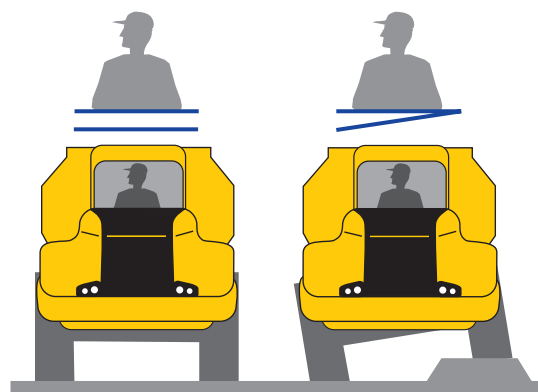
If you want to enhance the operator's environment further, there is a wide range of optional equipment, from sun visors and air conditioning to a rear vision system.

Comfort when shifting



Volvo haulers shift smoothly, reducing operator fatigue.

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 demand.

Power – when and where it's needed

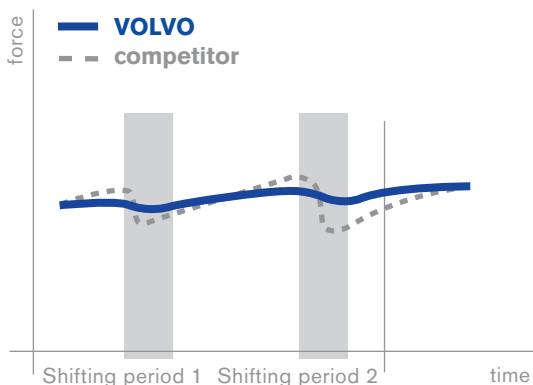
Volvo's haulers are flexible machines. The operator can optimize drive combinations based on the ground conditions.

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 axles. 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.

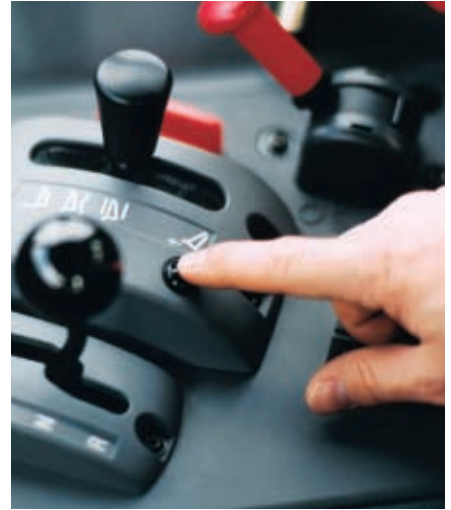
In the A35D and A40D, the retarder works together with a Volvo-patented engine brake: VEB (Volvo Engine Brake). The A25D and A30D are equipped with an exhaust retarder.

Unique Load & Dump Brake

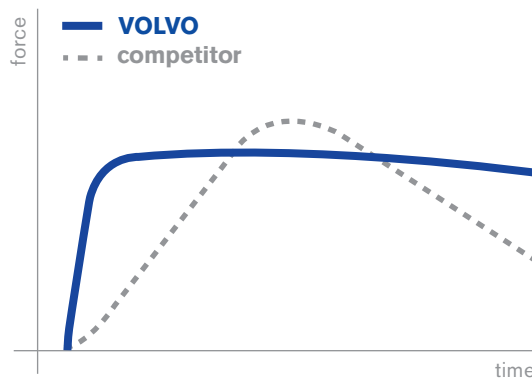
The new generation of Volvo's articulated haulers feature the new

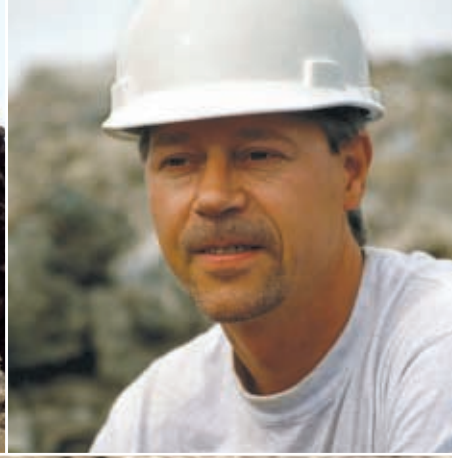
Volvo-patented Load and Dump Brake. With the single press of a button, the transmission is shifted to neutral and the trailer service brakes are activated.

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 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, even the vulnerable rear cross stay are well-protected either above or in the frame construction.



The reliable three-point suspension consists of heavy-duty components.

A simple and 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 guards.





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 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 Contronic 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 drains 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(19.0 US gal)
Transmission total	41 l(11.0 US gal)
Dropbox.....	8,5 l(2.2 US gal)
Axles, front/ rear.....	33 l(8.7 US gal)
First bogie axle	34 l(9.0 US gal)
Hydraulic tank	175 l(46.0 US gal)

Engine

Volvo inline 6-cylinder, direct injected electronic controlled, turbocharged, intercooled 4-cycle low emission diesel engine with wet replaceable cylinder linings.

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

Engine brake: Exhaust retarder.

A25D

Make, model	Volvo D10BACE2*
Make, model	Volvo D10BADE2**
Max power at	33,3 r/s (2000 r/min)
SAE J1995 Gross	228 kW (306 hp)
Flywheel power at	33,3 r/s (2000 r/min)
SAE J1349 Net, DIN 6271***	227 kW (304 hp)
Max torque at	22,5 r/s (1350 r/min)
SAE J1995 Gross	1375 Nm (1014 lb ft)
SAE J1349 Net, DIN 6271***	1365 Nm (1007 lb ft)
Displacement total	9,6 l (586 in ³)

With fan operating at full speed, the flywheel power is 214 kW (287 hp) and maximum torque is 1276 Nm (914 lb ft) which corresponds to DIN 70020.

A30D

Make, model	Volvo D10BAAE2*
Make, model	Volvo D10BABE2**
Max power at	33,3 r/s (2000 r/min)
SAE J1995 Gross	242 kW (324 hp)
Flywheel power at	33,3 r/s (2000 r/min)
SAE J1349 Net, DIN 6271***	241 kW (323 hp)
Max torque at	22,5 r/s (1350 r/min)
SAE J1995 Gross	1420 Nm (1047 lb ft)
SAE J1349 Net, DIN 6271***	1410 Nm (1040 lb ft)
Displacement total	9,6 l (586 in ³)

With fan operating at full speed, the flywheel power is 228 kW (306 hp) and maximum torque is 1321 Nm (974 lb ft) which corresponds to DIN 70020.

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

** Meets Europe (EU) step 2.

*** With fan at normal speed.



Electrical system

All cables, sockets and pins are identified. Cables are enclosed in plastic conduit and secured to main frame.

Halogen lights. Prewired for options. Connectors meet IP67 standard for watertightness as necessary.

Voltage	24 V
Battery capacity	2x170 Ah
Alternator	1,54 kW (55 A)
Starter motor	6,6 kW (9 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: Volvo fully automatic planetary transmission with six forward gears and two reverse gears, with an integral 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 1560	PT 1560
Dropbox.....	IL 1	IL 1
Axles, Volvo	AH 56	AH 64

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 (8.1 mph)

Brake system

Dual circuit system with air-hydraulic disc brakes. Complies with 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			
Operating weight unloaded			Unloaded			Std. Body			
Front	12 160 kg 26,808 lb	12 500 kg 27,557 lb	Front	123 kPa 17.8 psi	101 kPa 14.6 psi	127 kPa 18.4 psi	Load capacity	24 000 kg 26.5 sh tn	28 000 kg 31.0 sh tn
Rear	9400 kg 20,723 lb	10 560 kg 23,280 lb	Rear	48 kPa 7 psi	43 kPa 6.2 psi	54 kPa 7.8 psi	Body, struck	11,7 m ³ 13.3 yd ³	13,6 m ³ 17.8 yd ³
Total	21 560 kg 47,531 lb	23 060 kg 50,838 lb	Loaded			Body, heaped			
Payload	24 000 kg 52,910 lb	28 000 kg 61,729 lb	Front	144 kPa 20.8 psi	121 kPa 17.5 psi	152 kPa 22 psi	With underhung tailgate		
Total weight			Rear	159 kPa 23 psi	146 kPa 21.2 psi	183 kPa 26.5 psi	Body, struck	12,0 m ³ 15.7 yd ³	13,8 m ³ 18 yd ³
Front	14 140 kg 31,173 lb	14 990 kg 33,047 lb				Body, heaped			
Rear	31 420 kg 69,269 lb	36 070 kg 79,520 lb				With overhung tailgate			
Total	45 560 kg 100,442 lb	51 060 kg 112,568 lb				Body, struck			
						Body, heaped			
						With over and under hung tailgate			
						Body, struck			
						Body, heaped			

Cab

Volvo cab, designed for high operator visibility, ergonomics and comfort. Wide threshold-free door opening and ergonomic instep. Isolation 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 seat belt. Internal sound level, ISO 6396 74 dB (A)

Hydraulic system

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

Pumps: Five engine driven variable displacement, load-sensing piston pumps, driven by the flywheel PTO. One ground-dependent piston pump for supplemental steering mounted on the drop-box.

Filter: One fiber glass filter with magnetic core.

Pump capacity per pump:

Engine dependent..... 105 l/min..... (27.7 US gpm)
 Ground dependent 142 l/min..... (37.5 US gpm)
 at shaft speed 52,5 r/s (3150 r/min)
 Working pressure..... 25 MPa..... (3626 psi)

Body

Load and Dump Brake: With the engine running, the service brakes on bogie axles are applied and transmission shifted to neutral.

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

Front..... 8 mm..... (0.31")
 Sides..... 12 mm..... (0.47")
 Bottom..... 14 mm..... (0.55")
 Chute..... 14 mm..... (0.55")
 Yield strength 1000 N/mm²..... (145,000 psi)
 Tensile strength 1250 N/mm²..... (181,000 psi)
 Hardness 400 HB

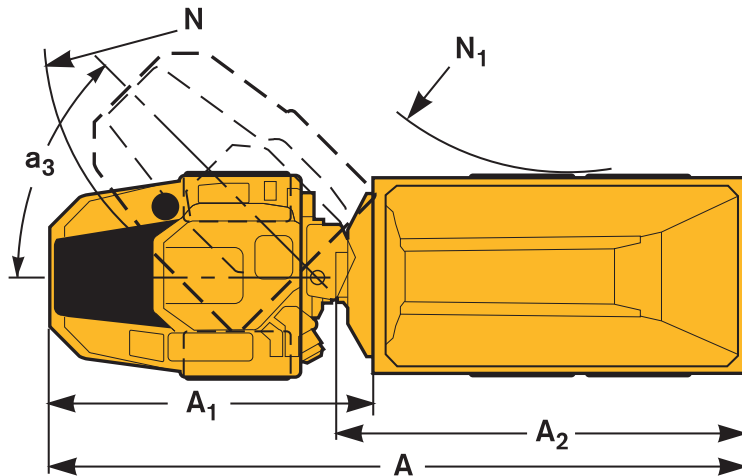
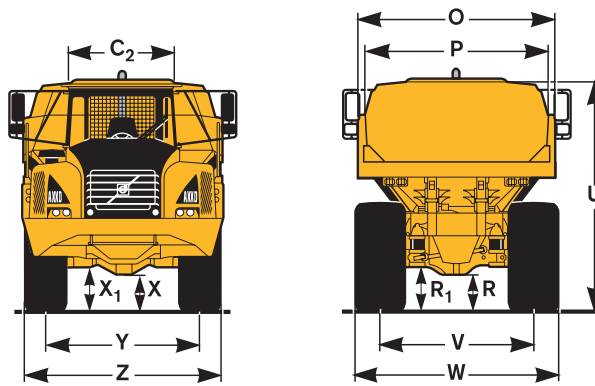
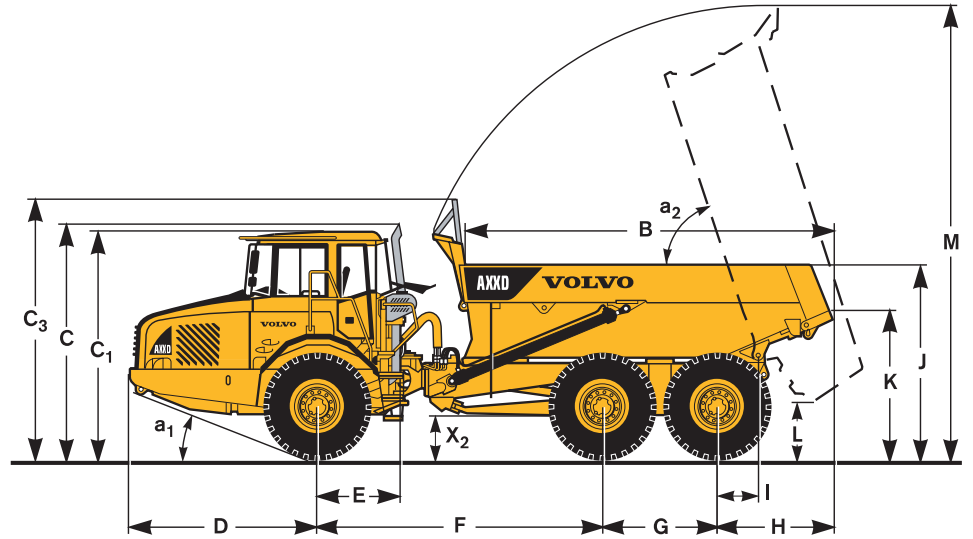
Dumping Cylinders: Two single stage double acting cylinders.

	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 ₁	4954	4954	16'3"	16'3"
A ₂	5764	6002	18'11"	19'8"
B	5152	5339	16'11"	17'6"
C	3428	3428	11'3"	11'3"
C ₁	3318	3318	10'11"	10'11"
C ₂	1768	1768	5'10"	5'10"
C ₃	3760	3834	12'4"	12'7"
D	2764	2764	9'1"	9'1"
E	1210	1210	3'12"	3'12"
F	4175	4175	13'8"	13'8"
G	1670	1670	5'6"	5'6"
H	1610	1688	5'3"	5'6"
I	608	608	1'12"	1'12"
J	2778	2856	9'1"	9'4"
K	2102	2181	6'11"	7'2"
L	677	686	2'3"	2'3"
M	6559	6592	21'6"	21'8"
N	8105	8105	26'7"	26'7"
N ₁	4079	4037	13'5"	13'3"
O	2700	2900	8'10"	9'6"
P	2490	2706	8'2"	8'11"
R	512	513	1'8"	1'8"
R ₁	634	635	2'1"	2'1"
U	3257	3310	10'8"	10'10"
V	2258	2216	7'5"	7'3"
V*	-----	2258	-----	7'5"
W	2859	2941	9'5"	9'8"
W*	-----	2859	-----	9'5"
X	456	456	1'6"	1'6"
X ₁	581	582	1'11"	1'11"
X ₂	659	659	2'2"	2'2"
Y	2258	2216	7'5"	7'3"
Y*	-----	2258	-----	7'5"
Z	2859	2941	9'5"	9'85"
Z*	-----	2859	-----	9'5"
a ₁	23,5°	23,5°	-----	-----
a ₂	74°	70°	-----	-----
a ₃	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
Rearview mirrors
Retractable 3 inch safety belt
Reverse alarm
Secondary steering
Steering joint locking assembly
Dump body lock
Windshield wipers with intermittent
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 drainage plug
Remote oil filters ease of access
Preheater for easier cold starts

Electric system

55 A alternator
Battery disconnect switch
Extra 24 V socket for lunch cooler
Lights:
• Headlights
• Parking lights
• Direction indicators
• Rear lights
• Reverse lights
• Brake lights
• Cab lighting
• Instrument lighting

Operator information interface

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

Pilot lamps for all switches
Warning lamps 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
• Trouble shooting diagnostics
• Hour meter
• Clock
• Machine settings

Drivetrain

Automatic transmission
Torque converter with automatic lock-up
Drop box, 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

External

Rear mudflaps

Other

Air drier
Electrical hood opening

OPTIONAL EQUIPMENT A25D – A30D

(Standard on certain markets)

Safety

Fire-extinguisher and first aid kit

Service and maintenance

Tool kit with tire inflation unit

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, reverse, fender mounted
Rotating beacon, collapsible mount
Rear vision system
Anti-theft system (prevents engine start)
Head lights for left hand side traffic
Alternator, heavy-duty 80 A

Cab

Electrically heated rearview mirrors
Cable kit for cab heater (120V or 240V)
Solar guard film

Body

Body exhaust heating kit

A25D
Overhung tailgate, wire-operated

A30D
Overhung tailgate, wire-operated

Wear plates
Extra front spill guard

Tires

A30D: 23,5R25

Other

Synthetic hydraulic oil (biologically degradable)
Arctic oil kit
Toolbox

The A35D - 40D in detail

Service

The Contronic 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	
	Liter	Us gal	Liter	Us gal
Crankcase.....	50	13.2	50	13.2
Fuel tank.....	480	126.8	480	126.8
Cooling system	117	30.9	117	30.9
Transmission total	48,5	12.8	48,5	12.8
Dropbox.....	10,5	2.8	10,5	2.8
Per axle	48	12.7	55	14.5
Brake cooling tank.....	-	-	103	27.2
Hydraulic tank	250	66.0	250	66.0

Engine

Volvo inline 6-cylinder, direct injected electronic controlled, turbocharged, intercooled 4-cycle low emission diesel engine with wet replaceable cylinder linings.

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 (1800 r/min)
SAE J1995 Gross	289 kW (387 hp)
Flywheel power at	30 r/s (1800 r/min)
SAE J1349 Net, DIN 6271***	285 kW (382 hp)
Max torque at	20 r/s (1200 r/min)
SAE J1995 Gross	1950 Nm (1438 lb ft)
SAE J1349 Net, DIN 6271***	1915 Nm (1412 lb ft)
Displacement total	12 l (732 in ³)

*** A35D) With fan operating at full speed, the flywheel power is 277 kW (371 hp) and maximum torque is 1860 Nm (1372 lb ft) which corresponds to DIN 70020.

A40D

Make, model	Volvo D12C AAE2*
Make, model	Volvo D12C ACE2**
Max power at	30 r/s (1800 r/min)
SAE J1995 Gross	313 kW (419 hp)
Flywheel power at	30 r/s (1800 r/min)
SAE J1349 Net, DIN 6271***	309 kW (414 hp)
Max torque at	20 r/s (1200 r/min)
SAE J1995 Gross	2100 Nm (1549 lb ft)
SAE J1349 Net, DIN 6271***	2056 Nm (1517 lb ft)
Displacement total	12 l (732 in ³)

*** A40D) With fan operating at full speed, the flywheel power is 301 kW (403 hp) and maximum torque is 2010 Nm (1483 lb ft) which corresponds to DIN 70020.

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

**) Meets Europe (EU) step 2.

***) With fan at normal speed.

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

Rated power at	31,7 r/s (1900 rpm)
SAE J1995 Gross	280 kW (375 hp)
Max torque at.....	20 r/s (1200 r/min)
SAE J1995 Gross	2100 Nm (1549 lb ft)



Electrical system

All cables, sockets and pins are identified.

Cables are enclosed in plastic conduit and secured to main frame.

Halogen lights. Prewired for options. Connectors meet IP67 standard for water-tightness 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 drop-box 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 1860	PT 1860
Drop-box, Volvo	FL 852	FL 862
Axles, Volvo	AH 64	AHW 71

Speed:

Low gear forward	A35D		A40D	
	km/h	mph	km/h	mph
1	5	3	6	4
2	8	5	9	6
3	15	9	16	10
4	21	13	24	15
5	27	17	31	19
6	35	22	41	25
Automatic upshift to 6th gear, High range	55	34		

High gear forward	A35D		A40D	
	km/h	mph	km/h	mph
1	9	6	9	6
2	13	8	13	8
3	23	14	23	14
4	34	21	33	20
5	43	27	42	26
6	56	35	55	34

Low gear reverse	A35D		A40D	
	km/h	mph	km/h	mph
1	5	3	6	4
1	5	3	6	4
2	9	6	10	6
High gear reverse				
1	8	5	8	5
2	14	9	14	9

Brake system

A35D

Fully hydraulic brakes on all axles. Two circuits. Well-protected components. Complies with 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. Complies with 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				
Operating weight unloaded			Unloaded					Std. Body			
Front	15 320 kg 33,775 lb	16 300 kg 35,935 lb	Front	128 kPa 18.6 psi	110 kPa 16.0 psi	115 kPa 16.7 psi	100 kPa 14.5 psi	Load capacity	32 500 kg 36 sh tn	37 000 kg 41 sh tn	
Rear	12 980 kg 28,616 lb	14 970 kg 33,003 lb	Rear	54 kPa 7.8 psi	46 kPa 6.7 psi	53 kPa 7.7 psi	47 kPa 6.8 psi	Body, struck	15,2 m ³ 19.9 yd³	16,9 m ³ 22.1 yd³	
Total	28 300 kg 62,391 lb	31 270 kg 68,938 lb	Loaded					Body, heaped	20,0 m ³ 26.2 yd³	22,5 m ³ 29.4 yd³	
Payload	32 500 kg 71,650 lb	37 000 kg 81,571 lb	Front	149 kPa 21.6 psi	128 kPa 18.6 psi	135 kPa 19.6 psi	118 kPa 17.1 psi	With overhung tailgate			
Total weight			Rear	180 kPa 26.1 psi	153 kPa 22.2 psi	172 kPa 24.9 psi	150 kPa 21.8 psi	Body, struck	15,5 m ³ 20.3 yd³	17,2 m ³ 22.5 yd³	
Front	17 770 kg 39,022 lb	19 170 kg 42,263 lb						Body, heaped	20,7 m ³ 27.1 yd³	23,2 m ³ 30.3 yd³	
Rear	43 030 kg 94,865 lb	49 100 kg 108,247 lb									
Total	60 800 kg 134,041 lb	68 270 kg 150,509 lb									
*) A35D with tires 775/65R29, add 200 kg (441 lb)/ axle											
**) A40D with tires 875/65R29, add 300 kg (661 lb)/ 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.

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: 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, designed for high operator visibility, ergonomics and comfort. Wide threshold-free door opening and ergonomic instep. Isolation 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 air suspension operator's seat with flame-proof upholstery. Retractable seat belt.

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

Internal sound level: ISO 6396 72 dB (A) at max. speed 76 dB (A)

Hydraulic system

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

Pumps: Seven engine driven, variable displacement, load-sensing piston pumps driven by the flywheel PTO. One ground-dependent piston pump for supplemental steering mounted on the drop-box.

Filtration: Through two glass fiber filters with magnetic cores.

Pump capacity per pump:

Engine dependent 143 l/min (37.8 US gpm)
Ground dependent 202 l/min (53.4 US gpm)
at shaft speed 47,5 r/s (2850 r/min)
Working pressure 25 MPa (3628 psi)

Body

Load and Dump Brake: With the engine running, the service brakes on bogie axles are applied and transmission shifted to neutral.

Body material: Hardened and tempered steel body with high impact strength.

Front 8 mm (0.31")
Sides 12 mm (0.47")
Bottom/ Chute 16 mm (0.63")
Yield strength 1000 N/mm² (145,000 psi)
Tensile strength 1250 N/mm² (181,000 psi)
Hardness 400 HB

Dumping Cylinders: Two single stage double acting cylinders.

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

Specifications A35D - A40D

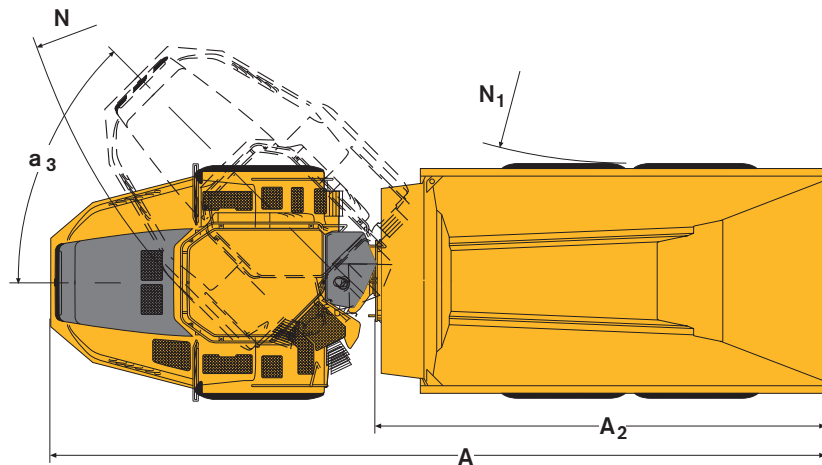
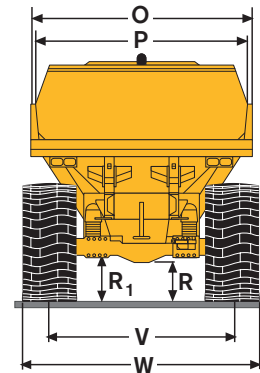
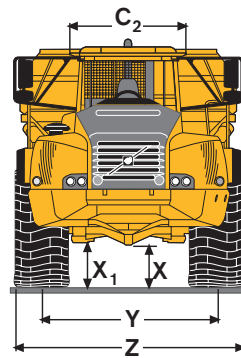
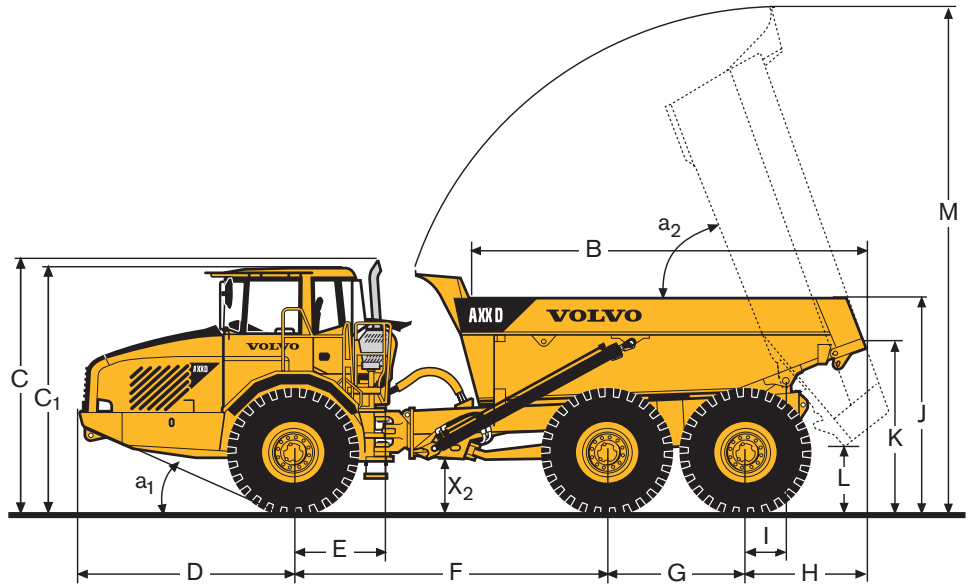
Pos	Metric (mm)		Imperial (Feet)	
	A35D	A40D	A35D	A40D
A	11 167	11 310	36'6"	37'1"
A ₂	6224	6428	20'4"	19'8"
B	5527	5730	16'9"	21'1"
C	3681	3746	12'1"	12'3"
C ₁	3560	3626	11'7"	11'9"
C ₂	1768	1768	5'8"	5'8"
C ₃	3987	4093	13'1"	13'4"
D	3101	3100	10'2"	10'2"
E	1276	1279	4'2"	4'2"
F	4501	4451	14'8"	14'6"
G	1820	1940	6'0"	6'4"
H	1757	1823	5'8"	6'0"
I	728	646	2'39"	2'12"
J	2912	3075	9'6"	10'0"
K	2302	2492	7'6"	8'2"
L	915	906	3'0"	2'97"
M	7242	7384	23'8"	24'2"
N	8720	8863	28'6"	29'1"
N ₁	4397	4238	14'4"	13'9"
O	3103	3268	10'2"	10'7"
P	2870	3078	9'4"	10'1"
R	584	654	1'92"	2'15"
R ₁	670	751	2'2"	2'46"
U	3528	3590	11'6"	11'8"
V	2515	2636	8'3"	8'7"
V*	2625	-----	8'6"	-----
W	3208	3432	10'5"	11'3"
W*)**	3410	3570	11'2"	11'7"
X	572	617	1'88"	2'02"
X ₁	606	639	1'99"	2'1"
X ₂	720	765	2'36"	2'51"
Y	2515	2636	8'3"	8'7"
Y*	2625	-----	7'4"	-----
Z	3208	3432	10'5"	11'3"
Z*)**	3410	3570	11'2"	11'7"
a ₁	23°	25°	-----	-----
a ₂	70°	70°	-----	-----
a ₃	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
Reverse alarm
Secondary steering
Service platform for ease of service
Steering joint locking assembly
Windshield wipers with intermittent
Windshield washers

Comfort

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

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 drainage plug and hose
Preheater for easier cold starts
Turbocharged

Electric 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

Operator information interface

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

Pilot lamps for all switches
Warning lamps 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
• Trouble shooting diagnostics
• Hour meter
• Clock
• Machine settings

Drivetrain

Automatic transmission, electronically controlled
Torque converter with automatic lock-up
Variable hydraulic transmission retarder
Drop-box 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
A40D: Extra front spillguard

Tires

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

External

Rear mudflaps

Other

Air drier
Tool box
Electrical hood opening

OPTIONAL EQUIPMENT A35D – A40D

(Standard on certain markets)

Safety

Fire-extinguisher and first aid kit

Service and maintenance

Tool kit with tire inflation unit

Engine

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

Electrical

Anti-theft system (prevents engine start)
Head lights for left hand traffic
Rear vision system
Rotating beacon, collapsible mount
Work lights, forward, roof-mounted
Work lights, rearward, fender-mounted

Cab

Armrests
Head restraint
Cable kit for cab heater (120V or 240V)
Electrically heated rearview mirrors

Brakes

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

Body

Body exhaust heating kit
A35D: Extra front spill guard
Overhung tailgate, wire operated
Wear plates, kit delivery

Tires

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

External

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

Other

Synthetic hydraulic oil (biologically degradable)
Arctic oil kit

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.



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, compact equipment 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 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 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.

All products are not available in all markets. Under our policy of continuous improvement, we reserve the right to change specifications and designs without prior notice. The illustrations do not necessarily show the standard version of the machine.

VOLVO

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Ref. No. 22 1 779 2507 English
Printed in USA 02/03 - 5,0 GMC
Volvo, Asheville