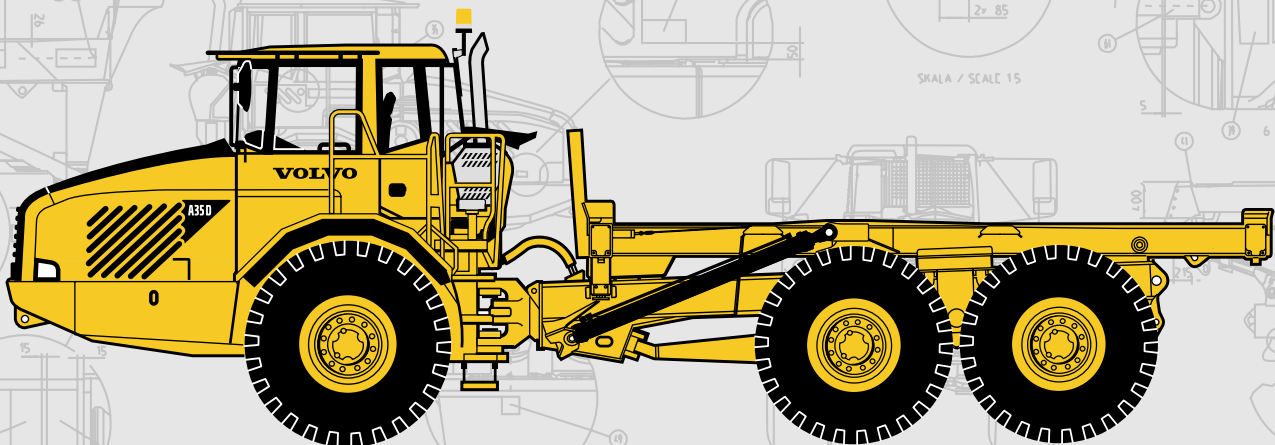


## VOLVO ARTICULATED HAULER

# A35D

## CONTAINER HAULER



- **Engine output**  
SAE J1995, Gross 289 kW (393 hp)  
SAE J1349, Net 285 kW (388 hp)
- **Load capacity:**  
32.5 t
- **Designed to handle 20 ft ISO container.**
- **Dumping angle 49°.**
- **Cab operated container lock.**
- **Volvo cab designed** for high operator visibility, ergonomics and comfort.
- **Volvo high performance – low emission** electronically controlled direct injected, turbocharged, intercooled diesel engine.
- **Volvo Engine Brake, VEB**
- **Fully automatic planetary transmission**, electronically controlled.
- **Hydraulic retarder** integral in transmission.
- **Dropbox with high/low function** and longitudinal differential lock.
- **100% lock-up differentials.** One longitudinal and three transverse differential locks.
- **Front axle with three-point suspension.**
- **Volvo terrain bogie**, individually oscillating axles and high ground clearance.
- **Volvo Load & Dump Brake.**

# VOLVO



## 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.

Fuel tank . . . . .	480 l
Crankcase . . . . .	50 l
Cooling system . . . . .	117 l
Transmission total . . . . .	48,5 l
Dropbox . . . . .	10,5 l
Per axle . . . . .	48 l
Hydraulic tank . . . . .	250 l



## ENGINE

Volvo inline 6-cylinder, electronically controlled direct injected, turbocharged, intercooled 4-cycle low emission diesel engine with overhead camshaft and valves and wet replaceable cylinder liners.

Meets Europe (EU) step 2 emission regulations.

**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.

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

\*) with fan at normal speed. 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.

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 . . . . .	2 100 Nm



## 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 . . . . .	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 in all ranges.

**Transmission:** Volvo design. Electronically controlled, fully automatic planetary transmission with six gears forward and two in reverse.

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

**Axles:** Volvo design. All axles have transversal differential locks with 100% lock-up and fully floating axle shafts with planetary type hub reductions.

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

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

Torque converter . . . . .	1,95:1
Transmission . . . . .	Volvo PT 1860
Dropbox . . . . .	Volvo FL 852
Axles . . . . .	Volvo AH 64

### Speeds

Low gear forward	
1	5 km/h
2	8 km/h
3	15 km/h
4	21 km/h
5	27 km/h
6	35 km/h
High gear forward	
1	9 km/h
2	13 km/h
3	23 km/h
4	34 km/h
5	43 km/h
6	56 km/h
Low gear reverse	
1	5 km/h
2	9 km/h
High gear reverse	
1	8 km/h
2	14 km/h



## BRAKE SYSTEM

Fully hydraulic disc brakes on all axles. Two circuits.

Well protected components. Complies with ISO 3450 and SAE J1473 at total machine weight.

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

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

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

**Compressor:** Gear-driven by engine.

**Retarder:** Hydraulic, infinitely variable, integral with transmission. Total retarding capability includes transmission retarder and VEB, 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 on page 4.**



## STEERING SYSTEM

Hydro-mechanical self-compensating articulated steering for safe and accurate high speed hauling. Fast acting, low effort steering with 3,4 lock-to-lock turns for low 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 flameproof upholstery. Retractable seat belt.

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

Internal sound level, ISO 6394                      72 dB (A)  
and at max. speed                                      76 dB (A)



## HYDRAULIC SYSTEM

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

**Pumps:** 7 engine driven pumps mounted on flywheel power take-off. One ground-dependent piston pump for supplementary steering mounted on the dropbox.

**Filtration:** Through two glass fiber filters with magnetic cores.

Capacity per pump:  
engine driven                                      .143 l/min  
ground driven                                      .202 l/min  
at shaft speed                                      .47,5 r/s  
Working pressure                                      .25 MPa



## CONTAINER FRAME

Each corner of the container frame is equipped with air operated container locks that are maneuvered from the cab.

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

Dumping angle                                      49 °  
Dumping time with load                              8 s  
Lowering time    6 s



## WEIGHTS

Operating weight includes all fluids and operator. Standard machine. If equipped with 775/65R29 add 100 kg per axle.

**Operating weight** with tyres 26.5 R 25:

Unloaded  
Front    15 120 kg  
Rear    10 830 kg  
Total    25 950 kg  
Payload    32 500 kg

**Total weight**

Front    16 440 kg  
Rear    42 000 kg  
Total    58 440 kg

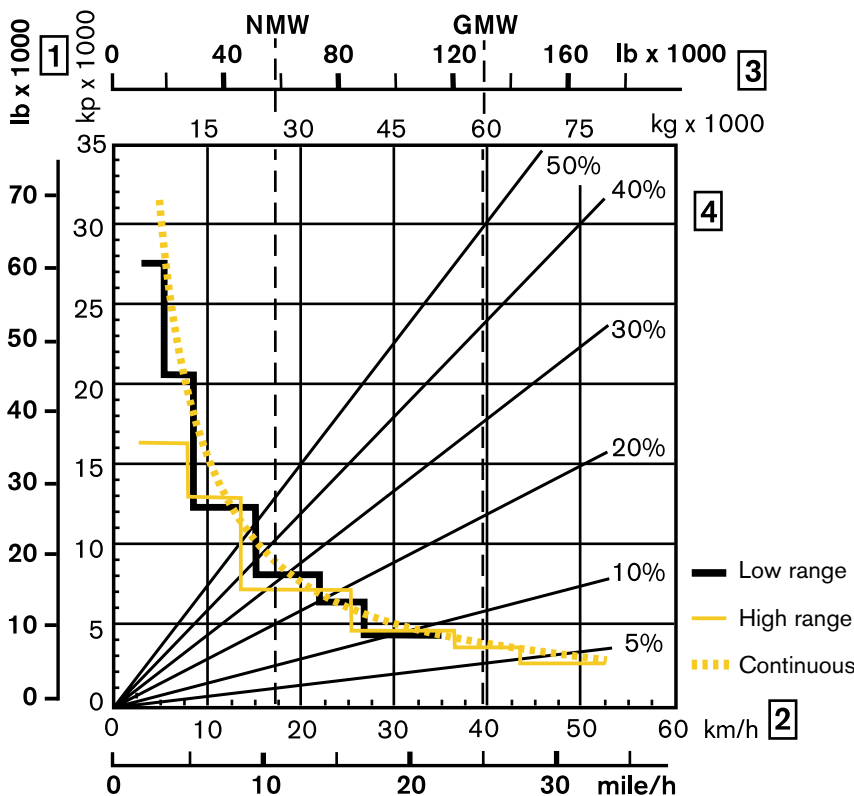
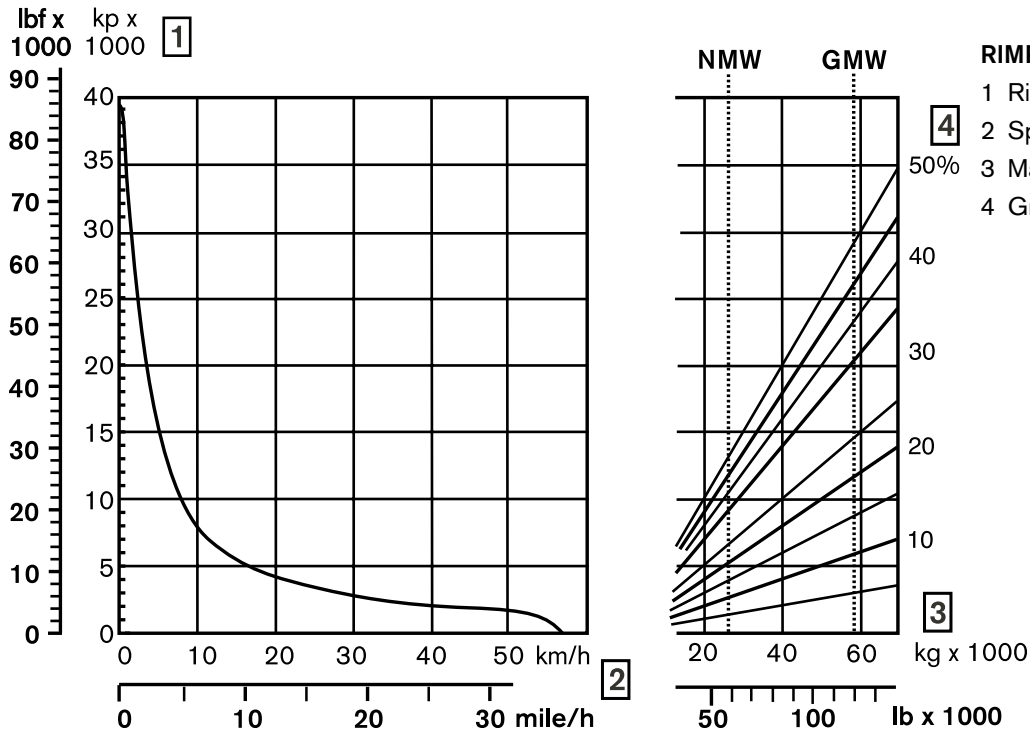


## GROUND PRESSURE

At 15% sinkage of unloaded radius and specified weights.

With tires	26.5 R25	775/65R29
Unloaded		
Front	128 kPa	107 kPa
Rear	46 kPa	38 kPa
Loaded		
Front	139 kPa	116 kPa
Rear	178 kPa	148 kPa

# RIMPULL & RETARDATION Volvo A35D Container Hauler



## INSTRUCTIONS

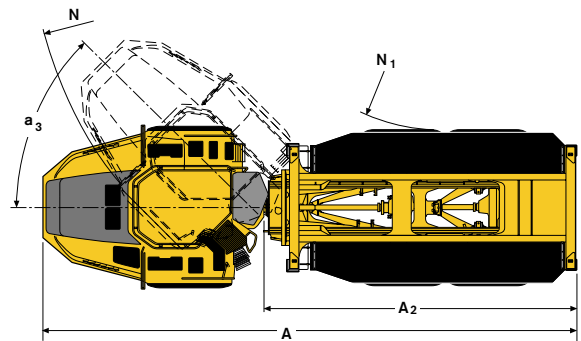
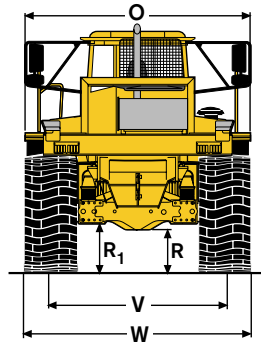
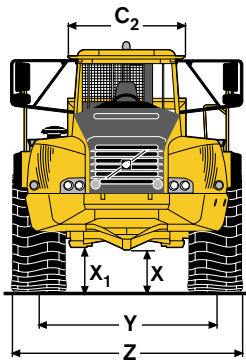
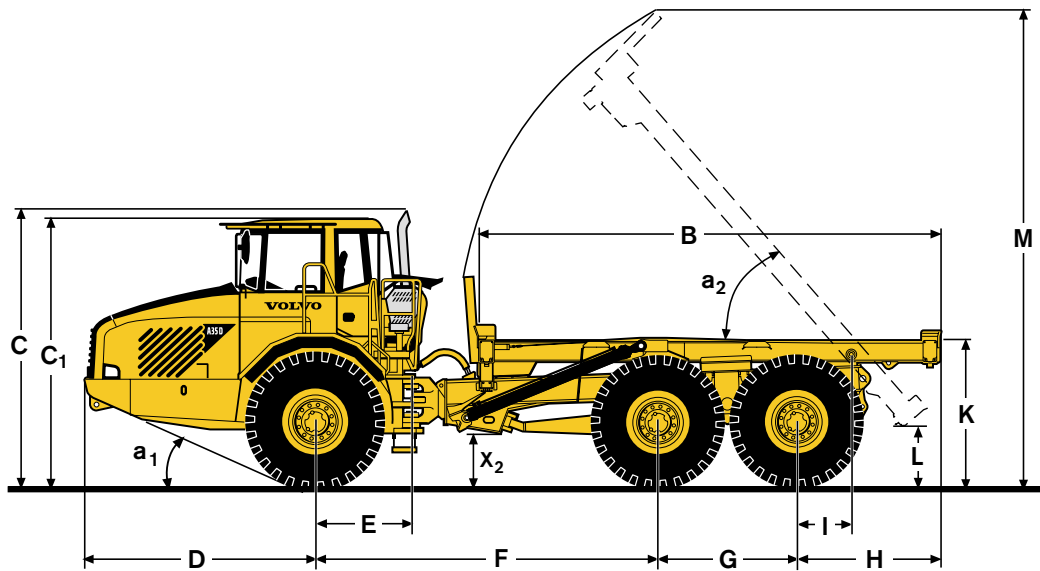
Diagonal lines represent total resistance (grade % **plus** rolling resistance %).

Charts based on 0% rolling resistance, standard tyres and gearing, unless otherwise stated.

In the retardation chart the diagonal lines represent the "total resistance" as well, which is the grade in % **minus** the rolling resistance in %.

- Find the diagonal line with the appropriate total resistance on the right-hand edge of the chart.
- Follow the diagonal line downward until it intersects the actual machine weight line, NMW or GMW.
- Draw a new line horizontally to the left from the point of intersection until the new line intersects the rimpull or retardation curve.
- Read down for vehicle speed.

# DIMENSIONS Volvo A35D Container Hauler (with 26.5R25 tyres, unloaded machine)



A	11 167 mm	H	1 757 mm	V	2 515 mm	$a_1$	23°
A <sub>2</sub>	6 224 mm	I	728 mm	V*	2 625 mm	$a_2$	49°
B	5 527 mm	K	2 302 mm	W	3 208 mm	$a_3$	45°
C	3 681 mm	L	915 mm	W*	3 410 mm	* Dimensions with 775/65R29	
C <sub>1</sub>	3 560 mm	M	7 242 mm	X	572 mm		
C <sub>2</sub>	1 768 mm	N	8 720 mm	X <sub>1</sub>	606 mm		
D	3 101 mm	N <sub>1</sub>	4 397 mm	X <sub>2</sub>	720 mm		
E	1 276 mm	O	3 103 mm	Y	2 515 mm		
F	4 501 mm	R	584 mm	Y*	2 625 mm		
G	1 820 mm	R <sub>1</sub>	670 mm	Z	3 208 mm		
				Z*	3 410 mm		

## LOAD CAPACITY

Load capacity . . . . . 32 500 kg

ISO Container 20 ft

\* Total weight of container and payload.

## STANDARD EQUIPMENT

### Safety

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

### Comfort

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

### Engine

Direct injected, electronically controlled  
Turbocharged, intercooled  
Volvo Engine Brake (VEB)  
Remote oil drainage plug  
Remote oil filters ease of access  
Preheater for easier cold starts

### Electrical system

Alternator  
Battery disconnect switch  
Electrical outlets, 24V 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 vital functions

Central positioned information display:

- Automatic pre-start checks
- Operating information, easy-to-find menu
- Trouble shooting diagnostics
- Hour meter
- Clock
- Machine settings

### Drivetrain

Automatic transmission  
Torque converter with automatic lock-up  
Drop box with high/low gear  
Hydraulic variable retarder  
6x4 or 6x6 operator selectable drive modes  
Longitudinal differential lock  
100% differential locks in all axles

### Brakes

Fully hydraulic disc brakes  
Two circuit brake system  
Parking brake on prop shaft

### Container frame

Container frame for 20' ISO container with remote controlled container locks  
Headboard for container frame  
Container corner guidings  
Sidemounted dumping cylinders  
Tail light mounted in the back of the container frame  
Roof mounted beacon (red) indicating "container lock open"  
Hydraulic lock to prevent dumping container if not all container locks are engaged

### Tyres

26.5R25

### Other

Air drier  
Tool box

## OPTIONAL EQUIPMENT

### Service and Maintenance

Tool kit with tyre inflation unit  
Electrical hood opening

### Engine

Extra air cleaner  
Engine 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  
Anti-theft system (prevents engine start)  
Head lights for left hand side traffic  
Reverse alarm  
Rear vision system

### Cab

Electrically heated rear-view mirrors  
Air conditioning  
Radio installation kit  
Radio  
Cable kit for cab heater (120V or 240V)  
Solar guard film, side windows

### Safety

Fire-extinguisher and first aid kit

### External

Belly plates for trailer A-stay  
Rear mudflaps

### Container frame

Dumping angle limitation (hydraulic)  
Unlocking mechanism for tailgate (air) including controls

### Tyres

775/65R29

### 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.*

# VOLVO

Construction Equipment