

Volvo Construction Equipment
Building Tomorrow



A45G FS

Volvo Articulated Haulers 41 t 485 hp





1966: DR 631 GRAVEL CHARLIE WORLD'S FIRST SERIES-MANUFACTURED ARTICULATED HAULER

By today's standards Gravel Charlie was not a big machine – but its impact on transport operations in the construction sector was massive.

- The world's first series manufactured articulated hauler
- Pioneering solutions including articulated steering, all-wheel drive and differential locks
- Unrivalled manoeuvrability in off-road conditions

GRAVEL CHARLIE MARKED THE BEGINNING OF SOMETHING NEW AND SOMETHING WHICH WOULD CHANGE THE CONSTRUCTION SECTOR FOREVER.

10 000
ARTICULATED
HAULERS
PRODUCED
BY VOLVO
1981

25 000
ARTICULATED
HAULERS PRODUCED
BY VOLVO
1996



**DR 631
GRAVEL CHARLIE**

1966
World's first series-manufactured articulated hauler

**10 t
25 km/h**



DR 860

1967
Master of rough terrain: 3-axle machine with unique bogie concept, still going strong

**15 t
30 km/h**



5350

1979
"Terrain Express" expanded Volvo articulated hauler's global success

**20 t
50 km/h**

- Constant 4-wheel drive
- Higher average speed in combination with higher load capacity = **improved profitability**
- Fully automatic transmission
- Unique suspension system allows high average speed
- Top class, roomy cab with low noise level



A25C

1993
First articulated hauler with low emission engine as standard



A40

1995
A class bigger

36 t

A complete product range 20 - 40 ton class



A60H

2016

Launching the world's largest articulated hauler.

55 t



G-SERIES

2014

Wet, cooled brakes on all models



F-SERIES

2011

Further improving ease of operation and environmental care



**E-SERIES
A40E FS**

2007

World's first full suspension articulated hauler, boosting operator comfort and productivity

39 t



D-SERIES

2000

Built with the operator in focus

37 t

- Increased productivity
- Improved operator comfort
- Improved serviceability

2001

BEST INDUSTRIAL DESIGN AWARD FOR D-SERIES DESIGN



2012

BEST INDUSTRIAL DESIGN AWARD FOR THE A40F DESIGN



2017

75 000
ARTICULATED HAULERS PRODUCED BY VOLVO

2016: VOLVO A60H THE BEST JUST GOT BIGGER



Built on the proven Volvo technology of articulated steering, all-wheel drive and differential locks, the Volvo A60H has evolved to be bigger and bolder!

- The largest true articulated hauler on the market
 - 55 t payload capacity
- Meeting a growing demand for larger, higher payload haulers

BY EVOLVING OUR PRODUCT LINE-UP TO RESPOND TO CUSTOMER DEMANDS, THE VOLVO A60H CONTINUES OUR PROUD HERITAGE OF INNOVATION AND MARKET LEADERSHIP IN HAULER SOLUTIONS.

Bigger, stronger, faster

Get ready to work with the Volvo A45G Full Suspension articulated hauler. Designed for heavy-hauling in severe off-road operations, the machine offers continuous productivity, proven Volvo technology and impressive comfort, contributing to sustainable operations. Hauling is easier and more efficient.

Comfort at speed

The built-in system monitors the hauler's wheel movements and stabilizes the machine based on ground conditions, delivering superior operator comfort.



Build the best fleet

With shorter cycle times and non-stop production, you can reduce your fleet size while maintaining the same productivity levels as other haulers.



Know no limits

The Full Suspension system provides ultimate operator comfort, which maximizes drivability in severe terrain and also reduces the level of maintenance required for haul roads on the jobsite.



Maximize your investment

Optimize load cycles with the On-Board Weighing on the A45G FS. The award-winning system – standard on FS models – ensures every hauler shifts the optimum safe payload.





MOVE MORE - FASTER

Increase productivity up to 25% with the A45G Full Suspension hauler from Volvo.



PROVEN TECHNOLOGY

First launched in 2007, the A45G FS has been designed and built with Volvo Construction Equipment's outstanding experience and expertise.

The future of technology

Built on the proven G-Series platform, the updated A45G FS features all the unique pioneering Volvo technology you'd expect from a Full Suspension hauler, plus a host of upgrades. Take your productivity to the next level thanks to technological advancements, including improved hydraulic cylinders, enhanced machine control software and upgrades throughout.

Unique suspension

The front suspension provides superior operator comfort meanwhile, the rear suspension delivers greater comfort, for a smooth and productive ride.



Comfortable front suspension

The unique front suspension is equipped with a set of accumulators and adapts to both payload and ground conditions, delivering unbeatable operator comfort.



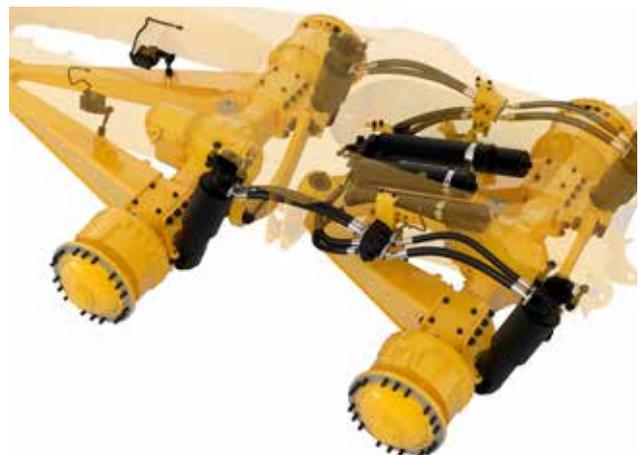
Active leveling sensors

Six level sensors actively monitor the frame movement in relation to the axles and signal the hydraulic system to adjust the suspension, optimizing stability during travel.



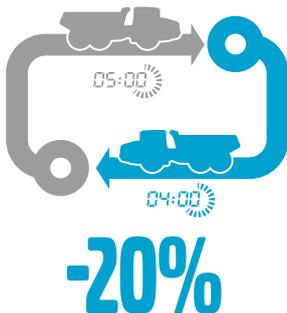
Robust accumulators and intuitive cross flow

The A45G FS haulers rear suspension is equipped with two high pressure accumulators for loaded operations and two low pressure accumulators for unloaded operations. The cross flow between the hydraulic cylinders stabilize both trailer and tractor, this allows for higher average speeds over poor ground structures.



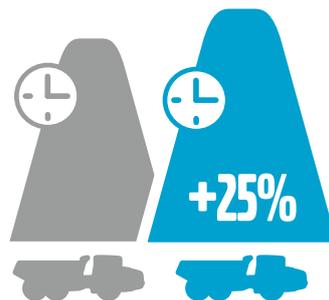
Move more for less

The Volvo A45G FS is purpose-built to deliver reliability and performance that is second to none. When working in tough terrain, the A45G FS delivers superior productivity, travel speed and cycle times when compared to other haulers for an improved Total Cost of Ownership (TCO).



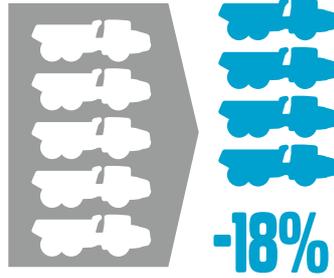
Average cycle times

Due to the ability of the Full Suspension machine to drive faster over challenging terrain, cycle times are significantly reduced.



Hauler productivity

Faster cycle times result in a 25% increase of hauler production per operating hour.

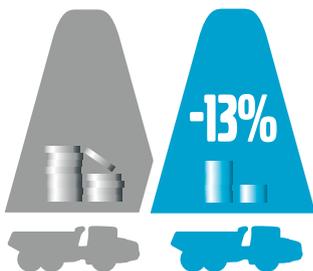


Total fleet size

By using Full Suspension haulers, you are able to reduce fleet size to move the same amount of material.

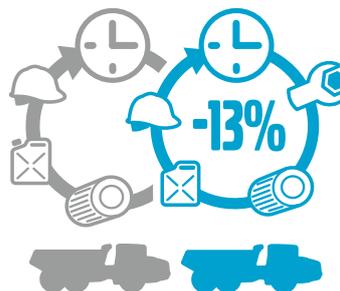


PUT TO THE TEST



Cost per tonne

Side-by-side study of an A45G compared to an A45G FS showed the A45G FS delivered a lower cost per tonne.



Cost of ownership

With fewer machines, delivering faster cycle times, the fleet total cost of ownership is reduced by 13%.

Volvo A45G FS in detail

Engine

V-ACT, 16 liter, 6-cylinder straight VGT (Variable Geometry Turbocharged) diesel engine with 4 valves per cylinder, overhead camshaft and electronically controlled unit injectors. It has wet replaceable cylinder liners and replaceable valve guides and valve seats.

The engine has cooled EGR (Exhaust Gas Recirculation) and exhaust after treatment with EAT-Muffler (Exhaust After treatment) including DOC (Diesel Oxidation Catalyst), DPF (Diesel Particulate Filter) and SCR (Selective Catalytic Reduction) with an electronically controlled UDS (Urea Dosing System).

After treatment system features passive DPF regeneration with an AHI (After treatment Hydro carbon Injection) device as back up.

Engine model	Volvo	D16J (Stage V)
Max power - SAE J1995 Gross	kW	357
	hp	485
at engine speed	r/min	1 800
Flywheel power - ISO 9249, SAE J1349 Net	kW	354
	hp	481
at engine speed	r/min	1 800
Max torque - SAE J1995 Gross	Nm	2 576
Max torque - ISO 9249, SAE J1349 Net	Nm	2 551
at engine speed	r/min	1 050
Displacement	l	16.1

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 water-proofing as necessary.

Voltage	V	24
Battery	V	2x12
Battery capacity	Ah	2x225
Alternator	kW/A	3.396/120
Starter motor	kW	9

Drivetrain

Torque converter with built-in lock-up function.

Transmission: Fully automatic Volvo PowerTronic planetary transmission with nine forward gears and three reverse gears. The transmission has the ability to skip gears for fast and accurate gear selection.

Dropbox: Volvo-developed, in-line design with high ground clearance and 100% longitudinal "dog clutch" type differential lock.

Axles: Heavy duty, purpose built Volvo design with fully floating axle shafts, planetary type hub reductions and 100% dog clutch type diff-lock.

Automatic traction control system (ATC).

Torque converter		2.1:1
Transmission	Volvo	PT 2529
Dropbox	Volvo	IL2 ATC
Axles	Volvo	ARB H40

Brake system

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

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

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

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

Steering System

Hydro-mechanical articulated steering, self compensating design.

Two double-acting steering cylinders.

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

Steering system, including secondary steering fulfills ISO 5010.

Chassis

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

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

Cab

Mounted on rubber pads. Ergonomically designed. Easy entry and exit. Wide angle forward view.
Operator centrally positioned above the front axle. Adjustable operators seat with retractable seat belt.
Tilt/telescopic steering wheel. Ergonomically positioned controls. Filtered air. Optional climate control system.
Operator communication system: Contronics.
Large color display, user-friendly and easy-to-understand information, all vital machine functions are constantly monitored.
Instructor seat with seat belt.
Safety: ROPS/FOPS standards approved according to ISO3471, SAE J1040 / ISO3449, SAE J231.

Sound level in cab (ISO 6396) - LpA	dB(A)	72
External sound level (ISO 6395) - LwA	dB(A)	112
Internal sound level with sound kit: 70 dB(A)		
External sound level with sound kit: 110 dB(A)		

Suspension

Unique, full hydraulic, on all wheels with automatic leveling and stabilizer. Part of the machine's hydraulic system, uses the same hydraulic oil.

Hydraulic cylinders (struts), front/rear		2/4
Accumulators, oil-nitrogen, high pressure, front		2
Accumulators, oil-nitrogen, high/low pressure, rear		2/2
Levelling sensors		2+2+2

Hydraulic system

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

System max working pressure	MPa	26
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Dumping System

Patented Load and Dump Brake.
Dumping Cylinders: two single stage double acting cylinders.

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

Body

Plate thickness

Front	mm	8
Sides	mm	11
Bottom	mm	14
Chute	mm	16

Material

Yield strength	N/mm ²	1 150	HB450 steel
Tensile strength	N/mm ²	1 350	

Load Capacity

Standard Body

Load capacity	kg	41 000
Body, struck	m ³	19.7
Body, heaped 2:1	m ³	25.1

With overhung tailgate

Body, struck	m ³	20.2
Body, heaped 2:1	m ³	26.2

Specifications

REFILL CAPACITIES

Crankcase	l	55
Fuel tank	l	480
Cooling system	l	49
Brake cooling system	l	188
Transmission	l	43
Dropbox	l	9
Axles, front/bogie	l	26/52
Hydraulic tank	l	210
AdBlue®	l	39

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SPEED

Forward		
1	km/h	5.8
2	km/h	8.5
3	km/h	10.4
4	km/h	15
5	km/h	21.6
6	km/h	27.3
7	km/h	36.1
8	km/h	47.8
9	km/h	57
Reverse		
1	km/h	6.5
2	km/h	9.4
3	km/h	18

OPERATING WEIGHT UNLOADED

Tires		29.5R25*
Front	kg	17 000
Rear	kg	14 900
Total	kg	31 900
Payload	kg	41 000

Operating weight includes all fluids and operator

*) A45G FS with tires 875/65R25, add 300 kg/axle

TOTAL WEIGHT

Tires		29.5R25*
Front	kg	21 150
Rear	kg	51 750
Total	kg	72 900

*) A45G FS with tires 875/65R25, add 300 kg/axle

GROUND PRESSURE

Tires		29.5R25	875/65R25
Unloaded			
Front	kPa	114	100
Rear	kPa	48	43
Loaded			
Front	kPa	143	125
Rear	kPa	174	152

Excavator PASS MATCHING

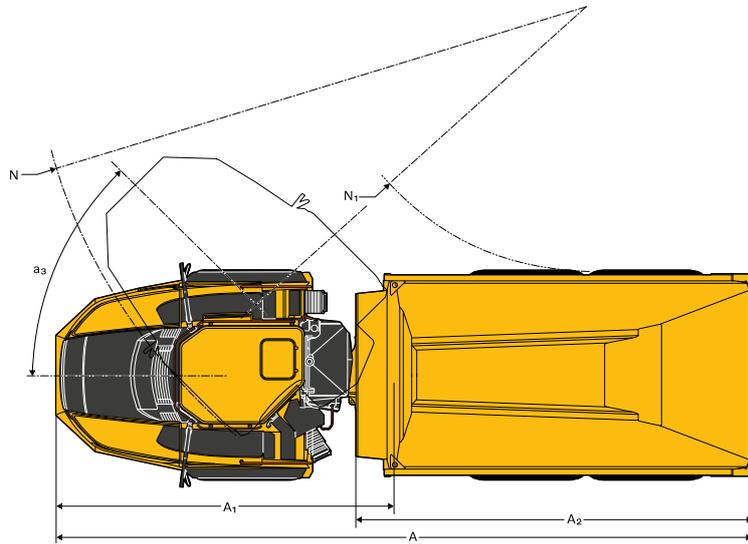
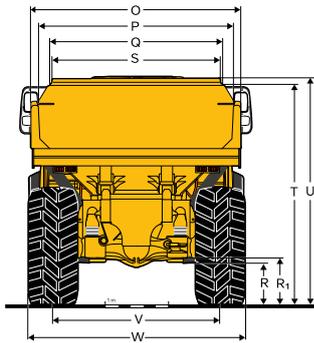
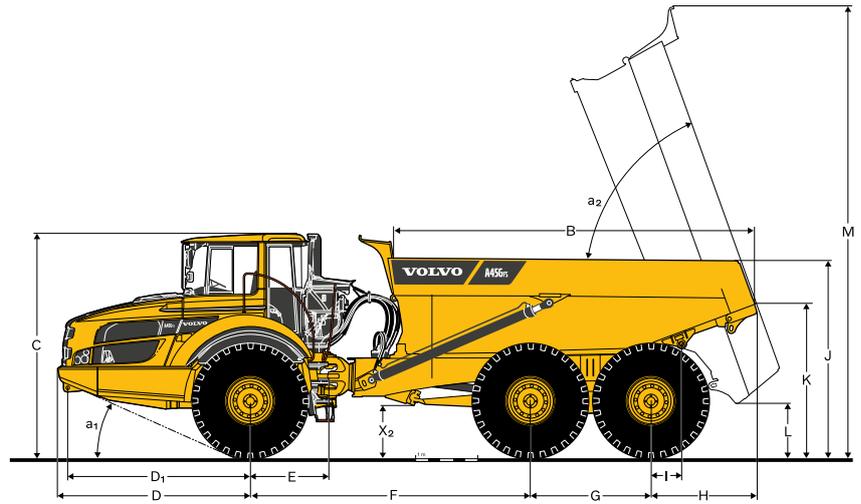
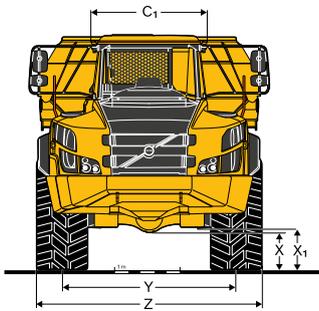
	EC480	EC750
	Number of passes	
A45G FS	8	5

Well matched, 4-6 buckets.
Excavator under capacity, 7 buckets or more.
Excavator undersized for optimum match.

Wheel loader PASS MATCHING

	L220	L250	L350
	Number of passes		
A45G FS	4	4	3

Well matched, 2-3 buckets.
Loader under capacity, 4 buckets or more.
Loader undersized for optimum match, reach might be an issue.



DIMENSIONS

Pos	Unit	A45G FS
A	mm	11 263
A1	mm	5 476
A2	mm	6 404
B	mm	5 844
C	mm	3 599
C1	mm	1 772
D	mm	3 100
D1	mm	2 942
E	mm	1 277
F	mm	4 518
G	mm	1 940
H	mm	1 706
I	mm	495
J	mm	3 200
K	mm	2 435
L	mm	822
M	mm	7 265
N	mm	8 957
N1	mm	4 327

DIMENSIONS

Pos	Unit	A45G FS
O	mm	3 430
P	mm	3 118
Q	mm	2 820
R	mm	613
R1	mm	640
S	mm	2 651
T	mm	3 427
U	mm	3 546
V	mm	2 636
W	mm	3 403
X	mm	553
X1	mm	640
X2	mm	788
Y	mm	2 636
Z	mm	3 403
a1	°	25
a2	°	70
a3	°	45

A45G FS: Unloaded machine with 29.5R25 tires.

Equipment

STANDARD EQUIPMENT

Engine

Direct injected, electronically controlled, turbocharged, intercooled
 Grouped oil filters, for ease of change
 Preheater for easier cold starts
 VEB (exhaust retarder EPG + compression brake)

Tires

29.5R25

Drivetrain

6x4 and 6x6 automatically engaged drive modes
 Dog clutch type 100% diff-locks in all axles
 Full automatic transmission
 Dropbox with longitudinal diff-lock
 Torque converter with automatic lock-up

Electrical system

120 A alternator
 Battery disconnect switch
 Extra 24 V socket for lunch cooler
 Lights:
 Back-up light
 Brake lights

Cab lighting

Direction indicators
 Headlights
 Instrument lighting
 Parking lights
 Rear lights

Brake system

Hill assist
 Load & Dump Brake
 Retarder pedal
 Parking brake on propeller shaft
 Two circuit, fully hydraulic, wet discs on all axles

Body

Body prepared for exhaust heating and optional equipment

Safety

Anti-slip steps and platforms
 Dump body lock
 Handrails on steps and platforms
 Hazard lights
 Horn
 Protective grill for cab rear window
 Rear-view mirrors
 Retractable 3-inch safety belt
 ROPS/ FOPS protected Care Cab
 Secondary steering
 Steering joint lock
 Windshield washers
 Windshield wipers with interval function
 Dump support system

STANDARD EQUIPMENT

Comfort

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

Operator information interface

Gauges:
 Brake pressure
 Fuel
 Speedometer
 Tachometer
 Wet disc brakes cooling 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
 Clock
 Hour meter

Operational information, easy-to-navigate menu

Troubleshooting diagnostics

Exterior

Front mudguard wideners and rear mudflaps

Service and maintenance

Electrical engine hood
 Drainage hose
 Machine Tracking Information System MATRIS
 Service platform integrated in the front grill
 Tool box

OPTIONAL EQUIPMENT

Engine

Air filter, heavy duty, EON
 Engine heater, 240 V
 Engine heater, diesel (Eberspächer)
 Engine auto shutdown
 Engine shutdown timer
 External emergency engine stop
 Fuel filter, extra
 High engine idle speed

Tires

875/65R25

OPTIONAL EQUIPMENT

Electrical system

Headlights, LED
Warning beacon, LED
Working lights, halogen
Working lights, LED
Entrance light
Anti-theft system (pin code)
Rear view camera
Reverse alarm
CAN-BUS interface, extra

Cab

Noise reduction kit (fulfils 2000/14/EC)
Anchorage, operator's manual
Cab heating/ventilation timer
Cable kit, for cab heater 240 V
HEPA cab air filter
Bluetooth radio kit
Rear view mirrors, adjustable, el.heated
Seat belt XXL, non-retractable
Sun blinds, side windows
Universal key
Air suspended, heated, fully adjustable seat
Armrest for operator seat
Headrest for operator seat
Low profile cab

OPTIONAL EQUIPMENT

Body

Body exhaust heating
Front spillguard, extra
Side extension, 200 mm
Side extension, light material
Tailgate, overhung, linkage-operated
Tailgate, overhung, wire-operated
Tailgate, underhung
Wear plates, 450 HB
Underground body

Safety

Fire suppression system
Warning triangle
First aid kit and fire extinguisher
Fire extinguisher
Wheel chocks

Service and maintenance

Lube system, standard machine
Lube system, tailgate
Lubrication hose, ground level greasing
Tool kit

Other

Siberian kit -40°C
On board weighing (OBW)
Arctic oil kit
CareTrack
Fast fuelling system
Jump start connector, NATO -type
Frame extension

SELECTION OF VOLVO OPTIONAL EQUIPMENT

Fire suppression system**Entrance light****LED work lights****Fast fuelling system****Heavy-duty air filter****LED headlights**

Not all products are available in all markets. Under our policy of continuous 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

Volvo Construction Equipment

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