

**V O L V O**



Volvo Articulated Haulers Imperial: 45.2 ton(us) / 90,389 lb / 479 HP  
Metric: 41 t / 41,000 kg / 357 kW

# **A45G FS**

Volvo Construction Equipment

# A45G FS



# The ultimate Hauler



## Service and maintenance

- 250-hour greasing interval
- Half the fluid volume compared to the competition
- 1,000hr engine service intervals
- Service reminders and fluid level monitoring
- Industry-leading service access and ground-accessible service points



## Only from Volvo

- Industry-leading Volvo engine and driveline: high performance, high fuel efficiency
- Terrain Memory function: optimized engagement of the traction control for excellent off-road mobility
- Volvo dynamic drive
- Automatic drive combinations including 100% differential locks, all-terrain bogie and hydromechanical steering
- OptiShift: fast and smooth directional changes



## Solutions for you

- Easy machine monitoring: CareTrack, ActiveCare Direct
- Lifetime Frame and Structure Warranty
- 24hr parts delivery guarantee
- Genuine Volvo Parts
- Volvo Site Simulation: get recommendations on the best fleet configuration and site set-up
- Operator Training Program: unlock the full potential of your machine
- Uptime Services: control your maintenance costs



## Haul Assist

- On-Board Weighing: real-time payload monitoring
- Tire Pressure Monitoring System
- Map: real-time positioning of on-site traffic
- Productivity Reports, including the geo-tracking of moved material
- Over-the-air updates, easy upgrades, remote support



## The operator's choice

- Ease of operation: ergonomic and easy-to-understand controls
- Centrally positioned operator for best-in-class visibility
- Cruise control, hill assist, dump support system, load and dump brake
- The downhill speed control function automatically maintains a constant speed when operating on downward gradients
- Built-in brake test: schedule and perform a stationary brake test, guided by the machine display



## Proven full suspension concept

- Reduce total fleet size by 18%
- Reduce average cycle time by 20%
- Increase productivity by 25%
- Reduce cost per tonne and cost of ownership by 13%
- Unique suspension contributing to a smooth and productive ride
- Active leveling sensors deliver optimized stability

# 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
Max power - SAE J1995 Gross	kW (hp)	357 (479)
at engine speed	r/min (r/s)	1,800 (30)
Flywheel power - ISO 9249, SAE J1349 Net	kW (hp)	354 (475)
at engine speed	r/min (r/s)	1,800 (30)
Max torque - SAE J1995 Gross	Nm (ft lbf)	2,576 (1,900)
Max torque - ISO 9249, SAE J1349 Net	Nm (ft lbf)	2,551 (1,882)
at engine speed	r/min (r/s)	1,050 (17.5)
Displacement	l (in <sup>3</sup> )	16.1 (982)

## 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. 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) - L<sub>pA</sub> dB 72

External sound level (ISO 6395) - L<sub>WA</sub> dB 112

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

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

### 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 (psi)	26 (3,771)
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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 (in)	8 (0.31)
Sides	mm (in)	11 (0.43)
Bottom	mm (in)	14 (0.55)
Chute	mm (in)	16 (0.63)
Material		HB450 steel
Yield strength	N/mm <sup>2</sup> (psi)	1,150 (166,793)
Tensile strength	N/mm <sup>2</sup> (psi)	1,350 (195,801)

### Load Capacity

#### Standard Body

Load capacity	kg (sh tn)	41,000 (45.2)
Body, struck	m <sup>3</sup> (yd <sup>3</sup> )	19.7 (25.8)
Body, heaped 2:1	m <sup>3</sup> (yd <sup>3</sup> )	25.1 (32.85)

#### With overhung tailgate

Body, struck	m <sup>3</sup> (yd <sup>3</sup> )	20.2 (26.4)
Body, heaped 2:1	m <sup>3</sup> (yd <sup>3</sup> )	26.2 (34.3)

### 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

# Specifications

## REFILL CAPACITIES

Crankcase	l	gal	55	14.5
Fuel tank	l	gal	480	126.8
Cooling system	l	gal	49	12.9
Brake cooling system	l	gal	188	49.7
Transmission	l	gal	43	11.4
Dropbox	l	gal	9	2.4
Axles, front/bogie	l	gal	26/52	6.9/13.7
Hydraulic tank	l	gal	210	55.5
DEF	l	gal	39	10.3

## SPEED

Forward				
1	km/h	mph	5.8	3.6
2	km/h	mph	8.5	5.3
3	km/h	mph	10.4	6.5
4	km/h	mph	15	9.3
5	km/h	mph	21.6	13.4
6	km/h	mph	27.3	17.0
7	km/h	mph	36.1	22.4
8	km/h	mph	47.8	29.7
9	km/h	mph	57	35.4
Reverse				
1	km/h	mph	6.5	4.0
2	km/h	mph	9.4	5.8
3	km/h	mph	18	11.2

## OPERATING WEIGHT UNLOADED

Tires		29.5R25*		
Front	kg	lb	17,000	37,479
Rear	kg	lb	14,900	32,849
Total	kg	lb	31,900	70,327
Payload	kg	lb	41,000	90,389

Operating weight includes all fluids and operator

\*) A45G FS with tires 875/65R25, add 300 kg (660 lb)/axle

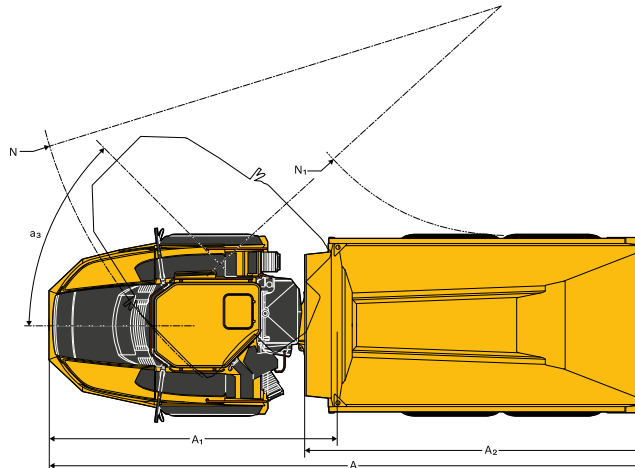
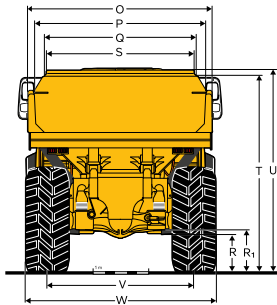
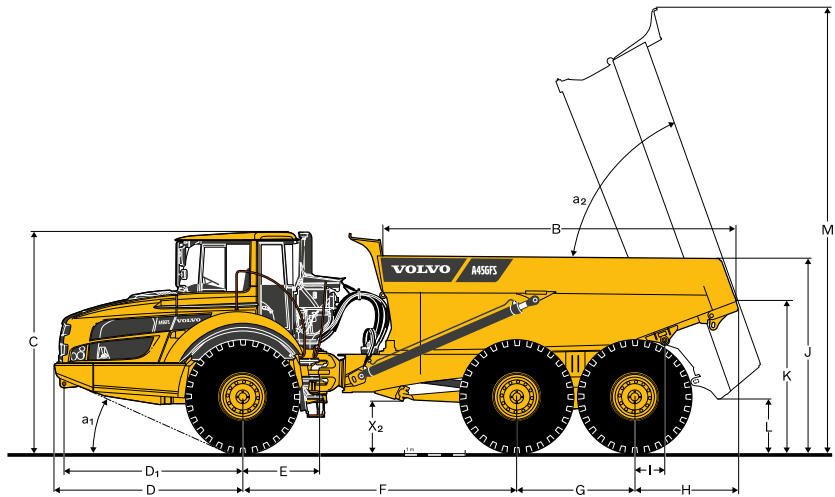
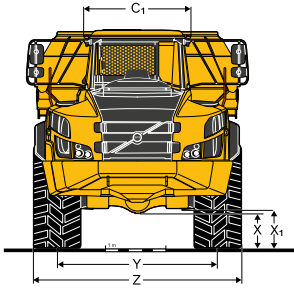
## TOTAL WEIGHT

Tires		29.5R25*		
Front	kg	lb	21,150	46,628
Rear	kg	lb	51,750	114,089
Total	kg	lb	72,900	160,717

\*) A45G FS with tires 875/65R25, add 300 kg (660 lb)/axle

## GROUND PRESSURE

Tires		29.5R25		875/65R25	
<b>Unloaded</b>					
Front	kPa	psi	114	16.5	100
Rear	kPa	psi	48	7.0	43
<b>Loaded</b>					
Front	kPa	psi	143	20.7	125
Rear	kPa	psi	174	25.2	152



**DIMENSIONS**

Pos	Unit	A45G FS	
A	mm ft in	11,263	36'11"
A <sub>1</sub>	mm ft in	5,476	18'
A <sub>2</sub>	mm ft in	6,404	21'0"
B	mm ft in	5,844	19'2"
C	mm ft in	3,599	11'10"
C <sub>1</sub>	mm ft in	1,772	5'10"
D	mm ft in	3,100	10'2"
D <sub>1</sub>	mm ft in	2,942	9'8"
E	mm ft in	1,277	4'2"
F	mm ft in	4,518	14'10"
G	mm ft in	1,940	6'4"
H	mm ft in	1,706	5'7"
I	mm ft in	495	1'7"
J	mm ft in	3,200	10'6"
K	mm ft in	2,435	8'
L	mm ft in	822	2'8"
M	mm ft in	7,265	23'10"
N	mm ft in	8,957	29'5"
N <sub>1</sub>	mm ft in	4,327	14'2"
O	mm ft in	3,430	11'3"

**DIMENSIONS**

Pos	Unit	A45G FS	
P	mm ft in	3,118	10'3"
Q	mm ft in	2,820	9'3"
R	mm ft in	613	2'0"
R <sub>1</sub>	mm ft in	640	2'1"
S	mm ft in	2,651	8'8"
T	mm ft in	3,427	11'3"
U	mm ft in	3,546	11'8"
V	mm ft in	2,636	8'8"
W	mm ft in	3,403	11'2"
X	mm ft in	553	1'10"
X <sub>1</sub>	mm ft in	640	2'1"
X <sub>2</sub>	mm ft in	788	2'7"
Y	mm ft in	2,636	8'8"
Z	mm ft in	3,403	12'
a <sub>1</sub>	°	25	
a <sub>2</sub>	°	70	
a <sub>3</sub>	°	45	

A45G FS: Unloaded machine with 29.5R25 tires.

# Equipment

## STANDARD EQUIPMENT

### Engine

Direct injected, electronically controlled, turbocharged, intercooled

Grouped oil filters

Preheater for easier cold starts

VEB (exhaust retarder EPG + compression brake)

### Wheels and 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 and security

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 - certified 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

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
<b>Engine</b>
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
<b>Wheels and tires</b>
875/65R25
<b>Electrical System</b>
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
<b>Cab</b>
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
<b>Body</b>
Body exhaust heating
Front spillguard, extra
Side extension, 200 mm / 7.9 in
Side extension, light material
Tailgate, overhung, linkage-operated
Tailgate, overhung, wire-operated
Tailgate, underhung
Wear plates, 450 HB
Underground body

OPTIONAL EQUIPMENT
<b>Safety and security</b>
Fire suppression system
Warning triangle
First aid kit and fire extinguisher
Fire extinguisher
Wheel chocks
<b>Service and maintenance</b>
Lube system, standard machine
Lube system, tailgate
Lubrication hose, ground level greasing
Tool kit
<b>Other</b>
Siberian kit -40°C
Arctic oil kit
CareTrack
Fast fuelling system
Jump start connector, NATO -type
Frame extension
Haul Assist - On-Board Weighing
Haul Assist - Tire Pressure Monitoring System





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