VOLVO



Volvo Articulated Haulers 39.0 t 57 km/h 476 hp

A40

Volvo Construction Equipment

A40

**Setting the standard for off-road performance,
the best articulated hauler on the market just got better.**



The ultimate in performance, comfort and uptime

The Volvo A40 is designed for unbeatable off-road performance, operator comfort and maximum uptime. With features including Volvo drivetrain with Terrain Memory, intuitive operator interface, superior visibility, outstanding durability and reduced service costs, the A40 ensures maximum productivity, profitability and performance across the toughest of terrains.



Intuitive in-cab interface

- All essential in-cab information conveniently displayed on just two screens
- Interactive, integrated Volvo Co-Pilot display
- Dynamic instrument cluster in-front of steering wheel



A new level in operator comfort

- Easy access/egress
- Direct field of vision which exceeds industry standards
- Lighting and cameras
- Enhanced storage options
- Easy cleaning
- Range of suspension configurations



Unbeatable off-road performance

- Volvo Automatic Traction control (ATC) with Terrain Memory
- Automatic drive combinations including 6x6 and 6x4
- All-terrain bogie
- Hydro-mechanical steering
- Downhill speed control
- Dynamic and predictive gear selection
- Superior tipping stability



Reduction in service costs

- 250-hour greasing intervals
- Industry leading service access
- Remote monitoring and service alerts
- Enhanced electrical service center



Haulers and beyond

- Haul Assist with On-Board Weighing
- Connected Map and Performance Indicator
- Future proofed software architecture
- CareTrack telematics
- Operator Training Program
- Service contracts
- Optimal pass-matching with Volvo loading tools

Intuitive operator interface

Operators can stay in-the-know and focussed on the task at hand thanks to all essential in-cab information conveniently displayed on just two screens. The interactive, integrated Volvo Co-Pilot display offers easy control over essential functions such as media, camera settings, climate control and machine status. This is combined with the dynamic instrument cluster, positioned in front of the steering wheel, which provides essential vehicle data at a glance.

Volvo Automatic Traction Control with Terrain Memory

Experience superb fuel efficiency without compromising on power and performance thanks to the world-renowned Volvo drivetrain, including Terrain Memory. The intelligent function identifies and remembers slippery road segments to ensure optimized traction control and outstanding off-road mobility.



Enhanced visibility

Visibility is key to a safe, efficient and productive working day and thanks to the redesigned cab panels and wider wiper coverage, operators benefit from a direct field of vision which exceeds industry standards. Work lights activated via the integrated Volvo Co-Pilot are now located on the pillar, providing increased illumination to further optimize visibility.

Haul Assist with On-Board Weighing

Haul Assist, powered by the integrated Volvo Co-Pilot, is a set of tools designed to help you get even more productivity and efficiency from your Volvo Articulated Hauler. A key feature of Haul Assist is On-Board Weighing, which provides real-time payload information which can help to eliminate carry-back and overloading. The result is peak productivity, reduced fuel consumption and less machine wear.

Reduction in service costs

Reduce service costs thanks to simplified servicing, longer change intervals and easy component access. Benefit from industry leading greasing intervals of 250 hours for maximum uptime, along with Volvo Engine Oil and High Performance Filters which offer 1000 hour engine service intervals.

Unbeatable off-road performance

The A40 delivers unbeatable off-road performance in its class with features including the proven Volvo drivetrain, automatic drive combinations (including 100% differential locks), all-terrain bogie and hydro-mechanical steering for unmatched traction, stability and precision control. With Volvo Dynamic Drive, dynamic and predictive gear selection adapts to the operating conditions at hand, for improved comfort and fuel efficiency.



Volvo A40 in detail

Engine

V-ACT, 13 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	D13J
Max power - SAE J1995 Gross	kW	350
	hp	476
at engine speed	r/min	1 800
Max torque - SAE J1995 Gross	Nm	2 525
at engine speed	r/min	1 050
Displacement	l	12.8

Electrical system

All cables, sockets and pins are identified. Cables are enclosed in plastic conduits and secured to main frame. Prewired for options. Connectors meet IP67 standard for water-proofing as necessary

Voltage	V	24
Battery	V	2 x 12
Battery capacity	Ah	2 x 170
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 H40/45/50

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 on the propeller shaft, designed to hold a loaded machine on a grade of up to 18%. When the parking brake is applied, the longitudal differential is 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, ±45°.
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. Unobstructed wide angle forward view. Operator centrally positioned above the front axle. ergonomically positioned controls.
Electronic controled climate unit with automatice controled temperature and functionality with high thermal comfort and clean air.
The controls, switches, and instruments in the cab of the hauler machine are designed with a strong focus on ergonomics and the appropriateness of information content for the operator. These elements are strategically placed to provide operators with intuitive access to critical functions while minimizing distractions. Ergonomics play a pivotal role in the design, ensuring that controls are within easy reach and that their layout minimizes operator fatigue during long shifts. The primary 8" display, positioned directly in front of the operator, serves as a central hub for monitoring vital machine functions, displaying information in a clear and organized manner. The 12" secondary display complements this by enhancing situational awareness. The information presented on these displays is carefully curated to deliver the most pertinent data, alerts, and notifications, enabling operators to make informed decisions swiftly and accurately.
Safety: ROPS/FOPS standards approved according to ISO3471, SAE J1040 / ISO3449, SAE J231.

Sound level in cab (ISO 6396) - L_{pA}	dB	72
External sound level (ISO 6395) - L_{WA}	dB	112

Internal sound level with sound kit: 70 dB(A)
External sound level with sound kit: 110 dB(A)



Hydraulic system		
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	28

Dumping System		
Patented Load and Dump Brake. **Dumping Cylinders:** two single stage double acting cylinders.		
Tipping angle	°	69
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		HB450 steel
Yield strength	N/mm²	1 150
Tensile strength	N/mm²	1 350

Load Capacity		
Standard Body		
Load capacity	kg	39 000
Body, struck	m³	18.7
Body, heaped 2:1	m³	24
With overhung tailgate		
Body, struck	m³	19.1
Body, heaped 2:1	m³	25.1

Suspension

Front suspension: Three point suspension consisting of a-stay fitted to the frame structure by a spherical rubber bushing, shock absorbers with accumulators and cross stays.
Reat suspension: 3-point bogie beam suspension consisting of a straddle-mounted bogie beam with maintenence free rubber bearings, flexible rubber pads, cross stays and a-stay



Specifications

REFILL CAPACITIES

		A40J
Crankcase	l	50
Fuel tank	l	563
Cooling system	l	44
Brake cooling system	l	207
Transmission	l	43
Dropbox	l	9
Axles, front/bogie	l	26/53
Hydraulic tank	l	199
DEF/AdBlue®	l	53

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SPEED

		A40J
Forward		
1	km/h	5.8
2	km/h	8.5
3	km/h	10.4
4	km/h	15.0
5	km/h	21.6
6	km/h	27.3
7	km/h	36.1
8	km/h	47.8
9	km/h	57.0
Reverse		
1	km/h	6.5
2	km/h	9.4
3	km/h	18.0

OPERATING WEIGHT UNLOADED

		A40J
Tires		**29.5R25***
Front	kg	17 060
Rear	kg	14 340
Total	kg	31 400
Payload	kg	39 000

Operating weight includes all fluids and operator

*) A40J with tires 875/65R29, add 300 kg /axle

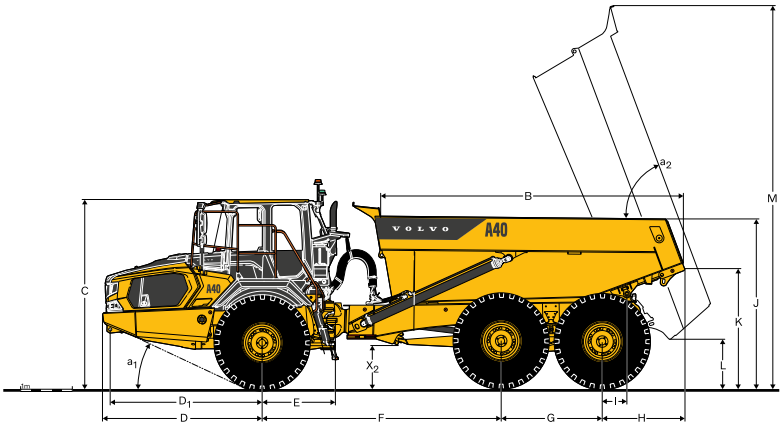
TOTAL WEIGHT

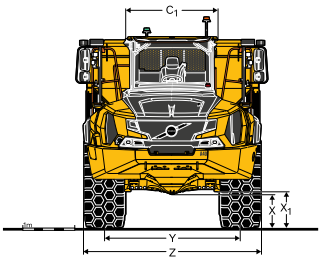
		A40J
Tires		**29.5R25***
Front	kg	21 680
Rear	kg	48 630
Total	kg	70 310

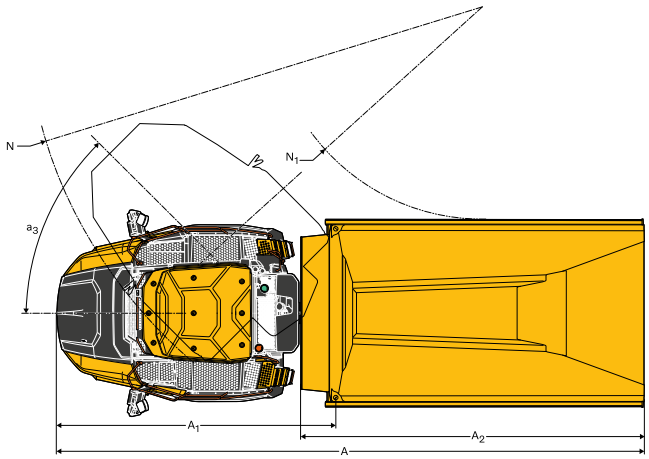
*) A40J with tires 875/65R29, add 300 kg /axle

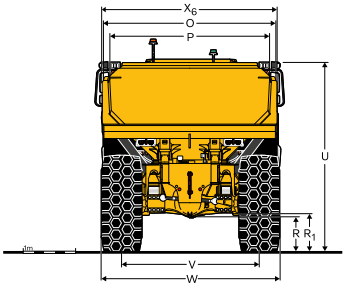
GROUND PRESSURE

		A40J	
Tires		**29.5R25**	**875/65R29**
Unloaded			
Front	kPa	122	102
Rear	kPa	51	44
Loaded			
Front	kPa	155	130
Rear	kPa	174	145









DIMENSIONS

Pos	Unit	A40J
A	mm	11 261
A_1	mm	5 459
A_2	mm	6 418
B	mm	5 861
C	mm	3 626
C_1	mm	1 819
D	mm	3 084
D_1	mm	2 941
E	mm	1 277
F	mm	4 628
G	mm	1 940
H	mm	1 609
I	mm	494
J	mm	3 142
K	mm	2 434
L	mm	951
M	mm	7 400
N	mm	9 144
N_1	mm	4 429
O	mm	3 324

DIMENSIONS

Pos	Unit	A40J
P	mm	3 118
Q	mm	2 820
R	mm	652
R_1	mm	744
S	mm	2 651
T	mm	3 458
U	mm	3 574
V	mm	2 636
W	mm	3 401
X	mm	583
X_1	mm	688
X_2	mm	821
Y	mm	2 636
Z	mm	3 400
a_1	°	25.3
a_2	°	69
a_3	°	45

A40J: Unloaded machine with 29.5R25

Equipment

STANDARD EQUIPMENT
Cab/Operator envioment
Operator seat with head restraint (air suspended and heated)
Electronic Climate Control
Cup holder / storage tray
Cell phone holder
Instructor seat with seat belt
Overhead console for CC Radio, Tachograph, etc.
Air suspended / heated operator seat
Sliding window
Cooled / Heated storage box
Front sun visor
Tilt/telescopic steering wheel
Loud speakers (4)
Dynamic instrument cluster and integrated Co-Pilot
Automatic pre-start checks
Troubleshooting diagnostics
Engine
Preheater for easier cold starts
VEB (exhaust retarder EPG + compression brake)
Wheels and tires
29.5R25
Electric powertrain
6x4 and 6x6 Automatic Traction Control (ATC)
Dog clutch type 100% diff-locks in all axles
Cruise Control
Dropbox with longitudinal diff-lock
Torque converter with automatic lock-up in all gears
Electrical system
Battery disconnect switch
Electrical Interface
Charging studs
Power outlets
USB-C 2.0 (2)
USB-A 3.0 (1)
24V (2)
Exterior and Interior lights (all LED)
Brake system
Two circuit, fully hydraulic, wet discs on all axles (externally cooled)
Down Hill Speed Control
Hill assist
Load & Dump Brake
Retarder pedal
Parking brake on propeller shaft

STANDARD EQUIPMENT
Dumping System
Body prepared for exhaust heating and optional equipment
Safety
Anti-slip steps and platforms with handrails
Dump body lock
Steering joint lock
Harness anchor points
Rear-view mirrors
Retractable 3-inch 2-point safety belt
ROPS / FOPS protected Care Cab
Secondary steering
Dump support system
Positioning indicators (front and rear)
Entrance camera
Service and Maintenance
Grouped service points and filters
Electrical fuel priming pump
Prepared for fast fueling equipment
Ambient and service lights (LED)
Electrical engine hood
Belly plate with integrated service hatches
Drainage hoses
Tool box
Front service ladder

OPTIONAL EQUIPMENT

Engine

- Air filter, heavy duty
- Engine heater, electric
- Engine heater, diesel
- Engine shutdown timer
- External emergency engine stop

Operator Environment

- Noise reduction kit (fulfils 2000/14/EC)
- Anchorage, operator's manual
- Cab heating / ventilation timer
- Cable kit, for cab heater
- Cab air filter (Asbestos dust protection)
- Cab air filter (Carbon)
- Rear view mirrors, adjustable, el.heated
- Sun blinds, side windows
- Universal key
- Premium operator seat with head restraint (air suspended, cooled / heated), 2-point belt
- Premium operator seat with head restraint (air suspended, cooled / heated), 3-point belt
- Armrest for operator seat
- Hands-free microphone
- Radio AM / FM / DAB

Wheels and tires

- 875/65R29

Drivetrain

- Long haul kit, dropbox cooling
- Speed limiter (25/30 km/h)

Electrical system

- Warning beacon, LED
- Seatbelt indicator, external
- Working lights front and rear, LED
- Rear view camera
- Front view camera
- Reverse alarm
- PDS interface, Safemine
- Tire Pressure Monitoring System

OPTIONAL EQUIPMENT

Suspension

- Rubber front suspension
- Hydraulic front suspension

Dumping System

- Body exhaust heating
- Front spillguard, extra
- Side extension, 200 mm
- Side extension, 400 mm
- Side extension, light material
- Tailgate, overhung, wire-operated
- Tailgate, overhung, linkage-operated
- Tailgate, underhung
- Wear plates, 450 HB
- Wear plates heavy duty, 450 HB

Safety and security

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

Service and maintenance

- Auto Lube system
- Centralized greasing
- Tool kit

Other

- Arctic oil kit
- Fast fuelling system
- Jump start connector, ISO-type

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.