• Engine output SAE J1349:  
  Net 232 kW  311 hp  
  Gross 235 kW  315 hp  

• Body volume:  
  16.5 m³  21.6 yd³  

• Load capacity:  
  27 t  30 sh ton  

• Volvo High-performance, low-emission direct-injected, intercooled, turbocharged engine as standard.  

• Electronically controlled, fully automatic powershift transmission.  

• Variable hydraulic retarder as standard.  

• Dropout with longitudinal differential lock.  

• 100% lock-up diff. locks.  
  One longitudinal and three transverse diff. locks.  

• Volvo rough terrain suspension, high ground clearance and individually oscillating bogie and front axle.  

• Load and dump brake.  

• Low interior noise level.  

• Adjustable steering wheel.
**DRIVETRAIN**

**Torque converter:** Single stage with free-wheeling stator and automatic lock-up in all ranges.

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

**Dropdown:** Volvo single-stage, power take-off and 100% differential locking.

**Axles:** Volvo. 6-wheel drive. All axles have transversal diff. locks with 100% locking capability and fully floating axle shafts with planetary type hub reductions.

**Differential locks:** One longitudinal and three transverse. All with 100% locking capability.

- Torque converter ............... 2.36:1
- Transmission .................... Volvo PT 1663
- Dropdown ....................... Volvo FL 650B
- Axles .................. Volvo AH 63

**Speeds with tires 30/65 R 25 and 23.5 R 25**

<table>
<thead>
<tr>
<th>Forward</th>
<th>Backward</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8.2 km/h 5.1 mph</td>
</tr>
<tr>
<td>2</td>
<td>11.9 km/h 7.4 mph</td>
</tr>
<tr>
<td>3</td>
<td>21.5 km/h 13.4 mph</td>
</tr>
<tr>
<td>4</td>
<td>31.1 km/h 19.3 mph</td>
</tr>
<tr>
<td>5</td>
<td>39.5 km/h 24.5 mph</td>
</tr>
<tr>
<td>6</td>
<td>52.3 km/h 32.7 mph</td>
</tr>
</tbody>
</table>

**ENGINE**

Volvo 6-cylinder, in-line, direct-injected, turbocharged, intercooled 4-cycle low-emission diesel engine with overhead valves and wet replaceable cylinder linings.


**Fan:** Hydrostatic-driven, thermostatically controlled radiator fan, consuming power only when needed.

- Make .................. Volvo
- Model .................. TD104 KAE
- Max power at .......... 36.7 r/s 2200 rpm
- SAE J1349 Gross ........ 235 kW 315 hp
- Flywheel power at ...... 36.7 r/s 2200 rpm
- SAE J1349 Net .......... 232 kW 311 hp
- DIN 6271* .............. 232 kW 311 hp
- Max torque at .......... 18.3 r/s 1100 rpm
- SAE J1349 Gross ........ 1460 Nm 1077 lbf ft
- SAE J1349 Net .......... 1455 Nm 1073 lbf ft
- DIN6271** .............. 1455 Nm 1073 lbf ft
- Displacement total ...... 9.6 l 586 in³
- Bore ..................... 120 mm 4.7 in
- Stroke .................... 140 mm 5.5 in
- Compression ratio ...... 18:1

* with fan at normal speed. With fan operating at full speed the flywheel power is 218 kW 292 hp, which corresponds to DIN 70020.

**ELECTRICAL SYSTEM**

- Voltage ................. 24 V
- Battery capacity .......... 2x170 Ah
- Alternator ................. 1.65 kW 60 A
- Starter motor ............. 6.6 kW 8.8 hp

**SERVICE CAPACITIES**

<table>
<thead>
<tr>
<th>Component</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crankcase</td>
<td>23 l</td>
</tr>
<tr>
<td>Cooling system</td>
<td>42 l</td>
</tr>
<tr>
<td>Cooling system, total</td>
<td>70 l</td>
</tr>
<tr>
<td>Transmission total</td>
<td>40 l</td>
</tr>
<tr>
<td>Dropdown</td>
<td>6 l</td>
</tr>
<tr>
<td>Front axle</td>
<td>29 l</td>
</tr>
<tr>
<td>First bogie axle</td>
<td>30 l</td>
</tr>
<tr>
<td>Second bogie axle</td>
<td>29 l</td>
</tr>
<tr>
<td>Brake hydraulics</td>
<td>2 l</td>
</tr>
<tr>
<td>Hydraulic tank</td>
<td>150 l</td>
</tr>
<tr>
<td>Hydraulic system</td>
<td>194 l</td>
</tr>
<tr>
<td>Fuel tank</td>
<td>360 l</td>
</tr>
</tbody>
</table>

**SUSPENSION**

Volvo suspension system. Totally maintenance-free.

**Front axle:** One rubber spring with bottoming absorption on each side. Stabilizer. Two shock absorbers on each side. The front axle is suspended at three points, allowing oscillation in rough terrain.

**Bogie:** Volvo’s unique rough terrain bogie, which permits individual oscillation between the axles.
**BRAKE SYSTEM**

Air-hydraulic disc brakes on all axles. Two circuits. Designed to comply with ISO 3450 and SAE J1473 at gross machine weight.

**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.

**Load and dump brake:** With the engine running, the service brake on the bogie axles is applied together with the parking brake.

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

**Transmission retarder:** Hydraulic, integrated in transmission as standard. Infinitely variable with the retarder pedal or full effect applied via the service brake pedal.

**Exhaust retarder:** Standard.

For retarding capability, including hydraulic transmission retarder, engine and exhaust retarder, see graph on page 4.

**STEERING SYSTEM**

Hydromechanical articulated steering with mechanical feedback. 3.4 turns lock-to-lock.

**Cylinders:** Two double-acting steering cylinders.

**Supplementary steering:** Standard. Complies with the ISO 5010 standard at total machine weight.

**Steering angle:** \( \pm 45^\circ \)

**HYDRAULIC SYSTEM**

**Pumps:** Four engine-dependent, variable piston pumps mounted on flywheel power takeoffs. One ground-dependent hydraulic pump for supplementary steering mounted on drop-box.

**Filtration:** Through two paper filters with magnetic cores.

- Pump capacity per pump at shaft speed: 36 r/s, 109 l/min, 36 r/s, 2260 rpm, 28.8 US gpm
- Working pressure: 19 MPa, 2758 psi

**CAB**


**Heater and defroster:** Filtered air and pressurized cab. Three-speed fan.

**Operator’s seat:** Ergonomically designed adjustable seat with air suspension, electric heating, flameproof upholstery and retractable seat belt.

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

- Number of exits: 2
- Internal sound level acc. to ISO 6394 at max. speed: 76 dB (A)

**WEIGHTS**

Operating weight includes all fluids and operator.

**Operating weight with tires 23.5 R 25**
- Front: 11500 kg, 25,350 lb
- Rear: 9400 kg, 20,720 lb
- Total: 20900 kg, 46,080 lb
- Payload: 27000 kg, 59,520 lb
- Total weight: 47900 kg, 105,600 lb

A30C equipped with 30/65 R 25 tires, add 200 kg 440 lb per axle.

**GROUND PRESSURE**

At 15% sinkage of unloaded radius and specified weights.

**With tires:** 23.5 R 25 30/65 R 25
- Unloaded
  - Front: 112 kPa, 16.2 psi, 94 kPa, 13.6 psi
  - Rear: 46 kPa, 6.7 psi, 40 kPa, 5.8 psi
- Loaded
  - Front: 150 kPa, 21.7 psi, 124 kPa, 18.0 psi
  - Rear: 164 kPa, 23.8 psi, 135 kPa, 19.6 psi

**BODY**

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

**Cylinders:** Two single-stage, double-acting hoist cylinders.

- Tipping angle: \( 70^\circ \)
- Tipping time with load: 14 s
- Lowering time: 13 s
- Body, plate thickness:
  - Front: 8 mm, 5/16 in
  - Side: 12 mm, 1/2 in
  - Bottom/chute: 14 mm, 9/16 in
- Yield strength: 1000 N/mm², 145,000 psi
- Tensile strength: 1250 kN/mm², 181,000 psi
- Hardness min.: 360 – 440 HB
RIMPULL
1 Rimpull in kp lbf
2 Speed in km/h mph
3 Machine weight in kg lb
4 Grade in % + rolling resistance in %

RETARDATION PERFORMANCE
(Exhaust retarder + hydraulic transmission retarder)
1 Braking effort in kp lbf
2 Speed in km/h mph
3 Machine weight in kg lb
4 Grade in % - rolling resistance in %.

INSTRUCTIONS
Diagonal lines represent total resistance (grade % plus rolling resistance %).
Charts based on 0 % rolling resistance, standard tires and gearing, unless otherwise stated.
In the retardation chart, the diagonal lines represent the “total resistance” as well (here in downhill grades it is the total extra pushing force), which is the grade in % minus the rolling resistance in %.

A. Find the diagonal line with the appropriate total resistance on the right-hand edge of the chart.
B. Follow the diagonal line downward until it intersects the actual machine weight line, NMW or GMW.
C. Draw a new line horizontally to the left from the point of the intersection until the new line intersects the rimpull or retardation curve.
D. Read down for vehicle speed.
DIMENSIONS Volvo A30C 6x6 (unloaded with 23.5R25 tires)

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>10200 mm</td>
</tr>
<tr>
<td>A_1</td>
<td>4862 mm</td>
</tr>
<tr>
<td>A_2</td>
<td>5856 mm</td>
</tr>
<tr>
<td>B</td>
<td>5167 mm</td>
</tr>
<tr>
<td>C</td>
<td>3410 mm</td>
</tr>
<tr>
<td>C_1</td>
<td>3260 mm</td>
</tr>
<tr>
<td>C_2</td>
<td>1331 mm</td>
</tr>
<tr>
<td>C_3</td>
<td>3802 mm</td>
</tr>
<tr>
<td>with optional spill guard in upright position</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>2770 mm</td>
</tr>
<tr>
<td>E</td>
<td>1210 mm</td>
</tr>
<tr>
<td>F</td>
<td>4173 mm</td>
</tr>
<tr>
<td>G</td>
<td>1670 mm</td>
</tr>
<tr>
<td>H</td>
<td>1587 mm</td>
</tr>
<tr>
<td>I</td>
<td>430 mm</td>
</tr>
<tr>
<td>J</td>
<td>2834 mm</td>
</tr>
<tr>
<td>K</td>
<td>2180 mm</td>
</tr>
<tr>
<td>L</td>
<td>594 mm</td>
</tr>
<tr>
<td>M</td>
<td>6494 mm</td>
</tr>
<tr>
<td>N</td>
<td>8047 mm</td>
</tr>
<tr>
<td>N_1</td>
<td>4021 mm</td>
</tr>
<tr>
<td>O</td>
<td>2932 mm</td>
</tr>
<tr>
<td>P</td>
<td>2720 mm</td>
</tr>
<tr>
<td>Q</td>
<td>2286 mm</td>
</tr>
<tr>
<td>R</td>
<td>530 mm</td>
</tr>
<tr>
<td>R_1</td>
<td>567 mm</td>
</tr>
<tr>
<td>S</td>
<td>1464 mm</td>
</tr>
<tr>
<td>T</td>
<td>810 mm</td>
</tr>
<tr>
<td>U</td>
<td>3305 mm</td>
</tr>
<tr>
<td>V</td>
<td>2216 mm</td>
</tr>
<tr>
<td>W</td>
<td>2820 mm</td>
</tr>
<tr>
<td>X</td>
<td>485 mm</td>
</tr>
<tr>
<td>X_1</td>
<td>522 mm</td>
</tr>
<tr>
<td>X_2</td>
<td>670 mm</td>
</tr>
<tr>
<td>Y</td>
<td>2216 mm</td>
</tr>
<tr>
<td>Z</td>
<td>2820 mm</td>
</tr>
<tr>
<td>Y_1</td>
<td>2980 mm</td>
</tr>
<tr>
<td>a_1</td>
<td>39&quot;</td>
</tr>
<tr>
<td>a_2</td>
<td>70°</td>
</tr>
<tr>
<td>a_3</td>
<td>45°</td>
</tr>
</tbody>
</table>

* with tires 30/65 R 25

LOAD CAPACITY (Body volume according to SAE 2:1)

<table>
<thead>
<tr>
<th>Capacity Type</th>
<th>Volume</th>
<th>US body load capacity</th>
<th>30 sh tn</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body, struck</td>
<td>12.9 m³</td>
<td>16.9 yd³</td>
<td></td>
</tr>
<tr>
<td>heaped</td>
<td>16.5 m³</td>
<td>21.6 yd³</td>
<td></td>
</tr>
</tbody>
</table>

With overhanging tailgate (optional)

<table>
<thead>
<tr>
<th>Capacity Type</th>
<th>Volume</th>
<th>US body load capacity</th>
<th>30 sh tn</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body, struck</td>
<td>13.2 m³</td>
<td>17.3 yd³</td>
<td></td>
</tr>
<tr>
<td>heaped</td>
<td>17.2 m³</td>
<td>22.5 yd³</td>
<td></td>
</tr>
</tbody>
</table>


**STANDARD EQUIPMENT**

**Safety**
- ROPS/FOPS cab
- Anti-slip material on hood and fenders
- Hazard flashers
- Horn
- Protective grille for rear window
- Rearview mirrors
- Reverse alarm
- Secondary steering
- Speedometer, electric
- Steering joint locking assembly
- Trainer’s seat with seat belt and back rest
- Windshield wipers with interval
- Windshield washers

**Comfort**
- Adjustable steering wheel
- Ashtray
- Cab heater with filtered fresh air and defroster
- Cigarette lighter
- Cup holder
- Conronic information display
- Ergonomically designed and adjustable operator’s seat with air suspension, electric heating and retractable seat belt
- Radio/Conronic console in ceiling
- Sun visor
- Tinted glass

**Engine**
- Exhaust retarder
- Intercooler
- Low-emission engine
- Oil drainage hose
- Preheating coil
- Turbocharger

**Electric system**
- Alternator
- Battery disconnect switch
- Electrical outlet 24V
- Lights:
  - Headlights, high/low beam
  - Parking lights
  - Turn signals
  - Rear lights
  - Brake lights
  - Reverse lights
  - Cab lighting
  - Instrument lighting
  - Control panel lighting
- Gauges for:
  - Air pressure
  - Engine temperature
  - Engine rpm
  - Fuel
  - Hours
  - Transmission oil temperature
- Pilot lamps for:
  - Turn signals
  - Bogie axles diff. lock
  - Front axle diff. lock
  - Longitudinal diff. lock
  - Lights
  - High beam
  - Preheating coil

**Warning lamps for:**
- Air cleaner, engine
- Battery charging
- Body up
- Brake pressure
- Brake fluid level
- Coolant level
- Engine oil pressure
- Engine temperature
- Engine-dependent steering pump
- Ground-dependent steering pump
- Parking brake
- Transmission malfunction

**Central warning for:**
- Battery charging
- Brake oil level
- Brake pressure
- Body up
- Engine oil pressure
- Engine-dependent steering pump
- Engine rpm
- Engine overspeed
- Engine temperature
- Engine-dependent steering pump
- Ground-dependent steering pump
- Transmission malfunction

**Central warning for:**
- Battery charging
- Brake oil level
- Brake pressure
- Body up
- Engine oil pressure
- Engine overspeed
- Engine temperature
- Engine-dependent steering pump
- Ground-dependent steering pump
- Transmission malfunction

**Brakes**
- Two circuits
- Air-hydraulic disc brakes
- Brake shields
- Load and dump brake
- Parking brake
- Retarder activation in brake pedal

**External**
- Rear mudflaps
- Mudguard wideners, front 9′ 9″

**Body**
- Body with exhaust ducts

**Tires**
- 23.5 R 25

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**OPTIONAL EQUIPMENT**

**Service and maintenance**
- Toolbox
- Central lubrication

**Engine**
- Coolant filter
- Oil-bath air cleaner
- Engine coolant preheater, 120 V

**Electrical**
- Work lights, roof-mounted

**Cab**
- Air-conditioning
- Electrically heated rearview mirrors
- Kit for radio installation

**External**
- Fender wideners

**Body**
- Body heating
- Extra front spill guard
- Overhanging tailgate, wire-operated
- Rock liner

**Tires**
- 30/65 R 25

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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.

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SNA