

**V O L V O**



Volvo Rigid Haulers 55.0 t 772 hp

**R60**

Volvo Construction Equipment

# R60

Intended for quarrying and mining applications, the R60 rigid hauler is designed to maximize tons of material moved per hour at the lowest possible cost.



## Productivity



- 55-tonne payload, 36.04 m<sup>3</sup> volume
- V-shape body for optimum load retention
- Fast body-tipping system
- High drive axle multiplication: excellent tractive effort and incline performance
- 61 km/h top speed
- 10/10/20 payload policy, supported by On-Board Weighing system (option)
- A match to EC950F and L350H
- Design promotes excellent stability and maneuverability

## Fuel efficiency



- Dynamic Shift Control: automatic adaptive gear selection
- Selectable Eco mode
- Auto engine idle shut down
- Include payload sensitive shifting (when connected to optional on-board weighing system)
- HVO compliant

# High productivity, low cost of operation

Boost your profits in the Volvo R60. The hardworking and hardwearing rigid hauler is packed with high productivity, low maintenance requirements and long service life. These, combined with a comfortable cab environment and a host of safety-focused features, make this machine your best choice for quarrying and mining operations.



## Comfort

- Cab access from both sides
- Outstanding visibility: large windscreen, low raked dashboard, left-positioned operator station, optional 360° Volvo Smart View
- Independent suspension and viscous mounted cab
- Adjustable air-suspended seat and steering wheel
- Effortless ergonomic control layout
- Powerful Heating, Ventilation and Air-Conditioning system
- Bluetooth, ample storage space
- Operator cab with pressurized properties
- Independent suspension and viscous mounted cab - reduces vibrations and impacts while harmonizing noise



## Safety

- ROPS/FOPS-certified cab with pressurized properties
- Anti-slip steps, secure walkways
- Selectable transmission retarder, Gear dependent speed control
- Transmission overspeed protection
- Fail-safe braking and secondary steering
- Neutral coast inhibitor
- Ground level tag out switch
- Emergency shutdown switch
- Body up movement limiter
- Adaptable top speed restriction



## Serviceability and uptime

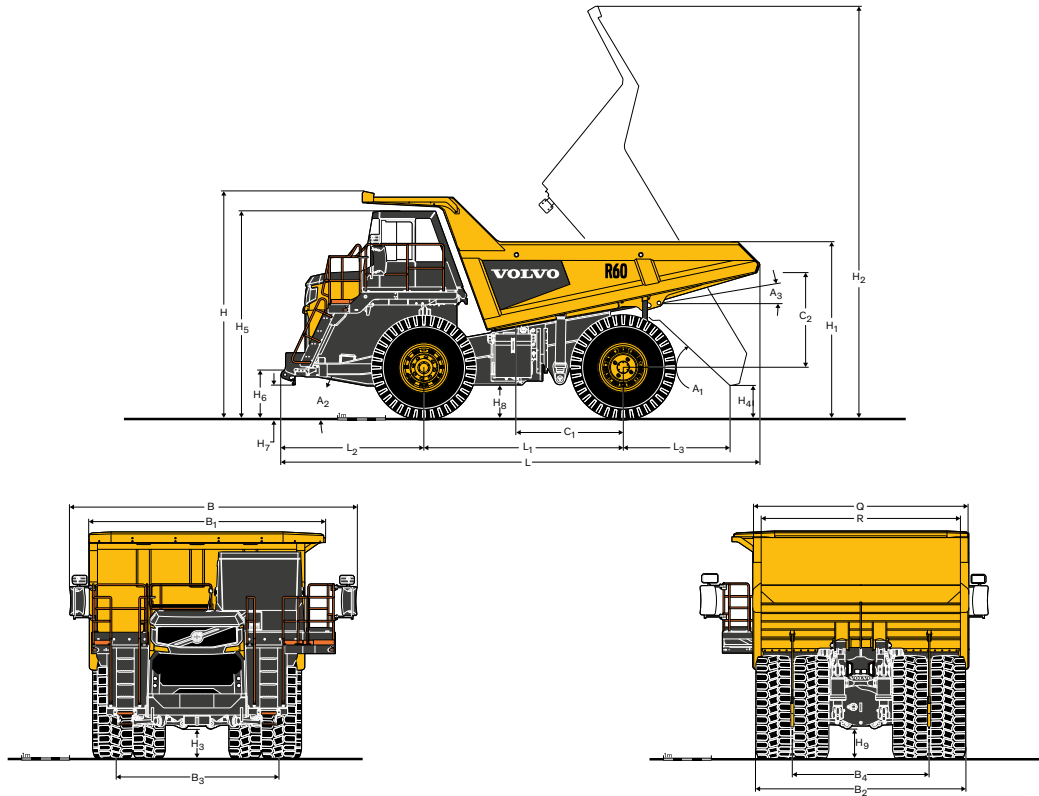
- Maximized component lifecycles
- 500 hr service intervals
- On-board diagnostics
- Straightforward service access
- Common-sized bearings
- CareTrack telematics system for remote monitoring
- Grouped service points
- Aspirated engine air cleaners
- Magnetic hydraulic suction filters
- Pressure filters on the main hydraulic circuits
- Machine operational safety inhibitors

# Volvo R60 in detail

| Engine   |   |        |
|--|---|--------|
| Model  | CumminsQSK 19, CAC, (EU Stage V) (EPA Tier4 f) , 567kW  |        |
| Type   | Electronic control, four cycle, direct injection, turbo charged and charge air cooled, high-speed electronic control module (ECM) isolated from detrimental vibration loading, fully sealed wiring harness, with fail-safe connectors integrates the ECM with engine sensors for optimised engine performance, monitoring and protection.<br>DEF and SCR emission control |        |
| Cylinder/configuration   | In line 6 cylinder  |        |
| Displacement   | l   | 19     |
| Bore x Stroke  | mm  | 159    |
| Max. power at  | r/min   | 2 100  |
| Gross power (SAE J1995)  | kW  | 567    |
|  | hp  | 772    |
| Net power  | kW  | 526    |
|  | hp  | 715    |
| Max. torque at   | r/min   | 1 500  |
| Gross torque   | Nm  | 3 084  |
| Engine emissions   | USA EPA Tier 4f and EU Stage V emissions standards  |        |
| Electrical   | 24 V negative ground, Two 12 volt 170 Ah batteries  |        |
| Steering System  |   |        |
| Primary steering pressure is supplied by a pressure compensating piston pump supported by an independant nitrogen charged hydraulic accumulator. The accumulator circuit provides instant, uniformed steering response regardless of engine speed. Pilot operated remote mounted orbitrol control valve delivers light, responsive steering control. Secondary steering is provided by an independant nitrogen charged hydraulic accumulator.  |   |        |
| Maximum tire steering angle  | °   |        |
| SAE turning radius   | mm  | 20 400 |
| Clearing radius  | mm  | 22 500 |
| Axles  |   |        |
| The rear wheels are driven through single reduction drive axle. Torque multiplication takes place through the beveled gear differential, then transmitted through fully floating shafts to the planetary reduction gears in the wheel hubs.  |   |        |
| Differential ratio   | 3.73:1  |        |
| Planetary reduction  | 5.80:1  |        |
| Overall drivetrain reduction   | 21.63:1   |        |
| Frame  |   |        |
| Fabricated from box-section steel rails with high strength steel castings in key stress locations absorbing the worksite impacts for long durable life cycles. The closed "horse collar" allows for flexibility in the frame to dissipate twists and loads while incorporating a reserve of structural strength well in excess of that required to absorb the stresses imposed by impact loading when travelling on uneven, high rolling resistance applications. Fuel and hydraulic tanks suspended mounts off the frame. |   |        |
| Body   |   |        |
| V-shaped that provides excellent centre of gravity for load profile stability on all hauling conditions. Manufactured from high abrasion resistant steel (Hardox 400) for superior lifecycles. Horizontal side stiffeners dissipate shock loads accross the entire side plate. Mounted on floating pins for minimal structural stress during empty and full transportation.<br>NB: Hardox 400 specification<br>Body steel 360-440 BHN<br>Body yeils strength 1000 Mpa<br>Body tensile strenght 1,250 N/mm <sup>2</sup>     |   |        |
| Plate thickness  |   |        |
| Floor  | mm  | 19     |
| Sides  | mm  | 10     |
| Front  | mm  | 10     |
| Body volume  |   |        |
| Stuck  | m <sup>3</sup>  | 25     |
| Heaped 2:1 (SAE)   | m <sup>3</sup>  | 36     |
| Tires and Rims   |   |        |
| Tires type   | 24:00-35  |        |
| Rims   | 17  |        |
| Sound Level  |   |        |
| Interior sound level according to ISO 6396   |   |        |
| L <sub>pA</sub>  | dB  | 76     |
| L <sub>WA</sub>  | dB  | 101    |

| <b>Drivetrain</b>  |   |                  |
|--|---|------------------|
| Transmission   |   | Allison 6620 ORS |
| Assembly   | Planetary gear type transmission with intergral torque convertor and hydraulic fluid retarder. Electronic controlled connected to engine system via CANBUS. Automatic lockup in all ranges. Mounted mid chassis for ease of access and excellent weight distribution. |                  |
| Electronic control   |   | CEC5             |
| <b>Maximum speed, forward/reverse</b>  |   |                  |
| 1st gear   | km/h  | 10               |
| 2nd gear   | km/h  | 16               |
| 3rd gear   | km/h  | 21               |
| 4th gear   | km/h  | 32               |
| 5th gear   | km/h  | 43               |
| 6th gear   | km/h  | 60.6             |
| <b>Suspension</b>  |   |                  |
| <b>Front:</b> Independent self contained Macpherson type, variable rate (Nitrogen/oil) suspension strut with lower wishbone. Widley spaced wheel track for high levels of machine stability and easy machine manoeuverability. |   |                  |
| <b>Rear:</b> Independent self contained variable rate (Nitrogen/oil) suspension struts. The strut is mounted between the chassis and axle. The axle is mounted via trailing A frame and lateral stabilizing bar.               |   |                  |
| Maximum front strut stroke   | mm  | 242              |
| Maximum rear strut stroke  | mm  | 140              |
| <b>Brake system</b>  |   |                  |
| Fulfills ISO 3450:2011, Braking - Wheeled or High-Speed Rubber Tracked Machinery   |   |                  |
| Front brakes type  | Independent hydraulic apply, dry single caliper, Incorporating independent nitrogen/hydraulic pressure accumulator for instant response and reserve pressure.   |                  |
| Front brake diameter   | mm  | 711              |
| Front brakes lining area   | cm <sup>2</sup>   | 1 394            |
| Rear brakes type   | Independent force cooled, oil emmersed, multi-disc enclosed brakes. Two piston service and park/emergency brakes. Emergency brake spring-applied hydraulic release (SAHR). Service brake is also used for rear brake retardation for safe machine control.            |                  |
| Rear brake lining area   | cm <sup>2</sup>   | 47 151           |
| <b>Hoist</b>   |   |                  |
| Fulfills ISO 4413:2010, Fluid Power Systems - Safety - Hydraulics  |   |                  |
| System relief pressure   | MPa   | 24               |
| Pump output flow rate  | l/min   | 336              |
| at   | r/min   | 2 100            |
| Body raise time  | s   | 10               |
| Body lower time  | s   | 15               |
| <b>Service Refill</b>  |   |                  |
| Engine crankcase and filters   | l   | 65               |
| Transmission and filters   | l   | 90               |
| Cooling system   | l   | 160              |
| Fuel tank  | l   | 880              |
| Steering hydraulic tank  | l   | 302              |
| Steering hydraulic system (total)  | l   | 380              |
| Planetaries (total)  | l   | 58               |
| Differential   | l   | 95               |
| Front ride strut (each)  | l   | 12.4             |
| Rear ride strut (each)   | l   | 7.2              |
| Power take off   | l   | 2                |
| <b>Weights</b>   |   |                  |
| Chassis with hoists  | kg  | 34 829           |
| Body standard  | kg  | 9 991            |
| Net weight   | kg  | 45 460           |
| Maximum payload  | kg  | 55 000           |
| Maximum gross weight*  | kg  | 99 280           |
| - Empty  | %   | 48 / 52          |
| - Loaded   | %   | 32 / 68          |

# Specifications



## DIMENSIONS

| Description                                    | Unit | R60                     |
|--|------|-------------------------|
| H Overall height                               | mm   | 4 606                   |
| H <sub>1</sub> Loading height                  | mm   | 3 675                   |
| H <sub>2</sub> Raise height                    | mm   | 8 591                   |
| H <sub>3</sub> Front axle ground clearance     | mm   | 662                     |
| H <sub>4</sub> Tail clearance                  | mm   | 675                     |
| H <sub>5</sub> Cab height                      | mm   | 4 315                   |
| H <sub>6</sub> Bumper ground clearance (no TH) | mm   | 971                     |
| H <sub>7</sub> Ladder ground clearance         | mm   | 417                     |
| H <sub>8</sub> Frame ground clearance (hoist)  | mm   | 690                     |
| H <sub>9</sub> Rear axle ground clearance      | mm   | 665                     |
| B Overall width (outside of mirrors)           | mm   | 5 921                   |
| B <sub>1</sub> Body width                      | mm   | 4 496                   |
| B <sub>2</sub> Rear over tires                 | mm   | 4 381                   |
| B <sub>3</sub> Front track                     | mm   | 3 384                   |
| B <sub>4</sub> Rear track                      | mm   | 2 856                   |
| L Overall length                               | mm   | 9 992                   |
| L <sub>1</sub> Wheel base                      | mm   | 4 170                   |
| L <sub>2</sub> Center front axle to bumper     | mm   | 2 986                   |
| L <sub>3</sub> Center rear axle to tipped tail | mm   | 2 426                   |
| SAE <sub>TR</sub> SAE turning radius           | mm   | 20 400                  |
| C <sub>TR</sub> Clearance turning radius       | mm   | 22 500                  |
| A <sub>1</sub> Body dump angle                 | °    | 47                      |
| A <sub>2</sub> Approach angle                  | °    | 21 (to guard)           |
| A <sub>3</sub> Frame angle                     | °    | 10                      |
| C <sub>1</sub> C of G (horizontal) unladen     | mm   | Dim from body pin 1 400 |
| C <sub>2</sub> C of G (vertical) unladen       | mm   | Dim from body pin 5 67  |
| C <sub>1</sub> C of G (horizontal) laden       | mm   | Dim from body pin 1 204 |
| C <sub>2</sub> C of G (vertical) laden         | mm   | Dim from body pin 1 036 |

Vehicle measurements assumptions / variables

Measurements to be taken on flat ground

Truck should be unladen

Bridgestone VRLS Tires should be used

Tire pressure should be set as per manual

Suspension should be set at normal operating height



# Equipment

## STANDARD EQUIPMENT

### Engine

Air cleaner with aspirator (vacuum)

Turbocharged and charge air cooler

Direct drive fan

Electronically controlled with Shift Energy Management (SEM)

Engine safe mode

Fuel filter/water separator

Sump guard

Engine idle shut down

Engine enclosures (rubber)

### Tires

Standard tires 24:00-35

### Drivetrain

Full automatic transmission with manual override

Shift Energy Management

Torque converter with automatic lockup

Volvo Dynamic Shift

### Electrical system

Alternator

Batteries

Battery disconnect switch (tag lock out)

Emergency engine shutdown (ground level)

Direction indicators and hazard warning

Lights - side, tail, stop and headlights

LED tail lamps

Power ports - 12V and 24V

Reverse alarm

Reverse lights

ECO mode

Auto retard

### Brake system

Hydraulically operated system with independent front and rear control systems

Park brake - electric switch, spring applied hydraulic release

Retardation - finger tip control of transmission retarder or lever mounted on the steering column giving modulated pressure control of the rear oil cooled brakes

### Body

Rock ejectors

## STANDARD EQUIPMENT

### Safety and security

Anti-slip steps and platforms

Body down indicator

Body - operator guard LHS

Body - up locking pins

Body - up reverse to neutral inhibitor

Body - up shift inhibitor

Brakes - independent front and rear systems

Emergency SAHR brake

Battery disconnect switch (tag lock out)

Engine disconnect switch (Tag lock out)

Emergency engine shutdown (ground level)

Cab - ROPS and FOPS

Electro magnetic compatibility

Handrails on steps and platform

Horn

Neutral start inhibitor

Engine overspeed protection

Neutral coast inhibit

Programmable max. travel speed

Operator safety belt

Operator's field of view

Rear view mirrors

Retarder - transmission

Retarder - rear brake

Secondary steering

Instructor's seat with safety belt

Vibration 2002/44/EC

Windscreen washers

Windscreen wipers

### Comfort

Air suspended seat

Heating, Ventilation and Air Conditioning - HVAC

Interior lights

Radio - Bluetooth

USB power take-off

Cup holder

Insulation thermal and acoustic

Storage compartments

Sun visor

Tilt/telescopic steering wheel

Tinted glass

Operator information interface

MacPherson type front suspension with lower wishbone

### Exterior

Mud flaps

Diagnostic terminal

Front and rear tow points

### Service and maintenance

Pressure check points



---

**OPTIONAL EQUIPMENT**

---

**Engine**

---

Fast fuel

---

Inline fuel heater

---

**Tires**

---

Bridgestone

---

VMTP

---

VZTS

---

VRLS

---

Michelin tires

---

XDTA-4

---

XKD1-A

---

E4RTL

---

Goodyear

---

RL4J

---

23775

---

Belshina

---

FBEL 150

---

BEL 202

---

BEL 122

---

Techking

---

ETDT2

---

Magna

---

MAO4A

---

**Drivetrain**

---

Transmission sump guard

---

Drive line guard

---

Traction bias differential

---

**Electrical system**

---

Heated and adjustable electrical mirrors

---

LED headlamps

---

Forward work lamps

---

Rear work lamps

---

Care track telematics

---

**Cab**

---

Amber flashing beacon

---

HEPA filter

---

**Body**

---

Onboard Weighing System

---

Pay load indicator lights

---

Body Exhaust Heating

---

Spill guard

---

Body Extensions upon request

---

Body liner plates (available with full weight or half weight)

---

RHS canopy extension

---

**Safety and security**

---

Fire suppression system

---

Smart view (360 degree camera system)

---

Orange flashing beacon

---

**Service and maintenance**

---

Quick oil drain kit

---

Central autolube

---

Service lights

---





**V O L V O**