

VOLVO FM AND VOLVO FMX

Product facts



VOLVO FMX

**IT'S TOUGH
OUT THERE**



VOLVO FMX

Massive power resources

Dependable and economical in-line six cylinder engine with plenty of low-down torque and massive power. The power is there when you need it. Choose between 11 and 13 litres, with outputs from 330 to 500 hp.

High air intake for good rearward visibility

Air intake for day cab with high air throughput. High location gives good visibility when reversing and improved filter life and engine efficiency.

Rear-view mirrors for the toughest of conditions

Robust rear-view mirrors with sturdy mountings that withstand rough treatment.

Bumper built for rough treatment

Three-piece sturdy bumper with integrated towing beam, skid-plate and foot-step. Robust front towing beam dimensioned for 25 tonnes.

Protected, easy-to-service headlamps

Separate lenses for high beam, low beam, parking lights and turn indicators, easy to replace. The headlamp unit can be equipped with a sturdy protective mesh. Foglamps recessed in the bumper.



HERE'S THE ONE FOR THE JOB



I-Shift - automatic gearchanging

The driver's choice of transmission when it comes to performance and comfort. What is more, the transmission can be equipped with program packages and functions that assist in construction duties.

Well-illuminated all round

Practical work illumination and reversing lamps are available in several versions. There is lighting tailored for every type of superstructure.

Low and sturdy entry step

Fold-out extra third foot-step. Flexible mounting, articulates out of the way if it strikes an obstacle. Yet robust and offers secure grip.

The new Volvo FMX is ready for the toughest of construction jobs. This truck stands up to heavy loads, poor roads and challenging inclines. The tougher the conditions, the more at home it is.

We already had a robust basis from the Volvo FM with its smooth and powerful driveline, sturdy chassis and comfortable cab. But we wanted to tailor it specifically for construction tasks. No sooner said than done. We have further developed the cab and chassis and enhanced the truck with equipment and features that make it simply unbeatable in tough, demanding conditions.



VOLVO FM

**BUILT FOR
THE HIGHWAY**



When you need a partner that keeps on rolling – a partner you can rely on mile after mile. A partner that cares for its cargo and is equally competent as a tractor or a rigid. The new Volvo FM, a truck that is suited to both demanding regional operations and speedy distribution duties.

Smooth drive and a well-suspended chassis take good care of the cargo, while there's plenty of power for high gross weights. The Volvo FM has long been the driver's choice with its comfortable cab and low entry. Now it also has an updated exterior, a new grille and more powerful headlights.

Our new mile-eater is naturally equipped with economical and easily driven engines. Last but not least – there's I-Shift for superior gearchanging comfort and fuel economy.





Patrik Palovaara
Senior Designer

Astrid Drewsen
Product Manager Driveline

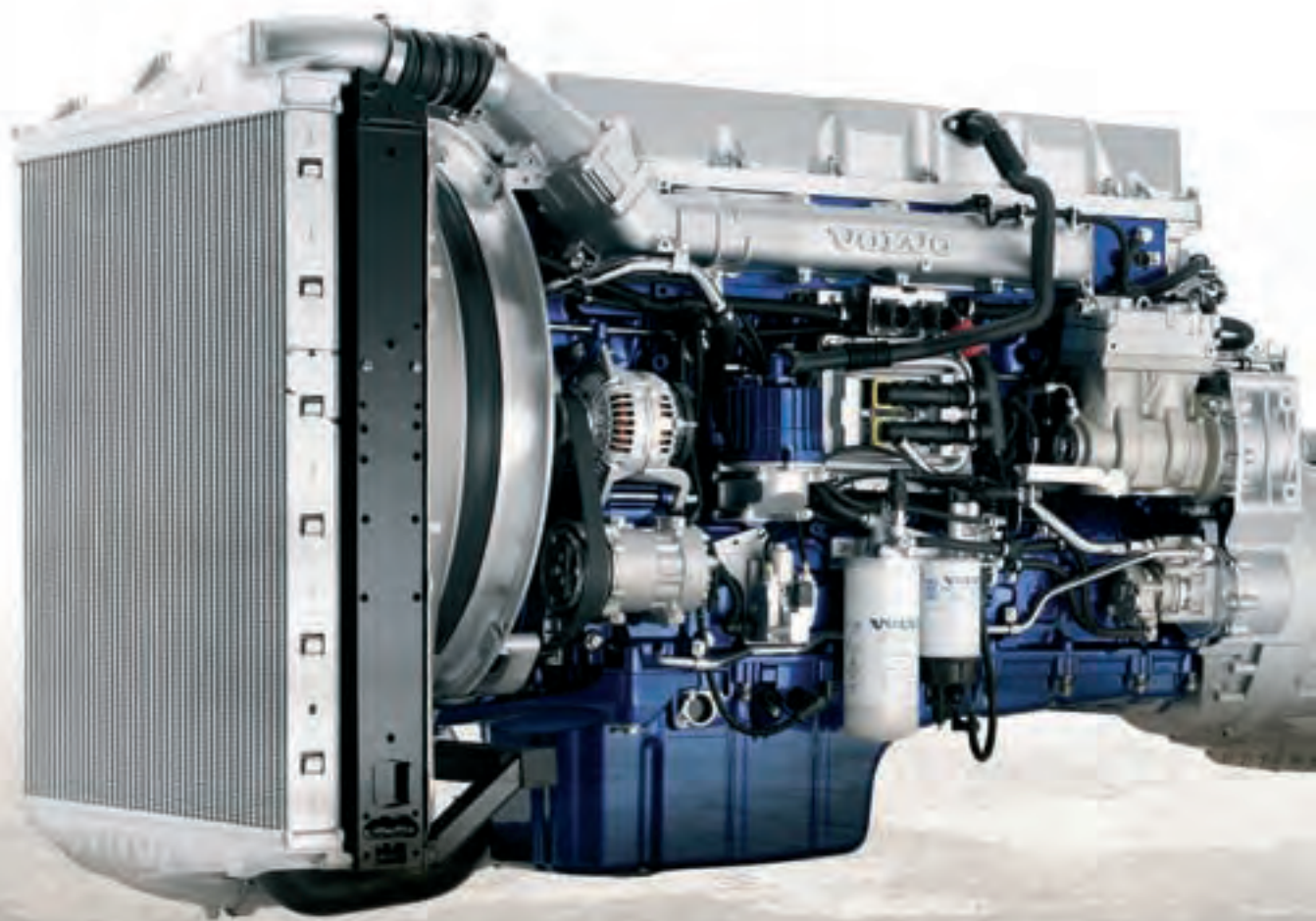
Contents

Driveline	8–15
Chassis	16–21
Cab	22–27
Specifications	28–40

VOLVO FM AND VOLVO FMX



Martin Palming
Product Manager Chassis

**Tried and tested engine concept**

Volvo bases its engine concept on the in-line six-cylinder turbocharged diesel unit. It's a tried and tested engine that offers superb reliability. The engine withstands high peak loads thanks, among other things, to its seven main bearings.

The driver's best friend

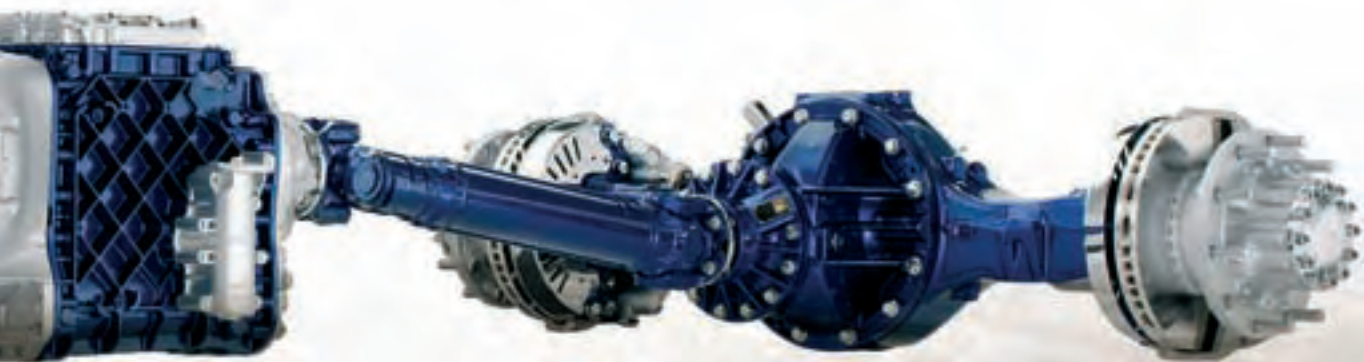
I-Shift, Volvo's automatic gearchanging system, has set a new standard for comfort and fuel economy. As convenient as an automatic, as close-ratio as a manual.

DRIVELINE

“Our joint development of the complete driveline – fuel-efficient and powerful engines and the intelligent I-Shift transmission – makes the driveability of these trucks unbeatable!”

Astrid Drewsen

Product Manager Driveline



Dependable propshaft

Sturdy and maintenance-free propshaft. Lubrication-free universal joints and intermediate bearings and cross-tooth flanges that can transfer high torque all help make for a dependable system.

Rear axles with low losses

Volvo's rear axles are built for high engine torque, high axle loads and high gross combination weights. With a wide range of ratios to choose between, there is always the ideal ratio for best fuel economy.

ENGINE

Power can be combined with low fuel consumption and considerable care for the environment. With their massive torque, these trucks can literally move mountains – and they do so economically.

Two engine series with displacements of 11 and 13 litres and a total of eight power output options from 330 to 500 horsepower means there is always an engine to suit your transport requirements.

All the diesel engines are certified for Euro 5 and most are also certified to Enhanced Environmental Vehicle (EEV) standard.

Excellent driving properties

The engines are smooth and responsive. Their torque is available virtually from idling speed, which means extremely good starting traction. The power is available throughout – maximum torque is on tap high up the rev range. These are properties you will appreciate behind the wheel.

Reliable and economical

The engines are built according to the classic Volvo design, which means in-line six-cylinder diesel units with a turbocharger and intercooler. They feature modern technology with a one-piece cylinder head, overhead camshaft, four valves per cylinder and electronically controlled unit injectors. Upgraded and refined Volvo EMS engine management with precisely regulated combustion guarantees fuel economy.

VEB+ delivers extremely high braking effect

Volvo's patented engine brake (VEB) and the upgraded VEB+ are ideal for both long-haul traffic and heavy construction duties. You get high braking effect from low speeds, and most of the braking can in fact be handled by VEB/VEB+.

Engines in brief

- In-line six-cylinder, tried and tested design
- Fuel-efficient with Volvo EMS and unit injectors
- The power is delivered swiftly at low revs
- VEB and VEB+, highly efficient engine brakes
- Engine-mounted power take-off for high outputs
- Meets emissions standards according to Euro 5/EEV with Selective Catalytic Reduction (SCR) exhaust treatment



Astrid Drewsen
Product Manager Driveline



D13C - Powerful and responsive

The 13-litre engine has the power you need to maintain a steady cruising speed even with high combination weights on hilly roads.

The long stroke provides massive power from low revs. The power is delivered quickly. At 800 rpm, no less than 60% of torque is available within just one second. The engine's high torque means it is possible to fit rear axles with a selection of fast ratios – ensuring low engine revs at the maximum limited road speed. This has a positive effect on fuel consumption.

The D13C is available with power outputs of 380, 420, 460 and 500 hp for Euro 5. In addition, the engine is available in an Enhanced Environmental friendly Vehicles (EEV) version producing 420, 460 and 500 hp, with even lower emissions of smoke and particulates.



D11C - High power in relation to weight

The torque curve is flat and the power is on tap throughout the rev range.

The D11C has the same ratio between stroke and bore as its successful bigger brother, the D13C. This is one of the secrets behind its driveability and sheer pulling power. The power take-off is located at the rear of the engine, linked directly to the flywheel. The power is thus provided without any need for complex gears. Maximum output is a generous 1000 Nm.

For Euro 5, the engine is available with power outputs of 330, 370, 410 and 450 hp. The D11C is also certified according to EEV with power outputs of 330, 370 and 410 hp.

TRANSMISSION

I-Shift has set the benchmark for comfort and performance ever since this transmission was launched on the Volvo FM 10 years ago. And today it is better than ever before; packed with built-in intelligence, I-Shift maximises the efficiency of your particular operation.

I-Shift is no ordinary transmission. Compared with a manual gearbox, it is lighter, has fewer moving parts, electronic synchromesh and faster gearchanges.

Always in the right gear

In terms of fuel consumption I-Shift will not beat your best driver on his best day, however, what it does do is raise the standard by offering a consistent result day in day out. I-Shift always changes gear at the right instant and the right gear is always engaged. I-Shift never gets tired, stressed or distracted. I-Shift can always select the right gear to match the engine's rev range to maximise pulling power or speed.

Software packages and options to suit transport operations

I-Shift optimises gearchanges to match the transport segment and driving conditions. By supplementing I-Shift with software packages for duties such as distribution, long-haul or heavy tractor use, efficiency rating and comfort are even further improved.

Option of changing gear manually

With I-Shift, the driver is free to concentrate on driving and the surrounding traffic. However, it is still possible to change gears manually. This is done by simply moving the gear lever to the manual setting and then changing up or down using the button on the side of the gear lever. The truck has no clutch pedal; clutch engagement takes place entirely automatically.



I-Shift changes gear swiftly with minimal disruption in torque. The clutch function is operated by the gearchanging system, and there is no clutch pedal.

Manual gearboxes

Volvo's gearboxes are convenient to operate since the gear lever is vibration-free thanks to cable operation. The range includes a 9 or 14-speed range-change unit with or without overdrive. The wide ratio span gives high starting traction while simultaneously ensuring that there are ample resources for high average speeds.



Powertronic

The Powertronic fully automatic 6-speed planetary transmission changes gear smoothly and without any disruption in power delivery. The built-in torque converter amplifies the power and guarantees smooth and secure starts even in difficult conditions. In Auto mode, the driver can choose between two driving programs: Economy and Performance.



I-Shift in brief

- Fuel-efficient with wide ratio span
- Close-ratio with 12 gears
- Available with and without overdrive
- Suitable for construction duties
- Advanced power take-off control
- I-Roll function provides fuel savings
- Software package for every transport segment



REAR AXLE

Volvo's rear axles are built for tough use. There are options that can haul gross combination weights well in excess of 100 tonnes. So no matter what your transport assignment is, you can be sure they'll be up to the job.



The range includes a wide selection of solo and tandem axles, with single or hub reduction. Cast rear axle casings made of nodular iron make for a compact design with high ground clearance. All the wheel bearings are maintenance-free unitary bearings.

Differential lock for enhanced capability

All the rear axles can be specified with a wide range of ratios, to either ensure secure starting and hill-climbing ability or match the engine's economy range at cruising

speed. A differential lock that enhances grip when the road surface is wet and slippery is fitted as standard. Tandem axles also feature an inter axle differential lock.

Heat-resistant and durable disc brakes

The brake discs are fitted to the hub via a patented splines-like coupling. The brake disc can expand symmetrically, which increases its service life and reduces the risk of crack formation.

Rear axles in brief

- Robust and dependable
- Low frictional losses
- Cast rear axle casings
- Maintenance-free wheel bearings
- Differential lock as standard
- Wide range of ratios



RT3210HV



Tandem axle with hub reduction developed for the very heaviest and most demanding duties with high combination weights. Dimensioned for bogie and gross combination weights of 32 and 100 tonnes, respectively.

RTS2370A

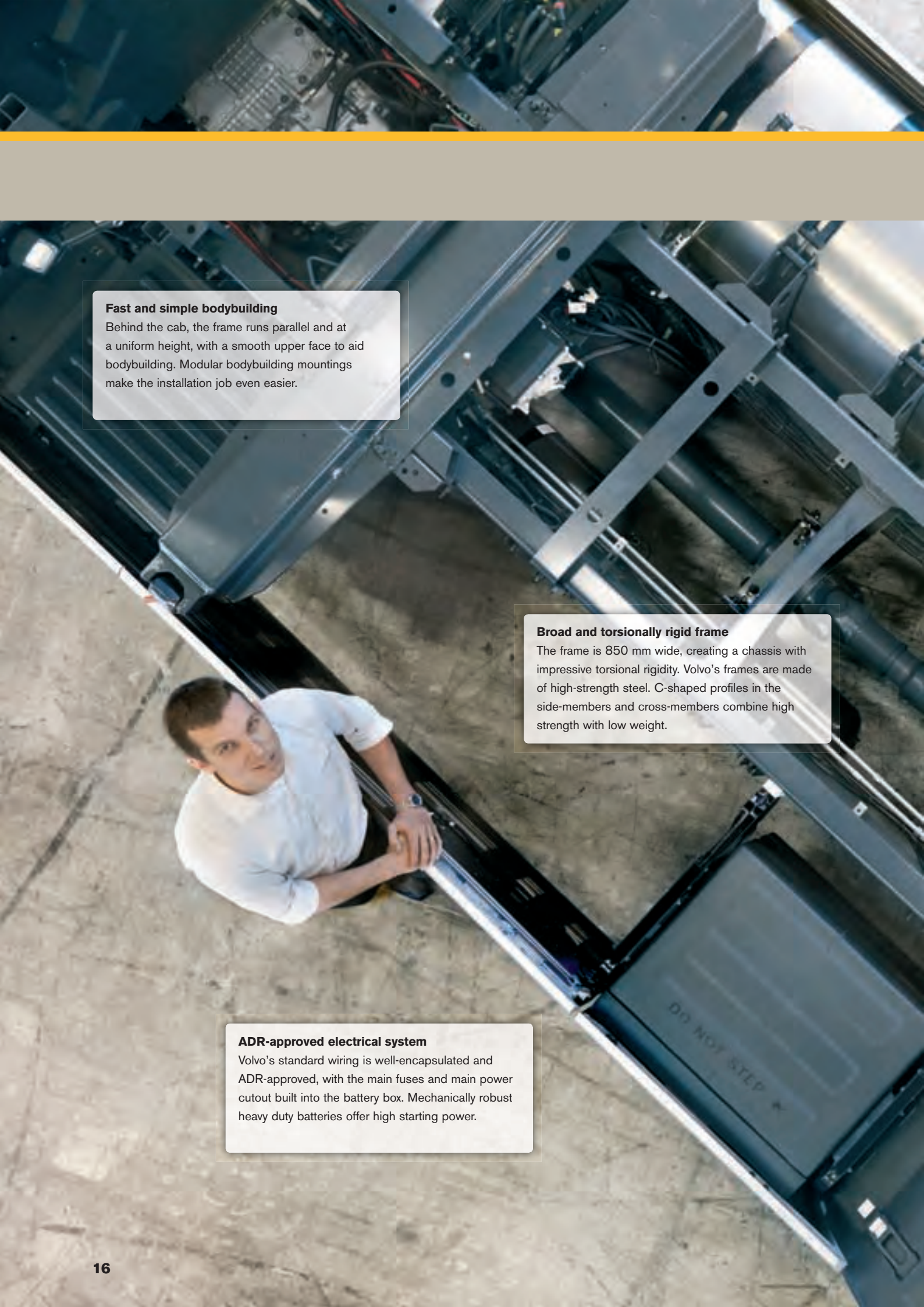


A single-reduction tandem axle intended for demanding transport assignments under difficult conditions. Dimensioned for bogie weight and gross combination weight of 23 and 70 tonnes, respectively.

See the entire rear axle range on page 32.

Driven front axle

The Volvo FMX with 4x4 and 6x6 all-wheel drive suit demanding off-road transport needs in construction, fire-fighting and emergency rescue operations. The front axle has high ground clearance and a generous steering angle, making the vehicle easy to manoeuvre even in extremely hilly terrain.



Fast and simple bodybuilding

Behind the cab, the frame runs parallel and at a uniform height, with a smooth upper face to aid bodybuilding. Modular bodybuilding mountings make the installation job even easier.

Broad and torsionally rigid frame

The frame is 850 mm wide, creating a chassis with impressive torsional rigidity. Volvo's frames are made of high-strength steel. C-shaped profiles in the side-members and cross-members combine high strength with low weight.

ADR-approved electrical system

Volvo's standard wiring is well-encapsulated and ADR-approved, with the main fuses and main power cutout built into the battery box. Mechanically robust heavy duty batteries offer high starting power.

CHASSIS

“It is our challenge and our ambition to meet the varied demands of all our customers. The result of our work is a robust FM chassis that offers considerable versatility.”

Martin Palming
Product Manager Chassis

Fuel tanks for all transport operations

Fuel tanks are available in aluminium and steel in volumes from 150 to 870 litres. AdBlue tanks made of plastic or stainless steel from 36 to 125 litres. The tanks are fitted high up in the frame and protected for good ground clearance.

Electro-hydraulically steered tag/pusher axles

The steered pusher and tag axles feature electrohydraulic steering, which means more precise manoeuvring and better steering comfort than with a conventional system.

Tridem for high bogie loads

Air-suspended three-axle bogie with steered tag axle. The Tridem bogie offers beneficial axle load distribution, while the steered tag axle in combination with a short wheelbase makes the truck easy to manoeuvre.

Sturdy bogie mounting

Rubber-mounted V-stays absorb lateral forces and secure the axles in the frame's centre line. Reaction rods hold the steering axles longitudinally and absorb forces during acceleration and braking.

CHASSIS RANGE

It's your cargo that earns you your income, and with the Volvo FM it's your payload that is in focus. It begins with a broad, parallel and uniformly high frame that provides a stable basis to build on.

The Volvo FM is available with a wide range of chassis encompassing several drive, wheelbase and suspension configurations. The chassis layout is modular, and both tractor and rigid chassis utilise the same component structure. The flexible chassis packaging offers considerable freedom of choice, for instance regarding location of batteries and tanks.

The right height for the right transport

With a total of six chassis heights – four for the Volvo FM and four for the Volvo FMX – you have considerable scope for tailoring the perfect load carrier to your transport needs. Front axles are also available in a choice of heights, dimensioned for different axle loads.

Specially for construction duties

If you choose a high chassis and straight front axle for your Volvo FMX, you get a chassis with extremely high ground clearance and a generous approach angle.

Dual front axles are intended for the heaviest of construction duties or for trucks with heavy load-handling equipment installed behind the cab. A driven front axle on the Volvo FMX 4x4 and 6x6 suitable for off-road operation is also available.

Nimble and easy to drive

With generous steering angles, the trucks are easy to manoeuvre even in congested areas. They are comfortable to drive even at low speeds since servo assistance varies with road speed.

Battery box for better weight distribution*

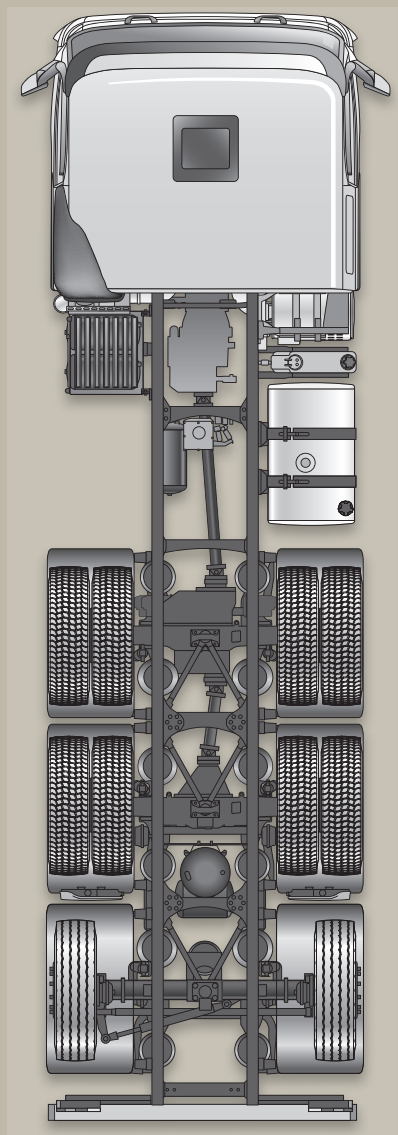
A rear battery box is available as an option for tractors with air suspension on the rear axle. This leaves more space on the frame and offers considerable flexibility in the positioning of tanks.



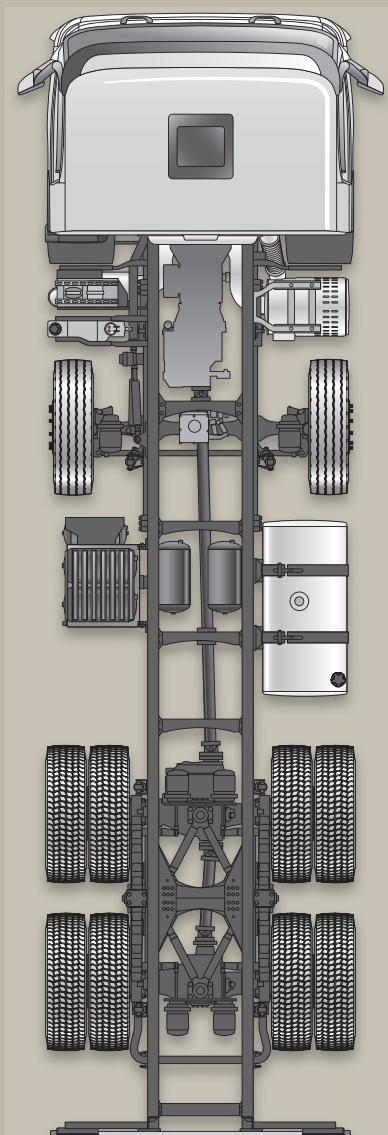
Four different towbar heights

Centrally mounted, semi-undermounted, undermounted or special undermounted towbars for trailers with centre axles are included in the range. All the towbars can be fitted at 25 mm intervals.

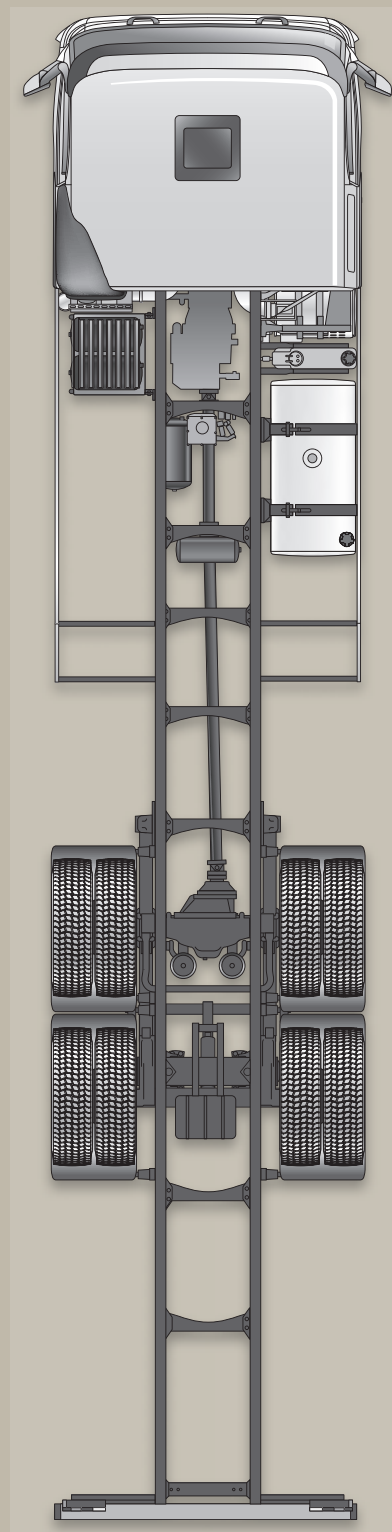
Volvo FM 8x4 Rigid



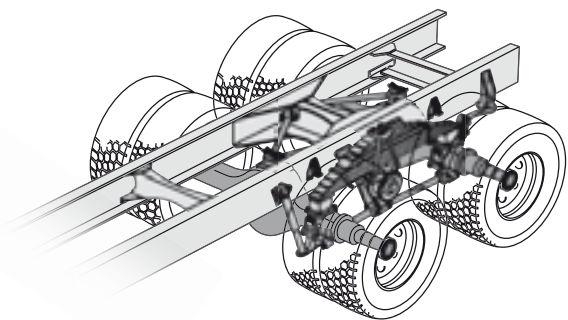
Volvo FM 8x4 Rigid



Volvo FM 6x2 Rigid

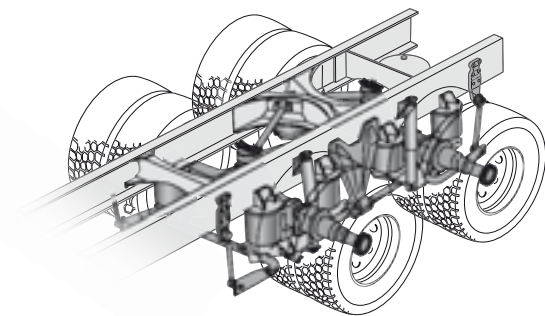


RADD-TR2

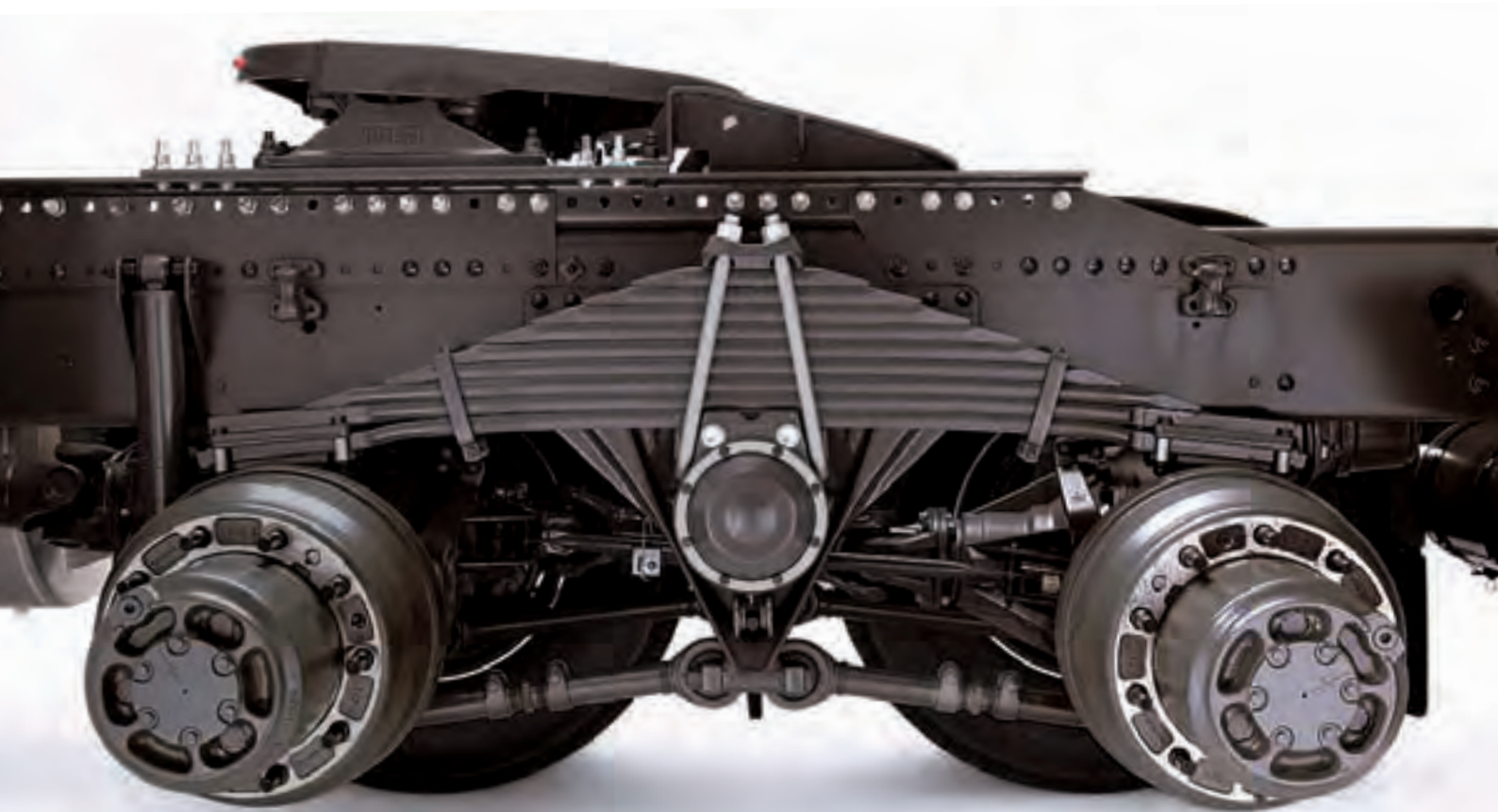


Robustly dimensioned tandem bogie with capacity to spare for the heaviest of transport operations on poor surfaces. 6×4/8×4 drive, conventional leaf springs, bogie load 26/32 tonnes, for hub reduction axles.

RADD-A8



Air-suspended tandem bogie suited for fast long-haul operations on good roads. 6×4/8×4 drive, air suspension with 8 bellows, bogie load 21/23/26 tonnes. For single and hub reduction axles.



SUSPENSION

For us, cargo comfort is as important as driver comfort. And there is a suspension system for your particular needs no matter whether you prioritise high weight or large volume. At the same time, your progress on the road has to be equally comfortable with a full load or an empty cargo platform.

There are several different suspension systems and bogies – with air suspension or leaf springs, conventional or parabolic – to choose between. Volvo's Electronic Controlled air Suspension (ECS) with four bellows per axle gives virtually parallel lift and reduces the risk of kick-back into the cab while driving.

Automatic and manual height control

On the move, the air suspension system keeps the truck at a constant ride height. The headlights are always correctly adjusted. The manual height-control system with its handy control box is a major benefit during loading and unloading. Switching of demountable load carriers is faster, and it is easy to adjust cargo platform height to match the height of the loading bay.

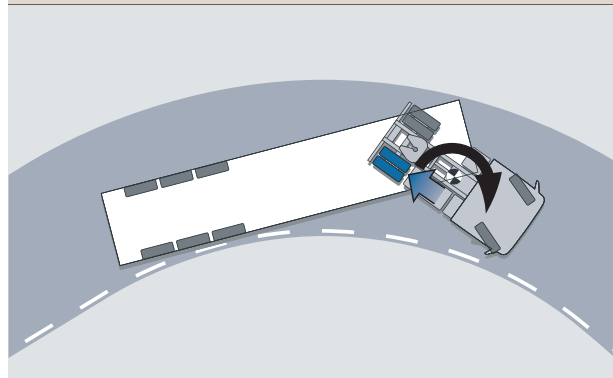
Fast-acting EBS disc brakes

Volvo's Electronically controlled Brake System (EBS) disc brakes are characterised by high braking effect combined with heat-resistant disc installation. Thanks to electronic control, the system responds instantly, which in turn shortens the stopping distance. Disc brakes are also available in combination with leaf springs, including B and T ride bogies which are suitable for heavy construction duties.

ESP brakes each wheel individually

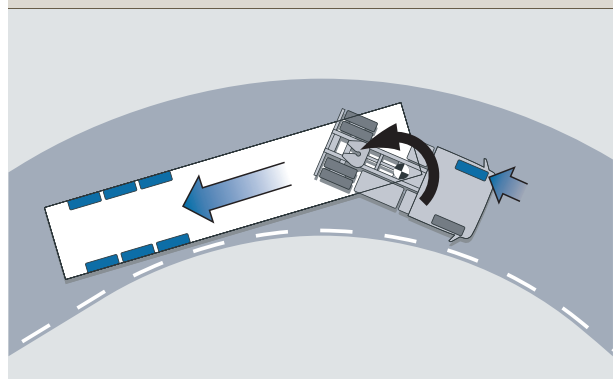
Electronic Stability Program (ESP) is included in EBS High on all 4x2, 6x2 and 6x4 air suspended tractors. The system is also available on air suspended 4x2 and 6x2 tag axle rigids. ESP gives steadier braking with the option of individual reallocation of braking power between the axles and wheels. The system is extremely fast-acting. The control unit continuously receives information from a wide variety of sensors and makes a new evaluation of the driving situation several times per second.

Skid with understeer




ESP brakes the inner rear wheel and turns the tractor into the curve, allowing the front wheels to regain grip.

Skid with oversteer



ESP brakes the outer front wheel to bring the tractor back into line and give the rear wheels grip. The trailer is braked to avoid jack-knifing.



Volvo Audio System

Audio systems with excellent sound are available in three powerful variants offering up to 140 watts. A variety of connection alternatives means your audio system is fully integrated with other media players and your mobile phone.

Sit in comfort

The firmly padded driver's seat offers plenty of support. There are several upholstery options to choose between. Body weight adjustment and electric heating and ventilation in the seat, and backrest cushions are available as options.

Plenty of storage capacity

Smart storage with plenty of storage compartments, document pockets and cupholders. Design and position differ between the various cabs and the various needs of long-haul, construction and regional transport.

Front shelf with generous space – Globetrotter cabs

Front shelf with uplighting contributes to a feeling of space in the cab. Two large storage compartments with roller doors on the driver's and passenger's sides. Six DIN standard recesses for radio and tachograph are included.



CAB

“Sit down and you’re treated to a perfect view, with all the controls within convenient reach. Here all the interior features are designed to make your job easier. Our work has always centred on putting the humanbeing in focus.”

Louise Fallenius
Surface Designer

Better visibility with the optional rain sensor

The windscreen is always kept free from rain when the wipers are automatically operated by the rain sensor. Just set the required degree of sensitivity via a rotary control in the control stalk.

Fold-away safety steering wheel

The energy-absorbing safety steering wheel folds out of the way to permit more convenient entry. Height and angle are easily adjusted using the foot-pedal. The steering wheel can be specified with integrated controls for the audio system and mobile phone.

Total control

The driver information display is easy to view with its large black and white display with high resolution. In the centre of the dashboard there are 12 V and 24 V sockets as well as AUX and USB connectors for the audio system.

CAB RANGE

The driver's needs are paramount, and every assignment has its own set of special requirements. However, irrespective of whether you undertake construction, distribution or regional transport duties, there is a cab for you. All its details are designed for maximum safety, comfort and on-the-job enjoyment.

The Volvo FM series now offers 9 cabs to choose between. Volvo's cabs are the driver's choice, renowned for their high comfort and standard of interior climate, heating and ventilation. All the cabs are well-insulated and quiet. They feature four-point suspension – with dampers and coil or air springs, and have low, convenient, illuminated entries and doors that open wide, no less than 90 degrees.

Designed for profitability

Softly rounded shapes mean low air drag, which saves fuel. The raked-back windscreen and gentle curvature of the corner panels also help cut air resistance. Day, Sleeper and Globetrotter cabs are available with a comprehensive airflow package featuring wind deflectors for the roof and sides, leading the air current over and past the bodywork or trailer.

Safety as a core value

Volvo's cabs are made of high-strength steel, with the frame forming a sturdy safety cage. Front Underrun Protection System (FUPS) is standard on most on road chassis heights.

Day cab – Comfortable and well-adapted driver's environment. Short-stay bunk available as an option. Low, comfortable entry. A robust cab where the entrance and driver's environment are of the highest class.

Sleeper cab – Comfortable overnight accommodation. Generous sleeping space for one person and the option of an upper bunk. Spacious interior combined with considerable driver comfort.

Low sleeper cab* – Lowered roof with load space above the cab. Suitable for operations where a low vehicle height is prioritised, such as car transportation. Comfortable sleeping accommodation for one person.

Globetrotter cab – Comfortable overnight accommodation for up to two people. The Globetrotter cab offers standing height and extra storage space higher up.

Globetrotter LXL** – Maximum comfort for up to two people. The extra height means generous sleeping space, standing height, considerable interior volume and good storage capacity.

Fire Engine Crew-cab* – Equipped with 6 seats, this gives the cab good comfort for an entire work crew. The cab is robust and features tough interior materials, a low entry and comfortable driving environment.





Day cab (L1EH1)



Sleeper cab (L2H1)



Low sleeper cab (L2H1-LOW)*



Globetrotter cab (L2H2)



Globetrotter cab LXL (L2H3)***



Fire Engine Crew-cab (Special order only)**



Trucks for profitable business

In the new Volvo FM, we have further enhanced form and function. The cabs have a more modern appearance with a new upper grille and new headlights taken from the Volvo FH. Cornering lights for better close-quarter visibility are available as an option.

DRIVER SUPPORT SYSTEM

Preventing traffic accidents is one of our overriding aims. The development of driver support systems that make your job easier behind the wheel is an important aspect of our work. Our aim is to make the roads and your workplace as safe and secure as possible.

In the interface between the human being and technology, the instruments play a crucial role. The driver must always have a clear overview and be given the right information at the right time. The goal is to simplify the driving process and minimise risk of misjudgements.

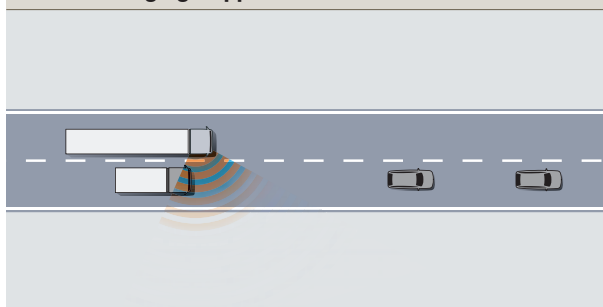
The Volvo cab's passive safety is well-known, but we have also developed active safety systems that help the driver on the road.



Alert to the risk of side impacts

The Lane Changing Support (LCS) system keeps a careful watch on the offset rear blind spot on the passenger's side, which the rear-view mirrors cannot cover. When the driver activates the turn indicators and intends to change lanes, the LCS unit's radar checks to see if there are any vehicles in the blind spot. If there are, the driver is alerted via a warning light in the A post. This system is available as an option on Sleeper or Globetrotter cabs.

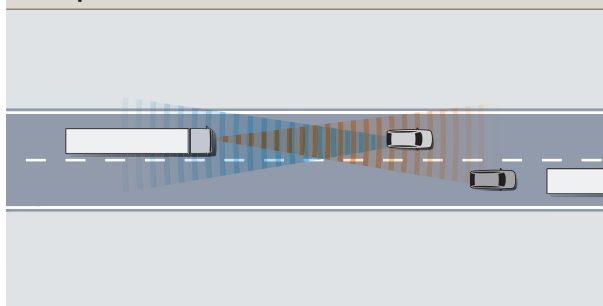
Lane Changing Support



Adaptive Cruise Control keeps your distance*

Adaptive Cruise Control makes it easy to blend smoothly with the flow of traffic and maintain a safe distance from the vehicle in front. The system is radar-based and is available as an option. It maintains a set time gap to the vehicle in front through automatic control of the throttle and brakes.

Adaptive Cruise Control



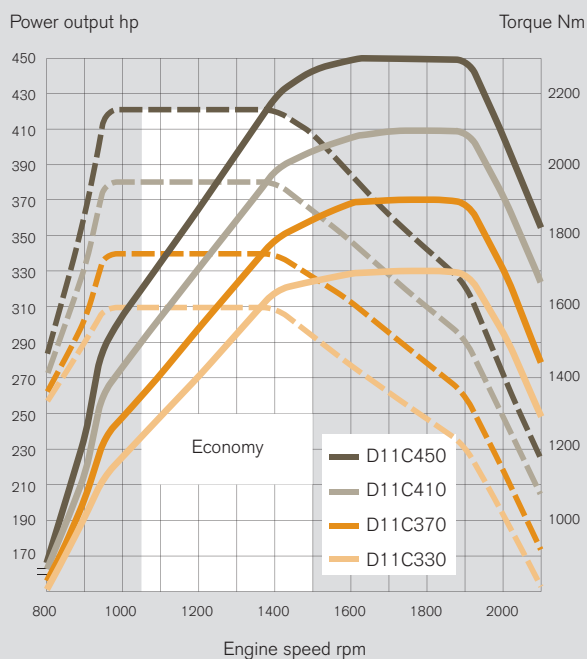
* Only for the Volvo FM



SPECIFICATIONS – DRIVELINE

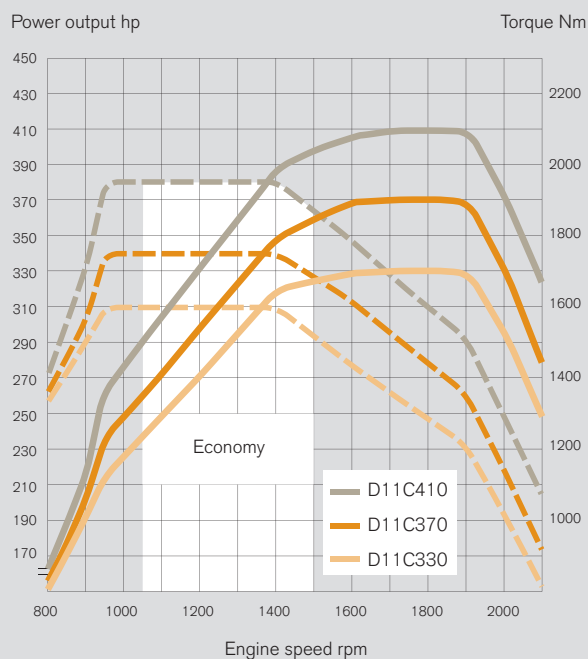
D11C - EURO 5 Power/Torque

Net output according to: ISO 1585, Dir. 89/491/EEC, ECE Reg 85



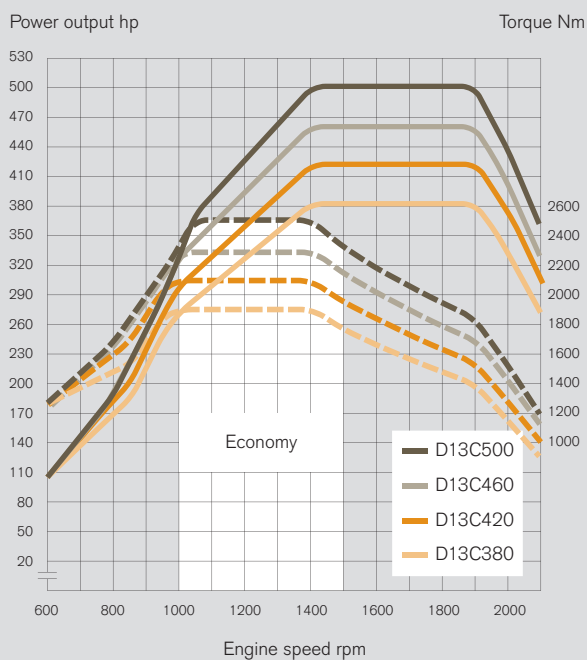
D11C - EEV Power/Torque

Net output according to: ISO 1585, Dir. 89/491/EEC, ECE Reg 85



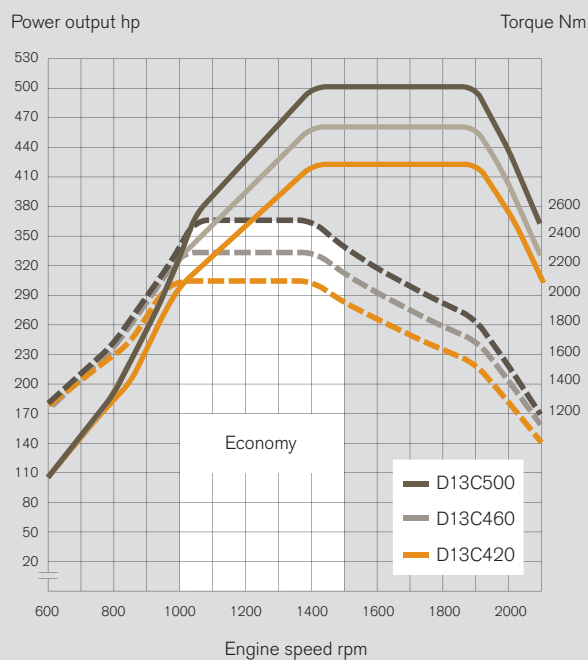
D13C - EURO 5 Power/Torque

Net output according to: ISO 1585, Dir. 89/491/EEC, ECE Reg 85



D13C - EEV Power/Torque

Net output according to: ISO 1585, Dir. 89/491/EEC, ECE Reg 85



ENGINE D11C

D11C330

Max output at 1600–1900 rpm	243 kW
Max torque at 950–1400 rpm	1600 Nm

D11C370

Max output at 1600–1900 rpm	272 kW
Max torque at 950–1400 rpm	1750 Nm

D11C410

Max output at 1600–1900 rpm	302 kW
Max torque at 950–1400 rpm	1950 Nm

D11C450

Max output at 1600–1900 rpm	332 kW
Max torque at 950–1400 rpm	2150 Nm

D11C

No. of cylinders	6
Displacement	10.8 dm ³
Stroke	152 mm
Bore	123 mm
Compression ratio	17.1:1
Economy rev range	1050–1500 rpm
Exhaust braking effect (2400 rpm)	160 kW
Effect – VEB (2400 rpm)	290 kW
VEB available as an option	
Oil filters, no.	2 full-flow, 1 bypass
Oil change volume, incl. filters	approx. 36 l
Cooling system, total volume	approx. 36 l

Engine-mounted PTO: Maximum power output with vehicle at a standstill 1000 Nm and while on the move 650 Nm.

Maximum oil change interval: Up to 100,000 km, or once a year, with VDS4.

ENGINE D13C

D13C380

Max output at 1400–1900 rpm	280 kW
Max torque at 1000–1400 rpm	1900 Nm

D13C420

Max output at 1400–1900 rpm	309 kW
Max torque at 1000–1400 rpm	2100 Nm

D13C460

Max output at 1400–1900 rpm	338 kW
Max torque at 1000–1400 rpm	2300 Nm

D13C500

Max output at 1400–1900 rpm	368 kW
Max torque at 1050–1400 rpm	2500 Nm

D13C

No. of cylinders	6
Displacement	12.8 dm ³
Stroke	158 mm
Bore	131 mm
Compression ratio	17.8:1
Economy rev range	1000–1500 rpm
Exhaust braking effect (2300 rpm)	185 kW
Effect – VEB (2300 rpm)	300 kW
VEB available as an option on the D13C380 and D13C420	
Effect – VEB+ (2300 rpm)	375 kW
VEB+ available as an option on all D13C engines	
Oil filters, no.	2 full-flow, 1 bypass
Oil change volume, incl. filters	approx. 33 l
Cooling system, total volume	approx. 38 l

Engine-mounted PTO: Maximum power output with vehicle at a standstill 1000 Nm and while on the move 650 Nm.
Ratio 1.26:1.

Maximum oil change interval: Up to 100,000 km, or once a year, with VDS4.



SPECIFICATIONS – DRIVELINE

I-SHIFT

I-Shift

Splitter and range-change transmission with automatic gearchanging system. I-Shift can be equipped from the factory with a power take-off, compact retarder, emergency power steering pump and oil cooler.

AT2412D

12-speed with direct top gear. Dimensioned for engine torque of 2400 Nm and general GCW approval for 44 tonnes.

AT2612D

12-speed with direct top gear. Dimensioned for engine torque of 2600 Nm and general GCW approval for 60 tonnes.

ATO2612D

12-speed with overdrive top gear. Dimensioned for engine torque of 2600 Nm and general GCW approval for 60 tonnes.

Software packages for I-Shift

Basic – Supplied as standard with I-Shift and gives the transmission its basic features.

Distribution & Construction – Matches the transmission's operation to distribution and construction operations. Includes features that facilitate operation when moving off from standstill and during close-quarter manoeuvring.

Long Haul & Fuel Economy – Contains intelligent functions that minimise fuel consumption. This software package is particularly suitable for long-haul operations.

Heavy GCM Control – Optimises I-Shift for high gross combination weights (>85 tonnes).

Explanation of the various functions

Basic Shift Strategy – Automatic choice of the right starting gear (1st – 6th gear). The choice of starting gear is influenced by the vehicle's gross weight and the road incline.

Performance Shift – Faster and gentler gearchanges through smart use of the engine brake, clutch and a special transmission brake.

Basic Gear Selection Adjustment

– Possible to adjust gear choice using the gear lever's buttons during engine braking in automatic mode.

Gearbox Oil Temperature Monitor

– Shows gearbox oil temperature in the information display.

Enhanced Shift Strategy – By interacting with EBS and ECS, assists when moving off from standstill and in close-quarter manoeuvring. Maximises VEB and retarder effect by automatically selecting the right gear so the engine runs at high revs. When changing gear during engine braking, the wheel brakes are activated.

Launch Control – Optimises gear choice and EBS functions for manoeuvring at low speeds. Among other things, it ensures that the Hill Start Aid function is only engaged on uphill gradients.

I-Roll – Automatic engagement and disengagement of a freewheel function to reduce fuel consumption. "I-Roll" is used when neither engine power nor engine braking is needed, for instance in flat terrain.

Smart Cruise Control – Interacts with the vehicle's Brake Cruise and ensures that the auxiliary brakes are not activated unnecessarily. This means that the freewheel function is utilised to the maximum.

Heavy Duty GCM Control – Optimises gear choice for high gross weights, 85–180 tonnes, for some engine/gearbox combinations.

Enhanced PTO Functions – Several functions that aid power take-off operation.

Enhanced Gear Selection Adjustment incl. Kickdown – Option of determining gear selection by using the gear lever's buttons when starting off and driving in automatic mode. The kickdown function selects the appropriate gear for maximum acceleration.

Enhanced performance – Bad roads – Several functions that adapt gearchanging and aid starting off and driving on rough terrain and hilly roads.

I-Shift Program packages

FUNCTIONS	BASIC	DISTRIBUTION & CONSTRUCTION	LONG HAUL & FUEL ECONOMY	HEAVY GCM CONTROL ¹⁾
Basic Shift Strategy	o	o	o	o
Performance Shift	o	o	o	o
Basic Gear Selection Adjustment	o	o	o	o
Gearbox Oil Temperature Monitor	o	o	o	o
Enhanced Shift Strategy		o	o	o
Launch Control		o	o	o
I-Roll			o	o
Smart Cruise Control			o	o
Heavy Duty GCM Control				o

Available options:

Enhanced PTO Functions	o	o	o	o
Enhanced Gear Selection Adjustment, incl. Kickdown		o	o	o
Enhanced performance – Bad roads		o	o	o

¹⁾ Only AT2612D

TRANSMISSIONS

Manual gearboxes

Cable operation – with separate cables for longitudinal and lateral movement – provides short lever throw and distinct gear positions. Patented synchromesh with servo function means low gearchanging forces. The gearboxes can be factory-fitted with power take-off, compact retarder, emergency power steering pump, oil cooler and oil temperature sensor.

VT2009B: 9-speed range-change gearbox. 2 reverse gears. Max torque is 2000 Nm.

VT2214B: 14-speed splitter and range-change gearbox. 4 reverse gears. Top gear is a direct ratio. Max torque is 2200 Nm.

VT02214B: 14-speed splitter and range-change gearbox. 4 reverse gears. Top gear is an overdrive ratio. Max torque is 2200 Nm.

VT2514B: 14-speed splitter and range-change gearbox. 4 reverse gears. Top gear is a direct ratio. Max torque is 2500 Nm.

VT02514B: 14-speed splitter and range-change gearbox. 4 reverse gears. Top gear is an overdrive ratio. Max torque is 2500 Nm.

Clutches

CS43B-O: Drag-type single-plate clutch.

CS43B-OR: Drag-type single-plate clutch with reinforced linings.

CD38B-O: Drag-type twin-plate clutch.

CD40B-O: Drag-type twin-plate clutch.

The clutch linings in the O models are free from asbestos and lead (O – Organic). The OR variant features reinforced clutch linings (R – Reinforced).

Powertronic

Fully automatic planetary transmission with torque converter. Changes without any disruption in power delivery. Powertronic can be factory-fitted with a power take-off, integrated retarder, emergency power steering pump and oil cooler.

PT2106: 6-speed and dimensioned for engine torque of 2100 Nm.

PT2606: 6-speed and dimensioned for engine torque of 2600 Nm.

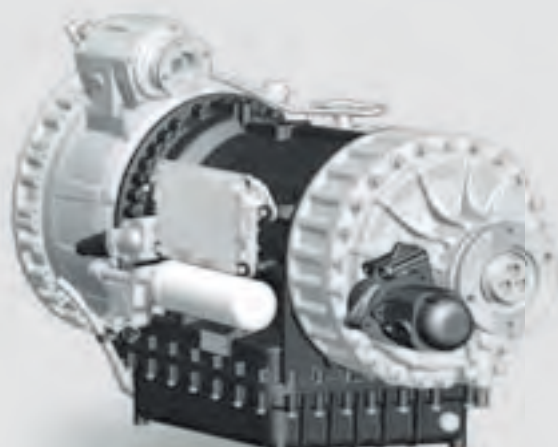
Powertronic, integrated driving programs

Economy – For optimal fuel economy. Gearchanges take place at the most economical revs.

Performance – Used when there is a need for added engine power output. Changes up at higher engine revs

Manual gearbox

Powertronic



SPECIFICATIONS – DRIVELINE

REAR AXLES / POWER TAKE-OFFS

Single-reduction rear axles

RSS1344C: Solo axle with single reduction of hypoid type. Max torque 2600 Nm. Max axle load 13 tonnes. Max gross combination weight 44 tonnes.

RS1356SV: Solo axle with single reduction of hypoid type. Max torque 2400/2800 Nm. Max axle load 13 tonnes. Max gross combination weight 56/44 tonnes.

RTS2370A: Tandem axle with single reduction of hypoid type. Max torque 3150 Nm. Max bogie load 23 tonnes. Max gross combination weight 70 tonnes.

Hub-reduction rear axles

RS1365HV:** Solo axle with conical spiral-cut gears and hub reduction. Max torque 2200 Nm. Max axle load 13 tonnes. Max gross combination weight 65 tonnes. This rear axle is designed for the Volvo FMX 4x4.

RS1370HV: Solo axle with conical spiral-cut gears and hub reduction. Max torque 3150 Nm. Max axle load 13 tonnes. Max gross combination weight 70 tonnes.

RT2610HV: Tandem axle with conical spiral-cut gears and hub reduction. Max torque 3150 Nm. Max bogie load 26 tonnes. Max gross combination weight 100 tonnes.

RT3210HV: Tandem axle with conical spiral-cut gears and hub reduction. Max torque 3150 Nm. Max bogie load 32 tonnes. Max gross combination weight 100 tonnes.

Driven front axle**

Driven front axle FAA11 with hub reduction for the Volvo FMX all-wheel drive variants, 4x4 and 6x6. Max torque 2400 Nm. Max axle load 9 tonnes. Ratio 5.19:1 or 6.91:1. Fitted with distribution gearbox.

Power take-offs

There is a wide variety of clutch-independent and clutch-dependent power take-offs for powering superstructure equipment.

Clutch-independent power take-offs

PTOENG-R: Direct-mounted at the rear of the engine for direct drive of a hydraulic pump.

PTPT-D/F: Intended for Powertronic and driven directly by the engine via the torque converter casing. DIN coupling or connecting flange coupling.

PTO-FLY: This power take-off is fitted between the engine and gearbox and is driven via the engine's crankshaft.

Clutch-dependent power take-off

PTR-FL/FH: Connecting flange coupling and low-rev or high-rev configuration.

PTR-D / PTR-DM / PTR-DH

Low-/medium-/high-rev with DIN coupling for direct connection of a hydraulic pump.

PTRD-F: High-rev with connecting flange coupling for direct-fitted propshaft.

PTRD-D: High-rev with dual drive. DIN coupling front and rear for direct connection of hydraulic pumps.

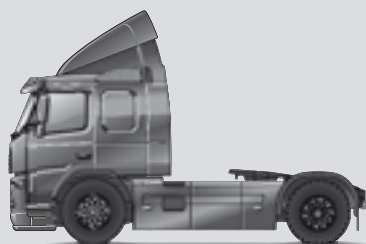
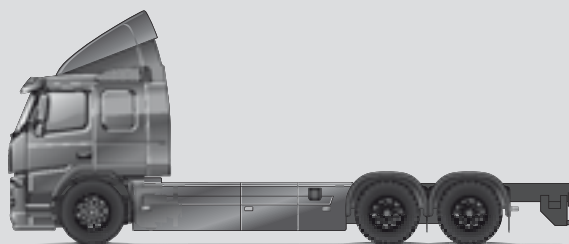
PTRD-D1: High-rev with dual drive. Connecting flange coupling rear and DIN coupling front.

PTRD-D2: High-rev with dual drive rear and single drive front. Two connecting flange couplings rear and one DIN coupling front.

REAR AXLES: RATIOS	RSS1344C	RS1356SV	RTS2370A	RS1365HV**	RS1370HV	RT2610HV	RT3210HV
	2.64:1	2.50:1	2.43:1	3.61:1	3.46:1	3.33:1	3.33:1
	2.85:1	2.79:1	2.57:1	3.76:1	3.61:1	3.46:1	3.46:1
	3.08:1	3.10:1	2.83:1	4.12:1	3.76:1	3.61:1	3.61:1
	3.36:1	3.44:1	3.09:1	4.55:1	4.12:1	3.76:1	3.76:1
	3.70:1	3.67:1	3.40:1		4.55:1	3.97:1	3.97:1
	4.11:1		3.78:1		5.41:1	4.12:1	4.12:1
	4.63:1		4.13:1			4.55:1	4.55:1
	5.29:1		4.50:1			5.41:1	5.41:1
			5.14:1				7.21:1
			5.67:1				
			6.17:1				

SPECIFICATIONS – CHASSIS

DRIVE / CHASSIS HEIGHT / WHEELBASE

Tractor (dimensions in m)**Rigid** (dimensions in m)[illegible]

*** Only available with FM 13 litre models

SPECIFICATIONS – CHASSIS

CHASSIS

Chassis heights

X-Low*	approx. 810 mm
Low*	approx. 850 mm
Medium	approx. 900 mm
High	approx. 1000 mm
X-High**	approx. 1200 mm
XX-High**	approx. 1240 mm

Rigid Towbars

Centrally mounted, semi-undermounted, undermounted and special undermounted towbars for trailers with centre axles.

Towbars can be fitted at 25 mm intervals.

Fifth wheels

Certified installation allows up to 36 tonne imposed loads. An ISO fifth wheel with L-profiles available at different heights.

A flange-mounted fifth wheel is a low-weight variant since it does not need a mounting plate.

Fuel tanks

Aluminium or steel tanks ranging in volume from 150 to 870 litres. Maximum fuel volume with multiple tanks is 1480 litres for a 4x2 tractor.

AdBlue tanks

Plastic or stainless steel. Volumes from 36 to 125 litres.

Underrun protection

Front underrun protection (FUPS) is standard on most chassis heights. Side underrun protection (SUP) is individually tailored to match the wheelbase and chassis height, can be raised for service access, and is integrated into the side-skirt system. Rear underrun protection (RUP) is available in fixed, foldable and sliding versions.

Front axles

FA-LOW: low front axle for extra-low, low and medium chassis heights, axle load up to 8 tonnes.

FA-HIGH: high front axle for high chassis heights, axle load up to 9 tonnes.

FA-STRAI: straight front axles for extra-high chassis heights, axle load up to 16 tonnes. Also available with dual front axles.

Dual front axles – FA-HIGH: available in 8x2 and 8x4 configuration, axle load up to 18 tonnes.

Front axle loads

Tractor: 6.7, 7.1, 8, 9 tonnes.

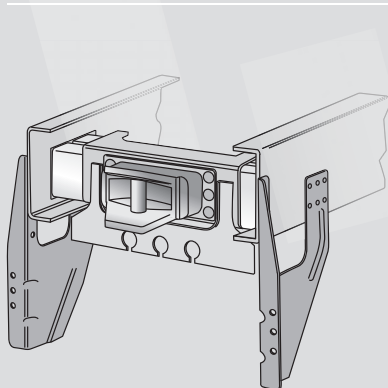
Rigid: 7.1, 7.5, 8, 8.5, 9 tonnes.

Rigid – dual front axles: 8x2, 8x4: 16 and 18 tonnes.

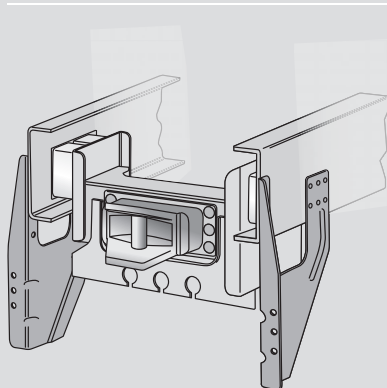
Tag/pusher axles

Tag axles are available in three configurations – fixed with single or twin wheels, passively steered or actively steered. Pusher axles are available in fixed and actively steered variants for both tractors and rigid.

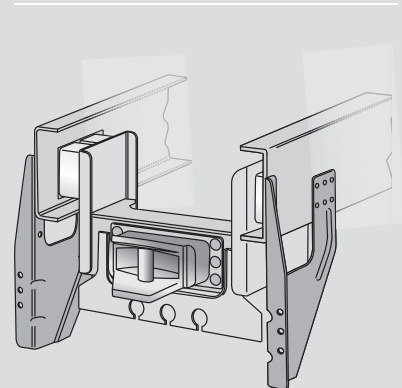
Centrally mounted towbar



Semi-undermounted towbar



Undermounted towbar



CHASSIS

Rear axle suspension

RAD-L90: 4×2 S-parabolic leaf spring, axle load 13 tonnes. For single and hub reduction axles.

RAD-A4: 4×2 air-suspended, axle load 11.5 or 13 tonnes. For single and hub reduction axles.

Bogie

RADT-AR: 6×2/8×2, leaf-sprung parabolic with fixed tag axle, bogie load 19/21 tonnes. For single and hub reduction axles.

RADT-A8: 6×2/8×2, air-suspended with fixed, passively or actively steered tag axle, bogie load 19 tonnes. For single and hub reduction axles.

RADD-BR: 6×4/8×4, leaf-sprung parabolic, bogie load 21 tonnes. For single and hub reduction axles.

RADD-TR1: 6×4/8×4, leaf-sprung parabolic/conventional, bogie load 23/26 tonnes. For single and hub reduction axles.

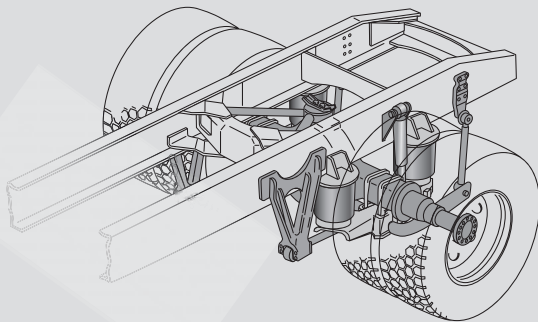
RADD-TR2: 6×4/8×4, leaf-sprung conventional, bogie load 26/32 tonnes. For hub reduction axles.

RADD-A8: 6×4/8×4, air-suspended, bogie load 21/23/26 tonnes. For single and hub reduction axles.

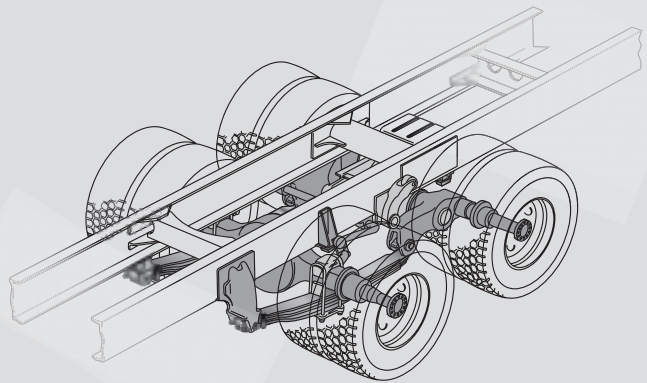
RAPD-A6: 6×2, air-suspended with fixed or actively steered pusher axle, bogie load 19 tonnes. For single and hub reduction axles.

RADDT12: 8×4, air-suspended bogie with steered tag axle, bogie load 24 tonnes. For single and hub reduction axles.

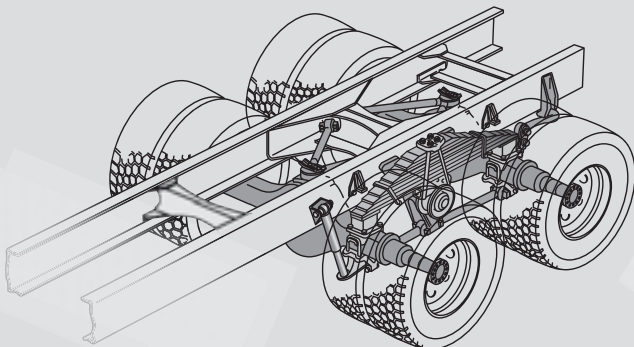
RAD-A4



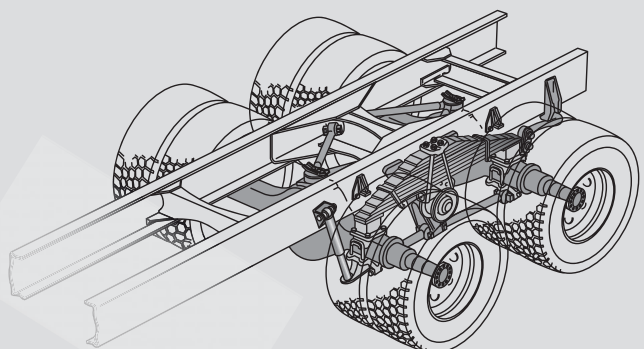
RADT-AR



RADD-TR1



RADD-TR2



SPECIFICATIONS – CHASSIS

BRAKES

Brakes

Volvo Electronically controlled (EBS) disc brakes are available with software packages Medium and High for rigids and tractors. ESP is included in EBS High. An Electronic Stability Program (ESP) is available on 4x2, 6x2 and 6x4 tractors, and 4x2 and 6x2 tag air suspended rigids. Volvo offers ESP for virtually all ADR applications. Volvo's Z-cam drum brakes with ABS (Anti-lock Braking System) are available with mechanical suspension, for example on B and T ride models.



EBS Program packages

FUNCTIONS	EBS MED RIGID	EBS MED TRACTOR	EBS HIGH RIGID	EBS HIGH TRACTOR
ABS – Anti Lock Braking System	o	o	o	o
Brake Blending	o	o	o	o
Brake Temperature Warning	o	o	o	o
Diagnosis via TEA	o	o	o	o
Diff Lock Control	o	o	o	o
Diff Lock Syncro	o	o	o	o
Drag Torque Control	o	o	o	o
EBS Status Control	o	o	o	o
External Brake Demand	o	o	o	o
Hill Start Aid	o	o	o	o
Lining Wear Analysis	o	o	o	o
Lining Wear Control	o	o	o	o
Lining Wear Sensing	o	o	o	o
Panic Brake Assistance	o	o	o	o
Poor Brake Performance Warning	o	o	o	o
Traction Control System	o	o	o	o
Wheel Brake Monitoring	o	o	o	o
Coupling Force Control		o		o
Trailer brake		o		o
ESP – Electronic Stability Program			o	o

Explanation of functions

ABS – Anti Lock Braking System

Anti-lock brakes.

Brake Blending

Auxiliary brakes activated to support the wheel brakes.

Brake Temperature Warning

Warns when the brakes get too hot.

Diagnosis via TEA

Via TEA vehicle electronic system.

Diff Lock Control

Automatic engagement of the differential lock at low speeds.

Diff Lock Syncro

Driven wheels are synchronised prior to engagement of the differential lock.

Drag Torque Control

Prevents the driven wheels from locking on slippery road surfaces when the accelerator pedal is released.

EBS Status Control

EBS status monitoring via TEA vehicle electronic system and VCADS Pro.

External Brake Demand

External brake regulation via other systems.

Hill Start Aid

The brakes are released only when sufficient engine torque has been built up to propel the vehicle.

Lining Wear Analysis

Calculates the remaining mileage on the linings.

Lining Wear Control

Evens out the rate of wear between the brake linings on the various axles.

Lining Wear Sensing

Indicates when about 20% of the brake linings remain.

BRAKES

Panic Brake Assistance

Increases brake pressure to optimise retardation and shorten the stopping distance.

Poor Brake Performance Warning

Warns if retardation is too low in relation to pedal pressure.

Traction Control System

Anti-spin and synchronising – distributes traction evenly between the driven wheels.

Wheel Brake Monitoring

Continuously monitors brake function.

Coupling Force Control

Automatic brake force distribution between tractor and trailer.

Trailer Brake

Makes it possible to carry out a safety inspection when switching trailers.

ESP (Electronic Stability Program)

Brake stabilisation – brakes each wheel individually. Reduces risk of skidding, roll-over and jack-knifing.

Hydraulic retarder

RET-TH: Gearbox-mounted compact retarder.

Max. braking effect with retarder (kW)

Engine	EPG	VEB	VEB ⁺
D11C	600	730	
D13C	620	740	815

(In continuous use, braking effect is restricted as coolant and oil temperature rise.)

RET-TPT: Integrated primary retarder for Powertronic.

Max. braking effect with retarder (kW)

Engine	EPG
D11C	540
D13C	530

(In continuous use, braking effect is restricted as coolant and oil temperature rise.)

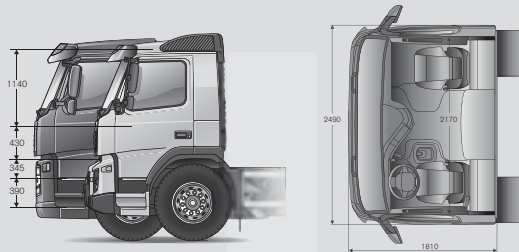
RET-TH



SPECIFICATIONS – CAB

CAB RANGE VOLVO FM AND VOLVO FMX

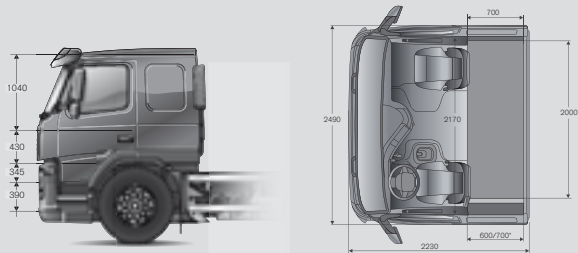
Day cab (L1EH1)



Sleeper cab (L2H1)



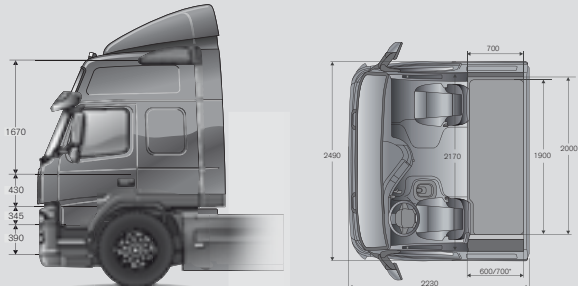
Low sleeper cab (L2H1-LOW)*



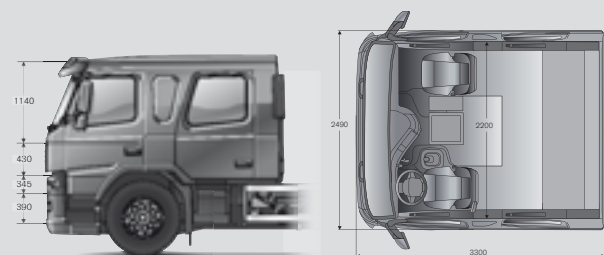
Globetrotter cab (L2H2)



Globetrotter cab LXL (L2H3)***



Fire Engine Crew-cab (Special Order)**



Day cab (L1EH1): Day cab with comfortable and ergonomic driver area. Interior height 157 cm, 114 cm above the engine compartment.

Sleeper cab (L2H1): Sleeper cab with comfortable overnight accommodation for one or two people. Interior height 157 cm, 114 cm above the engine compartment.

Low sleeper cab* (L2H1-LOW): The low sleeper cab with lowered roof provides added load space above the cab. Interior height 147 cm, 104 cm above the engine compartment.

Globetrotter cab (L2H2): Globetrotter cab with comfortable overnight accommodation for up to two people. The Globetrotter cab offers extra storage space higher up. Interior height 196 cm, 153 cm above the engine compartment.

Globetrotter cab LXL* (L2H3):** Globetrotter LXL with comfortable overnight accommodation for up to two people. The Globetrotter cab offers extra storage space higher up. Interior height 210 cm, 167 cm above the engine compartment.

Fire Engine Crew-cab (Special Order):** With 6 seats, the cab offers plenty of comfort for an entire work-crew. Interior height 156 cm, 113 cm above the engine compartment.

Four-point suspension: Coil springs with dampers, rear-only air suspension or all-round air suspension.

Airflow packages: Complete air deflector packages for the roof and sides, spoiler and chassis skirts. Aerodynamically designed wheel covers.

CAB

Air intake: The air intake is located on the left side and is available in high or low version. A front-mounted air intake is available as an option on the Volvo FM.

Colours: Available in about 350 variants.

Upholstery: Vinyl, textile, velour or leather.

Driver's seat: Standard and Comfort. The seat's total adjustment range is 190 mm fore-aft and 100 mm vertically. The driver seat is equipped as standard with a head restraint, adjustable and foldable backrest, height and length adjustment, adjustable lumbar support and adjustable seat angle.

Passenger seat: Basic, Standard and Comfort. All passenger seats are equipped as standard with a head restraint.

Bed dimensions: Lower bunk: Bunk with coil-spring mattress and mattress pad measuring 70×200×12.5 cm. (16 cm thick mattress available as an option). Standard upper bunk measures 60×190×8 cm. Comfort upper bunk measures 70×190×8 cm.

Steering wheel: Steering wheel available in choice of two sizes – 450 mm or 500 mm diameter. Steering wheel height can be adjusted 90 mm up-down and its angle can be adjusted 28 degrees.

Climate system

There is a choice of three climate systems to cover all needs: Fan ventilation with conventional coolant heater. Air conditioning with manual control. Air conditioning with automatic temperature control.

Accessories

Get our accessories catalogue from your Volvo dealer or visit our website, www.volvotrucks.co.uk

Audio system

	AUDIO BASIC	AUDIO MEDIUM+	AUDIO ADVANCED
Playing			
Audio CD	o	o	o
CD-R/CD-RW		o	o
MP3/WMA/WAV		o	o
Speed-dependent volume control		o	o
Extended mute functions	o	o	o
Radio			
FM/AM antenna	o	o	o
FM channels	12	18	18
AM channels	6	6	6
RDS	o	o	o
Connectors and interfaces			
Low-level input, 4 channels	o	o	o
3.5 mm stereo line input			o
USB connection			o
MP3 Interface			o
Bluetooth		o	o
Wireless remote control			o
Loudspeakers			
No. of loudspeakers	6	8*	8*
Output	4×20W	4×35W	4×35W

* 6 loudspeakers in day cab and sleeper cab with upper bunk.

Cab height above ground level

TRACTOR	HEIGHT MM (LIEH) / DRIVE	CHASSIS HEIGHT	SUSPENSION	TYRES
	2850/4×2	High	Leaf/Air	315/80-R22.5
	2780/4×2	Med	Leaf/Air	315/70-R22.5
	2650/4×2	Low	Air/Air	315/60-R22.5
	2635/4×2	X-low	Air/Air	295/60-R22.5

RIGID	HEIGHT MM (LIEH) / DRIVE	CHASSIS HEIGHT	SUSPENSION	TYRES
	2845/4×2	High	Air/Air	315/80-R22.5
	2760/6×2	Med	Air/Air	315/70-R22.5
	2680/6×2	Low	Air/Air	315/70-R22.5
	2870/6×2	High	Leaf/Leaf	315/80-R22.5
	2940/6×4	X-High	Leaf/Leaf	315/80-R22.5
	2965/8×4	X-High	Leaf/Leaf	315/80-R22.5
	3040/6×6	X-High	Leaf/Leaf	315/80-R22.5
	2580/4×2	Low	Air/Air	315/60-R22.5
	2670/4×2	Med	Leaf/Air	315/60-R22.5

SPECIFICATIONS – CAB

PACKAGES

Driving FM/FMX

	DRIVING	DRIVING+
Manual air conditioning	o	
Electronic climate control		o
Roof hatch	o	o
Exterior sun-visor	o	o
Heated and electrical rear-view mirrors	o	o
Remote locking, both doors		o
Manual locking, internal control of passenger door	o	
Interior sun-visor with mirror	o	o
Armrest on driver's seat		o
Instruments, high level		o

Visibility FM/FMX

	VISIBILITY	VISIBILITY+	VISIBILITY X**
Headlight cleaning	o	o	o
Static cornering lights	o	o	
Rain sensor	o	o	o
Bi-Xenon lights		o	
Fog lights			o

** Only for Volvo FMX

Personal safety FM/FMX

Alarm	o
Safe box	o
Parking safety lights	o
Airbag	o
Seat belt pre-tensioner	o

Active safety FM - Tractor

Electronic Stability Program ESP	o
Lane Changing Support	o
Adaptive Cruise Control	o

Active safety FM - Rigid

Hill Hold*	o
Lane Changing Support	o
Adaptive Cruise Control	o

* Option of upgrading to EBS-High on air suspended 4x2 and 6x2 tag rigids.

Resting FM - Sleeper cab

	1 BUNK
Night heater	o
Sleeper control panel	o
Night light	o

Resting FM - Globetrotter/Globetrotter LXL

	1 BUNK	2 BUNK
Upper rear storage compartment	o	
Bunk, 700x2000 mm	o	
Bunks, lower 700x2000 mm		
Upper 700x1900 mm		o
Night Heater	o	o
Sleeper control panel	o	o
Night light	o	o

Some of the equipment shown or mentioned in this brochure may only be available as options or accessories and may vary from one country to another in accordance with local legislation. Your Volvo dealer will be happy to provide you with more detailed information. Colours may vary somewhat owing to the limitations of the printing process. We reserve the right to alter product specifications without prior notification.

A TRUCK FOR EVERY NEED

The Volvo FM and Volvo FMX range is all about capacity. With the wide range of drivelines, chassis, cabs and accessories, you have immense scope for individually tailoring your new Volvo. Visit our website, www.volvotrucks.com or your local Volvo dealer, where we will be happy to help you create the truck of your choice, to suit your transport and business needs.



VOLVO TRUCKS. DRIVING PROGRESS



VOLVO

Volvo Truck Corporation
www.volvotrucks.com