

V O L V O

Volvo FM 420 4x2 Tractor

Setting new benchmarks in express cargo logistics



Volvo Trucks. Driving Progress

VOLVO FM 420 4X2 TRACTOR

Power & comfort meets productivity & reliability.

Safety always remains the prime value pillar

Safety is one of the three core values of Volvo Trucks. We have been at the forefront of introducing a safety net for the truck drivers in India. The slimmer A-pillar, larger windscreen and lower door lines give better direct visibility. Tinted windshield helps reduce glare and improved rear view mirrors give you the best views. With improved visibility, driver is more confident and chances of accidents are minimized. Power windows and central locking secure the truck. Volvo cabs have been subjected to the toughest tests including the Swedish crash test. Electrically operated Steel roof hatch provided as emergency exit. Electronic braking system gives you all the more confidence while driving in rough terrain. Downhill cruise control maintains a set speed when the loaded truck is going down the slopes using auxiliary brakes. This also reduces brake wear and improves service life.

Continuing the tradition of enhancing safety, we bring an array of new safety features in addition to the existing ones. The Volvo FM 420 Tractor is the only Heavy Duty Tractor in India equipped with LED headlamps and driver airbags. The buzzer alerts the driver and co-driver to wear their respective seatbelts.

We have taken Indian trucking safety to a new level by introducing a Headway Support System that consists of a Forward Collision Warning with Distance alert, and Emergency Braking. Headway Support Systems support the driver in keeping a safe distance from the vehicle ahead and alerting the driver in case of a potential collision.



Most comfortable cab

Drivers are the most important part of the trucking industry and their comfort is directly proportional to the productivity. The new FM420 cab has been designed keeping this in mind. With 1000 ltr more cabin space, enhanced thermal insulation, 2dB quieter cab, and excellent internal and external storage space, soft closure of doors, pneumatic suspension and better vibration arresting on air suspended cab, comfortable bunk bed that drivers are guaranteed to feel at home.



More efficient

The cabin aerodynamics and air deflectors are improved to give better fuel economy. Volvo has been improving their Euro 6 technology since 2013. The latest engine management system, better gear shift programming over and above subtle design improvements in the engine like smoother cylinder liners, oil scraper ring, turbo impeller with inverse design, new low viscous VDS 5 oil all help save some more liters of fuel in the long run. The trucks are designed to run round the clock and the 810 liter fuel tank ensures that the trucks don't have to stop often for refueling.

With this new generation of Euro 6, a few upgrades on the engine combined with the new software, and energy management system improve fuel consumption by optimizing combustion and reducing friction.

Changes in the internal parts like piston design, injector, cylinder head, connecting rod, engine block, crankshaft, etc., and external parts like ECM 4.0, air compressor, fuel filters, and electric steering pump.

Convenience redefined

The new FM420 has the state of the art I-Shift 12 speed automated manual transmission which chooses the best gear in the interest of power and fuel economy. The ergonomically designed new gear control lever fits snugly in palm. Switch between drive modes like economy, standard and performance with a push of a button. With I-Shift your driver has one less activity to focus on.

Introducing upgraded gearbox – AMT –G which improves gear shifting speeds by 30%, Have better reparability, Optimise quality; reliability and uptime of the truck. Software updates gives Improved torque accuracy and engine speed control.

Add to this cruise control to maintain speed and downhill cruise control to control speed while going down the slopes using auxiliary brakes Volvo Engine Brake (VEB+), so as to reduce brake wear.

Pre-trip check diagnoses all the vital parameters of the truck and alerts if something needs your attention with pop up message on the driver information display. If not, just turn the ignition and keep rolling.



I-Shift Automated Manual Transmission

Also, upgrades in the Exhaust After Treatment System (EATS) with the new design of the urea pump which has greater precision and higher urea carrying capacity, Serviceable filters, insulated DPF covers, etc. help reduce emissions.



In addition to this, the Auto Hold function, which is an extension of the electric parking brake and Hill Start Aid, offers more convenience and extra safety. And Change Direction enables one to select the reverse gear at lower vehicle speed and start reversing without letting the foot off the accelerator pedal and vice versa.



Pre-trip check diagnosis



Driver information display

Ultra-modern displays & controls

The Driver Information Display on the new cabin is a fully digital 12" unit which is dynamic to suit the preferences of the driver. Choose between the classic analogue view or digital using buttons on the steering wheel. All vital statistics of the truck, alerts, driver timers, alerts etc., become part of the display. What's more – connect your phone to the truck and drive safe with hands-free comfort.

If one digital screen is not enough, there is an additional 9" touch screen Secondary information Display. This is a multipurpose unit which can display load indicator, trip meters, driver coaching, camera displays, infotainment etc... You can also add third party apps to suit your specific needs. The truck is always connected to your monitoring console and our Uptime centre, continuously transmitting vital data. We can remotely upgrade or install new software on the truck.



Driver coaching



Driver information display with payload view



Technical specifications

ENGINE	
Six-cylinder, in-line direct-injection diesel engine	
Overhead camshaft with four valves per cylinder	
Electronically regulated common rail fuel injection with unit injectors	
Heavy duty turbocharger and intercooler	
Engine management system with driving information and diagnosis	
Exhaust after treatment by Selective Catalytic Reduction (SCR) technology with additional AdBlue tank	
Exhaust Gas Recirculation (EGR)	
Displacement	12.8 litre
Bore x stroke	131 mm x 158 mm
Compression ratio	18.0 :1
Max. power	420 hp @ 1404-1700 rpm
Max. torque	2100 Nm @ 905-1400 rpm
Economy speed range	900-1400 rpm
Emissions*	BS-VI / Euro 6
*Emission requirements conform to ECE/EEC regulations and AIS 137 as notified by MoRTH vide GSR 889(E) dtd. 16.09.2016 w.e.f 01 April, 2020.	
CLUTCH	
Power assisted push-type single plate friction disc	
Plate diameter	430 mm
GEARBOX	
I-Shift (Automated range / splitter gearbox)	
Heavy duty transmission oil cooler with additional radiator	
I-Roll, Shift strategy, smart cruise control features for economy driving	
No. of gears	12 Forward + 4 Reverse
Economy, Standard, Performance drive modes	
FRONT AXLE	
Heavy duty steerable front axle	
Capacity	8000 kg
REAR AXLE	
Driven single reduction solo axle	
Differential lock - Inter wheels	
Ratio	3.40:1
Capacity	13000 kg
SUSPENSION	
Front	
Parabolic leaf suspension	
Double-action shock absorbers and stabilizers	
No. of leaves	2
Rear	
Electronically controlled air suspension with 3 driving levels	
Rubber insulated V-stays and reaction rods, stabilizer & two shock absorbers	
No. of air bellows	4

WHEELS AND TYRES	
Tyre size	295/80R22.5, Radial tubeless
Wheel rim size	8.25" x 22.5"
Total no. of wheels fitted	6
1 no. spare wheel rim and tyre	
CHASSIS FRAME	
'C' channel section side members made of high strength steel	
Depth	300 mm
Flange width	90 mm
Section thickness	8 mm
STEERING	
Hydraulic Power Steering	
Tilt & Telescopic adjustable steering wheel	
Steering wheel diameter	450 mm
FUEL AND ADBLUE TANKS	
Steel fuel tank mounted on right and left side of chassis	
Left Fuel tank capacity	405 litres
Right Fuel tank capacity	405 litres
AdBlue tank capacity	64 litres
EXHAUST SYSTEM	
Vertical exhaust outlet on right hand side	
BRAKES	
Electronic Brake System (EBS)	
Electronic Stability Program (ESP)	
Hill start aid	
Dual line air brake system	
Z-cam disc brakes with automatic adjustment & ABS	
Electronic parking brake activation	
Spring type parking brake chambers on front and rear axle	
Stationary trailer brake control	
PNEUMATICS	
Gear driven, dual cylinder reciprocating air compressor	
Max. compressor capacity	870 l/min
Electronically controlled Air Production Modulator (APM)	
Total air tank capacity	101 litres
ELECTRICALS	
System voltage	24 V
Volvo enhanced flooded batteries (2 nos)	
Battery voltage	12 V
Battery capacity	225 Ah
Alternator capacity	110 A
ADR - Adaptation with two switches, one inside cab (Dashboard) and one on cab back. (Only on ADR Tractor)	
7 pol electrical trailer connector	
15 pol electrical trailer connector (ADR certified). (Only on ADR Tractor)	

CABIN

New FM sleeper cabin fully suspended by four coil springs and shock absorbers

Crash tested steel welded structure

Accommodation 1 driver + 1 co-driver + 1 bunk

Cabin tilt angle 70°

Interiors

12" fully dynamic digital instrument cluster with Home & Focus views

Slimmer A-pillar, larger windscreen & lower door lines enhances direct visibility

Air bag on driver side

Electrical manually controlled climate unit

Central door locking and power windows

Ergonomically designed new dashboard with easy-access stalks, switches & controls

9" touch screen Secondary information display

Air suspended driver's seat with adjustment of fore-aft, height, back rest, lumbar support, shoulder, seat cushion extension, seat tilt

Cushioned foldable co-driver seat

Cruise Control + Downhill cruise control

Red safety belt

Exteriors

Aerodynamically designed with smooth surfaces and rounded corners at the front

Aerodynamic roof air deflector

Cab side air deflectors

New LED headlamps

Fog light and static cornering light

TELEMATICS

Volvo Connect on-board telematics collects and transmits all the vital statistics and performance parameters of the truck. Performance and health of the truck can be monitored from the convenience of your home

ADAS Features

Headway Support System with Forward Collision Warning, Distance Alert and Emergency Breaking

TOOLS AND ACCESSORIES

Standard tool kit, first aid kit, two warning triangles, bulb and fuse kit

20 ton hydraulic jack

FIFTH WHEEL COUPLING

50 mm (2") heavy duty fifth wheel coupling

Standard kingpin offset (before rear axle) 475 mm

Height from ground (unladen) 1236 mm

Height from ground (laden) 1203 mm

VEHICLE DIMENSIONS,mm (As per CMVR)

Wheel base 3500

Overall length 5690

Overall width 2534

Overall height (including Air Deflector) 3994

VEHICLE WEIGHTS kg (as per CMVR limits)

Front axle 7000

Rear axle 12500

GCW with 2 axle trailers 40500

GCW with 2 axle air suspended trailer 42500

GCW with 3 axle trailer 46500

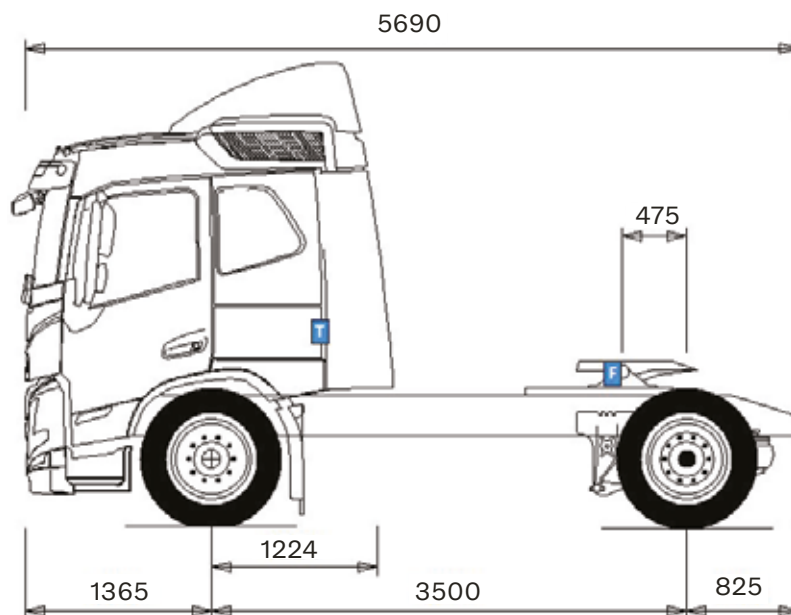
GCW with 3 axle air suspended trailer 49500

GCW with 3 axle with air suspended with spacing 55000

PERFORMANCE DATA

Economy speed range on top gear 53.4 - 78.7 kmph

Max. Speed Limited 80 kmph



Caution: Do not drill or weld on the frame. Note: Volvo has a policy of continual product improvement. The specifications / images shown here are indicative and are subject to change without prior notice. Performance parameters are subject to stability of the vehicle.

V O L V O

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