

V O L V O

Volvo FM 420 8X4 Tipper

Driving into the new era of productivity



Volvo Trucks. Driving Progress

VOLVO FM 420 8X4

The solution to mega infrastructure projects

Safety always remains the prime value pillar

Volvo is synonymous with safety. The slimmer A-pillar, larger windscreen and lower door lines have improved direct visibility by 10%. 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 door locking secures 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 reduce brake wear and improve service life.



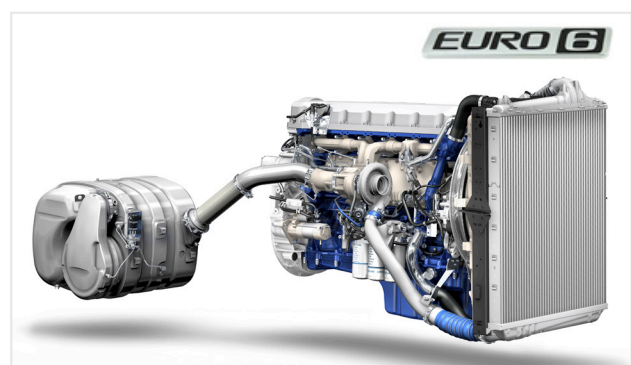
Most comfortable cab

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 800 ltr more cabin space, climate control with enhanced thermal insulation, 2dB quieter cab, and excellent internal and external storage space, soft closure of doors and better vibration arresting... drivers are sure to guarantee few extra trips per shift.



More efficient

The cabin aerodynamics 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 with longer change interval that will help save some more liters of fuel in the long run.



PRODUCTIVITY AT ITS BEST

The new FM comes with two body offerings:

- 23 cu.m box body for general purpose earthwork, road construction etc.
- 19.5 cu.m wear resistant steel cladded body for tough applications like tunneling, quarry and hard rock excavation.



Convenience redefined

The new Volvo 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, performance and off-road with the push of a button. With I-Shift driver has one less activity to focus on.

Add to this, cruise control and downhill cruise control to maintain speed.

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. You can avoid physical inspection of the truck at the beginning of every shift, thus improving the utilization.



I-Shift Automated Manual Transmission

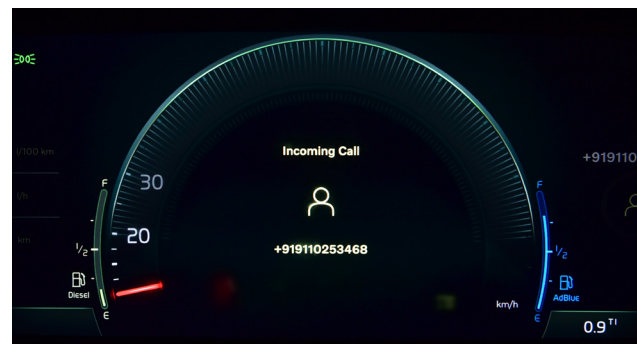
Ultra-modern displays & controls

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 or digital view using buttons on the steering wheel. All vital statistics of the truck, alerts, driver timers etc., become part of the display. What's more – connect your phone to the truck and drive safe with hands-free comfort.

The new Traction Control unit makes it easier to handle demanding situations – on or off-road. The more you turn the knob, the more traction you get. You also get visual feedback of the traction status in the instrument display.



Pre-trip check diagnosis



Driver information display



Traction control knob and display

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 @ 1400-1800 rpm

Max. torque 2100 Nm @ 860-1400 rpm

Economy speed range 950-1400 rpm

Emissions* BS-VI / Euro 6

Max. engine brake power 268 hp @ 2300 rpm

*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

Enhanced software for off-road conditions

Economy, Standard, Performance, Off-road drive modes

No. of gears 12 Forward + 4 Reverse

POWER TAKE-OFF

Clutch dependent gearbox mounted power take-off

FRONT AXLES

Twin heavy duty steerable front axle with high ground clearance

Capacity (Twin Axles) 20000 kg

REAR AXLES

Drive tandem hub reduction axle with four planetary gears

Differential lock - Inter wheels and inter-axes, Differential Lock Control (DLC)

Traction Control System (TCS)

Ratio 5.41:1

Capacity (Tandem axles) 32000 kg

SUSPENSION

Front

Parabolic leaf suspension with S-shaped leaf geometry

Double-action shock absorbers and stabilizers

No. of leaves 3

Rear

Heavy duty bogie suspension with conventional multi-leaf spring

Rubber journalled V-stays, reaction rods, stabiliser and two shock absorbers

No. of leaves 11

WHEELS AND TYRES

Tyre size 12" x 20" Cross Ply

Wheel rim size 8.5" x 20"

Total no. of wheels fitted 12

1 no. spare wheel rim and tyre

CHASSIS FRAME

'C' channel section side members made of high strength steel

Cross section 300 mm x 90 mm x 8 mm

Partial length inner reinforcement

Inner reinforcement thickness 5 mm

STEERING

Hydraulic power steering with variable displacement pump

Tilt & Telescopic adjustable steering wheel

Steering wheel diameter 500 mm

FUEL AND ADBLUE TANKS

Fuel tank mounted on the left hand side between 1st and 2nd front axle

Fuel tank capacity 290 litre

AdBlue tank capacity 57 litre

EXHAUST SYSTEM

Horizontal muffler, vertical exhaust outlet on right hand side

BRAKES

Electronic Brake System (EBS)

Dual-line air brake system with ABS

Hill start aid

Z-cam drum brakes with automatic adjustments

Auxiliary Engine Brakes (Exhaust Pressure Governor)

Electronic parking brake activation

Spring type parking brake chambers on 2nd front, 1st rear and 2nd rear axle

PNEUMATICS

Gear driven, dual cylinder reciprocating air compressor

Max. compressor capacity 900 l/min

Electronically controlled Air Production Modulator (APM)

Total air tank capacity 123 litre

ELECTRICALS

System voltage 24V

Volvo enhanced flooded batteries (2 nos) with battery reconditioner

Battery voltage 12 V

Battery capacity 170 Ah

Alternator capacity 110 A

CABIN

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

Crash tested steel welded structure

Accommodation 1 driver + 1 co-driver

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

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

Electrical manually controlled climate unit

Central door locking and power windows

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

Distinct V-shape daytime running light (DRL)

New heavy duty headlamp unit with higher illumination main beam

Electrically operated steel roof hatch as emergency exit

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

TOOLS AND ACCESSORIES

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

20 ton hydraulic jack

TIPPER BODY & HYDRAULICS

All steel box type construction body

Struck Volume 23 Cu.m

Mechanically operated tail door with double hinge

Pulling pipe lock mechanism for tail door

Tipping angle with knock-off valve 49 deg

Heavy duty front mounted telescopic cylinder

Direct mounted hydraulic pump on PTO

Oil tank with breather filter, oil level indicator and return line filter

Oil tank capacity 135 liters

*Rock / Granite Body of 19.5 Cu.m (Struck volume) with wear resistant steel cladding can also be produced

VEHICLE DIMENSIONS, mm (As per CMVR)

Wheel base 5035

Overall length 8693

Overall width 2590

Overall height 3514

Turning circle diameter 19000

Minimum ground clearance 298

VEHICLE WEIGHTS

Laden weight, kg (as per CMVR limits)

Front axles (Twin) 14000

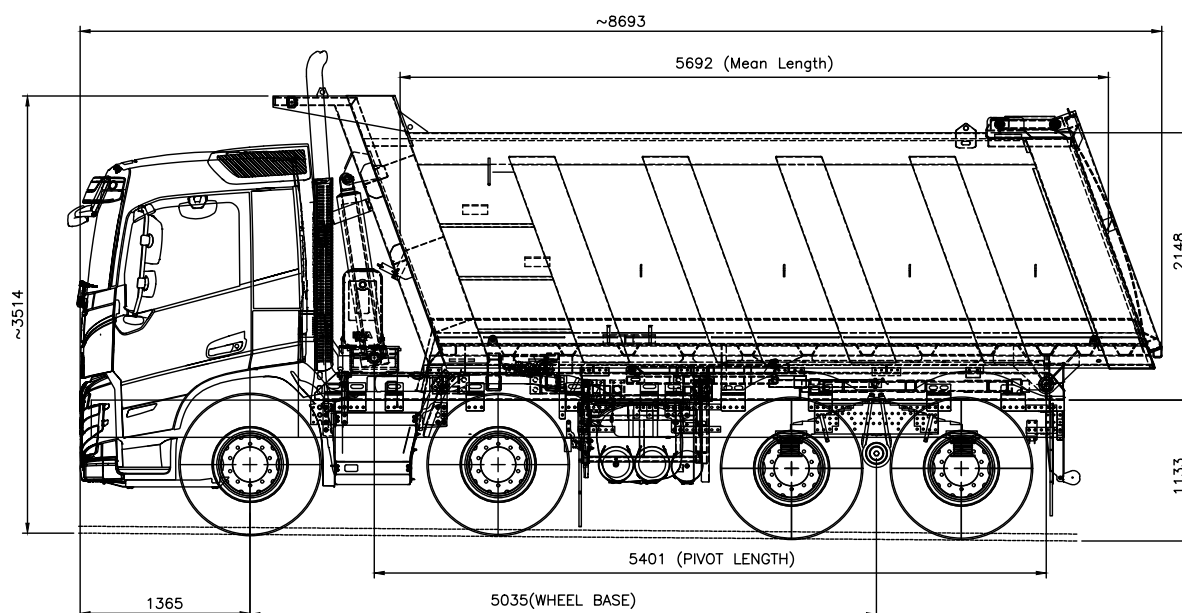
Rear axles (Bogie) 21000

Gross vehicle weight 35000

PERFORMANCE DATA

Economy speed range on top gear 37 - 58 kmph

Max. Speed (with electronic speed limiter) 45 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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