



Volvo Trucks. Driving Progress

# VOLVO FMX

## 8X4 RIGID





# It complements your skills perfectly.

Driving in construction and mining operation requires skill. Great skill when it comes to efficient and fast transporting of large loads without getting bored down, and without compromising the truck. But does it require muscles, too? No, not really.

Even if the Volvo FMX is robust, it is developed to make driving in construction application easier and safer from the sturdy bumper and effortless steering to the robust rear suspension. Let us show you what a modern construction and mining truck, packed with innovative solutions and groundbreaking features, looks like.

# How to recognise a true construction truck.

The robust design of the Volvo FMX is clearly different from all other trucks. Here are some details that make it stand out. Details that make a great difference for the drivers' daily work.



## Footstep in front.

The whole sturdy lower front can work as a ladder. Just climb up on it. For even better access when cleaning the windscreen, there's the option of an extra ladder to put on the front bumper.



## High air intake.

High air intake contributes to a good backwards view when reversing. It's got high air throughput and is well protected from dust.



## Entry step.

A low and foldable step makes it easier to enter trucks with a high chassis. All three steps have an anti-skid design. The extra light in the door aids safe entry when it gets dark.



## The sturdy bumper.

It's made of steel, it's in three parts and the attachments are visible and easy to undo. This makes it easy to change the part that is damaged.

So if you run into a pile of rubble, it's no big deal. Perhaps you won't even notice any damage on the bumper. This is because the steel bumper is also covered by a thick polypropylene coat, that will return to its original form after being damaged.



## The Skid Plate.

This protecting guard plate under the engine is really worth its name. It is 3 mm thick and it doesn't only protect the engine sump but the hoses and cooler too. Everything that is perishable when driving off road is protected, even when you reverse.

The skid plate has another advantage too; if you drive in a very dusty environment the plate reduces dust vortices under the truck.



## Mirrors.

Robust rear-view mirrors with sturdy mountings, that withstand rough treatment. Slim mirror arms for good forward vision.

# A knee-saving invention.

Do you drive a construction truck with manual gearbox? OK, then count how many times you shift gear in a working day.

Done? OK, now let's talk about I-Shift with automated gear shifting.



## Eases your mind and your left foot.

Driving I-Shift is a real pleasure. Without the clutch pedal, you can safely sit back concentrate on the other two. I-Shift uses its built-in intelligence to quickly and automatically choose the right gear at all times, and the software provides shifting skills that are impossible for even the best of drivers to match. Still, if you want to get more involved, you can. The buttons on the shift selector allow you to step in and shift gear manually.

## Let I-Shift save you fuel. The money will roll right in.

I-Shift is designed to save fuel. First of all, the internal losses are low – actually lower than on manual gearboxes. But it's the electronics that really make the difference. When driving in Economy mode, every gear change is timed precisely, to let the engine work at its most efficient rpm range.

## More uptime.

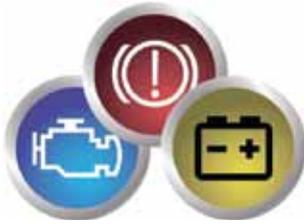
It's when driving that you earn money, that's a well-known truth. So therefore we have made some changes that will increase your truck's uptime. In the case of the I-Shift, we have also increased clutch life-time and improved guided diagnostics.

## How it works.

It may seem strange. Beneath the surface of I-Shift, the archetype of modern transmissions hides an old-school unsynchronized manual gearbox. (Hence the compact design and low internal losses.) But of course there's more to I-Shift than that. The secret lies in the intelligent electronic control unit. It's responsible for controlling the pneumatic system that handles the clutch and shifts. By constantly receiving information about vehicle speed, acceleration, weight, road grade, torque demand and more, it can carry out every shift with extreme precision. It also communicates closely with the engine, which in turn adjusts revs and engine-brake effect for fast and comfortable shifting.



# We'll support you all the way. And on your way.



## **New Service Planning.**

One step ahead. Thanks to the telematics gateway (option), the workshop can access information such as engine data, mileage, fuel consumption, diagnostic trouble codes, driving conditions and status of crucial components (brake pads, clutch, battery and air dryer etc.). This means we can alert you in time, before you risk an unplanned stop. But most importantly, we're always perfectly prepared when you enter the workshop. So you'll be back on the road before you know it. New Service Planning is optional in combination with the New Volvo Gold Contract.

## **Driver training.**

A unique service offered for Volvo FMX: Driver Development course. It is a one-day classroom course, covering personal safety routines and ways to work efficiently and eliminate risks. Also included are off-road driving techniques to avoid accidents or getting stuck – and what to do if it should happen. Vehicle features are also covered – those connected to off-road driving and power take-off usage. Furthermore, you will learn how to utilise the full potential of systems such as I-Shift and differential locks.



## **Dynafleet app.**

This app makes it a lot easier to work as a driver, and hopefully more fun. You can follow up your fuel-efficiency score and ranking, alongside your driver times and points of interest on a map. You can also compare your performance with those of your colleagues. This app is available for a smartphone or a tablet. This feature is useful if you have the Dynafleet system on board.

## **Fuel advice.**

Gives you access to our fuel management coaches – true experts in reducing fuel consumption. They can share you with fuel reports with personalised advice on how to improve.

# It's dirty out there. Yet clean and homely in here.



## Room for work.

A comfortable driver's seat, splendid visibility and lots of space make your work more enjoyable – and safer. A good overview of the dashboard, plus every button and lever within easy reach makes driving easier.



## Easier steering wheel adjustment, more knee space.

We adjusted the adjustment pedal for the steering wheel and modified the steering column to create more space for your knees.



## Raven colour.

Raven is the colour of the dashboard. It is especially developed for the construction environment, because this colour is less sensitive to dirt.



## A great position to be in.

Every driver knows the value of a good seat. The one in the new Volvo FMX can be adjusted 20 cm fore-aft and 10 cm vertically. And it features a new cushion that's more comfortable than ever.



## New, modern and ergonomic dashboard.

The new, gently curved dash not only looks appealing. It's designed for an ergonomic and comfortable driving position, with all controls, instruments and storage within easy reach.



## All at your thumb tips.

Buttons for cruise control, audio, and the information displays, allow you to keep a tight grip on the wheel.



## Built in bird bath.

The bird bath is built in on the top of the dashboard. It's a practical place to keep small odds and ends and it's even got a penholder.

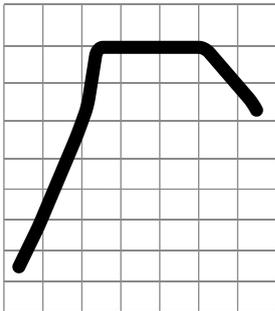


## Electric parking brake.

The electrically controlled parking brake is handled with an easy-access dashboard switch. Automatically engaged at key-off.

# Optimized power for your application.

13 litre engine with 440 hp and 2200 Nm torque. You can be rest assured that it suits your transport operation.



## The Volvo torque curve.

You'll feel it in the pedal. Excellent torque at low revs. An extremely wide max torque range. Peak torque meets peak power. Volvo's leadership in diesel engine technology is clearly visible once you start comparing engine curves. You'll experience fast acceleration, excellent pulling power, comfortable low-speed handling and, not least, a fuel efficient and pleasurable ride at cruising speed.



## Fuel efficiency built-in.

The optimised combustion chamber geometry. The fast and precise EMS-controlled injection. The high gas-fill ratio. We could go on listing what makes Volvo engines hard to beat when it comes to fuel economy. Your bottom line will reap the benefits. So will the environment.



## VEB

Volvo's famous engine brakes. Minimize wear on the brake pedal. Volvo's patented engine brakes produces impressive braking forces. Integrated with I-Shift and the cruise control, it makes a descent into the gravel pit or mine comfortable, without compromising safety or fuel economy.

### **Inline six**

6 cylinders. 7 bearings to distribute the forces. Reliability never goes out of style.

### **EMS-controlled, flexible injection systems**

Injectors (D13 engine) with perfect timing, thanks to the Engine Management System (EMS).

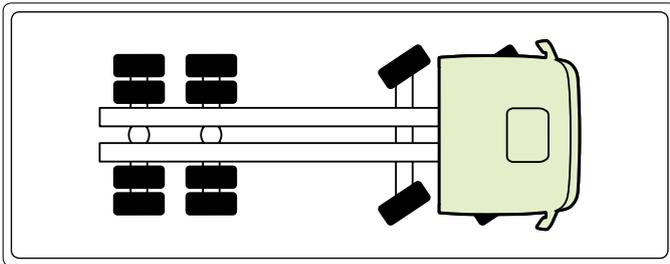
### **Rear timing mechanism**

A compact and weight-saving design, powering the air compressor along with the power steering, oil, and fuel feed pumps.



# Take the curves in your stride. Whatever your load.

The FMX 8X4 Rigid gives you unparalleled flexibility when it comes to manoeuvring on narrow roads and is very suitable when you have high front-axle load.



## Dual front axles. When you've got a heavy front load.

The 8x4 with dual front axles and a driven bogie brings the option of high front-axle loads. This is suitable for superstructures with a tipper or a concrete pump for example.



## Tight turning circles

They are not only useful in tight spaces. This quality also saves time and increases productivity.

# TECHNICAL SPECIFICATION



## Dimensions (mm)

WB, Wheelbase	5600
OL, Overall length	9315
CA, Cabin to rear axle	4770
OW, Overall width	2550
OH, Overall height	3832
FT, Front tread	2019
RT, Rear tread	1871
FOH, Front overhang	1520
ROH, Rear overhang	825
GC, Ground clearance	363
TC, Turning circle radius	14050

## Weight (kg)

FAL, Front axle capacity	18000
RAL, Rear axle capacity	32000
GVW, Gross Vehicle Weight	50000
Tare weight, front axles	7564
Tare weight, rear axles	4244
Total tare weight, chassis and cabin	11808
PL, Payload capacity (only chassis)	38192

<b>Engine</b>		<b>D13A440</b>
Max output at 1400-1800 r/min	440 hp(324 kW)	
Max torque at 1050-1400 r/min	2200 Nm	
No of Cylinders	6	
Displacement	12.8 dm <sup>3</sup>	
Stroke	158 mm	
Bore	131 mm	
Compression ratio	18.1 : 1	
Economy engine speed	1050-1600 r/min	
Exhaust brake output at 2300 r/min	170 kW	
VEB-Volvo Engine brake effect at 2300r/min	300 kW	
Oil filters	2 full-flow, 1 bypass	
Oil change volume, incl filter	33 l	
Cooling system, total volume	38 l	

<b>Clutch</b>		<b>CS43B-O</b>
Type	Single, push-type clutch	
Description	Clutch with a large friction area which offers good durability	
Disc diameter	430 mm	

<b>Transmission</b>	
I-Shift	AT2612D
12 - speed electronically controlled splitter and range - change gearbox with automated gearchanging system. I-Shift is fitted with a power take-off and oil cooler.	
Top gear	Direct
Max torque	2600 Nm
Tailors the gearbox's work for mining operations. Features include functions that aid the driver when starting and in close-quarter manoeuvring.	

<b>Gear ratios</b>					
1 <sup>st</sup>	11.94	6 <sup>th</sup>	4.35	11 <sup>th</sup>	1.27
2 <sup>nd</sup>	11.73	7 <sup>th</sup>	3.44	12 <sup>th</sup>	1.00
3 <sup>rd</sup>	9.04	8 <sup>th</sup>	2.70	R1	17.48
4 <sup>th</sup>	7.09	9 <sup>th</sup>	2.08	R2	13.73
5 <sup>th</sup>	5.54	10 <sup>th</sup>	1.63	R3	4.02
				R4	3.16

<b>Clutch (optional)</b>		<b>CD40B-O</b>
Type	Drag type clutch	
Description	Clutch with dual friction disc for good durability. It requires low disengagement forces and provides good manoeuvrability.	
Disc diameter	400 mm	

<b>Transmission (optional)</b>					
Manual	VTO2514B				
14 - speed splitter and range manual gearbox					
Top gear	Overdrive				
Max torque	2500 Nm				
<b>Gear ratios</b>					
1 <sup>st</sup>	13.16	7 <sup>th</sup>	3.75	13 <sup>th</sup>	1.00
2 <sup>nd</sup>	10.54	8 <sup>th</sup>	3.00	14 <sup>th</sup>	0.80
3 <sup>rd</sup>	8.92	9 <sup>th</sup>	2.38	R1	2.09
4 <sup>th</sup>	7.15	10 <sup>th</sup>	1.91	R2	9.69
5 <sup>th</sup>	5.74	11 <sup>th</sup>	1.53	R3	3.22
6 <sup>th</sup>	4.60	12 <sup>th</sup>	1.23	R4	2.58

<b>Power take-off</b>	
Gearbox driven power take-off	

<b>Front axle</b>		<b>High Front Axle (FA-High)</b>
Type	Front axle with extra high ground clearance	

<b>Rear axle</b>		<b>RTH3312</b>
Type	Tandem axle with hub reduction, consists of two spiral bevel single units	
Final reduction ratio	with I-Shift	5.41 : 1
	with manual	7.21 : 1

<b>Front Suspension</b>		<b>FST - PAR3</b>
Description	Parabolic suspension	
Number of springs	3 on 1 <sup>st</sup> axle and 3 on 2 <sup>nd</sup> axle	
	4 shock absorbers and stabilizer	
Capacity	18000kgs	

<b>Rear Suspension</b>		<b>RST - MUL</b>
Description	Conventional multileaf	
Number of springs	11	
	2 shock absorbers and front stabilizer on rearmost driven axle	

<b>Chassis</b>		<b>FRAME 300</b>
Type	Constant frame width of 850 mm behind the cab made of high tensile steel	
Height x Width	300 x 90 mm	
Inner liner	5 mm thick from end of engine to end of frame	

<b>Electrical</b>	
Voltage	24 V
Battery capacity	2x225Ah, 110 ampere

<b>Brakes</b>	
Type	Volvo Brake ZV with Z-cam brake system
Description	Dual circuit air brake with fail safe

<b>Wheels and tires</b>	
Wheels	8.5" x 24"
Tires	325/95R24 tube tire

<b>Interior accessories</b>	
Analog tachograph	
Audio system, radio with CD player	
Back up alarm for safety	
Basic cruise control in steering wheel	
Driver seat with air suspension	
Electrical manually controlled air conditioning	
Fire extinguisher 3 Kg	
Red safety belt	
Writing pad	

<b>Exterior accessories</b>	
<b>Standard</b>	
2 LED beacon lights	
Dual air horn	
Electrically heated exterior robust mirrors	
Exterior smoke coloured front sun visor	
Front close view mirror	
Guard Plate for cooling pipes and oil sump	
Heavy duty front bumper	
Standard jack and toolkit	
Steel wire mesh headlamp protection	
Vertical Muffler	
V - shaped day running lights	

<b>Optional</b>	
Volvo dynafleet	

\* Accesories shown in the pictures in this brochure may not be a part of standard equipment.

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