

Top Marks At

IT WOULD be fair to say that out of all the road tests I've carried out, there had never been a greater weight of expectation than on the Volvo FM430 LXL 6x2 tractor unit.

The reason. Well, back in October 2008 I travelled to Volvo's Warwick headquarters to test a trio of the Swedish newcomers and this particular 11 litre example displayed many fine characteristics right across the board.

My hour behind the wheel south of the border was spent mostly on motorways pulling a fully loaded Feldbinder triade bulk tanker and the truck was never at all stressed.

A full *Transport News* Scottish press test however, might prove that an engine this size would be severely tested at 44 tonne operation and the results might show it to be slightly over tasked on our geographically demanding circuit.

Arriving at Abington Services the weather was perfect for late March. With slight breezes forecast all day alongside ambient temperatures and no rainfall, there would be no reason to blame meteorological factors for any potential performance shortfalls in the day's figures.

This time around we used the Swedish manufacturer's Gray & Adams refrigerated test trailer fully loaded with concrete ballast. The LXL letters behind the model type stand for L meaning low height, Globetrotter XL cab and what an office it is.

Only two steps bring the driver aboard what can best be described as a real Tardis. Yes, from the outside the cab does not look particularly huge, but once aboard it's a different story: The vehicle supplied for testing came complete with the opulent 'Driver Plus' interior and sleeper package, all of which

Closely coupled tractor unit and trailer helped the day's fuel figures.



Volvo's FM430 fitted with the latest D11B engine, put in a sensational performance on our Scottish test route, equalling the best ever recorded fuel consumption figures. Our regular commercial vehicle number cruncher, John Henderson reports back on a day of 11th heaven.

make this driver's workplace a particularly desirable one.

A brace of leather high backed seats with armrests sit in front of a good wide bunk and up above the bed a trio of roof mounted roller door lockers contained at one end, a useful looking fridge.

Areas of the interior that are most susceptible to dirt, such as the floor, seats and dashboard are logically finished in a darker coloured trim, with the quality of all switches, fixtures and fittings being top notch.

Worthy of mention is the driving environment which has been designed with real thought, with the curved dashboard and location of switches, including the parking

brake lever just behind and above the indicator stalk, being great touches.

Another clever idea is the wee foot pedal located above the accelerator, which releases the steering column for accurate adjustment with both hands.

With this and the driver's seat correctly set for height and reach, I set off thinking that even four nights away down the road would be a pleasure in this most comfortable of motors. Visibility from the cab is generally good, but care still has to be taken with the redesigned rear view mirrors and their associated, but greatly reduced blind spots. Keeping the neck moving whilst looking around them is paramount and

just once when exiting Kinross Services, I forgot to do this and had to brake sharply as a small car was initially out of view for a split second.

With an output of 9.77hp per tonne, I was not expecting the FM430 to set excellent half climb and journey time figures. How wrong I was. Steady traffic conditions and no reportable delays meant the Volvo recorded clock counts I would normally expect from a 500bhp+ tractor and although the timed ascents broke no records they were well within previously recorded 44 ton parameters.

How does the diminutive motor do this I hear you ask? Well as far as I can see it's all



Low floor cab only requires two steps for entry or exit.



Redesigned mirrors offer great visibility and greatly reduced blind spots.

t Eleven Plus



Well established I-Shift auto gear change is truly superb.

about excellence in engineering and there are shed loads of it in this truck.

Available in 390 or 430hp choices, Volvo's new D11B engine is a six cylinder, charge cooled turbocharged unit which uses SCR technology to conform to Euro 5 emissions specifications.

One of the secrets behind its driveability and pulling power is engine geometry, with this 11 litre sharing the same stroke and bore ratio, 152mm and 123mm respectively, as its renowned big brother the D13A. Additionally, maximum power and torque figures peak at the same revs, giving the unit a performance feel of something much larger in the litres department.

The D11B430 produces 430hp between 1,900-1,900rpm, whilst delivering 2,100nm of torque at 1,100-1,300rpm.

During our second planned stop at South Queensferry, we tilted the LXL cab to inspect this most impressive of power houses. Build quality was, as expected, totally superb and having a 'mechanic's ear' I couldn't fault the minimal amount of sound feedback on the day's road drive either. By staying in the green band as much as possible and with defensive driving techniques applied to the best of my ability,



The D11B engine offers remarkable performance parameters for its size.



Fuel tank cleverly incorporates two recessed safety steps.



The driving position is top notch, despite a relatively high engine cover, by today's standards.

the FM430's fuel system duly equalled the best overall mpg figure ever recorded on our Transport News Scottish test.

The economy sector within the FM's rev counter runs from 1,050rpm to 1,500rpm and with a little care, staying between these figures is straightforward. The electronically controlled unit injectors combined with the timing of overhead camshaft driven four valves per cylinder seem to be the crucial ingredients here and I was also interested to learn that this engine is 140kg lighter than Volvo's D13 example.

Incidentally MAN's TGA 26.440 Euro 4 tractor set the benchmark 8.25mpg figure on a wet day back in October 2007 and whilst unlike the FM430, that truck used EGR with no AdBlue, I still think that the first truck to match the Munich motor's diesel data is undoubtedly well worth talking about.

Another component which

played an important part in the frugal fuel usage was the I-Shift V2412AT fully automated gear changing transmission.

With gear ratios available from 14.94:1 to 1.00:1 this 'box is sweetly matched to the engine in front. My notes from the day said simply: 'Shift superb, with good intelligent gear changes at all times.' There's no argument



A solid steel safety seat is mounted behind the passenger seat and it will be much appreciated by drivers.

that these systems cannot see the road ahead, but I never once had to overrule the automated choice throughout the day. The gearbox management system is beautifully coordinated to the driver's requirements, as it lets the engine lug right down to 1,000rpm and often on level ground, up changes can be initialised by subtle feathering of the throttle.

Pulling away from rest, the 'box makes swift and sound decisions, delivering snappy acceleration and block changes were always spot on when required.

The I-Roll system once again put the icing on the cake during the A road parts of the second and third sectors. This useful freewheel function disconnects



Luxurious interior is well appointed and finished to a high standard.



The FM430 takes a bow after equalling the best ever fuel consumption figure recorded on our tough Scottish road!



AdBlue tank is protected from flying stones by steel plated guards on either side

the main gearbox drive when neither engine power nor engine braking is needed and although Volvo says its best on flat roads, the truck's 44 tonne momentum certainly keeps it moving beautifully at 40mph on the constantly undulating Fife and South Lanarkshire roads encountered on our trial.

I've mentioned I-Roll, or Eco-roll as it was previously known, many times before and I'll do so again in the future. In my opinion this key component is now a vital part in the fuel economy process and other manufacturers must surely install it or face lagging behind the pack!

Volvo's RSS1344C single reduction hypoid drive axle worked away faultlessly at the back end, with its ratio of 2.85:1. For its worldwide customer base, Volvo offers seven different back axle types with a choice of eight separate ratios. With the pusher and drive axles comfortably suppressed by ECAS four air bag suspension, shock absorbers and a rear anti roll bar, the front axle benefited from the usual parabolic springs, assisted by the shockers and roll units.

Handling standards on all types of roads was generally brilliant and a slight occasional, but predictable understeer was detected on the A702 Edinburgh to Biggar road, where if conditions permit, I can push the steering and cornering levels on certain bends and junctions.

The steering set up in any Volvo I've tested previously has been meticulous and the FM430



Dashboard and switchgear are robust, with a top quality finish

was no different, with the comfortably sized wheel always delivering plenty of lock and a minutely accurate feedback.

Although the roomy LXL cab is quite tall in dimension, its low mounting height on the chassis irons out any potential for cab nod and sway. Cab suspension is great thanks to the combination of coils springs and rear air bags, which isolate the vast percentage of bumps and surface damage. The test truck was fitted with Alcoa alloy wheels and Michelin 295/80 XZA/XDA tyres and these black boots offered magnificent levels of grip.

Chassis space on the 6x2 unit is well utilised and in addition to the 480 litre fuel tank on the nearside rail, there's space for an additional smaller diesel reservoir, if required, behind the 60 litre AdBlue tank over on the offside. Component fitting is neat and tidy with the exhaust silencer, air tanks and associated plumbing all securely located out of harm's way.

My test with the FM was on one of those days when you get every green light and run on to virtually every roundabout without having to stop, so only the Volvo Engine Brake (VEB) got a run for its money on the first motorway/dual carriageway sector.

Delivering the maximum 389hp of retardation at



The operation of these anchors was literally perfect all day and despite trying to simulate increased usage as the test progressed, the components worked well, at what felt miles within their capabilities.

The Volvo FM430 had, potentially, an awful lot of boxes to tick on its trip north of the border and to give it full credit, it duly did this and much more.

The relentless forward march of technology standards is now delivering trucks with engines like the D11B. Many in our industry, including myself, must get out of the bad habit of not associating mid range power units with 44 tonne operation.

This beautifully engineered truck will keep the manager and accountant happy with its payload figure of 28,900kg with a standard (ish) curtainside trailer, whilst cossetting the driver in a cab that's second to none for its size.

Add in terrific performance levels and lack of appetite for fuel that's up with the best of them and it all equals a truly remarkable commercial vehicle.

For the attention of all operators, ignore this FM model at your peril!

TEST DATA

Route: Start at Abington Services; join M74 at junction 13 heading northwest until Junction 4 then onto M73 northbound. Merge with A90 at Molinsburn and continue on M90, M9 and A9 until Perth and turn right heading south on the M90 until first stop at Kinross services.

After halt, retrace M90 northbound for three miles, turning northeast at junction 8 onto A91 and through Auchtermuchty. After Collieston, turn right at the windmill roundabout onto the A92 returning right round to the Halbeath junction (3) on the M90. Then head south over Forth Road Bridge to the next stop and fuel check at bridge lorry park at South Queensferry.

Repeat A90 south at Echline junction then stay on main carriageway for M9 link, towards Newbridge and then fork left onto M9 east to join Edinburgh City Bypass. At Fairmilehead junction, exit bypass and pick up A702 and return to Abington services.

Statistics

Circuit Sectors	Distance	Fuel Consumption
Abington to Kinross	100.2mils	8.72mpg
Kinross to South Queensferry	48.1mils	9.27mpg
South Queensferry to Abington	51.6mils	8.98mpg
Average Sector mpg:		8.32mpg
Average Speed for total route:	43.8mph	
Total mileage/Average mpg	199.1miles /	8.25mpg
AdBlue usage - manually calculated at just under 5%		

Hill Climb Statistics

	Cairnie Bree (A9 Northbound)	Balmanno Hill (M90 Southbound)
Time	3min 42secs	4mins 30secs
Lowest gear	10th	10th
Minimum speed	32mph	38mph

Weather conditions: dry all day with light breezes. Temperatures range from 9°C at the start to 14°C at midday and dropping to 12° at the finish. Date of test - 17/03/09.

Volvo FM430 LXL at a Glance

Engine- 11 Litre, six in line turbocharged with Volvo Engine Brake (VEB)

Gearbox- 13-speed IShift

Rear axle- Single reduction, ratio- 2.85:1

Brakes- Full air disc all round, with EBS, ABS, and brake blending

Suspension- Steel front parabolic springs, rear air bags on mid and rear axles, shock absorbers and anti-roll bars, front and rear.

Tyres- Michelin XZA2 Energy 295/80 R22.5 all round.

Prices

Basic chassis cab- £72,738

Globetrotter LXL cab- £3,450

Sleeper package- £1,572

Airflow kit- £1,204

Seat- £72

450hp engine- £8,444

IShift- £1,828

Fridge- £823

Dynaflow (separate package)- £2,113

Total Price as tested- £90,082



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