

TEST EXTRA

Volvo 144E



ON introduction of the new Bosch K-Jetronic fuel injection system last autumn Volvo lost no time in adopting it for some of their injection four-cylinder engines, to replace the former electronic system. This test of the 144E is essentially a supplement to our 7 June 1973 test of the De Luxe model, basic version of the 144 range, but as far as the engine is concerned the important comparison is with the 144GL which we tested on 26 August 1971. The new GL is not only a more lavishly equipped version of the 144E, including such luxuries as a sliding roof as standard equipment, but also has a more powerful engine.

At once one can say that the new injection is a useful improvement. Where the old one gave jerky responses, particularly in low speed acceleration, making it a very awkward and tiring car in traffic, the new one is very smooth. Like the old car, it too lacks torque at low engine speeds, as shown in the poor acceleration from 20 mph in top gear, and we found it quite impossible to restart on the 1 in 3 test hill – the penalty of a fairly high bottom gear.

Cold starting is immediate, the automatic enrichment of the injection supply for a cold engine works well, and the engine is ready for full performance almost straight away, without any hesitation or stalling. Start-



*Top: Door handles are recessed, and a rubbing strip protects the sides
Above: Huge energy-absorbing bumpers with rubber facings add greatly to the length but afford generous protection
Below: Reversing lamps are standard. The test car also had the optional fog rear lamps, mounted beneath the bumper*

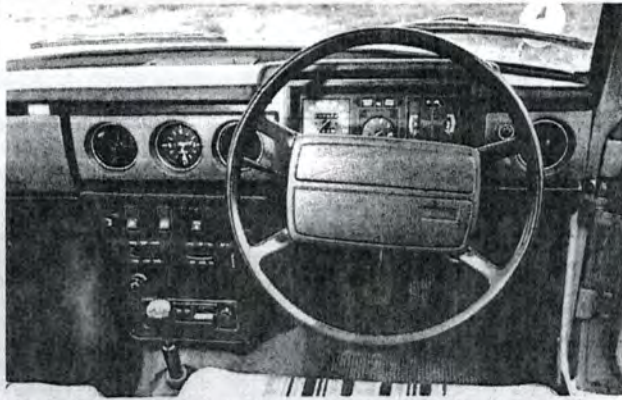


ing when hot, often a problem with fuel injection, is also prompt.

Earlier versions of the B20 Volvo engine with fuel injection had a compression ratio of 10.2 to 1, but this has now been reduced to 8.7, and 2-star 94-octane fuel is recommended. Used throughout the test, 2-star gave no problems of running-on or detonation, and makes a useful contribution to lower running costs. The overall fuel consumption figure of 22.5 mpg is disappointing for a car of this size, especially when it is considered that the 50 mph speed limit for the oil crisis was still in force during part of the test period. Fuel tank capacity is 12.8 gallons, giving a working range of some 250 miles with fuel in hand.

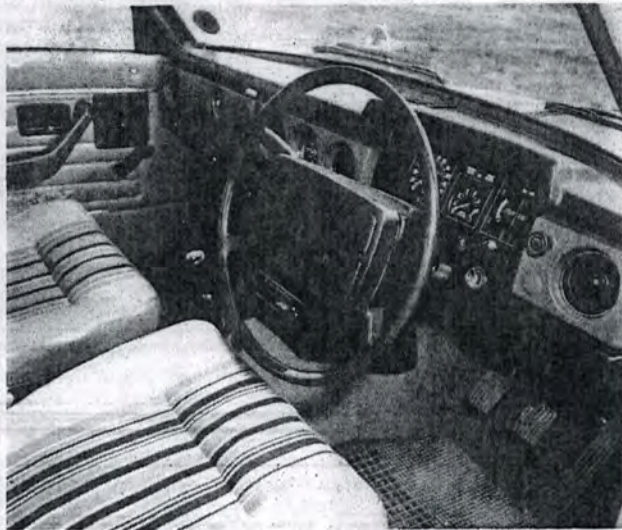
Power output of the B20E unit has been lowered from the former value of 124 bhp (DIN) at 6,000 rpm to 115 bhp. The acceleration figures still compare well with those of the GL, and although a bit slower to reach 60 mph from rest (12.5 sec instead of 11.6), the 144E benefited from rather better weather conditions and reached 90 mph nearly 2sec quicker, in 37.0sec. Mean top speed is slightly lower at exactly 100 mph instead of the 105 mph achieved by the GL.

While the acceleration, in terms of figures, is creditable enough for a five-seater saloon with only a 2-litre engine, it



Above: There are four adjustable outlets for cool air in the fascia. The circular instruments are set in square surrounds and look a little incongruous. A circular clock is fitted in the centre of the fascia

Below: Striped inserts are set into the seat upholstery



Below: Large headrests are fitted to the front seats, but they can be readily removed to enable rear passengers to see forward. Grab handles are fitted above the passenger doors



Specification

Engine: 4-cyl, 88-9x80mm (3-5x3-15in.) 1-986 c.c. (121 cu. in.); CR 8-7-to-1; Bosch K-Jetronic injection. 115 bhp (DIN) at 6,000 rpm; max torque 116 lb. ft. (16 mkg) at 3,500 rpm.

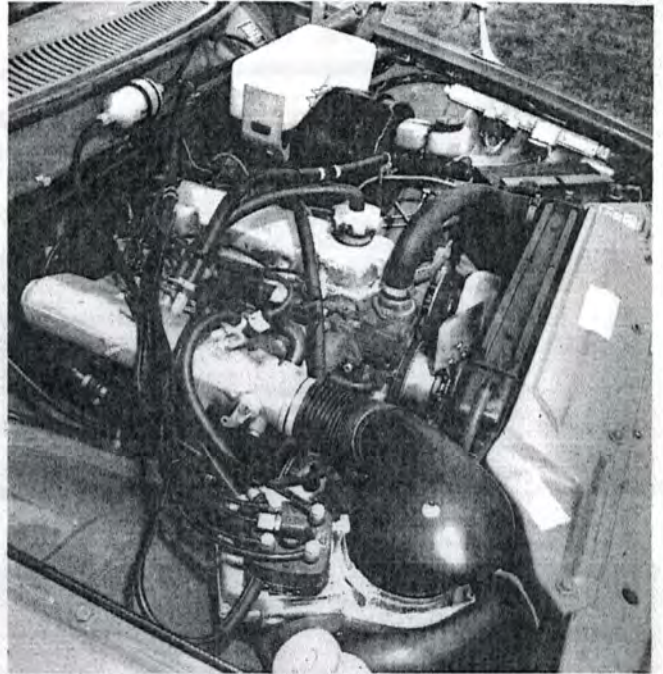
Transmission: Front engine, rear wheel drive. Manual overall ratios 3-92, 5-33, 7-8, 13-36, rev 12-74. Top gear mph/1,000 rpm 18-5

Suspension: ifs, double wishbones and coil springs, telescopic dampers, anti-roll bar. Rear, Live axle; trailing arms, radius rods. Panhard rod, coil springs, telescopic dampers. Steering Gemmer, hourglass cam and roller.

Brakes: Girling all disc (servo), 11-6 in. front and rear discs.

Dimensions: Wheelbase 8ft 7in. (478cm); front track 4ft 5in. (135cm), rear track 4ft 5in. (135cm). Overall length, 15ft 8in. (478cm), width 5ft 7½in. (171cm), height 4ft 9½in. (146cm). Turning circle 31ft 6in. (9-6m). Unladen weight 2,720lb (1,235kg); Max payload 1,130lb (513kg).

Others: Tyres Pirelli Cinturato 165SR13in.; 5-stud 5in. rims; Fuel 12-8 galls (60 litres).

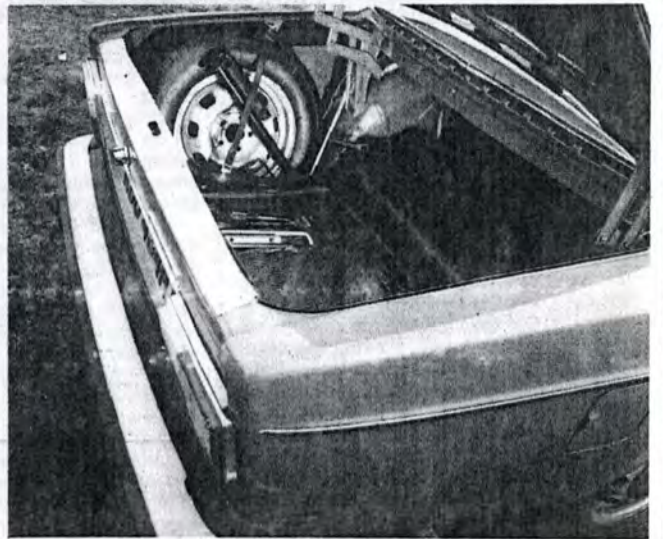


Above: Rather complex pipework comes with the K-Jetronic fuel injection. A huge windscreen washer reservoir is situated just behind the brake servo



Left: With the lowered compression ratio, the 144E now accepts regular grade fuel

Below: The boot capacity is good, but there is a tall sill at the back, and the opening is rather narrow. Quite a comprehensive tool kit is provided



Volvo 144E Test Extra

involves the usual rather harsh test treatment, and the car is not fast when driven respectfully. Also, it is not particularly high-g geared, and one regrets that overdrive is no longer available for the 144, except on the GL. A viscous fan coupling is used, but the engine is not particularly quiet, and at moderate cruising speeds there is appreciable background noise of engine and wind roar. The gearbox is also prone to whine; this is especially marked in reverse.

The synchromesh is effective in even the most hurried changes, and lever movement is definite and reasonably precise. The gear ratios are well-spaced, giving commendably high maxima of 33, 56 and 82 mph. Third gear is a useful overtaking ratio, but because of the poor response below about 30 mph it is often advisable to change down into second to sprint past slow-moving traffic.

Much of the appeal of the Volvo for many owners must undoubtedly spring from its tremendously solid feel. In fact, the weight of the 144E is not excessive, its 24.25cwt comparing with others of similar size such as the Ford Consul or Rover 2200. It is the considerable heaviness of the controls which gives the impression of great mass, and no doubt adds to the illusion of strength. Even the accelerator pedal has a fierce spring calling for a holding load of no less than 25lb, while the extra pressure for full throttle takes 40lb. We found this very uncomfortable on a motorway journey. The clutch operating load is also high at 40lb.

At low speeds the steering is excessively stiff to turn. It takes 4.3 turns between locks, but the turning circle is usefully compact at just over 30ft, and in ordinary use the steering does not feel undergeared. There is severe understeer, and corners taken hard bring a lot of drama of roll, tyre squeal and, in extremes, transition to oversteer. On the straight the stability is good, though steering precision is only fair, with an inch or two of ineffective free play at the rim.

In contrast with all this muscular effort to drive the car are the brakes, discs all round with very effective servo assistance. They give better than "half g" deceleration for the same pressure on the brake pedal as that needed to give full throttle when applied to the accelerator. The load increases markedly for optimum braking, which has the desirable effect of making it less easy to lock the wheels. The best stop obtained

PERFORMANCE

Maximum speeds

Gear	mph	kph	rpm
Top (mean)	100	161	4,900
(best)	102	164	5,000
3rd	82	131	6,000
2nd	56	90	6,000
1st	33	53	6,000
Standing $\frac{1}{4}$ -mile	18.5sec		
Standing kilometre	35.0sec		

Acceleration

Time in seconds 3.7 6.1 8.5 12.5 17.1 23.4 37.0

True speed mph	30	40	50	60	70	80	90	100
Indicated speed mph	30	40	49	60	70	80	89	99

Speed range, gear ratios and time in seconds

mph	Top (3.92)	3rd (5.33)	2nd (7.8)
10-30	—	8.4	5.1
20-40	12.4	7.9	4.7
30-50	11.8	7.2	4.7
40-60	11.9	7.3	5.6
50-70	12.1	8.4	—
60-80	13.8	10.1	—
70-90	22.0	—	—

Fuel consumption

Overall mpg	22.5 mpg (12.6 litres/100km)
Typical mpg	27 mpg (10.5 litres/100km)

was 0.95g, with 75lb pedal effort, and heavier pressure simply caused the wheels to skid but without any loss of efficiency. Fade tests made the linings smell hot after the fifth application from 70 mph, but changes in pedal load were slight.

Split hydraulic circuits on the Volvo ensure that two front brakes and one rear one keep working even after failure of one circuit, and there is a very effective handbrake. Well placed to the right of the seat for a strong pull, it has a guard to prevent accidental release, and holds securely on 1 in 3.

The solid feel of the suspension, giving a firm and strongly damped ride, though with some harshness over any severe bumps, endorses that feeling of strength and rigidity imparted by the whole car. There is little road noise on any surface. Seat comfort is good, with the special Volvo feature of adjustable tension for the squab by means of a small rotary handle on the side of the seat. There is a big hand wheel at the bottom outer edge of the seat for backrest adjustment. The striped orange cloth material used on the seats of the test car has unfortunate associations with deck chair material, and scarcely enhanced the appearance of the interior.

Upon switching on the ignition a flashing seat belt warning light,

with audible clicking, starts up, to remind the driver to fasten his seat belt, and as there is a detector in the passenger seat, any item such as a brief case has to be put in the back, or the passenger seat belt must be fastened round it, to extinguish the warning. Our most ardent wearers of seat belts found this incessant clicking very irritating at times when - manoeuvring the car for photography, for example - fastening of the belts was not sensible, and we feel it should be speed sensitive to come on at 15 or 20 mph.

Alongside this are rocker switches for rear fog lamps (a sensible extra provision on the test car), hazard warning flashers, and the standard equipment heated rear window.

Ventilation for this latest series of Volvo cars has been much improved. There are four eyeball outlets on the fascia, with separate temperature adjustment,

and the air blending heater warms up quickly from cold and has outlets into the rear compartment footwell, either side of the transmission tunnel. There are also cool air outlets into the front compartment footwell. Effective air extraction slots carry stale air under the rear window, evacuating it just ahead of the boot lid. Deletion of the front door quarter vents reduces wind noise and improves visibility on the front corners.

The fuel tank is housed beneath the boot floor at the front of the compartment, where it is well out of the way of any impact damage, and the boot itself is of very generous depth and size. The spare wheel is stowed in a well, vertically at the left, where it occupies minimum space. On the right there is a matching well in the floor in which the toolkit is stowed, beneath a wooden trap door. The flat floor of the boot, is covered by rubber matting overall.

The speedometer proved commendably accurate, though it could be bigger and the siting of a round dial in a square surround looks untidy, as does the whole fascia layout. There is a small rev counter, and gauges for water temperature and fuel tank contents. An unusual refinement is a warning tell-tale for failure of any bulb in the side-lamps circuit. We pulled a wire off a tail lamp to test it and found the warning worked well; its bulb is also tested automatically each time the ignition is switched on. Other warning tell-tales are provided for ignition and oil pressure, brakes and parking brake.

With its rather heavy controls and generally ponderous nature, plus a surprising lack of detail refinement, the Volvo 144E is not to be called a driver's car. Yet it has many good features, a solidity of feel which appeals to many drivers who dislike the more sensitive response of the majority of current cars, and a background reputation for durability. Without doubt, also, it is a much better car than its predecessor, having improved ventilation and a vastly superior fuel injection system. □

Manufacturer: AB Volvo, 405 08 Göteborg, Sweden
UK Concessionaire: Volvo Concessionaires Ltd., Raeburn Road, Ipswich, Suffolk

Prices	
Basic	£2,090
Special Car Tax	£174.16
VAT	£228.41
Total (in GB)	£2,490.57
Extras	
Seat belt reminder	£9.64
Rear seat bolts (each)	£7.18
Rear fog lamps (pair)	£8.40