

Brief test Volvo 144 2-litre. Supplement to Road Test No. 17/67 ● Volvo 144S.



Clean air from Sweden

Smoother and quieter new engine with emission control; safe handling; adequate performance and roomy interior.

THE recent announcement of the new six-cylinder Volvos has rather overshadowed the changes made to the ordinary four-cylinder cars. Designed from the start for expansion, the old 1,778 c.c. engine has been enlarged through an increase in bore from 84.14 to 88.9 mm.; the stroke remains unchanged at 80 mm. so the engine is now even more oversquare than before. No siamesing of the bores has been necessary, each cylinder being completely surrounded by coolant in passages which have been modified to retain the same cylinder wall thickness. To simplify spares stocking the connecting rods are interchangeable between new and old engines. Improved valves—larger on the inlet side—are now fitted, and the capacity of the oil pump has been increased by 50% with an intake pipe that dips lower into the sump to minimize the effects of oil surge. The new engine also has a viscous coupling to the cooling fan which limits its speed to approximately 3,000 r.p.m., and closed-circuit crankcase breathing is now standard on all models.

Most important of all the innovations, however, is the provision as standard of full exhaust emission control for all the engines in the range, Volvo being the first European manufacturer to do this. On the twin-carburetter four- and six-cylinder engine this is achieved through the use of the Zenith Duplex system which involves a heated by-pass manifold for complete vapourization during low-speed running and a straight-through unheated manifold for full-power operation. Automatic richening of the mixture on the overrun and when idling ensures complete combustion under these conditions. Refinements include the provision of constant temperature intake air by a wax capsule-controlled flap-valve which mixes cold incoming air with exhaust manifold heated air and, additionally, temperature-compensated fuel flow important in a needle-and-orifice carburetter whose performance depends a lot on fuel viscosity.

This last refinement is one of the features of the different type of instrument fitted to the single-carburetter car which we tested. Here no Duplex system is used; instead emission control

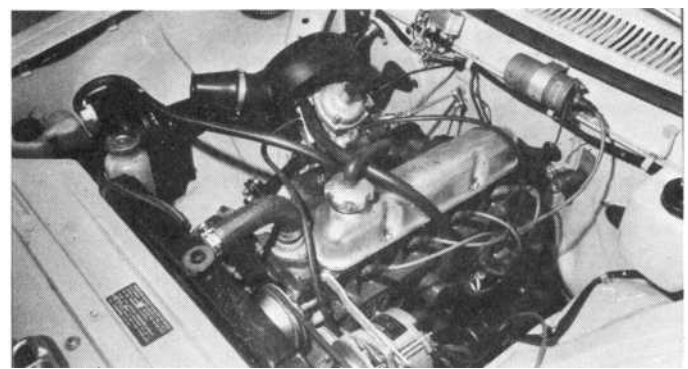
measures are confined to the provision of an accurately constructed and calibrated "emission" carburetter which, in conjunction with the usual changes to ignition advance, gives the required control of exhaust pollution. All the carburetters, incidentally, are sealed at the factory to prevent any tampering with their adjustment.

Further changes to the car are confined to an improved upholstery material in a different range of colours. A B20 motif on the grille distinguishes cars with the new engine from those fitted with the old B18 unit.

Maximum power is up from 75 to 82 b.h.p. (Din) and torque from 105 to 117 lb.ft. Despite these gains, though, the new car is still not as fast as the old 1,800 c.c. 144S (we have never tested a basic 1,778 c.c. 144 so cannot make a direct comparison). The main improvements are in smoothness, quietness, and much more effective silencing of intake roar making the engine seem mechanically more refined. Subjectively, torque and power certainly didn't feel lacking and it is probable that our maximum speed of 92 m.p.h., as well as the acceleration figures and overall fuel consumption of 22.4 m.p.g., could be bettered by a higher mileage car (our test one was barely run in).

In other ways the car remains essentially as before—a big, roomy, comfortable saloon devoid of decorative embellishment yet beautifully finished and constructed and full of sound detail engineering. As a durable family holdall it is a very sensible car, lacking only in face-level ventilation (which Volvo apparently

Twin carburetter engines use the Zenith Duplex system of exhaust control but the basic engine shown here has an accurately constructed and calibrated "emission" carburetter, sealed at the factory.



PRICE: £1,150 plus £321 10s 6d tax equals £1,471 10s 6d.

Insurance: AOA Group 4; Lloyd's Group 4.

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dislike) in the creature-comfort department. The front seats are really outstanding with generous adjustment for reach and rake plus the additional refinement (no longer unique since the VW 411 has it) of an adjustable lumbar pad. There is plenty of leg room for the comfortable back seat, too, and the seats can be laid flat to make a bed.

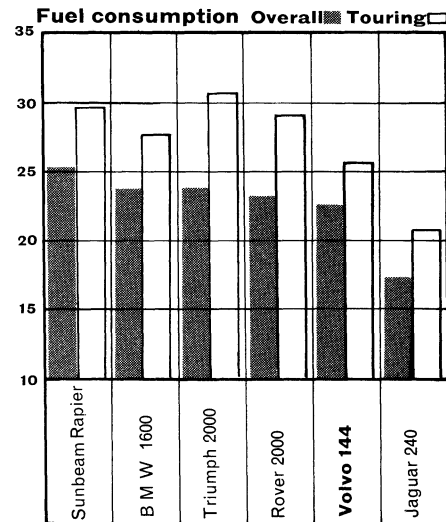
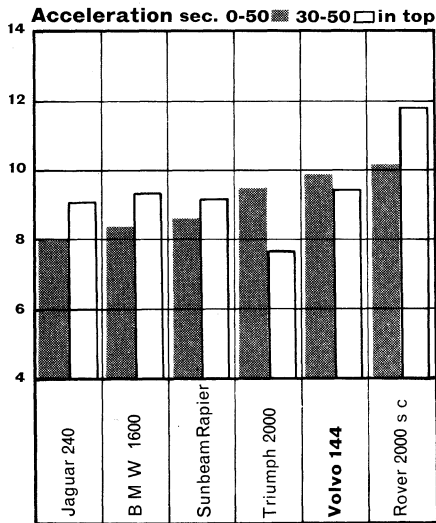
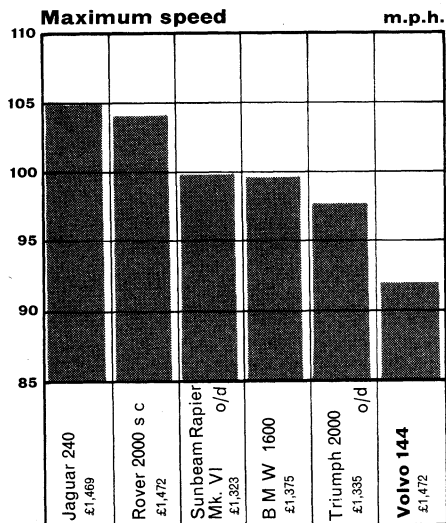
Practical it is-but not exciting. On our card, it doesn't qualify as the sports saloon that many people seem to consider it to be. The gearchange was still a bit notchy and a sharp clutch and throttle made smooth driving difficult in town. Except for parking or back-double corners, the steering is quite easy but not particularly quick or precise, especially around the straight-ahead position. Moreover, the body keels over quite a lot when cornering hard and the steering ratio tends to make heavy weather of the strong understeer.

Although the Pirelli Cinturato radials on our test car didn't much like greasy London streets in the wet, they clung on well enough elsewhere and the brakes-with dual circuits, of course-always felt reassuring. In terms of overall roadability, the 144 is about average by European standards though it is certainly one of the leaders on in-built safety. As a comfortable long legged five seater, we found it agreeable transport for long journeys.



Volvo's superbly comfortable front seats are famous for their adjustable lumbar support.

Performance



Performance tests carried out by Motor's staff at the Motor Industry Research Association proving ground, Lindley.

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Conditions

Weather: Cool and damp.
 Temperature: 59-63°F.
 Barometer: 28.95in. Hg.
 Surface: Damp concrete and tarmacadam.
 Fuel: Premium 98 octane (RM), 4 Star rating.

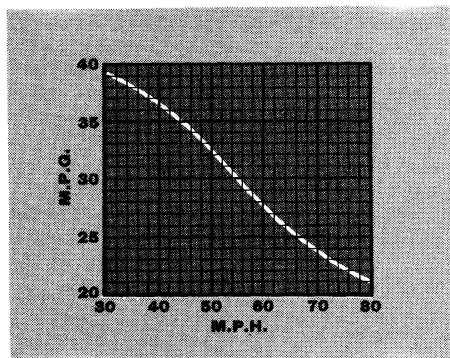
Maximum speeds

| | m.p.h. | k.p.h. |
|--|--------|--------|
| Mean lap banked circuit | 91.8 | 147.2 |
| Best one-way ¼-mile | 95.0 | 152.5 |
| 3rd gear | 78 | 125 |
| 2nd gear | 53 | 85 |
| 1st gear | 34 | 55 |
| "Maximile" speed: (Timed quarter mile after 1 mile accelerating from rest) | | |
| Mean | 90.0 | |
| Best | 91.8 | |

Acceleration times

| m.p.h. | sec. | 3rd sec. | 7.4 |
|-----------------------|------|----------|-----|
| 0-30 | 4.0 | | |
| 0-40 | 6.4 | | |
| 0-50 | 9.8 | | |
| 0-60 | 14.1 | | |
| 0-70 | 20.5 | | |
| 0-80 | 30.7 | | |
| Standing quarter mile | 19.6 | | |
| | Top | 3rd | |
| m.p.h. | sec. | sec. | |
| 10-30 | — | 7.4 | |

| | | |
|-------|------|------|
| 20-40 | 9.7 | 6.5 |
| 30-50 | 9.5 | 6.8 |
| 40-60 | 9.6 | 7.8 |
| 50-70 | 12.1 | 10.4 |
| 60-80 | 16.8 | — |



Fuel consumption

| | |
|---|--------------------------------------|
| Touring (consumption midway between 30 m.p.h. and maximum less 5% allowance for acceleration) | 25.7 m.p.g. |
| Overall | 22.5 m.p.g. (= 11.0 litres/100km) |
| Total test distance | 1,085 miles |

Speedometer

| | | | | | | | | |
|-------------------|----|----|-----|----|----|----|-----|---------|
| Indicated | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 |
| True | 10 | 19 | 28½ | 38 | 48 | 58 | 67½ | 77 |
| Distance recorder | | | | | | | | 1% fast |

Specification

Engine

| | |
|-------------------|--------------------------------------|
| Cylinders | 4 |
| Cooling system | Water |
| Bore and stroke | 88.9 mm. (3.5 in.) 80 mm. (3.15 in.) |
| Cubic capacity | 1,986 c.c. (121 cu. in.) |
| Main bearings | 5 |
| Valves | Pushrod o.h.v. |
| Compression ratio | 8.7:1 |
| Carburetter | Zenith-Stromberg emission control |
| Fuel pump | Mechanical |
| Oil filter | Full flow |
| Max. power (net) | 82 b.h.p. at 4,700 r.p.m. |
| Max. torque (net) | 117 lb.ft. at 2,300 r.p.m. |

Transmission

| | |
|-----------------------------|--------------------|
| Clutch | S.d.p. diaphragm |
| Internal gearbox ratios | |
| Top gear | 1.00:1 |
| 3rd gear | 1.36:1 |
| 2nd gear | 1.99:1 |
| 1st gear | 3.13:1 |
| Reverse | 3.25:1 |
| Synchromesh | All forward ratios |
| Final drive | 4.10:1 |
| M.p.h. at 1,000 r.p.m. in:— | |
| Top gear | 17.6 |
| 3rd gear | 13.0 |
| 2nd gear | 8.9 |
| 1st gear | 5.6 |