



## Volvo 144S

1,778 c.c.

**AT A GLANCE:** New shape from Volvo using existing mechanical parts. Very brisk performance and reasonable fuel consumption. Engine noisy and not very flexible. Good gearbox and ratios, but needs higher top. Brakes faded under test. Steering heavy and low geared. Versatile and comfortable seating. Much safety engineering. Tough and reliable.

**MANUFACTURER**  
A. B. Volvo, Gothenburg, Sweden.

**U.K. IMPORTERS**  
Volvo Concessionaires Ltd., P.O. Box 7,  
Tower Ramparts, Ipswich, Suffolk.

<b>PRICES</b>	
Basic .. .. .	£1,150 0s 0d
Purchase Tax ..	£265 5s 2d
Total (in G.B.) ..	£1,415 5s 2d

<b>PERFORMANCE SUMMARY</b>	
Mean maximum speed	101 m.p.h.
Standing start ¼-mile	18.6 sec
0-60 m.p.h. .. .	12.6 sec
30-70 m.p.h. (through gears) .. .	12.9 sec
Overall fuel consumption .. .	22.7 m.p.g.
Miles per tankful ..	295

**V**OLVO have a reputation for sticking to a good design, so the announcement of a new model is big news indeed. The Volvo 144 is the first new shape to come out of Gothenburg since the original Amazon 122 appeared way back in 1956. Even so, on the 144 the novelty barely goes beneath the skin, and the familiar 1,778 c.c. engine, transmission and much of the suspension all come from established production parts. In the body itself there is much evidence of safety engineering in details such as seat belt fixings, passenger box rigidity, roll-over bars, collapsible steering column, and switch design. Because Volvo reckon to keep each model in production for at least 10 years, the styling of the 144 is cautiously neat rather than sensationally extreme; legacies from the 122 series include a high scuttle and waistline which restricts visibility for smaller passengers, but adds to the general feeling of security.

British buyers have the choice of the basic 144, with a 75 b.h.p. engine and optional Borg Warner automatic transmission, or the much more lusty 144S, with 100 b.h.p. twin-carburettor engine and an optional overdrive. Automatic transmission is not avail-

able on the 144S. Our test car was the 144S without overdrive, as this looks likely to be the most popular version and comes in the middle of the price range. It can be summed up briefly as quicker than we expected, but much less refined than we had hoped.

The 144S looks bulky and with a length and width of 15 ft. 3 in. by 5 ft. 8 in., it comes in the large car class. The weight is a very efficient 22.6 cwt., so with the 100 b.h.p. engine (most powerful yet fitted in a saloon Volvo) it has a very lively turn of speed. It revs so eagerly in the lower gears and top that we feel it could use a higher final drive to advantage. At maximum speed (5,700 r.p.m.) the engine was over the peak of its power curve.

Against the watch, the 144S sprinted up to 60 m.p.h. in 12.6 sec., which is fast for a saloon by any standards. Though the 1,778 c.c. four-cylinder engine has five main bearings, it shudders and rumbles noticeably below 1,000 r.p.m. For what is meant to be a family car in the sporting vein, the torque peak (at 3,500 r.p.m.) comes fairly high up the range and the 144S is not a good low-speed slogger. With overdrive, a 4-1-to-1

# Autocar road test number 2141

## Make: Volvo

## Type: 144S

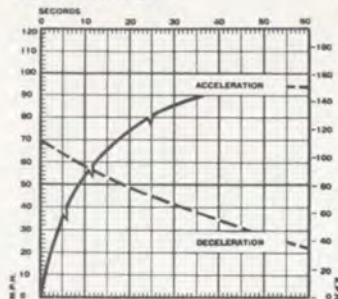
## 1,778 c.c.

**TEST CONDITIONS**

Weather: Fine and sunny. Wind: 5-10 m.p.h.  
 Temperature: 17 deg. C (62 deg. F)  
 Barometer: 29.6in. Hg.  
 Humidity: 35 per cent  
 Surfaces: Dry concrete and asphalt  
 Figures taken at 3,100 miles by our own staff at the Motor Industry Research Association proving ground at Nuncaton.

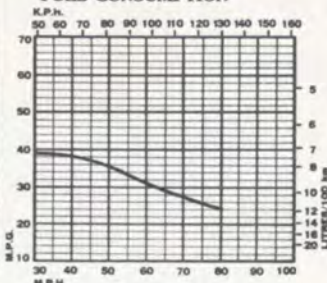
**WEIGHT**

Kerb weight: 22.6cwt (2,537lb-1,150kg)  
 (with oil, water and half-full fuel tank)  
 Distribution, per cent: F, 51; R, 49  
 Laden as tested: 26.6cwt (2,980lb-1,351kg)

**MAXIMUM SPEEDS**

Gear	m.p.h.	k.p.h.	r.p.m.
Top (mean)	101	163	5,700
(best)	103	166	5,820
3rd	87	140	6,700
2nd	60	97	6,750
1st	38	61	6,750

Standing  $\frac{1}{4}$ -Mile 18.6 sec 72 m.p.h.  
 Standing Kilometre 34.6 sec 89 m.p.h.

**FUEL CONSUMPTION**

(At constant speeds—m.p.g.)  
 30 m.p.h. 35.5  
 40 38.5  
 50 35.7  
 60 31.0  
 70 28.2  
 80 24.0  
 90 20.4

TIME IN SECONDS	4.1	6.3	9.0	12.6	17.0	23.7	37.6	
TRUE SPEED M.P.H.	30	40	50	60	70	80	90	100
INDICATED SPEED	38	48	59	69	79	90	100	110

Mileage recorder 0.5 per cent over-reading.

Test distance 1,080 miles.

**Speed range, gear ratios and time in seconds**

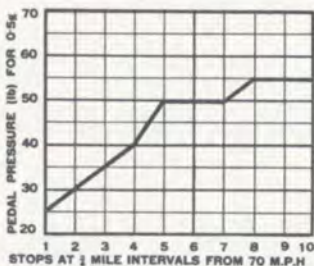
m.p.h.	Top (4-1)	Third (5-58)	Second (8-16)	First (12-83)
10-30	11.8	8.4	5.0	3.4
20-40	11.4	7.6	4.3	—
30-50	10.8	7.1	4.9	—
40-50	10.1	7.3	5.9	—
50-70	9.7	8.6	—	—
60-80	14.3	11.3	—	—
70-90	21.8	—	—	—

Typical m.p.g. 25 (11.3 litres/100km)  
 Calculated (DIN) m.p.g. 25.7 (11.0 litres/100km)

Overall m.p.g. 22.7 (12.4 litres/100km)  
 Grade of fuel, Super Premium 5-star  
 (min. octane 100 RM)

**OIL CONSUMPTION**

Miles per pint (SAE 10W/30) .. 1,000

**BRAKES (from 30 m.p.h. in neutral)**

Load	g	Distance
25 lb	0.42	72 ft
50 "	0.85	35 "
60 "	0.97	31 "
70 "	0.99	30.4 "

Handbrake 0.30 100 "

Max. Gradient, 1 in 4

Clutch Pedal: 40lb and 5.25in.

**TURNING CIRCLES**

Between kerbs L, 30ft 2.5in.; R, 31ft 4in.  
 Between walls L, 32ft 4.5in.; R, 33ft 6in.  
 Steering wheel turns, lock to lock, 4.25

**HOW THE CAR COMPARES:****MAXIMUM SPEED (mean) M.P.H.**

	70	80	90	100	110
Volvo 144S	✓	✓	✓	✓	✓
Morris 1800	✓	✓	✓	✓	✓
Ford Corsair 2000E	✓	✓	✓	✓	✓
Rover 2000TC	✓	✓	✓	✓	✓
Triumph 2000	✓	✓	✓	✓	✓

**0-60 M.P.H. (sec.)**

	30	20	10
Volvo 144S	✓	✓	✓
Morris 1800	✓	✓	✓
Ford Corsair 2000E	✓	✓	✓
Rover 2000TC	✓	✓	✓
Triumph 2000	✓	✓	✓

**STANDING START  $\frac{1}{4}$ -MILE (sec.)**

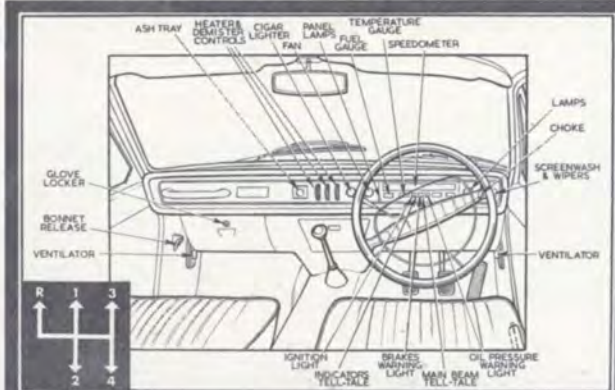
	30	20	10
Volvo 144S	✓	✓	✓
Morris 1800	✓	✓	✓
Ford Corsair 2000E	✓	✓	✓
Rover 2000TC	✓	✓	✓
Triumph 2000	✓	✓	✓

**M.P.G. OVERALL**

	10	20	30
Volvo 144S	✓	✓	✓
Morris 1800	✓	✓	✓
Ford Corsair 2000E	✓	✓	✓
Rover 2000TC	✓	✓	✓
Triumph 2000	✓	✓	✓

**PRICES**

Volvo 144S	£1,415
Morris 1800	£924
Ford Corsair 2000E	£1,008
Rover 2000TC	£1,415
Triumph 2000	£1,198





All doors have burst-proof locks and there are rubbing strips over the door sills. Backrests are high and the seats quite low with many adjustments

axle ratio is fitted instead of 4.56 and although this lowers the indirect gearing even more, it should make the engine effectively more flexible.

The 1800 engine is basically over 20 years old as a design, so it has been proved tough and long-lasting time and time again. Bearings and materials are right up to date, and the unit revs eagerly as far as 6,750 r.p.m. before very audible valve bounce starts. A much more reasonable rev-limit is no more than 6,000 r.p.m., but no rev counter is fitted, so one has only the noise of the engine to judge it by.

Generally the 144S is quite a refined car, but the overall impression suffered badly from inadequately silenced carburettor air intakes. The twin S.U.s have only token paper-element air filters, which do little to silence the intakes when the engine is pulling hard. The deep hiss sounds very sporty, but soon becomes tiring. The single Stromberg on the plain 144 is adequately silenced, so those who enjoy quiet motoring would be better off with this other version.

Gearbox and final drive ratios are the same as on the 122 series, with usefully high maxima of over 50 m.p.h. in second and 80 m.p.h. in third gear; even bottom gear is good for more than 35 m.p.h. The central gear lever is long but rigid. It has precise movements across the gate, but there is a slight feeling of stickiness from the very powerful synchromesh, and this slows up snap changes.

With two people and some luggage in the boot, the 144 weighs nearly 27 cwt. and it's really a large car, so the overall fuel consumption of 22.7 m.p.g. is quite creditable. Overdrive (when fitted) raises the m.p.h. per 1,000 r.p.m. from 17.7 to 20, so better economy should soon pay the cost of this extra. For normal motoring without overdrive, 25 m.p.g. is

not too difficult to achieve. The compression ratio is 10 to 1 and super premium 5-star fuel is required (see notes at the end for more about this). The big 13-gallon fuel tank takes a high-speed fill-up without blowing back and there is a good range of at least 250 miles.

Anyone paying over £1,400 for a new model these days usually gets independent rear suspension, but the 144 has a live axle very well located. There are coil springs, twin trailing-arms and a Panhard rod, and the geometry has been revised to cut out any rear-wheel steering effects. For the U.K. market British-made Pirelli Cinturato tyres are standard. The Volvo's 15 in. road wheels are large by present day standards, and once again, these are a legacy from the older models.

The main improvement over the 122 series is in ride comfort, which is much more level and yielding than before. The Cinturatos, while giving excellent grip on nearly any road sur-

face, bring their own problems. At cruising speeds, the whole car seems to "fidget" a little, rocking slightly from side to side; there was a momentary hesitation in response when setting up the car for a corner. Road-holding, in fact, is really good, with a slight understeer which persists up to the limit; the car rolls quite a lot, but firm damping prevents it wallowing and it can be placed accurately at all times.

With 4½ turns from lock to lock on a 31 ft. turning circle, the steering is rather low-g geared; we also found it heavy, which is an unusual combination.

Helped by the 15 in. wheels, the ground clearance is a generous 7½ in. Swedish conditions, which include many miles of rough, unmade roads and deep snow with high ruts of ice in the long Scandinavian winters, are the reason behind this provision. Many buyers in undeveloped countries such as Africa and Greece will appreciate this feature, as will some ▶

The engine is identical with that of 1800S sports coupé so the carburettors have only paper-element air filters. The brake servo and master cylinders are behind the righthand headlamp with a long push-rod to the pedal





Heavy-duty bumpers have rubber inserts and they just wrap round the corners of the wings. Glass area is generous; there are mudflaps and towing hooks

## Volvo 144S . . .

British farmers whose lane may not be all it should. We need hardly remind anyone of Volvo's excellent reputation in the roughest rallies and trials.

In normal use, the four-wheel disc brakes are light and reassuring, and they needed only 70lb for a maximum g stop. Surprisingly, they deteriorated appreciably during our severe fade tests, although the pedal load at the end was still a reasonable 55lb. The handbrake operates a small pair of drums set inside the rear discs; on our car the mechanism was out of adjustment, and would not hold the car on anything steeper than a 1-in-4 hill. The handbrake lever itself is ideally placed between the driving seat and the door sill; it has a guard over the release knob.

Perhaps the most impressive fea-

ture of the whole car is the front seat, which is extremely comfortable, and well provided with adjustments. In addition to the usual fore-and-aft slides, a five-minute spanner job allows the whole seat to be raised bodily on its mountings. The backrest angle is adjustable to an infinite degree with a friction locking hinge, and there is the unique Volvo feature of an adjustable lumbar support towards the base of the backrest. This is controlled by a hand wheel on the edge which stiffens or weakens the spring pressure in this region without altering the seat shape. With a little patience, these front seats could be precisely "tailored" to any driver, and then they remained comfortable for many hundreds of miles. The backrests are much higher than is usual, supporting the shoulders of even our tallest staff men.

Volvo's own specially designed seat belts are standard; they are lap-and-diagonal, with a special tongue buckle slotting into a single centre fixing.

Adjustment was difficult and the buckling always seemed a struggle, but the red knobs of the release levers gave a visual indication of when the tongue was secure.

All Volvos seem to have very high waistlines, at least in relation to the height of their seat cushions, and the new 144 is no exception. The glass area above the waist is generous, but as the seats were set in the test car all but our tallest testers felt they were too low.

Controls, instruments and switches are much better than any previous Volvos, although the action of the switches is still push, pull or turn, rather than the more modern flick. Heater adjustments are made by rotating quadrant wheels poking through the fascia and their identifying markings glow when the panel lights are on. The booster fan must be run to get a good air flow through the matrix and the system is complex, but not up to the normal Scandinavian standard in output. Hot air is piped to demist the rear window, but there is no provision for cool air on the face and hands, only to the legs and feet.

The speedometer is a strip-type instrument with the worst calibration of any we can remember. Probably the Pirelli tyres had not been allowed for with their smaller rolling radius, but even so an error of 8 m.p.h. at 30 m.p.h. is totally unacceptable and even illegal under the British Road Traffic Act. Inconsistently the mileometer was only 0.5 per cent inaccurate, and the trip had a very welcome provision for zeroing it instantly by a push button. Just to endorse the Volvo long-life policy the total recorder reads up to a million miles.

Quite a lot of thought has been put into the interior fittings, and the door handles are recessed into the trim. The whole of the under-facia area is neatly closed in with a crushable

The boot has a moulded rubber mat and a strap to secure the spare wheel and tools. The lid is self-supporting, but the sill is very high



panel to protect the knees and there is a grab handle built into each of the front door armrests. At the back there is an armrest-cum-doorpull with an ashtray in each door and a grab handle in the roof.

On the outside, the sturdy bumpers at both ends wrap round the wings and are inset with a broad rubber strip. One small accident while using a 144 in Sweden proved to us that these were up to the job of protecting the bodywork from minor damage in scrapes.

Service accessibility is excellent; all the fuses are placed immediately behind a removable panel (which we regularly mistook for the glove locker) in the lower fascia. The tandem master cylinders and the brake booster are well forward, just behind the offside headlamp, as this is the only place they will fit with right-hand drive.

Owners who do their own servicing should note that no contact breaker gap is given for the Volvo engine and the timing can be set only by means

of the dwell angle and a stroboscope with the engine at 1,500 r.p.m. This setting is critical as over-advancing the ignition does not cause audible pinking, merely harsh running.

The publicity campaign surrounding the introduction of this new Volvo has laid the emphasis on the engineering and safety of the car. Our lasting impression of the 144S endorses this and during the three weeks and 1,000 miles we drove it we found it solid, well-built and reliable. It is, in fact, typically Volvo. ■

### SPECIFICATION: VOLVO 144S (FRONT ENGINE, REAR-WHEEL DRIVE)

<b>ENGINE</b>	
Cylinders	.. 4, in-line
Cooling system	.. Water, pump, fan and thermostat
Bore	.. 84.4mm (3.31in.)
Stroke	.. 80.0mm (3.15in.)
Displacement	.. 1,780 c.c. (109 cu. in.)
Valve gear	.. Overhead, push rods and rockers
Compression ratio	.. 10.6-to-1. Min. octane requirement 100RM
Carburetors	.. 2 SU H.S.6
Fuel pump	.. AC mechanical
Oil filter	.. Volvo full-flow, renewable element
Max. power	.. 100 b.h.p. (net) at 5,600 r.p.m.
Max. torque	.. 107 lb ft (net) at 3,500 r.p.m.

#### TRANSMISSION

Clutch	.. Borg & Beck, diaphragm spring, 8.5in. dia.
Gearbox	.. 4-speed, all synchromesh
Gear ratios	.. Top 1.00; Third 1.39; Second 1.99; First 3.13; Reverse 3.25
Final drive	.. Hypoid bevel, 4.1-to-1

#### CHASSIS AND BODY

Construction .. Integral, with all steel body

#### SUSPENSION

Front .. Independent, wishbones, coil springs, anti-roll bar, telescopic dampers

Rear .. Live axle, coil springs; twin trailing arms, Panhard rod, telescopic dampers

#### STEERING

Type .. Gemmer, cam and roller  
Wheel dia. 16.5in.

#### BRAKES

Make and type .. Girling, discs, drum hand-brake  
Servo .. Girling, vacuum  
Dimensions .. F, 11.6in. dia.; R, 11.6in. dia.  
Swept area .. F, 212 sq. in.; R, 198 sq. in.  
Total 410 sq. in. (308 sq. in. per ton laden)

#### WHEELS

Type .. Pressed steel, 4-stud fixing.  
4.5in. wide rim  
Tyres—make .. Pirelli  
—size .. Cinturato radial ply tubed 165S—15in.

#### EQUIPMENT

Battery .. 12-volt 60-amp. hr.  
Alternator .. Motorola 30-amp. (total)  
Headlamps .. Bosch sealed beam, 90-80-watt  
Reversing lamps .. Twin standard  
Electric fuses .. 9  
Screen wipers .. Two-speed, self-parking  
Screen washer .. Standard, electric  
Interior heater .. Standard thermostatic water valve  
Safety belts .. Standard, lap and diagonal

Interior trim .. Pvc seats, pvc headlining

Floor covering .. Carpet  
Starting handle .. No provision

Jack .. Screw pillar  
Jacking points .. 4, under body sills, near wheels

Windscreen .. Laminated

Underbody protection .. Rubberized paint

Other bodies .. None

#### MAINTENANCE

Fuel tank .. 13 Imp. gallons (no reserve) (38 litres)

Cooling system .. 15 pints (including heater) (8.5 litres)

Engine sump .. 6.6 pints (3.75 litres) SAE 10W/30. Change oil every 3,000 miles. Change filter element every 6,000 miles

Gearbox .. 3.2 pints SAE 10W/30. Top up oil every 3,000 miles

Final drive .. 2.3 pints SAE 90EP. Top up oil every 3,000 miles

Grease .. No points  
Tyre pressures .. F, 23; R, 26 p.s.i. (normal driving). F, 25; R, 28 p.s.i. (fast driving). F, 23; R, 26 p.s.i. (full load)

#### PERFORMANCE

Top gear m.p.h. per 1,000 r.p.m. 17.7  
Mean piston speed at max. power 2,940 ft/min  
B.h.p. per ton laden 79.2

