



**164E
versus
144
automatic**

**VOLVO'S
hot & cold**

wheels road test

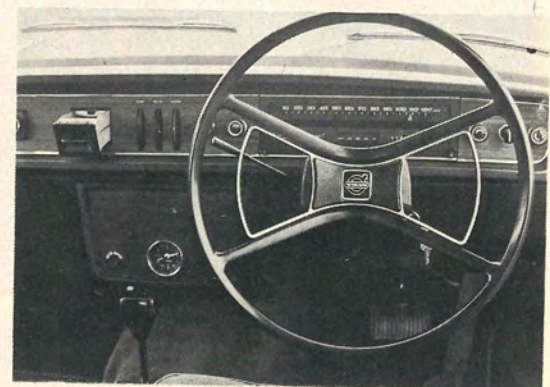
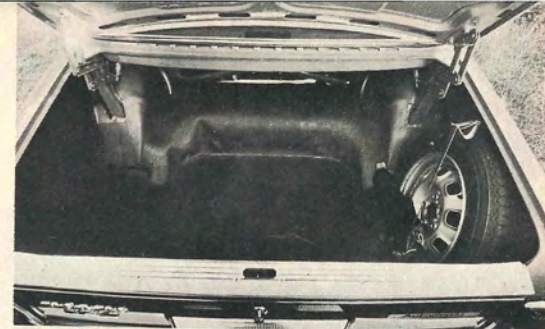


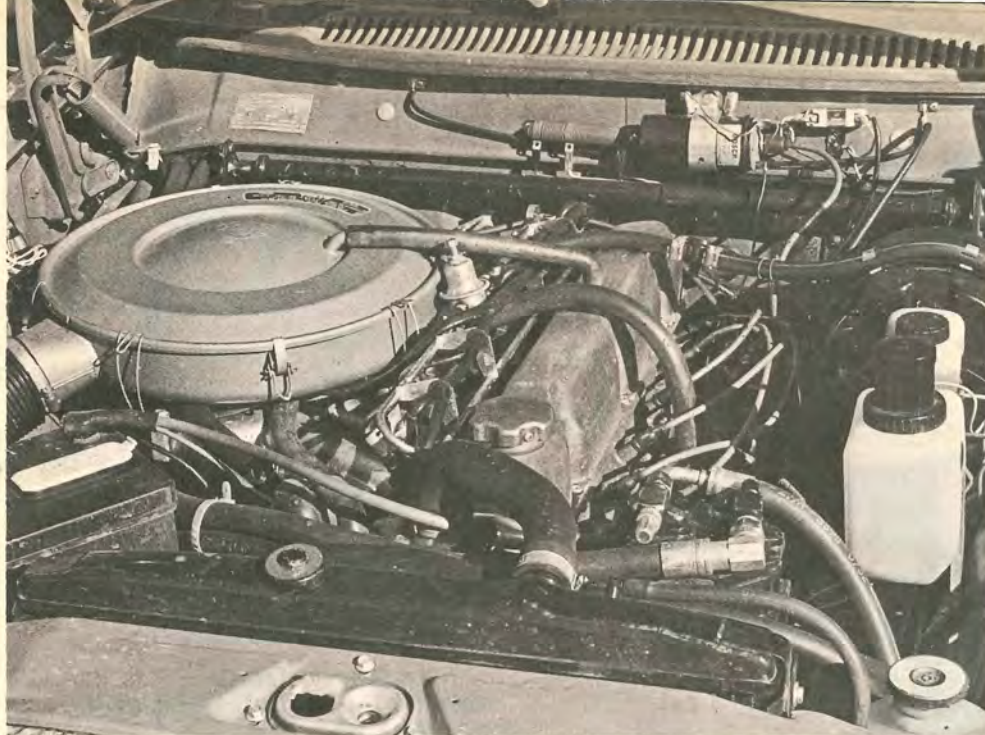
In which we take a look at the opposite ends of the Volvo sedan spectrum and conclude that the more expensive model is better value.

THE ALMOST CLICHED conclusion to most Volvo road tests informs the reader the car is reliable, solid, superbly finished but rather ponderous and heavy handed, with disappointing performance if it comes with automatic transmission.

Well, in this twin test of two Volvos, the top-of-the-line 164E auto and the 144 auto, we will prove that the old criticisms have been eliminated, at least in the case of the big six, 164E.

This is not to say it is perfect, far from it, but news just to hand from Sweden indicates that most of the faults on the latest car have been cured for the 1973 model year.





Volvo, it seems, takes note of the honest road testers.

Major change on the 164E and the reason for the transformation of the car is, of course, the fitting of fuel injection to the 3-litre ohv six-cylinder engine.

This has, with the help of an increase in compression ratio and a hotter camshaft, bumped maximum power from 145 bhp at 5500 rpm to 175 at 5800 rpm and torque from 163 lb/ft at 3000 rpm to 177 lb/ft at 2500 rpm. The Bosch electronic injection also ensures the engine has a very flat torque curve.

Matching the significant increase in power is a change in final drive ratio. Instead of running a tall 3.31 diff ratio the Australian automatic 164E gets the manual version's 3.73 diff for a faster initial take-off and much quicker passing acceleration times.

The combination of the two makes the 164E auto a very fast four-door sedan — indeed it is two seconds quicker to the ton than a Jaguar 4.2 XJ6. And it achieves this without drama or noise unless the intermediate gears are manually held well beyond the normal change-up points in "Drive".

Flexibility and smoothness are other traditional fuel injection qualities the Volvo has inherited.

However, there is one major fault with the Bosch system which we have not encountered before although Volvo now claims the problem has been cured by fiddling with the cold start mixture to increase the richness.

When the engine is cold it is very important to follow Volvo's starting procedure and not touch the accelerator

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for this can flood the engine. OK, this is not a problem once it is remembered, but on the test car when the engine was started it was important not to open the accelerator too wide, too quickly for the engine tended to cut-out completely and then restart as the revs dropped.

Even mild throttle openings played havoc with engine revs so it pays to sit and wait until the engine warmed up sufficiently to allow for normal driving. This took up to 30 seconds when the engine was cold and 10 seconds if it was restarted after a long run.

The actual injection system is highly sophisticated with monitors from induction air temperature, inlet manifold depression, throttle opening coolant temperature and timing in the distributor deciding the quantity and timing of squirts of petrol into the combustion chambers.

These signals are interpreted by a control — commonly known as the black box — which sends impulses to the injectors mounted in the inlet ports. Highly technical, yes, but it works superbly apart from the starting hang-ups.

Compared with the now superseded 164 the E gets to 60 mph in 9.9 seconds instead of 12.0 and covers the standing quarter-mile in 17.4 against 18.3 seconds. Better still, for traffic light starts, where the old car felt sluggish, the time to 30 mph has been cut from 4.5 seconds to 4.1 seconds.

In the higher reaches the E gets to 90 mph in the time it took the old carby model to get to 80 mph. Top speed has risen from around 106 mph to just under 115 mph, which is impressive

Above: Fuel injection 164E has smooth six cylinder engine for remarkable performance. Air conditioning is factory fitted option. Rear window demister and fog lights are standard equipment.

from a relatively staid 3-litre luxury limousine without the sporting touch of, say, a BMW 3.05.

Overseas tests of the manual version give it a standing quarter-mile time of under 17 seconds and it reaches 60 mph in under 9.0 seconds so perhaps we should consider the big Volvo a genuine performance car.

If it is sporty then Volvo had better do something about increasing the noise level to traditional sports car levels for the 164E is one of the quietest cars we know.

Road noise, transmission whine, engine roar and wind noise (below 90 mph) are all kept in check and in most cruising conditions it is very easy to be lulled into thinking the engine is just not turning over at all.

Power-assisted cam and roller steering reduces the heavy feel which inflicts the four-cylinder auto model and with its excellent feel and fairly direct (3.75 turns lock to lock) ratio it allows the car to be hustled along in a very unlimousine-like style.

Understeer still predominates but it has been kept down to a reasonable level no doubt helped by the wider tyres now fitted. It is only when the car is pressed hard that the tail begins to drift out in a mild form of oversteer that requires just a touch of opposite lock.

The huge steering wheel helps create the impression of understeer but the driving position is good enough to allow all sized drivers to get far enough back from the wheel to ensure enough room to cope with the situation. A smaller diameter wheel is fitted to the 1973 models. *(Continued on page 69)*

Above Left: 144 interior is superbly comfortable and roomy but steering, throttle and handling generally are heavy and detract from driver appeal of car. Boot, common to all Volvo sedans, is huge.

wheels road test

technical details

VOLVO 164E/144 AUTO

MAKE	Volvo
MODEL	164 E (144 Auto)
BODY TYPE	Four-door Sedan
PRICE	\$7160 (\$4960)
OPTIONS	Radio, air conditioning
MILEAGE	Total in two cars: 3009
WEIGHT	(1400 kg) 3087 lb/(1230 kg) 2712 lb
FUEL CONSUMPTION:	
Overall	19.4 (22.6) mpg
Cruising	18-22 (21-25) mpg
TEST CONDITIONS:	
Weather	fine, cool
Surface	Castlereagh dragstrip
Load	two persons
Fuel	Premium
SPEEDOMETER ERROR:	
Indicated mph	30 40 50 60 70 80 90
Actual mph	27 37 48 58 68 77 87

ACCELERATION (through gears):

0-60 mph	9.9 sec	15.6 sec
0-70 mph	13.0 sec	23.8 sec
0-80 mph	16.9 sec	35.0 sec
0-90 mph	22.0 sec	—
0-100 mph	28.4 sec	—
Kickdown		

	164E	144 Auto
20-40 mph	2.6 sec	4.3 sec
30-50 mph	3.4 sec	5.3 sec
40-60 mph	4.7 sec	8.5 sec
50-70 mph	5.4 sec	12.2 sec
60-80 mph	7.5 sec	—

STANDING QUARTER MILE:

	164 E	144 Auto
Fastest run	17.4 sec	20.0 sec
Average all runs	17.5	20.3 sec

BRAKING:

From 60 mph to 0 145 ft

PERFORMANCE

Piston speed at max bhp . . . 928 (768) m/min, 3043 (2518) ft/min
 Top gear mph per 1000 rpm 31.5 kph, 19.6 mph (28.3 kph, 17.6 mph)
 Engine rpm at max speed . . . 5900 (5100)
 Lbs (Laden) per gross bhp (power-to-weight) . . . 17.6 (28.5)

MAXIMUM SPEEDS:

Fastest run	116 (91) mph
Average of all runs	115 (90) mph
Speedometer indication, fastest run	120 (95) mph

IN GEARS:

	Drive	Held
1st	41 (40) mph	52 (52) mph
2nd	75 (60) mph	84 (71) mph

ACCELERATION (through gears):

	164 E	144 Auto
0-30 mph	4.1 sec	4.7 sec
0-40 mph	5.7 sec	7.4 sec
0-50 mph	8.0 sec	10.9 sec

SPECIFICATIONS

144 Auto in brackets

ENGINE:

Cylinders Six, in line (four, in line)
 Bore and stroke . . . (3.49 in. x 3.14 in.) 88.9 mm x 80.0 mm
 Cubic capacity . . . 2978 (1990) cc, 181.5 (121.0) cu in.
 Compression ratio . . . 10.0 (8.7) to 1
 Valves ohv
 Carburettor . . . Bosch electronic fuel injection (one single barrel)

Fuel pump Electric
 Oil filter Full flow
 Power at rpm . . . 175 (90) bhp at 5800 (4800) rpm
 Torque at rpm . . . 170 (119) lb/ft at 2500 (3000) rpm

TRANSMISSION:

Type Three-speed automatic

OVERALL RATIO:

	gearbox	overall	mph per 1000 rpm	kph
1st	2.39:1	8.91:1 (9.79:1)	8.2 (7.3)	13.1 (11.7)
2nd	1.45:1	5.40:1 (5.94:1)	13.5 (12.1)	21.7 (19.4)
3rd	1.00:1	3.73:1 (4.10:1)	19.6 (17.6)	31.5 (28.3)
Final drive			3.73:1 (4.10:1)	

CHASSIS AND RUNNING GEAR:

Construction Unitary
 Suspension front Independent, coil springs upper and lower wishbones, anti roll bar
 Suspension rear . . . Live axle, trailing arms and torque rods, coil springs
 Shock absorbers Telescopic
 Steering type Power assisted worm and roller (worm and roller)
 Turns lock to lock 3.7 (4.3)
 Turning circle 31.6 ft (30.7 ft), 9.6 m (9.2 m)
 Steering wheel diameter 16.5 in.
 Brakes type disc/disc
 Dimensions disc 10.7 in. front, 11.6 in. diameter rear

DIMENSIONS:

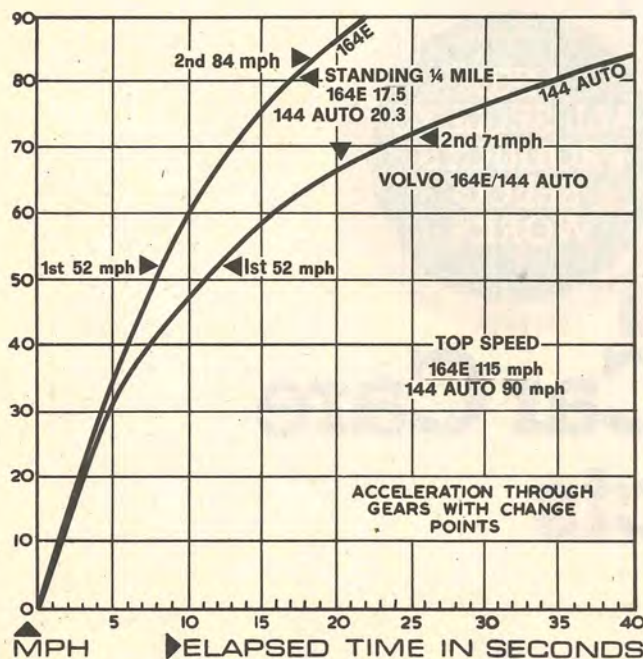
Wheelbase 107.1 in. (103.1 in.), 272 cm (262 cm)
 Track front 53.1 in., 135 cm
 Track rear 53.1 in., 135 cm
 Length 15 ft 5.6 in. (15 ft 3 in.), 470 cm (464 cm)
 Width 5 ft 8.3 in., 174 cm
 Height 4 ft 8.7 in., 144 cm
 Fuel tank capacity 12.75 gallons (58 litres)

TYRES:

Size 185VR15 (165SR15)
 Pressure 28 psi front and rear
 Make on test car Olympic Reflex (GT)

GROUND CLEARANCE:

Registered 7.1 in. (18 cm)



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Long suspension travel and relatively soft springs give the Volvo plenty of body roll but also ensure that the ride is quite outstanding for a live axle car. Bumps and corrugations are soaked up in a manner which would seem possible only with a fully independent suspension. Float at the front end occasionally intrudes if the car hits a large undulation at high speed but normally the car displays a high degree of directional stability.

Like all Volvo sedans the 164E is very comfortable. Within the relatively short, 107-inch wheelbase, there is lounge room space for five adults. Practical, tall styling gives plenty of leg and knee room and the seats, trimmed in leather, are fully adjustable. The driver's seat even has four different height positions.

Only criticism that could possibly be made is of a slight lack of lateral support because the leather tends to be slippery, otherwise the seats are close to perfect.

The plain dashboard now has a console hung on below which contains the excellent built-in air-conditioning, a new Volvo option. It is a local unit especially adapted for the car and works extremely well in cooling the interior, although it tends to be rather noisy.

All told Volvo would seem to have a highly competitive entry in the luxury car stakes and even at \$7160 it is not overpriced.

Unfortunately all the old clichés ring true about the 144 automatic. It is slow for an almost \$5000 car and has the heavy feel which has been built out of the 164E.

A single carburettor version of the B20 2-litre four produces 90 bhp at 4800 rpm and it just doesn't have the horsepower necessary to combat the inherent understeer of the car.

Acceleration is poor by modern standards for the car won't break 20 seconds for the standing quarter-mile and takes 15.6 seconds to reach 60 mph.

Manual versions, with the twin carb 118 bhp engine, can be balanced to achieve a position of slight understeer with roll oversteer coming in at the limits but on the automatic the Volvo lurches through corners with strong understeer, low geared but heavy steering and plenty of tyre squeal.

A heavy throttle pedal is another long-time Volvo trait — it makes driving uncomfortable in heavy traffic and tiring on a long trip. The headlights are poor and generally the car feels sluggish.

Even all the Volvo qualities — and there are plenty — of a roomy interior, huge boot, comfortable seats and the generally very high standard of finish barely outweigh the minus features.



For more money, of course, you can get the Grand Luxe automatic with a four-cylinder fuel injection engine. But unless Volvo make a point of selling the standard automatic only to people who have no interest at all in performance there are going to be a lot of dissatisfied customers.

So in relation to the competition the 144 automatic just doesn't achieve the same value for money offered by the 164E. *