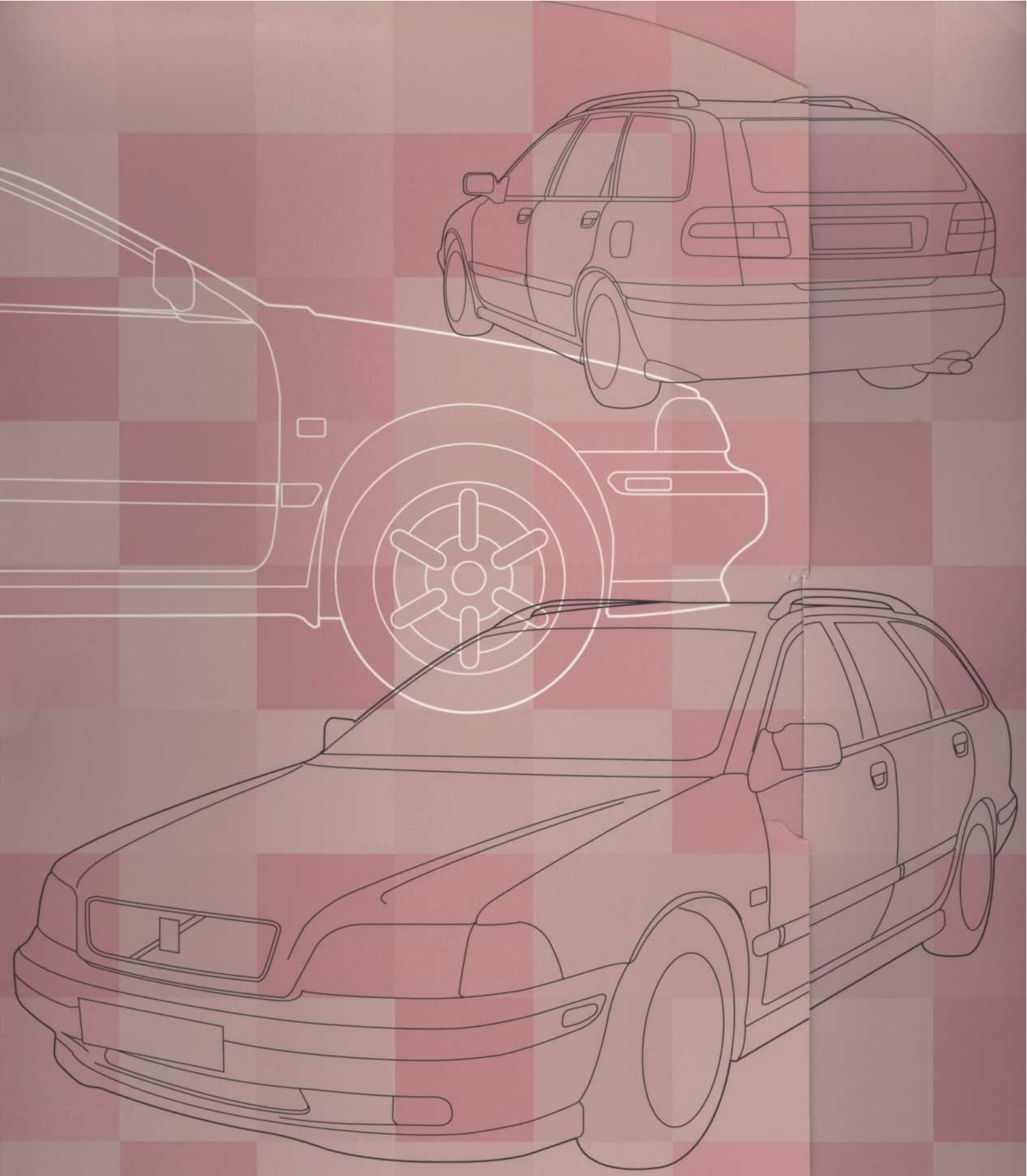

VOLVO V40/S40

MEDIA INFORMATION

VOLVO

S40/V40 *Phase II*

(July 2000)

VOLVO

Press Office 01628 422375

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Volvo S40

October 2001

VOLVO

Press Office 01628 422268

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Volvo V40

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Volvo S40 Sport Lux - 2003 model

May 2002

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VOLVO S40/V40 TECHNICAL SPECIFICATION

ENGINE	1.6	1.8 (122 bhp)	1.8 Bi-fuel Petrol/LPG*	1.8i (122 bhp) SE	2.0	1.9 D (102/115 bhp)	2.0 T	T4
Configuration	Transverse – 16 valve	Transverse – 16 valve	Transverse – 16 valve	Transverse – 16 valve	Transverse – 16 valve	Transverse – 16 valve	Transverse – 16 valve	Transverse – 16 valve
Cylinders	4	4	4	4	4	4	4	4
Engine capacity, cc	1587	1783	1783	1834	1948	1870	1948	1948
Bore x Stroke, mm	81 x 77	83 x 82.4	83 x 82.4	81 x 89	83 x 90	80 x 93	83 x 90	83 x 90
Max. output ECE, bhp/kw/rpm	109/80/5800	122/90/5800	122/90/5800 (Petrol) 120/88/5800 (LPG*)	122/90/5500	136/100/5800	102/75/4000 (102 bhp) 115/85/4000 (115 bhp)	163/120/5250	200/147/5500
Max. torque ECE, Nm/rpm	145/4000	170/4000	170/4000 (Petrol) 167/4000 (LPG*)	174/3750	190/4000	215/1750-3250 (102 bhp) 265/1750-2500 (115 bhp)	240/1800-4500	300/2500-4000
Octane rating	95 RON unleaded (min. 91)	95 RON unleaded (min. 91)	95 RON unleaded (min. 91) (Petrol)	95 RON unleaded (min. 95)	95 RON unleaded (min. 91)	N/A Diesel	95 RON unleaded (min. 91)	98 RON unleaded (min. 91)
Fuel system	Multipoint fuel injection	Multipoint fuel injection	Multipoint fuel injection	Multipoint direct fuel injection	Multipoint fuel injection	Multipoint direct fuel injection	Multipoint fuel injection	Multipoint fuel injection
Compression ratio	10.0:1	10.3:1	10.3:1	11.6:1	10.5:1	19.0:1	9.0:1	8.5:1

TRANSMISSION	Man	Man	Auto	Man	Man	Man	Auto	Man	Man	Auto	Man	Auto
	5 speed	5 speed	5 speed	5 speed	5 speed	5 speed	5 speed	5 speed	5 speed	5 speed	5 speed	5 speed
POWER STEERING SYSTEM												
(rack & pinion) Turning circle, m (ft) 195 –225 section tyres	10.6 (34.8)	10.6 (34.8)		10.6 (34.8)	10.6 (34.8)	10.6 (34.8)		10.6 (34.8)	10.6 (34.8)		10.6 (34.8)	
PERFORMANCE	**Man**	**Man**	**Auto**	**Man**	**Man**	**Man**	**Auto**	**Man**	**Man**	**Auto**	**Man**	**Auto**
Top speed, mph	118	124	121	124 (Petrol/LPG*)	124	127	124	115 (102 bhp) 121 (115 bhp)	137	134	146	143
Acceleration 0-62 mph, sec	12.0	10.5	11.5	10.5 (Petrol) 11.0 (LPG*)	10.5	9.7	10.7	12.0 (102 bhp) 10.5 (115 bhp)	8.5	9.0	7.3	8.0
Drag co-efficient S40 V40	0.31 0.32	0.31 0.32		0.31 0.32	0.31 0.32	0.31 0.32		0.31 0.32	0.31 0.32		0.31 0.32	
BRAKES												
Full load stopping distance 62-0 mph, m (ft)	42 (138)	42 (138)		42 (138)	42 (138)	42 (138)		42 (138)	42 (138)		42 (138)	
Full load stopping distance 62-0 mph, secs	3.2	3.2		3.2	3.2	3.2		3.2	3.2		3.2	
Disc diameter mm, front rear	256 Ventilated 260	256 Ventilated 260		256 Ventilated 260	256 Ventilated 260	256 Ventilated 260		256 Ventilated 260	256 Ventilated 260		256 Ventilated 260	

FUEL CONSUMPTION†	Man	Man	Auto	Man Petrol	Man LPG	Man	Man	Auto	Man	Man	Auto	Man	Auto
(Government Approved) Mpg (l/100km)* (m^3/100km) LPG and CNG*													
Urban	25.4 (11.1)	24.6 (11.5)	21.4 (13.2)	25.0 (11.3)	19.8 (14.3)	31.0 (9.1)	23.9 (11.8)	21.4 (13.2)	38.2 (7.4)	23.5 (12.0)	21.1 (13.4)	22.2 (12.7)	19.8 (14.3)
Extra Urban	47.1 (6.0)	46.3 (6.1)	44.1 (6.4)	45.6 (6.2)	34.4 (8.2)	49.6 (5.7)	44.8 (6.3)	42.2 (6.7)	65.7 (4.3)	45.6 (6.2)	42.2 (6.7)	42.2 (6.7)	41.5 (6.8)
Combined	35.8 (7.9)	34.9 (8.1)	31.7 (8.9)	34.9 (8.1)	27.2 (10.4)	40.9 (6.9)	34.0 (8.3)	31.0 (9.1)	52.3 (5.4)	34.0 (8.3)	30.7 (9.2)	31.7 (8.9)	29.7 (9.5)
CO_2 g/km	185	193	212	193	168	164	198	216	142	198	217	212	227
VED (Vehicle Excise) Duty Band	C	D	D	D	C	B	D	D	A	D	D	D	D
Fuel tank volume, litres (gallons)	60 (13.2).	60 (13.2)		60 (13.2) (Petrol) 40 (8.8) (LPG)		60 (13.2)	60 (13.2)		60 (13.2)	60 (13.2)		60 (13.2)	
INSURANCE GROUPS													
Volvo S40/V40	8	10		10		10	12		11	14		16	

WEIGHTS	S40 1.6/1.8 (122bhp) 1.8i (122 bhp)	S40 Bi-Fuel	S40 1.9 D 102/115 bhp/ 2.0/2.0 T/T4	V40 1.6/1.8 (122 bhp) 1.8i (125 bhp)	V40 Bi-Fuel	V40 1.9 D 102/115 bhp/ 2.0/2.0 T/T4
Min. kerb weight, kg (actual kerb weight dependent on spec.)	1255	1316	1255	1280	1341	1280
Max. possible towing weight braked, kg	1200	1200	1400	1200	1200	1400
Max. towing weight unbraked approx, kg**	500	500	500	500	500	500
Max. total weight, kg	1780	1780	1780	1800	1800	1800
Max. roof load, kg	100	100	100	100	100	100
Max. payload, kg (dependent on spec.)	525	464	525	520	459	520

LUGGAGE COMPARTMENT	S40	S40 Bi-Fuel	V40 To Glass Line	V40 Bi-Fuel To Glass Line	V40 To Roof	V40 Bi-Fuel To Roof
Volume, litres (cu. ft)	415 (14.7) (SAE)	352 (12.4) (SAE)	413 (14.6) (DIN)	357 (12.6) (DIN)	–	–
Volume, rear seats down, litres (cu. ft)	–	–	751 (26.5) (DIN)	695 (24.5) (DIN)	1421 (50.2) (DIN)	1365 (48.2) (DIN)

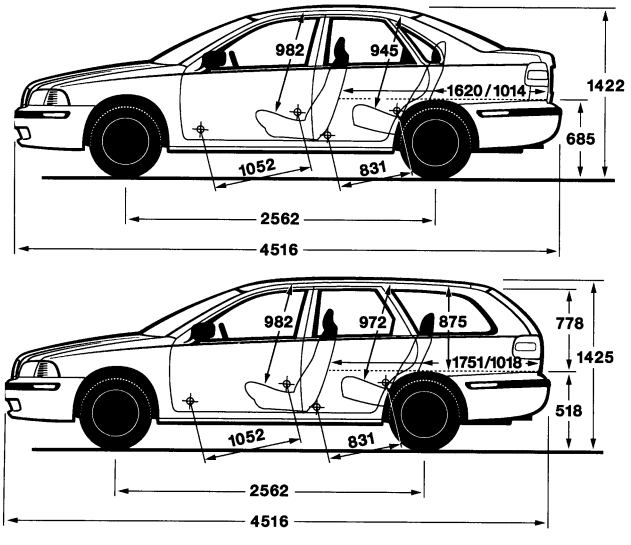
SAE = Official measurement determined by loading luggage replicas into boot (S40 Only).
DIN = Official measurement determined by loading 1 litre boxes into luggage compartment (V40 Only)

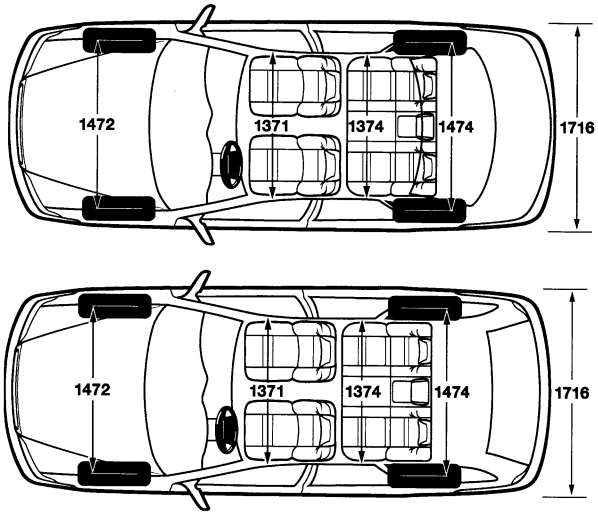
WHEELS AND TYRES

Wheel	Tyre Size	Wheel	Tyre Size	Wheel	Tyre Size
15″ Solaris Alloy Wheels	195/60 VR15	15″ Spectra Alloy Wheels	205/55 VR15	16″ Gallactica Alloy Wheels	205/50 ZR16
15″ Spectra Alloy Wheels	195/60 VR15	15″ Stellar Alloy Wheels	205/55 VR15	16″ Cyber Alloy Wheels	205/50 ZR16
15″ Stellar Alloy Wheels	195/60 VR15	15″ Vogon Alloy Wheels	205/55 VR15	16″ Crater Alloy Wheels	205/50 ZR16
15″ Vogon Alloy Wheels	195/60 VR15	16″ Ares Alloy Wheels	205/50 ZR16		

♦ Liquefied Petroleum Gas.
n/a Data not available at time of going to print.
* The Urban fuel consumption figure is based on typical city driving, including starting the car from cold. The Extra Urban figure is based on typical motorway driving and cruising. The Combined figure averages the consumption across both cycles.
† These results do not express or imply any guarantee of the fuel consumption of a particular car as there are inevitable differences between individual cars of the same model. Additionally driving style, traffic conditions, as well as the age and mileage and standard of maintenance will affect a car's fuel consumption.

Notes
All weights for any specific vehicle will vary according to standard and optional equipment fitted. A weighbridge must be used to determine specific weights.
Data valid for manual transmission unless specified.
** Unbraked towing weight must not exceed 50% of kerb weight up to a maximum of 750 kg.
Man = Manual transmission. **Auto** = Automatic transmission.





All measurements in mm.

NB Some of the information in this price list may not be correct due to product changes which may have occurred since it was printed. Some of the equipment described or shown may now be available only at extra cost. Before ordering, please ask your Volvo dealer for the latest information. The manufacturer reserves the right to make changes at any time, without notice, to prices, colour, materials, specifications and models.

Volvo Car UK Limited, Globe Park, Marlow, Buckinghamshire, SL7 1YQ

Overview Taking just a quick glance, the casual observer would be forgiven for thinking that the latest examples of Volvo's compact S40 saloon and V40 estate should be filed under the 'minor facelift' category.

Externally at least, the visual changes are restricted to new bumpers and front wings, revised lights and new alloy wheels. But underneath the skin, large scale modifications more than justify the Phase II tag the models have been given. This is far more than a facelift...

Taking three years to develop, the comprehensive changes are designed to make the popular midrange cars more dynamic to drive and even safer, as well as offering better value. The changes will broaden their appeal to a wider audience.

Primary changes include a totally revised chassis with a longer wheelbase and new front suspension incorporating a wider track. The result gives dramatically improved comfort and handling characteristics.

There's a raft of changes under the bonnet, too, with two new common-rail diesel engines, a new 2.0-litre 200 bhp turbo for the T4 and changes to the 2.0T light pressure turbo which give more power and torque and improved fuel economy. A new five speed automatic transmission, similar to that found in the V70, is also available on selected models.

Inside there are changes to the dashboard, better seats and new fabrics plus comprehensive improvements in standard equipment levels. Every S40/V40 has air conditioning as standard along with remote central locking, electric front windows and electrically operated and heated door mirrors.

Even more significant are the safety improvements: Volvo's Inflatable Curtain (IC) head protection system has been adopted across the range. This is in addition to dual stage front airbags, WHIPS whiplash protection, SIPS side impact protection and ISOFIX child safety seat fixings. Already one of the safest cars on the road - and the only model in its class to win four stars in the independent Euro NCAP tests - the Phase II S40/V40 takes passenger safety to new heights.

Exhaustive testing has also formed an integral part of the programme, with test vehicles having been driven the equivalent of 60 times around the globe, in 15 different countries across three continents - Europe, North America and Australia. The cars were subject to extremes of temperatures from sub zero (-30 deg C) to scorching heat (+45 deg C).

Overview continued

Remarkably, considering the comprehensive changes made across the range, prices for the new S40/V40 remain the same as for the outgoing model, making them a conspicuously better value package.

"These cars feel new. They are more comfortable, they are quieter, the engines have been upgraded and they are even more powerful. It feels as though the cars have grown;' _., says Project Leader Cock Moret.

Added together, the changes should cement the model's place in the heart of the UK car buyer. Last year, Volvo sold 22,810 examples in the UK, making it more popular than rivals such as the Nissan Primera, Toyota Avensis, Honda Accord and Audi A4.

"We are confident that the changes made to the S40 saloon and V40 estate will not only ensure the models stay popular with existing owners, but will also widen their appeal considerably;' said Gerry Keaney, Managing Director, Volvo Car UK. "There is little doubt that the improvements in safety, the new engines and advances in comfort and handling, not to mention the better value proposition, make the Phase II S40/V40 serious) strop. contenders"

Key points

Wider front track
Longer wheelbase
New revised front and rear suspension settings
Bigger tyres
New five speed automatic option
Extensively revised engines
T4 Turbo up from 1.9-litres to 2.0-litres
Two new common-rail diesels
Greater safety, with IC, dual stage airbags and ISOFIX fittings
Dashboard revisions
Subtle exterior changes
More standard equipment
New colours, upholstery and alloy wheels
Prices unchanged
Better value

Design concept

Right from their original introduction in 1995, the Volvo S40 and V40 won critical acclaim for design and styling, which culminated in the accolade of the 'Most Beautiful Estate Car in the World', an annual Italian award.

Critics acclaimed the skill with which Volvo contrived to combine dynamic and youthful elements within a classically elegant shape, blending many Volvo styling cues - such as the V-shaped bonnet and powerful chrome grille - in a modern package.

Indeed, the cars were the first indicators of Volvo's new design language, as can now be seen in models such as C70, S80 and the new V70. But nothing stands still and the time has come for the originator of the new look to move with the times.

"We felt it was time to make some minor adjustments to the appearance of the S40 and V40, something to make them more ready to challenge the competition in the new millennium;' says Englishman Peter Horbury, Volvo's head of design. "I would say that the cars now appear to be more homogeneous and have a closer relationship with our larger cars.

"Our ambition, however, was not to create a new appearance but simply to create a new sensation, a sense of freshness. As the cars have a strong design with a clear identity, we chose only to make subtle changes."

As a result, the external changes can largely be found in the details, such as the front and rear bumpers, revised front wings, headlights and indicators. The new front bumper assembly has been redesigned with new protective inlays while the front spoiler's air intake has also been redesigned, taking its inspiration from the designs used on Volvo's R-line models.

Clear glass is used for the standard fixed-focus double headlamps while the indicators and foglamps have also been redesigned. At the rear, the tail lights now have clearer glass while the panel between the lights has been restyled to create a more integrated impression.

From the side, freshly styled wheels, new side mouldings and larger side marker lights help give the impression that the car is physically larger than before.

What hasn't changed is the sheer practicality of the design: the good aerodynamic characteristics (S40, 0.31 Cd; V40, 0.32Cd) which help to minimise crosswind sensitivity and wind noise, as well as reducing fuel consumption; the wide opening doors for ease of access - the front doors open to an angle of no less than 66 deg; and the gas struts on both the boot lid and tailgate which couple with a low loading height to make luggage easy to load.

Changes inside the car are perhaps more obvious, and underscore the visual link with Volvo's larger models. The dashboard has been given a comprehensive facelift to offer better ergonomics and functionality. Dominating the centre of the dash, the revised audio system bears as strong resemblance to the units in the V70 and S80.

The centre tunnel console has also been completely redesigned and is taller than before and far more versatile. It features a larger storage compartment with a coinholder and 12 volt power socket and also doubles as an armrest for driver and front seat passenger. Another new feature is a useful waste bin for rear passengers - ideal for the kids' sweet wrappers.

Two new upholstery trims have been developed for the Phase II models, one a plush fabric, the other a leather and fabric combination. Extra padding in the seat themselves helps produce a sportier shape offering greater support and comfort, while a new lighter interior colour option - Oak/Arena, borrowed from the S80 and V70 - adds an extra air of class to the cabin.

As ever, the luggage area has a cargo net options and clever restraint system, which uses an inertia reel belt to hold bulky items in place. Load space in the V40 can be extended

Design concept continued

by folding the rear seats and to make the operation as easy as possible, the centre rear three point seat belt is fully integrated into the seat back and folds with the seat.

Comfort is assured by orthopaedically designed seats with adjustable lumbar control and variable height settings. The steering wheel is also adjustable for rake to ensure every driver can find the ideal driving position. Air conditioning is standard on all Phase II models, and incorporates a dust and pollen filter which removes impurities from the air before it enters the cabin.

Engine and road noise has been reduced partly due to the new front suspension and tyres, but also thanks to improved noise insulation between the engine compartment and cabin. The engines themselves are also quieter than their predecessors.

Modified front wings have enabled a larger wheel and tyre combination to be fitted, with the old 195155 tyres being replaced by 195160 tyres for greater comfort.

Rear suspension is a largely unchanged fully independent multi-link system with trailing arms, upper and lower camber control links and a toe control link which provides passive rear steering to help handling and stability.

The changes to the front end have lengthened the wheelbase by 12 mm and the front track by 16 mm - two changes that also do their bit towards improving the driving experience. The result is car that is notably more comfortable, especially over poor road surfaces, but one that has lost none of its high levels of grip, its strong cornering ability and its excellent directional stability.

CHASSIS Suspension

Customers have always enjoyed the sporting behaviour of the front-wheel drive S40/V40, but feedback has shown that some would prefer a little more comfort. Rather than simply soften the suspension and compromise the car's handling and road holding, however, Volvo's chassis project team has spent three years re-engineering the chassis to provide extra comfort with sharp handling.

"The customers are always right;' says Project Leader Cock Moret, "but we did not want to improve the comfort at the expense of the roadholding!"

As a result, the entire front suspension has been upgraded, with new McPherson struts, new lower wishbones and a redesigned steering assembly. Revised geometry and redesigned control arms allow the springs and dampers to work more freely and effectively. Dampers have been softened for better ride characteristics while the springs are stiffer for even better road holding.

Brakes & steering

Steering is a precise rack and pinion system with power assistance, while the braking system has discs all round, ventilated at the front and with an anti-lock system as standard. Also standard is EBD, or electronic brake distribution, which constantly distributes braking power between front and rear wheels to ensure maximum retardation regardless of road conditions or the load carried.

ENGINES & TRANSMISSIONS

Engines

Principle under bonnet news concerns far reaching changes to both turbocharged petrol engines, the arrival of two new four cylinder common rail turbo diesels in place of the old 95 bhp turbo diesel and an advanced new 1.8-litre direct injection petrol engine.

Central to both new diesels is the advanced common rail fuel distribution system in which the diesel fuel is distributed under very high pressure via a single `common' fuel line or `rail'. The main benefit of common rail technology is that fuel distribution can be controlled very precisely resulting in far more complete combustion. This reduces emissions and maximises the engine's performance and efficiency. Common rail technology also practically eliminates diesel's characteristic knocking noise.

Both 8 valve diesels displace 1870cc and develop 102 and 115 bhp respectively, the higher power output being due to the addition of an intercooler. As well as being notably smoother and more powerful than the engine they replace, the new turbo diesels are far more fuel efficient, with a combined cycle fuel consumption figure of 52.3 mpg compared with the outgoing engine's 50.4 mpg. Both produce a low 142 grams of CO_2 per km.

In performance terms, the 102 bhp version has a top speed potential of 115 mph and takes 12 seconds to reach 62 mph from rest, while its more powerful sister tops 121 mph and cuts the 0-62 mph dash to 10.5 seconds. Their arrival - the more powerful version will be available from early summer with the second version due in the autumn - is expected to boost considerably the cars' appeal to the important fleet market.

All the four cylinder petrol units in S40/V40 - bar a new direct injection petrol 1.8 - are members of Volvo's RN family of four, five and six cylinder engines. The basic design of the RN engine range embraces an aluminium block and twin cam head with four valves per cylinder and centrally mounted spark plugs. On both turbocharged versions of the S40/V40, the engines also feature continuously variable valve timing (CVVT) which helps optimise the combustion process and improves emission levels.

CVVT technology permits the camshafts to be turned by up to 20 degrees, making it possible to vary the timing between the inlet and outlet phases of the unit. By closing the inlet valves earlier in relation to the opening of the outlet valves, higher torque is generated at lower speeds.

When full performance is not being used on the open road, maximum overlap is used, meaning the exhaust valves do not close until the inlet valves are already open. When this happens, some of the exhaust fumes are drawn back into the cylinder at the same time as the fresh fuel-air mixture is injected, allowing the engine to run more fuel efficiently.

CVVT also has cold start benefits as by opening the exhaust valves earlier than usual, fuel can afterburn in the exhaust system and so heat the catalytic converter more quickly.

The choice of pent-roof combustion chambers allows the use of large diameter valves while the shape of the chambers themselves helps create a tumbling motion in the mixture during the intake stroke. This makes the combustion process more efficient and leads to good fuel economy, high part-load stability, high specific performance and low exhaust emissions.

In the light pressure 2.0T, modifications have boosted power to 165 bhp from 160 bhp as well as raising torque to 177 lb ft from 169 lb ft. The result is better economy, with the combined cycle consumption figure rising to 34 mpg. Performance figures include an impressive 137 mph top speed, with 0-62 mph taking just 8.5 seconds.

Providing even more dramatic performance, the turbocharged T4 has been increased in size from 1.9 to 2.0-litres and as well as embracing CVVT technology, now features a more efficient twin scroll turbocharger.

Although neither power nor torque figures have changed

- 200 bhp and 221 lb ft - the engine feels quite different in character, being more responsive with less obvious turbo lag than before. Fuel consumption has also improved to 31.7 mpg over the combined cycle, while top speed is an exceptional 146 mph. And the T4 takes just 7.3 seconds to sprint to 62 mph from standstill.

Of the remaining quartet of naturally aspirated four cylinder petrol engines, three are unchanged - the entry level 109 bhp 1.6-litre, 122 bhp 1.8-litre and 136 bhp 2.0-litre - and feature conventional multi-point fuel injection. The newest engine, a Mitsubishi-developed 122 bhp 1.8-litre, has an advanced direct injection system. Direct injection ensures better economy and lower CO2 emissions.

Transmissions

The slick five speed manual transmission is carried over from the previous models, but most Phase II models will also have the option of Volvo's latest five speed adaptive automatic, as found on the V70 and S80.

Developed jointly with Aisin Warner, the gearbox features complex electronics to monitor progress and road conditions and literally adapts its gear change points to a driver's particular style. This effectively does away with the need for separate 'E' and 'S' driving modes, though a 'W' (for winter) mode is retained. In the winter mode, the car starts off in a higher gear to prevent wheelspin on slippery surfaces.

Its benefits are manifold. Comfort is enhanced as a result of more precise shift control and shorter steps between the gears, while acceleration is swifter thanks to the lower first gear and the closer ratios. And when driving at higher speed, the noise level is reduced as a result of the higher top gear.

The automatic transmission is available as an option on all models except the entry level 1.6, the direct injection 1.8 petrol and both diesels.

DSA

A traction control system - DSA, or Dynamic Stability Assistance - is standard on the T4 and optionally available on other versions. Working in tandem with the anti-lock braking system, DSA uses the ABS wheel sensors to detect wheel spin. Once detected, the engine management system then automatically reduces power and torque to kill the wheel spin and restore normal grip.

SAFETY & ENVIRONMENT

Passive safety

The original S40/V40 was rightly regarded as one of the safest cars on the road, and was the only car in its class to score four stars in the independent Euro NCAP crash test. But safety never sleeps at Volvo...

Last year, Volvo introduced its innovative WHIPS whiplash system to the range and with the Phase II comes the extra safety afforded by the IC inflatable curtain. Previously only available in larger Volvos, the curtain is integrated into the car's roof lining and deploys in a side impact to offer greater protection to the occupants' heads.

Just 25 milliseconds after impact, IC's vertical channels fill with gas and the curtain inflates to prevent occupants in the front and rear from colliding with the door, roof or pillar. Unlike conventional airbags which remain inflated for only an instant, the IC is designed to stay inflated for three seconds to provide optimum protection and to prevent the occupants to be thrown out of a shattered window, for example. IC forms an integral part of SIPS, Volvo's award winning Side Impact Protection System. SIPS comprises seat mounted side airbags, extra steel members in the doors, pillars, sills and the floor, plus reinforcements in the floor, roof and beneath the seats.

Naturally, S40/V40's class leading passive safety credentials includes a sturdy body shell with computer designed energy absorbing crumple zones at the front and rear. A shock absorbing interior has panels and fittings designed so as not to

Passive safety continued

cause unnecessary injury in an accident, while all five seats have head restraints and three point seat belts with pretensioners, which tighten the belt automatically in the event of an accident. Those on the front seats also have belt force limiters.

The front airbags - a passenger bag is a no cost option - inflate in two stages and at variable speeds depending on the severity of the accident. In a low speed accident, the airbag will only be activated if the driver and front passenger are not wearing seat belts. If sensors detect an accident at marginally higher speeds, the airbags will be inflated to 70 per cent of their full capacity unless belts are not being worn, in which case the bags inflate to their full capacity.

In a violent high speed accident, however, the bags will be inflated to full 100 per cent capacity, but even in this case, inflation takes place in two stages, with a split second delay between the first and second stages which regulates the pressure within the bag thus minimising their impact on occupants. To prevent unnecessary discomfort to passengers, the airbags inflate without the use of harmful substances.

The WHIPS system is designed to offer whiplash protection in a rear end crash. In an accident, the front seat backs move with the occupants are they are thrown forward in the initial phase of the accident and cradle them as they are restrained and pulled back into the seat in the second phase of the impact. Volvo's safety engineers have played a significant role in the development of the internationally agreed ISOFIX child seat attachment system and the S40/V40 can be ordered with ISOFIX fittings as standard.

Environment

Volvo's commitment to the environment goes deeper than low exhaust emissions and good fuel economy. The entire production process is as environmentally friendly as possible and no harmful substances are used during production.

Life inside the cabin is equally pleasant, thanks in part to the standard and extremely effective filter which traps pollen and soot particles before they can enter the car. And at the end of its natural life, virtually the entire car can be recycled. Little wonder that each new Volvo is backed by an environmental declaration examined and verified by Lloyd's Register in London.

Equipment

Phase II S40/V40 models benefit from improved standard equipment levels with air conditioning standard across the entire range. Also standard on each model are remote control central locking, electric front windows and electrically operated and heated door mirrors. As ever Volvo customers will be able to create a bespoke car, using the various cost effective option packs available for the S40/V40 to mach their personal needs.

Among the new options developed for the Phase II models are gas discharge headlights - available here for the first time on a Volvo - and a new compact navigation system. Forming part of the central dashboard audio system, the cassette deck is replaced by a small colour screen on which graphics direct the driver to a chosen destination.

This simplified version of the acclaimed RTI system found in larger Volvos, is based on GPS navigation and combines the graphic direction displays with voice guidance.

Warranty

Like all Volvos, the S40 and V40 are covered by a comprehen slue manufacturer warranty giving cover for three years o 60,000 miles, whichever comes sooner. In addition, there's . three year unlimited mileage paintwork warranty and eight yea guarantee against rust perforation. In the unlikely event of . mechanical failure, buyers also benefit from a year free 'get-you home' cover from the RAC.

Questions & answers

How many S40s and V40s have been sold to date?
World-wide, we have sold some 230,000 saloons and 300,000 estates. The figures for the UK are 41.500 and 37,600 respectively. We expect to sell around 160,000 units world-wide this year, thanks in part to the car's successful introduction to the American market. In the UK, we plan to sell 1 3.000 during the rest of the year and some 20,000 in 2001.

The range is produced at NedCar in Belgium, jointly with Mitsubishi. How does DaimlerChrysler's recent investment in Mitsubishi affect this arrangement?
We have a contract to produce cars at NedCar until the end of 2004 and both Volvo and Mitsubishi are keen to continue joint production for as long as possible. In time. Mitsubishi and DaimlerChrysler will take over ownership of NedCar, but this will not affect production.

Where will the S40/V40 successor be built?
Unlike the current model, the next generation small Volvo will not be a joint project with Mitsubishi, but will make some use of Ford technology. It will be built at Volvo's factory in Ghent, Belgium.

Who has made the new common rail diesel engines found in the Phase II models?
They have been sourced from Renault, a company with a long history of producing highly efficient midsize diesels.

Why is the new five-speed automatic not available on all models?
It does not suit the characteristics of all the engines. Each version has a choice of transmission carefully developed for that particular application.

Why are many of the environmental solutions found on newer Volvos not included in the S40/V40?
We have made major strides in the car's environmental performance, not least in terms of fuel consumption, but we have been limited by the age of the platform when it comes to major changes. Nonetheless it remains one of the cleaner cars on the market and Lloyd's Register has verified the car's Environmental Product Declaration.