## DRIVING DYNAMICS

### ENGINES

**In brief:**

**The Volvo V70 is available with a wide range of five-cylinder, transverse petrol and diesel engines reflecting the varying needs and aspirations of customers in this sector.**

**There's a choice of five-cylinder petrol units including plenty of turbocharged power from the high-performance V70 R. This is complemented by Volvo's new, refined and economical turbodiesels, the 2.4D and D5, while a Bi-Fuel model that has lower, cleaner emissions and changes between running on gas (CNG) or petrol at the press of a button.**

In full:

- Wide range of five-cylinder engines reflects requirements of customers
- All aluminium petrol engines with power outputs ranging from 140bhp to 300bhp
- Two new turbodiesels: D5 185bhp with 400Nm, and 2.4D 163bhp with 340Nm using the latest direct-injection and common rail technology are Euro IV compliant and have a diesel particulate filter as standard for impressive, refined performance, economy, and emissions.
- 2.4-litre, five-cylinder Bi-Fuel model operates on both CNG and petrol. Fully crash tested, with full type approval, built on same production line as standard car and sold with standard three year Volvo Car UK warranty.
- Service intervals: Bi-Fuel and V70 R 12,500 miles or 1 year (whichever comes first), and 18,000 miles/1 year (whichever comes first) for all other petrol and diesel models.

The Volvo V70 is available with a wide range of normally aspirated, turbocharged, turbodiesel and an environmentally friendly Bi-Fuel engine to suit the variety of owners needs.

Technical specifications:

| Engine | Type | Power | Torque | 0-62 mph | Top speed | CO2 g/km | MPG Man/auto |
|---|---|---|---|---|---|---|---|
| 2.0T | 1984cc 5cyl/20v turbo | 180bhp | 240Nm at 1850 rpm | 9.0 man 9.5 auto | 137 man 130 auto | 217 man 237 auto | Urban: 22.2/20.0 Extra Urban: 40.4/37.7 Combined: 31.0/28.5 |
| 2.4 (140) | 2435cc 5cyl/20v | 140bhp | 220Nm at 3300 rpm | 10.5 man 11.4 auto | 127 man 124 auto | 214 man 231 auto | Urban: 22.8/20.9 Extra Urban: 40.9/38.2 Combined: 31.4/29.1 |
| 2.4 (170) | 2435cc 5cyl/20v | 170bhp | 220Nm at 4500 rpm | 9.0 man 9.9 auto | 137 man 134 auto | 220 man 234 auto | Urban: 22.4/20.6 Extra Urban: 39.2/37.7 Combined: 30.7/28.8 |
| 2.5T | 2521cc 5 cyl/20v turbo | 210bhp | 320Nm at 1500 rpm | 7.4 man 7.8 auto | 143 man 140 auto | 219 man 241 auto | Urban: 21.9/19.6 Extra Urban: 39.8/36.7 Combined: 30.7/28.0 |
| 2.5T AWD | 2521cc 5 cyl/20v turbo | 210bhp | 320Nm at 1500 rpm | 7.6 man 8.0 auto | 140 man 137 auto | 237 man 255 auto | Urban: 20.8/19.1 Extra Urban: 36.7/34.4 Combined: 28.5/26.6 |
| T5 | 2401cc 5 cyl/20v turbo | 260bhp | 350Nm at 2100 rpm | 6.8 man 7.2. auto | 155 man 152 auto | 226 man 239 auto | Urban: 22.1/19.3 Extra Urban: 38.2/37.2 Combined: 29.7/28.2 |
| R | 2521cc 5cyl/20v turbo | 300bhp | 400Nm at 1950 rpm | 5.9 man 6.9 auto | 155 man 155 auto | 256 man 264 auto | Urban: 22.4/20.6 Extra Urban: 39.2/37.7 Combined: 30.7/28.8 |
| 2.4D | 2401cc 5cyl/20v turbo diesel | 163bhp | 340Nm at 1750 rpm | 9.5 man 10.0 auto | 130 man 130 auto | 179 man 209 auto | Urban: 31.4/26.9 Extra Urban: 51.4/44.1 Combined: 41.5/35.8 |
| D5 | 2401cc 5cyl/20v turbo diesel | 185bhp | 400Nm at 2000 rpm | 8.5 man 9.0 auto | 140 man 137 auto | 179 man 209 auto | Urban: 31.4/26.9 Extra Urban: 51.4/44.1 Combined: 41.5/35.8 |
| D5 AWD | 2401cc 5cyl/20v turbo diesel | 185bhp | 400Nm at 2000 rpm | 8.9 man 9.5 auto | 134 man 130 auto | 194 man 219 auto | Urban: 28.8/25.9 Extra Urban: 47.9/41.5 Combined: 38.7/34.0 |
| Bi-Fuel | 2435cc 5cyl, 20v CNG: | 140bhp | 192Nm at 4500 rpm | 11.0 man 11.9 auto | 127 man 124 auto | 169 man 183 auto | Urban: 21.6/19.3 Extra Urban: 38.7/36.7 Combined: 30.1/27.4 |
| | Petrol: | 140bhp | 220Nm at 3300 rpm | 10.5 man 11.4 auto | 127 man 124 auto | 215 man 240 auto | Urban: 22.8/20.2 Extra Urban: 40.9/36.2 Combined: 31.4/28.2 |

| | |
|---|---|
| Steering/tyres | Rack and pinion with 205-235 (16in-18in) section tyres. |
| Turning circle, m (ft) | 11.9 – 12.0 (39ft – 39ft 4in). V70 R: 13.2 (43.3) |
| Transmission | 5 speed manual (2.0T, 2.4, 2.5T, Bi-Fuel)<br>6 speed manual (2.4D, D5, T5, D5 AWD and V70 R)<br>Auto: 5 speed (2.4, 2.0T)<br>Geartronic: 5 speed (2.5T, T5); 6 speed (2.4D, D5, V70 R) |
| Brakes: front discs<br><br><br><br>Rear discs | 15in – 286mm Ventilated (2.4, 2.4D, D5, Bi-Fuel)<br>16in – 305mm Ventilated (2.0T, 2.5T, 2.5T AWD, D5 AWD)<br>16.5in – 316mm Ventilated (T5)<br>330mm ventilated (V70 R)<br>288mm (all models, except V70 R)<br>330mm (V70 R) |
| Fuel Tank litres (gallons) | 70 (15.4) (D5 AWD 68 (15.0)).<br>Bi-Fuel: LPG 50 (11.0)/Petrol 29 (6.4); CNG 23Nm$^3$/petrol 29 (6.4) |
| Load capacity: litres (cu ft)<br>Rear seats up, to glass line<br>Rear seats down, to glass line<br>Rear seats down, to roof<br>Load length: rear seats up<br>Load length: rear seats down | <br>485 (17.1)<br>745 (26.3)<br>1641 (58.0)<br>1077mm<br>1848mm |
| Dimensions: (mm)<br>Length<br>Width (excluding mirrors)<br>Unladen height<br>Wheelbase<br>Front track width<br>Rear track width | <br>4710<br>1804<br>1465 (AWD: 1490)<br>2755<br>1551<br>1548 |

(Full technical data, prices and options information available in Price list, or downloadable from www.media.volvocars.co.uk)

Volvo's 'RN' range of five-cylinder, all-aluminium petrol engines feature four valves per cylinder, a twin cam head, centrally mounted spark plugs and either single or dual continuously variable valve timing (CVVT). The latter helps optimise the combustion process and operates in two ways. On normally aspirated engines, it works on the inlet cam in order to improve low-end torque and driving characteristics. But on engines fitted with a turbo, it operates on both the inlet cam and the exhaust cam in order to maximise torque and minimise emissions, especially when the engine is cold.

2.4 (140) and 2.4 (170)

The 2.4-litre normally aspirated five-cylinder petrol engine is available in two states of tune. In the entry-level car it develops 140bhp and 220Nm of torque, mixing impressive refinement with ample performance – 0-62mph takes 10.5sec and it reaches 127mph.

A step up in performance is offered by the 170bhp version of the same engine. The peak torque output rises to 225Nm and the 0-62mph time is reduced to 9.0sec, with a 137mph top speed. Both of these engines average over 30mpg on the official Combined cycle and meet the strict European EU 2005 emissions requirements.

2.0T

The 180bhp 2.0T engine received some retuning for the 2005 model year to increase its torque at lower engine speeds making the maximum 240Nm of torque at 1,850rpm instead of 2,200rpm. It achieves 0-62mph in 9.0sec, with a top speed of 137mph and emissions of 217g/km.

2.5T and 2.5T AWD

A more powerful 2.5T engine employs a low-pressure turbo to develop 210bhp and an impressive 320Nm of torque, which is available from 1500-4500rpm. Developed to appeal to sportier drivers, it powers the Volvo V70 from 0-62mph in 7.4sec and on to a maximum speed of 143mph. But despite this impressive performance, it still manages to return an average of 30.7mpg on the Combined cycle**.**

The 2.5T engine is one of the engines available in the Volvo V70 AWD. Even allowing for the additional weight of the AWD system, the manual 2.5T Volvo V70 AWD sprints from 0-62mph in 7.6sec and reaches 140mph, while returning an average of 28.5mpg on the Combined cycle.

T5

The ultimate in performance and driving experience is offered by the T5 and V70 R models, which employ either a low or high-pressure turbo to devastating effect. The T5's five-cylinder engine was upgraded from 2005 model year to 2401cc to produce a mighty 260bhp at 5500rpm, with 350Nm of torque is available all the way from 2100-5000rpm. When mated to Volvo's new six-speed manual gearbox, it enables the Volvo V70 T5 to sprint from 0-62mph in 6.8sec and can return 29.7mpg on the Combined cycle with emissions of 226g/km.

V70 R

The five-cylinder, 2.5-litre high-pressure turbo engine in the Volvo V70 R provides dramatic performance with all the load carrying capacity of more humble V70 models. The peak power output is 300bhp and there’s 400Nm of torque available from just 1950rpm with the six-speed manual transmission, ensuring that the engine is as flexible as it is potent, and can rocket from 0-62mph in 5.9sec and on to an electronically limited top speed of 155mph.

2.4D and D5

In the UK, the majority of Volvo V70 customers choose the performance, economy and range of a diesel engine. And from the 2006 model year, Volvo now offers V70 drivers a choice of two new, substantially updated versions of Volvo's acclaimed and refined 2.4-litre, five-cylinder turbodiesel: the 2.4D and D5.

Both new diesel engines offer a six-speed manual gearbox or the option of a new six-speed Geartronic available.

These enhancements have been achieved as a result of customer feedback and achieved by the following technological developments and extensive changes to performance characteristics of the D5 diesel engine - see following details:

- New electronic glow plug system for faster starting.
- More advanced injection process with 7 spray holes (instead of 5) in each injector for complete fuel atomisation and more efficient combustion and enhanced performance.
- New, larger and more efficient turbocharger with electronic control for faster/more precise control of charge pressure; plus larger compressor wheel, new cambered vanes for improved response at all speeds, and reduced turbo lag.
- Turbo centre housing now water cooled to provide continued cooling after engine stops.
- Improved flow of air/exhaust gases for optimal flow and reduced drop of pressure.
- More powerful engine management system with more sensors to improve regulation.
- EGR (Exhaust Gas Recirculation) system modified for improved flow/regulation.
- New, more effective cooling system for EGR.
- New, faster, electronically controlled throttle moves EGR gases/ regulates temp better.
- Air swirl in combustion chamber is now infinitely variable for more efficient combustion.
- Increased volume for combustion chambers, and consequently a lower compression ratio.
- Larger catalytic converter with oxygen sensor for more precise emissions control.
- NOx emissions reduced by 50%
- Maintenance free, coated diesel particulate filter (Euro IV compliant) automatically burns off soot particulates approximately every 500 miles.
- Low emissions superior to Euro IV control standard requirements:

| | Euro IV requirement | D5 (S60 example) |
|---|---|---|
| CO (Carbon monoxide) | 0.500 g/km | 0.207 g/km (58% better than required) |
| NOx (nitrogen oxide) | 0.250 g/km | 0.187 g/km (25% better than required) |
| Particulates | 0.025 g/km | 0.001 g/km (96% better than required) |

The new 2.4D, Euro IV engine develops 163bhp and 340Nm of torque from 1,750rpm to 3,000rpm (similar to previous D5), which guarantees excellent mid-range flexibility with a top speed possible of 130mph and a 0-60mph time of 9.5 seconds. Yet despite its strong performance, the V70 2.4D achieves 51.4mpg on the extra-urban cycle, and 41.5 miles on a gallon of diesel on the Combined cycle. With the new, coated diesel particulate filter particulate emissions are reduced by 96 per cent. The 2.4D has carbon dioxide emissions of

179g/km, while all other emissions are now substantially below the levels required by the Euro IV compliance.

From 2006 model year, the new D5 Euro IV engine received a significant power boost from 163bhp to 185bhp, now boasting the same levels of torque as the V70 R, 400 Nm, from just 2000 rpm. This flexible performance provides a potential top speed of 140mph, with 0-62mph now possible in 8.5 seconds (compared to the previous D5's 9.5 seconds).

Bi-Fuel

Lower, cleaner emissions and savings on fuel costs are major benefits of Volvo's 2.4-litre, five-cylinder Bi-Fuel engine that runs on both gas (CNG) and petrol. CNG is substantially cheaper than petrol or diesel, particularly for commercial customers who can 'bunker' gas supplies for their fleets.

In contrast to some of its rivals, Volvo's Bi-Fuel cars are built on exactly the same production line as the rest of the range, rather than converted after production, with gas tanks completely concealed under the loadspace, and enjoy full type approval and the standard three year Volvo Car UK warranty.

The provision of Bi-Fuel power was also integral to the Volvo S60's original design and so the additional fuel tank has been accommodated without any impact on luggage capacity. What's more, once registered, Bi-Fuel models enjoy an exemption from London's current congestion charging regulations.

The 2435cc Bi-Fuel engine is the only normally aspirated engine in the V70 range and is intended to primarily run on CNG (Compressed Natural Gas), with petrol as the reserve fuel. The power output is unchanged at 140bhp whether the car is running on petrol or gas, but the torque and emissions figures vary slightly.

In petrol form, the Volvo V70 Bi-Fuel develops 220Nm of torque and CO2 emissions of 215g/km, which compares with 169g/km for CNG.

In terms of performance, with a manual gearbox, the Volvo V70 Bi-Fuel sprints from 0-62mph in 10.5sec in petrol mode, while it takes 11.0sec for the CNG variant.

## DRIVING DYNAMICS

## CHASSIS

**In Brief:**

**The Volvo V70 rubbishes the theory that choosing an estate car means sacrificing driving pleasure. The combination of high torsional rigidity and a sophisticated chassis provides a cushioning ride with entertaining handling and a high level of active safety.**

**An optional Sports Handling Pack is available, as is Volvo's Four-C (Continuously Controlled Chassis Concept) active chassis with Comfort and Sport settings.**

**However, customers seeking the ultimate high-performance all-rounder have the option of the V70 R. Using Volvo's new All Wheel Drive system with Instant Traction™ that works in conjunction with Volvo's advanced 'Four-C' active high-performance sports chassis now specifically tuned for the variety of UK roads with Sport, Advanced Sport and Comfort settings.**

**The All Wheel Drive system is also available in the V70 AWD, with a choice of petrol or diesel engines.**

In Full:

- Entertaining, composed handling with high level of active safety
- High torsional rigidity benefits safety and chassis dynamics
- Sophisticated multi-link rear suspension
- Long wheelbase and wide track provide stability and control
- DSTC (Dynamic Stability and Traction Control) standard on all models
- Sports Handling Pack available (optional)
- Volvo's second generation 'Four-C' active chassis available (optional)
- Volvo V70 R uses Volvo's second generation 'Four-C' active high-performance chassis technology in conjunction with AWD
- Volvo V70 AWD and Volvo V70 R use new AWD with Instant Traction™ system, and Volvo's TRACS system to maximise traction in all conditions

The Volvo V70 is proof that owning an estate car does not mean sacrificing driving pleasure. High torsional rigidity, and a sophisticated suspension system shared with the Volvo S60 and Volvo S80, provide an unbeatable combination of comfort, refinement and handling finesse. And in the shape of the high performance V70 R, Volvo has a load carrier capable of outperforming many so-called sports cars. It really does bring new meaning to the word 'versatile.'

A high level of torsional rigidity is crucial to providing a consistent ride and handling balance, and it also enhances a vehicle's crash performance. Volvo's engineers met their rigidity targets through the extensive use of High Strength Steel (HSS) and the application of bonding techniques in place of the more usual spot-welding. Bonding, unlike spot-welding, produces a continuous join that increases the rigidity of the structure and also steals less space in, for example, the luggage area. The technique clearly works, as the latest Volvo V70 is 50 per cent stiffer than its predecessor.

Suspension

The estate shares its basic suspension set-up with the Volvo S60 and S80. The MacPherson strut front suspension employs dampers and coil springs combined in a single unit and positioned asymmetrically in relation to the strut. Beneath the spring struts are triangular lower links, with an anti-roll bar attached directly to the bottom of the struts themselves. Anti-lift and anti-dive technology also enhances the car's stability in all conditions.

At the rear, a sophisticated multi-link system is mounted in a chill-cast aluminium subframe. This is attached to the body at four points via insulating rubber bushes to keep noise and vibration to a minimum. The use of aluminium helps keep the weight down, while the compact design ensures that there's no encroachment on passenger or luggage space.

Four links on each side – hence multi-link – comprised of two trailing arms, upper and lower links, a track rod and an anti-roll bar, control the movement of the wheels. As with the front suspension, the coil springs and dampers form a single unit. This system permits a small degree of passive rear-wheel steer when cornering, to aid stability. Load-compensating suspension can also be added as an option across most of the range (but not available for models fitted with Four-C active chassis as this has a similar feature built-in).

Sports Handling Pack

For more responsive handling for the enthusiastic driver, and for an added 'cool' appearance, a Sports Handling Pack includes 18in 235/40 Nebula BBS split rim or Capella alloy wheels, Volvo's Four-C active chassis and speed dependent steering.

DSTC, EBD and EBA

The carefully honed mechanical set-up is backed by sophisticated dynamic stability and traction control (DSTC) systems with Electronic Brake Distribution (EBD). The system prevents wheelspin by either braking the wheel that has lost traction (up to 25mph) or, at speeds above 25mph, by reducing engine power. It ensures that the driven wheels get exactly as much power as they can transfer to the road. It also uses an array of sensors to

detect the onset of a skid. The system then automatically slows the appropriate wheel to restore control.

All V70s benefit from Electronic Brake Assist (EBA), which senses an emergency stop and automatically brings the car to a halt in as short a distance as possible.

AWD (with Haldex coupling)

For driver's seeking additional control on a variety of road surfaces, Volvo has developed an all-wheel drive (AWD) system, which is fitted to the V70 AWD and the V70 R (as well as the XC70 and XC90). Developed in conjunction with the Swedish specialist Haldex, it operates independently of driver input, distributing torque automatically between the front and rear wheels for the best possible grip in all conditions. In addition, the Volvo TRACS system ensures that the wheel on each axle with the best grip always gets the most power.

The intelligent AWD system uses a variety of sensors to monitor the road surface and the steering wheel, brake and accelerator pedal positions. In normal driving conditions on dry roads, almost all the power is distributed to the front wheels. However, if the sensors detect slippage, torque is proportionately diverted to the rear wheels via the Haldex coupling to maximise traction. This system responds in just one-seventh of a wheel turn, making an outstanding contribution to active safety and driver enjoyment.

Active Four-C Active Chassis

The advanced electronics of Volvo's active 'Four-C' (Continuously Controlled Chassis Concept) technology allow all of the car's dynamic systems to communicate and work in unison and has now been specifically optimised for the variety of UK road conditions.

The car's speed, wheel movement and steering are continuously monitored via Multiplexed control systems that update the suspension settings 500 times per second.

The advanced electronics allow the driver to choose between different suspension settings at the touch of a button on the dashboard for maximum driver choice, control and enjoyment. The system is designed to help counteract the cars natural dynamic tendencies:

- TAKE OFF: When accelerating away from standing start, the rear dampers are set to maximum stiffness to help prevent acceleration squat and optimise front wheel traction.
- BRAKING: When braking the front dampers are stiffened to reduce 'brake dive'. This allows greater rear end grip so more rear braking effort can be used.

- CORNERING: When cornering the outside dampers are stiffened to reduce roll and provide extra grip and traction. On the V70 R, the dampers works in unison with the AWD with Instant Traction™ to induce a degree of 'turn-in' oversteer. During the corner the dampers and AWD system balance power for a neutral stance. When exiting a corner, the dampers are set to allow maximum traction for the front wheels, to pull the car out of the corner.

For the v70 R the 'Four-C' system works in conjunction with the new sophisticated AWD (All Wheel Drive) with Instant Traction™ system. Developed in conjunction with the Swedish specialist Haldex, the new AWD operates independently of driver input, distributing torque automatically between the front and rear wheels via an electronically controlled coupling for the best possible grip in all conditions. On take off, power is fed to all four wheels then will balance to optimise performance and reduce fuel consumption.

The intelligent AWD system uses a variety of sensors to monitor the road surface and the steering wheel, brake and accelerator pedal positions. In normal driving conditions on dry roads, almost all the power is distributed to the front wheels. The new 'pre-charged' function uses a non-return valve within the coupling making 80Nm of torque instantly available to the rear wheels if the sensors detect any slippage.

Standard models with the Four-C system have the choice of Sport or Comfort chassis settings. However, this is taken one stage further for the v70 R when the system offers Sport, Comfort and an additional third setting – Advanced Sport:

**Sport** – Standard mid-setting for sporty driving. ('Sky-hook' control technique)

**Advanced Sport** – Uncompromising sports car handling, prioritising maximum driving pleasure using 'direct road contact' control technology, ('Road Contact' control technique)

**Comfort** – Optimises ride comfort using 'Sky Hook' control technology to make the car feel like it is suspended from an artificial horizon. ('Sky-hook' control technique)

## DRIVING DYNAMICS

## STEERING, BRAKES AND TRANSMISSIONS

### In brief:

**The Volvo V70's steering and braking systems have been tuned to maximise driver enjoyment and safety. The ZF rack and pinion steering (also available with optional speed dependent function) is linear in response and offers plenty of feedback, while the anti-lock brakes are boosted by Electronic Brakeforce Distribution (EBD) and Electronic Brake Assist (EBA).**

**A five-speed manual is standard in 2.4, 2.0T, 2.5T and Bi-Fuel models, while the 2.4D, D5, T5 and V70 R have six-speed gearboxes as standard. But for those who prefer to let a computer take the strain, Volvo offers two five-speed automatic transmissions and a new six-speed Geartronic. All adapt their shift points to suit individual driving styles, but the Geartronic system also permits sequential manual changes for added control.**

In full:

- Power-assisted rack and pinion steering tuned to optimise feedback and response. Also available with optional speed sensitive steering
- ABS with Electronic Brakeforce Distribution (EBD) and Electronic Brake Assistance (EBA) as standard
- Six-speed manual gearbox standard on Volvo V70 R, T5, D5, 2.4D and D5 AWD. Five-speed manual standard on all other models
- Spaceball gearlever standard on T5, Sport models and V70 R with manual transmission. (optional on others)
- Five-speed adaptive automatic optional (2.4 140/170, 2.0T, Bi-Fuel)
- Geartronic adaptive auto with a sequential manual shift facility optional on most turbocharged petrol and diesel models (2.5T, 2.5T AWD, 2.4D, D5, D5 AWD, T5, R)

The V70 uses a ZF power-assisted rack and pinion steering system that has been developed to optimise driver feedback and response. The steering feel has been improved through careful tuning of the torque build-up during cornering and this helps the driver place the car accurately on the road.

There is also an optional speed dependent system available that provides additional assistance at low speeds and more steering feel as speed increases.

Large disc brakes, which are ventilated at the front, deliver a firm and consistent response, whatever the payload. The T5 has larger 316mm discs at the front, while the V70 R is equipped with large (330mm) four piston Brembo brakes to the front and rear to firmly control its added performance. As you'd expect from Volvo, an anti-lock braking system is

fitted as standard and this is joined by Electronic Brakeforce Distribution (EBD) and Electronic Brake Assist (EBA).

EBD constantly distributes braking power between the front and rear wheels to ensure maximum retardation regardless of the road conditions or how the car is laden.

EBA automatically senses when an emergency stop is required and adjusts the braking pressure so that the car comes to a halt in the shortest possible distance.

The 2.4, 2.0T, 2.5T, 2.5T AWD and Bi-Fuel model, are supplied as standard with a five-speed manual gearbox. This compact unit uses a three-shaft (one input/two layshaft) system in place of the more traditional two-shaft design, which contributes to the smooth, positive shift quality.

The 2.4D, D5, D5 AWD, T5 and V70 R upgrade this further to a six-speed manual gearbox, providing additional flexibility and control.

For drivers who prefer to let a computer take the strain, Volvo offers a choice of two automatic gearboxes. The entry-level unit is fully adaptive, offers five-speeds and automatically adjusts its shift patterns according to an individual's driving style. A special 'W' (for winter) mode can be selected manually. This starts the car off in a higher gear to prevent wheelspin on slippery surfaces.

On V70 models equipped with a turbocharged petrol or diesel engine, this is upgraded to a Geartronic system. This combines a fully adaptive five-speed automatic (for the 2.5T/2.5T AWD, and T5) or Volvo's new ultra-compact, high-torque six-speed Geartronic (2.4D, D5, D5 AWD) that also offers the driver the opportunity to select gears manually. Gears are chosen sequentially by tipping the lever forwards to change up and backwards to change down.