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THE GOLF GTI

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December 2004.

THE GOLF GTI

Twenty-eight years ago, in June 1976, Volkswagen launched the Golf GTI, a car that would become a legend and establish a new class of car: the hot hatch.

The original Golf GTI was planned as a limited series of 5,000 cars. Since then – and four generations of GTI later – more than 1.5 million have been sold worldwide. GTI has become more of a marque in its own right than a model of Golf, and over 97.9 per cent of people in the UK know the GTI brand.

The fifth generation of Golf GTI has now been launched. Retailers have been taking advanced orders for the car since autumn 2004, and interest in the hot hatch could not be higher. Early media reaction to the car has been highly positive, with the car winning almost every group comparison in which it has been tested.

This latest incarnation of the GTI is a true sports car, and as such, it recaptures the spirit of the Seventies icon. Thanks to a 2.0-litre 200 PS engine, driving dynamics which are aimed squarely at the enthusiast, and a design to set the pulse racing, customers can look forward to a genuinely rewarding – and fun – car.

Volkswagen's head of design, Murat Günak, sums it up when he says: 'This Golf GTI comes full circle – it unites the origins and future of an ingenious idea.'

Nowhere in the world is the GTI more important than the UK. As the car's largest market, GTI is forecast to account for around ten per cent of total UK Golf sales.

SUMMARY

Timing
- Unveiled at Paris Motor Show in September 2004, launched in Germany November 2004
- UK launch January 2005

Key facts
- Fifth generation of the definitive hot hatchback
- Harks back to the spirit of the seminal Golf GTI Mk I
- One engine available at launch: a sophisticated turbocharged 2.0-litre 200 PS unit with four valves per cylinder and homogenous FSI direct injection
- Maximum power 200 PS at 5,100 rpm; maximum torque 207 lbs ft, developed all the way from 1,800 to 5,100 rpm
- Available with either a six-speed manual gearbox or Volkswagen's revolutionary DSG (Direct Shift Gearbox) transmission
- 0 to 62 mph in 7.2 seconds (manual), 6.9 seconds (DSG)
- Top speed 146 mph (manual); 145 mph (DSG)
- Combined fuel consumption: 34.9 mpg (manual); 35.3 mpg (DSG)
- Suspension lowered by 15 mm compared with standard Golf; also features stiffer springs and dampers, and thicker anti-roll bars
- Electro-mechanical power steering tuned for a more sporty feel
- Styling cues include distinctive black honeycomb grille with red outline; unique front and rear bumpers; black sills; dark surrounds for headlights; red brake calipers; and twin chrome exhaust pipes. 'Golf' badge is absent on tailgate – simple 'VW' roundel and chrome 'GTI' are only ones to feature
- High standard specification, including ESP (Electronic Stabilisation Programme); 2Zone climate control; front fog lights; sports seats; CD player; multi-function computer; rain sensor wipers; and automatic dimming rear view mirror
- Distinctive 'Monza' alloy wheel design available in two sizes: 17" (standard) and 18" (£445 option)
- Chief competitors: Honda Civic Type-R, Mégane Renaultsport 225
- Powerful 2.0-litre TDI-powered GTI with 160 PS to be launched later
- New generation Golf R32 will join the GTI and follow later in 2005

Market information
- Prices confirmed at £19,995 and £20,495 respectively for the three- and five door manual; £1,325 premium for the DSG models (RRP on the road)
- UK customers were able for the first time to pre-order cars at dedicated website, www.newgolfgti.co.uk. The site contains a wealth of information about the GTI, including prices, specification and a car configurator
- Volkswagen UK plans to sell approximately 6,000 units in a full year; 10 per cent of total Golf sales
- 30-40 per cent will have DSG; 60 per cent five doors; 70 per cent male buyers
- UK is largest market in the world for Golf GTI; Germany second

Production
The Golf GTI is being produced at Volkswagen's Wolfsburg plant. State of the art production systems and assembly technologies are being employed, for example laser welding using 140 robots. The Golf has laser-welded seams with a total length of 70 metres, compared with five metres in its predecessor, one factor which helped the Golf reach a new benchmark position with body rigidity.

SUMMARY

Environment
Ecological considerations and the responsible handling of natural resources are central to the Volkswagen corporate philosophy. Long before the European Used Car Directive and the resulting national legislation came into force, Volkswagen had set itself a number of environmental objectives, including the reduction of CO_2 emissions and effective recycling methods.

Volkswagen set a target for the new Golf that 95 per cent of its weight should be recyclable by 2015, and this has had its effect on the choice of environmentally compatible materials and technologies employed during production. For example, the use of PVC sealant has been significantly reduced thanks to the increased use of under-body sealing panels.

As well as optimising its vehicle construction technology, Volkswagen is also leading the way in the development of new methods for the preparation and recycling of plastics, and is also developing ever-more stringent processes for the efficient handling of resources such as water, energy and materials.

DESIGN

The GTI is based on the standard Golf, meaning its design and dimensions are very similar. However its new nose design and lowered suspension mean there are small differences: height has been reduced by 19 mm and length increased by 12 mm.

Comparison of Golf dimensions:

	Golf Mk V GTI	Golf Mk V	Golf Mk IV
length, mm	4216	4204	4149
width, w/out door mirrors, mm	1759	1759	1735
height, mm	1466	1485	1439
wheelbase, mm	2578	2578	2511
maximum luggage capacity			
w/out rear seat folded, litres	350	350	330
with rear seat folded, litres	1305	1305	1184

With the standard Golf, one of the chief targets for the designers was a substantial improvement in body rigidity. Thanks to the extensive use of advanced construction techniques such as laser seam welding, this was achieved: static torsional rigidity improved by 80 per cent, establishing the Golf as new class leader.

Improved safety and handling dynamics are among the benefits to the driver and passengers. Noise levels are reduced through the body rigidity, and excellent engine and gearbox refinement lead to exceptionally smooth and quiet progress for this type of car.

Attention to detail is evident throughout the vehicle, with many styling details and design ideas passed on to the Golf from Volkswagen's luxury class models. Among these is the boot lid release mechanism, which is incorporated into the Volkswagen badge.

The new 'module' doors are also an innovation, aimed at drastically reducing door skin repair costs. No longer must the entire door be replaced in the event that it is damaged in an accident, instead the outer panel can easily be detached. This is achieved by the use of load-bearing 'hybrid bars' which serve as the door inner panel. The outer skin panel is simply bolted into place.

The interior
Though similar to the standard Golf's interior, there are many features that distinguish the GTI from the rest of the range, giving it a special feeling of sportiness to suit its performance and character.

Sports seats
The GTI seats offer maximum comfort with the best possible side support and sporty looks. The high seatbacks with integrated, but adjustable (and active) head restraints accentuate the feel of sporting functionality. The front seats also have lumbar support adjustment as standard.

The new 'Interlagos' cloth upholstery has a chequered design, which harks back to the first GTI seat generation. Full leather upholstery is also available as an option. The GTI logo stitched into the front head restraints also shows the attention to detail.

DESIGN

Steering wheel
Just like the first Golf GTI, this latest generation also has a three-spoke steering wheel. Today, however, it is leather, with a perforated leather section on the left- and right-hand grip areas. The bottom of the steering wheel has been straightened slightly, making it a little more compact than the standard Golf wheel and shaped to allow a grip that will give good control. The GTI logo features on the brushed aluminium vertical spoke of the steering wheel. As on all Golfs, the steering column is adjustable for rake and reach.

Gearknob and instruments
Aluminium alloy is employed for the new GTI gearknob, the trim inserts on the dashboard, centre console, door panels, pedal cluster and instrument dials. The instruments themselves have been newly designed and are exclusive to the GTI: the tachometer, for example, goes up to 8,000 rpm and the speedometer has also been given a greater speed range.

Climate control
The Golf GTI features 2Zone electronic climate control air conditioning. As a fully automatic two-zone device, the driver and front-seat passenger are able to adjust their own climates individually and independently, with up to four degrees Celsius difference between each zone.

Temperatures within the two zones are maintained to an accuracy of half a degree, with no readjustment normally necessary whatever the outside conditions. The Climatronic's intelligent control system even takes into account the amount of sunlight penetration into the cabin, and makes separate calculations to compensate for it on both the driver and passenger sides.

As an example of further attention to detail, the system switches automatically to recirculating-air mode when reversing and when the windscreen washer sprays are used; the fresh air supply is momentarily cut to prevent odours – of exhaust and windscreen wash – from entering.

Windscreen wipers
Pioneered in the Touran, 'intelligent' windscreen wiper control is a feature of the Golf. In addition to the classic operating modes – wiping speeds 1 and 2, intermittent operation, rain sensor operation, flick wiping and washing – the wiper system is also able to perform the following functions:

- Service position: When the car is stationary, the wipers move into the service position when the flick wipe function is activated
- Alternating park position: The wiper system has a so-called alternating park position. Every second time the wiper system is turned off, the wiper moves upwards a little. This operation repositions the wiper rubber on the windscreen, thereby increasing its life
- Intermittent function: The driver uses the steering column switch to select between four intermittent delay periods, which are also dependent on the vehicle road speed. These four 'speeds' can also be used to adjust the response of the rain sensor
- Bonnet stop: When the bonnet is opened, the wiper stops for a moment to prevent the bonnet and the wiper itself from being damaged
- Malfunction stop: The system recognises whenever the wiper movement is blocked and responds appropriately to the situation
- Wash function 1: When the wash/wipe function is actuated, the wiper is only activated after a pre-wash period (at vehicle road speeds from 70 mph)
- Wash function 2: Three post-wash cycles are automatically performed after the windscreen washer system is activated. A further post-wash cycle is performed five seconds after the last wash/wipe cycle

Quality
Volkswagen enjoys a hard won reputation for quality and knows that it must make an even greater commitment in design, materials, development, quality control and many other areas if it is to retain its lead. By designing the Golf to make use of some major and minor components including nuts, bolts, washers and fixings used in other Group products, Volkswagen is able to purchase high quality components and materials in bulk. By saving costs in these areas, Volkswagen has more resource to spend on quality items specific to the Golf that distinguish it from other models.

ENGINE

2.0-litre T-FSI, 1984 cc, 16-valve 4-cyl, 200 PS
The Golf GTI features a 2.0-litre four-cylinder FSI petrol engine boosted by a turbocharger and intercooler. The engine is mounted at the front transversely and drives through a six-speed manual or DSG automatic gearbox (see next section for details).

The GTI's powerplant, which is based on the 150 PS unit currently used in the Golf GT FSI, delivers a maximum power output of 200 PS at 5,100 rpm. The 2.0-litre T-FSI in the Golf GTI has a high compression ratio of 11.5:1. Its broad torque band, 207 lbs ft (280 Nm) from 1,800 right up to 5,100 rpm, makes it an ideal engine for a sports car.

This is the first time an FSI engine with a turbocharger has been used in a Volkswagen brand product. Essentially, combining the two means excellent response, no hint of turbo lag, great driveability and high fuel efficiency.

Volkswagen is committed to FSI technology for its petrol engines, with more powerplants increasingly appearing across the model ranges.

Fuel is injected only in the piston's compression phase, rather than during induction as is the norm, and is placed in the tightly controlled stream of intake air moving towards the spark plug. Many of the principles used in FSI were inspired by the advanced technology featured in Volkswagen's TDI engines.

By injecting fuel directly into the cylinder – as already seen in Volkswagen's TDI diesel engines – combustion efficiency is improved and, as a result, so is fuel economy.

The main aim during the development of the GTI's engine was increasing performance considerably to meet GTI core values, while keeping fuel consumption and emissions down. Thanks to the FSI technology plus turbocharger, Continuous Inlet Camshaft Adjustment, Plastic Variable Intake Manifold as well as other internal engine features, a high degree of efficiency could be achieved. Combined fuel consumption of 34.9 mpg (manual) is evidence that this technology works, while, like all Golf engines, the 2.0-litre T-FSI meets EU4 emissions legislation.

Gearboxes
Six-speed manual
The Golf GTI is offered with a standard six-speed manual gearbox featuring a magnesium selector housing and cable operation with very short lever movements. This is essentially the same transmission used in the Golf GT FSI, though gear ratios have been optimised to suit the GTI's sporting character. Three-cone synchromesh for the lower gears ensures a pleasant shift action, while reduced-friction bearings increase the efficiency of the unit and cut fuel consumption.

DSG – Direct Shift Gearbox
Optionally available with the Golf GTI is a six-speed Direct Shift Gearbox. Available currently in the Golf and Touran in combination with TDI engines, and offered here for the first time with a petrol unit, DSG combines the comfort of an automatic gearbox with the agility and economy of a manual unit.

The transversely mounted DSG has two wet clutches (offering a higher thermal load tolerance than dry clutches) with hydraulic pressure regulation. One clutch controls the 'odd' gears plus reverse, while the other operates the 'even' gears. Essentially it is two gearboxes in one.

With this new clutch management system, the breaks in power that are typical of even an automatic-shift manual gearbox no longer occur. This is achieved by an intelligent hydraulic and electronic (mechatronic) gearbox control system, the two wet-type clutches and the two input and output shafts in each half of the gearbox.

This combination enables the next-higher gear ratio to remain engaged but on standby until it is actually selected. In other words, if the car is being driven in third gear, fourth is selected but not yet activated. As soon as the ideal shift point is reached, the clutch on the third-gear side opens, the other clutch closes and fourth gear engages under accurate electronic supervision.

Since the opening and closing actions of the two clutches overlap, a smooth gearshift results and the entire shift process is completed in less than four-hundredths of a second. In addition to its fully automatic shift mode, DSG has a Tiptronic function to permit manual gear selection.

Servicing
All Golfs, including the GTI, are set to run on variable servicing times. The on-board computer informs the driver when the vehicle needs a service or, for example, an oil change. Rather than having fixed service intervals determined by mileage, a range of engine sensors electronically monitors the vehicle's oil temperature, oil pressure, oil level and brake pad wear to establish when a service is needed. A dashboard display informs the driver when a service is due. Alternatively, customers can opt for a 10,000 mile or one-year Extended service schedule.

With the variable system, it can be possible to drive for up to 19,000 miles or 24 months on petrol models without a major service. Customers can choose between Extended or Variable Servicing at PDI (pre-delivery inspection) and though it is possible to change from one to another during the vehicle's life, it can only be done when a full inspection service is due.

RUNNING GEAR

A new era for Volkswagen suspension design was ushered in with the arrival of the Touran; the Golf was the second model in the range to benefit from the development of a completely new four-link rear suspension system.

Ride and handling were markedly improved over the standard Golf's predecessor, with attendant active safety benefits, and the new rear axle configuration also enabled an enlarged through-load width in the luggage compartment.

The standard Golf's front strut and rear multi-link chassis have been made even more dynamic for the GTI, to guarantee the level of agile handling required for this car. The suspension has been lowered by 15 mm, while harder springs and dampers have been chosen for both axles. The stiffness of the rear anti-roll bars has been increased by 20 per cent, from 25 to 30 N/mm.

Electro-mechanical power steering
Electro-mechanical power steering is another feature introduced with the Golf (first seen in Touran) and designed to enhance the driving experience. Unlike some electro-mechanical steering systems, it is able to vary the feel of the steering wheel to suit the speed and driving situation: firm and direct when driving hard, effortless at parking speeds.

Other advantages of the system include its mild self-centring action, its ability to compensate for different driving hazards, like crosswinds and steep road cambers, and a beneficial effect on fuel economy.

The steering system, like the suspension, has been reprogrammed to suit the GTI and produces higher steering forces, giving the driver a more direct feel and more feedback through the steering wheel.

The Golf GTI's new chassis and steering configurations give the car its impressive agility and make it genuinely fun and rewarding to drive. However, the sporty set-up does not come at the expense of long-distance comfort. While the suspension is designed to be firm, it is still able to absorb bumps with ease.

GTI handling
The Golf GTI has been designed to be extremely agile, but still easy to control. Even without the intervention of ESP (Electronic Stabilisation Programme), the GTI will stay on track if the driver, for example, approaches a corner too fast, pushing out slightly at the front without too much understeer. On the other hand, if the driver suddenly eases off in a bend, the tail will not swing out; the driver will simply experience some mild oversteer, which will slow the car and allow gentle steering through the throttle.

Braking system
Like all Golfs, the GTI features a sophisticated braking system, with standard ABS and ESP (Electronic Stabilisation Programme).

However, like most aspects of the running gear, the brakes have also been adapted for the GTI. A 16" (as opposed to 10") servo has been employed, while the brake discs have also increased in size to 312 mm at the front and 286 mm at the rear. All discs are ventilated and are covered by distinctive red brake calipers.

Electronic Stabilisation Programme – ESP
ESP is a sophisticated system that automatically senses any tendency for the car to slide. Should this situation occur, ESP reacts by applying the brakes to one, two, three or all four wheels and adjusts the engine's power. In this way, it is possible that a skid is corrected even before the driver is aware that one has started.

This can be useful if a tendency to understeer or oversteer develops in a bend. In such circumstances ESP can help prevent the car skidding or spinning off the road and is particularly helpful in wet or icy conditions.

The new-generation ESP system developed for the Golf has a range of features designed to have a direct and positive effect on active safety, including:
- ABS – Anti-lock Braking System
- AEM – Adaptive Engagement Model. The car is continuously monitored, even when travelling in a stable manner, so that the system can take fast corrective action if instability occurs
- TCS – Traction Control System
- EBD – Electronic Brakeforce Distribution
- EDL – Electronic Differential Lock
- ESBS – Extended Stability Brake System
- HBA – Hydraulic Brake Assist

The GTI's ESP set-up has also been adapted so it does not reduce driver enjoyment by intervening too early and intensively, or too late and vaguely.

Hydraulic Brake Assist – HBA
Working in conjunction with the other elements of the braking system, this latest form of HBA recognises from the speed at which the brake pedal is depressed whether it is a 'normal' braking situation or an emergency stop. In the event of an emergency stop, HBA automatically increases braking pressure, activating ABS and ensuring the level of braking meets the needs of the conditions. The application of brake assist makes it possible even for unskilled drivers to reduce braking distances by around 25 per cent.

EQUIPMENT AND TRIM

The GTI comes with a high level of standard specification, which suits its position at the top of the Golf range. The following features are standard:

- ABS (Anti-lock Braking System) with HBA (Hydraulic Brake Assist)
- ESP (Electronic Stabilisation Programme) including EDL (Electronic Differential Lock)
- driver's and front passenger's active head restraints
- three rear head restraints; three rear three-point seat belts
- driver's and front passenger's airbags with passenger's airbag deactivation switch
- curtain airbag system, for front and rear passengers
- front seat side impact airbags
- Isofix child seat preparation (for 2 rear child seats)
- remote central locking with alarm and interior protection
- electronic engine immobiliser
- 2Zone electronic climate control
- radio/CD player with 10 speakers
- automatic coming/leaving home lighting function
- dusk sensor, automatic driving lights
- electric windows, front and rear (rear, five door only)
- electrically heated and adjustable door mirrors
- height and reach adjustable steering wheel
- multi-function computer
- rain sensor and automatic dimming interior rear-view mirror
- split/folding rear seats
- GTI instrument cluster, with logo
- GTI leather rimmed steering wheel, gaiter and handbrake grip
- GTI sports seats, height adjustable with lumbar support
- aluminium gearknob, foot pedals and foot rest
- 'Interlagos' chequered cloth upholstery
- body-coloured bump strips, door handles and door mirrors
- front fog lights
- rear spoiler
- twin exhaust tail pipes (2 x 70 mm)
- 7½J x 17" 'Monza' alloy wheels with 225/45 R17 tyres and anti-theft bolts
- sports suspension

FACTORY-FIT OPTIONS

A number of factory- and retailer-fit options are available on the Golf GTI, allowing buyers further to customise their vehicles. These include leather upholstery, 18" 'Monza II' alloy wheels, satellite navigation, a winter pack (comprising heated front seats and windscreen washer jets), electric sunroof, gas-discharge (Xenon) headlights and rear parking sensors.

Gas-discharge headlights (Xenon)
Ultra-efficient gas-discharge (Xenon) headlights provide a well focused, blue-white light approximately two and a half times more powerful than standard lights. This option includes a self-levelling mechanism and high-pressure headlight wash.

Parking sensors
Also available is a parking distance control system, which simplifies tight parking manoeuvres. The system uses four ultrasonic sensors, integrated in the rear bumper to pinpoint parked vehicles, or other objects behind the car. Automatically activated when reverse gear is selected, the system produces an audible warning signal to guide the driver up to a safe distance to any objects behind. Not only does this help to avoid car park knocks, it could also prevent accidents, for example, if a child runs out who may not have been seen.

Multi-function steering wheel with cruise control and paddle shift
Available very shortly after launch as an option is a multi-function steering wheel. This features steering wheel-mounted controls for the CD/radio player, so that drivers are able to alter the volume, track, station etc, without removing their hands from the wheel. For a slight premium, this is also available with cruise control, which is operated via the indicator stalk. On GTI DSG models, one multi-function steering wheel option exists, which includes not only the CD/radio controls and cruise control, but also paddle shift levers for even greater control of the DSG transmission.

Satellite navigation system
The Golf GTI is offered with the option of a factory-fit satellite navigation system. The 6½" colour LCD screen, which is mounted in the centre console, is supplemented with a simplified display in the instrument panel and verbal instructions.

The driver or passenger can use the screen to pinpoint where the car is on a moving map display. A traffic jam avoidance facility will be able to calculate alternative routes and the radio can memorise the latest traffic information bulletin even when switched off.

Rear ABS wheel sensors are used to determine the distance the car has covered and to provide information when the car is turning. Further system components include a solid state magnetic compass concealed under the roof and a three-way roof aerial for radio and GPS (Global Positioning System). The aerial receives signals from the satellites in orbit around the earth from which the system is able to calculate the position of the car on the surface of the earth.

A digitised road map, stored on CD-ROM in the car, is accessed. This contains road details and other information such as the locations of airports and stations. It is effectively a digital street plan of Great Britain. The desired destination is selected using the buttons on the centre console. The system evaluates satellite signals and those from the wheel sensors and compares these data with the digitised CD-ROM road map. Quite quickly, by comparing the movement of the car with the map and its approximate position from the satellites, the system can calculate the position of the car. The road, street or motorway the car is on is then displayed and the route to the chosen destination calculated.

The system employed in the Golf also allows for a choice of different types of route – for example, avoiding motorways or cross-country drive. Should the driver deviate from an indicated route, the voice will politely request that he or she make a safe U-turn. If the driver does not oblige, the system will automatically calculate a new route and continue to issue instructions to reach the destination.

In-car entertainment
The Golf is sold with Volkswagen-designed stereo equipment. This sits neatly within the dashboard and is ergonomically designed for ease and safety of operation and maximum security. A dash-mounted CD player is standard; it can be upgraded to an armrest-mounted six-disc CD autochanger for a small premium.

SAFETY

The high levels of body rigidity brought about by the advanced construction techniques employed in the Golf make it safe, thanks to the strength inherent in the body. Key to this is the employment of laser seam welding; there is a total length of 70 metres of laser-welded seamwork in the Golf, compared with five metres in the previous generation Golf (which itself was renowned for strength and rigidity).

Offset collision
In the event of a high-speed offset accident, an extremely strong bumper cross-member ensures that energy is efficiently absorbed even on the side of the car furthest from the impact. The side members have been adapted to meet this requirement by means of 'Tailored Blank' technology: a maximum amount of energy is absorbed in the front section of the car and only then does the rear side member section buckle, thus reducing footwell intrusion.

Further protection of the footwell is achieved by the use of a cross-member to distribute longitudinal forces to the sill, the underfloor side-member and a stiffened transmission tunnel. COF, or Crash-Optimised Foot controls, retract forwards in a crash to reduce the risk of foot injury.

Side impact
The previous Golf's already high levels of passenger protection against side impacts were enhanced in the current model thanks to the greater use of high-strength body panels and a three-layer B-pillar structure. Impact loads are spread more uniformly as a result, preventing localised overloading. High-strength side reinforcements are employed in the doors.

Rear-end collision
Safety standard requirements due to come into force in 2005 were taken into consideration in the design of the Golf's rear protection systems. These new regulations require that, when the rear hits a deformable barrier at 50 mph, the fuel tank system must develop no leaks. Thus the tank filler neck and associated pipework is located ahead of the rear wheel, outside the crumple zone.

A high-strength bumper cross-member ensures that impact loads are distributed as evenly as possible to both sides of the car.

For active safety measures, please see Braking section.

Passenger safety
The Golf name has always been synonymous with safety, and the well being of all occupants is paramount. Despite the GTI being designed for fun and dynamism, safety has in no way been compromised. All models feature:

- twin front airbags
- passenger airbag which can be deactivated using the ignition key so a rear-facing child seat can be safely installed in the front
- driver and front passenger side airbags
- curtain airbag system for front and rear passengers
- crash-active front head restraints to protect against whiplash injury
- three rear head restraints and three rear three-point seat belts
- Isofix child seat preparation for the two outer rear seats

Seat belt system
In the event of an accident, a central control unit electrically triggers the Golf's belt tensioners. Belt tensioning ensures the best performance, with energy being absorbed over a longer period of time with more moderate deceleration values. Both front and rear seat belt systems are fitted with force limiters which prevent excessive pressure being applied to the chest in the event of an accident; while newly-designed inertia-reel seat belts ensure excellent passenger comfort.

Front airbags
The front restraint system of the Golf consists of a driver's airbag with a volume of 60 litres and a front passenger's airbag of 120 litres. A further feature is the steering column, which has a highly engineered clamp for longitudinal and vertical adjustment. This clamp helps prevent the steering wheel from moving upward in the event of a crash. The underside of the steering column is also covered with an energy-absorbing trim to reduce knee and thigh forces, while a rigid footwell with forward-retracting brake and clutch pedals reduce loads on the feet.

Side airbags
The side airbags on the Golf are integrated in the front seat backrests. They protect the chest, abdomen and pelvis and suit the car's rigid side structure, while an innovative sensor concept means even faster triggering times. Integrating the side airbags in the backrests ensures optimum positioning of the driver and front passenger with respect to the airbags.

Curtain airbag system
The Golf has especially large curtain airbags, which cover the side window areas from the A- to the C-pillar and from the headlining down to over the doorsill. The result of this feature is that maximum protection is afforded to all outer seat positions regardless of passenger body size. The fact that these airbags cover such a large area prevents the head from swinging out, extremities from being thrown out and objects from penetrating the interior even in the event of the car rolling over.

Child seat
An Isofix child seat has been developed for very small passengers in the Golf, with a target age group between eight months and four years (or 9 to 18 kgs). It fits into the Isofix fixtures, which are standard in the two outer rear seats. This type of fixture ensures that the seat is secured in place to optimum effect.

Euro NCAP test results
The Golf scored a maximum of five stars for occupant protection in the front and side impact tests, four stars for child protection as well as three stars for the protection of pedestrians in the Euro NCAP (European New Car Assessment Programme) tests. These scores make it one of the safest cars on the road. In fact, no other passenger car tested by Euro NCAP achieved this combination of good results for the requirements in these three fields at once.

These scores also apply to the GTI model, giving drivers and passengers the confidence that they are driving one of the most fun, yet safest cars on the road.

SECURITY

The security systems on the Golf were developed to be class-leading. The GTI has the following features:

- an in-cut key which is more difficult to copy
- free-wheeling mechanism for the door-locks which means if an attempt is made to turn the lock cylinder with a screwdriver, for example, the connection is broken to the door opening mechanism
- enhanced steering lock clutch to resist forcing
- protection boxes surrounding door lock mechanisms
- alternating code, transponder-based engine immobiliser
- alternating code for remote control central locking
- an advanced alarm which includes interior protection. The system is easily armed via the remote control key
- factory-fitted stereo with CD player which is Volkswagen-branded and security coded
- electronic 'CAN-bus' system linking central locking, theft protection system, electric windows and mirrors, and internal lighting

Insurance grouping
Thanks to its impressive security and safety features, the Golf GTI has an insurance group rating of 17E from the ABI (Association of British Insurers).

WARRANTIES

The Golf GTI has a three year (first and second year manufacturer operated, third year retailer operated) mechanical warranty. In addition, it comes with a class-leading 12-year anti-perforation guarantee, three-year paint warranty and a year's membership of Volkswagen Assistance. The latter can be extended at minimal cost to the customer.

HISTORY

There have been many stories about how the first GTI came into being. The fact is that the Golf GTI was the ingenious idea of a few men. This is their story, and that of the GTI.

Everything began in 1973, when Volkswagen launched a sporty version of the Beetle. The 'Yellow and Black Racer', as it was called, differed from the normal Beetle, having a black bonnet and engine cover, slightly broader tyres (5½" instead of 5"), sports seats with head restraints, and a leather steering wheel. Technically it was still the same old Beetle with 1,600 cc and 50 PS, but despite this, it caused a stir, even within the German parliament.

To the disbelief of many, it proved popular with customers, selling out in next to no time, and laying the foundations for a two-year project in Wolfsburg that, even within the company, only a handful of people would know about.

On 18 March 1973, test engineer, Alfons Löwenberg, wrote an internal memo to a few colleagues in the Research and Development department, proposing that Volkswagen should build a proper sports model.

At that time, a new vehicle – code-named EA 337, and otherwise known as the Golf – was already in the final stages of development. This meant a modern high-performance front-wheel drive car would gain Volkswagen a completely new audience.

The memo's recipients were sceptical at first. Only chassis specialist, Herbert Horntrich, and development chief, Hermann Hablitzel, were interested in Löwenberg's idea.

Löwenberg persisted, and found other like-minded colleagues, including marketing expert Horst-Dieter Schwittlinsky and Anton Konrad, the then head of Volkswagen PR. Konrad, previously manager of the Formula V association and himself a racing driver, was particularly taken with the idea. He was also aware, though, that the delicate sport seedling needed to be cultivated in great secrecy, not least because the high development costs for the new model that would be launched as the Golf in 1974 were already proving a heavy burden on company funds.

Konrad invited the secret developers from the 'Sportgolf' work group to meet at his home over sandwiches and beer. Hablitzel, Horntrich, Konrad, Löwenberg and Schwittlinsky sorted through the possibilities like conspirators. Hablitzel was now definitely on board and his silent toleration allowed Löwenberg and Horntrich to get down to work.

Taking a Scirocco prototype with a rock-hard chassis, they lowered the suspension dramatically, souped up the basic 1.5-litre 85 PS Scirocco engine to 100 PS with a two-stage carburettor, and crowned it all with an exhaust pipe that resembled a stove pipe – and also sounded like one.

Today, Konrad remembers the car as being 'a roaring monster', which the team soon agreed was not what they wanted. They agreed the 'Sportgolf' should feel sporty, but still be modest. Löwenberg and Horntrich therefore decided to build a tamer version.

The result was not quite as ferocious, but still fast. The whole group felt much better about this new model, an optimism that gave Hablitzel the courage to tell development chief, Professor Ernst Fiala, about the car. He asked him what he thought. Fiala delivered the team quite a blow, saying: 'It's far too expensive.' He added simply: 'You're all mad.'

The group, however, refused to be deterred. The 'Sportgolf' prototype based on the Scirocco was officially declared a disguised chassis prototype; unofficially though development continued. Löwenberg fine-tuned the engine, while Horntrich configured the chassis for the proposed beefy tyres. These were to be 205/60 HR 13s, which would even put a Porsche 911 to shame: at that time, the quintessential Teutonic sports car still ran on 185/70 tyres.

Not surprisingly, the 'disguised chassis prototype' caused a big stir when Hablitzel and his team demonstrated it to the management at the Volkswagen test centre in Ehra-Lessien in spring 1975. Even Professor Fiala was quite taken with the 'Sportgolf' dressed as a Scirocco – and gave his approval. At the end of May, an official assignment was sent to the R&D department: to develop a sporty version of the Golf.

At the same time, the sales department now also saw good market opportunities for a sporty Golf; besides, Volkswagen was still lacking a crowd-puller for the forthcoming Frankfurt Motor Show. The project suddenly gained momentum from all sides. Six prototypes were created, ranging from a beast with undiluted sports credentials to a modest, comfortable version. Chief designer, Herbert Schäfer, was responsible for all the details that would distinguish the 'Sportgolf' from its rivals. These included the red stripe on the radiator grille, the larger front spoiler, the discreet plastic wheel arch extensions; the matt black frame on the rear windscreen; the black roof-liner; the golf ball gearknob; and the chequered seat covers.

Herbert Schuster, the new test manager, immediately gave the chassis development top priority. To cut costs, he reduced the width of the wheels from 6" to 5½", and decreased the tyre size to 175/70 HR 13. He added anti-roll bars for the front and rear axles, and developed a spring/damper configuration that provided the best combination of sportiness and comfort. In collaboration with Audi, the 1.6-litre fuel-injected 110 PS engine was produced.

The team finished their work dead on schedule. So when the 46th Frankfurt Motor Show opened its doors to the public on 11 September 1975, the Golf GTI study made its debut on the Volkswagen stand. 'The fastest Volkswagen ever' boasted the advertisement – and that was no exaggeration. The GTI accelerated from 0-62 mph in nine seconds, leaving considerably bigger and more expensive cars standing. The carefully announced price of 'under DM13,000' was still over DM5,000 less than the closest German rival. The result: show visitors were so impressed, the management had no choice but to build a special series of 5,000 cars.

The GTI cost DM13,850 when it was finally launched in mid-1976. However, dealers still managed to sell ten times the planned number in the first year of sales.

UK sales history
International series production of the first Golf GTI started in June 1976. It soon became apparent that demand far exceeded the initial modest production volume. This car conquered a new clientele and founded the GTI class. Five thousand units became over 1.5 million. Such was the reaction in the UK, a small number of left-hand vehicles were imported, prior to the start of right-hand drive production. A brief history of the GTI in the UK follows:

Mk I – 1977-1984
- 1977 – first UK registration
- 1.6-litre, 110 PS

Mk II – 1984-1992
- 1.8-litre, 112 PS
- 1986 – launch of 16V; 1.8-litre, 139 PS
- 1989 – introduction of 'big bumpers'
- November 1990 – production of one millionth Golf GTI

Mk III – 1992-1998
- 2.0-litre, 115 PS
- 1993 – 2.0-litre 16V, 150 PS

Mk IV – 1998 onwards
- 1.8-litre, 125 PS
- 1.8-litre turbo, 150 PS
- 1999 – 2.0-litre, 115 PS
- 2002 – 1.8-litre turbo, 180 PS and 1.9-litre GTI PD, 150 PS

Mk V – 2005 onwards
- 2.0-litre, 200 PS FSI-T

Comparison of Mk I and Mk V Golf GTIs

	Mk V – 2004	Mk I – 1976
Power – PS @ rpm	200 @ 5,100	110 @ 6,100
Max torque – lbs ft @ rpm	207 from 1,800	103 @ 5,000
0-62 mph – secs	7.2	9.0
Top speed – mph	146	113
Economy – mpg combined	34.9 (35.3 DSG)	35.3
Length – mm	4,216	3,705
Width – mm	1,759	1,630
Height – mm	1,466	1,395
Kerb weight – kg	1,336	820
Gearbox	Six-speed	Four-speed
Axle drive	Front	Front
Standard tyres	225/45 17	175/70 13

Technical specification.

		GTI 2.0 ltr FSI 200 PS	GTI 2.0 ltr FSI 200 PS DSG
Engine	Engine type	Four cylinder petrol	Four cylinder petrol
	Cubic capacity, ltrs/cc	2.0/1984	2.0/1984
	Bore/stroke, mm	82.5/92.8	82.5/92.8
	Max. output, PS [01]/kW	200/147	200/147
	at rpm	5100	5100
	Max. torque, lbs.ft/Nm	207/280	207/280
	at rpm	1800	1800
	Compression ratio	11.5 : 1	11.5 : 1
	Gearbox	Six speed manual	Six speed auto DSG
	Alternator, A	140	140
	Battery, A (Ah)	380 (72)	380 (72)
Weights, kgs	Unladen weight [02]	1336	1355
	Gross vehicle weight	1860	1880
	Payload [02]	524	525
	Axle load limit: Front	1030	1050
	Rear	900	900
Trailer load limits, kgs [03]	Braked 12% incline	1400	1400
	Unbraked	700	710
Performance	Top speed, mph (km/h) [04]	146 (235)	145 (233)
	Acceleration, secs 0 - 62 mph	7.2	6.9
	ABI insurance group	17	17
Environmental information	Fuel grade, minimum	Unleaded, 95 RON [05]	Unleaded, 95 RON [05]
	Fuel tank capacity, galls/ltrs	12.1/55	12.1/55
	Official fuel consumption†, mpg/ltr per 100 km [06]		
	Urban	25.4/11.1	26.2/10.8
	Extra-urban	44.8/6.3	44.8/6.3
	Combined	34.9/8.1	35.3/8.0
	Official CO_2 emission, g/km [07]	194	192
	Emission class	EURO 4	EURO 4
	Noise, dB	75	74
Maximum luggage capacity, cu.ft (litres) [08]	With rear seat upright	12.4 (350)	12.4 (350)
	With rear seat folded	46.1 (1305)	46.1 (1305)

01) The maximum power output figures are quoted in PS (or Pferdestärke, which is the metric equivalent of horsepower). To convert from metric to imperial horsepower, divide the PS figure by 1.0139.
02) Figures are calculated in accordance with manufacturer's criteria. Vehicle unladen weight ranges with 90% tank capacity without driver. The individual unladen weight depends on the specification of the vehicle, this then reduces the possible payload accordingly.
03) With increasing altitude the engine performance diminishes. From 1,000 m above sea level and for every 1,000 m thereafter 10% of the vehicle/trailer weight (trailer weight + gross vehicle weight) must be deducted.
04) Where the law permits.
05) Thanks to the knock control, unleaded four star (at least 95 RON) can be used instead of unleaded Super plus. In order to achieve maximum fuel consumption benefits on the FSI engine, Ultra Low Sulphur Petrol (ULSP) must be used.
06) Official fuel consumption according to EU Directive 99/94. The consumption calculation according to 1999/100/EC is based on the actual unladen weight of the vehicle. Additional specifications can lead to a higher weight class and hence to consumption figures of this higher weight class. The driving style, road and traffic conditions, environmental influences and vehicle condition can in practice lead to consumption figures, which may differ from those calculated with this standard.
07) The weight of a vehicle will influence the level of CO_2 emission it produces; as a result, vehicles with higher levels of specification and factory-fitted options may emit higher levels of CO_2. The CO_2 figure quoted for each vehicle is the maximum possible. The unladen weight of the vehicle is calculated by range at the time of manufacture and the maximum possible CO_2 emission for that weight range is applied according to the Council Directive 80/1268EEC as amended by Commission Directive 1999/100/EC on the approximation of the laws of the member states relating to the carbon dioxide emissions and the fuel consumption of motor vehicles.
08) VDA measuring method using 200 x 100 x 50 mm blocks.

† Please note these figures are not UK homologated figures and are subject to change.

Model prices.

3 and 5 Door Hatchback Range.

				Output, PS	CO_2 emission, g/km	Maximum VED band*	Basic Recommended Retail £	VAT £	Total Recommended Retail £	Manufacturer's Recommended 'On the road' Retail £*
GTI 200 PS										
GTI 2.0T	3 door	2.0 ltr	6 speed manual	200	194	D	16,448.51	2,878.49	**19,327.00**	**19,995.00**
GTI 2.0T	5 door	2.0 ltr	6 speed manual	200	194	D	16,874.04	2,952.96	**19,827.00**	**20,495.00**
GTI 2.0T	3 door	2.0 ltr	6 speed auto DSG	200	192	D	17,576.17	3,075.83	**20,652.00**	**21,320.00**
GTI 2.0T	5 door	2.0 ltr	6 speed auto DSG	200	192	D	18,001.70	3,150.30	**21,152.00**	**21,820.00**

Factory-fit options.

	GTI 200 PS	Basic Recommended Retail £	VAT £	Total Recommended Retail £
Alloy wheels				
– Four 7½J x 18 'Monza II' with 225/40 R18 tyres and anti-theft wheel bolts	○	378.72	66.28	**445.00**
CD autochanger, 6 disc with front centre armrest, two rear air vents and cup holders	○	336.17	58.83	**395.00**
Cruise control	○	229.79	40.21	**270.00**
Front centre armrest, with storage compartment, two rear air vents and cup holders	○	97.87	17.13	**115.00**
Gas discharge (Xenon) dipped beam headlights				
– Including headlight washers and automatic height adjustment	○	617.02	107.98	**725.00**
Leather upholstery [1]				
– 'Vienna' leather, heated front sports seats. Electrically-adjustable driver's seat lumbar support. Front passenger's seat with lumbar adjustment	○	1,400.00	245.00	**1,645.00**
Luxury pack – 1				
– Electrically foldable door mirrors and surrounding area lighting [2]	○	89.36	15.64	**105.00**
Luxury pack – 2				
– Electrically foldable and automatically dimming door mirrors and surrounding area lighting [3]	○	153.19	26.81	**180.00**
Multifunction computer (Highline)	○	38.30	6.70	**45.00**
Multifunction steering wheel [4, 5, 6]				
– Including paddle shift, cruise control, radio and telephone controls	○	438.30	76.70	**515.00**
Multifunction steering wheel [5, 6, 7]				
– Including cruise control, radio and telephone controls	○	421.28	73.72	**495.00**
Multifunction Steering wheel [6, 7]				
– Including radio and telephone controls	○	268.09	46.91	**315.00**
Navigation/radio system				
– With 6½" colour screen, CD autochanger 6 disc with front centre armrest, multifunction computer (Highline) and two rear air vents and cup holders	○	1,417.02	247.98	**1,665.00**
Parking sensor – rear	○	251.06	43.94	**295.00**
Radio system RCD 500				
– Including dash-mounted 6 CD autochanger with Volkswagen soundpack	○	574.47	100.53	**675.00**
– Including dash-mounted 6 CD autochanger	○	234.04	40.96	**275.00**
Side airbag system – rear (5 door only)	○	191.49	33.51	**225.00**
Spare wheel				
– Full size alloy	○	110.64	19.36	**130.00**
Sunroof – electric, glass	○	421.28	73.72	**495.00**
Telephone preparation	○	191.49	33.51	**225.00**
Winter pack				
– Heated front seats, heated windscreen washer jets, low washer fluid warning light and headlight washers	○	272.34	47.66	**320.00**
Winter pack in conjunction with leather upholstery				
– Heated windscreen washer jets, low washer fluid warning light and headlight washers	○	187.23	32.77	**220.00**
Winter pack in conjunction with gas discharge (Xenon) dipped beam headlights				
– Heated front seats, heated windscreen washer jets and low washer fluid warning light	○	255.32	44.68	**300.00**
Winter pack in conjunction with gas discharge (Xenon) dipped beam headlights and leather upholstery				
– Heated windscreen washer jets and low washer fluid warning light	○	170.21	29.79	**200.00**
Special paint				
– Metallic/Pearl Effect	○	285.11	49.89	**335.00**

1 Generally all parts of leather upholstery in direct contact with the driver or passengers are leather, all other areas may contain leatherette.
2 Not in conjunction with Luxury pack – 2.
3 Not in conjunction with Luxury pack – 1.
4 Only in conjunction with DSG automatic gearbox.
5 Cruise control is not operated via the multifunction steering wheel mounted controls, but as per standard operation via indicator lever.
6 To operate the telephone controls through the multifunction steering wheel, telephone preparation and the appropriate cradle are required.
7 Only in conjunction with manual gearbox.