Volkswagen

GTI event at Lake Wörthersee – 2016

Golf GTI Clubsport S – the world premiere

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Notes:
You will find this press kit and images related to the new Golf GTI Clubsport S online at:
www.volkswagen-media-services.com. User ID: vwnews05; password: 2016reifnitz.

Features and technical data of production models apply to models offered in Germany. Details for other countries may vary.

All performance levels, fuel efficiency and emission figures given in this press release are forecasts as of April 2016.

World premiere of the new Golf GTI Clubsport S at Lake Wörthersee

Most powerful GTI ever smashes the Nürburgring lap record

The Golf GTI Clubsport S breaks the lap record for front-wheel-drive cars on the Nürburgring Nordschleife, with a time of 07:49:21

Exclusive two-seater GTI with 310 PS engine and newly configured chassis

Ten important facts – the Golf GTI Clubsport S in keywords

1. The most powerful Golf GTI ever breaks the lap record for front-wheel-drive production cars on the Nürburgring Nordschleife, with a time of 07:49:21.
2. Only 400 of the limited edition Golf GTI Clubsport S, which delivers 228 kW/310 PS and can go from 0-100 km/h in just 5.8 seconds, will be made.
3. Uniquely, the Golf GTI Clubsport S has a Nürburgring setting, which can be accessed using the driving profile selector.
4. The Nürburgring setting finetunes the adaptive chassis control DCC, engine, steering and sound to suit the Nordschleife.
5. The chassis of the Golf GTI Clubsport S was fine-tuned in extensive racetrack tests and completely reconfigured.
6. With the EU unladen weight reduced to 1,285 kg, the 310 PS results in a sports car weight-to-power ratio of 4.15 kg/PS. (EU unladen weight incl. driver and luggage: 1,360 kg).
7. New exhaust system featuring enlarged cross-section before the rear silencer produces strong backfire when decelerating.

8. The Golf GTI Clubsport S is a two-door, two-seat car, with the rear seats removed to save weight.
9. The Golf GTI Clubsport S comes with 19-inch alloy wheels ("Pretoria") and semi-slicks.
10. The production number 001/400 to 400/400 in the interior reveals that the car is an exclusive special edition.

In brief – the world premiere of the Golf GTI Clubsport S

Wolfsburg/Reifnitz, May 2016. The Golf GTI Clubsport S flies over the start/finish line of the "Green Hell" like an arrow. With German racing driver Benny Leuchter (28) at the wheel, the most powerful Golf GTI ever has just smashed the existing lap record for front-wheel-drive production cars on the Nürburgring Nordschleife. Future contenders will have to beat Leuchter's time in the GTI: 07:49:21. This exclusive new sports car is based on the Golf GTI Clubsport that was developed to celebrate the GTI's 40th anniversary. Even that model blurs the boundaries between production and racing cars, with its 195 kW/265 PS (which can temporarily peak at 213 kW/290 PS using the boost function) as well as aerodynamics that have been completely redesigned in many areas resulting in improved downforces. With the Golf GTI Clubsport S celebrating its world premiere at the GTI event at Lake Wörthersee (4-7 May), Volkswagen is topping off the legendary model line with a new crown. The hard performance data of the new Golf GTI flagship are permanently available power of 228 kW/310 PS; acceleration of 0-100 km/h in 5.8 seconds; a top speed of 265 km/h (not limited) and an EU unladen weight (incl. the driver and luggage) that has been reduced to 1,360 kg. However, it is the record lap time around the Nordschleife that really demonstrates how exceptionally fast this car actually is.

Nürburgring setting. As a world exclusive, the Golf GTI Clubsport S comes with a setting for the most demanding race track in the world, which can be accessed using the driving

profile selector. This is possible because the car is fitted as standard with the individually configurable Dynamic Chassis Control (DCC) and a driving profile selector. In the 'Individual' driving profile, the engineers have developed a setting that is fine-tuned to suit the unique conditions of the Nürburgring. Over and above that, the driving profiles Comfort, Normal and Race are also available. Of course the driver can still adjust the settings in the Individual profile, as usual and can revert to the Nürburgring setting at any time before driving onto on the Nordschleife by resetting the Individual profile on the touchscreen menu. This unique configuration switches the Sound, Engine and Steering (fitted with progressive steering as standard) parameters in the Race profile as well as DCC to Comfort. However, in this instance an entirely different group of settings is hidden behind this option, instead of the normal Race and Comfort settings.

Limited to a run of 400. The production run of 400 cars is the total worldwide figure, 100 of which will be delivered to customers in Germany. The colours of the limited edition stick to those of the original GTI: "Tornado Red", "Pure White" and "Deep Black Pearl Effect", and the roof of the red or white GTI Clubsport S is also painted black. No matter where in the world this car makes an appearance, it will always be a two-door manual transmission to keep its weight down. In comparison to the two-door Golf GTI Clubsport with a manual gearbox, the net weight of the "S" was reduced significantly as follows:

Weight-to-power ratio of 4.15 kg/PS. The Golf GTI Clubsport S, which produces 380 Nm at between 1,700 and 5,300 rpm is a two-seater. Doing away with the rear seats, including the central armrest, for example, accounts for the most noticeable weight saving. A smaller battery, as well as doing without details such as the acoustic insulating material, the variable luggage compartment floor, the rear parcel shelf, the floor mats and the bonnet damping pushed the weight down yet further. An aluminium subframe on the front axle and aluminium brake bells resulted in further weight savings. The

235/35 ZR Michelin tyres mounted on 19-inch “Pretoria” alloy wheels, which are so important for performance, the equally essential DCC, as well as a strut brace, a partition net behind the seats and a carpet in the rear, on the other hand, added weight, leaving a total weight reduction of approx. 30 kg, in comparison to a similarly equipped Golf GTI Clubsport, and thus a low DIN unladen weight of just 1,285 kg (EU unladen weight, incl. driver and luggage: 1,360 kg). At 310 PS this thus results in a dynamic weight-to-power ratio of 4.15 kg/PS. Less weight also means greater efficiency: 7.4 l/100 km (equating to 172 g/km CO_2).

Engine specifications. The development team exploited synergies between motorsport and production vehicles in enhancing the engine performance, as they could draw on their experience with the 243 kW/330 PS/410 Nm Golf GTI TCR – the new racing car for the TCR International Series. This also gave them the opportunity to boost the engine to a permanent 310 PS and 380 Nm and at the same time include the race set-up of the Golf GTI TCR from the Touring Car Championship. In detail, the engineers achieved this boost in performance by adaptation of the engine control unit and the use of a new exhaust system, with a diameter ahead of the exhaust tailpipes of 65 instead of 55 mm, thus reducing the exhaust backpressure and increasing the performance. A side effect of the modifications was that the exhaust system produces a wonderful and deliberate ‘backfire’ when decelerating! This is particularly true for the Race driving profile (along with extra features such as higher engine speed etc.), in which the Golf GTI Clubsport S is tuned to have maximum performance and extremely agile responsiveness, just like the Nürburgring setting. In the course of the modifications the engineers also integrated a new fuel pump with increased throughput. The engine of the front-wheel drive Golf GTI Clubsport S is technically based on the 1,984 cc TSI engine that also powers the other versions of the Golf GTI and the Golf R. This is a third generation EA888 engine, and it boasts technical refinements

such as a water-cooled exhaust channel to the turbocharger that is integrated in the cylinder head and variable valve timing with dual camshaft adjustment.

Exterior specifications. The other specifications of the most exclusive Golf GTI include the following exterior details: semi-slicks (Michelin Sport Cup 2) mounted on 19-inch "Pretoria" alloy wheels, tinted rear windows (65 per cent light-absorbing), "Clubsport S" type plates, the black painted roof (also for the red and white model) as well as Xenon headlights with cornering lights and LED daytime running lights. The 17-inch brake system was also modified and is particularly stable on racing circuits, to withstand the high temperatures of the brake components. The brake bells are made of aluminium; the friction ring made of cast steel is connected to these aluminium brake bells by cast locating pins and are thus able to expand radially when they heat up. Further advantages of the new brake discs include well controlled dosage of braking force as well as stability. An important factor for the car's dynamic handling is that the unsprung mass of each wheel is a whole kilogram lower thanks to the aluminium brake bells. To further improve the hot braking performance, the Golf GTI Clubsport S also leaves the factory with special brake pads on the front and rear axles.

Interior specifications. Each of the 400 Golf GTI Clubsport S cars made will have its production number (001/400 to 400/400) on the centre console in the front. The driver and the front seat passenger sit in racing bucket seats that provide the necessary lateral support while flying over the Nordschleife. Also on board are the GTI insignia featured in the "normal" Golf GTI Clubsport, including the iconic golf ball gear knob with Alcantara trim, a red line in the safety belts, "Honeycomb 40" design decals (dashboard and doors) as well as elegant accents in Piano Black. Ergonomically designed for optimal performance on the racetrack, the extremely grippy Alcantara-trimmed sport steering wheel (with a chrome GTI emblem, red

stitching and 12-o'clock mark) as well as stainless steel door sill plates with red GTI lettering.

From GTI Performance to the GTI Clubsport S. The idea for the Golf GTI Clubsport S originated when the team responsible for the "normal" GTI at Volkswagen tested the final version of the current Golf GTI Performance on the racetrack. "It was obvious to all of us that this GTI had immense potential", recalls Karsten Schebsdat, Head of Chassis Tuning, "so we decided to get the most performance possible out of this car. A small team went through the entire process, from bottom to top, pretty much like it was back when the first Golf GTI came into being." In addition to the weight reduction and the improvement in performance already described above, two factors are of fundamental importance when it comes to designing a really fast car: optimal aerodynamics and an outstanding chassis, both of which are characteristics of the new Golf GTI Clubsport S.

Aerodynamics. When it comes to aerodynamics and the associated downforce values, Volkswagen was able to draw on the modifications already implemented in the Golf GTI Clubsport. Both versions – the "Clubsport" and the "Clubsport S" – are characterised by completely new front bumpers. The new design offers improvements in air supply to the engine, aerodynamics and downforce at the front. At the rear, the roof-edge spoiler that was aerodynamically perfected in the wind tunnel, and is significantly larger on the Clubsport versions than its counterpart on the Golf GTI and Golf GTI Performance, results in significantly optimised aerodynamics. There is a narrow air gap between the roof area, that is completely black, and the wing-like spoiler placed above it. The two-part roof edge spoiler extends upward above the roof line. At the sides, the spoiler merges into the black flaps on the boot lid. Multi-part spoilers of this type are complex components that perfectly fulfil the aerodynamic tasks assigned to them: to significantly increase downforce on the rear axle. A black rear diffuser is also included in this design and aerodynamics

concept. To fine-tune the Clubsport versions to give them extra stability, the aerodynamics measures generate more downforce on the rear axle than on the front axle. This boost in driving stability, especially on the rear axle, is used to fine-tune the chassis to make for a smoother ride. In the case of the Golf GTI Clubsport S this means that the understeer so typical of front-wheel-drive cars is practically eliminated.

Chassis. The new Golf GTI Clubsport S has a special sport chassis. The chassis experts also reconfigured both of the axles of the Golf GTI Clubsport S. Take, for example, the rear axle: the modular performance axle has been given extra potential for directional control in order to achieve higher lateral accelerations. But without altering the McPherson front axle this would result in greater understeer. As Karsten Schebsdat, the chassis expert, explains: “To neutralise the understeer and at the same time boost grip levels, we counteracted understeer on the front axle and specially designed the hub carriers”, resulting in higher camber angles. The negative camber increases the potential for directional control, thus optimising the grip on the front axle. The Clubsport S is characterised by similarly good balance to the “normal” Clubsport, even at higher levels of lateral acceleration, allowing even higher cornering speeds. Braking performance was also perfected, in particular to prevent the rear-end from breaking away, especially when braking into very fast corners. Combined with the aerodynamics measures, this results in the driver being able to brake into bends with the Golf GTI Clubsport S in a controlled way, without losing driving stability, resulting in extremely good driveability up to the limits and a lap time around the Nordschleife of just 07:49:21.

Traction control: Even at full acceleration the car has yet better traction due to the modified chassis tuning and the semi-slicks. Volkswagen was also able to fine-tune the ESC software on this basis: even though the traction control intervenes later in the Golf GTI Clubsport S and the torque is reduced less, when it does intervene, the "wheel hop" of the

front wheels, typical of powerful front-wheel drive cars at maximum acceleration, is practically eliminated. This noticeable effect is similar to that of Launch Control in automatic cars. The acceleration boost is perfected by harder engine mounts, a new pendulum support (a coupling rod between the transmission and front axle) as well as a reinforced transmission. Other important elements include the XDS+ vehicle dynamics function and the front differential lock, which also comes as standard.

- **Front differential lock.** Compared to purely mechanical locks, the front differential lock integrated in the Golf GTI Clubsport and the Golf GTI Clubsport S has a variable degree of locking and comprehensively integrates with the functions of ESC, EDS and XDS+. This makes it possible to completely avoid negative effects on steering precision that would otherwise occur with mechanical locks.
- **ESC Sport.** As is the case for the other GTI versions, Volkswagen also offers the 'ESC Sport' function for very experienced drivers. In the Golf GTI Clubsport S. The system is activated by a two-stage switch on the centre console. When the driver presses this switch briefly, Electronic Stability Control (ESC) switches to the 'ESC Sport' mode. In very fast driving with lots of bends – such as on the Nordschleife – ESC responds later and thereby enables even more agile handling characteristics. If the driver pushes the switch for more than three seconds, the ESC system is completely deactivated. Now the GTI can be driven to the limit at the driver's own discretion, without any regulating interventions. As an alternative to operation via the push-button switch on the centre console, the ESC can also be activated or deactivated in the settings on the car menu.

Nürburgring Nordschleife setting. Most racetracks in the world have hardly any major bumps or height differences. Not so on the Nordschleife of the Nürburgring, where there are

plenty of both, and innumerable curves on top of that. The result of this is a unique combination of sections with lateral dynamics and vertical dynamics. So a car tuned to drive on the Nürburgring needs, on the one hand, to be able to take bends at high speed, while at the same time being able to cope with extreme bumps and height differences. In other words: if a car is fine-tuned for driving on normal racetracks, then the chassis is normally made pretty hard, but this isn't helpful on the Nordschleife. Rather, the suspension needs to absorb the bumps so that the wheels are guided perfectly ahead on the track, meaning that the car needs to be fairly soft vertically, but at the same time stiff when it comes to lateral dynamics. This is exactly what the Volkswagen engineers managed to take into account when fine tuning the spring/damper tuning – in particular when it came to the damper tuning of the dynamic chassis control DCC. The system makes it possible to regulate the damping optimally in response to driving conditions, and it is this regulation that has been specifically fine-tuned for the Nordschleife in the Golf GTI Clubsport S Individual driving profile.

40 years of the Golf GTI – a retrospective

Golf GTI / 1976. In 1974, six men forge the secret plan to develop a 'Sports Golf'. They carry the project through to the end. On what day of 1976 the first full-production GTI was built can now no longer be precisely identified. The fact is, however, that with its 110 PS and 182 km/h top speed it stirred up both the world of compact cars and that of luxury sports cars and saloons as well. 1983 sees the debut of the first special edition, the 112-PS 'Pirelli GTI'.

Mk2 Golf GTI / 1984. A strategic stroke of genius follows one year later with the Mk2 Golf GTI. Still with 112 PS, it continues the conceptual course of the first generation. With identical GTI insignia. A newcomer had thus become a classic. An icon. As a result of the introduction of the catalytic converter, the power

output briefly goes down to 107 PS in 1984. Two years later, Volkswagen compensates for the reduced power with a new 16V-engine, which delivers 129 PS even with a catalytic converter and matches the agility of the original GTI (139 PS, no catalytic converter). In 1990, a 'G-Lader' supercharger in the Golf GTI G60 increases power output to 160 PS.

Mk3 Golf GTI / 1991. In 1991, Volkswagen transfers the GTI insignia to the third generation. This begins with 115 PS. A year later, the power output goes up with a new four-valve engine to 150 PS. In 1996, a turbodiesel version (TDI) delivering 110 PS enriches the GTI concept. Some years later, the petrol and diesel versions ultimately split into GTI and GTD. 1996 also sees the launch of the '20 Years of GTI' anniversary model.

Mk4 Golf GTI / 1998. The fourth GTI generation, introduced in 1998, is very restrained in appearance. Technically, however, the 150-PS Mk4 Golf GTI is a car that keeps the competition at bay with its agility and quality. The four- and (in one case) five-cylinder petrol engines deliver up to 170 PS, while the diesels manage 150 PS. In 2001, the 180-PS special '25 Years of GTI' turbo model heralds a renaissance of the sporty icon.

Mk5 Golf GTI / 2004. With the debut of the fifth generation, the Golf GTI 2004 celebrates a grand comeback. With a much sharper look, a 200-PS turbo engine and superb driving characteristics, it catapults the GTI concept into the future. In 2006, to mark the cult car's 30th birthday, Volkswagen gives its fans the 230-PS '30 Years of GTI' model. Identically powered, the reincarnation of the 'Pirelli GTI' is then launched in 2007.

Mk6 Golf GTI / 2009. With the sixth generation there follows in 2009 a Golf GTI that redefines the subject of traction with an electronic transverse differential lock (XDS). A now 210-PS GTI that is even more fun! A GTI that with a redesigned exhaust system creates a dynamic sound as well. For the first time it is also available as a soft top. This generation's crowning glory comes onto the market in 2011 for the 35th birthday: the 'Golf GTI Edition 35' with 235 PS.

Mk7 Golf GTI / 2012. The seventh generation of the GTI launches in 2012 with two levels of power output: 162 kW/220 PS from the base version and 169 kW/230 PS from the Golf GTI Performance, the latter being equipped with a new front-axle differential lock. Based on this model there then follows in early 2016 the Golf GTI Clubsport, delivering via a boost function up to 213 kW/290 PS. It blurs the boundaries with motorsport – and the Golf GTI Clubsport S being unveiled on the shores of Lake Wörthersee has now broken them down completely.