



Porsche GT3 R Hybrid



Porsche are taking their first step into a new age of motor racing with the GT3 R Hybrid. With the FIA undoubtedly moving to incorporate more hybrid and green technology into International racing there will undoubtedly be more to come from the Worlds leading performance and race car manufacturers. Ferrari are also known to be working on a hybrid version of the 599 Fiorano.

While KERS may not have been an unqualified success in Formula One it has at least helped with the development of this new race car. Porsche have brought in Williams technology for their first foray into this new style of powertrain utilising a modified version of their regenerative power solution. The system utilises a 60 kw motor on each of the front wheels. These motors supplement the 480 hp flat six of the GT3 R on which this car is based. That boost can last for 6-8 seconds under driver control and in effect is more like a Nitrous Oxide boost than any common

battery powered hybrid solution.

While the Williams F1 system was used to add a power boost via the gearbox, Porsche have transferred the power directly to the two supplemental motors. These motors also act as a regenerative power supply under braking. At the heart of the system though is an electrically driven flywheel that sits where the passenger seat would normally be. The flywheel can spin at up to 40,000 rpm and is made of a composite material infused with magnetic particles that acts as the permanent magnet for the motor. This new material also works essentially as an ultracapacitor, and while as such energy can only be stored for a short period of time it does provide a significant advantage over a normal battery hybrid solution by keeping the weight significantly down.

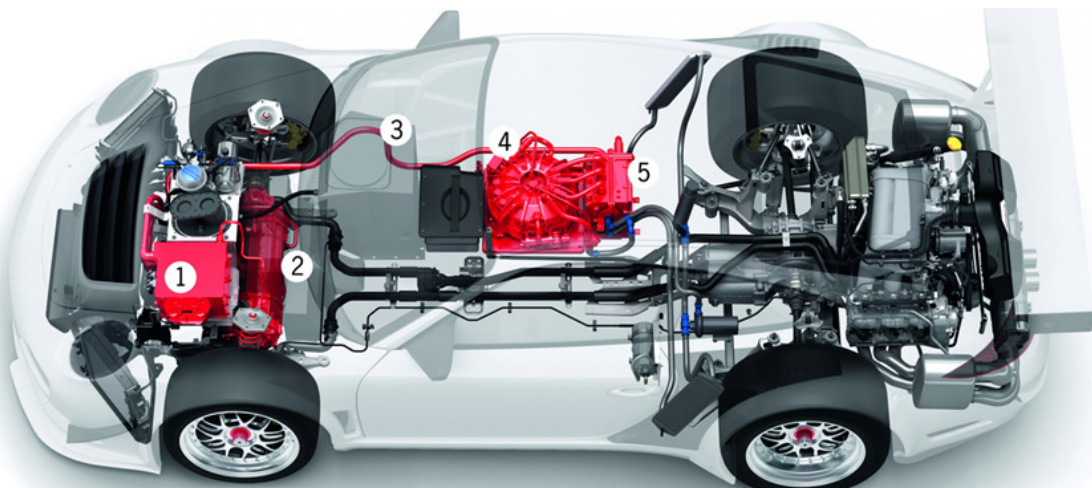
Porsche have not released performance figures to date and we will have to wait until May 15th and 16th when it will

Porsche 911 GT3 R Hybrid

- 3.996 liter / 243.9 cu in
- 480 bhp / 358 KW plus
- 2 x 60 kw electric motors
- 6-8 boost energy stored in flywheel, motor, generator
- 6 speed Sequential
- Naturally Aspirated

be entered in the 24 Hours of Nürburgring to get a complete picture of its overall performance. The system not only has the added short burst of power up to a total of 640 hp but also should be able to provide some advantages in fuel economy. Porsche have said they don't expect to win any races soon with the new power solution, they see this rather as a "rolling laboratory".

Rod Halligan





Porsche 911 GT3 R Hybrid

Launched 2010 Geneva Motor Show

ENGINE

Configuration Flat 6 boxer
2 x 60 kW motors on front wheels

Layout Rear

Induction Natural

Valvetrain DOHC, 4 Valves

Fuel feed Bosch Direct Fuel Injection

Displacement 3.996 liter 243.9 cu in

Power 480 bhp 358 kW

Power (motors) 120 bhp 160 kW 8sec

BODY

Aluminium and Carbon Fibre panels over Unitary Steel body

Length 4460 mm (175.6 in)

Width not stated

Height 1280 mm (50.4 in)

Wheelbase 2359.7 mm (92.9 in)

DRIVE

Rear Wheel Drive
All wheel drive with electric motors in use

Based on 2010 Porsche GT3 R