



Ferrari 599 HY-KERS



Ferrari have made Green the new Red for the 2010 Geneva Motor Show and performance green was the name of the game at the show. With Porsche and Lotus also showing off hy-performance hybrids the dread that surrounded the greening of the SuperCar sector with the introduction of electrics to the power mix can be safely put to bed. These are exciting cars.

Whereas many people were in fear that hybrid technologies would see performance compromise in the name of "efficiency" the truth of where the exotic car builders are going is far more exciting. Traditionally we have seen Nitrous, Turbos and Superchargers as the extra power injectors, now have to start thinking of capacitors, batteries and motors. Nitrous is dead for the new age Hot Rodders, Lx is here to stay and itself will be combined with induction and exhaust chargers for internal combustion power in an explosion of technology that will make the shrinking of mobile telephone batteries look like it took forever.

Ferrari's first toe-in the water of the Hybrid pool comes in the form of the 599 HY-KERS, a road going version of their Kinetic Energy Recovery System - or regenerative braking system used in the past seasons F1 car. The HY-KERS system sees a 40kg electric motor and generator fitted in line with the seven-speed dual-clutch transmission and mounted below the car's center of

gravity. This motor cuts in during acceleration and provides over 100 additional hp plus instant torque from standstill and during overtaking. Under braking the electric drive unit acts as a generator, using the kinetic energy generated to recharge the batteries. The torque delivery is controlled automatically via the onboard computer using grip, gear selection and accelerator pedal angle to dictate requirements. The system can also function as a full-electric drivetrain for around town driving.

The electric motor features a unique cooling and lubrication system to provide efficiency under all operating temperatures and loads. The castings for the motor are made in the Ferrari foundry and are complete with Prancing Horse logo. The system weighs just 40 kg, which is partially offset by the fact that the starter motor and conventional battery become redundant.

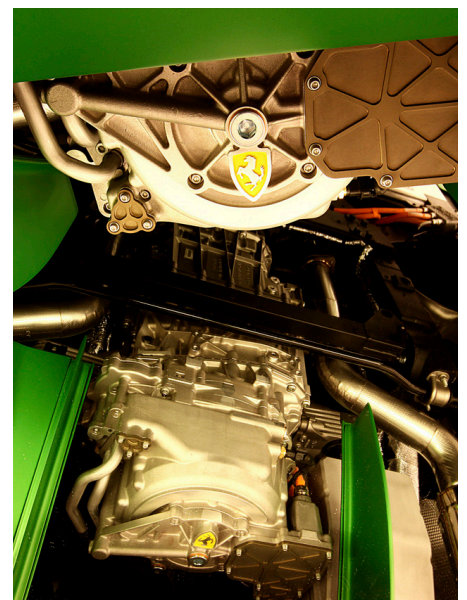
A paramount objective for Ferrari was to maintain the balance, handling and performance characteristics of the impressive 599GTB. This was achieved by positioning all the components of the HY-KERS system below the centre of gravity, the flat lithium-ion batteries are positioned below the floorpan of the car inside the aerodynamic underbody. In fact the CoG has actually been lowered from the standard car.

Also interior and luggage space has been unaffected.

Rod Halligan

Ferrari 599 HY-KERS

- 599 with Kinetic Energy Recovery System
- 100 hp Lx Motor mounted to 7 speed transmission
- Lx only capable
- Torque available for increased acceleration





Ferrari 599 HY-KERS

Year 2010
Production 1 - rolling test bed

ENGINE

Configuration 60° V12
Layout Front-mid Longitudinal - plus in-line Lx Motor
Induction Natural
Valvetrain DOHC, 4 Valves
Fuel feed Direct Fuel Injection
Displacement 5999 cc

Power 620 hp @ 7600 rpm
 plus 100 hp Lx Motor
Torque 448 lb-ft @ 5800rpm

BODY

Aluminum body over Aluminum chassis

Weight 3722 lb dry
Length 183.7 in
Width 77.2 in
Height 52.6 in

Wheelbase 108.3 in
Front track 66.5 in
Rear track 63.7 in

DRIVE

Rear Wheel Drive
Transmission 7-speed transaxle with inline motor, paddle shift - F1-Trac stability and traction control

SUSPENSION

Front Double Wishbones - magnetorheological dampers.
Rear Double Wishbones magnetorheological dampers.

WHEELS / TYRES / BRAKES

3 piece 20" modular forged spoke wheels

Front tyres 245/40 ZR 20
Rear tyres 305/35 ZR 20

Front brakes 15.7 inch carbon ceramic with 6 pistons calipers
Rear brakes 14.2 inch carbon ceramic with 6 pistons calipers

Steering Rack & Pinion w/Power Assist

PERFORMANCE

Top speed 205 mph
0 - 100 kph 3.7 seconds