



BP-Ford debuts new Focus RS World Rally Car in Finland

Warwick (UK), 19th of July 2007 - Reigning FIA World Rally champion BP-Ford will strengthen its challenge for the 2007 manufacturers' and drivers' titles when the latest specification Focus RS World Rally Car makes its debut in Finland next month. The Focus RS WRC 07 features improvements in several key areas and will be piloted by Marcus Grönholm and Timo Rautiainen and team-mates Mikko Hirvonen and Jarmo Lehtinen on all eight remaining rounds of the 2007 championship.

Four victories on the opening eight rounds of the series have enabled BP-Ford World Rally Team to build a 28-point lead in the manufacturers' series in the quest to retain its 2006 title. Grönholm is nine points clear in the drivers' standings.

The new car is an evolution of the hugely successful 2006 version with development principally concentrating on the engine, bodysell and weight saving. The work has been led by Christian Loriaux, the team's innovative technical director based at M-Sport – the British-based company which handles the day-to-day operations of the team in partnership with Ford.

The car has been tested by both drivers in Italy, Spain and Finland in advance of its debut on Rally Finland (2 - 5 August), round nine of the 2007 championship.

"The opening half of the season has been successful for us," said Jost Capito, director of Ford TeamRS and responsible for the Blue Oval's European motorsport programmes. "The 2006 car won 12 of the 25 rallies it started, which is a remarkable strike rate, and one that we would like to emulate with the new car during the second part of the season.

"We're confident that the 2007 Focus RS WRC will bring improvements in several key areas. The regulations mean it is impossible to find huge leaps forward when our car is already so technologically advanced. But any performance improvements are always a welcome boost and I believe that Christian and his team have introduced developments that will strengthen our challenge during the final eight rallies of the championship," he added.

BP-Ford team director Malcolm Wilson said both drivers were pleased with the upgrades. "Both Marcus and Mikko have completed plenty of kilometres in testing and they are encouraged. Our designers and engineers have worked extremely hard behind the scenes and they are pleased with the car. There are few visible modifications on the outside but it is underneath the skin where most of the changes are found and I'm looking forward to seeing the rewards in Finland and beyond," he said.

"It is important not to think of the Focus RS WRC 07 as a new car in the same way that the 2003 or 2006 models were," added Loriaux. "This is an evolution of the car that won the 2006 manufacturers' world title and which has taken BP-Ford into such a strong position in the 2007 championship. Much of our thinking has concentrated on weight, and the modifications we have introduced save almost 20kg. This allows us to position ballast in the areas where we want to distribute the weight to maximise the handling and balance of the car.



The Ford Focus RS WRC 07: new technology in detail

In developing the Ford Focus RS WRC 07, BP-Ford World Rally Team's technical director Christian Loriaux and his team did not seek to take huge steps forward because such leaps are impossible under the regulations. Instead they concentrated on making minor, but significant, developments in several areas. Here are the key technical changes along with Loriaux's thoughts on the improvements that he and his team of engineers developed:

Engine

Although the Focus ST model on which the World Rally Car is based uses a 2.5-litre, five-cylinder engine, rallying rules do not permit an engine of that size. However, the regulations do allow teams to use another engine from elsewhere in the Ford Focus model range, so when designing the 2006-specification car M-Sport opted for the 2.0-litre Duratec unit, with the addition of a turbocharger and the mandatory 34mm inlet restrictor. That engine, which has an all-alloy block, remains in the 2007 car. "The changes on the new car are mainly to save weight and to improve efficiency, driveability and performance at the bottom end of the range," said Loriaux. It has a lighter flywheel while further machining of the engine block has removed unnecessary parts and weight has also been saved by lightening some internal parts of the engine. The car also contains a new exhaust manifold, the former two-piece system replaced by a single-piece unit.

Suspension

The Focus RS WRC 07's suspension is virtually identical to that of the 2006 car. It continues to use Reiger dampers and the only change is a small weight reduction on various components.

Bodyshell

The bodyshell displays visible changes at both the front and the rear. The rear wing has been modified to improve the car's aerodynamic efficiency. "It's a new wing and although it is not radically different from the 2006 car, it should reduce drag," said Loriaux. At the front, the car sports a new bumper which has been raised to improve ground clearance. "The previous bumper was too low, mainly because when we designed the previous car we didn't have enough time to test alternatives before homologation. As a result gravel was often scooped up onto the bonnet and windscreen which was irritating for the drivers. By raising the height we should eliminate this and also reduce the amount of damage we've suffered to the bumper," he added. The other visible change is that the side exits to the front bumper for cooling are now vertical instead of horizontal. The shell has also been modified slightly to increase the protection offered to the co-driver. "We've made a small change so that we can use a seat with safety ears for the co-driver. It adds a further degree of safety which has always had the highest priority in our design," explained Loriaux.



Transmission

The Ford Focus RS WRC 06 featured considerable changes to its gearbox from the previous model, not only in specification but also in layout. The original Focus WRC (introduced in 1999) mated a longitudinal gearbox to a transverse engine, an engineering feat in itself. But for the 06 car Loriaux used a transverse gearbox along with the transverse engine. He has made no alterations to that but has still achieved a weight reduction in the gearbox and more development is planned. "We're working on trying to improve the gearchange speed. We have homologated new parts but have not done sufficient work to introduce them onto the car yet. That is for the future," said Loriaux.

Weight distribution

Loriaux is renowned for his innovative design approach to lowering the centre of gravity in rally machinery. Many of the trends seen on today's cars, such as the crew sitting particularly low in the cabin, can be attributed to his earlier designs. Having set new trends on the 06 car, Loriaux has continued to concentrate on saving weight and no element of the car has escaped intense scrutiny in this area. Weight has been saved in the engine, suspension and transmission. "The engine is about 5kg lighter, which is a figure I'm really happy with. It's a lot to save," he explained. "It's another 5kg that we can transfer to another area of the car to improve its balance and handling." Savings have also been made by redesigning the pedal box, the hydraulic jack and even the wheel brace.



Ford Focus RS World Rally Car 07 technical specification

Engine:	Ford 1998cc Pipo built I4 Duratec WRC engine. Four cylinders, 16 valves. Bore 85mm. Stroke 88mm. Pi electronic engine management system. Garrett turbocharger (with FIA required 34 mm inlet restrictor). Air intercooler. Catalytic converter.
Power:	300 bhp at 6000 rpm
Torque:	550 Nm at 4000 rpm
Transmission:	Permanent four-wheel drive with M-Sport designed active centre differential. Pi electronic differential control units. M-Sport / Ricardo five speed sequential gearbox with electro-hydraulically controlled shift. M-Sport / Sachs multi disc carbon clutch.
Suspension:	Front and rear: MacPherson struts (front) and Trailing-Arm (rear) with Reiger external reservoir dampers, adjustable in bump and rebound. Fully adjustable fabricated steel links. Front and rear anti-roll bars. Cast steel uprights. Ceramic wheel bearings.
Brakes:	Gravel (front and rear): 300mm Brembo ventilated discs with Brembo four piston monoblock calipers. Asphalt (front and rear): 370mm Brembo ventilated discs with Brembo eight-piston monoblock calipers. Hydraulic handbrake; Adjustable front / rear bias.
Steering:	Power-assisted high-ratio (12:1) rack and pinion. One and a half turns lock to lock.
Wheels:	Gravel: 7in x 15in (magnesium) wheels with BF Goodrich 650mm tyres. Asphalt: 8in x 18in (magnesium) wheels with BF Goodrich 650mm tyres.
Bodyshell:	Unitary construction. Unique composite side panels. Welded T45 steel safety roll cage. Aerodynamic rear wing. Unique front 'bumper' treatment.



| PRESS INFORMATION

- Electronics:** Full Pi chassis and engine data acquisition for on-event diagnostics and performance development.
- Fuel tank:** FIA FT3 tank, 94 litre capacity, located centrally.
- Dimensions:** Length: 4362mm. Width: 1800mm. Wheelbase: 2640mm.
Weight: 1230kg minimum.

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Photographs are available on www.fordpress.be

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