NEWS RELEASE

FORD FIESTA RS WORLD RALLY CAR SET TO RECEIVE GREEN LIGHT FOR WORLD CHAMPIONSHIP DEBUT

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COLOGNE, 31 January 2011 – Ford's all-new Fiesta RS World Rally Car is set to receive final clearance for its FIA World Rally Championship debut this week when motorsport's governing body gives it the seal of approval to compete in Rally Sweden next month.

The Fédération Internationale de l'Automobile (FIA) is ready to approve homologation of Ford's challenger for the 2011 championship after the car successfully cleared tough technical inspections to ensure it complies with the sport's new cost-effective regulations.

This means that Ford Abu Dhabi World Rally Team drivers Mikko Hirvonen and Jarmo Lehtinen and team-mates Jari-Matti Latvala and Miikka Anttila will put the Fiesta RS WRC through its paces for the first time in the WRC when the 13-round season begins in Sweden (10 February).

"We worked closely with the FIA throughout the development of the car to ensure our understanding of the regulations was aligned with that of the governing body," said Ford of Europe's motorsport chief, Gerard Quinn. "We expect the paperwork to be finalised this week, and everyone involved with the programme is looking forward to an exciting season ahead, with the action beginning over Sweden's frozen roads in 10 days."

Ford's road technology powers Fiesta RS WRC

Ford's four-wheel drive WRC challenger is derived from the best-selling Fiesta road car. It was developed from the 2010 Monte Carlo Rally-winning Fiesta S2000 rally car by the

Blue Oval's long-term British-based partner M-Sport, with support from Ford of Europe. It forms part of a new era in the World Rally Championship, for which a revised cost-effective formula is introduced this season.

The WRC is acknowledged as the toughest form of motorsport for production-based cars, which battle for world titles in such diverse and demanding conditions as the barren, frozen countryside of Sweden and sweltering temperatures and boulder-strewn roads of Greece.

M-Sport, together with Ford's engineering team, undertook a varied and structured development programme with the Fiesta RS WRC in readiness for the 2011 season. Work will continue, with the car shortly due to be taken to the Environmental Testing Laboratory at Ford's Dunton Technical Centre in the UK to evaluate and optimise engine performance.

Ford Abu Dhabi technical director Christian Loriaux said the team had not compromised on anything. "We obtained plenty of data from the standard Fiesta road car, and the S2000 which competed in the S-WRC and other championships last year. We re-evaluated every area and if we thought certain areas could be improved, we went ahead and did so," he said.

"Apart from the roll cage and chassis there aren't too many parts that the Fiesta RS WRC shares with the S2000. Plenty of parts may look similar, but they have been modified to be lighter, stiffer or whatever we felt would bring an improvement," added Loriaux.

Ford of Europe's design team played a key role in the look of the Fiesta RS WRC. Its input ensured that the car visually reflects the successful 'kinetic design' styling cues synonymous with Ford's line-up on the road.

"Together with Ford of Europe's design team, we carried out a full restyling of the car to incorporate as many aspects as we could of Ford's kinetic design styling cues that are an integral part of the company's road vehicles. There are some necessary modifications for aerodynamic reasons, but both Ford and M-Sport are delighted with the car's appearance," said Loriaux.

1.6-litre Ford EcoBoost technology

The 1.6-litre turbocharged direct injection engine that powers the rally car draws on the knowledge of Ford's advanced EcoBoost technology, used in its latest production cars.

Quinn said: "Ford's EcoBoost road engine represents a new generation of downsized, high-efficiency, petrol engines. Developed by Ford engineers in Europe, the four-cylinder EcoBoost production unit combines high-pressure direct injection, advanced turbocharging and twin variable valve timing to maximise combustion efficiency. Different displacements are already available in Ford road vehicles around the globe.

"The knowledge accumulated during the design of the EcoBoost road engine proved invaluable during development of the rally car unit. Technology transfer usually switches from rally cars to road vehicles, but in this situation we're delighted it has taken the opposite route," he added.

Engine tuner Pipo Moteurs took responsibility for the development of the Fiesta RS WRC's power plant. The French company, which has developed a strong relationship with M-Sport and Ford in motorsport in recent years, worked closely with engineers from both companies throughout the process of developing the competition unit.

Ford provided key support in this task via its global engineering facilities, including its Powertrain Research and Innovation Centre in the United States, its Engine Research Centre at Dunton in the UK and its Research & Advanced Engineering Centre in Aachen, Germany, to evaluate performance.

The most challenging task was to implement direct injection technology, which is relatively new in motorsport, and Loriaux admitted the engine development was a huge task. "It was a massive undertaking. Direct injection was a complex beast and it was the first time many of us in the team had the opportunity to work with forced injection in a competition engine. The engine was the biggest challenge of the whole project," he said.

Under the skin of the Fiesta RS WRC

The Fiesta RS WRC's 1.6-litre EcoBoost power unit has turbocharging from a Garrett system, which is fitted with a 33mm inlet restrictor, as required by FIA regulations. The

unit is managed by Cosworth's electronic engine system. Cosworth also provides chassis data acquisition.

The four-wheel drive transmission contains mechanical front and rear differentials, with a clutch disconnect system fitted to the handbrake. The M-Sport / X-Trac-built six-speed sequential gearbox is operated by a mechanical shift, using a twin disc clutch built by M-Sport and AP Racing.

Both front and rear suspension comprises MacPherson struts with Reiger external reservoir dampers, which are adjustable in bump and rebound. It contains fully adjustable steel links and the uprights are made from machined aluminium.

Brembo ventilated brake discs with four-piston monoblock calipers provide the stopping power on both loose and sealed surface roads, with the braking system adjustable to provide either front or rear bias.

Michelin's 650mm tyres will be used on all surfaces, allied with 7in x 15in aluminium wheels for gravel and snow and 8in x 18in wheels for asphalt.

Fiesta RS WRC racks up testing kilometres

The Fiesta RS WRC has covered more than 11,000 kilometres of testing on gravel, asphalt, snow and ice in preparation for its WRC debut – the equivalent of more than two full seasons of WRC competition.

The team began by installing a 2.0-litre engine from a 2010 Focus RS WRC into the Fiesta S2000 rally car in March last year.

Testing was stepped up significantly in August when a 1.6-litre prototype engine (without direct injection) was installed for the first time. Since then the car has been trialled on gravel roads in Britain, Portugal, France and Spain and on asphalt in Britain, France and Spain. Snow and ice tests have taken place in Sweden.

"We're encouraged by both the car's performance and its reliability over thousands of

kilometres of testing, and we're confident we can transfer that into competition. But the true test will come during the opening round in Sweden next week," said Ford Abu Dhabi team director Malcolm Wilson.

"It was a challenging test programme. Matching the car to the tyres of our new supplier, Michelin, was a demanding process. We've made excellent progress but I believe Mikko and Jari-Matti will learn more about the way the tyres behave as we encounter new conditions on different rallies," added Wilson.

FORD FIESTA RS WORLD RALLY CAR TECHNICAL SPECIFICATION

Engine: Ford EcoBoost 1600cc direct injection engine developed by Ford, M-Sport and Pipo Moteurs. Four cylinders, 16 valves. Bore 83.0mm. Stroke 73.9mm. Cosworth electronic engine management system. Garrett turbocharger (with FIA required 33 mm inlet restrictor). Air intercooler. Catalytic converter.

Power: 300 bhp at 6000 rpm

Torque: 450 Nm at 4000 rpm

Transmission: Permanent four-wheel drive. Mechanical front and rear differentials and a clutch disconnect fitted to handbrake. M-Sport / X-Trac six-speed sequential gearbox with mechanical shift. M-Sport / AP Racing twin disc clutch.

Suspension: Front and rear: MacPherson struts with Reiger external reservoir dampers, adjustable in bump and rebound. Fully adjustable fabricated steel links. Front and rear anti-roll bars. Machined aluminium uprights.

Brakes: ***Gravel (front and rear):*** 300mm Brembo ventilated discs with Brembo four- piston monoblock calipers.

Asphalt (front and rear): 355mm (maximum) Brembo ventilated discs with Brembo four-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 / Snow:*** 7in x 15in (aluminium) wheels with Michelin 650mm tyres. ***Asphalt:*** 8in x 18in (aluminium) wheels with Michelin 650mm tyres.
Bodyshell:	Unitary construction. Unique composite side panels. Welded T45 steel safety roll cage. Aerodynamic rear wing. Unique front 'bumper' treatment.
Electronics:	Full Cosworth chassis and engine data acquisition for on-event diagnostics and performance development.
Fuel tank:	FIA FT3.5 tank, 80 litre capacity, located centrally.
Dimensions:	Length: 3963mm. Width: 1820mm. Wheelbase: 2480mm. Weight: 1200kg minimum.

CHRISTIAN LORIAUX – THE MAN BEHIND THE FORD FIESTA RS WRC

COLOGNE, 31 January 2011 *– Ford Abu Dhabi World Rally Team technical director Christian Loriaux headed the team which developed the all-new Fiesta RS World Rally Car. Here the 44-year-old Belgian talks about some of the key issues surrounding the development of Ford's 2011 WRC challenger.*

Q. Was it simply a matter of developing a new engine to turn the Ford Fiesta S2000 into the Ford Fiesta RS World Rally Car?

A. No. The Fiesta S2000 rally car provided a great base with which our engineers could work, but there was more development to undertake than just the engine. We had to ensure we were happy with the suspension and chassis, as well as developing the transmission. Essentially we had to be confident that the carryover parts from the S2000 would be strong enough to cope with the extra speed and power of a new-generation World Rally Car.

Q. What were the biggest challenges in developing the Fiesta RS WRC?

A. Developing the 1.6-litre Ford EcoBoost engine was a massive undertaking. Working with this engine and direct injection for the first time was complicated – it was a completely new animal for us. Other areas that were big tasks were the transmission, the gear ratios and fitting the cooling package around the engine. The new rules stipulate a 1200kg minimum weight limit and it has been difficult to get down to that figure. We received great support in the entire process from the product engineers at Ford of Europe and many of their suppliers.

Q. Was the development of the engine the biggest challenge of all?

A. Yes. Direct injection is a complex beast and we worked closely with Ford's road vehicle engineers and our engine tuner, Pipo Moteurs, in France, to make the best of their expertise. Because the new regulations demand forced injection for the first time, it was the first occasion that many of us had the opportunity to work with this in a competition engine.

Q. Are the engine regulations for 2011 taking the sport in the right direction?

A. Downsizing was most definitely the correct route to take, from both a manufacturer and a competition perspective. And retaining turbocharged units was also the way forward. These engines require drivers to use more revs and from a spectator's viewpoint they sound faster. Engine noise is an important part of the spectacle and these cars sound better.

Q. How many parts are common to both the S2000 and the RS WRC?

A. We obtained plenty of data from the S2000 which competed in the S-WRC and other championships last year. We re-evaluated every area and if we thought certain areas could be improved, we went ahead and did so. Apart from the roll cage and chassis there aren't too many parts that the Fiesta RS WRC shares with the S2000. Plenty of parts may look similar, but they have been modified to be lighter, stiffer or whatever we felt would bring an improvement.

Q. The Fiesta RS WRC is visibly different to the S2000. Why?

A. Together with Ford of Europe's design team, we carried out a full restyling of the car to incorporate as many aspects as we could of Ford's kinetic design styling cues that are an integral part of the company's road vehicles. There are some necessary compromises for aerodynamic reasons, but both Ford and M-Sport are delighted with the car's appearance.

Q. Is the Fiesta RS WRC more difficult to drive than the Focus RS WRC?

A. The new regulations require 'back to basics' rally cars. In terms of chassis they are similar, but some of the technology we used in the Focus RS WRC has been banned. There is no active central differential, no launch control and no paddle shift gearchange. That demands more driver skills.

Q. So the car rewards the better drivers?

A. Previously at the start of a stage the driver pushed a button that operated the clutch and the launch control. Now it is down to the guy behind the wheel to judge traction, the operation of the clutch and the manual gearchange in order to leave the start. It means they have more to do. That's a good thing because if a driver wants to be world champion then he needs to be capable of moving the car from a standing start without technology doing it for him.

Q. Did the banning of certain items of technology mean less was required of your

team's engineering skills?

A. Not really. When a high-tech piece of kit like the paddle shift gearchange was outlawed, then we turned our attentions and resources to development in other areas where we could use our skills and expertise.

Q. Was it annoying to effectively consign high-tech kit on which you have spent time and money to the rubbish bin?

A. It's a little frustrating not to be able to use technology that we previously developed for the Ford Focus RS WRC. But reduced technology brings down the cost of competition and this has generated interest from new manufacturers, so it was the right decision. The new era of WRC is a compromise between affordability and eliminating waste. High-tech kit will live on in the Focus RS WRC in different levels of rallying but not in WRC. The new Fiesta RS WRC is high-tech and affordable and we have sold several to customers already.

Q. How much testing have you completed with the Fiesta RS WRC?

A. We started by putting the 2.0-lite Focus RS WRC engine into the Fiesta S2000 in March. That was our first Fiesta RS WRC. We didn't do much more testing until August when we installed the 1.6-litre prototype (without direct injection) into the car. Since then we've tested on gravel in Britain, Portugal, France and Spain. We tested in Britain, Spain and France on asphalt and in Sweden on snow and ice. We have covered more than 11,000km in total.

Q. Which drivers have carried out the testing?

A. The early work was done by guys like Henning Solberg, Matthew Wilson, PG Andersson and Andreas Mikkelsen. Even Malcolm Wilson took the wheel briefly! All the recent work, which has concentrated more on perfecting the set-up, was done by Mikko Hirvonen and Jari-Matti Latvala.

Q. Do you believe the Fiesta RS WRC will be fully competitive in the FIA World Rally Championship this season?

A. That's the target every person in the team has set themselves. We believe we have developed a great rally car, but we have no benchmark with which to compare it. Before, we were able to compare new versions of the Focus RS WRC with the previous car.

Because the regulations are new we have nothing like-for-like with which to make a comparison. So we will only know how competitive we are at the end of the first proper stage in Sweden.

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The 2011 Ford Abu Dhabi World Rally Team media kit and copyright-free images of the all-new Ford Fiesta RS WRC are available for download at www.worldrallypics.com/ford

The media kit and copyright-free audio is available for download at http://wrc.fordmedia.eu