**Jaguar partners with Team Sky and Pinarello to engineer new Tour de France racing bike**

**Strictly under embargo until 22:00 CET Wednesday 28th May 2014**

**(Gaydon, May 28, 2014)** Jaguar has deepened its partnership with Team Sky, one of the world’s leading professional road cycling teams, and built a new relationship with Pinarello, the highly regarded Italian bike manufacturer, by helping them develop the team’s latest race bike.

The car maker, renowned for some of the world’s finest luxury saloons and sports cars, has used its advanced aerodynamic knowledge and facilities to help in the creation of the new Pinarello Dogma F8 bicycle, to be raced by Team Sky during the remainder of the 2014 season.

This is the first time Jaguar’s comprehensive technical capability has been used by the team, and marks the beginning of a new collaborative relationship between Jaguar, Team Sky and its family of partners and suppliers, including legendary frame manufacturer Pinarello. Jaguar is now an official ‘innovation partner’ with Team Sky.

The Dogma F8’s first race will be the Critérium du Dauphiné, which starts on June 8. Its major test this year will be on the Tour de France, which starts in Leeds on July 5. Team Sky and Chris Froome are the defending champions. Team Sky also won in 2012, with Sir Bradley Wiggins.

*‘Jaguar has supplied support vehicles to Team Sky since its first season in 2010,’* says Mark Cameron, Global Brand Experience Director for Jaguar Land Rover, *‘Our partnership is based on shared values of performance, innovation and technology. We are delighted to develop the relationship, and become an innovation partner. This should be the first of many opportunities to support Team Sky technologically in the future.’*

Sir Dave Brailsford, Team Principal of Team Sky, fresh from overseeing Sir Bradley Wiggins’ victory in the Tour of California, says access to Jaguar Land Rover’s technical resources would help Team Sky to be even more competitive in future.

*‘Cycling is a very competitive sport where every fraction of a second matters. With the experience and knowledge of Jaguar’s performance engineers, combined with Pinarello’s world class reputation in frame building and Team Sky’s elite level expertise, we have created an excellent bike. Jaguar has utilised their advanced CFD [computational fluid dynamics] facility and skills to help make the Pinarello Dogma 65.1 even better. I’m confident our riders will start the Tour de France on the fastest bike we’ve ever used.’*

Jaguar’s role was to help give Pinarello’s top-end bicycle frame even better aerodynamic performance. Working to fixed ‘hard points’ – such as wheelbase and geometry determined by Pinarello’s designers – Jaguar’s engineers developed the frame to improve the aerodynamics of the tube profiles, and reduced the drag of components mounted to the frame. More than 300 CFD ‘virtual’ runs were done between October and January, using the same methods to optimise the aerodynamics of new Jaguar Land Rover road cars. The drag of every single component was measured, and single modifications could be analysed and compared. Wind tunnel work was then used to verify the CFD tests.

Aero-led changes include aerofoil-shaped tubing optimised within UCI regulations, and a new aero seat post. The Dogma F8’s front forks have been developed to minimise drag and ensure seamless airflow on to the down tube. The rear derailleur wire/cable exits the frame at the back of the drop out, again to reduce turbulence. Three holes on the seat tube allow for a lower position for a second drink bottle, to further reduce drag.

In certain areas, Jaguar accentuated the famous asymmetric design of the Dogma 65.1 to improve aerodynamic performance. The seat mono stay around the rear brake is now asymmetric to guide airflow cleanly around the brake calliper, while using the minimal amount of material. The upper section of the rear chain stay is also heavily asymmetric.

The wind tunnel tests show the new Dogma F8 is 26.1 per cent more aerodynamic (complete bike) than the outgoing Dogma 65.1 and 6.4 per cent more aerodynamic including a rider. The frame set alone is 40% more aerodynamic ally efficient.

*‘Jaguar has very advanced CFD capability and we have a great deal of computational power, so we can turn around a lot of different configurations in high resolution very quickly,’* says Jaguar Land Rover head of aerodynamics Jon Darlington. *‘The skills needed are also fundamentally the same as for a car. We have a talented team with a great depth of aerodynamic knowledge. Applying this level of engineering capability and analysis to the development of a bike probably has not been done before.’*

Pinarello’s priorities, for the new Dogma F8, were to maintain handling, reduce weight, and improve the stiffness and aerodynamics. Handling had to be at least as good as the acclaimed Dogma 65.1. Weight should be reduced (it was – by just over nine per cent) and stiffness further improved (achieved partly thanks to an even better grade of Torayca T11001K carbon fibre from supplier Toray). Aerodynamics had the potential for significant improvement.

*‘Pinarello was very keen to protect their handling, as it’s fundamental to their bike design, and it's one of the areas Team Sky love with the Dogma 65.1,’* says Jon Darlington. *‘So we kept the “hard points” of the frame design and then joined the dots with enhanced tube profiles – using aerodynamic principles and CFD to define the best overall design. We minimised the frontal area of the bike for aerodynamic gain, which also reduced the amount of material used. Combined with the advanced materials used by Pinarello, this resulted in a reduction in weight and an increase in stiffness.’*

*‘I’m a keen cyclist – at an amateur level – so it was really interesting to apply our aerodynamic knowledge to bikes. We loved the short time between testing and production – much faster than for cars – and also the desire by Team Sky and Pinarello to have everything functionally led. They are so clearly determined to win.’*

Pinarello CEO Fausto Pinarello insisted the new Dogma F8 must have the legendary Pinarello DNA including the best possible performance. He is confident the new Dogma F8, flagship of the Pinarello range, is the fastest frame Pinarello has ever designed. *‘The best bike in the world, I think, has got even better, and Jaguar helped us to deliver that.*

*‘We always look for new technology that improves our bikes’ performance,’ says Fausto Pinarello. ‘It was a pleasure working with Jaguar on the aerodynamics. They bought a great deal of cutting-edge aerodynamic expertise which increases Team Sky’s chance of winning the Tour de France and means all Dogma F8 customers will get a superior bicycle.*

*‘The best test however is the feedback from the riders. Chris Froome was very enthusiastic when he first rode the Dogma F8. He knows this a bike capable of winning the Tour de France.’*

*‘The difference was obvious when I first rode the Dogma F8,’ says 2013 Tour de France champion Froome. ‘It is obviously lighter and feels more rigid, so that all the power from your legs is transferred to the road without any flex or movement. This is a bike on which I know I can win another Tour de France. I am going to be doing everything possible to make that happen.’*

**- ENDS -**

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