
IWC UNVEILS BIG PILOT'S WATCH SHOCK ABSORBER XPL

Schaffhausen, 7th April 2021 – IWC Schaffhausen has presented the Big Pilot's Watch Shock Absorber XPL at the digital Watches and Wonders exhibition, the first watch to feature the brand's patented new shock absorber system. Developed over eight years, the SPRIN-g PROTECT system is based on a cantilever spring that suspends the movement inside the case. Thanks to its perfect form and the use of Bulk Metallic Glass (BMG), the spring protects the movement against the g-forces generated during impacts on the watch. In impact tests conducted at the Cavendish Laboratory at the University of Cambridge, a protected movement has survived accelerations in excess of 30,000 g.

From the pioneering days of flying to the supersonic jets used in naval aviation today, pilots operate under extreme conditions in cramped cockpits surrounded by sharp-edged metal objects. Therefore, extraordinary robustness has always been one of the most important functional requirements for IWC's pilot's watches. In recent years, the Swiss luxury watch manufacturer has taken robustness to ever greater heights by using exceptionally durable and scratch-resistant materials such as Ceratanium®. After an 8-year engineering journey, IWC has now succeeded in pushing the limits of what is physically possible in movement shock protection.

“Ever since F.A. Jones founded IWC more than 150 years ago, engineering and innovation have been at the core of our DNA. Today, we continue this heritage with our new engineering division, IWC Experimental, which drives cutting-edge developments in areas like advanced materials or g-protection. The Big Pilot's Watch Shock Absorber XPL is the first brainchild of this division. Every detail has been carefully analysed and improved to redefine movement shock protection for mechanical watches,” explains Christoph Grainger-Herr, CEO of IWC Schaffhausen.

The **Big Pilot's Watch Shock Absorber XPL** (Ref. IW357201) is the first IWC watch to feature the patented **SPRIN-g PROTECT** system. At the heart

of this system is a cantilever spring that protects the movement against the g-forces generated by impacts on the watch. It cushions the movement, allowing it to keep moving independently of the case before bringing it to a stop more gently.

“When a watch suffers an impact, the movement and its components are subjected to high g-forces. If a pilot accidentally hits his watch against a hard surface in the cockpit, for example, accelerations are in the range of 300 to 1000 g. Our shock absorber system protects the movement so efficiently that it has survived accelerations in excess of 30,000 g in impact tests,” explains Dr Lorenz Brunner, Department Manager Research & Innovation at IWC Schaffhausen.

A PERFECT FORM AND AN ADVANCED MATERIAL

The key to this performance lies in the spring's perfect form and the material used to make it. The spring has been designed to evenly spread the stress across its length and width. Solving this challenge required advanced simulation tools and a painstaking design process. A second decisive factor is the choice of Bulk Metallic Glass (BMG) as a material. A sophisticated manufacturing process gives BMG an amorphous microstructure, with the result that it is significantly

more elastic than conventional metals. An ultra-lightweight titanium casing ring further reduces the mass that the shock absorber must hold. Another innovation is a unique crown system with a winding stem that allows the movement to displace independently of the case.

CUSTOM-MADE LIGHTWEIGHT MOVEMENT

Reducing the mass to be protected by the spring is critical for the system's overall performance. The IWC-manufactured 32115 calibre used for this watch is a custom-made lightweight construction. Components like the base plate are made from a high-tech aluminium alloy used in the aerospace sector, which is light and highly rigid. The bidirectional pawl winding system builds up a power reserve of 120 hours.

COMPREHENSIVELY TESTED WITH REAL IMPACTS

To put the SPRIN-g PROTECT system through its paces under the most realistic conditions, IWC collaborated with the Fracture & Shock Physics group at the Cavendish Laboratory of Cambridge University in England, U.K. The scientists used laser-based measurement methods and high-speed video recording to analyse the effects that impacts show on the movement. During these comprehensive tests, protected movements have survived the extreme forces from accelerations in excess of 30,000 g.

STEALTH DESIGN IN MATTE BLACK CERATANIAM®

The XPL in the name of the watch stands for "experimental" and refers to the IWC Experimental engineering division. The powerful case geometry takes the iconic shape of the Big Pilot's design to a completely new level by adding a futuristic surface treatment and details throughout the entire watch exterior. The case is made of Cerataniam®, an IWC-developed material based on a proprietary titanium alloy. It is as light and robust as titanium but at the same time similarly hard and scratch-resistant as ceramic. The components are milled from bars and fired at high temperatures in a kiln. During this process, the surface assumes the characteristics of ceramics and gets its unique matte black finish. The stealthy black design is complemented with a black dial, a technical anti-reflective coating on the front glass, and a black rubber strap with leather inlay.

Due to the complexity of the manufacturing process, the annual production of the Big Pilot's Watch Shock Absorber XPL will be limited to 10 pieces per year. The watch is available exclusively to order through IWC boutiques or our concierge service.

BIG PILOT'S WATCH SHOCK ABSORBER XPL

REF. IW357201

FEATURES

Mechanical movement – SPRIN-g PROTECT® shock absorber system – Screw-in crown –
Glass secured against displacement by drops in air pressure – Sapphire glass back –
Limited production 10 pieces per year

MOVEMENT

IWC manufacture calibre	32115
Frequency	28,800 vph/4 Hz
Jewels	21
Power reserve	120 h
Winding	Automatic

WATCH

Materials	Ceratanium® case, black dial, black hands, black rubber strap with leather inlay
Glass	Sapphire, arched edge, antireflective coating on both sides
Water-resistant	10 bar
Diameter	44 mm
Height	12.09 mm

IWC SCHAFFHAUSEN

In 1868, the American watchmaker and entrepreneur Florentine Ariosto Jones travelled from Boston to Switzerland and founded the 'International Watch Company' in Schaffhausen. His visionary dream was to combine advanced American manufacturing methods with the craftsmanship of Swiss watchmakers to make the best pocket watches of his time. In doing so, he not only laid the foundation for IWC's unique engineering approach but also established the centralised production of mechanical watches in Switzerland.

Over its 150 year history, IWC Schaffhausen has developed a reputation for creating functional complications, especially chronographs and calendars, which are ingenious, robust, and easy for customers to use. A pioneer in the use of titanium and ceramics, IWC today specialises in highly engineered technical watch cases manufactured from advanced materials, such as titanium-aluminide and Ceratanium®. Preferring the principle of "form follows function" over decoration, the Swiss watch manufacturer's timeless creations embody their owners' dreams and ambitions as they journey through life.

IWC sources materials responsibly and takes action to minimise its impact on the environment, creating intrinsically sustainable timepieces that are built to last for generations. The company prides itself in training its own future watchmakers and engineers, as well as offering an excellent working environment for all employees. IWC also partners with organisations that work globally to support children and young people.

DOWNLOADS

Images of the Big Pilot's Watch Shock Absorber XPL can be downloaded free of charge at press.iwc.com

FURTHER INFORMATION

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