

> BY: JAN TEGLER

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THE TECHNICAL FEATURES IN **IWC'S** 2013
INGENIEUR COLLECTION PARALLEL THOSE
FOUND IN MERCEDES AMG PETRONAS F1
RACECARS.

The modern pit-stop in Formula One racing is an astonishingly brief affair. Here, Mercedes AMG Petronas F1 pit-crew members practice the extremely precise movements needed to execute a four-tire-change pit stop in just over two seconds.



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AST MAY IWC AND the Mercedes AMG Petronas Formula One team announced a new partnership. The Swiss watch manufacturer would become the “Official Engineering Partner” of the German race team for three years beginning this year.

The brands have had an alliance since October 2004 when the Schaffhausen-based watchmaker partnered with Mercedes’ performance division, AMG. Over the last eight years, AMG-edition Ingenieur timepieces have paid tribute to road-going Mercedes AMG models.

That road-going association continues in the new Ingenieur collection introduced at SIHH, but its main focus is Mercedes’ F1 team.



Automatic Carbon Performance

Following WWII, grand prix racing became Formula One. Mercedes-Benz won world championships in 1954 and 1955 with legendary racer Juan Manuel Fangio but exited from auto racing entirely after tragedy struck at the 24 Hours of Le Mans when driver Pierre Levegh and his Mercedes 300 SLR crashed on the front straight, killing 83 spectators and injuring 100 more.

Fast-forward to 2013 and the organization is now known as Mercedes AMG Petronas Formula One. From 2010 through 2012, the team has been among the top four powers in F1. The Automatic Carbon Performance directly reflects the materials used on F1 cars. Mirroring the monocoque and intricate bodywork of the 2013 Mercedes F1 W04 Silver Arrow grand prix car, the case and dial of IWC's Carbon Performance are made of epoxy resin-soaked carbon-fiber matting, which is then cured at high temperatures and over-pressure. The strap with textile inlay and signal yellow or red stitching calls to mind the reference colors used to indicate the rubber compound on the Pirelli tires employed by all of today's F1 cars.



Silberpfeil Automatic Chronograph

Mercedes-Benz has been a part of Grand Prix racing since the early 1920s. In the 1930s, the Stuttgart-based manufacturer stood atop the sport with its famed "Silver Arrows" single-seat racing cars, battling fiercely with national rivals, Auto Union.

According to legend, the Silver Arrows moniker stems from the first race for Mercedes' W25 at the Nürburgring in 1934. One kilogram overweight in pre-race technical inspection, Mercedes racing driver Manfred von Brauchitsch is said to have suggested that the white paint (Germany's national racing color) be removed from his car to lighten it, thereby revealing the natural silver of its aluminum bodywork.

Recent research has revealed that earlier Mercedes SSKL racecars, bodied with streamlined aluminum sheets in 1932, were actually the first "Silver Arrows" and were referred to as such by contemporary media. Nevertheless it's the W25 and the successful postwar Mercedes Silver Arrows that IWC's Ingenieur Chronograph Silberpfeil takes its inspiration from.

This chronograph with flyback-function features a dial finish which mimics the dashboard of the W25. The circular graining of the race car's dash, known as "engine turning" in automotive parlance, is replicated by "perlage" (the watchmaking term for the same effect) on the dial. A red accent on the upper subdial recalls the "redline" arc on a tachometer while the Chronograph Silberpfeil's cleverly crafted strap with brown calfskin leather inlay



Double Chronograph Titanium

Both of these models continue the IWC legacy of incorporating titanium, another light-weight/high-strength material common in F1. The pneumatic valves found in the 2.4-liter V8 powering the F1 W04 are made of titanium alloy. IWC, which first introduced titanium to the watch industry in 1980, has used the metal for these models' crown, crown protection and push buttons.

The Double Chronograph features a split-seconds hand that can be used to record two intermediate times within a given minute while the stopwatch hand with its blue or white tip continues to run. Press the push-button at 10 o'clock again and the split seconds hand instantly catches up with the chronograph hand and runs synchronously with it. In this way, users can record as many lap times as they choose.

The Dual Time Titanium (not pictured) allows F1 globetrotters to see a second local time of the wearer's choice at a glance via a white triangle on the outer 24-hour ring.



Perpetual Calendar Digital Date-Month

TITANIUM FEATURES IN THE construction of the Perpetual Calendar Digital Date-Month case as well, though in this instance the material is titanium-aluminide. Meanwhile, the piece's push-buttons, screw heads and the crown and its protective shoulders are made of high-tech ceramic, a material common in the advanced brake discs of all F1 cars.

The model's dial takes inspiration from the complex multi-instrument/function steering wheel of the W04 with four totalizers grouped around a central axis, dominated by oversized numerals in the perpetual calendar which shows the date and month on a large digital display.

The fascinating complication also has an F1-like trick. At year's end the watch is called upon to advance two date and two month display discs as well as the leap year disc. This could not be done by replicating a boost button as on a W04 steering wheel. Instead, IWC engineers developed a mechanism to store the energy separately: a quick-action switch.

Every night, when the date display advances, this sophisticated mechanism siphons off a little of the energy, stores it and then discharges it precisely at the end of the month. At the end of the year, the model's five display discs advance simultaneously, a sight to behold.



Constant Force Tourbillon

PERHAPS THE MOST impressive addition to the Ingenieur collection is the Constant Force Tourbillon. Built to deliver energy at as constant a rate as possible, the tourbillon's constant-force mechanism is analogous to the highly complex hydraulically-actuated, electronically-controlled throttles on a modern F1 car, regulating the amount of fuel burned on each combustion cycle to produce efficient power.

Similarly, IWC's constant force mechanism regulates the supply of energy delivered by the notoriously variable mainspring to the watch's tourbillon movement, uncoupling the escapement from the gear train to keep the amplitude of the balance – and hence the watch's rate – virtually constant. These highly advanced mechanics are visible to the wearer on the dial and caseback – a feature sure to impress the most technically knowledgeable F1 fan.



Chronograph Racer

GRACED WITH AN engraving of a modern F1 racing car on the caseback, this flyback chronograph combines the ability to measure everything from F1 pit stops (averaging just three seconds) and race durations in seconds, hours and minutes to the speed of a car with its tachymeter scale.

The watch also features the most refined version to date of the ingenious Pellaton winding system IWC developed in the 1950s. The 89361 chronograph movement was specially developed to allow the system to be more efficient than ever.



AMG Black Series Ceramic

FINALLY, THE AMG BLACK Series Ceramic builds on the relationship in place between IWC and Mercedes AMG since 2004, paying tribute to the latest Black Series road-going performance models from AMG.

Its case is inspired by the ceramic disc brakes of Black Series models and is crafted from a ceramic known as black zirconium oxide. Held together by ten titanium screws, the case surrounds an elegant three-hand dial finished in two versions: entirely black with white hands/indices and brown with beige hands/appliques.

Beneath the dial beats one of IWC's toughest movements, the 80110 caliber with integrated shock-absorption system.