

GOING TO EXTREMES



Taking a rally car to its limits, or in need of rescue after a helicopter crash? Today's watch makers have the perfect timekeeper for you

Story by ALAN SEYMOUR

From divers' watches made for use at the bottom of the ocean to pilots' watches designed to survive ejection from a jet, many a timepiece has been created specifically for those in an active, demanding profession. Over time, these have found favour with the more sedate watch wearer, prompting manufacturers to produce an ever-increasing number of timepieces geared towards endurance in extreme conditions.

The professional tool most commonly found on the wrists of

Joe Public is, without doubt, the dive watch. Produced to stringent industry specifications in order to attain the current ISO 6425 standard, the watch must survive tests that include being hit with a pendulum-mounted hammer, and direct exposure to magnetic fields.

But look into the offices of any investment bank or solicitors and you're sure to find a plethora of chunky divers' watches paired with tailored Loro Piana pinstripe rather than the neoprene wetsuits





they were initially intended to accompany. The watch-collecting community has coined the phrase 'desk diver' to describe this phenomenon. And the desk diver of choice for many is the ubiquitous, evergreen Rolex Submariner and its variants.

The **Rolex** Deepsea is the Submariner's most hardcore variant. Released in 2008, the watch is depth-rated to an astonishing 3,900m thanks to its helium escape valve. Helium has the smallest particles of any natural gas, meaning atoms found in the breathing gas used by saturation divers in underwater habitats and diving bells can easily penetrate and become trapped inside a watch case. During resurfacing, the divergence in pressure between this trapped helium and the outside environment can cause the construction of the watch to fail – generally, the crystal pops off. In the 1960s, Rolex and rival watchmaker Doxa found a solution to this problem by developing the first helium escape valves. Simply put, this is a spring-loaded one-way pressure release valve that expels potentially hazardous helium when resurfacing.

In truth, the helium escape valve is only a practical necessity for professional deep-sea divers. But then, how many supercar owners take their Bugattis to top speed, or wine collectors drink the bottles of Pétrus stashed in the cellar, or sneakerheads play basketball in their Air Jordans? One buys a watch with a helium escape valve because it is the ultimate expression of a divers' watch – even if the most aquatic action it will ever see is a quick dip in the pool.

Another niche feature found in many divers' watches is the depth gauge. This uses water pressure to – as its name suggests – calculate the wearer's submerged depth. From a watchmaker's point of view, the



The professional tool most commonly found on Joe Public's wrists is the divers' watch

inclusion of a depth gauge in a mechanical timepiece requires a fair amount of thought and engineering, as it generally necessitates the controlled ingress of water. Be it in a watch or a standalone instrument, the depth gauge is an essential part of a scuba diver's kit and is used to help prevent decompression sickness when resurfacing. You'll find one in watches such as the Panerai Luminor 1950 Pangaea Depth Gauge, Blancpain X Fathoms, IWC Aquatimer Deep Three, Oris Aquis Depth Gauge, and Jaeger-LeCoultre Master Compressor Diving Pro Geographic.

Heading in the opposite direction, several brands have included altimeter complications in their timepieces. Again utilising pressure

– atmospheric in this instance – the altimeter is used by the likes of pilots and mountaineers to determine their altitude. **Favre-Leuba** currently offers the Raider Bivouac 9000 – capable of calculating heights of up to 9,000m – while **Oris** has its Big Crown ProPilot Altimeter collection of watches, which measure up to 4,420m.

On the subject of reaching for the sky, **Bremont** made its name producing extreme pilots' watches. The timepieces that comprise its core Martin-Baker collection are made to withstand the abuse to which a military pilot might subject his or her watch – including being ejected from a fighter jet.

Responsible for producing 70 per cent of the world's ejection seats, British manufacturer Martin-Baker began its ongoing collaboration with Bremont in 2007. The MBI and MBII, first released later that year, differ only in terms of slight cosmetic variations and their degree of exclusivity: the former is available only to pilots who have ejected from an aircraft using a Martin-Baker seat. Both watches feature day and date complications, while the MBIII (launched in 2014) loses



Opening page: BREITLING Emergency with Intrepid Orange dial, black Diver Pro III strap and titanium case, fitted with a dual-frequency distress beacon

Opposite, from left: BLANCPAIN X Fathoms; JAEGER-LECOULTRE Master Compressor Diving Pro Geographic; ORIS Aquis Depth Gauge

This page, clockwise from top left: TAG HEUER Connected Modular 45 Kingsman Special Edition; IWC Aquatimer Deep Three; BREMONT MBII

the day indicator and gains a useful and aeronautically appropriate GMT function.

The timepieces in the Martin-Baker collection are tested in accordance with Bremont's motto of "beyond endurance", using live ejection-seat launches, helicopter Multi-Functional Operator's Seat crash tests, hypobaric and environmental chambers, Ground Vibration Test systems, and something the watchmaker calls the Aircraft Carrier Deck Test, which "simulates the level of salt, fog and humidity an aircraft carrier would endure during a six-month tour". As a result, they are able to withstand extreme temperatures, G-forces, altitude, magnetic fields and appalling weather conditions.

The Bremont MB watches' extraordinary levels of endurance

are made possible by mounting the movement in a rubberised, anti-shock ring – a technique, incidentally, pioneered by Certina in the late 1950s with its Double Security system – not to mention an anti-magnetic Faraday cage and the use of seven-times-harder-than-average stainless steel for the case construction.

All this considered, it's of little surprise that film director Matthew Vaughn came knocking when looking for a watch to adorn the wrists of his James Bond-esque secret agents in the first *Kingsman* film. Alongside conventional chronograph and world-time complications, the Bremonts in 2014's *Kingsman: The Secret Service* featured "500K-volt projectile stun darts" and "amnesia darts". Tragically, these weaponised



to go out and buy not only the special editions released to tie in with the films, but also the most complicated, gadget-like tool watches on the market. (I write this from experience.)

If you're in search of a timepiece that fits this bill, I would direct your attention to the **Breitling** Emergency, the first – and still the only – wristwatch to feature a built-in distress beacon. The quartz-driven, 51mm titanium Emergency features analogue and digital time display, as well as calendar, chronograph, second time zone, countdown timer and alarm functions. Unscrewing the four/five o'clock crown and pulling out the antenna wires activates the dual-frequency Personal Locator Beacon (PLB), transmitting the watch's location for 24 hours, using the 121.5MHz and 406MHz emergency frequencies.

Far more than a gimmick, the Emergency has saved numerous lives, including those of pilots Steve Brooks and Quentin Smith in 2003; following a helicopter crash off the coast of Antarctica, the two British explorers were rescued from the sea after activating the beacon on Brooks' watch – a wedding present.

Richard Mille isn't averse to including unconventional, gadget-like complications in its watches, either. A G-force sensor, for instance, can be found in the RM 36-01 G-Sensor Tourbillon Sébastien Loeb. Produced in collaboration with the eponymous World Rally Championship driver, in a limited edition of 30 pieces, the watch has been designed to measure the level of Gs reached while racing. Inside the 47mm case is a manually wound tourbillon movement equipped with a 50-piece G-force sensor module capable of measuring up to 6G.

By turning the brown ceramic bezel of the RM 36-01, the G-sensor can be set to correspond with the direction of travel, allowing for more accurate readings, whether the driver is taking a corner or accelerating in a straight line. Ergonomically but somewhat unconventionally, the sensor's large reset pusher is found protruding from the crystal in the centre of the skeletonised dial. The RM 36-01 is a crazy timepiece, for sure, but also a great one that illustrates why Richard Mille is so popular with watch collectors the world over.

For every field of extreme endeavour – from beneath the waves to on the asphalt – you can be certain there's a watch to cater to your specific needs. Regardless of whether or not you're actually participating.