

## **NEW RENAULT CLIO CUP**

**With the New Clio Cup, Renault rewrites the rules in hot hatch development. With nearly 50 years experience in motorsport, Renault Sport Technologies has drawn on its experience to create the latest high performance competition car.**

Since the launch of the R8 Gordini Cup in 1966, Renaultsport has been ever-present on the racetracks of Europe and the rest of the world. The four generations of the Clio Cup have earned recognition for their performance, reliability and accessibility.

Replacing the model used competitively since 2006, the new Clio Cup has benefited from all the assets of the Clio Renaultsport 200 Turbo EDC, starting with its chassis. Reinforced by a welded roll cage, the monocoque chassis delivers increased safety and is stronger too. Enhanced by 17-inch rims, the design of the new Clio Cup is complemented by aerodynamics that make it handle even better on the track.

Renault Sport Technologies' engineers have put all their knowledge into the new 1.6-litre, direct-injection, turbo engine, which produces 220hp and a constant torque of 270Nm. It is hooked up to a six-speed, sequential gearbox that enables gear shifts to be made in just 100 milliseconds. Steering-wheel paddle shifts are available as an option, along with the classic gearstick. UK competition will follow the Eurocup series in having the electronic paddle shift gear-change as standard.

The track-hugging new Clio Cup also comes with adjustable shock absorbers. Combined with adjustable axles, this innovative feature

allows teams to set the new Clio Cup up to suit different track conditions and driving styles. Two tyres have been developed in collaboration with Michelin and Dunlop. The UK series will remain on Dunlop tyres for the 2014 season.

The braking is, as with all Renault Sport Technologies cars, a particular strong point. The new Clio Cup has many strengths, including 320mm ventilated discs, gripped by powerful 4-piston callipers.

Every attention has been lavished on the onboard electronics. The engine and gearbox are monitored by a unique ECU that can be accessed only by Renault Sport Technologies' engineers. Incorporated into an ergonomic and highly functional dashboard, all the driver controls and displays are within fingertip reach. Meanwhile, performance is analysed and driver efficiency enhanced by a data acquisition system that uses the same software as the Formula Renault 2.0 and Formula Renault 3.5.

The new Clio Cup is manufactured and assembled at the Alpine factory in Dieppe. With its bench-tested and race-sealed engine, the car is delivered ready-to-race.

## **THE LATEST SUCCESSOR TO THE R8 GORDINI**

Renault revolutionised circuit racing when it created the saloon racing series nearly half a century ago. Since the birth of the R8 Gordini, Renault has developed expertise that has brought it unrivalled international success.

The R8 Gordini first made its mark in rallying, chalking up three wins in the Tour de Corse before moving on to acquire legendary status on the track. Launched in 1966, thanks to a partnership between Renault and the magazine Moteurs, the first R8 Gordini

made motorsport more accessible, opening it right up to a new generation of drivers, some of whom won plaudits if not fame while others went on to become great champions of the sport.

The R8 handed the baton on to the R12 on 19 July 1970, a day that has gone down in history as Jour G (“G Day”), a mass gathering of 15,000 Gordini disciples held at the Paul Ricard track, now considered a precursor to the World Series by Renault. As new models appeared, so Renault’s development series evolved, while staying faithful to two key principles: respect for a level playing field and a desire to keep racing costs down.

Launched in 2001, the first version of the Clio Cup – based on the famous Clio 16V – took its place in this noble lineage. Following a brief interlude between 1997 and 2000, when the Mégane 16v put in an appearance, the Clio took over for the next two generations. Having made its entrance in 2006, the version that continues to pay its respects to its ancestors today stands out for its carefully designed aerodynamics and modern onboard electronics.

With the arrival of the new Clio Cup in 2013, Renault Sport Technologies has revamped the class with a brand new product that marks a return to the turbo engine, which was sidelined in the late 1980s. Offering an even better price/performance ratio, it opens the door to another generation of hungry young drivers.

## **DESIGN AND AERODYNAMICS**

Specially created to make an impact, the design of the new Clio breaks fresh ground. The first car to fully express the rebirth of the Renault style under Laurens van den Acker, the new Clio boasts naturally powerful streamlining, a lower ride height than its predecessor and longer wheelbase, features that all combine to

make the competition version even more combative.

The new Clio Cup also takes on some of the features specific to the Renaultsport 200 Turbo EDC: the Formula One-style front blade, rear diffuser, front and rear spoilers, front and rear bumpers, LED lights and twin-exhaust tailpipes, to name but a few. Make no mistake, the new Clio Cup has got Renaultsport pedigree running through its veins.

Thanks to computational fluid dynamics and some cutting-edge work in the wind tunnel, Renault Sport Technologies' engineers have significantly increased downforce. In conjunction with the front air extractors, the rear diffuser, which incorporates the twin-exhaust tailpipes, gives the car even more stability when cornering and braking.

The result of careful analysis, the new rear spoiler keeps the new Clio Cup firmly on the ground, generating nearly 40kg of additional downforce at 120mph, while the roof scoop improves ventilation in the driver compartment. All in all, it's a design offering the smoothest of aerodynamic flows.

## **CHASSIS AND SUSPENSION**

Unlike its predecessors, the new Clio Cup comes complete with a welded roll cage, a first for a Renault Sport Technologies-designed car in this category and an innovation that obviously offers more in the way of safety than a bolted roll cage. The additional strength it provides also means better handling on corners. The new Clio Cup retains all the incisiveness and balance of the Cup chassis available as an option on the Clio Renaultsport 200 Turbo EDC.

A lot of thought has gone into the new Clio Cup's braking system,

with the emphasis on both safety and performance.

An entirely new feature at this price level, the competition crankset allows precision setting of the front and rear master cylinders. Front-fitted AP Racing 320mm vented discs (8mm larger than on the previous Clio Cup) are gripped by four-piston Brembo callipers, while the rear-fitted solid discs are 260mm in diameter. Brake force distribution is achieved by a limiter acting on the rear circuit. A partnership with CL Brakes has also helped develop efficient endurance brake pads.

Following the same principles as the production car, the suspension system is equipped with new adjustable ZF Race Engineering shock absorbers. Along with adjustable geometry settings, they allow the new Clio Cup to be tuned for track days and specific driving styles with a minimum of fuss. The springs, comprising a stiffness of 110Nm at the front and 80Nm at the rear, guarantee a comfortable drive without undermining front-axle performance. The new Clio Cup also oversteers progressively during load transfers, enhancing driving pleasure.

The new Clio Cup can either be fitted with Michelin 20/61-17 for racing in the Eurocup or Dunlop 21/62-17 tyres in national championships. Crafted by Renault Design, its 17-inch rims are supplied by Speedline.

## **A BRAND NEW DIRECT-INJECTED TURBO ENGINE**

After more than 20 years of naturally aspirated engines, the turbo makes its much-heralded return under the bonnet of a Renault Sport hot hatch. Optimised by the engineers at Les Ulis, the new 4-cylinder, direct-injection turbo engine has been built using state-of-the-art technology such as diamond-like carbon (DLC) push rods –

as used in Formula One – and a double continuous variable camshaft timing (VVT) actuator. Designed for racing, it produces 220hp at 6000rpm and a maximum torque of 270Nm at 2500-5500rpm. This broader maximum range offers increased driveability compared to the naturally aspirated engines that preceded it.

In contrast to the Clio Renaultsport 200 Turbo EDC, the race-prepared new Clio Cup features a new exhaust line with a muffler and built-in catalytic converter is fitted along with a model-specific airbox.

Oreca Magny-Cours is Renault Sport Technologies's sole approved engine manufacturer for the new Clio Cup, with all engines being sealed after visiting the test bench to ensure a level playing field for all competitors.

Supplied by Sadev, the six-speed sequential gearbox is hooked up to the engine by an AP Racing competition clutch with built-in stop.

Steering-wheel paddle shifts are standard on both the Eurocup and UK versions of the car, while the all-new XAP electric actuator has trimmed the average gear-shift time to 100 milliseconds, a speed rarely seen in cars of this class.

Put through its paces in a test campaign of over 7,000 kilometres, the powertrain has proved its efficiency and reliability, not to mention its ease of use and maintenance.

## **ONBOARD ELECTRONICS**

The nerve centre of the new Clio Cup, the Cosworth SQ7DI ECU manages both engine mapping and transmission shifting patterns. This unique control unit manages direct fuel injection and is sealed

to prevent modifications from being made to it. Only Renault Sport Technologies can examine its contents in carrying out technical checks.

Hooked up to PI Toolbox software, which is also used in the Formula Renault 2.0 and Formula Renault 3.5, it allows teams to get the most out of the data it generates.

## **AN ERGONOMIC DRIVER'S POSITION**

Special care has been taken with the new Clio Cup's interiors. Designed exclusively for Renault Sport Technologies by the engineers at Cosworth Electronics, the new dashboard reflects their attention to detail. The colour display screen shows all the diagnostics in real time as well as essential data for the driver: fastest lap, gap on a selected driver, track layout, etc.

The multi-functional steering wheel brings the most useful information within easy reach. Its seven buttons operate a wide variety of functions, each of which can come in handy during races, such as headlights, windscreen wipers and the display screen scroll. One of the buttons can also be hooked up to a free connector on the wiring loom to hook up an extra function, such as a radio or drink dispenser.

The secondary switches and controls can be found on the console on the driver's right and include the start button, circuit-breaker, engine mapping selector switch (wet or dry) and brake limiter.

## **SAFETY**

Safety is of the utmost importance for Renault Sport Technologies in every product it designs. Out on the track the priority is to offer drivers every protection in the event of an accident, and the new

Clio Cup's welded roll cage is the most visible and most important feature in this respect. Having undergone a series of stringent tests, the new Clio Cup is an FIA-approved car.

Supplied by Sabelt, the six-point harness and bucket seat with headrest are compatible with the HANS® system, while the driver is also protected by a window net.

All parts specific to the new Clio Cup and the structural parts of the new Clio Renault Sport 200 EDC have been marked to prevent the manufacture of counterfeits likely to endanger driver safety. These marks take the form of holograms and laser arcing.

## **CLIO CUP IN THE UK**

Renault UK will celebrate 40 years of running championships in the UK in 2014 by launching the New Clio Cup race car into the market. Together with championship promoter the British Automobile Racing Club (BARC) it has signed a three-year contract with TOCA, seeing the Renault UK Clio Cup remain a cornerstone of the Dunlop MSA British Touring Car Championship motor racing package until at least the end of 2016.

This agreement comes at the same time as Renault Sport Technologies has signed the BARC to be its UK promoter for the next three years.

The confirmation of these freshly agreed deals allowed the order books to open as early as possible for the brand new fourth generation Clio Cup race car which was officially presented to existing teams, drivers and invited media at Oulton Park in June with 10 ordered to date.

“Renault UK has been an integral part of the BTCC package for 21



seasons, since its inception, and we're now looking forward to the arrival of the new Clio Cup race car in 2014 which will also be our 40th anniversary year in British motorsport", said Jeremy Townsend, Renault UK Communications Director, "We're at the start of an exciting new era for the championship, securing its continued place on the BTCC package is key to future success. On behalf of Renault UK, I'd like to take this opportunity to thank Alan Gow [BTCC Series Director] and his team at TOCA for their continued support."

Firmly established as the country's foremost one-make saloon car championship and a prime feeder category for the BTCC, numerous Renault UK Clio Cup competitors have graduated into the national touring car series over the years including the likes of former Clio Cup Champions Tom Onslow-Cole and Dave Newsham, who are both racing in the BTCC this year.

Reigning FIA World Touring Car Champion Rob Huff and fellow WTCC racer Alex MacDowall both climbed the ladder from the Renault UK Clio Cup into the BTCC, before going on to compete at the highest level in the world championship.

"Renault has been an intrinsic part of the TOCA/BTCC events for over 20 years, and for very good reason", said Alan Gow, Administrator and Series director of the BTCC, "The Clio Cup is a fantastically dynamic platform that budding BTCC drivers can launch their career from. It provides great racing for both the drivers and teams and of course, most importantly, our spectators and TV audiences.

"I'm extremely proud of our very close and long-standing relationship with Renault, which is set to continue until at least the end of 2016, and really look forward to the great racing that

undoubtedly the brilliant new turbo Clio Cup car will produce.”

Ian Watson of the British Automobile Racing Club, which promotes the Renault UK Clio Cup, added: “Being part of the TOCA package is of paramount importance for a championship the stature of the Renault UK Clio Cup, we need to be racing in front of the biggest crowds and that’s what supporting the BTCC provides.

“To have agreed a new three-year TOCA contract is fantastic for all involved, it gives us the perfect platform on which to build for next season when the new fourth generation Clio Cup race car makes its UK debut.”

Teams currently competing in the Renault UK Clio Cup were given priority to place orders for the new 1.6-litre, turbo-powered car.

Priced 39,900 Euros plus VAT, the new Clio will come fitted as standard, for the first time, with a steering wheel mounted paddle-shift gear change system.

The fourth generation car has already been incredibly well received on the continent where it is making its competitive debut this year in the Eurocup Clio series. British squad Team Pyro currently fields Josh Files and David Dickenson in the pan-European category, Files dovetailing his programme there with a title bid in the Renault UK Clio Cup in the existing third generation car.

The 2014 New Clio Cup calendar will be announced alongside the BTCC dates in the Autumn. For the first time in five years the Clio Cup will return to Scotland to race at the challenging Knockhill Circuit in Fife as part of an eight race meeting programme.

## **TECHNICAL SPECIFICATION**

### **CHASSIS**

Type	Clio Renaultsport steel bodyshell reinforced by a welded roll cage
Materials	Steel
<b>ENGINE</b>	
Type	Renault M5Mt, 4 cylinder, 16 valve, 1618cc, turbo charged with direct injection
Max power	220 hp at 6000 rpm
Max torque	270 Nm at 2500-5500 rpm
Max engine speed	6500 rpm
Electronics	Cosworth SQ7 Di – XAP electric control
<b>TRANSMISSION</b>	
Gearbox	Sadev ST82-17 six-speed sequential + reverse gear
Controls	XAP electric control, semi-automatic steering-wheel mounted
Differential	Sadev 23/90 self-locking limited-slip
Clutch	AP Racing clutch discs and mechanism – Sadev stop
<b>AXLES AND SUSPENSIONS</b>	
Front	Pseudo-McPherson one-way adjustable ZF Race Engineering shock absorber
Rear	One-way adjustable ZF Race Engineering shock absorber with programmed flexible axle/torsion beam
<b>BRAKES</b>	
System	AP Racing, two separate master cylinders
Discs	AP Racing 320mm vented (front) and 260mm solid (rear)
Calipers	Brembo four-piston (front)
<b>WHEELS</b>	
Rims	Speedline 8x17 aluminium one-piece

<b>DIMENSIONS, WEIGHT AND CAPACITY</b>	
Length / width / height	4090 / 1945 / 1429 mm
Wheel base	2576 mm
Front / rear track	1550 / 1520 mm
Fuel tank	40 litres
Unloaded weight	1065 kg

## **ENDS**

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### **Renault UK's one-make racing history**

Renault UK's involvement in UK motorsport began in 1974 with the introduction of the Renault 5 TL. After a couple of seasons the championship evolved with the more powerful Renault 5 TS model introduced for the 1977 season. These cars created the platform for the next step, which came with the introduction of the Renault 5 GT Turbo Cup in 1985. The late 1980s saw Renault one-make racing

grow across Europe and become the strongest of its kind in the world.

The Clio Cup began in the UK in 1991 and has continued until the present day, except for a four-year break when the Renault Spider filled the company's one-make slot (1996-99). The Clio Renaultsport 172 and 182 models were raced alongside the BTCC from 2000 until the end of 2006 when the most successful car of all, the 197, was introduced for the 2007 season.

Today the Renault UK Clio Cup is one of 15 other similar series around the world. At European level the Eurocup Clio races at high profile meetings mostly supporting the World Series by Renault.

This year the BARC introduced a new club-level Series for a mixture of Clio Cup 200 race cars and 197/200 road cars. The Michelin Clio Cup Series will become a full championship in 2014 with the aim of attracting young drivers and club racers alike.

Alongside Renault UK's highly successful one-make saloon car series, sits its single-seater championships. Renault UK introduced Formula Renault into the UK in 1989 and continues to support the BARC's Protyre Formula Renault Championship today. Next year it will add the new Formula Renault 1.6 junior single-seater as Renault UK expands its involvement to cover four championships for the first time in its 40-year history.