



The Ultimate Guide to Scooter Racing



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Welcome to Scootering's ultimate guide to scooter racing

I'm really delighted to have been able to put this supplement together. For quite some time now, we have been repackaging some of our great editorial features and stories into handy and helpful guides, so that you could locate any one section of tech information at a glance, without having to trawl through many pages of different back issues.

It made sense to us, and was well received by you. Many of the early supplements were tech-based 'how to' guides, and it was only really the DNCC classics and the Top Touring Tales that have deviated from that path. So, when the opportunity arose to put together something which is a favourite topic of mine, I jumped at the chance!

For anyone already knee deep in racing, this supplement won't reveal many secrets or

mysteries, but for those who have not yet ventured on to the track, I hope it provides a stimulating and thought-provoking peek into the world of scooter racing.

In that respect, there should be something of interest to everyone, whether it is the comprehensive track guide Paul Green has put together, the helpful introduction to the paperwork side of getting a licence, or the tech side of the race engine exposé, which I did with Chalky at Replay Scooters.

Unless you have a very good reason not to, anyone thinking of getting on the tarmac now has no excuse.

As the quote goes: 'Racing is life. Anything before or after is just waiting.'

Dan



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Scooter racing track guide

British Championship races are held at some of the UK's top circuits and here is a guide to help you get the best out of spectating at UK scooter races.



It's faster than you think

There are some very fast road scooters but it takes a special skill to manhandle a scooter through bends at ridiculous speeds with a knee skimming the track surface. Most first time spectators whether they are scooterists or not are blown away by the cornering speeds being reached. You won't see scooters being ridden as fast around bends as they are in UK scooter racing.

Open access

You can get to meet and speak to the riders and mechanics. All circuits have open paddocks and the racers will be more than happy to talk to you about their race scooters, sign autographs and let you take pictures. But please just pick your moments - they are competing in a British Championship so whilst its all smiles in the paddock, before a race it is time to

concentrate, do last minute checks and preparation and get the race face on so give them some time. Equally if an engine is apart being fixed it generally means there is an issue to fix or something major broken so this is not a time to be asking questions or trying to stick a camera in the engine. But avoid these times and you will generally find the paddock a friendly place where you will be made welcome.

Camping

Staying over is one of the best ways to really feel the race vibe and get to know the riders. You haven't read this here but at most circuits enter on the Saturday and don't leave and most circuits won't check for any tickets on Sunday (but be ready to pay if they do). You can generally camp at most circuits close to or even in the race paddock but just make sure you leave space for racers and their vans. If you



Over the Mountain at Cadwell Park



Uffy leads a group through Three Sisters infield



Off the startline at Three Sisters



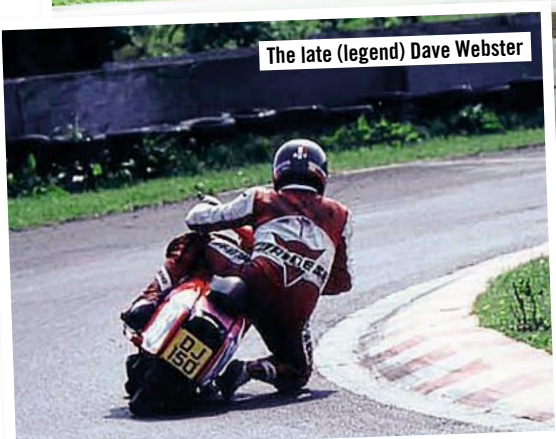
Tim Simpson



Gary Peacock swoops around Cadwell Park



Stuart Day about to pounce on Tim Simpson at Three Sisters



The late (legend) Dave Webster



Jon Uffindell RIP



Fast & Furious racing at Three Sisters



Stuart Day always spectacular



Dan Lewis (73) chases down Mark Green

bring a few beers you will be made welcome at most race tents and the chilled vibe can go on pretty late in between fixing and preparing for Sunday's racing.

Get your ticket in advance

Most circuits have a web site and offer a reduction on tickets bought in advance. Generally ticket prices are in the £10-15 range but vary by circuit and event.

Food and Drink

This varies hugely in quality and cost so you may wish to take a pack up or barbecue if you have space or are on a budget.

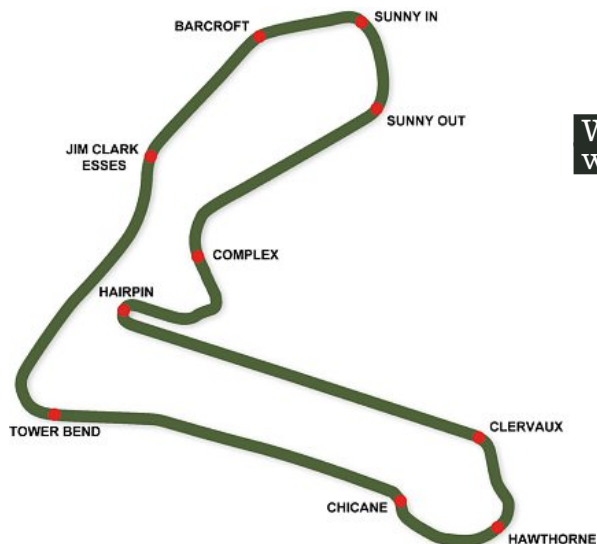
More than just scooters

Other races are held over a race weekend featuring vintage and modern motorcycles,

sidecars, three wheel vehicles racing over very full days with track action generally filling the day from 9.30 to 5.00 or even later. There is a sequence of practices for all classes that generally takes up the first half of Saturday mornings. All racers need to complete practice laps to get a grid slot for their races which are spread over the day in a sequence generally featuring different classes so you may see riders competing on more than one scooter in different class races. On Sundays there is generally a brief practice for latecomers and then it's on with the race sequence proper. If there are delays to any races on the Saturday then often races are held over to Sunday so you cannot rely totally on any published race sequences - they can be very dynamic!

The tracks... Croft

West Lane, Dalton-on-Tees, Darlington DL2 2PL
www.croftcircuit.co.uk



Croft is the premier circuit in the North East of England, is based around an old airfield but has been developed and over the years has hosted a variety of racing including touring cars, British superbikes and rallycross.

Racing has been held regularly since the late 1940s once the bombers had left their home. The current circuit is just over two miles long and is a real test with a variety of bends from fast sweepers to a very tight hairpin opening into one of the longest straights. Being quite bumpy in places it can be a real test of race set up and handling and on gusty days you can

see the riders using the shelter of the start straight pit wall to slipstream and get out of the wind. Average lap speeds can be over 70mph and there is a wide choice of great spectating spots.

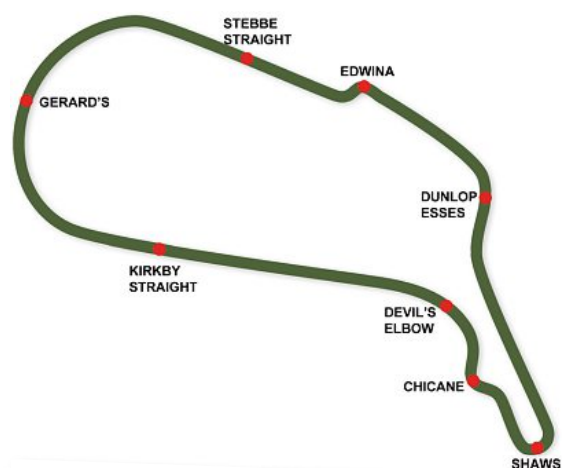
To get closest to the action you need to befriend a racer, flutter your eyelids and get into the pit garages that are a feature of Croft. This will in turn give you access to the pit wall where you will feel you can almost touch the riders as they pass down the straight just inches away – very fast.

At the end of the straight is Hawthorn bend and a couple of chicanes that are a test as the riders brake from maximum speeds. These bends have grandstands so you will get a good view as well as hearing commentary.

There are then two more long straights which take the riders away from the main complex and through the Jim Clark Esses to Sunny bend which is where spectators can watch with relative ease. Here there is high banking to help with noise reduction, but this gives a great vantage point – and like all airfield circuits can also be exposed and windy. A great place to watch is the Complex banking which is just beyond the paddock and circuit entrance. From here you will see the riders coming into a fast left followed by a double right as they set up for the tight hairpin – a popular passing place.

Between races you will find a large race paddock with food, drink and a cafe that does a nice lunch. In addition some of the top teams pay extra to get a pit garage and some share the cost to set up an indoor base. These pit garages are only open if you are invited, so please ask before marching in. There is a great pub just down the road where you will often find racers and with Darlington SC and the LCGB being local there is always a good number of scooter spectators around.





Mallory Park

Church Road, Kirkby Mallory, Leics LE9 7QE
www.malloryparkcircuit.com



Mallory is a very popular East Midlands circuit, and although mainly used for motorcycle racing, also hosts touring cars, superbikes and Formula Three.

Historically this was a venue for the transatlantic races where Barry Sheene and others gained their reputations.

At around 1.3 miles it is one of the shortest circuits in use – indeed it was originally built as a one mile oval. But it has been reconfigured and extended over the years to include a hairpin and the Bus Stop chicane, which is a section almost guaranteed to create some thrills and spills. A scooter is actually one of the fastest things through the hairpin and Bus Stop section where small wheels make them far more nimble than big bikes.

Being a smaller circuit, far more of it is visible at any one time, so if you pick your viewing spot carefully you will be able to see half the track or more and follow the race as it unfolds.

Basically the lap consists of a fast end and a slow end, so is a test of riders for sure. The 'fast end' features the dauntingly long Gerard's bend, which is a real test and those with big balls can be seen riding around the outside at very high speeds. At the other end of the circuit Edwina's chicane may be used to slow riders down a little (depending upon the

circuit option in use) before the John Cooper Esses which can be a very fast right hand / left hand flick as riders then climb uphill to the hairpin which is where there can be a lot of out-braking manoeuvres and then the slow left-right-left of the vicious Bus Stop chicane.

For spectators, the hairpin and Bus Stop have a large bank alongside accessible from the outside of the track layout, and it's a popular place from which to watch... but be ready with a camera because there are often fallers at this technically tricky sequence of bends.

However, to get the best experience from the car park take the footbridge into the centre of the circuit and enter the race paddock where you find racers spread all over the spacious paddock. In the centre of the paddock, alongside the track, is an octagonal viewing platform – a popular place to see the two main straights from.

If you walk through the paddock to watch from the inside of the circuit at the start of the John Cooper

Esses the right-hand sweep is very fast and when the race scooters come bearing down to it, it's an incredible sight... real 'heart in the mouth' stuff as it's hard to believe they will make the bend at the speeds they carry (some don't!).

In the centre at the lowest point (the paddock is sloping) you will find the popular cafe which does a great breakfast and lunch at reasonable prices.

Remember to take a coat – Mallory is often a degree or two colder than the surrounding area! There are some local village pubs that are nice if you are stopping over.





East Fortune

Near East Linton,
East Lothian EH39 5LF



East Fortune, which is run by the Melville Motorcycle Club, has only recently become a full-time circuit. Located next to Scotland's National Museum of Flight, it's another former airfield.

Only a few miles away is a scooterists' favourite, the seaside resort of Dunbar, while the seaside town of North Berwick is also only a few miles away if you want to make a weekend of it in Scotland.

The circuit is quite remote though, and be aware that when you park in the car park you have to access the paddock and the best viewing places by a gate going over the track into the centre. This can only be done under marshal control between races, so you will need to bear this in mind, especially when leaving, as if the race schedule gets behind the pedestrian access will be a low priority and you may have a wait to exit.

Once you have made the trek you will find a compact paddock inside the 1.6 mile circuit which is a pretty fast track being essentially a big triangle with a very long straight and Dickie's straight – which actually has a slight curve to it and inevitably ends in a hairpin which is technically a tricky corner before looping back to the start after the equally tricky Hannah's Chicane.

East Fortune as a whole is perhaps the least spectator-friendly of the circuits featured, but there is good viewing in the

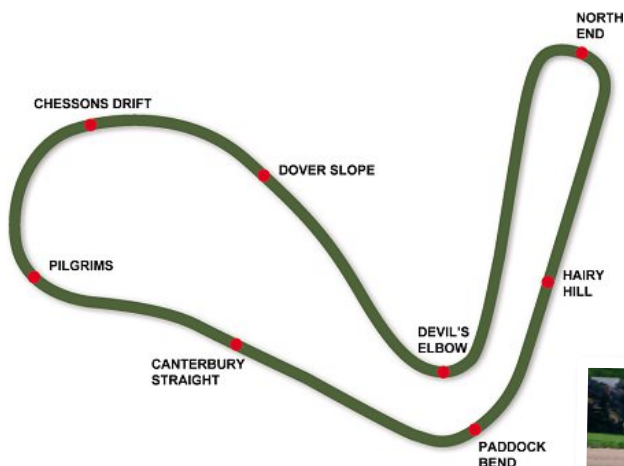
inside of the Dickie's straight and Esses, which are very fast, as well as the Law straight and Hannah's chicane – where there's the chance of some spills. The Scottish weather can be erratic and I've been frozen and sunburnt on the same day.

If you are camping there is plenty of grassy space on the inside of the circuit by the race paddock and you will be close to the take away cafe which the local club runs. You will find the local sausage meat slices, and of course some pies to feed yourself with. There are undercover benches to sit at.

With the circuit being quite remote most people stay within the circuit confines at night and there is a unique, relaxed and very friendly vibe to the circuit which is run not for profit by the Melville club, which is putting all the money back into the circuit and facilities.

If you are into trains keep an eye on the railway line that passes close by – I've actually seen *Flying Scotsman* twice during race weekends. The East Fortune circuit can be a bit of a trek to go to but is well supported by Scottish scooterists and you will enjoy the very welcoming vibe.





Lydden Hill

Wootton, Canterbury, Kent CT4 6ET
www.lyddenhill.co.uk

Lydden Hill is just over a mile long and nestles in a natural amphitheatre in the Kent countryside just off the A2 before you get to Dover.

Those of a certain age will remember this as being the venue for Saturday afternoon TV sport rallycross with Murray Walker commentating. The circuit has a long history of racing and was once owned by McLaren, who bought it with the intention of testing F1 cars.

The circuit is small but a spectators' dream, as being set in a natural bowl it is virtually all viewable in several places so you can see pretty much all of a race.

The circuit became Tarmac in the early 1960s after converting from grass, but it has always maintained shale surfaces on the inside for the unique rallycross events – Top Gear filmed there a few years ago.

With multi-use the Tarmac was quite bumpy but was resurfaced two years ago and this has vastly improved things. Despite being only a mile long the circuit features a considerable gradient, including Hairy Hill – which after you've climbed it lives up to its name, as gravity does its thing and pushes riders downhill to an off camber sweeping right-hander.

The circuit is very popular with racers despite being so short – probably because it is surprisingly fast and the races get more laps than virtually every other circuit. Spectators love the circuit



too as it's probably the best circuit for viewing in the UK.

On the outside of the track there is a large grandstand on Hairy Hill where you can watch the riders straining engines going up (it is surprisingly steep and will have you very much out of breath walking up it), around the hairpin then racing downhill to the Paddock bend where some of the faster riders will actually take a swooping line off the track to take the off camber bend fast before going down the Canterbury straight, dropping into what is almost a bombhole feature at Pilgrims bend before rising up and through the sweeping bend called Chessons Drift onto the Dover slope. This can be tricky at times as this is where rallycross cars bring dirt and mud onto the circuit, so it can be

slippery there in damp conditions. They then take Devil's Elbow, the only left-hand bend on the circuit, then it's back up Hairy Hill to do it all again.

On a nice day Lydden is very much a natural sun trap and as the race there is traditionally in

summer you stand a good chance of some sunburn. For eats and drinks there are food and drink vans behind the grandstands on Hairy Hill and sometimes there is also a band playing on a stage there. The local Kent pasties are pretty nice! There are also a couple of kiosks at the track entrance where a dummy grid forms by the side of Race Control buildings.

If you are staying the weekend or just going on Sunday then be aware that there are local noise restrictions and there is no racing until after 12 on a Sunday. This means a lay-in and relaxed vibe, so most years there is a party and barbecue under an open scrutineering bay, so if you are spectating you are welcome to join in... but chip in some money or drink as the barbecue is funded by the race club.

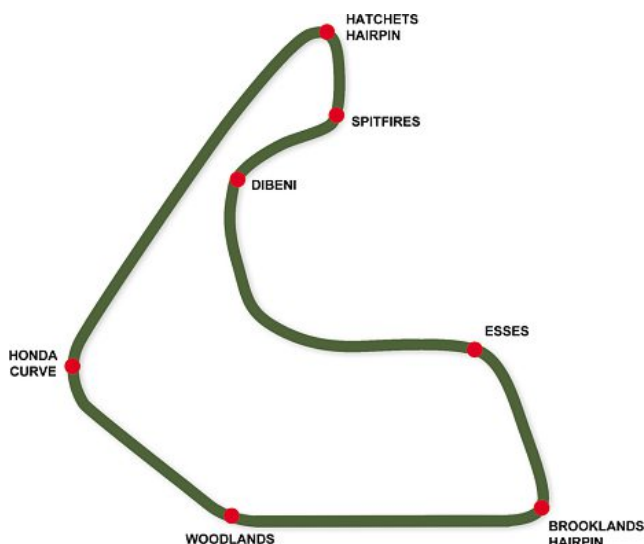
Although Sunday racing starts later, don't let that put you off as there will still be plenty of track action. Being small and having a complete dummy grid on the circuit entrance makes for very quick changeovers between races, so the organisers can get a lot of races in.

Over the weekend the now traditional Memorial Race is held, which is a non-championship race to remember riders who have passed away. This race is the one everyone wants to win and has historically featured some amazingly hard-fought races between the best riders.



Pembrey

Llanelli, Carmarthenshire SA16 0HZ
www.pembreycircuit.co.uk



Pembrey is a very long way into Wales... past Newport, Cardiff and Swansea and keep going! It's scenic though, so keep an eye open for speed cameras – of which there are plenty.

The 'Home of Welsh Motorsport' is still relatively new, having held its first race meeting in 1990. The circuit, like many, was developed on one end of a former RAF airfield and has generally been better known for various forms of car racing than two wheeled racing. In years past it was regularly used for testing by the McLaren Formula 1 team and even has a place in F1 history where Ayrton Senna and Ron Dennis had 'discussions'. Senna did some extremely fast laps there.

The circuit has a range of fast bends as well as some technical slow areas so is a good test for both cars and bikes.

The coastal circuit is, however, prone to bad weather and has a reputation for being rather bleak, but if it's a sunny day then it can be fabulous and you will definitely need your sunscreen.

This is actually a brilliant circuit if you make the trip to west Wales.

The broadly triangular circuit is pretty good for spectators with raised grass banks which it is possible to drive onto for

parking. This is potentially useful if you have travelled by car and are unlucky with the weather. If not then set up your deck chair and enjoy a raised view where you can see a surprising amount of action.

Pembrey enjoyed some upgrades two years ago by its owner The British Automobile Racing Club (BARC) but has a long way to go to match the facilities at some other circuits. However, the track itself is popular with riders – although only used sporadically over the years for scooters. In 2018 BSSO held a meeting shared with Time Attack and featured a weekend of some (very) wet races, but with a summer date this year then hopefully conditions will be better.

From the start line it's a straight drag to the tight Hatchets hairpin which can be a very tricky corner so always a good place to watch.

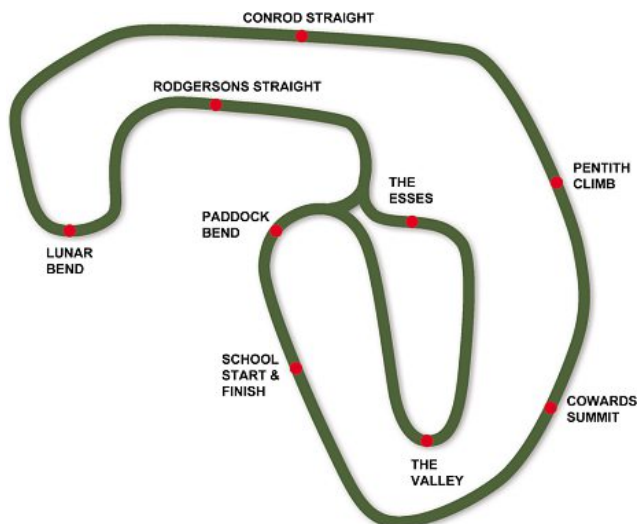
From there the 1.4 mile circuit opens into the right-hand Spitfires right-hand bend then left, left again and then the Esses right-hander all reasonably fast for scooters before a slower right-hand bend that doesn't really live up to its hairpin name. Then the circuit opens up to be fast again all the way over the start line and

back to the tight Hatchets hairpin. This means wherever you choose to watch from you will be able to get a reasonable view of flat-out scooters.

Food facilities aren't the best but are not expensive by circuit standards... but overall if the weather is good a trip to Pembrey for the weekend can be great – especially if you like scenery and beaches, of which there are plenty to see and visit nearby or on the way.

You'll even go past 'Gavin and Stacey land' as well as the Welsh industrial areas, so there is enough to see on the way.





Three Sisters

Ashton-in-Makerfield, Wigan WN4 8DD
www.threesisterscircuit.co.uk



Arriving at the Three Sisters Circuit for the first time can be a little strange, as you go from a housing area to an industrial estate to the recreation area. Ashton-in-Makerfield is a suburb of Wigan, which goes part of the way to explaining why the circuit has been synonymous with racing scooters over the years

Ask any racer about Three Sisters circuit and you will quickly find the BSSO racers have a real love/hate relationship with the circuit that is arguably the 'spiritual home' of UK scooter racing.

Through the 1980s and 90s there were more scooter races here than anywhere else and any racer from that area has probably done thousands of laps of this tight, twisty circuit and probably fallen off on all of its bends. Some years there were five or more races here, and it doesn't suit everyone for sure. As it was built by a local authority as part of a larger recreation area reclaiming the land from three huge slag heaps (the Three Sisters), the circuit has suffered some subsidence and gradually became bumpy, which affects the small wheels of scooters more than motorcycles, and with virtually no run-off in places it has a reputation for crashes and injuries.

In recent years the circuit has gone through some turbulence and threats of closure, but a couple of years ago a new company took over the lease and resurfaced, so things are looking up.

But the fact remains that from a racer's point of view it can be dangerous despite not being a super-fast circuit. Limited run-offs mean barriers are alarmingly close to the track in places, and behind those barriers spectators can get closer to the track than virtually anywhere else.

Racers' reputations were made there in the 1980s and 90s when riders such as Dave Webster, Norrie Kerr, Terry

Frankland, Malc Anderson, Bob West and the like were winning races.

In more recent years Charlie Edmonds and Stuart Day had some fantastic battles, but the circuit is also a great leveller where outright power is less important than street fighting riding ability. I remember Ed Hocking taking fastest lap on a relatively underpowered engine and a scooter equipped with a front drum brake.

The circuit has also ended a few careers, ranging from the legendary Dave Webster to the less legendary *Scootering* editor Dan Clare – both have broken bones here. (Ed note – thanks for highlighting that, Paul!)

Other than the start straight there is no straight really worthy of that name, and after the start it's a right-hand flick to climb over the hill of Cowards Summit in a continuous curve before dropping down to a sharp right-hander. The drop from Cowards Summit is where spectators can get really close, and even as a racer watching from there it can be a terrifying experience of speed, with riders diving into the right-hand bend. There is then a short straight with some covered viewing areas before the Paddock bend takes riders to an infield uphill hairpin which is as far away as the riders will actually get from the spectating area, but it's still all in plain view from 75% of the spectator areas.

Leaving the infield area the riders take a left-right-left flick before a left-hand bend takes them straight into the right-hand Lunar bend. Then it's back to the start straight – which is actually three bends in one, like a threepenny bit (to give the bend its alternative name).

The Lunar bend and Start straight is flanked by a high grass bank which offers



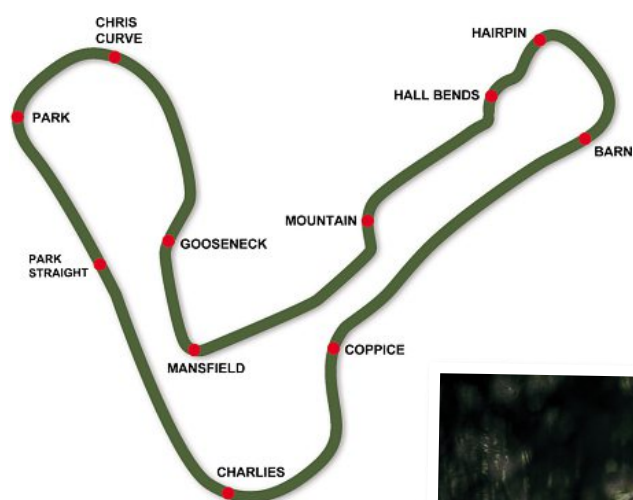
fantastic viewing of almost the whole of the mile long twisty-turny circuit.

But stand at pretty much any track barrier and you can see the majority of the track and follow it round. From a spectator's point of view only Lydden Hill is a match in terms of what you can actually see,

Facilities-wise after a good few years of neglect things are on the up, with a clubhouse and bar offering good, cheap food and drink.

If you are camping there is only limited area of grass for tents so it's advisable to try and nab them early.

It's not too far to walk into town and the pub is not far away. Again, ask any old racer of nights spent there and you will hear tales of drunken escapades generally involving northern girls, chip shop pies and scuffles with locals. There are many tales to tell. If I were you I would definitely have Three Sisters on my list of races to see!



Cadwell Park

Louth, Lincolnshire, LN11 9SE
www.cadwellpark.co.uk

If Three Sisters is the 'spiritual home' of scooter racing, Cadwell Park is considered by many to be the current home. The Lincolnshire circuit has a bit of everything and is often called the 'mini Nurburgring'.

It is certainly a track of huge history and character and is popular with racers and spectators alike. In recent years it has hosted the final round of the British Scooter Championship so has been the





place where champions are crowned. Set in the glorious Lincolnshire Wolds, the circuit is surrounded by and built onto hills and has a fair amount of gradient over its 2.1 mile full circuit lap.

Cadwell has seen racing since the 1930s and is considered too narrow for some car racing, but events such as British Superbikes are the highlight of its calendar.

In previous times there were a couple of options for circuit layout and length, but more recently just the full circuit has been used. The circuit is the favourite of many riders and features two long straights and an incredible variety of fast, sweeping bends – from Charlies and Chris curve, to the technical bends like the dauntingly off camber Gooseneck, through to the wheelie inducing challenge of The Mountain. Then there's the tree lined and covered woodlands section which brings those Nurburgring comparisons.

There are acres of paddock and grassland space on which to camp and the paddock area has a grid of Tarmac roadways through grassy areas, so you can actually camp very close to the racers' paddock area if you are lucky. Take some good walking shoes though, because you will need to do plenty of walking up and down hills to see the action.

The two grandstands at the bottom of The Mountain are a popular place to watch, but you can also get over the track to some central grandstands which are a great place to watch from.

One of the most popular places is conveniently right outside the main cafe where you can watch the riders form up on a dummy grid, smell the two-stroke in the air before watching many riders pulling some spectacular wheelies over the mountain before they enter the blind right-left-right-left flick of Hall bends in the woodlands area of the circuit.

If you walk through the woods along the side of the track this is a great place to take pictures as you can get very close to the track. The engine sounds echoing through the trees add to the spectacle.

The right-hand hairpin is a popular place for diving lunges at passing so is a good place to see track action, although you won't see the rest of the circuit from this vantage point. If you take a good walk (or drive) around the opposite end of the circuit you will find the track's fastest sections. Charlies, Park straight and Park bend are where the scooters are flat out with speeds of over 100mph at the front. The braking point into the right-hand Park corner can be a spectacular place to watch from too as riders jockey for position with late braking into the fast right-hand bends leading to Charlies and the infamous Gooseneck.

My recommendation would be to move around and watch Cadwell races from a variety of viewpoints, all of which can be spectacular.

Cadwell is owned by the MSV group which means although all costs are higher, the facilities are actually very good. The onsite cafe and bar is popular in the evenings and sometimes may even feature a band playing. There is a choice of food outlets but if you want to eat and drink cheaply then taking your own and a barbecue would be recommended. Even facilities like toilets and showers are pretty good. If you are camping then the towns of Horncastle or Louth are both a short drive away with good choice of pubs and food.

Cadwell is also popular with road scooterists and there are several large clubs in the area, so there is usually a good display of road scooters to look around as well as the extensive race paddock which is open to spectators.

Words: Paul Green

Photographs: Tim Simpson

The beginner's guide to getting started in scooter racing

Part 1 – choosing a class to race in

So you want to dip your toe into the world of racing fast scooters. Here's an overview of each class to help you decide where to start.



Scooter racing in the UK is organised by the British Scooter Sport Organisation and is the world's fastest scooter series, running on the biggest circuits. The BSSO provide a wide range of two and four-stroke classes that form the British Scooter Championship. You will find that the racers competing in the BSSO series are very welcoming and encouraging and will always do their utmost to help newcomers get out on track with them... to join in the fun and mayhem of scooter racing! So I would definitely advise anyone thinking of racing to go along to a meeting and say hello to the riders. You can ask them to show you their race set ups and fire away with any questions. But just make sure you choose the right time to do so – you won't get much joy just before a race as riders get their 'race face' on or have their engine apart.

How do you choose which class to race in?

Everyone's situation is different, with different degrees of access to parts or complete scooters that can be raced, so consider a few things carefully first: Do you have good engineering and technical skills? If not then you may need deeper

pockets as you might have to pay others to build your race scooter and maintain it. Do you have transport to take the scooter racing? Do you have helpers or club members to assist with preparation and the race weekend? Generally speaking, automatic scooters are (relatively) low maintenance so if mechanical skills are limited then you may wish to consider an automatic scooter, but if you are a keen engineer then you may be attracted to the specials classes where you can really use these skills.

If your preference is for a traditional geared scooter then you have a few choices...

Street Class: Frustratingly few riders have taken to this class in recent years but it's actually the most open and simplest class to potentially take part in. Basically you can race your road legal scooter with minimal changes. You will need to produce proof of MoT and tax to show your machine is a road legal scooter. You will need to remove or tape up lights and wire your drain plugs for safety, but other than that you can just take your road scooter and get out there. Beware though, the scooter definitely needs to be in top

condition and race tracks are extremely hard on the scooter. You may well throw it down the track at some point too, so racing your 'custom painted' scooter may not be the wisest choice!

LCGB Production Class: This group has proven extremely popular in its first year and is heavily controlled to give close racing on equal machines which are built to a very tight and cost-controlled specification. All machines feature full bodywork. The class is heavily subsidised by dealers and manufacturers, and all the scooters are essentially the same spec, constructed from a very particular 'approved' set of components. All the scooters should be within 1-2hp of each other so success is down to rider skills and how well you have built the machine.

Group 4: Full-body, 200cc, piston-ported scooters. Group 4 has over the years often been the biggest class but development at the sharp end has made it harder to compete as the top tuners have really pushed their skills to meet the challenge of tuning kit barrels to gain even more performance from these engines. A Group 4 race scooter can again be built relatively



LCGB Production class.



Street Class.



Group 6.

cheaply but to compete at the sharp-end you will definitely need a good budget to go with your riding skills.

Group 6: The 'specials' class allows use of wilder engines and virtually anything goes frame wise. So you can use larger cc engines that can be water cooled and use reed valve induction. Many Group 6 scooters feature cut down frames, fairings and dropped handlebars. For many this is the engineer's class where riders can potentially make massive changes to the components and frame where 40hp+ engines can be developed. For the traditionalists who want their machine to still look like a full scooter, full bodywork can be retained and full fibreglass body kits are becoming popular.

Development Class: A new class for 2017 and pretty much anything goes. The class is open to new casings and barrel technology that falls outside existing rules. Check with the BSSO for detailed rules but expect to see some potentially wild engines and unusual machines in this class.

Group 10: 80cc standard automatics, essentially Piaggio Zip type machines which are tuned to rev highly and produce way more power than you would expect from the 80cc engines. This class is again relatively economical to run in with the engines being pretty reliable over a season.

Group 6A: This is an increasingly popular class for bigger cc automatic scooters. Being a specials class there are more modifications that can be made and bodywork can be cut down or removed. Most popular machines used are Gilera Runners and there is a wide variety of tuning parts available off the shelf which can be further tuned. The automatic scooters are relatively reliable and require less attention than the geared scooters and can be appealing to race relatively cheaply.

Automatic Production Class: Another new class for 2017 aimed at a similar format to the geared production class where engine components are chosen from a tight list of approved parts with no further tuning so performance will be similar from tried and tested parts. The class rules are new, so check out the BSSO web site for full details.

As an unusual twist, you could always try your hand at scooter sidecars, using modern automatic engines to power the rider and his passenger on these unique machines. Sidecars are fully engineered one-offs and are a huge commitment, but offer safe and fast racing where you will be competing with motorcycle powered outfits.

So which class is best for you? Well only you can decide, but you should consider obvious things like your race budget and your level of mechanical skills. No motor

sport can be classed as cheap but classes like the LCGB production class can get you on track against similar spec machines, or the auto classes help alleviate comparative reliability and cost issues. But whichever class you race in, make sure you download the technical regulations for your class. No point turning up with a machine which doesn't have a class or is built outside of the rule book! If in doubt just ask BSSO officials for guidance and help

One thing that you can almost guarantee is that however fast you feel you are as a rider, you may well get a shock on the track as you will be out there with some extremely talented riders and unless you are a very talented natural you will need to earn your stripes and hone your skills. The most important thing is to get out there on a reliable machine to learn your race craft and track skills. But be warned... once the bug gets you it's hard to get away from.

The BSSO website at www.scootering.org.uk is a great source of information, or join up on the race forum at www.fastscooter.co.uk and ask away with questions.

Words: Paul Green

Photography: Neil Kirby



Group 6A automatics.



Group 10.

The beginner's guide to getting started in scooter racing

Part 2 – choosing your essential equipment



Photo by Neil Kirby

Last month we covered some suggestions for deciding what class to race in and this month we look at some of the things you will need. Some essential, some less so... but each item has an important place in the kit of a scooter racer.



Leathers, helmet, gloves and boots

You need good quality one-piece leathers and these can be sourced relatively easily. Second-hand is worth looking at as often they appear on auction sites with little use but in last year's colours – which should be no problem to most riders. You'll need a good quality helmet with a gold ACU approval sticker too. Take clear and tinted visors to suit all likely conditions. It's worth taking a spare helmet if you have one. If you have the misfortune to crash you may damage your helmet so having a spare to enable you to continue makes sense. The same applies to your boots and gloves. With all these items, always buy the best you can. Your health and safety are important and race speeds are ever increasing. You'll also need an orange 'beginners' bib, and a transponder to register your laps/times with race control.

Transport

Think about how you will be transporting the race scooter to meetings and allow for the cost of doing so. A car trailer is okay but a van is the best solution as it has many benefits. It will give you clean dry space for sleeping or just getting out of the elements when it's raining and cold, which it will be at some time. You need straps to secure the scooter too as you don't want it moving around and potentially being damaged in transit. A ramp to get the bike in and out the van easily is a good idea. If you get really serious and have a race team or helpers then a caravan or motorhome gives great space to relax and rest although can become a logistical headache.

Tools

Think carefully about what tools you take. In your home workshop you have probably got lots of tools, but you don't need to take everything to a race meeting. Think about a 'race' toolbox. The race box can



Above: Keep your toolbox neat and tidy. **Right:** Workbench for race scooters makes light work.



contain just what you need to work on your race scooter. Take some time to work out just the tools and sizes needed. There's little point taking 16mm sockets and spanners when you have no 16mm nuts!

The benefit of a race toolbox is that you can keep it ready to go with just what you need. Keep your box organised and neat. At some point you will need to do repair work quickly so you need to know where everything is. If you have someone helping in a rush you can point them straight to the tools needed.

Tyres

You will need at least dry and wet tyres but it's also worth having spares of each ready on rims. If you have a puncture or tyre failure then it will only take a minute to swap a built up wheel. There's nothing worse than finding you have a puncture when you are just about to race.

Spare parts

The simple answer is you can never have too many but it makes sense to be smart and carry at least the most essential items that are likely to break. So things like cables are obvious, but something like a fuel cap going astray can stop you racing. It's a good idea to have a couple of large strong 'race boxes' that are stocked with lots of essentials to allow for breakages or repairs. Things like plug caps, spare CDI, switches, nuts and bolts etc. But also consider larger spares that you may need, like a spare complete clutch or gearbox, piston, crankshaft etc. A spare exhaust muffler makes sense as they can be quite fragile and easily damaged in an accident.

If your budget allows then a complete spare engine makes sense but is a big investment, so a consideration is a lower spec engine that just allows you to get on track. There's little worse feeling than

blowing an engine in first practice, then losing your entry fee sitting on the sidelines. A spare engine even in low specification means you can at least get on track and have some fun rather than wasting your weekend. Also consider the items most likely to be broken in an accident, e.g. brake and clutch levers are often broken along with handlebars.

Fuel

An obvious one this, but take spare fuel. Your engine may be set up for a specific or consistent fuel mix so it's always wise to be in control of your own fuel so you know exactly what is going into your own engine.

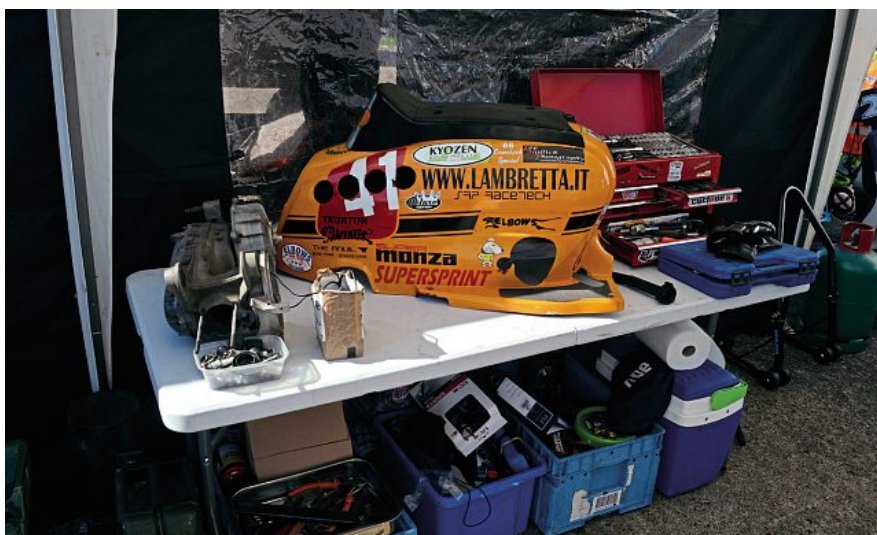
Oils

Spare oil of the right type is important for both engine and gearbox. If you're using a specific oil you can't rely 100% on other riders having spare.



Above: Headsets are easily broken. **Right:** A good paddock stand.





Left: The nearest tree stump is okay but a proper stand is best. **Above:** A pit table and spares boxes is handy.

Power tools

Powered tools are handy, especially cordless but ensure you keep them charged up. Impact drivers are a very handy tool for many jobs. Always take the chargers in case you need to recharge.

Stands

A paddock stand for the scooter is a great thing to have and much preferred to leaning the scooter against the nearest solid (hopefully) object. Portable work stands are increasingly popular and well worth having. These allow you to work on and prepare the machine at a good height rather than working sitting on the cold and wet floor.

Gazebo

A pop up gazebo is great for setting up your pit area. It will provide a covered area which is useful to have in both hot and cold weather. A good rule of thumb here is to buy the best that you can. A £39 eBay special may only last you a

matter of hours! You need a good solid frame that's designed for the job and able to stand for a windy weekend out on an exposed airfield. A good size to consider is 3m by 3m but if you have a team or lots of supporters then bigger is better to give you clear working space that can be separated from social space.

Generators and hook up

Increasingly circuits have some hook ups and pit areas available but these can soon be taken by other teams, so a generator is very useful to power lighting (you may need to make repairs during the evening), tools and tyre warmers as you get serious. Again it pays to buy the best that you can afford in terms of power output but also consider buying the quietest generator that you can find.

After a few hours sitting beside a unit that's droning away your ears will be glad of it. Don't forget long extension leads for power and hook up as you may need to park away from the main power sources.

Helpers

Help and support makes a race weekend so much easier. Whether it is someone to help you fix and repair, or just keep you fed and watered, racing is a social activity off the track and it's always good to have friends and family with you to share the weekends. You will all have a great time and great memories.

Determination and sense of humour

These are things you definitely need to go racing and they will undoubtedly be tested to the max! You will have good days as well as days when everything appears stacked against you. But the good days will make the bad forgettable.

Words & Photographs: Paul Green



Above left: Race pit. **Above right:** Tyres, bench, tools, coffee machine – only the bare essentials.

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The ACU form also may require a medical questionnaire to be completed by a doctor if you are over 55 or have certain medical conditions. The membership form can be downloaded from either the BSSO website or the ACU site to get your first Scooter Clubman licence. Once you have completed it then you can get a specific membership code from the BSSO membership secretary which will allow the ACU to process your application.

Road race course and assessment

The next stage in getting your first race licence is to attend a classroom and on-track assessment. This covers basic riding skills as well as essential knowledge such as flag signals, track etiquette, and safety matters. This stage is seen by many as a real hassle but it is a very important thing to do. Once you are on track you will be going (possibly) the fastest you will ever go on two wheels and all in very close quarters to almost 40 other riders who are likely to be of a range of skills and speeds.

Scooters are tuned to go ever faster and however fast you think you are on the road – the track is an entirely different world, so safety is absolutely essential and the risk of life-changing injury is very real. New riders need to treat this course with the seriousness it deserves. You can find all the information you will need to book your course at the ACU website.

Once you have satisfactorily completed your course and the assessment you can get your membership form stamped to confirm that you know roughly what you are doing. The next task is simply to send away a passport picture of yourself and then eagerly await your ACU photo licence arriving along with a record card to get signed for your first 12 races to prove that you can ride safely at a sensible speed.

The process of getting the physical licence is generally quite quick but its best to get your application sent off in good time and not last minute, when delays may occur due to high demand.



Get a dog tag

In addition to the riding gear, we covered last month you will need a dog tag which is inspected at each race. In the event of an accident and injury, this is essential for medical officials. It's recommended that you show your blood group alongside essential identity information. Your dog tag should be fixed on a good quality strong chain.

Hi-viz vest

Even as a novice you will be on track with the UK's fastest riders. All newcomer Clubmen must wear an orange vest so experienced riders can give you the space and courtesy needed. Once you have completed a set number of races and proved you are safe and fast enough then you can upgrade to a national licence and remove the vest.

Transponders

The transponder is an electrical device that is essential to provide timing information and your race placings. Most clubs that the BSSO races with will have a provision to hire a transponder but it's worth buying your own if you are taking racing seriously. All ACU approved circuits have an electrical circuit buried under the start line which triggers as the transponder passes over it. Each unit has a unique ID number which is logged to you so the officials can provide your race results. Your transponder should be solidly mounted to your machine, generally at the front. If you have a close race and pass over the finish line side by side you don't want your transponder behind your seat if your rival has his on the front mudguard!

Race entry forms

These are made available on the BSSO or the host club's website. Each race has a closing date so it's best to get your entries downloaded and sent off as early as

possible. If you miss the printed closing dates then you may have a surcharge so being organised pays off. There is also the possibility of over-subscription at some events so early entry is always advisable. It also allows the BSSO and host clubs the chance to possibly change race orders and class races and try to avoid anyone not being able to race.

Scrutineering cards and final race instructions

Once you have entered you will receive a scrutineering card, paddock passes and final race instructions a week or so before the race. You need to get a signature on the card once your machine and clothing has been inspected by technical officials.

You then take the card along with your ACU licence and BSSO membership card to race control where you will sign on and sign race disclaimers. Then you are in! From this point on it's a case of watching and listening to paddock announcements for your first practice. Then once everyone has practiced and had the chance to get familiar with the track – it's race time. And then the fun really starts and all this form filling and administration will have been worth it.

Help is at hand

Starting racing is a daunting process but BSSO riders and officials will help you through and are very keen to get more people on track – so you will get all the help you need. Just ask in person or via the race forum if there's any help you need or things you don't understand.

Racing can be expensive, dangerous, scary, fun and stressful in equal measure. Take it seriously and get your initial race licence and you could enjoy years of fun riding very fast circuits on some of the country's premier racetracks. Have fun!

Words: Paul Green

Photographs: Neil Kirby & Paul Green

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BSSO close season. What happens in the dark winter months?

For the adrenaline-fuelled racers, the five months of the 'off-season' can be a real drag until the track action commences again. But for the back room guys and tuners, it's a chance to do some development work and try out new ideas in the workshop and dyno room...



SRP team testing.

The BSSO race season is around seven months long, traditionally lasting from the middle of March through to the traditional last weekend of September. Into those six or seven months is packed a test-day and around eight championship weekends, with a few other events here and there thrown in for fun, like the chance to sprint or hill climb. But what else goes?

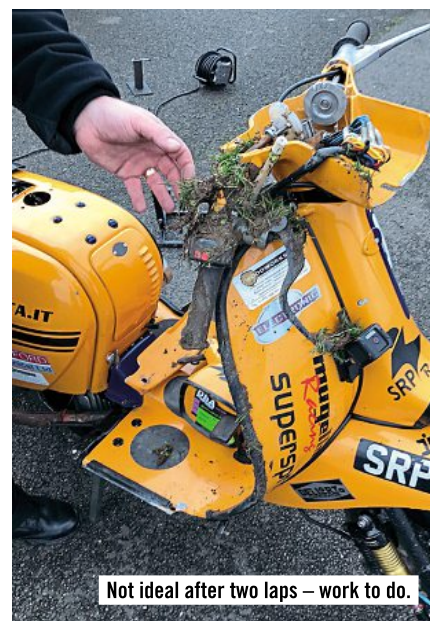
The BSSO AGM and presentation has been moved to a pre-Christmas slot which allows rules developments and changes to be agreed and communicated early so riders and tuners can get going quickly and make the most of any new or amended rules. So once the AGM is out of the way it's into the workshops to get cracking on next year's race scooters.

Rebuilds

A full race season can be very hard on the machines and for most riders, the first job of the winter is to fully strip their race bikes and check every component for damage and wear. If the scooters have been crashed during the year then bodywork can be fully repaired and repainted, frames checked, and damaged body parts replaced. From the engine perspective, even if no major developments are planned the whole engine will require stripping right down to component parts to closely check and replace any worn or damaged parts.

Development work

During the race season, the tuners will be keeping an eye on each other's work and new ideas. Despite scooters being raced for around 50 years, the pace of



Not ideal after two laps – work to do.



Cold track day for Steve Last.



Two new DSC Production class scooters.

development has never been faster than now. The rules of racing have always kept pace with new technology and ideas and have (in sharp contrast to vintage motorcycles) allowed the development of more performance and improvements in handling. The top tuners are notoriously secretive about their work but some things can't be hidden away and others can start to use those ideas. With modern technology and regular use of dyno machines the winter is an ideal time to make and test new exhaust systems for example so some tuners will be making up new patterns and testing back to back to see how they work.

Emperor's new clothing

For a racer, every once in a while adopting a new colour scheme, new leathers, boots, helmet becomes a statement of intent. So the close season is a great time to get all these changes made, whether they be for an individual rider or a whole new set of team colours.

New classes

The popularity and competitiveness of different classes has always had its ups and downs over the years. It's quite common for riders to switch from one class to another for the start of a new season. Sometimes this is due to classes being dominated by a rider or team so people move to their classes, or sometimes riders have won in a class so need a new challenge or faster class. Of course, sometimes a top fast rider can be in demand to race a different machine or class if their skills are so great.

Race to the sun

Scooter racing over the years has become more professional, with bigger budgets involved. A few riders also own race motorcycles and use them to test and gain track time both in the UK but also in Europe where the better climate allows

year-round riding in the sun. At the time of writing this, a couple of riders were spending time in Spain on motorcycles in the same way that the top motorcycle racers are keeping their hand in during the close season. For some riders, testing much faster motorcycles helps develop their skills despite the massive differences in handling.

Track days

Several UK track day companies will let scooter racers onto their motorcycle track days. Circuits like Mallory Park and Cadwell Park run regular track days even over the winter so for riders and teams this is a great way to get in some early year track time and testing.

Despite the often cold and wet UK conditions over winter and early spring, things can be learnt and experience gained. Sometimes riders and teams will be quite secretive, while others are more willing to test in public and encourage other riders along.

The SRP team recently had a weekend testing at Mallory which allowed them to evaluate some new tuning ideas on the race track. An early crash after only two laps for Chris Geyton didn't help matters on the day, but it's always good to get the first crash of the year out of the way!

The official BSSO test day

Just before the start of the new season the official pre-season test day takes place. Generally held at Mallory Park, it's the first chance of the year for riders to turn up and pit their skills and winter developments against their competitors.

This year the test day takes place on Friday, March 24, at Mallory and is open to spectators if you fancy a day off work watching fast scooters at play.



Darren Conneely racing a motorcycle over winter.

The first race

This year the season opener at Croft takes place on April 1 and the next issue of *Scooter* will feature a review. The first race is often like the first day at school as everyone finds their way into the season and gets familiar with new machines and new riders. Why not go along and check out the action

More information about the BSSO visit: www.scooterracing.org.uk

Words: Paul Green

Photographs: courtesy Phil Sinclair, Darren Scott





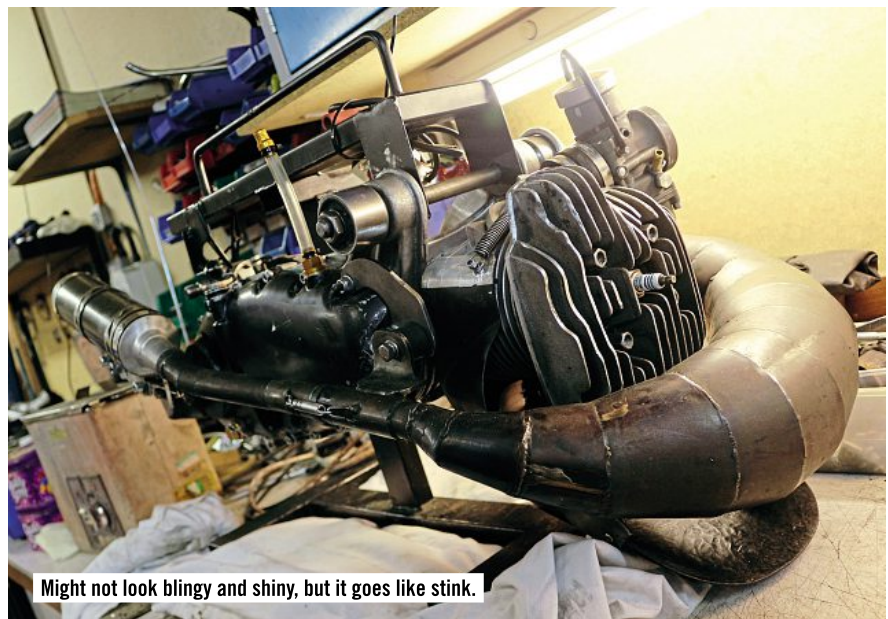
REPLAY RACE ENGINE EXPOSE INSIDE THE EYE OF THE STORM

When an accomplished engine builder and tuner offers you the chance to rip apart one of his engines and peek inside, you don't ask questions... you just get on with it.

When the phone rang and Paul Green mentioned that Chalky White was offering a full strip-down and spec list of one of his race engines for the magazine, I couldn't believe my ears. The amount of secrecy usually surrounding the spec of tuned engines is the stuff of legend. Tuners tend to aggressively 'protect' their research in attaining those last few bhp or mph. So at first I was doubtful it would come off, but come the day, I rolled up to Chalky's workshop and Paul Green was waiting there for me, with said engine on the bench in front of us... I was relieved and excited in equal measure.

Despite my eagerness to push past everyone and go at the engine with a set of spanners, I thought it polite to wait until invited, and instead engaged Chalky in some probing questions. I asked if he was happy now the season was over, to which he replied: "It's a curse and a blessing I guess. A blessing because I carry 10-14 weeks' worth of lost labour during the season, plus the costs of parts for the machines, and the financial burden is huge. So I'm glad the season is over and I can now try to clear some of the backlog of work, and recoup some of the losses incurred... but you never really do, you just carry most of it for the love of racing. In the same token, it's a curse that the season is over, because I enjoy the thrill of it all so much. I'm always nervous when viewing a race, but it's great to see a good pilot in action, and hear positive comments from crowd. It's a great buzz, which I miss."

It was nice to hear someone who is so passionate about what they do, and who

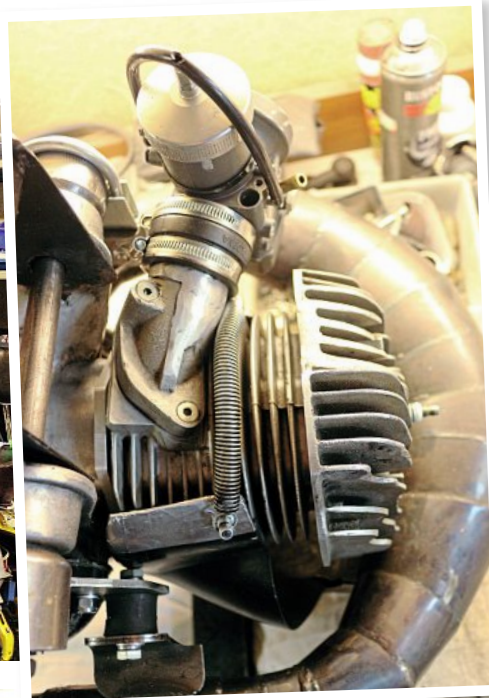


Might not look blingy and shiny, but it goes like stink.

thrives on the buzz of it all. Chalky has built himself a solid reputation, with the 2017 season seeing his engines win 57 of the 64 races they entered... that's some achievement. The particular engine we would be looking at is the one which Steve Conneely ran in his Gp4 during 2016 and Dave Bristow used for around five races at the end of 2017. I asked Chalky about the Conneely bros, and who was the fastest of the trio – he told me Darren was a great rider, and probably the quickest of the three, but thought Burt would have something about that, as he laughed.

My penultimate question, before I burst with enthusiasm to rip open the engine, was in regard to his achievements, and

specifically whether there was anything on his list that he had not yet achieved. He was quite pragmatic and cool in his response: "Not really, I think the trophies speak for themselves... Darren broke every lap record there was with my engines, and we won practically every race we entered, what more is there to achieve?" After a pause, he concluded: "I would have liked to pitch my best engine and rider against Charlie Edmonds at his peak. He has achieved what very few do, and that is legendary status. To have raced against a legend, and potentially to have won, well that would have been something. But we were at our peaks in different eras, so it's just not to be. You can't have everything."



ENGINE SPEC

Case: 200 SIL skimmed mag face – simple, cheap, readily available.

Gearbox: Chalky presses gearboxes which vary depending on tracks, he likes using Li 150 third and SX150 fourth – close ratios.

Chain: 82 link IWIS.

Sprockets: 17/47 on a machined S1 drive tube – 4.9 final drive.

Layshaft/dog: Tino sliding dog and layshaft with MB spring – used to use SIL shafts which are fine also once deburred.

Clutch: LTH seven-plate clutch – a good weight which reduces inertia and thus gearbox breakages.

Bearings: Low friction bearings throughout, Honda RS125 in drive side, and 18mm ball bearing in mag side, with double lip seal, drilled hole and groove for lube.

Ignition: Selettra.

Crank: BGM 58mm webs – 116mm Yam 6H4 outboard high-hp rod with 18mm little end, TIG pin, 8mm base packer and space crank webs 1mm each side to reduce viscous drag.

Cylinder: Mugello V4 cylinder.

Piston: Suzuki/Wossner with heat coating.

Carb: 39mm Dellorto with Aprilia hose.

Exhaust: Pipe Design Hornet.

Rear hub: Tino or Scootopia.

Tyres: Bridgestone.

So finally, with the preliminary questions and queries now out of the way, I asked about the engine development. Chalky, once more, was very measured and thoughtful in his response: "I didn't care about the crazy 40-50hp numbers which people are banding around these days. Most people will be surprised to hear, this engine is 34hp." There was a time when that seemed astronomical; there are well known racers who won group championships on 24hp machines, so 34hp is a significant number... though by the 40-50hp numbers being quoted today, it seems somewhat tame.

Chalky went on: "The engine has everything – power, torque, revs, speed, and most importantly reliability. It was about selecting quality components which all worked together, like the LTH clutch: it holds the power without slippage, but unlike the old fashioned mega-plate heavy-weight homemade jobs, it's a good weight and so doesn't



act like a flywheel and break gearboxes. We finished race after race, up at the front, and that's what won us the championship. Speed and reliability." You can't fault that ethos.

So to work. Let's take a look inside the beast...



SETTINGS AND DETAILS

Jetting: DQ267 – K24 (1.5 clip)

48p – 165-168 main.

Port timings: 197 ex – 128 tr – 180/200 inlet depending on track. Chalky sets the transfers to a level the engine rpm can handle, and then develops the exhaust to gain the necessary blowdown without going crazy high, thus retaining mid-range and rideability. The longer inlet duration can help slow down crankcase transfer delivery by keeping the case open longer, and thus lowering crankcase compression. All alterations to inlet timing were done at piston skirt, not cylinder, which made track-to-track alterations easier. It's not all about peak power, it's about balance. Keep a small exhaust duct with oval shape bore on exit, Chalky uses a transitional stub between duct and pipe.

Ignition timing: 15° before 4000rpm – then straight up to 26° after 4000rpm, progressively coming back to 17° at 9000rpm, and finish at 14° in over-rev.

Bore and stroke: 67mm bore x 64 stroke in the Group 6.

Head: Buys blank heads 10 at a time and machines his own conical/toroidal heads torqued to 20lb-ft, setting 0.85mm squish and with about 51% squish area depending on MSV dictated by software, giving around 15cc volume in chamber (on avgas) and 6.75:1 CCR. Chalky spends hours on the head, in order to quench the heat sufficiently. He's never had a seizure on track.

EGT temp: 200°

Bits: Air scoop for cooling, welded and reworked inlet with venture effect, machined heads, LPC crankcase compressions to prevent losses via exhaust port, reduce crank turbulence, Mikano AFR.

Speed and power: Around 95mph with 34-35bhp.



FAILURES



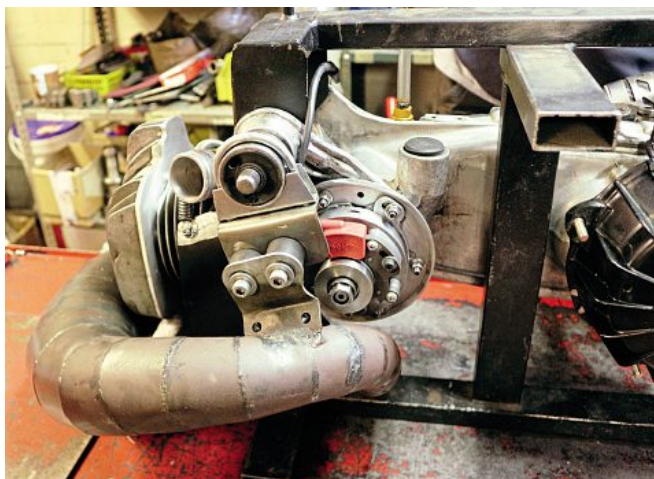
Even with a tight fit and weld on the pin, this crank started to spread.



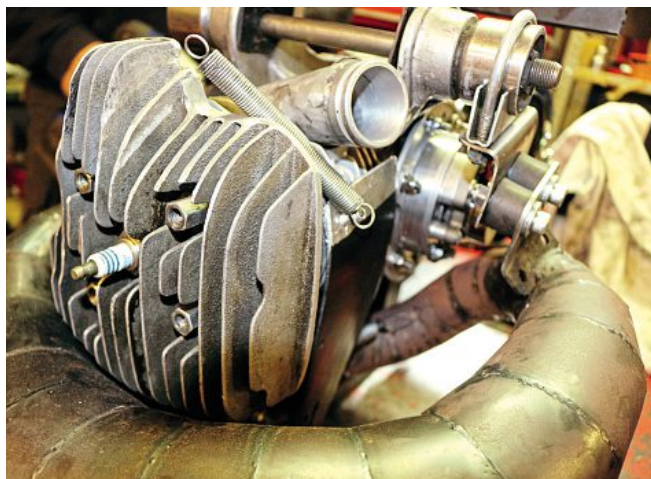
What is learned on track benefits those on the road.



When a rod lets go, devastation is bound to follow.



The lightweight Selettra ignition can be seen clearly from this angle, as can the bespoke exhaust mount bracket.



One of Chalky's own heads, large fins, air-cooled and pipe routed tightly underneath. Note the frame cutout on top.



39mm Dellorto race carb, a large unit for a small motor, but ensures maximum peak power.



PipeDesign Hornet exhaust, routed to Chalky's own design spec, mounting brackets altered, and completed with carbon end can.



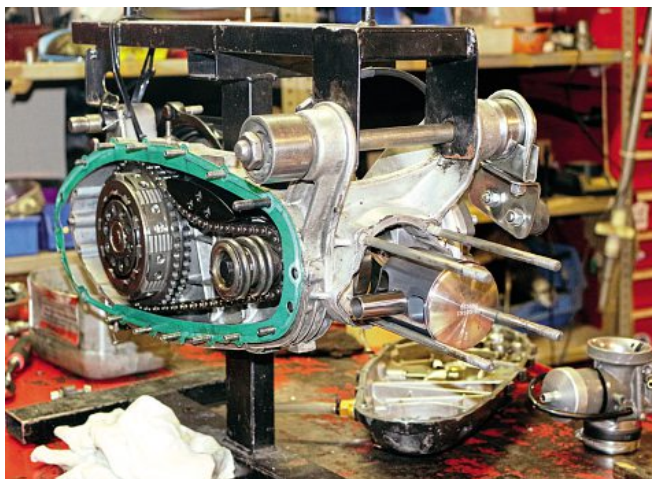
The entire top end of the engine removed as one unit as sealants were set solid, now that's airtight!



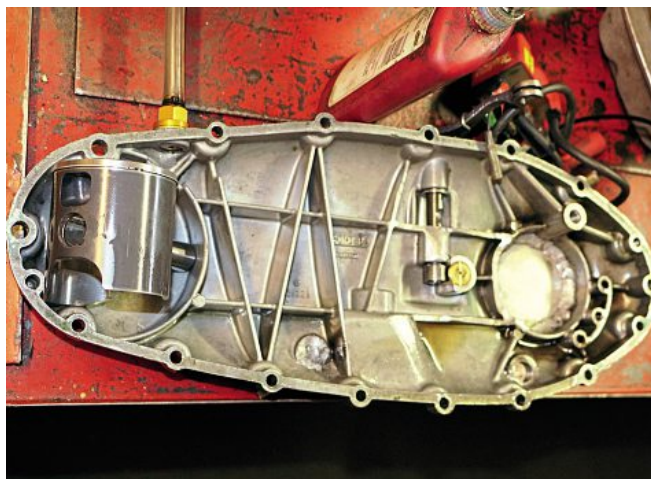
This close-up shot shows how the inlet manifold has been painstakingly flowed and matched by Chalky.



Lightweight Wossner/Suzuki piston with heat coating – despite being part of a race-winning engine, it almost looks brand new.



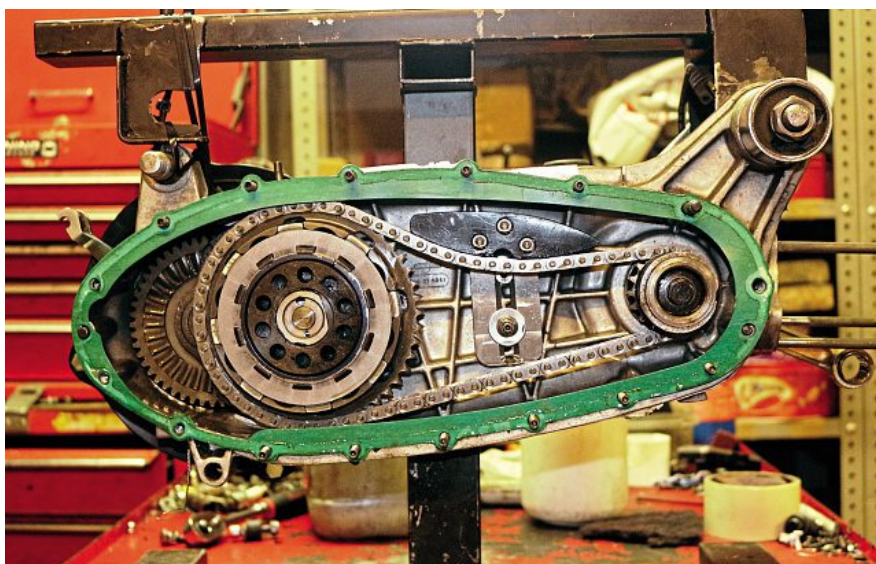
Given its racing pedigree and success, it doesn't look particularly out of the ordinary at first glance.



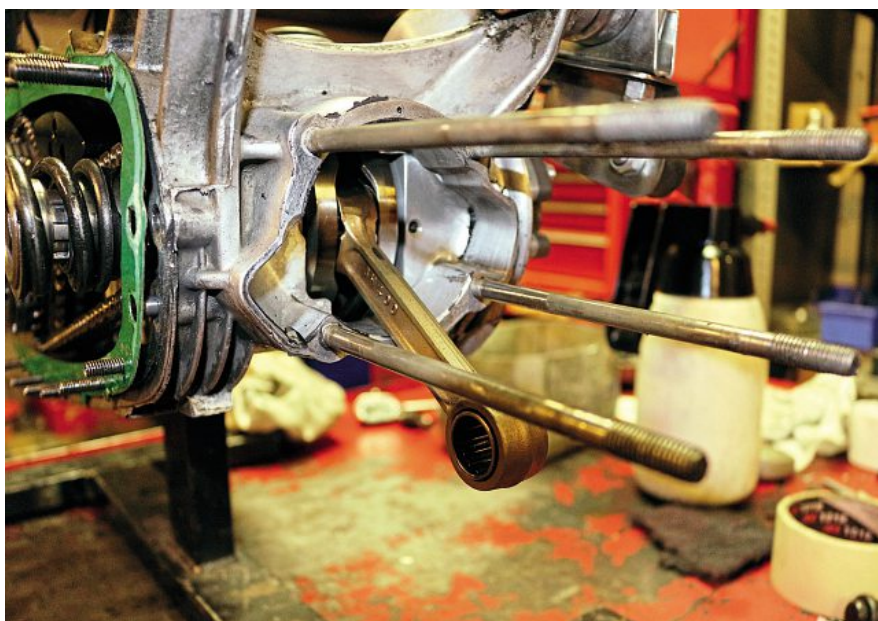
Welded kickstart on the sidecase and trimmed inlet on the piston skirt.



The painstakingly trimmed skirt brings the engine's inlet timing to near 200° for some tracks.



LTH seven-plate clutch: the choice of champions (and those with lots of power who don't want to break gearboxes).



The engine has a 116mm Yamaha 6H4 outboard motor rod, with 18mm little end. Cases ported with standard gasket face, no welding.



The diminutive Selettra ignition system components... now that's what I call a lightweight ignition!



Packer plate at cylinder base for the long crank rod. Exhaust nuts securely lock-wired.



Plug colour looks good; no dark fouling and no light lean running.



Head runs 51% squish area, 15cc volume, giving 6.75:1 CCR and 0.85mm squish.



Centre plug, centre squish head. 128° transfer and 197° exhaust.



Even the packer plate is carefully ported to match the cylinder and case, for maximum flow.



Porting arrangement can be seen clearly, with the popular 'chef's hat' style exhaust port shape.



Chalky's own exhaust stub 'bridge' can be seen here from the side, between the cylinder and stub.

“Darren broke every lap record there was with my engines, and we won practically every race we entered, what more is there to achieve?”

POSSIBILITIES

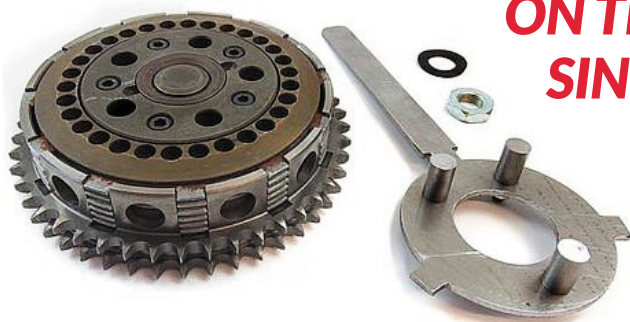
Chalky still has many ideas bubbling around inside his brain. One possibility

involves a little project with a water-cooled Super Imola... we will keep you posted!



As I left, I realised the engine I had seen laid bare, perhaps wasn't the 'big hp' and 'exotic porting' item I'd first expected to see, and assumed was required to win a championship, but was in fact part of a bigger equation. The engine didn't win the championship, the complete package did: Chalky's dedication to the sport, having put in countless hours both at workshop and track. His quest in trial and error, combined with research and development, for a fast and reliable engine, inserted into a well thought-out chassis. Combine the above with the relationships he cultivated and nurtured with his riders, and there you have it, a winning combination... the dream team. Chalky requested that I include thanks from him to Dave Bristow, Taylor Sturgess, Darrell Westgarth, Clipo Kettering, and Darrell Taylor for all his advice and being so forthcoming himself with helpful tips and information, to advance others knowledge.

Words & Photographs: Dan Clare

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