

Safer Driving

*The Newsletter of RoSPA Advanced Drivers and Riders
Thames Valley Group*

Autumn 2021



"Season of mists and mellow fruitfulness".....John Keats

Photo by Peter Caton

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Updated 13/09/21

The Editor writes...

I read recently that British car buyers prefer big wheels and a premium sound system to safety features. Big wheels appear to be a ‘must have’ as imported cars frequently come with larger wheels than models sold in Europe. Yet smaller wheels, those of 16in or 17in, give a more comfortable ride than big wheels with low profile tyres on our poorly surfaced roads.

The sound system poses a different problem. Drivers may not like safety systems being installed as standard, or offered as extras, but that would seem to be what is creeping in as manufacturers prepare for a switch to electric cars and autonomous driving. It would seem as if the computer experts are now to the fore in the design teams.

We have grown used to certain warning devices such as beepers front and rear to assist with parking. That has led to the use of a very accurate radar called lidar to enable cars to self-park. It is also a feature of cars that can reverse by themselves for 50 metres out of a narrow lane where they have become stuck. That same radar can warn of cross-traffic vehicles approaching that are out of our range of vision.

Then there is the fast-disappearing ‘hand’ brake. Many have been replaced by an electric handbrake. A refinement of this is the automatic electric handbrake which switches itself on and off when you have stopped at the traffic lights to avoid your high level brake light irritating the driver behind. Then there is the device that detects if you are driving erratically and urges you to take a break. It comes from the same stable that nudges the steering on the motorway when you stray out of your lane without signalling, even if there is no one to signal to.

In its most extreme form, a safety cell surrounds you with a circle of radar that detects problems and acts to avoid damage to you and your car. At its simplest, it exists as the now mandatory speed limiter fitted to all new cars to prevent the speed limit being exceeded and you constantly looking at the speedometer in heavy traffic in an area monitored by average speed cameras.

There is a great deal more in the way of ‘driver aids’ such as collision avoidance and adaptive speed systems which have replaced cruise control. The adaptive system keeps you at a safe distance behind the vehicle in front at all times, slows when necessary, and accelerates when it is safe to do so.

Then there is the navigation system which nowadays has replaced road maps. It gets you to your destination with your choice of roads, motorways, or a scenic route. It turns roads ahead red when traffic is heavy and green when it is light. On more advanced systems the navigation information, the speed limits and your speed are displayed on the head-up display, so that you can ‘keep *your* head up’ and concentrate on scanning the road ahead.

The problem with all this is: what do you do about your RoSPA test? Must you turn *all* these safety aids off even if RoSPA’s purpose is to prevent accidents?

Max Davidson

From the Autumn Chair

Let Rospa know if you are ready to take your test

Since the last Newsletter we have resumed a relatively normal level of bike training and car tuition is also slowly restarting. The car Tutors benefited from a tutor face-to-face meeting at the start of July, which we all felt was needed, given the hiatus caused by COVID. Many thanks to Tony and Paul for organising that session. Incidentally, if you are due your retest, you should be hearing from a local examiner shortly, and if you aren't contacted soon, please let RoSPA know that you are ready to take the retest.

I asked last time that you let David Tomlinson know of any possible speakers that you would like him to invite to the monthly Zoom event. I am aware of a couple of Members who have sent through suggestions, but we need many more. So please give this some thought and contact David at events@roadartvg.org.uk with your ideas.

We have had some mid-year changes within the Committee with Samantha and Graham both leaving us. Many thanks to both for their valued and much appreciated contributions. The membership role will shortly pass over to Viktor Januari, who is easing into the position with help from Robin and Samantha. Motorcycle training now comes under Robin.

Finally, something more sobering. I was driving on the M4 and watched with horrified fascination as a car swung from the departure slip road, over the solid white ghost island markings that separate lane one from the slip road, just missed the barrier, and drove almost at right angles on to the carriageway, causing lots of swerving and brake lights.

Obviously, this move was fully justified by the driver because he or she had come off at the wrong junction. Maybe it is just me, but it does feel that driving standards have dropped since the start of the pandemic. There certainly seems to be far less patience on display with cyclists seeming taking the brunt of a lot of vitriol.

Co-incidentally I read an article in *AutoExpress* about UK Motorway offences since 2016. Not pleasant reading but the one that stood out for me was 82 being penalised for making U turns – the mind boggles!

<https://www.autoexpress.co.uk/news/355700/exclusive-almost-18000-major-offences-committed-uk-motorways-2016>

Motorways may still be the safest of roads, but they do carry their own unique and scary hazards!

Keith Pruden, Chairman

Bond's latest quick-response car

The new James Bond film *No Time to Die* will have its premiere in London on 28 September and will be screened in cinemas throughout Britain over the following weeks. In it you will see the prototype for the new Aston Martin Valhalla, which by now has already been built and test driven.



The production car is a hybrid with a V8 engine that produces 740 BHP. Aston says the engine is the '*most advanced, most responsive and highest-performing*' it has ever used. The exhaust system has active flaps and high-mounted tailpipes to give a satisfying bark to match its bite.

Top speed is 217 mph



The V8 is backed up by a plug-in hybrid system with an electric motor at the front and another at the rear. The car can reach 80 mph on electric

power alone, but its range is just nine miles. In pure EV mode, power goes only to the front wheels, but in other modes the electric boost varies between the axles, making the Valhalla all-wheel drive. Total power is 937 BHP, and Aston claims the Valhalla will do 60 in 2.5 seconds with a top speed of 217 mph.

The eight-speed, dual-clutch, automatic transmission was designed especially for the car. It has no reverse gear. Instead, the electric motors reverse the car to save weight. Even more remarkably, the electric motors and the V8 engine can run different gears at the same time to provide James Bond-like quick response and acceleration.

The Valhalla has a carbon-fibre shell to keep the overall weight down to around 1.5 tons. The suspension can be lowered when in track mode to make best use of its speed. The brakes are carbon-ceramics. The tyres were specially made by Michelin for the 20-inch wheels at the front and 21-inch at the rear. The steering is electric-powered to provide an ‘immediate and intuitive’ response.

Low-driving position like an F1 car

There are forward-hinged butterfly doors and, once seated inside, you will be in a low-driving position as if you were in an F1 car. The pedals and steering column are adjustable, but the seats are fixed to the chassis. The central touchscreen now has an infotainment system that supports both Apple CarPlay and Android Auto.

There are other features in the Valhalla which are now commonplace in the newest of upmarket cars. The LED matrix headlights are adaptive and have automatic high-beams, there is adaptive cruise control, automated emergency braking, blind-spot monitoring and forward-collision warning, but a surround-view camera system remains optional.



The price tag of the Valhalla is likely to be around £700,000. So, *No Time to Die*. Time to get saving.

Car fire that would not go out

It was the sort of fire that Chief Palmer Buck of the Woodlands Township Fire Department in suburban Houston, Texas, compared to ‘a trick birthday candle’. When firefighters responded to an emergency call at around 9.30 pm, they found a Tesla Model S that had crashed, killing two people, and was now on fire.

They put the fire out, but then a small flare shot out of the charred hulk. Firefighters once again put out the flames. Not long afterwards, the fire re-ignited for a third time. Fire Chief Buck was flummoxed. *How do we make this stop?* He asked his team. They consulted the details Tesla had supplied on tackling a fire in one of its cars and realised that it would take far more firefighters and water than they could have imagined.



Eight firefighters eventually spent seven hours putting out the fire. They also used up 28,000 gallons of water, the volume the Woodlands Fire Department normally uses in a month. By comparison, a fire in a car with a petrol or diesel engine can often be put out with about 300 gallons, well within the

capacity of a single fire engine. As the number of battery vehicles grows, firefighters in the US have concluded that they are not equipped to tackle them.

It is the batteries that are the problem. They trigger longer-burning fires when the vehicles they are involved in serious accidents. Electric cars have a bank of lithium-ion batteries. But, unlike your mobile phone battery, those in the Tesla Model X, for instance, contain enough energy to power your home for two days. So when an electric car crashes and catches fire, damaged energy cells cause temperatures to rise out of control, and the blaze can take a great deal of water to put out.

Most firefighters in America have not been trained in the differences between putting fires out in battery electric cars compared to petrol and electric cars. Some of their firefighting counterparts in Europe have a different approach, sometimes even putting a burning electric vehicle into a converted shipping container, so that, starved of oxygen, it cannot do further harm.

Tesla’s advice to firefighters is that they should use water to put out fires, but a spokesman for Volkswagen says that German firefighting authorities have come to the same conclusion as those in America about the need for excessive amounts of water. Such fires may be rare events, but it is something that the firefighters in Britain may also have to tackle.

Future is not bright for chrome

Chrome plating as we know it could soon disappear forever if European Union regulations spread worldwide. The problem centres around the use of hexavalent chromium which is on the list of substances banned under EU regulation 1907/2006. It is regarded by the EU as a carcinogen, and prolonged exposure has been linked with lung cancer, affecting those who work in the chrome plating industry.

It was banned in 2017 by the REACH (Regulation of the European Chemicals) Agency for surface treatment. New cars, if bright metal trim is called for, have long used either polished aluminium or, as an alternative a form of black plastic, also used as a highlighter on external car components.

Traditional chrome plating firms are unhappy with the switch to the substitute trivalent chromium and there are a considerable number of such companies elsewhere in the world. The problem with this substitute is that the peculiar blue brightness associated with traditional chrome has proved difficult to reproduce, and trivalent does not self-repair like hexavalent. So if the surface is scratched or scuffed, the part will corrode.



If something cannot be done about this problem then the man pictured above with the ultra-chromed twin-engine tricycle is in trouble. As it stands, owners of classic cars may have to consider getting any chrome re-done within the next two or three years to avoid future problems.

The companies that use the hexavalent chrome for hard chrome plating on, for example, hydraulic rams have already been granted dispensation and can continue to use it, as the trivalent version is entirely unsuitable for their needs.

Some chrome plating experts are firmly opposed to using trivalent, and bluntly describe the finish of the substitute as 'a load of rubbish', unsuitable for classic cars and motorcycles, such those of Harley-Davidson, renown for their extensive use of bright chrome. Unless an exclusion is granted, hexavalent chromium will disappear for ever as a decorative finish.

The Examiner

Variations on a cockpit theme

Having referred to the first part of the driving test last time I thought that now would be a good opportunity to discuss the requirements for the cockpit drill or pre driving check once inside the vehicle. This is referred to on page 277 of Roadcraft as the *Inside the Vehicle Check List*. As with the POWDERS check this should be clear and quite concise giving enough information for the examiner to be satisfied that you are aware of what is required. The way I was taught was very much on the following lines:

- Handbrake on, gear lever in neutral.
- The seats and mirrors are adjusted to my satisfaction.
- I am aware of the layout and function of the controls.
- Switch ignition on – All warning lights are illuminated.
- Pressure on footbrake and slight pressure on steering wheel. Depress clutch and start engine. Brake pedal should travel slightly and feel softer than without engine running. Steering wheel should move more easily.
- All warning lights have extinguished apart from those appertaining to the handbrake and seat belts.
- Check that yours and passenger seat belts and doors are secured. Ensure that seat belt lights have extinguished.
- Release the handbrake to move off and ensure brake warning light has extinguished.

I am often asked at this point if I would like the candidate to carry out a rolling brake test. As long as the candidate has considered this I am satisfied as usually the vehicle has only been parked for a few minutes since arriving at the test location. I am also happy for the candidate to carry out the rolling brake test so long as the test is not so harsh as to test my ability to hang on to my clip board!

With both the POWDERS check and the cockpit drill candidates offer variations on the basic themes which in themselves are not wrong providing they cover what is required. I believe the key to these checks is to establish the routine and practice that routine often then like the system itself it becomes second nature. To feel that you have also carried out a slick and professional POWDERS check and cockpit drill can also dispel some nervousness and makes for a good start to the actual driving part of the test.

I have now carried out a few tests since coming out of lockdown and I am pleased to say that the standard of driving that I have seen on test does not appear to have diminished despite for many drivers several months of not being behind the wheel. My advice would be to always have a check drive just prior to your test if possible and then any bad habits which we can all slip into can be highlighted and rectified before the test proper.

We are looking for the drive to be safe, smooth and systematic and with good progress when the opportunity is available. Enjoy your driving and stay safe. |

Mark Smith

Observation Post

Four legs good, two legs bad

These words come from *Animal Farm* by George Orwell. The animals on the farm overthrow the farmer and try to build a world where animals will be happy and equal without the tyranny of those with only two legs. Their first great slogan is ‘four legs good, two legs bad.’

Electric vehicles

Our political masters (the farmers, as it were) now tell us that ‘electric is good, fossil fuels are bad’ and we are being corralled into buying electric vehicles (EVs) because electricity is apparently the clean solution to air pollution and global warming. While there are some Flat-Earthers who deny the reality of climate change, I am not among them. We are already reaping the whirlwind.

What is going unchallenged is the assumption that ‘electric is good’. The difficulties of producing batteries and of disposing of them when they die are being conveniently ignored. In the future, we may find ways of producing EVs without any environmental cost in manufacture or disposal of the power packs, but we are currently putting all our eggs in the one basket.

An alternative

We have decided that the internal combustion engine is no longer a viable proposition. A conclusion reached in response to the challenge of climate change, but without much further critical evaluation. Batteries offer some undoubted advantages, but they carry a further penalty beyond the issues of clean manufacture and disposal. They are heavy.

CB, the manufacturers of construction equipment, have looked at battery technology and decided that it is not for them. A 20-ton vehicle would require a further eight tons of batteries to offer the equivalent amount of power that the diesel-powered internal combustion engine provides. This would mean a 40 per cent weight penalty, which in turn would mean a greater loading on the ground where the vehicle was operating. The weight increase would need to be spread, which would require bigger wheels, bigger axles and so on. That would mean a huge price increase, which users in the developing world simply could not afford.

This simply does not make commercial sense to JCB. So the company has investigated an alternative fuel for the internal combustion engine and chosen hydrogen. There are fuelling safety considerations to be met, but hydrogen is cheap, easy to produce and the safety issues are simple to resolve. Of JCB’s current vehicle production, 20 per cent is now hydrogen-powered. Their HPVs are out in the real world at work.

What can we learn from this?

In *Animal Farm*, ‘four legs good, two legs bad’ soon leads to ‘all are equal, but some are more equal than others’. The pigs take control, and the others have simply thrown off one dictatorship to experience another.

EVs have very vocal advocates, among them one zillionaire who is set to make even more out of his excellent cars and distribution network. However, we may be changing one way of fouling the planet (petrol and diesel emissions) by adopting a second (exhausting another, more expensive, group of minerals and polluting the Earth with decaying battery hardware). The JCB experience, based on their huge database of vehicle performance and servicing records, suggests that we ought to be more open-minded and less eager to grasp the first apparently easy option.

What will driving and riding look like in 2040?

The main lesson I take from forecasts about the future is that the only honest answer is: 'We don't know.' We can make some very good guesses, but things happen beyond even our best predictions. Nobody imagined in 2019 how a virus would make havoc of our plans only one year on. We have been using modelling as though our models were infallible and we have forgotten that 'All models are wrong, but some are useful.'

In 2040, there will be lots of EVs on the road and charging our cars, bikes, lorries and buses will be more efficient than it is now. Riding and driving those vehicles will require some changes to our current practice, but will the underlying framework of *Roadcraft* have become redundant? How will we encode the System into the software of our automatic vehicles?

There is a lot of work to be done. In 2040, I will (*if still alive*) be 96. I recently travelled on the Romney, Hythe and Dymchurch Railway. The steam engine pulling our train was built in Colchester in 1925; it was 96 years old and in excellent nick. No doubt, it polluted the atmosphere and consumed precious fossil fuels, but, by golly, it was huge fun!

Keep safe and go well.

Paul Sheppy

Membership changes that affect YOU

Earlier this year, to simplify the administration around the pandemic restrictions, the Committee implemented a new standard Membership Year for all Members. The Membership Year now runs from 1 February to 31 January. To ensure no one loses out, and in recognition of the disruption all Members have faced, renewal payments will not begin until 2022. But we need your help with making it work.

All Members: If you have not yet done so in 2021, please sign in to MemberMojo to ensure your contact details and preferences are up to date.

Members paying by Standing Order: Check your expiry date in MemberMojo as soon as possible and update your Standing Order, so that you do not make any unnecessary payments. To sign in to MemberMojo, go to our MemberMojo homepage at <https://membermojo.co.uk/tvg-roadar> and click on *Sign in* in the top right. For further instructions on signing in and updating your record, please scroll to the end of the guide on our website <https://roadartvg.org.uk/how-to-use-membermojo/> or contact the Membership Secretary at membership@roadartvg.org.uk for assistance.

Samantha Appleyard

You never stop learning

I have been riding motorcycles for over 40 years. I passed my RoSPA Advanced Motorcycle Test about five years ago and the most important lesson to come from that is that you never stop learning. I have continued to develop the skills that have kept me safer on the roads, but I still have the odd incident when my riding doesn't go to plan. Most importantly, I treat each incidents as a chance to look at what I could have done better, and how can I avoid that in the future. During the last lockdown, I looked back over my riding career.

My first bike at age 16 was a Yamaha FS1E (Fizzy) 50cc moped. This was before CBT (compulsory basic training). So all I needed to get out on the road were a provisional licence and a set of L Plates. My father had allowed me to have the bike only on condition that I attended an RAC/ACU course on Sundays at a local school.

The course taught motorcycle control such as slow manoeuvring, emergency stops, steering etc. On one of these Sundays I had my first incident. I had completed an emergency stop and was doing a U-turn ready to go round once more. This time I was a little faster into the turn. Next thing I knew, I was upside down entangled in railings with the bike lying next to me. There was no major damage to me, or the bike, but I had learned: look where you want to go and not at the hazard you want to avoid.

My father was not a motorcycle fan and persuaded me to switch to a car at 17. I didn't return to biking for 10 years when I bought a Honda 125, and took my test before buying a Yamaha XJ600. At the time, this was my only transport and, living in North Yorkshire, I was often wet and cold. More of my attention was given to my discomfort than my riding skills.

Having been away for Christmas, I came home to discover I was on an early shift the next day. Out in the garage at 4.30 the temperature was -7C. My commute was only 20 miles. So it shouldn't be too bad, I thought, except that the bike wouldn't start! I eventually got it running on two of the four cylinders, but I was late. I set off, anticipating that the bike would run smoother once it warmed up. Sure enough, the two other cylinders kicked in just as I was turning right on a patch of black ice. The bike slid down the road with me following it. The bike hit the opposite kerb and headed back towards me. I scrambled out of the way. The lessons were many: pre-ride checks, better planning, restraint (don't ride a bike that isn't running smoothly).

I had another enforced break from biking when my younger son was born and finances were tight but, when I returned, I bought myself a Triumph Sprint 955i. I would probably still have it if it hadn't met its end on the M65 one morning. I was heading east into the sun. The road was damp, and I had raindrops on my visor, which compromised my view. I noticed the car in front slowing. So I did a

mirror check to make sure that the following traffic was not too close. When I looked ahead again, everything was stationary.

I braked hard, the back fishtailed, but I was determined to avoid hitting the car in front. At the last moment, I put out my left leg to support the bike as I came to a stop, only to topple to the right. I was then shunted by the car behind, ending up with about a third of the bike under the car in front, another third under the car behind, and me on the road between the two. It was a lucky escape although I had closed the M65 for an hour and a half. After that crash, I decided that it was time for some advanced training.

I had recently moved to Reading and signed up with RoADAR TVG, passing my test about five years ago with a Gold.

Unfortunately, I thought I knew it all until I got knocked off my bike while filtering in heavy traffic. I had been so intent on looking ahead and planning for oncoming vehicles that I had not noticed the side road on the right, into which the driver that I was about to pass decided to turn. While my bike was being repaired, I was loaned an Africa Twin, and it was on that that I had my most recent incident. I was travelling to work on a very windy day when a tree branch fell and hit me on the shoulder. Fortunately I stayed on the bike, but I sustained a nasty bruise. Six inches to the left and it could have been a very different matter.

I fully embrace the ethos of advanced riding/driving that you never stop learning, and I strive to improve with every ride I take. I would welcome any suggestions Members might have on how I can continue to improve my riding.



Andy Storey, Group Secretary

When tailgated, mind the gap!

Like a lot of people I have not done a huge amount of driving by my normal standards for well over a year. So when a wedding invitation came through, I was looking forward to a drive up to Retford in Nottinghamshire, a journey that I have made many times before and a route that I know like the back of my hand. This time, however, it was going to be different in that it was British Grand Prix weekend and so all roads up through Silverstone were closed to through traffic. An alternative route was needed.

Being the hottest weekend of the year so far, I knew that it would affect the behaviour of other drivers, and it wasn't long before we came across the first problem – undertaking. We were just 10 miles into our journey when a van driver,



probably a bit late, on the A34 dual carriageway decided that he would take advantage of the fact that six or seven cars had correctly moved into lane two in preparation to overtake a slow-moving lorry by travelling up the inside at some speed. Then, when he got to the lorry, he forced his way in to lane two. Road rage ensued for a few miles with the cars at the front taking offence.

As an advanced driver, we should be aware of things that are going on around us and use that awareness to predict what is likely to happen. Having seen the van driver travelling in lane one doing the undertaking, I increased the gap even further on the vehicle in front of me. So, while every other vehicle in front of me had to brake aggressively, I just had to ease off and acceleration sense did the work for me.

Much of my journey was in fact on dual carriageways or motorway and on these roads the number of people who were tailgating was, I felt, a lot higher than in the past. I don't have an answer as to why this might be the case. It is true to say that as an advanced driver we use our mirrors far more than the average driver and so we obviously notice it more but when you look in the mirror and you cannot even see the headlights on the car behind you know they are too close.

So what should we do about it? Firstly let me just mention what we shouldn't be doing, which includes speeding up or slowing down abruptly as that could be very dangerous. The thing to remember is the two second rule. So if the car behind is so close that you need to increase the gap on the vehicle in front to four seconds, in another words develop the two-second gap for the car behind. If there is opportunity you should never be worried about giving up your position by moving over when opportunity allows. Your safety is paramount.



Tony Parish Joint Car Training Officer

An MG but not as you know it

Long before Tesla built its battery car, the car that caught everyone's attention over many decades was the sporty MG. Though it is now under Chinese ownership, MG has not given up its British heritage and its ambition to return to the days when its name was synonymous with the small eye-catching sports car. The picture shows the Cyberster, a sports car, but not an MG as you knew it.



The name may not appeal in the way Midget and MGB did, but it is a good looking car. Up front, those round headlights are not unlike the MGs of yore. The company calls them Magic Eye headlights since they are not always visible. Only when the driver wants them do they flip up to reveal the light.

Flowing from the side profile, we are met with an edgy rear end in contrast to the front. The back end is curved, but a long light bar squares the shape off, running from the bottom of the diffuser and across. As a nod to MG's heritage, Union Jack tail-lights fill out the rear. It is not the first time a car maker has decided to include such a detail. BMW MINI has been doing it with great success for years now.

The interior of the car has some futuristic elements that would not be out of place in an aircraft but are unlikely ever to fly for a production car. A steering yoke sits ahead of the driver with a digital cluster and there is a palm scanner in the cabin for security to check out who is planning to drive the Cyberster.

As for power, MG has not provided any figures yet, but it said the electric powertrain is good for a 500-mile range. That is not a World Harmonised Light Vehicle Test Procedure (WLTP) figure. We shall have to wait to see if MG in China decides to proceed with production of the Cyberster. Nevertheless, MG has given us a clue to its future ambitions.

Problems of being a short rider

At 5ft 3in-ish, I think it is fair to say I am a relatively short rider. There are some advantages. I am not cramped on small, nimble commuter bikes, I get good deals on clothes in the sales, and great weather protection when riding pillion. However I can think of more disadvantages, and not being able to get both feet flat at a stop can be a challenge in terms of both confidence and practicalities.



Of course, the most simple answer is to choose a bike that is low, light and/or narrow, or see if there is a 'factory low' version that will be proportioned for the shorter rider from new, but there are many other things you can do. Solutions fall into two categories: minimising the situation and dealing with it. Here is what I have learned trying a bit of both.

Boots and clothing are an easy place to start. TCX and Daytona, for example, do boots with concealed platforms and these are great for extra height and sure-footing. Meanwhile it is also worth reviewing your trousers. The fabric and fit can really affect your stance and movement. Leather will tend to grip the tank, whereas textile will slide against it, and a bit of stretch can make it easier to get your feet down.

Then, for added comfort on tour without added seat height, try a pair of padded cycling shorts underneath. Whatever you do, make sure you try it all on together and sit on the bike to check for any restrictiveness before you commit.

If your new wardrobe is not enough, it may be time for some bike mods but this is where the trade-offs come in. The option with least trade-offs, so long as you like those cycling shorts, is probably a low or custom seat with less padding. At other end of the spectrum, you may be able to get your bike lowered via replacement of the rear suspension links. This can work well, but it is worth considering the knock on impacts and cost.

Loss of lean angle when parked may mean you also need a shorter side stand, and you will probably be sacrificing space for a centre stand or, in other words, probably needing a paddock stand and help in the garage. It is also worth bearing in mind you will be changing the bike's geometry. Have a chat with a professional to see what changes can safely be made to your particular bike.

Still not confident? There is no substitute for practice. My top tip is not to wait until you get a 'big bike' or a slot on the Isle of Man ferry to hone your technique. Stressing about your shiny new toy will put you off and start a vicious circle. One thing I am still working on is manual handling the bike from different angles. It is a valuable skill for many situations and helps you feel more in tune with the bike's balance and controls.

I practise with a buddy on hand to assist if I get stuck, but a good off-roading course will also help you with this. BMW do a course that is specifically focused on small person vs. big bike, and the opportunity to practise with somebody else's bike in a nice soft field is rather appealing.

Let us not forget training, *Roadcraft* and our Tutors. '*Feet-up U-turn skills*' are not just for Mod 1, or being smooth in your manoeuvres, they are essential when you are on a slope and there is nowhere for your foot to go. Then, in Advanced Riding, I think there is a lot in *Roadcraft* that is extra valuable when you are short.

Gauging the road surface well ahead, planning overtakes before you get close, and generally making progress to keep out of traffic...the list goes on, but something I had never thought about until someone pointed it out was foot habits. While learning to stop smoothly with only your right foot down makes for a quick getaway, breaking the 'left foot down first' habit will also increase your options and reduce any panic when it comes to awkward surfaces. Like all habits, this does take much concentration and practice though, but a sense of humour and tenacity are essential.

It is always great to hear what others have been practising and what tips and techniques have worked for them. An '*oh I'd never thought of that*' moment might be all it takes to unlock something new. If you have a story that might inspire others, or help make something less daunting, why not consider writing an article for the *Newsletter*?

Samantha Appleyard

Shocking what rough roads do

Shock absorbers have come a long way since the late 1800s when they were introduced to absorb suspension bounce. Rubber and flexible metal coils kept tension via compression, stretching, or bending. In the early 1900s, telescopic, or tubular, fluid-filled shocks were introduced followed by gas-charged telescopic shock absorbers to improve damping technology still further.

An offshoot of the shock absorber is the strut. The most common version was patented in the late 1940s by Earle MacPherson. This component, often used by carmakers because of its space-efficient design, consists of a shock absorber cartridge located in a tubular housing that can support a coil spring and connects to the hub or axle on the bottom. It is linked to the body by a lower control arm or wishbone, and, in front-wheel applications, a steering tie rod. The illustration shows a wishbone strut, so called because of its shape.



Another type used in some rear-wheel drive cars is the Chapman strut, named after Lotus founder Colin Chapman. This design features a coil spring surrounding a shock absorber, and the tubular shaft's lower connections to the body are a drive-shaft and radius arm. The coil-over shock absorber is a unit that encircles a telescopic

shock with a coil spring. This style of suspension damper is popular in high-performance cars, and in some cases, may allow the ride height to be adjusted.

The high-pressure gas-charged monotube shock absorber was a 1950s innovation that incorporated nitrogen, which made for a lighter sealed unit with less tendency for oil leaks that lessened the damping action. A later evolution was the introduction of low-pressure twin-tube gas shocks which are the most common type found in vehicles today. Some dampers are electronically controlled and allied to your choice of gearbox program, eco, comfort or sport.

Shocks and struts all have the same job, but do the work in different fashions depending on their design. Telescopic shocks and struts are, in their simplest forms, tubes that contain a piston filled with fluid. As the piston moves up and down, the damping medium is forced from one chamber to another through valving discs. The size of those apertures and the viscosity of the fluid determine how quickly that fluid can be squeezed from one side of the piston to the other, ultimately controlling the wheel extension and rebound.

Gas-charged monotube shocks have their hydraulic fluid separated from the high-pressure gas by the moving piston, while gas-charged twin-tube shocks feature a reservoir to contain lower-pressure gas. Some companies specialise in making adjustable tubular shocks that can alter rebound damping. This design allows the operator to tailor a vehicle's handling characteristics, as well as to compensate for natural wear.

Rather than using solid housings, most air shocks feature flexible bellows to contain compressed air, enabling an SUV to be raised or lowered for on or off road use, and provide a steady ride quality. Magneto-rheological shocks contain electromagnets in the pistons that are computer-controlled to change instantaneously the viscosity of the fluid flowing through the piston valves.

Of special note is Citroen's hydro-pneumatic suspension (also used by Rolls-Royce), which replaced traditional shocks and springs with spheres containing hydraulic fluid and nitrogen gas. An engine-driven hydraulic pump provided the very high pressure this comprehensive system required to function, and wheel movement was translated, via control arms, to the spheres. Inside them, the gas on one side of a flexible membrane would compress, while the fluid on the other side would dampen the movement.

The type of damper your car was built with was decided by its design engineers, as they planned its performance and developed its handling characteristics. Every inch of movement your car or SUV makes subjects your shocks or struts to wear, and that includes when it is parked. Even when a gust of wind rocks your stationary car, your shocks are actively absorbing that movement.

The components are incredibly durable by design, but they don't last indefinitely, especially if regularly subjected to rough pot-holed roads and heavy loads. Damaged shock housings may leak and need replacement because their original integrity is required to function properly. Internal discs grow weak with constant use. They may flex between 1,500 and 2,000 times for every mile travelled. Seals that separate the various internal components can fail, causing internal, and subsequently, external, gas and fluid leaks.

Modern tubular gas-pressure shock absorbers and strut cartridges can last up to 100,000 miles. It is best to have tubular shocks/struts inspected every 50,000 miles. A visual inspection can reveal fluid leaks, as well as dents, external rust, or other damage. Faulty shocks become apparent while driving through steering wheel shake, as well as excessive body roll, nose-diving when braking, rear squat upon acceleration, and rebounding after bumps. All these things indicate the dampers are not properly controlling the spring movement.

Your tyres may also reveal worn shocks and struts if their tread shows uneven wear. Air shocks can develop internal or external leaks, as can the compressors and inflator lines, causing the vehicle to sag. If you have hit a kerb hard, or had a wheel damaged in a pothole, it is sensible to have your suspension inspected to ensure your safety and that of your fellow road users.

Riding tuition with *the expert*

John Gregory, also known as Reg Local, was one of our speakers in March this year. His background is interesting, and he has written two books on advanced driving techniques. He joined the police in 1990, and in 1995 he qualified as a Class 1 advanced driver and worked as a traffic officer until 1999 when he became a police advanced driving instructor. He has taught everyone from learners to experts and has a passion for sharing his knowledge and experience.



John, in his persona as Reg, also has a *YouTube* channel, in which he gives demonstrations of the skills and techniques involved in becoming a more accomplished and higher performance motorcyclist. He also offers a coaching service to anyone who wants to improve their riding. Unable to resist, I booked myself in for Saturday 19 June.

The ride to Bolton on a Friday was in torrential rain until the end of the Birmingham by pass. There were also 200 miles of slow moving and occasionally stationary traffic, but I am good at

filtering, having had plenty of practice.

John and I met up at 9 am at my hotel. We had a quick discussion on what we wanted to achieve from our day together. Then we got ‘miked up’ for real-time comms. Brilliant! I can personally vouch for John’s enthusiasm. His attention to detail and the persuasive, friendly manner in which he imparts his knowledge makes for a very relaxing and informative day.



We continually swapped places, with the comms providing real time advice and observations, then reinforced when John took the lead, a great way to absorb yourself in the necessary skills for consistent, rapid, and safe riding.

If you have never been into the countryside around Bolton, I can thoroughly recommend it. We had lunch at Morecombe and plenty of stops, including the Forest of Bowland. There was an epic series of amazing roads and superb weather. Even without any instruction, the roads in this area are wonderful and well worth a visit.

David Tomlinson - Events and Social Secretary

Electric Boxter coming soon?

Porsche has been working on an electric version of the Boxter convertible since 2011. The company is reported as having two versions of a Boxster E concept (*one is shown in the picture*). The first has dual motors and all-wheel drive, and the other has single motors and rear-wheel drive. Now it seems that Porsche could be ready to put its electric Boxter into production.

The new electric Boxster will have an as-yet announced bespoke platform as made necessary to house the batteries, and, given the weight of such batteries and their effect on performance, this platform would likely be focused on reduced weight over current platforms like the one that underpins the Taycan.



The development of this electric concept appears to be just one possible way forward for the brand. Porsche, part of the Volkswagen group, is also making progress with its work on developing an e-fuel for internal combustion engines. That e-fuel would, in theory, extend the life of the company's internal combustion engines and the models that use them. E-fuels are regarded as ‘sustainable energy’ as they are produced from plants and other materials that do not add to the overall volume of atmospheric CO₂. Their use is also being investigated for aviation.

It is impossible at present to predict when you will be able to buy an electric Boxter from Porsche when you consider how long it took to produce the Taycan. It was all of five years from concept in 2015 to production in 2020, but with better EV technology being developed every day, the wait for a new Porsche could be shorter.

The company does not seem to be in a rush. It says that is still looking at a number of potential concepts and scenarios for an electrified two-door, but a final decision has not yet been made. As other EV makers have already discovered, the weight of the vehicle remains a critical point, particularly as it influences the potential range on a full charge. Weight is also essential to the desired performance, handling and feel of the car.

Congratulations...



.....to the following people who have passed their Advanced Driving Test.
We would all like to say 'Well done' to them and their Tutors.

Car Members

Associate/Member	Grade	Tutor
Olly Lappage	Gold	Retest
Brian Allan	Gold	Retest
Dr Julian Woodhouse	Bronze	Tony Parish

Motorcycle Group

Associate/Member	Grade	Tutor
Christian Barraclough	Silver	Jon Switzman
Frédérique Legrand	Silver	Robin Carlyle
George Beaver	Gold	Andries van der Watt
Joshua Boyd	Silver	Jerry Jarvis
Mark Pitkin	Silver	Graham Knight
Paul Smith Edmonds	Gold	Ian Andrews
Steve Rawsthorne	Gold	Jason Goode
Viktor Janvari	Silver	Allan Craven
Peter Davies	Silver	Retest

NOTE: RoSPA car tests have now fully resumed

Please remember to notify Max Davidson editor@roadatvg.org.uk
or Robin Carlyle motorcycle-training@roadartvg.org.uk of your Test success.

Please also remember to let us have a note too of any re-Test result.
Publishing results encourages those Associates who are about to take the Test and gives an indication of how the Group is performing.

Your contributions to the Newsletter either 'Letters to The Editor'
or articles of interest to members are always welcome.
Please send them to The Editor, Max Davidson ...editor@roadartvg.org.uk

What's On - 2021

In line with current restrictions here are our plans for events for September to December 2021.

SEPT

23 - Thursday Ride Out - Gilks Cafe, Kineton

25 - Thruxton Members Day

OCT

3 - Tutor Led Ride Out

21 - Thursday Ride Out - British Motor Museum

NOV

7 - Tutor Led Ride Out

25 - Thursday Ride Out - Swindon Circuit

DEC

5 - Tutor Led Ride Out

NOTES

- For information on Ride Outs contact dave.tomlinson@bmwoxford.com
- In line with COVID restrictions, for ALL meetings members will need to register in advance.
- These events are still subject to approval and compliance with all Covid regulations applying at the time.
- Please refer to the website for further information and also contact the events organiser for the latest information before travelling:-
events@roadartvg.org.uk

TRAINING

Training is currently subject to agreement with Tutors and to any constraints of operating under the Covid-19 restrictions applicable at the time.

However new Associates may join at any time
by contacting the [Membership Secretary](#).

For further information on training please contact the relevant training officer at car-training@roadartvg.org.uk or motorcycle-training@roadartvg.org.uk

REMINDER

The Newsletter is also available online at www.roadartvg.org.uk

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N.B.

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