



**Motorsport  
Safety Fund**

Helping  
to keep  
motorsport  
safe

# THE MARSHAL

INCORPORATING RESCUE & RESUSCITATION

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# Safety and social media



**The rise of social media and ‘smartphones’ means that the details, pictures and video of a motorsport incident can be on the Internet within seconds of it happening and possibly well before marshals and rescue crew arrive on the scene. When researching for the Fund’s 3-in-1 rally safety DVD at least three rally organisers reported that this had happened.**

It goes without saying that marshals should not be the ones taking pictures and shooting video – you can’t do that and protect your own safety and the safety of others at the same time.

There’s not much that you can do about spectators using their ‘phones, but you do need to keep them far enough away to ensure that they don’t have an impact on scene safety, assessment of casualties and extrication.

If you know someone has a video of the incident, then it is worth identifying them to medical and rescue personnel when they arrive, as seeing the video can help them deduce the injuries the casualty might have suffered.

It’s not unknown to come across a relatively unscathed car and then to find out it had spun and barrel-rolled before ending up pointing the right way on the track.

While you can’t stop spectators videoing incidents and the aftermath, keeping them at a safe distance will mean there is less to see and record.

If blankets or sheets are available, they can be used to shield a casualty from prying eyes – something you should definitely consider if the casualty is in pain,

*continued on page 2*

## WATKINS LECTURE 2015

The Trustees are delighted to announce that the seventeenth annual  
Watkins Lecture is to be given at Autosport International, NEC Birmingham by

### Allan McNish

*It will start promptly at 11.15 am (doors open at 11.00 am) on Friday 9th January.  
Admission is free but by ticket only – there is an application form on **page 3**.*

*To turn pages click arrows either side, or if in full screen mode clicking on page will take you to the next.*

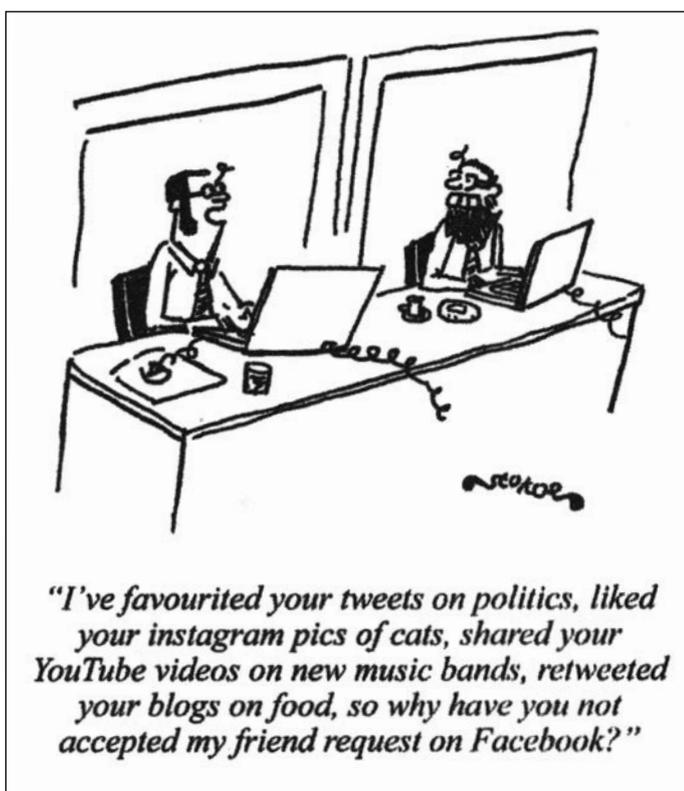
continued from page 1

has visible injuries or has to have clothing removed to get to the site of injuries or apply immobilisation.

If you are on a rally, it may be worth letting your radio controller know that spectators may have filmed what has happened, so that the Clerk of the Course and the rally's PR officer are aware and can check whether anything appears online that they may need to respond to.

Everyone will have an opinion – ill-informed or otherwise. Social media is about voicing them and it is sadly inevitable that if people want their opinion to get noticed, they will be critical or controversial.

Don't rise to the bait. If anyone is to respond it should be the organisers. That said, if you become aware that the organisers have made a statement using social media, it could be helpful to re-tweet their message and get friends to do the same.



Courtesy of 'Private Eye'.

## Restart

The printed edition of **The Marshal** was halted by the Fund back in November 2012 because rising postage costs made it unviable for the charity. Since then the number of registered officials receiving information online has risen to well over 90%. In view of this the Trustees have decided to try bringing back the magazine but on line. Depending on the reception it receives it could be published twice a year as was the original version. The dwindling number not online will not be forgotten but will be sent - at least until the end of 2015 - copies of the online 'pages'.

## Donations

The Trustees are very grateful to

Association of Car Fleet Operators .....	<b>£2,000</b>
BRSCC .....	<b>£1,920</b>
Estate of Howard Strawford.....	<b>£1,000</b>
Charity Classic Vehicle Club .....	<b>£650</b>
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Bath Motor Club .....	<b>£250</b>
Wigton Motor Club.....	<b>£141</b>
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A.G. Goodliff.....	<b>£50</b>
Stuart McCrudden.....	<b>£50</b>
John Quenby .....	<b>£25</b>

Thanks also to those who round up amounts when purchasing publications or DVDs.

## FIVE YEAR CYCLE

No, the heading is not about a new long distance fund-raising bicycle ride for the Fund but to announce that we would like you to complete a new Survey of UK Motorsport Volunteers. To help comparisons to be made, the questions mirror those used in the same surveys done in 2004 and 2009. See pages 12-15.

**It is hoped that as many volunteers as possible will complete the Survey.**

## What's in a name?

Some people have asked why the charity always describes itself as the Motorsport Safety Fund or 'the Fund' rather than using the more obvious three initials. Answer: some years ago we were approached by Médecins Sans Frontières who asked that we drop the initials because they felt that there could be confusion with two MSFs. In view of the outstanding work they do, the Trustees had no hesitation in agreeing to their request.

## Watkins Lecture 2015

Triple Le Mans winner Allan McNish is to deliver the Motorsport Safety Fund's 2015 Watkins Lecture.

The 44 year old Scot, who began racing karts when he was 11, was an F1 test driver for McLaren, Benetton, Toyota and Renault, for whom he raced in 2001.

He won the UK Vauxhall Lotus Championship in 1988 and came second in the British F3 championship the following year. He also raced for Audi in the DTM, but is best known as a sports car driver.

In addition to his Le Mans victories, as a GT1 Porsche driver in 1998, driving the LMP1 Audi R10 in 2008 and

the LMP1 Audi R19 e-tron quattro in 2013, Allan won the FIA World Endurance Championship in 2013.

Allan is also a three times ALMS champion, has served as an FIA F1 Driver Steward and is an F1 commentator and pundit for the BBC.

Motorsport Safety Fund chairman Dr Ian Roberts, said: "Allan McNish's long career in motorsport, together with his experience of the dangers and as a Driver Steward, make him an ideal choice for the lecture in honour of Prof Watkins, who contributed so much to improving the safety of motorsport."

## Hospital building named after Prof Sid Watkins

Professor Watkins has now been recognised by specialist neuroscience hospital The Walton Centre NHS Foundation Trust, with the naming of the Sid Watkins Building. The new three-storey building which will open in January 2015, will house the Trust's complex rehabilitation unit; pain management programme and medical training facilities; and Mersey Care's brain injuries unit.

The naming has been welcomed by Sir Jackie Stewart who said: "Professor Sid Watkins was one of the greatest men of medicine that I have ever encountered. His dedication to constantly finding new ways of doing things, to give people another chance to enjoy life, was a huge asset to both the world of medicine and to those who were fortunate enough to have his help and talent to provide life.

"Professor Watkins' contribution to saving the lives of many people in motorsport will never be forgotten and it's absolutely appropriate that this new development will assist in ensuring that Professor Sid Watkins will be remembered forever, by the naming of this excellent facility in his honour."

Mrs Susan Watkins said: "My husband would have been proud to know that his name has been attached to this rehabilitation facility, both its calibre and scope



reflect his own attitudes to patient care, and his concern for the ongoing needs of those who suffer from neurological diseases and injuries requiring long-term treatment. In this way it is a reflection of his life's work and, in a sense, brings him home to his roots in Liverpool." (The Professor was born in Liverpool in 1928).

**Click here to download ticket/s online!**

**To order by post send the form to:**

**Motorsport Safety Fund,**  
PO Box 200,  
Sevenoaks,  
TN15 8WZ

Please note that:

- **No tickets will be sent unless an SAE is enclosed.**
- Lecture tickets do not include admission to Autosport International.

Please send me ..... ticket/s to the

## Watkins Lecture 2015

at Autosport International at 11.15am on Friday 9th January 2015. Doors open at 11am.

Title ..... Initials ..... Name .....

Address .....

.....

..... Post Code.....

Marshals Registration number (if any).....

# BACKGROUND TO AN ELECTRIC CHAMPIONSHIP



In 2013 the FIA announced a new single seater championship – Formula E. The difference was that these cars would be purely electrically powered and the races would run on temporary city centre circuits over a period of one day only.

In November 2013 I was asked by the FIA Medical Commission to take on the role of FIA Medical Delegate for the championship. There followed six months of steady work, starting with a refresher on electricity and electrical safety. This was not too much of a problem as a fairly detailed understanding is required for the Fellowship in Anaesthesia syllabus.

Having identified and explained to the commission the potential hazards, I then collaborated with other personnel from Formula E and the FIA in developing safety procedures and a sporting code for the championship. This involved safety and medical requirements for the event.



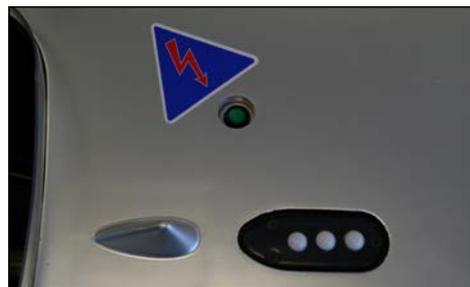
In May 2014 the Formula E complex was opened at Donington Park Circuit, this included ten garages and workshops for the teams and offices for Formula E. The whole complex was built in 16 weeks! Donington was convenient as DHL have the contract to ship the entire circus around the world.

The people felt to be most at risk, initially were the team members, therefore, before they were allowed access to a “live” car they all had to undertake two days of first person on scene medical training and half a day of electrical safety training. Each team has first aid equipment, including a defibrillator, and safety equipment. There are two sets, one remains permanently in the garage and the other travels with the team. Personal protective equipment was specified for team members.

The next challenge was the test days and simulated event days organised during the summer at Donington, prior to the first event in Beijing this September. I organised several half day training sessions for the marshals attending these events, with the support of the Donington management and the loan of the prototype car from Formula E. Theo, who is the Renault Spark engineer involved in the design of the car also kindly came along to explain the technicalities.

## The program consisted of:

- A brief explanation/refresher upon the properties and dangers of electricity. These cars are powered by a large Lithium-ion battery which is stepped up to 800 volt to drive the motor (more than enough to be dangerous). The battery itself is large and fills the space behind the cockpit, forming an integral part of the monocoque; it is encased in a ballistic resistant material and is virtually indestructible. It had to undergo exhaustive tests upon its indestructibility prior to being allowed on an aircraft.
- Fire - is another potential problem, but of a different nature from the explosive type fuel fire, this is a chemical reaction which is almost impossible to extinguish. The aim is to cool the cells to inhibit and stop the reaction. The battery itself has a very sophisticated computer control system that prevents overheating or overcharging. The battery box has two extinguisher couplings accessible through the bodywork and we have a series of pressurised water extinguishers to couple to them. To date we have had no problems with a main battery.
- Car safety – the car has a panel with three warning lights in front of the cockpit. Green means the electrical system is live but safe, red means there is a potential fault and the car should be treated as potentially live. No lights means treat as potentially live, however, in the event of a shutdown



the auxiliary battery will only power the lights for about 15 minutes. The final light at the front is the FIA deceleration warning light which you may be familiar with from F1 etc. Marshals are asked to report the light status if a car stops and if it is red an engineer is sent to check the car. In the case of emergency insulating gloves, insulating mats and a voltmeter are available in the medical car to protect the team. The final lights are the usual red light at the rear and a white light at the top of the roll hoop, these indicate that the drive is engaged and pressure upon the accelerator will possibly cause the car to move forward, this requires

*continued on page 5*

continued from page 4

that the isolation button, alongside the three warning lights is pressed, to prevent any accidents.

- An introduction to the car with an opportunity to look at the removable parts and the technology.

Later we also undertook two extrication training sessions using the FIA type extractable seat.



A team of 12 marshals from Donington were identified and six of them were taken to Beijing for the first event. They provided our core of experienced marshals and an extrication team.

The building of the circuit required several weeks work, with the final road closures implemented on Friday lunchtime. The teams have access to the cars from Thursday evening and a short shakedown session took place on the completed 3.4Km street circuit around the Olympic Park on Friday afternoon.

On race day practice sessions take place in the morning, with qualifying at around lunchtime. There is then a break to allow charging of the cars. As the current battery allows about 20 minutes running each driver has two cars and has to make a pit stop to change cars. The teams are currently limited as to the total power they may consume during a race; this makes energy conservation an important aspect of driving these cars. It does unfortunately lead to a rather slow formation lap, though.

The race was competitive and marked by a spectacular last corner accident when the two leaders collided, fortunately with no injuries. The earlier work crash testing the car paid off. The first ever purely

electric single seater racing event had finished. Now on to Malaysia.

Phil Rayner

FIA Medical Delegate, Formula E Championship.

## WILL YOU BE DRIVING ELECTRIC ANYTIME SOON?

Asks Paul Gilligan.

I would say, after a lifetime in the fleet industry, almost certainly not. Formula E has brought electric power to the race tracks, but much has to be done to bring it to the highways and byways of the UK. You may have noticed that to compete in FE you need two cars. Because one battery pack is not enough. Says a lot?

Almost 38,000 electric cars have been sold in the UK so far this year. Impressive? Well almost two million non electric cars have been sold, so perhaps that puts it into perspective?

Electric cars are *expensive*. A Nissan Leaf is £21,490 after the £5,000 taxpayer grant you'll be given. The battery pack will need to be replaced after about 3 years. They won't tell you how much that will be but budget £3,000-£5,000. That means you won't get much for it when you sell it. You can buy a new small petrol car for less than £10,000 and get a reasonable return when you sell.

Most buyers will be based in big cities. Used buyers won't have a garage. So to charge the car overnight they will need to run a cable over the pavement? If they can park within cable range that is.

Range is awful. I recently borrowed an electric Ampera for a few days. My local Tesco's is 12 miles away. It couldn't do the round trip, luckily there's a petrol engine it switches to when the batteries run out. After a 12 hour charge it was ready to go again, but not quite for 24 miles.

The answer is hydrogen, but we need an infrastructure for refuelling. Or Tesla, who have electric cars right, if you have £75,000!

## The Industry

The 2013 Review of UK Motorsport Valley Business Cluster reaffirmed the industry's success with sales rising to £9 billion for 2012, nearly double the figure of £4.6 billion for 2000. Of those responding, 87% earned some of their income from exports. Fifteen percent of respondents reported that they spent in excess of 25% of their annual turnover on research and development, far higher than either the pharmaceutical or IT industries. The industry comprises 4,300 businesses employing a total of 41,000 - up from 38,500 in 2000.

Sales recorded by the UK's Formula 1 related businesses totalled £2 billion - almost a quarter of the total sales for the sector - while the number of

highly skilled, well rewarded people employed in this important sub-set of the industry was 5,200 - 12 per cent of the total number employed.

What is more, the FI technologies developed for the racetrack have made their way not only to the regular road car industry but also into public transportation systems. GKN (formerly Williams Hybrid Power) will have its electric flywheel systems installed in 500 London buses over the next two years. Meanwhile, McLaren Applied Technologies (MAT) is to work with Heathrow Airport, where McLaren's simulation and real time data assessment tools, developed for F1, will be used to improve the efficiency and infrastructure of the world's leading airport.

# Club News

## AEMC

The Association of Eastern Motor Clubs will be holding a rally marshals training day at Cambridge Regional College on Saturday 7 February 2015 starting promptly at 09.00. The training will be by MSA licensed instructors with separate sessions for new marshals, experienced stage marshals, radio operators, timing marshals and senior stage officials.

There will also be a short fire extinguisher training session for all.

Free refreshments will be provided from a fish and chip van and it should all end by 16.00.

Apply via the online application from at <http://www.aemc.org.uk/Training/training.html> or if that's a problem then phone Clive Grounds the AEMC Training Coordinator on 07860 461670.

## Bath Motor Club

The club has adopted a new twist to the optical phrase '20/20 vision' and asked a study group to look ahead and consider where the club hopes to be in the year 2020 and how it should get there. Geoff Sutton who is chairing the group, says that marshalling will be one of the subjects high on the list of priorities because quite simply without marshals there won't be any motorsport in 2020.

Another priority is the recruitment of new members with an emphasis on the younger generation, where marshalling is an ideal entry level into the sport

## British Motorsport Marshals Club

After 43 years on BMMC Council, 35 years as Treasurer, George Copeland has decided to retire at the forthcoming AGM. George says, "I originally intended to retire three years ago, but Sue Whitlock, our loyal bookkeeper, was not at all well at that time, wanted to keep on with the job, and it did not seem right to desert her or saddle her with a New Treasurer. Sue has gone, sadly. We have a new external bookkeeper. Our finances are in excellent shape. Time to go, I feel. There are two lady and two gentleman applicants for the job, what could be fairer? All members are entitled to vote. Please refer to the club's web site ([www.marshals.co.uk](http://www.marshals.co.uk)) for details, which will also be sent to members on a personal basis. Everyone is encouraged to vote. Let's see if we can beat the turnout figure of 85% in the recent referendum on Scottish independence."

BMMC AGM will take place in the Pickwick Room at the Saracen's Head Hotel, Towcester on Sunday 14th December 2014 at 2pm.

## Castle Combe Racing Club

When Adrian and Nicki Fawdington waved the chequered flag on the final race of 2014 at Castle Combe it was symbolic of the couple's successful 36 year association with the circuit which started in 1978 when the Fawdingtons' moved to the South West and joined the BRSCC South Western Centre to enrol as marshals.



Adrian & Nicki Fawdington waving the chequered flag at the end of the Austin Healey International Race at the Autumn Classic Meeting at Castle Combe Circuit in October. (Photograph Jack Flash Photography).

Soon, Adrian was invited to join the club's management board and in 1986 was appointed Chief Marshal, also qualifying as a Clerk of Course and Lead MSA Trainer. Whilst all this was going on Nicki became Chief Startline, a role she held until the last race of 2014.

On the creation of Castle Combe Racing Club in 2006 Adrian became Chairman and Commercial Director and Nicki Chief Marshal.

The Fawdingtons' now plan to spend more time in their Florida home, marshalling at Daytona and Sebring before returning to the UK for the summer. Their departure was marked by a lunchtime ceremony on the start/finish line when they were presented with two framed Tim Layzell limited edition motor racing prints and Castle Combe Racing Club's 'Greatest Achievement' award.

# Club News

## Roger Albert Clark Rally Motor Club

This may be just too late for this edition, but for many marshals the Roger Albert Clark Rally is the highlight of the rallying season. From a relatively low-key start in 2004, the Roger Albert is now one of the most eagerly-awaited events on the calendar.



There is so much about this rally that makes it special, most of all that it recreates the flavour and atmosphere of the classic RAC Rally.

Organised by the Roger Albert Clark Rally Motor Club, the rally has filled a real gap in the hearts of many enthusiasts, whether competitors, service crews, spectators, officials or marshals. Importantly, it also remembers one of Britain's all-time great rally drivers.

More information is at

[www.rogeralbertclarkrally.org](http://www.rogeralbertclarkrally.org)

## Wigton Motor Club

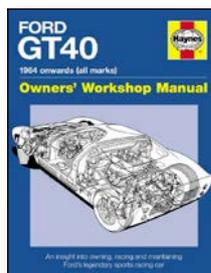
On rallies run by the two-times winner of the MSA's Club of the Year award, marshals get the same meal at the end as competitors and also take part in a marshals' draw with competitors putting money in a bucket at signing-on. On the Solway that produced 8 prizes of £20; marshals got a limited edition clipboard as did the crews. On another rally marshals were given a pen and a Lotto ticket as well as their meal while at the Classic Show this year all Wigton's marshals got polo shirts with their names on which presented a good image. Finally, the club has a marshals' championship for which awards include a ride in a WRC car via M Sport.

## Quiz

1. Most people know about Timo Makinen's magnificent 1965 Monte victory in the Mini-Cooper S, but who finished second to him?
2. In the long list of Lotus Type numbers, what was the F1 car generally accepted to be the world's very first under-body/ ground-effect 'wing car'?
3. A famous gas-turbine powered racing sports car appeared at Brands Hatch in the 1960s. What was it called ?
4. Sebastien Loeb became World Rally Champion for the first time in 2004, but what was the first World Championship rally he ever won ?
5. What make and model of racing car won the very first F1 World Championship race, held at Silverstone in 1950 ?

*See answers below.*

## Book Review



## FORD GT40 Owners' Workshop Manual

**PUBLISHER – HAYNES**  
**AUTHOR - GORDON BRUCE**  
**RRP £25**

**ISBN 978 0 85733 114 4**

Not quite what it 'says on the tin', this all-encompassing work on Ford's Le Mans-winning supercar features unique interviews with: Eric Broadley (on whose Lola MK6 it was partially based); GT40 guru John Etheridge; and a number of those who literally drove the model into the record books – eg Jackie Oliver, David Hobbs and Richard Attwood. Among no less than 300 images are many never previously seen ones. A fascinating insight into one of the great automotive icons.

### Quiz answers

1. Eugen Bohringer (Porsche 904)
2. Type 78 of 1977
3. Howmet TX
4. Germany in 2002
5. Alfa Romeo Tipo 158

# C O R R E S P O N D E N C E

The last paper edition of **The Marshal** featured a look ahead to 2020 by George Copeland a key figure in the BMMC. To celebrate the return of the magazine here he comments on any changes to his forecast.

## Marshals and marshalling

Marshalling numbers have remained remarkable steady during the past two or three years. The Team Wilson/ BTCC recruitment campaign was probably the most successful marshal recruiting campaign ever. All regions of the Marshals' Club pitched in to help but it was adoption of the Taster Day programme, developed by North Region, that made such a substantial difference in the number of new marshals retained.

While the number of marshals has remained steady, there are still too many race meetings run with too few marshals. Peter Wilson, of Team Wilson has been around most of the circuits, asking what causes marshals to drift away. Not surprisingly, the main deterrent right now is the cost of attendance. We hear all the time that real incomes have substantially decreased for a very large majority of the working population; in which circumstances the cost of marshalling may not feature high on the list of priorities.

Of those who stay, many do half the meetings they used to – so those organising clubs who issue unachievable programmes, where the marshals' lunch break is the first casualty, or race programmes that from the start pay too little attention to marshals' welfare are the ones who (rightly!) suffer. Dull racing is another turn-off as is single-manning. We have too many meetings where "newly defined" link posts are missed out; others are single-manned. There was an occasion only recently where a marshal looking for flag signatures, was given a radio, immediately upgraded to "de facto" Post Chief – but still expected to flag as well. With double yellows now the mandated requirement, we all wonder how a single marshal can possibly be expected to relay and write reports, handle double yellows, plus SC board perhaps – and still need to find a suitable home for the broom!! It needs one brave Steward not to allow such a meeting to start before we can hope for a remedy to this perennial problem.

BMMC has a brand new database, with which to pass on requests for marshals at lightly manned meetings but it is no good leaving such appeals to the last minute, when most marshals will have fixed up elsewhere. We have 2,300 members to call upon, if we give them sufficient notice of the need.

## Club racing

Against this background of austerity, competitor licences and the number of events each year continue as before! Yet organising clubs, except those who own circuits, find it very difficult to make a profit.

## Driving standards

This season, 2014, saw the introduction of the "no wheels off", which has worked remarkably well. MSVR brought in auto recording which has been a great help in policing the rule and, as time has gone on, many drivers

find they can be as fast not drifting over the kerbs – if not faster!

## Formula One/NASCAR etc

The loss of engine noise in F1 was not a popular move with the aficionados. Is this perhaps part of the reason for lower spectator numbers? Even Silverstone had tickets for sale right up to the last moment this year and some of the new circuits look empty. Surprising thing is the reported drop in TV audience numbers, in what, to me, have been some of the most interesting seasons in recent F1 history.

NASCAR spectator numbers have continued to drop at an even faster rate than seemed likely two years ago. Most circuits have found ways to remove grandstands and/or seating, so that the place does not look half empty on TV. Others cover unsold seating with advertising hoardings or very, very large American flags!! Yet, the current knock out Race for the Chase seems to have injected fresh interest in Sprint Cup racing this year.

So, if it is not over-exposure on TV that has caused the drop off in interest, what is it? Is it again the simple fact that most of the working population, both here and in the USA, have seen real earnings drop and cannot afford to go racing? The cost of NASCAR spectator tickets is substantially less than F1 – but many of those who attend NASCAR events make the weekend of it, often travelling long distances to take in the more popular events. You see them on the freeways with their pickups, trucks, SUV's, covered in their favoured drivers' stickers – and of course with the obligatory barbecue!

Many F1 fans would love to do the same but the same facilities to barbecue and party do not seem to exist at many F1 circuits – now seemingly geared more for Paddock Club and other corporate entertaining, with the ordinary spectator charged an indecent amount of money for pretty ordinary facilities.

Since most of the advertising revenue goes to the F1 hierarchy, it is the circuits who find themselves with the dilemma of, do we increase prices to cover our costs or do we continue to make a loss on running GP's? OK for those circuits built with government funds but a real dilemma for the more traditional circuits that form the history of F1 racing. I am led to believe that NASCAR circuits do a little better than F1 circuits in their allocated share of TV and advertising revenues.

I suppose while apparently poor countries clamour for a Grand Prix, using government money, not much is likely to change.

## Finally

British marshals will continue to do the fine job they have always done and – like the Carlsberg advertisement – "are probably the best marshals in the World".

George Copeland  
Officials' Representative ABMRC

# News from the MSA



## WRGB marshals

Wales Rally GB saw a number of changes for this year. All marshals / radio crews received a selection of gift items, including programme, lanyard, pen, rally pin and rally plate, as well as a different goodie for each day of the event (rather than ending up with three of the same!).

For the first time, one pre-registered event volunteer won a trip for two to a European round of their choice on the 2015 WRC calendar. This prize included tickets, flights, accommodation and a hire car. Entry was automatic and your chances of winning increased with the number of days you attended the event.

The clubs also stood to benefit, as any club sending more than 10 marshals to the rally received a pair of WRGB tickets, while the best turned-out club on the stages received a cash prize of £500.

## Pdf for marshals

An interactive pdf full of information about best practice for marshals is available on the MSA website. The document is all about enjoying marshalling responsibility and is intended to help marshals make the most of their important roles. To view the pdf go online to:

<http://www.msauk.org/assets/msamarshalinteractive.pdf>



## New website

The MSA has launched a new website to provide a better service to the sport and meet the needs of competitors and volunteers.

The [www.msauk.org](http://www.msauk.org) website has been completely redesigned by digital agency MSO.net, providing a more

engaging user experience with improved content, style, layout and functionality. Importantly, the new platform will enable the MSA website to develop and change in the future as required.

Member services for licensed competitors, volunteer marshals and officials continue to work as before but with an improved interface, while newcomers keen to find out more about the sport can benefit from a raft of improvements to the public-facing portions of the site.

These include an expanded Get Started section, with a range of information, contacts, advice and guidance on all the main types of four-wheel motor sport. News and publications are now easier to find, and there is also a dedicated Resource Centre to house the site's many forms and documents.

## Electric & hybrid vehicles, should we be frightened?

The use of electrical power storage systems came into motorsport focus a few years back when Kinetic Energy Recovery Systems (KERS) arrived in Formula One. The principle was simple enough in that energy is harvested from slowing the vehicle and stored so as to be

deployed to supplement the power of the primary source of energy, the internal combustion engine. The means of storing the energy so harvested was essentially a choice between spinning up a high efficiency flywheel or to convert the energy into electrical power to be stored in batteries or high voltage capacitors. Stored electrical energy was then retrieved to power electric motors to supplement the power of the i/c engine. KERS had a relatively short life in Formula One and it is said that in the 3 year Formula One life about ten years of development was achieved. Understandably, the safety measures imposed in handling this technology were set at a very high level.

The current generation of Formula One has taken energy management a step further forward with energy being harvested from not only slowing the vehicle but also from harvesting heat from brakes, exhaust systems etc and storing it to be redeployed to advantage. Storing the energy harvested is generally done by converting the energy to electrical power, again stored in batteries for deployment to electric motors.

Electric vehicles are nothing new for more than 100 years ago an electric vehicle held the land speed record. Electric trains, trolley buses, trams, milk floats and other vehicles have existed for very many years all driven by electric motors drawing energy stored in batteries.

# News from the MSA



Battery technology has moved on apace such that modern batteries are increasingly efficient. Typically in a modern electric vehicle or a hybrid that uses electrical energy storage higher voltages are used. The individual cells are of insignificant voltage, it is only when they are coupled that there are high voltages in the system. Modern production electric vehicles run at around 400 volts and purpose built electric vehicles used in motor sport may use higher voltages. Equipment used on such as building sites that is electrically powered is limited to 50 volts and for good reason as a 50 volt current is uncomfortable but generally survivable. The higher the voltage the greater the risk, it really is that simple.

So should we be frightened of electric and hybrid vehicles? Think about it. For some 120 years people have been driving around in vehicles carrying a tank of fluid that is highly flammable and potentially explosive. Such vehicles create a risk. Vehicles that have systems that incorporate electrical storage and motive systems that use electrical power of significant voltage can harm. Undoubtedly a risk, a different risk to that inherent in using an energy storage system of a flammable and explosive fluid but a risk that can be managed..

We manage the risks of gasoline by use of safety fuel cells, reinforced fuel lines, limiting line pressures, position of fuel cells etc. The risk in electric and hybrid vehicles is managed by colour coding cables running at high voltage orange, breaking down the links between cells so that unless energised the system has no high voltages, sophisticated control of charging and discharge rates, enclosing battery packs in penetration and crush resistant containers, etc., etc.

Undoubtedly there is a risk but apply common sense and the risk is managed. To this end the MSA is introducing regulations so that such vehicles are identified using an International standard symbol to indicate that there are high voltage systems incorporated in the vehicle. They are also limiting participation to standard production vehicles or those electric vehicles constructed in accordance with FIA Appendix 253. For Formula One and the recently introduced Formula E there are, as is to be expected, high level precautions with specialist footwear, gloves, use of insulating mats etc. entirely appropriate. At such as a hillclimb with maybe one or two electric vehicles, to expect provision of such facilities is unrealistic. Hence why the MSA is producing the following guidance notes.

Whatever we do in life there is risk, risk can never be eliminated but common sense measures can and will manage that risk to an acceptable level. There are risks for gasoline engine vehicles, as there are for diesel engine vehicles, hydrogen fuel cell vehicles, steam vehicles, methanol fuelled vehicles etc. The method of managing the risks may not be identical and electrical energy vehicles are no different, it is a case of applying the risk management system appropriate to the risk.

## Incident management of electric & hybrid vehicles

Electric and hybrid vehicles typically have electrical systems running at voltages of 300 volts DC and higher, some vehicles may use AC systems. Any electrical system of 50v or more is considered as requiring specific precautions.

- If a vehicle is involved in an incident, approach the vehicle with care not touching any part of it, ideally remaining stood back from the vehicle. Take particular care if there are wet weather or wet ground conditions.
- If the driver is not impaired ask he or she to isolate the vehicle and to self extricate.
- When making initial contact with the vehicle, place your left hand in your left trouser pocket and use your right (gloved) hand. Should you receive an electric shock the current will flow down the right hand side of your body away from your heart and thus greatly decrease the possibility of injury.
- Should the driver not be responsive and clearly in need of assistance, turn the identified isolator OFF, using a gloved hand. Specialist isolation gloves and other PPE are available but a dry leather glove will give a level of protection. Take care not to touch metal components.
- Check the dash display and vehicle generally for light displays. Some vehicles have a "system status light display" to indicate whether the system is active or isolated. If there is no such display then if there are no visible lights illuminated it is likely that the system is isolated.
- Watch for signs of electrical current flow, such as arcing, sparks, sizzling etc., particularly in wet conditions.
- Avoid a multiple number of persons initially approaching the car.
- Do not touch the car with bare skin.
- When satisfied that the electrical system is isolated, proceed with appropriate care.
- HV cables are coloured ORANGE, do not sever or touch such cables or the components to which they are connected
- At all times monitor the vehicle for leaking fluids, vapour, smoke, sparks, unusual odours, popping or hissing noises.
- Noise emitting from a battery may indicate that there is ignition within the battery which can carry a risk of explosion or external ignition.
- Be aware that if a vehicle is in contact with such as a metal barrier that too may be "live".
- Once the vehicle occupant(s) have self extricated or been extricated, ensure all personnel remain stood back from the vehicle and arrange for the competitor or his/her technical team to supervise the vehicle's removal. Check with the scrutineering team to see if there is a Scrutineer with suitable experience to oversee recovery operations. If such supervision is

not available then exercise caution including the use of non-metallic straps etc. and avoid making direct contact with the vehicle.

- Damaged vehicles should not be stored within buildings but in the open away from flammable structures and materials and cordoned off to prevent unauthorised access and to create a safety zone around the vehicle.
- Continually monitor such vehicles as there is a risk of ignition for a significant period after an incident, particularly if there is visible damage to the battery unit.
- If a lithium-ion ignites it is an exothermic reaction rather than a combustible fire. To deal with such ignition requires sustained large volumes of water to be applied. It is unlikely that application of fire extinguishers will deal with a battery "fire" for in most cases it will be an exothermic reaction. In such a case ensure all personnel are suitably isolated from the vehicle by creation of a safety zone so that they are not affected by heat, gaseous emissions or any potential explosion.

### Scrutineering Electric Vehicles

Where electric or hybrid vehicles are included in the competition, the Chief Scrutineer is to check if there is a member of the scrutineering team who has experience of electrical engineering and/or electrical power systems and appoint such a team member to scrutineer such vehicles.

### Re-charging of vehicles and/or batteries

Where vehicles/batteries are being re-charged only equipment specified by the vehicle/battery manufacturer is to be used. The vehicle/battery to be isolated with a suitable safety zone and the operation monitored by a suitably experienced person.

### Remember

Exposure to high voltage electrical currents can kill or result in life-changing medical conditions

Modern battery systems are sophisticated and incorporate many control and fail safe systems to monitor battery condition, control charge and discharge, provide automatic shutdown if operating parameters are breached etc.

Lithium-ion and similar batteries are an everyday item found in mobile telephones, laptop computers and similar equipment

Gasoline and similar fuels offer the potential for fire and explosion, the risk is managed by methods of storage and use, the same applies to electrical energy. Whatever the energy storage or energy application system risks are to be identified, managed and respected.

## Towing Points

MSA regulations require most race cars and all stage rally vehicles to be equipped with tow points. The requirement, although not identical, is essentially the same, the vehicle

is to have a readily identifiable point to which a tow line can be attached in order to tow a stricken vehicle. Whether using such a point or attaching your towline to a chassis member be first satisfied that the point appears to be substantial and capable of withstanding the loads that are about to be applied to it. If at all possible consult with the driver to gain his agreement that what you propose doing is appropriate. Make sure that all personnel are clear of the area, use a suitable heavy mat or something similar laid over the tow line to absorb energy should there be a failure. Take up the load slowly and watch for any sign of failure as the load is applied. There have been a number of failures which were entirely predictable to anyone with an experienced eye. As always, commonsense and paying attention to detail, not making assumptions and always following a safe code of practice minimises risk.

## Personal protective Equipment

There are no regulations requiring rescue crew to wear overalls but wearing flame resistant overalls is sensible, not only to guard against fire but also to provide protection against scuffs, brushing against sharp edges etc. For a rescue crew to turn out in "branded overalls" also presents an image that you know what you are about, a team, not just a ramshackle bunch of guys. No reason why recovery unit crew should not do the same but if not, wearing clean appropriate work overalls gives protection and helps project a decent image.

## Vehicle registration

Early in the New Year applications for vehicle registration will be going out. Remember you will be self-declaring that the unit you are registering is equipped to the minimum standards set out in MSA Regulations and that means that all consumables have to be "in date". Most units run a log of equipment so that they know when items are due to be replaced. Maintaining a log in this way and recording a schedule of equipment checks etc. is always good practice.

On occasion units have had vehicle problems and needed to use a substitute for a while. If you have such a need then contact the MSA and the necessary authority will be given subject to your confirming that all equipment has been transferred to the substitute vehicle.

## Crew requirements

We occasionally get reports of units turning out for events when they are not crewed as per MSA requirements. These are clearly set out within the MSA Yearbook so please make sure you run your unit to those requirements.



The Fund has a wide range of publications and films available covering all aspects of motorsport safety.

See: <http://www.motorsportsafetyfund.com/shop/publications>

Please complete the survey of Motorsport Volunteers  
on pages 13, 14 & 15

You can either do this online by going to the Fund's website

**[www.motorsportsafetyfund.com/survey](http://www.motorsportsafetyfund.com/survey)**

or by printing off these pages and on completion posting them to:

Motorsport Safety Fund  
"Penny Farthing", Heythrop,  
Chipping Norton, OX7 5TW

**Orders for publications & DVDs may also be  
sent to this address along with Survey forms.**

*Please affix a stamp!*



THANK YOU  
FOR YOUR HELP!



# SURVEY OF UK MOTORSPORT VOLUNTEERS

Any comments you make will *not* be attributed to you and your name and address will *not* be passed on to any other organisation. Please return the form by 31.12.14.

Name

Address

Post Code

Telephone Number

E-mail

Firstly,

1. It would be very helpful to have a few personal details. What is your:

Gender

Male

Female

Age

Occupation

2. How many years have you been helping at motorsport events?

Branch of the sport

Job

Kart

Race

Rally

Speed

Other Motorsport  
(please specify)

3. How many events did you officiate at during 2014?  How many days did this involve

4. How does this compare to 2013?  More  Less  About the same

5. In 2015, do you expect to do  More  Less  About the same

6. What limits the number of days you marshal? (If more than one reason please put in order of priority 1, 2, 3...)

Work commitments

Family commitments

Financial constraints

Other interests

Feeling undervalued/exploited

Small entry lists

Dull events generally

Disillusioned

Too many events

Early starts

Late finishes

Other/s (please specify)

7. Do you specifically choose to marshal for some clubs, locations or events? If so, which and why?

	Reason
Club	
Location	
Event	

8. How many miles on average do you travel per event?

9. What incentives should marshals receive? Please put in order of priority – 1, 2, 3 etc.

Incentive	Priority	Comment
Recognition		
Formal payment		
Expenses		
Token payment		
Meal voucher		
Gift		
Raffle entry		
Guaranteed lunch break		
Guaranteed finish time		

Other (please specify)

10. Have you been trained for the task(s) you undertake in motorsport?  Yes  No

11. Who provided the training? (tick one only)  MSA  Club  Circuit

Other (please specify)

12. How many hours training do you receive each year?

13. Is this adequate?  Yes  No

14. If "No" how could training be improved?

15. Would you be prepared to train over the internet?  Yes  No

16. If you are not a Doctor, Paramedic or other Medical staff member, what First Aid training have you received?

- No training  Basic introduction for motorsport  
 Health and Safety at Work Certificate  Other First Aid Certificate  
 Other (please specify)

Who funded your First Aid training?

You  Your Employer  Motorsport organisation (please specify)

Other (please specify)

17. If you marshal abroad, how many times do you do so, on average, per year?

What countries and at what events have you marshalled?

Country	Event

18. If you have ever competed in motorsport, what types of events have you competed in?

- Circuit Racing  Karting  Hillclimb  Sprint  Stage Rallying  Road Rally  
 Other (please specify)

19. Did you compete in 2014?  Yes  No

20. How do you prefer to receive information on volunteering? (Please rank 1,2,3...)

- Post  E-mail  Visit an Internet site  Club Magazine/Newsletter  Fax  
 Other (please specify)

21. Which of the following do you use to get information about motorsport and keep in touch with fellow marshals?

- Websites – please specify your favourite sites
- E-mail  E-mail newsletters – please specify newsletters
- 10Tenths  Facebook  YouTube  Twitter  Other digital source – please specify

22. How did you first get involved in motorsport?

- Advert in a programme  Advert at a circuit  Talking to a marshal  
 Article in a motorsport publication  Family connection  Motorclub membership  
 GoMotorsport  Volunteers in Motorsport  
 Other (please specify)

23. If you are a member of a marshals' club, association or motorsport club with a marshals' section, please give details

24. Are you a member of any motor club committee(s)?  Yes  No

25. Which motoring magazines do you read regularly?

\_\_\_\_\_  
\_\_\_\_\_

26. Please use the space below to outline:

- a. Your likes and dislikes about officiating at motorsport events
- b. What the sport can do to attract more young people to motorsport
- c. Changes to venues/events to improve the marshalling environment
- d. Any other comments you may have

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27. What other activities outside of motorsport are you involved with, and are these related to family, or other voluntary activities?

\_\_\_\_\_  
\_\_\_\_\_

28. How do you decide which of your activities is given priority?

\_\_\_\_\_  
\_\_\_\_\_

THANK YOU AGAIN FOR YOUR HELP