



# HOW TO START FORMULA VEE RACING

a comprehensive guide to this form of motor racing

telling you all you need to know about

- buying a car

- preparation

- advice on racing

and more.....

*Written by those who have done it before and know all about it*

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Edition 2

## INTRODUCTION



If you have never done any form of competitive form of motorsport before other than some indoor karting this is a big step to take both from a commitment point of view as well as expense. It may seem a daunting prospect. The cars seem complex. There is a lot to learn about them and there are a whole host of other rules and regulations to learn, yet others around you seem to take it in their stride and are experts. Firstly they are not. Only the few who win are. The majority of success is down to experience and hard work. No newcomer has been successful in Vee without doing something similar for some time first. They had to have started somewhere and were as green, or greener about it than you. You are lucky; you have this guide, where they didn't. Be aware though that it does not guarantee you success. You have to put the effort in yourself to get the comparable payback. Generally the more you put in the more you'll get out of it, but it's not guaranteed. Motor racing can be a real "downer". Work for weeks in the garage only for the engine to blow at the first corner, you hit a bank and have to start fixing the car all over again. There are a number of books telling you how to drive a racing car but this guide takes you step by step to how to make a start in the sport - what to avoid and what to focus on so that you do not waste your time and, more importantly money on lost causes. A lot of it can apply to all other forms of 750 Motor Club racing and some to other club racing as well so you can gain from others experience and then have an advantage over most other racers of your level too.

Motor racing is an exciting, enjoyable and a rewarding hobby but, even at Formula Vee level is also dangerous. It can seriously harm your body and wallet. Before you put both at risk it would be wise to understand what you are letting yourself in for. Contributions to this guide have been made by senior racing drivers at club level who have done it all before. So to read this is to heed years of club motor racing advice. It is primarily aimed at the beginner with no racing experience but some seasoned racers could gain by reading it (if only to constructively criticise!). It provides a few guidelines and suggestions to help you along. It is not an official publication of the rules, and no part of it may be quoted as being so.

If nothing else, if you can say at some stage "this is great fun" or "I can tell my grandchildren that raced at Silverstone" then the guide will have achieved its objective of enabling motor racing to be accessible to you, once just another the man in the street, but now a real racing driver.

## **WHAT IS FORMULA VEE?**

### ***History***

In Florida in 1959 VW dealer and motorsport enthusiast Hubert Brundage was trying his hand at motor racing with VW based specials. He found it expensive and they were unsuccessful but he still believed it was possible to be competitive using VW parts so that the average man-in-the-street could maintain and afford it. While on a business trip to Italy he visited race car builder Enrico Nardi. Brundage had been impressed by the quality of their racing steering wheels and commissioned them to produce a Beetle-based single-seater.



Nardi

By 1962 there were eight Vees racing with cars of similar power; famously four got a run in an SCCA touring car race(!) in Savannah and three of them finished 1-2-3. SCCA Official George Smith and garage owner Bill Duckworth took the concept a stage further by producing the Beetle-based formula racing cars (Formcar for short) in volume. The first other manufacturer to come in was Eugene Beach who produced customer cars in quantity and a Formula Vee series was started by the SCCA in 1963.

At this point Porsche AG got interested in this (after all they were effectively the competition arm of VW) and competition boss Huschke von Hanstein ordered 10 Formcars and Beachs. The Vee concept was therefore explored in Germany and some drivers we recognise today started their careers: Jochen Mass, Dieter Quester, Gerhard Mitter and Marc Surer. Volkswagen themselves saw this as a marketable concept and started to co-ordinate the launch of Formula Vee worldwide.

In the UK the launch included a 12 round Formula Vee championship organised by the BARC which preceded Brands Hatch's Formula Ford by two weeks in 1967! The first race at Silverstone was won by Jenny Nadin although well-known journalist Nick

Brittan led for all but the last lap till he spun. It is rumoured that this was orchestrated by VW because both were works drivers and more publicity would be obtained by a female winner. Nick Brittan went on to win the championship and was often representing GB in the European Western Zone championship – VW's way of finding a Vee World Champion. Drivers would fly to these European races and join in the VW publicity bandwagon. Brittan represented GB in the Monaco Grand Prix support race although he didn't get further than the first corner.

As today, throughout the world Formula Vee flourished as the formula for starting car racing. The huge number of well-known drivers who have raced in Formula Vee makes it almost easier to list those who haven't. Four Formula One World Champions cut their teeth in the series: Jochen Rindt, Emerson Fittipaldi, Niki Lauda and Keke Rosberg. In the UK Brian "Yogi" Muir, Gerry Birrell, Brian Henton and Ian Flux are best known, Gerry winning a Scottish championship. Also Grand Prix driver Peter Arundel was involved in the promotion of the McNamara Vee.

The UK series was managed by The Formula Vee Association under the wing of VW GB Ltd. encouraging series sponsors like the VW camper conversion manufacturers Danbury. The regulations followed the international rulebook, the cars having the link pin axle and 1200cc engine. Chassis manufacturers were few initially and mostly from Europe eg. Austro, Celi & Kaimann but some UK companies did offer cars including Wooler, Landar, Smithfield and CG. Major racing car manufacturers were primarily interested in Formula Ford which was all the rage so Vee regulations were changed to modernise the look of the cars in 1973 allowing 1300 engine, disk front brakes, torsion bar front suspension and rack & pinion steering. With loyal supporter Jan Bannochie arranging the races and Vee enthusiast Ian Bunker producing the newsletter, Vee Sport News the series ticked on.

However, storm clouds were gathering over Europe and VW turned to promoting the water-cooled cars such as the Golf rather than the Beetle. Formula Ford was the route to motor racing stardom and as a result Formula Vee grids dwindled in the mid 1970s to no more than about half a dozen with races held mostly at Lydden Hill. At the time, racing and support was dominated by one man, London Irishman Tim Flynn who saw a way forward. He negotiated with the 750 Motor Club in 1979 for it to be taken under its wing. Membership secretary Dave Bradley saw it as an entry-level single-seater low-cost club racing series dovetailing in perfectly with their other formulae: Formula 750, Formula 1300 and Formula Four. At this stage the series was guaranteed a championship series of races and a full-time administrator. It was around that time that a contract with Dunlop to supply control tyres for the formula was established - one that has run continuously for 23 years! This was quite a coup as there was no alternative supply for the 15 inch wheel. To complete the Formula Vee package as we know it today the standard gearbox ratios were made mandatory.

However there was still a shortage of available chassis until Stuart Rolt who had produced the Scarab 1 - a spaceframe car based on the Austro - stuck his neck out and designed and built the Scarab 2, a steel monocoque design based on dimensions of the Van Diemen RF78 and using other proprietary bodywork. Most significantly it was available on the market as a kit and was designed as a customer car. After Tim Flynn won a championship race on its debut the orders started coming in and this re-packaged formula brought the class to the attention of lots of potential club racers. For once in a long time they could actually buy a complete new car from Austin Seven man Andy Storer who had taken over production. A 15 round national championship was formed and sponsored in turn by several aftermarket Beetle

suppliers. The series blossomed, often with the need for a qualifying race each round. In the 1990s with new chasses being produced by other manufacturers and several recognised engine builders supplying quick reliable engines the Vee package was now strong enough to support the concept of race hire which really took off.

As a result of all this, nowadays it is the most successful single seater category both in terms of its longevity and popularity. Its low cost nature lends itself perfectly to being an amateur club racing formula, ideal for introducing first timers into motor racing.

### ***Single Seater Beetle***

The cars themselves may seem odd to those working in other motor racing disciplines but they are just the same. What is different is that they are based around the VW Beetle components - effectively single seater versions of them. The front suspension is contained within the beam axle with transverse leaf springing. At the rear is the proprietary swing axle. The engine is aircooled with cylinder "barrels" like a motor cycle so there are no water radiators. It runs on super unleaded fuel and bolts naturally to the gearbox to form one unit. Remember though that the differential is turned upside down to give four forward gears because the engine is the other way round, hanging off the tail in the conventional Beetle. The gears are the same as the Beetle to keep costs and complications down. The components are held together with a spaceframe steel chassis or monocoque construction – standard practice in racing cars of today. Only one type of tyre is used which has good grip in the dry and there are no aerodynamic wings. Engine power is the same for all but it has been proved that they can out-accelerate a Ferrari 355 over the quarter mile.

### ***WHY CHOOSE FORMULA VEE?***

There are many types of motorsport, from drag racing to sporting car trials, from autotests to static car rallies. What we are dealing with here is single-seater track racing on a motor racing circuit, like say Silverstone. Also at this point it is important to mention the level of competition we are talking about. Formula Vee is considered to be club racing. The main difference between club motor racing and other levels is that it is aimed at the amateur. The amateur is someone who treats his sport as a hobby - the idea that he can have fun dicing with others of his level at the weekend but has to go to work on the Monday, as opposed to the professional driver who is trying to make his way up the motor racing ladder, perhaps ultimately to Formula 1. The main difference between the two is the amount of money put into it. All motor racing is expensive, but the theme of Formula Vee racing is LOW COST. Formula Vee controls all of the motor racing costs that can be controlled. This will be illustrated best by the Technical Regulations where, as far as possible the parts are kept standard so no "trick" and therefore expensive parts can make the cars go any quicker. This means that, within reason success cannot be bought.

In the tradition of the true enthusiast the more you do yourself, the less you have to pay someone else to do. In Formula Vee there is less high-tech equipment involved so you would be surprised what you can achieve even if you are not too technically minded. The other thing to remember is that Formula Vee racing is more of a family sport. Often dad is the driver, his son is the mechanic (or vice-versa), and mum is team manager! Race day is the family day out. That's why there are a great number of drivers who have been brought up on it because their father used to race. The friendly atmosphere also means that competitors help each other to get onto the track. So don't be afraid to ask them for advice on how to do it or ask them to do it



for you. Their philosophy is that if they didn't help anybody then there would be no one out on the track to race with. Hopefully, if you find yourself in the same position as them one day then you will do the same.

The way Formula Vee keeps costs down is to use production car parts for as much of the racing car as is feasible. The road cars are not produced in quantity any more but parts are still made all over the world and the aftermarket is strong with several nationwide suppliers providing new replacement parts and you can always get some bits off-the-shelf from your local VW dealer. Above all you will find a good exchange of Vee bits among the drivers, some of whom run their own VW garages. The engine has air inlet restrictors issued by the club to keep the power similar for all. Costs are minimised on tyres too because only one type of racing tyre from Dunlop (produced specifically for Vee) can be used, wet or dry to equalise performance and no wings are allowed, keeping the technical challenge as simple and straightforward as possible. All these controls, taken together with the tight, well-policed regulations make sure that emphasis is on driver ability.

### ***Friendly Formula***

This must be one of the few single seater formulae with a social club. The Formula Vee Centre caters for Vee drivers, their families and friends which organises parties, barbecues and dinner dances with a regular newsletter, Vee Views and there are deals for track testing. For details email [veecentreuk@gmail.com](mailto:veecentreuk@gmail.com) or talk to our committee – Peter Belsey, Ben Miloudi, Tim Probert or Pete Andrews.



Help is always at hand with Vee racing



## **750 MOTOR CLUB**

Formula Vee racing is administered by the 750 Motor Club. The club is the fourth largest organiser of motorsport events in the UK and runs numerous other racing championships, aimed squarely at the clubman competitor and with the accent on "low cost motorsport". It also runs other events such as vintage car rallies, the most prestigious of which is the National Austin Seven Rally at Beaulieu every July and fits in with the fact that the club effectively acts as the national Austin Seven owners club. For those who need to be active in the winter months it runs a Sporting Car Trials championship for cars to climb muddy hills through narrow gateposts. Finally, the marshalling of the London to Brighton Veteran Car Run every November is managed by the club.

It has a number of local branches, called Groups or Centres and in fact the social club, The Formula Vee Centre is one of those. Often they meet once a month in a pub in the evening, have guest speakers, competitions, "noggin and natters" and even organise test days at racing circuits. As a Formula Vee competitor you would be obliged to join the club but would enjoy all of the benefits other than Formula Vee racing brings.

Reflecting the fact that all activities constitute a business, the club is a limited liability company with a Board of Directors voted in by the members, a Racing Technical Committee who look after the regulations, a Racing Administration Committee who look after the races, a Formula Vee Committee – a group of drivers voted in to look after Formula Vee and full-time staff: Racing and Competition Secretary, Robin Knight who runs all of the races and racing championships and Membership Secretary who administers everything else in the club!

Formula Vee racing is only one of these many activities but they all involve like-minded enthusiasts who love their motorsport so the club fits in well with the Formula Vee maxim. The first move is to join the club. Visit [www.750mc.co.uk](http://www.750mc.co.uk) - for membership details to find out what's on offer. Find out where the Vee races are and go to see what you're letting yourself in for. It's free to walk around the paddock where the competitors are so get down there and speak to the drivers (if they are not too busy). They are normally happy to talk to anyone about their hobby. They were once like you! Look in the race programme and find a driver who lives near you. Arrange to meet one evening away from the pressures of a race meeting, see his car and chat about it. Maybe you could offer to help him at his next race. This will give you first-hand experience before actually committing yourself although you will not be asked to do much in the way of technical engineering – something like pushing the car to scrutineering will doubtless be the first task! Nevertheless the more you learn initially, the less you will be surprised by later. In the 750 Motor Club each formula has an Official who leads the Formula Committee who will be happy to talk to you about it.

## **Calendar**

The season runs from March to October and the championship has about 15 races on tracks all around the country from Brands Hatch in Kent to Oulton Park in Cheshire so there should be at least one which is not too far away from you. The championship rounds are usually finalised in January. The average season's costs are likely to be between £3,000 - £6,000, much of it travelling so at first choose circuits that are nearer to you. You do not have to enter all the races. Also 750 Motor Club membership, registration costs and entry fees are the lowest of all organising clubs. Generally each raceday will consist of 15 minutes practice in the morning followed by a 15 minute race in the afternoon. After you have gained some experience it is possible to race abroad at such fabulous circuits as Nurburgring and Hockenheim in the German Series with your Vee.

## **Regulations**

There are two sets of regulations which control Formula Vee:-

- Sporting and Technical Regulations – these are controlled by the 750 Motor Club and apply only to Formula Vee which cover anything from how the points are awarded to what can be done to the engine. These are sent with your Formula Vee registration form and are included in the “Go Formula Vee Racing” pack.
- Yearbook (commonly called the “Blue Book”) – these rules are published by the governing body (MSA) of motorsport in the UK and apply to all motorsport activities eg. racing, rallying, autotests etc. not just Formula Vee and cover anything from safety eg. valid crash helmets to judicial eg. what penalties apply for misdemeanours. This book will be sent to you with your licence (see Clubs, Licences and Race Entries). It is a hefty tome but you need only look at the sections which deal with Racing. It applies to you and used as “the motorsports bible” by the Clerk of the Course so you will come across it.

Being a democratic club, run by the members, the 750 Motor Club review the Sporting and Technical Regulations and allow a chance for the drivers to raise issues and discuss them at the Annual Formula Discussion. In your early Vee days you may not be able to contribute much to this but it's worth attending. It's a rare occasion to meet all the drivers when there isn't a race meeting going on. Also you wouldn't want to miss hearing about a potential regulation change, would you?

## **Prizes**

Besides the 750 Motor Club Championship there are loads of other prizes to be won: best novice, best presented car, driver of the day etc. There is also a Centre Challenge for those members of the Formula Vee Centre and other awards are aimed at a wide cross section of Formula Vee drivers, from those that are right at the cutting edge of the grid to those whom driving is mainly a fun pastime. The aim of these awards is to provide attainable goals for drivers during their move up the grid, promote good racing and a community feel within the formula. More information can be found at [www.veecentre.com](http://www.veecentre.com)

## **COSTS**

These can be split into two:

- Capital outlay – something you buy only once (car, trailer, helmet, etc.)
- Running costs – regular expenses (petrol, accommodation, entry fees etc.).

If you consider that you have “saved up” and now want to go racing then we should assume that you have a sum of money to pay for the capital costs. If you have a budget then we assume you can pay towards the running costs. Remember this.

### **Capital Expense**

These costs are only a guide but will give you an idea of what’s involved. Before you step into **any** car for a race the minimum you need is:-

- |   |                            |
|---|----------------------------|
| - Vee (optional! – see later)               | £2k secondhand to £15k new |
| - Trailer ( “ “ “ )                         | £400 to £2k                |
| - Tow vehicle (a camper for accommodation?) | As big as your wallet      |
| - MSA Go Racing Pack, ARDS test & licence   | £295                       |
| - *Helmet                                   | £350 upwards               |
| - *Racing overalls                          | £250 upwards               |

\*You cannot hire these and rarely are they available second hand in your size. Helmets are “lifed” so beware of a second hand helmet (see later section on Personal Gear).

You should include items that although not mandatory, you may want to buy (see later section on Personal Gear):-

- |                   |     |
|-------------------|-----|
| - Racing gloves   | £45 |
| - Racing boots    | £90 |
| - Nomex balaclava | £20 |
| - Nomex underwear | £70 |
| - Nomex socks     | £15 |

### **Running Costs**

This depends upon how much of the season’s racing you want to do. You do not have to begin at the start of the season and you do not have to do the whole season.

Item	Half Season	Full Season
750 Motor Club Membership	£ 50	£ 50
Formula Vee Registration	£ 75	£ 75
Entry Fees (approx. £160 per race)	£1,000	£ 2,015
Testing - 1 half day at Mallory Park	£ 125	
Testing - 2 days – Mallory & Silverstone		£ 510
Tyres	£ 575	£ 575
Engine Rebuild	£ 650	£ 650
Consumables (Fuel, Oil etc ...)	£ 250	£ 500
Travel	£ 260	£ 520
Spares and repairs	£ 250	£ 500
<b>Total</b>	<b>£ 3,235</b>	<b>£ 5,395</b>

The above analysis excludes a large cost element – accommodation. This is a personal issue really. For example, can you sleep in a tent? Or does your “other half” (or even you) insist on staying in a hotel? The cost difference between these extremes can be great. If you can reach most of the circuits within the day it may be cost-effective to book a hotel or B&B for the others. Most competitors tow their car with a camper. These can be expensive to buy and run, need somewhere to park when not at the track and can be slow on the way there & back. However once at the circuit they act as bed, breakfast, changing room, dining room, shelter and meeting room all rolled into one. You will have to work out the cost-effectiveness of this. Obviously a camper will add to your capital cost or B&Bs will add to your running costs.



## **CAR**

Before you part with your hard-earned cash, be sure that you are doing this the way that is most suitable for you. After all there are many ways to going Vee racing, you can do anything from “arrive and drive” to running a car you have built yourself and there are lots of ways in between. Remember that the more you can do yourself, the less you pay for someone else to do, so strike a balance between how much time and effort you can put in against the size of your wallet. Bear in mind - people in the paddock will help you!

### ***Race Hire***

If you have never driven a racing car before, let alone a Formula Vee you would be wise to consider hiring a car for a test first. This “try before you buy” approach helps avoid the problem of going to your first race with your new highly expensive pride and joy only to suddenly discover that its really not your scene because you really wanted to go rallying or marshalling and now you are saddled with five grands’ worth of metal that you have to get shot of. Secondly it may give you a guideline of what car to buy (or, more importantly, avoid) if your test car is a make that you have your eye on. It will give you an opportunity to pick up hints from other competitors of what’s involved in running a car at a race day. Most race hire companies offer this service to complete novices. Other good reasons for considering race hire include the fact that you may not have the garage space to store a Vee (and its trailer) and work on it. If you hire before buying then do not hire for too long as race hire fees can wipe out your savings for a car after about ten races.

Race hire need not only be restricted to the hiring of someone else’s car. To protect your capital consider the idea of buying a car and paying someone to (store and) run it for you. This solves the problem of lack of experience of working on the car and avoids the effort of loading and trailing it to the races. A variation of this is to get someone to race prepare your car for you if you lack the technical knowledge but have the space and equipment to store and tow it from home. Alternatively, to save costs ask if you can use “your” tyres on a hire car. Tyre wear is a big cost in racing and extra charges for the risk of punctures will be loaded onto your race hire bill so maybe if you were to fork out for four new tyres, they would always be on your hire car. At least at first you will be sure that they are new!

Part ownerships are quite common. You can share the costs but still race the car yourself at some of the meetings. Beware who your co-owner is though! You can lose friends this way. It has been known for the mechanic to be allowed to have a go in return for all his hard work on the car. This is a cheap alternative, but the same friendship rule applies. If it's your car then only you will suffer if you bend it.

You can buy a kit. This is a good idea as it enables you to get full knowledge of the car because you've built it, but beware. You can spend a lot of time assembling even something as easy as a kit of parts before you actually race and you may lose interest.

Check out the running costs with a current competitor and budget accordingly. Before you buy, ask the 750 Motor Club Official and Formula Committee about cars for sale or a car you propose to buy. There is always a list kept with the Formula Vee Centre. He will give you an unbiased opinion because he should know the car's history and pedigree. Do not pioneer; leave that to those in the know. It should be an easy to maintain, simple, straightforward car, but not a slowcoach. If the vendor

could not make it go any faster, then how is a newcomer like you going to do so? Do not accept: "it only needs a little.....". Ask yourself; "Why is he selling it? When was the engine last rebuilt and by whom? What work had been done to it, when, and by whom? When did it last race? Did it finish? What was its fastest lap at the time?" (not: "What position?" - it could have finished third out of three, four laps behind the winner!). Get evidence of this. Check that the tyres are not worn out but will do some more races. Get as new a set of tyres as you can afford (new if possible). You will save the cost of solving a handling problem that might have been due to knackered tyres. Get what set-up or operating information that you can. If there isn't any, ask him questions like: "What do you do if it is a wet race?" and take notes. Ideally you want front and rear ride heights, toe-ins, spring rates, and shocker settings. Recommended spares are also useful e.g. tyres on wheels.

The best time to buy a car is at the end of the season when most are for sale, as drivers move on to other formulae, buy different cars, or simply retire. And it is a buyers' market. The best place is at the circuit after the race, when you can see how good the car is, and the vendor doesn't have time to put in the knackered spare engine.

Don't forget to check that the car has a gearbox seal to say that the scrutineers have checked the ratios are legal. The vendor should have this on the car. Don't accept excuses from him. As far as you're concerned it's illegal without it

### ***Engines***

The engines are not bog-standard Beetle. The camshafts are free and you can do a lot of engineering work to get them running right. Unless you are prepared to suffer lots of heartache with engine blow-ups it is not worth building one yourself. It is not even worth trying your local VW expert. It takes specialist knowledge and only a few people in the country know this.

**GAC Engineering**, Alan Woodward/Graham Card, Unit 1, Woodhouse Farm, Marsh, Aylesbury, Buckinghamshire, HP17 8SP Tel 01296 613222

**AHS (Mechanical) Ltd**, Alan Harding, Cauldwell Farm, Leicester Road, Lutterworth, Leicester, LE17 4LT Tel. 01455-553052

**RSS**, Andy Storer, Unit 5, Old Great North Road, Sutton-On-Trent, Newark, Notts, NG23 6QS Tel. 01777-870666 or 01636-822033

**John Bowles VW**, Sevenoaks, Tel: 01732 450331

**Bears Motorsport**, Leicester, Phil Foster, Tel 0121742 2200

<http://www.bearsmotorsport.co.uk>

**O-Sport**, Jake Oliveira – Tel: 07917166333, email [jakeoliveira@yahoo.com](mailto:jakeoliveira@yahoo.com)

## **CLUBS, LICENCES, AND RACE ENTRIES**

Motor racing also involves a degree of paperwork, so it is as well to have a portable filing system of sorts, and a diary. Keep this, together with your car settings, and have them with you at the races so you can update them. There are a number of repetitious tasks and items required in the sport, e.g. you always have to take the same things to each race meeting, and therefore it is a good idea to use a checklist.

To take part in motorsport in the UK you must be at least 17 years old, hold a full driving licence and join a club recognised by the governing body of motorsport in the UK, the Motor Sports Association (MSA). In Formula Vee's case it's the 750 Motor Club. You will be able to enter all the races without the need to join another club. Register for the Formula Vee championship (contact Robin Knight, Competitions Secretary, Rose Farm, Upper Oakley, Diss, Norfolk, IP21 4AX Tel: 01379-741641). In return you should get:-

- your racing number that remains with you for the year,
- the calendar of races,
- the 750 Motor Club Sporting Regulations,
- two restrictor plates to be fitted between the inlet manifolds and the carburettor,
- entry forms for all of the races.

Now you'll need a competition licence from MSA. You are obliged to get a "Go Racing" Pack from them - Licences Department, Motorsports House, Riverside Park, Colnbrook, Slough, SL3 0HG (01753-765000). This will include your licence application form. The licence itself is valid from the 1st January to 31st December but you can ask for an application form before the start of the year. With the application will be a medical form which is to be completed by a doctor. Arrange it with your GP. You will be charged for the examination. There are a number of classes of licence depending upon the type of competition. For Formula Vee racing you will need a National B licence to start with. For your first licence you will need a racing drivers certificate. To get this you must attend a racing drivers' training course at a school which belongs to the Association of Racing Drivers Schools (ARDS) registered by the MSA and listed in the "Blue Book", and pass a written and practical examination. For a fee, fixed by the MSA of about £295 you will be taught the rudiments of driving a racing car and tested on it and the theory which is in the "Blue Book". Contact the school nearest you.

In the early months of the year it takes a long time to get a licence because the start of the season is a popular time to get one so allow for this. When you receive it, stick a photo of you on it and sign it. Do it now because with all that needs to be done you will forget it later and arrive at the track but not be allowed to race.

Insurance of both you and the car is probably not worth it. Your average life insurance policy will not cover you for motor racing. You will have to pass a thorough medical examination and you may not be able to afford the premium but it may be worth checking just for peace of mind. Policies are available for racing cars, but in the club racing environment you could have a damaged car repaired for less than the premium.

Finally you will need to know where all of the tracks are and how to get to them. The "Blue Book" has these details but obviously an up to date road map of Great Britain is essential. Some of the better map books mark the circuits.



## ***Race Entries***

You have to complete an entry form for each race. The 750 Motor Club sends you them all when you register (including individual race forms and a “bulk” entry pack – single sheet). It is easier to plan what you think you may do and use the bulk entry form, you can always cancel but you may not be able to get in on a later entry. Each race has a closing date. Fill each entry in and send it off in plenty of time. Places are allocated on a first-come-first-served basis, since each circuit is licensed for a different maximum number of cars. With Formula Vee, if entries are low then there is one race (no qualifier) and you could be only a reserve. It is unlikely you would be turned down, but being a reserve means that you only race if someone who entered earlier than you cannot take part. This can and does happen. A couple of cars can have a serious “off” which cannot be repaired on the day or their engine blows. However, sixth reserve in a mid-season race is unlikely to get a race. It has been known for four reserves to be in the assembly area before the race, waiting for someone to fail to make the grid or even for the race to be red-flagged and reserves to be allowed into the re-start but they have been unsuccessful. If you are a low reserve then phone the Secretary of the Meeting the week before to check if you are likely to get a race. This will not be a problem if there is a qualifying race.

## ***Other Essentials***

Buy the trailer together with the racing car if you can. Then you won't have to customise the trailer to suit. Trailers should have a 50mm towball connection and a jockey wheel. The jockey wheel saves effort manoeuvring the trailer. Ensure that rear, brake, and indicator lights are fitted and work, that all the tyres have good tread (it is the law remember), and that you have a spare wheel. How many caravans have you seen at the roadside with one wheel missing - owner gone to repair flat tyre? They won't wear out. Four wheel trailers are more stable at high speed, but remember the maximum towing speed in the UK is 60 mph. Also useful is a winch, although most Vees can be easily pushed on and off the trailer. Don't drive it on and off. Posers do but there is always the chance of it going wrong and Vee, trailer and you can end up in an embarrassing heap with damage to all three of you. White reflectors on the front of the mudguards are helpful to see them at night whilst driving the tow car. Better still, fit some marker lights. Most people don't bother with a car cover because it's an extra worry on the road, is a chore to put on and take off and can scratch the bodywork. Try to cover the cockpit to avoid racing with a wet bum after a wet journey and wrap the carburettors in plastic bags to keep the rainwater out. Make sure that the weight of the car is distributed on the trailer so that it is slightly nose-heavy. Tail-heavy trailers steer tow cars into ditches.

Do not store the car outside. Rusty racers don't start, fail scrutineering and never win. The garage need not be a workshop but you need to allow plenty of room to work around the car. It must have electricity. A dark, cold garage will discourage you from those essential tasks. You can achieve most things with a set of hand tools and an electric drill.

Reliability is the essential requirement of the tow car. There's nothing worse than arriving at a race late, having already fixed one motor car.

Go around the car and check that EVERY fastener is tight. This tells you if you have the right tools. If you don't, get them. Apart from the toolkit there are a number of other useful items which may not seem obvious:

- A "slave" battery and jump leads. At the track you can use the tow car's battery of course but for a portable one use a sealed type so it cannot spill acid on you. Some cars have a plug-in type slave battery connection which means you will have to buy the plug.
- Petrol can of at least two gallon capacity as you can't always buy fuel at the track. Races are normally 10 laps, sometimes longer. Most circuits have a lap length of 1-2 miles, and your fuel consumption can be anywhere between 10-15 mpg. Assume the worst (10 mpg) until you can verify it at the track. Never run out of fuel in a race; it's always better to be safe than sorry.
- Brake bleeding equipment.
- Timing and signalling gear. You could go through your racing career without these, but for the benefit you get from it, the one-off cost is worth it. Firstly, you'll need a stopwatch. Either get one of the ones which stops the time of the last lap (split timing) and starts the time of the next, or buy two watches and press them both at the same time! With signalling gear it depends upon your pocket. You could buy the gear complete or make it yourself e.g. blackboard, chalk and rag (beware of the rain!). The most it needs to show is the last lap time, the lap you are on, and your position. Whatever, make it distinctive. You need to pick it out from twenty others, close together, 5 feet away, at 100 mph. Draw up a lap chart to log it down. Mark it out on a piece of plain A4 white paper and get some photocopies made for you to use. Buy or make a clipboard (a sheet of plywood and a bulldog clip is all you need) for it. There are automatic lap timers on the market used by a great many club racers. Talk to those who use one before buying one yourself. Beware of buying it just because it's a gizmo that everyone else has.

### ***Accommodation***

The first scrutineering session starts at 8 am which means you have to be there, signed on with the car unloaded ready for it by then so a day's racing can start early. As stated before, accommodation will depend upon personal circumstances, both finance and other. If it is far away, most people like to get there the night before so they don't have to worry about holdups on the way. Remember, rested drivers are faster and safer. You can camp in all racing circuit paddocks. So you have the options of driving there on the day, camping overnight in a tent or motor caravan, or finding a B&B nearby. Beware that some tracks offer little or no camping space eg. Mallory Park. For B&B make sure your hosts have room for car and trailer and know you have to be off early.

## ***Personal Gear***

Your helmet is the most likely piece of personal safety gear to get tested in anger. Get the best helmet you can afford. There is a saying in motor cycling: "If you have a cheap head get a cheap helmet." There is a minimum standard for a helmet defined in the "Blue Book" it shows the current acceptable BS or Snell Foundation standard. These expire so what may have been valid 10 years ago may not be legal now. If it is not to the correct standard then it doesn't matter how great it looks or how much you paid for it you cannot use it for racing. Initially the scrutineers will check this and that it fits you, then put an approval sticker on it. This sticker is checked at every meeting after that along with the BS or Snell standard and that it is not damaged in any way. They (and only they) can decide whether you can use it or not. So protect it as much as possible when not in use. Keep it in the box it came in, or better still get a leather or cloth bag to carry it in. Get a decent visor or pair of goggles. The ones made of Lexan keep debris out at 100 mph plus. Some are only made to keep the rain out. They are disposable. They get scratched through use so when it starts interfering with your vision, scrap it. Carry a spare and protect it. Don't forget to get a de-misting solution. Hand cleanser and washing up liquid works but the proper spray available from motorcycle shops is better. While you are at it, get some rain repellent for the outside of the visor from the same source.

The noise from a club race should not be that great especially inside a full-face helmet, but by all means wear ear plugs. Needless to say there are proprietary ones, but although not as efficient, cotton wool may be more comfortable for you. This is a personal choice dependent upon how much you value your hearing.

It is mandatory for racing drivers to wear flame-proof overalls (see "Blue Book"). Don't skimp after that. Get flame-proof underwear, socks and balaclava. They should last your racing career so are a wise investment. Try them on and get clothing that fits. Ill-fitting clothing leads to discomfort, discomfort to distraction, distraction to mistakes, and mistakes to accidents. Don't wear any nylon - it can melt. Similarly, use nomex boots; trainers burn. You need gloves because hands can lose their feel in a Vee in the early part of the season when it's cold. This is dangerous.

Keep all of the gear together, so that it's easy to pick up. A holdall to contain all of your gear is useful. When you go to scrutineering you then only need to pick up the one bag. Keep gloves, balaclava, de-mist spray, and clean rag with the helmet.

With the 750 Motor Club membership you will be able to claim a discount on racing gear (and race spares). Check this out.

Finally (and this applies to your pit crew as well as you), get some warm wet weather gear. Don't forget the notorious British summer, and that most tracks originated as airfields and are therefore cold, windswept places with little shelter. Throw away your vanity and get thermal underwear, thick socks, waterproofs, wellies, and golfing-type brolly.

## PREPARATION



Prepare to be examined at close quarters

### Car

When you prepare the car on a regular basis, you will get into a routine which will lead to forgetting things. This is therefore an ideal case for a checklist. Keep it hanging in the garage and use it. Tick off the tasks as you complete them - not as you start them, because you may get interrupted and then the list tells you nothing.

Clean the car from one end to the other, and look carefully for cracks, chafing, leaks, and seeps. There is no better way to get to know every bit of your car. Also, a dirty car is assumed by the scrutineers to be a poorly prepared one, the dirt trying to hide something and more likely to fail. Remember also when you spray your car with your favourite colour that:

- You'll have to respray it if you ding it i.e. don't make the pattern too complicated using colours which are hard to obtain, or a mix which is difficult to recreate.
- Make it stand out in some way with a bright colour identification. British skies can get dark, and it is difficult for pit crew to pick out one dull coloured small open-wheeled racing car from all thirty others 200 yards away.

The safety regulations for all racing cars are in the "Blue Book" and the Sporting (eligibility) regulations that apply to each formula are available from your club (the 750 Motor Club send them to you when you register for a championship). Read them and check your car against them. Ignorance is no excuse. Check the following safety and eligibility items. Deficiencies here may require a great deal of work to correct so do this first:

- The roll-over bar clears your helmet by 5cm, the principle being that should the car turn upside down the helmet would not hit the deck.
- Seat belts are anchored securely to the chassis, are sound and not out of date.
- There is a master switch, easily reachable from inside and outside the car (you can have two in series) and that it cuts ALL of the electrics.
- The high intensity rear light(s) works.
- The extinguisher is not past its expiry date and that you have done everything bar setting it off, to ensure that it should work. If you are not sure get an extinguisher company to check it. DO NOT SKIMP ON THIS.

- The brakes work at the touch of the pedal.
- The throttle snaps shut when the pedal is released.
- There is no play in the steering.
- Check all cables; they tend to rust and seize.
- There is a return valve on the fuel tank breather.
- There is a transponder. You can hire them at the circuit but effectively a car is incomplete without one. Buy one if there isn't one on the car. Contact the club for the supplier giving a discount.
- There is a regulation LED rear light. If the car hasn't got one then fit it.

Ignore the fact that the car has been racing before in this condition. At scrutineering, saying "it passed last time" is not going to ensure that you pass this time. If in doubt on safety matters, ask a scrutineer. The 750 Motor Club scrutineer is RACMSA registered and always attends race meetings. If you are in doubt contact him. For the cost of the petrol to take the car to him or a scrutineer he knows, it is worth saving the cost of getting to your first race and failing scrutineering.

The most important thing for the first few races is reliability. The car must be ready to go, start on the button, be capable of being driven round for quarter of an hour without it overheating and it must not frighten you stupid at each corner. Check that the battery and its connections are sound and it holds charge. Clean out the fuel tank completely. It has been known for illegal additives to linger and punish the innocent new buyer and this will also get rid of foreign bodies e.g. rust particles, which can block carburettor jets. An airline is useful here.

Make a fuel gauge dipstick. Use a hardwood stick with no splinters and calibrate it by filling the tank with measured amounts of fuel, dipping and marking the gauge with a knife each time. Check the car's settings against those you were given when you bought it, and use them until you know better. If the car is wildly out and you have no experience of preparation and setting up cars then ask. Try your Formula Official or find a competitor near you. There is nothing wrong settling down for a day or two with a relevant book (all good racing car construction books are available from the 750 Motor Club office). There is usually a constant urge to be modifying or improving things on a racing car. The more you work on the car the more you will learn, but you should take a sober view about your technical knowledge and your ability to correct changes in a hurry at the track if they cause trouble. A high percentage of DNFs (Did Not Finish) are directly or indirectly attributable to changes that have been made. Do not test a major change in a race.

Now make sure you are comfortable in it, that you can operate all of the controls easily and that the mirrors are well situated. Use two-pack foam to make a seat lining if you need to sit further forward and can't move the pedals and steering wheel. Mirror positioning is very important. Sit in the car, kitted and belted up with your helmet on. Nestle down as if you were race driving (you tend to sink into the cockpit more when you are racing). Now adjust the mirrors, or get someone else to adjust them for you. You should be able to see something in the mirror the size of a racing car, as far away as 300 yards, and as close as your exhaust. You could find it useful to wheel the car out into the street and check parked cars in your mirrors. Further adjustment can only be done after racing experience, but you must make sure that they are firmly attached. Don't bolt them to flimsy bodywork but use the rubber gaskets, normally supplied to allow for some vibration.

Finally the stickers all of which (apart from the club ones) you can buy from Racing Car Suppliers:-

- Novice cross - This black cross on a yellow background (see "Blue Book") is your "L" plate, and can be removed after you've obtained signatures on your licence to show that you have behaved yourself in 10 races. Make up an alloy plate which bolts to the rear of the gearbox and stick the cross on it.
- Racing numbers - For the white backgrounds use Fablon from DIY stores, or you can buy them ready made. To help position them correctly, spread washing up liquid on the background, slide the numbers into position, wipe off excess, and leave to dry. Put them in the middle of the car in an upright position on the front and either side of the cockpit to ensure they can be clearly seen
- Extinguisher "E" – this red letter "E" on white background with a red circle is stuck as near as you can to the extinguisher handle which the marshal would operate if you had a fire.
- Ignition Spark – This red lightning bolt on a blue triangle is positioned alongside the external master switch. Also stick an arrow on to indicate which way is the "off" position. This is so that a marshal can switch off the engine if you can't and you have had an accident.
- 750 Motor Club stickers - put them alongside the racing numbers on the front and sides.

## **You**

If you wear spectacles consider getting a pair with plastic lenses and metal frames. The last thing you want is the lens glass to shatter and the frames to snap. Don't forget to use de-mist on your glasses as well as the helmet visor. You should have a reasonable amount of fitness. You will be surprised how a race takes it out of you. If it doesn't then you're not trying hard enough! You might also be surprised how often you have to push the car. You don't have to train for a marathon run but some sort of spryness of body and mind is essential even at club level. Go easy on the fish and chips too. Remember as you load your 15 stone into your racer it's going to be at an immediate disadvantage to your 9 stone competitor.

It is timely to get up on the flag signals and starting procedure. They are all in the "Blue Book".

You can buy books showing the layout of the tracks and the lines to take. These are useful but have their limitations. They show a plan view and therefore do not give you a driver's three dimensional view of the track ahead. They do however give directions to the circuit and contacts for hotel and B&B accommodation and, if nothing else tell you that the first corner is a sharp right hander. There are computer simulations to use on your PC but they tend to be of the Grand Prix tracks of the world and if you need them then why are you bothering with the real thing? No more virtual armchair stuff for you. Its time to get out there and get real!



Vee will keep you busy enough





## **TEST SESSIONS**

It is a good idea to book a session at a circuit before your first race, ideally in conjunction with an experienced competitor in the same category who you can talk to since you will not have driven the car. All motor circuits have this facility, normally during the week. Telephone numbers are in the "Blue Book". Check with them that there are not any "fast" cars (or motorcycle and sidecars!) booked, as you need to minimise potential accidents - you being a learner. A session like this allows you to sort out the systems on your car, learn the track, check your fuel consumption, and get lots of time to get used to driving the car. Be careful if you use it in a "try before you buy" situation. This can end in legal tears if you bend it. Plan your time there. It will go quickly. Sometimes you get 45 minute sessions with intervals to tow in wrecks plus a lunch break. Check with the circuit first. Set yourself an objective, e.g. trying different sized main carburettor jets, and keep to it. If it seems to be running OK, leave it alone and concentrate on tuning the nut holding the steering wheel. Do not bumble around using up time till the end; get as much time in the car as possible (THIS IS INVALUABLE) but go for a best lap time. Don't crash it, although it is better if a system failure occurs at this session rather than in a race.

Another good idea is to learn as much as you can about a track before doing a test. You will find a number of videos on YouTube or Vimeo with onboard footage of drivers racing Formula Vee's which can be invaluable to learn the line, braking points and gears for different tracks.

To attend a session you must have:

- Car to "Blue Book" specifications for safety
- Competition licence
- Full racing kit i.e. helmet, overalls, etc.
- Fee (normally you can book half a day or a full day)

Take the stuff you would normally take to race meetings (see RACE DAY). All aspects of a race meeting apply here except that there is no scrutineering and paddock activity is less frantic and more considered. Others will be attending for lots of different reasons, so don't be surprised how slowly or inconsistently they lap. Do not race anybody and drive defensively. Concentrate on what you are doing but remember that wingless single seaters can be very difficult to see in the mirrors. They can also be very difficult to see from a saloon when they are alongside; the rollover bar may just come up to the window ledge! Remember also that a saloon car that you can see in your mirrors may have one or more single seaters drafting along behind it that can pop out at the end of the main straight. There is a lot more to-ing and fro-ing between the pits and the track in testing. Watch out for others doing so and remember to come in yourself and refuel the car!

It is here that you will start to gather information about the car. Keep a clear log of what you did to the car and what effect it had. Put it in your paperwork file.

## **RACE DAY**

The procedure at 750 Motor Club race meetings has been standardised and is therefore generally the same and tends to involve the same people doing the same jobs whichever event you go to. This will help you get familiar with it but beware some people change "hats" so don't assume what they did last week is the same as now.

The 750 Motor Club operates an "Uncle" scheme whereby an experienced competitor takes you under his wing for the day. This is extremely helpful as it can be a very traumatic time. Contact the Competitions Secretary about this. Never go to a meeting alone. It is always useful to take someone with you, even if they are inexperienced. It takes the load off you (pushing the car etc.) and allows you to concentrate more on the driving. It is also reassuring to have somebody to talk to or do anything when you are strapped in the car on the grid.

### ***Before You Leave Home***

For each race you will receive an acknowledgment which confirms receipt of entry and tells you if you are a reserve. Near the race date you will be sent the Final Instructions and any Supplementary Regulations. Read these carefully, especially the timetable. Note any restrictions on camping or access to the circuit. Using another checklist, do as much as possible beforehand to save you time on the day:

- If you get one then fill out the commentator's sheet. The commentator may not read it out, but if there's a delay he's got to talk about something. What better than something written down in front of him, especially if you put in something unusual.
- Fuel the car ready for practice.
- Charge the battery.
- Check that the high intensity rear light works.
- Slightly over inflate the tyres. It is easier to let them down to the proper pressures than to pump them up.
- Take a close look at the circuit layout in the "Blue Book" and keep it in mind for later. It may have changed since last time you saw it, maybe only as a spectator.

Take the following (another checklist):

- Racing car(!)
- Tools, jack, tyre pressure gauge, race tape, spares, wet tyres, fuel, oil, brake fluid, slave battery with jump leads, cleaning kit with rags and loo roll to wipe its rear end (you can't have too much of this). Do not take the garage! Taking too much will detract from the business of racing. You will inevitably have to improvise some jobs at the track. It's all part of the fun. Someone will help you if you ask. You can get announcements made over the paddock tannoy for special tools and spares e.g. welding kit
- Driver(!)
- Helmet (and goggles), racing overalls, underwear, socks, boots, gloves and balaclava.
- Documentation: Supplementary Regulations, Final Instructions, competition licence, 750 Motor Club membership card, paddock passes for people and vehicles.

- Tent or camper and any gear for your overnight stay and enough to eat and drink. There are cafe/restaurants in all paddocks but pre-packed sandwiches and a flask are obviously cheaper. Don't forget your warm wet weather gear.
- Road map. Work out the route beforehand. It's no fun towing a trailer in the dark with a map in one hand on a road you don't know when you are apprehensive about what's going to happen next day. Most circuits are in the middle of nowhere, not near a motorway and difficult to find.
- Spare pair of spectacles if you wear them. There's nothing worse than breaking them when you are working on the car at the race meeting after practice and not being able to see to race because you can't fix them there and then. Its bad enough trying to drive home!

## ***ALLOW PLENTY OF TIME TO GET TO THE CIRCUIT***

### ***On Arrival***

- ***DO NOT ARRIVE LATE.***

If you arrive the night before try to arrange to pitch next to an experienced competitor who is prepared to advise you. When you get to the circuit, find the competitors entrance to the paddock. This may take some doing if you arrive after dark. If you arrive late at night please be quiet about setting up and watch your headlights. Tents do not keep out much sound or light and some people are trying to sleep! It helps if you are near other Vees. Make sure that you are not pitching on the space left by someone who has already gone off to scrutineering or practice! If you have arrived the day before and it is still light it is a good idea to walk round the circuit. Although it will look completely different from the cockpit of a racing car it will at least give you a feel for the sharpness of the bends, how they swoop and the general layout of the circuit.



You will not always be guaranteed a garage like this

Find out where the important places in the paddock are:

- Race Administration where the Secretary of the Meeting does all of his paperwork.
- Race Control where the Clerk of the Course and other officials run the meeting.
- Scrutineering Bay where cars are checked for safety and eligibility.
- Collecting Area or Assembly Area where cars are gathered for their practice or race

Club racers, being the social bunch that they are, will gather in the clubhouse the night before. There are benefits to joining them. You will get to know your fellow competitors and their families, exchange views, suspension settings, etc. (beware of the bullshit!) and generally enter into the spirit of the sport. But be careful that you are not chatting into the wee small

hours with someone who is in a later race and doesn't have to get up early like you. Try to get some sleep! If you can't sleep then rest.

### ***General***

The main thing to remember is that everybody wants you to go racing provided that you have done your bit correctly. Prepare and plan ahead where you are due next and be there on time with all the right bits. The time for Signing On, Scrutineering and Practice are in the Final Instructions Timetable but may be changed during the day. Listen out for any announcements.

### ***Signing On***

This is a process to register to the Secretary of the Meeting that you have arrived. For a 750 Motor Club meeting he is the Racing Competition Secretary and you have an opportunity to meet and resolve any administrative problems with him later in the day BUT NOT NOW, it is his busiest time.

Take the following to Race Administration (find the queue of other drivers):

- Driver.
- Competition licence.
- 750 Motor Club membership card.
- Filled-in commentator's sheet.

Sign on the sheet(s) for the event number(s) you are entered for. All licences are kept in case of naughtiness where endorsements might be issued. Also if you want to obtain a signature from the Clerk of the Course confirming that you did behave yourself on the track, let Race Administration know. Sufficient signatures enable you to upgrade the licence (see "Blue Book").

You will be given:

- The form to take to scrutineering.
- A programme and amendments to it.

Ask for 750 Motor Club stickers and championship decals (if there are any) if you haven't got them already. Put them alongside the racing numbers on the front sides next to the racing number as per the regulations.

### ***First Time At The Circuit Briefings***

If you have never raced at the circuit before, you must attend one of these briefings **BEFORE** you practice. Do it now. **IF YOU DO NOT THEN YOU MAY BE FINED OR EXCLUDED.** The Clerk of the Course or his deputy will give you a quick chat on specific points to watch for. If you have any questions, get them in now. Tannoy announcements about these briefings which will be given in the morning to groups of you will be made in the paddock.

### ***Scrutineering***

This is like a MOT test. Generally you either pass or fail. If you fail it means that you cannot practice or race the car until the problem has been resolved, although sometimes you will be allowed to practice but not race until it's fixed. If this happens bring the car back to the scrutineer who dealt with you the first time. Scrutineering need not be a traumatic process if you have done your preparation work properly.



Take the following to the Scrutineering Bay:

- Car. Note that at some circuits you may not start race engines before a certain hour on account of the noise restrictions. This is usually during scrutineering. Check your final instructions for this. You could be excluded from the whole meeting for ignoring this point. If in doubt push the car to scrutineering. Certainly you must warm the engine up slowly and steadily before expecting it to be driven carefully around the paddock.
- Driver's helmet and racing overalls (you can put them on first).
- Any tools you need to get the bodywork off.
- Scrutineering form.

- Someone who can help you get the bodywork off.

Like all other officials at the meeting, the scrutineer wants you to have a good day's racing - BUT SAFELY. Tell him you are a novice. It will help him help you. He will check safety items such as (this should not be taken as a definitive list):

- Driver's environment: the helmet has the required RACMSA sticker (if you do not have one he will apply it after inspecting it and checking that it fits you), overalls, condition and fixing of the seat belts, and the general safety of the cockpit.
- Engine: does not leak oil or water and the throttle positively shuts when the pedal is released.
- Brakes: pedal operation, fluid does not leak anywhere and the levels are OK.
- Steering: operation, steering stops do their job and tyres do not chafe anything.
- Wheels and tyres: the wheel nuts are tight and there is sufficient rubber left on the tyres.
- Battery: securely mounted.
- High intensity rear light: works.
- Master switch works. The test is often that it will switch off the rear light.

Any eligibility matters i.e. that the car complies with the technical regulations for the formula, will tend to be dealt with separately, often immediately after the race or practice.

If you are late and in danger of missing your practice, explain that to the scrutineers. They will appreciate your predicament and try to accommodate you accordingly. The car must be complete, in racing trim including the novice cross and ready to race. Have the bodywork loose and ready for removal to save time. All numbers and stickers must be present and correct. Master switch key must be operable. Leave the fire extinguisher safety pin in just in case somebody activates it by mistake. When your car has been passed fit, the scrutineer will swap the scrutineering form for a scrutineering "pass" ticket. Take the car back to your pitch, and IMMEDIATELY tape the ticket firmly against the inside of the cockpit where it can be seen clearly with the driver strapped in. Don't lose it. You will not be allowed to practice without it.

### ***Assembly for Practice***

Get yourself and the car ready for practice. Put in enough fuel for practice if you have not already done so, set the tyre pressures and warm the engine up. Pay a visit to the loo and put all your racing kit on. You often do not have much time between scrutineering and practice so do not muck about. Check with earlier practices how long before the session the cars are called. There are often two practice sessions. Make sure you know which one you are in and get ready for it – not the one after! Look out for other Vees which are in your session driving off to the Collecting Area. Arm the fire extinguisher by removing the safety pin. Put it somewhere obvious (maybe even fixed to the car).

Take the following to the Collecting Area (most people drive there):

- Car with scrutineering ticket firmly attached.
- Driver. If you drive the car wear your helmet. It is mandatory to do so in the Collecting Area if driving a car.

- Slave battery.
- Pit crew with timing and signaling gear.
- Pit passes for pit crew.

You will be asked to show your scrutineering ticket and will be directed to your parking place by the marshal. Switch the engine off. Keep in your mind a "good" lap time round the circuit, and your best one to date. This will give you a ball-park to aim for. Be aware of an enthusiastic marshal telling you to start and warm up your engines, not knowing that Vees are air-(not water-)cooled and can come up to temperature quickly then overheat. When the previous session has cleared the track and the course car has finished its clearing lap round the circuit you will be directed onto the track. So keep an eye open for a flashing orange light going past – it's likely to be the course car coming into the pits. You can then start the engine.



Sometimes the Collecting Area is the pit lane as Donington here

### ***Practice***

Wait until the assembly marshal points at you to go or the car in front of you in the queue starts to move. The route to the track may be short or long and may or may not go through the pits. Follow the marshalled route and keep it steady. At some circuits, e.g. Donington, there are traffic lights at the end of the pit lane. Obey them.

Practice normally lasts 15 minutes, which is plenty of time to establish a lap time which will determine your grid position. You will be practising with the cars in your session but there may be one or two practising out of their session. These may not be Vees. They could be fast cars and should give way as they are privileged to be there but watch it; they don't always do so. Whatever you do, make sure you have done sufficient for the timekeepers to establish a lap time for you. Normally this will be 3 consecutive laps – passing the timekeepers three times. You'd be surprised how often it is in doubt, with cars arriving late, spinning off, breaking down, and



coming into the pits. Look for the marshals posts which show the flags. On the first lap each will hold out a green flag to show you where they are. Watch your mirrors and for yellow flags. Those cars overtaking you will have done it before. Leave it to them. They are the experts. Don't try to avoid them. Stick to your line. With a yellow flag, don't overtake until you get to the green flag which will be shown at the next marshals post following, otherwise you will be penalised (normally starting the race from the back of the grid ten seconds after the rest). Put into practice what you have been taught at the school. Your pit crew will go quickly to the signaling area, which is normally in the pits, showing their passes.

### ***Using the Pits***

If you need to use the pits, raise your hand to indicate that you are slowing down, but only if doing so you're not in danger of losing control. Do not enter the pits too fast. You will be surprised how fast you are actually going! Watch out for jay walkers and other cars in the pit lane. Keep in the through-lane next to the pit wall, which is usually bordered by a yellow or white line, until you reach the points where you want to stop. Your pit crew should stand by the garages and shepherd you to a good place. Pull over and stop. Do not stop in the through-lane. Pull away from the pits in the through-lane. As you get to the end of the pits, watch for the flag marshal or the lights to allow you back out when it is clear. Be prepared to stop and await the all-clear. Accelerate away smartly, keeping to the same side of the circuit as you joined. As you come out, check in your mirrors that the marshal got it right. You are responsible at all times. Remember that the tyres and brakes may have cooled off and may not be working as well as they were when you came in. Warm them up again properly.

### ***End of Practice***

Remember that your sense of time may be suspect on the track. Look for the chequered flag hung out at the start/finish line. Slow down gradually, and follow the other cars. DO NOT OVERTAKE. As you come around to the track exit point, go where the marshals tell you. Do not stop and chat at the paddock entrance, you will block other cars coming in. If you have stopped out on the course, return to your car when the session is over. Gather up any shed bits and pieces. A tow truck will collect you and your car and deliver you back to your pitch in the paddock. Direct the driver to exactly where you want it put. If you are being towed, sit in the cockpit with your helmet on. You will probably be towed by the roll over bar. Put your hand on the tow rope so you are aware of its position to make sure that you are not strangled with it!

On your return do two things immediately:

- put the fire extinguisher safety pin back in.
- cover the carburettor intakes, if there is no air filter to stop anything falling in and wrecking the engine.

Do not fiddle with the engine. It is too hot. Vee exhaust pipes stick out and can easily catch you unawares and burn your skin. Brake discs can get very hot too and if you have an oil leak then it stays hot for some time. Warn your family too. Exhaust pipes are at the height of a child and look like grab handles.

After a short period, the practice times will be available for you to pick up from Race Administration. Get yourself a copy. If you have not made your practice session or failed to set a time, go immediately to the Clerk of the Course and ask to practice out of session. If you are in doubt, check you have done your three laps with the

timekeepers by asking at Race Administration. If it is possible, you will be allocated another session to practice with, and get a chit to give to the assembly marshals. You may be asked to temporarily tape over or change your racing number so yours does not clash with another in that session. You then go through the normal practice process as if you were a member of that formula, but remember you are only out there for three laps, not going for a grid position so allow the others past to practice freely. You may be directed off the track after three laps.

If you practice out of session, you will have to start your race at the back of your grid with a ten second penalty. If there is no suitable later practice you **may** be allowed a three lap tour at low speed behind a course car during the lunch break. This is at the discretion of the Clerk of the Course.

Change out of your overalls immediately you come in. Racing overalls and boots are expensive. Avoid working on the car in them. Don't get them oily and combustible! Besides which, they will be damp from rain and sweat. Show me a racing poser and he'll be in bed with a cold.

### ***Between Practice and Race***

This is your lunchtime, whenever it is. This allows you to work on the car to repair any damage(!), fix any problems, make small adjustments, and to prepare the car for the race. when the engine is cooler. Remember to reset the tyre pressures and REFUEL IT. Even experienced drivers have been known to forget the latter. Also remember to grab a bite to eat. Some time after practice, the timesheets and grid for your race will be published by Race Administration. Copies will be on a notice board and there may be some to take away.

Find out where you are on the grid and identify who is starting around you. In particular, note if there are any cars with ten second penalties. Work out if you are likely to be lapped, by whom, and when in the race it may happen. If you have any problems with your car, such as clutch trouble or if you want to start from the back of the grid for a quiet life, go and talk to the Clerk of the Course about it. In this case get signed agreement in advance from ALL the other drivers in your race saying that they do not object to your racing as is, and present it to the Clerk of the Course. Definitely do something about it before the next meeting.

If your published fastest practice lap differs considerably from the pit crew's version, ask to have the time checked. You will have to bring some written evidence. Bring your lap chart. The timekeepers may disagree with you and the Clerk of the Course may not change his mind. His decision is final. Accept it. At the end of all of the practice sessions, there is a break before the races. This is lunchtime for the marshals. If you have not arranged to get yourself qualified by this time you have blown it.

### ***Drivers Briefing***

Sometimes there is a briefing for all the drivers at the meeting as well as those for first-timers. Look in the timetable for when and where this is taking place if there is one. This is given by the Clerk of the Course and may be compulsory on pain of exclusion and fines. You will get an update on the state of the track, what happened in the morning, any changes to the timetable and any other news that you need to know.

### ***Assembly for the Race***

Race meetings are usually standardised such that the first race always starts at the same time and the following races are run as soon as possible after it, regardless of the published times in the programme. So keep track of the paddock assembly calls over the tannoy for the first few races to see what the actual time is likely to be. Take the opportunity to watch a race start before your own race to see the procedure and how long the starter takes between red on and off. Note that most schedules get stretched but it is possible that your race may be called early. It is up to you to be there. So **BE THERE!** You should aim to be starting to warm up the engine and ready to belt up when cars for the **previous** race are called to the Assembly/Collecting Area.

**DON'T FORGET TO REMOVE THE FIRE EXTINGUISHER SAFETY PIN.**

Get kitted, belted and helmeted up, ready to race and drive your car there. The marshals will park the cars according to their grid positions. Pay particular attention to any last minute instructions or warning about oil on the track etc., given by an official. Your pit crew can keep you informed of this so that when the previous race finishes you will be ready for yours. They should always keep an eye on you in case there is anything you want. Attract their attention with a hand signal, as there is a lot of noise about and you cannot shout at them across the paddock through a helmet!

You will be let out onto the grid at a snails pace. A marshal will park you in your grid position. Switch your engine off and notice the following:

- Where you are. You will be expected to return to **EXACTLY** the same spot on your own after your warm up lap, so you have to use whatever landmarks are available.
- Where the starting lights and green flag or Union flags are located. They are not always in the same place.

Your pit crew can join you on the grid to report progress and attend to you until the 2 minute signal. Once all cars are on the grid you will be shown the following signals (a marshal will hold up a board at the front of the grid and a siren will be sounded):

- 5 minutes. Switch off all engines. This may not be shown.
- 3 minutes. This may not be shown.
- 2 minutes. It is well known that 750 Motor Club minutes are extremely short – some times the boards are immediately after each other. Start your engine and clear the grid of pit crew. If you have a problem such as a dead engine, wave your hands like crazy at this point to get the attention of the marshals and other drivers. Stay in the car. You may get a push start. If the engine still won't start you may get pushed into the pits where you can fix it and start from the pits after the whole grid (ten second penalty cars as well) has started. You may not be allowed to start. Accept this.
- 30 seconds. Watch the starter. A green flag will be waved for the start of the warm up lap. **THIS IS NOT THE START OF THE RACE.** Do not race around the track. Keep in company with the rest in grid formation. If for any reason you fail to get away in time, catch up the back row and start in a space behind them. As a rule of thumb, if all the other cars are gone by the time you get going, start from the back. If only a few cars got by, for example because you bogged your start slightly, work back to your slot on the straights. If you don't make it by the last corner, drop right back through the pack and start from the back. Making up places during the warm up lap or when you reach the grid is

prohibited, so use your head and take care here. Now is the time to warm your tyres and brakes so they work well at the first corner of the race.

Use a sharp line through the bends and accelerate and decelerate in short bursts. Lightly keep the brakes on all along the straight, whilst keeping up with the pack using the throttle. Gently wiggle the steering wheel to warm the tyres, but do not weave or brake heavily. It might cause an accident.

Your pit crew is moved away from the pit wall for the start. As you get back to the grid, SLOW DOWN AND ENGAGE FIRST GEAR AND CHECK THAT YOU HAVE GOT IT WITH A SHORT SPURT. It is easy in a Vee to get third gear and think its first. Form up as soon as possible on your spot, and be ready for the lights. Watch out that some starters may not wait too long, if at all, for the back of the grid to form up exactly. When the cars are assembled, a marshal at the back of the grid waves a flag to the starter. This usually indicates to the starter to start the race.

### ***The Start***



This is potentially the most dangerous part of the race. Keep your wits about you and don't try anything cute. The red light goes out normally 4-7 seconds after it is first shown. If you jump the start, stop immediately and be ready to start again. You can get a one-minute penalty for doing so, but if you didn't make an attempt to arrest your progress the penalty could be worse.

### **NEVER ATTEMPT TO REVERSE ON THE GRID**

If you are immobile for any reason on the final grid, wave your arms like crazy. Hope that some flags are also being waved about too. Stay in the car until your fellow racers have (hopefully) driven round you. You may get a push start.

If you are starting with a ten second penalty you will be reminded about the procedure and lined up at the back of the grid. Often you get your very own personal marshal to keep an eye on you! You will be flag-started from the starting gantry ten seconds after the main grid has left. Start when the flag comes down, not when it is first held up!

Drive defensively at first, and be prepared to brake earlier at the first corner because:

- Your brakes and tyres will be cool.
- There is traffic congestion as each car has to brake harder than the one in front because they are so close.

## ***The Race***



Finish your first race. Don't try anything cute

In your early races, the main thing to remember is to finish the race without a breakdown or accident. Note the saying: "To finish first, first you must finish." So minimise the possibility of these things happening. Check your gauges (if nothing else the oil pressure gauge) on a straight every lap to see if there's any change since the last time you looked, not just to make sure it is not zero! It might be worth installing a dashboard light attached to a 20 p.s.i. engine oil pressure switch to give you more warning of an engine failure. Watch your mirrors, and remember when you expect the leaders to lap you. In a race you may not realise which lap you are on because you've been preoccupied with a dice, so look out for your pit signals. The start line marshal may hold out a last lap board when the leader starts the last lap, but don't bank on it! Don't bank on seeing it either. You may have been busy at the time!

Stop racing immediately after the chequered flag. If you haven't won you will be directed into park ferme or the paddock as you were after practice. If you have won, the marshals will guide you around to the start/finish line or in the pits for a chat with the commentator. If your car is an unreliable starter, it helps if the pit crew turn up with a jump battery or remove the car for you. You will be held in parc ferme for any post-race scrutineering to take place and none of your pit crew allowed in. By all means get out of your car and chat to the other guy who was dicing with you but be aware that the scrutineers will be marshaling you in for an eligibility check. For example you may be weighed to check for minimum weight.



When you return to the paddock remember that before anything else:

- Put the fire extinguisher safety pin back in.
- Switch off the electrics.
- Cover the carburettor intakes.

If you have had an accident with another competitor, or something happened on the track you were unhappy about or unsure of then go and talk to him. If it was your fault, apologise and expect the same in return and be graceful about it. You have to share a track in the future, and motor racing is too dangerous to entertain petty tiffs. Work out what should have happened and learn from it. Within reason, it is a friendly formula.

You are required to hang around the paddock for half an hour after your race in case of protests or the MSA Steward or Clerk of the Course wants a word with you following reports from the observers on the course. Don't jump in your Learjet and head off into the sunset. You won't be able to get packed up in time anyway. If you are ever called to report to the Clerk of the Course remember that it could be something minor, like you have not been to the Medical Centre after an "off" or you parked in a silly place. Get there pronto and be co-operative. The Clerk of the Course is your boss at the weekend and has his problems too.

Results sheets are published at Race Administration soon after the race results are official.

**DO NOT FORGET TO COLLECT YOUR COMPETITION LICENCE.**

If you wanted a signature, check that it has been filled in correctly before you leave. If you do well enough to get a trophy (normally for the first three places) you can



collect them from Race Administration. The Vee Centre may do a presentation ceremony so keep your ears open to any instructions after leaving park ferme.

## **TRACK BEHAVIOUR**

### ***Learning the Track***

Remember that you are responsible for yourself at all times. Do not blindly trust another driver's version of the track when you are behind him. What for him is flat out in fourth, may be third gear and on tippy toes for you. If possible, get out and practice behind a car you expect to be about your speed, and follow him around for a bit. However, when following another car do not forget to drive your own. Use your mirrors. Look for flags and act properly on them. There is a lot in print about race driving, mostly written by world champions who go on about passing moves that take thirty laps or so. What we are going to talk about here is the racing at grass roots level. Basically, the car in front has the right of way into a corner and to overtake you must get clean in front or sufficiently alongside to gain priority into the next corner. When an overtaking car has reached the stage of having priority is not easy to determine. The simplest, safest, and fastest way to pass another car is on the straight. It is against the rules for a car to weave on the straight to try and block a passing car. Be aware that there are such people as Driving Standards Observers and are watching you. They are the "eyes" of the Clerk of the Course round the track.



Beware - Vees are open wheelers and can be launched

### ***Lapping***

In the 750 Motor Club racing numbers are allocated according to positions in the previous year's championships, so generally if a car sports a single digit number it is fast - faster than you. Attempting to dice with cars that are lapping you in the race or at any time in practice is not on. When being lapped stick to your own line. Never move over to make way for someone coming up to overtake. The car behind will not

expect it. You have a 50/50 chance of going the wrong way and causing an accident. Let them drive around you. Do not get in their way though. Obstructing lapping cars is a sure fire way for you to get very unpopular. If the overtaking driver trusts you not to do anything stupid he may not leave much room when he's passing. If you are unhappy about how much room you were left, it is a perfectly fair subject for discussion with the other driver. It is in both your interests to make the exercise as safe as possible. Note that a faster car, which starts at the back of the grid due to a ten second penalty and is working its way through the field, is not lapping. The car in front has a position to lose and is perfectly entitled to defend it. This can occur in practice as well as in the race and includes situations where considerably faster cars are needing to pass you because they spun and you overtook them previously.

### ***Mirrors***

The most common complaint about novice drivers (and some who should know better!) is that they don't use their mirrors. No one ever believes this comment applies to them. Compared with public roads, the racetrack requires a lot more concentration and care. There are three parts to it:- use your mirrors in the right places, notice things and act upon what you see. Ensure that your mirrors are usefully positioned and well adjusted. Good use of the mirrors is the basis of racing tactics and safety. Don't drive on your mirrors, but check them e.g. on every straight.

### ***Driving in the Wet***



Visibility goes to pot, especially in Vees as they don't have mudguards to keep the spray down. Ensure that your rear light works and is clean. You could be black-flagged if the scrutineers cannot see it. They watch you on the track for this. You will be instructed when to use it, but if you are in any doubt about the conditions switch it on. Also, although the tyres are supposedly OK for the wet they simply aren't! Just

remember to avoid the puddles even if this means you go off the racing line and that everyone is in the same boat (sic!).

There are some other tips you may well take heed of:

- Use the de-mist spray on the inside of your visor or goggles and spectacles.
- Use rain repellent on the outside of your visor
- Before the race you may be given more than one warming up lap for acclimatising yourself to the conditions. Use this to look for big puddles and rivers of running water on the track. Remember where they are and avoid them on the next lap. Aquaplaning is a real danger in race cars. Needless to say keep well clear of the green bit. Wet grass provides no friction and does not slow a car down. If anything it appears to accelerate.



Visibility in the wet is considerably reduced in a Vee!

### ***Touring In and Parking***

Sooner or later your car is going to develop a serious problem in its racing career with you, so stopping on the circuit is an important aspect and one which requires a bit of common sense. Get the car as far away from the track but as near to a marshals post as possible. Do as the marshals say. They will manoeuvre your car to a safe place. Accept this as the end of your race, turn off the electrics with the master switch, but don't fiddle with the car. Get yourself as far away from the action as possible too, but don't completely abandon your car. Wait for the tow truck.

Should you try to make it back to the pits, consider first how much of a hazard you'll be to other drivers, how little you'd do to fix the problem once you got there, and how easily you would get a tow back to the paddock if you pulled up now. If you are touring in, keep off the racing line to one side of the track, keep your hand up, and keep an eye in your mirrors. At corners where the racing line comes across the full width of the track, stick to your side of the road. Do not move over suddenly in front

of someone committed to a line around you. Stay on the track. Do not try to drive over the kerbs. If you need to change sides to enter the pits do it well in advance, on the straight, with plenty of warning and consideration for those coming up behind by CHECKING YOUR MIRRORS FIRST.

### ***If you have had an accident***



There is not much advice worth giving except to say that if you are able:

- switch off the electrics with the master switch.
- undo the belts.
- check that the way is clear and get out of there.
- if you think there is a fire, assume that there is and hit the extinguisher button.

In practice, if you have a slight "off" and can continue, come into the pits to check tyres, brake lines, oil lines, wheel bearings etc., are still sound. In a race you will not have the time.

## **FLAGS**

Whenever you are on the track, look for the flag marshals posts. They are there for your safety. The action you take depends upon the colour of the flag. The section on flags in the "Blue Book" defines the rules. Learn them by heart. The following is only a guide.

### ***Red***

This flag indicates that the race has been stopped, usually due to an incident where the track is blocked, or a car is immobile in a dangerous position. This is shown first on the start/finish line, and then should be at all flag points. Cease racing immediately and drive slowly (being prepared to stop) to the start/finish line where you will be held by the marshals. Be aware of other cars whose drivers may not have seen the flag yet.

## ***Yellow***

The race is still on but there has been an incident where a car is off or immobile and being attended to. If it is being waved then marshals are on or near the track seeing to the incident.

**DO NOT OVERTAKE UNTIL YOU HAVE PASSED THE GREEN FLAG WHICH WILL BE SHOWN AT THE MARSHALS POST BEYOND THE HAZARD.**

Look out and avoid the incident (and particularly the marshals), and any bits of cars and such that might be on the track. Be prepared to slow right down. If you are already committed to an overtaking manoeuvre, do your best to abort it. If you can't then safely let the other car past immediately after so that you do not gain an advantage. It's the rule not to overtake and if you do so in practice you could get put to the back of the grid with a ten second penalty. In the race you could get excluded from the results. The reason why this is so criminal is that it is extremely dangerous to have cars dicing at full speed past a possibly injured driver trapped in a crashed car, perhaps on fire with marshals all around trying to help him.

## ***Black***

There are three, and they will be shown with your racing number alongside at the start/finish line. The black with orange disc means that there is a possible mechanical failure or fire which you may not be aware of. Come into the pits next time around and see to it. The black and white diagonal warns you that your driving is suspect and you **may** be called in. Behave yourself. The black means that you must come into the pits and report to The Clerk to the Course. You haven't behaved yourself or you shouldn't be out there for some other reason.

## ***White***

This flag means that there is a slow moving vehicle on the track. Note that this could be anything from a slow racing car to an ambulance. Look out for it, and as you pass it do not put either of you in any danger. You are the one taking the avoiding action. Give it the widest berth you can. Act wisely.

## ***Yellow/Red Striped***

There is something slippery (normally oil) on the track. BEWARE!

## ***Green***

This is the all clear following a yellow flag. It is also waved to start the formation lap, shown at all points during it, and during the first lap of practice to show you where the flagposts are.

## ***Blue***

This is to tell you that a competitor is about to lap you and if it is waved, trying to overtake.

## ***Black & White Chequered***

Stop racing. Do not overtake. Slow down and watch out for marshals directing you into Parc Ferme.

## ***Hazard Area Board***

This is the triangular DANGER road sign with the "!" symbol. It means that there is a car stopped in a hazardous position.

## ***WHO DOES WHAT***

### ***At Race Meetings***

These will be listed in the Final Instructions and published in the race programme.

***Clerk of the Course*** - Your Boss; the person qualified by the MSA who manages the race meeting and makes all the decisions. Is very busy but has Deputies and are approachable.

***MSA Steward*** - Clerk of the Course's Boss; the representative of the governing body (MSA) who is present to ensure all rules are applied correctly. Leads the team of 2 Club Stewards who can meet and rule on formal appeals to the Clerk of the Course decisions.

***Club Steward*** - 750 Motor Club Member who has no other role on race day but to attend any Stewards meetings and judge accordingly.

***Secretary of the Meeting*** - Almost always Robin Knight; the person who manages the administration of the meeting: runs the office for signing on, publishing timesheets, race results, issuing garlands & trophies etc.

***Scrutineers***- a team of MSA qualified people led by a Chief who will decide whether your car is safe to race (follows the "Blue Book " regulations) .

***Eligibility Scrutineers***- a team of MSA qualified people who will decide whether your car is eligible to race (follows the 750 Motor Club Formula Vee Technical Regulations).

***Observers*** - MSA qualified marshals on posts who provide to the Clerk of the Course their written account of accidents.

***Driving Standards Observers*** - MSA qualified people who provide reports to the Clerk of the Course their view of driving behaviour likely to contravene on-track rules.

***Marshal*** – not enough marshals means no racing; these are the true heroes; you can get a signature on your race licence if you marshal too; no previous experience necessary.

***Chief Marshal*** – he makes sure that the place is marshalled sufficiently; keeps the heroes happy so they come again.

Appreciate that most are 750 Motor clubmen, almost all volunteers and racers at heart and thoroughly understand your situation. They want you to race but of course they want you to race safely and fairly. For the most part they act as a team and if one of them doesn't know an answer then he knows the person who will. Ask the Secretary of the Meeting first.

### ***Outside Race Meetings***

These are identified in the 750 Motor Club magazine – the Bulletin or in the Formula Vee Sporting Regulations and again, most are volunteers.

***Formula Vee Official*** – There is one for each Formula and they are listed in the club magazine – Bulletin. He and his committee are elected by the drivers and can deal with any issues on the track or to do with the Sporting or Technical Regulations.

**Series Co-ordinator** – Robin Knight is the person who is responsible to the MSA governing body for all matters concerning the Formula Vee Championship. There is one for each MSA championship and are identified in the Sporting Regulations.

**750 Motor Club Director** – there are twelve of these elected members who govern the 750 Motor Club and decide on all 750 Motor Club matters (not just racing) at the highest level.

### **FORMULA VEE CENTRE**



This was set up by the Vee drivers specifically to benefit the Vee drivers off the track. So it is the social club for people interested in Vee racing. It has a number of award schemes.

Firstly there is the Centre Challenge for those not likely to be on the podium with prizes for the top three at the end of the season. The Masters Challenge is to encourage the "older" (over 45) drivers within Formula Vee to keep driving and racing hard. The Highest Grid Mover award is to recognise the superb overtaking efforts of drivers during each round. A Driver of the Day award is also given with the aim to reward the best driving effort from each round.

In recognition of true club racing the Best Independent award goes to a Vee Centre member whom has performed best and is self-run throughout the season. This doesn't mean that they build their own engine and chassis, but bring their car to the race track themselves and do the majority of the work in preparing/running the car themselves (in the true spirit of Formula Vee). The Sporting Driver of the Year awards the most all round sporting driver (in either driving or around the paddock) and the award is in recognition of promoting good sportsmanship in our Formula. There is also a International Vee Trophy which is awarded to the highest placed UK driver competing in an international Formula Vee Championship

Finally the Vee Centre Member of the Year is for the person whom members think that a certain person has contributed something special to the Centre. The only rule is that the same individual cannot win 2 years running.

In addition to all the awards the Centre runs two large social occasions - a BBQ at one of the race meetings in the summer (normally Silverstone) and an end of season party. A newsletter, Vee Views is issued every two months with articles and race reports. It has its own Vee Centre apparel with embroidered polo shirts and caps. Most importantly it has its own website, [www.veecentre.com](http://www.veecentre.com) with its addictive Forum section.



## **RACING YOUR VEE ABROAD**

There is Formula Vee racing all over the world. This is because VW launched it globally some time ago. Originally when the formula was conceived the regulations were all the same. However over the years the rules have changed because of lack of replacement parts in the local country and ASN (National Sporting Authority) safety and organisational changes. It has produced Formula One champions and an Indianapolis 500 winner but these days not all countries regard it as a feeder formula to higher categories but as single seater, amateur club racing - an ideal entry level class. There is an affinity amongst competitors so look for Vee racing when you travel abroad. The drivers will be interested to meet you.

**Ireland – website** <http://www.formulavee.ie/>

Formula Vee was introduced to Ireland in the mid 70's. The cars run to different regulations compared to UK spec, but offer similar performance. Key differences are 1600cc Beetle engine and wider tyres. There is an annual Irish Festival race which attracts large crowds and good grids, and there is a very warm welcome for any UK competitors who attend. The championship itself is split into 3 classes;

Crowne Plaza Dundalk: [www.cpireland.ie](http://www.cpireland.ie) Crowne Plaza National (A) Formula Vee Championship is for all registered drivers. Previous winners of the B and C championships are eligible only to compete in the A championship

Dunlop Tyres: <http://motorsport.dunlop.eu> Dunlop Formula Vee (B) Championship is for drivers who have not yet won a championship and seasoned fun competitors. Winners of this championship are promoted to the A championship.

VW Spares: [www.vwspares.ie](http://www.vwspares.ie)

VW Spares Rookie (C) Championship is for drivers who have competed in less than four races before the start of the season.

**Germany – website:** <http://www.formel-v.de>

German Formula Vau is run by the RennSport 77 Club and organize a championship throughout Europe. The season of eight or so races is over a similar period to the UK at such tracks as Nurburgring, Spa, Dijon and at their "home" at Hockenheim with a party on the night after the last race. Their regulations permit the VW Polo 1300cc engine as well as the 1300 Beetle. They allow racing gearboxes with fixed ratios and slicks & wings but they have a class for UK Formula Vee cars so you can race with them without any changes to your car. This means you can race your car in Europe so long as you have an International "C" race licence. To apply for this from the M.S.A. you need to have your licence (National "B") and six signatures (to say that you have behaved yourself). A National "B" licence in turn is reached when you get six signatures on your initial National "A" licence. UK cars are not that much slower than the "Germans" and there is an "air-cooled" cup to go for. Also you can put some slicks on (if you can find some 15 inch ones!) and SuperVee box (if you can find one!) and convert your car to German specification and compete on equal terms. Whatever you do the opportunity to race on Grand Prix tracks of Europe is not to be missed. There is a dedicated band of "Brits" who do this. They often travel together in convoy or meet up there. The Germans are very hospitable and often organize nights out for a meal before the race. The races themselves cost one and a half times as much but you often get two practice sessions and a long race. There may also be deals on the cross-channel ferry so ask around to see who's going and what the form is.

**US** <http://www.formula-first.org/>

Formula Vee was invented here in 1964. These are structured as a national championship called Pro-Vee and regional races which are more aimed at the amateur of which there is a class for vintage Vees (non-zero-roll cars with Z-bars). They have a championship finals day called the Run-offs which some UK drivers have competed in, hiring US cars. Getting a licence to race there is a bit of a black art but possible so ask around. Their cars are powered by 1200cc Beetle engines with link pin front suspension, steering boxes and slick 15 inch tyres – the original Vee specification but they are currently changing their cars more to UK specification (called Formula First). The driver sits in a lay-down position more suited to the ovals they race on as the name of the game is aerodynamics.

**South Africa** <http://www.formulavee.co.za/>

Established since 1965 this is still going strong with regional and national titles. Now 1300 Golf engines power these cars with a specified 40DCOE Weber sidedraft carburetor, fixed ratio gearbox, road tyres and no wings. A South African driving contingent did race at the 35<sup>th</sup> Anniversary at the Nurburgring in Germany and an UK champion has raced his car there when they used Beetle engines.

**Australia – website:** <http://www.fvee.org.au/>

Currently in a transition, for years they have run to the same regulations as the US with intermediate pattern control tyres. In the year 2000 they were asked to modernize their regulations so have devised Formula First which is in effect a Formula Vee ie. front and rear Beetle axles and gearbox, front torsion bar suspension, 1600 Beetle engine and specified carburetor and inlet manifold with the same Dunlop control tyre. UK cars or drivers have not ventured this far to race there yet.

**New Zealand – website:** <http://www.formulafirst.co.nz/>

At the 30<sup>th</sup> Anniversary race at Brands Hatch in 1997 the kiwi Vee champion hired a UK car to race but this is definitely the exception rather than the rule.

**Brazil – website** <http://www.fvee.com.br/>

At the time of updating the “Go Racing” pack, rumours of 5 drivers coming over from Brazil to race in the 2014 championship race at Brands Hatch....

**Others**

There is monoposto and vintage racing in which Vees and SuperVees appear in Finland, Netherlands and South America.

## ***FAST-TRACK - What to do now***

Now that you have read all about it and you are keen to go Formula Vee racing follow these steps to join this most cost-effective and fun motor racing:

- 1) If you can get onto the internet then [www.veecentre.com](http://www.veecentre.com) is full of useful information about Formula Vee racing.
- 2) Go to a Vee race – see what the racing is like; help someone at the track to see what is involved; ask drivers what cars are for sale and what they are like.
- 3) Join the 750 Motor Club - visit [www.750mc.co.uk](http://www.750mc.co.uk)
- 4) Get a licence – contact the governing body, M.S.A. on 01753-765000 & ask for a “Go Racing” pack; complete an A.R.D.S. course; pass a simple medical exam arranged with your GP; apply for a National B Race licence from the M.S.A.
- 5) Get your racing gear – at least an approved helmet and overalls (discounts available through the club); see M.S.A. “Blue Book” regulations.
- 6) Find a car – before you buy consider a racehire test & race; ask the drivers what a particular car is like before you buy it.
- 7) Register for the Formula Vee Championship – [www.750mc.co.uk](http://www.750mc.co.uk) In return you get the regulations, race entry forms, & racing number for the season.
- 8) Join the Formula Vee Centre – membership is automatic when registering for the championship, alternatively email [veecentreuk@gmail.com](mailto:veecentreuk@gmail.com) to join or download the form on [www.veecentre.com](http://www.veecentre.com)
- 9) Enter a race - come and join in the fun & excitement.
- 10) Win!



## CONTACTS

Here is the list of suppliers to Formula Vee. They were all Vee racers and therefore know exactly how to help you with anything from building an engine to selecting a crash helmet.

### ***Racehire & Race Support***

Specialists in this are:-

**Alan Harding** - AHS (Mechanical) Ltd, Cauldwell Farm, Leicester Road, Lutterworth, Leicester, LE17 4LT Tel. 01455-553052 [www.formulavee.co.uk](http://www.formulavee.co.uk)

**BEARS Motorsport**, Leicester, Phil Foster, Tel 0121742 2200  
<http://www.bearsmotorsport.co.uk>

**GAC** – Alan Woodward/Graham Card, Unit 1, Woodhouse Farm, Marsh, Aylesbury, Buckinghamshire, HP17 8SP Tel 01296 613222 [www.vvracing.net](http://www.vvracing.net)

**Pete Andrews** - Centurion Motorsport, 111 South Road Erdington, Birmingham, B23 67EH (0790 4102348) [peteandrews111@hotmail.com](mailto:peteandrews111@hotmail.com)

**Andy Storer** - Unit 5, Old Great North Road, Sutton-On-Trent, Newark, Notts, NG23 6QS Tel. 01777-870666 or 01636-822033

**MD Motorsport** – Martyn Donn Tel: 07733226360

**Paul Heavey** - Leystone Racing, Kilmeague, Naas, Co. Kildare, Ireland Tel. 00353 (0)45 860658

**O-Sport** Jake Oliveira – Tel: 07917166333, email [jakeoliveira@yahoo.com](mailto:jakeoliveira@yahoo.com)

**Mark Dunham** - Tel 01353648922 – [mjdrace@hotmail.com](mailto:mjdrace@hotmail.com)

**Mike Steley** - Spyder Motorsport, The Workshops, Common Rd, Wiggenhall St Mary, Kings Lynn, Norfolk, PE34 3EN Tel 01553617652/617111 or 07808772957

### ***New Cars***

These are available from:

**Challenger/ Dominator** – Alan Harding, Cauldwell Farm, Leicester Road, Lutterworth, Leicester, LE17 4LT Tel. 01455-553052 [www.formulavee.co.uk](http://www.formulavee.co.uk)

**BEARS Motorsport**, Leicester, Phil Foster, Tel 0121742 2200  
<http://www.bearsmotorsport.co.uk>

**GAC** – Alan Woodward/Graham Card, Unit 1, Woodhouse Farm, Marsh, Aylesbury, Buckinghamshire, HP17 8SP Tel 01296 613222 [www.vvracing.net](http://www.vvracing.net)

**Leystone** – Paul Heavey, Kilmeague, Naas, Co. Kildare, Ireland Tel. 00353 (0)45 860658

**Scarab** - Andy Storer & Martyn Donn, Unit 5, Old Great North Road, Sutton-On-Trent, Newark, Notts, NG23 6QS Tel. 01777-870666 or 01636-822033

**Sheane** - Centurion Motorsport, Peter Andrews, 111 South Road Erdington, Birmingham, B23 67EH (0790 4102348) [peteandrews111@hotmail.com](mailto:peteandrews111@hotmail.com)

**Spyder** – Mike Steley, Spyder Motorsport, The Workshops, Common Rd, Wiggenhall St Mary, Kings Lynn, Norfolk, PE34 3EN Tel 01553617652/617111 or 07808772957m

**Storm** - [www.sgmachiningsolutions.co.uk](http://www.sgmachiningsolutions.co.uk) Steve Glasswell Tel: 07500836492

### ***Formula Vee Centre***

To join download the form on [www.veecentre.com](http://www.veecentre.com) or email [veecentreuk@gmail.com](mailto:veecentreuk@gmail.com)



## FORMULA VEE MARQUES



**SCARAB 2**



**SCARAB 5**



**SHEANE**



**LEASTONE**



**CHALLENGER**



**DOMINATOR**





**GAC**



**STORM**



**SPYDER**





**RAY**



**WEV**



**MAVERICK**