

Motor racing is a superb sport offering the combined challenges of competition and mechanics. The major problem with any form of motor sport is its cost; in this area 100cc kart racing offers the greatest returns.

Starting karting with a secondhand outfit in 1969, to be joined by my son in 1978, our technique has been one of trying to gain the best ratio of competitive racing versus cost.

It is possible to complete amongst the top drivers in the country, and keep expenditure down. This book is dedicated to that end.

The development of a series of one and two day karting courses, and the enthusiasm with which our ideas were received, encouraged these words to be written. Of course money will buy the top equipment, but dedication and time spent on preparation will compensate. If you feel that you are able to offer these qualities you have a chance.

**Classes** 100cc kart racing is divided into a number of classes, each governed by a set of rules laid down by the RAC. The major difference between them is cost: the more sophisticated the equipment the higher the price limit for the purchase of a chassis or motor.

**Which class?** If you are starting karting your first problem will be which class to join? This decision should not be made by selecting the best second-hand bargain you can find. Go to a local

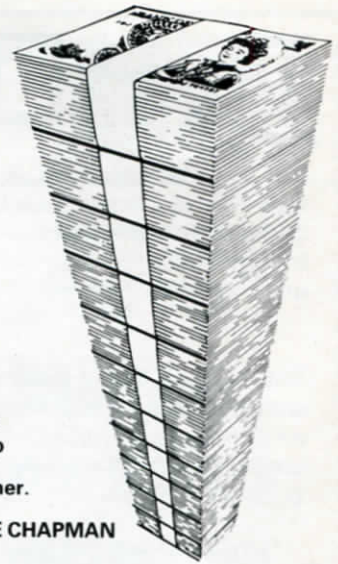
# RACING ON A SHOESTRING

circuit and find out which groups are well supported. This is probably the circuit where you will race and you will want to join a class which will provide interesting competition over a range of skill levels.

Having sorted out those worth entering, you must then decide how much you are prepared to spend. Kart racing is not simply having a chassis and motor. The rules insist that a driver has a certain standard of helmet, 'leathers', gloves and boots. You will need a good tool kit; metric spanners and allen keys are essential. In order to be competitive you will need a number of other kart parts. You will require some rear axle sprockets which determine your gear ratio and are varied for different circuits. More detail of the parts required are provided later, but have this in mind when purchasing an outfit.

The next most important point is to determine the restrictions for the class you have chosen. In order to race you need a licence which is available from:- The RAC Motor Sports Association Ltd., 31 Belgrave Square, London SW1X 8QH.

Telephone: 01-235 8601



Part 1 of a Series to help the beginner. By STEVE CHAPMAN

With each licence a Motor Sports Yearbook is supplied, which includes the latest regulations for each karting class. As these may change from year to year, only a brief summary of the groups is outlined below. The Yearbook also includes a list of kart clubs, their circuits, and a calendar of events.

**Junior Booster** is a class limited by both age and price. It is open to children aged from 10 to 13 and was introduced in 1984 in order to bring more youngsters into the sport.

The chassis used must be available **Continued over**

## 25 YEARS OF CONTINUOUS PUBLICATION ON KART RACING



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### CONTENTS

Racing on a Shoestring	p.350	Noteworthy	p.369
Wombwell 9th Dec.	p.352	Tilbury 12th Dec.	p.370
Rowrah 9th Dec.	p.356	Cumbria KC AGM	p.371
RAC Awards for 1984	p.357	Shenington 18th Nov.	p.372
Blackbushe 23rd Dec.	p.358	Blackbushe 25th Nov.	p.372
To the Editor	p.358	Championship Trail	p.373
Cambridge Prize Presentation	p.358	Super Dart Kart	p.373
Rotax gets a power-valve!	p.362	Kimbolton 2nd Dec.	p.374
CIK News Bulletin	p.363	North of Tyne Schools Enduro	p.374
Fulbeck 25th Nov.	p.366	Rye House 2nd Dec.	p.375
Rowrah Review	p.367	Ulster KC Trophies	p.376

COVER PHOTO:  
Gary Parker, runner-up in the 1984 RAC Long Circuit Champs 210 National class.

PHOTO: JOHN MARSHALL

### RACING ON A SHOESTRING Continued

within a maximum sum which is reviewed each year. The price limit is kept as low as possible, by excluding any components made of magnesium or sophisticated parts like ventilated discs and hollow ground axles. (Discs may be drilled across the disc but not radially.) Secondhand chassis must have been available within the price restriction when new.

Engines are restricted by price and tuning. The number of passages within the barrel are limited to those shown in Fig. 1.1, an example of THREE PORTING. The ports, the name given to the passages, may be enlarged but not increased in number. In order to limit performance still further, a flat 17mm diameter aperture, a RESTRICTOR, is fitted between the carburettor and the inlet manifold to the engine.

An exciting new development was introduced with Junior Booster, that is the use of SIDE PANELS which, apart from making the outfits look very attractive, help to prevent wheels interlocking and thus reduce accidents.

Junior Booster karts race with white numbers on a red panel.

**100 Junior and Senior Britain** classes run identical outfits, differing only in the age of the competitors and in weight limit. Junior Britain drivers are aged between 13 and 16, after which they are eligible to race as a senior in any class.

Again, the chassis used must be available within a maximum price

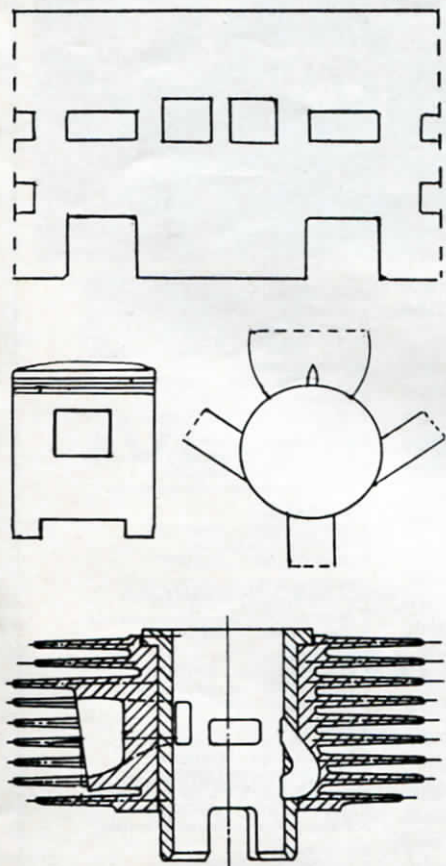


Fig. 1.1: A booster port engine.

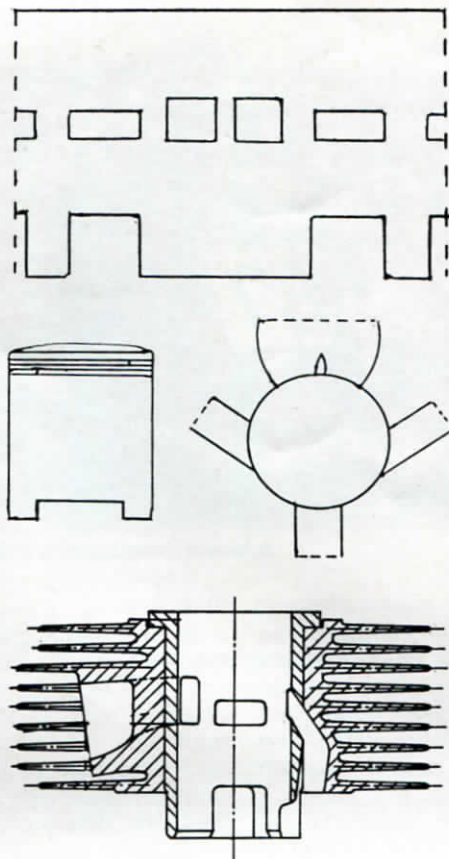


Fig. 1.2: A TT ported engine.

which is reviewed each year. Components made of magnesium are not allowed on a Britain chassis and those bought secondhand must have been available within the price restriction when new.

Engines are limited to porting as shown in Fig. 1.1 and 1.2, the latter diagram showing a technique known as TT porting. Ports may be enlarged, but the number may not be increased. A larger diameter inlet manifold restrictor is used in this class.

The Britain classes use white number plates with black numbers.

**100 National** is currently the most popular class in British kart racing. The minimum age limit is 16 years old.

National chassis may be more expensive than the Britain ones and include sophisticated materials and techniques not permissible in the classes so far mentioned.

Motors in this section are not limited in performance by the use of an inlet restrictor, and porting is left free for development by the tuners. Fig. 1.3 demonstrates examples of extra ports, FIVE being typical.

National karts race with white numbers on a green number plate.

Up to 1984 100 Junior National was a well contested class for the under 16s. Those drivers with an interest in the higher performance outfits are now being encouraged to take part in Junior International, which offers racing with equipment very similar to other Euro-

pean countries, and enables them to represent their country on more equal terms.

**100 Junior and Senior International** are intended to be the exalted classes for the two age groups, up to and over 16 years of age. Although for many years definitely the foremost group in senior 100cc kart racing, 100 International has now lost a large number of top line drivers to the National class and there are less race meetings available for drivers in this section.

Both chassis and motors are almost unlimited in price and specification which probably makes it the most expensive class in junior and senior 100cc racing.

All 100 International karts race with black numbers on yellow number plates.

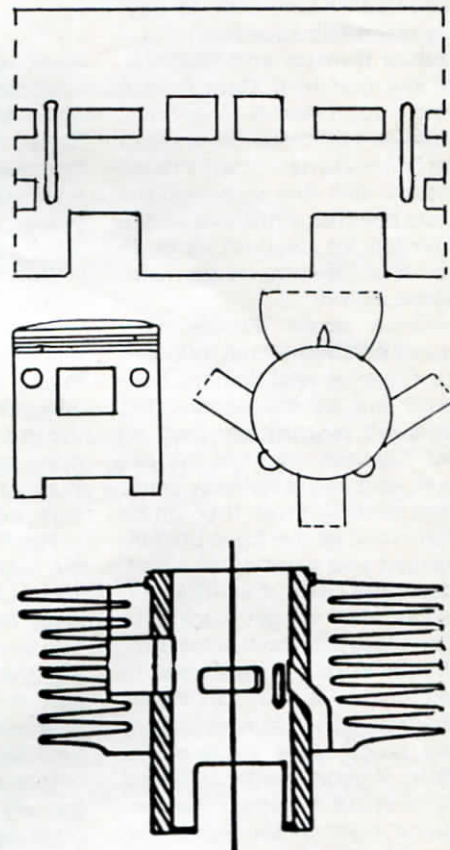


Fig. 1.3: A 5 port engine.

**New or secondhand?** You may be able to go out and purchase a complete new outfit for the class of your choice. This is the most certain way of obtaining the correct equipment for the job. Or you may, like us, have to start with a used outfit. Either way is quite acceptable, the most important thing is to get involved in this superb sport. There are areas to watch if you are buying secondhand from a private sale.

Check the bore of the motor. Does it have ports similar to those shown here as being legal for the class you intend to enter? The motor may have been used "last season", but will it be legal for "next season"?

To be continued