TRIPLE M REGISTER YEARBOOK 1974

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The M.G. Car Club Triple-M Register Year Book 1974

INDEX

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Cover Picture:— The girlie scene that Mayfair did not dare to print.
Yvonne Ward and intrepid passenger put their PA through its paces.

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As we have now embarked upon a New Year I think it a good idea to set out the aims and objectives of Sports & Vintage Motors Ltd. in black and white. (Or better still in brown and cream.) Basically they are as follows:--

1. To provide top quality spares at prices that are reasonable but consistant with staying in business and being able to carry out aims 2, 3, 4, 5 & 6.
2. To carry stocks of spares to enable owners who use their cars regularly to get back on the road as quickly as possible.
3. To continually introduce new items and services.
4. To encourage the rebuilding, use and care of MMM cars and discourage the breaking up of same.
5. To provide a reasonable and honest living for myself, family and employees.

5a. To provide a reasonable and dishonest living for the Chancellor of the Exchequer, the V.A.T. Man, and their families.

6. To try and stay sane in order to carry out 1 5a of the above.

I cannot however compete with Charities, Non-Profit Making Organisations, Amateur Entrepreneurs and/or Tesco, whom I think you will agree cannot provide a full time, 'off the shelf' service for MMM owners. However notwithstanding item 5a, if you are in broad agreement with my objectives and would like to encourage my efforts please send your unwanted Christmas Puddings and Orders for Spares to the usual address below.

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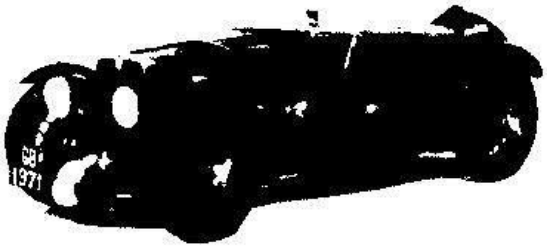

unretouched photo of model

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RULES FOR CAR OF THE YEAR 1974

The 'Car of the Year Award' will be competed for as last year. It is a splendid trophy awarded annually to that car which performs most creditably in the widest selection of meetings. It is declared on a points system which is outlined below.

We hope that all members will compete for this which is the Register's premier award in 1973.

The points score will be kept by Elwin Sapcote to whom all claims should be sent. Where possible, points will be noted automatically but the onus will be on the owner of the car to make sure that his mount has its correct score. A table as up-to-date as possible will be published in 'Safety First' each month. Please claim your points as soon as possible. Any claims not filed within three months of the meeting will not be considered and no claims will be considered after 5th January, 1974.

Points scoring system

The best ten scores for each CAR will count.

More than one driver may use any one car.

If any one driver uses more than one car, scores will be counted separately. The award is to the car.

For **each** event entered, started and finished ... 2 pts.
If classed as a non-finisher ..... 1 pt.

In **Concours** events

In addition to the 2 pts. for entering, points will be awarded to every competitor for originality as follows:

A perfectly original car having no mods. 5 pts.
For each non-original item, DEDUCT ..... 1 pt.
(Mudguards, wheels, etc. count as a multiplicity of the same sort of mod. and score minus one each).

The following exceptions are made:—

(1) Historically interesting cars, where these are in substantially the same condition as on 31st December 1939, or before.

(2) In all cases:
Bucket seats
Rear dampers on P and N types
Superchargers if neatly installed
Steel or fibreglass part if of the original shape
Electric wipers (early cars)
SU 'L' type pumps replacing 'Perolift' or 'Autopulse'. Modern high-pressure pumps will be penalised.
Modern carburettors (if of standard size)
Internal engine and gearbox mods.

All cars taking part in concours events this year will be given their rating at their first meeting. This will stand for future events. A request for rerating may be made to any MMM Committee member.

In addition, place points will be given as follows:
1st ..... 4 pts.
2nd ..... 3 pts.
3rd ..... 2 pts.
4th and highly commended ..... 1 pt.
i.e. max. points for a concours event 2+5+4=11.

In **Driving Tests**
Trials
Rallies
Autocross
Sprints
1st MMM car ..... 9 pts.
2nd MMM car ..... 8 pts.
3rd MMM car ..... 7 pts.
etc. down to 9th place ..... 1 pt.
i.e. max. points for these types of event 2+9=11.

In **Races**

At any one race meeting, any two races or one race and a high speed trial only may be counted. Thus:
1st MMM car ..... 5 pts.
2nd MMM Car ..... 4 pts.
etc. to 5th MMM car ..... 1 pt.

In events where cars of younger than MMM age are competing, a place in the first four will win a further 1 point.

In a high speed trial, award winners gain ... 6 pts.
i.e. max. points for a race meeting is 2+6+5+1=14.

(Which would make it seem that the racing men have an edge over the others. In fact it is not so for a racing man—sorry, car—has not won the award since 1965. Ed).

Marshals, who use their MMM car as transport to and from the meeting will gain ..... 2 pts.

Non-M.G.C.C. Events

The Committee have tried to allow for those cars which have gained success in "outside" events especially where the stature of MMM cars has gained as a result.

Any event run under an R.A.C. Permit may be considered, (i.e., not a concours, gymkhana or treasure hunt). The car's OVERALL position in the results will count (i.e. no points for being 1st MMM but 22nd in a race).

Bonus Points

will be awarded for the variety of events entered.
For one type of event ..... 0 pts.
For two types of event ..... 5 pts.
For three types of event ..... 10 pts.
For four types of event ..... 15 pts.
etc. to eight types of event ..... 35 pts.
Separate types of event are:—
Concours
Races and High Speed Trials
Driving Tests and Gymkhanas
Trials
Rallies
Autocross
Sprints
Hill Climbs.

Extra Points

A specially meritorious performance by a MMM car may be deemed to be worthy of extra points, especially if points would not normally be awarded under the above terms. E.g., the breaking of a record, travelling overland to India, winning a "Triple". The normal award will be ten extra points and will, if necessary be considered by a panel of Messrs. Sapcote, Dear, Hawke and Allison.

WHERE ARE THEY NOW - K3s

33 K3s were built. Most of them survive today although some are in a very disguised, modified, or totally dismantled form. Some are not acceptable to the MMM Register because they have a non-vertical dynamo engine to drag themselves along and one is said to have no engine at all. Some do not belong to the Register even though they are in acceptable condition. Their owners prefer to remain aloof. Then we have a number of unconfirmed cars which are claimed to be K3s and a growing number of K3 Replicas of various realisms.

For these reasons the list given below may not be anything like the Registrar's or the Historian's. However, as far as is known it is factually correct. It will allow the thousand or so would-be K3 owners to assess their chances of finding one of the missing cars (always supposing that more are waiting to be found).

1. **Allison** Mike
   Great Britain
   (car in Ireland)
   Single-seater.

   Very little is known of this car (except that it is lacking at least one con-rod). Mike has yet to take delivery. Is it the 1937 Cork G.P. winner? If so, it would be the celebrated Raffaele Cecchini car.

2. **Barton** Dick
   Great Britain
   Single-seater
   Reference:—
   MMM Year Book 1973

   The ex-Parnell car which had the twin o,h,c, engine (engine now in the U.S.A.). Ex-Robin Mere, winner Coppa Acerbo 1934, (Hamilton), ex-Horton (briefly). Ex-J.H. Webb (3rd. Seaman Trophy 1950). Now has Lancia i.f.s., KD engine and belt-driven blower.

3. **Bayne-Powell** Phil
   Great Britain
   Slab-tank 2-seater

   This is said to be the car with which Nuvolari won the 1933 Tourist Trophy. In 1939 it was fitted with the offset single-seat body from the Horton/Gardner car. After the war Toulmins replaced this with an aerodynamic H.R.G. body. Found in chassis form in a scrap yard. Restoration started by the late Stuart Milton and now nearly completed by Phil.

4. **Beer** Malcolm
   Great Britain
   Slab-tank 2-seater
   Reference:—
   Safety Fast Sept. 1970

   The blue car we know so well. A 1934 car fitted with a 1933 style body which has a door (to comply with the regs. for a particular pre-war race). One of the most original cars we have in this country.

5. **Beer** Syd
   Great Britain
   Single-seater
   References:—
   Safety Fast Feb. 1961
   and July 1973
   and 101 references in between.

   The "Monkhouse" car. Was raced in Grands Prix as late as 1947 by the late Peter Monkhouse. Transmission, brakes, and body all extensively modified. This car has been active in M.G.C.C. circles for the last ten years, initially in the late Don Pitt's hands.

6. **Beer** Syd
   Great Britain
   Special 2-seater
   Reference:—
   Safety Fast. Aug. 1961

   Did well at Le Mans before the war. (See Safety Fast for February 1961.) Now fitted with an all-enveloping body but presumably it will be restored to its original 1934 pointed-tail form.

7. **Bett** Frank
   U.S.A.
   Slab-tank 2-seater
   Reference:—
   MMM Register no. 159

8. **Brady** Peter
   Australia
   Pointed-tail 2-seater
   Reference:-
   The Vintage Car
   (Australia) Sept. 1970

   A lowered car. Looks like the car Bailey had for sale in U.K. in the mid-'fifties. See remarks on Otto Stone's car.

9. **British Leyland**
   Great Britain
   Single-seater
   Reference:—
   Autocar 8th April 1971

   Ex. 13b. The car which started life in the hands of George Eyston with the "coal scuttle" and "humbug" bodies, was sold to Goldie Gardner, fitted with bronze-headed engine from his ex-Horton car and a Reid Railton aerodynamic body and then broke records in International Classes J, I, H, G, F and E up to the 'fifties. Now has a B.M.C. push-rod 4-cylinder engine and perspex body panels for exhibition purposes often lives chez Beer.

10. **Bucknell** Pip
    Australia
    Slab-tank 2-seater
    Reference: -
    Safety Fast March
    and August 1966

    Restored by Pip in Australia. Has been there since before the war.

11. **Cramer** John
    Great Britain
    Special-bodies 2-seater
    Reference:-
    MMM Register no. 66

    This car was active in M.G.C.C. circles in the early 'sixties but it has been very shy since.

12. **Cobb** Noel
    U.S.A.
    Slab-tank 2-seater
    Reference:—
    Automobile Quarterly
    Vol. 4 No. 2 and
    MMM Register no. 353

13. **Cunningham** Briggs
    U.S.A.
    Pointed-tail 2-seater
    Reference
    The Malaysian and
    Singapore Vintage Car
    Register Magazine
    August 1970

    On display in the Cunningham Museum. Mike Truter visited the car in 1970 or 1971 states that it did not have an engine.

14. **Frick** Bo
Sweden
2-seater
Reference:-
Safety Fast May 1973

This car has been in Sweden since 1938. The body is by Eustace Watkins.

15. **Gaghan** Dudley
Great Britain
Single-seater
Reference:—
Safety Fast May 1960 and August 1967

Known as the J.H.T. Smith car after the chap who converted it to its present single-seat form with E.R.A. axles and brakes (in the late 'thirties). Previous owners include Mike Ellman-Brown and Mel Jones and the car was very effective in Lockhart's hands in the late 'fifties. Dudley often lets J.H.T. Smith play with it — for old times' sake.

16. **Hawke** Mike
Great Britain
Single-seater
Reference:—
Safety Fast Feb. 1972

At present an incomplete pile bits. The ex-Horton car which set the all-time Class G Brooklands Outer Circuit Lap Record at 124.40 m.p.h. when owned by Goldie Gardner. Engine replaced with that from Ex. 135 in 1939 and car taken to Malaya by Jennings and fitted with "1½" seat body. Ex-Imperial Japanese Army, ex-Lim Peng Han. Remains returned to G.B. from Singapore in 1971.

17. **Herlin** Robert
U.S.A.
Pointed-tail 2-seater(?)
Reference:-
Road and Track
March 1972

Seems to run in the U.S.A. without number plates! Has 1935 type blower cowl and single lever brakes but, to judge by the spare wheels on the side, has a 1934 type body.

18. **Kobakayawa**
Japan
2-seater
Reference:—
Safety Fast Aug. 1960

One of the two prototype K3s. Exported to Japan pre-war. The car has had a tractor rear end fitted for dirt track racing and the blower is removed but all the original parts are with the car. Has been in store in Tokyo for many years.

19. **Nillson** O.J.
Australia
Slab-tank 2-seater
Reference:—
Safety Fast Aug. 1960 and Motoring Nov. 1958

The other prototype. This is the Mille Miglia practice car.

20. **Oelsner** J.W.
U.S.A.
Pointed-tail 2-seater
Reference:—
MMM Register no. 182

21. **Phol** Zedenck
Czechoslovakia
Pointed-tail 2-seater
Reference:—
Safety Fast February and April 1964

Owned by the Phol family since nearly new. Raced pre-war with the original engine. Now lowered and believed fitted with a Skoda engine.

22. **Qvale** Kjell
U.S.A.
Pointed-tail 2-seater
Reference:-
Safety Fast May 1960

The ex-Martin car. Fitted with "luxury" 2-seat Jensen body by W.E.C. Watkinson. Seen at the M.G.C.C. Silverstone Meeting of 1955 in this form. Rebodied in 1934 style at Abingdon. Jensen body is now on Ray Witcher's K2.

23. **Schonwald** Gary
U.S.A.
Slab-tank 2-seater
Safety Fast Aug. 1973
MMM Register no. N.K.

Car is undergoing extensive renovation. Little else is known. Mr. Schonwald's address is New York and, to judge by his letters, the car was in pretty bad shape when he obtained it. Marshall blower.

24. **Stone** Otto
Australia
Slab-tank 2-seater
Reference:—
Motoring November 1968
Safety Fast Aug. 1973

This, the Nillson K3 (then owned by John Sawyer) and a third K3 all appear in a picture in the reference. The third K3 (owner Jim Gullan) has been lowered and looks like the car attributed to Peter Brady in this article. None of the cars are the Pip Bucknell car. This makes at least four cars in Australia. Now owned by Phillip Vickery.

25. **Voersterberger** Count de
Switzerland (Car in G.B.)
Pointed-tail 2-seater
Reference:—
Safety Fast July 1973 and Museum Catalogue

On display at the Totnes Motor Museum. A very original example having only hydraulic brakes and a few minor instruments non-standard. Raced for many years in Switzerland, up to the 1950s.

2a. **Crown** Harry
U.S.A.
Recent Reference:—
MMM Year Book 1973

Owns the twin o.h.c. engine from the Parnell car.

All the above cars are genuine in that, although some of them are not complete, each of the entries represents the fate of a car for better or for worse. The following cars have to be authenticated.

26. **Anon**
Great Britain
Pointed-tail 2-seater

A smart and original-looking car — fitted with an XK120 engine. Seen Dumbartonshire and believed advertised in Exchange and Mart circa 1966. Not authenticated.

27. **Bendle**
Great Britain
Single-seater

A tubular chassis car with K-type mechanical components built to its present form circa 1947. Contains a number of K3 items and other goodies which were obtained from R.R. Jackson. The eight inch Zoller is ex-Gardner. One source claims it to be based on a K3, another that it was built on a pranged K1. Not authenticated.

28 **Messrs. Fine Motor Cars**
Great Britain
Slab-tank 2-seater
Reference: -
Penny Wise Motoring 1971

Claimed to be the ex-E.R. Hall car (he had more than one at various times). Undergoing restoration. 8 inch Zoller. Not authenticated

29. **Who?**
Great Britain
Special
Reference:—
Motor Sport July 1973

Knows as the Attenborough Special. This car, it is claimed, uses the rear half of a K3 chassis and back axle grafted onto a chain-gang Frazer-Nash front end. This cannot be authenticated (chassis numbers being on the front end) but, if it is true, it accounts for one of the missing cars for no doubt the front end was thrown away after the cutting operation. Or is there a car in existence with a K3 front end and chain drive.

30. **Riley**
Great Britain
Single-seater
Motor Sport Sept. 1973

Sits in an outhouse at Tibberton, Worcs. Claimed by the owner to be a K3. Seen by Barry Minett-Smith circa 1970. Owner does not like visitors. Not authenticated.

31. **Who?**
Bulawayo, Rhodesia
Safety Fast November 1970

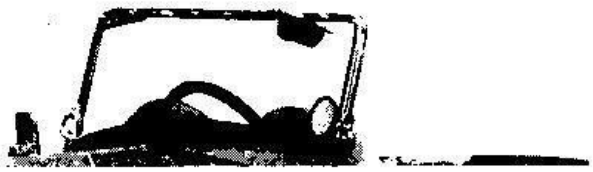
Nothing more known of this car.

Country	*1933 Type 2-seaters*	*1934 Type 2-seaters*	*Special 2-seaters*	*Single seaters*	*Not known*	*Totals*	*Not proven*
Great Britain	2	0	2	6	0	10 +	5
Australia	3	1	0	0	0	4	0
U.S.A.	2	4	0	0	1	7	0
Sweden	0	0	1	0	0	1	0
Japan	1	0	0	0	0	1	0
Switzerland	0	1	0	0	0	1	0
Czechoslovakia	0	1	0	0	0	1	0
Rhodesia	0	0	0	0	0	0	1
Totals	**8**	**7**	**3**	**6**	**1**	**25 +**	**6**

So there it is. By the looks of it there are only between 2 and 8 cars not accounted for. To find one you may have to put your seven league boots on for we do not know of the fate of the Kohlrausch car in Germany and the Hertsberger car in Holland. There may be other cars overseas whose fate is not known. All this adds up to the conclusion that this little island has been cased pretty thoroughly for K3 clues (we all knew that). But the complaint that all the K3s have gone abroad does not look all that justified.

M.B.H.

New old windscreens. For your M type, J type, Magna or any Triple M car.



You'll probably find your car is fitted with a Triplex Laminated windscreen. Because Triplex were original suppliers of safety glass for these models.

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Just take along a template/pattern of your screen to your local Triplex Windscreen specialist. (See list below.) At very reasonable cost, he will cut you a new one from a large laminated glass sheet.

A new one every bit as authentic as the original windscreen - better in fact because the plastic interlayer doesn't go yellow these days!

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CARDIFF – Contract Glass Replacement Co., Stacey Road. *Tel: 35272*

CHELMSFORD, Essex – E.A. Walford (Chelmsford) Ltd., Navigation Road. *Tel: 52301*

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COVENTRY - Glass (Coventry) Ltd., Herald Way, Binley, CV3 2ND. *Tel: 0203 458021*

DARLINGTON – J.G. Sutton & Sons, Valley Street North, Co. Durham. *Tel: 46259*

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CRACKERS & MUSKETS

from THE AUTOCAR by John B. Reid

Last year in Safety Fast Steve Dear told the story of the two MG works trials teams, so what follows is an attempt to show how the same teams appeared to one of the weekly motoring papers. These extracts from the Autocar are the product of a rainy day spent in the Bodleian Library in Oxford, browsing through the issues of the mid-thirties. I hope they release some of the atmosphere that existed when trials were a major form of sporting motoring, with MMM cars in abundance. The same cars are still able to compete on equal terms with younger relations, proved by John Adams and Steve winning the class awards in the 1971 and 1973 Land's End trials respectively.

Stepping backwards forty years to 1934, the Land's End trial had 343 entries, of whom 135 gained premier awards, and Singer the team prize. Macdermid, Toulmin, May, and Welch had clean sheets, but Bastock failed Barton Steep and Darracott, thereby dropping to a Bronze. Of Darracott the report says:

> "The surface soon became very cut up, but all the same it only needed plenty of revs and determination to achieve a good start. There were many – particularly, strange to say among the MG drivers – who hesitated before letting the clutch in and giving it the gun ..... Bastock, when failures were coming thick and fast, sportingly agreed to take a run at the hill and rank as a failure, since he was certain that his MG's clutch would not stand up to the strain of starting, in order to avoid delay and save the pushers. Thus helped he climbed non-stop."

He was driving a J2. On the whole the MGs were successful, but both Toulmin and Richardson had axle failure. This was a mechanical problem which arose many times, especially when the cars were supercharged. In particular, Macdermid had an insatiable appetite for crown wheels and became most skilful at their replacement.

It was a rainy morning for the 1934 Inter Club Team Trial, but the clouds broke up at noon allowing a clear start after lunch from the Buxton Hotel.

> "It was at Burbage Edge that the route cards read 'Caution, ROCKS!' But both Ewart and Bastock were forced to leave behind large sections of their MG's exhaust pipes before they could carry on to Blackermill ..... Last year Cow Low was just a path going sheer up a rocky field from the main Buxton to Bakewell road, but since then several trials have been over it, and it has a firmer surface ..... The winners of the Autocar Trophy were the M.G.C.C. "A" Team of Toulmin, Bastock and Macdermid, and their victory was made possible owing to chewing gum (Equipment Wrigley's); not because this strengthened their constitutions, but it enabled them to plug successfully a nasty hole in the sump of Macdermid's P-type. They lost seven marks at the Putwell restart."

The start for the London-Edinburgh Trial moved from Wrotham Park, Barnet to Hatfield Aerodrome at the northern end of the Barnet by-pass. More than half the entry gained premier awards, and there were only eighteen retirements:

> "The team award, decided on the acceleration test held from the restart point on West Stonesdale and extending round the hairpin, was gained by the team made up of the new N-Type MG Magnettes driven by Welch, Chiesman, and Kindell, who were extraordinarily consistent, each taking 8¼ secs for the test."

The 1934 NWLMC Gloucester Trial was uneventful according to the report except that

> "during the night Michael May was put out through having inadvertently poured the contents of a spare 2 gallon can of water into his petrol tank, instead of topping up out of the proper can ..."

I seem to recall that a certain gentleman who now drives a couple of Cream Crackers did exactly this on a recent Land's End trial! One never learns from the mistakes of others.

April 6th, 1935 saw the Lancs and Cheshire Car Club Trial, and the Autocar carries a picture of a blown MG, registration number JB 4611. Back axle makers continued in business:

> "One of the outstandingly consistent performances of the day was ruined at the 'stop and go' test at the Winnets, when Macdermid essayed to go so vigorously that the teeth on his MG's bevel were swept off in small pieces."

The Three Musketeers Team was announced in the Autocar for April 19th., the day before the start of the 1935 Land's End trial:

> "In the trial's world the Land's End starts tonight with an enormous entry, and it will be entertaining to see how far our oldest club manages to control the crowds. If it can't, then nobody can. There is, by the way, to be an official team of three cars in MG's official colours, named Athos, Porthos, and d'Artagnan. I understand, and more or less sponsored by Wells."

Did the writer understand correctly, or was Armis originally called d'Artagnan? And who was Wells? Perhaps our MMM historian can fill in the details. As to the trial itself:

> "It had been long hoped that the main sport on Station Hill, Lynton, would be supplied by the cars. These hopes were considerably dashed when a team of MG Midgets, the first cars to arrive, made clean fast climbs in quick succession, followed almost at once by a team of N Magnettes (the Evans' team, JBR1 which sailed over the worst section with the greatest of ease."

Beggars' Roost followed Station:

> "After a string of failures among the three wheelers, Toulmin made a fine climb, leading his Cream Crackers MG team, carrying the requisite biscuit fixed by rubber bands to their number plates. The team cars were painted in the official colours by Works consent."

The Evan's team of Magnettes tied with the 1½ litre Singers for the team prize, and of the 313 cars more than a third gained premier awards.

The Edinburgh Trial took place in June, with both MG teams entered:

> "At Summer lodge the Three Musketeer Team of Magnettes was successful, Nash taking a very hectic corner, while Welch and Kindell were steadier ..... Toulmin and the Cream Cracker team of Midgets were in fine style, but both Bastock and Macdermid had to slip their clutches to get them over the worst part, Macdermid in particular having to use all his skill to avoid stopping. Clutch fumes filled the air when he departed."

A fortnight was available for rebuilding before the Brighton-Beer trial at the end of June. Widlake seemed to be a specially nasty hill, leading off the Cutcombe – Dulverton road:

> "Just as it seemed that the hill was impossible, the Cream Cracker team of MG Midgets made their attempt. First came Toulmin, bouncing his way to the top, scattering mud over all the spectators as they cheered him for his splendid effort. Then came Macdermid,

nearly turned over, but, continuing with hardly a pause, he also bounded over the top, where in taking a sharp bend he nearly upset once more – a wild but plucky performance. Next came Bastock, rather steadier, but still flat out like the other two. Just as it seemed that he would surmount the slippery ledge of rock at the top, his wheels spun him to a standstill. This was bad luck for the team, but a splendid combined effort."

The first hints of the changes in the two teams is given in the Autocar for November 29th., 1935:

"**Famous Teams Reorganised** – It is apparent that trials are gaining strength, and teams arebeing formed quite rapidly. There has been a change, incidently, in the MG Cream Cracker team, which now consists of Toulmin, Crawford and J.E.S. Jones; Bastock and Macdermid, with Archie Langley are now taking over the Musketeers team of MGs. The new Cream Crackers machines will be PB type Midgets, and will run for the first time in the Exeter Trial."

The Three Musketeers were on good form for the Gloucester Trial in December. There was much talk of a hush-hush hill whose identity the organisers were keeping up their sleeves. In fact it turned out to be Juniper and was to be used if the weather was reasonable, which it was, but even so

"Juniper was the most difficult, followed by Nailsworth and Mutton ..... The most outstanding performance was that of R.A. Macdermid's supercharged Magnette, which treated the worst hills like a speed trial course. S.H. Allard with a T.T. Ford V8 ran him close, as well as the Magnettes of Bastock and Langley ..... There was a restart test at Guiting Wood on a good surface on only a moderate gradient. Fastest here were those who later proved to be the fastest on every observed section of the trial – namely the MG Magnette Three Musketeers team, driven by Macdermid, Bastock and Langley ..... Finally came of the most spectacular climbs that can be remembered, going up the hill in a series of power slides and leaping like several goats on the big bumps. Admitting the fact that his car is specially built for trials, its performance is still astonishing. He climbed every hill in 2nd gear! (Details are a short chassis, engine bored out to 1408 cc, and Marshall supercharged at 5lb, competition tyres, and two hundredweight of lead to stop wheelspin.)"

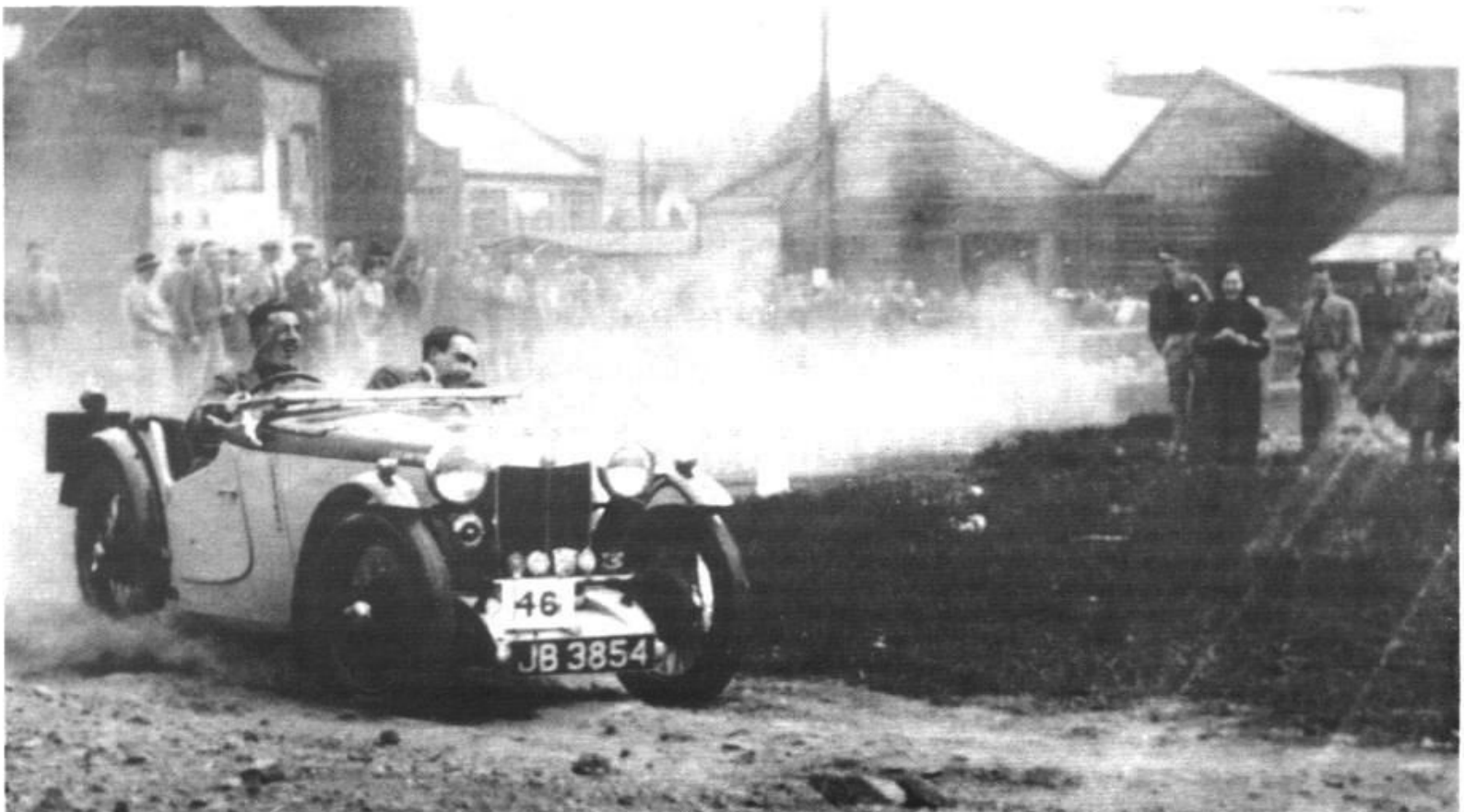
Incidentally, for this trial Macdermid's car was the only one supercharged, the other two running on carburettors. Moving on to 1936 and the NWLMC Coventry Cup trial, the entry list showed a high percentage of blown cars – 24 out of 76. To even things up they were handicapped in the driving tests. In addition to the normal Three Musketeers team there was another team entry of Welch and Jones in Cream Crackers and Crawford in a supercharged Magnette of 1408 cc – after all, there are really Four Musketeers! Following this example, a mixed team was entered for the 1972 Land's End trial, the difference being that in 1936 the result was the team prize while the modern imitators managed only a couple of ashtrays.

"At the 'to and fro' test, Macdermid stripped his supercharged Magnette's crown wheel and pinion, but most experienced trials men nowadays carry at least one set of spares for the transmission! Macdermid is so expert at fitting axles that he only took 27 minutes, but was a little late at the check at Widlake, the next hill."

Not content with this, he repeated the performance on a later hill.

Nothing much has changed – exhausts continue to be dented, and lumps to be gouged out of sumps, while crown wheels strip to mechanical music and water is put in the petrol tank. Aramis' spare differential is carried in a Cream Cracker biscuit tin, and a spare set of plugs smell sweetly in an Aramis aftershave box, waiting for their turn on Cutliffe Lane.

J.A. Bastock in JB 3854 on the Special Test at Abingdon in the 1935 Abingdon Trial



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The 1973 Six-Hour Relay Race

Having rashly volunteered to help, we arrived at the Silverstone Circuit at some unearthly hour to find that 'our' cars had already got through scrutineering at the first attempt and before anyone else. This must have been something to do with the pep talk sent out by Team Manager John Adams. The team had had its numbers depleted by one, Mike Hawke's J2's flywheel had fallen off its taper a few days prior to the race. He came along later in the day to offer helpful suggestions. Mike Allison, the team reserve, could now have a proper run.

All cars inthe team, except Peter Cranage's "N" type, were out practicing before 0915!! This was where things started to go wrong.

Peter Cranage was driving around the paddock trying to work out why his car did not feel right. About ¼-hour after starting practice, Mike Allison broke his diff.. This had been put in only the night before. A new one was assembled using a bearing out of Dermot Reynold's spare diff. and there was a heap of bits and mechanics around his NA. Meanwhile, out on practice, Colin Tieche's supercharger casing split and bits were sucked into the engine. Sadly, this meant that he was out of the race. Dermot Reynold's J2 developed an oil leak. This was due to a bolt falling out of the front drain pipe. After a quick twiddle and a frantic search for some Castrol 'R', everything was fine again. Peter Cranage eventually decided what a wheel bearing had gone. So there was another heap of bits and mechanics around his N-type.

The mechanics, Nigel Reilly and Malcolm Newman, were certainly earning their keep at this stage.

The two J2s of Dudley Pinney and Tony Dolton went out to practice and then came back into the paddock without a murmur. Eventually Mike and Pete went out to practice at 1130. John had decided that Peter Cranage should start the race because he was the fastest but at one stage during practice, what with changing wheel bearings, he nearly changed his mind.

The race started at 1230, with Peter Cranage representing the Register. He lapped steadily at 1min. 26sec. for an hour. The plan was that each car should go out for an hour at a time if possible. Dermot Reynolds was waiting in the pits to go next. The change over from Pete to Dermot was smooth but he had been out for only 20 minutes when there was no sign of him. Mike Allison went out to retrieve the sash and continue on his way. Dermot's clutch had failed, he had sheared the rivets holding the centre steel plate, and he was towed into the paddock.

By this time the first progress reports were out and we were actually listed as lying 4th!!

After about ½-hour of lapping at about 1min. 27sec. Mike Allison lost his exhaust pipe somewhere on the circuit so Tony Dolton took over from him. He stayed out for the recommended one hour. Meanwhile, back in the paddock, some kind marshal had retrieved Mike's exhaust pipe and sent it back in one piece but a little flattened. Colin Tieche got to work with a hammer and a welding kit and fixed it back on. Just as Tony Dolton passed the sash to Dudley Pinney, it started to rain slightly. "Oh good", said everyone, "this should do us (the MMM Team) some good". But it stopped raining after a few laps. Dudley was lapping in 1min. 36secs..

By this time our position in the ½-hourly progress reports had slipped until, at 3-hours, we were ninth. Not

taking glances at the two teams either side of us and a quick tour of the paddock, it was surprising how little of other peoples' race one noticed. Dennis Ogborne told me that th MGA team was down to three cars, the Porsche Carrera tea at one stage, had one car out and the others in bits inthe paddock. The North Hants 750 Team, next to the MMM Team in the pits, had most of its cars under what seemed to be a large polythene bag in the paddock.

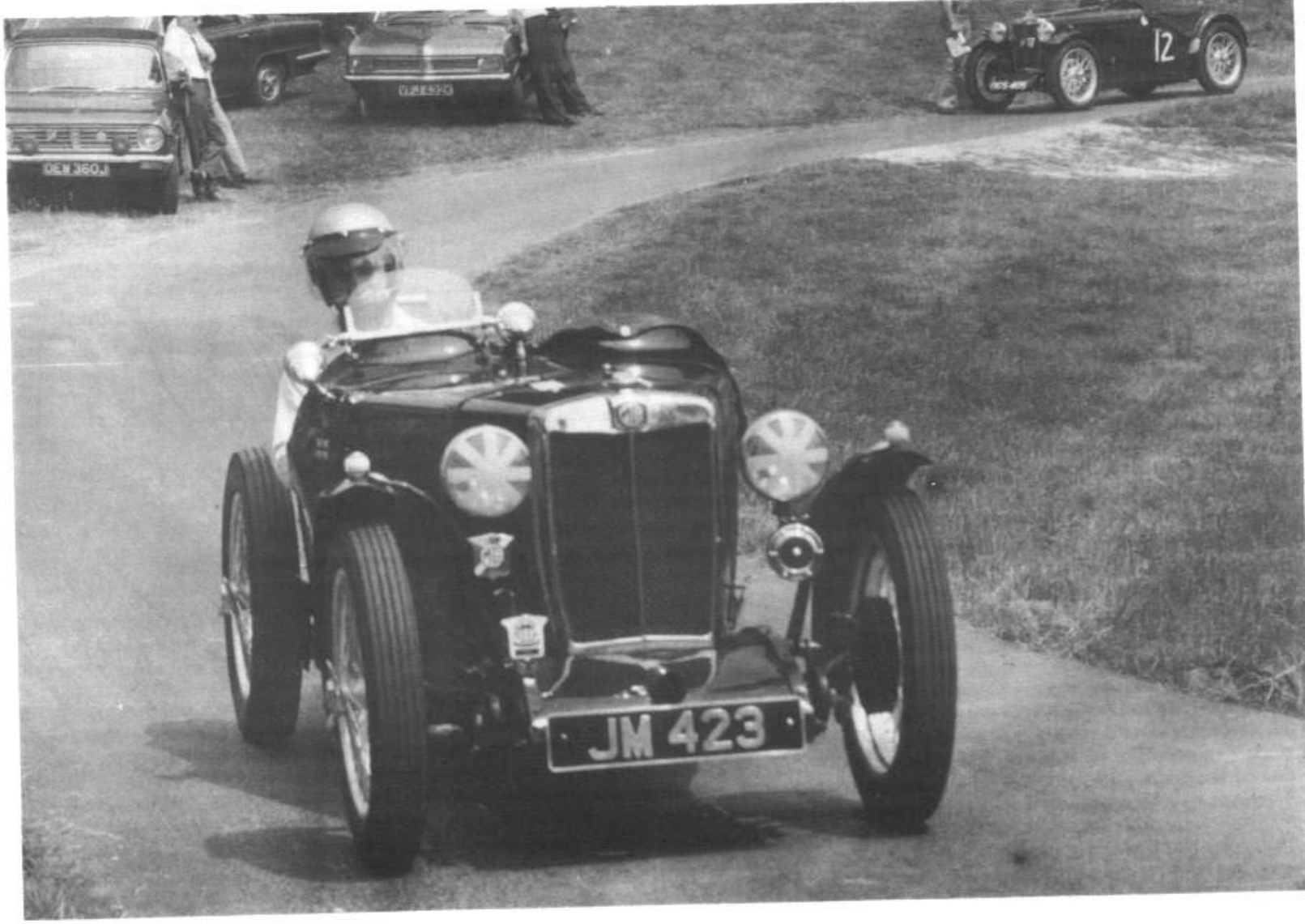
The organisation in the MMM pits seemed to be very efficient. The change overs were very smooth and John never seemed to be in danger of being run over. Colin Butchers was the liaison officer (whatever that is). He certainly did a lot of running around. Kate and John Reid were the timekeepers. They spent hours sitting still getting very cold and timing the cars.

After Mike had been out for 45 minutes, Peter Cranage took over to have another go. He lapped in 1min. 24secs.. Our position at five hours was – gulp – equal 15th. Team no.25, the Libre Morgan Grinders, was in the lead.

And then it **rained**! Peter came into the pits after doing a lap of 1min. 54secs. because he had to stop at Beckett's t wipe his goggles. That's what he said anyway. He had the only car in our team with racing tyres and had completed his time so Tony Dolton, brave man, went out into the rain There was much feverish activity in the pits. Cars were changing over and people were donning rain coats and wet weather tyres. When Tony first went out he lapped in 1min. 41secs, but he improved gradually to 1min. 37secs. a so he continued for the rest of the race.

Our final position was 10th on handicap and 25th on scratch. Once again, we were the only team of pre-war cars to take place in this the longest race in the Clubman's calendar.

Valerie Harm



Tim Hunt's J2 tackles the lower slopes at Wiscombe

Mel Jones' J2, when it was half way to the J4 Replica, rounds Paddock Bend at Brands Hatch

Date of Issue: October, 19
Revised and Re-issued: February, 19

Service Information Sheet No. 31

CRANKSHAFT FATIGUE

An interesting fact has been brought to light during an investigation into the question of fatigue life of the two-bearing type crankshafts.

The investigation showed quite clearly that this type of crankshaft should not be reground, owing to the fact that regrinding the journals to a smaller dimension weakens the structure and relative balance of the crankshaft.

This, coupled with the fact that a great number of these crankshafts are called upon to transmit exceedingly high engine r.p.m. and increased horse-power, makes it impossible to calculate the fatigue life.

Therefore, it has been officially ruled that this type of crankshaft will on no account be reground in future.

HA, blxxx Y HA!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CKT 829


185

PATENT SPECIFICATION

Application Date: March 18, 1926. *No. 7497/2*
Complete Left: Dec. 18, 1926.
Complete Accepted: April 28, 1927.

PROVISIONAL SPECIFICATION.

Improvements in Crank Cases of Internal Combustion Engines

We, WOLSELEY MOTORS LIMITED, of Adderley Park, in the City of Birmingham, a company incorporated under the laws of Great Britain, and OLIVER BODEN and ERNEST JOHN LEEDING, of the same address, subjects of the King of Great Britain, do hereby declare the nature of this invention to be as follows:—

This invention relates to the construction of the crank case and crankshaft of an internal combustion engine and has for its object to effect certain improvements therein.

According to one of the features of this invention a plurality of intermediate bearings for the crankshaft are mounted in the crank case, and the latter is formed in one main piece throughout its height, that is to say it is not divided in the plane of the crankshaft as is usual where intermediate bearings are provided. Each intermediate bearing is in halves, the support for one half being cast as an integral part of the crank case or otherwise secured therein. At each end of the crank case there is provided an aperture of such dimensions or shape as to allow of the crankshaft being threaded in endwise without fouling the fixed half bearing housings.

For manufacturing reasons the apertures are preferably circular but in order to avoid making them unduly large, they may each be extended locally in any direction to provide a gap into which the crankshaft may enter while it is being threaded in. When the crankshaft is in proper position endwise it may be positioned in the fixed half bearings after which the other halves are put in place. The gaps or extensions of the end apertures may be covered by the flanges of the housings for the end bearings and these latter bearings may be of the usual solid or bush form and threaded with their housings on to the crankshaft when the latter is in place.

Another feature of the invention consists in the mounting of a detachable sleeve on one or each end of the crankshaft, such sleeve being made integral with a flange for carrying th fly-wheel or other part, and forming the journal for the end bearing of the crankshaft. The sleeve is preferably of hardened steel, and may be secured on the crankshaft in any convenient manner, preferably by forming its internal bore with a taper and key-way, the end of the crankshaft being correspondingly tapered and provided with a key, while the extreme end of the shaft is threaded to receive a nut by means of which the sleeve is forced on to the tapered end. The sleeve is threaded on to the end of the crankshaft after the latter and the end bearing housings are in position.

In engines having solid end bearings it is necessary to thread the said bearings on to the end of the crankshaft and this cannot be accomplished when the fixed flange type of mounting is employed for the flywheel. It is usual therefore to mount the flywheel of such engines on the crankshaft by means of a taper which necessitates the crankshaft being longer than would otherwise be required.

Advantages of the construction consist in the rigidity of the solid end bearings and of the crank-case; ease of replacement of said bearings and worn end journals without affecting the alignment of the crankshaft and facility with which the detachable sleeves forming the end journals may be hardened, tending to longer life of the bearings, and combined therewith the greater rigidity of solid end bearings and the shorter overall length of the engine due to the flange mounting for the flywheel.

Dated this 17th day of March, 1926

STEPHEN WATKINS, SON & GROVES,
Chartered Patent Agents,
Metropolitan Chambers, Wolverhampton,
Agents for the Applicants.

COMPLETE SPECIFICATION

Improvements in Crank Cases of Internal Combustion Engines

We, WOLSELEY MOTORS LIMITED, of Adderley Park, in the City of Birmingham, a company incorporated under the laws of Great Britain, and OLIVER BODEN and ERNEST JOHN LEEDING, of the same address, subjects of the King of Great Britain, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:

This invention relates to internal combustion engine crank cases which are formed in one piece throughout their height and are of a type in which intermediate bearings are provided and a solid end bearing at one or each end carried by a cover plate which closes an opening in the end of the crank case the opening being of a diameter sufficient to allow of the crank shaft being threaded in. In this type of crank case, the intermediate bearings have either been solid, that is to say of complete ring form and of a diameter such that they can be threaded on over the end of the crank shaft and also threaded through the end apertures, or they have been put in place on a two part crank shaft before the latter is assembled, or else they have been formed in halves assembled upon the crank shaft before the latter has been threaded into position. In the latter case the housing for the lower half of each bearing has afterwards been secured to the bottom of the crank case by suitable set pins.

The present invention consists in a crank case of the type or are permanently carried by, the crank case, so that the upper half of each bearing can be put in place before the crank shaft is threaded in, and each lower half, with its cap, put in place afterwards through the bottom of the crank cas the bottom having a cover removable in a manner already proposed.

For manufacturing reasons the apertures are preferably circular; but, in order to avoid making them unduly large, they may each be extended locally in any direction to provi a gap into which the crankshaft may enter while it is being threaded in. When the crankshaft is in proper position endwise it may be positioned in the fixed half bearings after which the other halves are put in place. The gaps or extensions of the end apertures may be covered by the flanges of the housings for the end bearings and these latter bearings may be of the usual solid or bush form and threaded with their housings on to the crankshaft when the latter is in place.

In a preferred form of the invention there is mounted on one or each end of the crank shaft a detachable sleeve having an integral flange to which the fly-wheel or other part may b bolted and the sleeve forms the journal for the corresponding end of the crank shaft. The sleeve is preferably of hardened steel and may be secured on a taper end of the crank shaft by means of the usual nut and key.

In order that the invention may be clearly understood

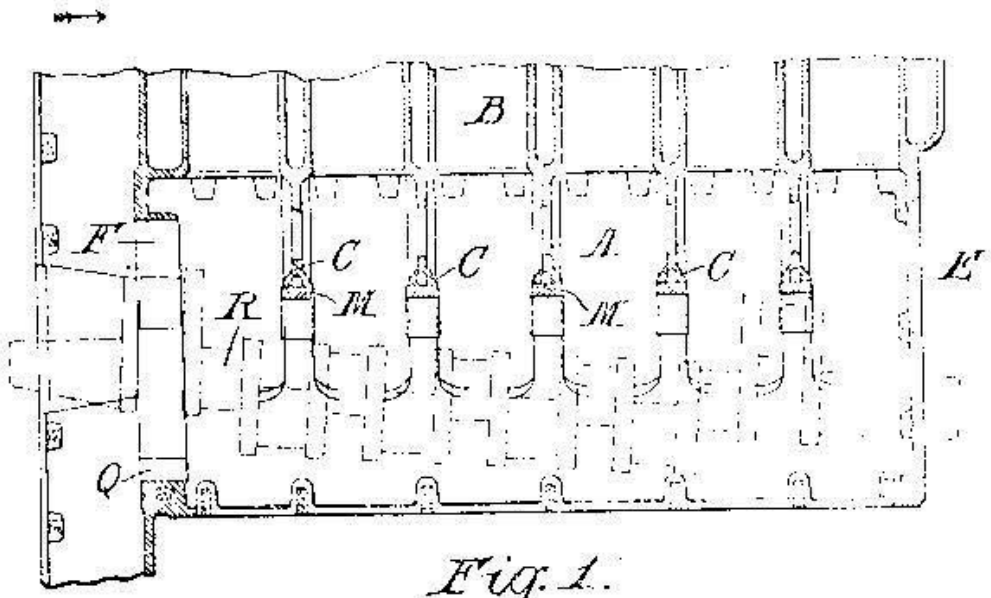


Fig. 1.

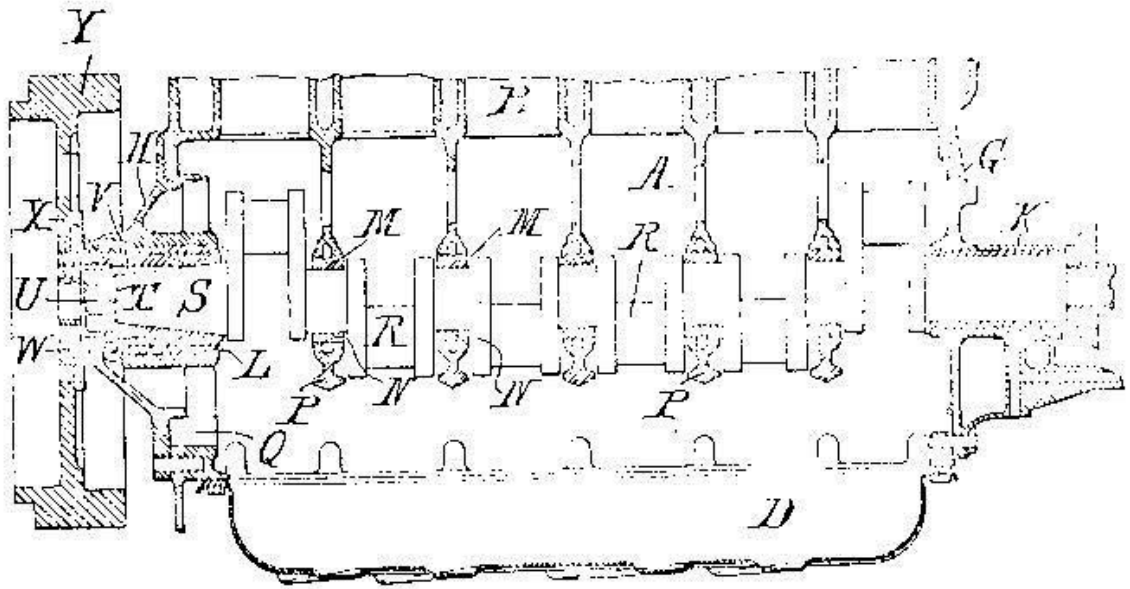


Fig. 2.

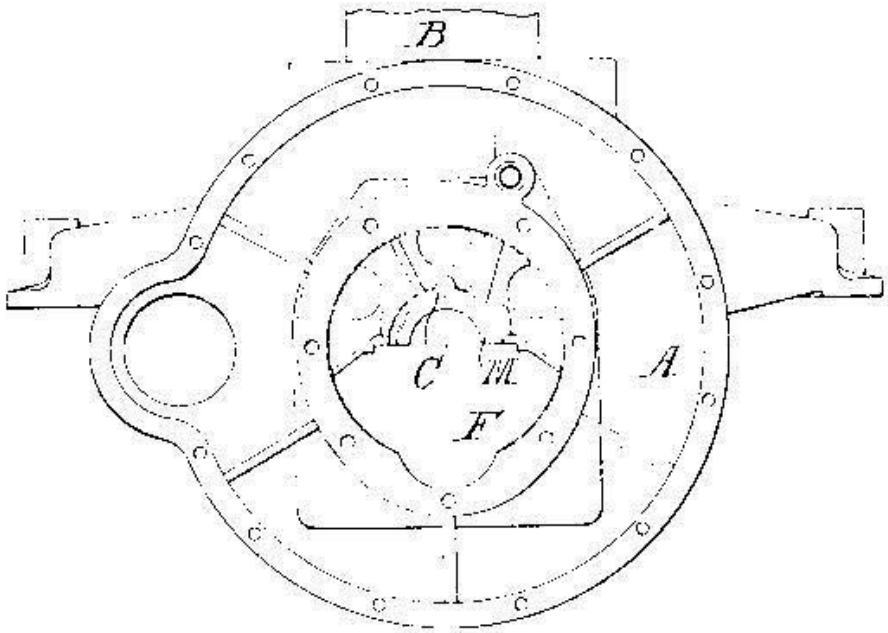


Fig. 3.

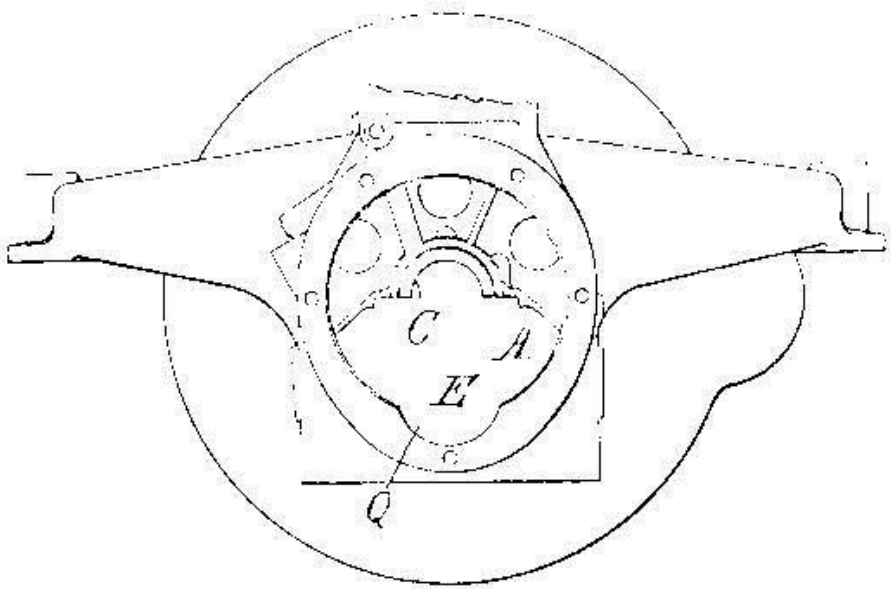


Fig. 4.

constructed according to this invention the end and bottom covers being omitted; but the crank shaft is indicated by broken lines as being inserted in the crank case preparatory to its being put in position.

Figure 2 is a view corresponding to Figure 1 but showing the crank case with the crank shaft and all the bearings in position. In this view the end and bottom covers are also shown in position.

Figure 3 is a rear end view of the crank case shown in Figure 1 that is to say looking in the direction of the arrow of that figure; and

Figure 4 is a front view of the crank case shown in Figure 1.

In these drawings:– A is a main body of the crank case cast in one piece with the cylinder block B and also with the housings C of the intermediate bearings for the crank shaft R. The bottom of the crank case is closed by a cover D (see Figure 2). Large openings E F (see Figures 1, 3 and 4) are left at the front and rear of the crank case respectively and. these openings are closed by end plates G H (see Figure 2). The plate G carries a solid brass bearing bush K while the plate H carries a similar bearing bush L. Into each of the housings C is fitted a half bearing M, which may be secured in any usual manner or it may be retained, pending the securing of the outer half of the bearing, by being a tight fit in the housing. The crank shaft R is then inserted through the aperture at one end of the crank case and put up into its position as indicated in Figure 2. The lower halves N with the bearing caps P are then put in place and secured by the usual studs and set pins the operation being performed through the open bottom of the crank case before the cover D is put on. The covers G and H with the bushes K and L are then put on over the shaft ends.

In order to facilitate putting the crank shaft in place each of the openings E and F is gapped at Q, these gaps being covered by the flanges of the respective end plates when in position.

It will be seen that the rear end of the crank shaft is provided with a taper S and on this is secured a sleeve W by means of a key V and nut U screwing on to a screw thread T of the shaft. The sleeve W has a flange at X to which the

The chief advantages of the construction lie in the rigidity of the solid end bearings and of the crank case, and the ease with which any of the bearings may be replaced without affecting the alignment of the crank shaft. Further advantages are that the main body of the crank case can be formed in one piece and that the detachable sleeve or sleeves forming one or both end journals can be readily replaced and can be hardened as desired.

The sleeve W forms the journal for the corresponding end of the crank shaft and an advantage of this construction is that it enables the fly-wheel to be much closer to the crank case than would be the case if the fly-wheel were keyed to an external taper of the shaft. Furthermore it provides a journal which can be readily replaced.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:

1. A crank case of the type set forth combined with housings for the upper halves of the intermediate bearings which housings are cast in one piece with, or are permanently carried by, the crank case.

2. In a crank case as claimed in Claim 1, the provision that the openings in the ends of the crank case are circular but gapped locally to permit of the insertion of the crank shaft, said gaps being covered by the flanges of the end covers.

3. In a crank case as claimed in Claim 1, the provision that the journal at one or each end of the shaft is formed as a separate sleeve.

4. In a crank case as claimed in Claim 3, the provision on the said sleeve, or on each of said sleeves, of a flange to which may be bolted the fly-wheel or other part.

5. A crank case, with its bearings, constructed substantially as described with reference to the drawings herewith.

Dated this 17th day of December, 1926

STEPHEN WATKINGS, SON &
GROVES,
Chartered Patent Agents,
Metropolitan Chambers, Wolverhampton,
Agents for the Applicants.

Redhill: Printed for His Majesty's Stationery Office, by Love & Malcolmson, Ltd.—1927

This most interesting text was supplied by Nick Sands. And what, you may ask, has it to do with MGs? It is a Wolseley patent. The answer is that this patent was used by Wolseley Motors Ltd. in their four and six-cylinder engines. When William Morris purchased Wolseley Motors in 1926 (against strong competition from Herbert Austin) he found, ready made, the 4-cylinder engine which he later used on the o.h.c. Morris Minor. Later this engine was used in the M-type MG and the F-Magna used the Wolseley system in an engine having distinct similarity to the Wolseley Hornet Engine. This patent forms the basis of our engines and is quoted on the data plates of our rocker boxes.

This system was also used on post-war six-cylinder Astor Martins and a similar line of thought was followed by Rileys and E.R.A.s. If imitation be the sincerest form of flattery, this is flattery indeed.

Some 1973 Results

Date	Event	Car	Driver	Result
January	Exeter Trial	PAs/c	Ian Davison	1st Class
		NA	Colin Butchers	2nd Class
28th Jan.	Salisbury Trial	J2	Mike Hawke	Wiltshire Cup
		NA	Colin Butchers	Windmill & Lewis Cup
		PB	Charles Shepstone	5th in Class
		PA	George Ward	7th in Class
11th Feb.	Invaders Trial	PAs/c	Ian Davison	1st MMM
4th Mar.	Doune Autotests	PA	Donald Frazer	2nd
11th Mar.	Spring Road Event	PB	Andrew Smith	1st MMM
18th Mar.	Phoenix Trial	PAs/c	John Adams	1st Special Class
		KIs/c	David Cooksey	?
		NA	Colin Butchers	?
18th Mar.	Marina Trial	J2	Peter Moores	1st MMM
1st Apr.	N.W. Centre Trial	PA	J. Bibby	Novice Award
		NA	Peter Fielding	?
		F2	Terry Cooper	?
7th Apr.	Scottish Autotest	PA	David Frazer	1st MMM
8th Apr.	Brands Hatch Race	J4s/c	Geoff Coles	1st Scratch
		PB	Andrew Smith	3rd Handicap
20th Apr.	Singapore G.P.	F2	Peter Hughes	3rd Pre-war Car
20th Apr.	Land's End Trial	PAs/c	Steve Dear	1st in Class
		Aramis	John Reid	2nd Class
		NA	Colin Butchers	2nd Class
2nd May	VSCC Curborough	N	Peter Cranage	2nd in Class
13th May	Chiseldon Autot'st	PB	Charles Shepstone	1st MMM
20th May	Kimnel Park Sprint	K3s/c	Syd Beer	1st MMM
20th May	Raby Castle Conc'r	J2	David Naylor	1st Pre-war Car
26th May	Silverstone Races	Ms/c	Doug Harris	H.S.T. Award — Jubilee Cup
		PAs/c	Ian Davison	H.S.T. Award
		J4s/c	Colin Tieche	H.S.T. Award
		J2	Mike Hawke	H.S.T. Award
		K2s/c	David Cooksey	17 laps in H.S.T.
		NA	David Sharp	17 laps in H.S.T.
		N	Peter Cranage	1st Pre-1955 h'cap
		M	Mike Dowley	3rd
		PBs/c	Michael Stanley	4th
		Ns/c	Andy McLennan	10th/Fastest lap
		Ms/c	Doug Harris	1st MMM Race
		J4s/c	Geoff Coles	2nd
		NA	David Sharp	3rd
		PBs/c	Michael Stanley	4th
		M	Mike Dowley	5th
		N	Peter Cranage	6th
		J4s/c	Colin Tieche	7th
		J2	Tim Hunt	8th
		J2s/c	Tony Dolton	9th
		Ns/c	Andy McLennan	10th/Fastest lap 1min. 16.2secs.
27th May	Silverstone Conc'rs	KN	Fran Ernst	1st MMM
		PA	Mrs. Ray Witcher	2nd MMM
		L1	David Whitehead	3rd MMM
27th May	California Cup	PAs/c	Steve Dear	1st in Class
		PB	Charles Shepstone	2nd MMM
June	Mille Storica	J4s/c	Colin Tieche Nigel Musselwhite	"Premio" Award
June	N.W. Spring Gathering	PA	Frank Hayworth	1st MMM
3rd June	Ditcham Hill Climb	NA	Colin Butchers	1st Unblown MMM
		PAs/c	Ian Davison	1st Blown MMM
3rd June	B.O.C. Prescott	J2s/c	Tony Dolton	1st MMM
16th June	VSCC Oulton Park	N	Peter Cranage	3rd Seaman Trophy
23rd June	Ulster Concours	PB	Bill Sherwood	1st MMM
24th June	Wiscombe Park	NA	Colin Butchers	1st Unblown MMM
		PB	Barry Smith	2nd
		J2	Mike Hawke	3rd
		PB	Andrew Smith	4th
		J2	Tim Hunt	5th

		PBs/c	Steve Dear	3rd
		PBs/c	Don Bishop	4th
30th June	B.O.C. Prescott	N	Peter Cranage	2nd in Class
7th July	C.S.M.A. Concours	J2	David Naylor	1st
7th July	Valence Hill Climb	J4s/c	Geoff Coles	1st MMM
		NA	Colin Butchers	2nd MMM
8th July	AMOC Silverstone	N	Peter Cranage	3rd St. John Horsfall
8th July	Wilsic Hall Concours	NB	Elwyn Sapcote	1st MMM
		PA	B. Fogg	2nd MMM
		PB	Andrew Smith	3rd MMM
8th July	Wilsic Gymkhana	L2	David Taylor	1st MMM
		PB	Andrew Smith	2nd MMM
		J2	H.G. Staples	3rd MMM
10th July	Speldhurst Concours	M	Keith Portsmore	1st
		F1	Bob Beasley	1st Class
15th July	M.S.V.C.R. Autotest	F2	Peter Hughes	3rd
21st July	V.S.C.C. Silverstone	N	Peter Cranage	1st 1,500cc Race
22nd July	Brands Hatch	NAs/c	Andy McLennan	1st MMM
		J4s/c	Geoff Coles	2nd MMM
		J2s/c	Dermot Reynolds	3rd MG
		J4s/c	Colin Tieche	4th MG
19th Aug.	Curborough Sprint	N	Peter Cranage	1st MMM
19th Aug.	Beaulieu Concours	M	Mrs. L. Dickie	1st MMM
		K2	Mrs. R. Witcher	2nd MMM
		PA	L. Bull	3rd MMM
19th Aug.	Beaulieu Gymkhana	J2	D. Anderson	1st MMM
		NA	R. Bishop	2nd MMM
		J2	R. Smith	3rd MMM
August	Hausach Concours	F1	Hank Boerbom	1st Pre-TD M.G.
		KN	Peter Mace	2nd Pre-TD M.G.
1st Sept.	Lydden Hill Races	J2	Dudley Pinney	1st M.G.
		J4s/c	Geoff Coles	2nd M.G.
1st Sept.	N. East Concours	L2	David Taylor	1st MMM
2nd Sept.	N. East Gymkhana	L2	David Taylor	1st MMM
8th Sept.	N. East Autotests	L2	David Taylor	1st MMM
8th Sept.	VSCC Landow Races	N	Peter Cranage	2nd 10 Lap Race
8th Sept.	Spero Trophy	J4s/c	Colin Tieche	2nd
		J4s/c	Geoff Coles	3rd
8th Sept.	Hucking Concours	M	Keith Portsmore	1st MMM
		PB	Andrew Smith	2nd MMM
		PA	Len Bull	3rd MMM
9th Sept.	Hucking Gymkhana	J2	Ralph Bateman	1st MMM
		M	Keith Portsmore	2nd MMM
		KN	Fran Ernst	3rd MMM
9th Sept	Babdown P-to-P	J2	Mike Hawke	1st M.G.
		PA	Bernard Morris	2nd M.G.
		PB	Charles Shepstone	3rd M.G.
29th Sept.	6-Hr. Relay Race	J4s/c	Colin Tieche	
		J2s/c	Dermot Reynolds	The
		J2s/c	Tony Dolton	MMM
		N	Peter Cranage	Register
		NAs/c	Mike Allison	Team
		J2	Dudley Pinney	
18th Nov.	Silverstone Sprint	NAs/c	Mike Allison	1st MMM
		N	Peter Cranage	2nd MMM
		N	David Cranage	3rd MMM
		NDs/c	Phil Bayne-Powell	4th MMM
		NA	Colin Butchers	5th MMM
23rd Sept.	Topcliffe Sprint	PB	Trevor Goodwin	1st MMM
		L	Maurice Gleeson	2nd MMM
		L	M. Miles	3rd MMM

LETTERS TO THE EDITOR

This is very nearly the Ray Brown Column. He just writes from several addresses to confuse me.

8 Kingsley Road, Palmers Green,
London N13.

Dear Mike,

I have just received the Yearbook. Your tuning bit is very interesting and I would like to comment on two things in the article.

Section 53. I agree with your ascending order of merit for exhaust systems but I think that you are underrating the effect of the exhaust system. Motorcycle tuners regularly get over 100 b.h.p. per litre from road machines plus a little tuning just by getting carb. and exhaust system pulling together. This is from machines having cylinder sizes approximately equal to ours. I have just seen a 50cc bike giving 17 b.h.p. at 16,000 r.p.m. – 340 b.h.p./litre. However this is essentially a technique for engines with separate inlet and exhausts for each cylinder. Putting "ram" tuning to one side it is still important to get the exhaust gases out as quickly as possible. When I first supercharged my F1, using the standard cast exhaust manifold, I burned my exhaust valves with great regularity. When I changed to a J4 type system, the trouble stopped completely.

Section 69. Shorrock Supercharger - "Belt. Not suitable shape for fitting between the front dumb-irons."

While at first sight this would appear to be true, I can assure you that my car has been running for two years with, yes you've guessed it, a Shorrock giving 6 p.s.i. boost sitting between the dumb-irons.

There are, I think two types of blower case. The first has inlet and outlet on opposite sides and the second has them on the same side. Obviously, the former is easier to fit because you do not get the plumbing tangled.

The most important thing is the rotation. The Shorrock provides a degree of internal compression, as you can see from the diagram in "Maintaining the Breed". If you reverse the rotation, the efficiency drops considerably.

Now, on a belt driven blower the blower runs in the same direction as the engine, i.e. clockwise viewed from the drive end. With a crank driven blower the drive is anti-clockwise from the drive end.

We can take off the end plate and slide off the case, (be very careful here or you will score the inside of the case with the vanes), and by turning end for end the effective direction of rotation is changed.

(Ed.'s interjection.) At the 1973 Silverstone, Michael Stanley's PB was going very well with one of the current model Shorrocks (with both ports on the same side) fitted between the dumb-irons. This goes even farther than Ray and I eat humble pie.

I would now like to expand a little on "Safety Slow", for, if anyone intends to produce 169 b.h.p. from an N-type, T120 conrods are probably cheaper than Q or R types. First, the standard Bonneville produces 47 b.h.p. at 6,700 r.p.m., giving us plenty of safety margin. Looking at it from the naive point of view, if two rods handle 50 b.h.p., six should cope with 150 b.h.p..

All is not sweetness and light because the rods need some modification.

(a) The small end has a length of 1.03 inches which is too long to fit our pistons. The answer is to have the small end spot-faced to allow clearance here. This should not weaken the rod as the small end overhangs the rod anyway.

(b) The gudgeon pin has a diameter of 0.6885 inches F-type. As I was having my crank welded up anyway, it was no trouble for me to have the journal reduced in length but for someone who already has 1⅝ inch big-ends this might be a lot of trouble.

(d) Finally, the standard crank size of 1⅝ inch is slightly large for the big-end in the T120 rod. The standard journal size is:–

	1.6235" to 1.6240"
with undersizes of, -10 thou	1.6135" to 1.6140"
-20 thou	1.6035" to 1.6040"

so a 1⅝" crank (i.e. 1.625") must be reduced by 0.001" (i.e. one thou) to fit the big-end. Not bad is it? The only real problem seems to be reducing the length of the big-end journals to 1.03" plus the 0.015" end clearance. A diagram showing the dimensions of my built-up crank is attached.

As for my two-speed blower, I am having troubles. The supercharger is a large Wade. These are available very cheaply because so few cars can use them.

There are two main problems. There does not seem to be enough space in front of the engine to fit it in (but I am working on it). The second problem is the choice of gearbox installation. The possibilities are:-

1) Use a chain drive motorcycle gearbox. This keeps machining down to a minimum but is clumsy.

2) Fit a small "cross-over" gearbox and shafting from engine to gearbox. This is neater but needs a bit of extra length and a lot more machining in the way of splines etc.

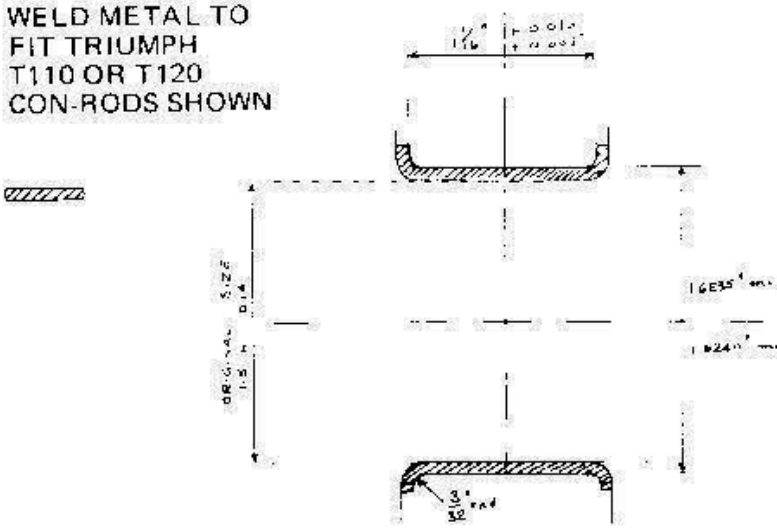
Wade have supplied me with performance figures for this blower and I have calculated that, when running at engine speed, it should produce 15-18 p.s.i. at 6,000 r.p.m. and, running at half engine speed it should give 8 p.s.i..

As I shall be fitting a 4-speed gearbox I shall have plenty of scope to experiment with the best blower speed.

If anyone would like to look at and measure my crank and rods, they can be seen at Bristol. I will probably not be there because I spend most of my time in London but a letter or a 'phone call will bring the bits out from underneath the covers.

Yours sincerely,
Ray Brown

WELD METAL TO
FIT TRIUMPH
T110 OR T120
CON-RODS SHOWN



Sports and Vintage Motor
Upper battlefield

Dear Mike,

..... Incidentally, you ask if anyone has tried using J profiled cams on the M, D or F models. Well, of course, the early C-types had this and I have been running on a C-type cam last season without any really big improvemen in times. However, it does seem to cry out for a larger carburettor(s) and this would confirm your para.45. I have always tried to confine my tuning to areas which do not

this ideology is now obsolete. I think that an hemispherical 'head with four valves per chamber twin 45 Webers and/or a blower giving 15 lbs. should sort out the handicappers for 1974! Anyway I will look forward to having a natter at the May Silverstone.

Yours sincerely,
Mike Dowley

(Mike did *not* have all those mods. in May. Ed.)

20 Saffron Road, Histon,
Cambridge.

Dear Mike,

I managed to beg a 1973 MMM Year book from Colin Butchers (being a T-Register man I do not really deserve one). Since these Yearbooks are obviously a trusted and collected source of information, may I just correct one small item? Nigel Musselwhite lists "Motor Racing by Earl Howe in his MMM Bibliography and you comment that it was first published in 1932 by S.C.H. Davis.

This is not quite true — the book Nigel is referring to is volume XXVII of the "Lonsdale Library of Sport" published by Seeley Service & Co. Ltd." My own copy must be a post-war reprint as it is dated 1947 yet all the material in it is very much pre-war, (articles by Kimber, Eyston etc.).

"Motor Racing" by S.C.H. Davis was indeed published in 1932 by Iliffe, and is a very different book, being written completely by Davis.

To confuse matters further, S.C.H. Davis took over as editor for the post-war editions of the Lonsdale "Motor Racing" — volume XXXIII — my copy is dated 1959 — in fact first published in 1957 and revised in 1959. This book is again completely different, yet readable in a good and different way.

Cheers,
Ian Hutchings

53 Conygre Grove, Filton,
Bristol.

Dear Mike,

Defending the F-Type

While looking at my latest picture book (by one M.F.L.A. who shall remain nameless) I came across the phrase:— "The Magnas and Magnettes were mostly good cars, the "F" being underrated . . ." "How true", I thought and hope to part a few veils and blow away some myths that may have formed.

We are told that the engine output is not too clever and the car is underpowered. I disagree with the first and hope to dispel the second sentiment later on. The standard M-type with the "old" timing produces 20 b.h.p. at 4,000 r.p.m.. Now we all know that the F is "M + ½M". Looking at the thing naïvely the F might be expected to give 30 b.h.p. at 4,000 r.p.m.. In fact the quoted output is 37.2 b.h.p. at 4,100 r.p.m., still using the old timing. Why, I wonder was the F-type not fitted with the 12/12 valve timing? this should have put up the power to something of the order of 41 b.h.p. at 4,500 r.p.m.. Does anybody know why the 12/12 timing was not used?

The engine's major attraction, though, is its torque characteristic; compared to some MMM cars it is underpowered at the top end but, with the ability to pull away from 5 m.p.h. intop and to hold a gear when going up hills, one does not notice it.

The makers of the F gearbox should have cast the words "Gaze on me ye mighty and despair" on the casing. It is a massive box with a beautiful change and nicely chosen ratios with no big gap between second and third gears.

The ratios are	4.02:1	compare 3.58:1 or	4.18:1
	2.00:1	2.14:1	2.32:1
	1.36:1	1.36:1	1.36:1

no one will lend me a J4 (Geoff please note).

A little known fact is that the F has a worm and wh steering box which means that, when later cars are having nuts, hemispheres and what-have-you reconditioned, WE just turn the wheel to an unworn part and have precise steering again.

Brakes . . . I'nough said).

Transmission. I don't know about anyone else but I've had my car for nine years and I'm still using the same diff and half shafts, unlike some people, one of whom had a P-type which got through three differentials in one month.

Finally, let us look at the statement that the Magnas were lacking in directional stability because they did not ha the ideal track/wheelbase ratio. F and L types do not hop into hedges or weave down straight roads after running over matchstick. This impression is sometimes given. What does happen is that the tail tends to hang out on corners, this breakaway happening slowly and with plenty of warning. For someone who likes to drive round bends with full opposite lock it is an ideal motor.

If you get a chance to persuade a friend to lend you his "F" for an hour or so, just try the delights of a low-revving motor with a fantastic gearbox and sideways corner-ing.

Maybe you will try to buy it.
Yours sincerely,
Ray Brown

Note:— It's editor's privilege to have first comment on any nice contentious correspondence. Did "they" not fit the 12/12 timing to F-types? "Talking of Sports Cars" in an Autocar circa 1954 would indicate that at least the F2 had this alteration. The 12/12 valve timing was, apparently, quoted on the rocker cover. Also, what about those "overlap" camshafts which Derringtons used to advertise back in 1934? In this case F does not equal 1½M because the M-type camshaft costs 25/- but the F cost £6!

MORE ABOUT THREADS

Prompted by some rather rude remarks in the 1973 Yearbook, where it was claimed that some pretty horrible metallurgy and heat treatment was applied to bolts and studs in the 'thirties, I would suggest that this does not apply to our cars.

The facts are that, although plenty of mild steel bolts and studs were used for lightly stressed joints, where strength was (and is) important, high grade steel *was* used. For example, steering arm to hub, big ends, cylinder head studs and crown wheel bolts. I have measured hardness values on original parts equivalent to 70 tons per sq. inch ultimate strength, compared with around 35 tons for mild steel. These high tensile parts were amply strong for their function and are not 'brittle' and 'likely to snap'. However, they may have been overstressed by the strong-arm brigade or they may have developed fatigue cracks under the heads of bolts or at the thread root. Mild steel bolts and studs were generally satisfactory for their job provided they were not overtightened, which of course they frequently have been by a succession of ham-handed owners and 'garagistes'.

None but an originality maniac would deny that all highly-stressed bolts and studs are best replaced (using material of equivalent strength) during rebuild operations, unless they are undamaged and preferably crack tested.

Threads used in mechanical applications on MMM cars were mainly B.S.F., not B.S.W. (Whitworth). Some exceptions (on the P-type) are the brake cable pillars (I think, ¼" x 28 t.p.i. in back plates), crankshaft dog nut (¾" x 16 t.p.i.), and 2BA (a metric thread!) in the cam followers. B.S.P. is used on engine oil pipe and fuel system unions.

Unfortunately, B.S.F. is not interchangeable with U.N.F. or Metric threads which are now fashionable. There is a near similarity between 'Whitworth' and 'Unified Coarse', which was pointed out in the 1973 Yearbook but was unhelpful since Whitworth threads are not used anywhere on MMM cars, so far as I know.

The following table compares several thread systems.

	B.S.F.	B.S.W.	U.N.C.	Whitworth
2BA-31 t.p.i.	—	No.10x32	24	24
3/16 inch				
¼	26	28	20	20
5/16	22	24	18	18
3/8	20	24	16	16
½	16	20	13	12
5/8	14	18	11	11

So, where you have to match existing threads, there is no substitute for B.S.F.!

If you can get them, obsolete British Standard 'A' (Aircraft) series BA and B.S.F. bolts and nuts are often excellent replacements for original parts. The following hexagon bolts are made from 55 ton steel:—

A25
A30
A59 — Close tolerance shanks.
A27 — nuts, thick, thin, slotted and castle are suitable.

The following tightening torques apply (except for 'thin' nuts) and are also suitable for 55 ton U.N.F. nuts and bolts – if you must use them.

Thread size	*Torque — inch pounds*
2BA or 10 U.N.F.	25
¼	70
5/16	125
3/8	215
7/16	355
½	530
9/16	760
5/8	1,020

The following torques *should* be suitable for the 'high strength' applications (but don't blame me if you pull your head studs out by the roots!).

5/16 — 190 pounds-inches, maximum
3/8 — 290 pounds-inches, maximum

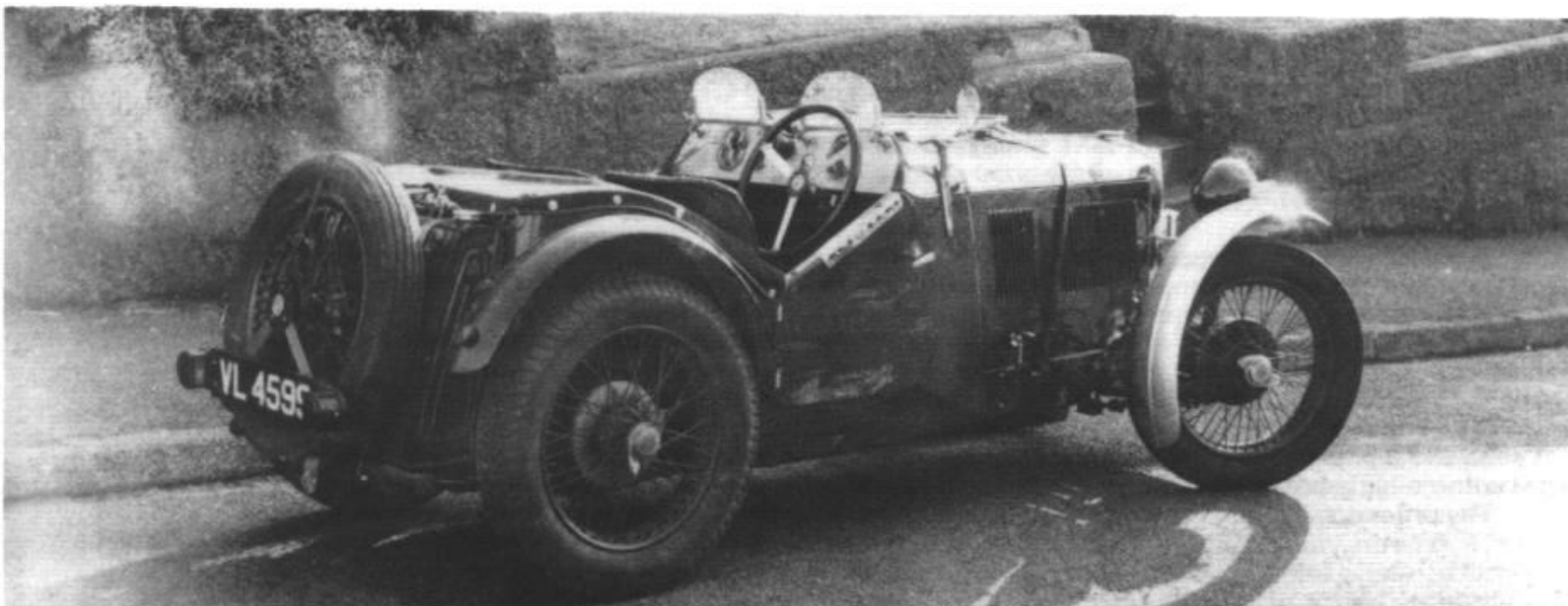
A few points to watch when installing bolts:—
The plain or unthreaded part of a bolt shank should be approximately equal to the total thicknesses of the parts being clamped. Don't use bolts or studs which are threaded for their whole length.

Make sure that bolt heads and nuts sit squarely.

Chamfer all holes to make sure that they clear the radius under the head of hexagon bolts.

John Seumour-Howel

Our far-west representative. Nigel Watts' J2 which graces the roads around Camborne



1973 CAR OF THE YEAR COMPETITION

Position	*Name of Owners*	*Type*	*Register Number*	*Points*
1	Andrew Smith	PB	571	103
2	Colin Butchers	NA	438	93
3	Mike Hawke	J2	3	82
4	Keith Portsmore	M		53
5	Steve Dear	PAs/c	1200	47
6	Trevor Goodwin	PB	191	42
7	Ralph Bateman	J2	768	41
8	Rosemary Bayne-Powell	NA	1270?	39
9	Mike Allison	NAs/c	1	38
10	Charles Shepstone	PB	433	32
11	Colin Cooper	J2		29
12	Phil Bayne-Powell	NA	691?	28
13	R. Bishop	NA		23
14	John Kidder	NA	708	21
15	Elwyn Sapcote	NB	522	18
16	Elwyn Sapcote	F2	644	9

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THE TRIPLE-M HONOURS BOARD

CAR OF THE YEAR AWARD WINNERS

Year	*First* *MMM No.*	*Type*	*Driver(s)*	*Second* *MMM No.*	*Type*	*Driver(s)*
1964	132	J4s/c	Geoff Coles	110	NE	Syd Beer
1965	132	J4s/c	Geoff Coles	2	PBs/c	Steve Dear
1966	2	PBs/c	Steve Dear	132	J4s/c	Geoff Coles
1967	2	PBs/c	Steve Dear	3	J2	Mike Hawke
1968	644	F2	Elwin Sapcote	2	PBs/c	Steve Dear
1969	43	PB	Charles and Stephen Shepstone			Who was it? Own up.
1970	437	J2	Alan Simpson	708	NA	John Kidder
1971	437	J2	Alan Simpson	708	NA	John Kidder
1972	3	J2	Mike Hawke	318	J2s/c	Tony Dolto
1973	571	PB	Andrew Smith	438	NA	Colin Butch

MARY HARRIS TROPHY WINNERS

1963	Mike Hawke	J2	56.17 m.p.h.*
1964	Bruce Beer	J3s/c	61.56 m.p.h.
1965	Stuart Milton	M	50.10 m.p.h.
1966	Peter Bentley	PAs/c	58.56 m.p.h.
1967	John Goodacre	PAs/c	64.06 m.p.h.
1968	Mike Hawke	J2	58.62 m.p.h.
1969	Peter Cranage	NA	66.08 m.p.h.
1970	Malcolm Beer	K3s/c	?
1971	Nigel Musselwhite	PB	60.15 m.p.h.
1972	John Adams	PAs/c	67.37 m.p.h.
1973	Dave Harris	Ma/c	65.19 m.p.h.

for the K3 Magnette Racing Model

In compiling these notes on the M.G. Magnette Racing K3 model it has not been considered desirable to produce a lengthy volume describing in detail the dismantling and overhaul of units. This work is usually carried out by highly skilled mechanics and the entire chassis layout has been arranged on straightforward lines which are fully covered by the instructions for the M.G. Magnette (K type) unsupercharged model, rendering no special instructions necessary. Furthermore, it is strongly recommended that such work — particularly the dismantling of items such as superchargers and gearboxes — should be entrusted to experts only.

Experience has shown that the average racing car enthusiast has ample knowledge to deal with the general arrangement, but requires information on the essential mechanical points, particularly adjusting and tuning, etc.

The object, therefore, of these remarks is merely to bring to the notice of the owner a few hints which may be helpful in maintaining the car in good condition. Before proceeding it may perhaps be helpful, in view of the fact that the car may frequently require shipping, to know a few of the main dimensions. It will have been noted that the car can be delivered either stripped for track racing or with full equipment, as called for by the Le Mans Regulations. Incidentally, the body is built to comply with A.I.A.C.R. regulations. The weight of the stripped car with water and oil is 15½ cwt. (786.6 kilos.).

Overall length ...	12' 1"	(3683 mm)
" width ...	4' 11⅛"	(1511 mm)
" height ...	3' 10"	(1168 mm) to scuttle peak.
Wheelbase ...	7' 10"	(2388 mm)
Track	4' 0"	(1219 mm)
Wheels	R.W. 19" x 2.75" W.B.	
Tyres (standard) ...	Dunlop Fort 19" x 4.75"	

For the benefit of owners who wish to race at the B.A.R.C. Meetings we would mention that the Competition Department of the Factory keeps supplies of silencer declarations already filled in, and these can be had on application.

Two gear ratios are normally available, and a suitably low gear can be ordered if required for special short speed events or hill climbs. For track races generally, the 9.39 axle (4.33 to 1) is necessary. For the Brooklands mountain circuit, or road racing, the most suitable ratio is 9.44 (4.89 to 1). The third or lowest ratio is 9.52 (5.78 to 1). The final gear ratios obtained with the various axle gears are as follows:

Rear axle gears	1st	2nd	3rd	Top
9.39	14.7 : 1	8.66 : 1	5.88 : 1	4.33 : 1
9.44	16.6 : 1	9.78 : 1	6.65 : 1	4.89 : 1
9.52	19.65 : 1	11.56 : 1	7.86 : 1	5.78 : 1

To deal with the chassis generally, very little attention is required, and there are few details which are not adequately covered in the *Instruction Manual*. Do not forget, however, that the pipe lines of the Tecalemit lubrication system should be examined after every race to make sure that they are not cracked, bent, or failing to deliver oil. The road springs give remarkably little trouble, but you should make sure the trunnion bearings are thoroughly lubricated, and for this purpose undo the pipe line at the trunnion end and inject direct a good quality grease, similar to Duckham's HBB. You should take particular pains to check the toe-in

nuts and adjust by the right- and left-hand threads which are provided. Should you have occasion to dismantle the rods, particular care should be exercised when re-assembling to make sure the springs behind the cups are fitted in the correct position. This is most important and a careful study of the *Manual*, which explains the point fully, should be ma (pages 16-18). Do not forget that the triple steering arm which pivots on the centre of the axle beam and the steering knuckle pivot pins must receive very frequent attention. A good quality grease, similar to Duckham's HBB, should, should be pumped into these parts until there are obvious signs of grease leakage, particularly at the lower end of the steering knuckle pivot pins.

There is a tendency for nearly everyone to adjust the shock absorbers much too tightly, and on frequent occasion we find them locked solid, the inevitable result being broke mounting brackets. This, in the middle of a race, is very ba indeed, and may be serious. Therefore, adjust shock absorbers by small degrees only, and to make sure they are not over tight, adopt the measures of a very large number o the crack racing drivers. Jack the car up at four points on the chassis frame, leaving the axles free, and if the shock absorbers are correctly adjusted they should be just tight enough to hold the axle in any position, or to be more explicit, you should be able to lift each wheel and it should remain at the highest point. You should then be able to push the wheel down to its lowest point, and it should remain there. This is a good general rule to follow. It may seem strange, but oddly enough we have come across cases where mechanics or owners have lubricated their shock absorbers! Of course, on no account must this be done. If you are not satisfied that the absorbers are working satisfactorily, renew the special discs. This however, is rarely necessary.

The front axle torque cables should be checked for adjustment occasionally. With the car in a stationary position the free movement in the centre of the cable shoul be ⅜" (9.5 mm).

The only warning necessary in regard to the pre selector gearbox, and this warning cannot be sufficiently stressed, i that gear changes must not be made without use of the accelerator in exactly the same way as with the normal manual box. Any attempt to change down from a high to a lower gear without increasing the engine revs., or changing up without a slight pause, will most certainly result in transmission damage, and although a gear can be pre selected at any time, a corresponding variation in engine speed must be made when actually changing, or as nearly as possible. Another very important point we wish to bring to your notice, should you for any reason wish to tow the car, always disconnect the propeller shaft, otherwise there is every possibility that damage to the box will result, since the gearbox oil pump is engine driven. *This is important.* Furthermore, we wish to emphasise the importance of using the correct lubricant in the gearbox. This should be Duckham's N.P.3 or Wakefield's Castrol "F". The adjustment of the gearbox is a specialist's job, and you are well advised, should it give you trouble, to communicate direct with the Factory, or with the makers, Messrs. The E.N.V. Engineering Co. Ltd., 4/5 Hythe Road, Willesden, London, N.W.10.

Do not forget that the Hardy Spicer joints on the

either from the makers of the shaft or the Factory. Ordinary grease most definitely will not do, it must be a centrifugal non-separating grease. The propeller shaft is very carefully balanced up to 7000 r.p.m., and should you, by misuse of the pre-selector box, or otherwise, over-stress the transmission, you may put the shaft out of balance. This is indicated by a general roughness at speed, and should this condition arise, immediately have the propeller shaft replaced or rebalanced, otherwise serious damage may result in the use of a racing car at speed with the propeller shaft out of balance.

Care must be taken when running at high speed not to throw the gearbox into neutral suddenly. If, when cutting to examine plugs, etc., the clutch pedal is held right down until the car has reached a fairly slow speed before selecting neutral, trouble will be avoided.

Brakes. As the design of these brakes is novel and should be thoroughly understood, a somewhat lengthy description is given here. Particular attention should be made to method of adjustment.

The brakes are arranged so that the smallest possible load on the cables produces the maximum possible braking effort. To do this, two cam levers are used, one operated by the inner cable and the other by the outer casing, an arrangement which exactly doubles the force of application for a given cable load. The cams which operate the brake-shoes take the form of rollers which roll against each other back to back under the load, thereby reducing the friction to a negligible value.

The cable load on the levers is also taken by a pair of rollers mounted in a dustproof housing on the back plate, packed with grease. These have the same effect as the cam rollers in reducing friction.

To ensure that both shoes always press equally against the drums, a centralising link is fitted which moves about a centre having a tight friction grip. This centre is difficult to move, but the heavy forces from brake application move it quite easily, thereby bringing the shoes central with the brake-drum at the first application of the brakes.

Brake adjustment takes the form of a wedge expanding the heels of the shoes apart. A take-up is provided in the cockpit, enabling limited adjustment to be made if necessary, as for example during a race; but this is only a provisional measure, the main adjustment being on the brake back plates.

If the foot brake pedal is getting too near the floorboard, it is only necessary to take up the adjusters one or two clicks each, when the brakes will be found to be adjusted quite evenly.

To ensure that the brake-shoes make their first contact with the drum in a perfectly true movement, small fibre steadying blocks are provided which steady the shoes and prevent them from rattling or moving sideways.

It should be noted that only a very small amount of brake adjustment can be effected in the cockpit. It will be obvious when the gear is examined that considerable adjustment at the cockpit control will only result in reducing the available movement of the cams.

The correct method of adjustment is to work almost entirely on the adjusters on the brake back plates. These are set correctly when the car leaves the Works, and it will be found that they can be turned by slow degrees, each quarter turn producing a definite click. This renders it possible to obtain exactly similar adjustment on each wheel.

When other than minor correction is necessary, the cockpit adjusters should be slacked right off, and the above-mentioned back plate adjustments carried out.

We must stress the importance of suitably lubricating the brake cables and casings: quite often we inject a syringe of engine oil to make sure that they work freely, followed, of course, with an application of thicker gear oil. When carrying out this operation, make sure that the brakes are in the "on" position, as this holds the end of the casing tight against the stop, and allows the lubricant to travel the

must a partial failure of supply be allowed. This is particularly to be guarded against in the case of pressure if a hand pump is used. The minimum air pressure permissible is 2 lb. and a failure in pressure will result in lean mixture. This will cause pre-ignition, and such a condition must be followed by damage to the engine. A cracked head will very frequently be the result of a few minutes' driving with insufficient petrol in the carburetter.

While considering the hand pump again, do not work this with unnecessary vigour. The results, from the point of view of tank pressure, will not be improved, and over-energetic use of the pump may quite easily damage the gauge.

In view of the damage which can be wrought, no apologies are made for reiterating this instruction. Do watch your air pressure and don't risk a lean mixture.

There is very little likelihood of starvation to the carburetters when using electric fuel pumps, but should partial starvation occur from this cause, one of the first indications would be an explosion via the explosion valve.

In passing it may be observed that an alcohol fuel should not be left in the tank for any length of time when the car is out of use. Before putting the car away the petrol tank, carburetters and all the pipe lines should be carefully drained. We consider this an important point, as otherwise there is a likelihood of trouble with these parts.

With regard to the facia board instruments, these are quite straightforward, but be careful not to leave the Ki-gas injector turned on. As a matter of fact, experience has shown that it is very seldom necessary to use it. When a car has been standing for some time a couple of pumps on the injector will be sufficient, after which it must be screwed right home again.

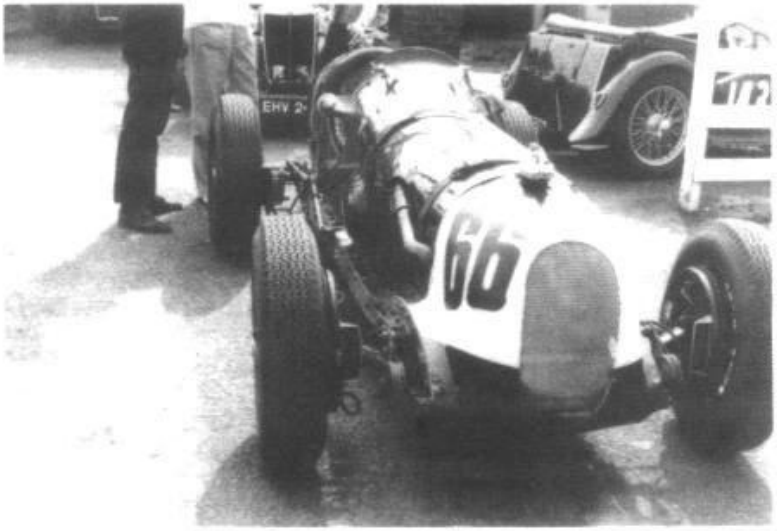
The supercharger pressure should be between 10 lb. and 12 lb. There is an oil pressure gauge in connection with the oil feed to the supercharger, and whilst 2 lb. to 4 lb. is an average, watch this carefully, as below 1 lb. there is a danger, and the feed should be checked over immediately, as the result of insufficient oil fed to this unit may result in seizure of the supercharger. The water temperature should not exceed 90° centigrade and the oil 80° centigrade.

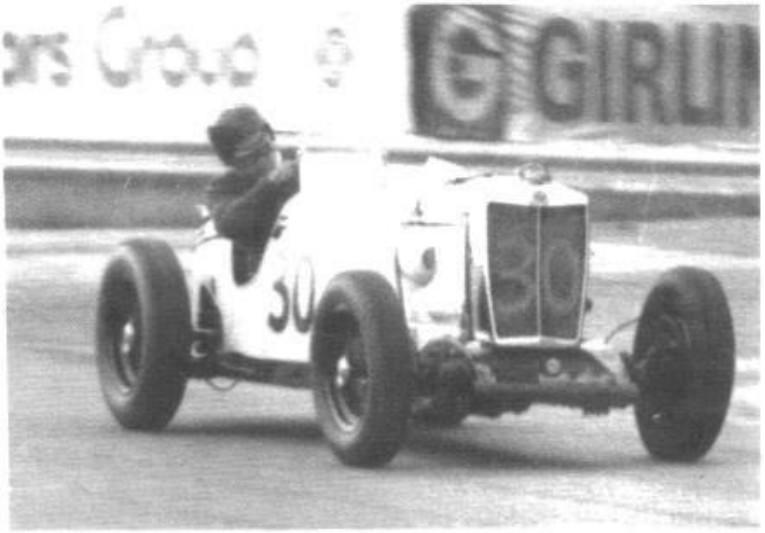
Considering the engine, note again, for entry form purposes, that the bore is 57 mm, the stroke 71 mm and the capacity 1087 c.c. The compression ratio 6.4 and the maximum r.p.m. 6500.

Engine lubrication is quite straightforward, the sump carries approximately 2 gallons (9.1 litres) and the reserve oil tank 2 gallons (9.1 litres). We fit a float-chamber attache to the sump which automatically maintains the engine oil level. This oil is fed from the reserve tank, but periodic checking that the reserve oil flows freely to the sump is advisable, and we usually check this when renewing the engine oil by putting only 1½ gallons (6.8 litres) in the sump and allowing the additional half-gallon to flow through from the reserve tank. We recommend that this is always done.

With regard to the Tecalemit filter, note that absence of really tight joint here will cause trouble. The Tecalemit oil filter is readily replaceable, and it is important that a new filter element is fitted for every race. Should the filter element become choked for any reason, one of the first indications will be a drop in the oil pressure. Further, when changing the filter, care should be taken to clean the whole of the filter bottle, and it is necessary to remove the filter bottle from the engine for this purpose.

Generally speaking, castor base oils, i.e. Castrol "R", Shell Super Heavy, Pratts' Racing, etc., are accepted by long experience as being the best racing oils. These oils, however should invariably be drained while the engine is still warm, and fresh oil substituted for the next race meeting. For everyday use mineral oils alone are suitable, as these, of course, may be left in the engine in the ordinary way. Some drivers are actually using mineral oils for racing, such as Duckham's Special N.P.5 Aero, Essolube, Castrol XXL, etc. with a considerable measure of success, but until more





Single seat K3s at Silverstone. Above: Dudley Gahagan's, Below: Syd Beer's

Above: David Potter's J2. The first car to race using an "MMM" crank. (advt.) Below: Peter Cranage's NE-bodied N-type. One of the most reliable and consistent of cars.

ment should be taken between the cam and the heel of the rocker, the position is illustrated in the *Manual*. Particular care should be taken over this. Also, when tightening up the rocker pinch bolt which fixes the eccentric bush, if a long spanner is used distortion and tightness is likely to occur, therefore always use the short spanner – 3" or 4" long – which is provided, and carefully check afterwards to make sure that the rocker is perfectly free.

Valve Timing and Ignition. This is fully explained in the *Manual*, therefore we do not propose to include it in these preliminary notes. As explained in the *Manual*, there is very little we can discuss with advantage relative to valve timing once it is carefully set, but you may be able to get variations in performance by slight adjustment of the ignition.

First of all carefully watch the contact points and make sure that they are clean. Burning and pitting conditions would indicate a weak condenser, and this should immediately be renewed. The correct gap setting at the contact points in .012".

Another point that should be watched is the attachment of the high-tension leads to the distributor itself. Keep them free from moisture and oil, and frequent examination is advisable to detect breaks in the insulation, because it is our experience that these details are often overlooked and can be the cause of mysterious misfiring.

Engine Speed. Whilst the engine will actually exceed figures given, it is not desirable to go above the following for normal long-distance races:–

5500 on first and second.
6000 to 6200 on third and top.

For short events or hill climbs up to a mile: –

6000 on first and second, and
6500 on third and top.

Revolutions du Moteur. Bienque le moteur puisse surpasser actuellement les revolutions données ci-dessous, il n'est pas desirable d'excéder les suivants pour les courses de grandes distances.

5,500 revolutions en première et deuxième vitesses.
6,000 revolutions en troisième et quatrième vitesses.

Pour épreuves courtes, ou courses de côte, jusqu'à une mille.

6,000 en première et deuxième vitesses.
6,500 en troisième et quatrième vitesses.

Obviously with regard to engine revs the most important condition to avoid is valve crash. The r.p.m. at which valve crash occurs varies with different engines, but it is usually somewhere after 6500 r.p.m. On no account crash your valves.

Fuel. Broadly speaking two types of fuel are available. Alcohol mixtures – frequently referred to as "dope" or "fuel" – and benzole mixtures. It is absolutely imperative that no fuels should be used under any circumstances save those approved for use in M.G. Magnette K3 by the petrol company supplying.

Alcohol fuel makes a considerable difference to consumption, being something like 40 per cent higher. The water temperature is not affected to any great extent, but oil temperature may be reduced by something like 10 degrees centigrade. It should be observed that suitable carburetter adjustments are necessary with varying fuels. As a rough guide, benzole mixture requires an RM needle, while the use of alcohol calls for an RM2 or an RM3.

Although each engine has received prolonged bench tests the car should not be raced until 500 miles has been covered. The handling of the car in its early life is of the utmost importance, and strict compliance with the following routine is advisable.

The engine as it leaves the Factory is tuned for a mixture of 80 per cent benzole and 20 per cent ethyl petrol, with S.U. RM needle and $\frac{3}{16}$" jet. The blower oil feed is correct as set at the Works, and should not be touched. For starting up and running up to a maximum of 2000 r.p.m. K.L.G. LKS5's

plugs in this case being K.L.G. 718C's. At the end of each hundred miles should then be covered at 3000 r.p.m., the

When the running-in is completed, the car checked over and the oils changed, the following procedure should be adopted:

Drain petrol tank and refill with the racing fuel decided upon. This will call for a different carburetter needle, RM2 or RM3, and K.L.G. 689 plugs. When warmed up, complete a lap, or three miles, with maximum r.p.m. 4500.

Cut clean on full throttle and stop. Plugs should then be in a clean condition when examined.

Plugs should be examined to check up mixture strength and the engine looked over. If the mixture is approximately correct the plug points will show practically no trace of burnt oil or petrol, and will have a white appearance at the actual burning points, whilst the surrounding body of the plug will be slightly brown. If the mixture is too rich they will look wet or sooty. If too weak, the whole of the plug will tend to have the same whitish appearance mentioned before, and in addition, there may be whiskers on the electrode and excessive burning, which has resulted in a large gap. The standard gap is .018" and should not be greatly exceeded at any time. These tests should be repeated, increasing the r.p.m. 500 each time up to 6000 r.p.m. or maximum. If everything is satisfactory, carry out one lap at full throttle, followed by the usual examination. Afterwards, and with the same examination, complete two laps, or six or seven miles. Finally, give a 12-15 mile (20-24 kilos.) all-out, again examining at the end of the run.

Almost as important as correct mixture is the use of the correct type of sparking plug. An unsuitable plug will do just as much damage to an engine as a lean mixture or unsatisfactory oil.

As a rough guide, a soft plug must be used for starting and warming up, as for example:—

When using plugs of this description do not exceed 2 lb. supercharge.

For road racing K.L.G. 718C or K.L.G. 690 may be used the 690 being rather harder, that is to say, standing greater heat than the 718. For full-speed track events use either the K.L.G. 690, 646 or 689.

It is vitally important to ensure that the plug used will stand up to full throttle before any attempt is made to run the car all-out for any distance, the reason being that the slightest pre-ignition would impose such loads on the engine that serious damage may be done in a very short time, even to the extent of cracking the head.

On occasions it is advisable to remove the cylinder head to carry out an internal examination. This more than in any other way will give you considerable information, and a very direct reading as to the correctness of your mixture and other combustion factors. The appearance of the combustion chambers and valves is usually the best evidence available as to the condition of the engine from a combustion standpoint. If all is going well the inlet valves should all look alike, the exhaust valves should all look nearly alike, and the carbon formation on the cylinder heads should be generally similar on all six. Persistent misfiring on one cylinder or any other trouble of such nature will invariably be revealed by the appearance of the head and exhaust valve of the cylinder concerned. Pratts M.G.1 of Shell N.3 cause a grey-coloured deposit on the cylinder head; this deposit is quite harmless. If any serious pre-ignition has taken place the heat and pressure may have cracked the cylinder head between the valve seats. This, of course, will necessitate either repair or replacement, dependent upon the extent of the damage. The head should, after examination of carbon, etc., be cleaned and again examined generally from a mechanical point of view, valve grinding (the less the better), and such-like operations being quite normal.

Very special valves indeed are used in these engines, and

polishing in on the seats to restore perfect conditions.

When reassembling valve gear the greatest possible care must be taken to make sure the circlip fits correctly into its groove on the valve stem. Never use a circlip twice: always fit a new one. It is of major importance — we cannot stress this too highly — that the circlip fits snugly into the groove. An experienced mechanic can detect this quite easily, but if you have any doubts about it use a magnifying glass, or any other means to make sure this fits correctly. Particularly should you examine the circlip groove before fitting a circlip, because any sign of a rounding of the top edge, or other distortions or damage to the groove, should be accepted as an indication that the circlip cannot possibly fit correctly, and the valves should be replaced.

If the circlips are properly fitted in accordance with these instructions, you will never have one come adrift. If badly fitted they are almost certain to fail.

Where a steel gasket is used, as in the case of the standard compression, note that this must be very carefully fitted. In replacing the old gasket, after the head has been removed, it is almost impossible to fit it incorrectly, providing it is a close fit on the dowels provided. You must very carefully examine this, and make sure there are no burrs round the stud holes, deep scratches on the faces, or any other damage. You will note, when fitting, that an allowance of $\frac{1}{32}$" (.8mm) is provided round the combustion chamber. This is the correct amount. Having ascertained that the gasket is in good condition and both the face of the head and the block are also free from damage, a thin layer of gold size on either face of the gasket is all that is necessary to ensure a sound joint. Particular care should be taken in pulling the head down equally.

Should for any reason you find it necessary to fit a new steel gasket, particular care must be taken in lining it up. The correct procedure is to lay the gasket on the head and fit the two dowel pegs into the large holes at either end. Then careful measurements should be taken round the combustion space, and the gasket filed to give an equal $\frac{1}{32}$" (.8 mm) clearance all round. We would stress that the dowel pegs which you use for this purpose are a good fit, both in the gasket and the cylinder head. The purpose of this recess is to provide a suitable cavity for carbon deposit, which helps considerably to form a gas-tight seal.

Should you experience any difficulty in making a gas-tight joint this may be due to some peculiarity with the face of the cylinder block and the cylinder head. It would be desirable to have these lapped together, but this operation can only be carried out by a real expert in this type of work, and we would strongly recommend you on all such occasions to place this operation in the hands of thoroughly expert people.

The correct clearance for connecting rod bearing fit is .000" on the diameter and .004" side play, and care should be taken to refit to these limits after re-metalling.

Although it may not be necessary, we would point out that these connecting rods are re-metalled with the highest possible grade of metal specially suited for racing, and on no occasion should low grade metal be used.

When refitting piston rings there is a tendency to have the gap much too fine. The correct clearances for piston ring gaps are:— .006"—.010".

It may be useful to note that the average temperature variation between alcohol fuel and benzole is from 10° to 15° centigrade, the alcohol running cooler. The petrol consumption varies considerably with various fuels, the alcohol grades having a consumption higher by something like 35 per cent to 45 per cent in relation to petrol, the normal consumption of fuel being in the neighbourhood of 8½ or 9 miles per gallon. The use of a benzole mixture would probably result in a consumption of 12 to 13. When considering the possibility of lean mixture do not forget that a leak in the blower would cause this, and this would be indicated by a fall in the blower pressure. It could further

Under such circumstances the pump would knock and investigation should be made immediately.

NOTE:— These instructions are supplementary to the Manual for the M.G. Magnette K models (unsupercharged). The Guarantee post card which accompanies this booklet should be filled in and returned. On its receipt at the Factory the Manual will be issued.

THE SLADE TROPHY

A perpetual award to be presented annually to the most successful Triple-M Register Car in Trials, using the following formula. (A permanent replica of suitable nature to be retained by each successful driver.)

A. P.C.Ts organised by any Centre of the M.G. Car Club

1st MMM car	6 pts.
2nd MMM car	5 pts.
etc. down to 6th MMM car	1 pt.

B. M.C.C. Lands End, Exeter or Edinburgh Trials

Class Award	8 pts.
1st Class Award	6 pts.
2nd Class Award	4 pts.
3rd Class Award	2 pts.
Finish	1 pt.

C. The following specified events

a. S. & D.M.C. Cotswold Clouds Trial
b. F.M.C. Guy Fawkes Trial
c. ?
d. ?

1st in Sports Car Class	6 pts.
2nd in Sports Car Class	5 pts.
etc. down to 6th place	1 pt.

D. Outright Win in any of the above Events ... 10 pts.

The best score from any four MGCC PCTs to count, plus the best score from any three other events, provided that the car starts in at least two MGCC PCTs. In MGCC PCTs, scores obtained on Town & Country or similar "grip" tyres not eligible.

N.B. The reason for counting non-MGCC events in an M.G. Car Club Championship is that trialling is one of the few branches of the sport where the standard MMM car can compete on even terms with modern opposition with a real chance of success. It is felt desirable therefore that encouragement should be given to those who enhance the reputation of our cars in the "classic" events organised by other Clubs.

SLADE TROPHY RESULTS 1973

1.		Colin Butchers	NA	23
2.		Steve Dear	PBs/c	12
3.		Ian Davison	PAs/c	7
4.		Mike Hawke	J2	6
5.		David Cooksey	K1s/c	5
6.		Charles Shepstone	PA	4
7.	=	George Ward	PA	3
	=	Elwyn Sapcote	F2	3
	=	A. Heath	F1	2
9.	=	Barry Smith	PB	2

These results have been compiled retrospectively. Some scores may have been omitted but there is no doubt about

The Register Secretary Colin Butchers this year's Slade Trophy Winner on the Phoenix Trial.

The 12/70 Steering Box

The following notes are intended as a guide, definitely not the last word. To remove the steering box, leaving the steering column in place, proceed as follows.

Firstly, whilst hands are still clean, loosen bolt on dashboard bracket which clamps the column. Next remove the distributor top and tie up the two clips and disconnect the advance and retard lever. Now jack up the front of the car and remove the off side wheel. Under the car remove the stop plate and remove the drop arm clamping bolt COMPLETELY. Pull drop arm off splines then remove drop arm from drag link by removing split pin undoing nut and tapping off. Still under car remove the oiling line bolt on side of box and the small set bolt next to it, a long tab washer with two holes in it should now fall on the floor. Above, next remove the oiling line at the bottom of the steering column. Now with a C spanner which is the correct tool, but a hammer and a large flat ended punch are more likely to hand, remove the large serrated nut at the bottom of the steering column. Lastly remove the long bolt at the front of the steering box which secures it to the chassis. It should now be possible to push the column and box downwards and pull the box forward and off the end of the column, exposing the worm. **N.B.** It is impossible to remove wormwheel with worm in place. Next slacken lock nut and bolt in centre of aluminium cover and remove cover. Dig out grease and oil, remove wormwheel and clean everything with paraffin to remove ALL oil and DRY. Test wormwheel shaft for fit in phosphor bronze bearings, there should be no play. If there is play the two phosphor bronze bushes need replacing ah the object of the exercise! For repair, take the worm-wheel and box to a reliable engineers, they might like to know that the two bushes knock out from the centre. If the wormwheel shaft is worn at all it is just possible to take a light skim with a grinder before coming down to the spline diameter – CHECK FIRST. Also important is the height of the wormwheel in the steering box, this is determined by the thickness of the collar of the bush nearest the wormwheel, it should be arranged so that the wormwheel is half way up when looking thro' the hole thro' which the worm is threaded, this is to ensure correct meshing of worm and wheel. The worm bearing at the end of the steering column can now be examined for side play. However there is the difficulty of removing the oil. It perhaps can be said that if absolutely no movement can be felt then it is OK as it is a pretty large bearing and as there is no bush the whole collar would need to be replaced. Any end float of the worm in the steering column is taken up by adjusting the ball race immediately below the steering wheel, correct when there is a *small* amount of *side* movement of the wheel, there should then be no detectable end float. The steering box may now be assembled. The re-bushed or OK steering box is first cleaned and the two stops removed if still in position. The worm-wheel is put in position and first a steel and then a brass washer passed over the splines. THE thickness of the washers to be arranged so that it is possible to bolt the drop arm to the shaft so that there is no end float. The box is then threaded on to the worm and bolted to the chassis. The drop arm can be removed before this. The large serrated nut is now done up tight so that one of it's slots is in line with two holes in the side of the box, to enable the long tab washer to lock it in place. The clearance between the worm and wheel should now be checked and the position of minimum clearance found by wiggling the wormwheel shaft, the drop arm should now be fitted so as to give straight ahead steering in this position. All the assembly work under the car may

TRIPLE-M REGISTER

To, Colin Butchers,
21, Hill Farm Way,
Southwick,
BRIGHTON,
Sussex, BN4 4YJ.
U.K.

Please note the details of my o.h.c. M.G.(s) given overleaf. I am a member of the M.G. Car Club and give my membership number with the details of my car/I am not a member of the M.G. Car Club and request that you send me membership details as soon as possible (Delete as appropriate.)

Please place my name on the mailing list for the 1974 Year Book.

Yours sincerely,

is now put on with a paper gasket and it's four nuts done up tight. The centre cover bolt is tightened until it just nips the wheel and locked. The distributor etc. is replaced, the column is clamped to the dash, the rake of the column is adjustable here, but it is first necessary to slacken off the bolt which holds the column to the chassis or else the column might be bent. The steering should now have the minimum of free play but might be a little stiff, the stiffness should go after about 100 miles, if not check the centre cover bolt and possibly move the drop arm down slightly on it's splines, though the latter is not likely. If king pins etc. are OK the final result should be the next best thing to rack and pinion!

Evan Harris

EDITORIAL APOLOGIA

Once again we would like to thank all those who have contributed, knowingly or in ignorance, to this book. Between these two covers, nearly one hundred names of M.G Car Club members are mentioned. Some have done a little bit by simply taking part in Club activities. In particular, thanks are due to all those who contributed copy, to Wallace Birtwhistle, Ron Cover, and Piers Hubbard who sent pictures to Peter Davis who dealt with the detail arrangements for printing, to Ian Judd who made valiant efforts to obtain advertising and to Stentor Exhibitions Division who took a commercial risk in offering to obtain yet more support. To those who contributed and do not see their masterpiece

A register of all o.h.c. 'Midgets', 'Magnas' and 'Magnettes' produced 1929-36.

Personal Name .....

Block Capitals please

Address .....

.....

.....

.....

.....

Telephone No. .....

M.G.C.C. Membership No. .....

Centre .....

Car .....

Type ..... c.c. .....

Year ..... Engine No. .....

Chassis No. ..... Reg No. .....

Type of body*: Saloon/Salonette/Tourer/Sports /Racing.

State if specialist coachwork and coach builder

.....

Number of seats*: 1/2/4.

Is car according to original specification?* Yes/No.

If not, what modifications? .....

.....

.....

.....

Does the car have a known history? .....

.....

.....

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* Delete what does not apply.

C.K. Spares Co.

The above is the name given to the Company which has been formed by the M.G. Car Club to continue the spares service for members. It brings together the spares secretaries of the other Registers of the Club, and by pooling resources, will operate in the long term to the benefit of all.

The MMM Section of the company is in effect a continuation of the spares service operated so successfully by Phil Bayne-Powell and Nigel Musselwhite, who continue their involvement but now with the assistance of John Adams who is the MMM Director on the board of the C.K. Spares Co. Ltd..

The policy is to produce only those items which are unobtainable from normal trade sources. In this way, the Company can concentrate on parts in real need, without competing against those dealers who are already selling good quality parts at reasonable prices. The number of parts listed is therefore less than before, but suggestions will be welcome from members who experience difficulties with other items.

The bi-monthly Infoletter is important to the MMM side of C.K. Spares and acts as a sort of shop window, with up-to-date news of stocks, prices etc.. It also contains news of batches of major items such as crankshafts and crown wheels and pinions, and details of how these may be ordered.

The Infoletter, of course, also contains many other features of MMM interest, and may be obtained by sending some stamped-addressed envelopes to Rosemary Davis, The Pike House, High St., South Cerney, Cirencester, Glos..

All orders and correspondence to C.K. Spares Co. on MMM matters should be sent to John Adams, 5 Hare's Lane, Hartley Wintney, Hampshire.

David Cooksey's K1 weaving its long chassis in and out of the trees on the Phoenix Trial

TERRY AND BARRY BONE

Listed below are some of the new parts available:

Front and rear trunnions

Side light glasses

Oil filters

Fast and slow round mixture control plates

New radiator and spare wheel badges

Side light rubbers

Instrument bezels

Wiper blades

Foot brake adjustment plates

Reproduction from original Workshop and Parts List Manuals.

Plus many other spares which are listed in our new 1974
20 page catalogue – price 30p.

Thousands of secondhand spares.
Dozens of cars and chassis available.

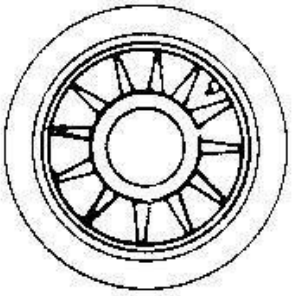
Spares for most models from 1929 to 1935.

S.a.e. with all enquiries please to:

Rear of 92-94 High Street, Steyning, Sussex.

Telephone: Steyning 812962
(between hours of 10 a.m. and 4 p.m.
Monday to Friday)

VINTAGE TYRE SUPPLIES



TYRES FOR VETERAN AND VINTAGE CARS

RETAIL PRICES

	Cover £. p	Tube £. p		Cover £. p	Tube £. p
TUBED TYPE			450/475-21	16.17	2.08
500/525-16	8.92	1.61	500/525-21	19.43	2.66
550-16	9.64	1.65	600-21	27.41	2.66
600-16 RS5	13.69	1.65	700-21	30.69	2.66
670-16 6 Ply	13.89	1.65	**STRAIGHT SIDE TYPE**		
670-16 RS5	14.54	1.65	32 4½	27.83	2.32
700-16 6 Ply	16.62	1.65	**FORT TUBED TYPE**		
450-17	6.85	1.61	600/650-17 'c'	18.01	1.93
500-17	11.73	1.74	700-17	24.59	2.54
525/550-17	14.24	1.74	700-18	30.79	2.54
450-18 Olympic	14.25	1.61	650/700-19	19.81	1.93
475/500-18	10.73	1.74	**BEADED EDGE TYPE**		
525/550-18 4 Ply	12.24	1.74	26 x 3	9.59	1.90
525/550-18 6 Ply	14.38	1.74	30 x 3½	18.96	1.80
600/650-18	19.54	2.18	710 x 90	18.96	1.80
350/400-19	8.10	1.61	730 x 130	26.14	2.75
450-19	8.92	1.61	760 x 90	18.96	1.80
475/500-19	11.23	1.74	810 x 90	20.94	2.00
525/550-19 Nokia	13.84	1.74	815 x 105	23.85	1.80
525/550/600-19	17.25	1.74	875 x 105	26.63	2.32
450/475/500-20	15.70	2.08	820 x 120	26.63	2.32
525/550/600-20	26.95	2.66	880 x 120	28.94	2.32
700-20	29.94	2.66	895 x 135	36.85	3.05

Carriage extra. These prices became effective on November 1st, 1974.
We may not have all these sizes in stock, but please let us have your enquiries and we will let you know when we can expect supplies. Sole U.K. Agents for Universal Tire Company, U.S.A.
Dunlop Racing Tyres supplied. Remoulding Service available.

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