

# Bemsee

THE JOURNAL OF THE BRITISH MOTOR CYCLE RACING CLUB

Vol. 2. No. 9 — September, 1949 ONE SHILLING



Freddy Frith, 350c.c. International Champion for 1949, photographed at Dunholme last year.

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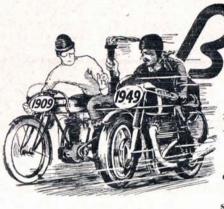
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# **ARCHERS**

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PHONE 323



Journal of the British Motor Cycle Racing Club

Vol. 2. No. 9.

September, 1949

THE BRITISH MOTOR CYCLE RACING CLUB President: Sir A. Guinness, Bart, Vice-Presidents:

Professor A. M. Low, D.Sc., A.C.G.I.,
Group-Captain G. K. Lawrence, D.S.O., O.B.E., D.F.C.
Chairman: E. C. E. Baragwanath
Vice-Chairman: H. L. Daniell

Secretary: C. A. Lewis, 55 South Street, Epsom, Surrey.

#### **EDITORIAL**

The Close of the Racing Season. All that was written in these columns last month has been changed by force of circumstances.

The plans for Haddenham have not been concluded, meetings are still going on. Your committee has watched the position continuously and, at a meeting on August

8th, the following motion was carried unanimously:

"Due to the lack of time it is now impracticable to stage any other successful meeting this year than the one to be held on October 8th. The objections of the Manufacturers' Union and the A.C.U. limitation of riders, prohibit us from using Haddenham for the Hutchinson Hundred, which has always been an annual classic. It is therefore recommended that the Secretary be authorised to approach the R.A.C. for the use of Silverstone for this occasion. The question of future meetings at Haddenham will be discussed by members at the Annual General Meeting."

Enquiries at the R.A.C. proved so satisfactory that the firm decision was taken on August 15th, to hold our big Open Meeting on October 8th at Silverstone. This proposal has received the approval of the Manufacturers' Union. Elsewhere, some correspondence which we are permitted to publish will give an insight into what has

happened.

Of one thing there must be no misunderstanding. The Royal Automobile Club have put themselves out to help us to stage our grand old Hutchinson Hundred in a setting which will do it justice. There is no question of force majeure. They have proved themselves friends of the Sport and your Editor and Secretary acknowledges the fact gratefully.

Now, it is up to us to have an even better race than last year. It is not going to be completely easy and we shall be forced to make economies to assure success. Every member of Bemsee can help in his own way and that is what is asked of each one of you. Help us to put the Hutch over. Don't listen to the grumblers

With this eleventh hour decision, time is so short this number of the Magazine

must be brief.

125c.c. Racing. There is a constant correspondence from members asking that 125c.c. races be staged. Bemsee will stage 125c.c. racing when members can say that British machines exist which will hold their own with the best from the Continent.

The speeds of the Continental four strokes and two strokes are known. The argument anent lack of a track for testing purposes in England applies with least force with these little machines which can probably be tested lawfully without inconvenience to the community on By-Pass roads. Further, the development of the single cylinder 125c.c. is a logical step for the development of 250c.c. twins and 500c.c. fours.

It is known that several members are making their experiments. When we know that the right men and machines are ready, we will put on a race. The high

standard of Bemsee racing through the years must be maintained.

#### THE MOST IMPORTANT ANNOUNCEMENT OF THE YEAR

SILVERSTONE. The Hutchinson 100 will be held at Silverstone on Oct. 8th. This event is supported by the Manufacturers. A record entry is expected. Entry forms will be dispatched to all members as soon as completed. The programme will be as follows:—

Time of start

Approx. 10.30 a.m. 10 lap Scratch race for solo motorcycles from 490 c.c. up to 1,000 c.c. (Preference in accepting entries will be given to machines of the larger capacities). Massed start.

11.5 a.m. 100 miles 'Silverstone' Race for solo motor-cycles from 225 c.c. up to 250c.c. Scratch race, massed start.

12.45 p.m. 100 miles "Dunholme" Race for solo motorcycles from 300 c.c. up to 350 c.c. Scratch race, massed start.

2.15 p.m. 50 miles Consolation Handicap Race for solo motorcycyles from 225 c.c. up to 1,000 c.c. Open to members of B.M.C.R.C. who have not won a first prize in any race in 1949. The handicapping will be on a class basis.

3.40 p.m. 100 Miles "Brooklands" race for solo motorcycles from 400c.c. up to 500c.c. Scratch race. Massed start. POOL PETROL FOR ALL RACES

NOTE the course will in any case be closed at 5 p.m. Sunrise is at 6.11 a.m. and sunset at 5.24 p.m.

Practising will take place on Friday, October 7th, from 10 a.m. to 4 p.m. with pauses for business activities inside the circuit.

Mark this down in your diaries and tell all your friends to turn up for the premier race meeting of the year. Notify your intention to ride at the earliest possible. Entries close September 17th.

Silverstone is approximately 15 miles north of Buckingham and close to the towns of Towcester and Brackley. Your services as Marshals will be welcome. Please write to Bill Jarman at 153 Reigate Avenue, Sutton, Surrey if you can help.

### Racing News

Shelsey Walsh. At time of going to press it is impossible to forecast the programme as members are leaving submission of entry forms to the last moment.

The event takes place on September 24th, starting at 1.30 p.m. An interesting duel is expected between Freddie Frith

and Les Graham.

The World's Speed record. The wishes of all members go out to Noel Pope and Bob Berry each of whom is making efforts to regain for this country the record lost to Germany before the war. Bob Berry reports that his Brough Superior engine is going well, but he has been hampered by the changing conditions of Pendine Sands. He reports that on the date of Aug. 11th conditions were so satisfactory that he recorded 6100 r.p.m. on top gear of 2.89-1, which with a wheel circumference of 90" should have been well over the record speed. Examination of the tyre marks gave no indication of any wheel spin. The Time-keepers were accordingly phoned for. Unfortunately the weather com-pletely changed and the ideal conditions experienced did not repeat themselves. Consequently he was unable to record officially the requisite speeds. Bob has come away from Pendine for the time being and now has thoughts of Belgium in company with Col. Goldie Gardner who will be after records with his M.G.

Noel Pope has set off to America on one of the gamest of lone efforts. Accompanied by Ted Comerford and George Brough, Noel is relying upon ability to secure the services of American mechanics to see him through on the preparation necessary to ride his completely streamlined Brough at Utah. Although the work of preparing the streamline body went off smoothly Noel had a series of last minute troubles with his Powerplus super chargers. As these vane type blowers are no longer made a quick decision had to be taken to change to a Roots type, and a very workmanlike installation was made in record time. Members will appreciate the problems with which Noel is confronted as the characteristics of the superchargers differ. We wish him all success.

Incidentally, in considering these efforts it is interesting to note some of the H.P. figures which have been quoted in the past for performances at Brooklands:—F. W. S. Clark's Triumph twin gave 46 b.h.p. at 7,000 r.p.m. with maximum speed 125 m.p.h. and lap speed at Brook-

lands 118.02. (Date 1939). F. W. S. Clark. 350 Triumph. 11.6 to 1 C.R. 7,400 r.p.m. 22.5 b.h.p. 102 m.p.h. maximum, 99.8 m.p.h. lap. **1932.** New Imp. 250c.c. 12 to 1 C.R. 7,500 r.p.m. 24 b.h.p 100.32 m.p.h. lap. **Standard T. 100 Triumph** 33.34 b.h.p. 95 maximum.

Ariel Square Four. 36 b.h.p. 95 m.p.h. maximum.

Works Vincent Rapide. 57 b.h.p. = 127 m.p.h, maximum.

Henne's B.M.W. was said to develop 90 b.h.p. when he took the present world's record at 173.675 m.p.h.

Barry's 8.50 Jap at 62 h.p. gave 99 m.p.h. sidecar lap.

Bert leVack used to say that 25 h.p. was just enough for a 100 m.p.h. lap with a very light 500c.c. solo but that 30 h.p. was nearer the requirement for the average 500c.c. machine.

The Manx. Gordon Hatch will be looking after members' interests wih his usual efficiency. He will arrange our teams and, so far, the following have expressed willingness to be included:

Bob Pratt, Geoff Duke, R. Harrison, R. F. Seymour, L. Tedder, F. Norris, J. D. Boynton, J. L. Frost, Sid Franklen and H. A. Pearce.

Good luck to all Bemsee members and remember Gordon's address: "Hillside," Linden Grove, Douglas.

The Ulster. Congratulations as we go to press, to Les Graham (500 A.J.S.) Freddy Frith (350 Velo) and Maurice Cann (250 Guzzi) on their respective wins. And particularly, congratulaions to Les Graham on such magnificent speeds on Pool Petrol winning at 96.5 m.p.h. with fastest lap of over 98. A truly remarkable achievemnt and definite proof that racing improves the breed.

Blandford, August 1st. A fine day's racing despite poor weather. Reason for this undoubtedly the appearance of your Secretary's magnificent new Sun Titfer (first headgear purchased since 1918). It now reposes safe in moth balls pending the next outbreak of un-English weather. Definitely too dangerous to bring it to Silverstone.

An interesting machine which, unfortunately, did not race, was Geoff Monty's supercharged Triumph Twin. The blower was a German V.D. used for pressurization, the installation had been effected very neatly. The very considerable urge unfortunately caused a seizure in practise but this is definitely something promising.

Another fitment which probably caused a trough of low depression over South East London was that of a pair of large Hartford Shock Absorbers to the rear springing of Ray Petty's 7/R A.J.S.

Ted Davis suffered the worst luck in the big invitation race when he was stuck at the starting line with a defective petrol feed.

After Dickie Dale's performance in the 10 lap 250c.c. event, there is no doubt that a calculating head sits on those young From the opening laps, it shoulders. appeared a foregone conclusion that Maurice Cann on his Gambalunghino would run away with the race, Roland Pike keeping a good second. Little notice was at first taken of Dale's red Albatross Guzzi which, due to a poor start, lay seventh at the first lap, moving up to third later which position he held to the fifth lap when he took station second not too far behind Maurice. This state of affairs continued until the last lap when Dickie passed Maurice just on the line to win at 68.19 m.p.h.

In the big race of the day, George Brown, on his big twin H.R.D. won at record speed of 85.43 m.p.h. with fastest lap at 88.46 m.p.h. A magnificent show, it will be interesting to see George perform at Silverstone.

Frank Fry rode with his usual style. Surely the most unobtrusive winner, he just "gets on with the job."

A race for "up to 150's" was frankly disappointing. There is no doubt the riders got the best possible out of the machines they rode but the resulting figures were not impressive. After so many Post War years of buying your speed out of a catalogue, riders seem averse from the old Weybridge custom of "finding your own horses." Those Eysink Villiers all have their engines altered at the Eysink works because the engine makers are not interested. Much the same sort of thing is done to a lot of standard ironmongery by the Aussies "down under."

Bob Foster rode as well as ever. After an excellent performance on his Velo in the opening heats, he was unlucky to retire with a split oil tank in the 350 final. However, he saw the Senior race off very nicely.

There was criticism of far too much use of the grass verges at the start in efforts to secure an early lead. In one instance, over enthusiasm resulted in a bit of no good to a rider who charged a sapling and in general it was noted that those who adopt these tactics rarely get home first. Dickie Dale's tactics were a marked contrast.

Condensed results as follows: 500c.c. Senior Race: 1st A. R. Foster (Triumph) 78.74 m.p.h., 2nd C. A. Stevens (Triumph), 3rd J. P. E. Hodgkin (Norton), G. Brown (HRD), E. Cooper (Norton), E. Barrett (Norton), H. T. Bostock (Triumph), A. F. Wheeler (Triumph), F. Hayward (Norton), J. R. Clark (BSA), A. J. Glazebrook (Triumph), K. Gilroy (Norton), J. Difazio (BSA).

350 c.c. Junior Race: 1st F. W. Fry (Velo) 73.96 m.p.h., 2nd R. H. Dale (Velo), 3rd J. J. E. Hodgkin (A.J.S.), S. H. Jensen (A.J.S.), E. Iffland (A.J.S.), A. E. Moule (Norton), J. F. Kentish (AJS), R. H. Pike (AJS), D. E. R. Morgan (AJS), J. Fisher (Velo), R. W. Coleman (AJS), E. Cooper (Norton), R. J. A. Petty (AJS), O. P. Hartree (Velo), P. Romaine (Velo), J. D. Dent (AJS), R. H. Sherry (AJS). 250c.c. Lightweight Race: 1st R. H. Dale (Guzzi) 68.19 mph, 2nd M. Cann (Guzzi), 3rd R. H. Pike (Rudge), B. E. Keys (Norton), R. J. A. Petty (New Imp), D. Harrowell (L.E.F.), H. T. Bostock (Springbok), F. N. Pearce (New Imp), J. P. Driscoll (Rudge), K. J. Andrew (Rudge), W. G. Hutt (Rudge), W. N. Webb (Excelsior). 350c.c. Invitation Race: 1st F. W. Fry (Velo) 71.54 mph, 2nd R. Coleman (AJS), 3rd R. H. Dale (Velo), J. P. E. Hodgkin (AJS), J. F. Kentish (AJS), D. Harrowell (AJS), C. A. Stevens (AJS), A. E. Moule (Norton).

351—1000c.c. Invitation Race: 1st, G. Brown (998 HRD) 85.43 m.p.h., 2nd A. R. Foster (Triumph), 3rd S. H. Jensen (Triumph), C. A. Stevens (Triumph), J. P. E. Hodgkin (Norton), A. F. Wheeler (Triumph) D. Gregory (Norton), A. J. Glazebrook (Triumph), E. Cooper (Norton), J. Difazio (BSA).

Sidecars: L. W. Taylor (596 Norton) 64.79 m.p.h., 2nd P. V. Harris (596 Norton), 3rd G. E. Harris (596 Norton).

Next Blandford Meeting. Will take place on Saturday Sept. 3rd starting at 1.30 p.m.

The Leicester Query Club report having procured a new Grass Track circuit at the Pony Racing Track, Kirkby Mallory, Leicester. One mile round with a width of 80 feet, this is said to be the largest in the Midlands. The first meeting is on Sunday, Sept. 4th, start at 2 p.m. Usual classes. Enquiries to J. E. Shaw, 109 Highcross Street, Leicester.

# SPEAKING PERSONALLY

C. M. Brooks was recently married—congratulations and best wishes for all happiness. Mrs. Brooks is keen to see Charles performing again—a sentiment which many old timers will approve.

Ron Beecroft. In thanking us for giving the Vintage Club—of which he is Secretary—a good day at Haddenham says they gained much valuable experience, Although he had previously regarded his C.S.I. Norton as a pure Vintage model. he took it to Hendre Park and won the 500c.c. open event (Pool fuel) as well as the Vintage race and also was third in the unlimited race. (He is joining us next year.)

There must be many other very fine Vintage machines in the country. Peter Pratt's Velocette is an example, and what would not be done were a good Freddy Hick's Velo found?

**D. V. Tromans** writes that his injuries in the N.W.200 were more severe than had been thought. His leg was shattered and although now out of hospital it is most unlikely that he will ride until 1950 although he still hopes on. Friends please

write to him at 5 Graham Road, Black-heath, Staffs.

Gordon Hadfield. Always welcome to have news from our good friend and Medical Officr snatched from our grasp by a voracious War Office. Firstly, congratulations on your promotion to Captain.

Gordon is now stationed at Malta and interests himself in every possible army Motor Cycling event. He goes with the various teams as their M.O., if he cannot go as rider. Latest move is to Cyprus for the Army Trial Malta v Cyprus. After that future dates arte at Sicily and Tripoli.

Bob Geeson, with Gordon Allen, thanks all Winning Horse members for the award of the Hard Luck Trophy. It came at an opportune time. Much work is being done on the R.E.G. and there is a constant drain on the exchequer. Good luck both and be sure to come to Silverstone. An ideal race to prove your work.

Dennis Hovenden. Left America on the 12th. August on the "Queen Mary" for a long leave.

He would probably pass Noel Pope in mid-ocean who left England on the "Queen Elizabeth" on the 13th. Whilst in England, Dennis plans to ride his 350 c.c. Norton at every possible event.

Club Meeting Places. The "Winning Horse" goes from strength to strength. At our meeting on August 18th, the attendance was as good as ever and general satisfaction was expressed on the decision to go to Silverstone on October 8th. Date of next meeting September 15th.

North London. Ken Rickard reports that the meeting at the White Lion, Edgware on August 8th was badly supported due to the late issue of the magazine. Will all members in Edgware and district please roll up on September 12th.

Birmingham Section. J. D. Boynton reports that the only member to respond to his message in the July Magazine was Edgar Maddox. Thank you Edgar, and come along all you other Midlanders to help them to get something started. Address: 271 Moor Green Lane, Moseley, Birmingham.

Meeting at Hendon. A Social Evening November 25th at Hendon. Thanks to the services of our most enthusiastic mountie member D. McBain, the Club has accepted an invitation to a Social Evening at the Metropolitan Police Driving School. Time of arrival will be 7 p.m. and a first rate evening is assured with a visit of inspection to the School followed by a short concert and dance. This very excellent innovation will enable us to know still more intimately the men whose handling of Police duties has changed the motorist regard from one of dislike to appreciation. Details will be published later.

G. N. Ewer. Is now riding a 7/R A.J.S. for member F. H. Rae of G. K. Rae Ltd.

This combination of man and machine should be watched.

Jack Emmott writes cheerfully despite a spell of bad luck. After a happy period in the I.O.M. as voluntary mechanic to Eric Briggs, Jack, on his way to help at Scarborough, suffered an accident involving his wife also. Unfortunately Mrs. Emmott suffered a broken leg and although very cheerful and anxious for the Club to do well, must be an invalid for some weeks. Jack has happily recovered from his own injuries. We're hoping he will do as much for us at Silverstone as he did at Dunholme last year.

C. F. Smith is riding his big twin combination at Shelsey. In the spells between racing his C.F.S. Special 500 c.c. car, Charlie is anxious to compete in every sidecar event possible. The number of known sidecar riders is at present so small that a race had to be omitted from the Silverstone programme. If a list of those who will guarantee to enter at Bemsee meetings were known (with a statement as to which tracks they will favour) your Committee would be able to stage races more easily.

C. H. Pritchard. After three months of preparation, Pritch's old A.J.S. was duly fettled up for Blandford on August Bank Holiday. Having fixed the lot on a trailer, a bright and early start was made but at Staines the trailer "knew better" so now a lot more work is neessary on the Ajay for Silverstone. And mind how you go round the roundabouts next time Pritch.

Mrs. Craig. Our deepest sympathy goes out to Joe and his family in their irreparable loss. All that we can do is to assure Joe of our sincere and constant friendship and admiration for one who rides high above this world's misfortunes.



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### SILVERSTONE

In view of the great decisions announced this month, the permission of our President was asked and willingly given for the publication of the following correspondence. This should explain the position clearly to all:

Letter from your Secretary to Your President.

July 16th. 1949.

Dear Sir Algernon,

I visited Professor Low recently when he told me that you were disconcerted at my position vis-a-vis the R.A.C. He thought it referred to Haddenham. I told the Professor I knew of no reason

for such feeling.

Since then the Editor of The Motor Cycle has printed a statement broadcast by the R.A.C. Motor Cycling will be writing an Editorial on the subject next week. Both Editors have reproached me for being unable, in my position of Secretary, to make a statement in reply. They were surprised to hear I had not been sent a copy and one was loaned which has enabled me to send letters.

Before doing this, I discussed the matter with Mr. Baragwanath and now send you a copy of all the relevant documents. Obviously I can only pick out the foremost ones, it would take weeks to copy out the files but we both wish to emphasize that there is nothing whatsoever to hide in this matter and all the files are freely available for inspection by yourself or by anyone whom you care to send.

I have no wish that you should suffer personal discomfort and realise that the issue by the R.A.C. of this double foolscap statement cannot be any balm to

your feelings.

When speaking to Colonel Barnes in April 1948, he hinted at close co-operation between the R.A.C. and B.M.C.R.C. Nothing ever came of that but, had it matured, I am confident it must have been to mutual benefit. Your position in relation to the two clubs is unique and, if it is possible for you to act as our ambassador, it will meet with our grateful response.

Yours &c &c &c. (Signed) C. A. Lewis.

Letter from Your President to Your Secretary. Aug. 1st. 1949.

Dear Lewis,

I have put your letter on one side for a while so that I might give it adequate consideration.

No one has ever suggested that you had anything to hide, but however one

tries to look at this sorry business it appears that the R.A.C. of which I am now Vice-Chairman, as well as being a Steward and Vice-Chairman of the Competitions Committee, has been arrainged by a club of which I am President. "Bemsee" must be prepared for blame in that the attack seems to stem from the April journal. In view of the exhortations of that journal how do you suggest that the Lincoln people acted on their own account?

Knowing that I was already disturbed, it is particularly disappointing that you did not deem it necessary to forewarn me that you were making more statements to the Press. Yet having written to the Press on July 15th., you write to me on July 16th asking me to act as your am-

bassador. In all this acrimony you have not paused to realise that the R.A.C. is trying to obtain a permanent home for racing to replace Brooklands and Donington, now I fear irretrievably lost. It would seem very nice for Bemsee to get Dunholme for a £10 note now, but what happens five years hence when, so the experts tell me weather and time plus agricultural activities will have broken up the runways.

The RAC is merely asking a rent for Silverstone which bears some relationship to the enormous present cost of maintenance and building. Perhaps you have forgotten that Brooklands, if my memory is right, claimed ninety per cent of the

I am sure too that the RAC would help anyone who came forward with a responsible scheme for preserving another airfield on a long term basis. It is only casual use for a nominal sum which has been ruled out by the Ministries.

The complaint that the R.A.C. did not send you a copy of its statement is hardly valid in view of Bemsee's earlier

As far as my personal position is concerned there must be some early rapprochement betwen "Bemsee" and the R.A.C. or soon Ishall be left with no option but to resign as President. You must know how that would grieve me. Certainly no more statements must be made. The best visible sign of agreement would be for the October 8th, meeting to take place at Silverstone, and I suggest you get the committee to consider the matter very carefully and see that every effort is made to reach some solution with the R.A.C.

> Yours sincerely Algernon Guinness.

# Marshal's Musings

Original Quotation (or Definition)

ENTHUSIASTS. Those who learn lots and lots about less and less until they know everything about nothing. "Billinda"

The above effort is by way of response to all the leg-pullers who know their books as well as they should know their bicycles. No offence is intended in case we have any sensitive readers.

Another member tells me how to spell Marshal. My answer is that one 'ell is enough for anyone! Dear dear, arn't we getting fastidious especially when a fellow-member of your worried Committee twits me about split infinitives. The hand written phrase often looks queer in print.

By the way I have today seen a 60c.c.(?) engine clamped on a push-bike carrier. Nothing unusual about that but wait, the Registration Number was NBP 207, if I remember rightly. As these notes coincide with N.B.P.'s departure for the Salt Flats of Utah let's take it as a good omen. After all, Noel has only to go ten (?) times as fast as the sixty c.c. job was doing. Just that and won't Teddy Comerford, Noel, George, 'Bemsee' and everone else be delighted!

You will be interested to know that your letters and cards to the B.B.C. have made them realize that the speedway is only one kind of motorsport. One B.B.C. bloque actually told me he had no idea that a motorcycle could be used for so many kinds of sport or transport. The B.B.C. now know that our recreation (in all its forms) is second to none and only second to football when it comes to drawing the crowds.

All this leads up to our special race meeting which will probably be held on a nice wide 90 m.p.h. circuit and as most of you fellows belong to your local club as well as 'Bemsee', please ask them to resolve to see the Hutchinson and, let us say, "Chiltern Hundreds" on the 8th. October. Wherever we are on this date we want a hundred thousand people to attend. Book the date, 8th. October and do ask any Club Secretary you know to put it before the next Club Committee Meeting. The last big race of 1949.

By the time these notes get printed we shall be approaching the racing close-season and the Autumnal mud slinging will be upon us. Not that we mind the mud provided Mother Nature dishes it out (as opposed to the organisations who want to stop any kind of motorcycle

activity.) We must not forget that some of our 'dicers' are not too bad at scrambles or trials. There is also the winter social season to think about and believe me your Committee have had a very busy year indeed. So much abortive work has had to be done which did not reach fruition. Mister Lewis has a few more grey hairs and "Barry" doesn't change much externally but the pair of them have strained their minds a great deal. Without the help of a very loyal Committee and membership I don't know how they could have stuck it out. Pioneering work is not hard labour-its almost Belsen at its best. The Editor will probably prune this but frankly I do hope he lets it go verbatim.

Lets change the subject and say a few words on a higher plane. The 'Bemsee' boys have had a pretty good season and must resolve to do even better in 1950. There are only one or two top-notchers who do not wear our badge and they really must join or re-join. The time might come when they need some practical help such as only the B.M.C.R.C. can provide. We shall soon have a thousand members, and who knows what an A.G.M. might decide? There is no dead-wright in this outfit, and not one of the membership desires to carry such a luxury. Only this evening a couple of members called to ask for orders saying, "We are members of 'Bemsee' for what we can put into it NOT for what we can get out of it!" Its great to be associated with fellows like this.

I have been asked to say a few words about the members who have slid to earth this year. One laddie, who asks me not to mention his name, told me that the letters from other speedmen meant such a lot to him whilst in hospital. These good souls also sent on the technical journals, etc. So dear readers, if you know one of our number who is compelled to stay in bed scribble a few cheerful paragraphs to him, or see that he gets the right kind of books to read. If you live nearby call and give him up-to-date 'gen'.

If you are organising "Bemsee" Cells, be careful to advise Cliff Lewis. Don't forget to look ahead a few weeks so that a suitable announcement can be put in this journal. I can foresee some nice competitions between Surrey and Middlesex soon. How about it Lancashire, Yorkshire and the Midlands? The more the merrier.

W. G. (Bill) Jarman.

#### LIST OF NEW MEMBERS FOR AUGUST

With the work to be done in preparing Silverstone, names only are given this time.

D. A. Wayne (Hayes).

T. R. Garland (W.2). J. A. Hogan (Stanmore).

R. Hermon (Tring).

J. N. Ewer (W.4).

P. A. Skinner (Hendon). R. J. Penney (Guildford).

G. H. Hayden (Woodford Bridge). L. N. Hands (Rugby).

G. Skipworth (Walsall). B. Bigos (S.W.5).

S. G. Tofield (S.W.20). E. A. Bradley (N.W.2).

#### MUTUAL AID

Norton Spares for sale. (350 Manx). Pair of wheels with unused tyres and alloy rims, petrol tank, new pattern "bolt through" tank, front mudguard, an Andre damper, 18 T. sprocket, front and rear steel rims. As a lot or separate.

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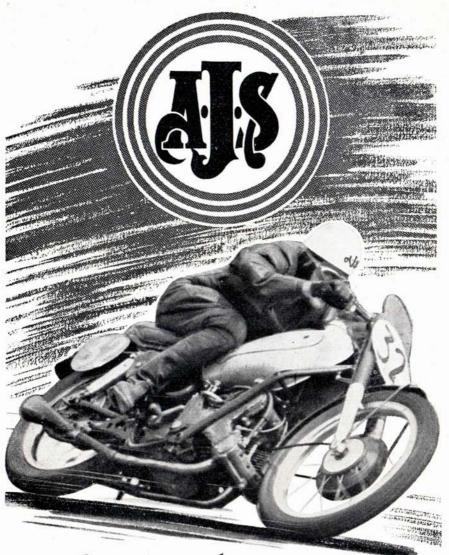
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### MODERN MOTOR FUELS

Chemically motor fuels may be divided into two main classes hydrocarbons and non-hydrocarbons.

The hydrocarbons may be subdivided into aromatic and aliphatic hydrocarbons the aromatics are the series commencing with benzene or benzol, the aliphatic hydrocarbons are the petroleum fractions obtained by distillation of crude natural petroleum and also by high temperature and low temperature cracking of the higher boiling fractions resulting from the distillate. A considerable amount of petrol is to-day obtained by distillation of coal products.

Of the non-hydrocarbon motor fuels, methyl alcohol or methanol is the best known. Acetone and other more complex ketones have been similarly used wholly or as part of a mixture containing other

alcohols or hydrocarbons.

Methanol and petrol (aliphatic hydrocarbons) are not miscible except when perfectly dry i.e. when neither have a detectable water content. Mixtures of dry methanol and petrol rapidly separate as a result of absorption of water vapour from the atmosphere by the methanol. The best known method of rendering these two solvents miscible is by the addition of an aromatic hydro-carbon such as benzol. The use of benzol with some engines is, however, highly unsatisfactory. Chemical methods are available other than the addition of benzol in order to induce miscibility, these methods are usually far more satisfactory particularly where a fuel is being formulated to suit a particular engine and a particular octane rating or heat of combustion etc., is required. These latter methods involve the use of very small percentages of non-hydrocarbon materials which do not appreciably affect the characteristics and properties of the methanol either chemically or physically.

Methanol is eminently suited for use in engines of high compression ratio where its greater "compressibility" reduces the surface pressure on the piston during the compression stroke and where the reduced gas pressure at combustion helps to eliminate the formation of unstable products in side chain reactions which are the primary cause of "pinking," "knock" or detonation. The main advantage with methanol is its high latent heat of vaporisation resulting in a cooler engine etc. The disadvantages of methanol are many, the carburettor must be specially designed for use with meth-

anol owing to the different physical characteristics, it requires less air and consequently for a given engine volume the ratio of methanol to petrol burnt may be in some cases double. The use of methanol in an engine of C.R. less than 8.1 will not give a justifiable improvement in performance without extensive readjustment. In low temperature engines appreciable amounts of corrosive acid and aldehyde are formed which may well quadruple engine wear, in some cases this is amplified by the formation of relatively large quantities of unvaporised water which dissolves the corrosive substances and carries them down to the sump, corrosion of the bearings usually resulting from this cause and on O.H.V. engines corrosion of the valve gear, i.e. valves, guides, rocker bushes etc.

As already pointed out, the formation of acid is characteristic of low temperature or incomplete combustion it may be minimised by raising the running temperature or running on a lean mixture when the aldehyde and acid decompose to carbon monoxide, dioxide and water vapour. A more certain and safe method of eliminating this difficulty is to raise the heat of combustion of the fuel, this may be effected by the addition of hydrocarbons the latter having heats of combustion from 5-7 times as high as that

of methanol.

Methanol contains an atom of oxygen in the molecule and it is for this reason that less air is required for complete combustion, it is also this atom of oxygen that exempts methanol from classification as a hydrocarbon the latter being composed purely of carbon and hydrogen as the name indicates.

A further disadvantage of methanol is its high flash point, the cause of difficult starting particularly in engines of low C.R. where the compression of the gas is insufficient to raise the temperature to the flash point.

Flash point difficulties may be overcome by the addition of substances of low flash point e.g. acetone—a non-hydrocarbon; or benzol—a hydrocarbon. Frequently an immense amount of difficulty with methanol is due to a small spark at the plug points. When methanol or high percentage mixtures are used, the gap may be appreciably increased relative to that of petrol as the effective pressure of the mixture is lower and provides less resistance to the spark traversing the points. Plugs are never found to soot in an engine burning methanol owing to the low ratio of carbon to hydrogen and oxygen in the molecule, also decoking of the engine is very rarely required as little or no carbon is deposited in the head. An engine may be quite satisfactorily decoked by running on alcohol or alcohol mix-

tures for a period.

The ratio of carbon to oxygen and hydrogen in a molecule is of considerable importance. The mixture strength requires increasing as the carbon content decreases i.e. as the oxygen and or hydrogen content of the molecule increases. Benzol contains 6 atoms of carbon to 6 atoms of hydrogen, there is no oxygen. Petroleum contains approximately 6 atoms of carbon to 14 of hydrogen, there is no oxygen. Methanol contains 1 of carbon, 4 of hydrogen, 1 of oxygen.

It may readily be seen that the molecular formula gives some indication of the relative mixture strengths of various fuels, acetone contains 3 carbon, 6 hydrogen and 1 oxygen hence acetone has a mixture strength between that of petro-

leum and methanol.

This would appear to be the place to point out that the only aliphatic hydrocarbons so far considered are the saturated hydrocarbons, the unsaturated hydrocarbons have effective mixture strengths comparable to benzol, this however depends on the degree of unsaturation and is at this stage too complex in an article of this nature, these unsaturated linkages frequently lead to detonation. Formation of unsaturated linkages during combustion is frequently the cause of "pinking" etc. in low grade fuels.

Low temperature acid formation is not confined to the use of methanol, hydrocarbon fuels give appreciable concentrations of acid at low temperatures particularly when an engine is running under low or zero load, this is very frequently the case with stationary diesel engines. Excessive cooling may give a low efficiency engine by simple reason of incomplete combustion of the fuel. Every by-pro-duct formed is wasted fuel. Deterioration apart from the nature of the chemical reactions involved, is exessively rapid burning of part of the fuel, catalysis of the reaction resulting from the presence of impurities; the reaction in most cases takes a completely different course, the end-products are frequently the same as those produced during normal combustion. Actual waste is due to the fact that in detonation, pressure is produced far more rapidly than the piston can take it.

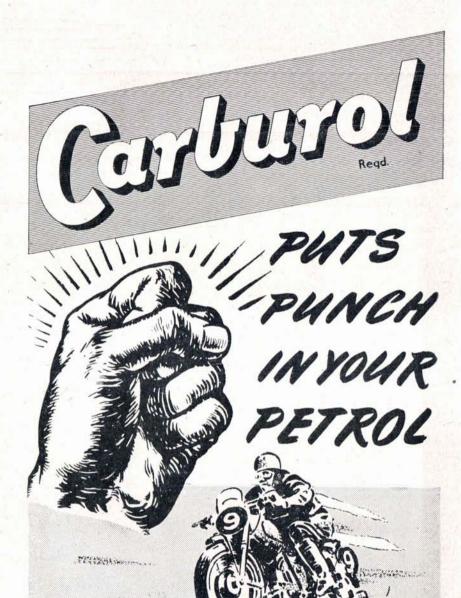
Detonation is a function of the octane number, the heat of combustion, combustion chamber temperatures and pressure. i.e. detonation factor is inversely proportional to the octane number, directly proportional to the temperatures and pressure. From this relationship it follows that increase in octane number will reduce detonation, decrease in temperature and or pressure will also reduce detonation. "Pinking" usually occurs when the pressure is increased i.e. by increasing the C.R. or by opening the throttle. Engines of compression ratio of approximately 6 will run under zero load at an octant rating of as low as 50, immediately they are placed on load the familiar "knock" occurs. Increase in the octane number while under load will eliminate this knock provided the increase is sufficient, this increase is invariably proportional to the load and is not a function of the engine revolutions except at the higher end of the range.

Numerous methods are available to bring about this temporary increase in octane rating. A duel fuel system may be used in which a high octane fuel is injected at low manifold pressures i.e. with throttle open, normal running being on low octane petrol. Water injection has also proved very satisfactory on fuels with an octane rating of over 70 the effective increase is usually approx. 15 bringing the octane rating up to 80-85. Water-methanol mixtures (20-80 watermethanol) are even more satisfactory. Water acts as an internal coolant reducing the detonation factor below its critical value and blocking the formation of unstable peroxides and other related unstable compounds. Methanol directly increases the octane number. A combination of both water and methanol gives a considerable increase in the power output of the engine, the engine becomes smoother and quieter, carbon formation is reduced to a minimum, engine wear is reduced by reason of a reduced working temperature on the valves, plugs and pistons. The absence of detonation also preservation and longevity bearings.

J. C. MATTHEWS, Ross Laboratories, Bentworth Priors,

Tower Hill Road,
Dorking.
To be concluded next month.

Footnote: Ross Laboratories are not manufacturers of motor fuels but are manufacturers of special solvents etc. to customers requirements and cannot hold themselves responsible for usage of materials or information.





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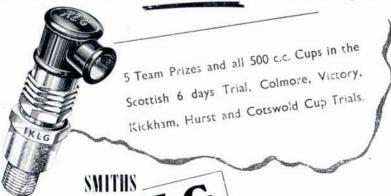
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