

NOVEMBER 1954

CLARKE

MONTHLY 4^D

POWER & PEDAL

The Journal of the Cyclemotor

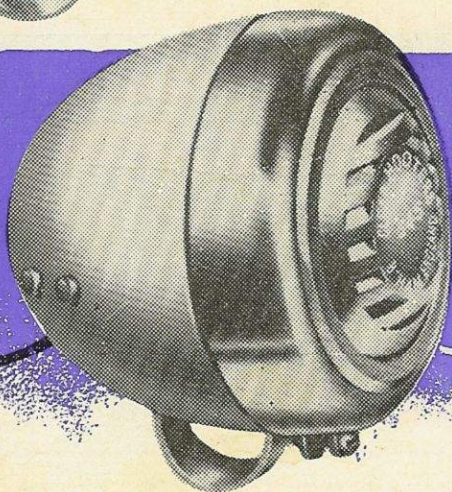


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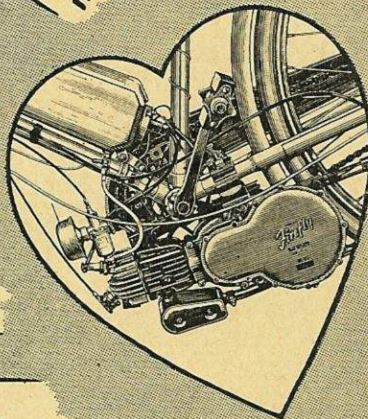
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POWER & PEDAL

THE JOURNAL OF THE CYCLEMOTOR

Editor: FRANK L. FARR

Editorial and Advertising Offices :

197 Temple Chambers, London, E.C.4 Telephone : Central 0048

Tell The People

NO-ONE regrets more than we do ourselves that we have so often found cause to criticise the machines and equipment that are offered to the cyclemotoring public of Britain. Yet the right to criticise which is an essential part of freedom goes further and becomes a duty when the reason is there and the object is the public good.

So, while we take no pleasure in any "Give 'em hell" sort of attitude for its own sake, this journal has always stated its views frankly and encouraged contributors and readers to do the same in its pages. In principle we shall always continue to criticise strongly where we feel it is due and equally to praise fulsomely whenever we have the chance to do so honestly.

Now, with the Show just ahead, we find cause to suggest that harm is being done by a silly passion for secrecy that seems to be based partly on a childish delight in an attitude of "Shan't tell", and

partly on a delusion, largely fostered by the advertising agencies, that the fewer people who know about a thing the better the publicity.

It is a matter of journalistic ethics that release dates for news shall be observed and for our part we have been rigid in our adherence to his principle. But we can say that at the moment of writing we have knowledge of several new machines of interesting design, information

on which is being withheld from the public for publicity reasons, so-called. This might not be thought to be a very serious point of complaint until it is realised that, because of this secrecy a certain continental machine that is *not* being kept under a bushel is selling like hot cakes at the expense of the other equally available products, that some hundreds at least of the cyclemotoring public are making wrong choices because they do not know that machines more suitable for them will soon be on show, and that the balance of distribution is being upset because some of the keenest and most efficient agents cannot assess demand correctly under a blanket of silence, nor judge the relative qualities of machines they know only by rumour.

We believe that the public have a right to be told what is being prepared for their money, but more than that, we believe also that it is as much in the interests of makers and distributors as that of the buying public that this childishness should cease.

THE NEW

"Power & Pedal"

In response to demands of our readers that have been almost continuous since the first issue, the paper is being enlarged and improved from our next issue the SHOW REPORT number, and will continue in the new format throughout Volume III. The new price will be sixpence monthly.

COMMENT

by

Clip-on

Autumn Leaves

THE changing of the season has made less impression on most of us than is usual because the Summer we have just survived has been barely noticeable. From the point of view of the machine, however, there is a change for the worse even this year. Nights get clammy as well as cold and the appearance and even mechanical condition of most machines deteriorates with the falling of the leaves.

Our complaint against the cycle trade on this is mostly directed at the plating which is not as good now as it was some years ago, although better than the severely limited layers of the immediate post-war years. I am not convinced myself that there is the demand for lots of plated parts on cycles that the manufacturers seem to think and I know that it is a definite advantage to me that my car has virtually no plated parts at all. Old cyclists who remember the famous "All-black" *Sunbeam* bicycles and a slightly later generation of motorcyclists who liked the black finish and celluloid-covered handlebars of the early 4-valve *Rudge Whitworths* will join with me I am sure in recommending to the younger riders that they look for less rather than more chromium plate in choosing finishes.

There is one way to keep that new appearance even in cold damp weather that we did not have to

hand a few years ago and that is the silicone polish. This material really does clean up plate and enamel equally well and provides a protective coating that lasts from week-end to week-end in most weathers. It is not cheap but it does help to hold the value of a new machine quite a bit.

Another tip that is not so well known as it should be is the idea of buying new tyres now rather than at the more popular spring overhaul. Tyres have an easier life in cool, damp weather and a new tread put on the road now will probably be unmarked by next Easter. Meanwhile you will have had the extra safety of the new tyre while the roads are most slippery.

Future Clip-ons

That head does not mean that I am appointing my successors but refers to the current trend towards the autocycle. I have met several people lately who say that already the attachment engine has had it and the built-in-one-piece machines are the only wear henceforth.

This idea has reason but is in my view premature. We have an

awful lot of leeway to make up compared with most European countries in the motorising of our cyclists and most of them will like to try attachments to their own cycles first, before embarking on the purchase of autocycles. This trade alone will keep the clip-on market going for some years.

There is no doubt that the autocycle will ultimately take the motor-assisted cycle market almost completely but there will always be a place for a good attachment. In the sports field particularly the lively clip-on has many advantages that will appeal to the new type of cyclemotor clubman and the higher performance units should always have a showing where sporting riders congregate.

Controls

My latest acquisition in the two-stroke engine line is Britain's smallest marine outboard, the *Anzani* "Minor". It is a neat little unit about the size of a cycle-motor but, of course, water cooled and designed to run on somewhat lower revs. than our road engines. The point of comparison that interests me at the moment is in the control system. The outboard has no throttle control at all and the carburettor, if such it can be called, consists simply of a float and a fuel feed. The only speed varying control is the ignition lever which stays at full advance for starting and normal running and has a wide range of retarding movement to make the engine run slowly or stop.

Now, apart from the fact that the carburettor must be cheaper by quite a lot than the simplest of cyclemotor instruments, the variation of ignition timing by manual control is a very real aid to engine efficiency. A little extra advance means more speed from the same

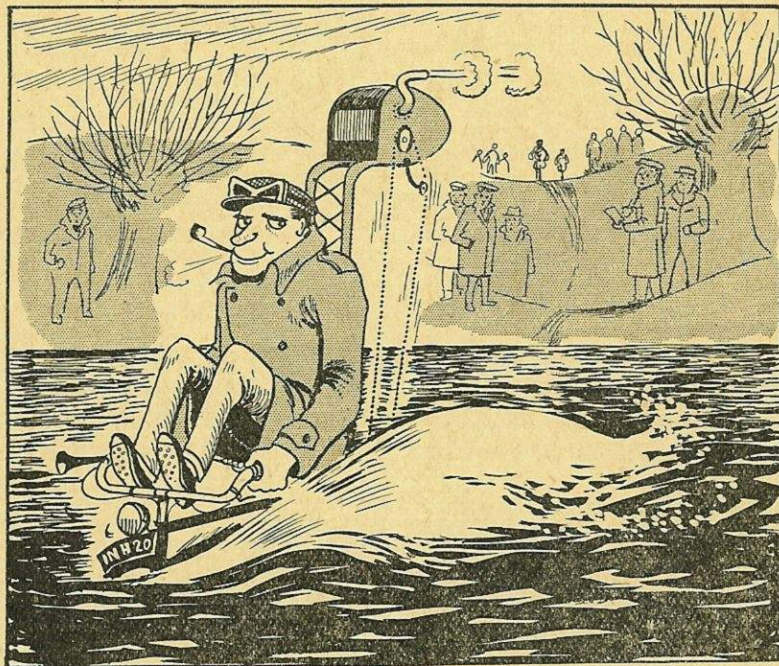
fuel input under favourable conditions, while a somewhat retarded spark will add a lot to low speed pulling power. In brief, ignition control means greater engine flexibility and that is something all cyclemotorists would like to have. The use of the full open throttle setting for normal running has been proved sound on the *VeloSolex* so it seems that the outboard idea might be easy to adapt to cyclemotor use and have some very real advantages on machines designed with sensibly modest top speeds.

Light Signals

A chance remark by a car passenger the other day set up a new train of thought about stop and turn indicators in my mind. We were following an autocyclist (98 c.c. type) in a London street and I was being slightly amused at his "smash and grab" movements in giving signals, mostly quite unnecessary, and then whipping his hand back to the bars again, when my passenger who is not a driver herself remarked casually, "Of course, the obvious case for the automatic indicators is on the two-wheelers".

I must freely admit that I have never felt the need for these things myself in a lifetime on two-wheeled machines of all sorts, and further that I am not in the least gadget-minded and rather dislike the idea of adding more bits and pieces to my vehicles than are strictly necessary. Yet the simple logic of that remark made me think on the subject and I am damned if I can think of an answer against it.

If it be a simple matter of the two-way switch on the handlebar making up for something lacking in training and experience then the electric indicator would seem to be a safety gadget and something to be encouraged. I am not yet convinced but there is a point worth following up in all this.



The optional positioning of the attachment unit can be of considerable advantage in trials

Trouble in the Dark

Almost every evening now I see some cyclemotorist on the road either fiddling with his lighting equipment or just riding without lights.

The latter action, apart from the trifling matter of legality, is a stupid risk to the rider himself and an unfair strain on other drivers. It is something that cannot be defended or excused in a land where bulbs and batteries are obtainable almost everywhere at almost any hour and some kind of rig-up for get-you-home lighting can always be arranged.

What is more to the point, however, is the fact that really lighting sets are so simple that there is no

real need for breakdown to occur at all. For all practical purposes it can be postulated that so long as machines run there is lighting current available, so that no light must mean either a blown bulb or a broken connection. With most sets it can be arranged that the tail and parking bulbs are interchangeable and in these cases it is not even necessary to carry a separate spare. For the wiring side it is only required that it shall be looked at occasionally—just looked at, that's all. Connections take time to work loose to the point of dropping apart and wires have to be chafed and kinked quite a bit before they short or break. If they are checked over *in daylight* occasionally it will never be necessary to fiddle about with them miserably in the dark.

Correspondence

The Editor is not responsible for the views expressed by his correspondents. Letters should be typed or written on one side of the paper only and may be signed under a nom de plume for publication, but must be accompanied by the sender's name and address.

The Role of the Clip-on

Your October editorial on the future of the attachment unit has prompted me to write this my second letter to *Power and Pedal*. I would like to emphasise the points put forward by Mr. G. T. Gardener in the March 1953 issue of our grand magazine.

It is apparent that *Power and Pedal* is much in favour of the built-in-one autocycle, and although the attachment unit is tolerated it is regarded as paving the way for a machine similar (except in capacity) to the 98 c.c. autocycle. Machines like the *Velo-Solex*, and the *Quickly* will gradually evolve from our cyclemotors. Now this type of machine is undoubtedly solid, long lasting and well equipped for its job—but the great factor against the emergence of an autocycle type *M.A.C.* is COST.

Most of us are ride-to-work riders and we view the cyclemotor as a means of cheaply bringing into use a disused bicycle or of bringing pleasure to the daily cycle to business. An expenditure of more than £20—£30 in motorising the bike is out of the question, otherwise we would enjoy the superior comfort, performance and quality of a motorcycle or autocycle.

Naturally with a limited expenditure the clip-on will not have all the refinements but such items as spring forks, etc., can be added later as finances permit.

I submit therefore that the future of our hobby and indeed *Power and Pedal*, rests not with a "£50 new type autocycle" but with the humble £25 "clip-on". If the

"all-in-one autocycle" does gain popularity I fear its adherents will be quickly swallowed up into the motor cycling movement so whilst extending a welcome to our autocycle friends let us keep the accent on the attachment unit. We must have development, but let it be concentrated on ironing out the faults of the units, which provide us with cheap transport, and a grand hobby—the clip-ons.

WINGED WHEEL

East Sheen.

Winged Wheel Experience

The September issue of *Power and Pedal* was my first and I was greatly impressed by its technical value and experiences of users of the various types of cyclemotors.

As a *B.S.A. Winged Wheel* owner I was more than interested in the article "Reader's Experience". I purchased my *Winged Wheel* on January 16th of this year, and have travelled 3200 miles on it to date. Unlike the writer's experience (who must have been unlucky in his purchase) I have not had his teething troubles. An examination of the unit found everything O.K. After about 1500 miles I did get constant four-stroking and mpg dropped to 145. As I could not cure it I wrote to *BSA's*. In their reply they presumed that I was using a high grade petrol (which I was) and they advised using a cheap grade equivalent to Pool, and also enclosed a No. 27 jet. This cured the four-stroking and the consumption rocketed to 214 per gallon and is still doing it. The four-stroking

has not entirely ceased, but only occurs when the points or carb. need attention.

I do not entirely agree with the writer when he says that accessibility is possibly less than the average. With the tools (weird and wonderful) I have little difficulty. His "groans" will probably be read with interest by the makers, and will most certainly do a power of good, and his "praises" gratefully received.

It may be of interest to him and other *Winged Wheel* users that for 2/6 plus postage *B.S.A.'s* issue a good set of overhaul pamphlets and diagrams. A good buy.

UPB. 845

Camberley.

Autocycles

I have just come across your magazine, and, as the prospective owner of a 98 c.c. autocycle, I thought I had found just the periodical I had been looking for. But I was surprised and disappointed to find nothing about this type of machine except a letter from a certain gentleman named "49 c.c.", to which I feel bound to reply. As far as I can determine, not one of his arguments—against the 98 c.c. is valid.

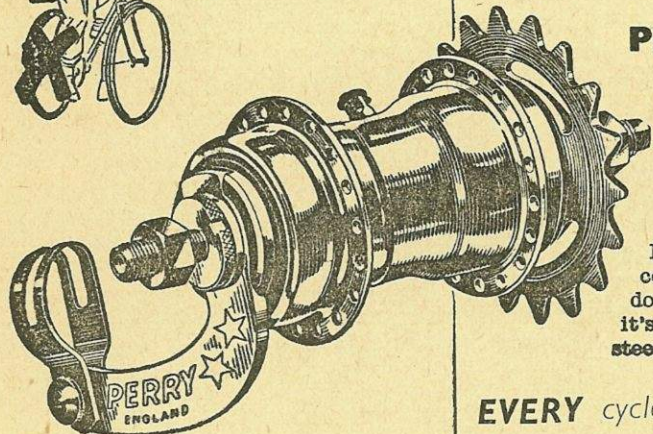
First, I would point out that the clip-on cyclemotor is only a temporary measure and will, no doubt, give place to the 49 c.c. autocycles as it has done in France. This point was made by "Clip-on" in his "Comment" in the September issue. So a magazine devoted to the clip-on has no future!

There remains the 49 c.c. autocycle, and if the magazine is going to cater for this type of machine, then why not include the 98 c.c.? Why has a 98 c.c. autocycle more in common with a motorcycle than a 49 c.c. one? Why should the owners of 49 c.c. and 98 c.c. machines encounter different problems? "49 c.c.'s" final point concerns



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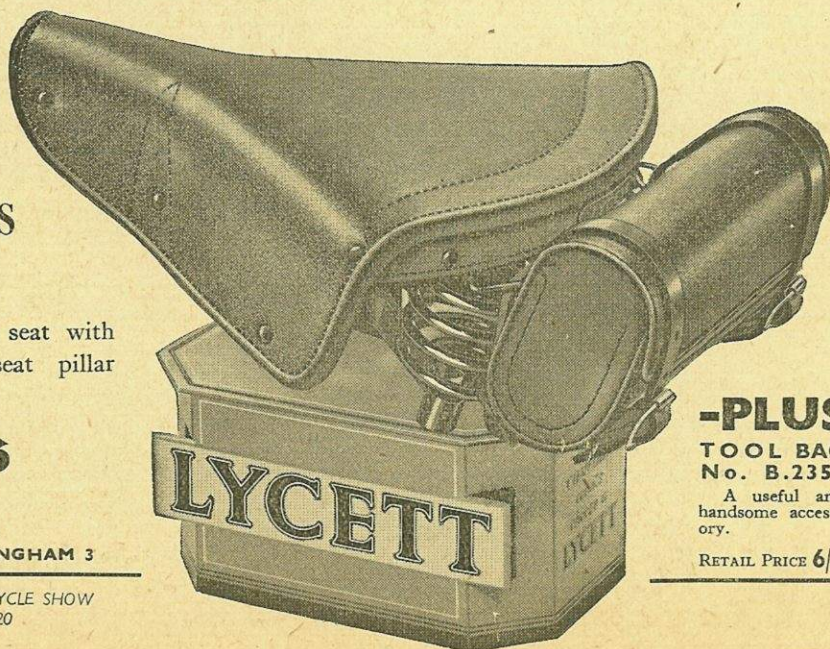
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where the line can be drawn. Surely this is obvious. The title of the magazine is *Power and Pedal*; therefore the only logical solution is to cater for all machines which rely on both power and pedal for propulsion. This at once draws a very definite and concise line, and rules out light-weight motorcycles and scooters.

Apart from this disappointment, however, I must say that my first acquaintance with *Power and Pedal* has been a very pleasurable one.

J. R. WHITE

S.W.17.

(This journal has always covered all autocyces including the 98s but neither the manufacturers nor riders of these have yet shown much interest.
—ED.)

Petrol Service

I also experienced refusals of petrol. It was in the west of Scotland where garages were very infrequent.

But I recently found there may have been a reason for this. My *Cyclemaster* ran dry unexpectedly in Farnham so I asked for a quart to replenish my spare can. I was vexed by the refusal—the first I had encountered in this country—and wrote to the proprietors. I received a courteous reply explaining that their pumps did not measure less than half a gallon and saying they had now instructed the attendant to keep a gallon in a can to supply small quantities when required.

Perhaps if your readers made like representations, we should experience less difficulty in obtaining our small requirements.

My wife and I find it a good plan to carry small shots of oil—an aluminium film container holds the exact quantity—and spare quart cans, when we are on tour.

When the spare can is emptied into the tank of the engine, we tip into the former the oil from the film "carton", refill the latter, and

have the spare cans filled with petrol at the next pump. Thus, we always have a good reserve, well mixed with the right oil. Most pumps fill the cans to the top, but occasionally this is not so.

H. J. LEWIS

Hindhead.

Tandem Speeds

Re the letter to *Power and Pedal* in the September issue sent by D. V. Squires of Christchurch—he has me worried a little. It is a *Cyclemaster* I hope. My wife and I weigh less than 20 stone and we ride an L/B tandem but never has our *Cyclemaster* approached 30 m.p.h.!!! In fact, in the 15 months we have owned it, its average speed has been very much less than 12 and it has just come back from overhaul at the makers and I doubt if I will do 20 m.p.h. Buying the *Cyclemaster* was my first essay into motoring and I am far from impressed because we could send the tandem along at 12 m.p.h. by pedalling.

L. W. F. COX

New Cross

Advice to "Cyclemaster" Owners

I purchased my *Cyclemaster* in January, 1953, and consider it to be the finest cyclemotor on the road and definitely the safest to ride.

I am an Insurance Agent and average about 150 miles per week. I consider I have brought my machine to near perfection in the following ways and by the least possible expense

I fitted a *Britax* twist grip after breaking two throttle cables in six months. This enabled me to transfer my clutch lever to the same side of the handlebars (the right side). I then dispensed with my rear lever brake as I considered my back pedaller to be sufficient. This set up enables me to control my braking with my left hand and foot and control the engine with my

right hand. You may think this simultaneous clutch and throttle operation is difficult but with proper fitting and 5 minutes practice you become expert! My next problem was a strong frame (my original one snapped near the head) I therefore purchased a second-hand carrier cycle frame for 10/- which I consider is much stronger and gives better steering than an ordinary cycle frame. I then had the unhappy and noisy experience of having my exhaust system fall off (a weak point) so I fitted a bracket to secure it to the bottom fork and I am quite sure it will not fall off again.

I thought I had reached all round perfection until a friend advised me to use *Cyclemaster* oil, this I did and was amazed at the improved engine performance. I sincerely hope that my experience will be of help to other owners who like myself seek cheap, safe and efficient cyclemotoring.

JOSEPH G. GRANT

Portsmouth.

Amendment

In the October number of *Power and Pedal*, you published a letter of mine under the heading "Service from Holland". A paragraph of my letter stated the concessionaires did not bother to answer a letter I had sent them, this was very true when I wrote you re after-sales service.

However to be fair I must now add that quite some time after my letter to *Power and Pedal*, I did receive a letter from the concessionaires and a small informative booklet about the *Berini*.

E. FENDER

Prestatyn

If the reader who sent in a letter on the subject of "Driving Tests" over the signature "Disgusted" will comply with our rules by sending his full name and address, his letter will be considered for publication—
ED.

Motor Cycle and Cycle Show—Earls Court 13th to 20th November

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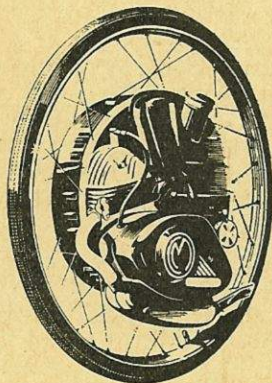
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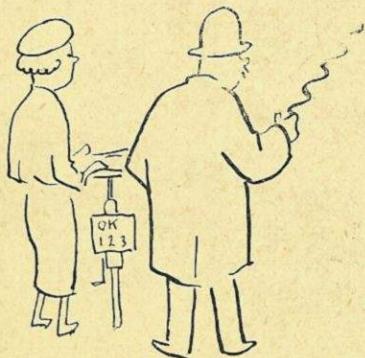
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On Clubs and Maps and Garages . . .

*Part III of the adventures of the female of
the species*

IN 1950 my friend sold her auto-cycle on which she had never felt fully at home and bought a 25 c.c. *Cyclenmaster*. The lightness and manoeuvrability of this grand little engine suited her perfectly but made our journeys together rather difficult owing to the difference in speeds. I therefore reluctantly decided to sell my auto-cycle and in the early part of 1950 we joined the local branch of a motorised cycling association. I was still in possession of my auto-cycle which was a 98 c.c. and could not be admitted to membership of the association but as I was intending to obtain a smaller machine I was allowed to accompany the club runs.

The first Sunday run was far from a success so far as I was concerned. First I had difficulty in keeping down to the motorised cycle's steady 15 m.p.h., and due to constant fiddling with my throttle, developed an air bubble. The simplest way to cure this being to keep up a good speed for some way, in order to force the petrol through the jet, it was decided I should go ahead on my own and meet the club some miles ahead. In order



A short cut

to assist me follow the route planned one of the gentlemen present loaned me his map. I had previously regarded maps as objects that came in handy for sitting on if the ground was damp or as an interesting souvenir of a holiday if printed on silk and worn as a head scarf, for use never!

However I took the map as it would be ungrateful to refuse and set off.

Enquiring the way of a local, I was told of a short cut, which I took. This proved to be an unmade road pitted with holes and strewn with broken stones. Neglecting to slacken speed until too late, I bounced my driving chain off. As I stopped the engine, the sounds of the country made themselves heard, bees hummed and the low moo of an interested cow watching over the hedge could be heard. Normally I am a country lover (in the spring at any rate) but at that moment all I wanted to hear was a passing car.

No help was in sight however, so I struggled, I pushed, and eventually got all but six links of the chain back on the sprocket but after that I was stuck. No matter how hard I tried that chain would neither go on nor come off.

The nearest village lay three miles away, the day was hot and I was heavily equipped for driving an auto-cycle but nevertheless I decided to set off for help, and some three quarters of an hour later, tired and dishevelled, I arrived at the village. Being Sunday and only a small village I was worried in case the only garage was shut but my luck held, it was open. The proprietor had however only popped in for a few minutes to collect



An unmade road

something he required and no amount of pleading would persuade him to come and assist me. I was just giving up when his friend who was waiting for him in a car came to see what was holding him up. Fortunately he was more kind-hearted and said they would drive past and see what could be done, so, with the garage proprietor grumbling bitterly about helpless women who shouldn't be allowed out on their own, we went back to the cycle.

Taking that part of the chain off which I had struggled so laboriously to put on, the garage proprietor turned the pedals round and the chain just ran itself back on the sprocket. Well how was I to know that a chain isn't like a piece of elastic and can't be stretched on to the sprocket?

Not a word was spoken while this task was being done but the garage proprietor was still muttering about women in general as he drove off.

This was, incidentally, the only time I haven't received willing and instantaneous help.

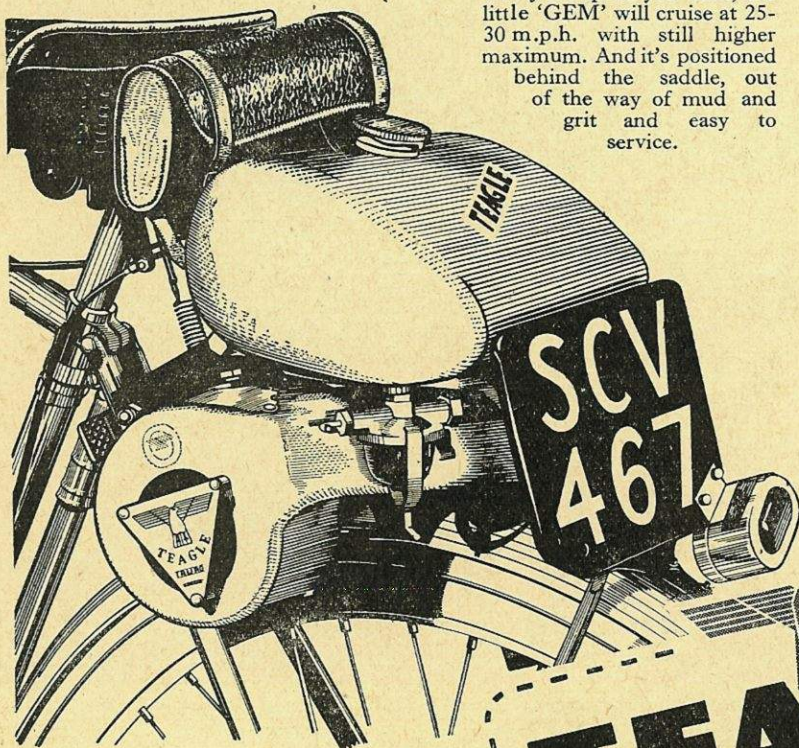
I finally caught up with the club at four o'clock in the afternoon, at least I found the bikes parked near a wood, and to make sure I didn't lose them again, I tied my scarf on to the leader's handlebars. I located the club, who were just returning to leave for home, having spent a restful afternoon after a picnic lunch.

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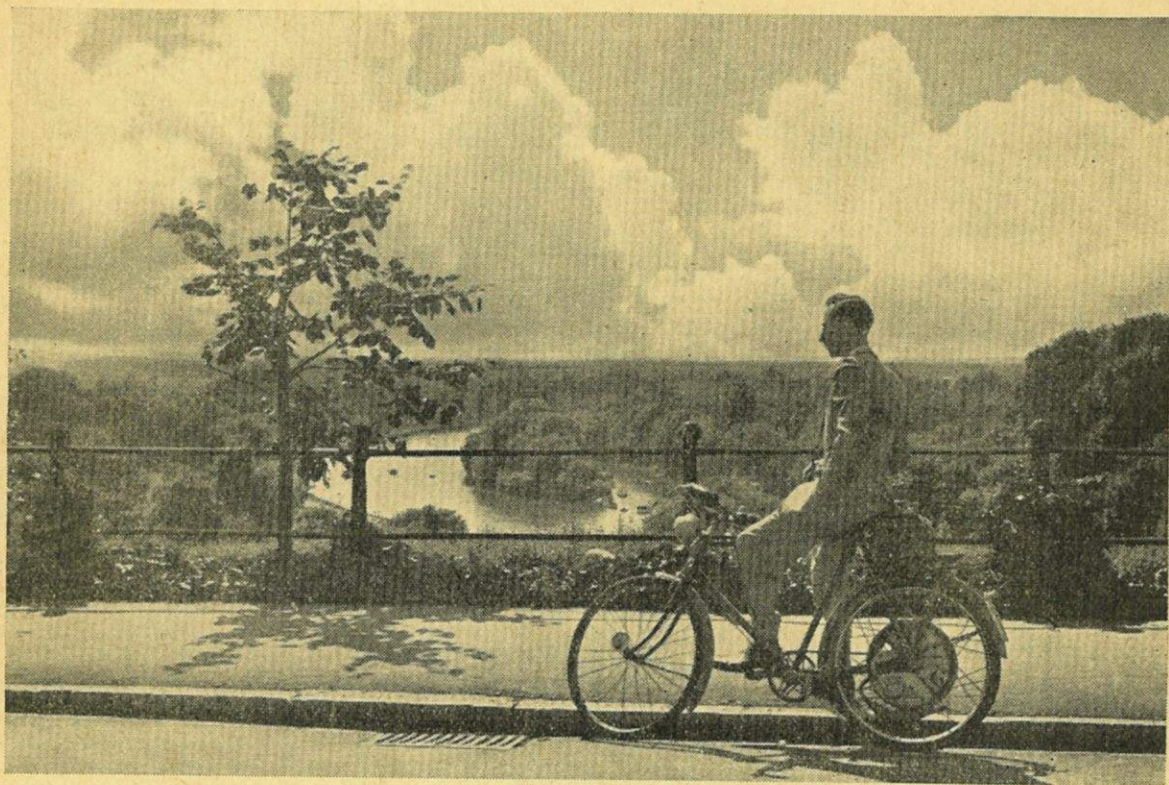
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From Richmond Hill, the choice of many Cyclemotorists—Photo by John Blaxland

On Choosing a Cyclemotor

MONTH by month we receive letters from readers wanting information and advice on the choice of cyclemotors. There is nothing surprising in this, as the trade is new and few of the dealers in cyclemotors have themselves a wide experience and freedom of choice.

What is surprising and disturbing about so many of these requests, however, is that so many of them include a "short list" of makes to which the prospective buyer has narrowed his choice, and this list almost invariably consists of three or four machines of widely differing characteristics, so widely differing

that it is impossible for all of them to be even possibles for one person's requirements.

A typical list would include an expensive, high performance job that is just the right thing for a healthy, hefty youngster with an eye on the Club Cup; a well-built 22 m.p.h. autocycle of the made-for-the million type; a low-speed, lightweight super hill-climber; and a fastish, rather frothy main-road cruiser. That any one man could possibly want all of these things at one time is frankly impossible, yet this list is no exaggeration. It is based on many actual letters and indicates

more than anything else could do the problems that currently beat those who buy and sell cyclemotors.

There are two angles of fault in this situation. The prospective buyers themselves have obviously not bothered to sit down quietly and work out what they expect and require of their machines and what, in cash and compromise, they are prepared to pay for them. On the other hand there is the weakness on the part of makers and agents that they either do not know or even very much care what their products and wares have to offer in the way of comparative performance. Between these two the

trouble is created. Riders buy on guesswork and hope, while agents sell on availability and profit margin and neither is doing any real good to themselves or the trade as a whole in all too many cases.

Taking the case of the prospective buyer of the kind who writes his query to *Power and Pedal*, what should he have done first? He should have decided for what purposes he required the machine, for daily business trips, for week-end jaunts, for short or long distances, for economy of time or of money, or just of effort.

Then he should consider the kind of territory in which he will do most of his riding. The man who has a dozen sets of traffic lights on his daily trip to work will be much more concerned about ease of stopping and starting than about his maximum cruising speed; the man with a 1 in 8 hill on his route will want a motor to take the work out of that climb and nothing else will matter much; the man with a girl friend 30 miles away by main road will want smooth fast cruising and a decent lighting set; the elderly cyclist will want a machine that does the work at the same speed as he thinks he used to cycle twenty years ago and didn't, with simplicity of operation and reliability as the keynotes; the woman who is fed up with expensive and inefficient public transport services wants a machine that is and feels safe and is and looks simple.

All that by no means exhausts the possibilities of variety in choosing a cyclemotor but it is sufficient to indicate the breadth of choice that has to be catered for. It is necessary to point out, moreover, that in most cases it is not even as simple as this, because few people want a machine for one purpose only and there will have to be some compromises made between differing requirements by the same rider.

From the point of view of the manufacturer it would seem that

fairness in presenting the particular strong points of his own machine will pay in the long run by creating a force of satisfied customers. So far at least it has been personal contact between users that has sold most of the cyclemotors in Britain and one man satisfied will certainly mean at least one more sale to his friend. The agents have a different task and one that offers wider opportunities. The agent who really gets to know the machines he is selling, their strong and weak points (and all cyclemotors have both) and their suitability for various jobs and clients is rendering a service to the riding public and making certain of his own future sales at the same time.

It has to be admitted that competition is not always to the advantage of either retailers or their customers. We have heard of cases where makers have virtually held pistols to the heads of dealers to make them take a quota of units that they, the retailers, frankly would sooner not have. This forces the dealer to push stuff in which he has little faith on to customers who will, in turn, become dissatisfied users who will "crab" the machine and spoil its future market. In the long run this sort of business pays nobody, but least of all the rider who has spent his money and had a poor return for it.

The prospective rider has to decide on his requirements first

then seek advice as to suitability. If he has no cyclemotoring friends to recommend him to a reliable agent he must take his chance, but he can at least safeguard himself by enquiring about service before he buys. It may seem rather pessimistic to buy a new machine with an eye on the rectification of possible troubles, but troubles will occur with any new machine and it is as well to know where bits and pieces can be obtained without time-wasting. Furthermore, the dealer who is going to take on the servicing of machines that need attention is most likely to advise correctly on the machine for the job, if only to save himself trouble.

In making the choice; use, territory, and cash will be the major considerations, probably in that order. You would not describe a carthorse as being a "better" animal than a racehorse, but you would readily admit that the latter would be precious little use at pulling a couple of tons of coal. That is why we insist that there is no such thing as the best cyclemotor or autocycle—only the best for a given purpose or at a given price. The best for some things will be the worst for others.

Think before you buy whether you need a clutch, a disengaging gear, high ground clearance, easy carrying, speed, pulling power, economy, luggage space *BUT PLEASE, THINK BEFORE YOU BUY!*

The Editor and Staff of "Power and Pedal" request the pleasure of your company on

STAND 94

CYCLE & MOTOR CYCLE SHOW — EARL'S COURT

NOVEMBER 13th — 20th

Three New Autocycles

IT seems that the cyclemotor industry in Britain has at last decided that it has come to stay and the logical development of machines-for-the-job, long advocated by this journal, is now taking place. We have news of three new under-50 c.c. autocycles that will be seen at Earl's Court and they are all of real interest to a public that is more than ready to receive them. We are pleased to welcome these newcomers, especially as they are all good representatives of their class.

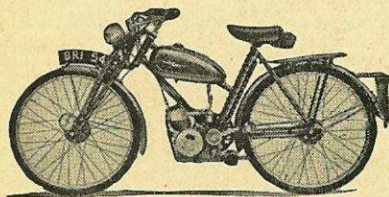
The N.S.U. "Quickly"

Described in our April issue "News From Germany" feature and responsible for a lively interest

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from readers is the *Quickly* from the famous N.S.U. stable.

It is one of the best looking autocycles yet produced and has a luxury specification which includes spring forks, 2-speed gearbox and a simple but immensely strong design of "backbone" frame. The 49 c.c. two-stroke engine is built in unit with a two-plate clutch and 2-speed gear and rates 1.4 b.h.p. It is all-alloy with steel cylinder liner and detachable head, and the flywheel magneto provides current for lights, with a dipswitch for the headlamp, and a neat electric horn. The saddle is front-hinged and rubber sprung and the brakes are internal expanding to both wheels.

We have had the opportunity of testing this model and find the performance excellent. For all practical purposes the machine is a top gear job once under way, bottom being used only for getting away from standstill and climbing the sort of hill one usually walks if it cannot be avoided altogether. In fact we were unable to find a hill in the London area that would test the climbing capabilities of the engine seriously and we have no doubt at all that the stories told of people climbing Alpine passes with these machines loaded with touring kit without pedal assistance are absolutely true.

The machine can by no stretch of imagination be called a motor-assisted cycle. The pedals can be used to propel the machine with some effort by disengaging the clutch and holding it in the "out" position by means of a small wire

clip provided. But with the clutch engaged they drive not the cycle but the engine alone. This means that pedals cannot be used to get the machine away from a standstill and the drill is to start in neutral gear, by a single thrust at one pedal, then to engage bottom by means of the handlebar twist-grip control and drive away as on a normal motor cycle.

Top speed approaches 30 m.p.h. and acceleration is brisk all the way up. Exhaust noise is modest except when revving hard in first gear and, although there is a little fuss under these conditions, the mechanical silence is much better than with most continental machines we have met. Steering is first class as is riding comfort, the only point of criticism being that the front forks tend to ride up and run solid when the front brake is used thereby reducing braking efficiency.

Admiring crowds gathered instantly whenever the *Quickly* was stopped in the street and the opinion "We've got nothing like it here" was freely expressed. As might be expected the distribution is in the hands of Vincent's of Stevenage, who already handle the N.S.U. motor cycles in Britain. The price of the *Quickly* is £59. 18s. 0d. (inc. £9 18s. 0d. P.T.).

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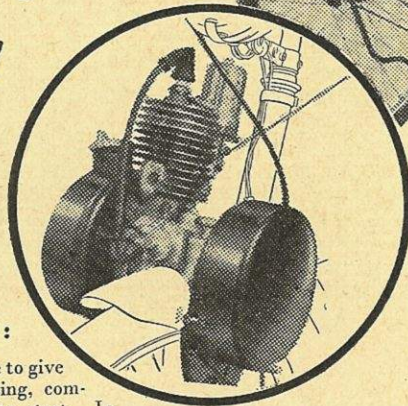
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WHISKERS ON IT

The Whys and Wherefores of Sparking Plug Fouling

By B. SHIPLEY, M.Inst., E.Ex., P. Grad. I. Mech., E., (A.D.). (of B. S. Developments, Farnborough)

THERE must indeed be few users of two-stroke power units, who have not at some time experienced a sudden stoppage of the engine—for no apparent reason—and upon investigation, have discovered that a bridge of hard material has formed across the electrodes of the plug and caused a dead short, with consequent stoppage. Flicking off this deposit has instantly restored matters to normal, and many riders no doubt regard this as just one of those things sent to try us.

What is this annoying deposit which so effectively cuts out our engines? From where does it come? And more important to you and me—what can we do to prevent it happening? Make no mistake, this fouling of sparking plugs is not confined to two-stroke cycle units. It occurs in the aeronautical field where high octane leaded fuels are used, and was brought home to me very forcibly, indeed tragically, when a lifelong friend of mine was killed in an aircraft accident due—according to the official investigation report—to lead deposits on the plugs causing engine failure just after take off.

First of all, let us realise that plug whiskers appear to be a comparatively modern complaint. My first motorcycle, a 1923 two-stroke belt driven Diamond never once whiskered its plug, but it could, and did with unflinching regularity, gum up its piston rings so solid that they certainly leaked more gas than they retained in the cylinder. In those days, ring sticking was regarded as Public Enemy No. 1, and the oil companies got down to it and set about producing an oil which would not cause gumming. They have succeeded admirably, but the various additives now used in oil preparation, whilst eradicating one bugbear, must be suspected of causing another.

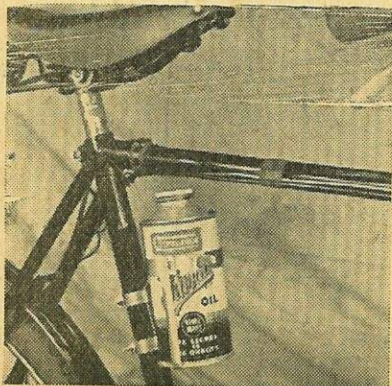
The Motor Industry Research Association has published an abstract (No. 6133, subject classification 1/10/22) of a paper by G. Werner appearing in the German magazine M.T.Z., and Werner says that “plug deposits consist predominantly of lead—from 40 to 70 per cent., from the fuel. Analysis further shows that both barium and phosphorus, from the additives in lubricating oil, are also found in fairly large proportions, and silica

and calcium, from road dust, plus, of course, carbon from the combustion process, complete the make up of this quickly formed solid bridge which so effectively stops the motor ticking.

Plug fouling seems to be a transatlantic complaint too, judging from a lengthy paper by Yust and Droegemueller published in the SAE Journal (May and June, 1952). These authors delve into the subject to some depth, and after laying out both the mechanics and the chemistry of the subject, put forward their findings that yet a further additive to scavenge the lead is a desirable thing. They admit however that these additives are very expensive, and at the best, only prolong the period between fouling and do not entirely eradicate it.

So much then for what the deposit consists of. From our point of view this is only of academic interest, and it is when we start to find out how the stuff gets on to the plug that we begin to realise that there are some things that can be done, and some that are inherent in the design of small two-stroke engines, and as riders, we can do just nothing about. Having

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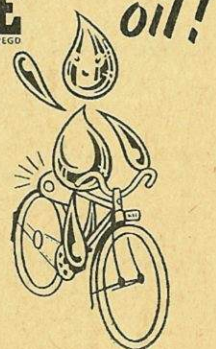
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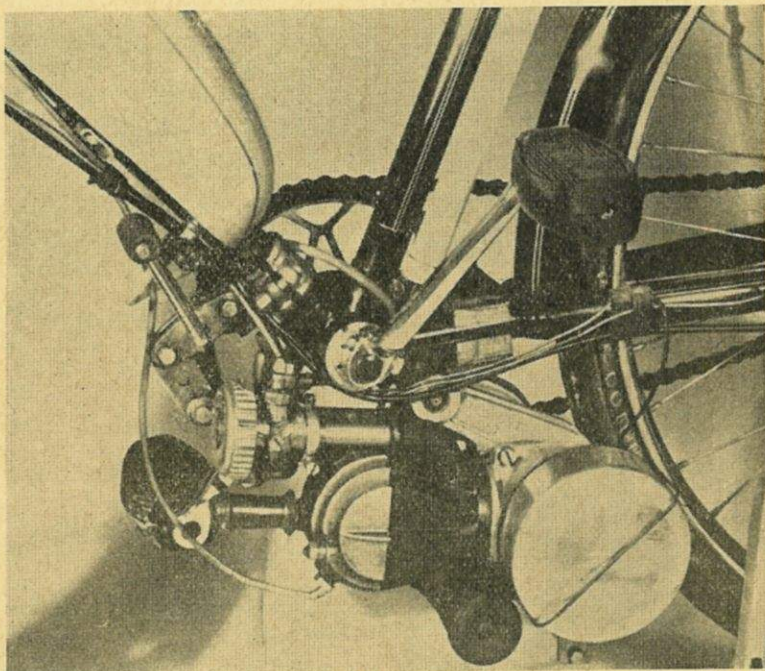
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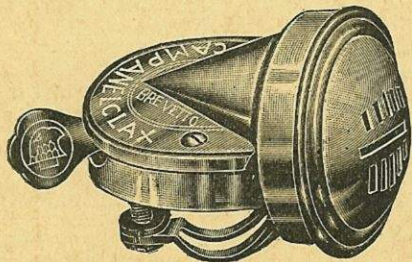
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WHISKERS—Cont.

already made due acknowledgement to my references, I can do no better than quote word for word the abstract of the German article "Among the undesirable effects of tetra ethyl lead in petrol is a strong tendency to sparking plug fouling, or "bridge formation" across the electrode gap, particularly noticeable in two-stroke engines. The explanation of the phenomenon is that solid particles of combustion deposits detach themselves from the walls as a result of sudden changes in cylinder temperature and pressure and are carried with gases across the combustion chamber. Some of them reach the sparking plug and are either magnetically attracted to it or become welded to it. Plug fouling is much more pronounced in two-stroke engines because (a) gas circulation near the plug is less than in four stroke engines, (b) the fuel contains the lubricant, and (c) the number of work and temperature cycles is higher".

All basic points, about which the rider can do little. The question of gas circulation near the plug is an interesting point of design, as it does seem that engines with the so called "old fashioned" deflector piston, are much less prone to bridging the plug than the types with the flat, or slightly domed piston crown which rely on the positioning of the transfer ports to impart a contra flow in the cylinder to get rid of the exhaust gases. The hump on the top of the deflector piston forces the cool incoming charge of gas up to the top of the cylinder, where it must sweep past the plug points during its journey.

It would be very interesting to have reader's experiences with, say a *Power Pak* engine (deflector piston) and perhaps a *Mosquito* unit with a slightly domed piston, to see if they bear out these possibilities.

Now let us look at Mr. Werner's second reason for sparking plug fouling. The fuel contains the

lubricant. I will take the liberty of dividing his quoted sentence into two. First then, the fuel. Most premium petrols to-day contain tetra ethyl lead which is the most effective and least costly anti-knock agent known. If your engine is a plug fouler by nature, I suggest that you should avoid like the plague these highly doped fuels, and use the so called "cheap" petrols. After all, if there is less lead to start with, there will be less to find its way on to the points of your plug.

The Oils

Then the lubricant which we cannot do otherwise than add to the fuel. There are on the market, certain well known branded oils which, say the advertisements, banish acid action, and cause the formation of sludge to disappear. These oils have additives, either barium or chlorine compounds, and, in my own car engine, have done wonders. I do submit, however, that they are not suitable for use in small two-stroke engines. You will remember that earlier I stated that barium from the additives in oil finds its way into the plug deposit, so that, to me, is sufficiently good reason to avoid these oils. Assuming then that a normal branded oil is used, the next question which arises is "how much of it"? Having no doubt already incurred the ire of the petrol and oil companies I will take a chance with the engine manufacturers and say that they are advising us to use too much oil. They say it is better to have an oily engine that goes, than a seized up unit that requires a blowlamp to free the piston from the cylinder. In a two-stroke, the petrol goes straight into the crankcase in the form of a vapour. By itself, this petrol vapour has, to a limited extent, lubricating properties. With crankcase induction, the lubricating requirements of an engine are entirely different from that of a four-stroke unit, and it is my firm belief, and experience,

that the often quoted petrol/oil ratio of 16 to 1 can be cut to 32 to 1 without any ill effects whatsoever. I am now using such a ratio of straight petrol and oil, and I suppose on an average, I get a whisker about every 50 to 60 miles. Quite a step from 200 yards, I think you will agree.

We come now to the final cause of plug fouling as given by Werner, and that is that the number of working cycles is higher, and the rapid rise and fall of cylinder temperature occurs more often. With a two-stroke you get a bang every revolution of the engine, whether you like it or not, but I am going to make another criticism of cycle-motors and say that they are, in the majority, grossly overcooled. It is, I think, significant, that the Americans found that with aircraft engines a long period of idling before full power was used for take off, was most conducive to fouling of the plugs. Here again, the user can do very little. I once tried using an extra large mudguard flap to shield the cylinder head on my engine, but could detect practically no rise of temperature. In any case, no difference was made in the matter of plug trouble.

Conclusions

Let us then sum up the discussion. If your cycle engine fouls its plug with a bridge between the electrodes, consider the following points. (If, of course, you have never had a plug whisker, well you won't bother to read this article anyway, and you will wonder what all the fuss is about).

1. Clean the engine of all carbon.
2. Clean the plug properly. Have it shot blasted at the local garage.
3. Avoid using premium petrols advertised for their anti-knock properties.
4. Use "straight" oil—and half as much as the book says.

ROAD TEST REPORT

Four Months with an **ITOM "TOURIST"**

THERE is a puritanical streak in most cyclemotorists. They like to praise their machines for demure qualities like silence or braking power. But there exist also those who hold speed or even noise in high esteem. Owners of bright red sports cars have their kind of mentality. So does the present writer—four months ago he chose an *Itom*.

This review is based on impressions gained during this time riding daily from an inner suburb to work in the very centre of London and from week-end trips both south to Sussex and north to the Midlands.

The *Itom* is manufactured in Milan and so, the linguists say, should be pronounced *EE-tom*. The 48 c.c. two-stroke engine is mounted under the pedals and has an ungeared roller drive—the roller being mounted on one end of the

crank-shaft and the flywheel magneto incorporating a lighting coil on the other.

The flywheel magneto projects so that a special crank is required to carry the left-hand pedal clear of it. This crank is supplied with the engine. It might be thought that such an arrangement would make the machine awkward to pedal but in fact it is scarcely noticeable.

The roller is engaged on the back wheel by the movement of the whole engine about a pivot. Engagement is controlled by a pedal resembling a motor cycle foot-change gear lever.

The carburettor has a strangler that is also operated by deft foot movement but this is only required when starting. Other controls comprise the throttle lever and the decompression lever.

The *Itom* under review is fitted

to a *Raleigh* "Lenton" sports cycle modified by an *Alfa* spring fork. Wheels are 26in. x 1½in., the rear having an *Avon* "Power-master" tyre.

That, briefly, is the machine. What of its performance? Despite a 14 stone rider, this has proved to be really lively. It has been stated on good authority that another *Itom* has reached 47 m.p.h. The writer's machine has never achieved this but can repeatedly attain a maximum speed on the level of over 30 m.p.h. It will cruise indefinitely at 25 m.p.h., this speed falling to about 20 m.p.h. uphill. Acceleration from 5 to 25 m.p.h. is very good and the steady increase in power output over this speed range imparts a pleasing sensation to the rider.

The *Itom* will climb modest hills, say of 1:20, without pedal assistance. But the best way to tackle hills is to pedal right from the base and not let the engine revolutions drop. In this way the engine

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Note
Vitality bulbs are unique and guaranteed. If your dealer does not keep the Vitality cyclemotor range, write us for the name of the nearest stockist—Vitality Bulbs Ltd., 2 Neville Place, London, N.22.

ROAD TEST REPORT—Continued

is allowed to give its maximum power and steep hills can be overcome without difficulty. Readers may know Arundel Hill, Sussex, with its tiresome left hand turn off and up in the middle. This the *Itom* climbs easily without much effort on the pedals. The only hill which has beaten man and machine is Bury Hill, Sussex. This is three quarters of a mile long and has a gradient of 1:9 most of the way. It had to be walked. Petrol consumption is about 200 m.p.g.

There are alternative techniques for riding the *Itom* in heavy traffic when manoeuvring at under 5 m.p.h. is required. Either the left hand is kept on the decompressor or else the pedal is used to disengage the engine. This latter has the advantage of leaving the left hand free for signals.

The *Itom*, being an under-bracket unit with low centre of gravity, will coast down hills beautifully when the engine is disengaged.

One reason for the *Itom's* fine performance is doubtless the simplicity of its exhaust. No back pressure and no silence.

Some faults can be found in the *Itom* even by those who do not mind the noise. The tank holds two litres which is just under half a gallon. A can is needed to take

petrol from a British pump which delivers a minimum of half a gallon. The consolation in using an intermediate can is that it gives an opportunity for thorough petrol-oil mixing.

The *Itom* roller is necessarily small as it is ungeared. Used with a narrow, fairly high pressure tyre, it slips in wet, though not in dry, weather. In rain bad slip is experienced over 15 m.p.h. In this respect the *Itom* compares unfavourably with those units which by using a reduction gear are able to employ a much larger roller.

Another criticism can be made of the method by which the roller position is adjusted relative to the back tyre. This may involve moving the position on the frame of the front engine-retaining bracket; or removing the carburettor and adjusting a distance rod; or both. Admittedly such adjustment is seldom required, but it is a bore when the purchase of a new chain necessitates shifting the back wheel and hence the position of the roller.

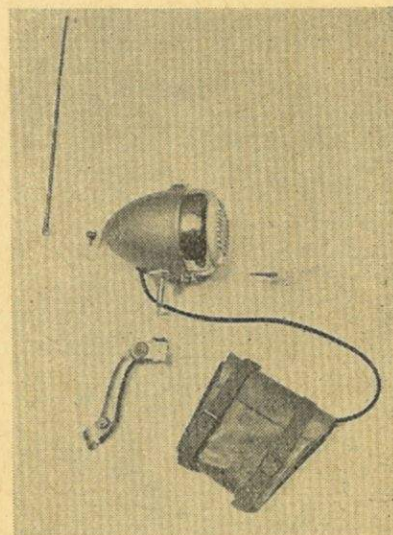
(This has been modified on the latest models—ED)

Under-bracket engines are agreeably inconspicuous and the *Itom's* silver tank, though prominent on the frame is elegant. Appropriate indeed to a unit with gallant speed and thunderous power.

Two Wheeled Radio

RECENTLY demonstrated in London was the newest attraction for the gadget-minded cyclist, a cycle radio set in the shape of a headlamp mounted on the handlebars. It is a 4-valve job with a telescopic aerial and powered by dry batteries carried in a neat leather case little larger than a normal pedal cycle tool-bag.

Tuning was selective, range surprising and the volume from the 3in. speaker quite adequate. The cost, including duty and tax is around £15.



SHOW

T S L

It is not easy to SHOW a lubricating oil but easy enough to show the results of using the right oil for the job. If the engine is a two-stroke and the oil is T.S.L. (Two-stroke Lubricant), the results are long periods between decokes, clean ports and plugs, no "whiskers", easy starting and improved fuel consumption.

For all under 50 c.c. engines use T.S.L. at $\frac{1}{4}$ pint per gallon of fuel (1 in 32)

Enquiries to:

T.S.L. ORDER OFFICE, 223 TEMPLE CHAMBERS, E.C.4. CENtral 1454

Flashes

THE M.O.T. has circulated interested organisations with new safety proposals for the compulsory fitting of two driving mirrors on motor vehicles. Two-wheelers will remain exempt but there is also a proposal to make pillion footrests compulsory.



AUGUST, peak month of every year for road traffic accidents, produced 23,784 casualties this year, 1,681 more than the same period last year. Motor assisted cyclists accounted for 295 of this total of which 218 were slightly injured only.



NEW spring fork on motorcycle lines, fully telescopic and designed mainly for incorporation in autocycles, is being imported from Germany by Messrs. William Chicken of 339, Goswell Road, E.C.1. called the *Kronprinz*.

We have a pair for test and will report in detail later.



CORRECTION to last month's flash on the *Nubrex* grease gun for the *Telelink* fork. The gun is produced by Ch. H. Neuman, Ltd. of Croydon, and Messrs. B. S. Developments only supply.



APPRECIATIONS

PRAISE for smiling 24-hour service for *Cyclemaster* spares comes from J. Preston, of Darwen, Lancs. for: JOHN F. WARLAND, 22 KING STREET,

BLACKBURN

The special service included an order for one nut and bolt.

STOP PRESS

CYCLEMATE Price. As we go to press we learn that the price of the new Cyclemate (see advert. p.281) is to be £44 (inc. £2.16.0 P.T.) It is fully equipped for the road with lamps, tools, inflator, horn, number plates and licence holder.



B.S.A.
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TEAGLE
FIREFLY
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CUCCILO
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POWER-PAK
MINI-MOTOR
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LAMBRETTA
MOBYLETTE
and the NEW PHILLIPS

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ITOM "TOURIST"
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CLUB NEWS

NEW CLUBS

THE POWER-ASSISTED CYCLE CLUB—We have news of a new venture designed to become a protective association for cyclemotorists, with touring facilities emergency assistance organisation, etc.

The organisers are Mr. S. E. Taylor and Mr. S. R. Parsons of 3 Clack Street, London, S.E.16, and they state that they would like to receive enquiries now and to start "full business" in January, 1955.

In Brighton THE SOUTHDOWN MOTOR ASSISTED CYCLE CLUB has been formed. Meetings at 10 a.m. and 2.15 p.m. every Sunday. *Secretary*: CECIL C. HARDING, 1 PELHAM STREET., BRIGHTON

Another new club is THE BARNSELY AND DISTRICT CYCLEMASTER CLUB. Subscription 12/- a year; meetings last Thursday in the month. *Further information from*: W. P. BIRCH, PRESS SECRETARY, BARNSELY AND DISTRICT CYCLEMASTER CLUB, 31 COCKERHAM AVENUE, BARNSELY.

THE HALF HUNDRED CLUB

Captain: DEREK SPRIGGS, c/o THE HALF HUNDRED CLUB, 193 KING'S CROSS ROAD, LONDON, W.C.1.

JOHN SMITH, riding an *Itom*, won the 25 mile sprint on September 25th. The event was held on the "Home Circuit" somewhere in Essex. Two and a half minutes behind was BILL JOSLIN on his *Vincent*. RONNIE BENFIELD on a *Super Cyclemaster* came third.

The new Club Room is at the "Enterprise", Chalk Farm Road, N.W.3. Meetings there every Tuesday

NOVEMBER PROGRAMME: (All runs start Marble Arch 9 a.m. unless otherwise stated).

7th—Circuit meeting.

14th. Luton

15th. Earls Court—Marble Arch 6.15 p.m.

21st—Pease Pottage.

28th. Chesham and District.

NOTTINGHAMSHIRE CYCLEMOTOR CLUB

Secretary: R. H. PRATLEY, 62 FLAMSTEAD ROAD, STRELLEY, NOTTINGHAM.

This club has been formed to replace the Nottingham and District Motorised Cycle Club (Branch of V.C.A.). The new club is not connected with the Veteran Cyclists' Association.

NOVEMBER PROGRAMME:

5th—Monthly Meeting, 8 p.m.

7th—Old Market Square, 10 a.m.

14th—Trent Bridge, 10 a.m.

21st—Colwick Crossing, 10 a.m.

28th—Bobber's Mill, 10 a.m.

VISIT

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SUPER MOTOR CYCLE SHOWROOMS

600 New and Used Motor
Cycles, Scooters & Autocycles

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CANTEREURY ROAD, LONDON N.W.6
(Maida Vale 6044)

THREE NEW AUTOCYCLES—

Continued from page 286

have now produced what is virtually this same cycle with a built-in 49 c.c. engine to form an autocycle of novel and interesting design.

The sturdy 22in. frame has its top tube dropped at the rear end to give the necessary low saddle position for powered riding, 16 gauge fork blades with liners and the well-known girder attachment for extra strength. The 26in. x 1 $\frac{3}{4}$ in. wheels are built up with 13 gauge spokes with the Phillips hub brake at the front and a coaster hub rear. Dunlop *Carrier* tyres are fitted to both wheels. A large sprung saddle is standard equipment as are wide, double-stayed mudguards, number plates licence holder, lamps, stand, pump and tools.

Set fairly high up within the frame is the two-stroke engine of 38.25 m.m. x 40.5 mm. with alloy barrel and head and cast iron liner. A *Bosch* flywheel magneto provides ignition and lighting current and also provides for the electric horn which is available as an optional extra. Transmission is through a multi-plate clutch and $\frac{1}{2}$ in. x $\frac{3}{16}$ th in. chain to a large sprocket on the rear wheel independent of the normal pedalling gear. The fuel tank is set horizontally at the forward end of the top tube and has a capacity of 5 pints. An overdue refinement on all cyclemotors is the provision of a two-way petrol tap which gives both a reserve warning of fuel shortage and freedom from the boggy of pre-mixing petrol and oil at garages.

The machine looks good, is accessible and can easily become a favourite with the sporting type of rider who wants high ground clearance and lively performance for competition work. It may, however, prove less handy for utility riding in ordinary clothing and top coat. The price is right at £49. 15s. 0d. all on (inc. P.T.).

The "Cyclemate"

Perhaps the most interesting of the new autocycle developments to date, because it has by far the widest potential market among everyday riders, is the latest product of the *Cyclemaster* company

Called the *Cyclemate*, the new autocycle has the same engine-clutch unit with the chain primary drive as the world famous wheel, but the location is in front of the bracket in a frame that follows modern continental practice. Twin curved down tubes sweep from steering head to rear hub to join the chain and seat stays in an exceptionally rigid rear end. The 5-pint tank is set on the seat tube and the D-to-round front forks are well raked for resiliency and good weight distribution. Both wheels are equipped with hub brakes and carry 2in. tyres screened by wide domed mudguards with built-on number plates.

As stated, the well-tryed 32 c.c. engine is used with the dry-plate clutch enclosed in the familiar metal casing. The final drive is by independent chain to the rear wheel with separate adjustment provided. A large, soft-top saddle, lamps and full equipment are included in the specification. The frame and cycle parts are produced by the *NORMAN* company and the standard finish is an attractive shade of green.

The price of the *Cyclemate* has not yet been definitely fixed but we can say that it will be really competitive. With this assurance, backed by the countrywide service already organised by the *Cyclemaster* company there is no doubt that there will be long waiting lists of customers for the first all-British autocycle on our market.

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SALES AND SERVICE

ECLIPSE CYCLES for Cucciolo, Cyclemaster, Mosquito, Power Pak, and the new BSA together with Cycles to suit these models. Cash or Easy Payments. All Spares and Super-Service on all Cyclemotors supplied by us. *Note the address.* 115 Hammersmith Rd. W.14 (Near Olympia) Fulham 0475.

PEACOCKS for Power Pak, Cyclemaster and B.S.A. Units. All motorised Cycles available. Repairs and Spares for Power Pak, Cyclemaster and Mini-Motor at 151 High Road, Willesden Green, N.W.10. 24 Kenton Park Parade, Kenton, Middlesex; Gaumont Cinema Annexe, Cricklewood, N.W.2.

ALL £1 DEPOSIT: cycles cyclemotors tricycles. ALL MAKES: Firefly, Teagle, Itom, Power Pak, Cucciolo, etc. Special motorette cycles in stock. All spares and most important, **EXPERT SERVICE AND REPAIRS.** Cyclemotors taxed, insured, fitted and road-tested before collection. **IT PAYS TO DEAL WITH THE MOTORIZED CYCLING SPECIALISTS—G. H. CYCLES,** 429 High Rd., Harrow Weald Open until 7 p.m. each night. 8 p.m. Fridays. HARrow 6858.

BARRY BROS. of Paddington.

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24 MONTHS TO PAY BALANCE

MOBYLETTE DE LUXE with fully automatic clutch. £54.12.8. (inc. P.T.) £14.12.8 secures delivery.

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ALL-WEATHER CYCLEMOTOR
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The famous 49 cc. Cycle Motor which took Peter Lee-Warner round the World with a 30-stone load at 25 m.p.h. Petrol consumption, 200-240 m.p.g. Twist Grip supplied, also Special "Wonder" Dunlop Tyre FREE.

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Continued over page

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THE CAMPANELCLAX new klaxon horn looks and works like a bell, but is more efficient and fulfills legal A.W.D. requirements. Now obtainable direct 10/- post free, from **ADIMAR, 61 Clapham Rd., S.W.9 RELIANCE 5972.** Trade Enquiries invited.

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To enable the cyclemotor to be used fully for its designed purpose as a utility machine, **“POWER & PEDAL”** has arranged with the **UNITED KINGDOM FIRE & ACCIDENT INSURANCE COMPANY LTD.**, for a special policy for our readers, covering *any make* of machine not exceeding 50 c.c. whilst being driven by *any licensed driver*, at very competitive rates. This cover also applies when a pillion passenger is carried.

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 Do you require COMPREHENSIVE, THIRD PARTY FIRE AND THEFT OR THIRD PARTY Insurance?.....
 Do you or any person likely to drive the cycle suffer from any physical or mental infirmity, impaired sight or hearing?.....
 Has any Insurer at any time in respect of your motor-cycle insurance or that of any person likely to use your cycle declined to insure, required special terms, cancelled or refused to renew?.....

DECLARATION

I declare that I am the owner of the above cycle/s and that the above statements are true and complete in every respect and that the cycle/s insured will be kept in good and thoroughly sound condition. I further declare and agree that if such statements and particulars which I agree shall form the basis of and be considered as incorporated in the policy to be issued by the **UNITED KINGDOM FIRE & ACCIDENT INSURANCE COMPANY LIMITED** are in the writing of any person other than myself such person shall be deemed to have been my agent for the purpose of filling in same and the Insurer shall not be affected by the knowledge of such person, whether also an agent of the Insurer or otherwise.

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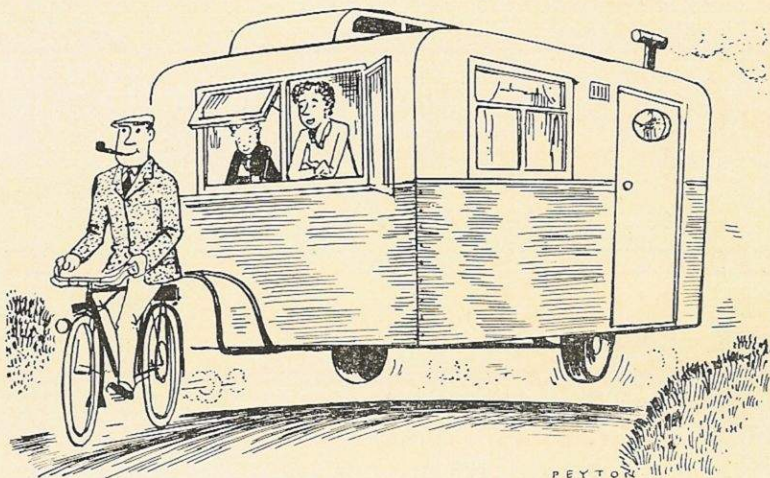
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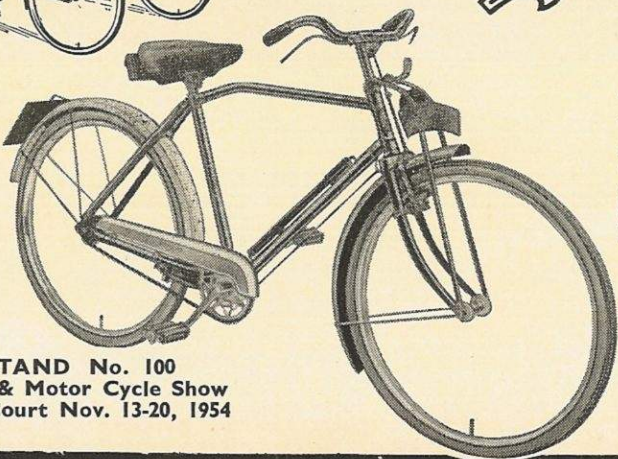


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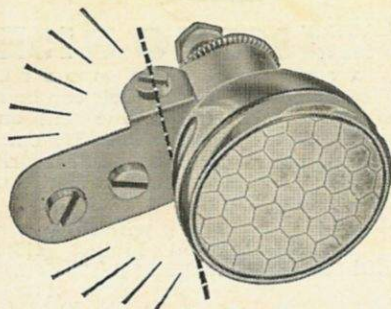
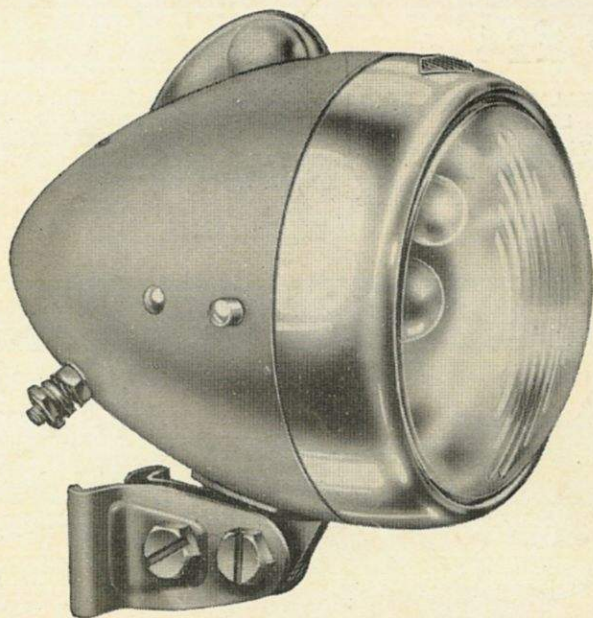
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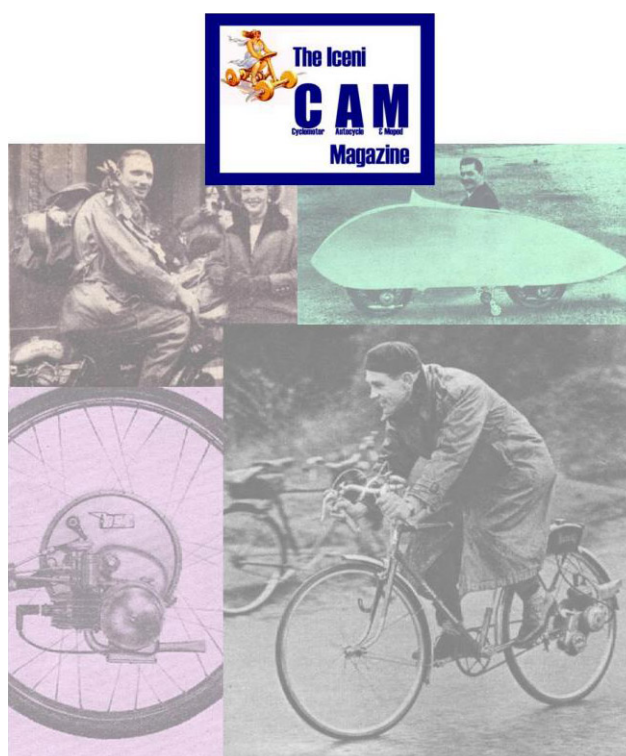


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