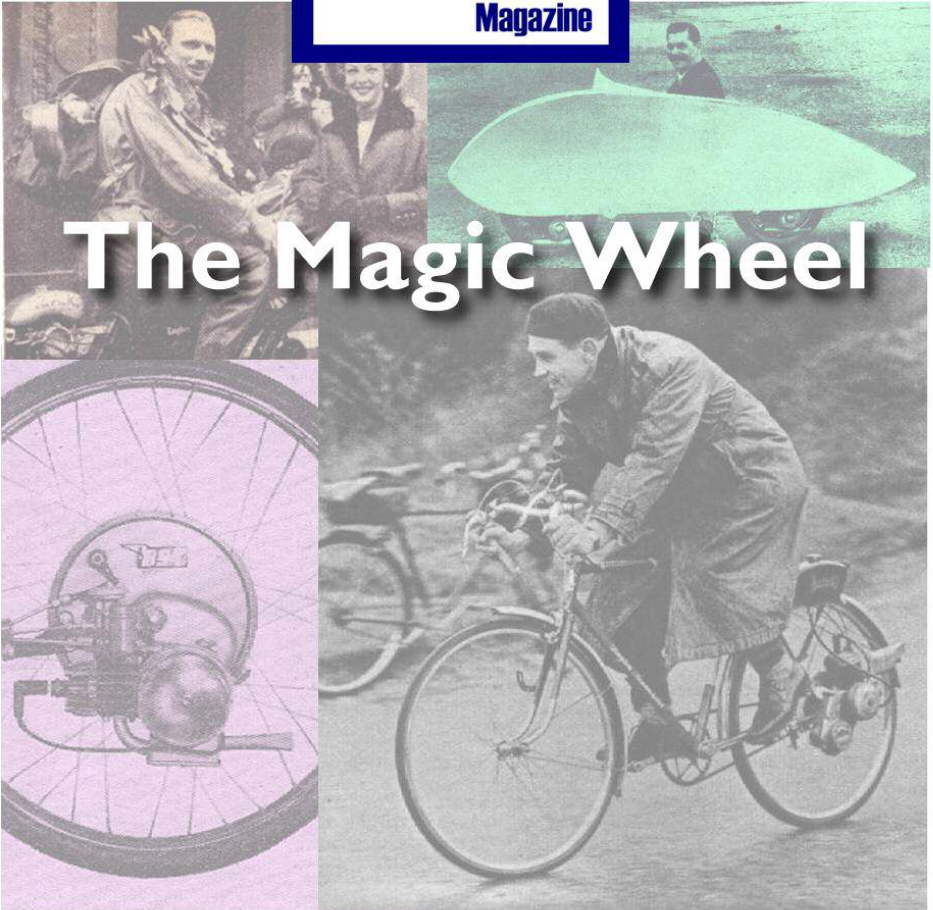
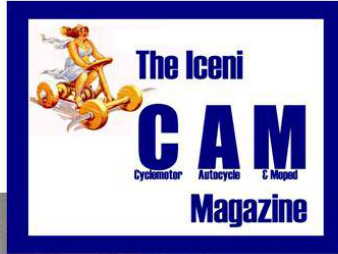


IceniCAM Information Service



The Magic Wheel

The

Magic Wheel

A QUARTERLY MAGAZINE FOR CYCLEMASTER OWNERS

Vol. 2. No. 3.

OCTOBER, 1954

Sixpence



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* * *

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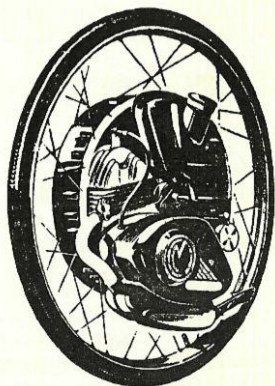
Cyclmaster dealers' and traders' enquiries for agencies welcomed

IRON TRADES MUTUAL
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THE MAGIC WHEEL

A QUARTERLY MAGAZINE FOR CYCLEMASTER OWNERS

All communications should be addressed to
Cyclemaster Ltd., 38a, St. George's Drive, Victoria, London, S.W.1.

Road Research

THERE has been published recently a book called "Road Research 1953". It is not the kind of book that you would be likely to find on a bookstall, for it is the report of the Road Research Board, a branch of the Department of Scientific and Industrial Research. Its price is 5s. and it deals with many phases of research, such as road safety, braking performance, vehicle and street lighting, skidding, accident and traffic analyses, road layouts, traffic signals, etc.

In its ninety pages of close reading matter, there are only some two pages devoted to motor-assisted cycles, and from these we extract a few comments which we feel will interest our readers.

Machines tested. "Four types of popular power unit machines were used in the tests—one with the engine mounted inside the rear wheel and driven by chains; the other three were driven by friction rollers on the tyres and the engines were mounted respectively on the handlebar stem, below the bottom bracket and on the rear carrier."

Speed. "In general it is considered that for safety the maximum speed of motor-assisted bicycles should not

exceed 25 m.p.h. and it was found that some of the power units available would drive a pedal cycle at speeds at which the brakes, lights and tyres of an ordinary pedal cycle are not adequate."

Brake Tests. "On a dry road the brakes of the machines tested were powerful enough to lock one or both wheels. The minimum braking distances of the four machines from an initial speed of 20 m.p.h. varied from 26 to 37 ft.

"On a wet road the brakes of the machines having rim type brakes were not powerful enough to lock either wheel and the minimum braking distance from an initial speed of 20 m.p.h. ranged from 43 to 94 ft. When various kinds of brakes were fitted to the same machine, those of the hub type gave shorter braking distances, particularly on wet roads, than those of the rim type (stirrup, caliper and cantilever brakes)."

Head Lamps. "It is considered that there is a need for better designed headlights both as regards light density and beam distribution and that the beam patterns were unsuitable for use on machines capable of 20 m.p.h. or more."

A NEW ZEALANDER IN BRITAIN

By D. A. Davison

This is the story of a British Isles tour as told by a New Zealander who spent several months touring many parts of Great Britain, covering in all some 6,927 miles. He saw the countryside at its best in the deep of summer and then continued on through the gold of late Autumn.

The machine I chose for my tour was a 1953 model Mercury Cyclomaster. The small two-stroke engine gave a remarkable performance throughout the entire tour.

Before I set out, the machine was fitted with a wooden frame across the rear carrier, this supporting a suitcase measuring 20 in. by 15 in. by 9 in. Mounted on top of the case was a sleeping bag, a tent, and other camping equipment which in all weighed about 65 lbs. This, together with extra fuel, oil, etc., and 11 stone of me made quite a load for the small machine to carry.

All round Great Britain

Starting from Cardiff, I made almost a complete clockwise circuit of Great Britain. The first leg of the trip took me to Gloucester and Birmingham. While at Birmingham, I managed visits to Stratford-on-Avon, Warwick and Coventry. Then on to Liverpool from which point I later crossed by steamer to Belfast. To the visitor from abroad no tour would be quite complete without a visit to the Emerald Isle; so within the space of three weeks I visited parts of Northern Ireland, and also the Irish Free State (or Republic of Eire) covering in all some 1,418 miles.

Next I departed by steamer for the Isle of Man, which has many interesting places to offer and also some very fine coastal holiday resorts.

After a few days there I returned to Liverpool and then followed the road through Preston and Blackpool, and on to Kendal. On this stage I saw quite a lot of the scenery of the Lake

District which is extremely beautiful.

Travelling north, I got to Carlisle and so on to Dumfries *en route* for Glasgow. Then following the main north west road I passed by Loch Lomond on the way to Fort William.

After this I followed the Caledonian Canal for part of the way further north, passing along the edges of Loch Ness to Inverness, and then to Dingwall and Ullapool.

Up to John O'Groats

From Ullapool via Scourie and Durness I travelled to Thurso and then to John o' Groats. The roads from Dingwall around the circuit to John o' Groats were narrow mountainous types for the most part, with many rough surfaces and steep gradients, some of the grades being about 1 in 5. The Cyclomaster gave an excellent performance here, although as may be expected on a few occasions I had to walk as the going was just too tough.

The return journey down the east coast of Scotland was a most pleasant one; the roads were good and one encountered few really steep gradients. By following the coastal road, Wick via Helmsdale to Tain, I finally returned to Inverness.

The Castle of Balmoral

From Inverness the next journey took me via Elgin and Keith to Aberdeen. From here I went inland taking the road through Ballater, and on to see the Royal Castle at Balmoral. This route took me through Braemar where the world famous Highland Games are held. Still heading in a southern direction I visited Perth and then Callander in the heart of the Trossachs. This is an area of wonderful scenic beauty of which Scotland is justly proud. Here also is Loch Katrine which Sir Walter Scott immortalised in his "Lady of the lake."

Leaving the Trossachs I went to Stirling, Falkirk, Edinburgh and then

down through Berwick-on-Tweed and Newcastle-on-Tyne. I went to Heddon-on-the-Wall, to see some of the remaining portions of the great Roman Wall, and then headed for the old historical city of York, where of course I visited the famous Minster.

From York I headed South—to Doncaster, Sheffield, Nottingham, Cambridge and so to London, where I stayed for a few weeks. While in the London area I visited Windsor, Eton, Ascot and Reading.

Leaving London, the Cyclemaster purred on, taking me to the south coast. From Dover I followed along the coast to Hastings, Eastbourne and Brighton; then on to Portsmouth. Later I crossed to the Isle of Wight and completed a coastal tour of the island, finally returning to Southampton.

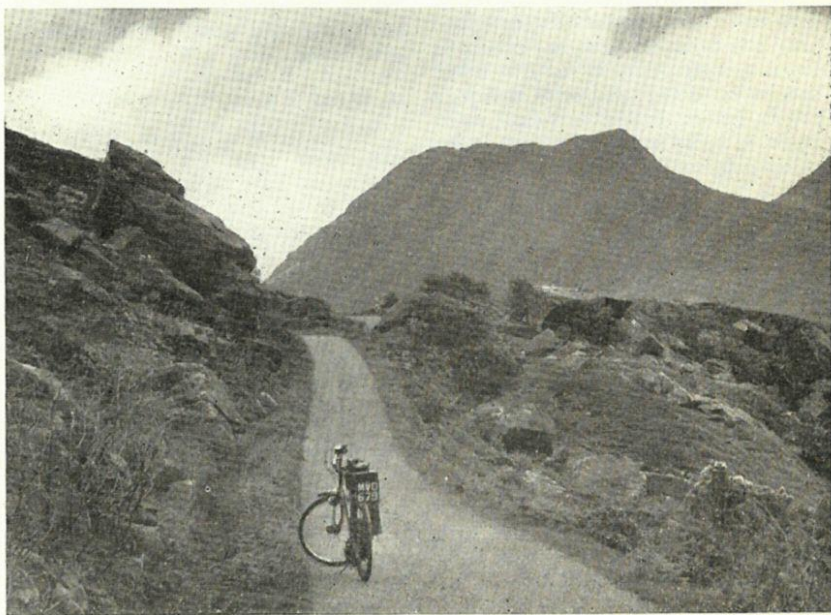
From Southampton I passed through the New Forest and travelled the main route to Bournemouth, Dorchester, Exeter, Plymouth and Bodmin; returning at a later stage to Exeter and on to Salisbury, where I made a point of seeing Stonehenge, indeed a remarkable monument from ancient times.

Then to Bath, where I saw the Roman Baths, and on to Bristol, and after this north to Oxford.

Then as I had not covered much of Wales I went to Cardiff, Swansea, Cardigan, Aberystwyth, Dolgellay, and Caernarvon. Next Bangor and Conway and over the Conway bridge to Llandudno. Returning to Conway I made for Bettws-y-Coed, Llangollen, Welshpool, Newtown, Kington, and Hereford. From Hereford to Monmouth, following the picturesque Wye Valley, and then once more to Cardiff city.

Throughout the trip I had the opportunity of meeting many most interesting and helpful people and this no doubt added its host of charm to the tour. Also at frequent intervals I would be stopped by people who were interested in the machine and its amazing performance.

I should like to thank the many people from all walks of life and different parts of the British Isles who extended such kind hospitality to a visitor and so helped to make this visit an event long to be remembered.



One of the photographs which Mr. Davidson sent us; it shows his machine, "Nellie" in one of the more remote parts of Scotland

First Impressions of a Cyclemaster

By Aries

WHEN the Editor of *The Magic Wheel* asked me to try out a Cyclemaster and let him know my impressions, I was, at first, at a loss to know why he thought my impressions were worth recording. Then he explained that as I had driven a large number of motor cars and quite a few motor cycles, my approach would be a fresh one and it might reveal some features that the regular Cyclemaster owner would tend to take for granted.

"Familiarity would never breed contempt for the Cyclemaster," he said, "but the very efficiency of the machine makes one overlook all the hard work it is doing—but I am giving you a bias before you begin. Start her off and see what you think."

So I did.

"Feeling Rusty"

Now I will say quite honestly, before I go any further, that it was some time since I had handled a motor cycle and I was feeling a little "rusty." I had visions of doing all sorts of wrong things before I had travelled many yards. I could see myself letting in the clutch with a "wump" or forgetting that a bicycle has to be balanced and getting into all sorts of horrifying wobbles.

However, I mounted the machine, a pillion model, and pedalled off bravely. And then it happened. I let the clutch in, the engine started and I went sailing off like one of those seagulls one sees planing off cliffs at the coast.

It was just like that. The engine purred along, the balloon tyres took all the bumps out of the road and I could see no possible reason for having to take a test to drive one of these things, for it was even simpler than riding an ordinary bicycle.

True, I had a twist-grip throttle and that probably helped me to control the machine without effort, but the whole thing seemed so delightfully

simple that all my apprehensions were gone and I went along as confidently as a Stirling Moss in a Morris Minor.

But I had not yet come to my first stop. There it was, a set of lights that seemed to delight in changing just as I came purring along. Clutch out, back-pedal a bit and touch the throttle a little to keep the engine turning over sweetly. There we are—nothing to it.

There's the green light. I pedal away from the line, let the clutch in and once more I feel the gentle vibration, as the 32 c.c.'s. of Cyclemaster take over the donkey work. That is a point, I said to myself, that I must tell the Editor when I get back. No doubt all the regular Cyclemaster users are quite used to that vibration that one is bound to get when a small engine is mounted on the frame, but I was new to the game and I was aware of the gentle, almost pleasant tingle through my hands and arms. It disappeared after a few miles.

A Real Test

Having arrived home fresh and exhilarated from my half-hour ride that would have taken me half as long again on a London bus, I decided to give the machine a real test. I had proved that it would do almost everything I asked with just myself up; now I wanted to see how it would react to carrying two.

So my wife and I got on and away we went. A little longer for the engine to get really under way and then we were rolling along quite happily with hardly any difference in acceleration, braking powers or stability.

What this all boils down to of course is that I am now one of the converted. I came to the Cyclemaster suspicious and hesitant. I left it a convert, a fan, almost a fanatic.

Need I tell you that I shall soon have a Cyclemaster of my own?

Petrol Mixers at Last

"THE time has come, the walrus said, to talk of many things," and it seems that at long last the time has come for the motor trade in this country to realise that the vast numbers of two-stroke engine users which travel our roads, including of course all Cyclemaster owners, are worth the expense of installing special equipment to dispense ready-mixed petrol and oil.

Looking at the subject without bias, one cannot really blame the garageman for not being altogether co-operative, because the minute profit which he derives from selling a part of a gallon of petrol and a small measure of oil is hardly worth the time it takes to dispense the fuel, especially when he runs the risk of losing motorist customers who may be needing large quantities of fuel but pass on because the forecourt is blocked and the attendant occupied by a powered bicycle.

Different "over there"

On the Continent the situation is quite different. There are so many two-stroke users over there that many garages have special pumps. But here selling ready-mixed petrol was illegal until not so very long ago so it is hardly surprising that mixing devices are only just beginning to appear.

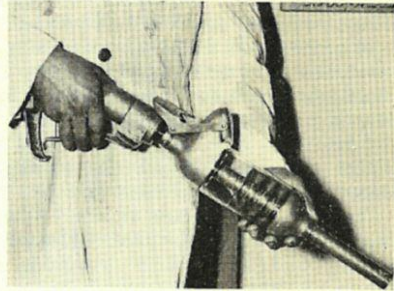
However, the prospect now is brighter, for two mixers have recently been introduced and there are at least two more under development.

The "CPD" mixer is made by a Yorkshire firm, Birshall Ltd., of Ackworth Road, Purston, Featherstone, Yorks. It is designed to be fixed to the control nozzle of a petrol pump hose in place of the normal outlet pipe. At the base of the attachment there is a small cap into which the attendant pours the quantity of oil required to be mixed with the petrol asked for.

As the petrol flows into the mixing chamber, which is enclosed in Perspex so that you can see what is going on, it comes upon a number of baffles with holes in them. These slow down the rush of fuel and force it into the slotted

tube which runs down the centre of the chamber.

There a solid baffle forces it into the outer mixing chamber again. This goes on until the fuel reaches the end of the chamber and flows out through the



The CPD Mixer in action

nozzle. All the time it has been mixing with the oil which started at the bottom end of the chamber.

This attachment has been tested by the technical department of the Esso Petroleum Co. Ltd. and they announced that they were thoroughly satisfied that what comes out after the petrol has gone around and around is a really good petrol mix.

Man with experience

The other attachment is the invention of Mr. R. W. Somerscales, who is manager of the Risboro' Service Station at Princes Risborough and has therefore had first-hand experience of the two-stroke owner's problems.

His attachment fixes on to the end of a normal petrol pump nozzle so that it can be used on any pump according to what petrol the customer prefers. The oil is poured into a standard one-pint oil bottle which is then screwed into a special casting. This, in turn, fits on to the nozzle of the pump, which is then ready to dispense the mixture into the tank of the waiting machine.

Here again the two liquids are forced

together. As the petrol flows down the nozzle it passes through a series of annularly-spaced holes into the oil, forcing its way to the top of the oil bottle. From there it flows down through a concentrically-placed copper tube to the tank.

There are two versions of this mixer, but they both work in the same way.

There are a number of points to be noticed about these mixers. Both have the advantage of allowing the customer to see his fuel being well and truly mixed, and neither stops the petrol pump being used for serving "straight" petrol. Both jobs are produced at a price which should not make the garageman throw up his hands in horror, and the CPD mixer can also be used for serving shots of upper cylinder lubricant.

Two other firms are known to be working on mixers. Avery-Hardoll

Ltd., the well-known makers of petrol pumps, had a prototype special pump on their stand at the Motor Show last year. Perhaps it will be ready for this year's Show. C. C. Wakefield and Co. Ltd., makers of Castrol oils and a wide range of garage equipment, have also got a special mixing device in hand, but few details have come our way as yet.

A brighter prospect

On the whole though, it does seem as if the situation is improving considerably. Let us hope that the day is not far distant when the flow of letters which arrives at the offices of Cyclemaster will be notable for the *absence* of letters complaining of the off-hand attitude of garages and service stations in this vital matter of serving a petrol-oil mixture.



This picture was sent to us by L/Air. A. Hurn of Yeovil. He uses his Cyclemaster between his home and the R.N.A.S. station at Yeovilton every day

"Cyclo-Analysis"

By Stanley Preston

THERE was nothing else for it. My nerves screamed at the mere rustle of a sheet of paper, and someone suggested either psycho-analysis or a high jump into a deep river.

I chose Bendrey-Gavington, psychiatrist, and duly went along for my first session.

He began by arranging me in a comfortable position on a deep, soft, settee. As I began to relax I asked, with apprehension: "You think there's some hope?" Bendrey-Gavington smiled. "I have been known to clear neurosis in pekinese dogs," he said with pride. After that, I stopped asking questions.

Soon I felt drowsy, and Bendrey-Gavington helped me along with a few suitable suggestions. Then he said, in a voice as rich as a mixture of 3 in 1 of petrol and oil: "If you feel like talking, say whatever comes into your head. It doesn't matter if it makes no sense."

The first thing that entered my head was the thought that he might be a little more tactful. I firmly dismissed this, however, and for a while I could think of nothing except Bendrey-Gavington's horn-rimmed, bi-focal spectacles. This thought, or vision, persisted, and at last, after a desperate effort to think of something else, I articulated it.

"Horn-rimmed, bi-focal spectacles," I said slowly.

There was a slight pause, then the rich voice said coaxingly, "Go on . . ."

"Horn-rimmed, bi-focal spectacles," I repeated, more quickly this time, as if the matter had some urgency about it. I could think of nothing else. My tongue ran on: "Horn-rimmed, bi-focal spectacles, horn-rimmed, bi-focal spectacles, horn-beamed, wry-social spectacles . . ."

I began to sweat, and tried to get a grip on myself. The mental vision of the spectacles receded, and in its place I saw a conjurer.

"Magic!" I shouted.

Bendrey-Gavington leaned over me, and asked sharply: "Black Magic?"

I concentrated on the conjurer. He was dressed in black, but suddenly he waved his arm and his clothing turned grey. "Black at first," I said with confusion, "But he's grey now." The conjurer then faded from my vision, and for a minute or so, I just mumbled "Grey Magic," over and over again.

Bendrey-Gavington gave a discreet cough, and reluctantly I returned to face reality. "That will do for the present," he said kindly, and steered me from the room.

As I mounted my push-bike in the courtyard, I reflected that perhaps I had made some progress. I had seen a conjurer do a remarkable trick, though I doubted whether it was worth four guineas a time for that type of entertainment.

* * *

It happened on the fifth visit to Bendrey-Gavington. Both he and I were beginning to get bored with the conjurer and my persistent repetition of the words "Grey Magic."

But then, as I was watching the conjurer (who had done nothing at all since changing from black to grey—he merely stared back at me, wasting all my guineas), I suddenly felt overpowering anger and said: "Do something, or for heavens' sake, buzz off!" At that moment, the conjurer slowly began to spin round and round, gathering speed until he was just a circular grey mass.

"A wheel—a grey wheel," I muttered, feeling utterly confused; and then, I fell asleep. I awoke to find Bendrey-Gavington smiling and rubbing his hands.

"I think you can forget your worries," he said firmly. "My analysis will show you the cause and what to do about it." I stiffened with surprise. This was almost too good to be true.

He continued: "The keywords, 'Grey Magic' were symbolized by the vision

of the conjurer. But the conjurer also symbolized something else, in the later stages—he was a projection of your own personality. He simply could not do anything except doubt his powers.” I remained silent. He was dead right, so far.

He paused and lit a cigar.

“When you dismissed that conjurer, and he began to spin round into a wheel, I hit on the solution. Grey Wheel . . . Magic . . . Grey *Magic* Wheel. Do you understand?”

“You don’t mean—” I began, and hesitated.

“Cyclemaster!” he said triumphantly. “The Magic Wheel. The first model was black; then came the grey design. Hence your conjurer changing colour, earlier on. Obviously, you have an unconscious desire for a Cyclemaster.”

“That’s true, in a way,” I agreed, “But—” My voice faltered.

“Aha! Here come the ‘Buts’!” said Bendrey-Gavington, nodding sagely, and blowing out smoke with fierce enjoyment.

“I can’t afford one,” I said dully.

Bendrey-Gavington gave a harsh laugh, and stared at me with unbelief. “There goes that other self, again, making excuses. And a poor excuse

that one is. If you can afford to pay me, you can afford anything!” He laughed heartily. “There’s the *first* objection removed. What else?”

I pondered. It was true. Money had been a mere excuse. “I’ve never driven anything before—I don’t know anything about engines—if anything went wrong—”

“That’s the real worry,” announced Bendrey-Gavington. “And that’s soon settled. As soon as you leave here, go along to your nearest dealer. He’ll soon put that right.”

I hesitated for a long time as the inner conflict raged, and I noticed Bendrey-Gavington looking very apprehensive for a moment or two. In the end, he smiled and said slyly: “Listen, if *women* can manage them—”

My doubts gave up the struggle. It was either that, or the deep river. I suppose that he was appealing to my inherent instinct for male superiority, but whatever it was, it did the trick.

* * *

And that’s the story of how I got my Cyclemaster. What’s that? You don’t believe it? Then I suggest you give Bendrey-Gavington a ring. No doubt he’ll find you are suffering from a retarded suspension of disbelief. And it’s probably true.

Courtesy

(Cyclemaster Dealers please note!)

*If I possessed a shop or store,
I’d drive the grouches off my floor,
I’d never let some gloomy guy
Offend the folks who come to buy,
I’d never keep a boy or clerk
With mental toothache at his work,
Nor let a man who draws my pay
Drive the customers away.*

*I’d treat the man who takes my time
And spends a nickel on a dime
With courtesy, and make him feel
That I was pleased to close the deal
Because tomorrow who can tell
He may be as rich as ’ell,
And in that case then glad he’ll be
To spend his dollars all with me.*

*The reason people pass one door
To patronise another store,
Is not because the busier place
Has better silks, or gloves or lace,
Or cheaper prices, but it lies
In pleasant words and smiling eyes;
The only difference I believe
Is in the treatment folks receive.*

*It is good business to be fair
To keep a bright and cheerful air
About the place, and not to show
Your customers how much you know;
Whatever any patron did
I’d try to keep my temper hid,
And never let him spread along
The word that I had done him wrong.*

Published in America some years ago but still pertinent.

Carbon in the Engine

Its cause and effect

INSTRUCTIONS for decarbonising are now given in the current issue of our Instruction Book. Previously reference was made only to the availability of a leaflet for this purpose.

Decarbonising of the engine is a straightforward operation but up to Wheel No. 111859 it cannot be done without removing the engine from the wheel as removal of both the cylinder head and cylinder is obstructed by the wheel drum. From Wheel No. 111860 all engines are fitted with a modified cylinder head and other parts so that the cylinder head can be removed without taking the engine from the wheel.

For those readers who require full details and sequence of operations the decarbonising leaflet is still available and we shall be publishing this information in a later issue of the magazine. In the meantime we are elaborating more fully the subject of carbon formation which plays such an important part in the operation of all internal combustion engines.

How it is formed

Carbon is formed mostly by the effects of heat and flame on the oil deposited from the fuel in various parts of the engine. Neither of these conditions can be eliminated because the heat is caused by ignition of the fuel for driving power and the oil must be present for lubrication. It will be found that the formation of carbon takes place mainly in the cylinder or combustion space, the ports, particularly the exhaust port, and the exhaust system.

It stands to reason that the formation of carbon in a small engine will be comparatively greater than in a big one for all cyclemotor engines revolve at a higher rate per mile than cars or larger motor cycles. For these reasons it is accepted that the removal of carbon from these small engines will have to be carried out more frequently than is the case with other types of vehicles. The

inconvenience caused by this is offset by the fact that the decarbonising operation or at least the essential part of it can be dealt with quickly and easily by the average user. In all editions of our Instruction Book we have given a description of the operation of the Cyclemaster engine showing by illustrations the path of gases through it. One of these illustrations of the two stroke cycle shows quite clearly the burnt up gases escaping from the exhaust port very slightly before the inlet ports are opened. Before the exhaust opens these gases are highly compressed and if not released first from the exhaust port the pressure will escape down the inlet ports into the crankcase and prevent the new gases from going into the cylinder. Any serious obstruction in the silencer itself will of course have the same effect. Therefore the most important part of decarbonising is to keep the exhaust port and silencer as free as possible. In fact it is a good idea to clean these out more frequently than the full decarbonising operation is dealt with. If you have decarbonised your engine before, you may have observed carbon formation in the inlet ports and when this happens it is usually necessary to take off the cylinder, but the exhaust port and exhaust system can be cleaned without removal of the cylinder and if these are kept clean the inlets will stay cleaner much longer because they are not then contaminated excessively by burnt gases.

Carefully does it

With the latest type of detachable cylinder head it is quite a small job to remove the head and clean out the exhaust port and decarbonise the cylinder head and piston crown at the same time. On the earlier models where this operation takes considerably longer it is possible to clean out the exhaust port without dismantling other than removal of the exhaust system provided very great care is taken.

The effects of a layer of carbon on top of the piston and the inside of the cylinder head are not so important from the performance point of view as blocking the ports, but if this carbon becomes too thick it causes overheating and possibly sparking plug trouble. The overheating is caused by the cylinder head and piston not being able to dissipate the generated heat quickly enough and also by pre-ignition which is frequently the result of small pieces of carbon which become incandescent. The term "Pre-ignition" refers to conditions in the engine by which the explosive gas is ignited in the cylinder before the spark takes place.

The clearest indication of the need for decarbonisation is given by the actual performance of the engine. If the engine pulls well it cannot be choked with carbon. If the performance is unsatisfactory it may of course be for some other reason but it is usually quite easy to decide whether decarbonising is needed by examination of the exhaust port. The shape of the port where the exhaust pipe is attached is circular but this changes to a rectangular shape as it goes into the cylinder. Where it joins the cylinder wall, that is, up against the piston, it is

rectangular and approximately $\frac{5}{8}$ inch wide and $\frac{5}{16}$ inch deep. Any serious reduction from this size indicates clearly that the port requires cleaning. It is wise to check this and the silencer itself before proceeding with further dismantling.

Most riders will prefer to clean out the engine as soon as there is any reduction in performance but we have come across cases where the owner has carried on when decarbonising has been long overdue. From our earlier comments you will have noticed that under certain circumstances, some of the burnt gases can be forced back down the inlet ports. If this happens over a long period there is a possibility that the inside of the crankcase will become very dirty and also suffer from the effects of water vapour which is always present in the products of combustion. It is obvious that this condition can cause deterioration of the bearings and premature failure may result. Even if no serious and lasting damage is done to these parts it is also quite obvious that their life will be extended if the engine is maintained in the cleanest possible condition.

So do not run the engine for long after it has become obvious that decarbonising is due.

Replies to Readers' Queries

Q. Why is there a small hole at the bottom of the "CM" engine cover?

A. This hole is for ventilation purposes without which the slight sparking of the contact points can cause excessive corrosion. It also reduces any tendency for condensation caused by intermittent heating and cooling of the surrounding metal.

Q. My Cyclomaster rattles and jerks when setting off with the engine already running and pulling at almost maximum power. A similar noise sometimes occurs when I start the engine, particularly if the clutch is released too quickly.

A. This sounds like a slack secondary

chain. Adjustment is simple and it is fully described in your Instruction Book.

Q. The information in my Instruction Book indicates that a tyre pressure of over 45 lbs. is required. Surely this is a mistake as the tyres of my father's car only need 25 lbs.

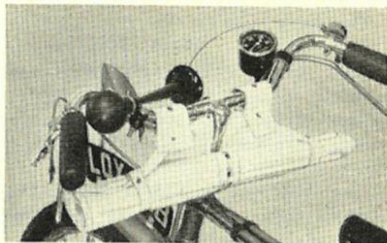
A. There is definitely no mistake about the tyre pressures we recommend. In the first place the weight of a car is supported on four wheels instead of two, but the main reasons are the different section of the tyres and the fact that the car is supported on a much bigger area. Therefore, a lower air pressure per square inch is quite satisfactory for the purpose.

WHAT'S NEW IN ACCESSORIES?

The Headen Leg Shield

WHEN you pass the window of your local Cyclomaster dealer, do you ever stop to have a look at the range of accessories that he has in stock? There are a good number which have been designed specifically for use with the Cyclomaster, and if there is something about your machine which causes an annoying irritation once in a while, such as mud splashing up from the front wheel or the absence of a bag to put the shopping in, it may well be worth your while to have a look at them.

Take the Headen leg shield for



example. This is the sort of accessory which will appeal to every Cyclomaster owner who is out in all weathers. It is designed to protect the rider from rain, snow and cold winds.

Fitted to the handlebars, the shield, which is made of double texture waterproof material, is made just wide enough to keep out the wet and the cold without extending the overall width of the bicycle.

At the price of £1 5s. 11d. it sounds like a good investment for the all-weather men. Most Cyclomaster dealers stock the shield, but if you have any difficulty in getting one, write to Cyclomaster Ltd.



The Webb Spring Fork

WE KNOW from the letters which reach our office that many owners of Cyclomasters travel long distances with their machines, both on business and for

pleasure. Now if one assumes, as I think it is fair to, that for every one that writes there must be twenty or more who always mean to but never quite get down to it, there must be a really impressive mileage being totted up throughout the country as the days go by.

But long-distance riding is not without its hardships. Bicycle tyres are not always the best shock absorbers, and a certain amount of fatigue is bound to occur through vibration, especially when the rider is travelling over country roads that are not up to scratch.

The Webb spring fork is designed to absorb that vibration and give the rider maximum comfort.

With this fork the stress is taken on a compression spring in the column tube. Perhaps one of the best features about it is that neither the position of the front spindle nor the front brake alignment are disturbed, so that there are no unexpected complications in fitting.

The standard model will suit 26 in. wheels, with up to 2 in. tyres, and all normal frame sizes. Two finishes are available; black or silver-grey.

The price is £3 15s. and once again you should find that your dealer can get you one, if he hasn't a stock. For record, the makers are H. C. Webb and Co. Ltd., Tame Road, Witton, Birmingham, 6.



A reader in Harrow sent us this photograph showing his "Cyclemaster" powered lawn mower. He says it has taken the hard work out of mowing and can be used when the ground is too wet to use a hand pushed mower. The mower itself gave several years reliable service before being converted to power drive, but the original bearings of the cutter cylinder do not appear to be heavy enough to satisfactorily take the added strain. Modifications are being made to overcome this difficulty

You really should know what the law says about . . .

Petrol Storage

By J. KERR

IT MAY not be generally known by Cyclemaster owners, that petrol may only be stored by persons who have been granted a licence by a Local Authority to do so, and that under the Petroleum (Consolidation) Act, 1928, a person who infringes this Act, is liable to a fine of £20 for each day on which the contravention occurs or continues.

There is, however, an exception which permits petrol to be stored without a licence, and that is, provided the petrol is kept in separate glass, earthenware or metal vessels, securely stopped, and containing not more than one pint in any

one vessel, a total quantity not exceeding three gallons may be stored without committing an offence.

To comply with the above conditions. I usually purchase one gallon of petrol, and after adding the requisite amount of oil, I divide the mixture immediately into bottles using a funnel fitted with a fine wire gauze.

Owing to the highly inflammable nature of petrol vapour, care should be taken, when "filling up," that there are no naked lights or fires nearby, especially when within enclosed premises.



Scarborough is the home of Mr. and Mrs. J. Brunt, both aged 65, but they get well away from there when they take their holiday. This year they made a fortnight tour of Wolberswich, Southwold and Suffolk. Their Cyclemaster-powered tandem covered 800 miles and used 4 gallons of petrol. The little girl seems to agree with us that that is quite a feat

Some Owners Suggestions

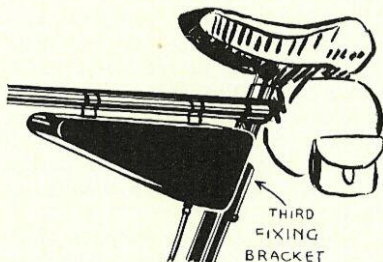
R. K. Britton, Leeds.

I think most of us Cyclenaster owners have a fuel carrying problem when making long journeys. The clip-on tin is a good idea, but it does not provide sufficient fuel to embark on a 170 mile trip such as I took recently.

I have enclosed all necessary information in order to make a secure and lasting fuel carrying device. I would be grateful if you would publish my article and diagrams so that readers with little mechanical knowledge can provide themselves with a useful spare tank and have a very nice hobby during the winter months.

Equipment. Tin sheet price 5s., tin snips, soldering equipment, petrol tap price 5s., rubber tube price 2s., and about 6 inches of $\frac{1}{8}$ inch bore brass tube.

Making. First paste some paper over one side of your tin sheet and then reproduce on it the layout given. Cut round with tin snips and bend over $\frac{1}{8}$ inch flanges. Bend at 90 degrees on dotted lines. Drill air vent, petrol tap and filler holes, (or cut out with snips). Bend round and solder up to complete shell of tank. Make accessories and fix on in positions given. Fix on about



1 inch of brass tube over air vent to prevent leakage (this can be soldered on and is very important). If this is not put on, petrol will run down the sides of the tank and on to your clothes, as I discovered while experimenting with my own tank. Lastly give the tank a test with water and then give it a few coats of petrol proof paint.

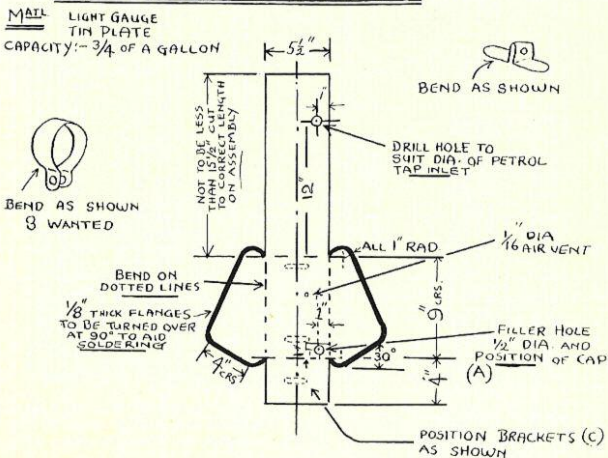
The tank is fitted to the cycle by clips which are made to suit the cycle frame. The position is shown in the illustration. The tube is used to fill the Cyclenaster tank and can be tucked under the lower frame when not in use.

I had no knowledge of sheet metal work except for design purposes so I am confident that all who decide to make such a tank will succeed and be as proud of it as I am.

Our Production Engineer's Comments . . .

In our opinion this petrol tank is a really good job, but we offer one or two suggestions to anyone who decides to make a similar tank. The main one concerns the method by which the lugs are attached to the tank

LAYOUT OF AUXILIARY PETROL TANK

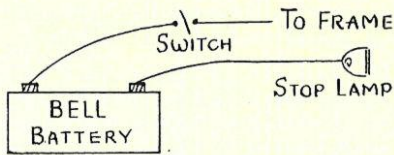


itself. Mr. Britton suggests soldering; we feel sure that an improvement will be made if the bracket is also riveted to the tank body. In view of the nature of the contents of the tank, however, it is important also to solder around the head of the rivets. An alternative method would be to make "U" clamps over the frame tubes and bolt these into nuts fastened into or on to the tank itself. In this way the tank could be fitted much nearer to the frame. We do not entirely understand Mr. Britton's method of attaching the filler but many modifications to this part of the tank can be envisaged which will enable individual requirements to be met quite easily.

D. Sutton, Godmanchester.

I have perfected a stop light on my Cyclomaster which is a great asset to me. I wonder if it would also be of interest to others.

I bought a battery with screw terminals and fitted this out of sight in a tin box under the carrier. From one terminal I took a wire down to a spare rear light and from the other terminal a wire to the handbrake and fastened it just under the clutch so



that when I pull up the brake the wire comes in contact with the clutch and so completes the circuit. My first attempt was successful. A drawing is enclosed.

Our Production Engineer's Comments . .

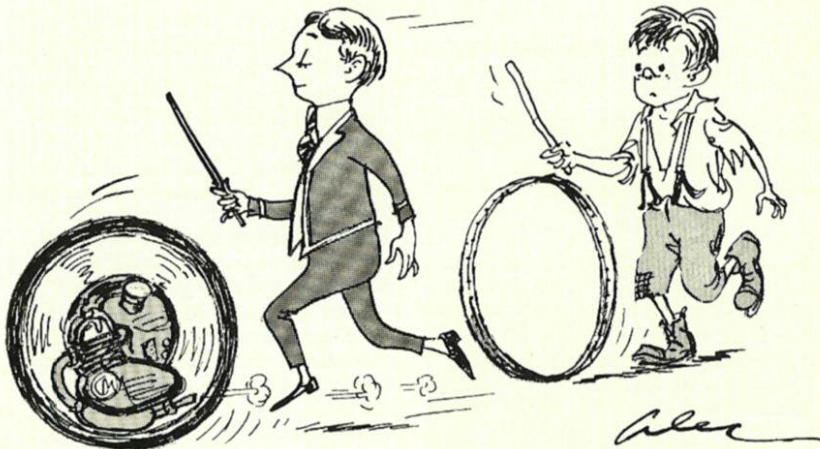
This is a very simple way of making a stop lamp and one which can be quite effective. No mention is made of the importance of insulating the wire from the brake lever so that it can only come into contact with metal when the brake is applied.

We think some of our readers may make a different form of switch and no doubt operate it from a different part of the braking system. It is important to make and fit the switch in such a way that no restriction is caused to the operation of the brake.

We have made slight alterations to Mr. Sutton's drawings but these do not alter his ideas in any way.

* * *

We would like to hear of other readers who have made "gadgets" for their machines. Send us a diagram with it, too. It helps a lot.



Dignity and Impudence

THE THINGS YOU SAY!

We receive hundreds of letters every week, and they are all dealt with promptly by post. Most of them deal with matters of interest only to the owners concerned. When points of general interest are raised, the letters, with brief comments, will be set aside for publication in this feature.

Rodent Extermination Too!

Dear Sir,

I would like to draw your attention to a most unusual application to which I put my Cyclomaster engine recently.

Having cause to believe there was a rats nest at the bottom of my garden, I fixed a length of rubber tubing to the exhaust, allowing a slit in the side for air in order not to stop the engine. I then put the length of hose down the hole and was amazed to see eleven of the little devils come out. Big ones, little ones and young ones.

Three of my neighbours and I killed the lot, and although my neighbours laughed at the idea at the time, they now agree that it worked the oracle.

Letchworth.

G. D. B.

(Well, that takes the biscuit and no mistake! It would be a difficult job to imagine a more unusual application for a Cyclomaster. But you never can tell. Does anyone else think they can challenge Mr. G. D. B's story with something even stranger?—Ed.)

King of the Speedway

Dear Sir,

I thought your readers might like to see this snapshot of young Leslie, now



seven years old, riding at speed! The machine was home-built, and he started using it when he was five.

The wheels are 12 in. by 1½ in., and the 25 c.c. engine provides the power, the drive being through a countershaft. Twist-grip controls are fitted for front brake and clutch, and Leslie uses these to full advantage, as he is able to run-start the machine on his own. He has visited most of the well-known circuits in England, and perhaps some day . . . ? Incidentally, Mum made the leathers.

Both ends of the family are enthusiastic Cyclomaster users, for Grand-dad has one, too.

Manchester.

G. E. M.

(Young Leslie looks as though he means to go places. Can any other readers send us snaps of unusual applications of the Cyclomaster engine?—Ed.)

Refusal to supply Petrol

Dear Sir,

Touring Kent during the last week in July, my wife and I, riding a tandem fitted with a Cyclomaster, ran low on petrol.

We eventually came to the old-world village of Elham, where to my surprise and disgust, on asking for a fill-up at the village garage, was answered by an attendant with a decisive and abrupt—“No, I can't help you.” I enquired for the next garage. “At the other end of the village” he replied. Here again I was refused.

After travelling for a couple of miles—more pedal than power—we reached a garage where a young man obliged.

What I should like to know is:—Have these garages a right to refuse, or, under the law should they have supplied me? Can something be done in a case like this?

Gillingham.

A. G. J.

(We understand there is no law which

compels petrol stations to supply. Have other readers had similar experience?—Ed.)

A Letter of Complaint

Dear Sir,

I have been intending to write to you to complain about my Cyclemaster A.39359 for some years, but have waited until I was sure of my facts.

I bought the Cyclemaster in September 1951 for use on my job as an insurance official. I am out in all weathers and must have absolute reliability, as a breakdown means missed appointments. My local cycle dealer recommended the Cyclemaster.

Consider what I had to put up with!

At 22,000 miles I had to buy a new back tyre. The tread was quite good but it had a twist in it; possibly because I rode 500 miles with a badly-buckled wheel.

At 30,000 I had to fit new piston rings.

At 36,000 I took the engine to pieces to see why it kept on going. I found the clutch cork inserts not worn enough to justify replacement; the chain was absolutely as new; main and big end bearings free from wear. Just a waste of time!

I have now spent practically £1 on various replacements; this works out at 1s. for 1,800 miles—quite apart from cleaning rags. At this rate I shall be put to more expense before I cover the next 36,000 miles; quite likely the plug will wear out. (I had to take it out and poke it clean in February 1953).

I have to keep on putting petrol in it; almost a whole gallon every 250 miles, and the free wheel needs oiling sometimes.

I intend to give it a fair trial—say another ten years or so—then I shall get something better.

Something cheaper to run, less repair costs.

A pair of wings.
Northenden.

R. L.

(Obviously Mr. R. L. is a perfectionist. We wonder whether it would be possible to get the manufacturing rights of wings.—Ed.)

Two Feet of Water

Dear Sir,

Looking through some snaps I took while on holiday, I found the enclosed. I thought you might like to see it and have a good smile—as I did. I covered nearly five hundred miles loaded like this—on less than three gallons of petrol and not a bit of trouble. I once went along a part of the Great West Road that was under two feet of water without having to stop—although there were plenty of cars marooned. The drivers looked at me . . . lost for words.

Hammersmith.

F. A.



(We should have been lost for words, too. In fact we still are.—Ed.)

A Truly Marathon Run

Dear Sir,

I have just completed a journey from Salford to Blairgowrie in Perthshire and back again on my 25 c.c. Cyclemaster. This is the sixth time I have done the trip since I bought the machine in 1951 and it is still giving excellent service.

I used nearly four gallons of petrol altogether and covered 357 miles each way, making a total of 714 miles.

I should be interested to know if there are any other Cyclemaster owners who have done comparable journeys without stopping *en route*.

My machine is in use seven days a week and has also carried me to such distant spots as Blackpool, Doncaster, Carshalton, Southport, Edinburgh and many others. The registered mileage is now over 47,000 and I still have no trouble.

Salford.

E. N.

(It makes us gasp just to think of it! We, too, would be interested to hear of anyone doing more than 357 miles in one go. And who has a total mileage of over 47,000?—Ed.)

JUST TICKING OVER... By The Idler

How many Cyclemasters are there in the Bournemouth and Poole area? Quite a number, I should think, judging by those formidable hills around there. I know I shouldn't want to use an ordinary cycle in those parts regularly. Anyway, there is one Cyclemaster owner in that area who thinks the number of Cyclemaster users would warrant the forming of a club. He is Mr. L. A. White, of 75 Herbert Avenue, Parkstone, Dorset. If any readers are interested will they drop him a line direct.

* * *

In our last issue the article about Esperanto, which has created considerable interest among our readers, we omitted to mention that it was written by Avoto, who is well-known in the Esperantist world for his articles about the language.

* * *

Bed and Breakfast at 10s. or less seems a rather forlorn hope in these days of high prices doesn't it? But it seems that normal standards do not apply among the happy fraternity of Cyclemaster owners, for I have received a letter from Mrs. J. Parker in Weymouth in answer to the letter which

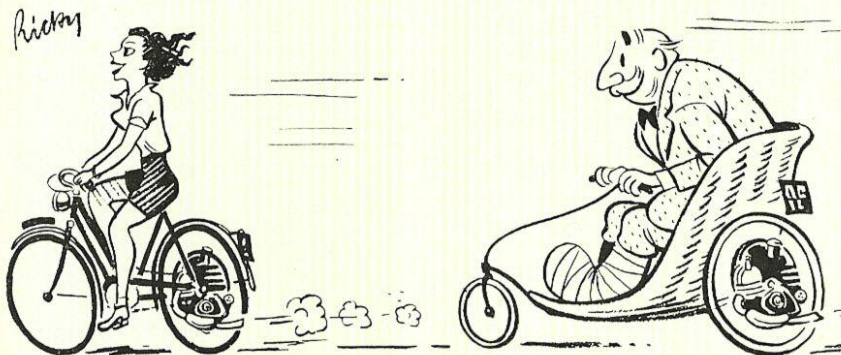
appeared in our July issue. She says that as she and her husband are Cyclemaster users they would be pleased to offer accommodation at their home, Woodside Bungalow, Fleet House Farm, Fleet, Weymouth, Dorset at the figure mentioned. They have particular sympathy for the plight of retired pensioners as Mr. Parker is one too. A very neighbourly gesture I think, don't you?

* * *

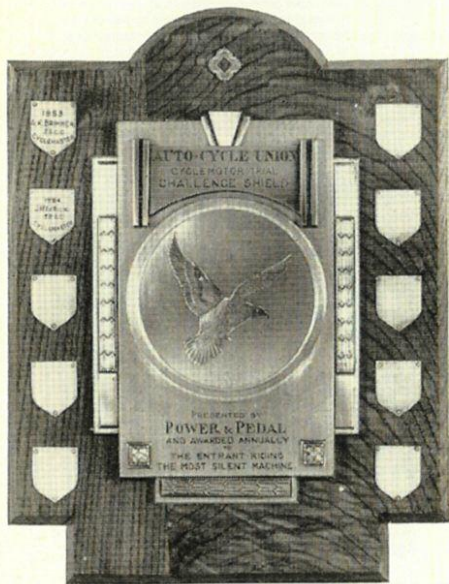
I hope there are not too many of our readers who have relapsed into a happy state of mind about lights and reflectors because of the editorial in the July *Magic Wheel*, for we slipped up over one point. Reflectors are required on existing bicycles this year. October 1st is the deadline so if you have not yet fixed yours you'll know why the Bobby on the corner gives you a peculiar look as you go by. Better hop to it!

* * *

My protest about the use by responsible journalists of expressions like "pop pop" to describe bicycles with auxiliary engines has been quoted in quite a few papers, but, alas, it does not seem to have had any effect. Since I wrote it I have collected three more ridiculous terms—"Buzz-Buzz," "Putt-



Putt" and "Chug-Chug." Protesting to motoring correspondents is about as effective as scratching the dome of St. Paul's to tickle the Dean and Chapter.



It was noted in our last issue that the Cyclmaster had shown up well in the annual trial for cyclomotors held earlier in the year over a 35 mile course in Kent and Surrey. I thought you might like to see a picture of the shield that was won by Mr. J. F. Meyrick for the quietest machine in the rally. This is the second year that a Cyclmaster has carried off the award. Something to be proud of, I think, in these days when some cyclomotors are accused of disturbing the peace with their exhaust notes. The shield was presented by the journal *Power and Pedal*.

* * *

You may have noticed, when you read the July *Magic Wheel* that the caption underneath the picture of a Cyclmaster fitted with a sidecar, which appeared on page 28, was a little misleading. It said that the cycle hub nut was extended about 3 inches and then referred to the extension later as $\frac{3}{8}$ inch. This was a printing error, of course. The extension was definitely 3 inches.

Cyclists' Touring Club

The reason why power-assisted cyclists cannot enjoy its amenities

WE HAVE had many letters from our readers asking why it is not possible for Cyclmaster owners to enjoy the amenities of the Cyclists' Touring Clubs, particularly in regard to facilities for accommodation at a moderate price.

We have been in correspondence with the Secretary of the Cyclists' Touring Club asking the reason for this and he has very kindly replied giving the reason. He says:—

"It is not correct to say that we have declined to help the motor cycle section of the community. The position is that as the result of a High Court decision at the beginning of the century when the C.T.C. wished to expand its

scope to include mechanically propelled vehicles, it was laid down that we could not do so. Since then we have naturally limited our activities to riders of bicycles that are not mechanically propelled. We have no hostility whatever towards the users of machines of whatever size, and we do indeed know that many of our members use mechanically assisted bicycles. So far as we are concerned, however, they cannot benefit from C.T.C. facilities except when they are riders of bicycles without mechanical propulsion."

We feel sure that this letter will satisfy our many correspondents that this position is no fault of the Cyclists' Touring Club.

SOME OF THE 1,400 POINTS WHERE YOU CAN GET GOOD

Cyclemaster SERVICE

Many readers have asked us to publish a list of all dealers from whom they can obtain service and parts: that we are afraid, would occupy too many pages. On the other hand, there are many dealers who wish to advertise such service, and here is a list. Dealers who wish to be included can obtain full details from Cyclemaster Ltd.

BEDFORDSHIRE		Telephone	LANCASHIRE (cont.)		Telephone
BEDFORD.	J. P. Simmons & Sons Ltd., 43-49 Tavistock Street.	2984	LIVERPOOL, 2.	Bob Sargent Ltd., Moorfields.	Central 7398
LUTON.	Dickinson & Adams (Luton) Ltd., Bridge Street.	3535	MANCHESTER.	Graham Bros. (Motors) Ltd., 7-15 Peter Street.	Blackfriars 9887/8/9
BERKSHIRE			MANCHESTER.	Tom Mellor Ltd., 274 Deansgate.	Deansgate 6181/2
READING.	Great Western Motors (A City Motors, Oxford, Branch), 12-14 Station Road.	3036	MANCHESTER, 20.	Saxon Jefferis Ltd., 674 Wilmslow Road, Didsbury.	Didsbury 3446 and 5340
CORNWALL			PRESTON.	Barton Motors (Preston) Ltd., Corporation Street.	3203
ST. AUSTELL.	R. S. Damerell & Son, Whitemoor and High Street, Nr. St. Austell.	—	URMSTON.	Jack Bamford, 114 Flixton Road.	2388
DERBYSHIRE			LEICESTERSHIRE		
DERBY.	Kenings Ltd., Queen Street.	40211	LEICESTER.	A. & P. Radio & Cycle Stores, 15-17 Knighton Fields Road West.	32731
DEVONSHIRE			LEICESTER.	Batchelor Bowles & Co. Ltd., 60 London Road.	60268
PLYMOUTH.	P. Pike & Co. Ltd., 88 Union Street.	3108	LEICESTER.	Reader's, 61/63 Aylestone Road.	59554
EXETER.	B. R. Warne, Bottom of South Street	55108	LEICESTER.	Smith & Parker, 75½ Narborough Road.	65360
DURHAM			LINCOLNSHIRE		
DARLINGTON.	White Bros. (Darlington) Ltd., 205-209 Northgate.	2379	GRANTHAM.	Grantham & District Motor Cycle Centre, 6 London Road.	789
ESSEX			LONDON		
CHELMSFORD.	County Motor Works (Chelmsford) Ltd., Duke Street, (Opposite Station).	3674/5	EAST DULWICH.	Bellamy's, 3 Lordship Lane, S.E.22.	New Cross 0666
ROMFORD.	Kenistons, Victoria Road.	6283	HAMMERSMITH.	Lawson Pigott Motors Ltd., 320/22 King Street, W.6	RIV 4111
HAMPSHIRE			LEE GREEN.	Penfold Motors, 2-22 Burnt Ash Road, S.E.12	1202/3/4/5/6
ANDOVER.	Anna Valley Motors, (Andover) Ltd., Bridge Street.	2344/5	WALTHAMSTOW.	Jack Nice, 129 Grove Road, E.17.	Coppermill 1920
ROMSEY.	Davidson's, Bell Street.	2109	MIDDLESEX		
HERTFORDSHIRE			NORTHWOOD.	Colliver Fisher at Northwood Ltd., 14 Station Parade.	777
HODDESDON.	Norris's, 16 Amwell Street.	3266	POTTERS BAR.	F. W. Andrews, 6 Hatfield Road.	4410
NEW BARNET.	Lawson Pigott Motors Ltd., 184/6 East Barnet Road.	BAR 2353	NORTHAMPTONSHIRE		
ST. ALBANS.	Grimaldi Bros. Ltd., 188 Hatfield Road.	5595/6	NORTHAMPTON.	Grose Ltd., Marefair.	31682
WELWYN GARDEN CITY.	Dickinson & Adams Ltd., Bridge Road.	32623	NORTHUMBERLAND		
KENT			NEWCASTLE-ON-TYNE.	George & Jobling, Forth Street.	23105
ASHFORD.	C. Hayward & Son, 20-46 New Street.	334	NOTTINGHAMSHIRE		
BROMLEY.	Davis & Hill Ltd., 101 Bromley Common	Ravensbourne 2634/5 and 3020	MANSFIELD.	W. S. Humphry Ltd., Albert Street.	1205
BROMLEY.	H. E. Hills & Son, 481 Bromley Road, Downham.	HIT. 4197	OXFORDSHIRE		
CHATHAM.	The Chatham Motor Co. Ltd., Railway Street.	3413/4 and 45865	HENLEY-ON-THAMES.	City Motors Ltd., Reading Road.	1115
DARTFORD.	E. C. Bate, 62 West Hill and 32 Lowfield Street.	2748 and 3548	COWLEY.	Oxford. P. Church, Hollow Way.	Oxford 77094
FOLKESTONE.	Martin Walter Ltd., 235-241 Cheriton Road.	3103	OXFORD.	City Motors, Gloucester Green.	2231/2/3
SEVENOAKS.	Angus Motor Cycles, (A. S. Herbert), 4-7 Station Parade.	3338	STAFFORDSHIRE		
LANCASHIRE			BILSTON.	Hines of Bilston, 29 High Street.	42200
BOLTON.	Bradburys, 55 Bridge Street.	5781	SURREY		
LIVERPOOL, 1.	J. Blake & Co. Ltd., 110 Bold Street.	Royal 6622	CROYDON.	Westbrook & Marley Ltd., 14-16 Park Street.	2061

Continued opposite

SOME OF THE 1,400 POINTS WHERE YOU CAN GET GOOD

Cyclemaster SERVICE

(Continued from opposite page)

	Telephone		Telephone
SURREY (cont.)			
FARNHAM. Heath Bros., 119-120 East Street.	6477	YORKSHIRE (East)	
GUILDFORD. Stanley Godfrey & Co., Onslow Street and Bridge Street.	2212	HULL. Jordan & Co. (Hull) Ltd., Story Street.	36809
REDHILL. W. & L. Wheeler Ltd., 17-19 Cromwell Road.	938	YORKSHIRE (North)	
RICHMOND. Grand Garages (Richmond) Ltd., The Circus, Kew Road.	3833	YORK. Bensons for Bikes, 45 Goodramgate.	2702
WARWICKSHIRE			
BIRMINGHAM, 6. Aston-Auto-Motors, 173/77 Aston Road.	ASTon Cross 3201/2	YORK. North Riding Motors Ltd., Clarence Street.	3220
BIRMINGHAM, 14. H. Jones, 1052 Yardley Wood Road.	War. 2554	YORKSHIRE (West)	
BIRMINGHAM, 27. Smith's Garage, (Acocks Green) Ltd., 164/6 Yardley Road, Acocks Green.	ACO. 1079	LEEDS. Rowland Winn Ltd., County Garage, Woodhouse Lane.	32221 (6 lines)
BIRMINGHAM, 4. Whitworth's, 14 Corporation Street.	Central 3965	SHEFFIELD. Frank B. Roper Ltd., 158 London Road.	51011/2
COVENTRY. Frettons of Coventry, 4 Fretton Street, Off Corporation Street.	62919	WAKEFIELD. J. B. Smith, 26 Wood Street	3146
LEAMINGTON. Frettons of Leamington, 15 Clemens Street.	338	SCOTLAND	
WARWICK. J. L. Vaughan, 9 Old Square. (Also at Leamington and Kenilworth).	Warwick 621	S.M.T. Sales & Service Co. Ltd., All Branches.	
WORCESTERSHIRE			
WORCESTER. H. A. Saunders Ltd., 34 Foregate Street.	2495	GLASGOW. John MacLean, 378, Cathcart Road.	Pollock 2823
WALES—DENBIGHSHIRE			
GLAMORGAN			
		CARDIFF. Glanfield Lawrence (Cardiff) Ltd., 2-10 City Road.	55281 20531

GIVE IT A

Shining Glass Hard Finish

WITH NO BRUSHMARKS!

You could do it this evening and turn out tomorrow with your machine looking sparkling new! It's easy with Brushing Belco; just brush on, and you'll have a brilliant hard finish that's smooth as glass—no brushmarks! Ask your dealer about Brushing Belco—23 colours plus black, white, aluminium and clear, in sizes from $\frac{1}{4}$ pint upwards.

CELLULOSE BRUSHING **BELCO**

THE SMARTEST BUY!

IT'S AN



PAINT

TIPS *worth* REMEMBERING

By
The Engineering Manager

Ignition failure in wet weather

Since the introduction of the ignition suppressor, one or two complaints have been received concerning complete ignition failure during heavy rain. A few of these failures have been traced to water getting through the rubber bush where the plug lead comes from the engine casing.

If the grommet is in good condition and no sideways tension put on the cable, we cannot see how water can get in, but one of our readers tells us that he has made an efficient water seal very easily and cheaply. He has used a round cycle tube patch in which he has cut a small hole in the centre. This was then pulled over the plug lead from the plug terminal end, then it was positioned over the grommet, fastening the outer end of the patch to the casing by means of a rubber solution.

We feel that this method of rectification is much simpler than replacing the grommet and we compliment the reader on his ingenuity. The only disadvantage we can see is that the patch may loosen due to the operating heat of the engine and of course, the patch will have to be torn away and replaced with a new one if the lead has to be removed for any other cause.

Tyre Pressures

One of our readers tells us that on a recent visit to a petrol station he inflated his tyres with the use of their airline and pressure gauge. He was rather surprised that the pointer did not show some pressure until suddenly the needle shot up to 80 lbs. He feels rather anxious about the bad effects of an incident of this sort and wonders if serious damage would have resulted if the pressure had gone any higher.

We have not heard of any other case of this sort and cannot imagine that it will happen very often. The modern

pressure gauge is very reliable. The incident, however, prompts one word of warning. The pressure delivered by these airlines is usually in the region of 100 lbs. per square inch and this means that the input of air into your tyre will be quite rapid. There is obviously much less room for it in a cycle tyre than in a car tyre, and we recommend, therefore, that you operate the control valve very gently so there is no possibility of serious over-inflation.

Carburettor Throttle Valve (Amal)

Those owners of Cyclomasters fitted with Amal carburettors will probably know that this type incorporates a throttle valve which looks something like a small aluminium cylinder.

The function of the valve is to control the amount of explosive gas entering the cylinder; that is why it is controlled by the throttle lever. The whole assembly, (valve needle, return spring and cap), can be lifted out of the carburettor by unscrewing the knurled cap at the top of the mixing chamber, but if you take it out make quite sure that it is refitted the right way round. On the near side of the carburettor, that is the side nearest to you when you are looking at the engine, you will see a small cheese headed screw. The point of this screw projects through the wall of the mixing chamber sufficiently to engage with a vertical groove which is cut in one side of the throttle valve. If this screw is lost the throttle valve may rotate and seriously upset the efficient running of the engine. On the other side of the valve there is another slot which enables the end of the throttle control wire to be attached to the valve. This slot, incidentally, is much deeper than the locating groove. If care is not exercised it is possible for the valve to be fitted the wrong way round so that

(Continued on page 72)

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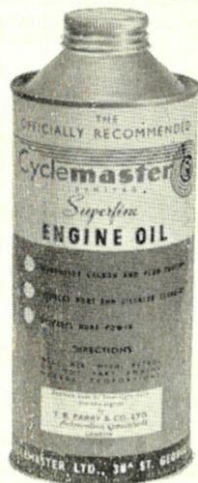
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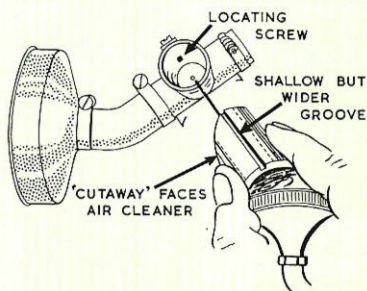


3/10

IN QUART
TINS

(Continued from page 70)

the locking screw engages with the cable slot instead of its proper groove. The best way of checking this is to remove the air cleaner and elbow from the inlet of the carburettor and then make sure that the cut away portion at the bottom of the valve faces the incoming air. The illustration shows quite clearly that the cut away faces the air cleaner and the shallow but wider groove fits over the locating screw. Whilst the air cleaner and elbow are removed it is a good idea to operate the handlebar control lever and make sure that the throttle valve is sliding freely up and down the bore of the mixing chamber. When the handlebar lever is completely closed it is important that the throttle valve prevents any air going through into the engine. If the locating screw has been lost for any reason it is advisable to remove the valve before fitting a new screw into the mixing chamber. If this precaution is not taken there is a danger that the end of the screw will tighten on to the valve itself causing it to stick and perhaps damaging the surface so that further repairs will become necessary.



The correct method of refitting the throttle valve to Amal Carburettor.

Heavy Clutch Operation

One of the main reasons for a stiff clutch is a dry inner cable. Greasing this cable throughout its entire length is rather difficult because it means removing one of the nipples and then withdrawing the cable from its sheath. This operation will never be required if precautions are taken to add a small

quantity of oil to the ends of the inner wire at regular intervals. Continuous operation of the clutch causes this oil to travel down the wire and eventually the whole length will be adequately lubricated. To do the job more quickly, without dismantling the cable, it is a good idea to detach it from the handlebar lever and the frame clips and then hold straight up. Thin oil should then be added to the top end of the inner cable allowing it to run down inside the inner casing. Grasp the inner cable nipple and work it up and down until the oil has disappeared and add more oil repeating the process until such time as the oil comes through at the engine end. This may take some time but it is well worth while.

When refitting the cable into the frame clips make sure that it is not bent sharply in any place throughout its length. It is advisable to test the handlebar lever itself for free movement before attaching the freshly oiled cable to it. The only other external point which can cause stiff clutch operation is incorrect adjustment of the clutch at the engine. If you refer to your instruction book you will see that normal adjustment is provided by an external adjusting nipple and subsequent major adjustments through an adjusting screw inside the "CM" engine cover. When the external adjusting nipple is positioned approximately half way along its length of thread it normally provides the correct relationship between the inner cable and the operating arm. These should be approximately at right angles to one another with the clutch handlebar lever in the disengaged position. If you follow the adjustment instructions in your Instruction Book it will easily be seen that screwing the external adjustment outwards and the main adjustment to the left will raise the position of the operating arm and vice versa.

* * *

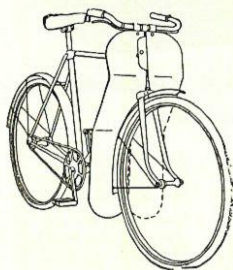
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