

ADJUSTMENT

OF

WHITE & POPPE
CARBURETTOR



Foreword



EVERY driver will have noticed how quite a slight alteration to the strength of the mixture affects the power of the engine. Frequently it makes all the difference between good and poor pulling.

Although imperfect carburation is a common trouble, the carburettor itself is not usually at fault.

For instance, the accumulation of carbon in the cylinder heads, the development of loss of compression through say pitted valves, or worn rings, the wear of valve guides, all have a direct bearing on the strength of the mixture required.

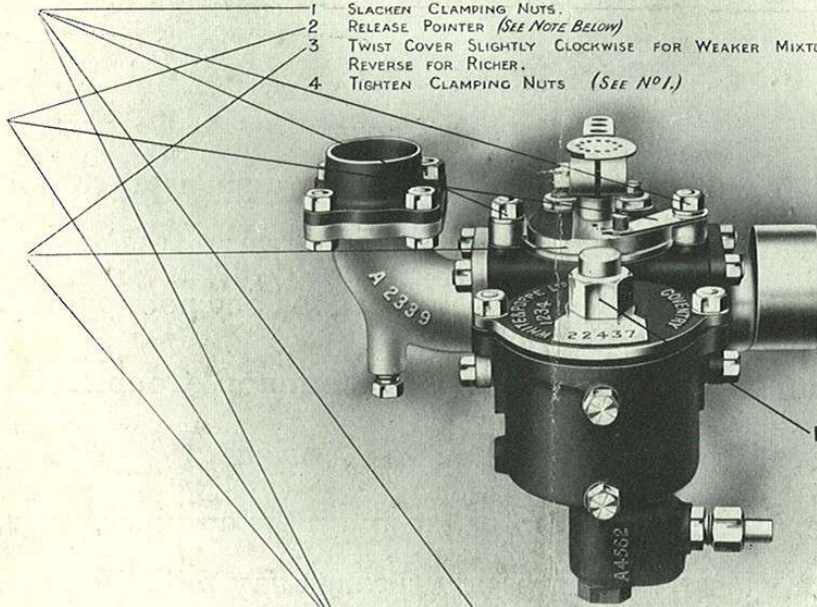
The carburettor that can be readily adjusted to meet the particular state of the engine is therefore a great boon, as by altering the mixture strength from time to time as required, the engine can be kept in good tune for long periods.

Simplicity of adjustment is one of the outstanding advantages of White & Poppe Carburettors. The adjustments are accessibly situated on the outside and no expert knowledge is required to make full use of them.

The illustrations that follow show how to adjust and look after one of the types of W. & P. carburettors—Type A, of which considerable quantities have been sold. Some pages have also been devoted to items of general interest such as "the use of Benzole," etc.

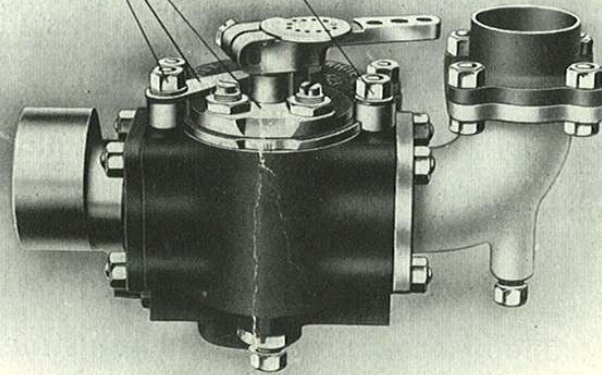
TO ALTER THE MAIN ADJUSTMENT

- 1 SLACKEN CLAMPING NUTS.
- 2 RELEASE POINTER (SEE NOTE BELOW)
- 3 TWIST COVER SLIGHTLY CLOCKWISE FOR WEAKER MIXTURE,
REVERSE FOR RICHER.
- 4 TIGHTEN CLAMPING NUTS (SEE N^O1.)



TO FLOOD CARBURETTOR.

1. REMOVE CAP OVER NEEDLE AND GENTLY LIFT NEEDLE BY ITS PROJECTING END.

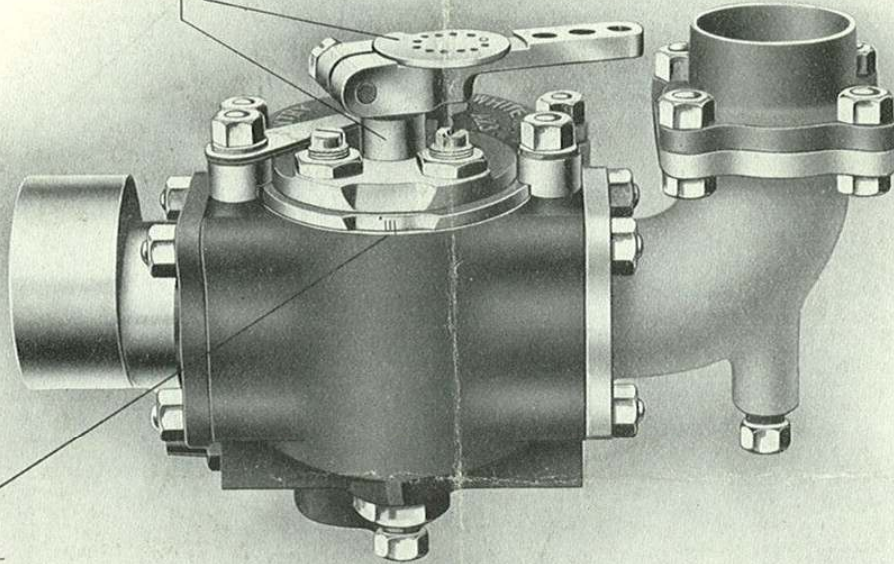


Before altering the main adjustment it is advisable to first decide by experiment with the extra air disc (see page 3), whether a weaker or richer mixture is needed. Perhaps an adjustment of the extra air disc is all that is necessary.

The pointer, "2," can be dispensed with and removed. Graduation marks will be found on the rim of the throttle chamber to indicate the setting.

TO ALTER THE EXTRA AIR ADJUSTMENT.

1. ADMIT MORE OR LESS AIR AS DESIRED THROUGH SPINDLE.
2. BY RESETTING DISC.



NOTE:-

IF WHEN THE ENGINE IS RUNNING SLOWLY THE DISC ON THE OPERATING LEVER CAN BE SET IN NO 5 HOLE, OR STILL MORE OPEN, WITHOUT THE ENGINE STOPPING, THE MAIN ADJUSTMENT CAN PROBABLY BE SET WEAKER WITH ADVANTAGE ON THE LINES SUGGESTED BELOW.

USUAL SETTING.		WITH DISC IN NO 3 OR NO 4 HOLE.
TO SUIT LOW COMPRESSION ENGINE		DITTO
TO SUIT ENGINES THAT ACCELERATE BADLY		DITTO
TO SUIT ENGINES THAT START BADLY,	BETWEEN AND	WITH DISC IN NO 0 OR NO 1 HOLE.

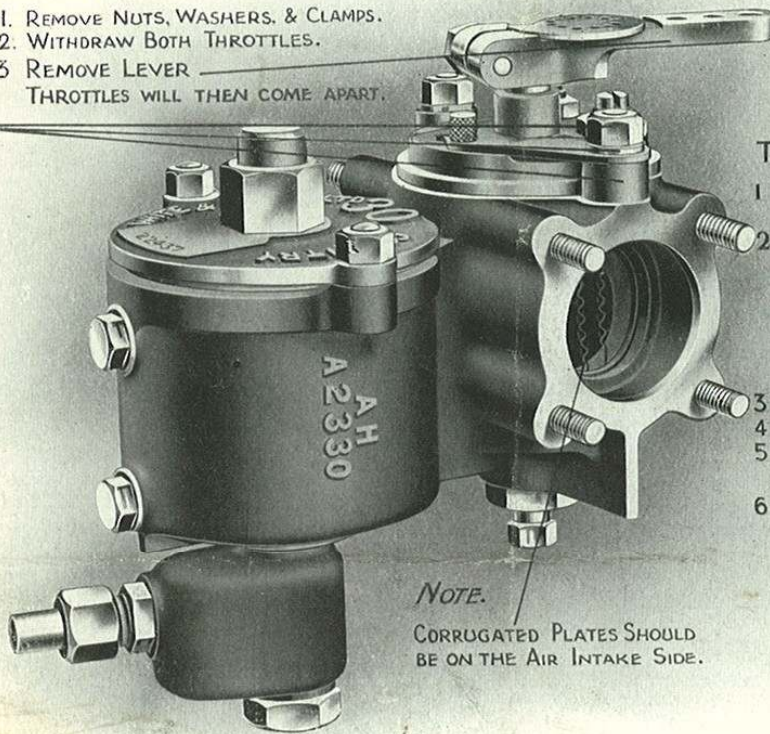
With White & Poppe carburettors the throttle should be almost closed for starting up.

There is no necessity for flooding the float chamber.

If petrol has accumulated in the carburettor, partly open the throttle for starting up.

HOW TO REMOVE THE THROTTLES.

1. REMOVE NUTS, WASHERS, & CLAMPS.
2. WITHDRAW BOTH THROTTLES.
3. REMOVE LEVER.
THROTTLES WILL THEN COME APART.



TO REPLACE THROTTLES

1. REFIT SPRING AND WASHER OVER THROTTLE STEM
2. INSERT INNER THROTTLE IN OUTER THROTTLE MAKING SURE THAT THE PEG ON THE INNER THROTTLE IS LOCATED BETWEEN THE TWO STOPS IN THE COVER OF THE OUTER THROTTLE.
3. REPLACE THROTTLES IN BODY
4. REFIT CLAMPS, WASHERS, & NUTS.
5. RESET COVER IN ORIGINAL POSITION ACCORDING TO GRADUATION MARKS.
6. TIGHTEN HOLDING DOWN NUTS.

NOTE.

CORRUGATED PLATES SHOULD BE ON THE AIR INTAKE SIDE.

There is no risk of trouble after dismantling the carburettor if care is taken to see that the peg on the top of the inner throttle is located between the two stops of the outer throttle. The clamping nuts should be tightened sufficiently to prevent movement of the outside throttle but not tight enough to cause a stiff working throttle.

The hole in the jet should be on the side nearest to the inlet pipe to engine.

TO CLEAN OUT THE FLOAT CHAMBER.
AFTER TURNING OFF THE PETROL:-

1. REMOVE LID AND FLOAT
2. REMOVE DIRT TRAP (See Below)
3. SWILL OUT FLOAT CHAMBER WITH PETROL.

N.B. MAKE SURE THAT THERE IS NO HAIR OR FINE SEDIMENT ON NEEDLE SEAT.

TO DRAIN THE THROTTLE CHAMBER.

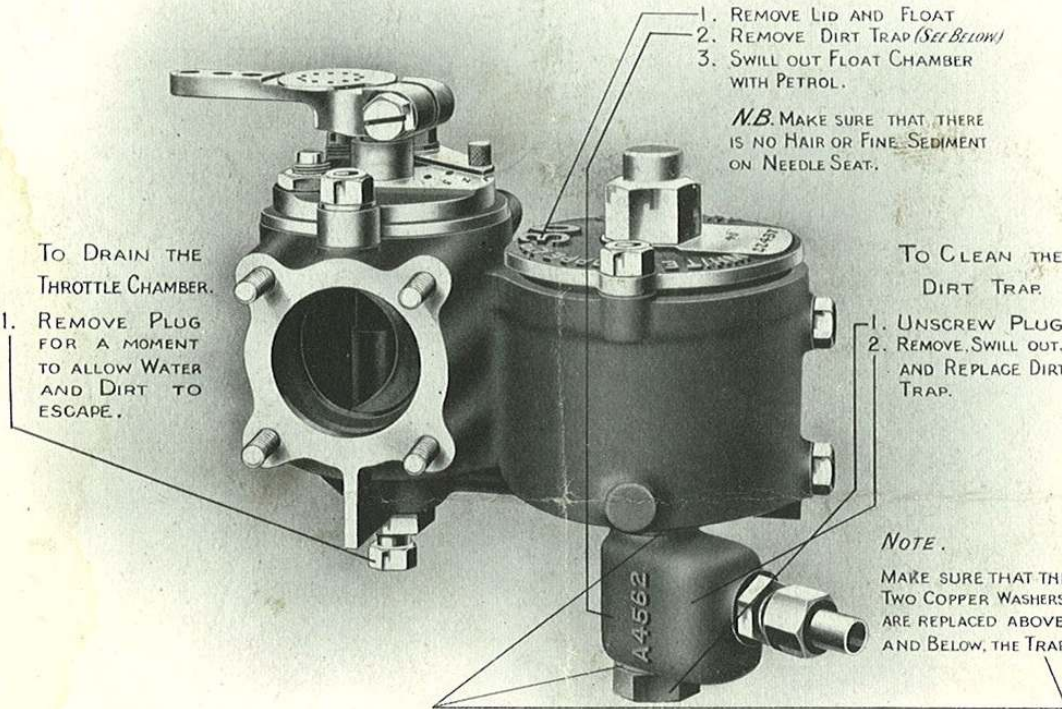
1. REMOVE PLUG FOR A MOMENT TO ALLOW WATER AND DIRT TO ESCAPE.

TO CLEAN THE DIRT TRAP

1. UNSCREW PLUG
2. REMOVE, SWILL OUT, AND REPLACE DIRT TRAP.

NOTE.

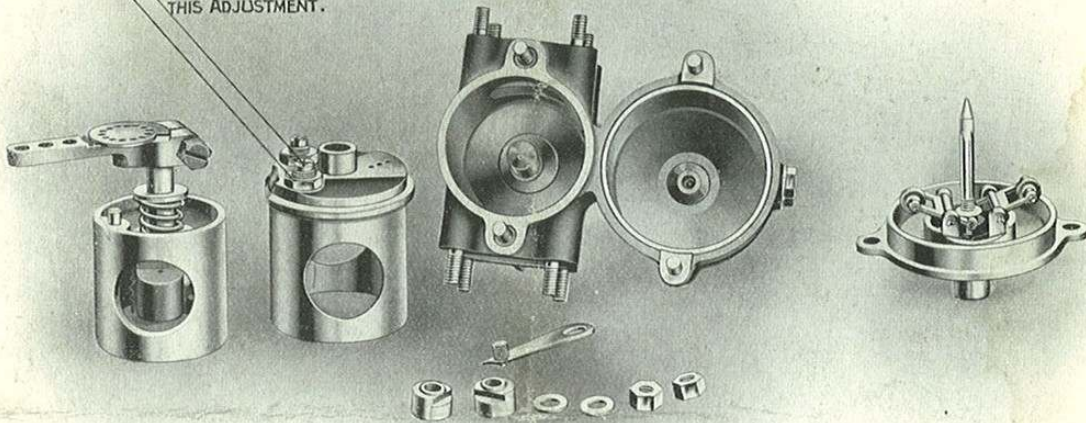
MAKE SURE THAT THE TWO COPPER WASHERS, ARE REPLACED ABOVE, AND BELOW, THE TRAP.



If Benzole is used, the large plug in the base of the throttle chamber should be occasionally removed, and the inside of the jet cleaned with a piece of cotton rag on the unpointed end of a pencil.

TO ALTER THE SLOW RUNNING STOP.

1. SLACKEN LOCKNUT.
2. TURN ARROW MARKED STOP SCREW SO THAT ARROW POINTS MORE TOWARDS CENTRE OF INTAKE FLANGE FOR SLOWER RUNNING. *Note.* THE CARBURETTOR SHOULD NOT BE TAKEN APART FOR THIS ADJUSTMENT.

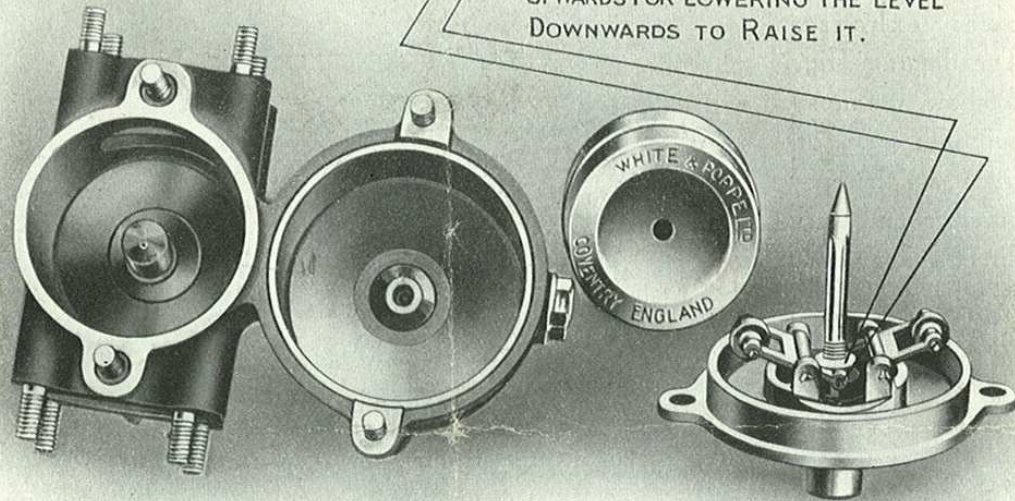


It will sometimes be found necessary to re-adjust the slow running stop after altering the main adjustment of the carburettor, see page 2.

If, after setting the carburettor to give a richer mixture it is found that the engine will not continue to run dead slow although extra air is admitted through the disc, the slow running stop should be set to prevent the throttle from closing so far.

TO ADJUST THE PETROL LEVEL.

1. REMOVE SPLIT PIN.
2. GIVE HALF TURN TO COLLAR, UPWARDS FOR LOWERING THE LEVEL DOWNWARDS TO RAISE IT.



The correct level for the petrol is $\frac{1}{32}$ " below the surface of the hole in the jet proper.

If Benzole is used, the float should be weighted $\frac{1}{8}$ th of an ounce by placing a washer on the float. The needle should be threaded through it.

The Fitting.

Many a carburettor is prevented from displaying its good features by being fitted up incorrectly. The mistake most frequently made is the fitting of a warm air pipe that is too small in internal diameter. A little consideration will show that such a pipe, by restricting the air supply, will promote an increased suction of petrol from the jet. It is a simple matter to have the correct size of pipe fitted in the first place, and it will then be found that the carburettor, working under suitable conditions, will give smooth running, full power, economical consumption, no over-heating, and a clean exhaust.

The diagram (fig. 4) shows the most suitable way of fitting up the carburettor and full directions. Whenever possible the inlet pipe should be water heated; if this is carried

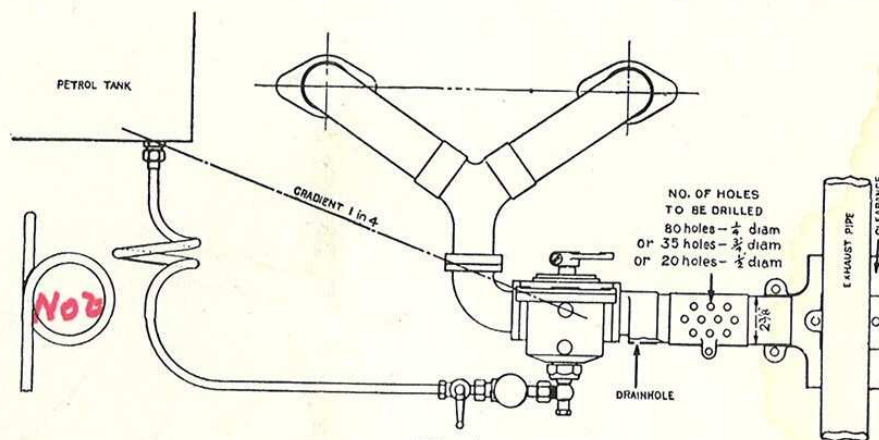


Fig. 4.

out effectively the provision of warm air may be dispensed with.

In connecting up the carburettor to the inlet pipe special care should be taken to see that the joint is perfectly gas-tight. Boiled oil, which can be obtained in tubes, is of great assistance. Any air that gets into the inlet pipe or into the cylinder heads direct without passing through the carburettor will cause irregular running and difficulty in starting.

The Correct Way to Fit the Petrol Pipe.

When taking the petrol pipe from the tank to the carburettor it is always advisable to have a loop in it, so that there is sufficient spring left in the pipe to avoid straining the joints at either end. This loop, however, should be kept horizontal, as shown in fig. 4. If turned up or down, as shown at the side of the diagram, there will be a tendency for dirt and water to accumulate, and this will gradually cause a sluggish flow of petrol, if not an entire stoppage.

Whilst on this subject we would remind readers of the advisability of cleaning the petrol tank out occasionally. The quantity of water and sludge that will collect in a petrol tank is surprising, especially if the petrol be pressure-fed to the carburettor. This collects, as a rule, over the outlet, and may cause a partial petrol lock and erratic running.

The Proper Place for the Filter.

If a carburettor suddenly gives trouble there is usually some outside reason for the fact, and very frequently it is found to be the absence of a proper filter. To continue to work efficiently the carburettor must be protected from dirt or impurities, which all too frequently find residence in the petrol. Petrol is a very active scouring agent, and if there be any scale, impurity, or dirt about, it will carry it, if possible, to the carburettor and deposit it in the most inconvenient place. Fitting a good filter close to the carburettor is all that is necessary, excepting occasionally to clean the gauze, when care should be taken not to tear it. If dirt be found in the carburettor the pipe between the carburettor and the filter should be thoroughly cleaned.

The Correct Size of Carburettor.

The size of the carburettor depends chiefly on the diameter of the inlet valve port and the lift of the inlet valve, and the accompanying diagram shows at a glance the size of carburettor suitable when these dimensions are taken into consideration. If a carburettor that is too large be fitted it will not be possible to open the throttle to the full extent, or more gas

would be provided than the engine could take; if, on the other hand, a carburettor that is too small be fitted, it will be possible to open the throttle to the full extent, but the smallness of the carburettor will restrict the power of the engine by not providing enough gas. If it be necessary to decide whether a carburettor somewhat too large or somewhat too small is to be chosen, it should be remembered that a small carburettor makes for rapid acceleration and flexibility but sacrifices something of power at high engine speeds, whilst a large carburettor can provide the maximum power the engine will develop, but it will not be possible to open the throttle quite so quickly as with the smaller carburettor.

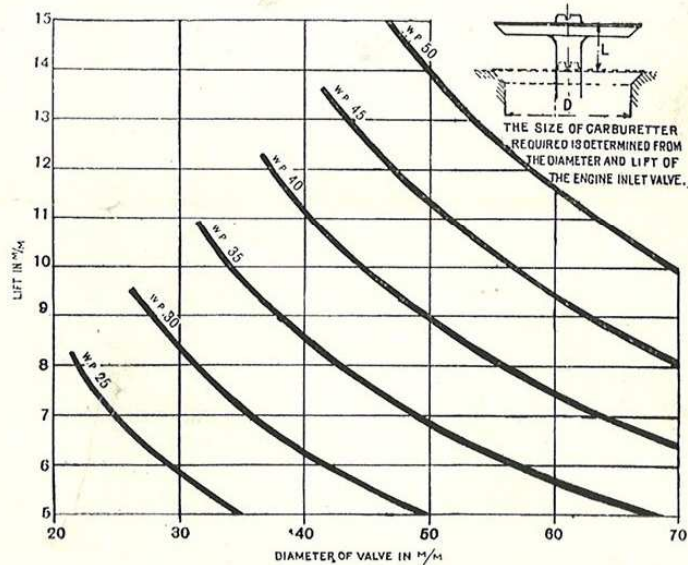


Fig. 3.

Benzol.

Unless mixed with about 30% of petrol, benzol is not a suitable fuel for winter. In frosty weather crystals form which check the flow of the fuel. In very cold weather it solidifies. The addition of petrol goes far to prevent this, as it lowers considerably the temperature point at which the alteration in viscosity begins to cause trouble.

At low temperatures benzol lacks the quality of vaporising so that starting up a cold engine on a cold day is extremely difficult unless petrol is added.

Benzol and petrol mix intimately.

Black smoke from the exhaust, misfiring, and occasional explosions in the silencer, indicate too rich a mixture.

“Popping back” or back-firing in the carburettor and misfiring with a clean exhaust is evidence of too weak a mixture.

A shortage or stoppage of the petrol supply is at once noticeable by the power of the engine not increasing as the throttle is opened. If the float chamber can be flooded by lifting the needle the stoppage is in the jet. This usually clears itself on racing the engine a few moments, after the carburettor has been flooded.

When an engine refuses to start, inject a few drops of petrol into the cylinders through the compression taps. If the engine is still obstinate, examine the ignition arrangements.

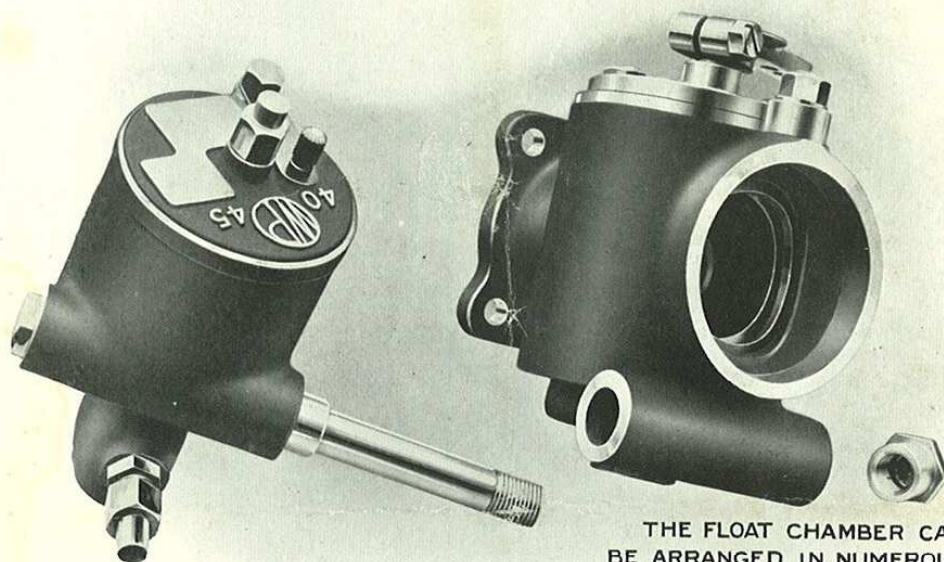
The sparking plug point should be clean and the gap kept closely to gauge, viz: .018" to .020". The tendency is for the gap to increase with use, and this causes difficulty in starting and sluggish running.

It may perhaps be found that the platinum contacts of the contact breaker in the magneto do not separate to the right extent. The gauge supplied with the magneto should be used as a guide. The surfaces of the platinum contacts should be quite clean and not pitted. They should also remain parallel while they open and close. If not, a little attention with a small smooth file should put matters right. After trimming the surfaces see that the filings are completely removed.

After considerable running the carbon brush of the magneto may wear bright; the glaze should be carefully removed with a fine file.

1915-16 CARBURETTORS

HOW TO DETACH THE FLOAT CHAMBER

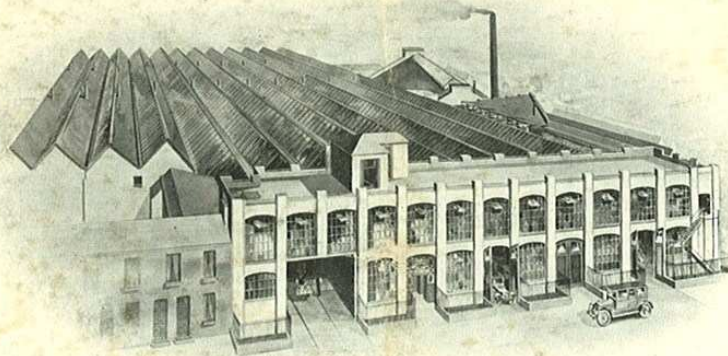


THE FLOAT CHAMBER CAN BE ARRANGED IN NUMEROUS POSITIONS IN RELATION TO THE CARBURETTOR BODY. IT IS ONLY ESSENTIAL THAT IT SHOULD BE UPRIGHT.

No. 20/25	-	-	£5	10	0
No. 30/35	-	-	£6	10	0
No. 40/45	-	-	£7	10	0

This new carburettor, which has been specially designed to facilitate fitting, represents the very latest practice. For combination of rapid acceleration, power, economy, and smooth running qualities, it is far ahead of any type yet made. The success of White & Poppe carburettors in the past, not only in general running but in historical events such as the International Motor Boat Trophy, is an earnest of what this new type is capable of.

Delivery can usually be given from stock.



PACKING.

All carburettors are very carefully packed in specially made boxes. These boxes are charged out at an extra of 1/- each, and are not returnable. Where more than one carburettor is sent in a case credit will be given for the case on return in good condition. Delivery is, as customary, carriage forward.

DELIVERY.

All quotations are for delivery at our Works, Coventry, unless otherwise specially agreed by us.

PAYMENT.

Where no ledger account is open, orders should be accompanied by remittances.

REPAIRS.

Any carburettor returned to us for attention should bear a label which states clearly the name of the sender. A letter of advice should also be posted at the same time giving the serial number which, in the case of carburettors numbered from 3,000 upwards is stamped on the lid of the float chamber, or in the case of carburettors numbered 1 to 3,000 on the cover of the throttle chamber.

Wholesale Agent for London and the South:—

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