

AMAL PRODUCTS FOR THE MOTOR CYCLE INDUSTRY

and for CYCLE AUXILIARY ENGINES, SMALL STATIONARY, AGRICULTURAL AND MARINE
DESIGNED AND MADE UNDER THE NAME



TWIST GRIPS **CONTROL LEVERS**

Flexible weather-proof outer **CONTROL CABLES** with non-fray Inner Wire
BALL & ROLLER JOINTS **AIR FILTERS** Clutch & Brake **LEVERS**
FLOWMETERS for bench tests **JET CALIBRATING MACHINES**

The company of Amal Ltd. was founded in 1927 uniting the three Companies of Amac, B. & B. and Binks, and so the experience in carburettor and component design and manufacture, is as old as the industry. This experience is at your service. The Company's staff is in close contact with motor cycle and small engine designers, keeping abreast with the times and the requirements of new designs as they develop. In the factory, quantity production is carried out by specialised tooling and accuracy is ensured by gauging and inspection.

Our products are described in our lists so that the reader can get a practical knowledge of how they work. Our "Hints and Tips" on carburettor tuning and maintenance are easy to follow and understand, enabling the user to always get the best results.

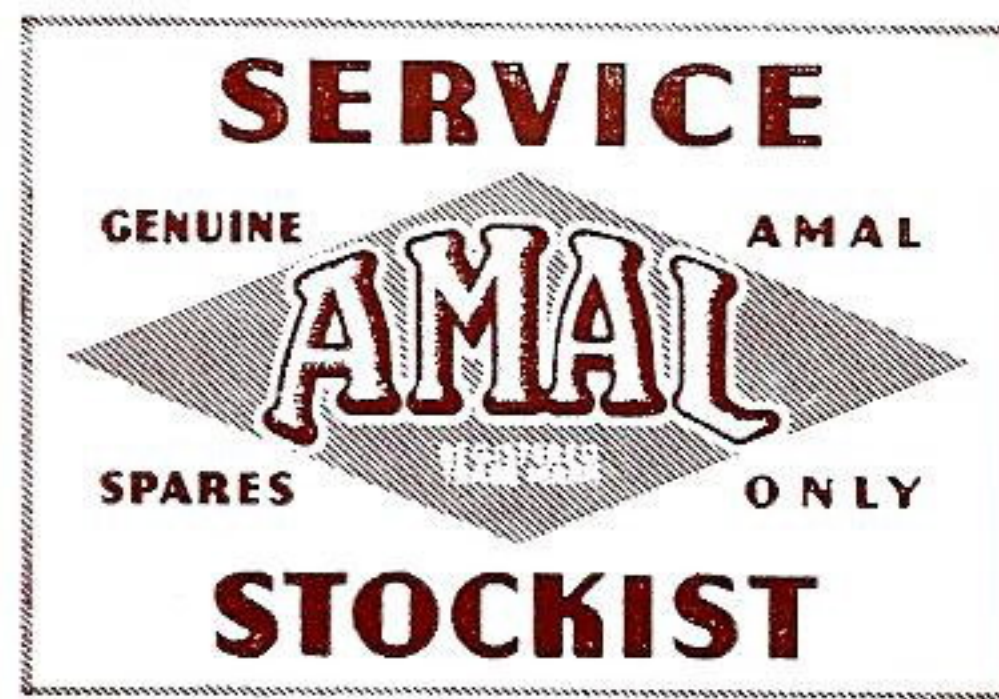
Our lists indicate how to select the most suitable component or carburettor, but should any technical question arise — our experience in carburation for motor cycle touring, sporting events and racing is available on request. This also applies to carburettors for small cycle and marine motors.

The Company have a world-wide policy of making a service of spares available wherever motor cycling is popular. In GREAT BRITAIN our Service Stockists have been appointed amongst recognised dealers who have proved their interest in carburettors and have undertaken to keep stocks as far as we are in a position to supply them; their names and addresses are printed in our List 349 series. Overseas, in Australia, Canada, New Zealand, India and the Far East; the Near East and Egypt; Europe; Africa; North and South America, we have Agents and Service Stockists, also other contacts, as set out in our List A354.

Head Office Address:
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AMALCARB, Birmingham.

Each component here illustrated has its own descriptive list which is available if you will enquire for it by the list number given by the illustration.



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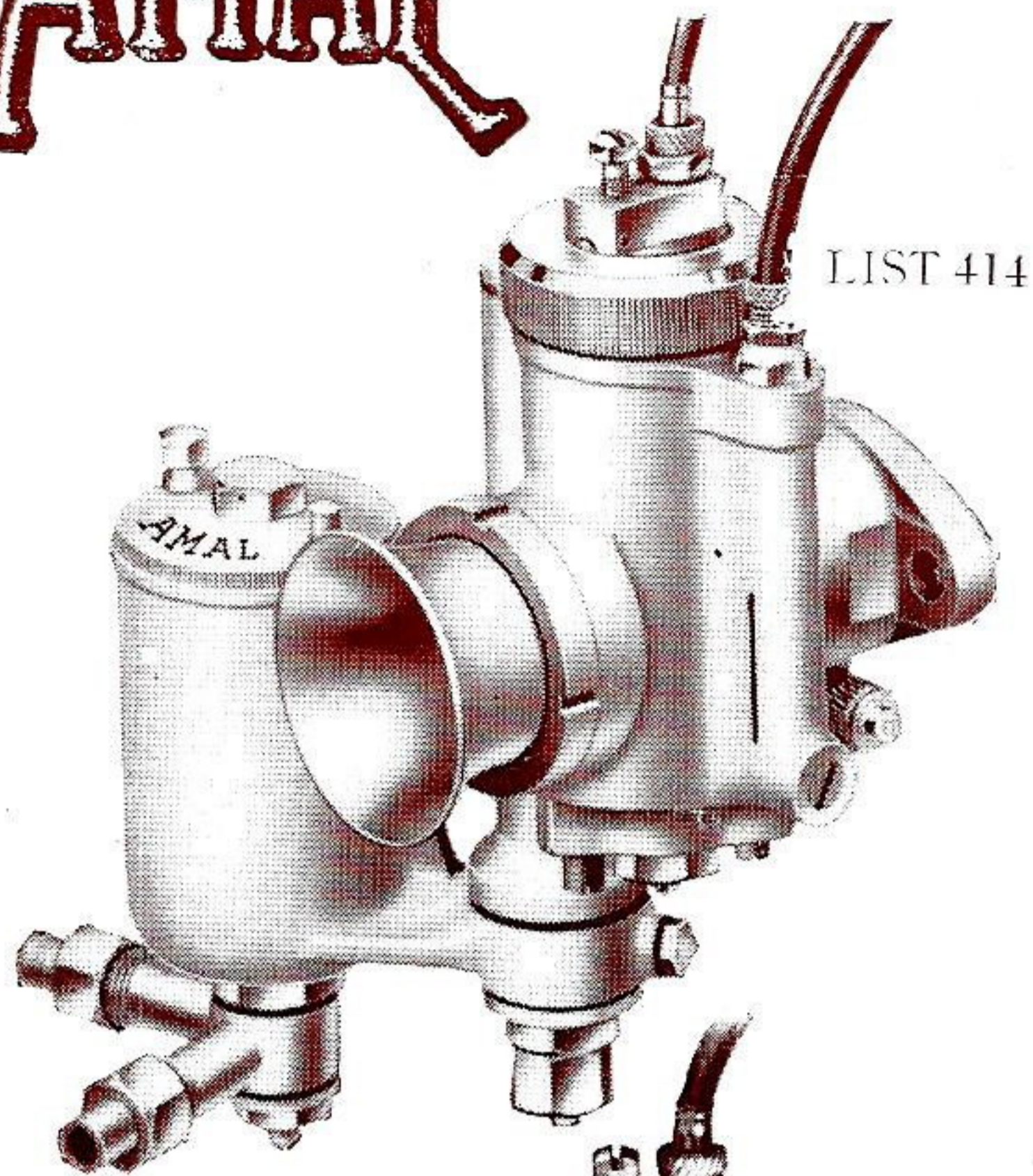


*The Carburettor of
Records and Successes*



AMAL

RACING CARBURETTORS FOR PETROL AND ALCOHOL FUELS



LIST 414

THE REMOTE NEEDLE RACING CARBURETTOR AS USED BY WINNERS OF T.T. RACES.

For "Speedway" racing see List 324R of Track Racing Carb. T27.

This is the ideal carburettor for racing on petrol or petrol benzol, and for reaching the utmost limits of power, but it is not suitable for use with alcohol fuel.

The carburettor at full throttle has a streamline bore and large bore carburettors are made.

The pilot jet system gives perfect carburation at low engine revs.—and a clean get away.

The main jet system with primary air ejects an emulsion of atomised fuel into the choke.

The needle jet control gives a perfect mixture at all throttle openings yet does not restrict the air flow through the main bore.

The mixture strength is handlebar controlled through the primary air supply.

THE FAMOUS T.T. CARBURETTOR. FOR ALL ROUND RACING, ESPECIALLY WHEN ALCOHOL FUELS ARE USED.

For "Speedway" racing see List 324R of Track Racing Carb. T27.

This carburettor has a long list of successes to its credit, and has been used by T.T. winners. It is generally useful for all sports and racing engines.

It is equally successful with alcohol fuels as well as with petrol and petrol benzol mixtures. A special Top-feed floatchamber adequately supplies all fuels and is cranked vertically for inclined carburettors for which the angle is specified.

The design is well known and understood. It is easy to tune because all facilities are provided to deal with each requirement:—

The bore is first selected according to the size of the engine and the maximum revolutions it will achieve.

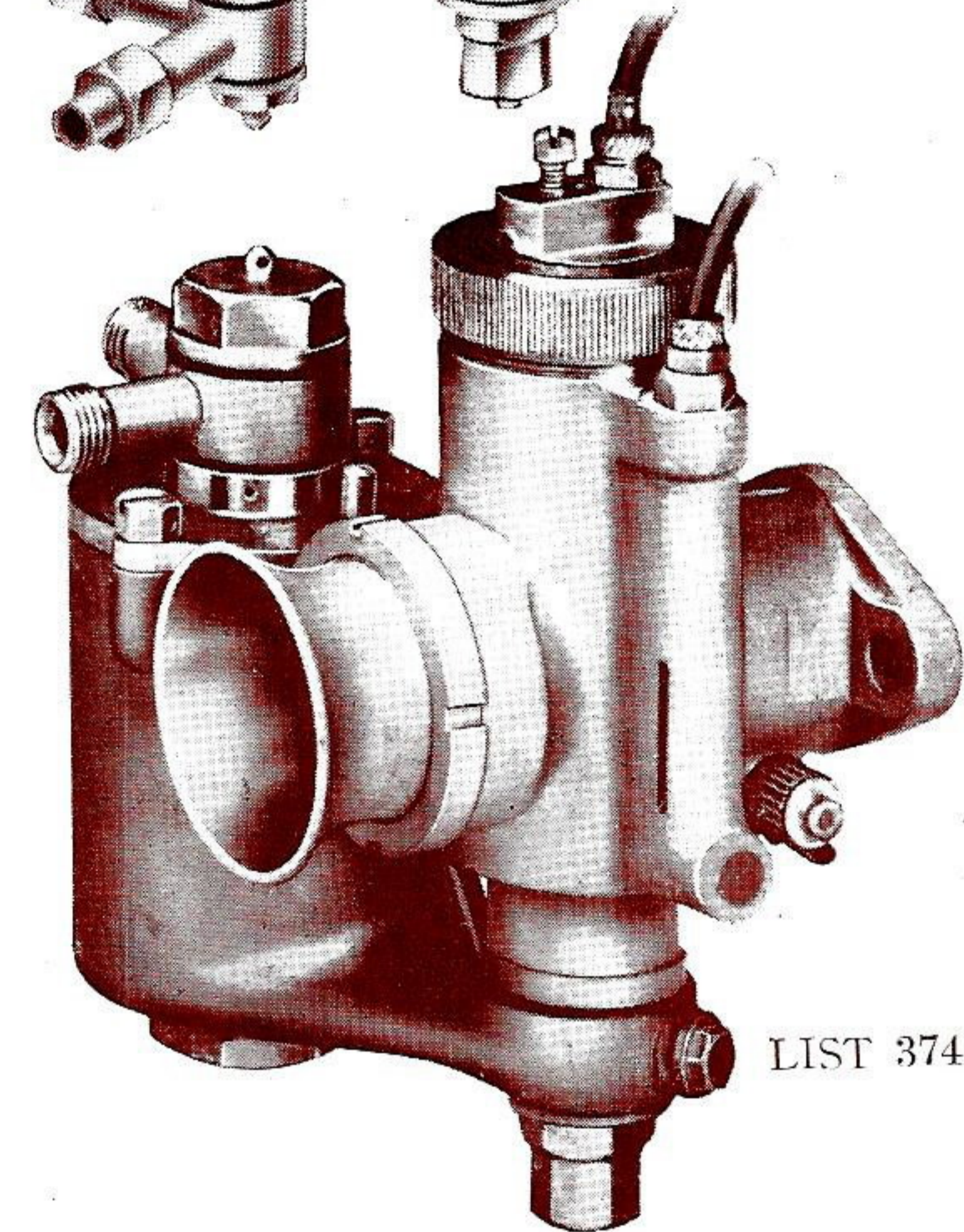
The main jet is selected for maximum power.

The needle is positioned to give clean and terrific acceleration and perfect carburation over a wide range of speeds. The pilot jet is set to give good starting and control at low engine revolutions: its adjustment controls the fuel orifice size.

The throttle cut-away is selected to give a clean and rapid get away as the throttle is opened.

CONTROL WIRES—made in 6 sizes.

The most flexible type of strong wire is one composed of many strands woven together in spiral form. Amal inner wire is made in this type and given special advantage by the spiral form of the strands, which lie dormant and can be cut in any place without unwinding. Soldering previous to cutting is unnecessary.



LIST 374



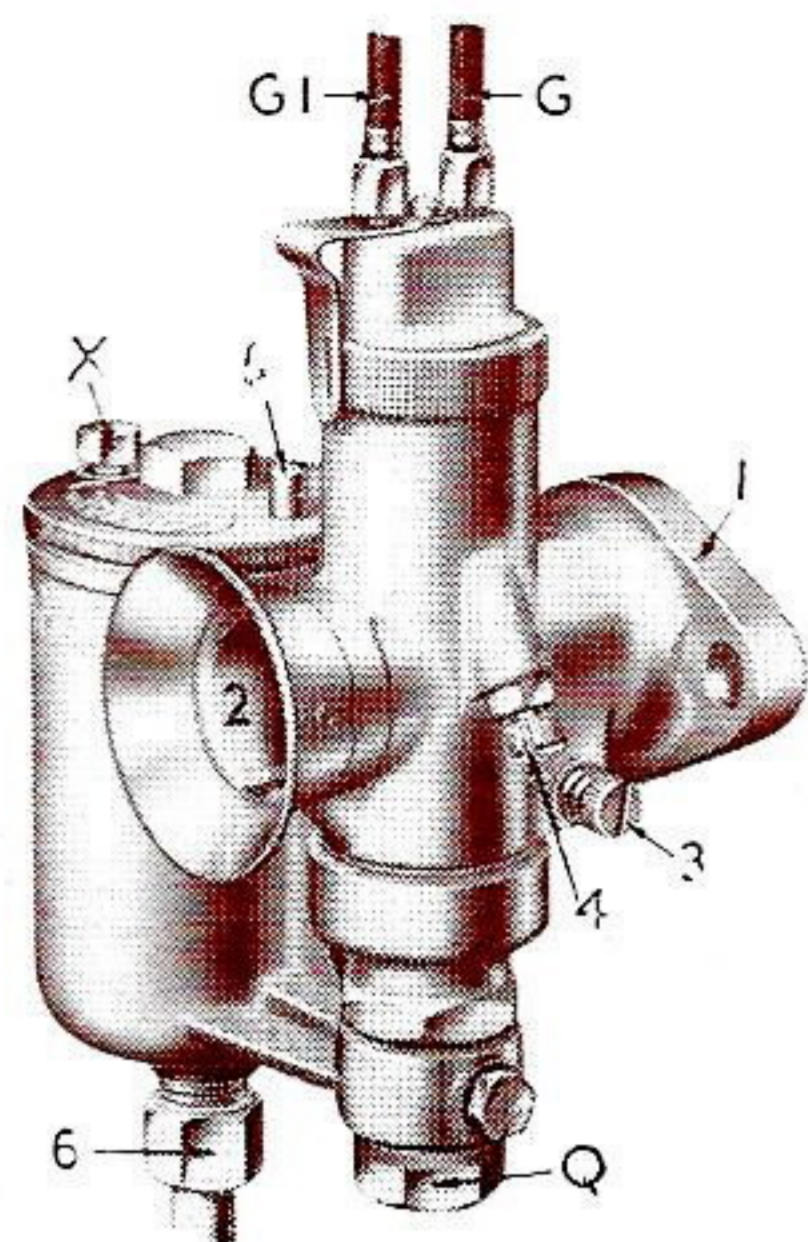
AMAL
NON
FRAY
INNER
WIRE
LIST 331
and 336

OUTER CONTROL CABLE. Made in Five Sizes.

This is the best quality flexible outer cover. It is coiled from specially shaped wire to give flexibility, yet coiled so tightly that under pressure it does not compress.

The colour is black, and the finish is both waterproof and withstands the sun's rays. Ferrules supplied also for all sizes for use in carburettor and ignition controls, and for clutches, brakes, etc.

CARBURETTERS for MOTOR-CYCLES & CYCLE AUXILIARY ENGINES



LIST 340.

INDEX.

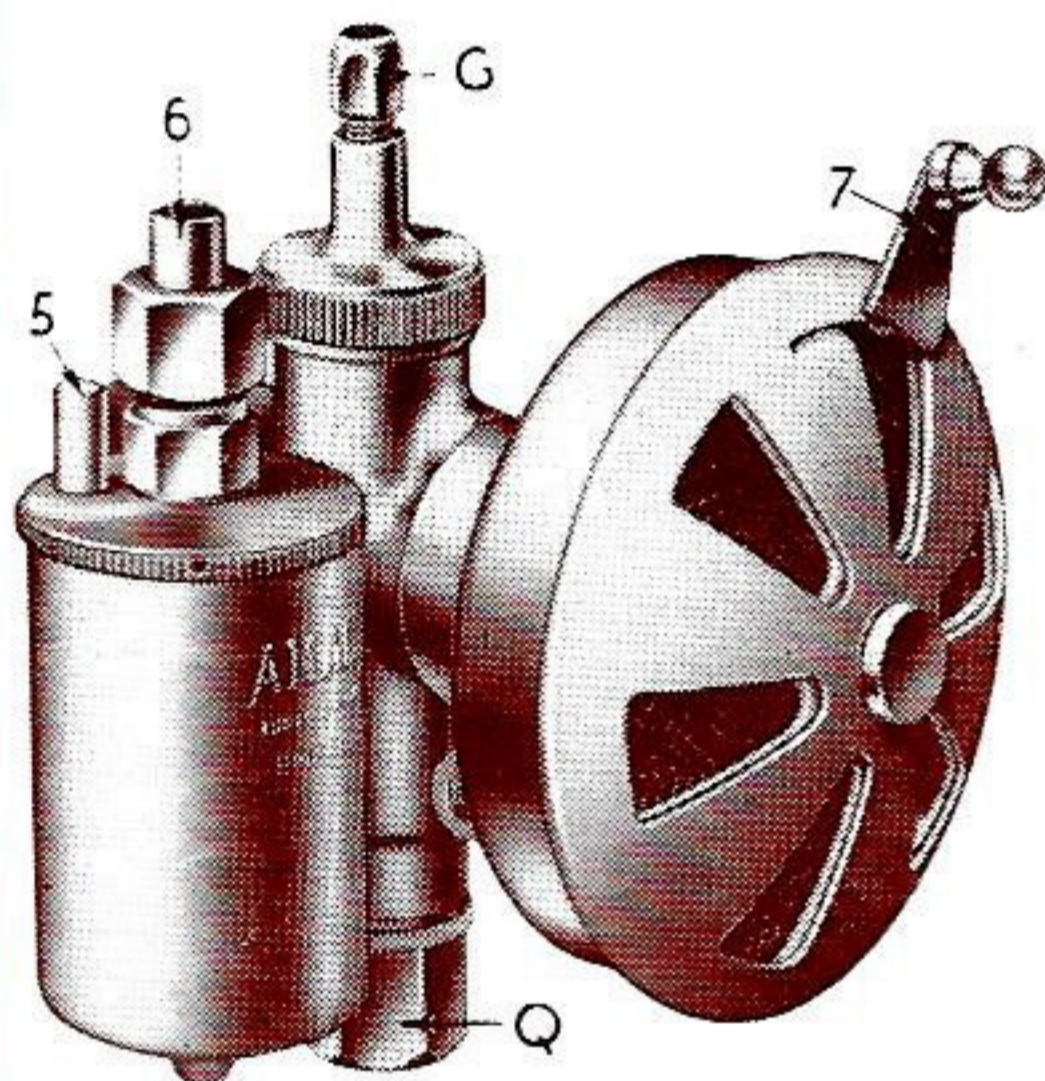
1. Engine connection by either flange or clip.
2. The air inlet and bore to suit the particular engine.
3. Pilot jet adjustment for slow running.
4. Throttle stop screw to keep the engine ticking over with the control in the shut off position.
5. Float tickler.
6. Petrol pipe union.
- X. Lock screw for float chamber lid.
- Q. Bolt covering main jet and holding the float chamber.
- G. Throttle cable.
- G1. Air valve cable.
(Sometimes operated by rod & knob).

THE STANDARD NEEDLE JET CARBURETTER WITH PILOT JET FOR ENGINES OF 150 c.c.—1,000 c.c.

This is the renowned carburetter that is fitted to twin and single cylinder engines of British manufacture and to so many European motor cycles.

When the engine is warm, the action of the carburetter is automatic and to facilitate starting from cold, an air valve is incorporated; when the engine is warm this is left open. The piston type throttle gives perfect and graduated control of engine speed and its cut-away assures the blending of the two systems—the pilot jet for slow running and main jet for power. The throttle carries a taper needle operating in a needle jet that carries the main jet, and as the throttle is opened and closed, so the petrol supply is accurately metered—ensuring flexibility and economy.

The carburetters have calibrated jets. Easy starting, slow running, acceleration flexibility, power and economy are all obtainable because of the design and also, because the carburetter is so simple to tune up by the owner.



LIST 340

INDEX.

- Engine connection by clip fitting only.
5. Tickler on float chamber lid to facilitate starting.
6. Petrol pipe connection.
7. Starting from cold shutter. This is incorporated in an air filter filled with metal wool and impregnated with oil.
- G. Throttle cable adjuster.
- Q. Cap, to cover main jet.

THE STANDARD NEEDLE JET CARBURETTER WITHOUT PILOT JET FOR SMALL 2-STROKES

This small carburetter has been evolved to meet the peculiarities and difficulty of tuning small 2-stroke engines, which require small jets that would easily become clogged with the oil in the petrol/oil mixture used for lubrication. There is only one jet—the main jet of reasonable size, easily accessible under cap Q. This jet controls the maximum supply of fuel for power at full throttle: it is screwed into a needle jet of large bore and into this needle jet there hangs a taper needle attached to the throttle; as the throttle is closed so the fuel supply is cut down proportionately and the idling mixture is set by the shape of the throttle base which regulates the suction on the needle jet. After standing some time, opening the throttle breaks the oil film that may have blocked the jet.

THE FEATHERWEIGHT CARBURETTER TYPE 308, NEEDLE JET CONTROLLED FOR CYCLE AUXILIARY ENGINES UP TO 50c.c.

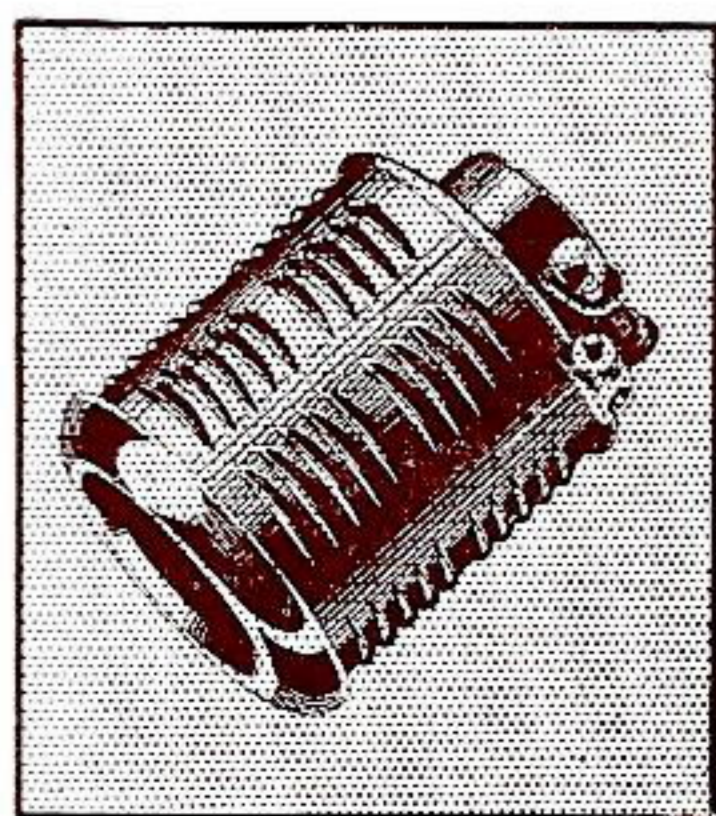
LIST 456



This tiny Carburetter has been developed, as the one above, on the sound basis of experience with small engines, and reduced in size and weight to meet the requirements of the pedal cycle engine built either in the wheel or to drive on to the tyre.

It is piston throttle operated to give, full power to the engine and, to the rider, a feeling of control as the throttle is opened or closed. The main jet is accurately calibrated to a required standard, and all parts are precision made to gauges. The needle jet control above the main jet provides a means of accurate carburation and, therefore, economical running.

In the construction, there are no small passages to choke up, and an ample filter fits in between the jet chamber and the float chamber. A strangler for starting from cold is incorporated in an air filter.



LIST 325

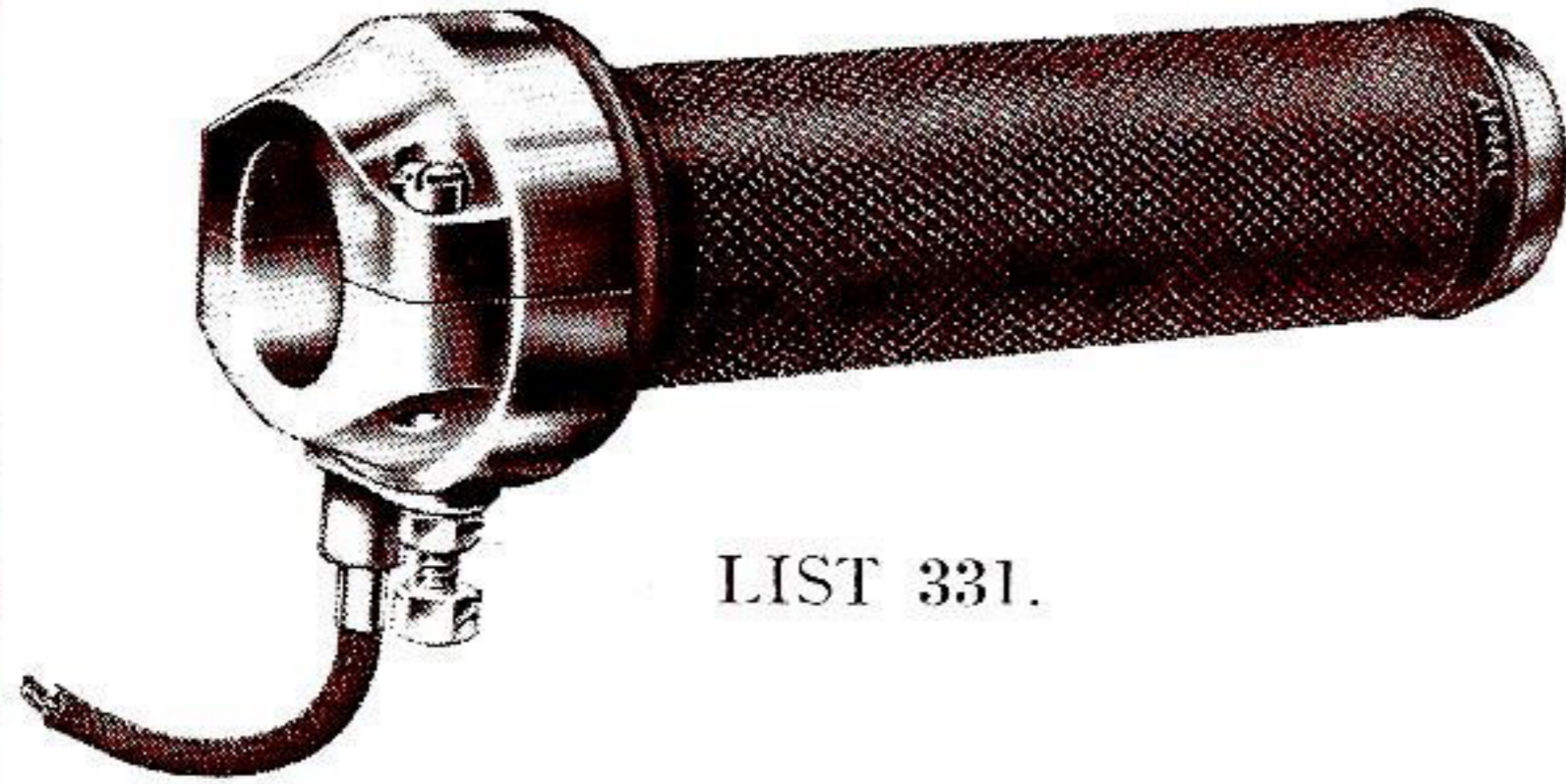
AIR FILTERS.

Dust and road grit entering through the carburetter causes extensive damage to both the engine and the throttle. We can provide a range of adaptable air filters, which may fit direct on to the carburetter intake in place of the air funnel, or by a cranked elbow specially made.

These filters have different filtering mediums—felt, metal-wool which is impregnated with oil, and gauze, mentioned in order of efficiency; the former require more care in regular cleaning and will require some modification in jet size when first fitted.

AMAL

CONTROLS FOR HANDLEBARS

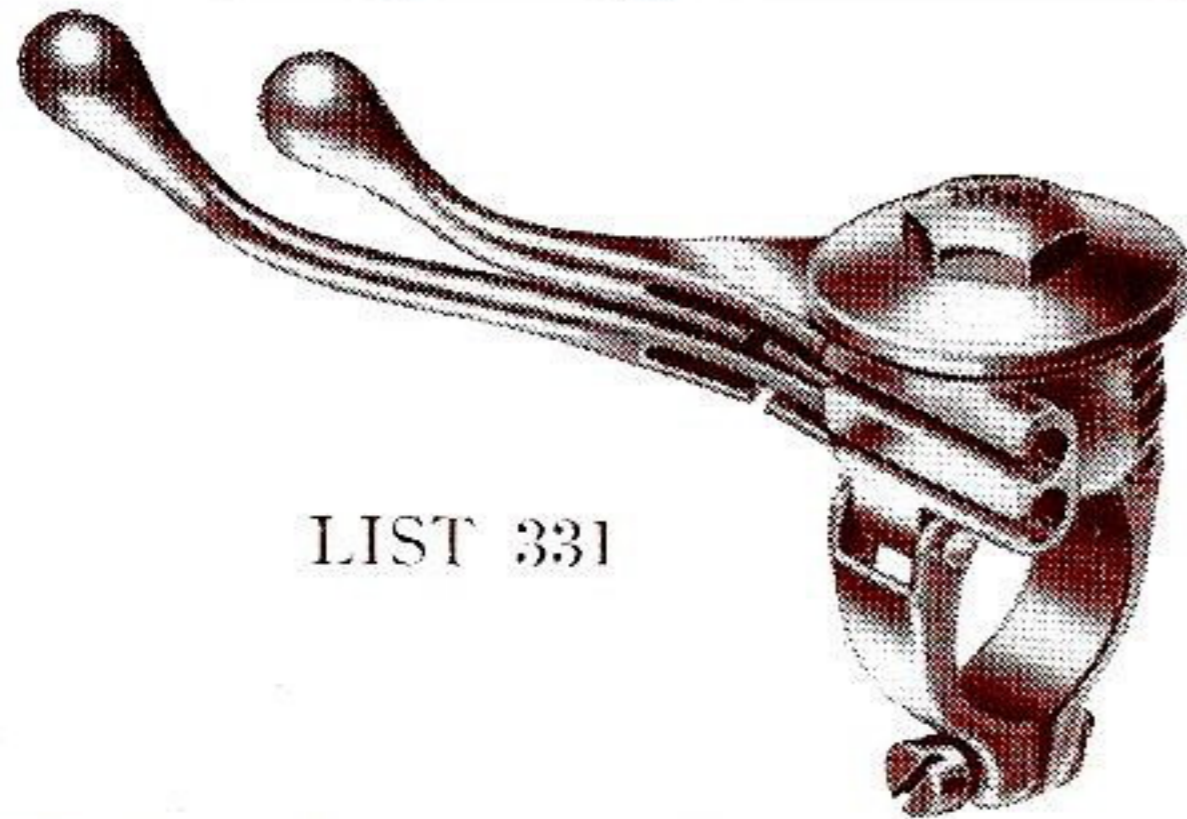


LIST 331.

TWIST GRIP.

This twist grip—a development of the old Binks Racing Twist Grip, is in great favour owing to its smooth action, giving a complete throttle opening within a normal and comfortable movement of the wrist. It turns on the bar against a simple friction device. The control cable attachment is interchangeable with that of the control lever illustrated below.

Sizes for 1 inch or $\frac{7}{8}$ inch bars, also 25 m.m. and 22 m.m.



LIST 331

CONTROL LEVERS.

These levers are elegant—comfortable to handle and stay-put in the position desired. They are made to fit on 1 inch and $\frac{7}{8}$ inch bars, also 25 m.m. and 22 m.m. sizes. They are suitable for controlling either the throttle and air valve, or throttle and ignition advance and retard. The two levers have a securely anchored dividing plate, and each has its own friction adjustment, which can be set to the driver's own liking.

The control can be supplied as a single lever.



LIST 331.

BRAKE AND CLUTCH LEVERS.

These levers are made to fit 1 inch or $\frac{7}{8}$ inch and 25 m.m. and 22 m.m. bars. The clamp is made from a stamping and the lever from a beautifully shaped steel pressing, immensely strong and comfortable in shape. The leverage is correct and gives a straight pull of $\frac{3}{4}$ inch, 19 m.m. The lever can be combined with the control levers above.



LIST 387.

BALL AND ROLLER JOINTS FOR ROD CONTROLS.

For control rods with angular motion, giving secure but free movement.

The Ball joint has a micrometer adjustment for wear. The Roller joint is exceedingly robust in construction.

FLOWMETERS.

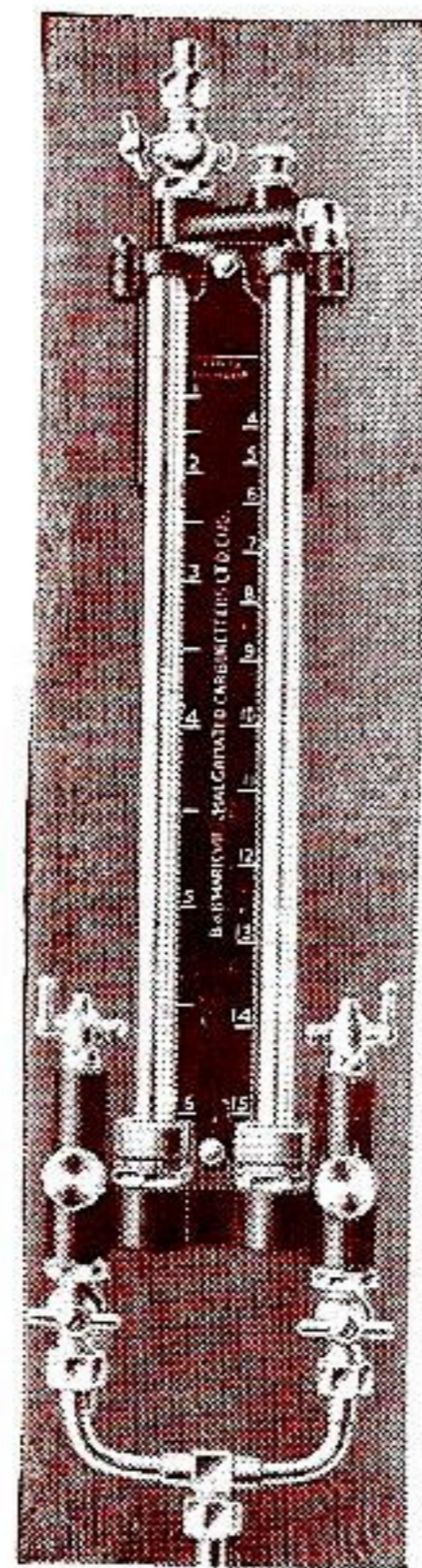
The instrument is for reading the fuel consumption instantly and accurately when the engine is under test on the brake-test bed. The fuel is fed from the tank to the carburetter, through the flowmeter: As engine speeds are varied by throttle opening or load, so the fuel level in the gauge glass rises or falls and its level position at any instant against the scale, discloses the rate of consumption in pints, litres or gallons per hour.

JET CALIBRATING MACHINES.

This instrument is for visually determining the rate of flow of petrol through a jet in c.c. per minute under conditions laid down by the British Standard Institution in pamphlet 720 of 1937.

Jets, in the process of manufacture are mounted into the machine and can be reamed *in situ* to bring them up to the size required by reference to the scale.

Also, jets in use and of doubtful flow can be quickly verified (1) as to their accuracy in relation to the absolute standard of flow required, or (2) in relation to a sample jet.



USED BY
ENGINE MAKERS
IN THEIR
TEST SHOPS AND
RESEARCH
DEPARTMENTS

also used
IN LARGE REPAIR SHOPS.

LIST 323.