GENERAL OPERATION.

The numbers in brackets in the text refer to index numbers on the section illustration.

FLOAT AND MIXING CHAMBER.

The 1949 models are normally supplied with the new special top feed single float chamber which gives an exceptionally steady and ample feed for engines up to 500 c.c. per cylinder. However, bottom feed chambers have been made and are available under certain circumstances.

All float chambers for these carburetters may be attached either direct to the carburetter or may be mounted at the correct level on the frame of the motor cycle, and from there coupled to the carburetter by a flexible pipe. The petrol passes from the float chamber in both cases to the mixing chamber and flows around a bolt (51), which bolt contains the main jet (50), and the needle jet (55). The petrol passes through the main jet and up through the needle jet, the restriction there being controlled by the needle (29). The fuel then flows on through a horizontal passage under the centre of the mixing chamber, and there it mixes with the primary air, which is controlled by the valve (58) as it flows out through the primary choke (12), into the main air stream.

The throttle slide (7) of cylindrical design is operated in the normal way, but the needle (29) in this design is attached to an arm (30) at the side of the throttle. This arm lifts the needle up and down so that the mixture strength may be controlled by the needle setting at any given throttle position for any peculiarity of a particular engine.

THE AIR CONTROL.

This carburetter has a hand-operated primary air control, as has been used in previous years. The carburetter is fully automatic when tuned with the air valve wide open, but the purpose of this valve when closing down is to increase the mixture strength by closing off the primary air port, and should only be used when starting from cold, or if when riding it should be apparent that the mixture was getting weak for one reason or another. The engine should not be run continuously with the primary air shut off altogether.

THE PILOT JET.

This can be seen under section C of the illustration, and is worked on the well-known basis of controlling the amount of fuel which is drawn separately from the float chamber. The pilot jet outlet is between the throttle and the engine, but it also has a secondary outlet into the choke block on the atmospheric side of the throttle, so creating a bridging device between the pilot action and the main jet coming into operation. A fixed air supply to the pilot is provided by the small hole marked AIR in the illustration (section C).

LIST OF TUNING PARTS.

Throttle needle (No. 29, section B).
Throttle valve cut-away (No. 7, section D).
Pilot jet adjustment (No. 67, section C).
Primary air control valve, operated from handlebar (No. 58, section B).
Needle jet (No. 55, section B), this is not often changed unless the needle is placed in extreme positions.

MAIN JET (No. 50, Section B).

THINGS TO LOOK OVER BEFORE RACING.

See that the petrol supply from the tank is ample, and that all passages in the float chamber and its attachment to the carburetter are clear.
See that the tickler in the float chamber lid (34, section B) springs up.
See that the mixing chamber top cap ring (4, section D) is screwed down (and is locked by screw (26) if there is no external security spring).
Lock float chamber lid with screw (32, section B).
Lock the cable adjuster nuts (2 and 61).

Wire up the following screws :—
Main jet cap (49), section B.
Screws (19, section D).
Petrol pipe connection to float chamber (45), section B.
Screws (18, section D) and (53, section B), these plug screws should be properly tightened up on their washers.

Finally :—
Make certain that the throttle (7) works freely up and down when the cables and controls are fastened into position, and when the handlebars are moved in different directions.
If the float chamber is remotely situated, see that the flexible feed pipe between the float chamber and mixing chamber is in good order ; we recommend the use of Bullite. made by the John Bull Rubber Co., Ltd.

NOTES ON DISMANTLING.

To remove throttle, or to get at needle adjustment, unscrew ring cap (4) on the top of the mixing chamber body. (In earlier models, this ring may be locked by a screw (26) near the cable adjuster, if so loosen this screw first).
To detach throttle wire from throttle, withdraw flat spring (22) and remove the plug (23), then slide out the cable.
When re-fitting the throttle, note the key on the side of the throttle to see that it slides in the groove in the choke block. Also note that the mixing chamber top cap (3) has a key on it to drop into a slot in the top of the mixing chamber. When replacing the mixing chamber lock ring, see that the cap (27) over the needle chamber is replaced with its holding spring (28), the edge of which is held down under the mixing chamber ring (4).
To get at the main jet, remove only cap (49, section B), but to get at the needle jet (55), remove the float chamber holding bolt (51).
To remove the choke block, undo screws (19, section D).
To remove float needle (41) remove float chamber lid after loosening screw (32), and remove cap (45), pinch the float bow (38), and pull out the float. The needle (41) will then drop down.

USEFUL SPARES TO HAVE WHEN TUNING UP.

MAIN JETS.

This jet is type No. 3326 and is the same jet as in the T.T. carburetter. It is $1\frac{3}{32}$" overall in length with a thread $\frac{1}{4}" \times 26$ threads. Price, see fly-leaf, any calibration number. This jet is common to all models of R.N. carburetters.

THROTTLES.

These R.N. throttle valves are supplied with different cut-aways. Each type of R.N. carburetter has its own throttle, and in each type the throttles are interchangeable irrespective of choke bore.
Throttles for earlier types 10 RN. Type No. 185/147.
Throttles for later types 10RN9. Type No. 185/366.
Throttles for earlier types 15RN. Type No. 185/148.
Throttles for later types 15RN9. Type No. 185/365.
For prices see fly leaf, specify the cut-away number.

THROTTLE NEEDLES.

These needles are not interchangeable with other types of carburetters, but the needles are interchangeable in types 10 and 15 R.N. carburetters. This needle is marked R.N. : when ordering a replacement needle, specify the marking on it.

NEEDLE JET.

This is type 185/109 for both types R.N. 10 and R.N. 15.

No. ·109 is standard. Price, see fly-leaf, but other sizes are available for special purposes.

FLOATS AND FLOAT NEEDLES.

These Carburetters have, over a period of years, had two designs of Float Chambers so therefore, when ordering spare float or needle, please state if the float chamber lid is threaded and screwed on to the float chamber, or, alternatively, the lid is held down by two hexagon headed pins. Also, state if top or bottom feed.
Up to 1948 the float chambers were as illustrated on page 2, as Spares list 417R.
1949 models and onwards, normally have the new racing float chambers, type 302, with top feed : these are identified by the lid being held down by two hexagon headed pins, see Spares list A452.