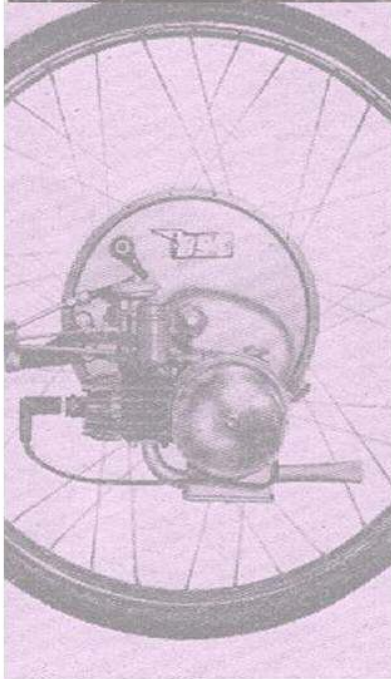


# IceniCAM Information Service



[www.icenicam.org.uk](http://www.icenicam.org.uk)



# Bikotor Cycle Attachment

Low-priced 47 c.c. Two-stroke Unit of Interesting Design  
and Weighing Only 10lb

**BIKOTOR** is the name of the latest motor attachment for pedal cycles; it will be in production by next spring. The designer set himself an astonishingly low weight limit. Total weight of the unit, including mountings and fuel tank, is 10lb. The engine is a 47 c.c. two-stroke. Almost needless to say, light-alloy, pressure die-castings are employed wherever practicable. Cylinder and crankcase are in one casting. One side of the crankcase is "open." The cylinder bore is not sleeved; instead, it is plated with hard chromium by a patented process and has a number of tiny indentations, about the size of a large pinhead, set to a regular spiral pattern; these help to retain the oil film.

Spigoted and attached by four Allen screws to the open side of the crankcase is an outrigger casting which supports the crankshaft on two caged ball bearings. The crankshaft is a Meehanite casting. At one end is an overhung crank, on which the connecting rod, of special light alloy, bears direct. On serrations on the middle portion of the crankshaft, between the two bearings, fits a moulded composition roller. The outrigger casting is open at the bottom to permit the roller to drive on to the tyre. To the other end of the crankshaft is attached a light-alloy flywheel with cast-in magnets.

## Accessible Contact-breaker

The end of the outrigger casting remote from the crankcase is belled out and has a spigot face to receive the flywheel cover. Attached to the inside of the cover is the ignition coil. Periphery of the flywheel boss is eccentric to operate an extremely simple and accessible contact-breaker through the medium of a fibre push-rod. The contact-breaker cover can be withdrawn after unscrewing a small knurled nut.

Of the deflector type, the piston has two compression rings. The gudgeon is retained by circlips. Attached to the barrel by four Allen screws, the cylinder head carries a 10mm Champion Y6 sparking plug and a decompressor.

Automatic in action, the carburettor is extremely simple. It consists of a cylindrical mixing chamber with air-intake passages arranged below it, a mixture outlet port to the cylinder on one side, and a fuel inlet spaced 90 degrees from the port. Inside the mixing chamber is a ported cylindrical throttle which is rotated through about 30 degrees by a lever; the latter projects through a slot in the side of the mixing chamber remote from the port and fuel inlet. The air-intake passages lead to a well in the floor of the mixing chamber. The top of the well is shaped to provide a 45-degree valve seat, the surface of which is broken on one side by a tiny fuel inlet. Resting by gravity on the seat is a small mushroom valve, the stem of which ex-

tends into a guide hole below the well. A tiny air bleed ensures that the space below the valve stem is kept at atmospheric pressure. Top of the mixing chamber is closed by a spigoted metal cap held in place by a spring clip.

Fuel and air supplies are automatically cut off when the valve is on its seat. When the throttle is opened with the engine turning over, engine induction causes a depression in the mixing chamber which raises the valve dashpot-fashion. For initial tuning a metering control is provided on the fuel intake.

Three light-alloy castings form the silencer casing, which is a cylinder closed by caps top and bottom. The top cap is flange-fitted to the engine cylinder, to which it is attached by two Allen screws. The bottom cap has a slotted outlet. Inside the silencer barrel is a bobbin surrounded by wire wool. The silencer unit is held together by a long Allen screw.

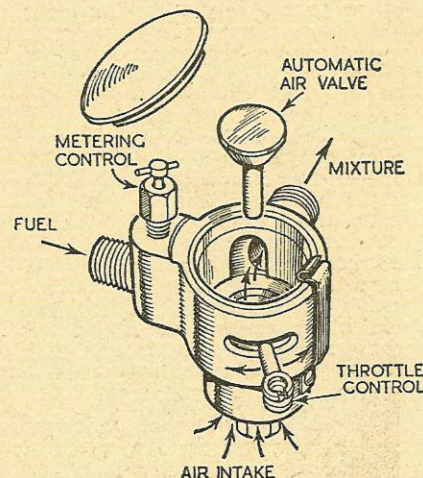
Having a petrol capacity of just over one quart, the fuel tank sits in a cradle formed on top of the outrigger casting and is attached thereto by metal straps and screws.

Mounting of the unit on a bicycle is ingenious. Clamped to the seat stays is a light-alloy bracket on which the unit pivots through the medium of Silentbloc bushes located in a forward extension of the outrigger casting. Clipped to the seat pillar is a cam device operated by a moulded handwheel. Linking the cam device with a second pivot on the outrigger casting is a tie-rod. The cam provides two positive positions, attained by

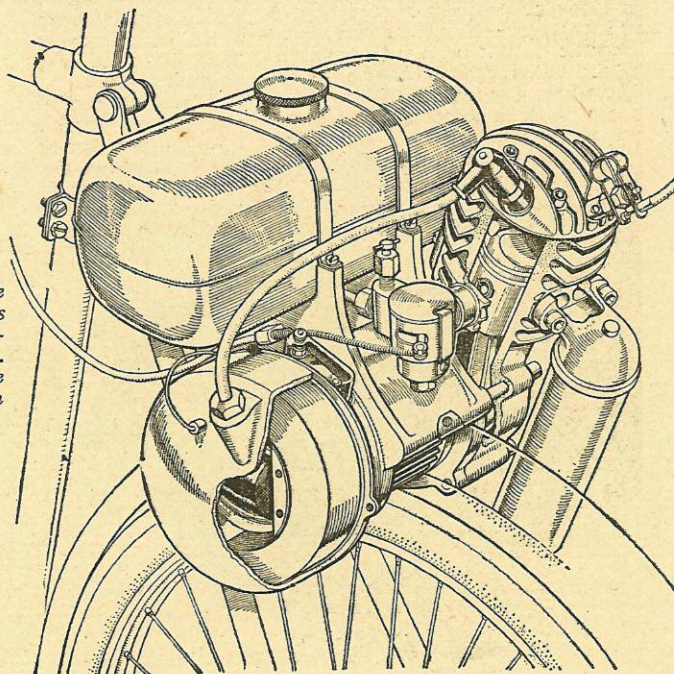
turning the handwheel clockwise and anti-clockwise. In one position the unit is locked with the driving roller raised clear of the tyre; in the other, the unit is locked with the roller in contact with the tyre. Correct initial adjustment of roller pressure on the tyre is achieved by turning the tie-rod, which is provided with left- and right-hand threads.

A feature of the unit is the extensive use of socket-headed screws. Indeed, apart from a small double-ended spanner for the sparking plug and petrol-pipe union, a small Allen key is all that is required to dismantle the engine and silencer for decarbonization.

The Mead Bikotor is marketed by Dennis R. Mead, Ltd., Princes House, 190-195, Piccadilly, London, W.1. The price is £15.



Details of the floatless carburettor, in which an air valve is raised against gravity by engine induction



Almost the entire Bikotor unit is composed of light-alloy die-castings. The cylinder bore is chromium plated