

Carburetor

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A dark blue, solid-colored shape that starts from the bottom left corner and extends diagonally upwards towards the right, covering the bottom half of the slide.

Purpose and Parts of the Carburetor

Carburetter

AMAL CARBURETTER

The Amal needle jet carburetter is fitted to these motorcycles and unless the machine is to be used for some special purpose, the standard settings should not be interfered with. These settings have been arrived at after careful experiment in order to ensure maximum efficiency and minimum fuel consumption for normal use.

During the early period of the machine's life, the carburetter should be occasionally dismantled and cleaned to remove any foreign matter which may have found its way into the float bowl or around the main and slow running jets.

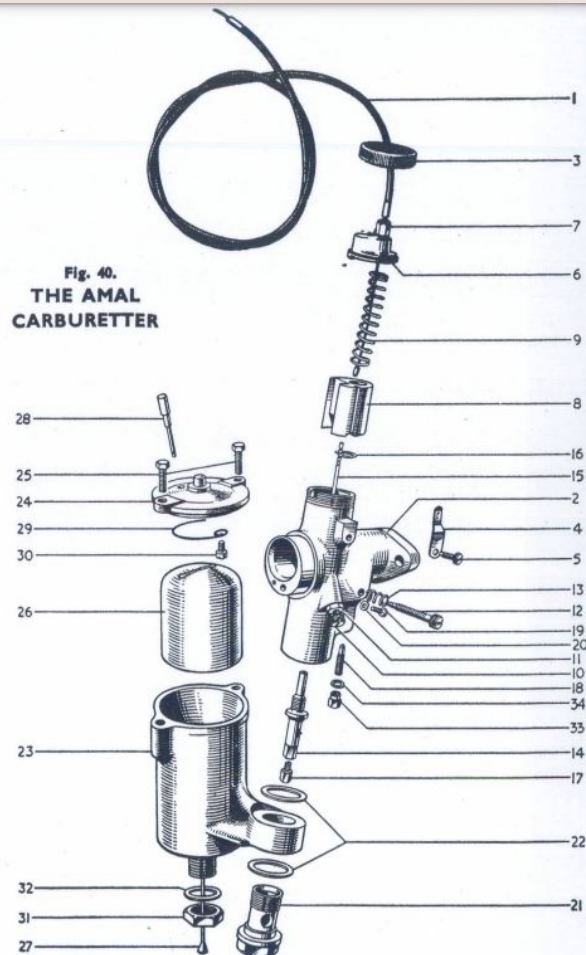
Fig. 40 clearly illustrates the dismantling procedure and the adjacent index identifies the parts.

For further information see Amal leaflet D.485.

INDEX TO FIG. 40

Index No.	Description.	Index No.	Description.
1	Cable, throttle.	18	Jet, pilot.
2	Body, mixing chamber.	19	Screw, mixing chamber plug.
3	Cap, mixing chamber.	20	Washer, plug screw.
4	Spring, mixing chamber cap.	21	Holding bolt.
5	Screw, cap spring.	22	Washer, holding bolt.
6	Top, mixing chamber.	23	Body, float chamber.
7	Adjuster, throttle cable.	24	Cover, float chamber.
8	Valve, throttle.	25	Screw, float chamber cover.
9	Spring, throttle valve.	26	Float.
10	Screw, throttle adjusting.	27	Needle, float.
11	Nut, throttle adjusting screw.	28	Tickler.
12	Screw, air adjusting.	29	Spring, tickler.
13	Spring, air adjusting screw.	30	Screw, tickler spring fixing.
14	Jet, needle.	31	Locknut, needle seating.
15	Needle, jet.	32	Washer, locknut.
16	Clip, jet needle.	33	Cover nut, pilot jet.
17	Jet, main.	34	Washer, cover nut.

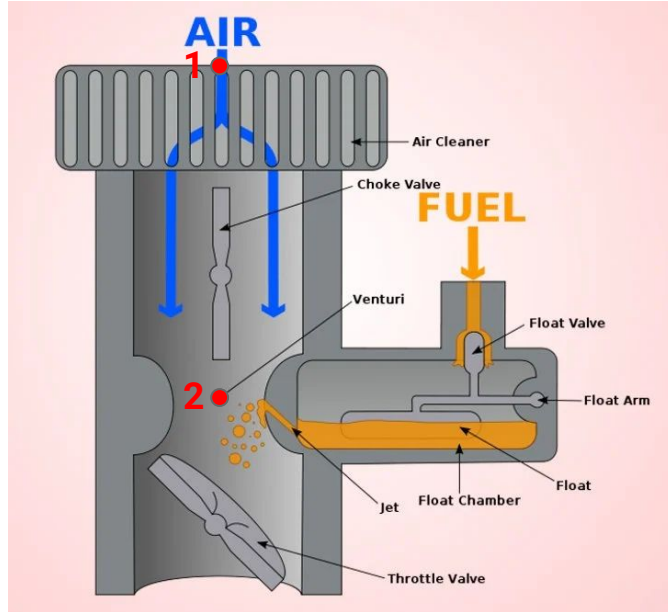
Fig. 40.
THE AMAL
CARBURETTER



Science of the Carburetor



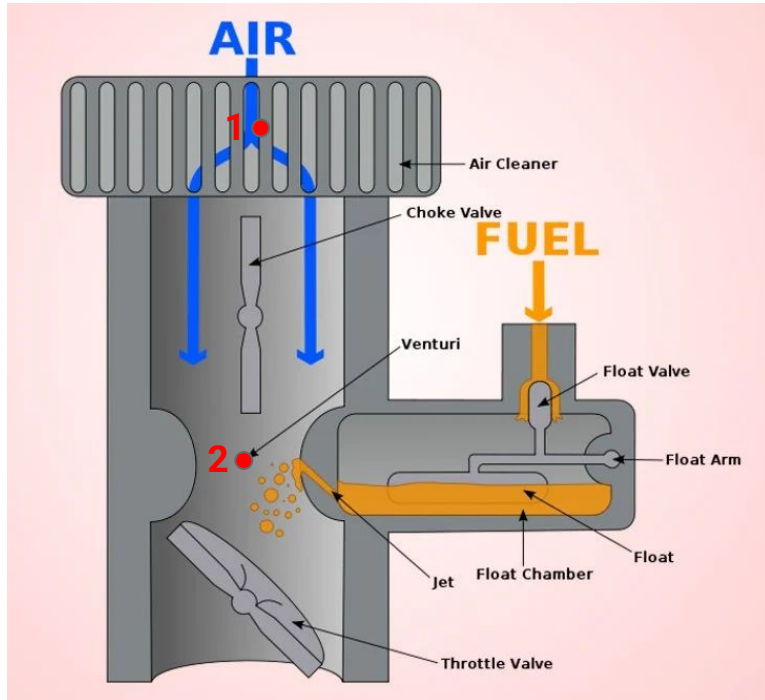
Creation of the Fuel Air Mixture: Mass Continuity



$$\rho A_1 U_1 = \rho A_2 U_2$$

ρ : density
 A : area
 U : velocity

Creation of the Fuel Air Mixture: Bernoulli's Principle



$$p_1 + \frac{1}{2}\rho U_1^2 + \rho gh_1 = p_2 + \frac{1}{2}\rho U_2^2 + \rho gh_2$$

p : pressure

ρ : density

U : velocity

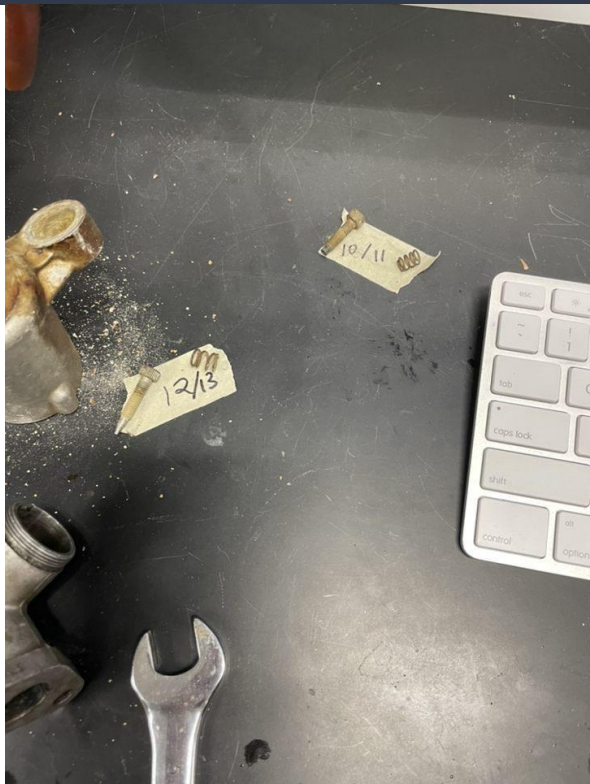
g : gravity ($9.81 \frac{m}{s^2}$)

h : height

What We Did







The Shift to Fuel Injection



Differences Between Carburetors and Fuel Injection



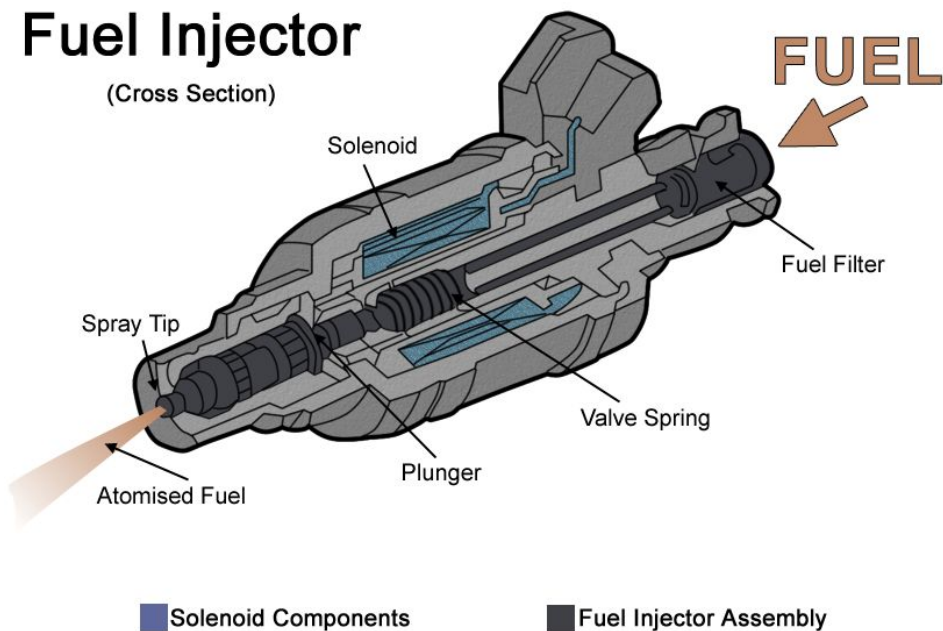
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Reasons for the Switch to Fuel Injections

Unlike carburetors, fuel injectors...

- Are set to adapt to conditions by ECU using sensors
- Are more fuel efficient
- Have higher power output
- Have no cold start problem



Remaining Advantages of Carburetors

Carburetors remain...

- Easier for novices to repair
- Easier to replace
- Less costly



Sources

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