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# ROTAX SERVICE INFORMATION

2 S 89-E

Jan. 1990

EVV  
HWP  
JH

## Function and calibration instructions for the automatic high altitude corrector ("H.A.C.") kit

part no.:  
899 060

### 1) General:

The carburetor must be calibrated especially for use with the Automatic High Altitude Corrector ("H.A.C.").

### 2) Installation:

The corrector is normally fitted in the air filter. In case of other requirements fit the H.A.C. in a place as free of vibrations as practicable, at carburetor level or slightly above, with connection ❶ facing down or sideways.

The length of connection hoses to the carburetor and the intake silencer or airfilter should be left unchanged. The hose connections must be routed without kinks.

### 3) Function:

The fuel delivery rate of the carburetor depends on the jet sizes and on the pressure acting on the fuel. This pressure results from the pressure difference between float chamber and fuel exit in the carburetor venturi (needle jet).

Pressure increase in the float chamber leads to richer mixture, pressure decrease to leaner mixture.

This effect is utilized in the Automatic High Altitude Compensator (H.A.C.).

The necessary pressure reduction in the float chamber for mixture leaning is taken from the venturi depression. This low pressure is guided via connection ❶ into a pressure attenuator consisting of the variable jets ❶ and ❷.

By the air flow through the jets ❶ and ❷ the pressure is reduced to a certain ratio and fed into the float chamber via connection ❸. The connection ❸ leads to the air intake silencer or air filter via a nipple.

The air in the diaphragm chamber ❹ expands more or less, depending on the altitude, and displaces via a diaphragm ❺ the profiled corrector needle ❻ in the jet bores ❶ and ❷.

With increasing altitude the jet passage area of **(D2)** increases and the jet passage area of **(D1)** decreases. In consequence the pressure in the carburetor float chamber decreases and the fuel/air mixture gets leaner.

#### 4) Checking and adjusting of the H.A.C.

After dismantling or a least once during a season a check and/or resetting of the H.A.C. is necessary.

4.1) Pull off the connecting hoses, remove the H.A.C. Insert the calibration needle " (supplied separately) as shown on enclosed drawing, with the H.A.C. in upright position.

4.2.) Take pressure and temperature readings of the ambient air and get the required needle position from the calibration chart (e.g. 850 mbar, 10 ° C, results in an adjustment value **(E)** of 7,8 mm.)

4.3) In case of deviations of more than 0,5 mm the H.A.C. has to be adjusted as follows:

Open the air chamber screw tap **(F)**. Check the O-ring **(G)**, replace it if necessary. Close the connections **(H)** and **(I)** and suck air out of connection **(J)**. Turn screw **(K)** in as soon as the diaphragm is at its highest position.

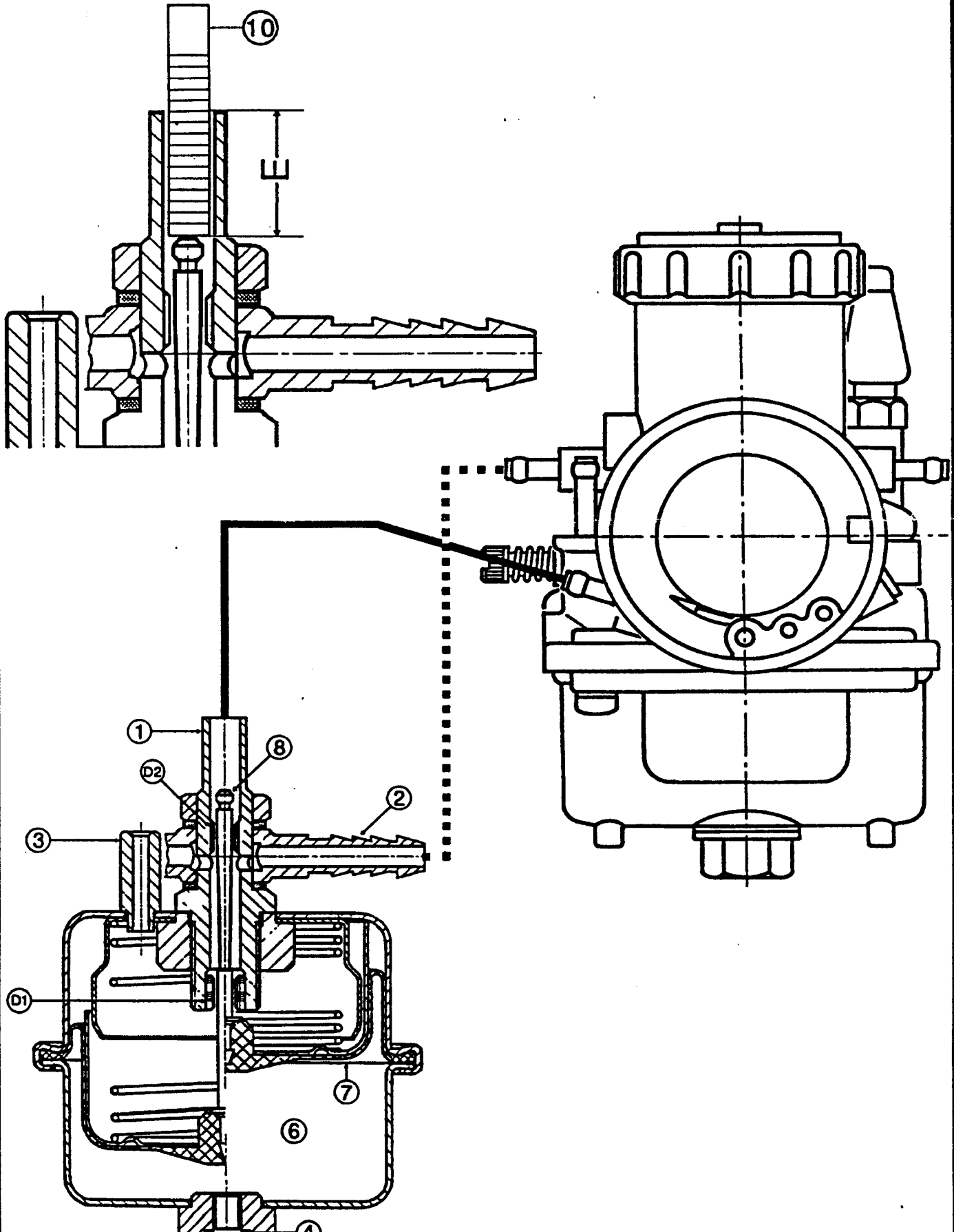
Remove the taps from connections **(H)** and **(I)**. Release air from the air chamber by loosening screw **(K)** until the correct adjustment value appears on the needle top edge (check by using calibration needle "). Tighten screw **(K)**.

4.4) When checking take care that the H.A.C. remains at ambient temperature (don't touch the air chamber!).

2 ENCLOSURES:



## - 3 - High altitude corrector (HAC)



### HAC - Calibration chart

