

### III. Compound Downdraft Carburetor for Model 220 S

#### A. General

Model 220 S is equipped with two Solex compound downdraft carburetors Type 32 PAITA which are built on the same principles as the carburetor used in Model 190 (Fig. 07-0/20)

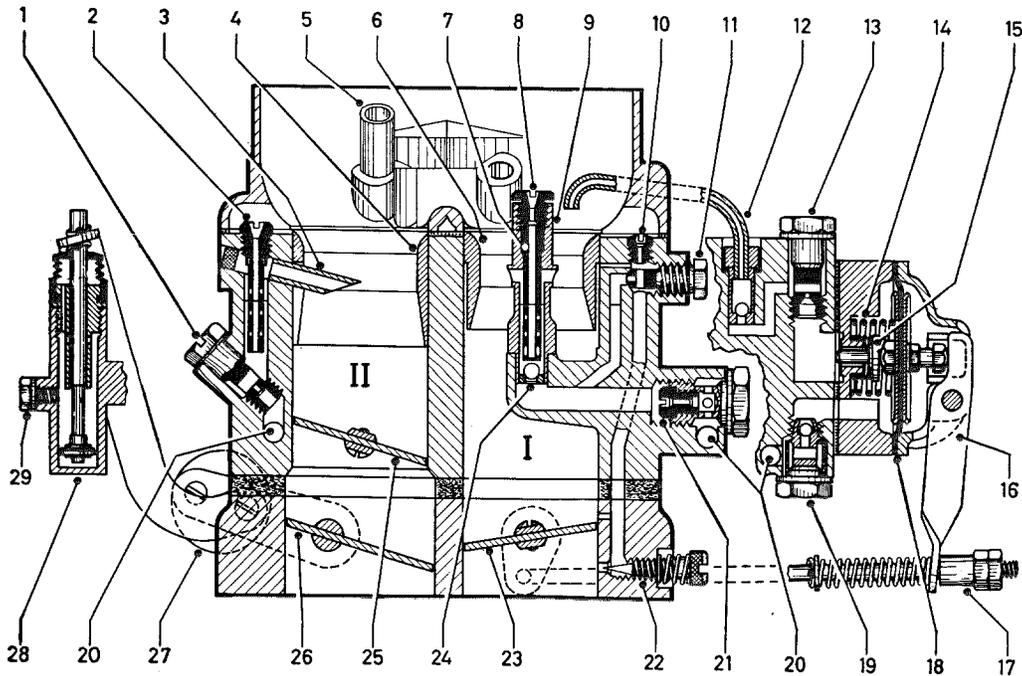


Fig. 07-0/20

Solex Carburetor Type 32 PAITA  
 I Stage 1                      II Stage 2

- |   |   |
|---|---|
| 1 Main jet of Stage 2                               | 16 Pump arm   |
| 2 Air correction jet with mixing tube of Stage 2    | 17 Connecting rod with pressure spring and adjusting nuts |
| 3 Discharge tube to main carburetion system Stage 2 | 18 Pump diaphragm   |
| 4 Air horn of Stage 2                               | 19 Ball valve   |
| 5 Float chamber vent tube                           | 20 Fuel feed  |
| 6 Air horn of Stage 1                               | 21 Main jet plug with main jet of Stage 1                 |
| 7 Mixing tube of Stage 1                            | 22 Idle mixture adjustment screw                          |
| 8 Air correction jet of Stage 1                     | 23 Throttle valve of Stage 1                              |
| 9 Mixing tube holder                                | 24 Ball valve in mixing tube holder                       |
| 10 Idle air jet                                     | 25 Throttle valve of Stage 2                              |
| 11 Idle fuel jet                                    | 26 Vacuum valve   |
| 12 Injection tube                                   | 27 Counterweight with lever                               |
| 13 Pump jet   | 28 Oil shock-absorber for vacuum valve                    |
| 14 Diaphragm spring                                 | 29 Plug and filler screw                                  |
| 15 Plate valve with bore                            |   |

The carburetor for Model 220 S differs from the carburetor of Model 190 in the following details:

- The carburetor jets etc. (see Section E).
- The height of the carburetor cover from the separating surface to the upper edge of the air intake branch is 33 mm in the carburetor for Model 220 S and 43 mm in the carburetor for Model 190.
- In the carburetor for Model 220 S the tube (5), cast integral with the carburetor cover and ventilating the float chamber, is not graded (see Fig. 07-0/20).

- d) Recent models have a bore in the carburetor flange for the connection of a vacuum tester; this bore is closed with a grub screw.

## B. Arrangement and Function of Throttle Valves

The actuating linkage for the throttle valves of stages 1 and 2 has been modified (Fig. 07-0/21). However, the arrangement and the function of the throttle valves correspond to the description given in Workshop Manual Model 190.

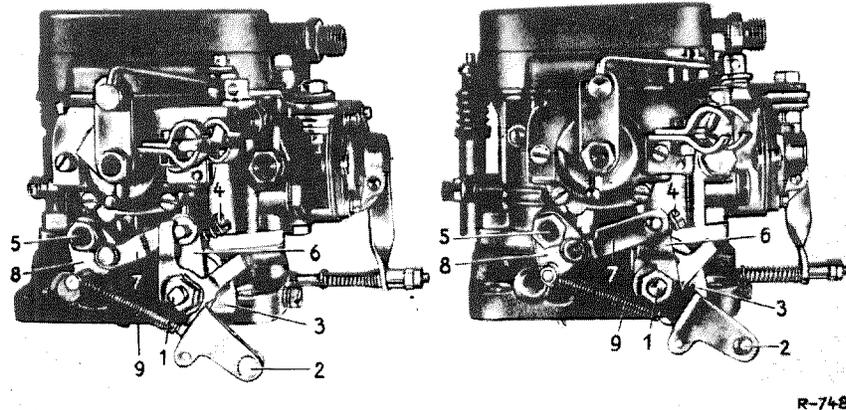


Fig. 07-0/21

### 1<sup>st</sup> Version

- 1 Throttle valve of Stage 1
- 2 Throttle valve lever
- 3 Abutment
- 4 Idle adjustment screw
- 5 Throttle valve shaft of Stage 2

### 2<sup>nd</sup> Version

- 6 Relay lever
- 7 Relay arm
- 8 Drag lever
- 9 Tension spring

The carburetors with the 1<sup>st</sup> version of the actuating linkage were installed as a standard part up to Engine End Nos N 85 04580 and Z 85 01748. The carburetors with the 2<sup>nd</sup> version of the actuating linkage have been installed as a standard part as from Engine End Nos N 85 04581 and Z 85 01749.

## C. Starter Mechanism

On Model 220 S, as from Engine End Nos N 75 11273 and Z 75 00522 carburetors with a three-stage starter mechanism were installed. In the cold-start position (starter knob pulled right out) and in the warm-up position (starter knob pushed halfway in) the functioning of the starter mechanism is as described in the Model 190 Workshop Manual.

In the new third position, warm-up position II (starter knob pushed in about  $\frac{3}{4}$  of the way), the engine receives in addition to the idle mixture an additional mixture from the starter system when the normal running temperature has not yet been reached; this additional mixture ensures satisfactory idling of the engine even at this stage. When the engine is warming up, warm-up position I (starter knob pushed in about halfway) may cause overenrichment of the mixture; by using warm-up position II (starter knob pushed in about  $\frac{3}{4}$  of the way) the starter mechanism can now remain operative until the engine has reached the working temperature of at least 70° C. This is of particular advantage in cars with a hydraulic automatic DB clutch, since when a gear is engaged, the shift surge is so strong that the idling speed may decrease and cause the engine to stall. Furthermore, the shift surge is slightly larger when the oil in the hydraulic automatic clutch is cold than when it has warmed up to operating temperature.