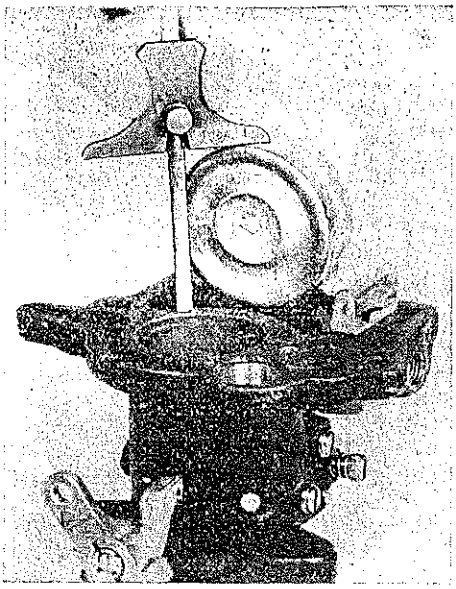

Fig. 61 Stromberg SF carburetors. Checking float setting

discharge jet and place assembly in main body. Then install main jet plug and gasket securely.

17. Install the idle tube securely in main body.
18. Place large venturi in main body and assemble gasket over venturi and idle tube.
19. Place brass washer over idle tube.
20. Install pump piston into main body, being sure there are no creases or curled edges on the piston leather.
21. Assemble throttle body into main body and fasten screws evenly and securely. Be careful not to damage gasket.
22. Install gasoline connections.

UUR SERIES

Fig. 62. This a dual barrel, updraft carburetor with a throttle-operated accelerating pump and a vacuum-operated power system. Fuel enters the gasoline inlet, flows past a strainer and fuel needle valve seat into the float chamber, or fuel bowl. A float mechanism automatically maintains a constant fuel level. There is only one float and one fuel bowl. From the fuel bowl, the fuel flows through two main metering orifices to two main discharge jets and to two idle tubes. Depending on how far the throttle valves are open, the fuel will flow either out of the main discharge jets, or through the idle tubes and out of the idle discharge holes.

The upper idle discharge holes deliver fuel for speeds between 5 and 10 miles per hour. For speeds between 10 and 20 miles per hour, fuel is delivered through both the upper and lower discharge holes. At speeds above 20 miles per hour, both idle holes and main discharge jets deliver fuel. As the speed increases, a point is reached where all the fuel is delivered through the main discharge jets. The idle air bleed acts in the smooth transfer of the fuel discharge from the idle range to the intermediate range. Correct mixture is maintained at all speeds and loads by the high speed air bleeders. Air is drawn into the center passage of the main discharge jet, through a series of small holes, located below the fuel level, which are fed by the air bleeders.

SERVICE & ADJUSTMENTS

Fuel level should be 3/4 of an inch below the top surface of the float chamber with the gasket removed. Readjustments may be made by bending the float lever arm in the corner where it touches the float needle and where it meets the float body. To set the float, hold the throttle body in an inverted position. Set so that a 15/64" rod can be just passed between the center of the float and the gasket surface of the throttle body.

PUMP ADJUSTMENT — There is no seasonal adjustment. Pump travel should be 21/32 of an inch. The pump capacity is 13 to 17 C. C. per 10 strokes, fast or slow. Check the pump reducer jet for dirt upon failure of pump operation.

IDLE ADJUSTMENT—The idle needle valves, or idle adjusting screws, are fuel adjustments. Turning the needle in, admits less fuel, therefore a lesser mixture. Turning the needle out, admits more fuel, therefore a richer mixture. A satisfactory idle setting should be acquired with each needle valve one to one and a quarter turns off its seat. Set to idle 7 to 8 miles per hour.

ZENITH 20 SERIES

Fig. 63. This carburetor is a downdraft, single-barrel type, with a mechanically-operated accelerating pump and a manifold vacuum-controlled power system. In some carburetors of this series, the power-jet system is mechanically operated by an arm attached to the accelerating pump rod. A removable venturi tube adjusts the air capacity. A secondary venturi is also used.

The regular Zenith system of fuel jets is used, both the main jet and the compensator jet supplying fuel at intermediate

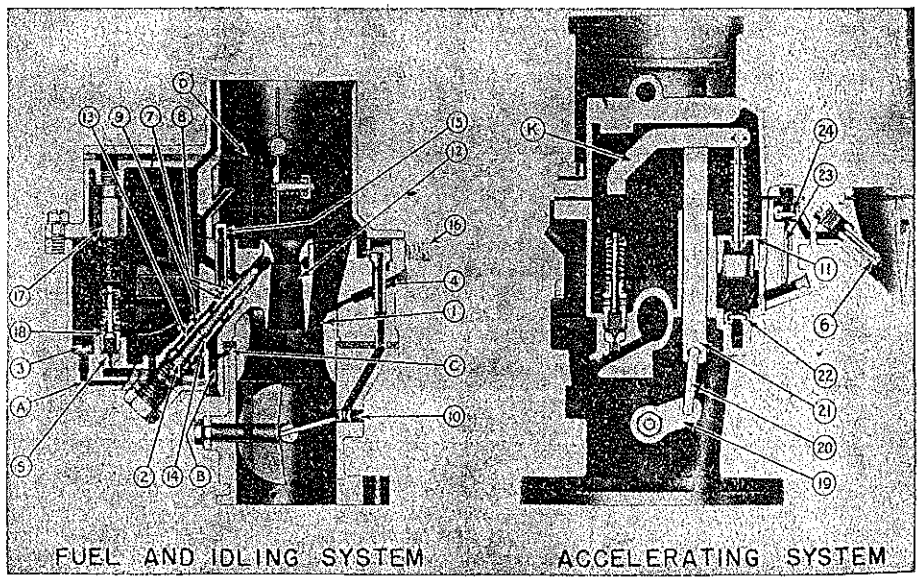

Fig. 63 Zenith 20 series

A. Compensator channel
B. Compensator channel to well
C. Compensator to idle channel
D. Vacuum piston channel
K. Piston arm
1. Main venturi tube
2. Main jet
3. Compensator
4. Idle jet
5. Power jet
6. Accelerating jet
7. Cap jet calibration
8. Cap jet tip
9. Cap jet base
10. Priming plug
11. Pump
12. Secondary venturi
13. Well
14. Annulus
15. Ventilating hole
16. Idle adjusting needle
17. Power jet vacuum piston
18. Power jet valve
19. Pump lever
20. Pump link
21. Pump rod
22. Check valve
23. Needle valve
24. Check valve

ds. The main jet is located at the lower end of the discharge channel and its fuel is discharged through a slot in the secondary venturi. This jet is more effective at high speeds.

The compensator jet is located in the fuel bowl. Fuel from this jet flows into a well, where it is mixed with air admitted by a well vent, and discharged into the air stream. This jet is more effective at low speed.

The idle jet receives its fuel from the compensator channel and is mixed with air, admitted and regulated by the idle adjusting needle. The mixture then passes down a channel to the priming plug and is discharged into the manifold.

The power jet system is controlled by manifold vacuum acting upon a vacuum piston. At normal speeds, the vacuum is high and the piston is kept in an up position, allowing a power jet valve to remain closed. On a heavy pull, with wide-open throttle, manifold vacuum drops and allows the power jet piston to lower and open the power jet valve. This allows additional fuel to flow through the power jet, located beneath the power jet valve, to supply a richer mixture for full power.

The accelerating pump is operated from the throttle shaft. When the throttle is opened, the pump piston moves down. When closing the throttle, the pump piston moves up, and draws fuel into the cylinder through the check valve below the piston. As the piston moves downward, the fuel is forced past a needle valve and through the accelerating jet, into the air stream. Located above the needle valve is a disc check valve which admits air to the accelerating jet channel when the fuel from the pump cylinder has been discharged.

ADJUSTMENTS & SERVICE

To install the main jet, place main jet gasket, cap jet base, with larger end down, cap jet calibration, cap jet tip and cap jet tip gasket, in position on the main jet (in the order named). Hold the bowl upright and install the above group as one unit. If main jet adjustment is used, set one turn open. The power jet seats in the housing, and the copper gasket is placed on top of the jet and then the power jet valve should be tightened firmly in place, but not tight enough to crush the soft copper gasket.

Float height setting should be checked with the cover assembly held upside down and only the weight of the float holding the needle closed. The float setting is 1½ inches, Figs. 64 and 65. The fuel level in the bowl should be 25/32 of an inch.

The idling adjusting needle is an air adjustment, turning out, or anti-clockwise, admits more air and allows a leaner mixture. Turning in admits less air or a richer mixture. A preliminary setting should be one turn from its seat.

The accelerating pump does not have provision for seasonal changes. The distance the pump piston travels can be changed by replacing the spacer. Most carburetors use the ¾ stroke spacer, and this allows about 5/16 of an inch piston travel from closed throttle. On the throttle-operated power valve, the arm just starts to open the valve when a 7/16" rod fits between the carburetor barrel and the lower end of the throttle plate. On the vacuum type the power jet piston operates at four to six inches of manifold vacuum.

The position of the throttle cracker lever on the air shutter shaft should be adjusted so that opening the throttle wide open while holding the air shutter closed, will open the air shutter just far enough to insert a number 26 drill between the upper lip of the air shutter and the air intake body.

Bowl Vent Tube (C77-8) was designed to prevent dirt from defective air cleaners entering the bowl through the bowl vent. Its use is recommended where there is a possibility of trouble from this source.

23 SERIES

Figs. 66 and 67. This is a single-barrel, downdraft carburetor, and the general description as previously applied to the 20 Series Carburetor is the same for the 23 Series with two exceptions. The 20 Series has a long main jet which holds the cap jet base, cap jet calibration and the cap jet tip in place. The 23 Series has a short main jet which sets against a gasket and the cap jet base retainer. Another slight difference is in the accelerating system. A pump refill check valve ball and weight is used in the 23 Series in place of the needle check valve as used in the 20 Series.

MAIN JET INSTALLATION — Place gasket, cap jet base, cap jet calibration, cap jet tip and gasket in place (in order named) on the cap jet base retainer. Hold the bowl upright and install the group as one assembly. Then install main jet and gasket. For all other adjustments proceed as described for the 20 Series.

28 SERIES

Figs. 68, 69 and 70. This is a downdraft, single-barrel carburetor, with a mechanically-operated accelerating pump and a manifold vacuum-controlled power-jet system. This construction was also applied to some double barrel units.

The main jet is located in the bowl and fuel passes through it and into the main discharge jet and out into the air stream through the secondary venturi.

Air is admitted to the main discharge jet through the well vent. A sized orifice controls the air admitted to the discharge jet, which in turn controls the flow of fuel from the main and power jets. When manifold vacuum drops, the power jet system supplies additional fuel. The operating principal is the same as used in the 20 Series.

The idling jet receives fuel from the main jet. The fuel passes through the calibration in the side of the idle jet, and is mixed with air passing through the center of the jet. The mixture of fuel and air from the idling jet is discharged through the priming plug.

The pump piston is actuated by throttle movement. As the throttle opens, the pump piston is pushed downward. This forces fuel past the ball check valve and through the pump jet into the air stream. The air vent check valve admits ventilation from the bowl and eliminates direct suction on the fuel through the pump jet.

SERVICE & ADJUSTMENTS

Float Setting should be checked by holding cover assembly upside down. With the weight of the float holding the needle valve seated, the distance from the far side of the float to the housing should be ½ inches, Fig. 64. The fuel level in the bowl, with normal pump pressure should be 25/32".

A star is stamped on the head of the main jet to prevent confusing it with the compensating jets used in previous models. The calibration length of the main jet is longer than that of a compensator and a compensator must not be used as a substitute because it changes the metering characteristics of the carburetor.

If the power jet or gasket sticks in

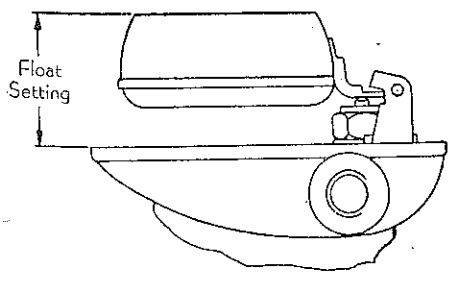

Fig. 64 Zenith float setting on carburetors with "flat" float

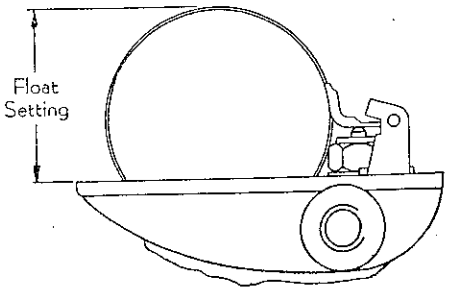

Fig. 65 Zenith float setting on carburetors with "round" float