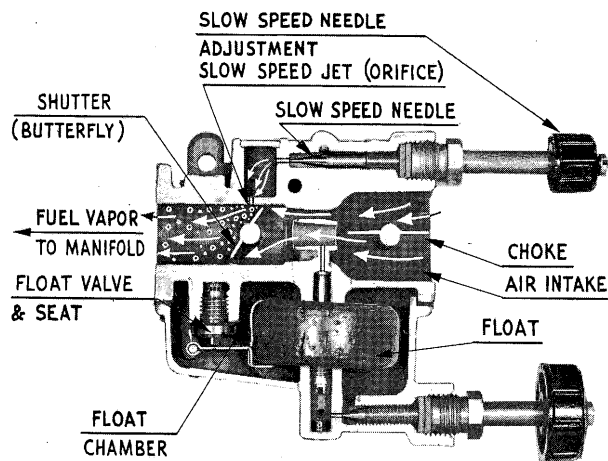


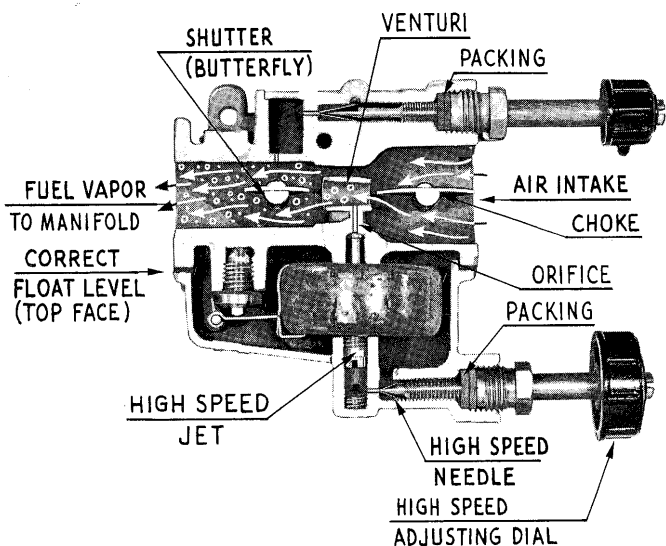


CARBURETOR — MODEL JW

Carburetor on the Model JW is similar to that employed on other Models (QD, RD, etc.) in that it is of the float feed two-jet type, consisting of a mixing chamber and conventional float chamber. Two adjustments are provided, namely — for high and slow speed performance.

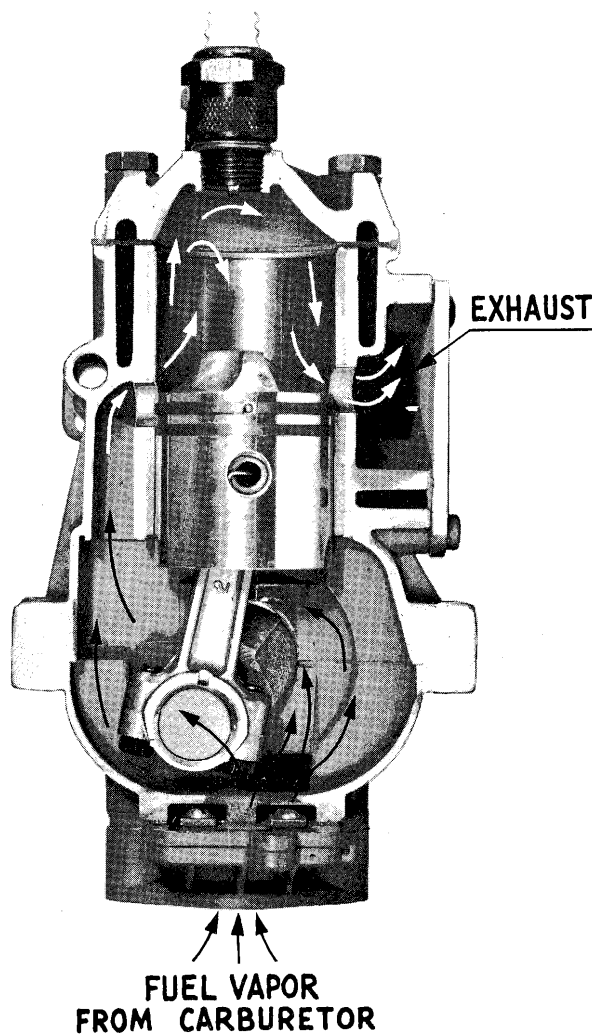


Sectionalized View of Carburetor (Float and Mixing Chambers) Showing Butterfly Shutter Set for Slow Speed Operation (Closed). Note Maximum Fuel Vaporization at Slow Speed Jet — Vaporization at High Speed Jet is Nil.



Sectionalized View of Carburetor (Float and Mixing Chambers)— Butterfly Shutter Full Open for High Speed Performance. Note Maximum Vaporization at High Speed Jet (Orifice) with a Minimum of Vaporization at the Slow Speed Jet; also, Effect of Restriction Caused by the Venturi Tube Built into the Mixing Chamber to Increase Air Velocity in Area of the High Speed Jet (Orifice). Note Position of Float when Adjusted to Correct Level—Top Face Flush with Face of Float Bowl. See Instructions Pertaining to Float Valve and Float on Page 148.

Induction to the crankcase similarly is by means of an automatic intake valve situated between the carburetor and crankcase which functions in accordance with changes in crankcase pressure as the pistons travel up and down to complete the cycle— see pages 79 to 80 inclusive for detail description.



Arrows Indicate Path of Fuel Vapor as the Piston Progresses Through the Cycle. (Intake, Compression, Power and Exhaust).

It will be noticed, however, that the automatic intake valve is not made up of several segments, as in the case of Models QD and RD, but of a single “strip”— one for each crankcase chamber as illustrated on following page.

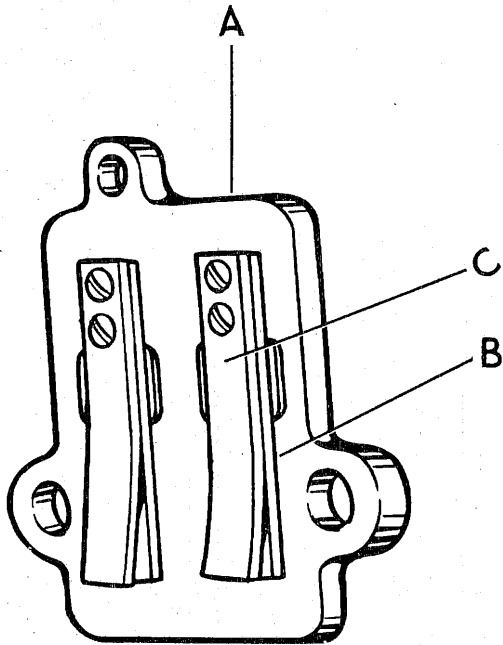
CARBURETOR CONTROL (SPEED) ADJUSTMENT

Since gas and spark are synchronized to permit realizing consistent performance throughout entire speed range of the motor by correctly proportioning volume of fuel charge with respect to de-

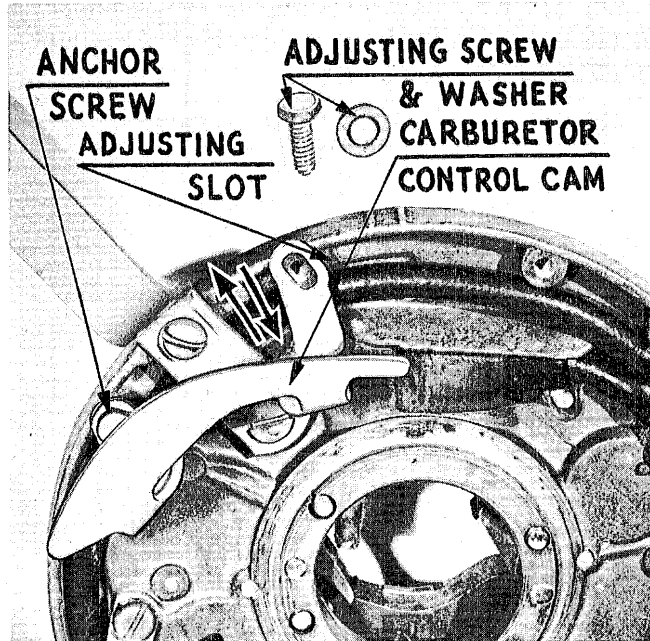


gree of spark advance, some adjustment is required to gain end results.

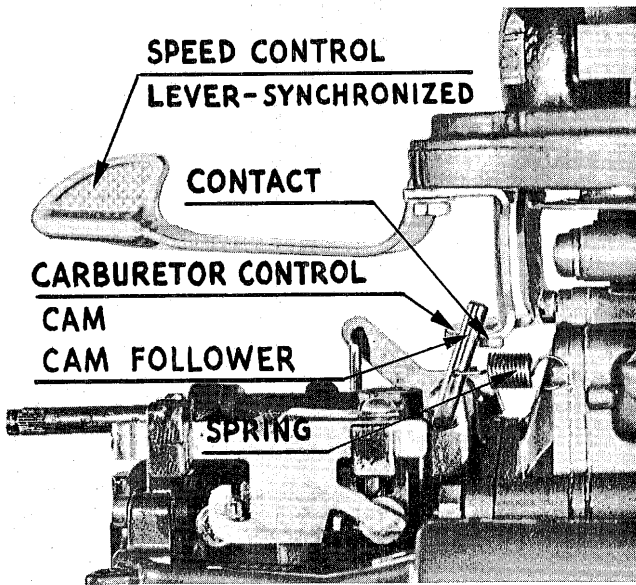
gresses toward "high" end of the cam — greater opening of the carburetor shutter to permit larger charge of fuel vapor and subsequent increase in power and speed.



Illustrating the Model JW Automatic Valve Assembly Including (a) Valve Plate, (b) Automatic Valve, and (c) Automatic Valve Back-up Plate.

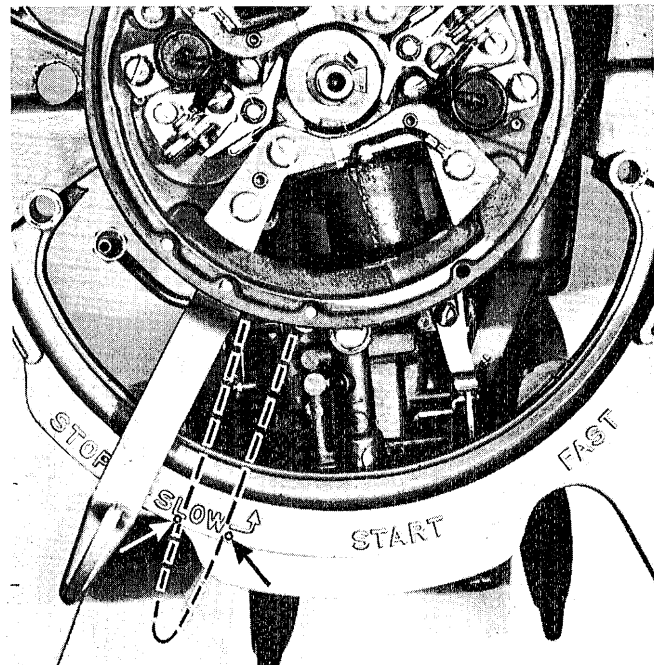


Showing Slot in Free End of the Carburetor Control Cam to Permit Shifting In or Out as Required to Obtain Correct Synchronizing Adjustment.



Illustrating Speed Control Synchronizing Mechanism, Namely — Speed Control Lever, Carburetor Control Cam and the Carburetor Control Cam Follower.

Synchronizing is accomplished by means of a cam, cam follower and linkage arrangement as shown here. The cam is attached to the armature plate and moves with it as the spark is advanced. At retard spark, the cam follower rides on the "low" end of the cam to result in but partial opening of the carburetor shutter (butterfly). With advance of spark (speed control level) the follower pro-



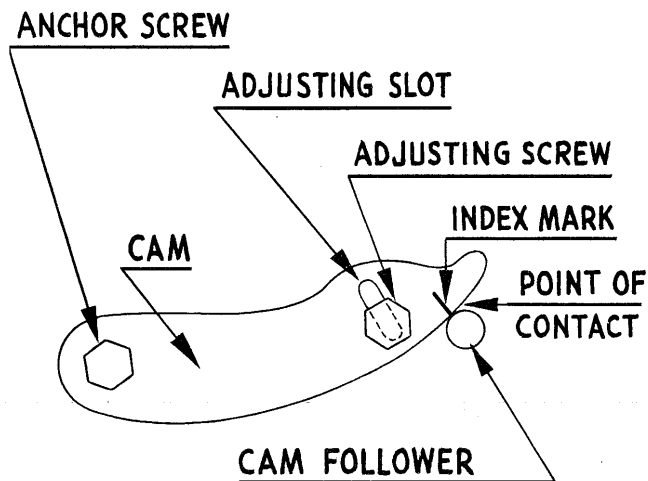
Showing Small "Embossings" on the Gas Tank Mounting Bracket to Locate Position of Speed Control Lever When Adjusting Carburetor Control Cam.

Some adjustment is required to properly synchronize — proceed as follows:

1. Loosen screws slightly at both ends of the



- speed control cam (underside of armature plate).
2. Move speed control lever to position between embossings on the gas tank bracket as indicated by the dotted line in the illustration.
 3. Note line stamped on top side of the control cam—with speed control lever set in position described above, move free end of the cam “out” until it makes contact with the cam follower (but only after slack in the linkage has been taken up) at point of index mark.
 4. Draw up on both screws holding the cam to the armature plate to secure in this position.

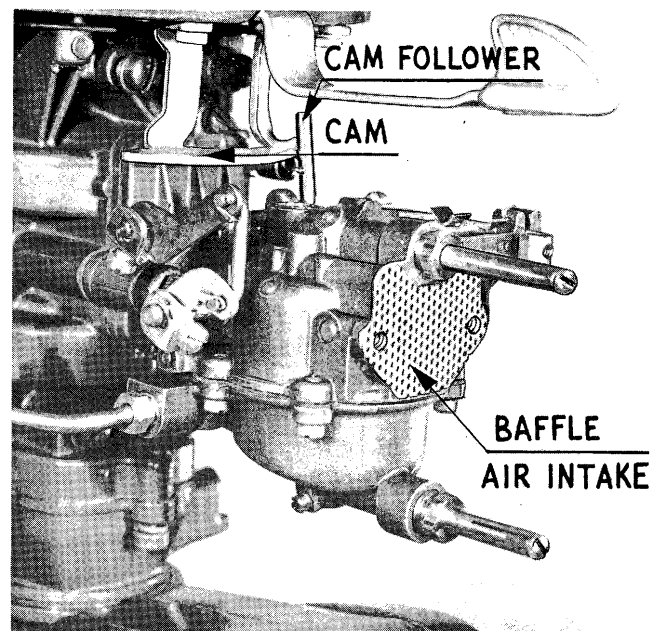


Schematic Drawing to Illustrate Cam and Cam Follower Adjustment.

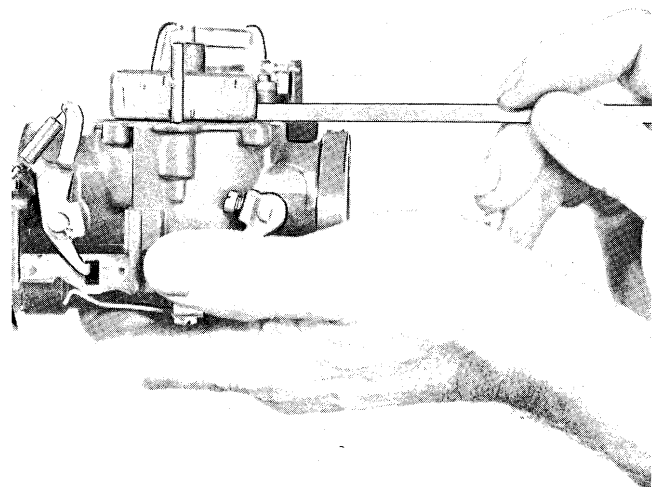
CARBURETOR ADJUSTMENT

The carburetor being of the two-jet (float feed) type, is designed for maximum, efficient carburetion at all speeds, two adjustments are thus required, namely: high and slow speed. Both high and slow speed needles are adjusted at the factory with provisions for limited variations to compensate for atmospheric conditions. However, if ultimate adjustment does not fall within the limited range or in case of repairs, proceed as follows:

Loosen, but do not remove screws in center of slow and high speed dials. (Dials are held firmly in position on their respective adjusting needle shaft by expansion of slotted serrated ends as a result of drawing up on the counter-sunk head screws.) Pull dials out until limiting stops on dial (back side) clear like stop cast onto the motor cover. Dial is now free to be turned beyond normal limited range: tighten center screws to secure to needle shafts.



Showing Screen or Baffle Attached to the Carburetor Intake — Function of which is to Counteract Effect of Surging Impulses Created by Action of the Automatic Intake Valve.



Method of Checking Float Level.

Carefully turn both dials to right, to position where adjusting needles come to rest gently on their seats. Be careful not to injure seats by turning down too tightly. Then back off (turn left) slow speed dial approximately one full turn — high speed dial about 3/4 turn.

SLOW SPEED ADJUSTMENT

Start motor as instructed — run at “Fast” speed until normal operating temperature has been reached. Throttle down to “slow speed range.” Turn dial to right or left as required to obtain best setting for slow speed.

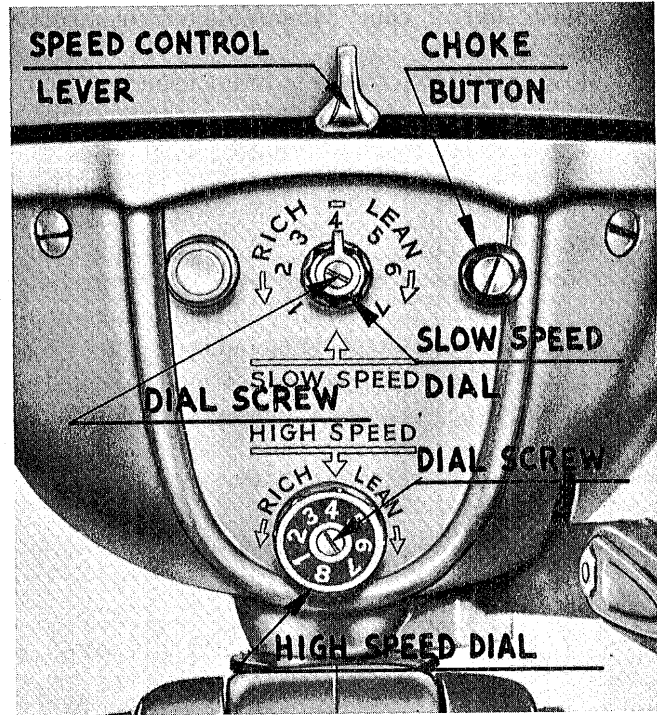


(Note: Turning needles to left enriches the fuel mixture — that is, increases proportion of fuel to air to result in rich mixture. An excessively rich mixture is indicated by “rough” running of the motor. “Spitting or coughing” in the carburetor is indicative of a lean mixture, caused by turning needle too far to right.)

Loosen center screw to properly arrange dial, without disturbing position of the slow speed needle (this is IMPORTANT). Should dial tend towards binding on the needle shaft, it may become necessary to pull it free entirely to permit rearranging its position without affecting adjustment of the needle at this time. Arrange dial to position where pointer is directed to Numeral 4. Push dial back onto the shaft to distance clearing the motor cover by approximately $3/32$ ”, which should be sufficient to engage limitation stop on the cover. Tighten center screw to firmly secure dial. Atmospheric conditions may necessitate slight variation from time to time — limited range provided in this respect should be sufficient, nevertheless.

HIGH SPEED ADJUSTMENT

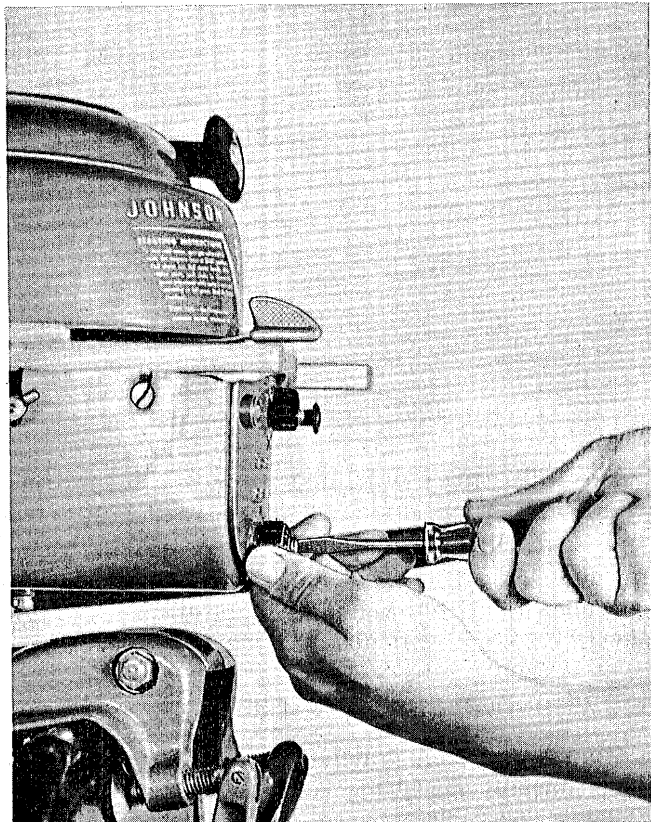
(Must be performed only after final slow speed adjustment has been made.) Turn dial to left or right as required to obtain best setting for top



Showing Carburetor Control Panel.

speed performance. Rearrange dial numbers as described above — Number 4 should be directed up as shown above.

NOTES



Showing Method of Adjusting Position of Carburetor Needle Dials