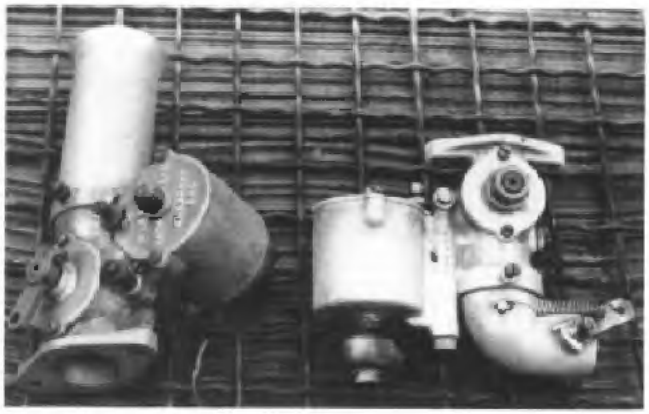
WINFIELD CARBURETORS

Our coverage of a small part of the story of Ed Winfield would not be complete is we did not say something about his best known product, the Winfield Carburetor. In no way will this be a detailed study of the subject, but it will outline the products so that the reader might learn a little about the carburetors.

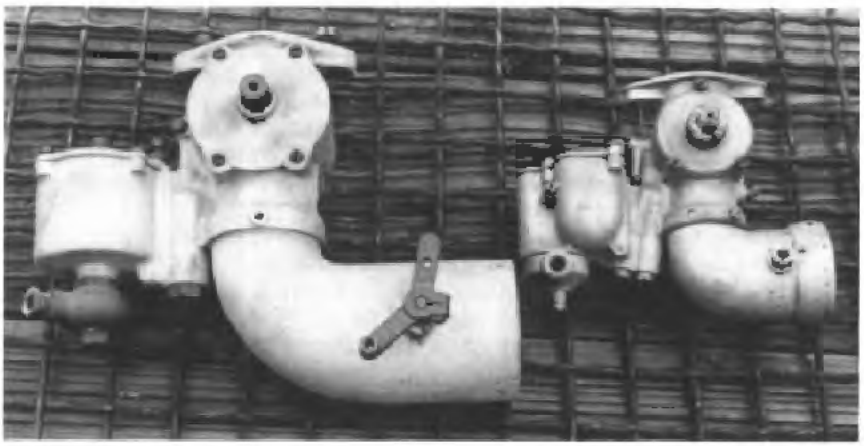
Essentially, Winfield made three basic models for the retail trade, the Model H/V series, the Model M series, and the Models S and SR series. Carburetors within any of these model series were of the same basic design, but varied in appearance due to mounting and hardware features made necessary to adapt the unit to various engines.

The Model H (for Horizontal) and Model V (for vertical) were the first types. The Winfield catalog of 1929 says the Model V was discontinued in March 1927. The H came in two throat sizes and the V in three. These were the models 4V, 4H, SV, 5H, and GV. These carburetors featured the barrel-shaped throttle which was the main feature of the Winfields before the Model S. The float bowl on the H/V series was round shaped.

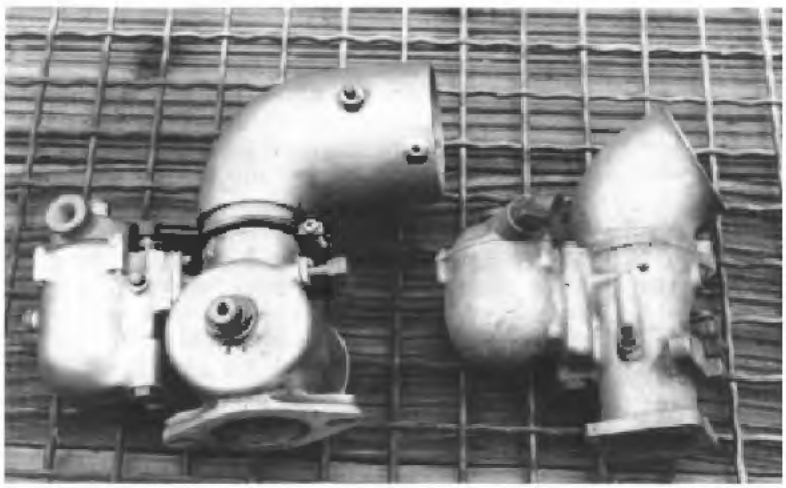


The Model H Winfield side-draft (left) and the Model V updraft carburetors. Both share the same basic design. These are the earliest models.

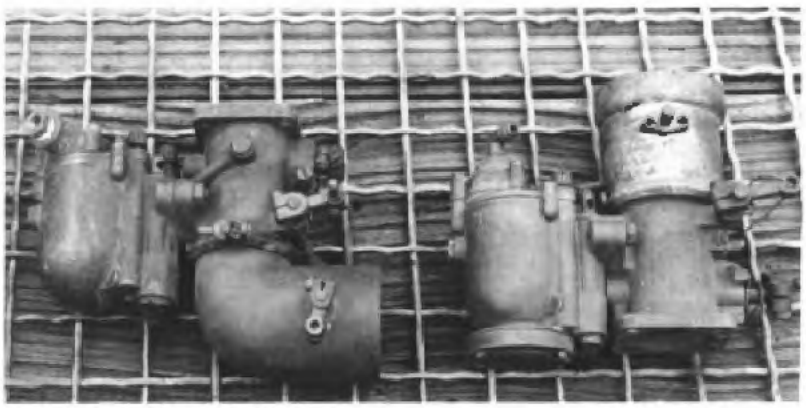
The second series was the Model M which came in three models, all vertical (updraft) types. The Model M continued the barrel throttle but while the V/H



Left. An early large Winfield of non-standard design, perhaps used on a race car. Right is the second type, the Model M. All of the Model M were apparently updraft.



Non-standard Winfield carburetors. The left appears to be a combination of M and S features with the barrel throttle; the right one has the Model S throttle but with an integral float bowl. These appear to both be downdraft, no doubt for race cars.



The Model S (left) in the updraft configuration, and the Model SR with the diaphram accelerator pump at the bottom.

series had used a fitted-to-the-body precision barrel, the M s barrel was hourglass shaped and could be interchanged in bodies of the same size. The float bowl on the M series was more rectangular than round.

The final design was the Model S and SR, which differed mainly in that the SR had an accelerator pump while the S did not. The barrel throttle was replaced with an odd-shaped plate similar to conventional carburetors but which was thicker on one side than on the other, and also more like a shallow cup than a flat plate. The S-series carburetors came in vertical models only, but in either updraft or downdraft types. The float bowl was again of rounded shape, but was removable and reversible, allowing the same main body to be used for either updraft or downdraft. The float bowls were different for the two mountings, though. Reversing the main body also reversed the positions of the gas passages with respect to the float bowl assembly, therefore updraft carburetors required one float assembly, and downdrafts another. Simply reversing the assembly would no work.

The Model S initially came out in early 1930 without an accelerator pump (and took some pride in the fact that one was not required) but increasing engine speeds apparently made it necessary to add the Model SR to the line to overcome the hesitation when the throttle was opened suddenly. The Model S is detailed elsewhere in this article.

In addition to supplying the carburetor for the replacement market, Winfield also supplied manifolds, adaptors, brackets and other hardware for the requirements of various installations. Packaged kits, designed for a particular make and model, were also available.

Of course, these were not the *only* Winfield carburetors built. No doubt there were untold numbers of special types designed for race cars and other applications, but most of these were based on the primary designs indicated above.

THE MODEL S WINFIELD

The following information is from a Winfield catalog dated April 1930. We are reprinting only that information which might be of interest today, leaving out the "'sales ballyhoo which was also included.

Sizes Identified by Letters

So as to have accurate carburetion for any size motor, the new Winfield is available in one-eighth inch sizes. This is a great improvement over the former method of stepping up sizes in a quarter of an inch at a time. With the old arrangement, you often had a carburetor that was just a bit too small, while the next size was too large. With an eighth inch graduation in size, you can always use the correct size carburetor for any engine.

The new carburetor sizes are designated as follows: A -- 1 inch. AA -- 1-1/8 inch. B -- 1-1/4 inch. BB -- 1-3/8 inch. C -- 1-1/2 inch. A, B and C sizes still correspond to the former Winfield practice of designating carburetor size. You merely have the addition of two in-between sizes designated as AA and BB. Another larger size carburetor will be added later.

Throttle Chamber

The Model S throttle chamber can be used either as an updraft or downdraft installation. In other words, you have a universal throttle chamber.

For the present time (1930), you have five sizes of throttle chambers. They are the A, AA, B, BB and C. There are two markings on the throttle chamber which will give you the key to the size.

If on the main barrel of the throttle chamber, the reading shows: "S-1-B, the S means model S; the 1 is the factory part number; the B designates the size. Then secondly, you will note that each throttle chamber has its own serial number stamped on the side of the flange face. Suppose the serial number reads: "Ser.-SB 1121. The B designates the size and 1121 which follows is the serial number. You should have no trouble in identifying sizes.

Remember -- You can make either an updraft or downdraft installation with the same throttle chamber.

Float Bowls

Before going into detail about the float bowl be sure to get this one fact straight: the float bowl is not interchangeable. *An updraft float bowl can only be used on an updraft installation. To make a downdraft installation requires a downdraft float bowl.*

On the first casual inspection, all float bowls are the same size. But there is a vast difference in the type of bowl (whether it is updraft or downdraft) and in the actual size of the accelerating wells.

A float bowl made for downdraft use will not work on an updraft installation; and by the same token, an updraft float bowl will not work on a downdraft installation. The float bowls are not interchangeable. Here is the reason for this condition:

The intermediate accelerating well always supplies mixture to the intermediate side of the throttle chamber. And for your indentification, the mixing chamber on the thin side of the throttle is the intermediate side. When you reverse the throttle chamber and make it a downdraft instead of an updraft, you reverse the position of the intermediate mixing chamber. Therefore, the accelerating wells in the float bowl must be reversed in order to supply their respective mixing chambers with mixture. The depth and shape of the cored holes in the accelerating wells will not permit the compensators and idling tube to be switched. In other words it requires a different float bowl: *an updraft float bowl for updraft installations; a downdraft float bowl for downdraft installations.*

How to Identify the Float Bowl

For quick identification of a downdraft float bowl, follow this practice: With the float bowl in your *right* hand with flange away from you as pictured in illustrations No. 1 and 2, the position of the idling adjustment screw is always on the right side on a downdraft float bowl. The idling adjustment is always on the left side on an updraft float bowl.

How to Determine Size and Type of Float Bowl

At the bottom of the float bowl located between the two brass gases is the identification mark for the type of float bowl as well as the size. See illustration N. 3. The interpretation of the stamping "S-20-CU is as follows: S means model S; the 20 is the factory part

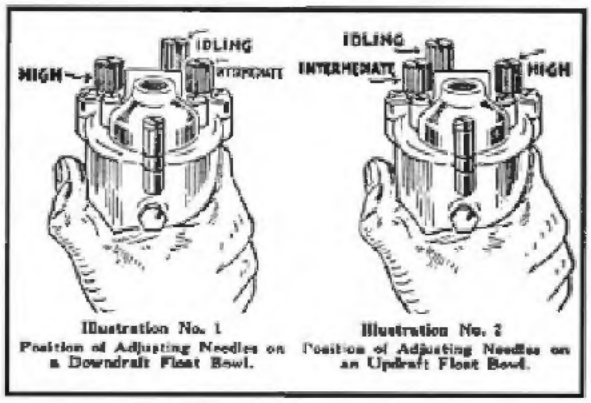


Illustration No. 1
Position of Adjusting Needles on a Downdraft Float Bowl.

Illustration No. 2
Position of Adjusting Needles on an Updraft Float Bowl.

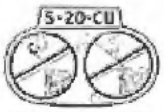


Illustration No. 3
Compensator Base

number; the C is for size; and the U is for updraft. If there was a D in place of the U, it would signify a downdraft float bowl.

This same method of marking is used in the letter prefixing the serial number of the side of the bowl.

The different float bowl sizes are as follows: AU – 1 updraft. AD -- 1 downdraft.
AAU -- 1-1/8 updraft. AAD -- 1-1/8 downdraft. BU -- 1-1/4 updraft. BD -- 1-M downdraft. BBU -- 1-3/8 updraft. BBD -- 1-3/8 downdraft. CU -- 1-1/2 updraft. CD -- 1-P downdraft.

All float bowls with the mark "U are updraft. All bowls with the mark "D are downdraft.

Matching Float Bowls and Throttle Chambers

A throttle chamber of a given size must have the corresponding size float bowl. It is very important that you pay close attention to float bowl sizes because each size of float has a different set of compensators in it. (In other words, Use an AU or AD float bowl with an A throttle body; AAU or AAD with an AA, etc.)

Compensators, Idling Tubes & Air Bleeders

Each float bowl has a different set of compensators; a different idling tube and base; and a different set of air bleeders. Since there are five sizes of float bowls, there are naturally five different sizes of these parts.

Each compensator can be identified by the stamped letter appearing on the bottom face of the high speed compensator; and the intermediate compensator can be identified by the stamped letter appearing on the side.

The diameter of the compensators is different in only three sizes of float bowls. These are: The diameter of the A and AA compensators is 1/2 . The B and BB compensators are 9/16 . The diameter of the C compensator is 5/8 .

Note: The diameter of the A and AA compensator is the same; the diameter of the B and BB compensator is the same. But here is the difference: The drillings of compensator holes are different in each size; and the wall thickness is also different.

The idling tube and base for each size bowl is also different. The size is stamped on the base of this part. See illustration No. 3 again. The "A tube and base is for the A bowl; the AA for the AA bowl, etc.

Each of the five size float bowls has a different set of air bleeders. The air bleeder size is identified by the drill number appearing on the top face of the bleeder. These are: No. 30 for the A float bowl. No. 28 for the AA; No. 24 for the B; No. 20 for the BB; No. 17 for the C float bowls.

A bowls can be converted to AA bowls by changing these parts. Likewise, B bowls can be converted to BB. The bowls themselves are the same.

Figure No. 1
The New Model "S"
Winfield Carburetor

The following is taken directly from an undated Winfield Carburetor brochure. Even though it is no longer valid (the company long ago went out of business), it is interesting and may be of some help to those of you who have one of these splendid carburetors.

THE NEW WINFIELD represents a great advancement in the science of *accurate* carburetion. The startling fact that it is even a greater performer than its Winfield predecessor was made possible by the discovery of an entirely new throttle – a double mixing chamber -- a new spray tube arrangement -- and three stages of carburetion. The New Winfield combines these ingenious discoveries into a simple, sturdy instrument built for honest work.

The New Winfield is extremely simple in design and operation. There are no moving parts other than the throttle and the float mechanism. Winfield is absolutely free from complicated valves and moving needles -- free from delicate springs that lose their tension and change in adjustment -- free from pumps and injectors of raw gasoline. Everything about the New Winfield is simplicity itself. There is nothing to wear out and get out of order -- nothing to upset the adjustment of this carburetor. There is nothing temperamental about the Winfield. *It stays in adjustment.*

Winfield has been able to retain this *simplicity of design* and still step up the carburetor performance by utilizing and correctly applying the forces of nature. For instance, the delivery of the correct amount of mixture for any engine load is *automatically* controlled and regulated by the degree of vacuum and the rate of flow. There is nothing mysterious about a Winfield. It uses the simple laws of nature, which are infallible if correctly applied.

You have never seen anything like the New Winfield throttle. It is one of the most unique discoveries ever made in the science of carburetion. The Winfield throttle permits one side of the carburetor to open while the other side still remains closed. *Think what that means* -- a throttle that not only regulates the speed of the engine, but a throttle which gives perfect control of the air stream for any throttle opening! To control the air stream has been the goal of every carburetor engineer since the discovery of the gas engine. Winfield has found the way and it is so simple you will wonder why it was not discovered long ago.

The New Throttle

The Winfield throttle is a round metal disc cast thin on one side and thick on the opposite side. The outside surface of this disc is curved. In fact, it is a spherical section of a round metal ball cut out in the shape and form as seen in the cross sectional view of Figure No. 2. The thin side of the throttle is the intermediate side; the thick side is the high speed side; and from closed to

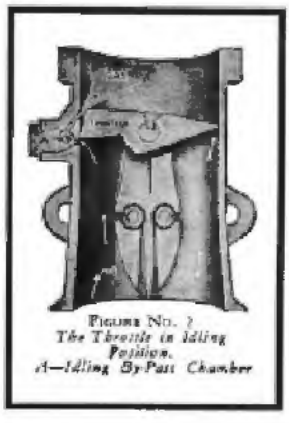


Figure No. 2
The Throttle in Idling Position.
A—Idling By-Pass Chamber

semi-closed position, the thick side also regulates the idling. With this ingenious throttle it is possible to have three distinct, yet synchronized, stages of accurate carburetion. Each stage is confined to its respective throttle range.

With this new throttle you have a quiet carburetor. There is none of that annoying carburetor noise in the New Winfield.

You will like the smooth idling action of the New Winfield. *It* is *positive and sure* in every way. A motor powered with this carburetor does not stall or gallop.

The First Stage

The first stage of Winfield s *accurate carburetion* is the idling system. The idling speed and idling mixture are both regulated by the throttle movement starting from a closed position through an opening range of approximately 15 degrees.

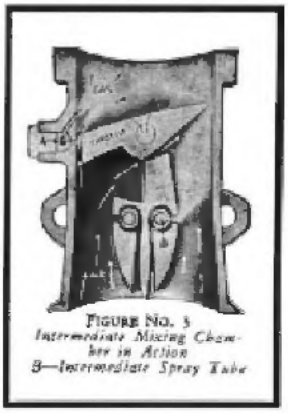


FIGURE NO. 3
Intermediate Mixing Chamber in Action
B—Intermediate Spray Tube

The movement of this throttle controls the air stream. And the velocity of the air stream as it passes the idling by-pass determines the amount of mixture that will be supplied to the engine for any required idling speed.

Examine illustration No. 2 and note the direction of air travel. With the throttle in a fully closed position, the lower idling by-pass is inactive, except that it allows the incoming air to pass through it into the idling by-pass chamber. See A Figure No. 2. Here the air-stream picks up mixture which has been drawn up from the idling tube located in the intermediate accelerating well. For identification of this idling tube see illustration No. 5. This idling mixture is delivered to engine through the upper by-pass hole.

A Better Idling Mixture

For a faster idling speed, more mixture is needed. This is accomplished in a simple yet ingenious manner. When the throttle is opened slightly, the air slot located in the thick side of the throttle comes into action and permits the air stream to pass through this slot instead of through the idling by-pass holes. And as a result, both the upper and lower idling by-passes deliver mixture into this air stream. See illustration No. 3 for this stage in the idling.

With this unique idling arrangement, Winfield delivers idling mixture that is correctly compensated and accurately balanced for any idling speed of the motor. The idling with a Winfield is smooth, positive and sure.

The Second and Third Stage

The other two stages of carburetion in the Winfield are the intermediate and the high speed ranges. Each stage is independent of the other. In fact each stage has its own and separate mixing chamber. The intermediate stage comes into action and is completely controlled by the throttle as it opens from a 15 degree position up to an opening of approximately 40 degrees. During all this opening of the throttle, the high speed side is inactive and does not deliver mixture. As the throttle open up beyond the position of 40 degrees, the high speed stage comes into action. At wide open throttle, which means that the throttle has moved over an arc of 90 degrees, the intermediate and high speed sides are both delivering mixture. See illustration No. 4.

With these two distinct and independent mixing chambers you really have two carburetors in one. The intermediate mixing chamber is used for the ordinary driving or cruising speed. The high speed mixing chamber is for the power or speed range. There s ***high carburetor*** efficiency in the New Winfield.

Spray Tubes

Each mixing chamber has its own system of gas delivery. Instead of using a single or double jet, Winfield uses two spray tubes -- a spray tube for each mixing chamber. Each spray tube has 7 or more tiny holes drilled in it. See illustration No. 6. This Nav Winfield method vaporizes the gas more completely and thoroughly than heretofore thought possible. It supplies the motor with a fog-like vapor. By actual tests, Winfield not only puts a better mixture into the motor but actually delivers a greater volume of mixture -- and the mixture is of uniform, even texture. No wonder this carburetor produces *more power* and *faster acceleration!*

The Divider

This super vaporization is also aided by the shape and design of the divider. The shape of this divider together with the flared-in surface of the carburetor bore forces the air stream to travel at a very high velocity. And as you know, the higher the velocity of the air stream, the better the vaporization of the mixture. The shape of this bullet-nosed divider also serves another purpose. It centers the travel of the air stream at the exact point for the highest carburetor efficiency. See how Winfield uses the simple laws of nature? *There is nothing complicated about* a Winfield.

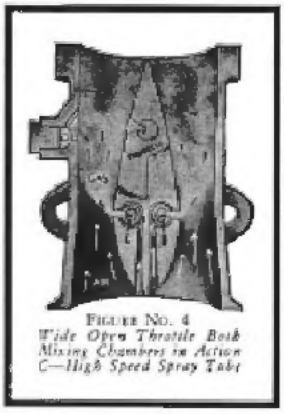


FIGURE NO. 4
Wide Open Throttle Both Mixing Chambers in Action
C—High Speed Spray Tube

So as to insure positive vaporization of the fuel, Winfield *mixes the gas with air at four different points.* In the first place, each accelerating well in the float bowl is bled with air. The small hole on the side of the spray tube is the second stage. Then there is the mixing at the spray tube delivery points with the air

which comes in through the air slots of the divider. The final and complete vaporization of the mixture takes place in the main air stream of each mixing chamber. With the Winfield method of vaporization, there is not a chance for a drop of raw gasoline to go into the manifold. All the fuel is completely vaporized. That is the reason a motor powered with this carburetor *performs so smoothly.*

Two Accelerating Wells

Each mixing chamber obtains mixture from its respective accelerating well. These accelerating wells are shown in the cutaway view of the float bowl assembly in illustration No. 5. The intermediate well supplies mixture only to the intermediate spray tube; the high speed well supplies mixture only to the high speed spray tube. Each accelerating well is absolutely independent of the other. They are in no way connected. And the amount of gas which enters each well from the float bowl is regulated by its respective adjusting needle.

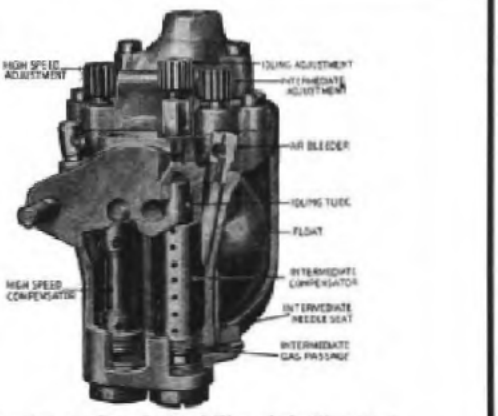


FIGURE NO. 5—*Cross Sectional View of the Float Bowl*

Intermediate Accelerating Well

These accelerating wells are just what the name implies. They are two reservoirs of extra gas held in readiness for acceleration. To accelerate a motor, it is necessary to suddenly enrichen the mixture, Winfield does this by utilizing the infallible forces of nature. As the throttle is suddenly opened, the suction at the spray tube is increased. The motor wants a heavier charge of mixture. The accelerating wells supply just the extra amount necessary to peak the motor in the shortest possible time. And the mixture Winfield supplies is *never raw* gas -- it is mixture of the right proportion for maximum results.

FIGURE NO. 6—*Cross Sectional View of Spray Tube*

There are two stages of acceleration in the intermediate accelerating well. When the throttle is suddenly opened part way, the gas held in this well immediately dumps. The moment this takes place, the gas which has been held in the idling tube also dumps and gives the second stage of *positive acceleration.* With this unique accelerating arrangement, there is always enough punch to accelerate the motor to any given speed in the shortest possible time.

High Speed Accelerating Well

If the throttle is opened wide enough so mixture is also drawn from the high speed side, the gas held above the large drilled holes in the top of the high speed compensator is immediately used. This is the first stage of acceleration in the high speed well. If the speed of the motor is exceedingly high, the balance of the gas in the high speed well empties in direct ratio to the speed of the motor. This is the second stage of acceleration in this well. If by chance the motor is lugging at wide open throttle on a hill, the gas in this well immediately rises to the large drilled hole near the top of the compensator.

How is the gas regulated from these wells so that the mixture is of the right proportion and right quantity for any given condition? The small drilled holes in the compensators permit the entry of a variable amount of gas depending on the degree of suction. The very instant the throttle is held in a fixed position, the accelerating action in the well stops and you have the highly efficient economy mixture. The setting of the adjustment needles, together with the calibration of the holes in the compensators, and the size of the air bleeders, and the degree of suction, all combine to regulate the correct supply of mixture.

The New Winfielcl works with the same high efficiency on any type of gas engine. And best of all, it is available in either *updraft* or *downdraft* installations.

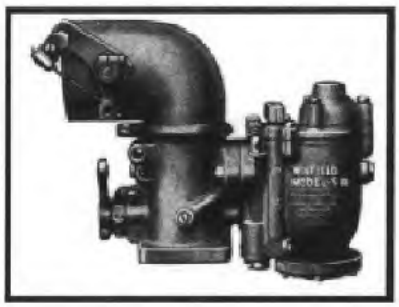
Here are the results Winfield will give on your car: *Increased Power. Faster Acceleration. Better Economy. A Cooler Motor. More Smoothness. Higher Speed. Easier Starting. No Crankcase Dilution.*

There is only one way to prove conclusively the superiority of this carburetor: try the New Winfield out on your car and see the results for yourself. Then you will understand why thousands of motorists have unanimously endorsed Winfield as *'the surest way in the world to improve the all around performance of any motor.*

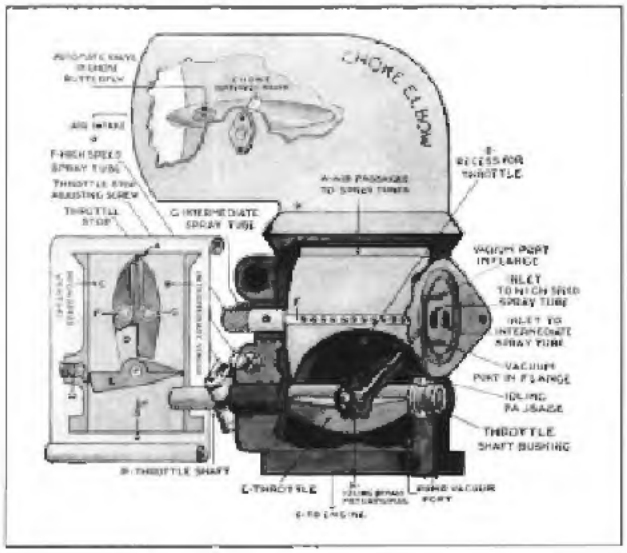
Installing and Adjusting
The Model SR WINFIELD Carburetor

(From an original instruction sheet)

STEP 1
Assemble Carburetor

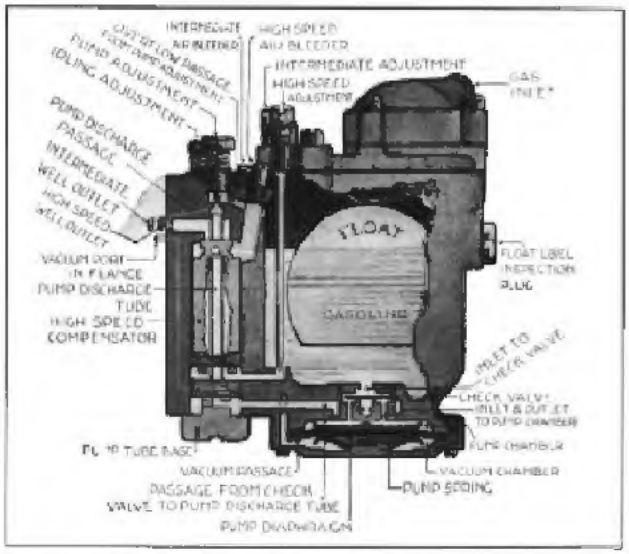


For information on how the carburetor is installed on a specific make of car, consult the Winfield catalog. Bolt adaptor flange to carburetor throttle chamber, using gasket furnished for this purpose. Fasten choke elbow or straight choke to throttle chamber with special retaining clamp furnished. Adjust choke cable holder to proper angle and tighten retaining screws. Put choke lever on choke butterfly shaft. Hold it against stop and move choke butterfly to wide open position. Then tighten choke lever clamp screw. See illustration B. Bolt float bowl to throttle chamber. Use special gasket furnished for this purpose.



STEP 2
Sectional View of Throttle Chamber & Choke Elbow
(Downdraft)

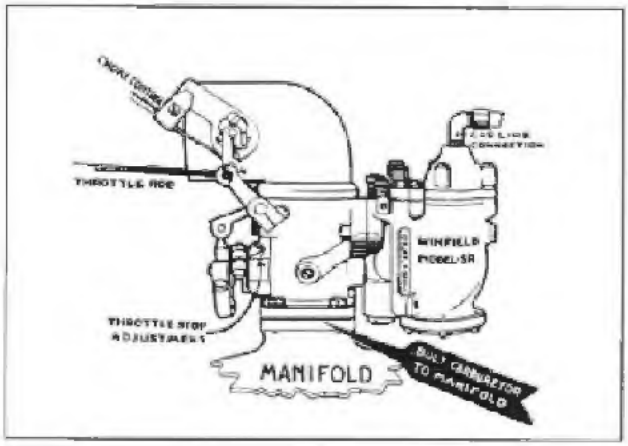
This sectional illustration shows (1) the *Three-Stage Carburetion* System of the Winfield -- Idling, Intermediate, High Speed -- each stage representing the equivalent of a carburetor in itself. (2) The *Spray Tube* System which plays so important a part in distribution, assuring fine fog-like vaporization. (3) The patented Winfield *Throttle* and *Double Venturi* arrangement which brings one and then both Venturis into action.



STEP 3
Sectional View of Float Bowl
(Downdraft)

This sectional illustration pictures the new 1933 Winfield development -- the *Automatic Diaphragm Pump* and also the *Double accelerating Well* System.* The Diaphram Pump adds *New Reserve Power*. For ordinary speed and power requirements the accelerating wells supply all needed accelerating mixture *but* when *quick action, sudden speed* and *emergency power* are demanded the Diaphram acts instantly and automatically.

* If you read the "Facts - How a Winfield works section, you may remember they said "free from pumps and injectors of raw gasoline. Apparently such complications were found necessary as engines became able to run faster.

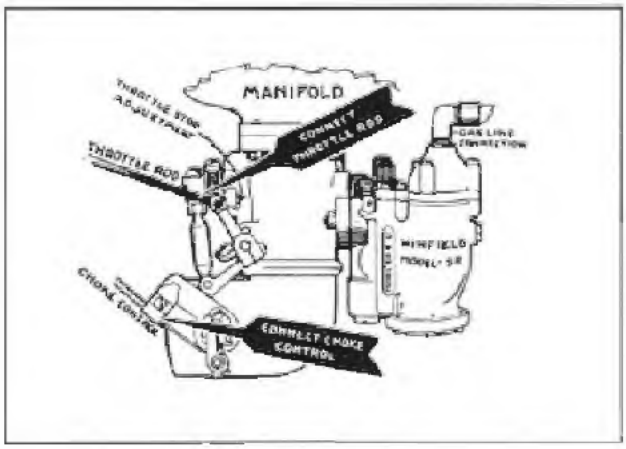


STEP 4

Bolt Carburetor to Manifold

(View of Downdraft Carburetor)

Be sure the manifold flange is clean and flat. Do not forget to use a gasket between flange and carburetor. If a gasket of more than 1/32 inch thickness is used care sbould be taken in tightening the bolts because the flange can be bent or broken by too much pressure or uneven pressure when it is being tightened.



STEP 5

Connect Throttle Rod and Choke Control

(View of Updraft Carburetor)

Connect throttle rod to throttle lever. Be sure that throttle lever is set at the correct angle in relation to throttle end. See illustration C.

Be sure that throttle opens and closes all the way when operated by foot throttle pedal. Now connect the choke control.

Be sure choke butterfly is wide open when choke control button is pushed in. Also be sure the choke butterfly is fully closed when choke control button is pulled out.

Now connect the gas line.

ADJUSTING THE SR WINFIELD

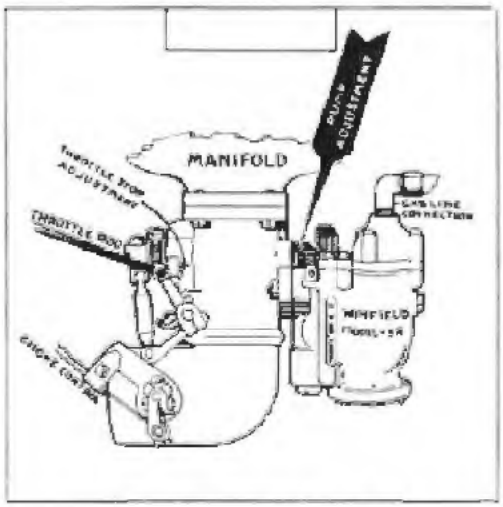
All adjustments on the Model "SR Winfield carburetor are marked for identification. The "idle and "pump adjustments are marked on top of the serrated heads. The intermediate and high speed adjustments are marked on the float chamber cover. All adjustments, excepting the pump adjustment, are made richer by unscrewing or turning to the left (anti-clockwise). The pump adjustment is made richer by turning to the right; the richest adjustment being obtained when it is screwed completely against its seat.

Trial Adjustments

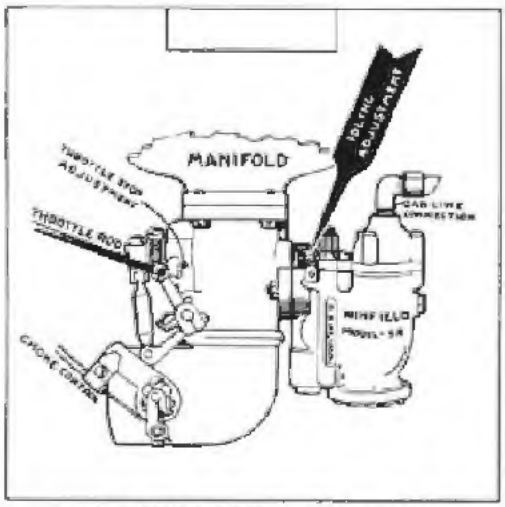
First turn all adjustments (clockwise) against their seats but don t use too much force as it is possible to injure the needle seats. Note -- 16 notches equal a complete turn.

STEP 6

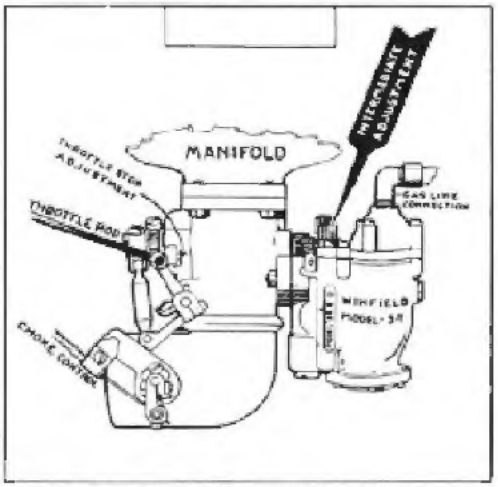
Open Pump Adjustment One Turn (16 notches).



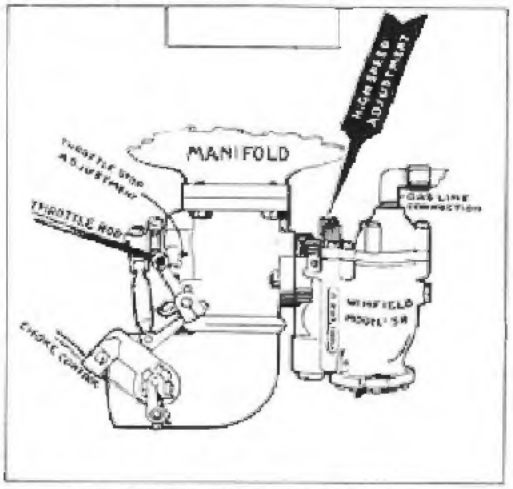
THIS ARROW POINTS TO THE PUMP ADJUSTMENT



THIS ARROW POINTS TO THE IDLING ADJUSTMENT



THIS ARROW POINTS TO THE INTERMEDIATE ADJUSTMENT



THIS ARROW POINTS TO THE HIGH SPEED ADJUSTMENT

STEP 7

Open Idling Adjustment One-half Turn (8 notches).

STEP 8

Open Intermediate Adjustment Two Complete Turns (32 notches).

STEP 9

Open High Speed Adjustment Two and One-half Turns (40 notches).

Now start the engine and warm it up to normal operating temperature for the final adjustments.

STEP 10

Idling Adjustment

Turn the idling adjustment to the leanest setting that will give steady and smooth running. If, after making this adjustment, the engine idles too fast or too slow, adjustment of the throttle stop screw will be necessary.

STEP 11

Throttle Stop Adjustment

(See illus. D) Turing throttle stop screw to the right (clockwise) gives faster idling; turning to the left gives slower idling. After making a change in the idle stop adjustment, idling adjustment should always be rechecked.

STEP 12

Intermediate Adjustment

Be sure intermediate needle is set at trial adjustment of two complete turns or 32 notches. The intermediate adjustment should be made with the spark advanced and with the throttle partially opened. The throttle opening should be just enough to maintain an engine speed of about 2000 RPM s or the equivalent of about 35 to 45 MPH car speed. Without changing the throttle opening, turn the intermediate adjustment to the right (leaner) two notches at a time, until the engine slows down very noticeably. As soon as a marked loss in engine speed is noticed, turn the adjustment to the left two notches (richer) at a time until there is no increase in engine speed, by richening the mixture. When this point is reached turn the adjustment to the right two notches at a time until a slightly perceptible slowing down of the engine is noticed. This is the correct intermediate adjustment.

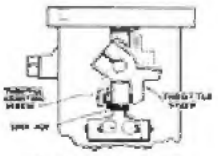


ILLUSTRATION D

STEP 13

High Speed Adjustment

In order to set the high speed adjustment without making a road test, it is necessary to know the setting in notches of the intermediate adjustment. Since the trial setting on the intermediate was two turns (32 notcbes) this may be easily counted while the final intermediate adjustment is made by remembering the number of notches to the right or left the intermediate is turned, and subtracting or adding this from 32. If this procedure is not followed, the number of notcbes of opening of the intermediate adjustment will have to be counted after the final intermediate adjustment has been made. Be sure to turn it back to its correct setting.

After determining the setting in notches of the intermediate needle an approximately correct setting for the high speed may be determined from the following table:

4 cyl engines --
4 to 6 notches more than Intermediate.
6 cyl engines --
6 to 12 notches more than Intermediate.

8 cyl engines --

12 to 16 notches more than Intermediate. If possible, the high speed adjustment should be checked by a road test. The leanest adjustment that gives full power and speed should be used.

STEP 14

Accelerating Pump Adjustment

The pump adjustment governs the accelerating mixture. It operates just the reverse of the other three adjustments. Turning to the right gives a richer rather than a leaner mixture. The richest accelerating mixture is obtained when the pump adjustment is screwed completely against its seat. This setting should rarely, if ever, be used. The leanest setting is obtained when the adjustment is open about three complete turns.

The correct setting is usually about one-half to one and one-half complete turns open. The leanest pump adjustment setting that gives positive and smooth acceleration without hesitation or spitting back should be used.

In cold weather a richer pump adjustment may be used to advantage than in hot weather.

STEP 15

Float Level

The float level has been correctly set at the factory and should not require changing. However, it unsatisfactory performance is experienced after all the other adjustments have been properly made, the level should be checked. To do this, first have the car on level ground with engine idling. Then remove the float level inspection plug in front of the float bowl. The gasoline level should be just up to or slightly below the bottom edge of the inspection hole. If the gasoline is too far below the hole or out of sight, the level is too low. If it is above the bottom edge of the hole, it is too high. To change the float level it is necessary to remove the float bowl cover. To raise the float level, bend the float lever upward toward cover. To lower level, bend float lever downward away from cover. Do not make a change of more than 1/32 to 1/16 at one time. Replace cover, recheck level.

SPECIAL NOTICE -- FLOATS

Because of the great difference in pressure between a gravity fuel feed system and a pump fuel feed system, two types of floats are used in the Model "SR Winfield Carburetor -- one type for gravity and one type for pressure. In order that the floats may be easily distinguished, the gravity float is marked with a G. The pressure float is not marked. All Winfield carburetors are equipped with pressure floats unless otherwise specified with the order or ordered in special package equipments for cars which have gravity or vacuum tank feed. *When the gravity float is used the C float needle seat should be used.* Refer to Instruction Section No. 15 for obtaining the proper float level with either pressure or gravity float.

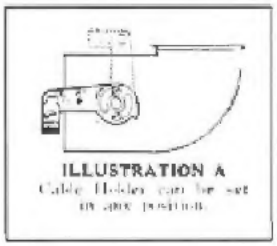


ILLUSTRATION A

ILLUSTRATION B