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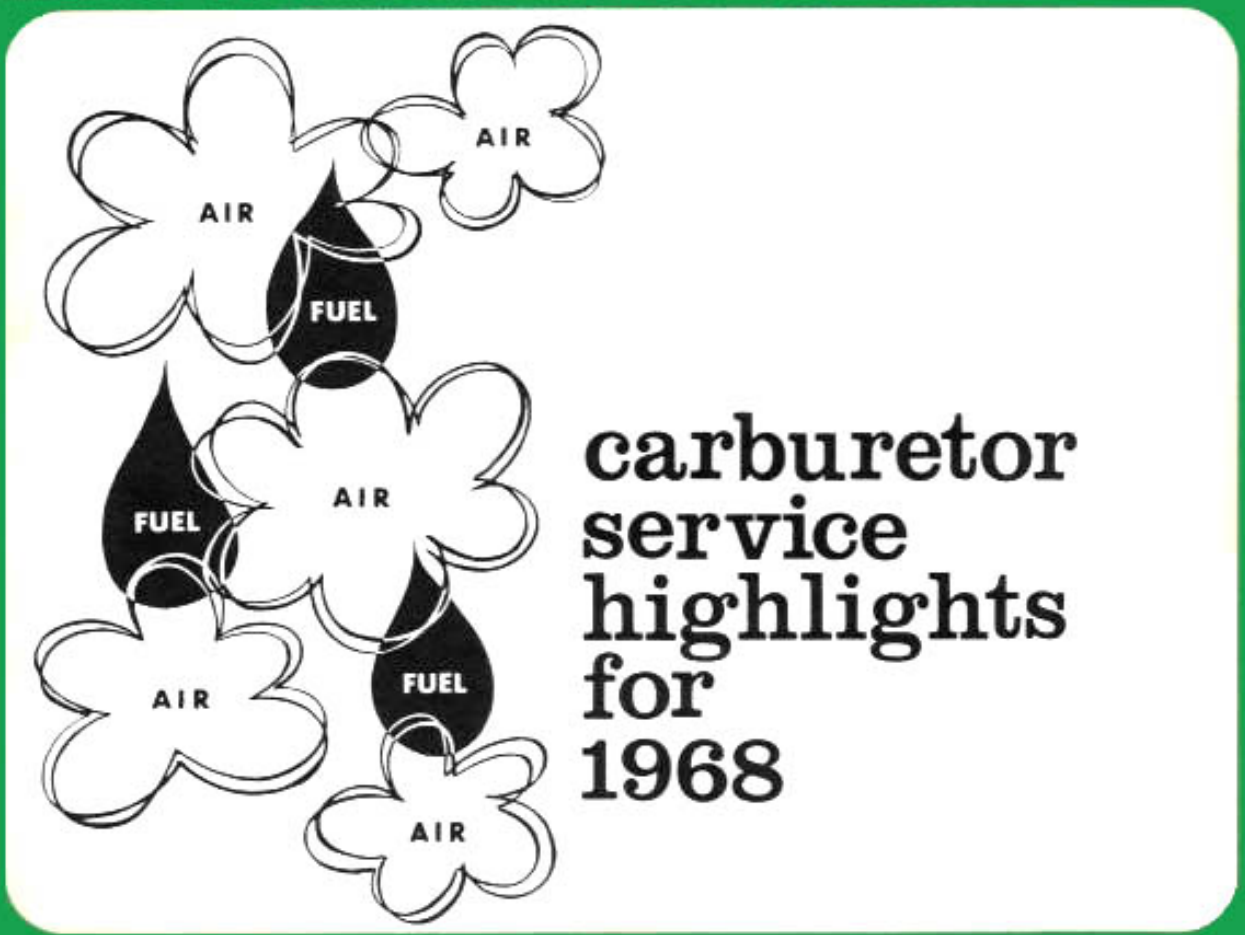

carburetor service highlights for 1968

plymouth - dodge - chrysler - imperial - dodge truck

CHRYSLER
MOTORS CORPORATION

IT'S ALL A MATTER OF MIXTURE . . .

If you're beginning to think that engine combustion and exhaust emission are the hottest service subjects on the books today . . . you're right. In the last few Tech sessions, you've been bombarded with information leading up to, and about the cleaner air system on our cars. Now, to round out the story on exhaust emission control, here are the details on carburetor changes for '68.

Don't let the '68 carburetor lineup make you nervous. Actually, with the exception of the new Carter AVS model, these carburetors are essentially the same as those used on the '67 cars. The changes you'll be concerned with are in the idle systems, and the main differences from the '67's are in the models where the idle mixture is now adjusted by varying the air bleed instead of changing the mixture flow.

But even here, the adjustment procedure and end results are still the same as before because the air-bleed idle mixture screw adjustment produces the same effect as the conventional idle mixture screws you're familiar with.

The idling systems of our '68 carburetors are designed to limit the maximum richness of the idle mixture. This lets you adjust the mixture to get the best engine idle operation without exceeding government specification limits for exhaust emission. The idle mixture *limiting* features of these carburetors are set and sealed at the carburetor factory. They are *not* intended for service adjustment, so the best service practice is: DO NOT DISTURB . . .

TABLE OF CONTENTS:

GENERAL NOTES

The 1968 Chrysler Corporation cars are equipped with Chrysler Ball and Ball, Carter, or Holley carburetors according to the engine used. Here's the lineup . . .

170-CID Six	Ball & Ball 885 Single-Barrel
225-CID Six	Holley 1920 Series Single-Barrel
273- & 318-CID V-8's	Ball & Ball 880 1 ¼" Two-Barrel
340-, 383- & 440-CID High Performance V-8's	Carter AVS Four-Barrel
383-CID Standard V-8	Ball & Ball 880 1 ½" Two-Barrel
440-CID Standard V-8	Holley 4160 Series Four-Barrel
426-CID Hemi V-8	Dual Carter AFB Four-Barrel

CLEANER AIR SYSTEM IS STANDARD

Since the cleaner air system is now standard on all models, there are no special identification tags to watch for. This also means there are fewer variations of each basic carburetor model, and fewer specifications to look up.

NO ADVANCE CONTROL VALVE ON SOME

Also for 1968, the cleaner air system distributor vacuum advance control valve is *not* used on cars equipped with automatic transmissions . . . excepting those which have the 426-cubic-inch Hemi engine.

The reason why the distributor vacuum advance control valve is not used on these cars is simple . . . it's not needed. You see, when you decelerate the car, the rear wheels do not drive the engine the same way they do in manual-shift models, so conventional timing advance does the job.

BUT ARE NEEDED ON OTHERS

On the other hand, the opposite is true of manual-shift car deceleration. In this case, the vacuum control valve is required to produce the additional ignition timing advance needed to keep exhaust emissions within legal limits.

A DASH POT WITH MANUAL SHIFT

Along with the vacuum advance control valve, a throttle dash pot is also used on the carburetors of manual transmission cars, with the exception of the Ball and Ball BBD 1½" two-barrel model used on the 383-cubic-inch, standard camshaft V-8's.

IT SLOWS THE CLOSE

The dash pot keeps the throttle from closing too soon, and thereby reduces exhaust emissions when the car is slowing down or coasting in gear. If the throttle snaps shut when the drive line is turning the engine above idle speed, the carburetor feeds only from the idle system and there's not enough mixture coming into the manifold for good combustion.

Fig. 1—Control valve needed only on some cars

Fig. 2—Dash pot slows throttle closing

CHECK THE SPECS FOR CHANGES

On some models, the choke and vacuum-kick calibration is changed, so be sure to check the '68 carburetor specifications before you make settings or adjustments on these carburetors. Remember, with the cleaner air system standard across the board, *all* adjustments are more important than ever before.

'68 CARBURETOR CHANGES

—BALL & BALL BBS SINGLE-BARREL—

Two versions of this carburetor are used on the 170-cubic-inch Slant Six. The model for cars with an automatic transmission has a larger diameter venturi than the one used on manual transmission cars. This difference in venturi size makes the operating characteristics of the automatic and manual transmission types different, so don't try to interchange them.

SIMILAR TO PREVIOUS DESIGN

The '68 BBS carburetor is made about the same as the '67, except for the idle system. Even here, basic idle system operation remains the same, but the range of mixture adjustment is now limited. The new idle adjustment feature is intended to prevent an overrich setting which will cause exhaust emissions to exceed legal specification limits.

THE CHANGE

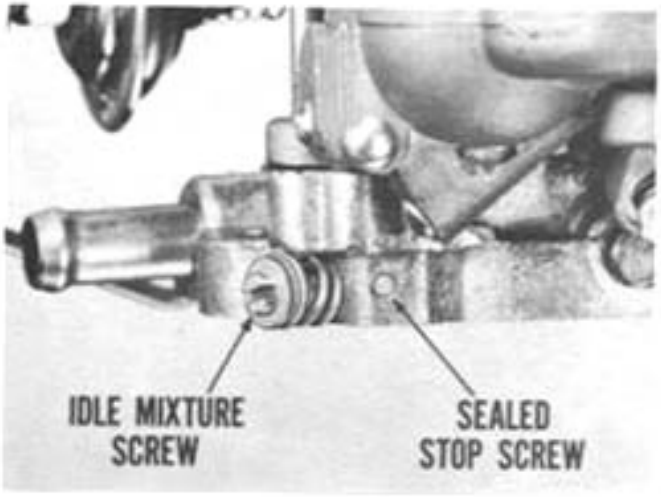

Fig. 3—Stop screw limits mixture screw travel

The idle mixture adjustment range for each BBS carburetor is determined by a precise flow test at the carburetor factory. When the maximum rich idle limit is reached, a stop-screw is installed in contact with the idle mixture screw and sealed. The stop screw prevents further movement of the idle mixture screw in the rich direction during service adjustment. The seal keeps the stop screw at its factory setting and should not be removed for cleaning or any other reason.

DON'T GO TOO FAR

The BBS idle mixture adjusting screw is made of aluminum and therefore is not as strong as the brass screw previously used. This new screw is strong enough to do its normal job properly without trouble. However, if you force the mixture screw beyond the stop screw, it'll break off in the threaded hole and you'll have to replace the entire throttle body.

—HOLLEY 1920 SERIES SINGLE-BARREL—

The Holley single-barrel carburetor is used on all of the 225-cubic-inch Sixes. Here again, the automatic and manual transmission versions are not interchangeable.

IT'S THE SAME AS BEFORE . . .

A conventional idle mixture adjusting screw is still used in this carburetor. Unlike the movement-limiting arrangement described for the BBS carburetor mixture screw, the Holley does *not* have a stop screw so the mixture screw can be removed without damage. However, as in all other carburetors in the '68 lineup, maximum richness of the idle mixture is controlled to keep emissions within legal limits.

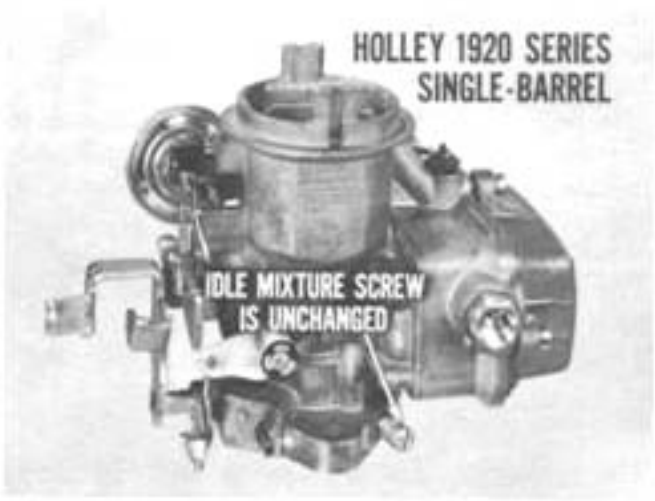

Fig. 4—Mixture screw can be removed

BUT THERE'S A DIFFERENCE

Inside the '68 Holley throttle body there's a precisely calibrated flow limiter screw in the idle fuel passage. This limiter determines the maximum fuel flow in the idle system so you can't get an over-rich mixture, no matter where you set the idle mixture screw. Like the idle adjustment stop screw in the BBS carburetor, the Holley idle mixture flow limiter screw is set and sealed at the factory.

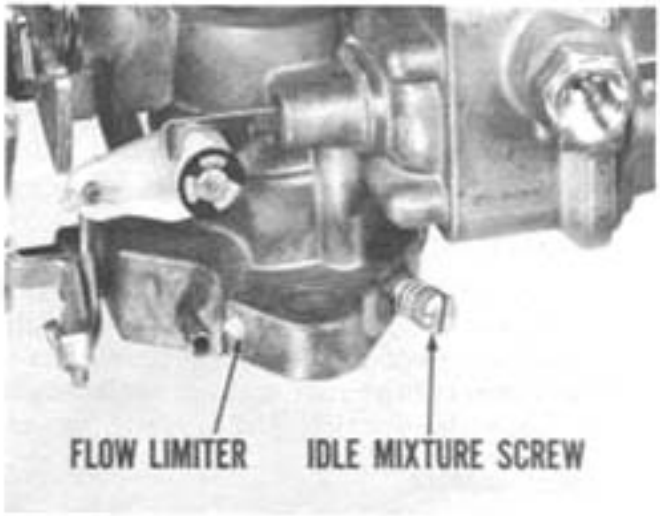

Fig. 5—Limiter is set and sealed at factory

—SPECIAL NOTE ON '68 DODGE A-100's—

Float bowl vent adjustment on Holley single-barrel carburetors used with Slant-Six engines in A-100's, is different from the vent setting on passenger car models.

Compared to the car model carburetor, the A-100 throttle opens about twice as far before the vent closes. This delay in vent closing helps prevent a pressure build-up in the float bowl which could force excessive fuel or vapors into the engine and cause a hot-starting problem. Be sure to use the correct setting and adjustment specifications when you work on the A-100 Holley carburetor.

Fig. 6—Mixture screws are not removable

—BALL & BALL BBD 1 ¼" TWO-BARREL—

The idle system in this carburetor is a two-barrel version of the BBS model described earlier. This BBD model is used on the 273- and 318-cubic-inch V-8 engines. The calibration of the automatic and manual transmission models is different, so they cannot be interchanged. And as you might expect, there's also a calibration difference between the units used on the two engines.

SOMETHING HAS TO GIVE

The accelerating pump lever on this BBD model now has an elongated pivot hole to let you floorboard the gas pedal abruptly without overloading the accelerating pump linkage.

IT CHANGES POSITION

The pump lever operates with the pivot at the top of the elongated slot during normal operation. However, when the throttle is opened suddenly, the plunger end of the pump lever becomes a pivot point. This allows the lever to move upward at the elongated hole and relieve the load on the plunger.

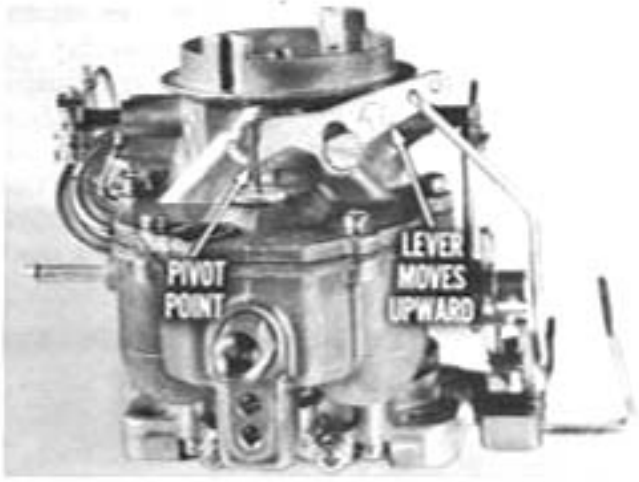

Fig. 7—Lever end becomes pivot point

—CARTER AVS FOUR-BARREL—

The Carter AVS four-barrel carburetor is brand new for '68. It's used on the three high-performance V-8's—the new 340-, the 383-, and the 440-cubic-inch engines. As usual, each engine model has its own carburetor calibration, and the automatic and manual transmission versions are not interchangeable.

ONE IS BIGGER

The AVS carburetor used on the 440 engine has primary bores which are larger than those in the other two versions. Secondary section bores are the same size in all AVS models.

AIR VALVE IS A LOOK-ALIKE

The AVS model designation stands for *Air Valve Secondaries*, and the name describes the main feature of this carburetor. The new air valve looks like a choke valve, but its function is entirely different. This valve could also be called a nozzle flow starter because it's mainly used to start and control discharge nozzle fuel flow in the secondary section bores.

Fig. 8—Air valve looks like choke valve

IT'S SPRING-LOADED

The AVS air valve is held in its closed position by a light coil spring. This spring is supported by a plastic spring retainer which also serves as an adjuster and a support bushing for the air valve shaft.

The spring has enough tension to keep the air valve closed until the secondary throttles open. When the secondaries go into action, the pressure of incoming air easily overcomes the spring tension and opens the valve.

Fig. 9—Valve is opened by air flow

OPEN VALVE SHOWS CHANGES

When you push the air valve open, you'll notice there are no venturis or velocity valves in the secondary bores. All we have here to mix, feed and control the fuel and air are straight bores, discharge nozzles, and throttle valves.

DESIGN IS SIMPLER

This secondary section arrangement simplifies construction and reduces resistance to air flow by eliminating parts. The secondary discharge nozzles can operate without the help of venturis because normal air flow velocity through the secondary bores is great enough to cause the nozzles to feed sufficient fuel—once the flow is started.

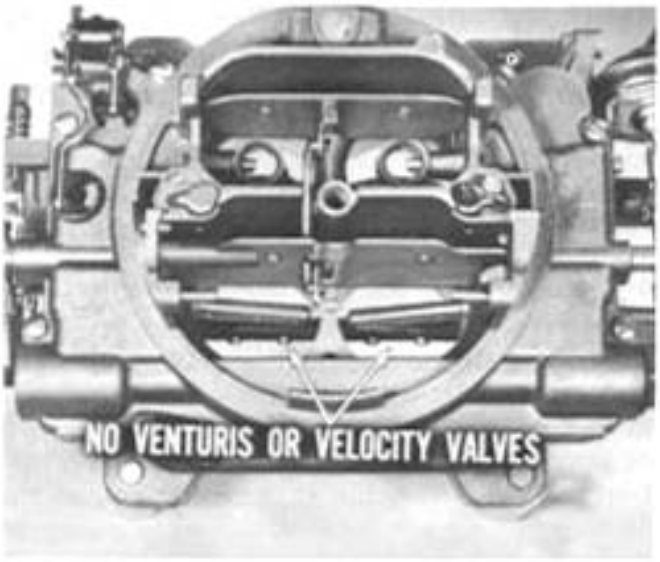

Fig. 10—Secondary has straight bores

LOW PRESSURE STARTS FUEL FLOW

Since air valve spring tension is fairly light, the valve starts to open at practically the same time as the secondary throttle valves. However, the spring tension is high enough to make the air valve movement lag slightly behind the throttle valve opening. This lag produces a pressure drop between the air and throttle valves which starts fuel flow at the discharge nozzles. The nozzle-starting pressure drop lasts only an instant because the light spring tension allows relatively small air flow to open the air valve completely.

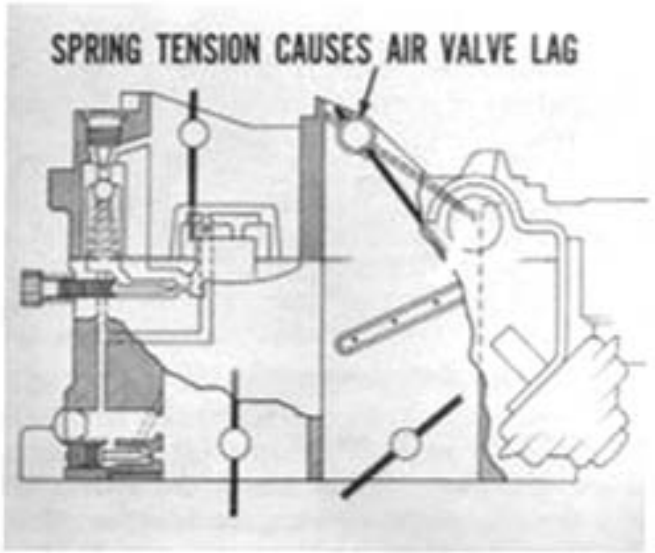

Fig. 11—Valve lag causes pressure drop

THE AIR VALVE PAYOFF

When you floorboard the gas pedal at low speed, the throttle valves open wide and manifold suction drops momentarily. But, even though this causes incoming air velocity to drop temporarily, air valve action starts secondary nozzle fuel flow almost immediately, thereby preventing an acceleration flat spot.

VALVE OPERATION AFFECTS MIXTURE

If spring tension is too high, the air valve will cause a temporary rich condition at low speed with wide-open throttle. And, in the opposite direction, if the spring tension is too low, the mixture will change in the lean direction under the same operating conditions.

SPRING ADJUSTMENT'S SIMPLE

The air valve spring is adjusted by turning the spring retainer counterclockwise to increase, or clockwise to decrease tension as described in the Service Manual. However, the air valve and its spring seldom give trouble, so there's usually no need to change the spring adjustment from the factory setting.

Fig. 12—Retainer setting adjusts spring

NEW IDLE MIXTURE SYSTEM

The AVS idling system is completely new and different from previous systems. Now there's only one idle mixture adjusting screw. It's still called an idle mixture adjusting screw as before, but in the AVS carburetor it varies the idle air bleed to both primary bores instead of the idle fuel flow.

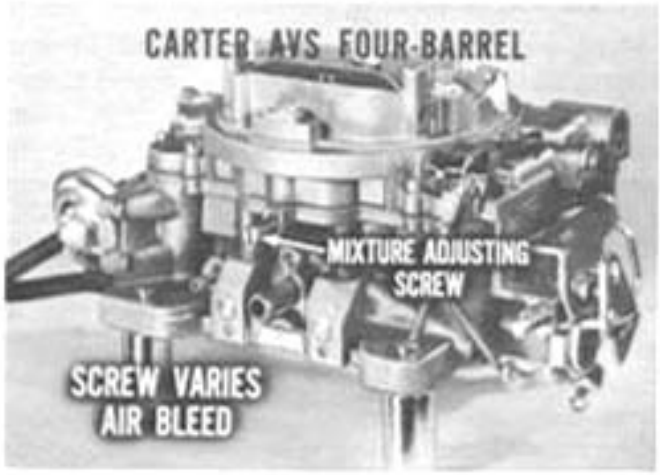

Fig. 13—Single screw adjusts idle mixture

FUEL FLOW IS SET AND SEALED

With this new arrangement, idle fuel flow is still controlled by adjusting screws as before. But now, the screws are completely internal and are called idle mixture limiters. These limiters are carefully adjusted, balanced and sealed at the carburetor factory and are not intended for service adjustment.

FACTORY USES SPECIAL EQUIPMENT

The new mixture limiters are adjusted on high-precision flowmeters under laboratory conditions. These settings cannot be duplicated with less accurate equipment in service operations. Besides, there's no need to disturb the seals, or to remove the limiters for cleaning. *Hands Off* is the best servicing practice you can use on ALL sealed adjustments.

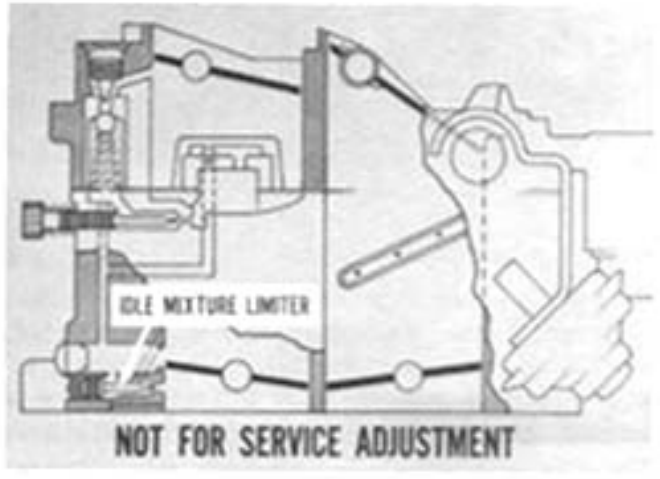

Fig. 14—Limiters replace conventional idle screws

EASIER IDLE ADJUSTMENT

The single mixture screw arrangement makes idle adjustment a lot simpler and quicker. You don't have to spend a lot of time adjusting and readjusting *two* idle mixture screws and the speed setting to get the right *mixture* and *balance* between both sides of the system.

BALANCED ADJUSTMENT IS IMPORTANT

Correct mixture balance is needed for more than good engine idling. It's the only way you can get an idle mixture adjustment that will keep the exhaust emissions within the limits of government specifications. In the AVS carburetor, the balancing is done for you at the factory . . . All you have to adjust is idle speed and the single mixture screw.

AIR BLEED VARIATION CHANGES MIXTURE

The general layout of the AVS idling system is nearly the same as in previous models. The big difference here is that you vary part of the air bleed equally to the idle ports in both primary bores by adjusting the single mixture screw. Maximum mixture richness is controlled by the pre-set mixture limiters which are sealed at the factory, so you can't exceed legal emission limits by changing the air bleed.

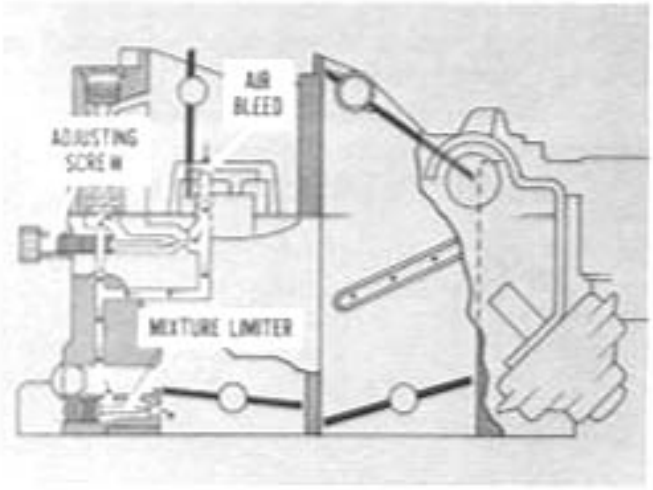

Fig. 15—Adjusting screw varies idle air bleed

AIR BLEED REVERSES EFFECT

When you vary idle air bleed, the effects are just the reverse of varying the idle fuel flow. For example, when you move the new mixture screw outward, it admits more air and makes

the idle mixture leaner. In contrast, outward movement of a conventional mixture screw makes the mixture richer.

. . . BUT FINAL RESULT'S THE SAME

To prevent confusion when adjusting the AVS idle mixture, the new mixture screw has a *left-hand thread*. This makes the adjustment procedure the same as with conventional idle mixture adjusting screws. Because of the thread change, the new screw still leans out the mixture when you turn it clockwise, even though the screw now moves outward instead of in when turned in this direction.

Fig. 16—Adjustment remains same as before

ADJUSTMENT IS MORE PRECISE

The AVS idle mixture screw has finer threads than conventional idle mixture screws. This change makes it easier for you to get the precise setting needed to put the mixture within exhaust emission specification limits.

OFF-IDLE MIXTURE IMPROVEMENT

In addition to the new mixture adjusting screw, the AVS carburetor also has a special passage which admits extra bleed air to lean out the off-idle mixture for better exhaust emission control.

The special air bleed passage remains closed when the throttle is in curb idle position. However, when the throttle opens slightly, manifold vacuum opens a spring-loaded check valve in the passage and extra air flows in. The passage air flow restrictor is adjusted and sealed at the factory and needs no servicing.

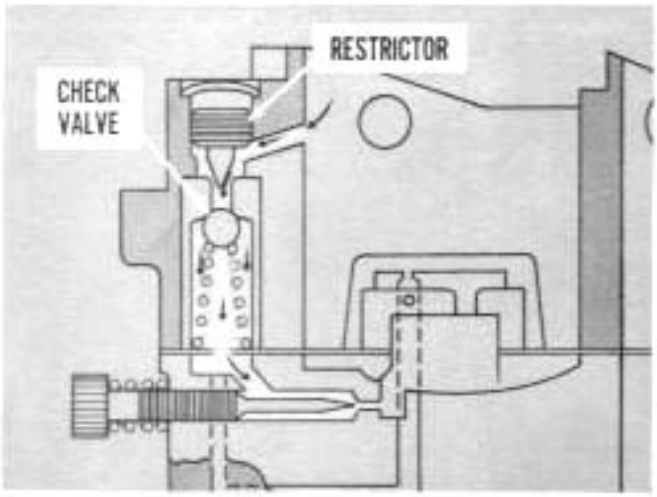

Fig. 17—Extra air leans off-idle mixture

BETTER IDLE FUEL MIXING

On the bottom of the AVS carburetor throttle body you can see a new slot and bypass passage for each primary bore. Like the holes in the throttle valves which they replace, these new passages also admit air under the closed throttle valves to help make idle and transfer positions of the throttle valves less critical.

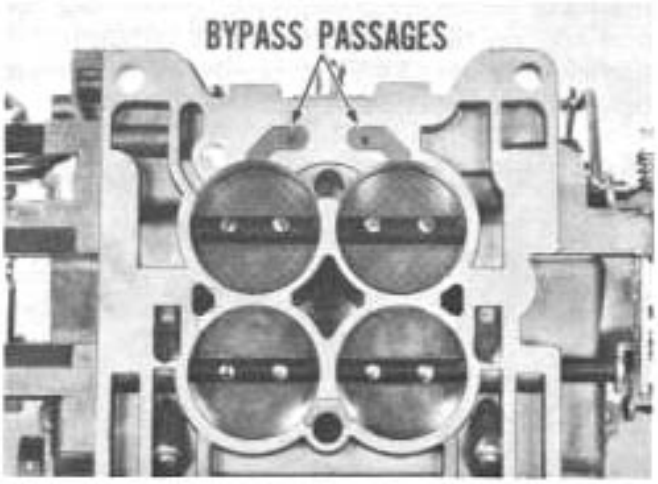

Fig. 18—Passages admit air under valves

AIR DIFFUSES THE MIXTURE

With the new passages, air enters through ports above the throttle valves and passes back in below the valves at right angles to the bore sides. The motion of incoming air blows the liquid fuel away from the bore walls where it tends to remain under certain conditions. This action breaks up the liquid fuel and diffuses it

thoroughly to produce better mixture distribution during idle.

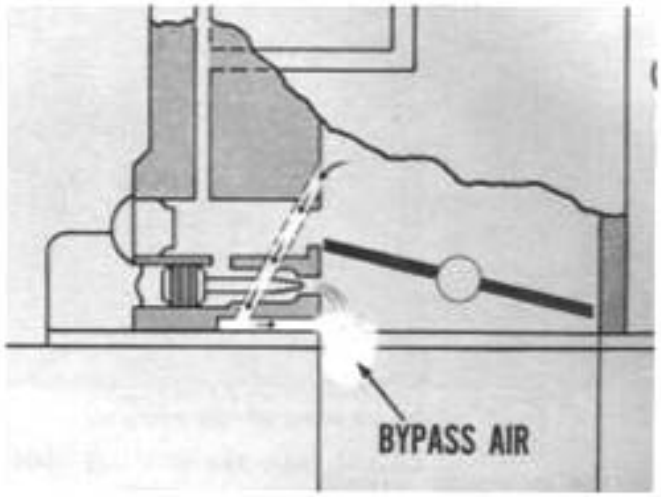

Fig. 19—Bypass air improves distribution

IMPROVED CHOKE UNLOADER OPERATION

A throttle tang contact-arm is a new feature of the AVS choke unloader cam. This arm provides larger contact surface for the throttle lever unloader tang to reduce wear and generally improve unloader mechanism operation. The unloader is adjusted by bending the new arm on the unloader cam as shown in the service manual. Do not bend the operating tang on the throttle lever.

Fig. 20—Arm has larger contact surface

YOU KNOW THE REST

The remaining parts and assemblies of the new AVS carburetor are practically the same as in the AFB model you're already familiar with. Adjustment and setting procedures are also the same, but be sure to check the AVS specifications before you start in.

—BALL AND BALL BBD 1 ½" TWO-BARREL—

The '68 Ball and Ball BBD two-barrel carburetor with 1½-inch bores is used only on the 383-cubic-inch V-8 engine. In general, this carburetor is the same as the '67 model except for the changes in the idling system.

THERE'S A NEW MIXTURE SCREW . . .

On the throttle bore side of this '68 BBD model, you'll see a new single mixture adjusting screw. On the fuel bowl side, the conventional mixture screws are replaced by internal mixture limiters.

Fig. 21—Single screw controls both barrels

. . . WITH A LEFT-HAND THREAD

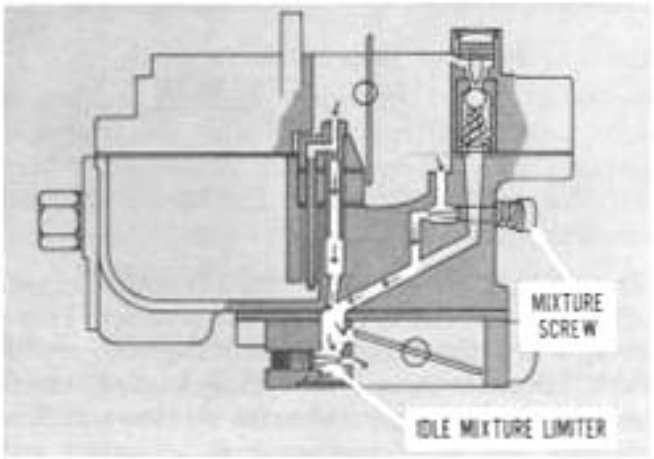

Fig. 22—Do not disturb mixture limiters

Like in the AVS carburetor previously described, the new mixture screw in this BBD model has a fine, left-hand thread because it controls idle air bleed instead of fuel flow. Also, the idle mixture limiters are preset at the factory and sealed. There's no need to disturb them for any reason.

ALSO BETTER OFF-IDLE MIXTURE CONTROL

The new off-idle air-bleed passage described for the AVS carburetor is also used in this BBD model. Like the AVS system, the bleed passage here is controlled by a check valve and a factory-adjusted passage restrictor. The check valve opens automatically to admit extra air when a leaner mixture is needed.

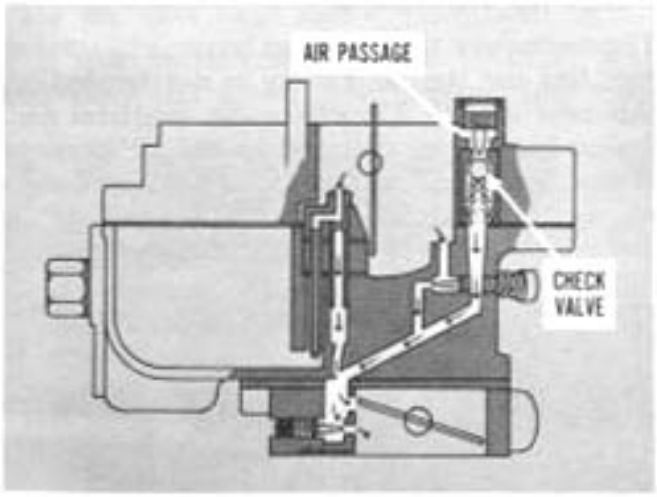

Fig. 23—Air bleed improves off-idle mixture

AND IMPROVED MIXTURE DISTRIBUTION

Again like the AVS model, you'll find this carburetor has two throttle valve bypass passages and distribution slots which can be seen at the bottom of the throttle body. As you already know, these passages admit bypass air from the primary bore sides for better idle mixture diffusion and distribution.

—HOLLEY 4160 SERIES FOUR-BARREL—

The '68 Holley 4160 Series four-barrel carburetor is similar to the '67 model except for a new idling system. The 4160 is used on the 440-cubic-inch, standard-camshaft V-8 engine.

MIXTURE SCREW IS AIR BLEED TYPE

Like the AVS carburetor, the '68 Holley four-barrel carburetor has a single idle mixture adjusting screw with a *left-hand thread*, and factory-sealed idle mixture limiters. However, in this carburetor, the mixture adjusting screw is located inside the air horn casting instead of outside on the carburetor body.

Fig. 24—Mixture screw has left-hand thread

IDLE SYSTEM CHANGES

The primary idle and transfer systems are now separated to provide closer control of curb idle and off-idle mixture ratios. This rearrangement of the idle system places the idle and transfer discharge ports on opposite sides of the primary bores instead of one above the other as in the '67 model.

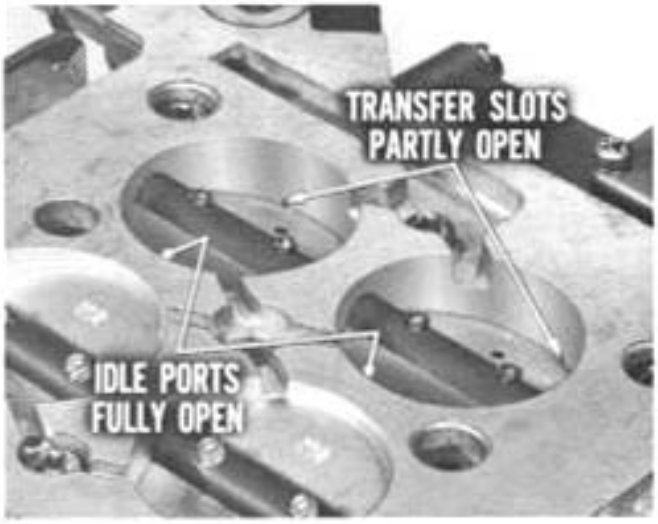

Fig. 25—Ports are on opposite sides of bores

FIRST IT'S CURB IDLE . . .

At curb idle, the idle discharge ports are fully open below the throttle valves. At this stage, the transfer port slots are only partly open below the throttle valves, so their discharge is relatively small.

With the throttle valves closed, most of the bleed air for the primary idle mixture flows in past the mixture adjusting screw and mixes with idle fuel which is metered by the idle mixture limiters. The air-fuel mixture then flows through separate branch passages to the idle discharge ports.

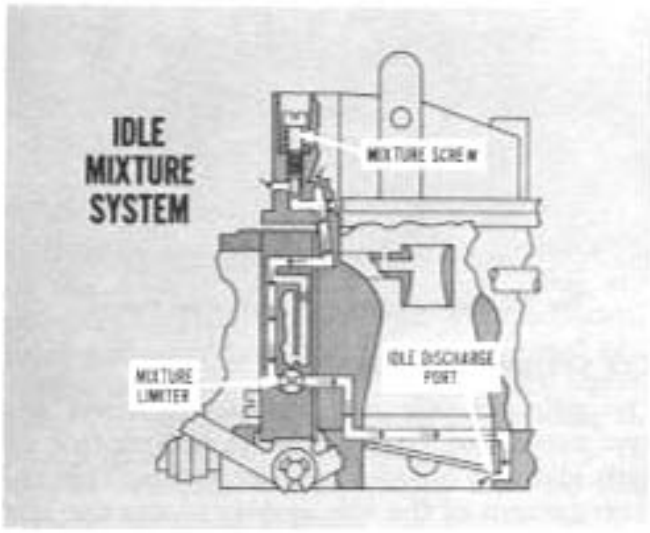

Fig. 26—Idle system operation

. . . THEN IT'S OFF-IDLE

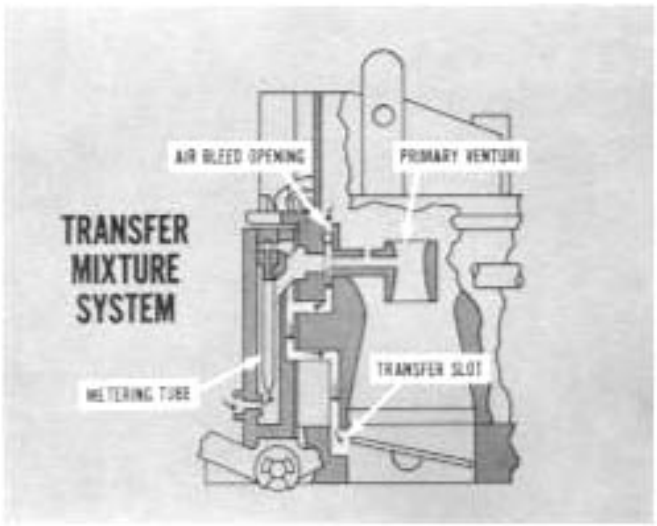

Fig. 27—Transfer system (off-idle) operation

When the throttle valves open slightly to off-idle position, the transfer port slots are completely open to manifold vacuum, and the separate transfer mixture system goes into full operation. Air from the inlet bleed openings above the primary venturis mixes with fuel from the transfer metering tubes and the mixture discharges from the transfer slots.

SECONDARY BORES NOT AFFECTED

The secondary section idle ports and transfer slots in this carburetor are positioned on the same side of the secondary bores as in the '67 Holley four-barrel. Also, like the previous model, there are no idle mixture adjusting screws for the secondary system.

THERE'S NO STOP SCREW

The secondary throttle stop screw adjustment specified for the '67 Holley is not needed on this new model. Throttle valve material and design have been changed to reduce chances of sticking closed, so there's no need for a stop screw. The threaded hole's still in the throttle body, but the screw is now eliminated.

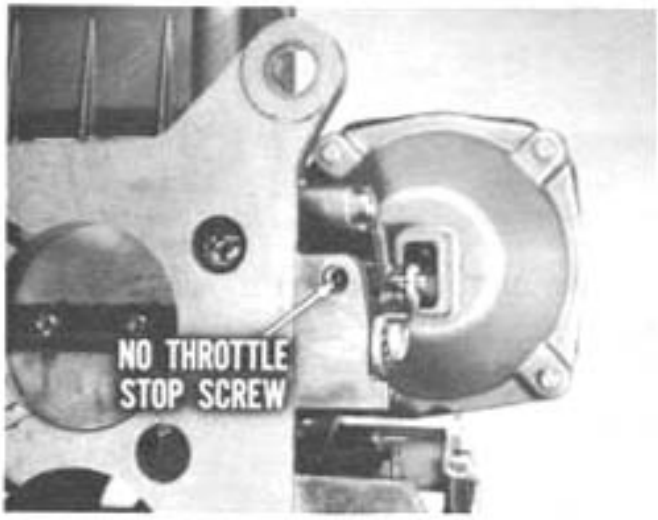

Fig. 28—Stop screw setting is eliminated

—DUAL CARTER AFB FOUR-BARREL— (HEMI V-8)

Here again, in the dual AFB carburetors installed on the 426-cubic-inch Hemi engine, the major changes are in the idle systems. Both carburetors are similar, but only the rear unit has an automatic choke assembly.

Fig. 29—Both carburetors have idle systems

BOTH SECTIONS HAVE IDLE PORTS

The rear carburetor now has primary *and secondary* idle systems to improve idle mixture distribution. Only the primary section has adjustable idle mixture screws, but both systems feed in the usual manner when the throttle valves are in curb idle position.

Fig. 30—Mixture adjustment only on rear carburetor

MIXTURE ADJUSTMENT IS LIMITED

The primary idle system of the rear AFB carburetor has limited-travel mixture adjusting screws. As in the Ball and Ball BBS single-barrel carburetor, removal of the mixture adjustment screws is prevented by factory-sealed stop screws.

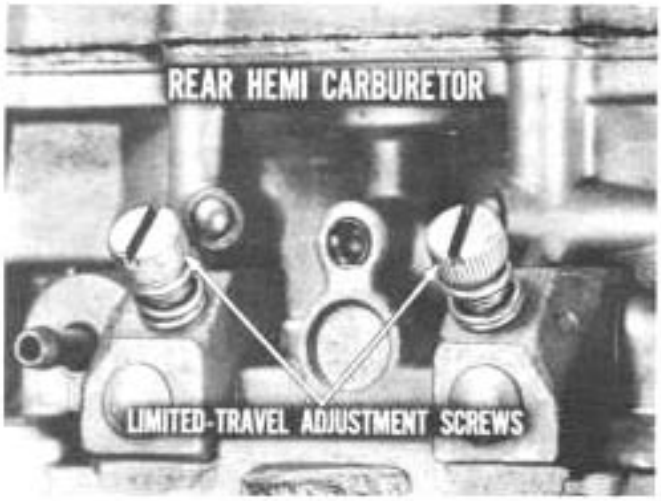

Fig. 31—Mixture screws cannot be removed

FIXED IDLE IN FRONT UNIT

In the front AFB carburetor on the 426 Hemi V-8, only the primary section has an idle system. However, there are no mixture adjusting screws in this unit because the idle mixture ratio is fixed, like in the secondary section of the rear carburetor.

IDLE ADJUSTMENT REVIEW

To bring up the subject of using special care when making settings and adjustments may seem repetitious after it has been mentioned so often in the sessions on combustion and the cleaner air system. However, now that all models have the cleaner air system as regular standard equipment, accurate adjustments are truly more important than ever before.

YOU CAN ONLY GO SO FAR

Because the maximum rich setting of the '68 carburetor idling systems is determined by factory-set idle mixture limiters or mixture screw stops, you won't be able to compensate

for conditions outside the carburetor by idle mixture adjustment.

This means you'll have to make sure that all other *engine, ignition,* and *carburetor* adjustments are correct, or it may not be possible to get a good idle within the adjustment limits of the new idle mixture screws.

STOP BEFORE IT BREAKS

In effect, with limited-idle adjustment, you can't use an over-rich idle adjustment as a cover-up for poor compression, incorrect spark plug gaps, off-the-mark timing and so on. And, whatever you do, don't try to force a limited-travel idle mixture screw beyond its stop in the rich direction. That "little extra" will probably shear off the screw and you'll have a useless throttle body on your hands.

—MODELS WITH LIMITED-TRAVEL IDLE SCREWS—

On the Ball and Ball carburetors, you'll notice that the idle screws have a reduced head diameter. This serves to distinguish them from the previous, conventional-type mixture screws, and helps to limit the turning force which can be applied to the screws. The new mixture screws are made of aluminum, another reason for not forcing them against the stop screws.

The Carter AFB's also have limited-travel idle mixture adjusting screws, but they have conventional-type heads and are made of brass.

Fig. 32—Stop screw prevents mixture screw removal

THEY'RE NARROW IN THE MIDDLE

The middle diameter of the limited-travel mixture screw is necked down to clear the sealed stop screw which limits mixture screw movement. Since each stop screw is properly set at the carburetor factory, there's no need for service adjustment.

LOOK IN THE BOOK OR UNDER THE HOOD

Follow the specifications in your Service Manuals or as shown on the engine compartment decal for idle speed and mixture screw settings. You can save time in the final adjustment by turning the mixture screw in the lean direction because the combustion analyzer reacts faster when you move the adjustment from rich to lean.

—HOLLEY 1920 SERIES SINGLE-BARREL—

On the Holley single-barrel carburetor, the conventional-type idle mixture screw is still turned counterclockwise to get a richer mixture. Because of the preset mixture limiter, the adjusting screw can only make the mixture leaner than the maximum rich limit. Here again, idle speed and mixture setting must meet the specs.

—MODELS WITH SINGLE MIXTURE SCREWS—

The Ball and Ball BBD 1½", Carter AVS, and Holley 4160 Series carburetors with the single mixture adjusting screw and preset idle limiters are all adjusted in the same general man-

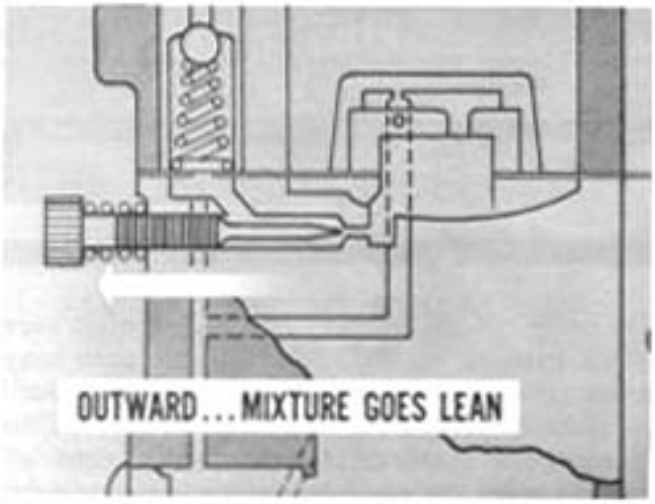

Fig. 33—Adjustment direction is unchanged

ner. As you already know, these mixture screws have a left-hand thread to permit the same adjustment direction used with conventional mixture screws.

THE ADJUSTMENT'S PRECISE

In effect, controlling the air-bleed with the single adjusting screw gives you a fine adjustment to help you get a good idle with exhaust emission within legal limits. Local emission regulations are being set up across the country, so you may as well get used to tighter settings and adjustments all along the line.

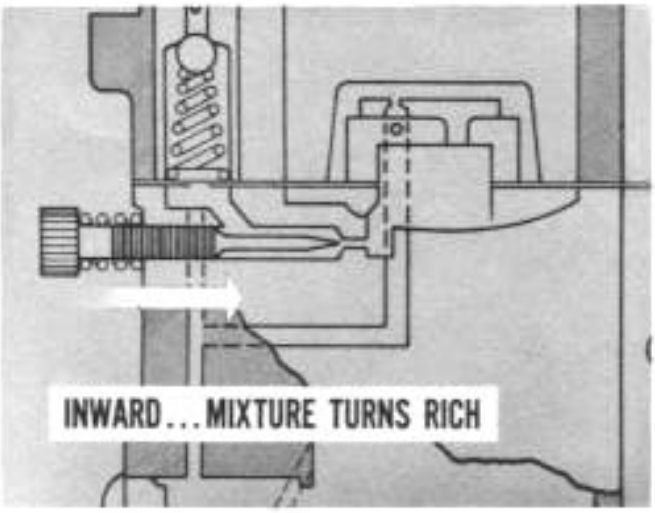

Fig. 34—Inward movement admits less air

—DISTRIBUTOR CONTROL VALVE ADJUSTMENT—

As mentioned earlier, the cleaner air system on '68 cars with manual transmission includes a distributor vacuum advance control valve and a carburetor throttle valve dash pot.

GET IT OUT OF THE WAY

Before starting to adjust the advance control valve, the dash pot must be backed off to prevent interference with throttle closing.

THREE SECONDS TO GO

During the vacuum advance control valve test, when you open and then release the throttle to test operation of the control valve, distributor vacuum should drop the specified amount within three seconds after the throttle is released.

Fig. 35—Control valve drops distributor vacuum

A WEAK SPRING WON'T WORK

If the control valve is turned too far counterclockwise, the spring may become too weak to return the valve to its idle position and distributor vacuum will remain high instead of dropping as specified.

TIMING KEEPS SPEED HIGH

Where the control valve keeps the distributor vacuum high, ignition timing remains in the advanced position and causes the engine to run at higher than normal idle speed, even though the throttle is closed. The effect is the same as dash pot interference, but in this case the dash pot's not guilty. Don't forget to reset the dash pot after the control valve test and adjustment is finished.

Fig. 36—Open valve keeps timing advanced

Master Technician