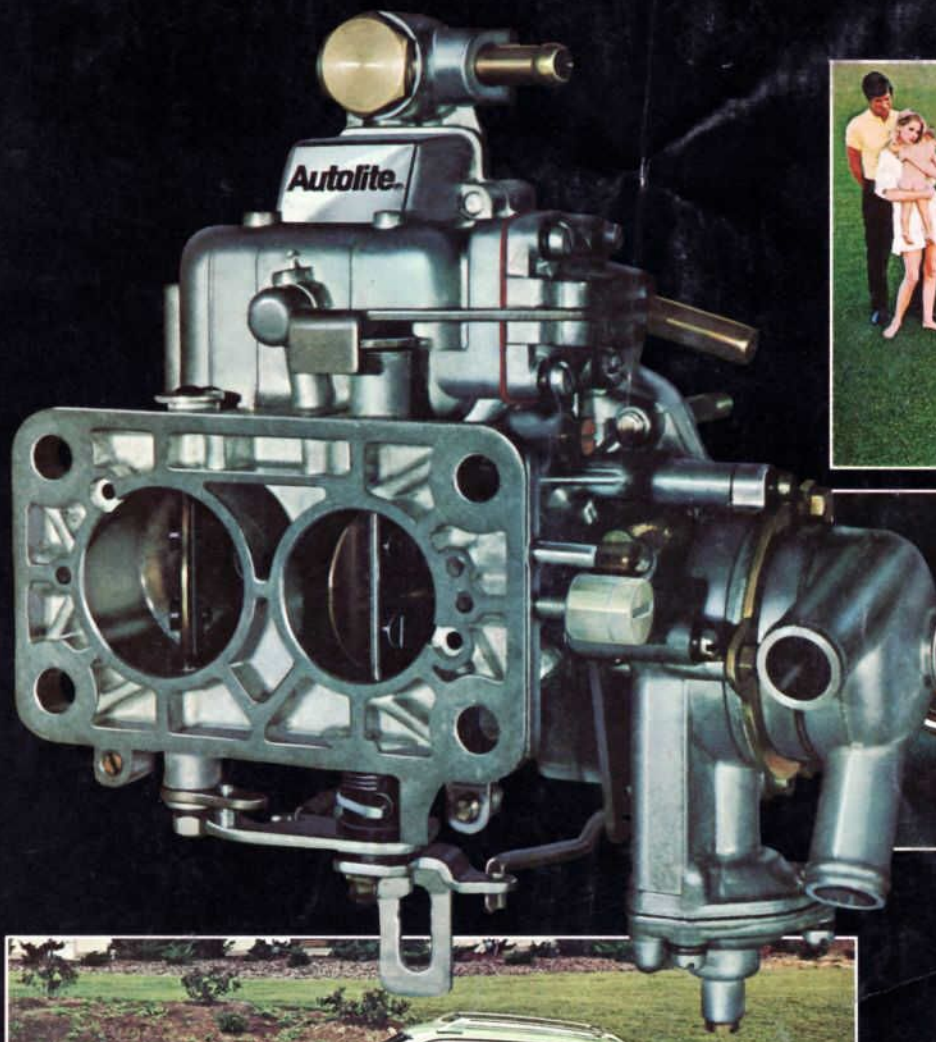
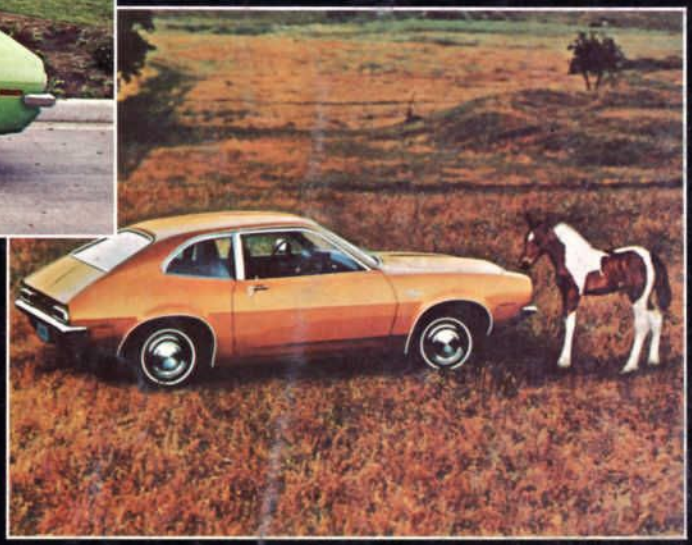
SHOP TIPS

Autolite Ford

VOL. 9, NO. 2 OCTOBER, 1970





Autolite's New Model 5200-C Carburetor... for The Pinto

SEE CENTER INSERT FOR TIMELY PROMOTIONS

THE PINTO TWO-STAGE . . .

Technical parts and service information published by the Autolite-Ford Parts Division and distributed by Ford and Lincoln-Mercury Dealers to assist servicemen in Service Stations, Independent Garages and Fleets.

IN THIS ISSUE

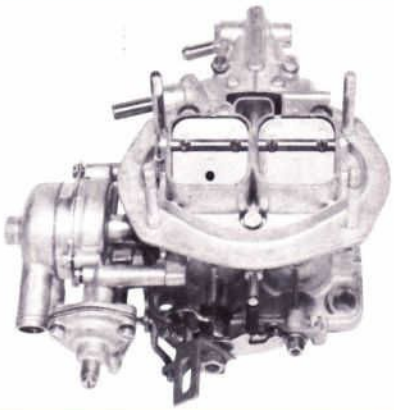
Be sure and file this and future bulletins for ready reference. If you have any suggestions for additional information that you would like to see included in this publication, please write to: Autolite-Ford Parts Division, Merchandising Services Dept., P.O. Box 3000, Livonia, Michigan 48151.

The descriptions and specifications contained in this publication were in effect at the time it was approved for printing. Our policy is one of continuous improvement and we reserve the right to change specifications or design without notice and without incurring obligation.

Autolite Ford

VOL. 71 MSD 2 LITHO IN U.S.A.

AUTOLITE'S NEW MODEL 5200-C CARBURETOR FOR THE 1971 PINTO



GENERAL INFORMATION

You'll find that Autolite's Model 5200-C Pinto Carburetor has a number of unusual features not found, as far as we can tell, in any other American made carburetor.

To begin with, the primary stage (or venturi) is smaller in size than the secondary stage. Also unique is the automatic choke system that uses a water heated bimetal thermostatic housing.

Another feature is the deceleration system which is controlled by manifold vacuum. This system helps reduce exhaust emissions during periods of slowdown with a closed throttle.

This Autolite carburetor, standard on the 1971 Pinto when equipped with the optional 2000 cc, overhead cam engine, utilizes four basic fuel metering systems. The Idle System provides a proper fuel-air mixture for both idle and low speed performance. The Main Metering System provides an economical mixture for all normal cruising speeds. The Accelerating System provides additional fuel during acceleration while the Power Enrichment System provides a very rich mixture when high power output is needed. In addition to these four basic metering systems and the other features named above, the Model 5200-C contains a fuel inlet system, a distributor vacuum spark port and a bowl vent system. See Figures 1 and 2 on the following page.

This bowl vent is needed to reduce hard starting or poor engine performance that may result if percolation or excessive fuel vapors form in the fuel bowl. Internal venting (into the air cleaner) is provided for by two vents that are cast into the air horn assembly.

TWO-BARREL CARBURETOR

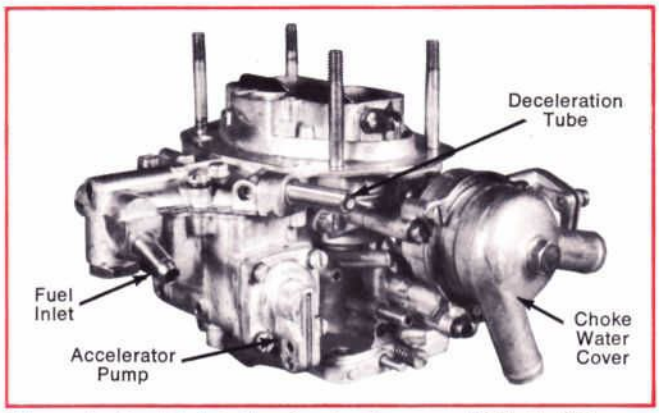


Figure 1—Fuel Inlet, Accelerator Pump and Choke Side

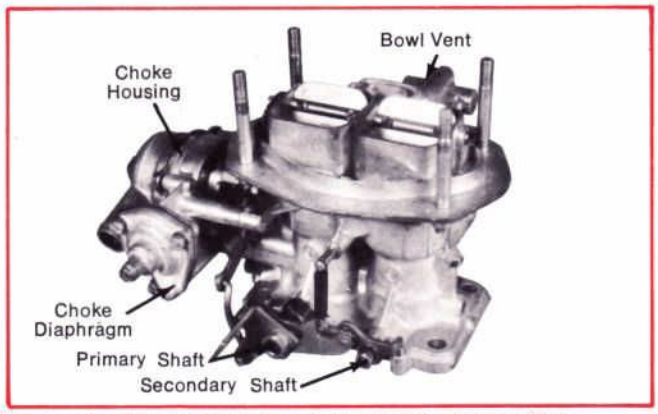


Figure 2—Throttle Levers and Choke Diaphragm Side

CARBURETOR SYSTEMS

FUEL INLET SYSTEM

The fuel inlet system maintains a specified fuel level in the bowl, permitting the basic fuel metering systems to deliver the proper mixture to the engine.

Fuel under pressure enters the fuel bowl through the fuel inlet fitting in the air horn and through a filter screen as illustrated in Figure 3.

The fuel inlet needle is controlled by the nitrophyl float and lever assembly which is hinged on a float shaft.

A small retaining clip is hooked over the end of the float lever tang and also to the fuel inlet needle. This assures that the fuel inlet needle will be pulled downward as the float drops.

The amount of fuel entering the bowl is regulated by the distance the fuel inlet needle is moved off its seat. When the float drops (as the fuel level drops), it causes the fuel inlet needle to move off its seat and permits additional fuel to enter the bowl past the fuel inlet needle. As the fuel reaches a specified level, the fuel inlet needle is raised to a position where only enough fuel is admitted to replace that being used by engine operating conditions.

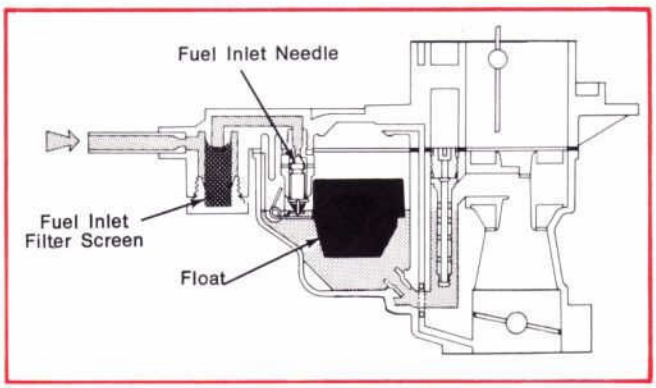


Figure 3—Fuel Inlet System

IDLE SYSTEM

Fuel for idle and low speed operation as shown in Figure 4, flows from the fuel bowl through the primary main jet into the main well. Fuel then flows up through a passage and then through the primary idle jet where it is mixed with air entering through the primary idle air bleed.

This fuel-air mixture moves down the idle passages and past the idle transfer holes. These holes serve as additional air bleeds during curb idle operation. The fuel-air mixture then moves past the idle mixture adjusting screw tip which controls the amount of discharge. From this point the fuel-air mixture moves through a short horizontal passage and discharges below the throttle valves.

At speeds slightly above idle, idle transfer holes begin discharging the fuel-air mixture as the throttle valves expose them to manifold vacuum. When the secondary throttle starts to open, fuel flows from the secondary well through the secondary idle jet. Here it is mixed with air entering through the secondary idle air bleed and is then discharged through the secondary transfer holes.

As the throttle valves continue opening and engine speed increases, air flow through the carburetor also increases. This creates a vacuum in the venturi, thus causing the main metering system to begin discharging a fuel-air mixture. As a result, the discharge from the idle system tapers off.

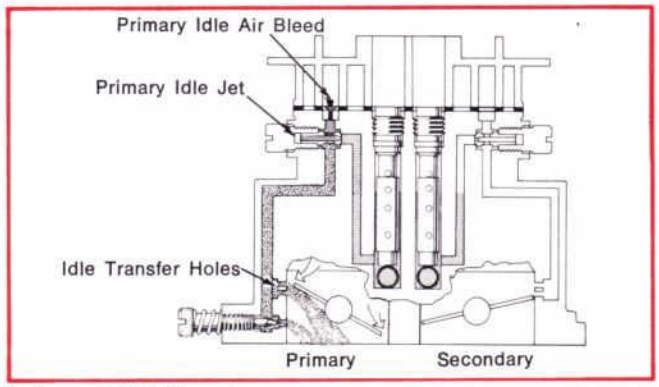


Figure 4—Idle Transfer

MAIN METERING SYSTEM

As engine speed increases, air velocity through the booster venturi causes a vacuum (low pressure area) in the venturi. Fuel then begins to flow through the main metering system as shown in Figure 5, due to the high pressure in the fuel bowl and a low pressure at the main discharge nozzle. Fuel flows from the fuel bowl, through the main jets, and into the main wells. Fuel then moves up the main well tubes where it is mixed with air. Air, supplied through the high speed air bleeds, mixes with the fuel through small holes in the sides of the main well tubes. These main air bleeds meter an increasing amount of air, whenever venturi vacuum increases, to maintain the proper fuel-air ratio. This mixture of fuel and air atomizes more readily than raw fuel. As the fuel-air mixture moves from the main well tube to the discharge port, it is discharged into the booster venturi.

The secondary main metering system is similar to the primary main metering system.

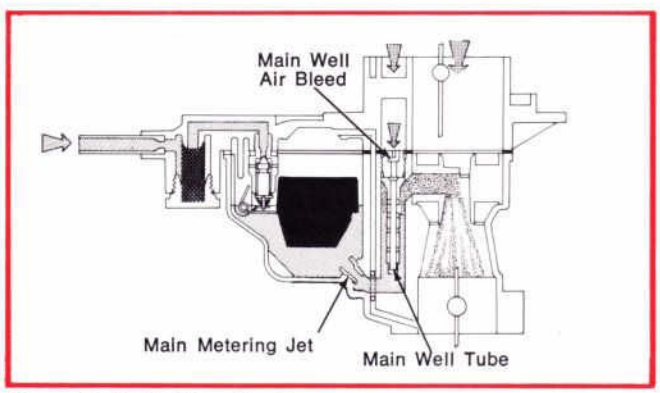


Figure 5—Main Metering System

ACCELERATING SYSTEM

When the throttle valves are opened quickly, air flow through the carburetor responds almost immediately. However, since fuel is heavier than air, there's a brief time-lag before fuel flow can gain enough speed to maintain the proper fuel-air ratio. During this lag, the accelerating system supplies the required fuel, until the proper fuel-air ratio can be maintained by the other metering systems.

When the throttle valves are closed, the diaphragm return spring pushes the diaphragm against its cover. Fuel is drawn through the inlet, past the inlet ball check valve and into the pump chamber. A discharge check ball prevents air from being drawn into the pump chamber.

The moment the throttle valves are opened, as shown in Figure 6, the diaphragm rod is pushed inward, forcing fuel from the pump chamber into the discharge passages. The inlet ball check valve seals the inlet hole during pump operation, thus preventing fuel from returning to the fuel bowl. Fuel under pressure unseats the discharge check ball and is forced through the pump discharge valve assembly where it sprays into the primary venturi through the pump discharge nozzle.

Excess fuel and pump chamber vapors are discharged back into the fuel bowl through a restriction.

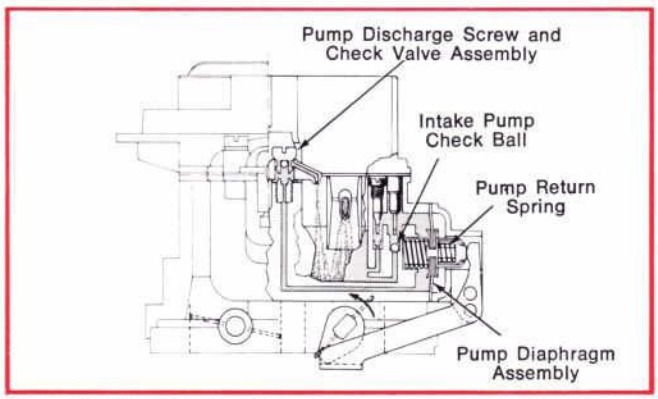


Figure 6—Acceleration System

PRIMARY POWER ENRICHMENT SYSTEM

During heavy load conditions or high speed operation, fuel-air ratio must be increased for higher engine output. The power enrichment system, as shown in Figure 7, supplies extra fuel during this period and is controlled by intake manifold vacuum.

Manifold vacuum is applied to the power valve diaphragm from an opening in the base of the carburetor body, where it is connected to passages in the main body and air horn to the power valve diaphragm. During idle and normal driving conditions, manifold vacuum is high enough to overcome the power valve spring tension, thus holding the valve closed. When higher engine output is needed, the increased load on the engine results in decreased manifold vacuum. The power valve diaphragm spring opens the power valve when manifold vacuum drops below a predetermined value. Fuel flows from the fuel bowl through the power valve and into passages leading to the main wells. At the main wells, this fuel is added to the fuel in the main metering system to enrich the mixture.

As engine load requirements decrease, manifold vacuum increases and overcomes the tension of the power valve spring, closing the power valve.

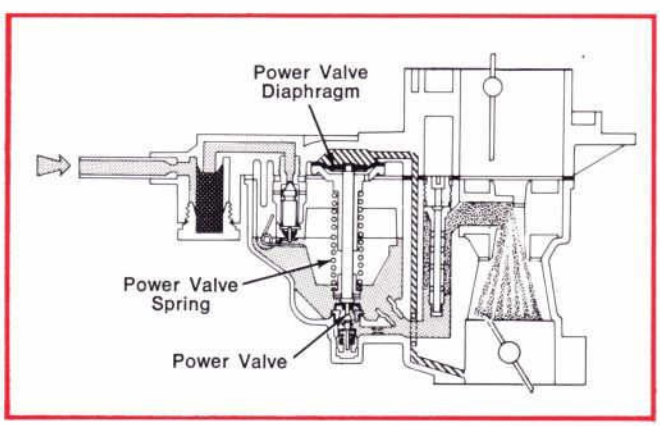


Figure 7—Power Enrichment System (Primary)

TWO-BARREL CARBURETOR

Continued

SECONDARY PROGRESSION

When the primary throttle plates reach approximately 45° opening (see Figure 8) the secondary throttle plates start to open. Fuel-air mixture then starts to flow from the secondary transfer holes as they are exposed to manifold vacuum.

Further opening of the throttle plates starts operation of the secondary main metering system which is similar to the primary system as illustrated in Figure 5.

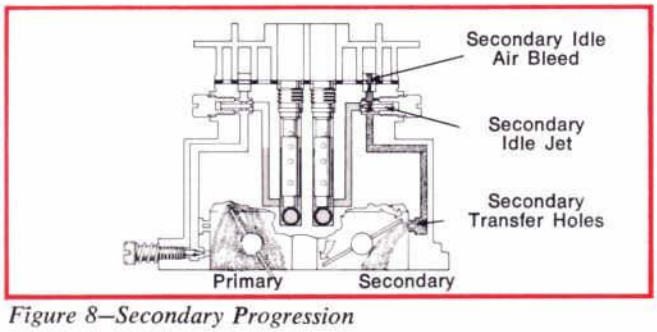


Figure 8—Secondary Progression

SECONDARY POWER ENRICHMENT SYSTEM

The secondary system is also provided with an air velocity operated power system for full power operation. See Figure 9.

As the secondary throttle valve approaches wide open position, air velocity through the secondary venturi creates a low pressure at the discharge opening. Fuel flows from the bowl through a restricted vertical channel. As this occurs, air enters through a calibrated air bleed and mixes with the fuel, discharging this mixture through the discharge opening.

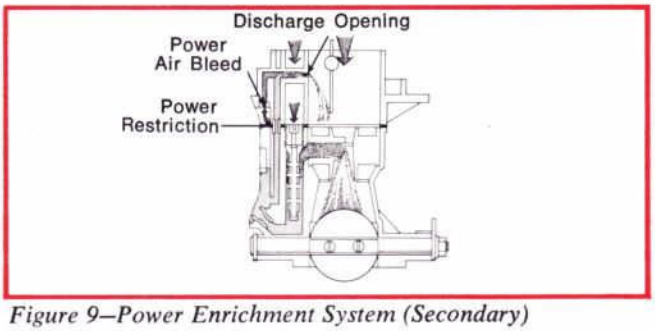


Figure 9—Power Enrichment System (Secondary)

AUTOMATIC CHOKE SYSTEM/DECELERATION SYSTEM

The automatic choke assembly is mounted on the carburetor body. It has a bimetal thermostatic coil which winds up when cold and unwinds when hot. A vacuum diaphragm and spring controls the initial operation of the choke. Engine coolant flowing through a choke water cover heats the bimetal coil and controls the final choke opening.

To start the engine the accelerator pedal is depressed, closing the choke valves. This permits fuel to flow through the main metering system as well as the idle system.

When the engine starts, air flows past the off-set choke valves and manifold vacuum acting on the choke vacuum diaphragm opens the choke valves to a predetermined position.

As the engine coolant warms up it circulates through the choke housing, heating the bimetallic choke coil. The coil unwinds permitting full opening of the choke valves.

If the cold engine is suddenly accelerated the resulting drop in manifold vacuum on the vacuum diaphragm allows the choke valves to momentarily close. See Figure 10.

The fast idle cam, actuated by the choke rod, controls idle speed during engine warm up. When the choke valves are fully opened, the fast idle cam rotates free of the fast idle screw. See Figure 11. An unloader tang on the throttle lever partially opens the choke valves when the accelerator is fully depressed. This permits unloading or breathing of a flooded engine.

During deceleration there is a high vacuum condition, causing fuel from the bowl to pass through a restriction where it is mixed with air from another calibrated restriction. See Figure 12. This mixture passes through a horizontal passage where it is mixed with a larger quantity of air and then flows through a vacuum operated deceleration valve into the intake manifold.

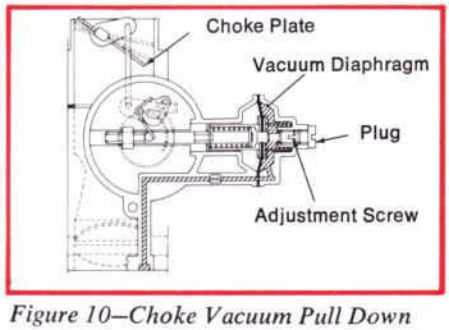


Figure 10—Choke Vacuum Pull Down

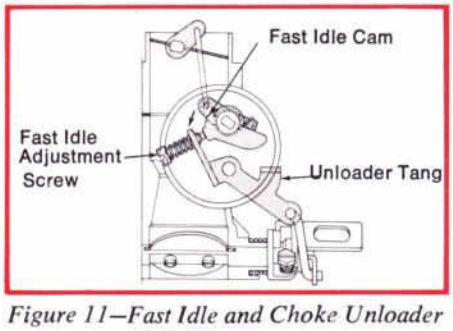


Figure 11—Fast Idle and Choke Unloader Linkage

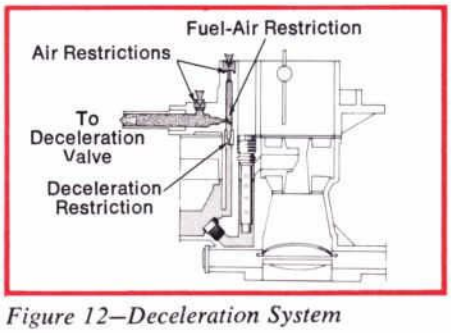


Figure 12—Deceleration System

THE PINTO TWO-STAGE . . .

DISASSEMBLY AND COMPLETE OVERHAUL

The following procedures apply to complete overhaul with the carburetor removed from the engine:

However, in most cases, service adjustments of individual systems may be completed without removing the carburetor from the engine. (Refer to "Service Adjustment Procedures" at the end of this article.)

A complete carburetor overhaul includes disassembly, thorough cleaning, inspection and replacement of all gaskets, diaphragms, seals, and worn or damaged parts. Refer to the exploded view shown on the next page for parts identification.

REMOVAL AND DISASSEMBLY OF AIR HORN

Remove retainer clips and choke operating rod. Then remove five air horn screws and lock washers. Now, remove the air horn as shown in Figure 13. Remove fuel inlet filter plug and filter screen assembly. Remove float shaft, float and fuel inlet needle. Remove the three power valve diaphragm assembly screws, washers and diaphragm. Remove fuel inlet seat and gasket. Remove choke rod seal plug and seal, see Figure 14.

NOTE: Unless damage has occurred to the choke plates, shaft or lever, no further disassembly of the air horn is necessary.

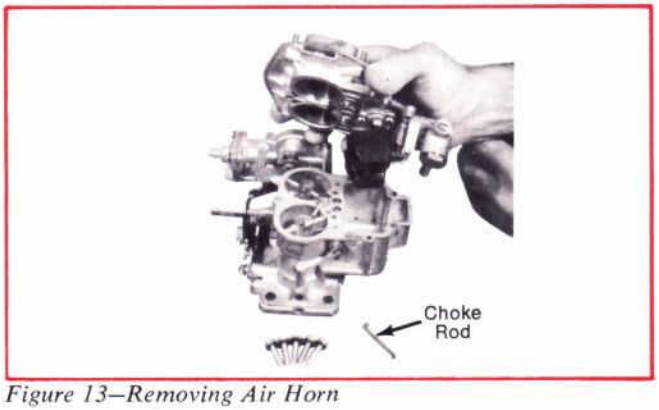


Figure 13—Removing Air Horn

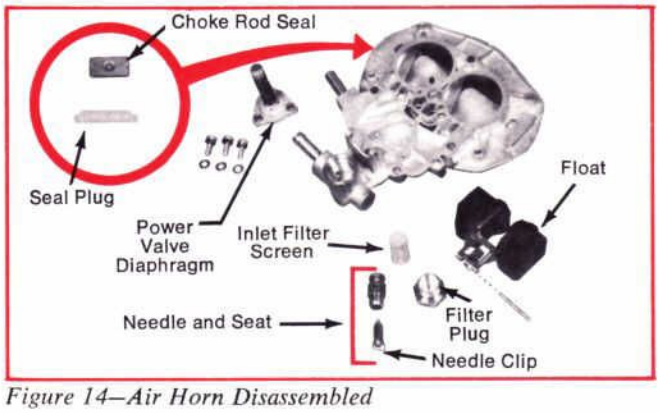


Figure 14—Air Horn Disassembled

CHOKE DISASSEMBLY

Remove choke water housing retaining screw, washer, housing and gasket. Remove three choke bimetal retaining screws, retainer, choke bimetal housing and housing gasket as shown in Figure 15. Next, remove three choke housing assembly screws and slip housing away from carburetor body. As you do so, disengage fast idle rod. *Note location of long screw.* Remove "O" ring from vacuum passage. See Figure 16. Remove choke shaft nut and lock washer. *Note positioning of fast idle cam spring as shown by stub arrows in Figure 18.* Remove spring loop from choke lever. Remove choke lever and spring. Remove spring retainer and shaft washer. Next remove choke housing shaft, lever and Teflon bearing. Remove fast idle lever shaft retaining screw, bushing and spring washer. Remove lever and flat spacer. Then, remove adjusting screw and spring. Remove three choke diaphragm cover screws and cover assembly. Remove return spring and diaphragm and rod assembly. Now, remove diaphragm adjusting screw plug and diaphragm adjusting screw from cover. Note Figure 18 for details as shown on page 8.

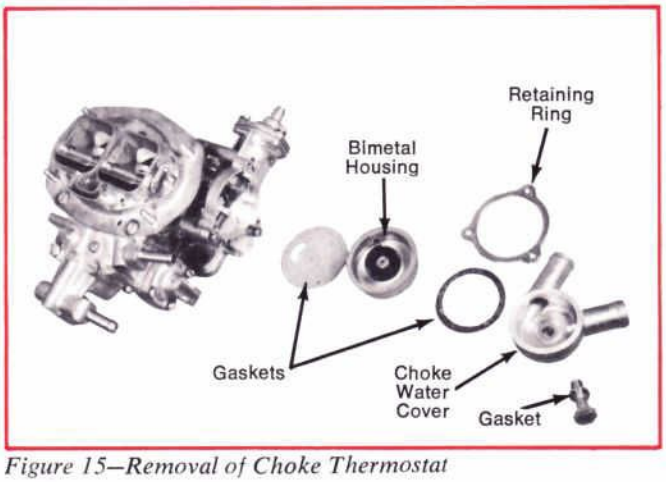


Figure 15—Removal of Choke Thermostat

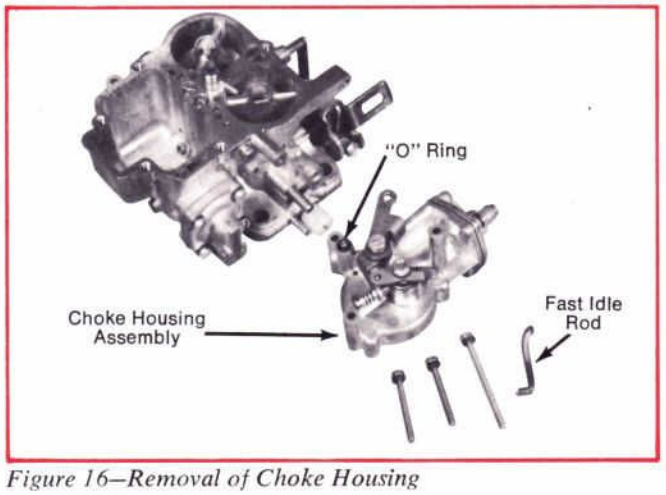


Figure 16—Removal of Choke Housing

AUTOLITE'S 5200-C CARBURETOR

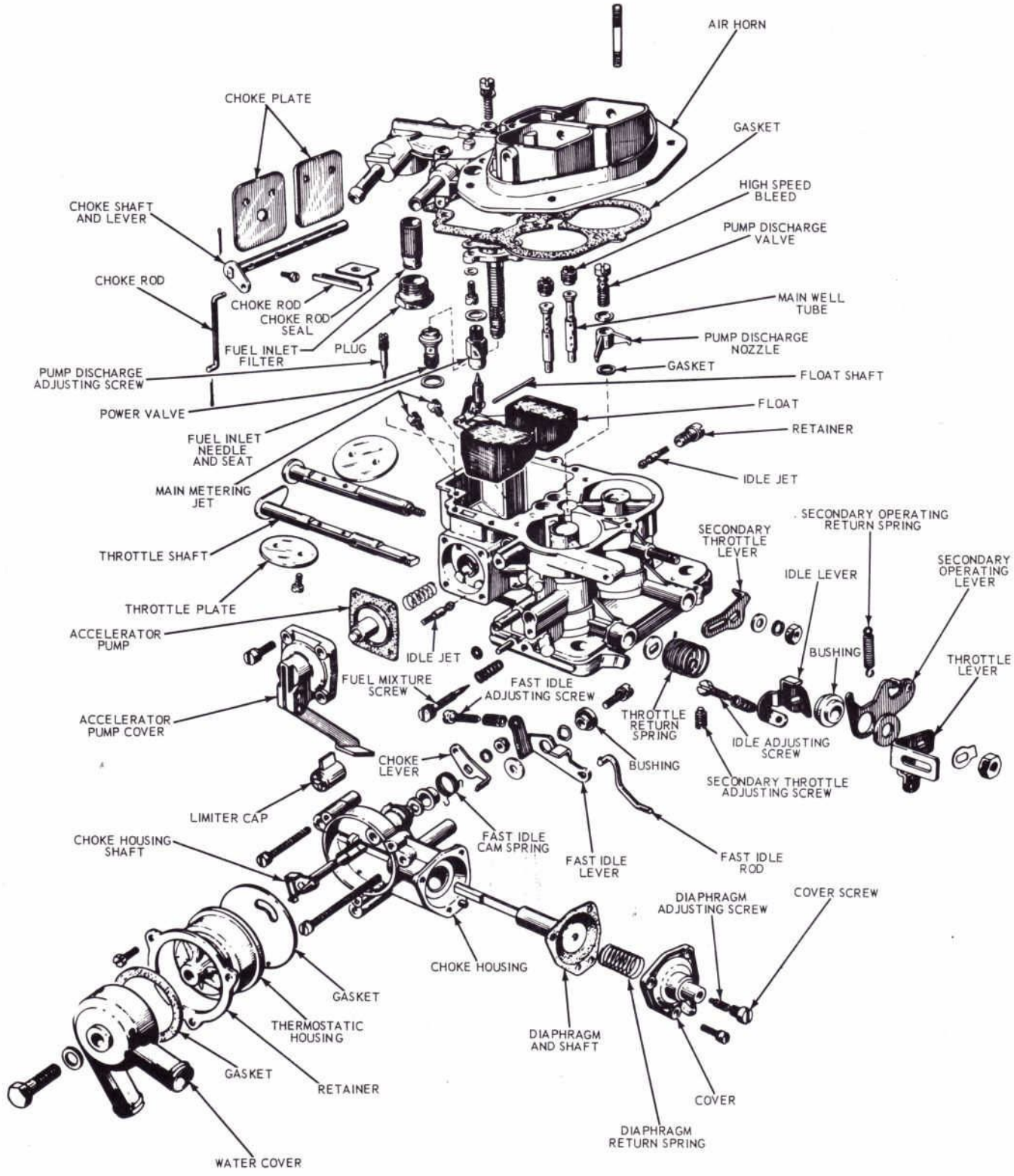


Figure 17—Exploded View of Autolite Model 5200-C Carburetor

THE PINTO TWO-STAGE . . . TWO-BARREL CARBURETOR *Continued*

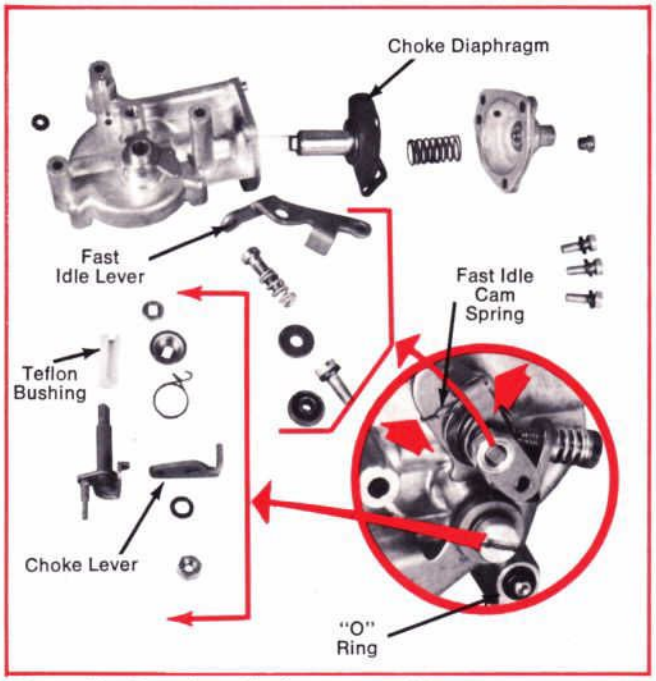


Figure 18—Complete Choke Disassembly

ACCELERATOR PUMP DISASSEMBLY

Remove four pump cover screws and pump cover assembly. See Figure 19. Remove pump diaphragm assembly and pump return spring. Then remove pump discharge valve assembly, pump discharge nozzle and two gaskets. Next remove pump channel plug screw.

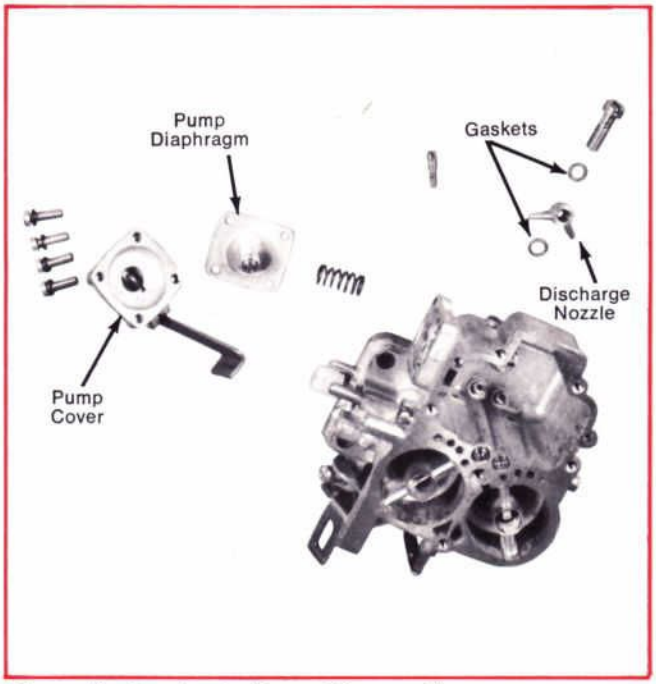


Figure 19—Accelerator Pump Disassembly

CARBURETOR BODY DISASSEMBLY

Remove primary main well air bleed restrictions and main well tube. Remove secondary main well air bleed restrictions and main well tube as shown in Figure 20. *NOTE: Write down sizes of air bleed restrictions and main well tubes so that primary and secondary can be reinstalled in the proper channels.* Remove both primary and secondary idle jet retainer plugs and idle jets. (Located on sides of carburetor body.) See Figure 21. Remove both primary and secondary main metering jets. *Carefully note the different sizes so they may be reinstalled in the proper side.* See Figure 22.

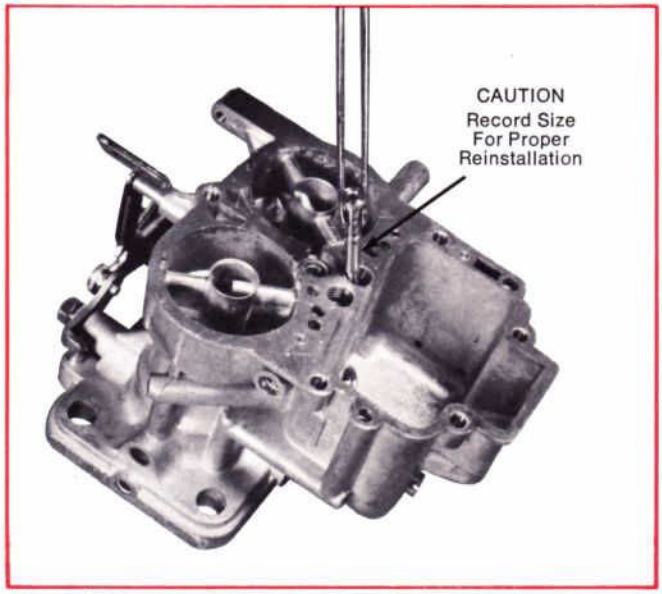


Figure 20—Removing Main Well Tubes

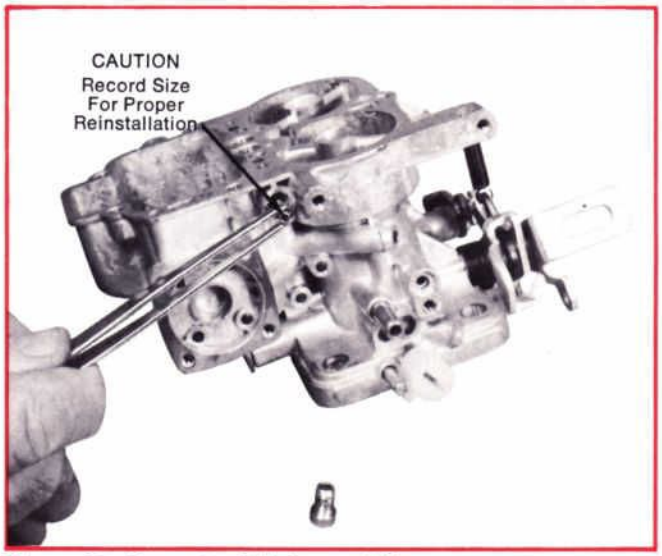


Figure 21—Removing Idle Jets and Plugs

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4. **Ladies' 22" Weekend Case.**
Avocado scuff resistant
vinyl with Touch-o-matic
locks, lite-glide handle.
Dust resistant valance.
F2813 ..... 39 Points

5. **Black Angus Griddle.**
Immersible with
hard coat Teflon.
Removable grease con-
tainer, automatic cook
control. Complete with
buffet handles, recipe guide.
H3638 ..... 40 Points

6. **Black Angus**
Waffle Baker and Grill.
No-stick Teflon coated
reversible grids.
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large waffles at once.
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Snowmobile owners will buy nearly six million replacement snowmobile spark plugs this winter alone. That's profit potential worth looking at!

Outstanding Features and Proven Performance!
Autolite Snowmobile Spark Plugs assure satisfied customers because they are made in the same way and with the same materials as Autolite's Racing Spark Plugs . . . *the winners at the Indianapolis 500 for four years in a row!* What's more, Autolite Snowmobile Spark Plugs are specially designed to keep the trouble out—keep the fun in snowmobiling for your customers.

1. **Hi-Density Insulator Prevents Misfires**
Autolite's hard ceramic insulator stops power-robbing flashover caused by the severe oil and moisture problems to which all snowmobile spark plugs are exposed.

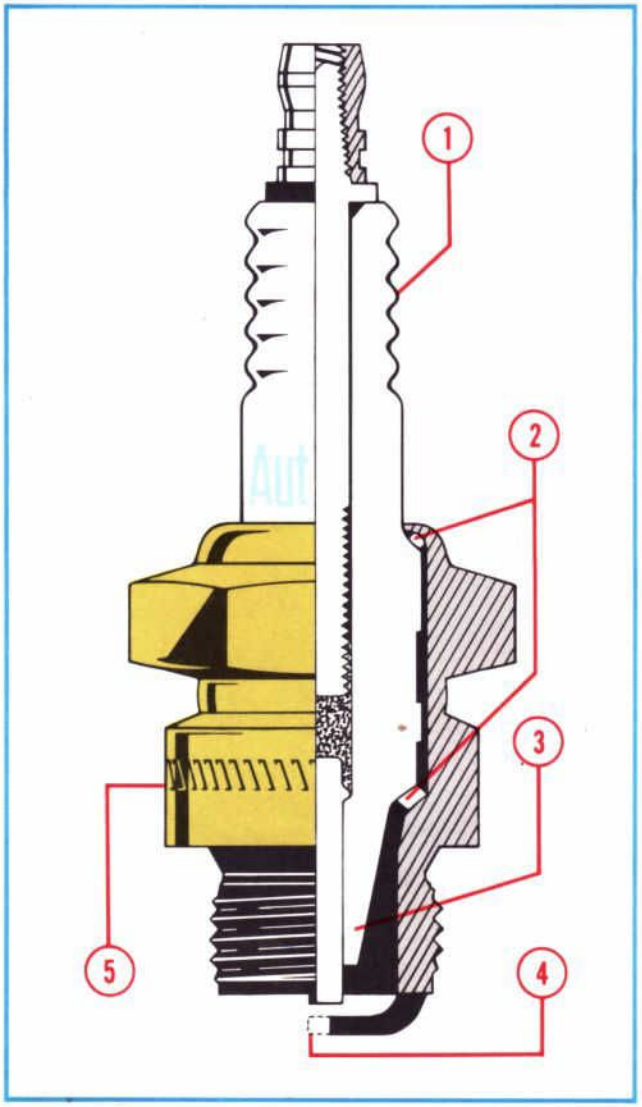
2. **Zero-Leakage Seal**
Autolite's zero-leakage hermetic seal helps prevent spark plug overheating and pre-ignition ping.

3. **Insulator Tip Resists Fouling**
Autolite's slender insulator tip stays cleaner longer . . . burns away fouling deposits that drain engine power.

4. **Special Electrode Design Provides Faster Starts**
Autolite's short side electrode plus thinner center electrode requires less voltage to fire than standard plugs giving faster starts even in the coldest weather.

5. **. . . And a Golden Shell!**
Autolite is the only snowmobile spark plug with a special shell surface treatment of gold epoxy to resist rust and corrosion.

Only Autolite Snowmobile Spark Plugs offer all these extra features, yet they *cost no more* than regular spark plugs.



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CALIFORNIA 500 1970 INAUGURAL

Autolite

A GRAND SLAM FOR AL UNSER

Autolite plugs powered a series of big wins for Al Unser. Take a look at his "grand slam" record, starting with his big win of the prestigious '70 Indy 500: Then, Number One in the Springfield "100"; winning the next day in the Milwaukee "200"; and taking the flag again at Duquoin on Labor Day. And toss in the recent wins at the Indy Raceway Park's National Championship Race and the Hoosier 100 for good measure. Ford power, Autolite fire!

FIRST TWO SPOTS AT ONTARIO

Autolite proved that it's a winner at Ontario too. Autolite-powered championship cars finished first and second at the "California 500" Ontario Motor Speedway Inaugural, September 6. This exciting new track is patterned after the famed Indy brickyard. Average speed for winner Jim McElreath, 160.106 mph for 500 miles . . . record time for championship cars, beating the '70 Indy 500 speed by about 4 mph.

A WINNER AGAIN AT THE NATIONALS

At the NHRA Nationals held in September, Autolite helped to send home Jack Jones as Top Gas Eliminator and Don Schumacher as Top Funny Car Eliminator.

IT'S LEAKPROOF... YOU CAN'T LOSE!

Winning in big-time racing means beating the best in the business . . . the best men running with the best machinery that can be built. And what do winners build them with? Autolite Spark Plugs.

Why Autolite?

Let's look at what a racing plug's #1 job actually is for the answer.

Spark plugs must hold back tons of exploding combustion. Any leak of combustion through a plug can result in a lower plug rating than intended. This leakage reduces performance and frequently damages the engine. The turbo-charging that helps produce today's super speeds also creates pressures and stresses on plugs far beyond design anticipation. Ordinary plugs simply can't take it. Since the majority of them do not have an air-tight seal, they often "leak" power at top speeds. As a result, these plugs often ride with the "also rans."

On the other hand, Autolite Spark Plugs have a conductive copper glass center seal which is permanently fused to the center electrode. This, in combination with "heat shrinkage" compression of insulator gasket seals to the shell, results in a hermetically sealed unit that *cannot leak*. This air-tight seal prevents compression loss at high speeds.

Winning is contagious. The extra quality that makes Autolite a winner in racing also makes Autolite Spark Plugs winners with all your customers.

GO! With Colorful Display Package Appeal!

Autolite Snowmobile Spark Plugs have the best-looking package in the industry (packed ten to a carton). Perfect for peg-board or counter display, they attract customers and make it easy to find the right number.

GO! With Exciting Sno-Power Promotion to Attract New Customers!

Take over the snowmobile spark plug sales action in your area with this sensational product/promotion combination . . . available exclusively from Autolite! Free display kit with your order for Autolite Snowmobile Spark Plugs includes . . .

A. **Sno-Power Window Poster**—Big 19″ x 28″ poster on transparent plastic identifies retailer headquarters for Autolite Snowmobile Spark Plugs . . . and invites customers to come in for FREE Sno-Power Decal.

B. **FREE Sno-Power Decal Offer**—Snowmobilers everywhere will want the big 4″ sharp-looking Sno-Power decals...great drawing power for Autolite Snowmobile Spark Plug retailers. And you can offer them FREE because you get five decals in each carton of ten Autolite Snowmobile Spark Plugs at no extra cost.

C. **Special Sno-Power Racing Jacket Offer**—Authentic Autolite Winter Racing Jackets with colorful embroidered cloth Sno-Power Patches for your customers! Complete description and order coupon included on customer folders in display kit.

D. **Application, Cross Reference, and Heat Range Chart**—This handy, durable 8½″ x 11″ chart shows Autolite Spark Plug applications for over 150 snowmobile engines. Use it in a catalog rack or displayed on the counter for convenient customer reference.

E. **Customer Folders that Sell Sno-Power**—25 folders in each display kit are perfect envelope stuffers or counter handouts. They give snowmobilers all the facts about Autolite Snowmobile Spark Plugs AND the special offer on Autolite Winter Racing Jackets and Sno-Power Patches.

E.

A.

B.

D.

GO! With Minimum Inventory!

It takes just seven Autolite Snowmobile Spark Plug Part Numbers to cover the requirements of 90% of all popular snowmobile engines . . . AE2X, AE3X, AG2X, AG3X, B2W, B3W, and B6W.

Order A Complete Inventory of Autolite Snowmobile Spark Plugs Today!

They're Golden!

Comebacks can be beautiful...!

A "Comeback" can be beautiful when a regular customer reports, "It runs great!" . . . or comes back for other services.

If it's a Ford-built car or truck, there's one easy way to be sure the job is always right. Replace with Authorized Remanufactured Ford Parts. Every replacement part is remanufactured to Ford standards of reliability . . . not just "rebuilt." They're 100% performance tested, not just spot checked . . . and they carry a *new-part warranty.*

Use the "Beautiful Comeback" parts now available at our parts counter.

NATIONAL WARRANTY

Every Remanufactured Ford Part is warranted nationally by the Remanufacturer to be free of defects in materials and workmanship for 90 days or 4000 miles from date of installation, whichever occurs first. Complete OHV engine assemblies are warranted for 12 months or 12,000 miles on passenger vehicles, and 6 months or 12,000 miles on trucks, whichever occurs first. This Warranty includes parts replacement plus related labor.

Ford and Lincoln-Mercury dealers will honor this warranty anywhere in the country.

Remanufactured

Ford

Engines · Parts

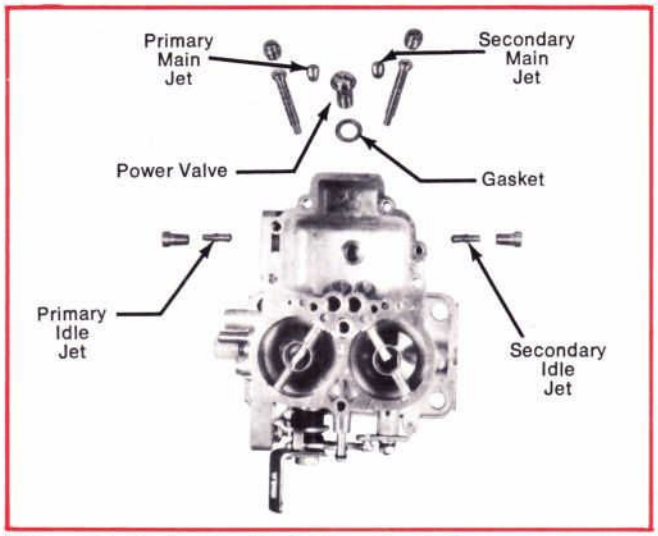


Figure 22—Carburetor Body Disassembled

Remove the power valve and gasket. Turn idle limiter cap in to the stop pin as shown in Figure 23. Remove idle limiter cap. Count the number of turns needed to lightly seat idle mixture screw. Record turns to 1/16 of a turn. Remove idle mixture screw and spring.

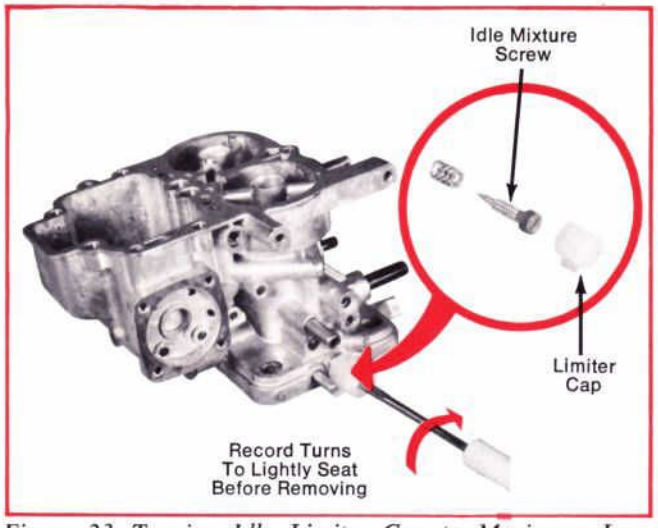


Figure 23—Turning Idle Limiter Cap to Maximum Lean Position

THROTTLE LEVER DISASSEMBLY

Remove secondary operating lever return spring. Then straighten out the primary throttle lever nut lock washer and remove nut. Remove washer, primary lever and flat washer. Remove secondary operating lever assembly and lever bushing. *Carefully note how the primary throttle return spring is hooked over idle adjusting lever and body as shown by stub arrows in Figure 24.* Remove the idle adjusting lever spring and shaft washer. Remove idle speed screw and spring from lever. Remove secondary throttle lever nut, lock washer, flat washer and secondary throttle lever. Remove secondary idle stop screw.

NOTE: Unless the primary or secondary throttle plates or shafts are nicked or damaged, the carburetor may be properly cleaned without further disassembly. If it is necessary to remove the throttle plates, file the staking off of the four throttle plate screws.

REASSEMBLY PROCEDURES

CARBURETOR BODY

Refer to Specifications Chart During Assembly

Install secondary idle adjusting screw, secondary throttle lever, flat washer, lock washer and nut. Then install the idle speed screw and spring in idle adjusting lever. Next install shaft washer, primary throttle return spring (refer to Figure 24), idle adjusting lever, lever bushing, secondary operating lever assembly, flat washer, primary throttle lever, lock washer and nut. Now, bend the lock washer against flat of nut. Attach secondary operating lever return spring. Install idle adjusting needle and spring. (Refer to Figure 23.) Turn it in until it is lightly bottomed. Back out the exact number of turns previously recorded. Install a new limiter cap on idle needle against the stop pin on the lean side. This will permit approximately 7/8 of a turn enrichment. Install idle jets in plugs and install plugs and jets on each side of carburetor body. (Refer to Figure 22.) Check carefully for correct primary and secondary sizes. Install power valve gasket and power valve. Install primary main jet. Install secondary main jet. *Check carefully for location of sizes.* Install primary and secondary main well tubes and restrictions. (See Figure 20.) *Check carefully for correct reinstallation of sizes.* Carburetor body is now reassembled as shown in Figure 25 on page 10.

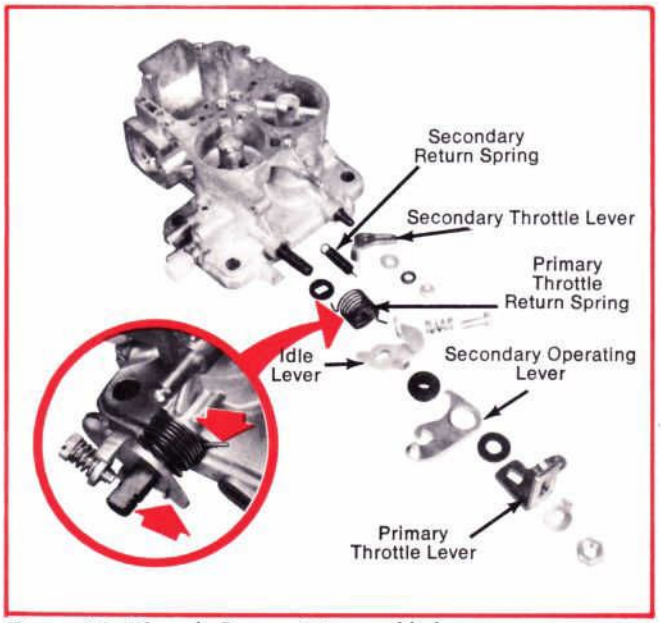


Figure 24—Throttle Levers Disassembled

ACCELERATOR PUMP ASSEMBLY

Install pump channel plug screw. Then install the pump discharge nozzle with a gasket on top and bottom. Refer to Figure 19. Install pump discharge valve assembly. Install pump return spring and pump diaphragm assembly. Start the four pump cover screws. Then, hold the pump operating lever partially open to align the diaphragm gasket and tighten four cover screws evenly.

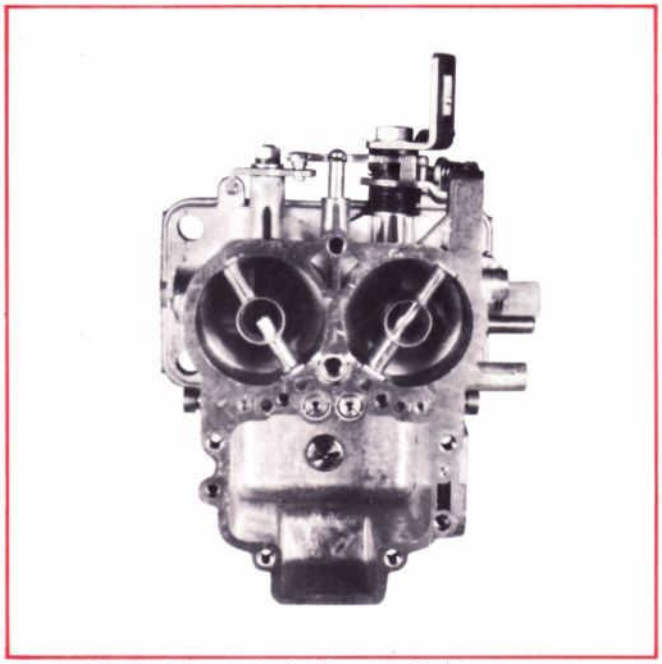


Figure 25—Carburetor Body Reassembled

CHOKE ASSEMBLY

Install diaphragm adjusting screw, then initially adjust screw so that threads are flush with the inside of the cover. Install diaphragm adjusting screw plug.

Now install the choke diaphragm and rod assembly. Install diaphragm return spring and cover. Now install three cover screws and lock washers. Tighten evenly.

Next, install fast idle adjusting screw and spring. Install flat fast idle lever spacer, fast idle adjusting lever, spring washer, bushing, screw and lock washer.

Install Teflon bushing at the thread end and start choke housing shaft into bore. Install gently to avoid damaging Teflon bushing.

Install shaft washer, spring retainer, fast idle cam spring and choke lever. Place spring loop over arm of lever as indicated by stub arrows in Figure 18. Install lock washer and nut.

To complete choke reassembly install "O" ring on vacuum passage. Install the bent end of the fast idle rod in the fast idle adjusting lever. Invert the carburetor and choke housing and install the other end in the primary throttle operating lever.

CHOKE HOUSING INSTALLATION

Install the three choke housing screws. Refer to Figure 16. *Note the correct position of the long screw.*

Now, install the thermostat housing gasket and thermostat housing. Position housing at ⅛" counterclockwise at prick point as shown in Figure 26. Install housing retainer and three screws and tighten evenly.

Install choke water housing gasket, choke water housing, the gasket and screw. Refer to Figure 15.

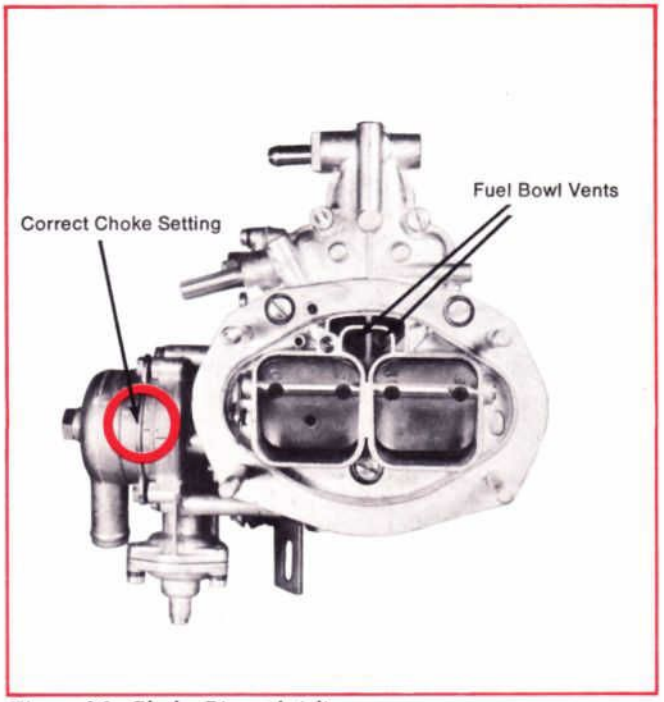


Figure 26—Choke Bimetal Adjustment

AIR HORN ASSEMBLY

Install the inlet needle seat and gasket.

Then install the power valve diaphragm assembly. Depress spring and install the screws with the fingers. Hold the stem so that the diaphragm is horizontal. Tighten screws evenly.

Finally, install float needle clip on float tab and position float and needle. Install float shaft. Refer to Figure 14.

ADJUSTMENTS DURING ASSEMBLY

DRY FLOAT ADJUSTMENT

With the air horn held in an inverted position and the float tang resting lightly on the spring loaded fuel inlet needle, the clearance between the bowl cover and the end of the float should be $^{31}/_{64}$ inch drill or gauge. Both float kidneys should be equally adjusted. See Figure 27 and Figure 28. To adjust, bend the float tang up or down as necessary. *CAUTION: Do not scratch or damage the float tang.*

TWO-BARREL CARBURETOR

Continued

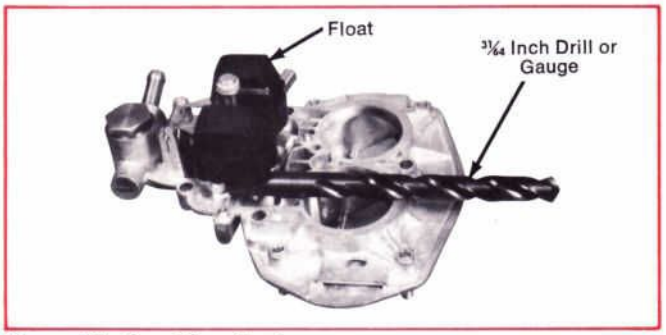


Figure 27—Dry Float Setting

Figure 28—Float Assembly

FLOAT BUMPER SPRING ADJUSTMENT

Some carburetors may be equipped with a float bumper spring. The float drop tab on these applications should be adjusted to .010"-.025" clearance between the tab and spring with the air horn inverted (same position as dry float setting). Adjust clearance between tab and spring to the thickness of a paper matchbook cover as shown in Figure 29.

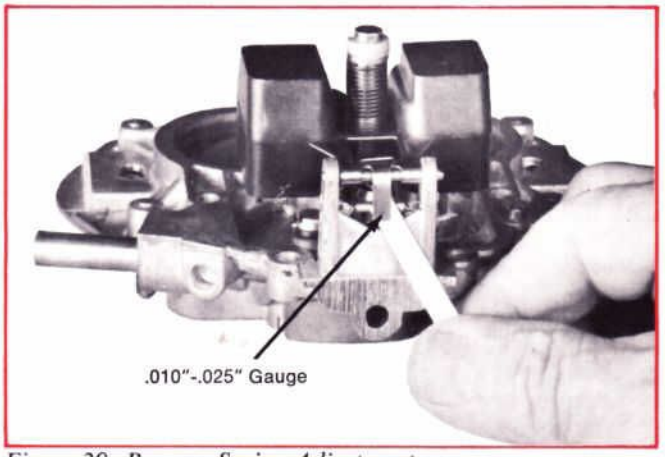


Figure 29—Bumper Spring Adjustment

MODEL 5200-C SPECIFICATIONS CHART
1971 Pinto with 2000 cc Engine

SPECIFICATIONS	AUTO. TRANS.	STD. TRANS.
CARBURETOR PART NO. (Autolite Sales No.)	CA-802	CA-802
Air Conditioned	CA-884	—
DRY FLOAT SETTING (at toe of float; Air Horn inverted)	31/64"	31/64"
BUMPER SPRING to Drop Tang	.010"—.025"	.010"—.025"
MAIN METERING JET—Primary	Stamped 137	Stamped 137
Secondary	Stamped 145	Stamped 145
IDLE JET—Primary	Stamped 19	Stamped 19
Secondary	Stamped 19	Stamped 19
HIGH SPEED BLEED—Primary	Stamped 71	Stamped 71
Secondary	Stamped 67	Stamped 67
PUMP DISCHARGE NOZZLE	Stamped 20	Stamped 20
FAST IDLE CAM Clearance	.010"—.030"	.010"—.030"
VACUUM PULL DOWN (Downstream)	17/64" Drill	17/64" Drill
DECHOKE (Downstream)	21/64" Drill	21/64" Drill
CURB IDLE (rpm)	650 in Drive	700-750 in Neutral
Air Conditioned Cars—Solenoid Lead Disconnected. Trans./Neutral	450-500	
Solenoid Energized—Air Conditioning On—in Drive	650	
FAST IDLE (rpm) 2nd Step of Cam	1800	1800
Note: Float Drop (at toe of float) Air Horn inverted. If carburetor not equipped with Bumper Spring	1 7/8"	1 7/8"

INSTALL AIR HORN

Install choke rod seal and seal plug. Refer to Figure 14. Install choke rod through seal, hook into choke lever and install retaining clip.

Install air horn gasket. Then install choke link into the choke lever. Install retaining clip. Install five air horn screws and torque evenly.

Now, install fuel filter screen (open end in). Install filter screen plug.

SECONDARY THROTTLE STOP SCREW

Back off the secondary throttle stop screw as shown in Figure 30, until the secondary throttle plate seats in the bore. Turn the screw in until it touches the tab on the secondary throttle lever. Turn the screw an additional ¼ turn.

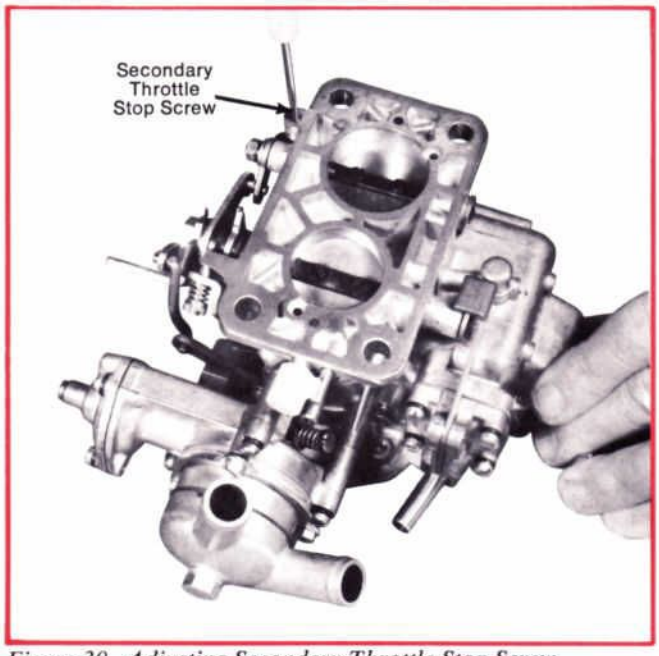


Figure 30—Adjusting Secondary Throttle Stop Screw

ADJUSTMENTS ON THE CAR OR AFTER ASSEMBLY

FAST IDLE CAM CLEARANCE

Hold the choke in position against a 5/32 inch drill on the down stream side of the choke plate. With the fast idle screw held on the second step of the fast idle cam, the clearance between the tang of the choke lever and the arm of the fast idle cam should be .010"-.030". See Figure 31. To adjust, bend the tang on the choke lever up or down with a suitable bending tool.

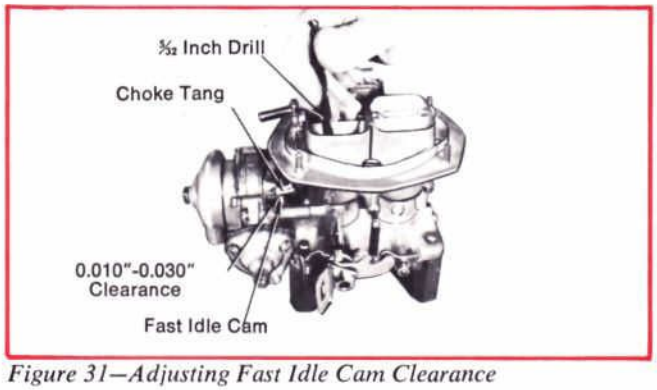


Figure 31—Adjusting Fast Idle Cam Clearance

CHOKE PLATE VACUUM PULL DOWN

Remove the three hex headed screws and ring retaining the choke bimetal cover. *Do not remove the choke water housing screw if adjusting on the car.* Pull the choke water housing and bimetal cover assembly back out of the way. See Figure 32. With a screw driver or suitable tool, push the diaphragm stem back against the stop. See Figure 33. Place a 17/64 inch drill or gauge on the downstream side of the primary choke plate. Take all the slack out of the linkage with the small finger. See Figure 33. To adjust, remove adjusting plug from the diaphragm cover and turn adjusting screw in or out with a small screwdriver as also shown in Figure 33.

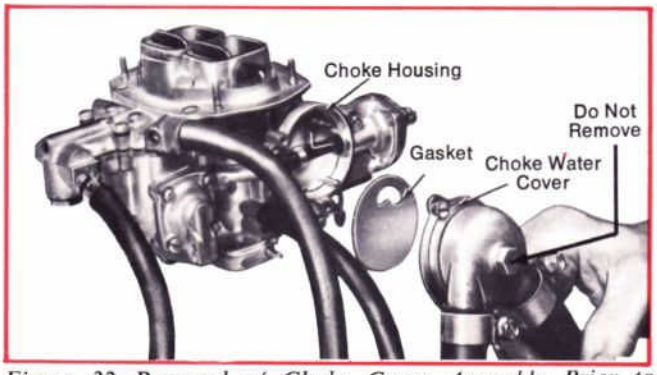


Figure 32—Removal of Choke Cover Assembly Prior to Vacuum Pull Down Adjustment

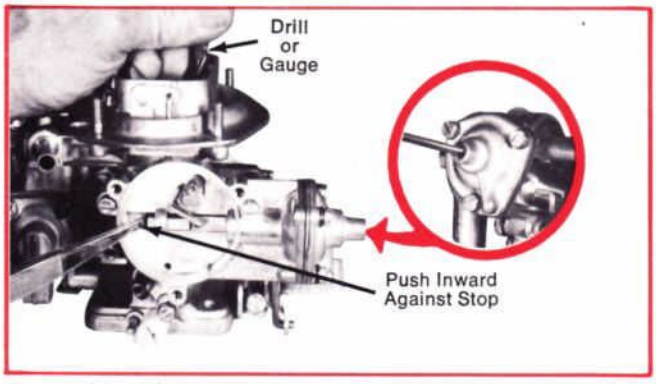


Figure 33—Adjusting Vacuum Pull Down

DECHOKE CLEARANCE

Hold the throttle lever in the wide-open position as shown in Figure 34. Take the slack out of the choke linkage by applying pressure to the choke plate. Measure the clearance on the lower edge of the choke plate at the air horn wall. This measurement should be $^{21}/_{64}$ drill or gauge. Adjustments are made by bending the tab on the fast idle lever where it touches the fast idle cam.

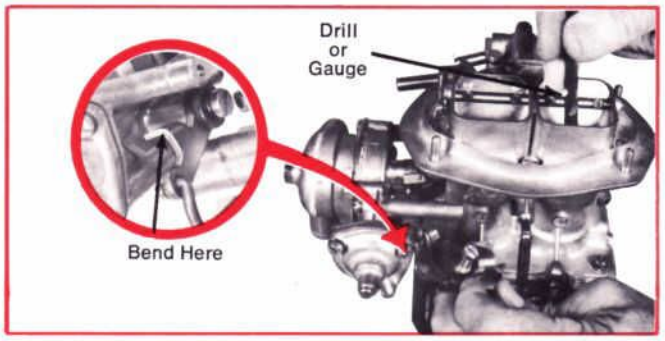


Figure 34—Adjusting Dechoke Clearance

FAST IDLE ADJUSTMENT

With the engine temperature normalized and the fast idle screw positioned on the second step of the fast idle cam against the shoulder of the first step, the fast idle speed should be 1800 rpm. Adjustments are made by turning the fast idle screw in or out. See Figure 35.

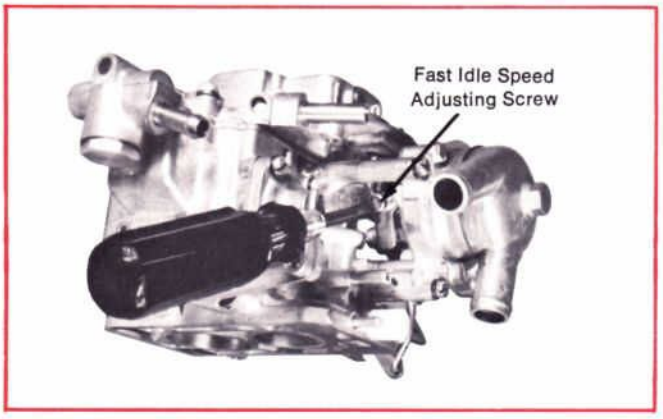


Figure 35—Adjusting Fast Idle

CURB IDLE ADJUSTMENT

Idle adjustment really covers two adjustments, idle mixture and idle speed. A limiter cap is installed on the idle mixture screw to limit maximum idle richness. See Figure 36.

On the vehicle, adjustment should be held to the limit of the cap. The cap should not be removed or destroyed.

Idle speed should be adjusted to specifications using a tachometer. An exhaust gas analyzer may be used after adjustment.

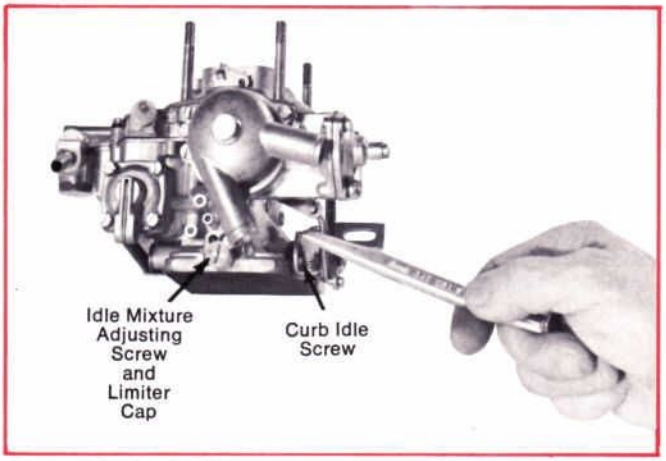


Figure 36—Curb Idle Adjustments

CHOKE THERMOSTATIC SPRING HOUSING ADJUSTMENT

To adjust, remove air cleaner, loosen three bimetallic cover retaining screws. The cover can be rotated slightly without disconnecting the choke water cover. The correct setting is ⅛" lean (counterclockwise). A small prick punch mark will be seen on the choke housing at this location. Refer to Figure 26.

SERVICE CAUTION!

After overhaul, lubricate choke shaft bearings, both throttle shaft bearings, choke and fast idle linkage and shafts on inside of choke housing with dri-slide (molybdenum disulfide base lubricant). *DO NOT USE ENGINE OIL OR GREASE.* After installation of the carburetor, manually operate the throttle for FULL OPEN and FULL CLOSED position to check for a binding or sticking condition of the throttle linkage.

This is especially important in automatic transmission applications that include shifting, kick-down mechanisms, dashpots and other throttle actuated mechanisms.

It may be necessary to remove and replace these mechanisms and throttle linkage parts on the carburetor.

TECHNICAL SERVICE BRIEFS

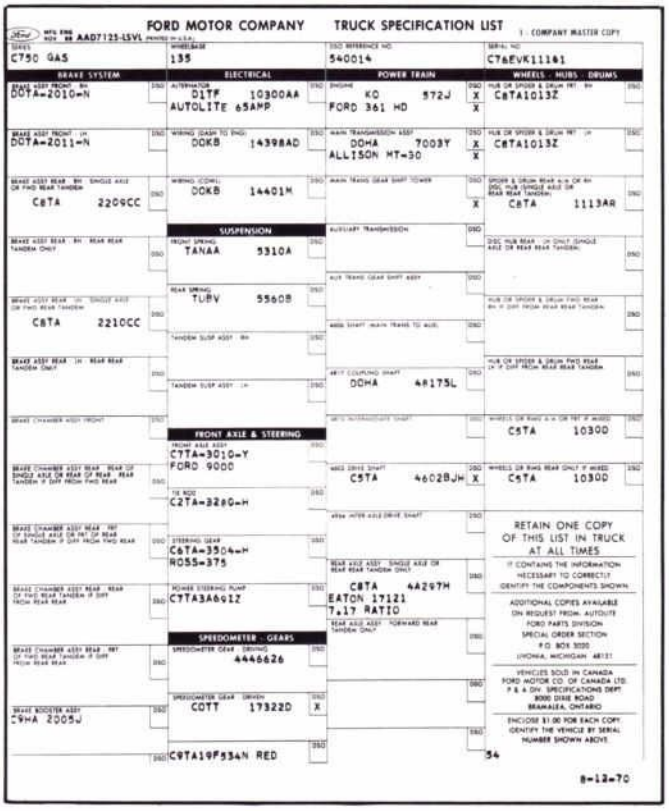
TRUCK SPECIFICATION LIST . . . Another "Ford First"

To improve service to highly specialized heavy-duty trucks built at the Kentucky Truck Plant, Ford has introduced a moisture and oil resistant laminated copy of the Truck Specification List (TSL). This list identifies thirty-six major vehicle components used in the manufacture of each truck. Downtime is reduced and repairs are speeded up since it permits accurate identification of the correct replacement parts when they are needed.

This TSL is being installed at the Kentucky Truck Plant and will be found in the various truck cabs as follows:

- All units except W, WT-9000, F-700, F-750, C and CT series with sleeper compartment and "B" series cowl units will have the TSL attached to the right hand side of upper inner back panel.
- The W, WT-9000 series will have the TSL attached to the right hand side of the heater console.
- The F-700, F-750 and C and CT series with sleeper compartment will have the TSL attached to the lower rear corner of the right hand door inner panel.
- The "B" series cowl model will have the TSL placed in the glove compartment and it can then be attached in any suitable position by the owner.

As you will note in the accompanying illustration of the TSL, all important components such as the Brake System, Electrical, Suspension, Front Axle and Steering, Speedometer-Gears, Power Train plus Wheel-Hubs and Drums, are listed along with other sub units.



FORD MOTOR COMPANY — TRUCK SPECIFICATION LIST

C750 GAS | 135 | 540014 | C7AEVK11161

BRAKE SYSTEM: D0TA-2010-N; D0TA-2011-N; C8TA 2209CC; C8TA 2210CC

ELECTRICAL: D1TF 10300AA AUTOLITE 65AMP; D0KB 14398AD; D0KB 14401M

SUSPENSION: TANAA 5310A; TUBV 5560B

FRONT AXLE & STEERING: C7TA-3010-Y FORD 9000; C2TA-3280-H; C8TA-3504-H ROSS-375; C7TA3A691Z

SPEEDOMETER - GEARS: 4446626; C0TT 17322D; C9TA19F934N RED

POWER TRAIN: KO 572J FORD 361 HD; D0HA 7003Y ALLISON MT-30; D0HA 4R175L; C8TA 4A297H EATON 17121 7.17 RATIO; C5TA 4602BJH

WHEELS - HUBS - DRUMS: C8TA1013Z; C8TA1013Z; C8TA 1113AR; C5TA 10300; C5TA 10300

RETAIN ONE COPY OF THIS LIST IN TRUCK AT ALL TIMES

IT CONTAINS THE INFORMATION NECESSARY TO CORRECTLY IDENTIFY THE COMPONENTS SHOWN

ADDITIONAL COPIES AVAILABLE ON REQUEST FROM: AUTOLITE FORD PARTS DIVISION SPECIAL ORDER SECTION P.O. BOX 3000 LIVONIA, MICHIGAN 48151

VEHICLES SOLD IN CANADA FORD MOTOR CO. OF CANADA LTD. P & A DIV. SPECIFICATIONS DEPT. 8000 DIXIE ROAD BRAMALEA, ONTARIO

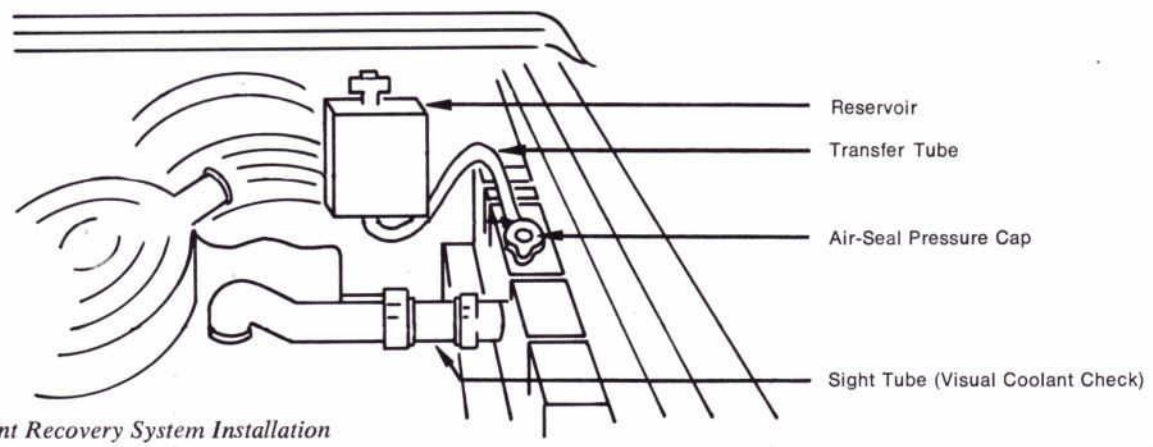
ENCLOSE $1.00 FOR EACH COPY. IDENTIFY THE VEHICLE BY SERIAL NUMBER SHOWN ABOVE.

54

8-12-70

SERVICE CAUTION: COOLANT RECOVERY SYSTEM

Whenever it is necessary to clean an engine with a cleaning product (other than soap and water), it is recommended that the Sight Tube, located in the upper radiator hose as shown in the illustration, be removed prior to the cleaning operation. This sight tube should never be cleaned with gasoline, solvents or "gunk" as damage may result. Use soap and water only.



Typical Coolant Recovery System Installation

CATALOG CHANGES 1970 AUTOLITE ALL PRODUCTS CATALOG

GM DISTRIBUTOR CAP APPLICATION/ALL PRODUCTS CATALOG

In the "Application by part number" section of the All Products Catalog on pages 155-157, two distributor caps are listed for the same vehicle. For example: the catalog lists 3-217 and DHG 217 as both fitting GM models up to 1970. *This is not correct.* The 3-217 cap fits GM models from 1962-1968 *ONLY*.

There has been a design change for the 1969-1970 application wherein the I.D. terminal gap of the cap has been increased. The DHG-217 cap will work on all models, whereas the 3-217 cap will work only on models from 1962-1968. The 3-217 cap and number system is being phased out and the new numbering system DHG (Dist. Housing-GM) is being incorporated. The specification for the rotor air gap is 7.5 kv, (maximum).

Any oscilloscope reading up to the specified 7.5 kv is OK. The catalog is correct in the "Application by Vehicle" section. It is recommended that the two sections be cross-referenced when a question arises. Use the correct listing below to update your All Products Catalog.

DISTRIBUTOR CAPS

PART NUMBER 3-209 (Page 156)

American Motors	1959
	63-68
Buick	1959-68
Cadillac	1959-67
Camaro	1967-68
Chevy II	1963-68
Chevrolet	1959-68
Chevelle	1964-68
Corvette	1959-68
Firebird	1967-68
Olds	1964-68
Olds F-85	1961-68
Pontiac	1959-68
Studebaker	1960-61
	65-66
Tempest	1961-68
Toronado	1967-68

■

DHG-209 (Page 156)

American Motors	1969-70
Camaro	1969-70
Chevy II	1969-70
Chevrolet	1969-70
Chevelle	1969-70
Corvette	1969
Olds	1969-70
Olds F-85	1969-70
Pontiac	1969-70
Tempest	1969-70

DHG-209 can be used in place of 3-209.

PART NUMBER 3-217 (Page 156)

American Motors	1964-68
Camaro	1967-68
Chevelle	1964-68
Chevrolet	1964-68
Chevy II	1962-68
Corvair	1962-68
Firebird	1967-68
Olds F-85	1967-68
Studebaker	1965-66
Tempest	1964-68

■

DHG-217 (Page 156)

American Motors	1969-70
Buick	1969-70
Camaro	1969-70
Chevrolet	1969-70
Chevelle	1969-70
Chevy II/Nova	1969-70
Corvair	1969
Olds F-85	1969-70
Tempest	1969-70

DHG-217 can be used in place of 3-217.

■

DISTRIBUTOR ROTORS

PART NUMBER 4-208 (Page 157)

American Motors	1963-68
Buick	1959-68
Cadillac	1959-68
Camaro	1967-68
Chevelle	1964-68
Chevrolet	1959-68
Chevy II	1963-68
Corvette	1959-68
Firebird	1967-68
Kaiser Jeep	1969
Olds	1959-68
Olds F-85	1961-68
Pontiac	1959-68
Studebaker	1965-66
Tempest	1961-68
Trucks	
Chevrolet	1959-67
GMC	1959-62
	67
IHC	1961-65

DRG-208 (Page 157)

Buick	1969-70
Cadillac	1969-70
Camaro	1969-70
Chevelle	1969-70
Chevrolet	1969-70
Chevy II	1969-70
Corvette	1969
Olds	1969-70
Olds F-85	1969-70
Pontiac	1969-70
Tempest	1969-70

PART NUMBER DRG-208 (Pg. 157) Cont'd.

Trucks	
Chevrolet	1969-70
GMC	1969

DRG-208 can be used in place of 4-208.

4-218 (Page 157-158)

American Motors	1963-68
Camaro	1967-68
Chevy II	1962-68
Chevrolet	1963-68
Chevelle	1964-68
Corvair	1962-68
Firebird	1967
Olds F-85	1966-68
Studebaker	1965-66
Tempest	1962-68
Trucks	
Chevrolet	1963-68
GMC	1964-67

DRG-218 (Page 157)

Buick	1969-70
Camaro	1969-70
Chevrolet	1969-70
Chevelle	1969-70
Chevy II	1969-70
Corvair	1969
Olds F-85	1969-70
Tempest	1969-70
Trucks	
Chevrolet	1969-70

DRG-218 can be used in place of 4-218.

COMPLIMENTS OF

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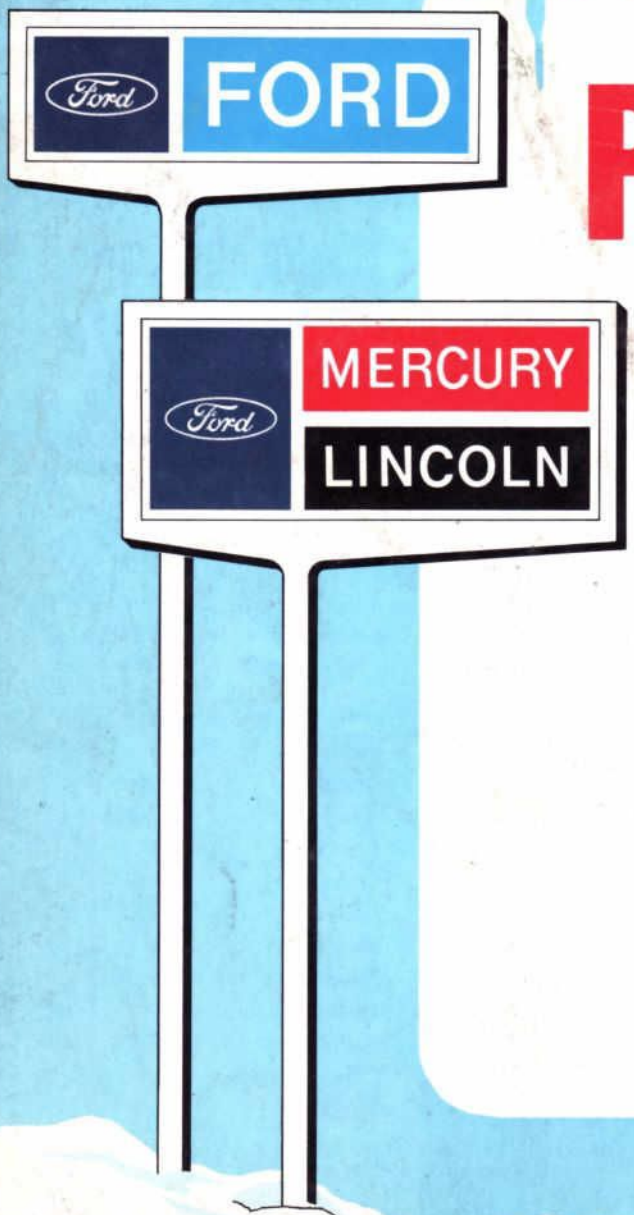

Prescribed...

for prevention of winter weather woes!

Winter weather can be unusually brutal on cars not prepared to meet severe operating conditions. Usually, the proper preparation of cars for winter is relatively simple and inexpensive compared to the trouble and cost of major repairs that often result from freezeups, overheating and other problems.

We have everything you need to properly winterize all Ford cars with original equipment quality parts—belts, thermostats, radiator and heater hose, hose clamps, heater valves and cores and other high quality Ford and Autolite cooling system parts. We also carry wheels for snow tires, windshield wipers, wiper arms and hose.

In addition to "winterizing" items, we can supply all your regular parts needs with the time-and-money-saving convenience of one-stop shopping . . . and the satisfaction that comes from doing things just a little bit better.

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