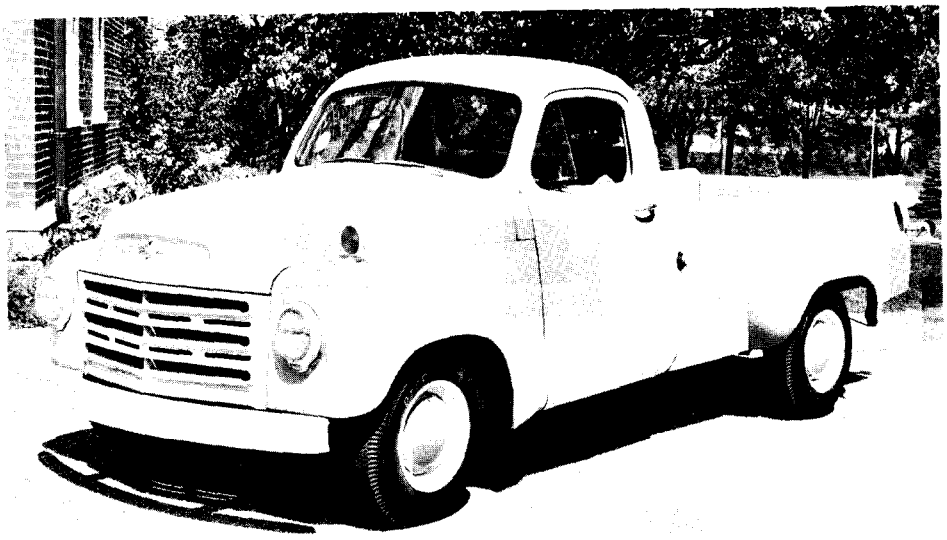
STUDEBAKER-PACKARD CORPORATION

Service Bulletin

OCTOBER 1958 NO. 343

SOUTH BEND 27, INDIANA



1959 4E SERIES TRUCKS

GENERAL INFORMATION

STARTING SERIAL NUMBERS

4E1	El-1101	4E12	E12-3901
4E2	E2-101	4E12D	E12D-3901
4E5	E5-126801	4E13D	E13D-2801
4E7	E7-11001	4E40	E40-2201
4E7D	E7D-11001	4E40B	E40B-2201

D denotes 4-wheel **drive models**

DOMESTIC PRODUCTION

MODEL	WB	RATING (TON)	GVW	BOX	PICK-UP LENGTH
4E1	112 & 122	1/2	5000	6	1/2 & 8
4E2	112 & 122	1/2	5000	6	1/2 & 8
4E7	112 & 122	1/2	5200	6	1/2 & 8
4E7D	112 & 122	1/2	5400	6	1/2 & 8
4E12	112 & 122		7000		8
4E12D	112 & **122**	3/4	7400		8
4E13D	131	1	9400		9
4E40	131	2	18000		
	155	2	18500		
	171, 195 & 212	2	19000		

EXPORT PRODUCTION

MODEL	WB	RATING (TON)	GVW	BOX	PICK-UP LENGTH
4E5	112 & 122	1/2	5000	6	1/2 & 8
4E7	112 & 122	1/2	5200	6	1/2 & 8
4E7D	112 & 122	1/2	5400	8	1/2 & 8
4E12	112 & 122	3/4	7000		8
4E12D	112 & 122	3/4	7400		8
4E13D	131	1	9400		9
4E40B	131	2	20000		
	155	2	20500		
	171, 195, & 212	2	21000		

ENGINE

DOMESTIC PRODUCTION

	4E1	4E2	4E7,4E7D 4E12,4E12D, 4E13D,4E40
NO. OF CYL.	6	8	8
DISPL.	169.2	259.2	289
BORE & STROKE	3X4	3-9/16X3-1/4	3-9/16X3-5/8
Comp. RATIO	8-1	7.5-1	7.5-1
H. P. (Max.Net) @ RPM	85 @ 4000	141 @ 3800	154 @ 3800
TORQUE (Max.net) @ RPM	145 @ 2400	225 @ 2400	260 @ 2400

EXPORT PRODUCTION

	4E5	4E7,4E7D,4E12 4E12D,4E13D	4E40B
NO. OF CYL.	6	8	8
DISPL.	169.2	259.2	289
BORE & STROKE	3x4	3-9/16X3-1/4	3-9/16X3-5/8
Comp. RATIO	8-1	7.5-1	7.5-1
H. P. (Max.Net) @ RPM	85 @ 4000	141 @ 3800	154 @ 3800
TORQUE (Max.net) @ RPM	145 @ 2400	225 @ 2400	260 @ 2400

The **cu.in.** engine used in the 4E40 and 4E40B models will have heavy duty intake and exhaust valves, roto-caps, top chrome piston King, and heavy duty tri-metal bearings as standard equipment. This engine will be identified by a 8E prefix to the engine serial number and a cloverleaf design stamped on the serial number boss.

The 289 cu.in. engine **used** in the 4E7,4E7D,4E12,4E12D, and 4E13D models will not have the above heavy duty equipment as standard equipment. This engine will be identified by the prefix 7E to the engine serial number. The starting engine serial number will be 7E - 101.

ELECTRICAL

12 VOLT SYSTEM -- 4E1, 4E5 - Auto-lite
-- All other models - Delco-Remy

GENERATOR -- 30 Amp. -- All models

BATTERY -- Willard - 50 Amp. Standard
Globe
70 Amp. optional at extra cost

COOLING

CAPACITIES	STANDARD	HEAVY DUTY
4E1, 4E5	10.5 Qts.	20.25 Qts.
4E2, 4E7, 4E7D, 4E12, 4E12D,	20.25 Qts.	20.75 Qts.
4E13D	20.75 Qts.	21.25 Qts.
4E40 4E40B	21.25 Qts.	21.25 Qts.

CLUTCH

CLUTCH DIAMETER -- With 169.2 cu.in. Engine - 9 1/4"
With 259.2 cu.in. Engine - 10 1/2"
With 289 cu.in. Engine - 11"

CLUTCH AREA -- With 9 1/4" - 77.85 Sq. In.
with 10 1/2" - 106.81 Sq. In.
with 11" - 123.7 Sq. In.

TRANSMISSION

4E1, 4E2, 4E5, 4E7, 4E12 -- 3 Speed •
4E7D, 4E12D, 4E13D -- 4 Speed (Warner Gear T90A)
4E40, 4E40B -- 4 Speed Heavy Duty (New Process 450)

• The overdrlve 4-speed transmission optional on these models at extra Cost. Automatic transmission optional at extra cost. Not available on 4El models.

REAR AXLE

	STANDARD	OPTIONAL
4E1, 4E5	4.27	4.09, 4.55
4E2	4.09	4.27, 4.55
4E7	4.09	4.27'
4E7D	4.89	None
4E12	4.10	4.88*
4E12D	4.89	None
4E13D	5.14	None
4E40, 4E40B	6.08	2 Speed 6.61/9.09**

*Standard ratio when used with overdrive transmission.
**2-speed axle optional at extra cost.

TIRES

4E1, 4E2, 4E5, 4E7 - - Five 6.00 X 16 4 PR. Tubeless
4E7E -- Five 7.10 X 15 4 PR. Tubeless
4E12, 4E12D - - Four 7.00 X 113 6 PR. Tubeless
4E13D -- Four 7.00 x 17 8 PR. Tubeless
4E40, 4E40B - - Four 8.25 X 20 10 PR. Tubeless

Tires with tubes optional at extra cost.

FRAMES

	CROSS SECTION	SECTION MODULUS
4E1, 4E2, 4E5, 4E7, 4E7D	7 1/32" X 2 17/64" X 9/64"	3.177
4E12, 4E12D	7 1/16" X 2 9/32" X 5/32"	3.539
4E13D	8 1/16" X 2 3/4" X 3/16"	5.719
4E40. 4E40B	8 5/16" X 2 7/8" X 5/16"	9.770

REAR SPRINGS

	STANDARD	OPTIONAL (Extra Cost)
4E1, 4E2, 4E5	Single Stage	Heavy Duty 2 stage
4E7, 4E12	2 Stage	Heavy Duty 2 Stage
4E7D, 4E12D, 4E13D	single Stage	Main w/Aux.
4E40, 43408	Main w/Aux.	Heavy Duty Main w/2 Stage Aux.

STEERING

All Models -- Variable rat10 - cam and twin lever type

4E1, 4E2, 4E5, 4E7, 4E7D, 4E12, 4E12D -- Ross TA12
4E13D -- Ross TA14
4E40, 4E40B -- Ross TA54

BRAKES

SERVICE BRAKES	FRONT	REAR	LINING AREA (Sq. In.)
4E1, 4E2, 4E5, 3E7, 4E7D	11 X 2 X 3/16	11 X 2 X 3/16	177 1/2
4E12, 4E12D	12 1/8 X 2 X 1/4	12 1/8 X 2 X 1/4	198
4E13D	12 1/8 X 2 X 1/4	13 x 2 1/2 x 1/4	232 1/8
4E40 4E40B	15 x 2 1/4 x 5/16	15 x 4 1/2 x 1/2	434 1/4

PARKING BRAKES	TYPE	LINING AREA (sq. In.)
4E1, 4E2, 4E5, 4E7	Rear Wheels	88 3/4
4E12	Rear Whee 1	99
4E7D, 4E12D, 4E13D	Band	81 9/16
4E40, 4E40B	Band	67 1/2

OPTIONAL EQUIPMENT

OPTIONS FOR 4E1 AND 4E2
Heavy Duty Radiator
Heavy Duty Battery
Antenna AC-1428
1 quart oil filter
Dual horns
climatizer
Hill nolder (except w/automatic trans.)
Turn signals (Class 'A ' or 'B ')
Wet Air cleaner
Dual tail lamps
Twin-Traction rear axle
Radio AC-2786
Windshield Washer AC-2694

OPTIONS FOR EXPORT 4E5 MODEL
Heavy duty radiator
Heavy duty battery
Dual horns
climatizer
Hill holder (except w/automatic transmission)
Turn signals (Class 'A , or 'B)
Dual tail lamps
Twin-Traction rear axle
Radio AC-2786
Antenna AC-1428
Windshield washer AC-2694

OPTIONS FOR 4E7, 4E7D
4E12, 4E12D, 4E13D, 4E40 and **4E40B**
Heavy duty engine*
4-barrel carburetor
1 Qt. oil filter
Dual horns
Climatizer
Hill holder (except w/automatic)
Heavy duty battery
Heavy duty radiator
Dlrectlonal signals (Class 'A' or 'B')
Wet air cleaner
Extension outside mirror
Tinted windshield
Right arm rest
Dual tail lights
Brake booster
Side mounted tire carrier
Twin-Traction axle**
Windshield washer AC-2694

• Heavy duty engine With top chrome rings, Heavy duty inlet and exhaust valves, and roto-caps is standard on tne 4E40 and 4E40B models. Available as optional equlpment at extra cost on all other moaels.

** Not available on 4-wheel drive trucks or the 4E40 and 4E40B models.

PAINT COLORS

SOLID

NUMBER	
P5950	Velvet Black
P5955	Apache Red
P5952	Snerwooa Green
P5957	Academy Blue
P5954	Alaskan Blue
P5951	Parchment white
P5958	Omah Orange
P5956	Tahiti Coral

TWO-TONES*

NUMBER	LOWER	UPPER
P5949	Velvet Black -	Parchment White
P5963	Apache Red -	"
P5960	Sherwood Green -	"
P5961	Hawaiian Green -	"
P5965	Academy Blue -	"
P5982	Alaskan Blue -	"
P5966	Omaha orange	"
P5964	Tahiti Coral -	"

* Available at extra cost on all models except the 4El and 4E2 models.

CAB

THE C-l CAB is STANDARD ON THE 4E1 AND 4E2 models

standard C-l cab equipment:
- Inside Rear view mirror
- Left hand sun visor
- Electric windshield wipers
- color - harmonized seat trim and interior paint combination

Optional cab equipment:
- Right hand sun visor
- Map light
- Full foam seat
- Tlnted windshield
- Outside mirror
- Sliding adjustable Seat
- Side mounted tire

THE C-2 CAB IS STANDARD ON ALL EXPORT MODELS

standard cab equipment:
- Crash Pad
- Painted rain visors
- Left outside mirror - painted
- sliding Adjustable Seat
- Inside rear view mirror
- Left Hand sun visor
- Electric windshield wipers

Optional cab equipment:
- Right Hand sun visor
- Map light
- Full foam seat
- Tinted windshield
- Right outside mirror
- side mounted tire carrier

THE C-4 DELUXE CAB IS STANDARD ON THE 4E7, 4E7D, 4E12, 4E12D, 4E13D and 4E40 DOMESTIC MODELS AND OPTIONAL ON ALL EXPORT MODELS

- Inside rear view mirror
- Two sun visors
- Map light
- Left hand arm rest
- Crash pad
- Ash tray
- Electric windshield wipers
- Full foam cushion
- Dual door locks
- Dispatch box door
- Chrome cab moulding
- chrome outside mirror
- Chrome rain visors
- Sliding adjustable seat
- Perforated insulated headliner
- Deluxe color-matched upholstery and interior trim

SERVICE INFORMATION

The service information for the 4E1 model, except for the carburetor, is the Same as given in the Service Bulletin No. 334, 3E Series Supplement and the 2E Series Trucks Shop Manual,

Service information for the 4E2 model is the same as shown for the 4E7 model in the 2E Series Trucks Shop Manual and the 3E Series Supplement. The special Scotsman features are covered in Service Bulletin No. 334. Service information for the 4E7D, 4E12D and 4E13D is covered in the 4-wheel Drive Supplement to the 2E Series Trucks Shop Manual and in the 2E Series Trucks Shop Manual.

Service information for the 4E7, 4E12 and 4E40 and 4E40B models is the same as given for the E7, E12, and E40 models in the 2E Series Trucks Shop Manual and the 3E Series supplement.

CARTER AS-2876-S CARBURETOR

The model AS-2876-S Carter carburetor is a downdraft unit. Its accessible adjustments and combined body and flange casting make it an easy-to-service assembly. All castings are of aluminum. The metering rod, step-up Jet rod, step-up piston and step-up piston spring may he replaced without disassembly.

Five conventional systems are used in this carburetor. They are: 1) Float system, 2) low-speed system, 3) High-speed system, 4) pump system and 5) choke system.

FLOAT SYSTEM

Twin f loats , which follow the coutour of the bowl are designed to provide a stable fuel supply under all operating conditions. The floats are separate units, but operate together by means or overlapping tangs on the float lips see Fig. 1.

The bowl vent is calibrated to provide proper air pressure above the fuel at all times. To assure a positive seal, always use a new bowl cover gasket when reassembling An air leak at this point can result **in a mileage or stalling complaint.**

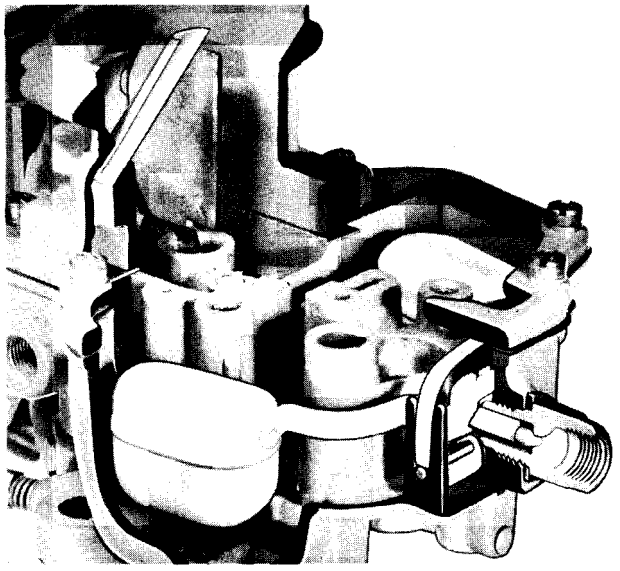


Fig. 1 - FLOAT SYSTEM

LOW-SPEED SYSTEM

Fuel for idle and early part throttle operation is metered through the low-speed system. (see Fig. 2).

Gasoline enters the idle well through the metering rod jet and step-up jet. The low speed jet measures the amount of fuel for idle and early part throttle operation. The air by-pass, economizer and idle air bleed are carefully calibrated and serve to break up the liquid fuel and mix it with the air as it moves through the passage to the idle port and idle adjustment screw port. Turning the idle adjustement Screw towards its seat reduces the quantity of fuel mixture supplied by the idle system. The idle port is slot shaped. As the throttle valve is opened, more or the idle port is uncovered allowing a greater quantity of gasoline and air mixture to enter the carburetor bore.

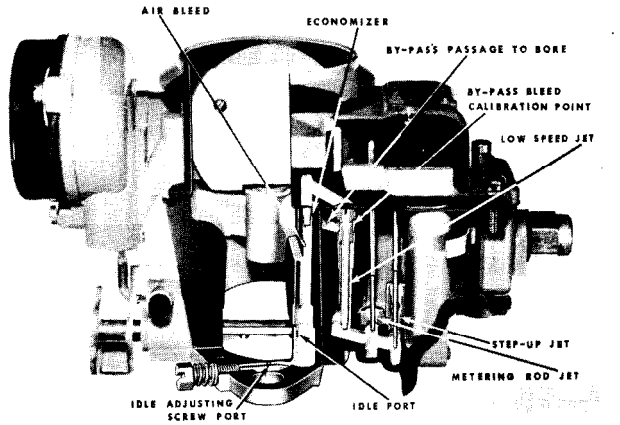


Fig. 2 - LOW-SPED SYSTEM

HIGH-SPEED SYSTEM

Fuel for part throttle and full throttle operation is supplied through the high-speed system. (see Fig. 3)

The position of the metering rod in the metering rod Jet and the step-up rod in the step-up rod Jet, controls the amount of fuel admitted to the high-speed nozzle.

The metering rod is larger in diameter at

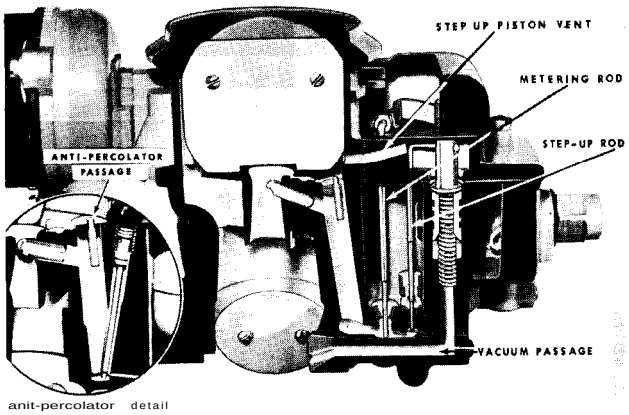


Fig. 3 - High-speed SYSTEM

its lover end. As the throttle is opened the metering rod moves downward and more fuel is permitted to flow through the metering rod jet.

The position of the step-up rod is controlled by vacuum applied to the vacuum piston. During part throttle operation, manifold vacuum pulls the step-up rod assembly down, holding the step-up rod in the jet. This is true at all times that the vacuum under the piston is strong enough to overcome the tension of the step-up piston spring. Fuel is then metered around the larger diameter of the step-up rod in the jet.

under operating conditions, when the tension of the spring overcomes the pull of vacuun under the piston, the step-up rod will move out of the jet into the power position. This allows fuel to be metered through the jet. The step-up rod does not require adjustment.

Anti-percolator passages and calibrated plugs are used to prevent vapor bubbles in the nozzle passage and low-speed well, which are caused by heat, rroa forcing fuel out of the bozzle. Their purpose is to vent the vapors and relieve the pressure before it is sufficient to push the fuel out of the nozzle and into the intake manifold.

The anti-percolator plugs, bushings and the main nozzle are permanently installed and MUST not be removed in service.

PUMP system

The accelerating pump system provides a measured amount of fuel, which is necessary to assure smooth engine operation for acceleration. (See Fig. 4)

when the throttle is closed, the pump plunger moves upward in its cylinder and fuel is drawn into the cylinder through the intake check. The discharge check is seated at this time to prevent air being drawn into the cylinder. When the throttle is opened the pump plunger moves downward forcing fuel out through the discharge passage, past the discharge check and out the pump jet. When the plunger moves downward, the intake check is closed preventing fuel from being forced back into the bowl. when the throttle is opened, the pump spring moves the piston to force fuel through the pump discharge jet. The calibration of the pump spring and the size of the Jet provides a pump discharge of the desired duration.

When the pump plunger is stationary, the intake check is not seated. This permits fuel vapor pressure caused by heat to be relieved through the intake passages located in the plunger shart. The pump jet is pressed into the casting during manufacture and the intake check retainer is pressed into the plunger. The parts MUST not be removed in service.

CHOKE SYSTEM

When the engine is cold, the tension of the thermostatic coil holds the choke valve closed. When the engine is started, the air velocity against the offset choke valve causes the valve to open slightly against the thermostatic coil tension. Intake manifold vacuun applied to the choke piston also tends to pull the choke valve open. The choke valve assumes a position where tension of the thermostatic coil is balanced by the pull of vacuum on the piston and force of air velocity on the offset valve. (See Fig. 5)

When the engine starts, slots located in the sides of the choke piston cylinder are uncovered to allow intake manifold vacuum to draw air, heated by the exhaust manifold, through the choke control housing. The flow of warm air in turn heats the thermostatic coil and causes it to lose its tension gradually until the choke valve reaches full-open position.

If the engine is accelerated during the

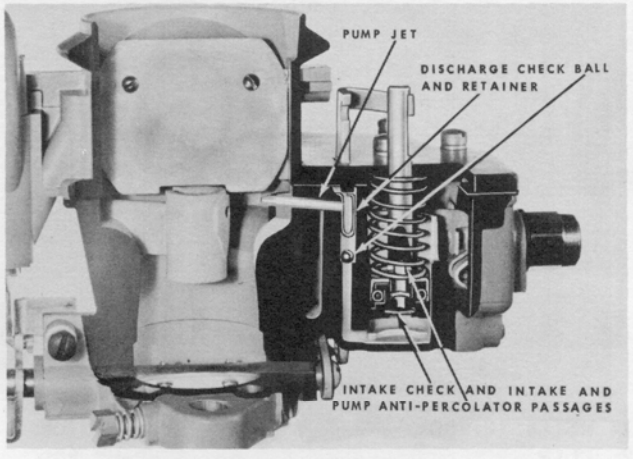


Fig 4. - PUMP SYSTEM

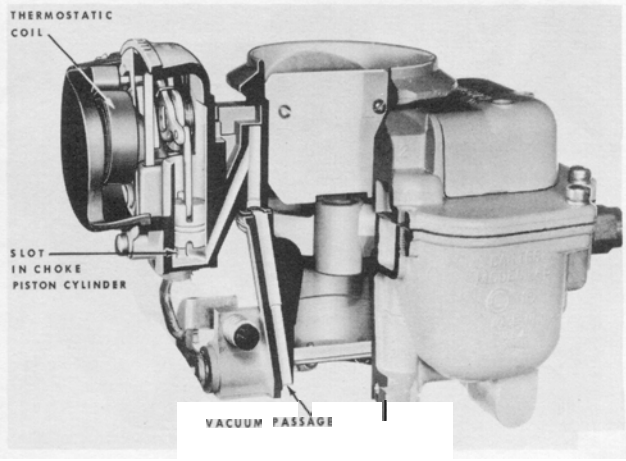


Fig. 5 - CHOKE SYSTEM

warm-up period, the corresponding drop in manifold vacuum allows the thermostatic coil to momentarily close the choke, providing a richer mixture.

FAST IDLE - During the warn-up period i is necessary to provide a fast idle speed to prevent engine stalling. This is accomplished by a rast idle link connected to the Choke shart. The fast idle link attached to the throttle valve, prevents the throttle valve from returning to normal warm engine idle postition while the choke is in operation. (See Fig. 6)

UNLOADER - If during the starting period the engine becomes flooded, the choke valve may be opened manually to clean out any excessive fuel in the intake manifold. This is accomplished by depressing the accelerator pedal to the floor board and engaging the starter. The unloader projection on the fast idle link will contact the unloader arm on the choke shaft and in turn partially open the choke valve. (See Fig. 7)

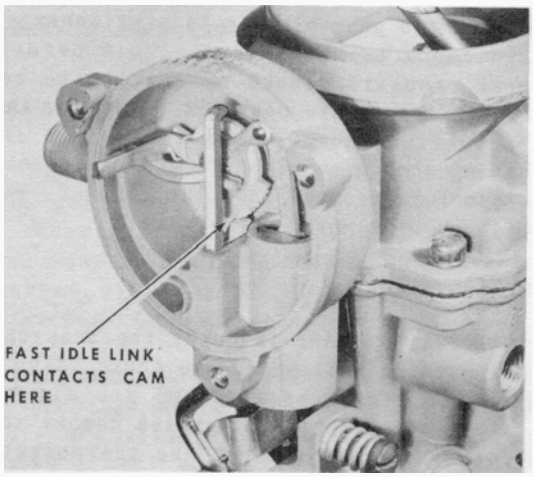


Fig. 6

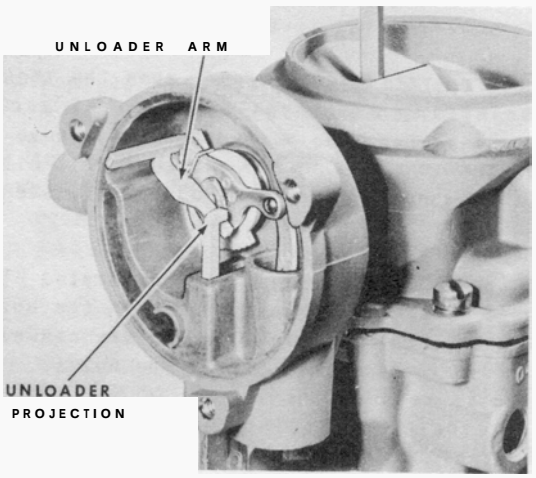


Fig. 7

DISASSEMBLY, REASSEMBLY AND ADJUSTMENTS

DISASSEMBLY

Remove carburetor from the manifold. Remove the carburetor-to-manifold gasket and remove the fuel deflector from the manifold.

Loosen the retaining cap screws (3, Fig. 8) In the carburetor dust cover and remove the cover (2). Remove screws and gasket (1) from the dust cover,

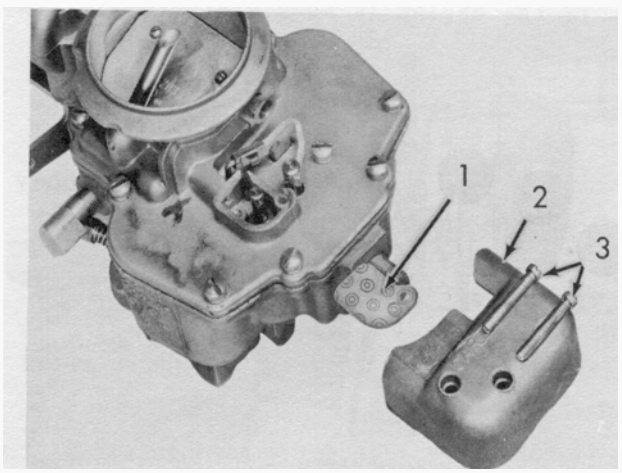


Fig. 8

1. GASKET 2. COVER 3. SCREWS

Remove the step-up jet piston, (7, Fig. 9) rod (6) and spring from the carburetor bowl cover . .

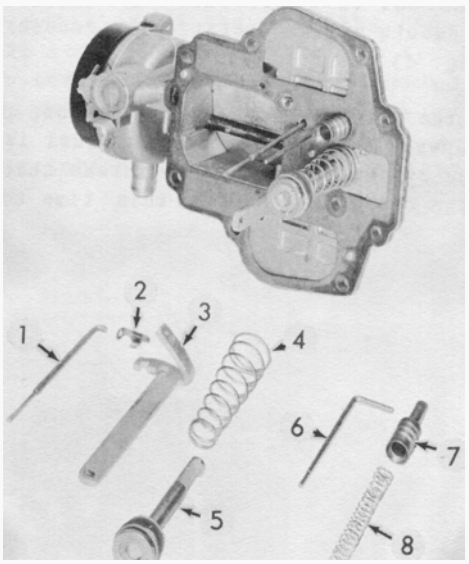


Fig. 9

I. METERING ROD
2. CLIP
3. LINK
4. PUMP PISTON SPRING
5. PUMP PISTON
6. STEP-UP ROD
7. STEP-UP PISTON
8. PISTON SPRING

Disconnect the Spring clip retainer (2) from the actuating link (3) and remove the metering rod (1) and spring clip retainer (2).

Remove the throttle shaft arm screw (1, Fig. 10) and remove the throttle shaft arm and pin assembly (2).

Remove the retainer from the choke piston link to throttle valve arm link and remove the link.

Remove the carburetor cover retaining screws and remove the bowl cover and gasket.

Push the accelerator pump piston toward the cover and disconnect from the actuating link, remove the pump piston (5, Fig. 9) and actuating link (3). **Remove** the pump spring (4) from the pump piston rod.

Remove the choke housing retaining screws (8, Fig. 12) and **remove** the Choke housing (7). Remove the housing gasket (6) and baffle (5). Disconnect the choke piston-to-throttle valve link (5) and remove the link.

Mark the choke valve position on the choke shart for assembly purposes and remove the screws (1) from the choke valve (2) and remove the choke valve from the choke valve shart.

Disconnect the fast idle cam Spring from the choke shart lever. Rotate the choke Shalt to remove choke piston from the cylinder. Remove the shaft, lever and piston assembly (3) from the cover. Push the piston pin from the piston and remove the piston from connecting rod. Remove the fast idle cam and spring assembly from the choke housing.

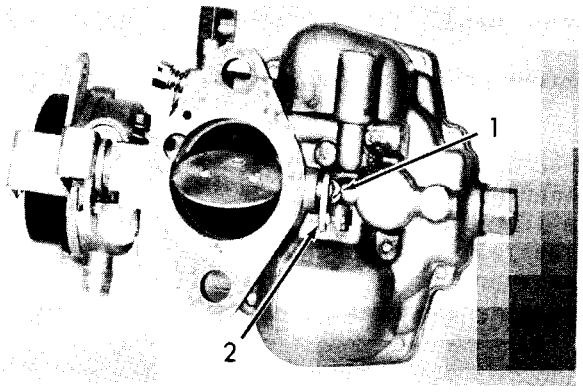


Fig. 10

1. SCREW
2. SHAFT ARM MD PIN ASSEMBLY

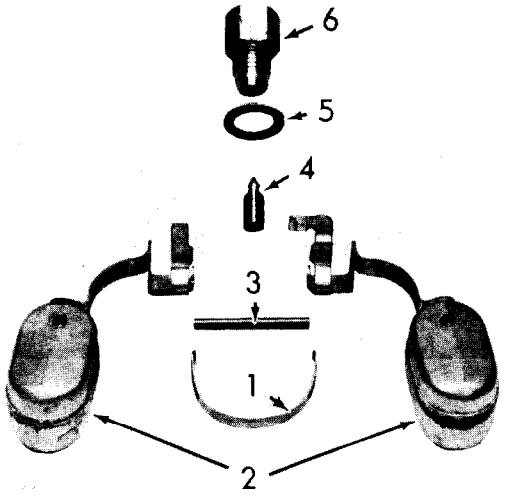


Fig. 11

1 RETAINER
2. FLOATS
3. FLOAT PIN
4. NEEDLE VALVE
5. GASKET
6. VALVE SEAT

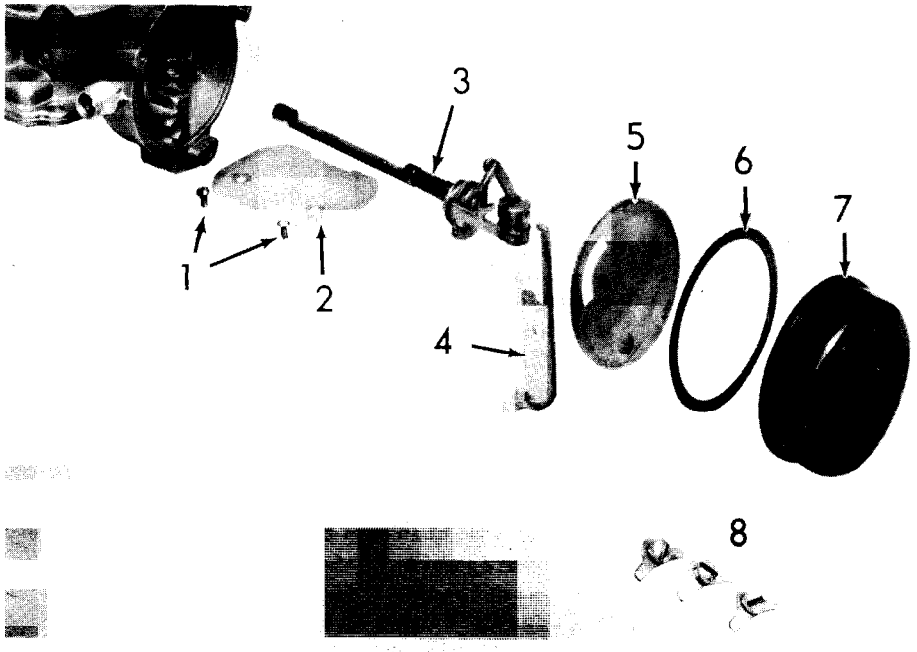


Fig. 12

1. CHOKE VALVE SCREWS
2. CHOKE VALVE
3. SHAFT AND PISTON ASSEMBLY
4. LINK
5. BAFFLE
6. GASKET
7. COVER
8. SCREWS

Remove the float lever pin retainer (1, Fig. 11). Remove the needle valve and seat assembly (4 and 6). Remove the gasket (5) from the assembly.

Remove the floats (2) and pin (3) assembly from the carburetor body and remove the retaining pin and separate the floats.

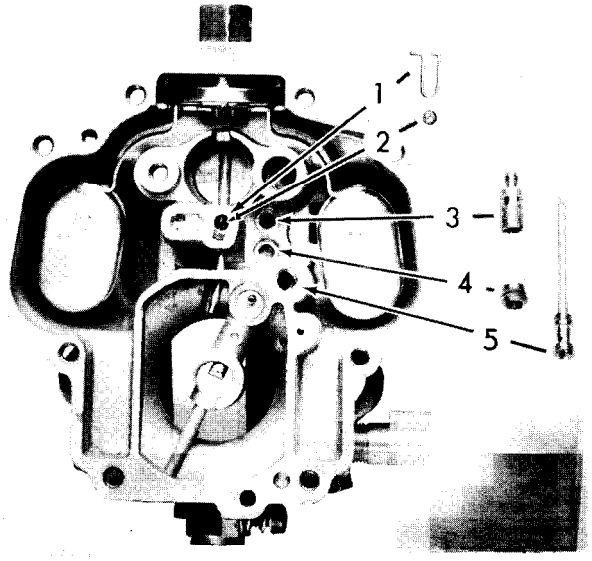


Fig. 13

1. PUMP DISCHARGE BALL RETAINER
2. DISCHARGE BALL
3. STEP-UP JET
4. METERING ROD JET
5. LOW SPEED JET

Remove the metering rod jet (4, Fig. 13).

Remove the step-up jet (3).

Remove the low speed jet (5).

Remove the accelerator pump discharge ball retainer (1) and ball (2).

Remove the idle mixture adjusting screw and spring.

Remove the idle speed screw and spring.

Mark the position of the throttle valve on the shaft for assembly purposes and remove the throttle valve retaining screws and remove the throttle valve from the shaft. Remove the throttle valve shaft from the carburetor body.

ASSEMBLY AND ADJUSTMENTS

After thorough cleaning and inspection for worn or damaged parts the carburetor is to be assembled as follows:

NOTE: worn or damaged parts must be replaced as required. Caution must be observed during reassembly not to damage the percolator tube which extends above the level Of the surface of the carburetor.

Install the throttle valve shalt in the carburetor bowl and position the throttle valve on the shaft using the marks noted at disassembly. Install new throttle valve retaining screws and tighten securely. upset the end of the screws to assure positive locking.

Install the idle speed screw and spring in the carburetor body. DO not screw the idle speed screw into the carburetor body far enough to permit contact with the throttle valve shaft lever.

Install the idle mixture screw and spring. Screw the idle mixture screw into the carburetor body until it bottoms and turn out 1 turn.

Install the accelerating pump discharge ball check and retainer.

Install the low speed jet.

Install the step-up jet.

Install the metering rod jet.

Assemble the floats and install the retaining pin. Install the floats and pin assembly in the carburetor bowl. NOTE: The rloats are properly assembled when the large horizontal tab on one float is toward the needle valve. Install the float lever pin retainer.

Position a new gasket on the needle valve seat, install the needle valve in the seat and install the assembly in the carburetor bowl.

To perform the rloat level adjustment rirst check both floats for side clearance alignment. Bend float arms as required to obtain free operation of the floats. The carburetor MUST be in the upright position when salting the rloat level adjustment. Hold the float retaining pin retainer down to assure that the pin is in the bottom of the guide slots. Hold the float arm lever of the float with the large horizontal tab securely against the needle valve and, using Float level Guage J-7445-1, check the distance from the top surface of the bowl casting to the top of the float. (see Fig. 14). The rloat should just touch the gauge to obtain the correct setting of 1/4 inch. Adjust the rloat by bending the float arm lever as required to obtain the required measurement. Adjust the rloat level of the other rloat in the same manner. Turn the carburetor body upside down and hold the pin retainer in position. With both floats resting against the seated needle valve, check the clearance between the overlapping float tabs. (See Fig. 15) The clearance should be .015". To adjust the clearance bend the large horizontal tab.

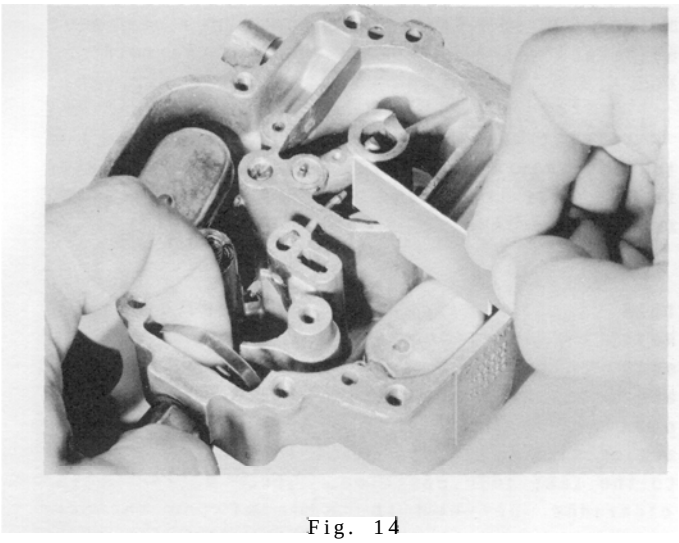


Fig. 14

Fill the bowl with clean gasoline. Slip the pump piston into the well. Then, place a finger over the pump discharge passage and at the same time operate the piston with quick full strokes. Observe the direction and position of the fuel discharge from the jet, The fuel should strike the low speed venturi as indicated in Fig. 16 and the inset in Fig. 16. Bend the jet as necessary to obtain the desired fuel discharge,

Install the fast idle cam and spring assembly in the choke housing.

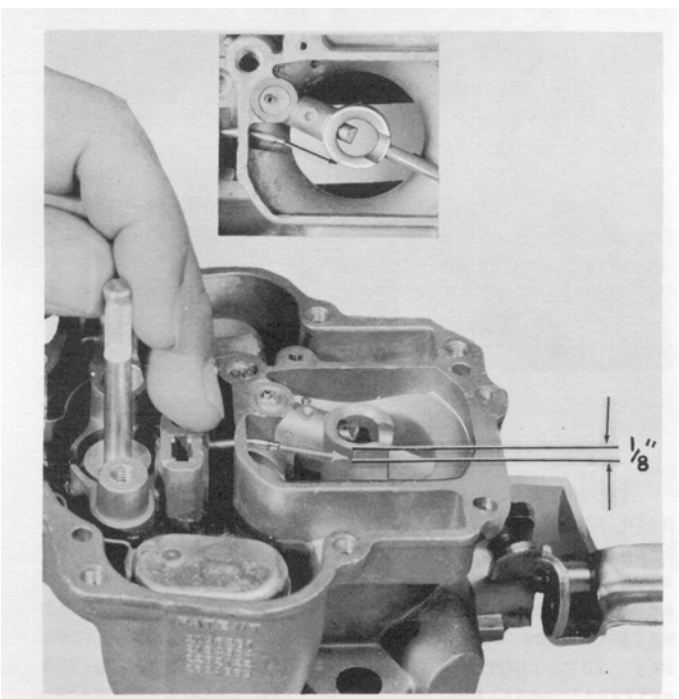


Fig. 16

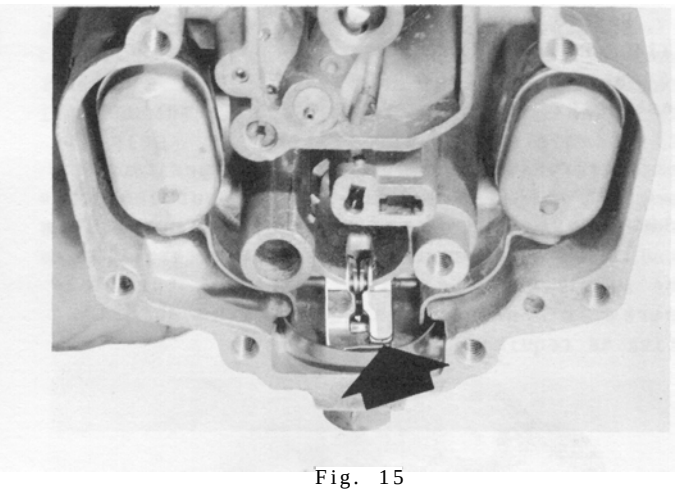


Fig. 15

Position the choke piston on the connecting rod and install the piston pin.

Install the choke shaft assembly in the carburetor cover and rotate to install choke piston in the cylinder, Hook the fast idle cam spring around the choke lever.

Position the choke valve on the shaft using the marks noted at disassembly and install new valve retaining screws, Upset the ends of the retaining screws to insure a positive lock,

position the accelerating pump spring on the pump piston with the small end of the spring against the pump piston. Install the assembly in the carburetor cover. Install the actuating link in the cover and engage the accelerating pump rod with the link.

Install the choke link in the choke housing,

Install a new carburetor cover gasket on the carburetor bowl and install the cover assembly and guide the actuating link and accelerating pump piston assembly into their proper bores. During installation of the cover assembly it is necessary to hold the choke link in the choke housing. Install the carburetor cover retaining screws.

Install the throttle shaft link and pin assembly on the throttle shaft so the pin is in the slot of the accelerating pump and metering rod actuating link. Install the retaining screw.

Install the choke link-to-throttle shaft arm link and retaining clip.

Install the metering rod and retaining clip in the carburetor cover and engage the retaining clip with the actuating link.

The accelerating pump adjustment MUST be made at this time. Hold the throttle valve in the wide open position and measure the distance from the top of the bowl cover to the top of the accelerating pump piston rod. Hold the throttle valve in the fully closed position and measure the distance from the top of the bowl cover to the top of the accelerating pumppiston rod. The difference in these measurements must **be 9/32" (see** Fig. 17). **To** obtain this measurement bend the pump arm of the actuating link as required.

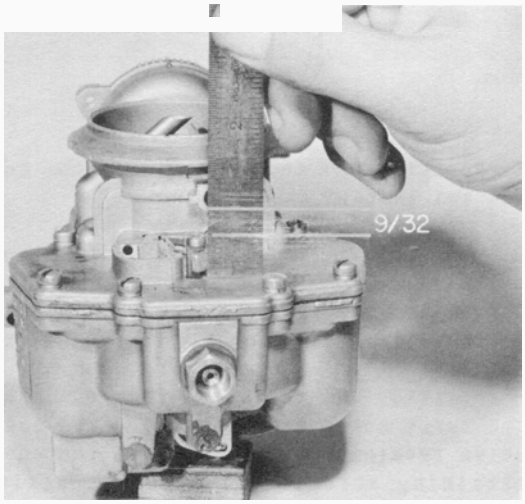


Fig. 17

To adjust the metering rod hold the throttle valve in the wide **open position.** This Will allow the **rod to bottom in the carburetor casting. The rod is properly adjusted when there is some slight movement of the rod in the retaining clip eye when the throttle valve is moved slightly. If the rod is too low it will push the retaining clip from the actuating link. If the rod is too high it will not** bottom in the carburetor casting. Correct adjustment is obtained by bending the metering rod arm of the actuating link (see **Fig.** 18).

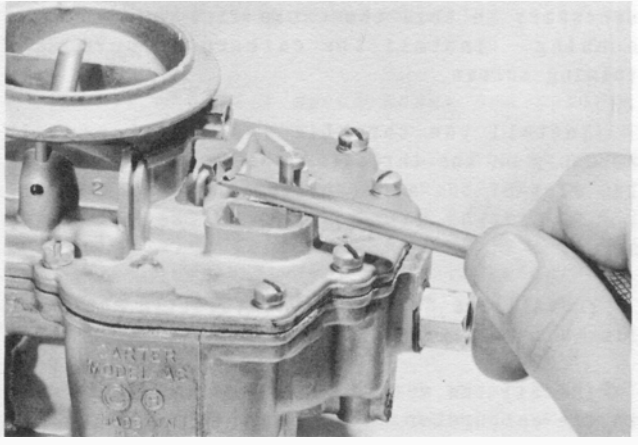


Fig. 18

Install the step-up piston, spring and rod in the carburetor cover. Position a new gasket **in the dust cover and install dust cover and retaining screws.**

The fast idle adjustment MUST be made at this time. Make certain that the idle speed adjusting screw does not contact the throttle shaft lever. open the throttle valve slightly and hold the choke valve **in the fully closed position. Close the throttle valve.** This action will permit the fast idle cam to revolve to the fast idle position. There must be .045" clearance between the side of the throttle valve and the carburetor **body measured opposite the idle ports (See Fig. 19). A wire gauge .045" diameter must be used for checking purposes.** To obtain the desired measurement remove the **choke link-to-throttle shaft arm link and bend to obtain the desired clearance.**

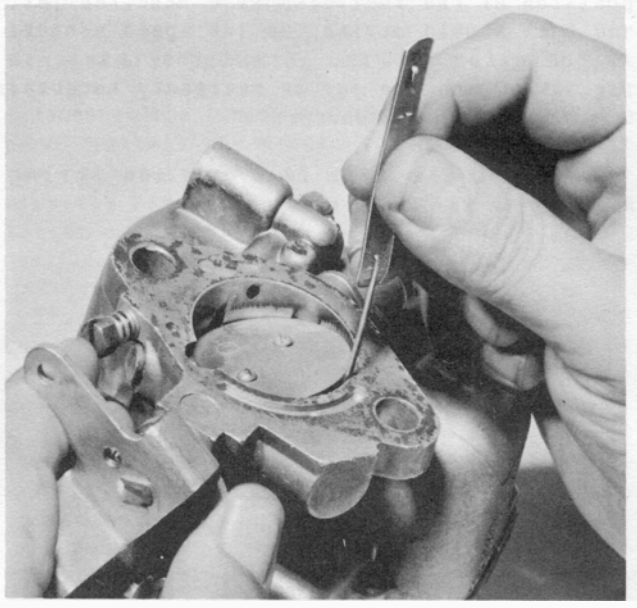


Fig. 19

To perform the choke unloader adjustment hold the throttle valve in the wide open position and close the choke as far as it will go without forcing. Check the clearance between the upper edge of the choke valve and the inner wall of the air horn using a 3/16" gauge (see Fig. 29). NOTE: The gauge must be held in the vertical position when checking this clearance. To obtain the proper clearance bend the choke unloader arm on the choke shaft.

Install **the choke baffle, a new choke cover**

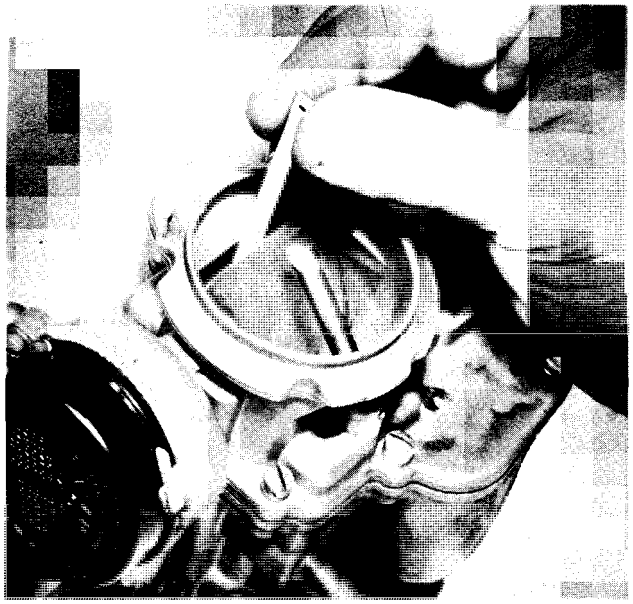


Fig. 20

gasket, and the choke cover. Rotate the cover counter-clockwise to engage choke spring and arm and set cover at the center index mark. Install cover retaining screws and clips.

Position the fuel deflector in the manifold and a new carburetor to manifold gasket on the manifold and install the carburetor on the manifold.

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