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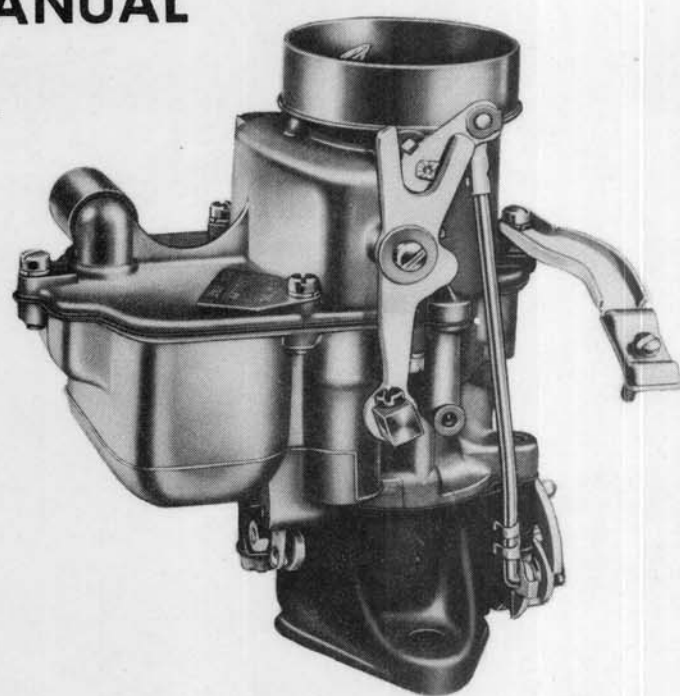
SECTION I, DIVISION C

# Carburetors

## Chapter II

**6 Cylinder**  
**PASSENGER CARS**  
**TRUCKS AND BUSES**

**SERVICE MANUAL**



**MODEL 847 CARBURETOR**  
**·Downdraft·**



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# MODEL 847 CARBURETOR

## CHAPTER II

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### T-847-HGC

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# MODEL 847 CARBURETOR

## ·Downdraft·

### CHAPTER II

## A. DESCRIPTION

### 1. DESIGN

The Holley Carburetor Model 847 is a single barrel downdraft unit designed for Ford six cylinder passenger car and commercial vehicle engines. Many engineering features incorporated in this carburetor model assure lasting and dependable service. The main jet, individually flow tested to insure proper calibration, meters all the fuel used during normal cruising conditions. The added fuel for high power output is delivered by a fully automatic vacuum piston type of power enrichment system. The accelerating pump has a spring overriding feature which prolongs the discharge of fuel for smooth acceleration. This carburetor model is fully sealed and balanced. All air bleeds and vents are open only to the supply of filtered air from the air cleaner, giving added protection against the accumulation of foreign matter in these passages. The float chamber is vented to the carburetor air inlet, maintaining balanced air pressures in the carburetor to assure proper fuel metering. Most versions of this carburetor model contain passages which provide a balanced vacuum for control of the spark advance mechanism of Holley pressure distributors. One series of this carburetor model also includes a vacuum operated engine speed governor as an integral part of the carburetor.

### 2. APPLICATION

This carburetor model is manufactured in two sizes. The smaller size, the 847-F and 847-FS series, is used on all Ford six cylinder passenger cars from 1941 to 1950

models. This series is also used on all Ford six cylinder trucks from 1941 to 1950, with the exception of the cab-over-engine truck. (The cab-over-engine truck carburetor is covered in Chapter IV of this manual.)

The 1941 to 1947 "G" series passenger cars and trucks use the 847-F series carburetor which has a 1-3/16 inch venturi and a standard two bolt 1-1/4 inch S.A.E. mounting flange with a 1-7/16 inch throttle bore. The 1947 to 1950 "H" series passenger cars and F-1 through F-6 trucks use the 847-FS series carburetor having a 1-7/32 inch venturi and a standard two bolt 1-1/4 inch S.A.E. mounting flange with a 1-9/16 inch throttle bore. The T-847-HGC series used on the 1948 to 1950 six cylinder Ford bus, is a larger governor equipped version of this carburetor model. It has a 1-1/4 inch venturi and a standard two bolt 1-1/2 inch S.A.E. mounting flange with a 1-11/16 inch throttle bore. Since the design of the governor equipped unit is similar to that of the smaller carburetor series, all model 847 carburetors will be covered in this chapter.

**NOTE:** THE LIST NUMBER OF CARBURETORS APPLICABLE TO EACH VEHICLE (MODEL AND YEAR) WILL BE FOUND IN THE CURRENT HOLLEY CARBURETOR PARTS CATALOG - FORD, MERCURY, AND LINCOLN DIVISION. (SECTION II, DIVISION C.)

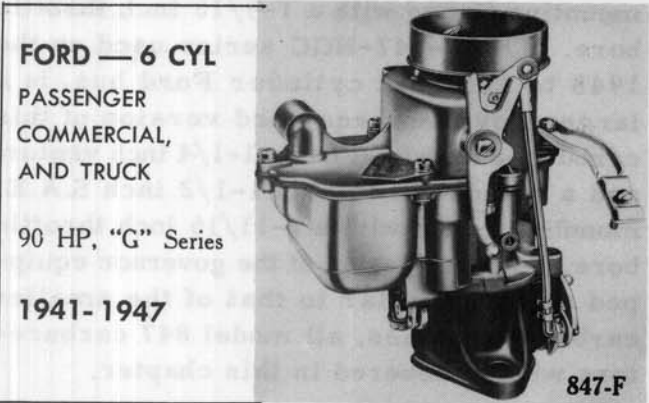
### 3. MAJOR SUBASSEMBLIES

Model 847 carburetors are composed of three major subassemblies; the air horn assembly, the main body assembly, and the throttle body assembly. The die cast air horn contains the choke mechanism, the vacuum actuated economizer piston which operates the power valve, the balance tube

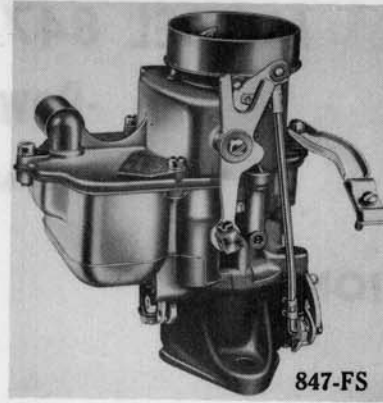
which vents the float chamber to the carburetor air inlet, and the fuel inlet valve which is operated by the float suspended from the air horn. The die cast main body contains the float chamber, the accelerating pump, and the removable fuel metering parts, such as the main jet, power valve, idle tube, and nozzle bar. The cast iron throttle body contains the throttle plate and the idle speed and mixture adjusting screws. A die cast governor housing, containing the throttle operating mechanism, is attached to the side of the throttle body on governor equipped carburetors.

#### 4. LINKAGES, LEVERS, ETC.

The linkages and levers on these carburetors provide a simple means of identifying the carburetors used on each installation. The 847-F series carburetor used on 1941 to 1947 "G" series engines has a ball and socket



type connection at the choke lever and the throttle lever. This is the only version of this carburetor model which does not have a threaded hole in the main body to accommodate a distributor vacuum line fitting. The 847-FS series carburetor used on the 1947 to 1950 F-1 through F-6 "H" series truck also has a ball and socket type connection at the choke lever and throttle lever, but this unit can be easily identified as it is the only carburetor in the 847-F and 847-FS series with a protruding tapered flange encircling the top of the air horn. The 847-FS series carburetor used on the 1947 to 1950 "H" series passenger cars has a ball and



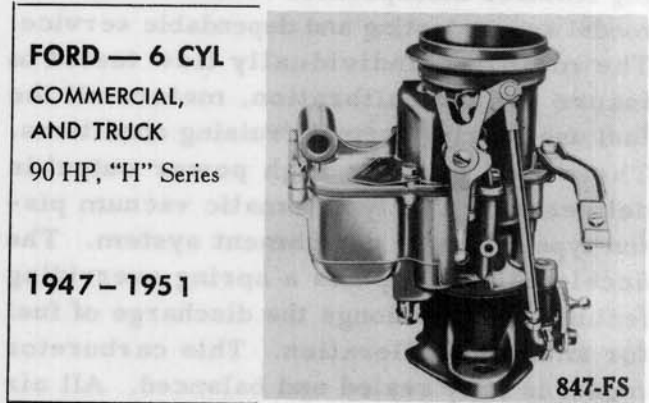
**FORD — 6 CYL**  
PASSENGER

90 HP, 95 HP  
"H" Series

1947-1951

**847-FS**

socket type connection at the throttle lever only. The choke control wire is linked to the carburetor by means of a swivel and clamp screw at the end of the choke lever.



The choke lever and swivel assembly on this carburetor can easily be replaced with the ball and socket type lever to permit this carburetor to be used on the early "H" series passenger cars which use this type of choke



**FORD BUS — 6 CYL**  
CARBURETOR  
&  
GOVERNOR

1948-50

**T-847-HGC**

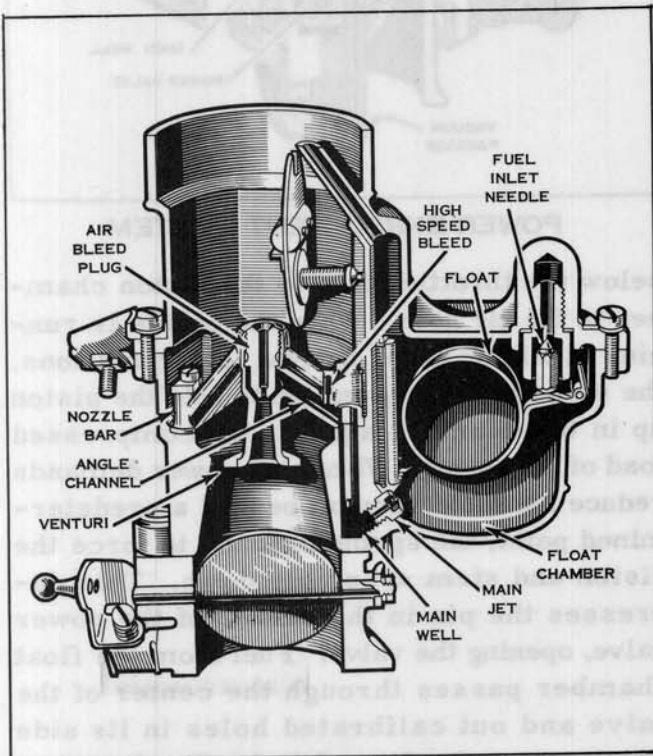
linkage. The T-847-HGC series used on the 1948 to 1950 six cylinder bus, is easily identifiable because of its obviously larger size and the governor housing on the throttle body. The throttle lever on this carburetor has a

ball and socket type connection. The choke lever is drilled to accommodate a rod which is operated by an electric type automatic choke mechanism.

## B. OPERATION

### 1. FLOAT SYSTEM

A regulated flow of fuel under pressure from the fuel pump enters the carburetor through the fuel inlet needle valve. The float rises and falls with the fuel level in the float chamber. The float lever, which is hinged



MAIN METERING SYSTEM  
AND FLOAT SYSTEM

to the stationary float shaft, controls the fuel inlet needle valve, permitting only enough fuel to pass through the valve to replace that being used. This maintains a specified level of fuel in the float chamber.

### 2. MAIN METERING SYSTEM

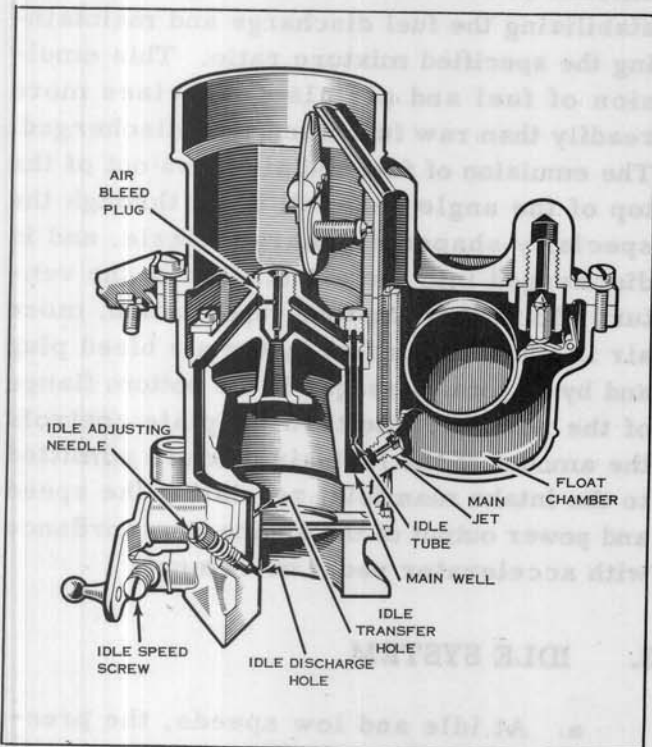
The airflow through the carburetor at normal cruising speeds creates a drop in pressure in the venturi. The float chamber is vented to the interior of the carburetor

air horn and the air pressure in the float chamber is higher than the pressure in the venturi. This pressure difference forces a metered flow of fuel through the main metering system and out of the main nozzle which is located in the venturi. The fuel is metered by the main jet as it flows into the bottom of the main well. The fuel then passes out of the top of the main well into an angle channel in the nozzle bar where air from the high speed bleed is mixed with the fuel. The high speed bleed introduces a properly increasing amount of air to the fuel at higher speeds, stabilizing the fuel discharge and maintaining the specified mixture ratio. This emulsion of fuel and air also vaporizes more readily than raw fuel when it is discharged. The emulsion of fuel and air flows out of the top of the angle channel, down through the specially shaped discharge nozzle, and is discharged into the air stream in the venturi. To further improve vaporization, more air is added to the fuel by the air bleed plug and by diagonal passages in the bottom flange of the nozzle. The throttle plate controls the amount of the fuel-air mixture admitted to the intake manifold, regulating the speed and power output of the engine in accordance with accelerator pedal movement.

### 3. IDLE SYSTEM

a. At idle and low speeds, the pressure drop in the venturi is not sufficient to operate the main metering system. The high manifold vacuum at low rpm is used to provide a pressure difference which will operate the idle system. The higher pressure of the air in the float chamber forces fuel through the main jet into the bottom of the main well. The fuel enters the idle tube through the narrow tip at its lower end. The tip of the idle tube is a calibrated restriction which meters the flow of fuel into the idle system. The fuel leaves the idle tube through holes in the head of the tube and flows up an angle channel in the nozzle bar where air from the idle air bleed enters the fuel flow. The emulsion of fuel and air passes around

a circular groove in the air bleed plug and down through the other side of the nozzle bar. It then flows down past the idle transfer hole which injects additional air into the fuel, and is discharged from the idle discharge hole into the strong manifold vacuum below the throttle plate. The idle adjusting needle governs the mixture delivered at idle only. A small hole in the air bleed plug vents the idle system to prevent any siphoning effect which may occur at higher speeds or when the engine is stopped.

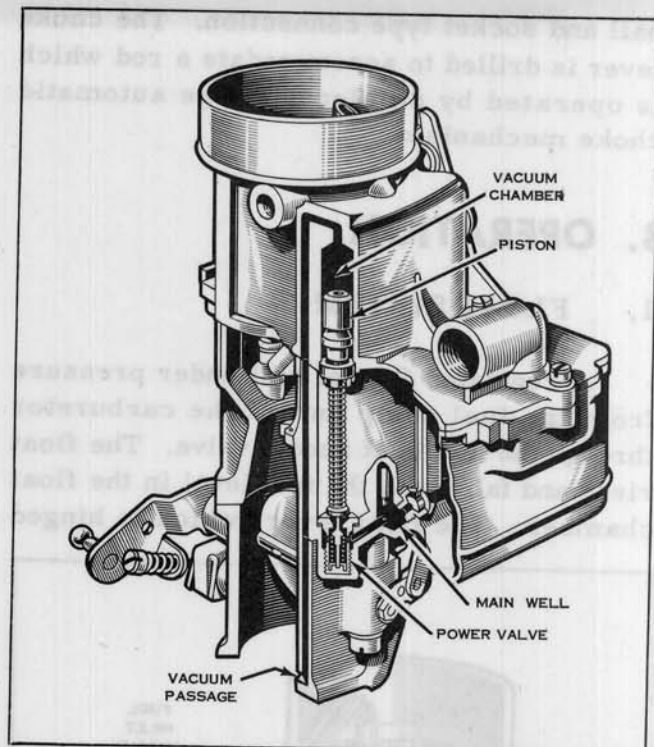


IDLE SYSTEM

b. During off-idle or idle transfer operation, this system functions similarly, except that as the throttle plate is opened past the idle transfer hole, it also begins discharging fuel. The flow from the idle system tapers off as the main metering system begins to operate with an increase in engine speed.

#### 4. POWER ENRICHMENT SYSTEM

The added fuel for high power operation is delivered by the power enrichment system. A passage transmits manifold vacuum from

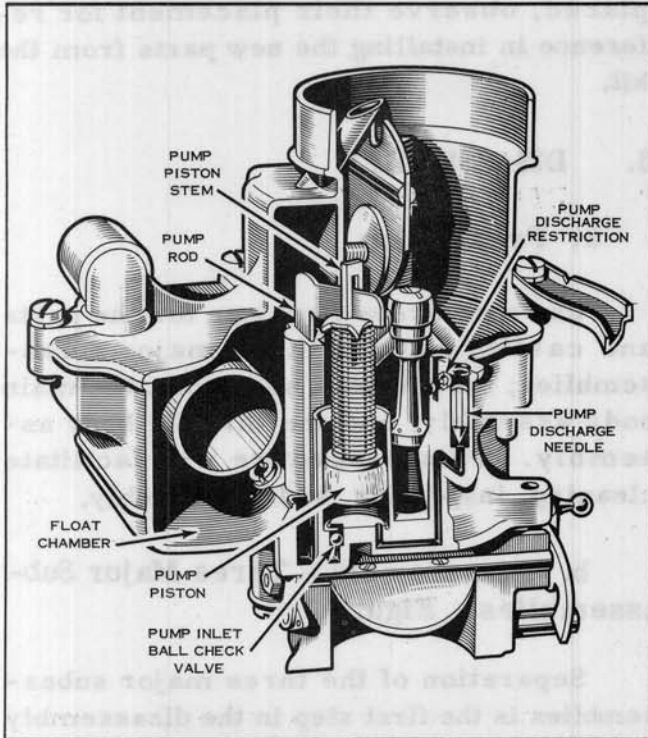


POWER ENRICHMENT SYSTEM

below the throttle plate to the piston chamber in the air horn. When the engine is running at idle or under normal load conditions, the vacuum is strong enough to hold the piston up in the chamber against the compressed load of the spring. When high power demands reduce manifold vacuum beyond a predetermined point, the spring expands to force the piston and stem assembly down. This depresses the pin in the center of the power valve, opening the valve. Fuel from the float chamber passes through the center of the valve and out calibrated holes in its side which meter the flow of fuel. The fuel then flows through a passage to the bottom of the main well where it joins the fuel flow from the main metering system, enriching the mixture for high power operation.

#### 5. ACCELERATING PUMP SYSTEM

The airflow through the carburetor responds almost immediately to any increase in throttle opening but there is a brief interval before the fuel in the narrow passages can gain speed and maintain the desired balance of fuel and air. The accelerating


**ACCELERATING SYSTEM**

pump system operates during this interval, supplying fuel until the other systems can provide the proper mixture. When the throttle is closed, fuel enters the pump well through a passage from the float chamber. The pump inlet ball check valve permits fuel to enter the pump well but prevents a reverse flow of fuel when the pump is operated. The pump rod, which is linked to the throttle lever, moves downward as the throttle is opened. The horizontal arm at the top of the pump rod slides down in the slot in the pump piston stem, compressing the pump spring. The spring presses the pump piston down, forcing fuel through the passage to the pump discharge needle valve.

The spring overriding feature provides a sufficiently long interval of discharge, regardless of how suddenly the throttle is opened. The fuel, under pressure from the pump piston, unseats the pump discharge needle valve and flows past it and out the pump discharge passage. This needle valve closes the passage when the pump is not discharging fuel. In addition to preventing fuel

from being drawn from the pump well by the suction of the airstream at high speeds, the needle valve seals the passage so that air will not be drawn into the system when the throttle is again closed and the pump piston is raised to draw in another charge of fuel. A calibrated pump discharge restriction meters the fuel as it is sprayed into the airstream. A vent slot between the pump restriction and the carburetor air passage weakens or dissipates the suction created by the airstream at high speeds. This prevents the suction from lifting the pump discharge needle and drawing fuel from the pump well.

## 6. CHOKE SYSTEM

When starting a cold engine, much of the vaporized fuel from the carburetor condenses to a liquid upon contact with the cold surfaces of the intake manifold. This results in hard starting, loss of power, and stalling. Closing the choke plate in the carburetor air horn confines manifold vacuum within the carburetor, thus drawing a rich flow of fuel from the idle and main metering systems. When the engine starts, enough air is drawn through the spring-loaded poppet valve in the choke plate to prevent flooding. A fast idle rod and cam mechanism increases the throttle opening at idle during choking, giving a faster idle rpm to prevent stalling. After the engine has warmed up, the temperature of the intake manifold will be high enough to prevent condensation of the normal fuel discharge and choking will no longer be necessary.

The carburetor for the 1948-50 six cylinder Ford bus has a Sisson automatic choke which governs the choke plate opening to correspond with the temperature of the engine. The actuating unit is mounted on the engine and linked to the carburetor choke lever by a long rod. A wire connects an electro-magnet in the actuating unit to the starter switch. When the starter is operated, the electro-magnet is energized, closing the



choke plate either fully or partially, depending on engine temperature. However, if the engine is completely warmed up, the choke plate does not close at all. After the engine starts, the electro-magnet is de-energized and a thermostat in the unit takes over to provide complete control of the choke plate during the warm up period.

## C. OVERHAUL

### 1. INTRODUCTION

To properly overhaul the carburetor, it must be completely disassembled and all parts must be thoroughly cleaned. Then each part must be inspected for wear, deterioration, and damage, and all defective parts should be discarded and replaced with genuine Holley replacement parts. The carburetor must then be carefully rebuilt and accurately adjusted to insure the power, economy, and performance which has been built into every Holley carburetor. The following overhaul procedure is easily accomplished using factory approved special carburetor tools. These tools are strongly recommended for use on parts which could be damaged by ordinary tools. However, if special tools are not available this carburetor can be overhauled using ordinary tools with a reasonable amount of care.

### 2. MASTER REPAIR KITS

The proper Master Repair Kit for the carburetor, as specified in the current Holley Carburetor Parts Catalog - Ford, Mercury, and Lincoln division, should be used to assure a complete and satisfactory overhaul. This kit contains Holley replacements for all parts which are subject to wear in operation or are likely to be damaged during disassembly. The following disassembly procedure includes instructions to discard the items for which replacement parts are included in the Master Repair Kit. When removing the parts to be re-

placed, observe their placement for reference in installing the new parts from the kit.

### 3. DISASSEMBLY

#### a. Preparation

Use a separate container for the parts and castings of the three major subassemblies; the air horn assembly, the main body assembly, and the throttle body assembly. This procedure will facilitate cleaning, inspection, and reassembly.

#### b. Disassembly - Three Major Subassemblies - Figure 1

Separation of the three major subassemblies is the first step in the disassembly of this carburetor model.

(1) Remove the two rod end clips (1) and remove the fast idle rod (2). Snap the pump link retainer (3) off the pump link pin, then remove the pump link (4). Discard the pump link and retainer.

(2) Remove the four air horn to main body screws (5) and the choke wire bracket assembly (6) from the rim of the air horn and remove the fifth air horn to main body screw (7) located in the main body directly below the choke lever. Lift the air horn assembly off the main body, being careful not to catch the float on the walls of the float chamber in the main body. It may be necessary to tap the air horn casting lightly a few times with a fiber mallet to jar it loose. Discard the air horn to main body gasket (8).

(3) Remove the two throttle body to main body screws and lockwashers (9) and separate the main body assembly from the throttle body assembly. If necessary, tap the throttle body casting lightly with a fiber mallet to jar it loose. Discard the main body to throttle body gasket (10).

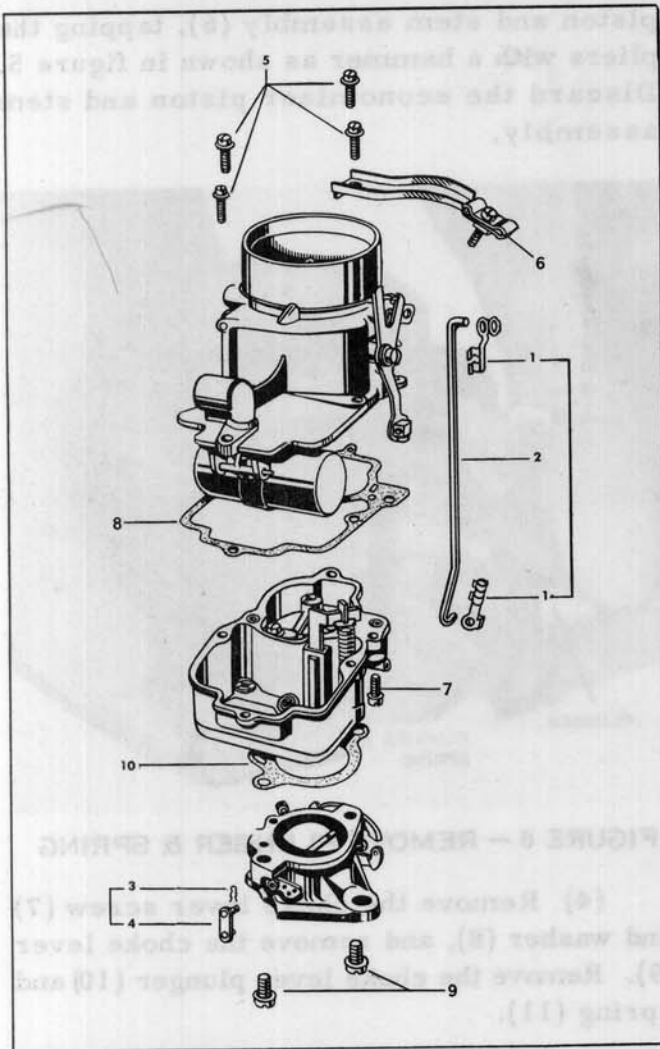


FIGURE 1 - DISASSEMBLY - 3 MAJOR SUB-ASSEMBLIES

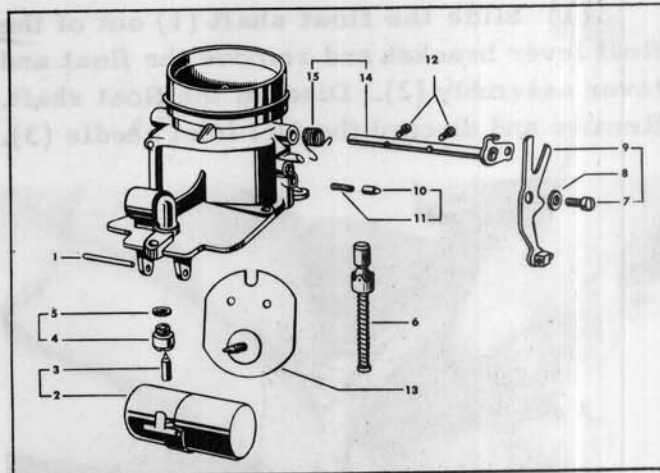


FIGURE 2 - DISASSEMBLY - AIRHORN

REFER TO FIGURE NO.	ORDER OF REMOVAL	PART NAME
3	1	Float shaft*
3	2	Float and lever assembly
3	3	Fuel inlet needle*
4	4	Fuel inlet needle seat*
4	5	Fuel inlet needle seat gasket*
5	6	Economizer piston and stem assembly*
	7	Choke lever screw
	8	Choke lever screw washer
	9	Choke lever
6	10	Choke lever plunger
6	11	Choke lever plunger spring
	12	Choke plate screws (2)*
	13	Choke plate
	14	Choke shaft
	15	Choke lever spring

c. Disassembly - Airhorn Assembly - Figure 2.

The following list contains the component parts of the airhorn assembly in the order in which they are removed.

Discard parts marked with an asterisk (\*) upon removal, as replacement parts for these items will be found in the Master Repair Kit.

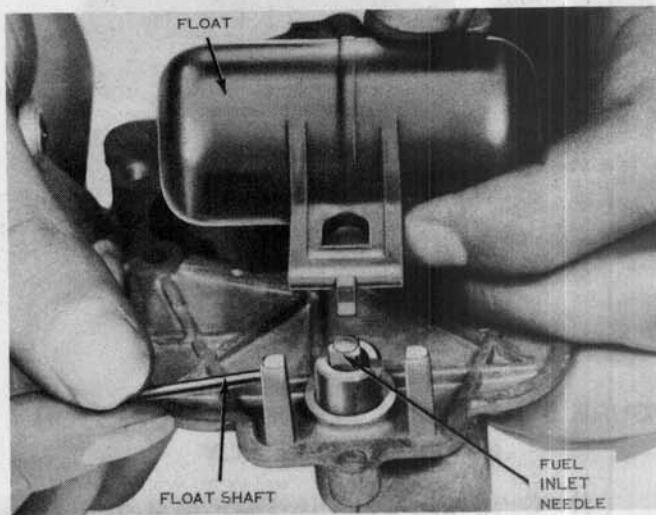
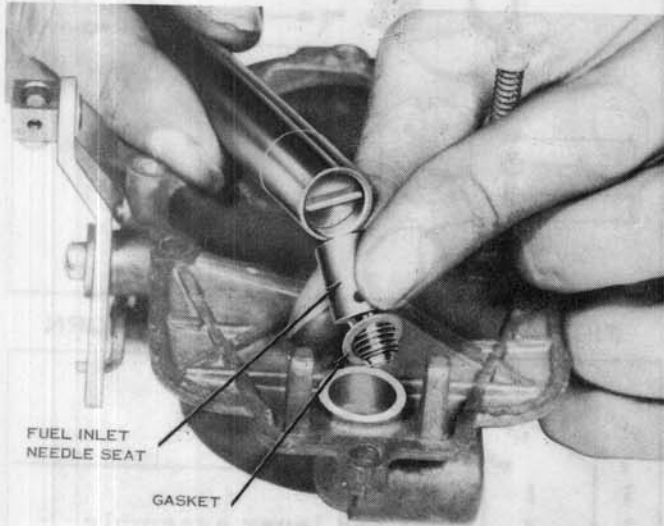


FIGURE 3 - REMOVE FLOAT

(1) Slide the float shaft (1) out of the float lever bracket and remove the float and lever assembly (2). Discard the float shaft. Remove and discard the fuel inlet needle (3).



**FIGURE 4 – REMOVE FUEL INLET NEEDLE SEAT**

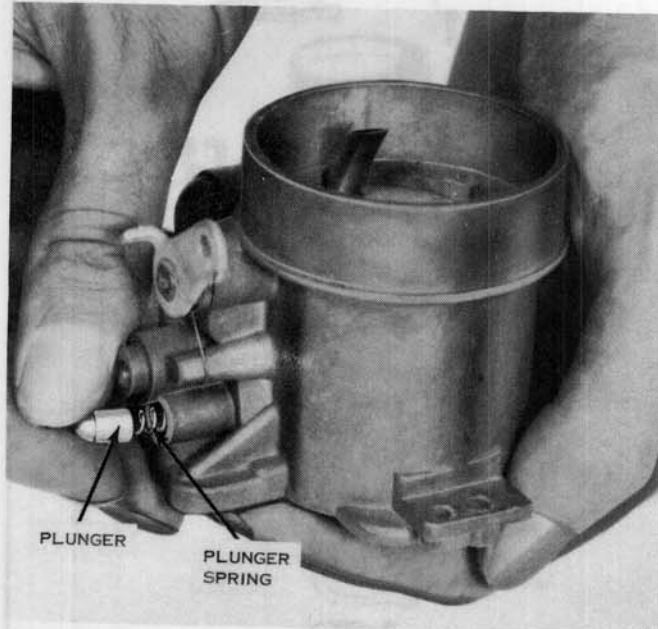
(2) Remove the fuel inlet needle seat (4) and gasket (5), using Manzel Tool No. 9564. Discard these parts.



**FIGURE 5 – REMOVE ECONOMIZER PISTON & STEM ASSEMBLY**

(3) Grip the economizer piston stem firmly with pliers and remove the economizer

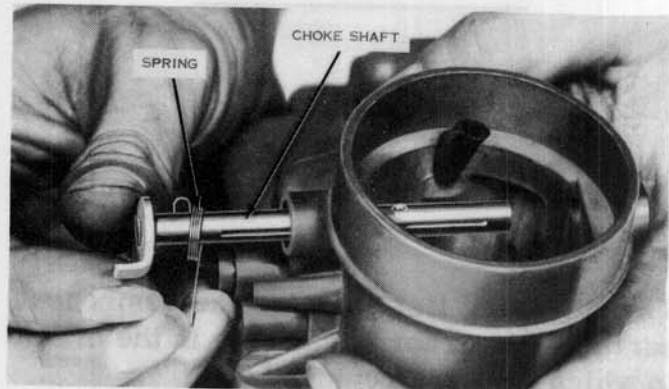
piston and stem assembly (6), tapping the pliers with a hammer as shown in figure 5. Discard the economizer piston and stem assembly.



**FIGURE 6 – REMOVE PLUNGER & SPRING**

(4) Remove the choke lever screw (7) and washer (8), and remove the choke lever (9). Remove the choke lever plunger (10) and spring (11).

(5) Remove and discard the two choke plate screws (12). Slide the choke plate (13) out of its slot in the choke shaft through the bottom of the air horn casting.



**FIGURE 7 – REMOVE CHOKE SHAFT & SPRING**

(6) Slide the choke shaft (14) out of the air horn and remove the choke lever spring (15).

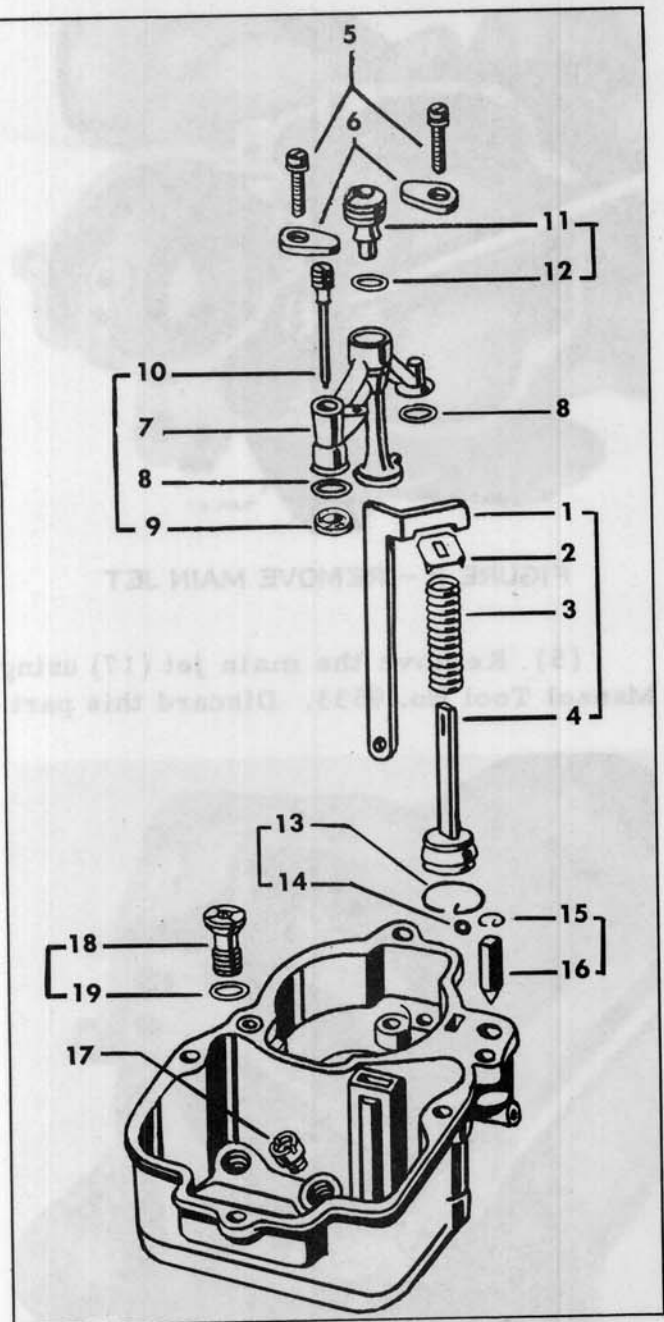


FIGURE 8 - DISASSEMBLY - MAIN BODY

d. Disassembly - Main Body Assembly - Figure 8

The following list contains the component parts of the main body assembly in the order in which they are removed.

Discard parts marked with an asterisk (\*) upon removal, as replacement parts for these items will be found in the Master Repair Kit.

REFER TO FIGURE NO.	ORDER OF REMOVAL	PART NAME
9	1	Pump operating rod
9	2	Pump spring washer
9	3	Accelerating pump spring
9	4	Accelerating pump piston assembly*
	5	Nozzle bar clamp screw and lockwasher (2)
	6	Nozzle bar clamp (2)
10	7	Nozzle bar
10	8	Nozzle bar gasket (2)*
10	9	Nozzle bar screen
10	10	Idle tube*
10	11	Nozzle bar air bleed plug
12	12	Nozzle bar air bleed plug gasket*
13	13	Pump ball check valve retainer*
14	14	Pump ball check valve*
15	15	Pump discharge needle valve retainer
16	16	Pump discharge needle valve*
11	17	Main jet*
12	18	Power valve*
19	19	Power valve gasket*

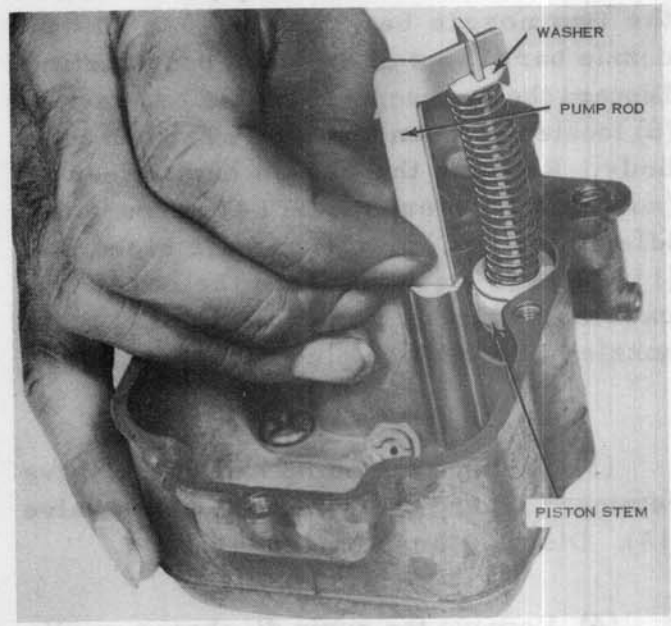


FIGURE 9 - REMOVE ACCELERATING PUMP ASSEMBLY

(1) Slide the entire accelerating pump

assembly out of the main body casting. This assembly is disassembled by compressing the pump spring and sliding the pump operating rod (1) out of the slot in the pump piston stem. Remove the pump spring washer (2) and the accelerating pump spring (3) from the pump piston stem. Discard the accelerating pump piston assembly (4).

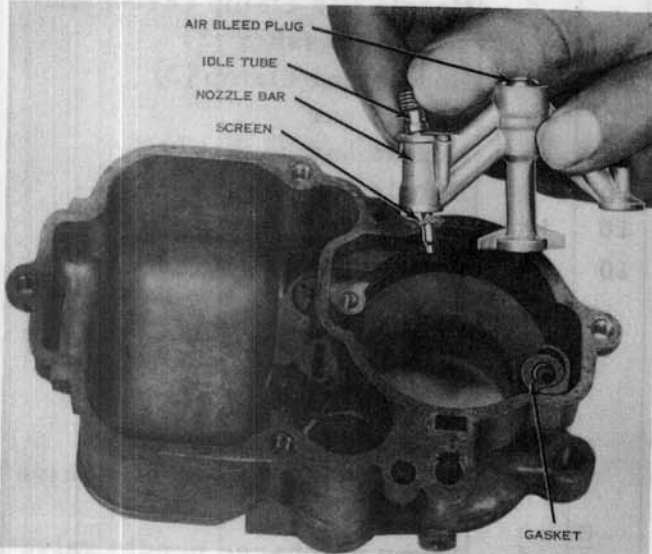


FIGURE 10 – REMOVE NOZZLE BAR ASS'Y

(2) Remove the two nozzle bar clamp screws and lockwashers (5) and remove the two nozzle bar clamps (6). Lift the nozzle bar (7) out of the main body casting. Discard the two neoprene nozzle bar gaskets (8) located between the nozzle bar and main body. Remove the nozzle bar screen (9) (not found on every model 847 carburetor), idle tube (10), nozzle bar air bleed plug (11), and gasket (12) from the nozzle bar casting. Discard the idle tube (10) and nozzle bar air bleed plug gasket (12).

(3) Remove the pump ball check valve retainer (13) and the pump ball check valve (14). Discard these parts.

(4) Remove the pump discharge needle valve retainer (15) (not found on every model 847 carburetor). Remove and discard the pump discharge needle valve (16).

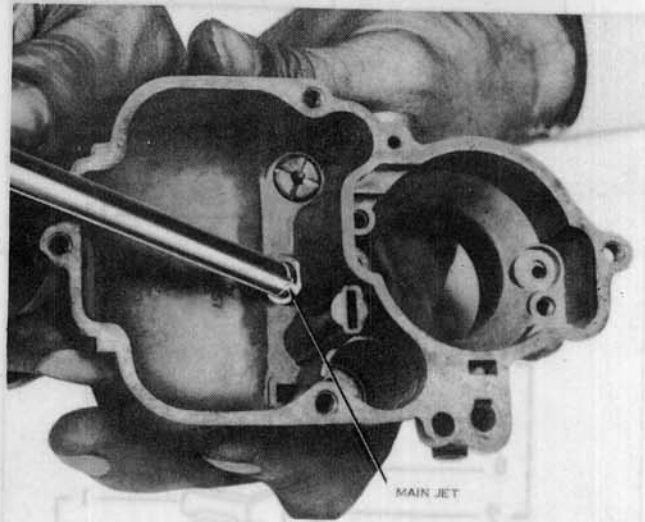


FIGURE 11 – REMOVE MAIN JET

(5) Remove the main jet (17) using Manzel Tool No. 9533. Discard this part.

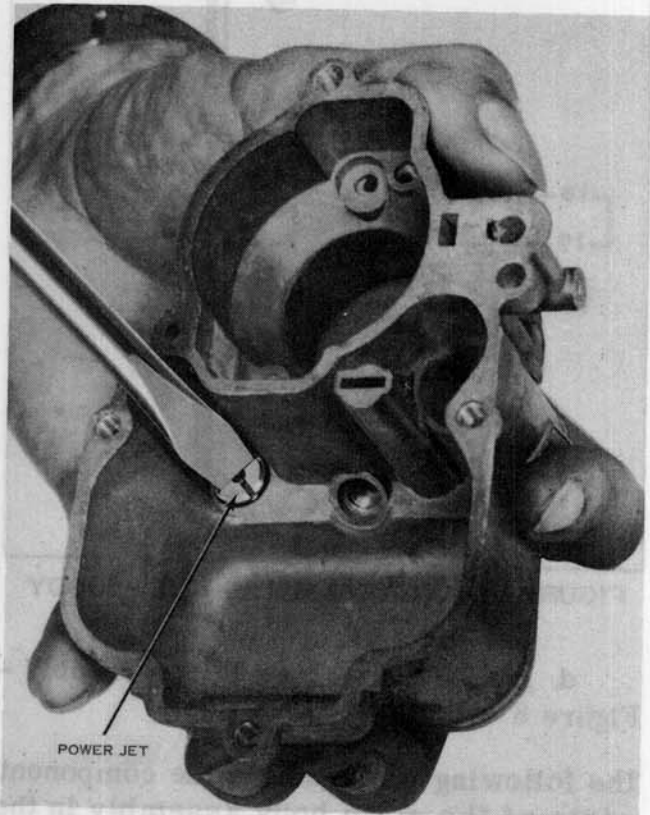


FIGURE 12 – REMOVE POWER JET

(6) Remove and discard the power valve (18) and its gasket (19).

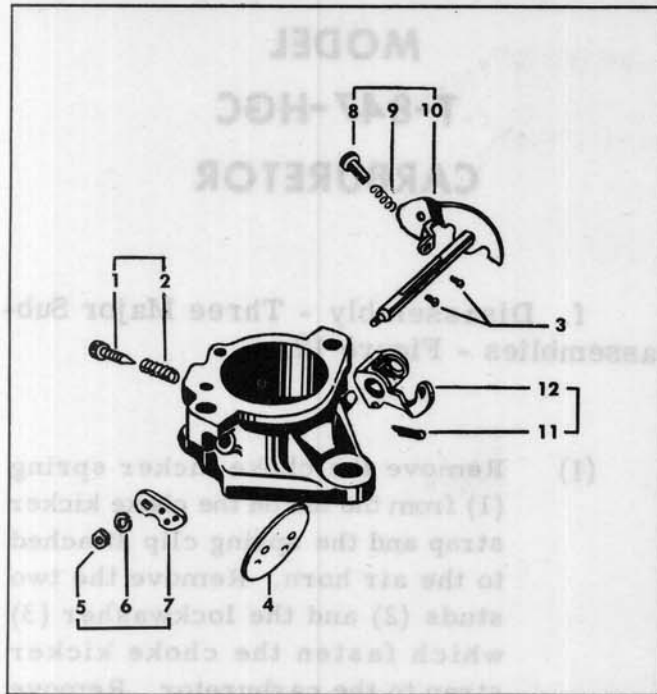


FIGURE 13 – DISASSEMBLY – THROTTLE BODY

e. Disassembly - Throttle Body Assembly - Figure 13

The following list contains the component parts of the throttle body assembly in the order in which they are removed.

REFER TO FIGURE NO.	ORDER OF REMOVAL	PART NAME
	1	Idle adjusting needle*
	2	Idle adjusting needle spring
15	3	Throttle plate screw (2)*
	4	Throttle plate
	5	Pump operating lever nut
	6	Pump operating lever nut lockwasher
	7	Pump operating lever*
	8	Throttle stop screw
	9	Throttle stop screw spring
16	10	Throttle shaft and lever assembly
16	11	Fast idle lever cotter pin
16	12	Fast idle lever

Discard parts marked with an asterisk (\*) upon removal, as replacement parts for these items will be found in the Master Repair Kit.

- (1) Remove the idle adjusting needle (1) and spring (2).

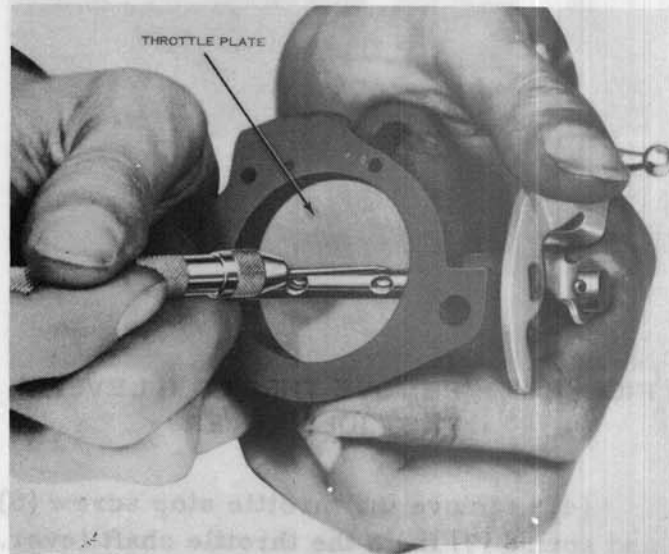


FIGURE 14 – SCRIBING THROTTLE PLATE

- (2) Scribe a line on the throttle plate along the edge of the throttle shaft to serve as a guide for proper alignment during reassembly. Remove and discard the two throttle plate screws (3) and slide the throttle plate (4) out of the slot in the throttle shaft.

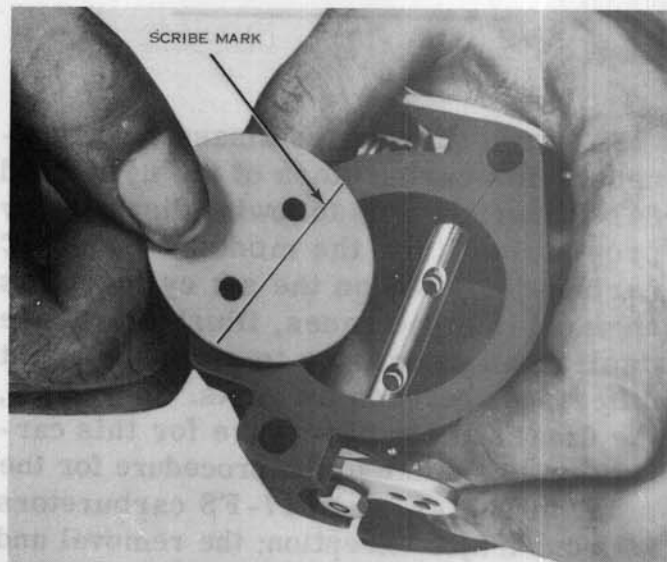


FIGURE 15 – REMOVE THROTTLE PLATE

(3) Remove the pump operating lever nut (5), lockwasher (6), and the pump operating lever (7) from the end of the throttle shaft. Discard the pump operating lever (7).

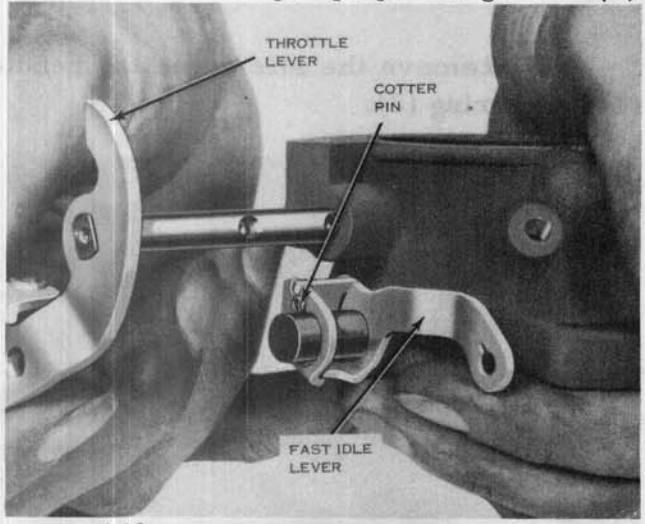


FIGURE 16 — REMOVE THROTTLE LEVER & FAST IDLE LEVER

(4) Remove the throttle stop screw (8) and spring (9) from the throttle shaft lever. Slide the throttle shaft and lever assembly (10) out of the throttle body casting.

(5) Remove the cotter pin (11) and slide the fast idle lever (12) off the boss on the throttle body.

This concludes the disassembly procedure for carburetors of the 847-F and 847-FS series. The following disassembly procedure is for the model T-847-HGC carburetor used on the six cylinder bus engine. In some cases, illustrations are duplicated primarily to show the slight differences between the parts. In general, the disassembly procedure for this carburetor is similar to the procedure for the smaller 847-F and 847-FS carburetors with one major exception; the removal and disassembly of the governor unit mounted on the throttle body.

## MODEL T-847-HGC CARBURETOR

f. Disassembly - Three Major Sub-assemblies - Figure 17.

(1) Remove the choke kicker spring (1) from the tab on the choke kicker strap and the spring clip attached to the air horn. Remove the two studs (2) and the lockwasher (3) which fasten the choke kicker strap to the carburetor. Remove the choke kicker strap (4).

(2) Cut and remove the safety wire (5) and remove the five air horn to main body screws and lockwashers (6), spring clip (7), and identification tag (8). Lift the air horn assembly off the main body. Do not allow the float to catch on the walls of the float chamber in the main body. It may be necessary to tap the air horn casting lightly a few times with a fiber mallet to jar it loose. Discard the air horn to main body gasket (9).

(3) Remove the pump link cotter pin (10) and the pump link (11). Discard the pump link (11). Cut and remove the safety wire (12) and remove the two main body to throttle body screws and lockwashers (13). Separate the main body assembly from the throttle body and governor assembly. It may be necessary to tap the main body casting lightly a few times with a fiber mallet to loosen it. Discard the main body to throttle body gasket (14).

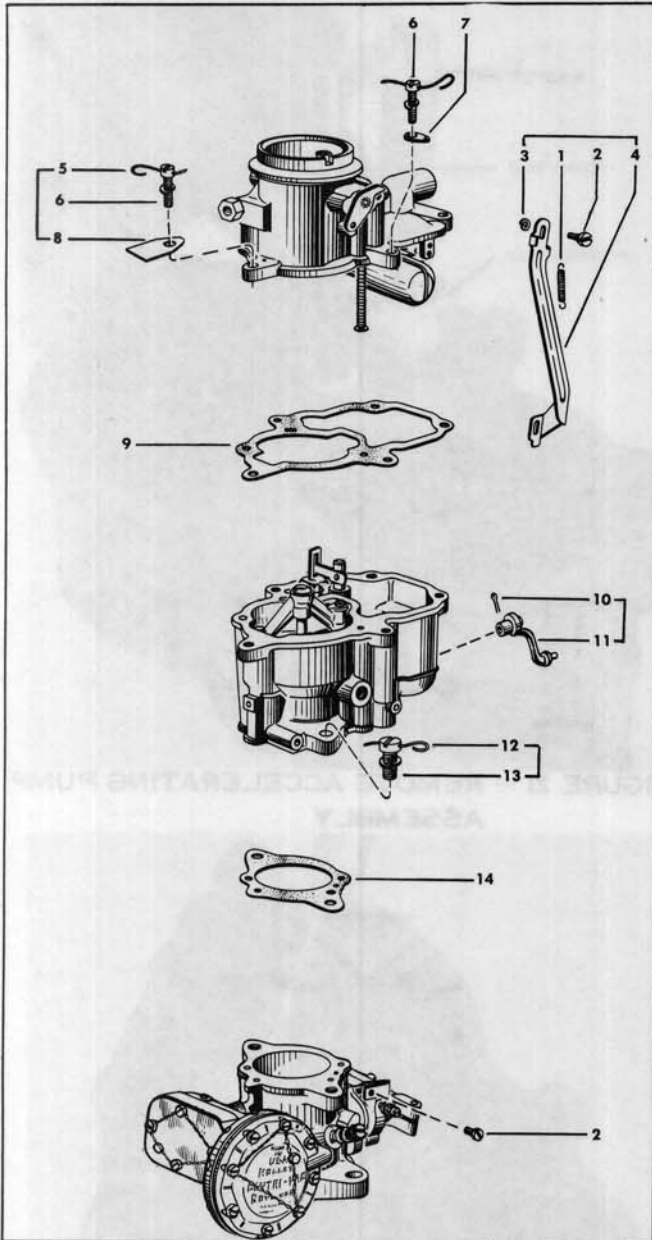


FIGURE 17 —  
THREE MAJOR SUBASSEMBLIES

g. Disassembly - Air Horn Assembly

The procedure for disassembly of the air horn assembly of the T-847-HGC carburetor is similar to that shown for the 847-F and 847-FS series. Follow the procedure outlined in section c beginning on page 7, with the following additions.

- (1) After removing the float shaft and the float and lever assembly,

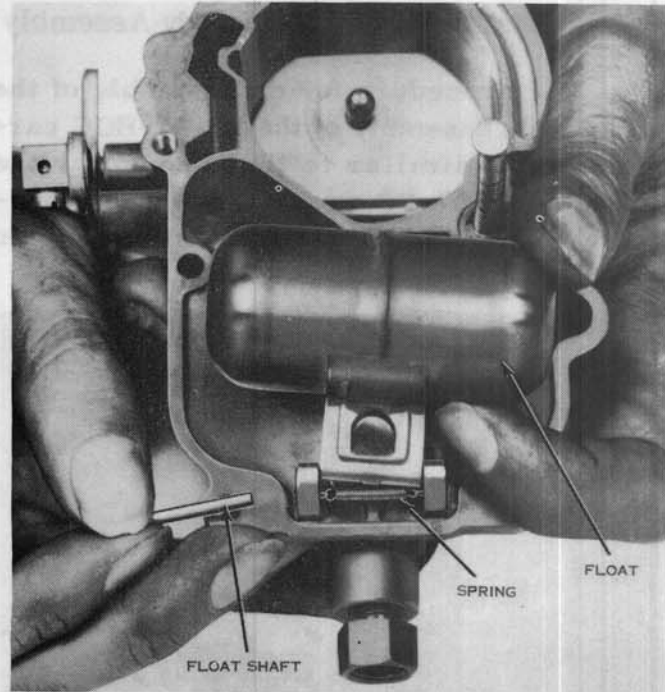


FIGURE 18 — REMOVE FLOAT & SPRING

remove and discard the float spring and the two float spring retainers.

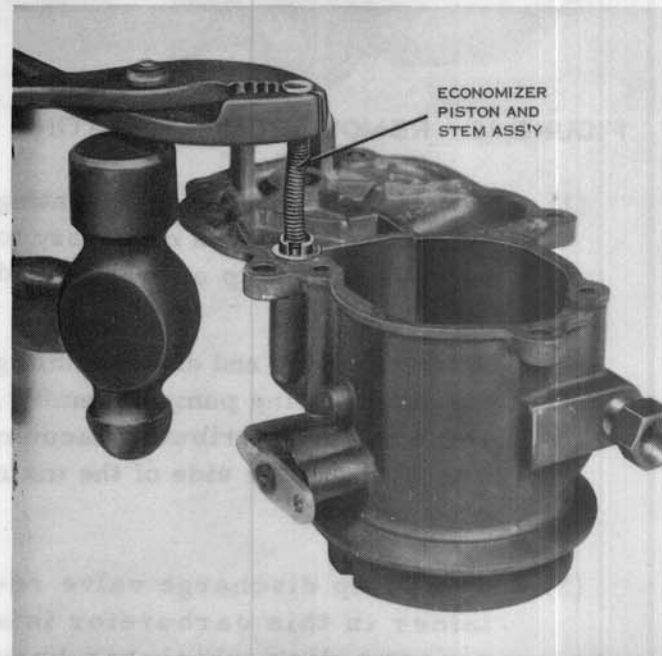


FIGURE 19 — REMOVE ECONOMIZER PISTON & STEM ASSEMBLY

- (2) After removing the economizer piston and stem assembly, remove the governor line fitting.



## h. Disassembly - Main Body Assembly

The procedure for disassembly of the main body assembly of the T-847-HGC carburetor is similar to that shown for the 847-F and 847-FS series. Follow the procedure outlined in section d beginning on page 9, with the following additions.

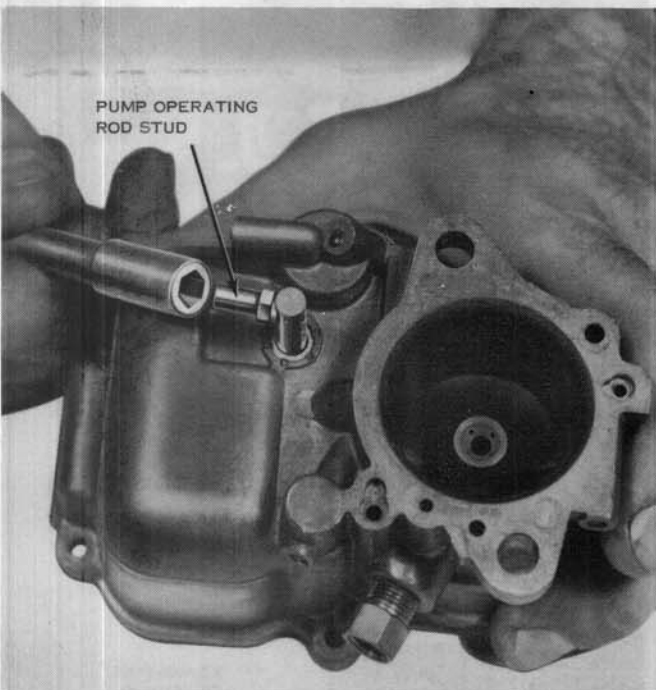


FIGURE 20 — REMOVE PUMP OPERATING ROD STUD

- (1) Before removing the accelerating pump assembly, it is necessary to remove the pump operating rod stud.
- (2) After removing and disassembling the accelerating pump assembly, remove the distributor vacuum line fitting in the side of the main body casting.
- (3) The pump discharge valve retainer in this carburetor is a concave disc which has been flattened after installation, locking it in place. To remove this part, drive a sharp punch into the center of the retainer at a flat angle and pry the retainer out of its recessed hole in the main body casting.

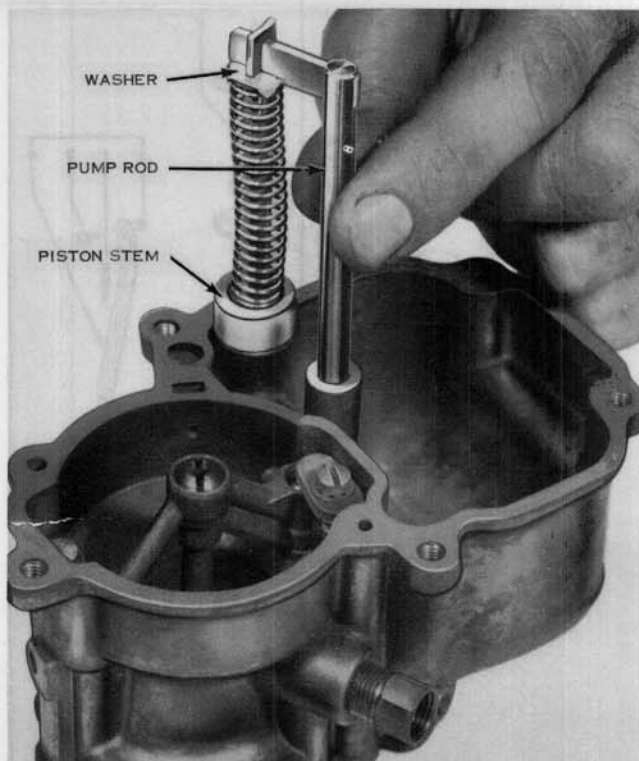


FIGURE 21 — REMOVE ACCELERATING PUMP ASSEMBLY

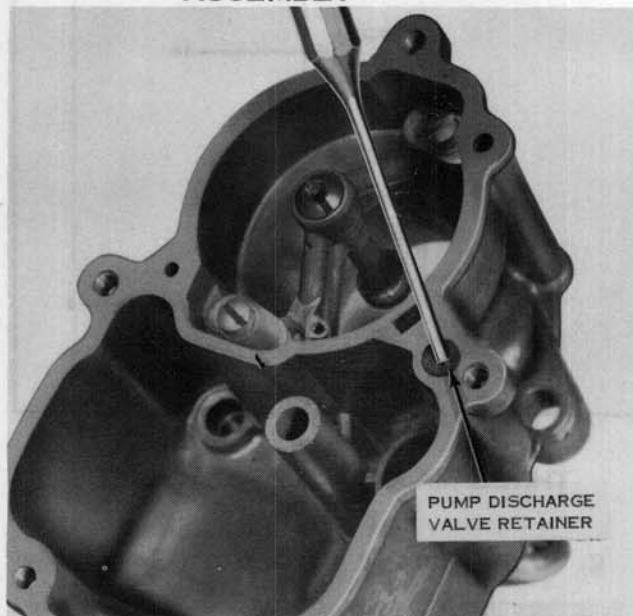


FIGURE 22 — REMOVE PUMP DISCHARGE VALVE RETAINER

- (4) To conclude the disassembly of the main body assembly, pry the pump operating rod felt retainer out of the recess at the bottom of the hole in the main body casting for the pump operating rod, and remove the felt seal from the recess.

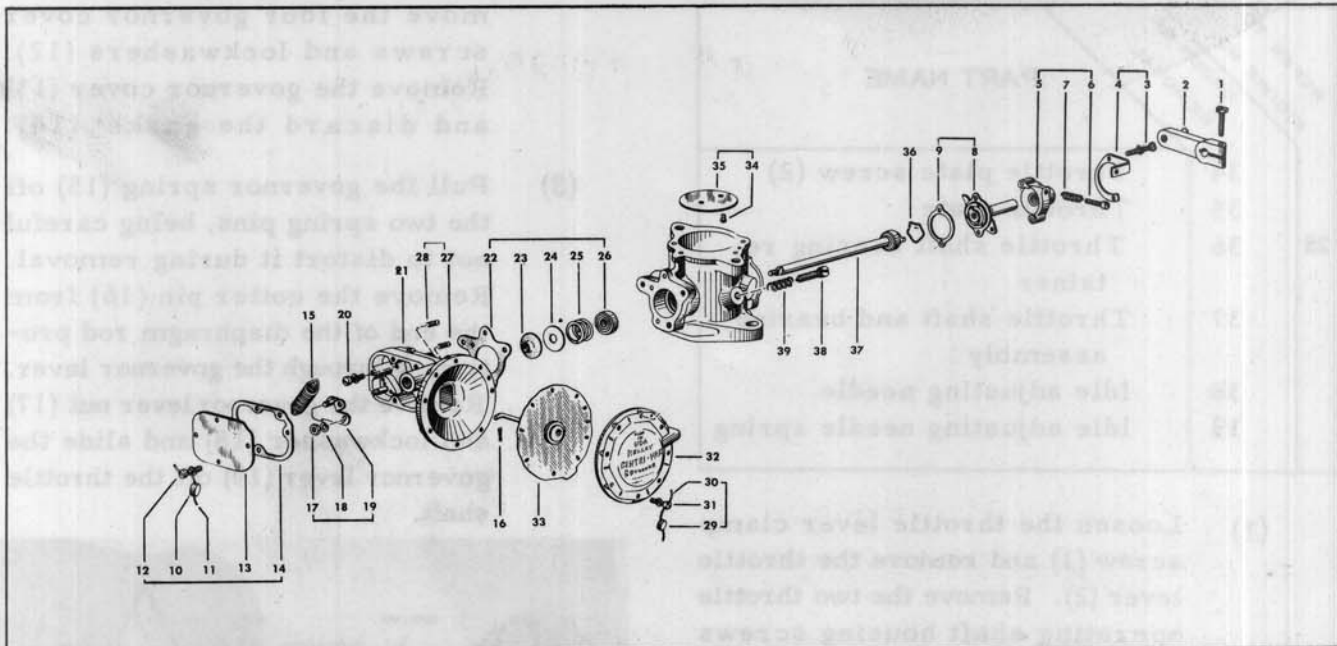


FIGURE 23 – DISASSEMBLY GOVERNOR & THROTTLE BODY T-847HGC

i. Disassembly - Throttle Body and Governor Assembly - Figure 23.

The following list contains the component parts of the throttle body and governor assembly of the T-847-HGC carburetor in the order in which they are removed.

REFER TO FIGURE NO. ORDER OF REMOVAL	PART NAME
1	Throttle lever clamp screw
2	Throttle lever
3	Throttle operating shaft housing screw and lockwasher (2)
4	Choke kicker bracket
5	Throttle operating shaft housing
6	Throttle stop screw
7	Throttle stop screw spring
8	Throttle operating shaft assembly
9	Throttle bearing cover gasket
10	Lead seal (governor cover seal wire)
11	Governor cover seal wire
12	Governor cover screw and lockwasher (4)
24	13 Governor cover

REFER TO FIGURE NO. ORDER OF REMOVAL	PART NAME
14	Governor cover gasket
24	15 Governor spring
24	16 Diaphragm rod cotter pin
24	17 Governor lever nut
18	Governor lever nut lock-washer
24	19 Governor lever
20	Governor to throttle body screw and lockwasher (3)
25	21 Governor housing
25	22 Governor to throttle body gasket
25	23 Throttle shaft seal
25	24 Throttle shaft seal retainer
25	25 Throttle shaft seal retainer spring
26	26 Throttle shaft bearing
26	27 Governor by-pass jet "B"
26	28 Governor by-pass jet "A"
29	29 Lead seal (diaphragm cover seal wire)
30	30 Diaphragm cover seal wire
31	31 Diaphragm cover screw and lockwasher (8)
32	32 Diaphragm cover
33	33 Diaphragm and rod assembly

REFER TO FIGURE NO.	ORDER OF REMOVAL	PART NAME
28	34	Throttle plate screw (2)
	35	Throttle plate
	36	Throttle shaft bearing re- tainer
	37	Throttle shaft and bearing assembly
	38	Idle adjusting needle
	39	Idle adjusting needle spring

(1) Loosen the throttle lever clamp screw (1) and remove the throttle lever (2). Remove the two throttle operating shaft housing screws and lockwashers (3) and remove the entire throttle operating shaft and housing assembly and the choke kicker bracket (4). Disassemble the throttle operating shaft and housing assembly by sliding the housing (5) off the shaft (8). Remove the throttle stop screw (6) and spring (7) from the housing. Discard the throttle bearing cover gasket (9).

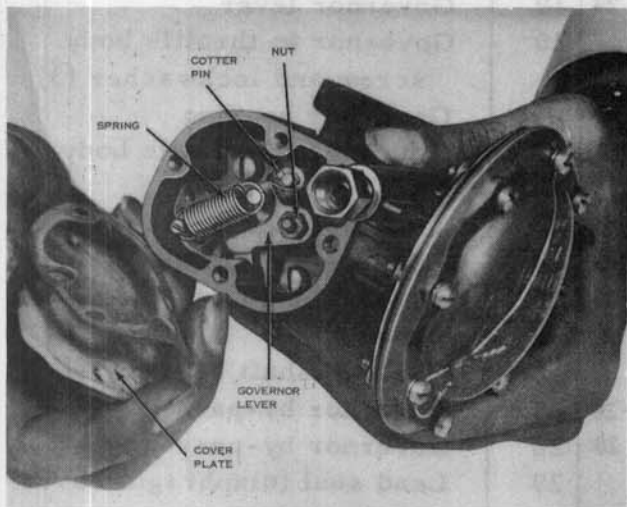


FIGURE 24 — REMOVE GOVERNOR COVER PLATE, GASKET, SPRING & LEVER

(2) Remove and discard the lead seal (10) and wire (11) from the governor cover screws and re-

move the four governor cover screws and lockwashers (12). Remove the governor cover (13) and discard the gasket (14).

(3) Pull the governor spring (15) off the two spring pins, being careful not to distort it during removal. Remove the cotter pin (16) from the end of the diaphragm rod protruding through the governor lever. Remove the governor lever nut (17) and lockwasher (18) and slide the governor lever (19) off the throttle shaft.

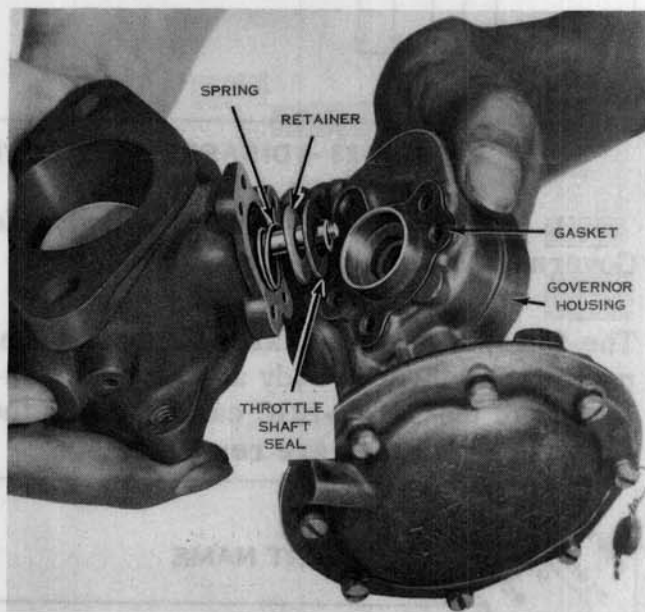
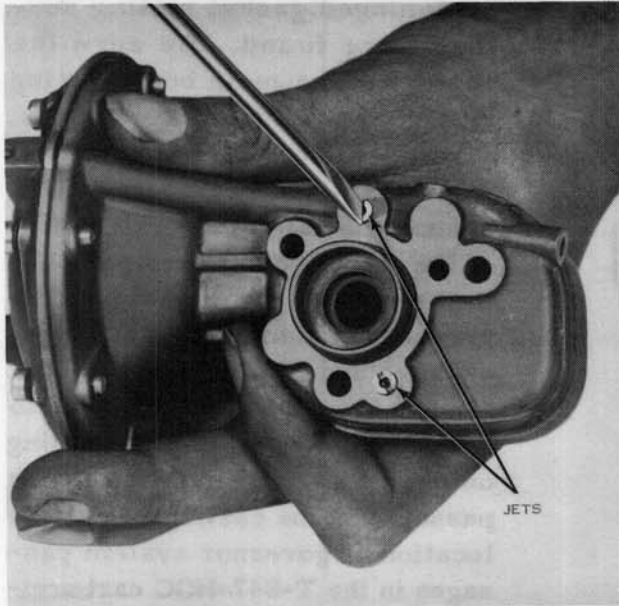


FIGURE 25 — DISASSEMBLY GOVERNOR HOUSING, GASKET, THROTTLE SHAFT SEAL, RETAINER & SPRING

(4) Remove the three governor to throttle body screws and lockwashers (20) from inside the governor housing, and remove the governor housing (21). Discard the governor to throttle body gasket (22). Remove the leather throttle shaft seal (23), retainer (24), retainer spring (25), and throttle shaft bearing (26).

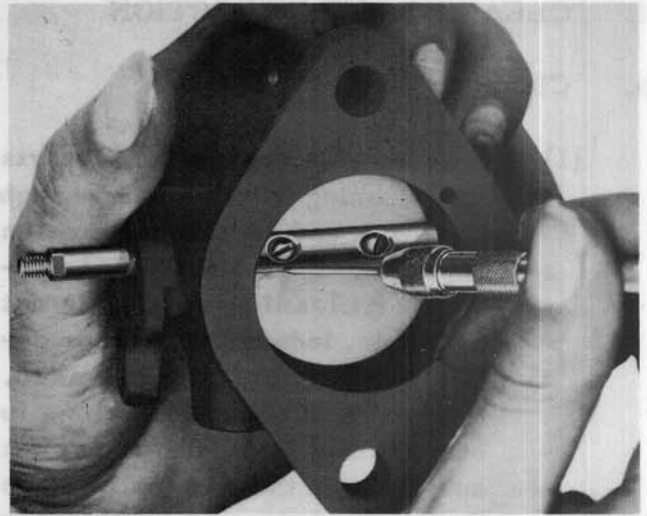
(5) Remove the two governor by-pass jets (27 and 28), noting their loca-



**FIGURE 26 – DISASSEMBLY GOVERNOR BY-PASS JETS**

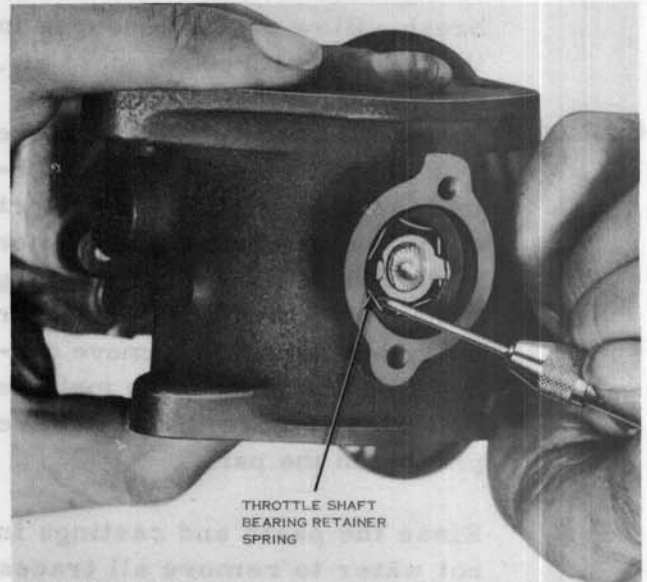
tion for reference in reassembly. The only difference between the two by-pass jets is the diameter of the passage drilled through them. It is important to replace the by-pass jets in their original position to insure the proper operation of the governor.

- (6) Remove and discard the lead seal (29) and wire (30) from the diaphragm cover screws and remove the diaphragm cover screws and lockwashers (31). Remove the diaphragm cover (32). Remove and discard the diaphragm and rod assembly (33).
- (7) Scribe a line on the throttle plate along the edge of the throttle shaft to serve as a guide for proper alignment during reassembly. Remove and discard the two throttle plate screws (34) and slide the throttle plate (35) out of the slot in the throttle shaft.
- (8) Snap the throttle shaft bearing retainer (36) out of the recess in the throttle body casting which



**FIGURE 27 – SCRIBING THROTTLE PLATE**

contains the ball bearing attached to the throttle shaft. Slide the throttle shaft and bearing assembly (37) out of the throttle body casting.



**FIGURE 28 – DISASSEMBLY THROTTLE SHAFT BEARING RETAINER**

- (9) Remove the idle adjusting needle (38) and spring (39). Discard the idle adjusting needle

This completes the disassembly of the T-847-HGC carburetor. The next step in the overhaul procedure is the cleaning and inspection of the component parts of this carburetor.

## 4. CLEANING AND INSPECTION

### a. Cleaning

- (1) Soak all castings and metal parts in a cleaning solution long enough to soften and loosen all foreign deposits. If a commercial carburetor cleaning solvent is not available, lacquer thinner or denatured alcohol may be used. Place the parts and castings to be cleaned in a metal basket suspended in the solution to keep them out of the sediment which collects in the bottom of the container. Agitating the parts in the solution usually promotes a more thorough cleaning. After the parts and castings have soaked sufficiently, scrub away all remaining foreign matter with a stiff bristle brush. Blow out all passages in the castings with compressed air.

**Caution:** Never attempt to clean a passage with a drill, wire, or similar object, as this is liable to distort the passage and affect carburetor performance. Do not use a buffing wheel, wire brush, file, or other sharp instrument to remove carbon deposits, since these methods may also remove the protective plating on the part.

- (2) Rinse the parts and castings in hot water to remove all traces of the cleaning solution, and dry them with compressed air.

**Note:** Gaskets and felt seals should not be exposed to the cleaning fluid. Most commercial solvents will deteriorate these parts.

### b. Inspection

- (1) Major castings - Discard and replace if stripped threads, cracks,

or damaged gasket mating surfaces are found. Be sure the venturi in the main body casting is in good condition, free of nicks, scratches, and foreign deposits. Any slight irregularity in the venturi may affect the calibration of the carburetor. Check passages in the castings by directing compressed air into one end of every passage and feeling for a flow of air out the other end. (Refer to section B - "Operation" beginning on page 3 for the location of the passages in the castings. For the location of governor system passages in the T-847-HGC carburetor, refer to the current Holley Centri-Vac Model 1174 Governor Manual.)

- (2) Choke shaft and throttle shaft - Discard and replace if the shaft is bent, if there is noticeable wear on bearing surfaces, if there are stripped threads, or if the lever riveted to the end of the shaft is loose.

- (3) Float and lever assembly - Discard and replace the float and lever assembly if the float leaks, or if the assembly is corroded or damaged in any way. Shake the float to determine if fuel has leaked into it.

- (4) Throttle plate - Discard and replace if edges are nicked or if the protective plating has been damaged, exposing bare metal to corrosion.

- (5) Choke plate - Discard and replace if the plate is bent or corroded, if the edges are badly nicked, or if the poppet valve spring is damaged. Be sure the shaft inside the poppet valve spring is clean and the poppet valve operates freely.

- (6) **Nozzle bar** - Discard and replace if the fuel discharge passage in the nozzle is distorted or damaged, or if the threads are stripped. Be sure the holes in the side of the lower flange of the nozzle are clean and undamaged.
- (7) **Choke linkage** - Discard and replace the choke lever and swivel assembly if there are stripped threads in the swivel or if it is no longer securely riveted to the lever.
- (8) **Springs and retainers** - Discard and replace if distorted or broken.
- (9) **Screws, lockwashers, and nuts** - Discard and replace if stripped threads, bending, or other damage is noted.
- (10) **Throttle shaft ball bearings** - (T-847-HGC only) - Check both throttle shaft ball bearings carefully and discard the part if there is evidence of flat spots on the balls or other wear or damage to the bearing. Be sure that the bearing spins freely and that no dirt, filings, or other abrasive matter is lodged between the balls.
- (3) Fit the pump operating lever over the end of the throttle shaft, and secure it with the nut and lockwasher.
- (4) Turn the throttle lever to the wide open position, moving the slot in the shaft to a vertical position. Slide the throttle plate into the slot in the shaft from the top of the throttle bore. The sharper corner of the lower leveled edge of the throttle plate should be nearest the side of the throttle bore which contains the idle discharge holes. Align the scribe mark placed on the throttle plate during disassembly with the edge of the throttle shaft. Install the two throttle plate screws snugly, but do not tighten them. Move the throttle lever from the full closed to the wide open position. If the throttle plate moves freely throughout its range of travel, tighten the throttle plate screws and stake them to prevent loosening, using Manzel Tool No. 9586. If the throttle plate binds when it is moved, tap the throttle body casting with a fiber mallet, then recheck.

## 5. REBUILDING

### a. Reassembly - throttle body assembly.

- (1) Install the fast idle lever on the throttle body with the lever arm side against the throttle body. Install the cotter pin which holds the fast idle lever in place.
- (2) Install the throttle stop screw and spring in the throttle lever and slide the throttle shaft into position from the side where the fast idle cam is located.

- (5) Install the idle adjusting needle and spring. Turn the needle in gently with the fingers until it seats, then back it off exactly three-quarters of a turn. Be careful not to force the needle against its seat, as this will groove the tip of the needle, making it impossible to correctly adjust the idle mixture.

### b. Reassembly - Main Body Assembly

- (1) Place the gasket on the power valve and install the power valve, tightening securely to prevent leakage past the gasket.

- (2) Install the main jet, using Manzel Tool No. 9533.
- (3) Place the pump discharge needle, pointed end down, in its chamber. Place a small brass rod on the head of the needle and tap it very gently two or three times with a small fiber mallet to insure proper seating of the valve. Very gentle taps must be used to prevent damage to the tip of the needle or its seat. Be sure the valve moves freely in its chamber, then install the snap ring retainer (if one is used in the particular carburetor you are rebuilding.)

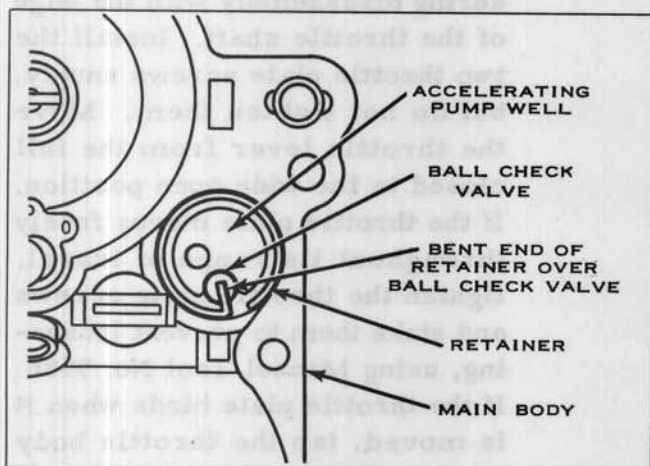


FIGURE 29 — INSTALLATION BALL CHECK VALVE

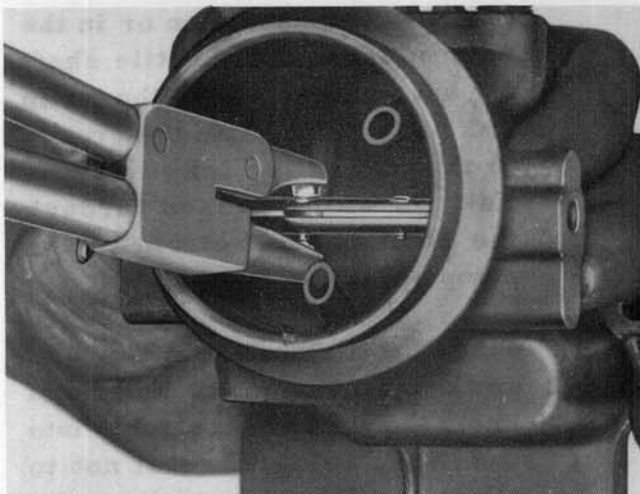
- (4) Drop the pump ball check valve into the larger hole in the bottom of the pump well, then place a small brass rod on the ball and tap gently with a fiber mallet to insure proper seating of the ball check valve. Be sure the ball moves freely in its chamber, then install the pump ball check valve retainer. Be sure that the retainer is pressed to the bottom of the pump well and that the bent-in prong extends over the ball check valve, holding it in place.

- (5) Place the gasket on the nozzle bar air bleed plug and install the plug in the nozzle bar, tightening securely to prevent leakage. Install the idle tube (and slip the nozzle bar screen over the tip of the idle tube and into the recess in the nozzle bar, if a nozzle bar screen is used in the carburetor you are rebuilding). Place the two neoprene nozzle bar gaskets in position on the main body, then set the nozzle bar in place, being careful not to damage the idle tube on the edge of the main well. Install the two nozzle bar clamps, screws, and lockwashers.

- (6) Place the pump spring on the pump piston stem. Compress the pump spring and place the pump spring washer, pointed corners down, on the pump piston stem. Keeping the spring compressed, slide the arm of the pump operating rod into the slot in the stem, fitting it into the two notches in the pump spring washer. Slide the accelerating pump assembly into place in the main body. Do not allow the pump piston leather to catch and be curled back on the edge of the pump well.

### c. Reassembly - Air Horn Assembly

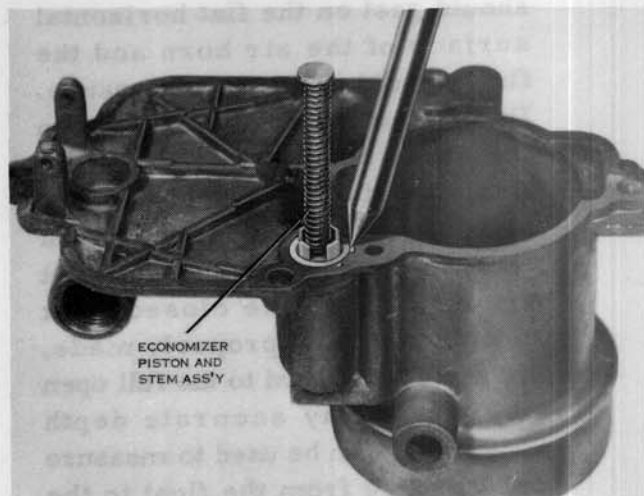
- (1) Place the choke lever spring, short end first, on the choke shaft, and insert the choke shaft in the air horn. Turn the choke shaft so that the slot in the shaft is in a vertical position with the choke shaft lever pointing slightly downward and away from the fuel line connection on the air horn. Slide the choke plate into position through the bottom



**FIGURE 30 — STAKING CHOKE PLATE SCREWS**

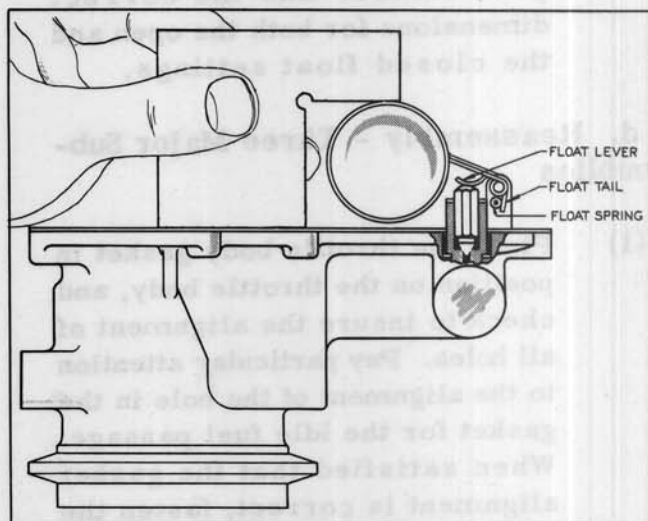
of the air horn. The poppet valve spring on the choke plate should be toward the fuel line connection. Install the two choke plate screws snugly but do not tighten. Move the choke shaft lever from the wide open position to the full closed position. If the choke plate moves freely, tighten the two choke plate screws and stake them to prevent loosening, using Manzel Tool No. 9586. If binding is noted, tap the air horn a few times with a fiber mallet, and recheck.

- (2) Place the hook at the long end of the choke lever spring over the boss on the air horn. Draw the short end of the spring around in a clockwise direction and hook it under the choke shaft lever so that the spring closes the choke plate. Place the choke lever plunger and spring into the hole provided for them in the air horn. Set the choke lever in place and install the choke lever screw and washer. The small tab on the choke shaft lever should fit between the edges of the "V" shaped notch at the top of the choke lever.



**FIGURE 31 — STAKING ECONOMIZER PISTON & STEM ASSEMBLY**

- (3) Install the economizer piston and stem assembly, and stake in place.
- (4) Install the fuel inlet needle, seat, and gasket assembly, tightening the seat securely to prevent leakage past the gasket.



**FIGURE 32 — CHECKING FLOAT LEVEL**

- (5) Keeping the air horn in an inverted position to prevent the fuel inlet needle from dropping out, install the float and lever assembly and the float shaft. With the air horn inverted, the float will drop to the closed position. Place the float gauge as shown in figure 33. The gauge



should rest on the flat horizontal surface of the air horn and the float should just touch the gauge. Do not use the soldered seam on the float to gauge the setting. Adjustment should be made only by bending the rounded tab which contacts the head of the fuel inlet needle. When the closed float setting has been properly made, lift the float upward to the full open position. Any accurate depth gauge may then be used to measure the distance from the float to the air horn. Adjust by bending the small tab on the float lever which contacts the side of the fuel inlet needle seat to limit the travel of the floats.

**NOTE:** Consult current Holley specifications for the proper float gauge part number and the correct dimensions for both the open and the closed float settings.

#### d. Reassembly - Three Major Sub-assemblies

- (1) Place the throttle body gasket in position on the throttle body, and check to insure the alignment of all holes. Pay particular attention to the alignment of the hole in the gasket for the idle fuel passage. When satisfied that the gasket alignment is correct, fasten the main body assembly to the throttle body assembly, using the two throttle body to main body screws and lockwashers.
- (2) Install the pump link, placing the shorter pin of the pump link in the center hole of the pump operating lever for average climatic conditions, in the hole farthest from the throttle shaft for extreme

cold weather operation or in the hole nearest the throttle shaft for hot weather. Snap the pump link pin retainer into the groove in the end of the longer pump link pin which passes through the hole at the bottom of the pump operating rod.

- (3) Place the air horn to main body gasket on the main body and lower the air horn assembly into position, being careful not to allow the float to catch on the main body while doing so. If the float is bumped or disturbed in any way during assembly of these two units, the float setting may be upset. Install the five air horn to main body screws and lockwashers, fastening the choke wire bracket assembly in position with the screw located above the throttle lever and securing the identification tag to the carburetor with the screw just to the left of the choke lever.
- (4) Fasten the fast idle rod to the choke shaft lever and the fast idle lever by placing the rod end clips, one at a time, in position over each lever, inserting the end of the rod through the holes in the lever and rod end clip, and snapping the other end of the clip over the rod. The fast idle rod should be installed with the short bent portion uppermost. Move the choke lever to open and close the choke plate, checking to be sure the fast idle rod has sufficient clearance to permit free operation.

This completes the reassembly of carburetors of the 847-F and 847-FS series. The procedure for reassembly of T-847-HGC carburetors is similar to the reassembly procedure for the 847-F and 847-FS series

with the addition of the reassembly and installation of the governor unit on the throttle body.

### CARBURETOR MODEL T-847-HGC

#### e. Reassembly - Throttle Body and Governor Assembly

(1) Lubricate both throttle shaft ball bearings with light engine oil and slide the throttle shaft and bearing assembly into position in the throttle body. Install the throttle shaft bearing retainer with the curved portions inward, pressing against the flange of the bearing. Slide the separate throttle shaft bearing into position in the throttle body.

(2) Turn the throttle shaft so that the countersunk holes in the shaft for the throttle plate screw heads face the idle discharge hole in the throttle bore. Slide the throttle plate into the slot in the throttle shaft from the top of the throttle bore. The sharper corner of the lower beveled edge of the throttle plate should be nearest the side of the throttle bore which contains the idle discharge holes. Align the scribe mark placed on the throttle plate during disassembly with the edge of the throttle shaft. Install the two throttle plate screws snugly, but do not tighten them. Turn the end of the throttle shaft to move the throttle plate from the wide open to the full closed position. If the throttle plate moves freely, tighten the throttle plate screws and stake them to prevent loosening, using Manzel Tool No. 9586. If the throttle plate binds, tap the throttle body with a fiber mallet, then recheck.

(3) Install the two governor by-pass jets in the governor housing. The proper location of the two by-pass jets should have been noted during disassembly. Current carburetor specifications will indicate the correct diameter of the drilled passage through both jets. Proper location for each jet is also provided by the raised letters "A" and "B" on the governor housing adjacent to the hole for each jet.

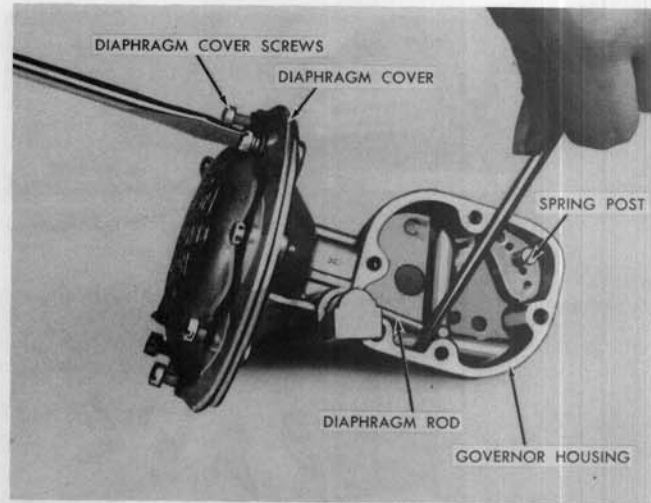


FIGURE 33 — REASSEMBLY GOVERNOR COVERPLATE & DIAPHRAGM

(4) Install the diaphragm and rod assembly in the governor housing with the bent end of the rod pointing directly out and away from the interior of the housing. As a positive check to insure correct positioning of the diaphragm, be sure all holes in the diaphragm (including the vacuum passage hole) are aligned with the corresponding holes in the rim of the governor housing. Place the diaphragm cover in position, being sure the vacuum passages in the housing and the diaphragm cover are aligned. Install the eight diaphragm cover screws and lockwashers, evenly spacing the three screws drilled for

safety wiring. Turn in all screws enough to bring the flanges lightly together--do not tighten them. Pull the end of the diaphragm rod back to a position just above the raised vacuum passage in the governor housing which connects the two by-pass jets. Tighten at least the three screws drilled for safety wiring before releasing the rod. Then tighten the remaining screws and install the safety wire and lead seal.

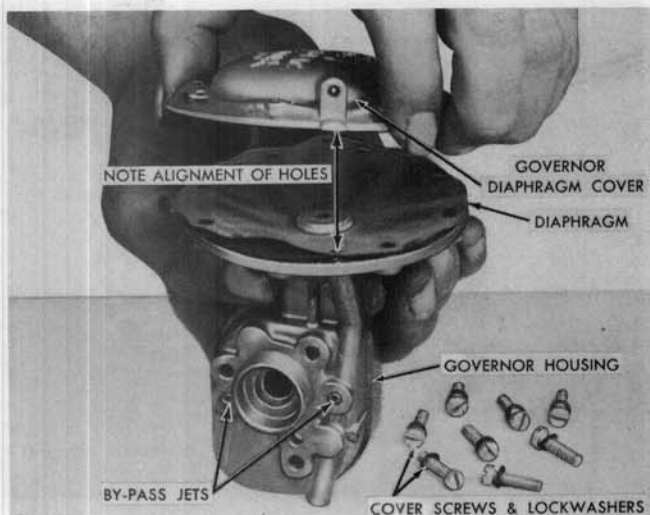


FIGURE 34 — TIGHTENING GOVERNOR COVER PLATE SCREWS

- (5) Slide the leather throttle shaft seal, flat side out, into the recess in the back of the governor housing and place the retainer (flat steel washer) on top of it. Set the seal retainer spring on the throttle shaft and place the governor to throttle body gasket in position. Slide the governor housing in place over the throttle shaft. Check to be sure the gasket is properly aligned, then install the three governor to throttle body screws and lockwashers.
- (6) Place the governor lever on the end of the throttle shaft, working

the end of the diaphragm rod into the hole in the lever at the same time. Fasten the cotter key through the hole at the end of the rod. Install the nut and lockwasher on the end of the throttle shaft, using a 5/16" socket wrench and tightening firmly but not excessively, as there is danger of stripping threads on the throttle shaft.

- (7) Place the governor spring in position on the throttle lever spring pin and slip the other end of the spring into the groove in the stationary pin in the governor housing. Current carburetor specifications indicate the correct location of this pin. Normally, it should not be disturbed in any way during overhaul.
- (8) Fasten the governor cover and its gasket to the governor housing with the four governor cover screws and lockwashers and install the safety wire and lead seal.
- (9) Slide the throttle operating shaft into its housing. Place the choke kicker bracket in position on the housing and slide the two screws and lockwashers in place. Fit the throttle bearing cover gasket over the tip of the two screws, then start the two screws into the throttle body just enough to hold the housing loosely in place. Hold the throttle plate in the full open position and, with the pump operating lever on the throttle operating shaft in the down position, press the housing against the throttle body to engage the clutch mechanism. Tighten the two screws. When the pump operating lever is moved up, the clutch mechanism should close the throttle plate.

- (10) Install the throttle stop screw and spring in the throttle operating shaft housing. Install the idle adjusting needle and spring. Turn the needle in gently with the fingers until it seats, then back it off exactly three-quarters of a turn. Do not force the needle against the seat, as this will damage the tip of the needle and make it impossible to correctly set the idle mixture.

#### f. Reassembly - Main Body Assembly

The procedure for reassembly of the main body assembly of the T-847-HGC carburetor is similar to that given for the 847-F and 847-FS series. Follow the procedure outlined in section "b" beginning on page 19 with the following additions.

- (1) The first step in the reassembly of the main body assembly is the installation of the pump operating rod felt and retainer. After setting these two parts in position in the lower end of the hole for the pump operating rod in the main body, stake the retainer in place with Holley Tool No. 82R-11.
- (2) To install the pump discharge valve retainer, place the retainer disc, with the bulge up, in position. Place a brass rod on the center of the retainer and tap sharply, flattening the retainer and locking it in place.
- (3) After installation of the accelerating pump assembly, install the pump operating rod stud at the lower end of the pump operating rod.
- (4) To complete the reassembly of the main body assembly, install the distributor vacuum line fitting.

#### g. Reassembly - Air Horn Assembly

The procedure for reassembly of the air horn assembly of the T-847-HGC carburetor is similar to that given for the 847-F and 847-FS series. Follow the applicable portions of the procedure outlined in section "c" beginning on page 20 with the following additions.

- (1) Before installing the float and lever assembly, install the float spring and its two retainers. When properly installed, the float spring should be between the fuel inlet needle seat and the long vertical tab on the float lever.

**NOTE:** When gauging the float setting on the T-847-HGC carburetor only, place the gauge so that it contacts the soldered seam on the float, since measurements for this carburetor are made from this point.

- (2) Install governor line fitting.

#### h. Reassembly - Three Major Sub-assemblies

- (1) Place the main body to throttle body gasket on the throttle body. Set the main body assembly in position and install the two main body to throttle body screws and lockwashers. Safety wire the two screws.
- (2) Place the air horn to main body gasket on the main body and lower the air horn assembly into position on the remainder of the carburetor. Do not allow the float to catch against the sides of float chamber when installing the air horn assembly. If the float is bumped or otherwise disturbed, the float adjustments may be upset. Install the five air horn to main body

screws and lockwashers, fastening the spring clip under the screw and lockwasher nearest the choke shaft lever and securing the identification tag under the screw and lockwasher above the governor housing. Safety wire the five screws.

- (3) Install the pump link, placing the pin in the center hole in the pump operating lever for average climatic conditions, in the hole farthest from the shaft for extreme cold weather operation, or in the hole nearest the shaft for hot weather. Install the pump link cotter in the end of the pump operating rod stud, thus securing the pump link.
- (4) Install the choke kicker strap, fastening it at the choke kicker bracket on the throttle operating shaft housing with one of the choke kicker studs. Place the other stud through the top of the choke kicker strap, then set the lockwasher on the stud and screw the stud into the threaded hole in the boss on the air horn. Install the choke kicker spring to the spring clip and the choke kicker strap.

## D. INSTALLATION

### 1. PREPARATION

a. Before installing a carburetor which has been in storage, make a visual inspection of its exterior to be sure the unit has not been accidentally damaged due to improper storage or mishandling. Be sure the idle adjusting needle is set at three-quarters of a turn off its seat. Holding the choke lever in the wide open position, set the throttle stop screw in the throttle lever to a position

where the tip of the screw just touches the fast idle lever, then turn the screw in half a turn more.

b. On the governor equipped carburetor, the throttle stop screw is located at the side of the throttle operating shaft housing. Back the screw off until the throttle plate will close completely. Loosen the throttle lever clamp screw sufficiently to allow the throttle lever to be turned independently of the shaft. Do not loosen the clamp screw excessively - a slight slippage is all that is required.

### 2. INSTALLATION

a. Be sure the carburetor mating surface of the intake manifold is clean. Place a new carburetor flange gasket on the manifold and install the carburetor. Draw the two nuts down evenly, turning first one, then the other, a little at a time until the flange gasket has been compressed and the nuts are tight.

b. 847-F and 847-FS carburetors. Connect the fuel line, throttle and choke linkages, and the distributor vacuum line, if one is used. Check to be sure the choke plate is fully open when the choke control knob is pushed in, then install the air cleaner.

c. T-847-HGC carburetors. Connect the fuel line, the two governor air lines, and the distributor vacuum line. Connect the throttle linkage. Hold the throttle plate completely closed by raising the pump operating lever to the top limit of its travel. Press the throttle rod to insure that the accelerator pedal is fully up, then tighten the throttle lever clamp screw. Turn the throttle stop screw (idle speed screw) in one turn to provide a preliminary idle speed setting. Fasten the choke rod to the lever on the automatic choke mechanism and to the choke shaft lever on the carburetor, using the two rod end clips. Loosen the clamp screw in the lever on the automatic choke mechanism. Insert a length of no. 30 drill rod in the hole at the

other end of the shaft on which the lever is mounted. Slide the drill rod straight down and place its lower end in the slot in the base of the choke mechanism. Holding the carburetor choke plate in the full closed position, tighten the clamp screw in the choke operating lever, then remove the drill rod. Connect the air cleaner hose to the carburetor.

### 3. ADJUSTMENTS

a. Start and warm up the engine. When the engine reaches its normal operating temperature, adjust the throttle stop screw to idle the engine at the rpm specified by the engine manufacturer. Turn the idle adjusting needle in (clockwise) until engine speed begins to drop. Then turn the needle out (counterclockwise) until engine speed again begins to drop, counting the turns. Set the needle halfway between these two

points to provide a satisfactory idle mixture. If this adjustment results in an increase in the idle rpm great enough to require resetting the throttle stop screw, the idle adjusting needle should also be reset.

b. For governor adjustments on the T-847-HGC carburetor, refer to the current Holley Centri-Vac Model 1174 Governor Manual.

**NOTE:** The accelerating pump stroke can be adjusted for seasonal or climatic changes by changing the position of the pump link pin in the pump operating lever. The hole in the lever farthest from the throttle shaft is for extreme cold weather operation, the hole nearest the shaft is for hot weather, and the center hole is an average setting.