

HOLLEY MODEL 2245 2-BARREL

CARBURETOR APPLICATION

INTERNATIONAL HARVESTER

Application	IHC Carb. No.
304" V8	1700002-C91

CARBURETOR IDENTIFICATION

Identification numbers for this carburetor are stamped in the side of the float bowl below bowl vent.

DESCRIPTION

The Holley model 2245 is a dual venturi 2-barrel carburetor. The 2245 uses a graduating power valve instead of a single stage or 2-stage power valve. This carburetor utilizes 5 basic fuel metering systems. Two in the idle area; the Idle Enrichment system, which provides an enriched mixture for short periods after cold starts, and the basic Idle (Low Speed) system. Accelerator pump system provides a lean mixture for best overall economy. The Power Enrichment (Modulated Power Valve) system provides a richer mixture than required during high speed when the engine is at cruising speed. Added fuel for this operation is supplied by a vacuum modulated power valve. Power valve operation is accomplished by a small hole drilled through the throttle shaft that lines up with the port in the base of the carburetor when the throttle valve is opened to a 60° angle. This vents the piston chamber allowing the piston to open the power valve.

In addition to these systems, the Fuel Inlet system consists of a "Viton" tipped fuel inlet needle and a nitrophyl float (one which cannot collapse or leak). The fuel inlet system must constantly maintain the correct level of fuel in the fuel bowl as the basic fuel metering system is calibrated to deliver the proper mixture only when the fuel is at this level. The carburetor uses an automatic choke (vacuum kick) that is assisted by an electric heating element used to relax the bi-metal spring permitting the choke to open fully with the additional aid of the choke diaphragm to prevent over choking when the engine is being cranked.

All vehicles with EGR will have an additional vacuum port in the side of the carburetor above the throttle valve.

ADJUSTMENTS

HOT (SLOW) IDLE RPM

See appropriate article in TUNE-UP SERVICE PROCEDURES.

COLD (FAST) IDLE RPM

See appropriate article in TUNE-UP SERVICE PROCEDURES.

IDLE MIXTURE

See appropriate article in TUNE-UP SERVICE PROCEDURES.

VACUUM THROTTLE POSITIONER

See appropriate article in TUNE-UP SERVICE PROCEDURES.

FLOAT LEVEL

NOTE — Do not force needle against its seat as damage to needle will occur.

1) With the air horn removed, turn upside down so that only the weight of the float is pressing fuel inlet needle against needle seat. See Fig. 1.

2) Measure specified clearance between top of float and float stop using specified drill or pin gauge. Make sure drill or pin gauge is level when measurement is made.

3) To adjust, bend float adjusting tab toward or away from needle. A narrow bladed screwdriver will be suitable. Do not apply any pressure to needle itself. Recheck clearance.

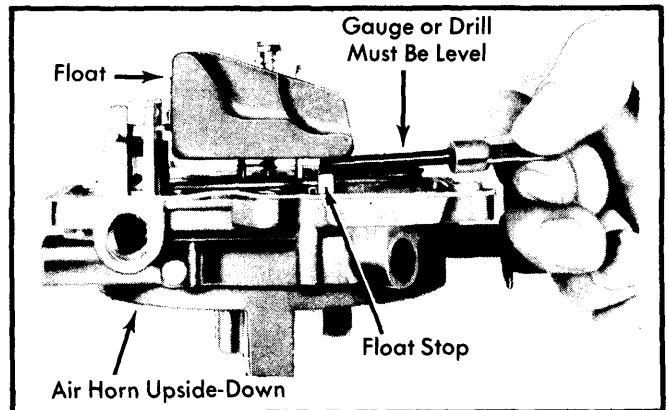


Fig. 1 Adjusting Float Level

FLOAT DROP

1) With air horn removed and in an upright position, let float hang by its own weight. See Fig. 2.

2) Bottom edge of float should be parallel with bottom edge of air horn. If not, bend tang on float arm to adjust.

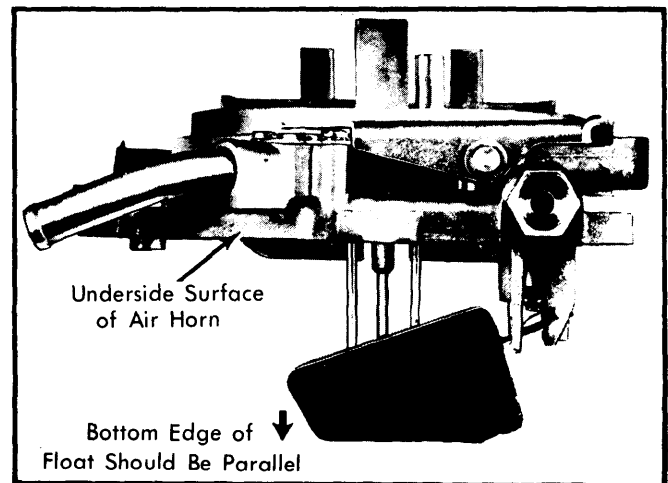


Fig. 2 Adjusting Float Drop

HOLLEY MODEL 2245 2-BARREL (Cont.)

ACCELERATOR PUMP STROKE

- 1) Close throttle valves completely by backing off curb idle screw and moving fast idle cam to off choke position. Put pump connector rod in number 2 slot of accelerator pump arm. See Fig. 3.
- 2) Measure travel that accelerator pump plunger moves when opening throttle from curb idle to wide-open position.
- 3) If pump travel is not within specifications, bend pump operating rod until pump travel is correct. See Fig. 3.

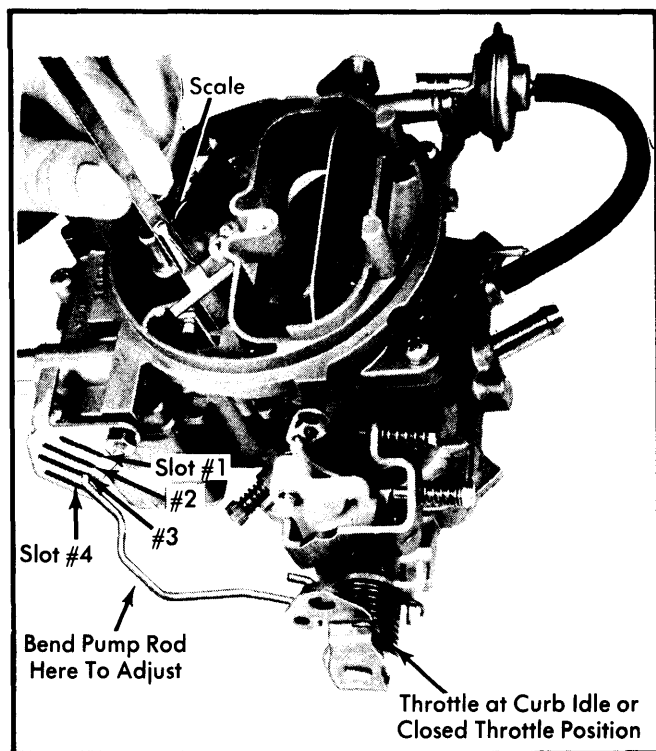


Fig. 3 Adjusting Accelerator Pump Stroke

FAST IDLE CAM POSITION

- 1) Place fast idle speed adjusting screw on second highest step of fast idle cam. Press lightly on choke shaft lever to move choke valve to closed position. See Fig. 4.
- 2) Measure specified clearance between top of choke valve and air horn wall. Measurement can be made using specified drill or pin gauge. Slight drag should be felt as drill or pin gauge is removed.
- 3) To adjust, bend fast idle connector rod.

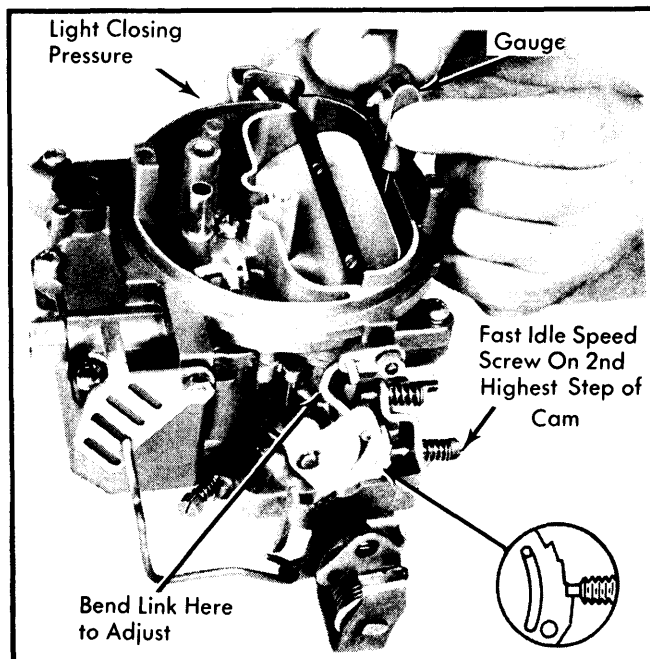


Fig. 4 Adjusting Fast Idle Cam Position

CHOKE VACUUM KICK

- 1) Open throttle valve and close choke. Release throttle to hold fast idle cam in fast idle position. See Fig. 5.
- 2) Disconnect vacuum hose from choke diaphragm. Apply an outside vacuum source of at least 15 in. Hg to choke diaphragm.
- 3) Measure specified clearance between upper edge of choke valve and air horn wall. Clearance can be checked using a specified drill or pin gauge.
- 4) To adjust, bend linkage at "U" shaped area. Take care not to damage diaphragm by bending or twisting.
- 5) Check all linkage for freedom of movement making sure there is no binding or interference. Reinstall vacuum hose on diaphragm.

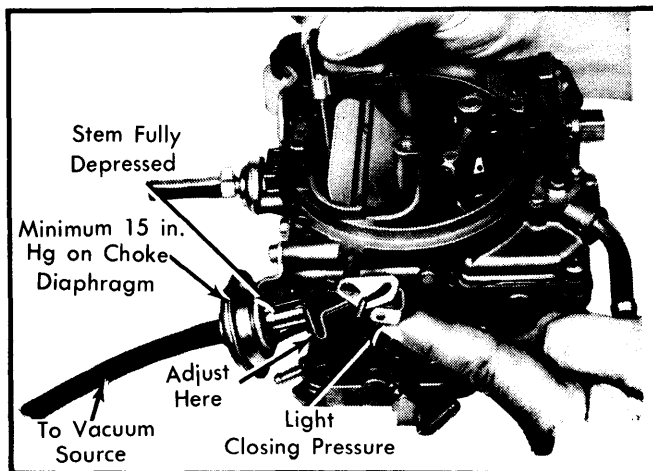


Fig. 5 Adjusting Vacuum Kick

HOLLEY MODEL 2245 2-BARREL (Cont.)

CHOKE UNLOADER (WIDE OPEN KICK)

- 1) Hold throttle valves wide open. Measure specified clearance between upper edge of choke valve and air horn wall. Clearance can be checked using specified drill or pin gauge. See Fig. 6.
- 2) Apply light closing pressure against choke lever. A slight drag should be felt as drill or pin gauge is removed.
- 3) To adjust, bend unloader tang on throttle lever until proper clearance is obtained.

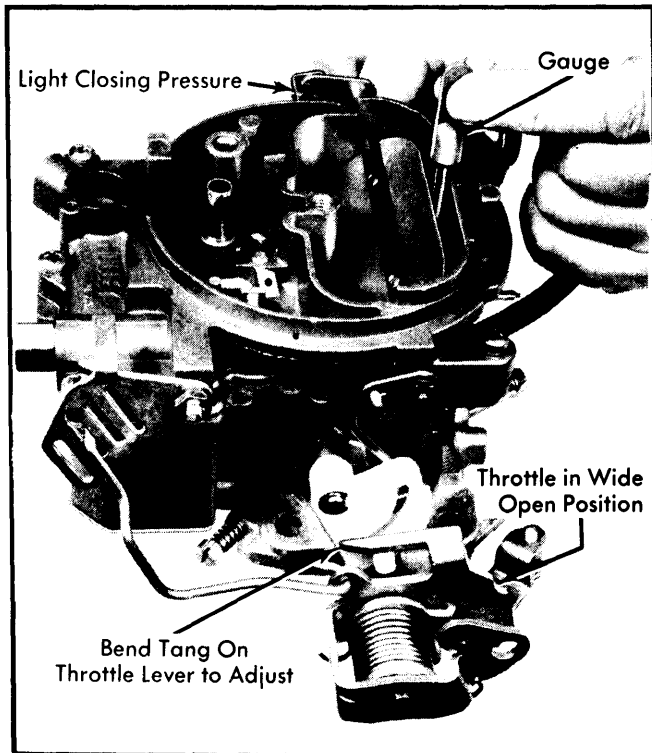


Fig. 6 Adjusting Choke Unloader

OVERHAUL

DISASSEMBLY

NOTE — Air cleaner bolt is threaded through air horn cover into main body of carburetor.

- 1) Place carburetor on a suitable repair stand to prevent damage to throttle valves.
- 2) Remove idle enrichment diaphragm. Remove nut and washer attaching accelerator pump rocker arm to pump shaft.
- 3) Remove arm from flats on pump shaft, then disengage accelerator pump rod from slot in arm and from hole in throttle lever.
- 4) Remove nut and washer attaching choke lever to choke shaft. Disengage fast idle connector rod from lever and fast idle cam.
- 5) Remove vacuum diaphragm hose from throttle body fitting. Detach choke diaphragm and mounting bracket screws from air horn.

6) Remove choke diaphragm and at the same time, disengage choke operating link from slot in choke operating lever. Place choke unit to one side to be cleaned as a special item.

7) Remove 8 air horn attaching screws, and lift air horn straight up and away from main body. Use extreme care to avoid damaging main well tubes during removal.

8) Detach accelerator pump plunger from pump shaft by pushing up on bottom of plunger, then tilting slightly toward center, then pushing plunger off pump shaft. Slide plunger stem out of air horn and remove washer and compression spring.

9) Withdraw accelerator pump shaft from air horn. Remove fuel inlet fitting and gasket from air horn. With air horn inverted, remove screw attaching fuel baffle to air horn.

10) Slide nylon float fulcrum pin out of air horn, then remove float. Invert air horn and drop out fuel inlet needle. Using a wide blade screwdriver, remove fuel inlet needle valve, seat and gasket. Remove and discard air horn gasket.

11) The power piston assembly retaining ring is staked in position and care must be taken at its removal. Remove staking with a suitably sharp tool then remove vacuum piston from bowl cover by depressing the piston and allowing it to snap up against the retaining ring.

12) DO NOT attempt to remove main well tubes from air horn. They are press fit into the casting and will be damaged if removed. They can be cleaned in solvent and blown dry with compressed air.

13) Remove bowl vent valve cover attaching screws. Lift off cover and take out vent valve, spring and seal. Remove seal from bottom of valve.

14) Using suitable tool (C-3748 or equivalent), remove main metering jets. Remove power valve assembly. Turn main body upside-down and catch accelerator pump discharge needle as it falls out.

15) Remove throttle body to main body screws and separate units. Remove "E" clip and fast idle cam.

16) Turn idle limiter caps to stop (top on throttle side and bottom on choke side). Remove limiter caps. Turn idle screws to stop, counting number of turns it takes to seat screws to ease reassembly adjustment. Remove screws and springs from throttle body.

CLEANING & INSPECTION

- Use a regular carburetor cleaning solution. Soak components long enough to thoroughly clean all surfaces and passages of foreign matter.
- Do not soak any components containing rubber, leather or plastic.
- Remove any residue after cleaning by rinsing components in a suitable solvent.
- Blow out all passages with dry compressed air.

1980 Holley Carburetors

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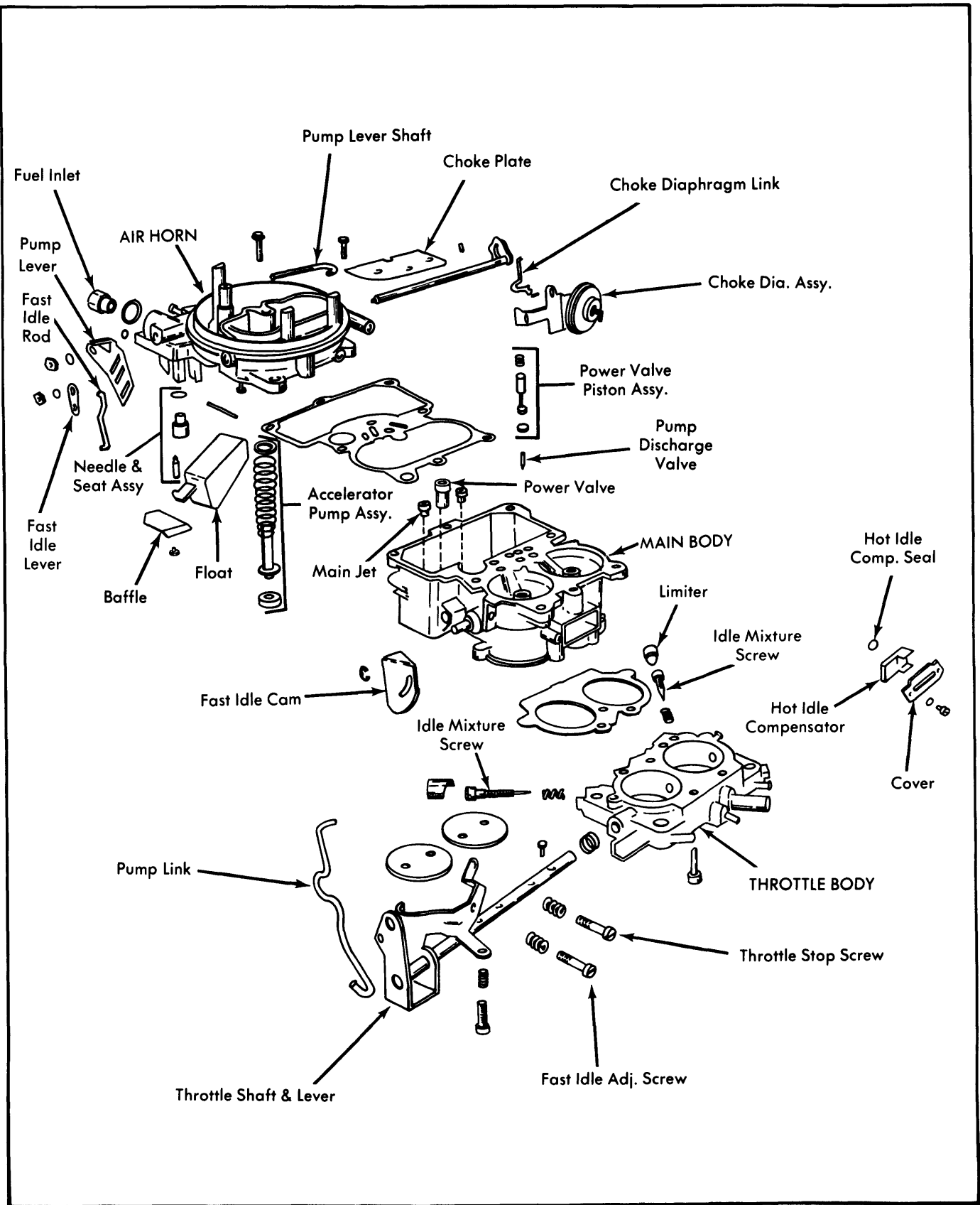


Fig. 7 Exploded View of Holley Model 2245 2-Barrel Carburetor

HOLLEY MODEL 2245 2-BARREL (Cont.)

REASSEMBLY

Using all new gaskets, reverse disassembly procedures while noting the following:

Idle Mixture Screw & Limiter Cap Installation – Check tapered portion of screws to see if they are grooved or ridged. Replace as required. Install idle mixture screws and springs in body. Turn screws lightly against their seats with fingers. DO NOT use a screwdriver for installation. Back off number of turns counted at disassembly and install new plastic caps with tab against stop.

Accelerator Pump Assembly – Check operation as follows; Pour gasoline into carburetor bowl (1 inch deep). Slide accelerator pump into cylinder, operate plunger several times to fill cylinder and expel all air. Use a small brass rod and hold discharge check needle down on its seat. Raise plunger and press downward. No fuel should escape from pump discharge passage. If fuel does escape from discharge passage, check needle seat to see if damaged or dirty. Clean passage and retest again. If leakage is still present, attempt to form a new

seat. To form a new seat, install discharge check needle and place a piece of drill rod on top of needle. Lightly tap drill rod with a hammer to form a new seat. Remove and discard needle and install new one. Retest as described above. If repair does not correct the problem, replace carburetor.

Choke Mechanism – Test freeness of choke mechanism in air horn. Choke shaft must move freely.

Vacuum Power Piston – Install vacuum power piston in its cylinder, place retaining washer over piston stem and carefully seat in place using suitable tool (C-4206 or equivalent). Lock in position by carefully staking rim of cylinder in 3 places. Compress piston to make sure no binding exists.

Choke Vacuum Diaphragm – Test vacuum diaphragm before installing air horn. Depress the diaphragm stem, then place finger over the fitting to seal opening. Release stem. If the stem moves more than $\frac{1}{16}$ " in 10 seconds, replace diaphragm.

CARBURETOR ADJUSTMENT SPECIFICATIONS							
Application	Float Level Setting	Float Drop Setting	Accelerator Pump		Fast Idle Cam Setting	Choke Vacuum Kick Setting	Choke Unloader Setting
			Slot Setting	Stroke Setting			
1700002-C91	.200"	Parallel	No. 2	.700"	.112"	.120"	.230"