CARTER BBD 2-BARREL

CARBURETOR APPLICATION

JEEP

Application	Jeep Code. No. Man. Trans.	Auto Trans.
258" 6 Cyl.		
Federal	8255, 8257	8255, 8256
California	8254	8253
Hilly Terrain	8277	.....

CARBURETOR IDENTIFICATION

Carter carburetor number is stamped on a tag attached to carburetor by one air horn screw.

DESCRIPTION

The Carter carburetor model BBD is a 2-barrel downdraft type. The carburetor incorporates three basic metering systems: The Float (Fuel Inlet) system; Idle (Low Speed) system; and the Main (High Speed) system. Accelerator pump system provides additional fuel for acceleration. It is important that the fuel inlet system maintains the correct fuel level in the float bowl as the fuel metering system is calibrated to deliver the proper mixture only at this level.

In addition to the fuel systems, the carburetor uses an automatic choke and choke diaphragm which temporarily richens the mixture while starting, but also prevents overchoking. On all models, choke is assisted by an electric heating element. This provides for shorter choke duration during warm weather. Choke diaphragm prevents overchoking by opening choke valve when engine is being cranked.

ADJUSTMENTS

HOT (SLOW) IDLE RPM

See appropriate article in TUNE-UP SERVICE PROCEDURES.

IDLE MIXTURE

See appropriate article in TUNE-UP SERVICE PROCEDURES.

COLD (FAST) IDLE RPM

See appropriate article in TUNE-UP SERVICE PROCEDURES.

DASHPOT (MANUAL TRANS.)

See appropriate article in TUNE-UP SERVICE PROCEDURES.

VACUUM THROTTLE POSITIONER

See appropriate article in TUNE-UP SERVICE PROCEDURES.

FLOAT LEVEL (BENCH ADJUSTMENT)

1) Remove air horn. Hold float lip gently against needle. See *Fig. 1.*

2) Using straightedge, place across float bowl to measure float level. If adjustment is needed, release float and then bend float tip to obtain correct clearance.

CAUTION — *Do not bend lip while float is resting against needle to avoid damaging synthetic rubber tip.*

3) Reinstall air horn.

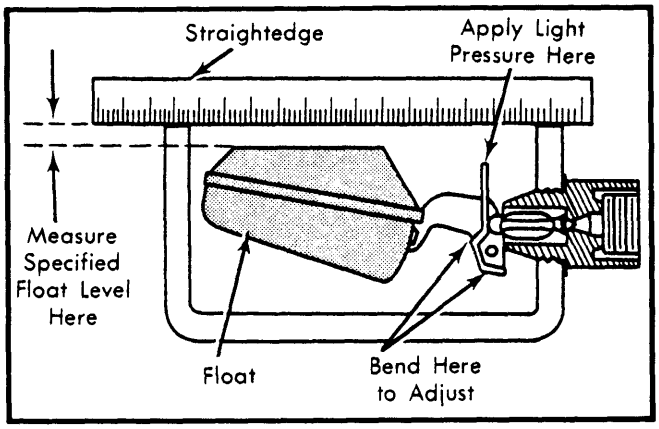

Fig. 1 Adjusting Float Level

VACUUM STEP-UP PISTON GAP QUALIFICATION

NOTE — *This adjustment is required if step-up piston is removed or if piston lifter position is changed on actuating rod. This adjustment positions piston in a centered position.*

1) Remove step-up piston cover plate and gasket. Remove lifter lock screw and remove piston. See *Fig. 2.*

2) Measure piston gap as shown in illustration. If not to specification, adjust Allen head screw on top of piston.

3) Turning screw clockwise makes mixture richer. Turning screw counterclockwise makes mixture leaner.

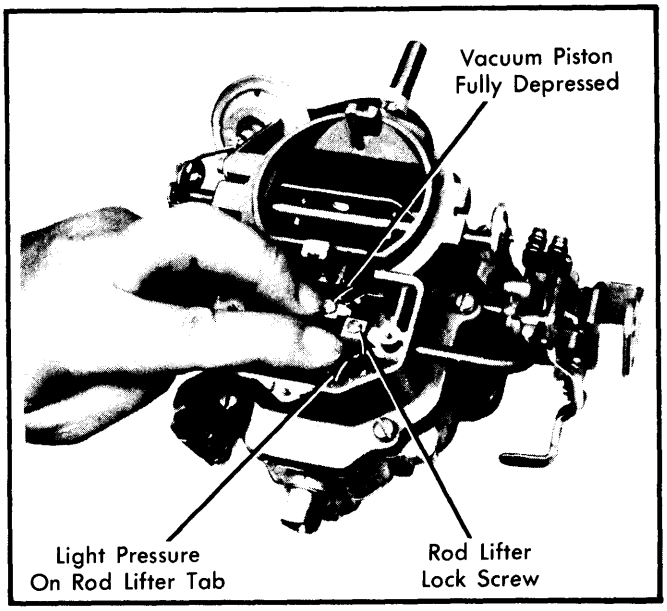

Fig. 2 Vacuum Step-Up Piston Gap Qualification

VACUUM STEP-UP PISTON

NOTE — *Perform Vacuum Step-Up Piston Gap Qualification adjustment first.*

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.) With vacuum piston installed, back off idle speed screw until throttle valves are closed. Count number of turns required to close throttle valves. Loosen lifter lock screw. See *Fig. 3*.

2) Turn adjusting screw to obtain .035" clearance. Readjust curb idle screw. Install cover plate and gasket.

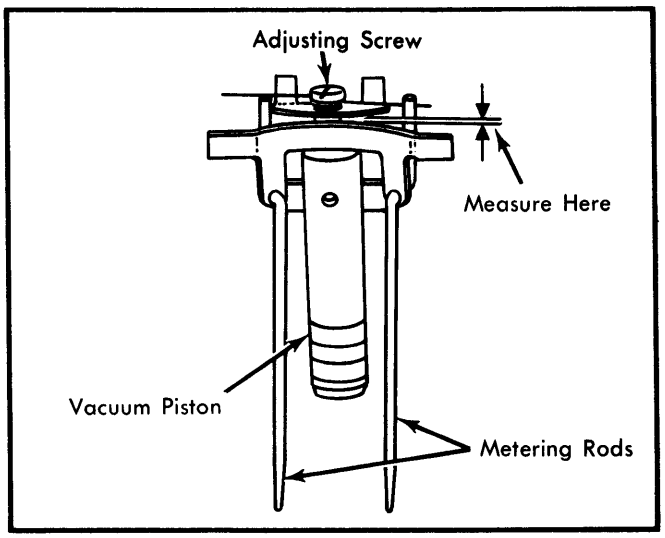

Fig. 3 Adjusting Step-Up Piston

ACCELERATOR PUMP STROKE ADJUSTMENT

1) Remove step-up piston cover plate and gasket. Back off curb idle screw to fully close throttle valves. Fast idle cam must be in open position. See *Fig. 4*.

2) Now turn curb idle screw until it just touches stop. Continue 2 more complete turns. Measure distance between surface of air horn and top of accelerator pump shaft.

3) If adjustment is needed, loosen pump arm adjusting lock screw and turn sleeve to adjust pump travel. When correct measurement is obtained, tighten lock screw. Install step-up piston cover plate and gasket.

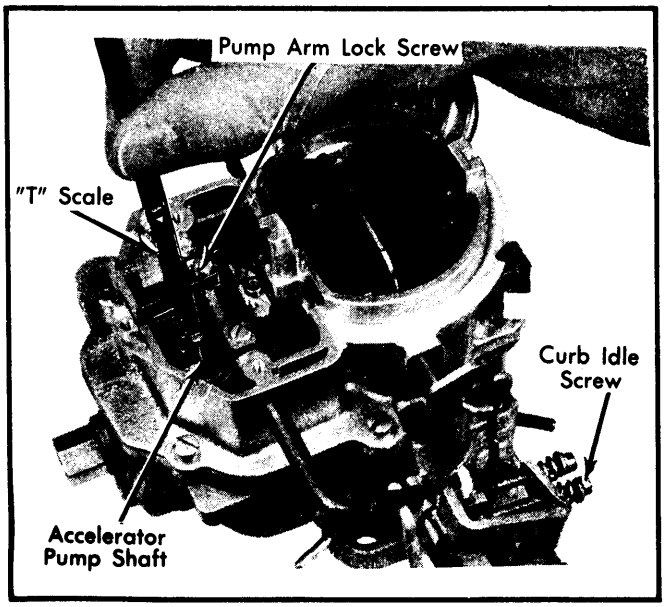

Fig. 4 Adjusting Accelerator Pump Stroke

FAST IDLE CAM POSITION

1) Loosen choke coil cover and rotate cover ¼ turn in rich direction. Tighten one retaining screw to hold choke coil cover in position. See *Fig. 5*.

2) Place fast idle adjusting screw on second step of fast idle cam. With specified drill or pin gauge, measure clearance between upper edge of choke valve and air horn wall.

3) Adjust by bending fast idle connecting rod down to increase measurement or up to decrease measurement. Loosen housing cover screw, reset choke to specified index and tighten all retaining screws.

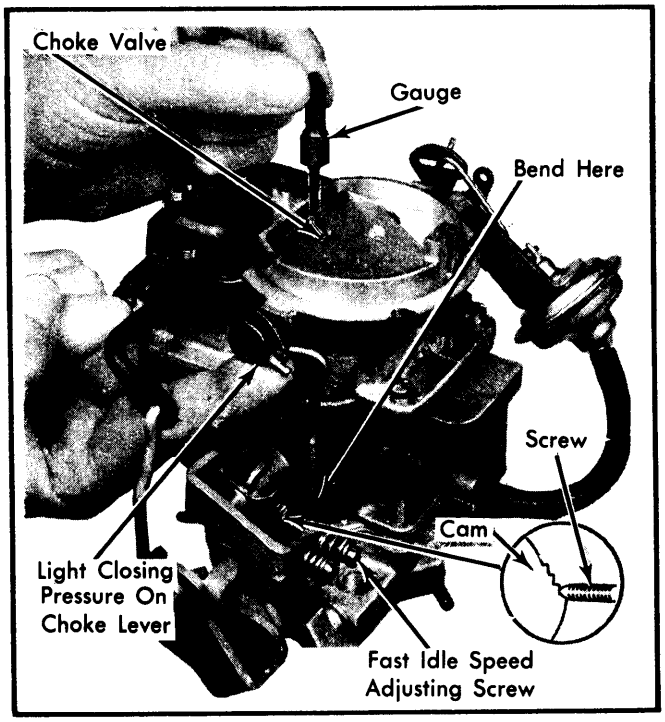

Fig. 5 Adjusting Fast Idle Cam Position

AUTOMATIC CHOKE

1) Loosen choke thermostat cover retaining screws.

2) Rotate cover in "Rich" or "Lean" direction to align reference mark on cover with specified scale graduation on choke housing. Tighten retaining screws.

VACUUM KICK (INITIAL CHOKE VALVE CLEARANCE)

1) Rotate choke coil cover ¼ turn in rich direction. Using an outside vacuum source, apply at least 19 in. Hg vacuum to diaphragm assembly on carburetor. See *Fig. 6*.

2) This vacuum level should pull diaphragm against its stop. Open throttle valve slightly and place fast idle screw on high step of fast idle cam.

3) Hold choke coil tang toward closed position. Measure clearance between choke valve and air horn wall at upper edge of choke valve. Use a drill bit or pin gauge of correct size for measurement.

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4) Adjust by bending "U" in open or closed direction until proper clearance is obtained. Use care not to apply twisting motion or force of any kind to diaphragm itself. Return choke cover to correct position.

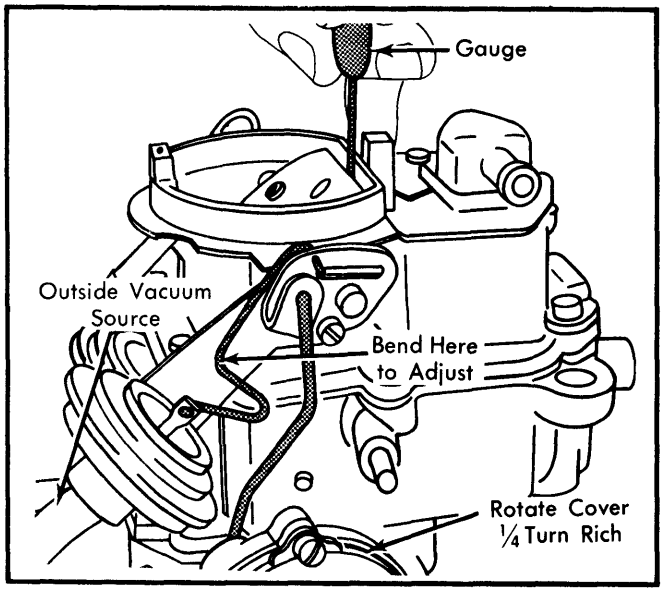

Fig. 6 Adjusting Choke Diaphragm (Initial Choke Valve Clearance)

CHOKE UNLOADER

1) Hold throttle valves wide open. Apply light closing pressure to choke valve lever. See *Fig. 7*.

2) Measure choke unloader specified clearance between upper edge of choke valve and air horn wall. Clearance can be checked using a specified drill or pin gauge.

3) To adjust, bend choke unloader tang. Make sure tang does not interfere with other components after it is adjusted.

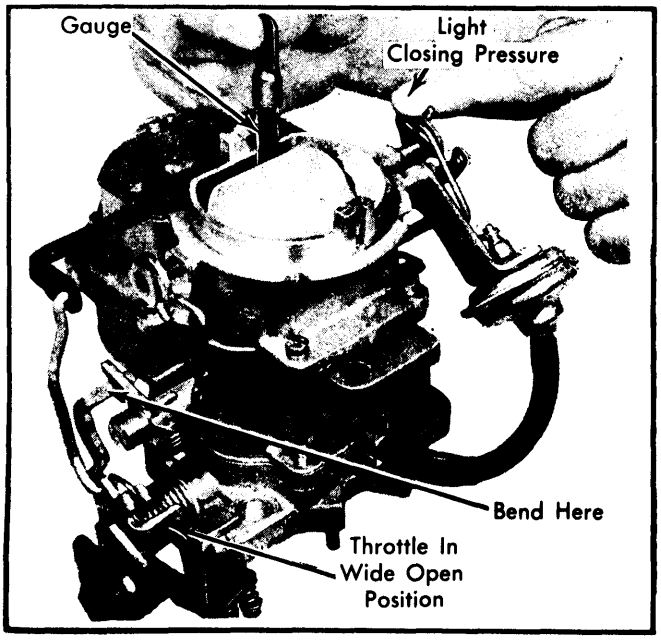

Fig. 7 Adjusting Choke Unloader

OVERHAUL

DISASSEMBLY

All Models – 1) Place carburetor on suitable repair stand. Remove (3) screws and remove idle enrichment vacuum diaphragm (if equipped). Remove retaining clip from accelerator pump arm link and remove link.

2) Remove cover plate from over step-up piston and remove gasket. Remove locks and screws from accelerator pump arm and vacuum piston rod lifter. Slide pump lever out of air horn.

3) Lift vacuum piston and step-up rods up and out of air horn as an assembly. Remove the vacuum piston spring. Remove choke vacuum diaphragm hose. Disconnect clips and remove link from choke housing lever and choke lever.

4) Remove screw and lever from choke shaft. Remove choke diaphragm, linkage and bracket assembly. Remove dashpot if equipped. Remove fast idle cam and linkage. On Jeep models, remove choke housing cover, retainers and screws, gasket, baffle and housing.

5) Remove screws securing air horn and lift air horn up and away from main body. Discard gasket. Turn air horn upside-down and compress accelerator pump drive spring. Remove "S" link from pump shaft. Remove pump assembly.

6) Remove fuel inlet needle valve, seat and gasket from main body. Carefully lift out float fulcrum pin retainer and baffle. Lift out floats and fulcrum pin. Remove the main metering jets.

7) Remove venturi cluster screws. Lift cluster and gaskets away from main body and discard gaskets. DO NOT remove idle orifice tubes or main vent tubes from cluster as they can be cleaned with solvent and dried with compressed air while assembled.

8) Turn carburetor upside-down and catch accelerator pump discharge and intake check balls as they fall out.

9) Turn idle limiter caps to stop. Remove plastic caps from idle air mixture screws. Be sure to count number of turns it takes to seat screws to ease reassembly adjustment. Remove screws and springs from throttle body.

10) Remove screws and separate throttle body from main body. Discard gasket. Check choke plate in air horn for freedom of movement. If any sticking or binding is evident, clean thoroughly.

CLEANING & INSPECTION

NOTE – *Do not apply compressed air to diaphragm. Do not use wire or drill to clean jets or passageways.*

- 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.

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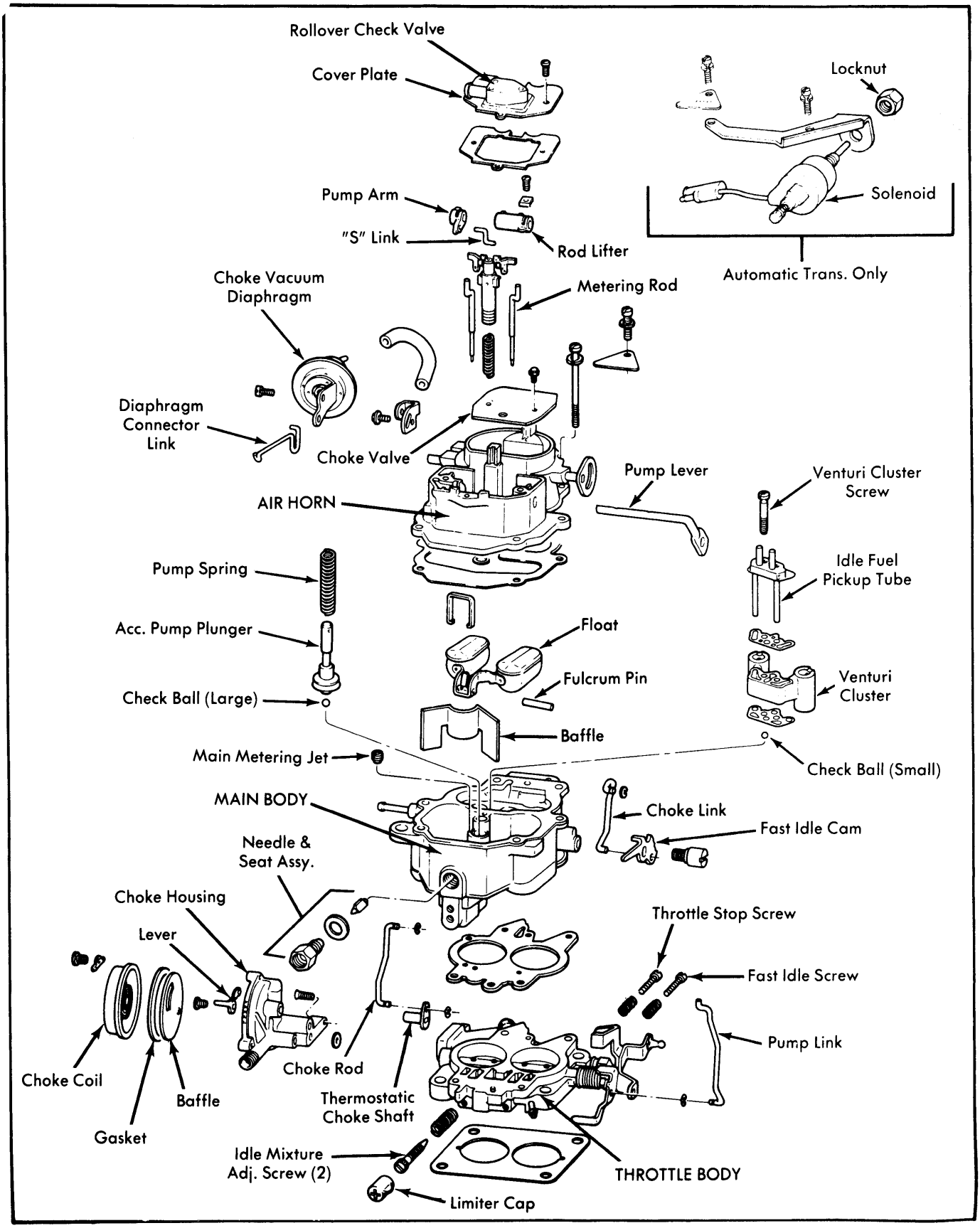

Fig. 8 Exploded View of Carter Model BBD 2-Barrel Carburetor

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REASSEMBLY

Use all new gaskets and reverse disassembly procedures while noting the following;

Idle Mixture Screw & Limiter Cap Installation – **1)** Install idle mixture screws and springs in body. Tapered portion must be straight and smooth. If tapered portion is grooved or ridged, use a new screw. DO NOT use a screwdriver for installation.

2) Turn screws lightly against their seats with fingers. 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 clean gasoline into carburetor bowl (1/2" deep). Operate plunger several times to fill cylinder and expel all air. Use small brass rod and hold discharge check ball down on seat. Raise plunger and press downward. No fuel should be emitted from either intake or discharge passage. If fuel does escape from passages, check ball seat is damaged or dirty. Clean passage and retest again. If leakage is still present, attempt to form a new seat. To form new seat, install discharge check ball and place a piece of drill rod on top of check ball. Lightly tap drill rod with a hammer to form new seat. Remove and discard check ball and install new one. Retest as described above. If service does not correct problem, replace carburetor.

Step-Up Piston & Rod Assembly – Be sure step-up rods move freely each side of vertical position. Carefully guide step-up rods into main metering jets.

CARBURETOR ADJUSTMENT SPECIFICATIONS

Application	Float Level Setting	Vacuum Piston Gap Setting	Accel. Pump Stroke Setting	Fast Idle Cam Setting	Choke Vacuum Kick Setting	Choke Unloader Setting	Auto. Choke Setting
8253	1/4"	.035"	.470"	.095"	.128"	.280"	2 Rich
8254	1/4"	.035"	.520"	.086"	.120"	.280"	2 Rich
8255	1/4"	.035"	.470"	.093"	.140"	.280"	Index
8256	1/4"	.035"	.470"	.093"	.128"	.280"	2 Rich
8257	1/4"	.035"	.520"	.095"	.128"	.280"	2 Rich
8277	1/4"	.035"	.520"	.081"	.116"	.280"	1 Rich