1974-79 FUEL SYSTEMS
Aisan 2-Barrel Carburetors

Corona Mk II, Cressida (4M Engine)

DESCRIPTION

Carburetor is a 2-barrel downdraft design which incorporates a primary and secondary system. Primary system consists of; low speed circuit, high speed circuit, power circuit, acceleration circuit and automatic choke. Secondary system consists of low and high speed circuits.

Secondary throttle valve is operated by vacuum diaphragm. Diaphragm operation is governed by venturi vacuum in both primary and secondary main venturis. Throttle positioner, choke breaker and choke opener systems are used to reduce emissions and provide more efficient combustion.

ADJUSTMENTS

IDLE SPEED & MIXTURE

See appropriate TUNE-UP PROCEDURES article.

COLD (FAST) IDLE RPM

See appropriate TUNE-UP PROCEDURES article for on-vehicle adjustment. On 1974-75 Corona, fully close choke valve. Fast idle lever must be at top of fast idle cam. Adjust by bending choke connecting link. With choke valve closed, adjust fast idle speed screw so primary throttle valve is open 23 degrees from horizontal. *See Fig. 1.*

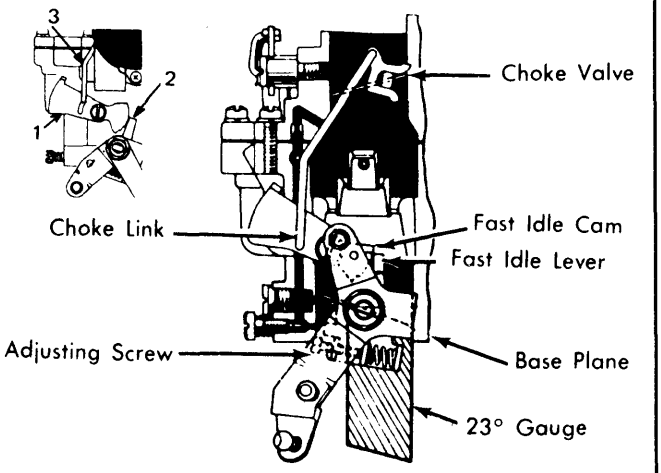

Fig. 1: Fast Idle (Bench) Adjustment

UNLOADER ADJUSTMENT

Hold primary throttle valve wide open. Choke valve should be opened approximately 35-40 degrees from horizontal. Bend fast idle lever to make correct adjustment. *See Fig. 2.*

FLOAT LEVEL

Remove air horn and turn it upside-down. Allow float tang to rest on needle valve. *See Fig. 3.* Check clearance from end of float to air horn gasket surface. Bend float tang to adjust.

FLOAT DROP

1974-75 Models - Invert air horn and check clearance between end of float and air horn gasket surface. Clearance should be 29/32" (23 mm). Bend center float tang to adjust float drop.

1977-79 Models - Lift up float and check clearance between needle valve plunger and float lip. *See Fig. 4.* Clearance should be .039" (1.0 mm). Bend lower float lip to make adjustment.

THROTTLE POSITIONER

1977-79 Models - Throttle positioner diaphragm, spring and vacuum hose must be in good condition for proper operation. Check links and levers for freedom of movement. Primary throttle valve angle should be 15 degrees when throttle positioner rod contacts throttle lever tab.

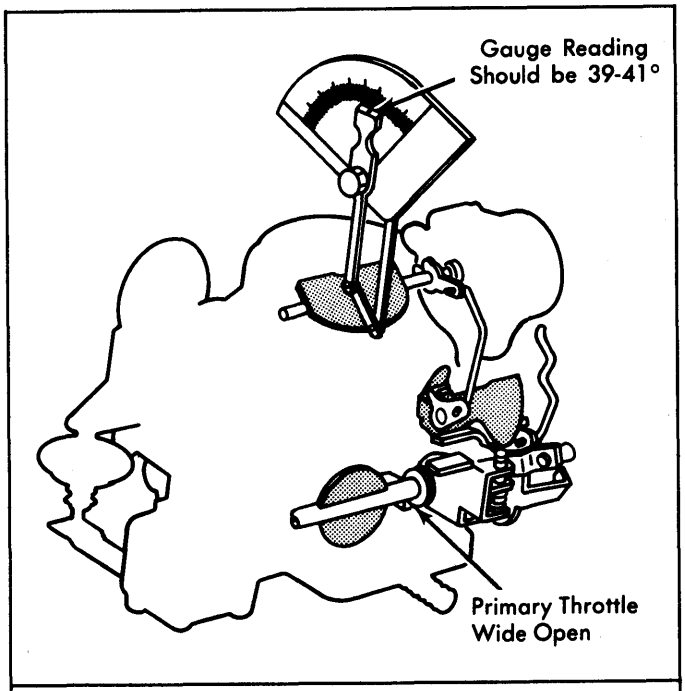

Fig. 2: Choke Unloader Adjustment

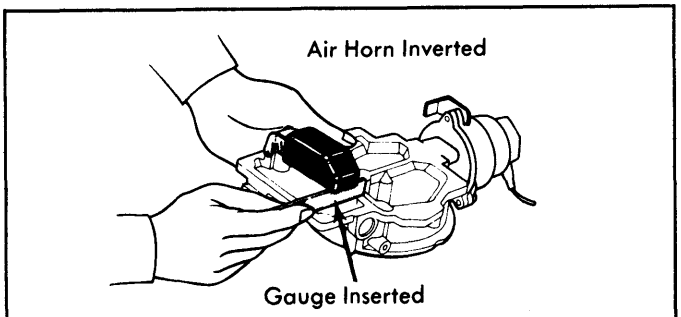

Fig. 3: Float Level Adjustment

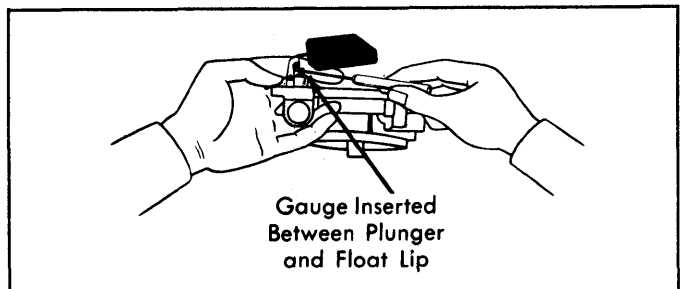

Fig. 4: Float Drop Adjustment

THROTTLE VALVE OPENING

1975-75 Models - Open primary throttle valve 62 degrees form horizontal. Secondary throttle valve should start to open. *See Fig. 5.* At this point, primary kick-up arm and primary kick-up lever should come in contact. To adjust, bend kick-up lever.

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1977-79 Models - Open primary throttle valve, then open secondary throttle valve. Throttle valves must be perpendicular to flange surface when fully opened. *See Fig. 6.* Bend throttle lever stopper(s) to make adjustment.

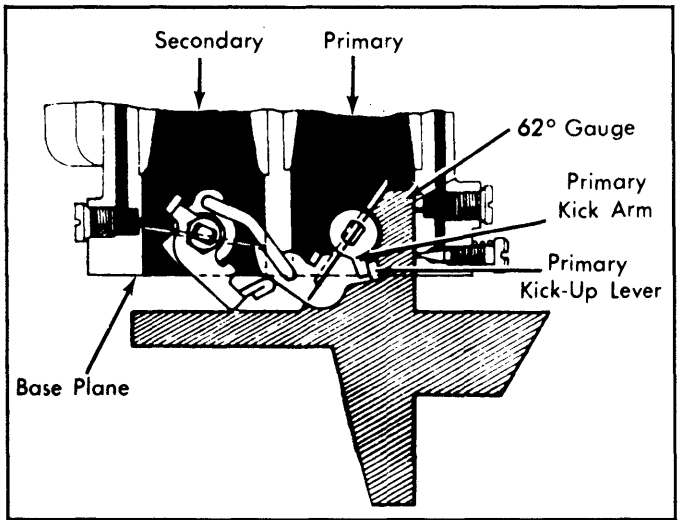

Fig. 5: 1974-75 Throttle Valve Adjustment

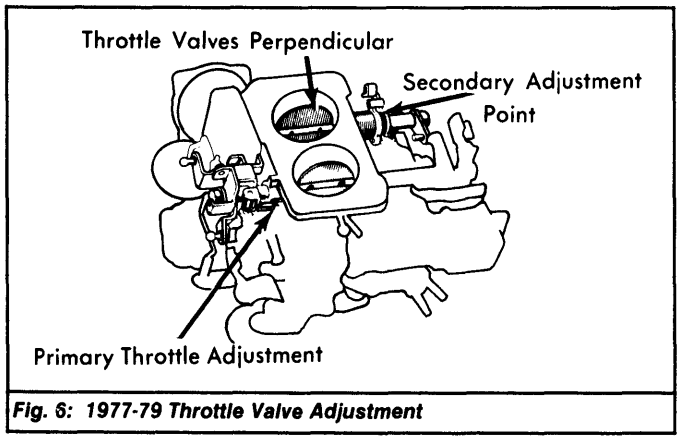

Fig. 6: 1977-79 Throttle Valve Adjustment

SECONDARY THROTTLE VALVE

1) Open primary throttle valve to wide open position. Clearance between secondary throttle valve and bore should be .08" (.2 mm) on Corona, .016" (.4 mm) on Cressida. *See Fig. 7.* Adjust by bending secondary kick-up arm.

2) Check primary throttle valve opening at the time secondary throttle valve just begins to open. Primary throttle should be 64 degrees from base plane when secondary throttle valve begins to open. Adjust primary kick-up lever to obtain correct angle.

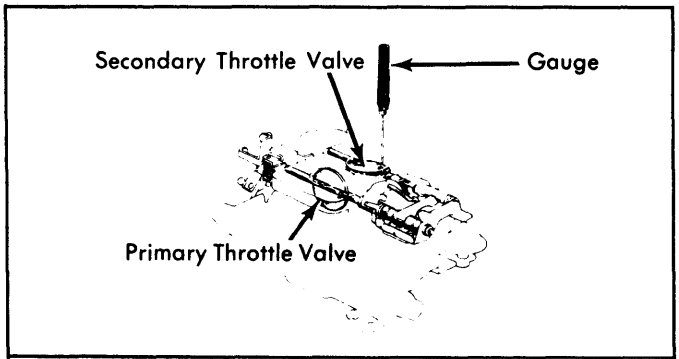

Fig. 7: Secondary Throttle Valve Adjustment

CHOKE OPENER

Close choke valve. Check clearance between fast idle cam pin and choke opener lever. Clearance should be .020-.059" (.5-1.5 mm). Bend choke opener link to adjust fast idle opening angle.

NOTE: When choke opener is fully pushed in, the throttle link should not catch on fast idle cam.

ACCELERATOR PUMP

Measure pump stroke from closed to wide open throttle. *See Fig. 8.* Plunger stroke should be .217" (5.5 mm). To adjust, bend pump connecting link.

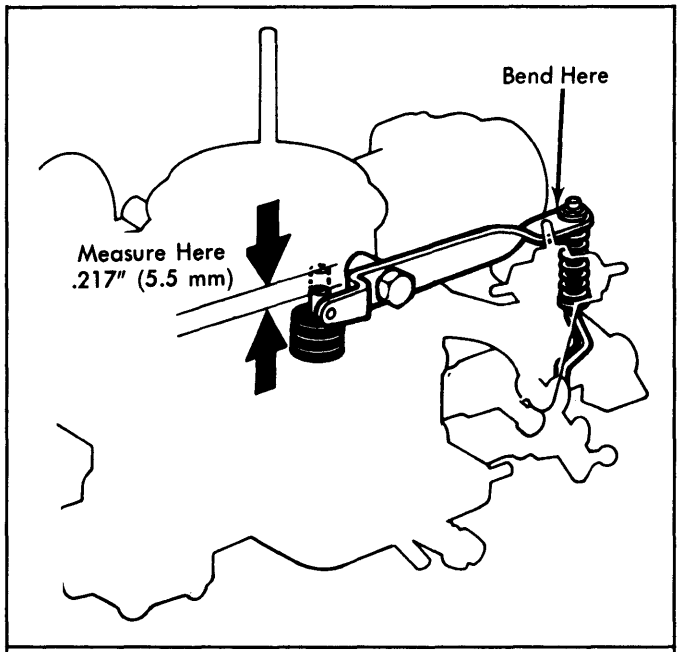

Fig. 8: Accelerator Pump Adjustment

CHOKE VACUUM BREAK

Corona Mk II - Depress vacuum break diaphragm stem. Check choke valve angle. Angle should be 35 degrees from horizontal. Adjust angle by bending relief lever tang. *See Fig. 9.*

Cressida - Depress choke break rod. Check clearance between choke valve and bore. Measurement should be .098-.106" (2.5-2.7 mm). Adjust by bending relief lever tang. *See Fig. 9.*

OVERHAUL

DISASSEMBLY

1) To disassemble air horn, remove choke assembly and fuel inlet fitting. Remove accelerator pump lever and link. *See Figs. 10, 11 and 12.* Remove fast idle cam connecting rod, choke opener, and fitting clamp.

2) Remove choke break diaphragm, throttle positioner, or dashpot. Remove air horn from main body. Remove float and needle valve, power piston and spring, automatic choke coil housing and choke valve, shaft and levers.

3) To disassemble main body, remove first and second small venturi. Remove power valve, power jet, plug and steel ball. Remove accelerator pump plunger, pump jet, spring and steel ball.

4) Remove second slow jet, main passage plug, and gasket. Remove main jet and gasket, and then second main jet and gasket. Remove fuel level gauge and clamp, solenoid valve, fast idle cam and lever.

5) Remove main body from throttle valve assembly. To disassemble throttle valve assembly, remove idle mixture screw and spring. Remove diaphragm housing cap and diaphragm. Remove primary and secondary throttle shafts, valves, and linkage.

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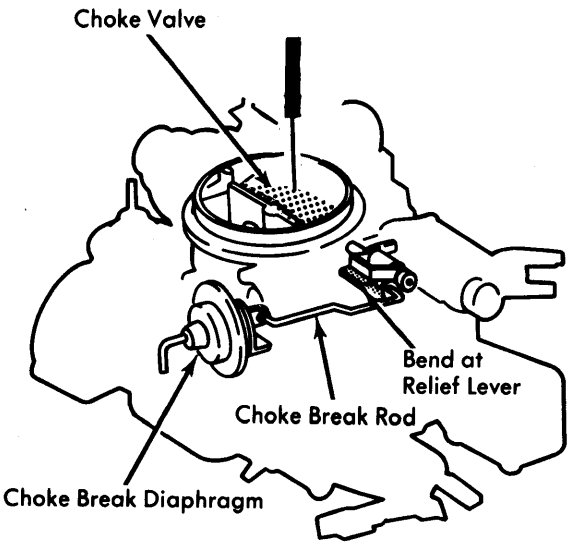

Fig. 9: Choke Vacuum Break Adjustment

CLEANING & INSPECTION

Wash parts in carburetor cleaner (solvent). DO NOT soak any components containing rubber, leather, or plastic. Soak components long enough to thoroughly clean all surfaces and passages of foreign matter. Remove any residue after cleaning components in solvent. Blow out all fuel passages dry with compressed air. Inspect all parts for wear or damage and replace as necessary.

REASSEMBLY

1) To reassemble, reverse disassembly procedure. Make sure Yellow colored jet is installed in primary side and White colored jet is installed in secondary side.

2) Make sure power piston stop is installed in correct direction and that piston operates smoothly. When installing air horn to main body, make sure that float does not strike against body. Make sure that fuel return side of fuel inlet fitting is facing upward.

1974-75 CARBURETOR ADJUSTMENT SPECIFICATIONS

Application	Specification
Throttle Positioner	
Man. Trans.	1200 RPM
Auto. Trans.	1300 RPM
Initial Mixture Screw Setting	2 1/2 Turns
Accelerator Pump Stroke	.219" (5.5 mm)
Automatic Choke Setting	Index
Unloader	[1]
Float Level	.51" (13.0 mm)
Float Drop	.035-.040" (.9-1.1 mm)
Secondary Throttle Valve Kick-Up	.012" (.6 mm)

[1] – Choke angle should be 20 degrees, at wide open throttle.

1976 CARBURETOR ADJUSTMENT SPECIFICATIONS

Application	Idle Speed (Engine RPM)		Float Level Setting	Float Drop	Fast Idle Opening Angle	Choke Pulling Angle	Accel. Pump Stroke	Throttle Positioner
	Hot	Fast	In. (mm)	In. (mm)	In. (mm)		In. (mm)	In. (mm)
Mk II	750-850①	2400-2800②	.394 (10)	.039 (1.0)	40°	35°	.217 (5.5)	.....

① – Man. Trans. Auto. Trans. 700-800.
② – Calif. 2200-2600.

1978-79 CARBURETOR ADJUSTMENT SPECIFICATIONS

Application	Idle Speed (Engine RPM)		Float Level Setting	Float Drop	Choke Opener Clearance	Choke Breaker Clearance	Accel. Pump Stroke	Throttle Positioner Angle
	Hot	Fast	In. (mm)	In. (mm)	In. (mm)	In. (mm)	In. (mm)	
Cressida	700-800	2300-2700	.512 (13)	.039 (1.0)	.020-.059 (.5-1.5)	.098-.106 (2.5-2.7)	.217 (5.5)	15°

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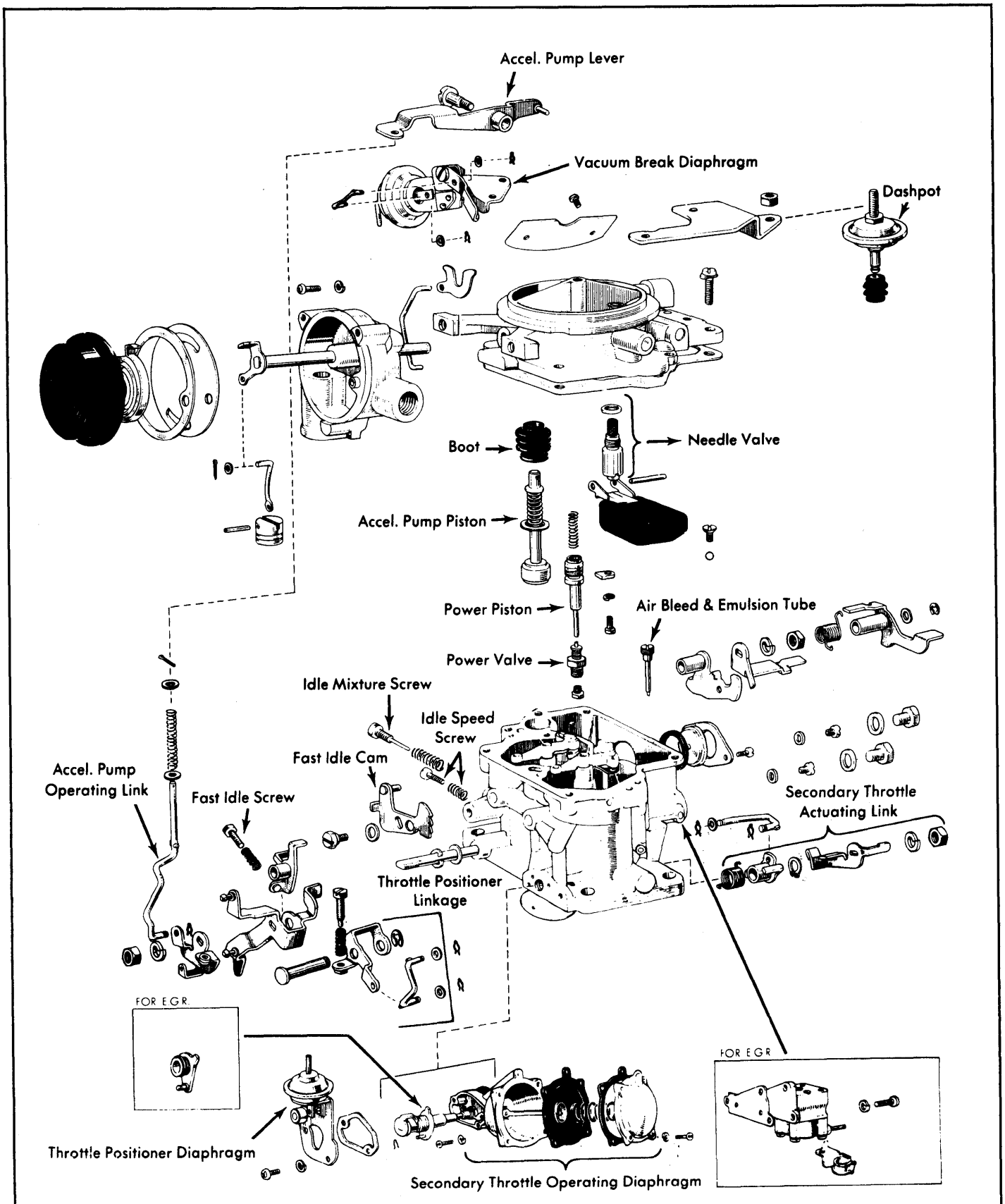

Fig. 10: Exploded View of Aisan 2-Barrel Carburetor (1974 Toyota 4M Engine)

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Aisan 2-Barrel Carburetors (Cont.)

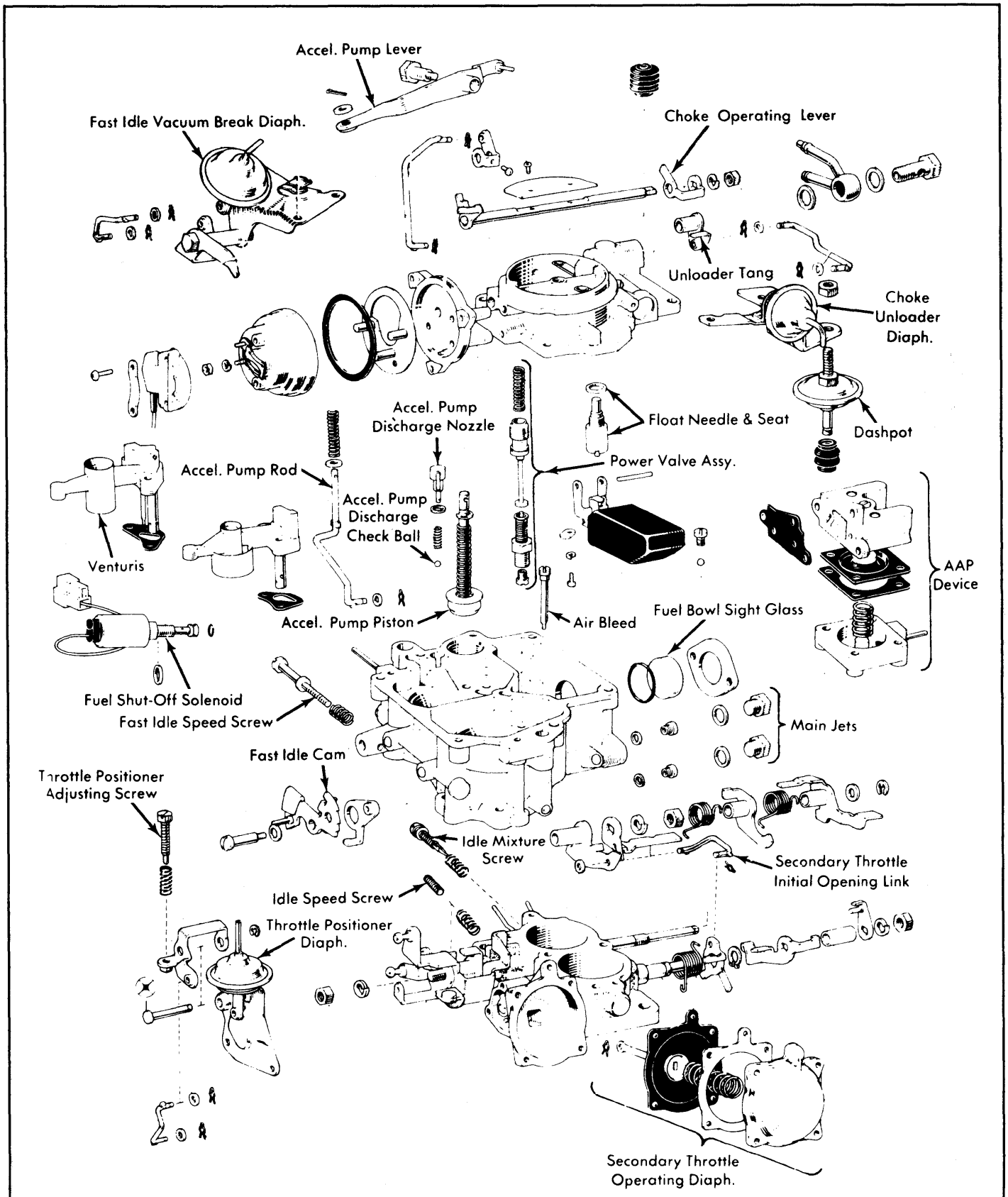

Fig. 11: Exploded View of Aisan 2-Barrel Carburetor (1975 Toyota 4M Engine)

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Aisan 2-Barrel Carburetors (Cont.)

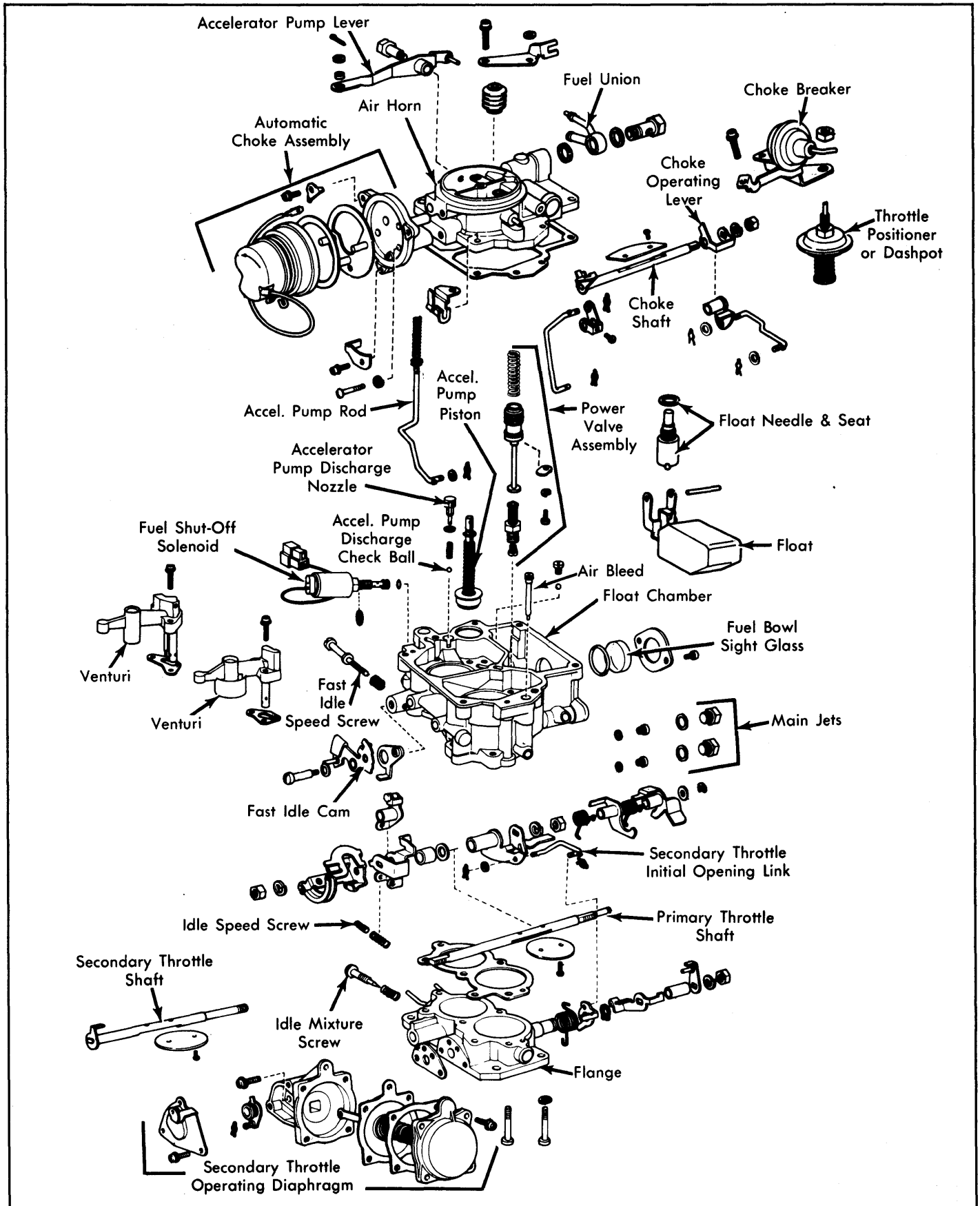

Fig. 12: Exploded View of Aisan 2-Barrel Carburetor (1977-79 Toyota 4M Engine)