1974-79 FUEL SYSTEMS
Aisan 2-Barrel Carburetors

Corolla (3K-C Engine)

CARBURETOR APPLICATION

Information not available at time of publication.

DESCRIPTION

Aisan 2-barrel downdraft type carburetor, constructed as two single barrel carburetors, but built into one unit. Both primary and secondary systems are provided with a double venturi. Each system consists of an air horn, main nozzle, and throttle valve, with one set forming the primary side and the other the secondary side.

Primary system is comprised of low speed, high speed, power, acceleration, and choke systems, and is able to supply air-fuel mixture for normal operation. With primary throttle valve fully open, secondary system also operates to supply air-fuel mixture, along with the primary system. The throttle valves of both primary and secondary sides are operated by linkage and are inter-locked, thus making it possible for both throttle valves to be fully opened at the same time.

On deceleration, manifold vacuum pressure passes through a sensing line and displaces a diaphragm, opening a mixture control valve, allowing maximum air-fuel mixture into intake manifold. Other features include a choke breaker, choke return, deceleration fuel cut, anti-dieseling solenoid and hot idle compensation.

ADJUSTMENTS

IDLE SPEED & MIXTURE

See appropriate TUNE-UP PROCEDURES article.

COLD (FAST) IDLE RPM

See appropriate TUNE-UP PROCEDURES article for on-vehicle adjustment. For bench adjustment, measure and adjust clearance between throttle valve end and body with choke fully closed. On 1974 models, adjust fast idle screw to obtain a clearance of .051" (1.30 mm). On 1977-79 models, adjust fast idle screw to obtain a clearance of .037-.039" (.95-1.00 mm). *See Fig. 6.*

FLOAT LEVEL

With air horn inverted, check clearance between end of float and air horn surface. *See Fig. 1.* If clearance is incorrect, adjust by bending center float tab. *See Fig. 3.*

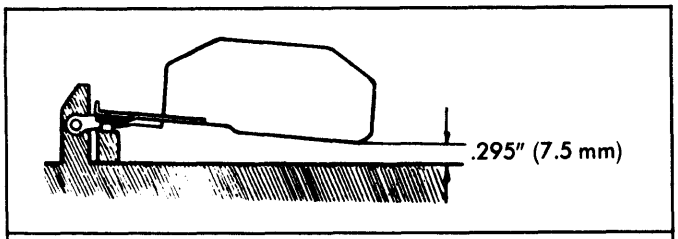

Fig. 1: Measuring Float Level

FLOAT DROP

Lift up float. Using a wire gauge, measure gap between needle valve push pin and float lip. *See Fig. 2.* If gap is incorrect, bend outer float tabs as necessary. *See Fig. 3.*

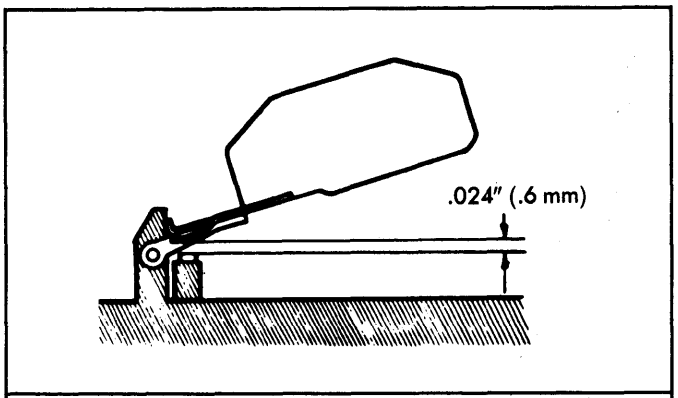

Fig. 2: Measuring Float Drop

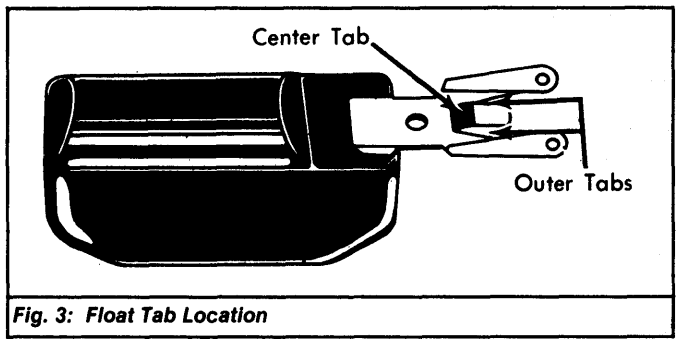

Fig. 3: Float Tab Location

PRIMARY & SECONDARY THROTTLE VALVES

1) When primary throttle valve is fully opened, secondary throttle valve should also be completely open. If adjustment is necessary, bend throttle shaft link.

2) The secondary throttle valve should begin to open when primary throttle valve is open 60-61 degrees from bore surface, or when gauge shows 29-30 degrees. *See Fig. 4.*

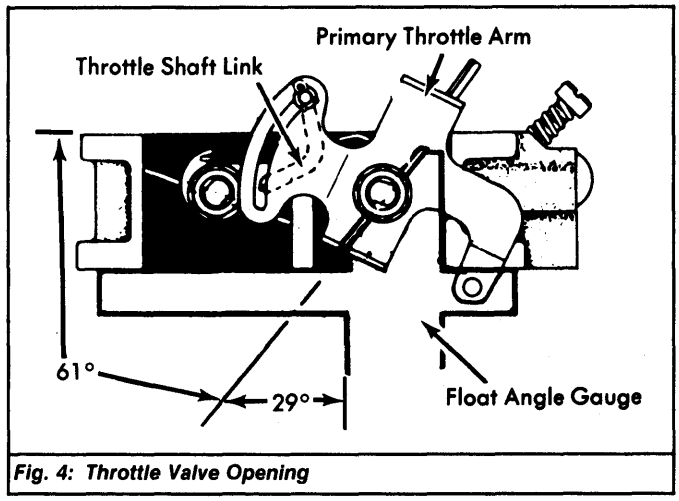

Fig. 4: Throttle Valve Opening

ACCELERATOR PUMP

Upper (left) hole in accelerator pump connecting rod link is the setting for normal weather operation. Other hole is used for extremely cold weather operation. Total pump stroke should be .191" (4.85 mm).

SECONDARY THROTTLE STOP LEVER

Measure distance between high speed shaft arm and stop lever just as secondary throttle valve begins to open. Clearance should be .020" (.50 mm). *See Fig. 5.*

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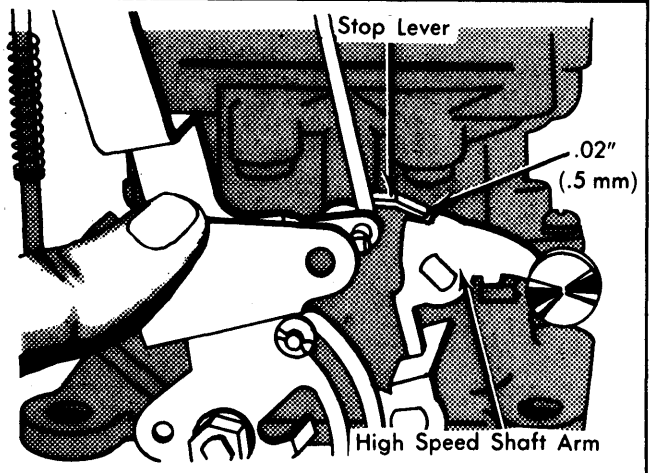

Fig. 5: Stop Lever Measurement

HIGH SPEED VALVE CLEARANCE

When high speed valve is fully open, clearance between valve and bore should be .008-.016" (.20-.40 mm). If not, adjust by loosening the valve set screws and shifting high speed valve.

OVERHAUL

DISASSEMBLY

1) Disconnect fast idle connector and pump lever connecting link. Remove pump lever retaining screw, pump lever, and disconnect pump connecting link. Remove 4 air horn retaining screws and carefully lift off air horn assembly straight up.

2) Remove pump plunger and dampening spring. Invert carburetor and remove pump discharge weight and check ball, using extreme caution not to lose check ball.

3) Remove solenoid valve. Remove 4 flange set screws, and lift air horn from flange. Remove 2 screws from lower side. Screw with hole in it serves as vacuum passage.

4) Remove float lever pin, float, needle valve with push pin and spring. Remove seat and gasket. Remove power piston stopper retaining screw, power piston, and spring. Remove pump plunger boot. Loosen and remove main passage plug, take out strainer.

5) Remove small primary venturi retaining screws, venturi, and gasket. Also remove small secondary venturi. Remove thermostatic valve. Using tweezers, take out check ball retainer from bottom of pump cylinder. Invert carburetor and remove check ball.

6) Unscrew and remove slow jet, being careful not to damage threads. Remove primary and secondary main jets along with gaskets. Remove drain plug with gasket. Remove power valve. Remove power jet from power valve. Remove idle adjusting screw along with spring.

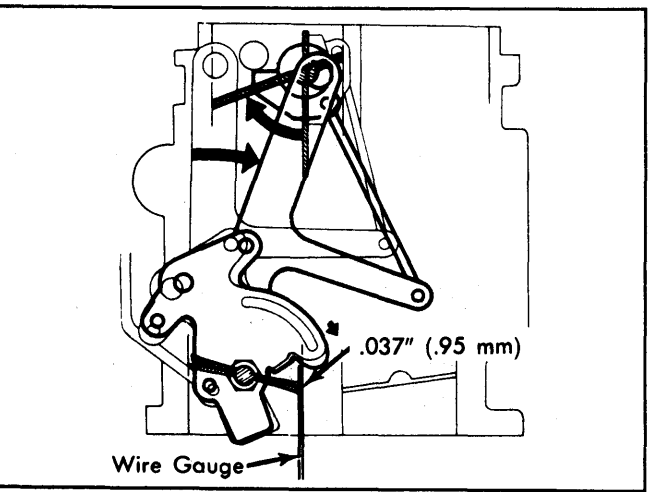

Fig. 6: Fast Idle (Bench) Adjustment

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. Lightly seat idle mixture screw and back out 3 turns as a preliminary adjustment. If replacing choke valve, remove choke valve retaining screws by first removing staking. Remove choke valve from shaft, along with return spring and relief spring.

2) If replacing high speed shaft, remove staked screws. Remove high speed valve from shaft. Remove retaining ring and pull out high speed shaft. It may be necessary to use shims to remove excessive shaft play. Shims may be installed on either or both sides of shaft.

3) If replacing throttle valve, disconnect throttle shaft link. Remove throttle lever retaining nut, primary throttle shaft arm, and fast idle lever. Remove staking, retaining screws, and primary throttle valve. Remove retaining ring and pull out primary throttle shaft.

4) Remove secondary throttle shaft and valve in the same manner as primary valve and shaft. During reassembly, the thin valve plate must be installed on primary side. The thick valve plate goes on the secondary side.

1977-79 CARBURETOR ADJUSTMENT SPECIFICATIONS

Application	Idle Speed (Engine RPM)		Float Level Setting	Float Drop	Fast Idle Clearance	Choke Breaker Opening Angle	Accel. Pump Stroke	Throttle Positioner
	Hot	Fast	In. (mm)	In. (mm)	In. (mm)		In. (mm)	In. (mm)
Corolla	700-800①	.....	.295 (7.5)	.024 (.6)	.037 (.95)	42°	.191 (4.85)	.....

① — Idle mixture speed is 830 RPM.

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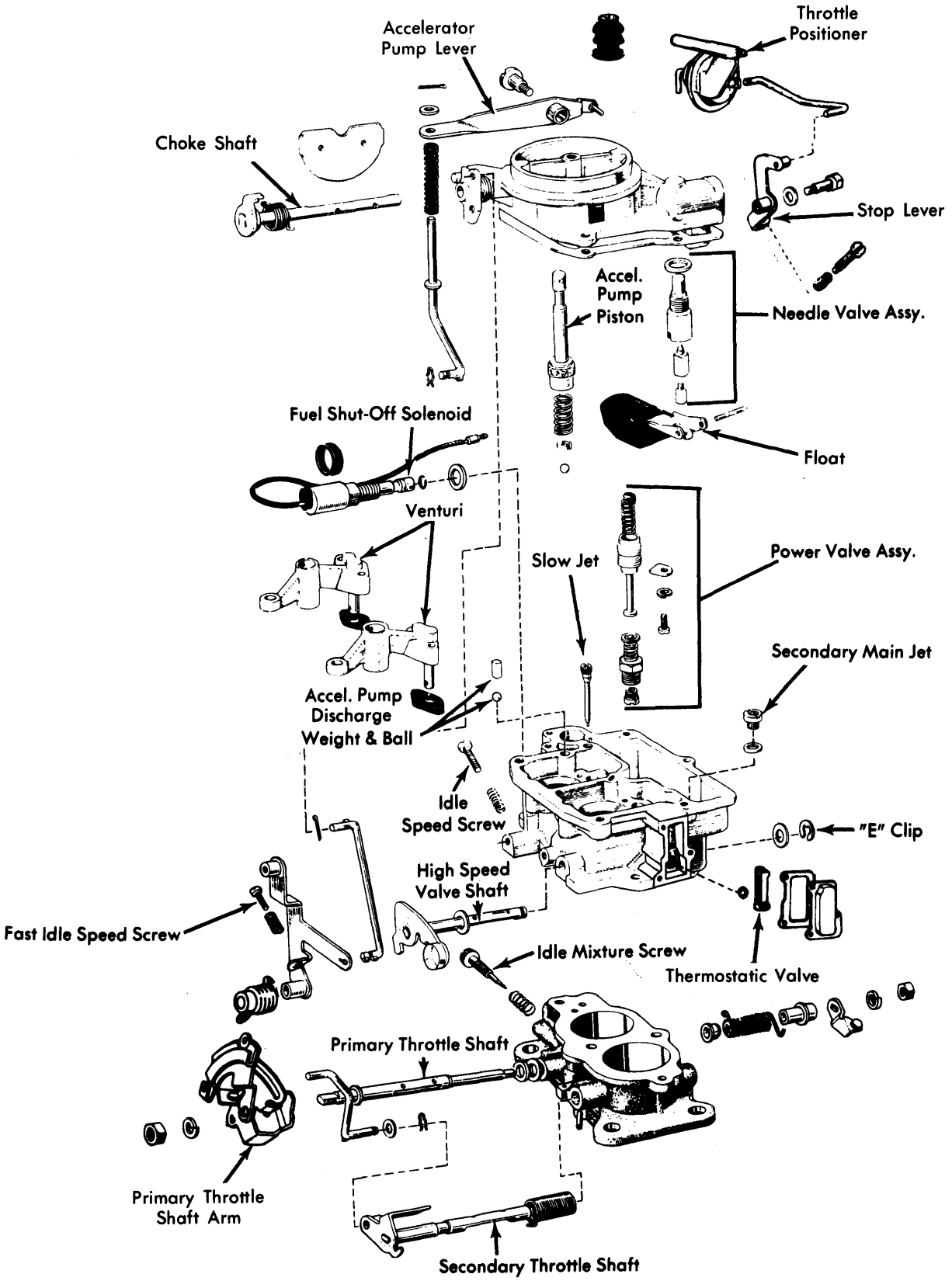

Fig. 7: Exploded View of Aisan 2-Barrel Carburetor (Toyota 3K-C Engine)