

AISAN 2-BARREL – TOYOTA 18RC ENGINE

Corona (1972-73)
 Celica (1972-73)
 Hi-Lux (1972-73)

DESCRIPTION

Carburetor is a two barrel downdraft design with primary and secondary venturis. Automatic choke contains a bimetal spring heated by exhaust gases for air/fuel mixture control during engine warm-up. Secondary throttle valve is actuated by a vacuum diaphragm unit with a kick-up (open) lever. Secondary valve begins to open when primary throttle valve opening angle exceeds 55°. During deceleration, a throttle positioner slightly opens primary throttle valve to maintain proper combustion of air/fuel mixture. A thermostatic valve is used to provide air flow under secondary throttle valve when ambient air temperature is high. System helps maintain proper combustion.

ADJUSTMENT

NOTE – Carburetor adjust gauge kit 09240-00010 or equivalent, is required to perform bench adjustments properly.

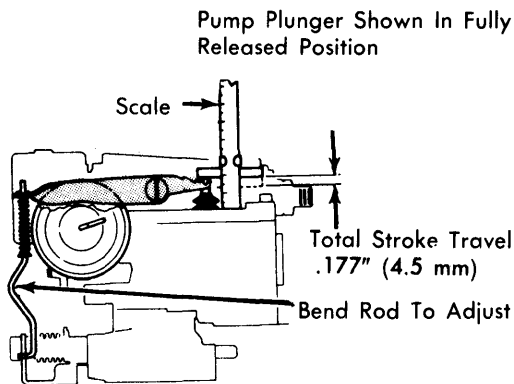
IDLE SPEED & MIXTURE

With transmission in neutral, turn throttle screw to reduce engine RPM until slowest speed and smooth idle is obtained. Turn idle mixture screw to obtain maximum vacuum and idle RPM. With Auto. Trans., make next adjustment while transmission is in "D" range. Turn throttle and idle mixture screws to obtain maximum vacuum at 650 RPM. **NOTE** – Manifold vacuum should be over 17.7 in. Hg (Man. Trans.) or 15.7 in. Hg (Auto. Trans.). Slowly screw in idle mixture screw until either engine RPM or manifold vacuum starts to drop. This final adjustment is important to ensure emissions are within limits.

THROTTLE POSITIONER

NOTE – Throttle positioner diaphragm, spring and vacuum hose must be in good condition for proper operation. Check links and levers for freedom of movement. If distributor is equipped with retard diaphragm, disconnect vacuum hose from retard pipe directly below high-speed valve shaft counterweight.

Warm engine and adjust idle RPM to specification. Pull out thermo-sensor connector and disconnect vacuum hose from positioner diaphragm. Positioner linkage should now be set to hold throttle valve partially open. Set positioner adjusting screw to obtain specified RPM.

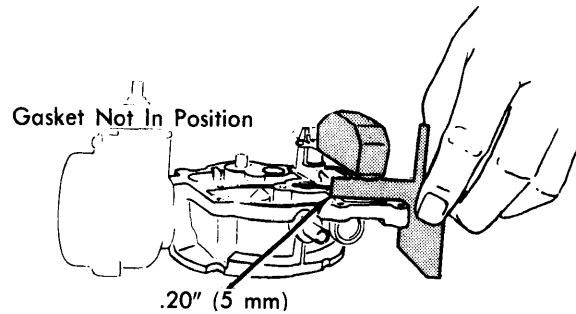


2TO04

ACCELERATOR PUMP ADJUSTMENT

FLOAT LEVEL

Turn carburetor cover top side down. Clearance between top of float and cover gasket surface should be set to specification by bending middle float tab.

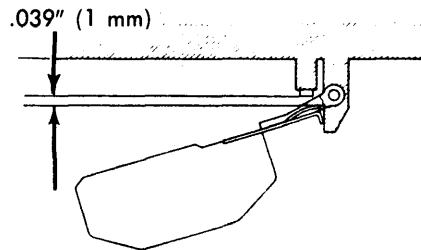


2TO02

FLOAT LEVEL ADJUSTMENT

FLOAT DROP

Turn carburetor cover top side down, raise float by hand and adjust clearance between needle valve push pin and float tab to specification. Adjust by bending two outside float tabs.

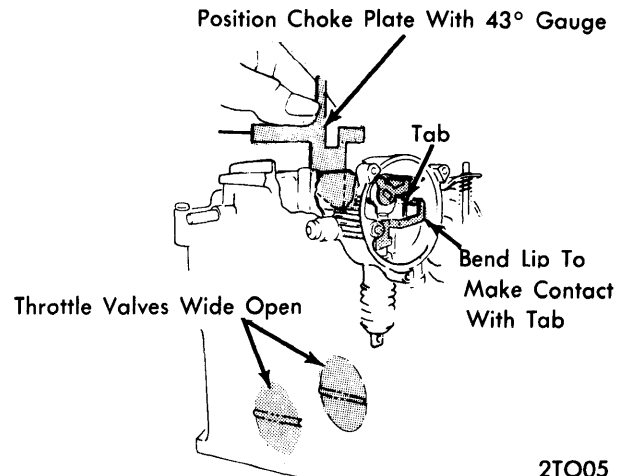


0TO03

FLOAT DROP ADJUSTMENT

UNLOADER

Fully open primary throttle valve, position choke plate with proper gauge and bend lip to make contact with tab (see illustration).



2TO05

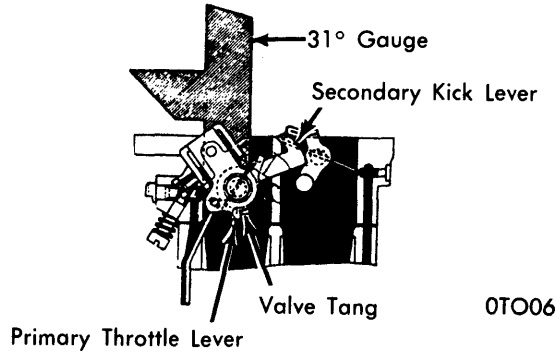
UNLOADER ADJUSTMENT

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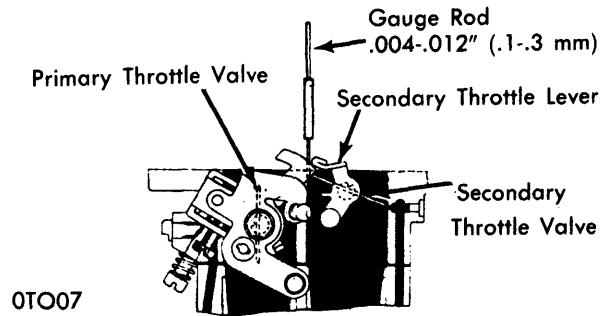
SECONDARY TOUCH ANGLE

Position primary throttle valve with specified gauge angle; secondary throttle valve should be closed. Primary throttle lever and secondary kick lever should contact. Adjust by bending primary throttle lever (see illustration).



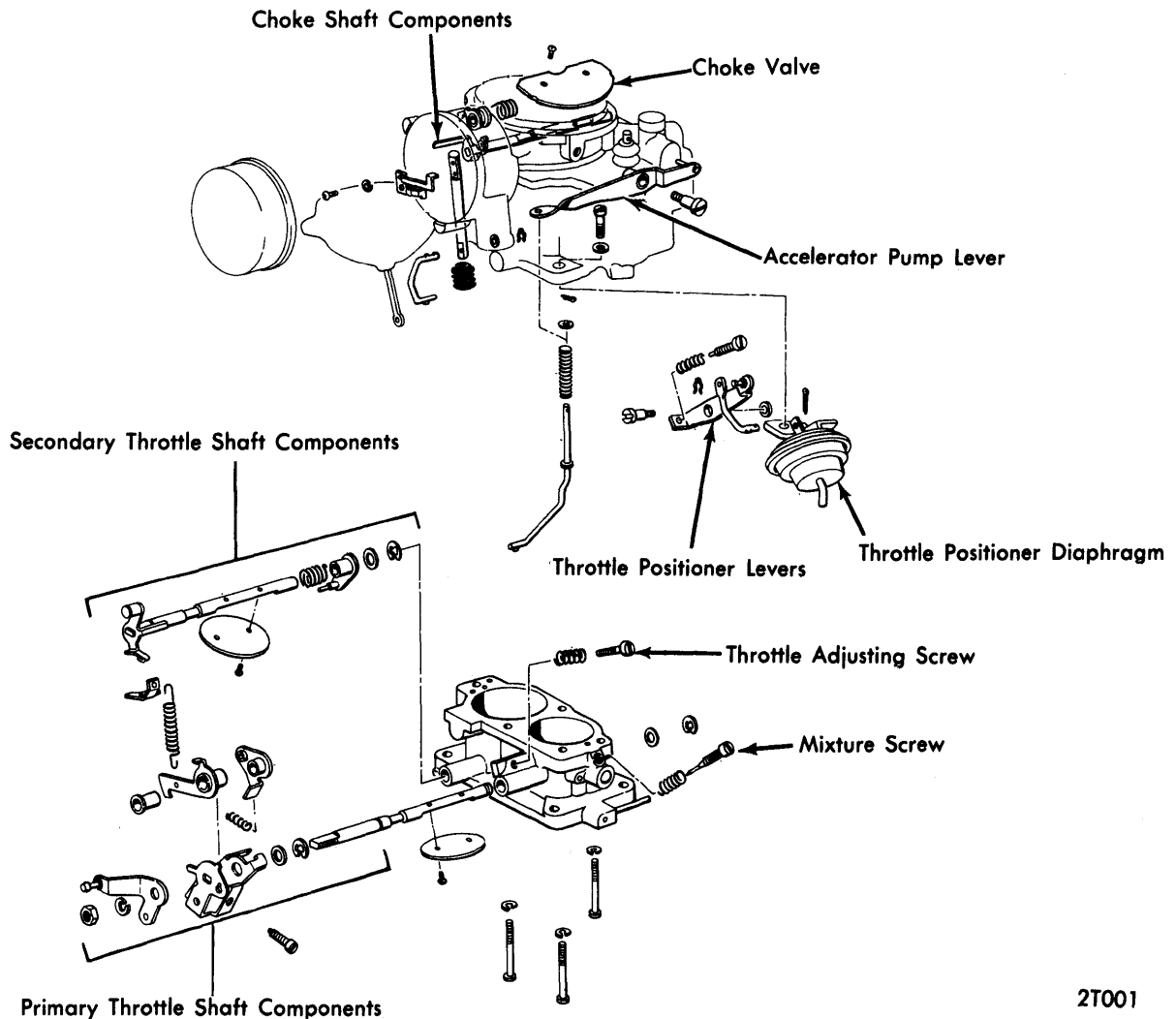
SECONDARY KICK-UP

Hold primary throttle valve wide open and adjust secondary throttle lever until specified clearance is obtained between secondary throttle valve and body (see illustration).



SECONDARY TOUCH ANGLE ADJUSTMENT

KICK-UP ADJUSTMENT



**CARBURETOR EXPLODED VIEW
(THROTTLE BODY & LINKAGE)**

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AUTOMATIC CHOKE

Choke plate should close at 77°F (25°C). Index cover with center mark on housing. One increment of movement on choke cover equals 9°F variation.

OVERHAUL

DISASSEMBLY

NOTE – Tag small linkage washers during disassembly so they may be installed in proper location during reassembly. Washers provide a bearing surface between linkage and mounting surfaces.

- 1) Remove pump lever screw, lever and pump connecting link.
- 2) Remove automatic choke connecting link and sliding rod boot. Disconnect diaphragm plunger shaft from diaphragm lever and remove back spring. Remove secondary diaphragm operating mechanism from the main body and disassemble.

- 3) Remove the screw that holds the throttle positioner diaphragm to air horn. Remove throttle positioner connecting link clip and throttle positioner diaphragm valve.

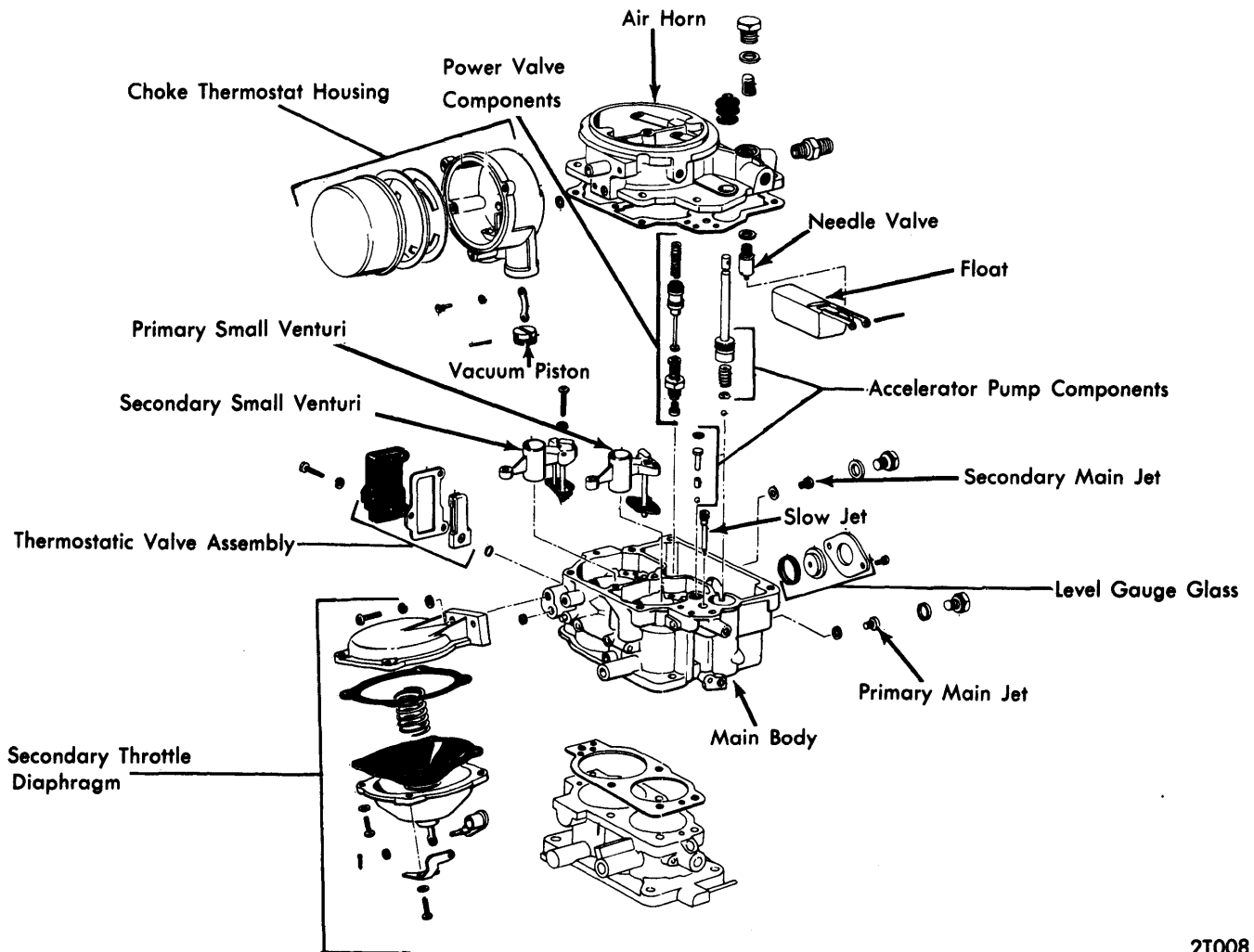
- 4) Remove remaining air horn attaching screws and separate air horn from main body. **CAUTION** – Carefully lift air horn straight upward or pump plunger and float may be damaged.

- 5) Remove stopper seal washer, pump plunger and pump plunger spring. Invert main body and catch stopper, pump discharge weight and large check ball.

- 6) Separate the main body from throttle body by removing two screws from body and one drilled screw from beneath throttle body.

- 7) Remove primary and secondary venturis, slow jet, check ball retainer with ball, power valve assembly, main jets and power valve. Remove two screws holding fuel level gauge to body, clamp, glass and "O" ring.

- 8) Remove thermostatic valve assembly. **CAUTION** – Valve is factory calibrated, do not disassemble valve.



**CARBURETOR EXPLODED VIEW
(MAIN BODY & COMPONENTS)**

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9) Remove float lever pin, float and needle subassembly. Remove power piston stop, piston and spring. Remove choke coil housing, gasket and coil housing plate. Remove fast-idle cam follower, sliding rod, piston connector screw and piston assembly.

CLEANING

CAUTION – Do not immerse synthetic components (gaskets, plastics, rubber) or thermostat and diaphragm valves in carburetor cleaner.

Immerse metal parts in carburetor cleaner and agitate until clean. Remove parts from cleaner, wash in solvent and blow dry with compressed air.

REASSEMBLY

Reassembly of carburetor components is performed in reverse order of disassembly. Following is a list of notes important to correct carburetor reassembly.

- 1) Replace all gaskets with new ones. Check for smooth movement of all valves and linkage.
- 2) Choke thermostat case long screw must be installed in eight o'clock position with case upright.
- 3) When connecting vacuum piston connector to choke shaft, the screw used is stepped on threaded end and must be installed carefully through piston connector. Lockwasher must be used on stepped screw to prevent choke plate from binding.
- 4) Power piston stop screw must not be overtightened. If screw is too tight, the bore may distort resulting in sticking piston operation.
- 5) Do not install fuel level gauge glass backwards. Dot on glass should be to inside of float bowl and bubble outward.
- 6) When carburetor body is viewed from sight glass end, secondary main jet (aluminum) is located in right side opening and primary main jet (brass) in left side opening. Install both jets with flat washers.

7) Flange gasket can very easily be installed backwards. Check all holes for proper alignment.

8) Torque carburetor flange nuts (with lock washers) to 5 ft. lbs.

CARBURETOR SPECIFICATIONS

| Application | Specification |
|--|-------------------------|
| Idle RPM | |
| Auto. Trans. (In Drive) | 650 |
| Man. Trans. | 650 |
| Throttle Positioner RPM | |
| Trans. In Neutral | 1400 |
| Initial Mixture | |
| Screw Setting | 2 Turns |
| Accelerator Pump Stroke | .177" (4.5 mm) |
| Unloader | ① |
| Automatic Choke | Index |
| Secondary Touch Angle | ② |
| Secondary Kick-Up | .004-.012" (.1-.3 mm) |
| Float Level | .20" (5 mm) |
| Float Drop | .039" (1 mm) |
| Thermostatic Valve | |
| Opening Temperature | 140°F (60°C) |
| Main Jet Diameter | |
| Primary | .046" (1.18 mm) |
| Secondary | .064" (1.62 mm) |
| Slow Jet Diameter | |
| Primary | .021" (.53 mm) |
| Secondary | .033" (.85 mm) |
| Power Jet Diameter | .026" (.65 mm) |
| Pump Jet Diameter | .020" (.50 mm) |
| Power Jet Operating | |
| Vacuum (More Than) | 4.72 in. Hg (120 mm Hg) |
| ① – With W.O.T., choke valve opens 27° from closed position. | |
| ② – With primary throttle valve at 31°, primary throttle lever and secondary kick-up lever should contact. | |