

## AISAN 2-BARREL – TOYOTA 22R ENGINE

Celica  
Corona  
Pickup

### DESCRIPTION

Carburetor is a 2 barrel downdraft design with primary and secondary venturi. An automatic choke containing a bimetal spring heated by coolant provides proper 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 exceeds 50°. A thermostatic valve provides air flow under secondary throttle valve when ambient air temperature is high to maintain proper combustion. Other features include choke opener, auxiliary accelerator pump, secondary slow circuit fuel cut system, fast idle cam breaker, deceleration fuel cut system and a solenoid valve.

### CARBURETOR IDENTIFICATION

Application	Part No.
Celica & Corona	
Man. Trans.	
W/O High Alt. Comp. ....	21100-35180
W/High Alt. Comp. ....	21100-35031
Auto. Trans.	
W/O High Alt. Comp. ....	21100-35021
W/High Alt. Comp. ....	21100-35041
Pickup	
2-WD <sup>⓪</sup>	
Federal .....	21100-35050
Calif. ....	21100-35010
High Alt. Comp. ....	21100-35080
4-WD	
Federal .....	21100-35090
Calif. ....	21100-35060
High Alt. Comp. ....	21100-35100

<sup>⓪</sup> – 4-Speed Auto. Trans. – 21100-35110.

### ADJUSTMENTS

#### HOT (SLOW) IDLE RPM

See appropriate TUNE-UP SERVICE PROCEDURES article.

#### IDLE MIXTURE

See appropriate TUNE-UP SERVICE PROCEDURES article.

#### COLD (FAST) IDLE RPM

See appropriate TUNE-UP SERVICE PROCEDURES article.

**NOTE** – Manufacturer recommends that Toyota carburetor adjustment kit (Part No. 09240-00014) be used to make carburetor adjustments.

#### ACCELERATOR PUMP STROKE ADJUSTMENT

Place a straightedge on top of air horn and measure full travel of pump plunger. Make measurement at boot end. Adjust travel distance to .161" (4.1 mm) by bending accelerator pump actuating rod at existing bend. See Fig. 1.

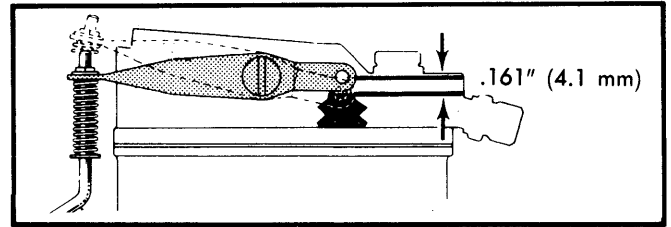


Fig. 1 Accelerator Pump Adjustment and Measurement

#### FLOAT LEVEL ADJUSTMENT

Allow float to hang down by its own weight. Adjust clearance between float top and air horn to .386" (9.8 mm) by bending float tab at "A". See Fig. 2

**NOTE** – Measurement must be made without gasket on air horn.

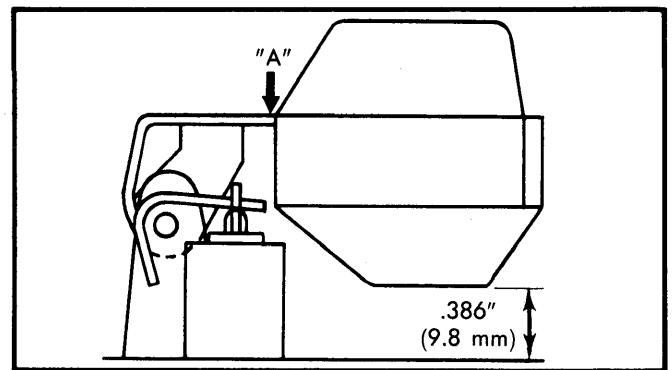


Fig. 2 Adjustment Points for Float Level

#### FLOAT DROP ADJUSTMENT

Lift up float and adjust clearance between needle valve plunger and float lip to 1.89" (48 mm) by bending float tab at "B". See Fig. 3.

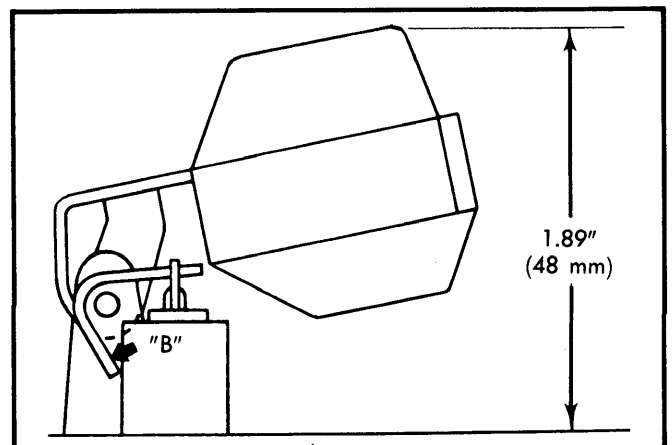
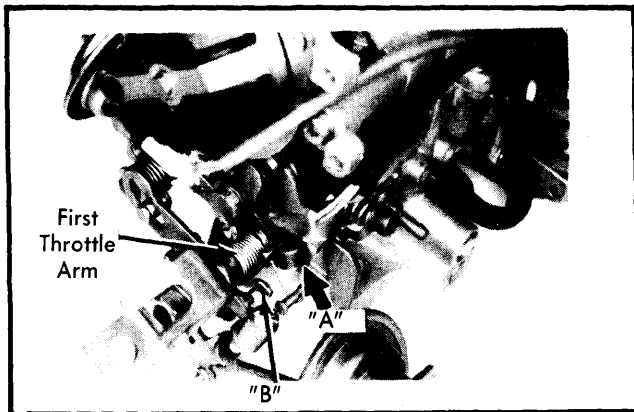


Fig. 3 Float Drop Adjustment Using Angle Gauge

#### UNLOADER ADJUSTMENT

Fully open primary throttle valve. Insert angle gauge. Adjust choke valve angle to 45° by bending first throttle arm at "A". See Fig. 4.

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**Fig. 4 Choke Unloader and Throttle Valve Adjustment Points**

### PRIMARY & SECONDARY THROTTLE VALVE ADJUSTMENT

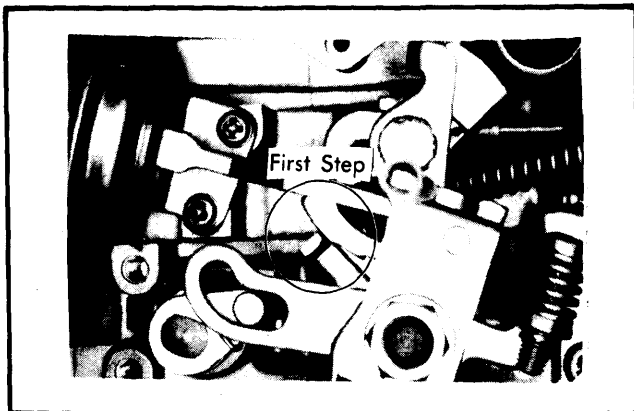
- 1) Fully open primary throttle valve. Insert angle gauge. Adjust primary throttle valve gauge to 90° (fully open) by bending first throttle arm at "A". See Fig. 4.
- 2) With primary throttle valve fully open, open secondary throttle valve. Insert angle gauge. Adjust secondary throttle valve angle to 90° (fully open) by bending first throttle arm at "B". See Fig. 4.

### AUTOMATIC CHOKE (ON VEHICLE)

With engine cold and stopped, remove air cleaner. Depress and release accelerator. Choke valve should be almost closed. Start engine and after warm-up, choke valve should be open.

### FAST IDLE (BENCH ADJUSTMENT)

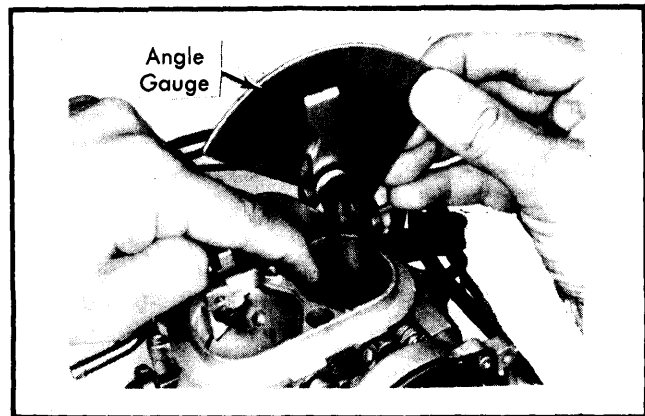
Set throttle shaft lever to first step of fast idle cam. See Fig. 5. Fully close choke valve. Insert angle gauge. Adjust primary throttle valve angle to 24° by turning fast idle adjusting screw.



**Fig. 5 Fast Idle Cam First Step**

### CHOKE BREAKER ADJUSTMENT

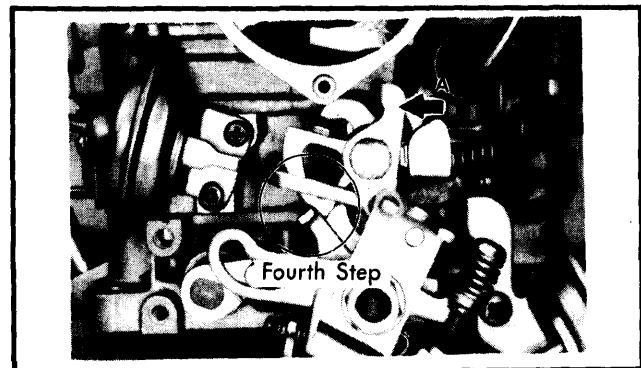
Apply vacuum to choke breaker diaphragm. Close choke valve by hand. Insert angle gauge. Adjust choke valve opening angle to 38° by bending relief lever. See Fig. 6.



**Fig. 6 Choke Breaker Adjustment**

### CHOKE OPENER ADJUSTMENT

Apply vacuum to choke opener diaphragm. Check that fast idle cam is released to fourth step. If not, adjust by bending choke opener lever at "A". See Fig. 7. Close choke valve. Set fast idle lever to first step. See Fig. 5. Check for clearance between choke opener lever and fast idle cam.



**Fig. 7 Choke Opener Adjustment**

### THROTTLE POSITIONER (CALIF. 4-WD PICKUP)

Apply vacuum to diaphragm. Insert angle gauge. Adjust throttle valve opening angle to 16° by turning throttle positioner adjusting screw.

### OVERHAUL

**NOTE** — It is recommended that Toyota carburetor driver kit 09860-11011 be used during carburetor overhaul.

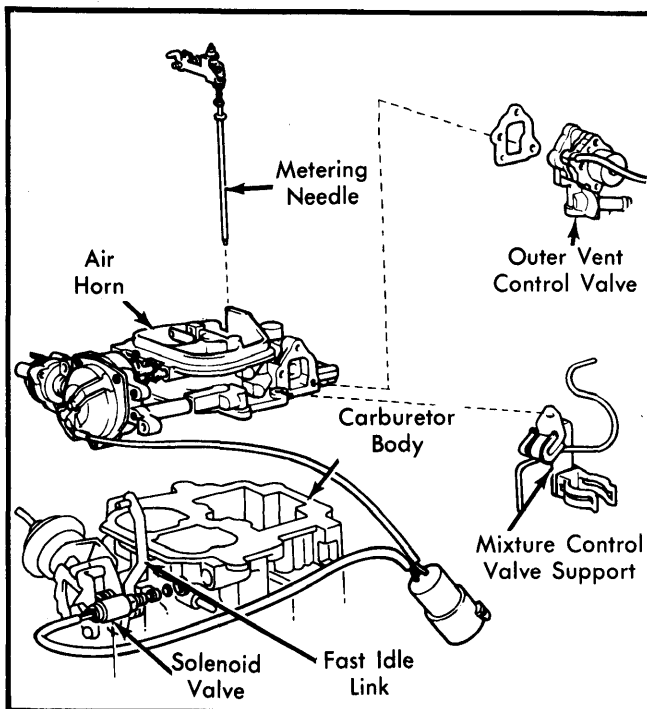
### DISASSEMBLY

**Air Horn** — 1) Remove metering needle, fast idle link, air horn screws, mixture control valve support and outer vent control valve. See Fig. 8.

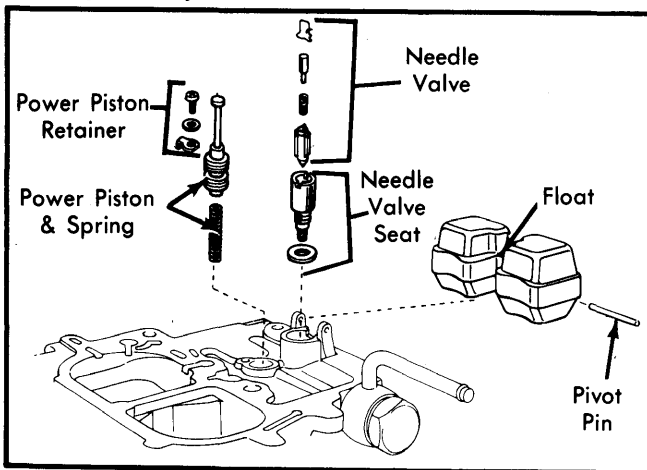
2) Remove air horn from carburetor body. Loosen solenoid valve and remove by rotating carburetor body counter-clockwise. Take care not to bend or distort solenoid valve lead wires.

**Float Assembly** — Remove pivot pin and float. Remove needle valve and seat. Remove power piston retainer, piston and spring. See Fig. 9.

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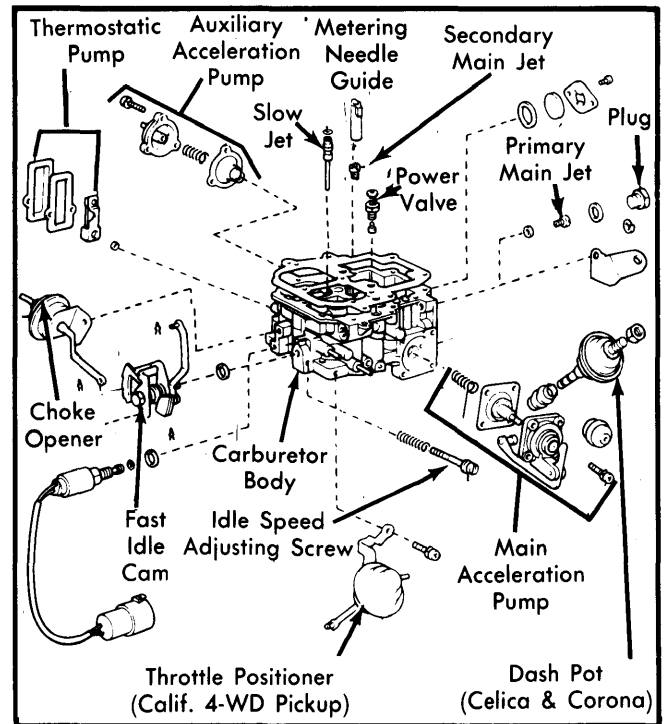
**Fig. 8 Exploded View of Carburetor Air Horn**



**Fig. 9 Exploded View of Carburetor Float Assembly**

**Main Body - 1)** Remove slow jet, power valve, metering needle guide and secondary main jet. Remove plug and primary main jet. Remove main and auxiliary acceleration pumps. See Fig. 10.

**2)** Remove thermostatic valve. On Calif. 4-WD Pickup models, remove throttle positioner. On all models, remove fast idle cam, choke opener, idle speed adjusting screw and, on Celica and Corona models with automatic transmission, remove dash pot.



**Fig. 10 Exploded View of Carburetor Main Body**

### CLEANING & INSPECTION

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

Clean all parts in suitable solvent (carburetor cleaner) and blow dry. Do not attempt to clean jets or other passages with wire or other metal objects. Inspect all parts for wear or damage and replace necessary parts.

### REASSEMBLY

Reassembly of carburetor components is performed by following reverse order of disassembly. Make sure to install new gaskets where required and check for smooth operation of all valves and linkage.

### CARBURETOR ADJUSTMENT SPECIFICATIONS

Application	Idle Speed (Engine RPM)		Float Level Setting In. (mm)	Float Drop In. (mm)	Choke Opener Clearance	Choke Breaker Angle	Accel. Pump Stroke In. (mm)	Throttle Positioner Angle
	Hot	Fast						
22R Engine	700 <sup>①②</sup>	2600 <sup>③</sup>	.386 (9.8)	1.89 (48)	.047 (1.2)	38°	.161 (4.1)	16°

① - 3-Speed Auto. Trans. should be 750 RPM.

② - Mixture Speeds: 3-Speed Auto. Trans., 790 RPM; All Others, 740 RPM.

③ - With EGR, vacuum advance and fast idle cam breaker disconnected.