1982 Aisan Carburetors

AISAN 2-BARREL — TOYOTA 3A-C ENGINE

Tercel

DESCRIPTION

Carburetor is a 2-barrel, downdraft design and is equipped with automatic choke which is heated by an electrically operated bi-metal heating coil. A piston type accelerator pump is incorporated into the primary barrel and an auxiliary accelerator pump system aids in cold engine acceleration.

Other equipment includes diaphragms which open secondaries at high speed and full throttle operation. Other features include throttle positioner, mixture control, choke breaker, choke opener, deceleration fuel cut, hot idle compensation and high altitude compensation (Federal) devices.

CARBURETOR IDENTIFICATION

Application	Part. No.
California	21100-15202
Federal	
Man. Trans.	
4 Speed	21100-15182
5 Speed	21100-15192
Auto. Trans.	21100-15192

ADJUSTMENTS

NOTE: For all on-vehicle adjustments not covered in this article, see appropriate TUNE-UP SERVICE PROCEDURES article.

NOTE: It is recommended that Toyota carburetor adjusting kits 09240-00014 and 09240-00020 be used to make the following adjustments.

FLOAT LEVEL

Hang air horn upside-down. Allow float to hang by its own weight. Measure gap between float lip and air horn gasket surface (gasket removed). Bend float until gap is correct. *See Fig. 1 and 2.*

Fig. 1: Float Level Measurement Points

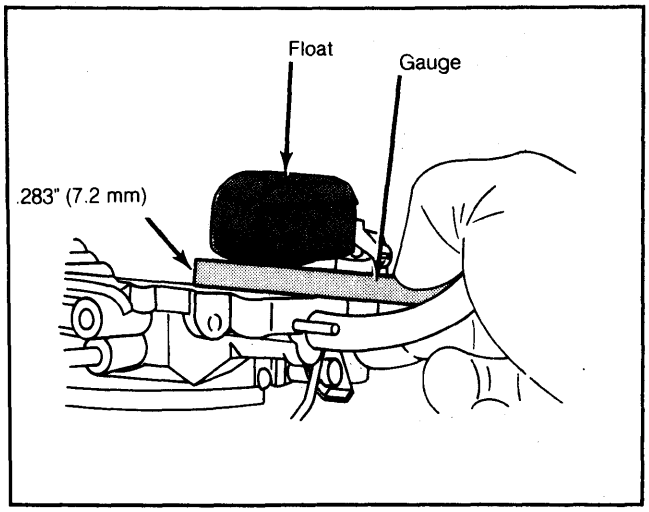
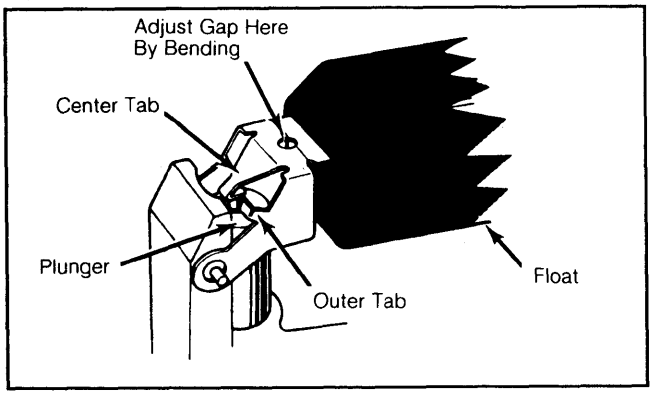


Fig. 2: Float Level Adjustment



Adjust gap by inserting tool in hole.

FLOAT DROP

Lift up float. Measure gap between needle valve and float lip. Bend float outer tab until gap is correct. *See Fig. 3 and 4.* After adjustment, ensure plunger moves smoothly.

Fig. 3: Float Drop Measurement Points

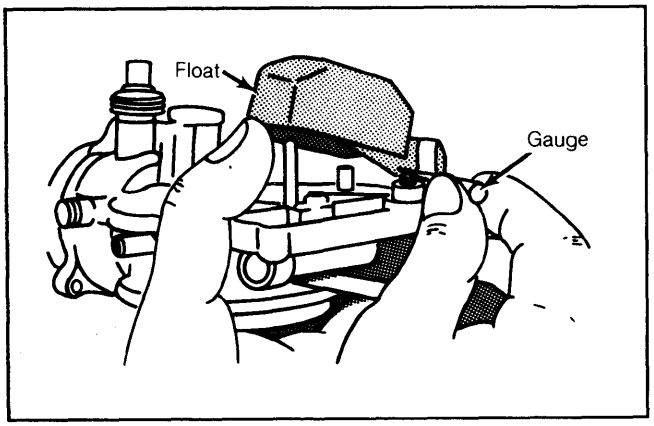
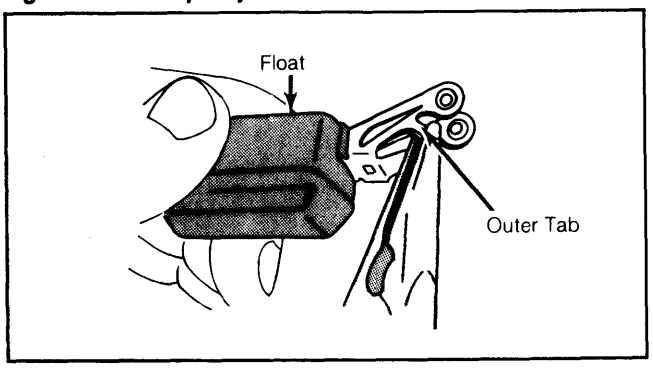


Fig. 4: Float Drop Adjustment



Bend tab as shown to adjust.

PRIMARY & SECONDARY THROTTLE VALVES

1) Open primary throttle valve. Insert angle gauge. Adjust primary throttle valve angle to 90° (fully open) by bending throttle lever stopper.

2) With primary throttle valve fully open, open secondary throttle valve. Insert angle gauge. Adjust

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secondary throttle valve angle to 75° (fully open) by bending throttle lever stopper.

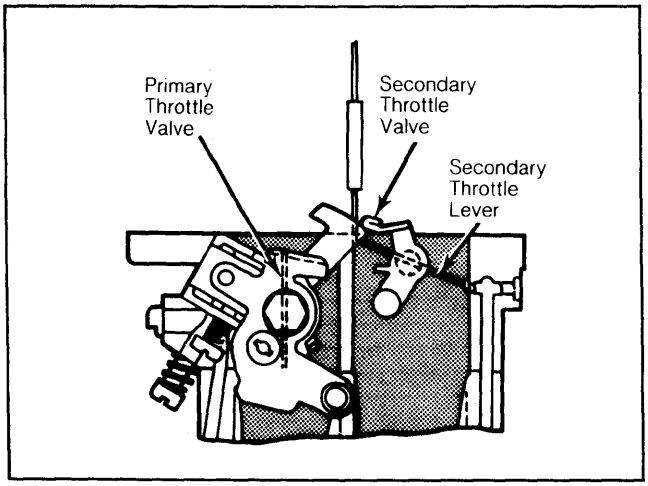
FAST IDLE (BENCH ADJUSTMENT)

Set throttle shaft lever to high (1st) position of fast idle cam. Fully close choke valve. Check angle between throttle valve and throttle bore with angle gauge. Adjust angle to 22° by turning fast idle adjusting screw.

SECONDARY THROTTLE OPENING ANGLE (KICK-UP)

Fully open primary valve. Bend secondary throttle lever to obtain .0043-.0087" (.11-.22 mm) clearance between secondary throttle valve and bore. *See Fig. 5.*

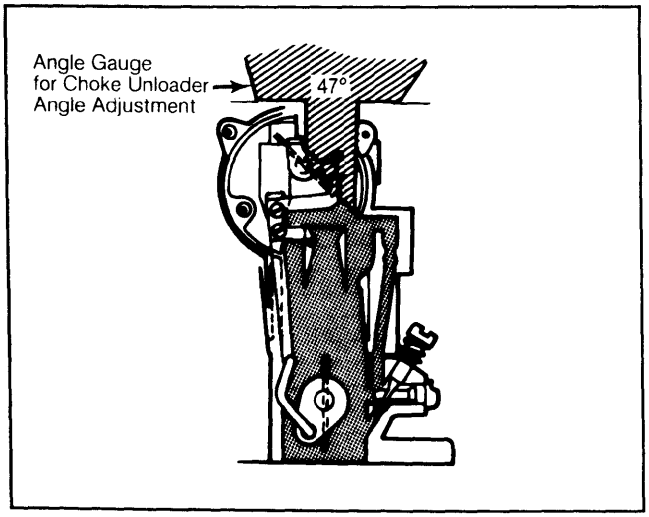
Fig. 5: Carburetor Kick-Up Adjustment



CHOKE UNLOADER

Fully open primary throttle valve. Insert angle gauge. Adjust angle of choke valve to 47° from fully closed position by bending fast idle lever.

Fig. 6: Choke Unloader Angle Adjustment



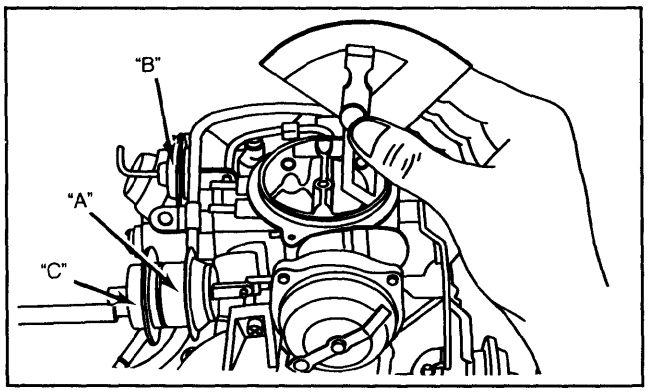
CHOKE BREAKER

1) Fully close choke valve and check opening angle. Apply vacuum to breaker diaphragm "A". Adjust choke angle to 33° by bending relief lever tang.

2) Apply vacuum to breaker diaphragm "B". Adjust choke angle to 42° by bending relief lever tang.

3) Apply vacuum to breaker diaphragms "A" and "C". Adjust choke angle to 55° by turning the diaphragm adjusting screw. *See Fig. 7.*

Fig. 7: Choke Breaker Adjustment



CHOKE OPENER ADJUSTMENT

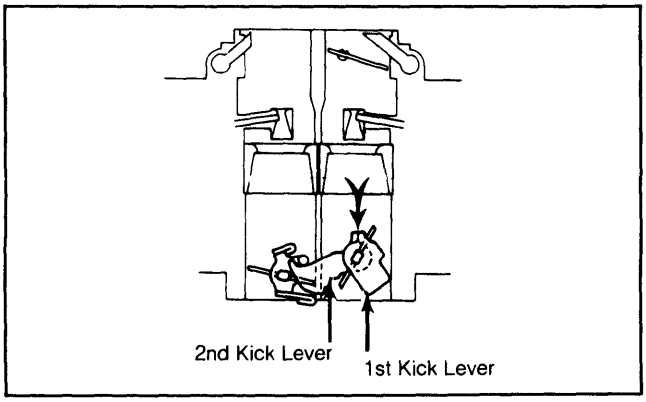
1) Hold throttle valve slightly open. Push choke valve closed and hold it as throttle valve is released. Apply vacuum to choke opener diaphragm.

2) Check that choke linkage moves and fast idle cam is released to 3rd step. If not, adjust by bending relief lever tang.

SECONDARY TOUCH ANGLE

Check primary throttle valve opening angle at the same time 1st kick lever touches 2nd kick lever. Adjust angle to 45° by bending 1st kick lever. *See Fig. 8.*

Fig. 8: Secondary Touch Angle Adjustment



Adjust by bending 1st kick lever.

THROTTLE POSITIONER ADJUSTMENT

1) Warm engine to normal operating temperature. Check and adjust idle speed if required. Disconnect and plug vacuum hoses from EGR valve and throttle positioner diaphragms. Throttle positioner should now be set.

2) With throttle positioner activated, engine speed should be 1400 RPM. If not, correct by turning throttle positioner adjusting screw making sure cooling fan is off.

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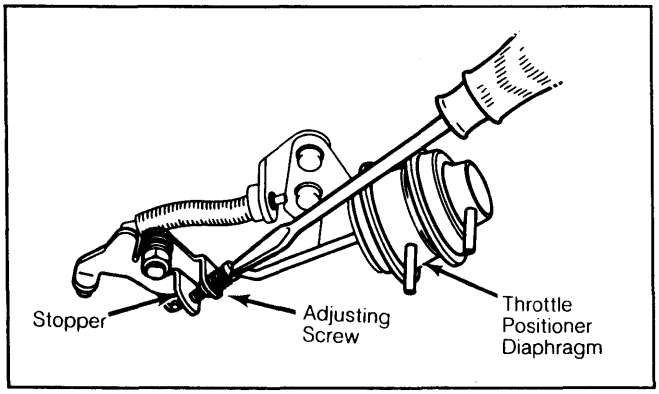
Fig. 9: Throttle Positioner Adjustment



AUTOMATIC CHOKE ADJUSTMENT

1) Set coil housing scale to center line of thermostat case. Turn coil housing and adjust engine starting mixture to conform with vehicle operating conditions.

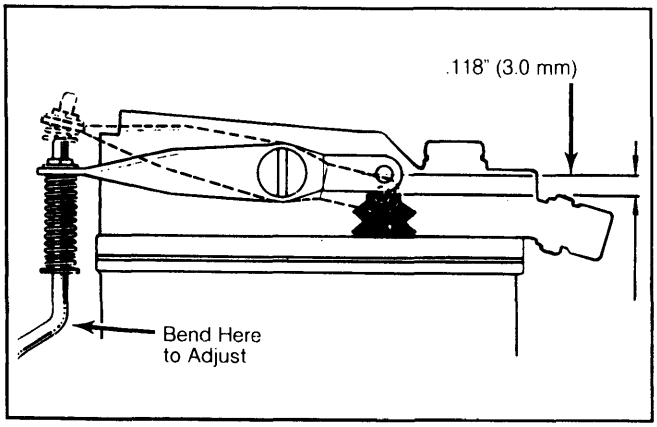
2) When mixture for starting is too rich, turn clockwise; when too lean, turn counterclockwise. Choke valve fully closes at atmospheric temperature of 86°F (30°C).

ACCELERATOR PUMP STROKE ADJUSTMENT

1) Place a straightedge on top of air horn and measure full travel or pump plunger. Make measurement at boot end.

2) Adjust travel distance to .118" (3.0 mm) by bending accelerator pump actuating rod at existing bend. *See Fig. 10.*

Fig. 10: Accelerator Pump Stroke Adjustment



OVERHAUL

DISASSEMBLY

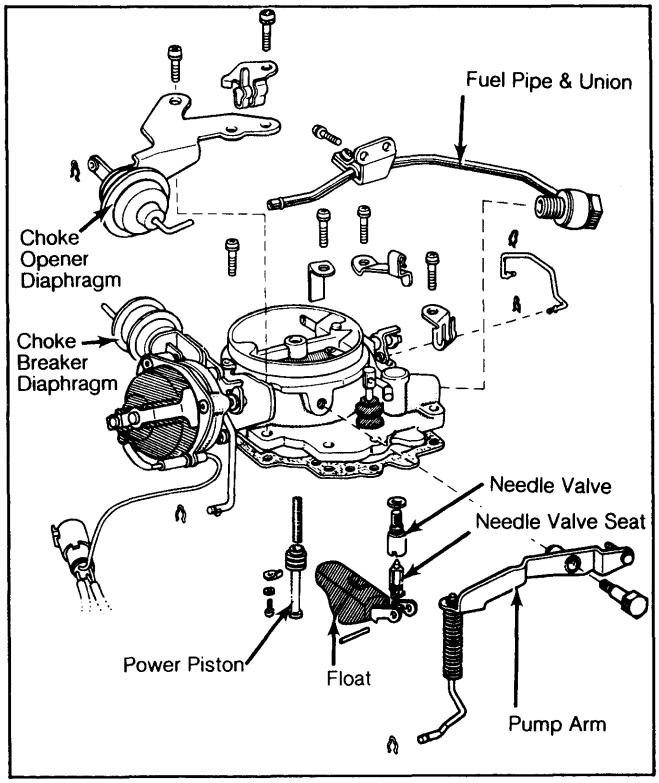
NOTE: **It is recommended that Toyota carburetor driver kit 09860-111011 be used during carburetor overhaul.**

Air Horn

1) Disconnect choke opener link, choke link, and pump connecting rod. Remove pump arm pivot screw and pump arm. Disconnect vacuum hose.

2) Remove union and fuel pipe, and 8 air horn screws. Disconnect choke breaker link. Lift air horn with gasket from main body. Remove 1st and 2nd solenoid valves from main body. *See Fig. 11.*

Fig. 11: Exploded View of Carburetor Air Horn



Float Assembly

1) Remove float pivot pin, float and needle valve subassembly. Remove air horn gasket, needle valve seat and gasket.

2) Remove power piston retainer, power piston and spring. Pull out pump plunger. Remove boot.

Main Body

1) Disconnect throttle positioner links and remove 2 bolts. Remove plug gasket. Lift out pump plug, long spring, large ball and pump damping spring. Using tweezers, take out retainer and small ball.

2) Remove slow jet and power valve with jet. Loosen throttle lever set nut 4 turns. Remove primary main passage plug, primary main jet and gasket. Remove secondary main passage plug, secondary main jet and gasket.

3) Remove AAP housing, spring, diaphragm, inlet and small ball. Remove outlet plug, short spring and small ball. Remove primary and secondary small venturies, sight glass retainer, sight glass and "O" ring.

4) Remove nut and throttle lever. Remove bolt with fast idle cam subassembly. Remove secondary throttle valve diaphragm spring. Disconnect link. Remove diaphragm assembly and gasket. *See Fig. 12.*

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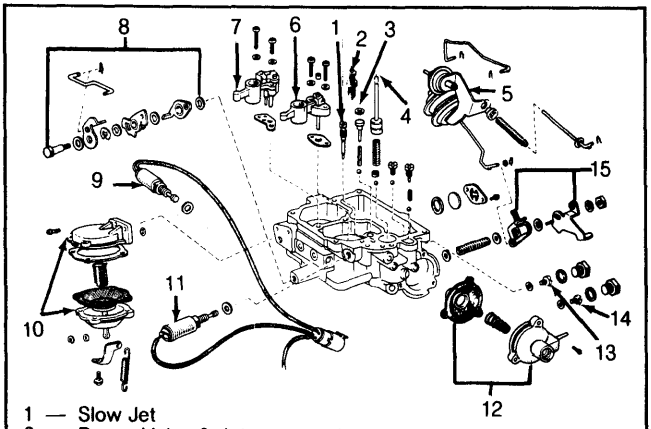
Fig. 12: Exploded View of Carburetor Main Body



1 — Slow Jet
2 — Power Valve & Jet
3 — Pump Discharge Weight
4 — Pump Plunger
5 — Choke Breaker & TP Diaphragm
6 — Primary Small Venturi
7 — Secondary Small Venturi
8 — Fast Idle Cam
9 — 2nd Solenoid Valve
10 — Secondary Throttle Diaphragm
11 — 1st Solenoid Valve
12 — AAP
13 — Secondary Main Jet
14 — Primary Main Jet
15 — Throttle Positioner Lever

Flange Parts

Remove 3 vacuum passage bolts and flange retaining bolts. Note position of vacuum passage bolt with hole. Separate flange from carburetor body and discard gasket. Clean all gasket surfaces.

CLEANING & INSPECTION

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

REASSEMBLY

Use all new gaskets, reverse dissembly procedure and note the following:

1) When assembling flange assembly, install vacuum passage bolt with hole in correct position. When assembling accelerator pump components, ensure check balls are positioned correctly.

2) When assembling air horn, tighten 8 retaining screws in criss-cross pattern. Tighten each screw a little at a time to prevent damage.

CARBURETOR ADJUSTMENT SPECIFICATIONS

Application	Float Level In. (mm)	Float Drop In. (mm)	Fast Idle Opening Angle	Choke Breaker Angle	Accel. Pump Stroke In. (mm)	Throttle Positioner (RPM)
Tercel	.283 (7.2)	.072 (1.8)	22°	47°	.118 (3.0)	1400