AISAN 2-BARREL – TOYOTA 3T-C ENGINE

Corolla

DESCRIPTION

Carburetor is of 2-barrel, downdraft design and is equipped with automatic choke which is heated by an electrically operated bimetal 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 features include diaphragms which open secondaries at high speed and full throttle operation, mixture control (Man. Trans. only), throttle positioner, choke opener, choke breaker, deceleration fuel cut, hot idle compensation, and high altitude compensation (Federal) devices.

CARBURETOR IDENTIFICATION

Application	Part No.
Man. Trans.	
W/O High Alt. Comp.	21100-28170
W/High Alt. Comp.	21100-28180
Auto. Trans.	
W/O High Alt. Comp.	21100-28150
W/High Alt. Comp.	21100-28160

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

ACCELERATOR PUMP STROKE ADJUSTMENT

Place a straight edge on top of air horn and measure full travel of pump plunger. Make measurement at boot end. Adjust travel distance to .197" (5.0 mm) by bending accelerator pump actuating rod at existing bend.

FLOAT LEVEL ADJUSTMENT

Hold air horn upside-down. Allow float to hang by its own weight. Measure gap between float tip and air horn gasket surface (gasket removed). Bend float by inserting suitable tool in hole until gap is correct. See *Fig. 1 and 2.*

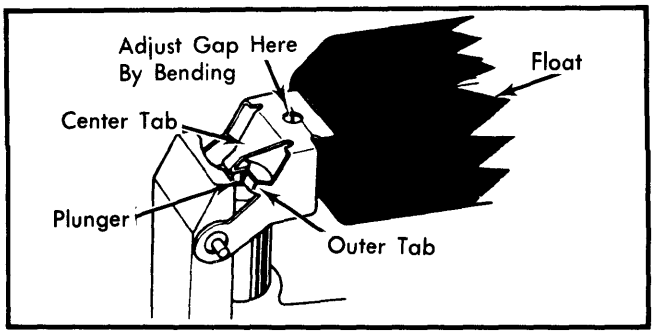

Fig. 1 Point for Adjusting Carburetor Float Level

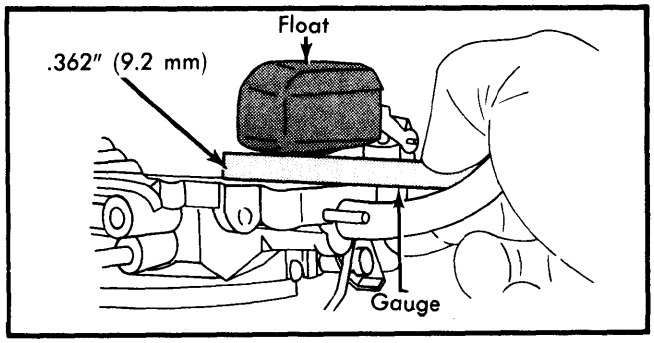

Fig. 2 Float Level Measurement Points and Gauge

FLOAT DROP ADJUSTMENT

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.

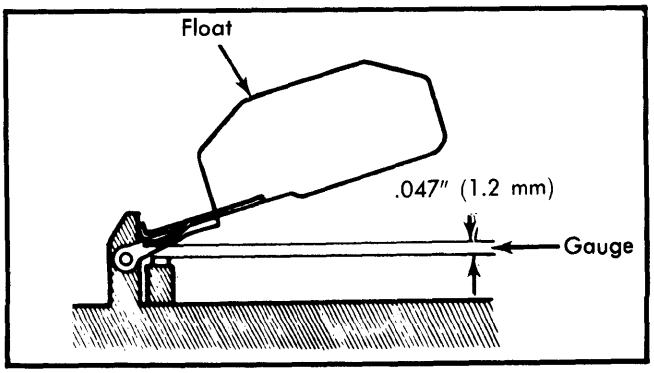

Fig. 3 Float Drop Measurement Points and Gauge

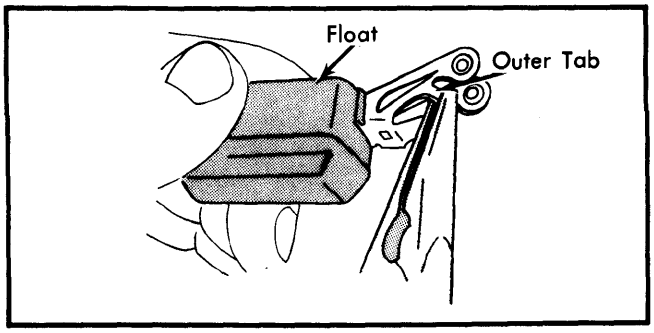

Fig. 4 Position for Adjusting Float Drop

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PRIMARY & SECONDARY THROTTLE VALVE ADJUSTMENT

When primary throttle valve is fully opened (90°), secondary throttle valve should also be completely open (80°). If adjustment is necessary, bend throttle shaft link.

NOTE – *The secondary throttle valve should begin to open when primary throttle valve is open 57° from bore surface.*

FAST IDLE (BENCH ADJUSTMENT)

Fully close choke valve by turning coil housing. Check angle between throttle valve and throttle bore with angle gauge. Adjust angle to 25° by turning fast idle adjusting screw.

SECONDARY THROTTLE OPENING ANGLE (KICK-UP)

Bend secondary throttle lever to obtain .0059" (.15 mm) clearance between secondary throttle valve and bore when primary throttle valve is fully open. *See Fig. 5.*

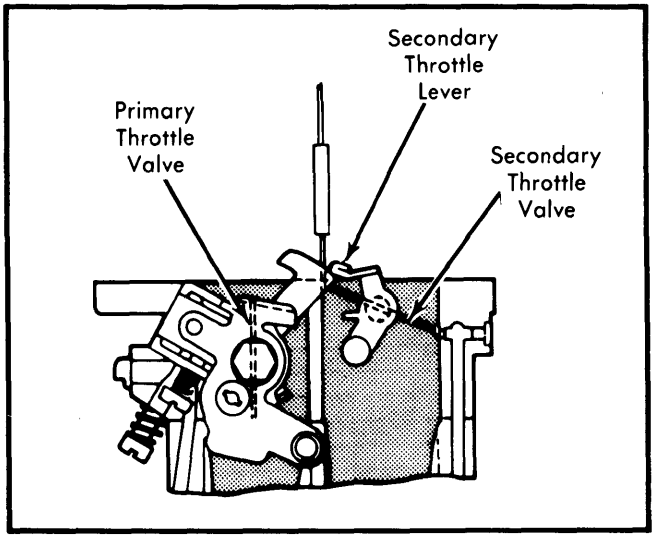

Fig. 5 Carburetor Kick-Up Adjustment

CHOKE UNLOADER ADJUSTMENT

Insert angle gauge. With primary throttle valve fully open, adjust angle of choke valve to 47° from fully closed position. Bend fast idle lever to obtain correct angle. *See Fig. 6.*

CHOKE OPENER ADJUSTMENT

Fully close choke valve by turning coil housing. Connect hose to opener diaphragm and apply vacuum. With vacuum applied, adjust choke angle to 85° (between choke valve and bore) by bending relief tang.

CHOKE BREAKER ADJUSTMENT

Connect hoses to both breaker vacuum diaphragms and apply vacuum. With vacuum applied, check that first choke angle is 38° and second choke angle is 55°. If not, replace air horn assembly.

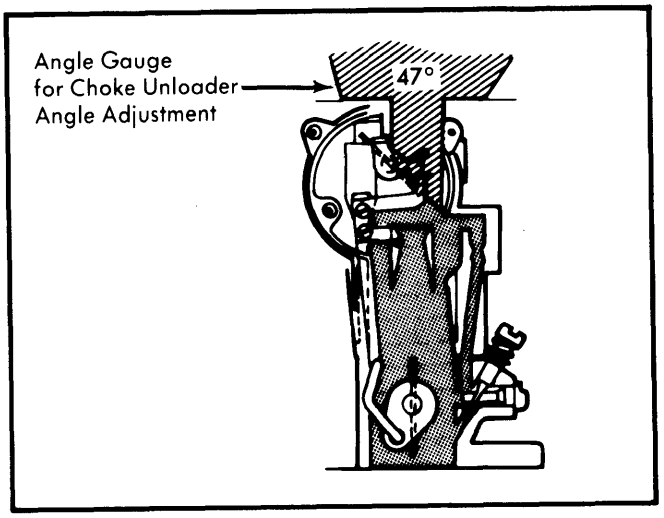

Fig. 6 Adjusting Choke Unloader Angle with Gauge

THROTTLE POSITIONER ADJUSTMENT

Turn carburetor upside-down and place throttle positioner adjusting screw against tab on throttle lever. Check angle between throttle valve and bore. Adjust angle to 16° by turning throttle positioner adjusting screw. *See Fig. 7.*

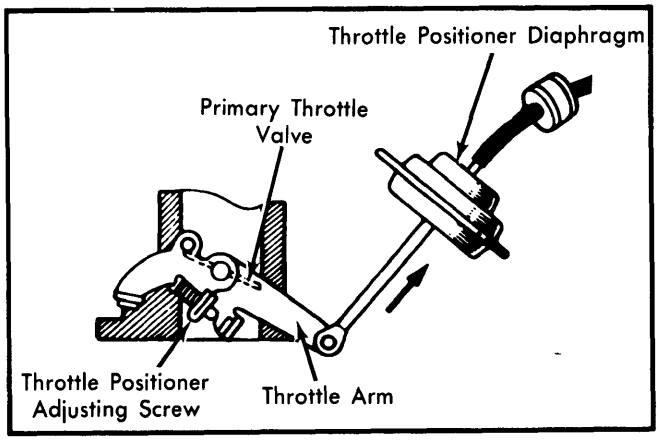

Fig. 7 Making Throttle Positioner Adjustment

OVERHAUL

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

DISASSEMBLY

Air Horn – 1) Remove pump arm pivot screw and pump arm with connecting rod. Disconnect and remove both choke breaker vacuum hoses. Remove upper connecting link and 8 air horn connecting screws. Lift air horn and gasket from carburetor body. *See Fig. 8.*

2) Remove float pivot pin and float. Remove air horn gasket. Remove needle valve, spring and plunger with gasket and seat. Pull out pump plunger. Remove boot, power piston retainer, piston and spring.

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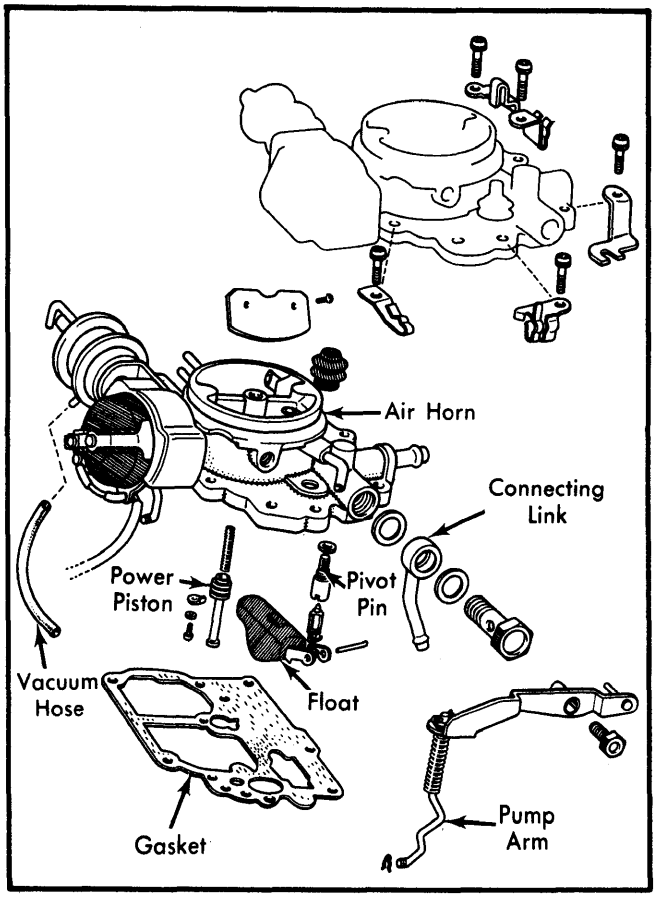

Fig. 8 Exploded View of Air Horn Assembly

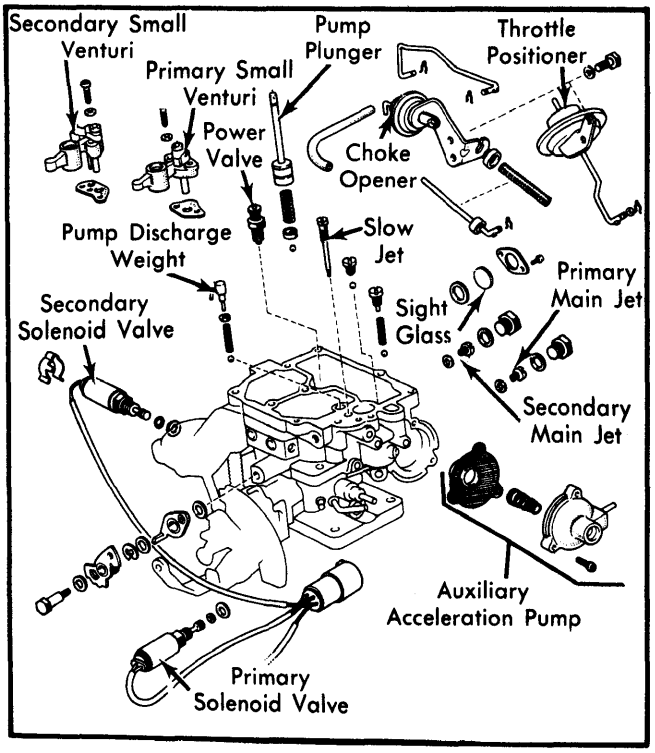

Fig. 9 Exploded View of Carburetor Main Body

Main Body – 1) Remove venturis and gaskets. Lift out pump discharge weight, O-ring and ball. Lift out pump damping spring. Using tweezers, take out retainer and ball. Remove slow jet and power valve. *See Fig. 9.*

2) Remove auxiliary acceleration pump inlet and outlet plugs, spring and balls. Remove pump housing, diaphragm, spring and gasket. Disconnect throttle positioner and choke opener links. Remove throttle positioner and choke opener.

3) Remove main jet plugs and main jets. Remove sight glass retainer, sight glass and O-ring. Remove primary and secondary solenoid valves.

Flange Parts – Remove rear spring. Disconnect secondary throttle diaphragm link and remove diaphragm. Remove fast idle cam. Loosen 2 flange bolts and 2 vacuum passage bolts. Remove flange from carburetor body. *See Fig. 10.*

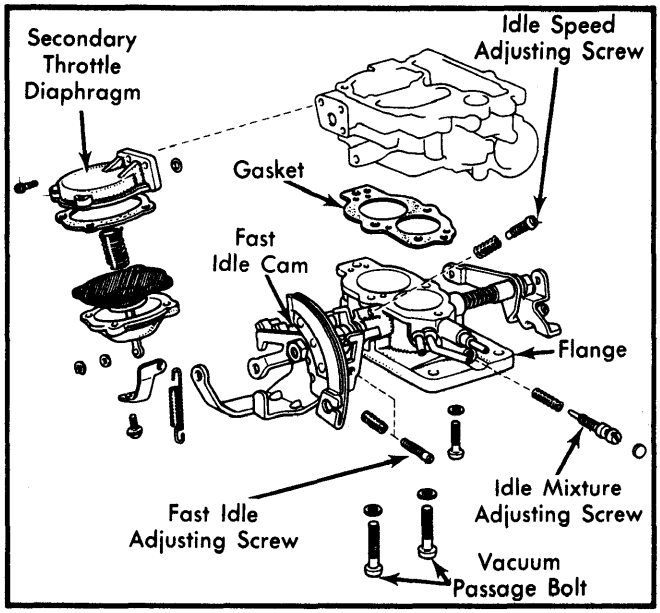

Fig. 10 Exploded View of Carburetor Flange Parts

CLEANING & INSPECTION

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

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

1) When assembling flange parts, ensure vacuum passage bolts are installed in correct position.

2) When assembling secondary throttle valve diaphragm, ensure gasket is properly installed and seated.

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3) Ensure AAP and pump valves, springs and check balls are properly installed in appropriate orifices.

4) When installing main jets, primary jet is "brass" colored and secondary jet is "chrome" colored.

5) When installing pump discharge weight and outlet valve assembly, ensure all components are installed in correct order.

6) After installing power piston retaining clip and screw, check power piston for smooth operation.

CARBURETOR ADJUSTMENT SPECIFICATIONS

Application	Idle Speed (Engine RPM)		Float Level Setting In. (mm)	Float Drop In. (mm)	Fast Idle Angle	Choke Breaker Opening Angle	Accel. Pump Stroke In. (mm)	Throttle Positioner Angle
	Hot	Fast						
Corolla	650①②	3400③④	.362 (9.2)	.047 (1.2)	25°	38°⑤	.197 (5.0)	16°

① – Auto. Trans. – 750 RPM.
② – Power Steering – 850 RPM.
③ – Auto. Trans. – 3200 RPM.
④ – 200 RPM less with power steering.
⑤ – Second angle – 55°.