AISAN 2-BARREL – TOYOTA 1A-C ENGINE

Tercel

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

CARBURETOR IDENTIFICATION

Application	Part No.
Federal	
Man. Trans. (4-speed)	21100-15080
With High Altitude Comp.	21100-15130
Man. Trans. (5-speed)	21100-15090
With High Altitude Comp.	21100-15140
Auto. Trans.	21100-15100
With High Altitude Comp.	21100-15150
California (All Models)	21100-15120

ADJUSTMENTS

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

HOT (SLOW) IDLE RPM

See appropriate Tune-Up article in TUNE-UP section.

IDLE MIXTURE

See appropriate Tune-Up article in TUNE-UP section.

COLD (FAST) IDLE RPM

See appropriate Tune-Up article in TUNE-UP section.

FLOAT LEVEL ADJUSTMENT

NOTE – *When top and bottom lever positions are properly adjusted, float will maintain specified fuel level (glass level mark) when engine is running.*

Hold 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 by inserting suitable tool in hole until gap is correct. See *Fig. 1 and 2.*

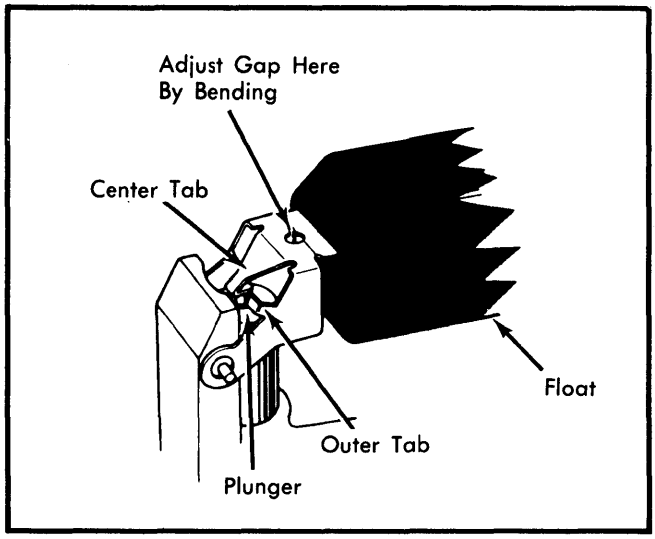

Fig. 1 Adjusting Carburetor Float Level

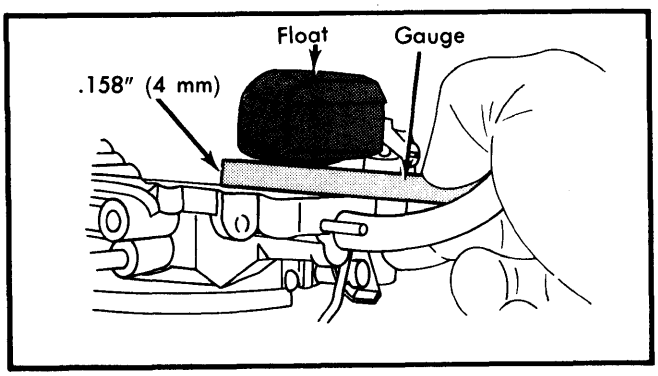

Fig. 2 Float Level Measurement Points and Gauge

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.

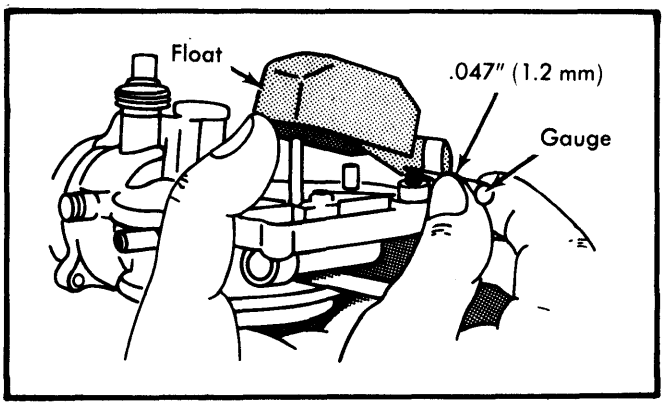

Fig. 3 Float Drop Measurement Points and Gauge

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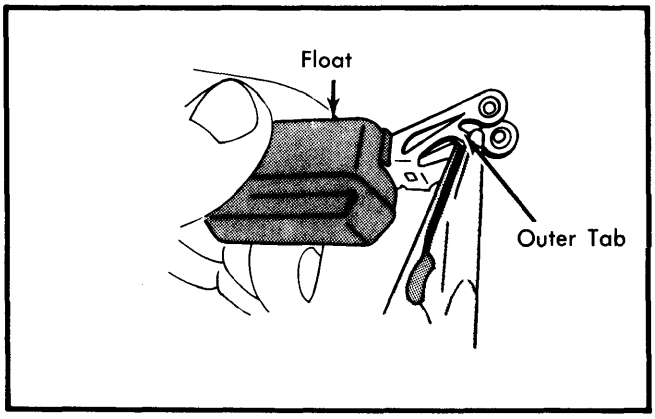

Fig. 4 Position for Adjusting Float Drop

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

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 22° by turning fast idle adjusting screw.

SECONDARY THROTTLE OPENING ANGLE (KICK-UP)

Bend secondary throttle lever to obtain .013-.0177" (.33-.45 mm) clearance between secondary throttle valve and bore when primary valve is fully open. *See Fig. 5.*

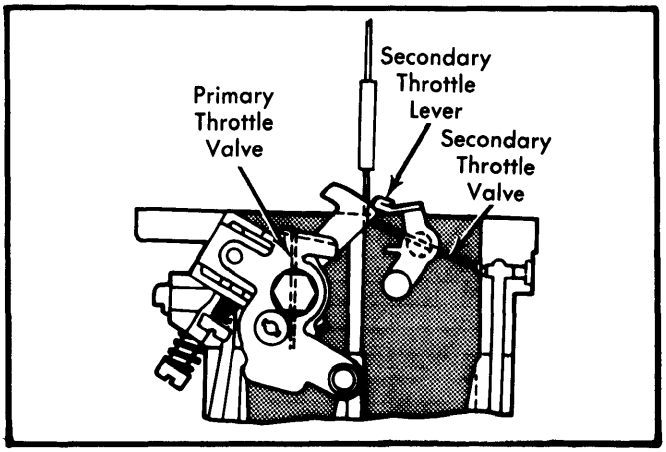

Fig. 5 Carburetor Kick-Up Adjustment

CHOKE UNLOADER ADJUSTMENT

Insert angle gauge. Adjust angle of choke valve so it will be 47° from fully closed position when primary throttle valve is fully open. Bend fast idle cam follower to obtain correct angle. *See Fig. 6.*

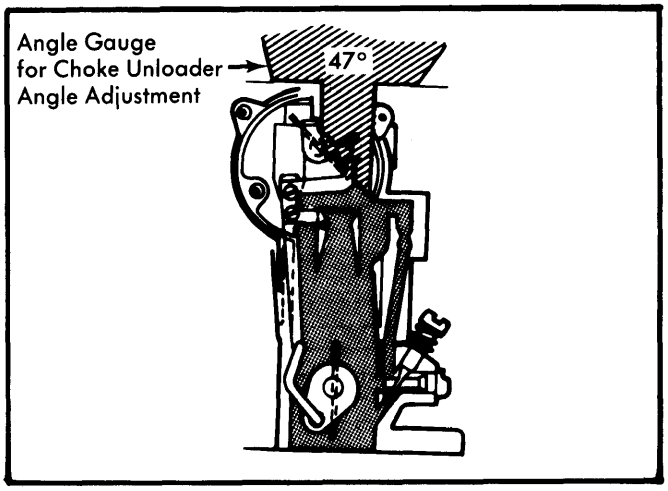

Fig. 6 Adjusting Choke Unloader Angle with Gauge

CHOKE BREAKER ADJUSTMENT

Fully close choke valve by turning coil housing. Connect hoses to breaker vacuum diaphragm and apply vacuum. With vacuum applied, adjust choke angle to 39° by bending release tang.

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 72° (between choke valve and bore) by bending relief lever tang.

DASH POT ADJUSTMENT

1) Connect tachometer. With engine at normal operating temperature, disconnect and plug vacuum hose at EGR valve. Disconnect dash pot vacuum hose.

NOTE – *Dash pot setting speed must be done with engine cooling fan "OFF".*

2) Open throttle valve until dash pot adjusting screw does not rest on stopper. *See Fig. 7.* Plug dash pot diaphragm port.

3) Release throttle valve and check dash pot setting speed. Set engine speed to 3000 RPM when adjusting screw rests on stopper by turning adjusting screw. Reconnect dash pot diaphragm vacuum hose. Open throttle valve and check smooth operation of dash pot linkage.

4) Open throttle valve until dash pot adjusting screw does not rest on stopper. Release throttle valve. After adjusting screw touches stopper, stopper should return to idle position within 1-4 seconds. If not, check and/or replace diaphragm.

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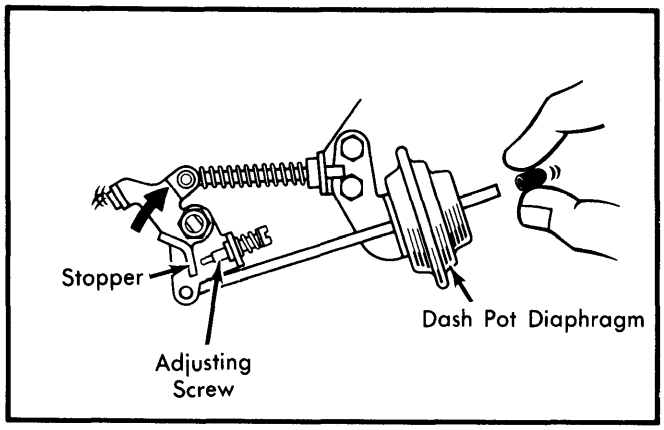

Fig. 7 Adjusting Dash Pot Setting Speed

AUTOMATIC CHOKE ADJUSTMENT

Set coil housing scale to center line of thermostat case. Turn coil housing and adjust engine starting mixture to conform with vehicle operating conditions. When mixture for starting is too rich, turn clockwise; when too lean, turn counterclockwise.

NOTE – *Choke valve fully closes at atmospheric temperature of 86°F (30°C).*

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 .118" (3.0 mm) by bending accelerator pump actuating rod at existing bend. *See Fig. 8.*

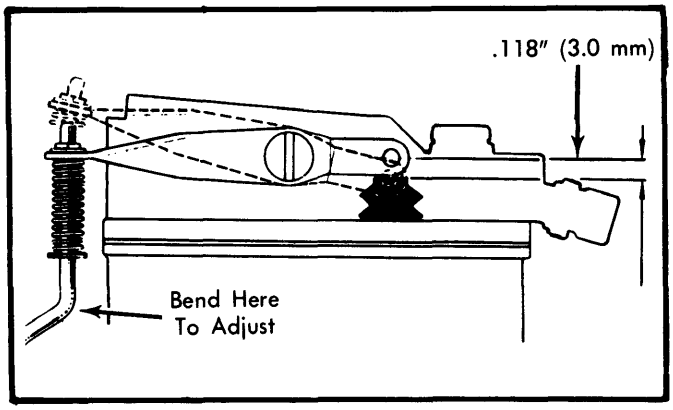

Fig. 8 Carburetor Accelerator Pump Stroke Adjustment

OVERHAUL

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

DISASSEMBLY

Air Horn – 1) Remove accelerator pump retaining screw and connecting link. Remove pump lever and connecting rod. Remove circlip from fast idle lever and disconnect lever. Remove choke opener lever circlips and lever. *See Fig. 9.*

2) Remove fuel inlet fitting and line. Remove 8 air horn retaining screws and auxiliary mounting clips. Remove air horn from carburetor body.

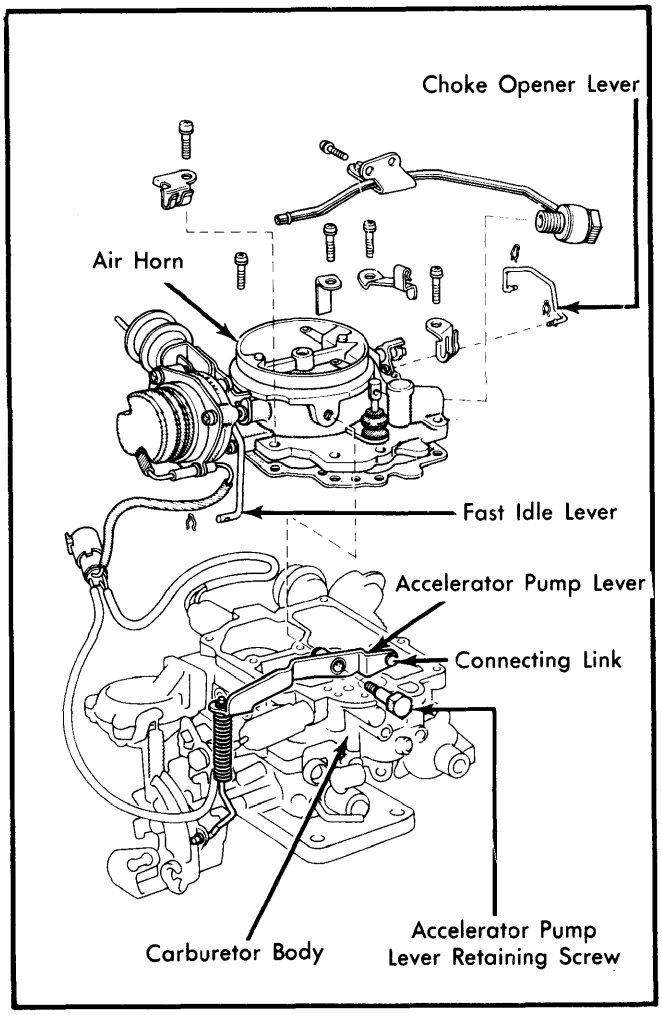

Fig. 9 Exploded View of Carburetor Air Horn

Float Parts – 1) Remove pump plunger and float retaining pin and float. Remove needle valve pin, spring and valve. Remove power piston retaining screw and clip. Remove power piston and spring assembly. *See Fig. 10.*

2) Using appropriate driver from carburetor kit, remove needle valve seat and filter. Remove and discard gasket. Clean gasket mounting surface.

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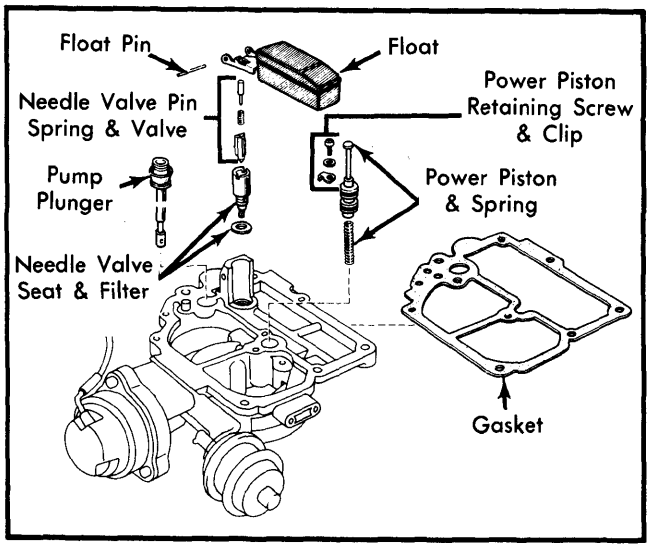


Fig. 10 Exploded View of Carburetor Float Parts

Automatic Choke – 1) Remove coil housing. Remove choke lever retaining screw and lever. Remove thermostat case and gasket. Remove choke breaker cam, lever and choke breaker diaphragm assembly. See *Fig. 11*.

2) Remove relief lever and cam. Remove choke valve retaining screws and choke valve. Remove choke valve shaft.

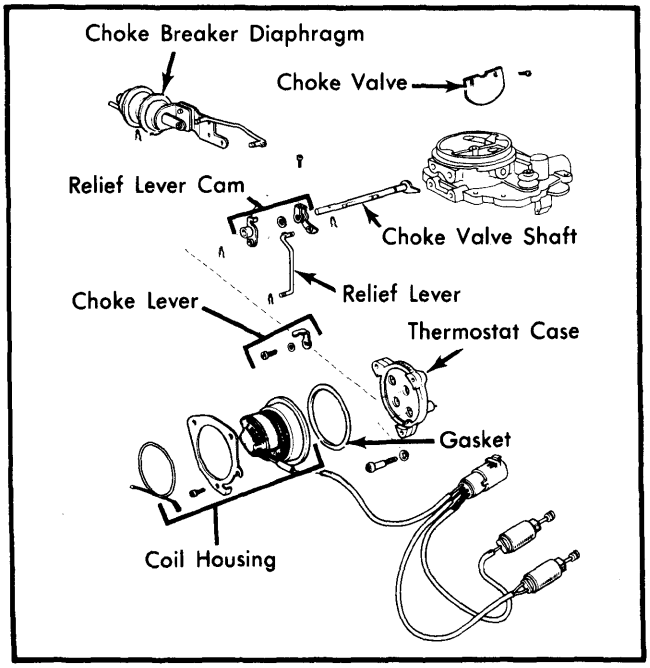


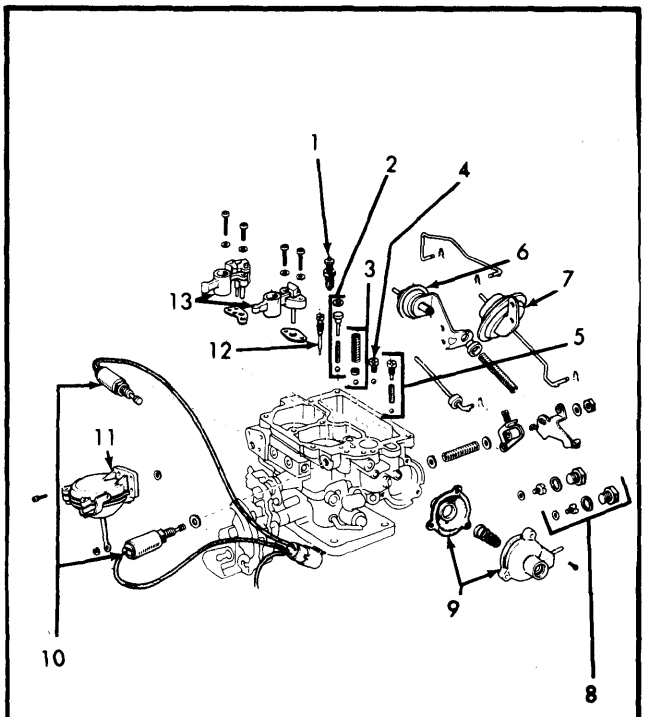
Fig. 11 Exploded View of Automatic Choke Assembly

Body Parts – 1) Remove dash pot and operating lever. Remove choke opener assembly and auxiliary acceleration pump diaphragm. Remove deceleration solenoid valves. See *Fig. 12*.

2) Remove acceleration pump discharge weight, valve, spring and check ball and arrange properly for reassembly reference. Remove slow jet. Loosen throttle lever set nut about 4 turns.

3) Remove primary and secondary main plugs and jets. Remove power valve. Remove primary and secondary small venturi retaining screws and venturi. Remove auxiliary accelerator pump inlet valve and check ball.

4) Remove auxiliary accelerator pump outlet plug, then remove spring and checkball. Remove inlet pump retainer with tweezers, then remove inlet valve, spring and check ball. Remove secondary throttle valve diaphragm assembly.



1. Power Valve
2. Pump Discharge Weight, Valve & Check Ball
3. Pump Inlet Valve Assy.
4. AAP Inlet Valve
5. AAP Outlet Valve Assy.
6. Choke Opener
7. Dash Pot
8. Primary & Secondary Main Jet Plugs & Jets
9. Auxiliary Accelerator Pump Diaphragm
10. Deceleration Solenoid Valves
11. Secondary Throttle Valve Diaphragm
12. Slow Jet
13. Primary & Secondary Small Venturi

Fig. 12 Exploded View of Carburetor Body Parts

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Flange Parts – 1) Remove vacuum passage bolts and flange retaining bolts. Note position of vacuum passage bolt with hole. Using appropriate idle screw wrench, remove idle adjusting screw. *See Fig. 13.*

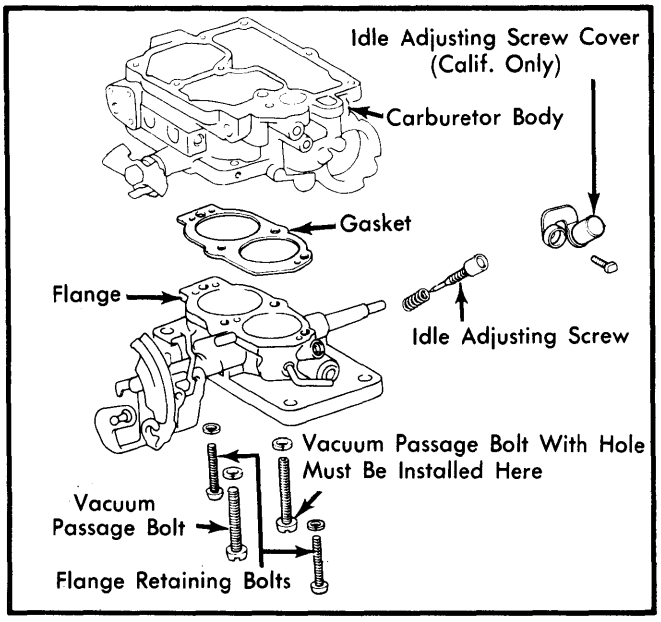

Fig. 13 Exploded View of Carburetor Flange Parts

NOTE – *Idle adjusting screw cover must be removed on California models to gain access to idle adjusting screw.*

2) Separate flange from carburetor body and discard gasket. Clean all gasket surfaces.

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 assembly, install vacuum passage bolt with hole in correct position. *See Fig. 13.* California models must have idle adjusting screw cover installed.

2) When installing main jets, primary jet is "brass" colored and secondary jet is "chrome" colored. When assembling accelerator pump components, ensure check balls are positioned correctly.

3) 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	Idle Speed (Engine RPM)		Float Level Setting	Float Drop	Fast Idle Opening Angle	Choke Unloader Angle	Accel. Pump Stroke	Dash Pot Setting Speed
	Hot	Fast	In. (mm)	In. (mm)			In. (mm)	(Eng. RPM)
Tercel	650①②	3600①③	.158 (4)	.047 (1.2)	22°	47°	.118 (3)	3000①③

① – Cooling fan "OFF".
② – Auto. Trans. (Neutral) 800 RPM.
③ – EGR Off.