

1974-79 FUEL SYSTEMS

Keihin 06/08 & 20/29 2-Barrel Carburetors

Honda: Accord, Civic CVCC, Prelude

DESCRIPTION

Carburetor is a 2-barrel, 3 venturi downdraft design. Carburetor contains primary and auxiliary systems. Primary system utilizes primary and secondary venturis, float system, accelerator pump system, and idle system. Auxiliary system utilizes an auxiliary venturi with a float and idle system. Auxiliary system provides fuel to the pre-combustion chamber. Carburetor components include an automatic/manually operated choke, choke opener diaphragm, secondary throttle operating diaphragm, primary throttle opening diaphragm, fuel shut-off solenoid, and a primary/main fuel shut-off solenoid.

ADJUSTMENTS

IDLE SPEED & MIXTURE

See appropriate TUNE-UP PROCEDURES article.

COLD (FAST) IDLE RPM

See appropriate TUNE-UP PROCEDURES article.

CHOKE TENSION

All Models With Automatic Choke - Remove air cleaner and open and close throttle fully to engage fast idle cam. If choke valve does not close to less than 1/8" (3 mm) clearance between valve and body, remove choke cover and inspect linkage. Reinstall cover, aligning index marks. Recheck clearance. If choke still does not close properly, replace cover.

CHOKE OPENER

All Models Except Those With Manual Choke - Open and close throttle fully to engage fast idle cam. Start engine. Choke valve should partially open. If it does not open partially, check linkage, leaks in diaphragm, blocked vacuum port at carburetor or leaks in "O" ring. If still inoperative, replace choke opener and adjust opener levers.

All Models With Manual Choke - 1) Pull choke knob to 2nd detent position. While cranking engine observe that choke butterfly valve moves between partially open and fully closed.

2) Now start engine and check to see if butterfly is partially open. If butterfly valve is not operating properly, remove screws securing choke opener diaphragm and proceed with testing.

3) Swing choke opener assembly upward until it is straight up and down above carburetor. See Fig. 1. Holding opener assembly in this position, press inward to compress diaphragm.

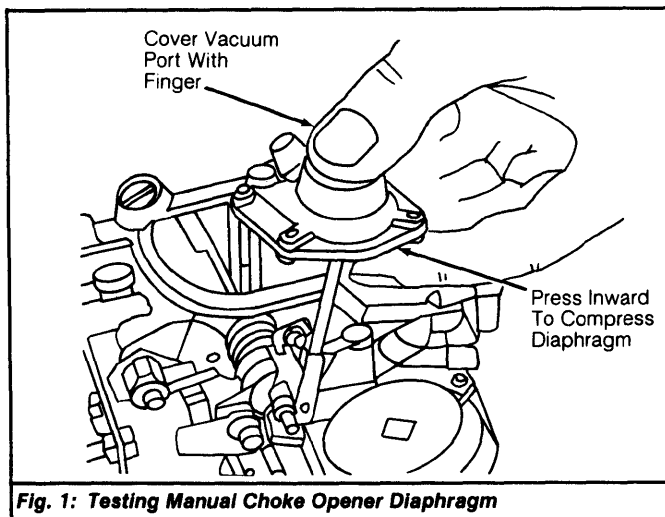


Fig. 1: Testing Manual Choke Opener Diaphragm

4) Choke actuating rod should move freely without binding. With diaphragm compressed, place finger over vacuum port and hold for about 5 seconds.

5) Check that diaphragm does not leak off during this time. If it does leak down, replace diaphragm unit. If diaphragm assembly does not leak down, check carburetor vacuum port for vacuum and repair as necessary.

6) To adjust choke opener, pull choke cable out to 1st detent. Depress choke opener diaphragm by hand. See Fig. 2. Insert gauge between upper edge of choke valve and air horn wall. Clearance should be .125" (3.17 mm) on 1974-77 models; .151-.171" (3.85-4.35 mm) on 1978-79 models.

7) If adjustment is needed, open or close slot in relief lever. Set choke knob at 2nd detent position. Depress choke opener diaphragm by hand. Insert gauge between choke valve and air horn wall. Clearance should be .094-.102" (2.4-2.6 mm). If necessary, bend stop tab and recheck clearance.

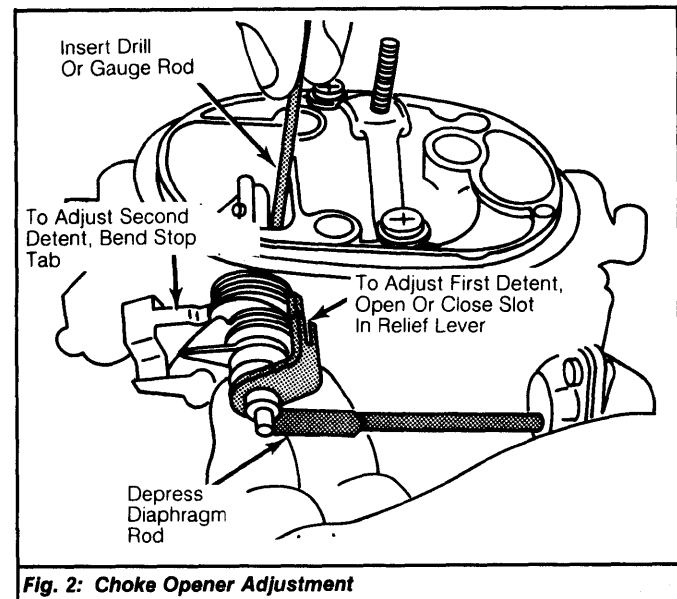


Fig. 2: Choke Opener Adjustment

CHOKE HEATER

1) As engine warms up, choke valve should open to full position. If choke does not open at all, check voltage across connectors of choke cover. If no voltage is present, check external resistor, fuses and voltage regulator and wiring.

2) If voltage is present, check for 18-26 ohms resistance across choke cover leads. If resistance is outside specifications, replace choke cover assembly and recheck.

3) If choke does not open full, inspect linkage. Disconnect air sensor wires, start engine and measure for 9.5-12 volts across choke cover leads. If more than 12 volts, replace external resistor. If still ineffective, replace choke cover assembly.

AIR TEMPERATURE SENSOR

Disconnect and remove sensor from air cleaner. Check continuity across sensor lead wires. Continuity should be present at 57-73°F (14-23°C), but absent below this temperature range. Replace sensor if not to specifications.

CHOKE CABLE

All Models With Manual Choke - 1) Check that choke control operates smoothly with no binding or sticking. Push choke knob all the way in and remove carburetor air cleaner. Be sure that choke plate is fully open against stop tab in air horn. See Fig. 3.

2) Loosen lock nut on choke cable and tighten adjusting nut to move choke plate away from stop tab. Now turn adjusting nut until plate returns to stop tab. Tighten lock nut.

3) Have an assistant pull out choke knob to 2nd detent position, while observing action in carburetor air horn. As choke knob is pulled to second detent position, choke plate should just close. If it does not close, inspect choke plate and return spring for signs of binding.

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4) Have assistant pull choke knob all the way out and observe that choke plate remains in the closed position. Replace air cleaner. Check operation of choke indicator light with choke knob pulled out and ignition switch in "ON" position.

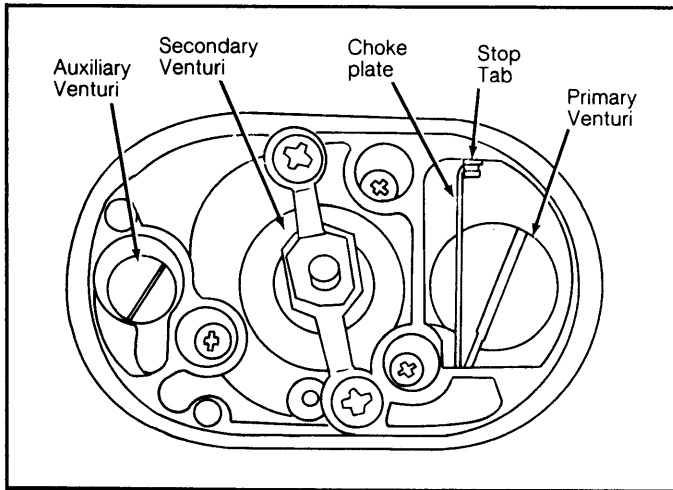


Fig. 3: Checking Position of Choke Plate

THROTTLE CABLE

- 1) Check that throttle cable operates smoothly with no binding or sticking. Check free play at linkage. Cable should deflect .16-.40" (4-10 mm).
- 2) If not within specifications, turn adjusting nut until cable has no deflection. Loosen adjusting nut until cable deflects .16-.40" (4-10 mm). Tighten lock nut.
- 3) Depress accelerator pedal and check full throttle condition at carburetor. Readjust cable adjusting nut to obtain full throttle condition. Test throttle return to full position when cable is released.

FLOAT LEVEL

NOTE: Use Float Level Gauge (07501-6590101) and Catch Tray (07501-6570201) on Civic CVCC. Use Float Level Gauge (07501-6950100) and Catch Tray (07501-6950201) on Accord and Prelude. Gauge includes a see through adapter, with a Red line as a fuel level indicator. Gauge is installed where primary/secondary and auxiliary solenoids and mount to body.

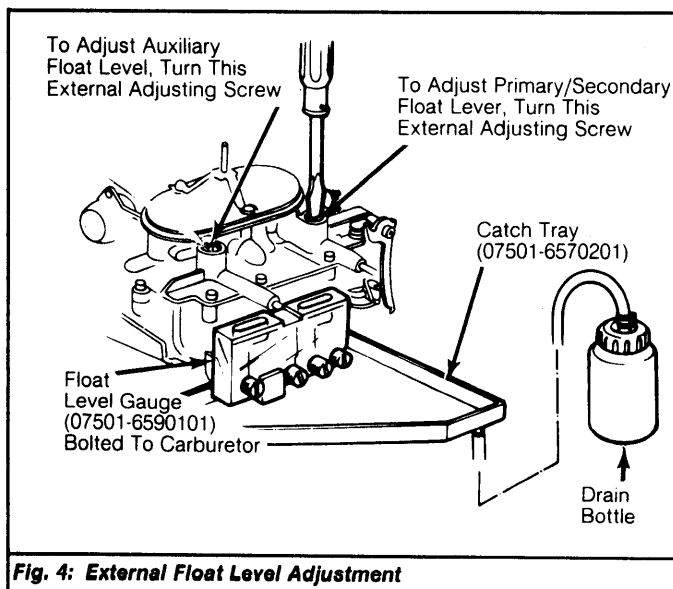


Fig. 4: External Float Level Adjustment

- 1) With air cleaner removed and carburetor installed on vehicle, remove primary/secondary and auxiliary main jet solenoids. Attach float level gauge, catch tray, and drain bottle to carburetor.
- 2) Start engine and allow it to stabilize. Float level should remain at Red line on gauge. If not, adjustment is made by turning external float level adjusting screws.
- 3) Allow time for fuel level to stabilize and check again. See Fig. 4. When correct float level is achieved, paint adjusting screws to keep adjustment from changing.

ACCELERATOR PUMP

Accelerator pump stroke is adjusted by bending accelerator pump lever tang. On 1974-76 models, clearance should be .31-.34" (7.9-8.5 mm) between tang and throttle body stop tab. On 1977-78 models, clearance should be .46-.48" (11.7-12.3 mm). See Fig. 5. On 1979 models, clearance should be .57-.60" (14.5-15.1 mm).

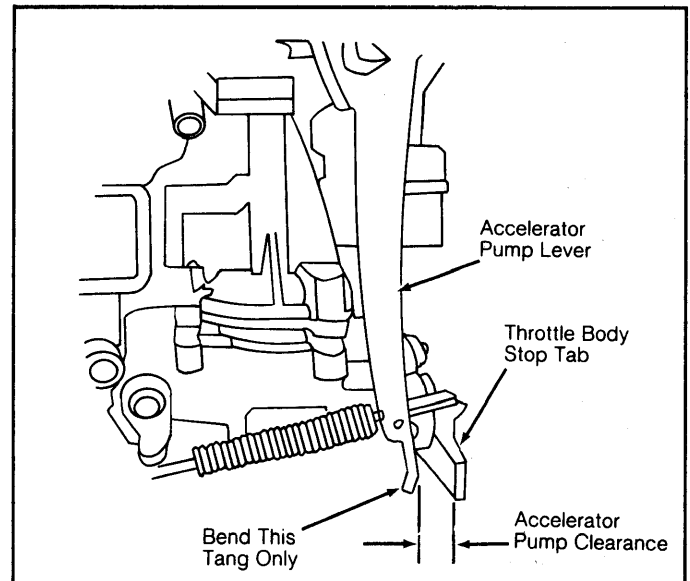


Fig. 5: Accelerator Pump Adjustment

THROTTLE OPENER

- 1) Connect tachometer to engine. Start and warm engine to normal operating temperature. Unhook hose from throttle opener diaphragm. Connect a hand vacuum pump. See Fig. 6.
- 2) With engine running, apply at least 16 in. Hg vacuum for more than one minute. Speed should increase to RPM shown in appropriate THROTTLE OPENER SPECIFICATIONS table.
- 3) If engine RPM is low, widen slot in throttle opener speed adjustment lever with a screwdriver. If RPM is too high, narrow the slot with pliers. If speed cannot be adjusted, or diaphragm will not maintain a vacuum, replace diaphragm. Reconnect vacuum hose.

NOTE: Steps 4) through 14) of THROTTLE OPENER DIAPHRAGM adjustment procedure apply to 1978-79 models only. End adjustment procedure at step 3) on 1974-77 models.

- 4) Increase engine speed to 3500 RPM and hold for 2-3 seconds. Release throttle suddenly. Engine should return to idle within 1-4 seconds and arm on throttle linkage should extend fully. If throttle closes in less than 1 second, go to next step. If throttle closes in more than 4 seconds, go to step 10)

1977 THROTTLE OPENER SPECIFICATIONS

Application	RPM
All Models	
Man. Trans.	2200-3200
Auto. Trans.	1700-2700

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1978-79 THROTTLE OPENER SPECIFICATIONS

Application	RPM
Civic CVCC	
Man. Trans.	
With Throttle Control Valve	2200-2900
W/O Throttle Control Valve	1700-2700
Hondamatic	1500-2500
Accord & Prelude	2000-3000

5) Disconnect vacuum hose from throttle opener diaphragm and connect vacuum gauge to hose. At 4000 RPM there should be at least 1.2 in. Hg.

6) If there is vacuum on Federal manual transmission and all Hondamatic vehicles, replace dashpot check valve and repeat the 3500 RPM test in step 4).

7) If there is vacuum on California and High Altitude manual transmission equipped vehicles, by-pass throttle control valve. If throttle return time is now within specifications, replace throttle control valve.

NOTE: To by-pass control valve, disconnect two hoses from atop the valve and connect them together.

8) If throttle still returns in less than 1 second, check for vacuum at dashpot check valve. If vacuum is present, replace dashpot check valve. If not, check hoses for leaks. Remove throttle control valve by-pass, reinstall hoses, and repeat 3500 RPM test in step 4).

9) If there is less than 1.2 in. Hg vacuum at throttle opener diaphragm, check for vacuum at carburetor vacuum port. If vacuum is present, check hoses for leaks or blockage. If there is no vacuum, clean port. In either case, repeat 3500 RPM test in step 4).

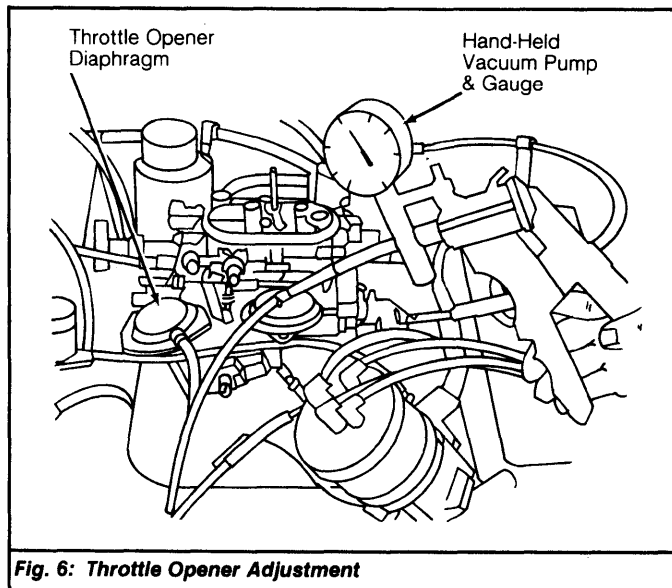


Fig. 6: Throttle Opener Adjustment

10) On Federal manual transmission and all Hondamatic vehicles, replace dashpot check valve and repeat 3500 RPM test in step 4).

11) On California and High Altitude manual transmission equipped vehicles, pinch hose between throttle opener solenoid valve and control valve and repeat 3500 RPM test in step 4).

12) On Civic CVCC California and High Altitude manual transmission equipped vehicles, by-pass throttle control valve. To by-pass control valve, disconnect two hoses from atop the valve and connect them together. Repeat 3500 RPM test in step 4).

13) If throttle still takes longer than 4 seconds, replace throttle control valve (Accord and Prelude) or dashpot check valve on Civic CVCC. If within specifications, check voltage at throttle opener solenoid valve.

14) If voltage is present, replace speed sensor in speedometer. If no voltage is present, replace throttle opener solenoid valve. Repeat 3500 RPM test in step 4).

THROTTLE CONTROL VALVE

1976-77 Models - 1) Remove air cleaner and loosen throttle stop screw until throttle valve opens completely. Install protractor on throttle shaft and clip pointer to secondary dashpot diaphragm.

2) Align pointer to "0" degree mark on protractor, then push throttle controller rod all the way in. Pointer should read 13-15 degrees. See Fig. 7.

3) If not, bend throttle control lever. After adjustment, recheck throttle controller angle. Remove protractor and pointer. Readjust engine idle speed and throttle stop screw.

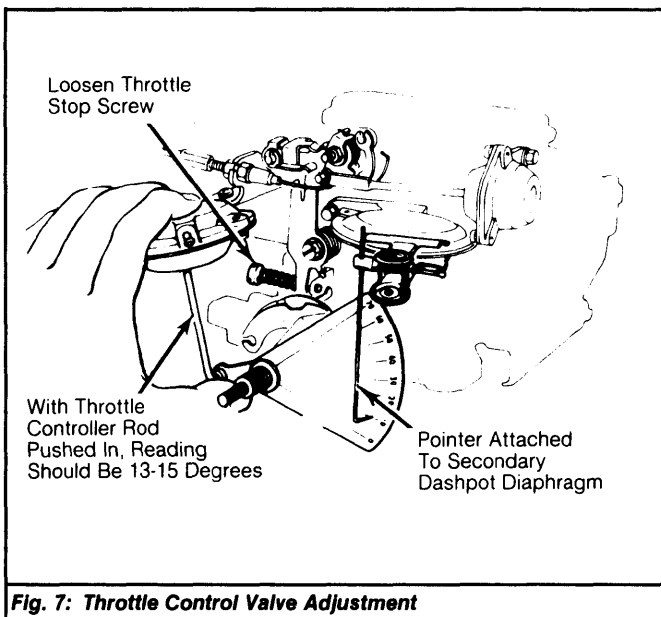


Fig. 7: Throttle Control Valve Adjustment

1978-79 California & High Altitude Man. Trans. Equipped Models - 1) Check or adjust throttle opener diaphragm. See THROTTLE OPENER DIAPHRAGM in this article.

2) By-pass speed sensor with a jumper wire from battery positive post to Yellow/Black connector at emissions control box. Raise engine speed to 3500 RPM and release throttle. Engine should return to idle within 6 seconds. Elapsed time normally is greater than dashpot test.

3) If not, remove throttle control valve cover. Loosen lock nut on control valve and turn adjusting nut clockwise to decrease return time, counterclockwise to increase return time, and repeat procedure.

4) If return time cannot be decreased, replace throttle control valve and repeat 3500 RPM test in step 2). If return time cannot be increased, check voltage at throttle opener solenoid valve (Yellow/Black wire).

5) If no voltage is present, check wiring from snap connector to solenoid. If voltage is present, either throttle opener solenoid valve or throttle control valve have failed.

6) To check, remove vacuum line to throttle opener diaphragm and check for vacuum. If vacuum is present, replace throttle control valve; if not present, replace throttle opener solenoid valve and retest. Disconnect battery jumper wire from control box connector and stop engine.

SPEED SENSOR

1978-79 California & High Altitude Man. Trans. Equipped Models - 1) Jack up front of car, support with safety stands, block rear wheels and set hand brake.

2) Push positive probe of voltmeter into the yellow/black wire terminal at control box connector. Connect negative probe to suitable ground. Start engine. Place shift lever in 2nd gear and accelerate slowly while observing voltmeter.

3) Voltmeter should show battery voltage above 20 MPH on Accord and Prelude models, but no voltage below 10 MPH. On Civic CVCC there should be voltage above 15 MPH, but none below 5 MPH.

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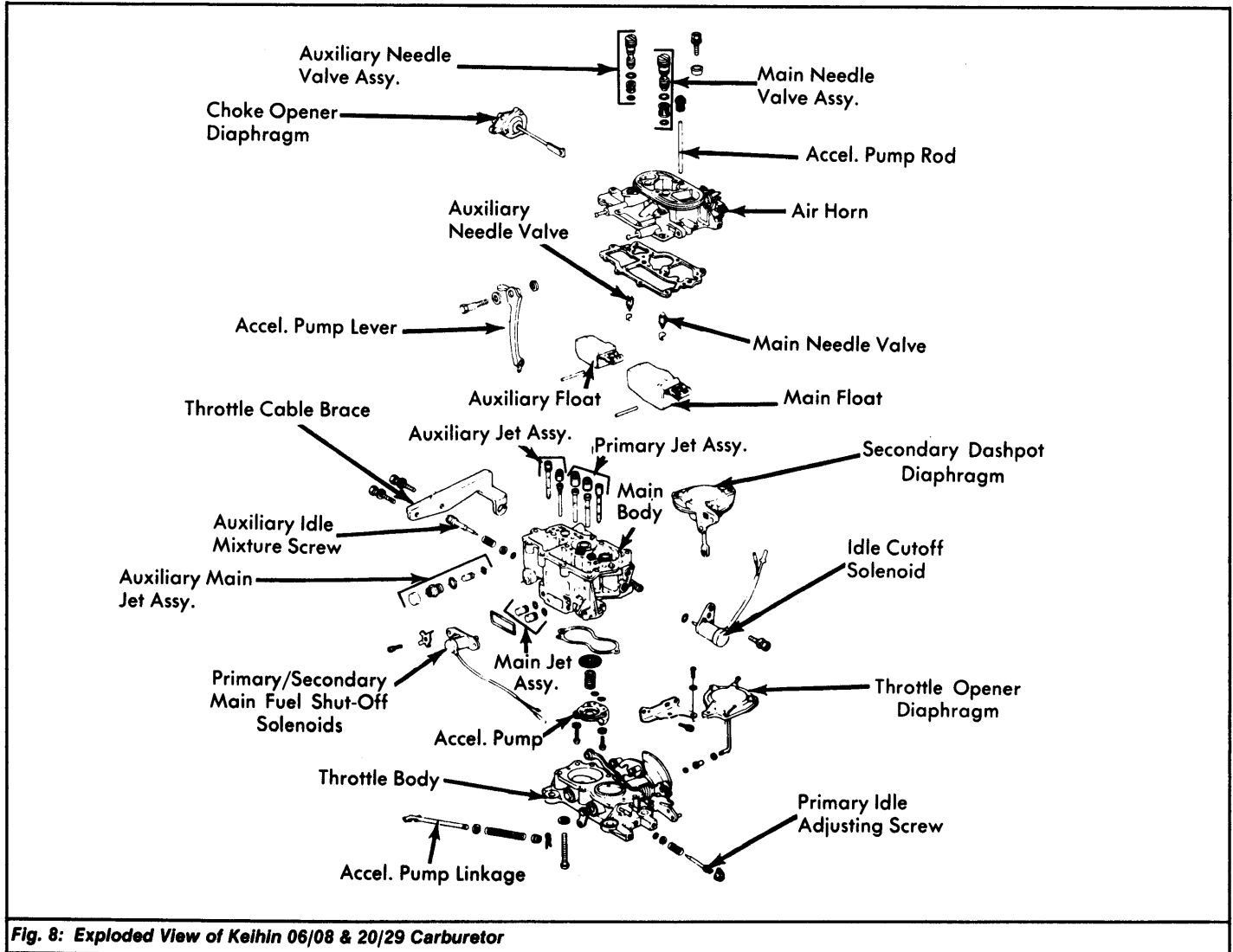


Fig. 8: Exploded View of Keihin 06/08 & 20/29 Carburetor

4) If voltmeter readings do not correspond to these speed ranges, replace speed sensor and retest. If there is no voltage, check for bad connection, fuse or failed speed sensor and retest. Stop engine, lower car to ground and disconnect voltmeter.

AUXILIARY IDLE MIXTURE

Auxiliary idle mixture screw position should be marked before removal. If screw is removed and not marked, lightly seat screw then back out 1 3/4 turns.

AUXILIARY (LAMBDA) LINKAGE

NOTE: This adjustment requires the use of Dial Indicator Holder (07974-6570500) on Civic CVCC and Dial Indicator Holder (07974-6570501) on Accord and Prelude.

Adjustment With Dial Indicator - 1) Remove carburetor from vehicle and place upside-down on stand. Remove idle limiter cap and back out throttle stop screw. Attach dial indicator holder to carburetor.

2) Install dial indicator to holder. Loosen linkage adjustment screw lock nut. Tighten adjustment screw until primary throttle plate just opens. See Fig. 9.

3) Zero dial indicator. Loosen adjustment screw until dial indicator has a reading of .004-.006" (.10-.15 mm). See Fig. 10. Tighten lock nut without changing position of adjustment screw. Readjust throttle stop screw when carburetor is installed on vehicle.

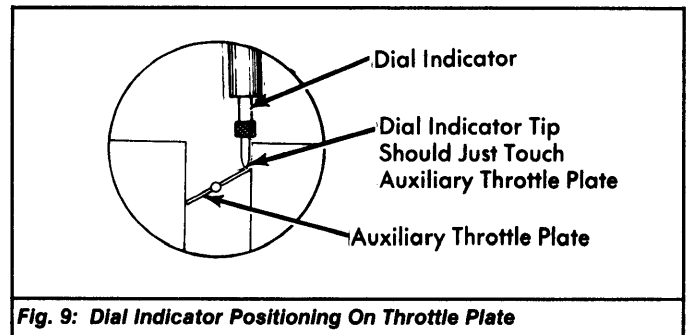


Fig. 9: Dial Indicator Positioning On Throttle Plate

Adjustment Without Dial Indicator - 1) Remove carburetor from vehicle and place upside-down on stand. Remove idle limiter cap and back out throttle stop screw. Loosen auxiliary linkage adjustment screw lock nut.

2) Tighten linkage adjustment screw until primary throttle plate just opens, then loosen adjusting screw 2 1/4 turns. Tighten auxiliary linkage adjustment screw lock nut without changing position of adjustment screw. Readjust throttle stop screw when carburetor is installed on vehicle.

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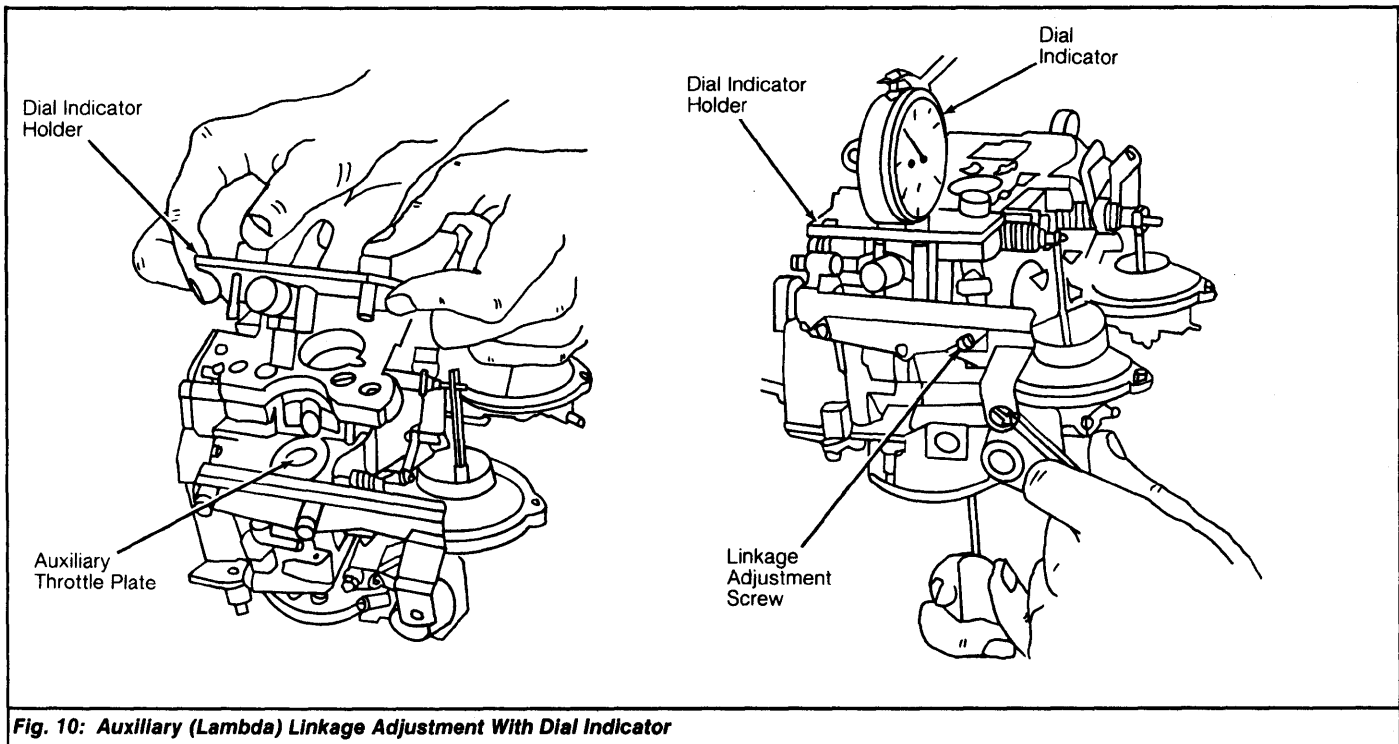


Fig. 10: Auxiliary (Lambda) Linkage Adjustment With Dial Indicator

AIR JET CONTROLLER

NOTE: Air jet controller is an atmospheric pressure sensing device, controlling the amount of air flow into slow and main air jets of auxiliary carburetor and secondary slow air jet of main carburetor.

1978-79 High Altitude Models - 1) Disconnect hose from Air Jet Controller (AJC). Connect hand-held vacuum pump to AJC using hose of same length and inside diameter as hose to carburetor.

2) Slowly apply more than 8 in. Hg vacuum to each port in turn and observe time it takes for vacuum to drop to zero. Proceed to step **3)**

4) or **5)** according to elevation vehicle is being tested at.

3) For elevations below 1500 feet, vacuum drop time should be longer than 5 seconds. If time is longer than 5 seconds, go to step **6)**. If time is shorter than 5 seconds, go to step **7)**.

4) For elevations between 1500-3000 feet, time may be either longer or shorter than 5 seconds. If time is longer, go to step **6)**. If time is shorter, go to step **8)**.

5) For elevations above 3000 feet, time should be shorter than 5 seconds. If time is longer than 5 seconds, replace air jet controller. If time is shorter, go to step **8)**.

6) To simulate altitudes above 3000 feet, remove cover from AJC filter housing and replace with ACJ Tester (07998-6711000). Attach a 4 in. Hg vacuum gauge to port on tester. Connect hand-held vacuum pump to one port and connect other 2 ports together with a short length of hose.

7) Apply 4 in. Hg vacuum and quickly relieve it through pump relief valve. Vacuum should drop rapidly to .2-2.0 in. Hg and then slowly bleed to zero. Repeat same test at other two AJC ports. If vacuum drop at any port is not within specifications, replace AJC and retest.

8) To simulate sea level (vacuum drop shorter than 5 seconds), switch hose from vacuum to pressure side of hand-held vacuum pump. Connect other end of hose to one port of air jet controller.

9) Connect other two ports together with a short length of hose. Switch 4 in. Hg vacuum gauge hose to pressure side of gauge and connect other end to AJC Tester (07998-6711000). Observe pressure gauge as pressure is applied.

10) As pressure increases, AJC needle valves should close and gauge should momentarily stabilize below 3 in. Hg, then gradually bleed off. Repeat test at other two AJC ports. If pressure does not momentarily stabilize below 3 in. Hg vacuum, replace AJC and retest.