1974-79 FUEL SYSTEMS
Hitachi DCG, DCH & DCJ 306 2-Barrel Carburetors

Datsun: F10, B210, 210, 310
Honda: 1974-76 Civic
Mazda: 1976-79 GLC, 808 (1300 cc)
Subaru: 1400 cc, 1600 cc

CARBURETOR IDENTIFICATION

1974 HITACHI CARBURETOR NUMBERS

Application	Man. Trans.	Auto. Trans.
Datsun	DCH306-6	DCH306-7
Honda	DCG306-45	DCG306-46
Subaru	DCG306-18	DCG306-19

1975 HITACHI CARBURETOR NUMBERS

Application	Man. Trans.	Auto. Trans.
Datsun		
Federal	DCH306-11	DCH306-14
Calif.	DCH306-11	DCH306-15
Honda	DCG306-45A	DCG306-46A
Subaru	DCG306-18	DCG306-19

1976 HITACHI CARBURETOR NUMBERS

Application	Man. Trans.	Auto. Trans.
Datsun		
B210		
Federal	DCH306-10A	DCH306-14A
Calif.	DCH306-11A	DCH306-15A
F10		
Federal	DCH306-16	----
Calif.	DCH306-17	----
Honda	DCG306-45A	DCG306-46A
Mazda	DCG306	DCG306
Subaru	DCJ306-7	DCJ306-7

1977 HITACHI CARBURETOR NUMBERS

Application	Man. Trans.	Auto. Trans.
Datsun		
B210		
Federal	DCH306-10B	DCH306-14B
Calif.	DCH306-11B	DCH306-15B
F10		
Federal	DCH306-16A	----
Calif.	DCH306-17A	----
Mazda	DCG306	DCG306
Subaru		
Federal	DCJ306-9	DCJ306-9
Calif.	DCJ306-8	DCJ306-8
High Alt.	DCJ306-9	DCJ306-9

1978 HITACHI CARBURETOR NUMBERS

Application	Man. Trans.	Auto. Trans.
Datsun		
B210		
Federal	[1] DCH306-60	DCH306-14
Calif.	DCH306-11	DCH306-15
F10		
Federal	DCH306-64	----
Calif.	DCH306-65	----
Mazda	DCG306	DCG306
Subaru		
Federal	DCJ306-8	DCJ306-8
Calif. [2]	DCJ306-8	DCJ306-8
High Alt.	DCJ306-9	DCJ306-9

[1] - DCH306-37 is used on models with 5-speed transmission.
[2] - When installing a DCJ306-8 repair carburetor on a California vehicle, change fast idle opening angle from 16 to 19 degrees by turning fast idle adjusting screw clockwise until throttle valve clearance is .060" (1.53 mm).

1979 HITACHI CARBURETOR NUMBERS

Application	Man. Trans.	Auto. Trans.
Datsun		
210		
Federal	[1] DCH306-60E	[2] DCH306-12
Calif.	DCH306-61	[2] DCH306-63
310		
Federal	DCH306-76	----
Calif.	DCH306-75	----
Mazda	DCG306	DCG306
Subaru		
Federal	DCJ306-8	DCJ306-8
Calif. [3]	DCJ306-8	DCJ306-8
High Alt.	DCJ306-9	DCJ306-9

[1] - DCH306-67 is used on models with 5-speed transmission.
[2] - DCH306-69 is used on models with 1500 cc engine.
[3] - When installing a DCJ306-8 repair carburetor on a California vehicle, change fast idle opening angle from 16° to 19° by turning fast idle adjusting screw clockwise until throttle valve clearance is .060" (1.53 mm).

DESCRIPTION

Carburetor is a two barrel downdraft design with primary and secondary throttle systems. A choke valve and idle circuit are used in primary system only. Both primary and secondary venturis have main fuel nozzles. When the primary throttle valve is nearly wide open, secondary throttle valve begins to open.

An auxiliary throttle valve, located above secondary throttle valve, provides smooth operation as secondary begins to open. A mechanical accelerator pump and vacuum operated power valve are used for increased fuel requirements. An anti-dieseling solenoid valve is used to stop fuel flow in idle circuit (on some models) when the ignition switch is turned off.

To control exhaust emissions, Subaru uses a coasting by-pass system, Mazda an anti-afterburn valve and throttle opener system, and Datsun uses a throttle opener control system (except 210 Hatchback with 5-speed transmission). All models use an electric automatic choke system.

ADJUSTMENTS

IDLE SPEED & MIXTURE

See appropriate TUNE-UP PROCEDURES article.

COLD (FAST) IDLE RPM

See appropriate TUNE-UP PROCEDURES article for on vehicle adjustments. For bench adjustment, see manufacturer recommended procedure listed below.

1975-79 Datsun - 1) With choke cover removed, place fast idle adjusting screw on 2nd step of fast idle cam and measure clearance between primary throttle plate and throttle bore.

2) To adjust, turn fast idle adjusting screw until clearance is .039-.045" (1-1.14 mm) for automatic transmission equipped vehicles or .029-.034" (.73-.87 mm) for manual transmission equipped vehicles. *See Fig. 1.*

1975-76 Honda - With choke plate fully closed, measure clearance between primary throttle plate and air horn wall. Clearance should be .032" (.80 mm). If necessary, bend fast idle reference tab.

1976-79 Mazda - With choke plate fully closed, measure clearance between primary throttle plate and bore wall. Clearance should be .048-.052" (1.22-1.32 mm). Turn fast idle adjusting screw as necessary.

1974-79 FUEL SYSTEMS
Hitachi DCG, DCH & DCJ 306 2-Barrel Carburetors (Cont.)

1976 Subaru – Place fast idle lever on 4th step of fast idle cam. Adjust throttle plate-to-throttle bore clearance to .051-.061" (1.30-1.55 mm). Turn fast idle adjusting screw as necessary.
1977-79 Subaru – Place fast idle lever on 4th step of fast idle cam. Adjust throttle plate-to-throttle bore clearance to .060" (1.53 mm) on California and High Altitude vehicles and .047" (1.20 mm) on Federal vehicles. Turn fast idle adjusting screw as necessary.

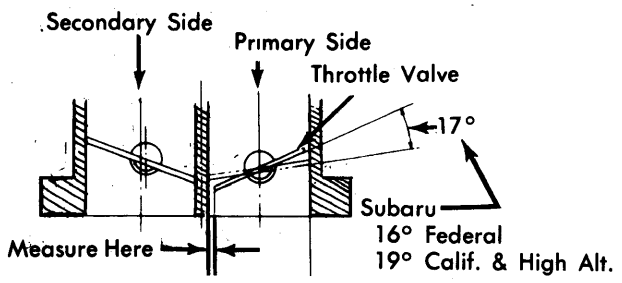

Fig. 1: Fast Idle Bench Adjustment

FLOAT LEVEL

With air horn removed and inverted, raise float and lower it slowly until it just touches needle valve. Measure distance between float and air horn gasket surface (gasket removed). *See Fig. 2.* Bend tang to adjust to specifications. See appropriate CARBURETOR ADJUSTMENT SPECIFICATIONS table in this article.

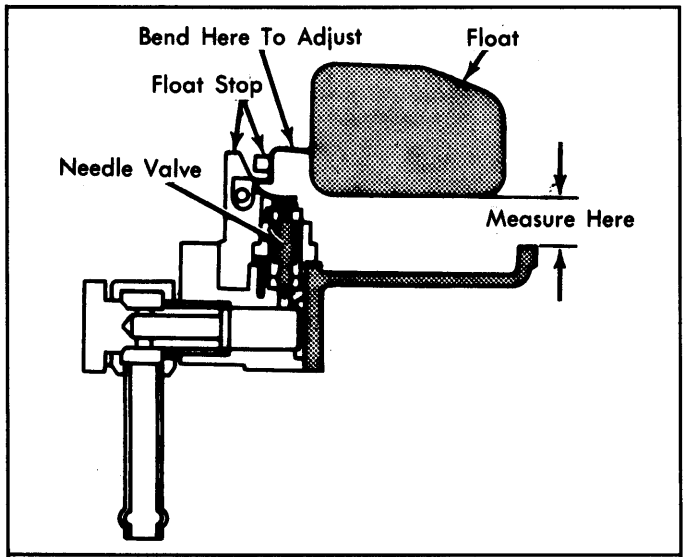

Fig. 2: Float Level Adjustment

FLOAT DROP

After checking float level, raise float until float stop contacts air horn projection. With float held up in this position, measure clearance between float tang and needle valve seat. *See Fig. 3.* If clearance is incorrect, adjust by bending float stop.

SECONDARY THROTTLE INITIAL OPENING

With primary-to-secondary throttle connecting rod contacting end of slot in primary throttle lever, measure clearance between primary throttle plate and bore. If necessary, bend connecting rod to obtain specified clearance. *See Fig. 4.*

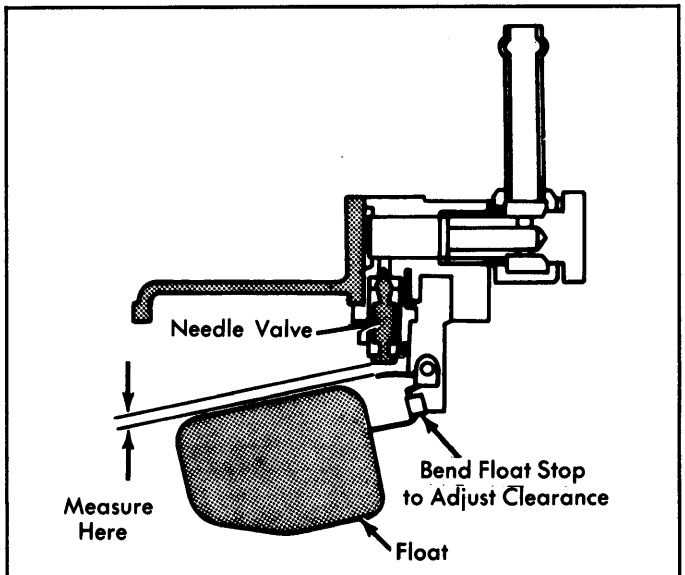

Fig. 3: Float Drop Adjustment

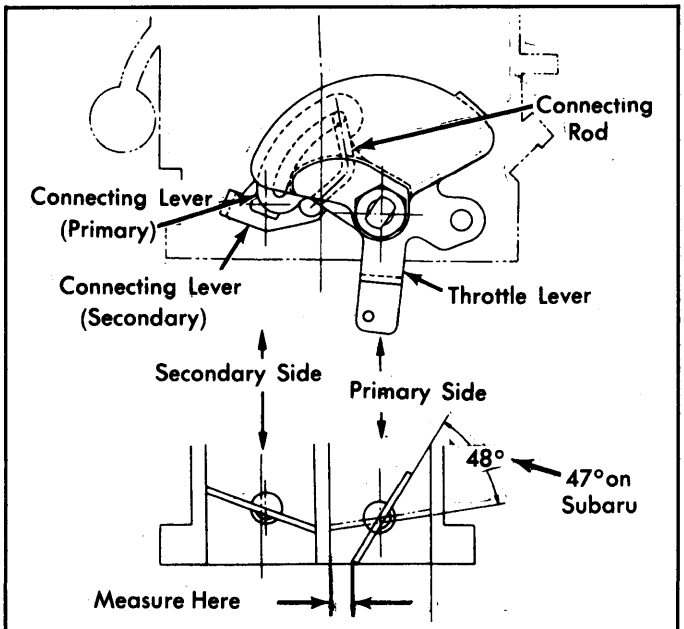

Fig. 4: Secondary Throttle Initial Opening Adjustment

CHOKE VACUUM BREAK

1) Open throttle and close choke. Release throttle lever first, to trap choke closed. Remove choke cover, and using rubber band, hold choke valve closed.
2) Manually pull vacuum break diaphragm stem out fully (keep straight) in order to compress diaphragm. Measure clearance between choke valve and air horn wall. If necessary, bend vacuum break connecting rod. *See Fig. 5.*

CHOKE UNLOADER

Open throttle valve to wide open throttle position. Hold choke valve closed with rubber band. *See Fig. 6.* With throttle wide open and choke closed with rubber band, measure clearance between choke valve and air horn wall. If necessary, bend choke unloader tang.

1974-79 FUEL SYSTEMS
Hitachi DCG, DCH & DCJ 306 2-Barrel Carburetors (Cont.)

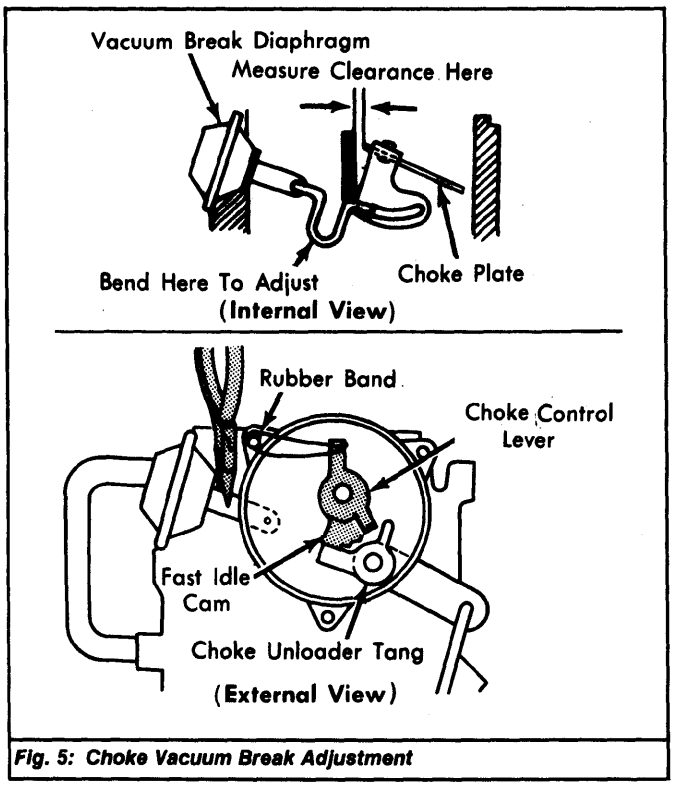

Fig. 5: Choke Vacuum Break Adjustment

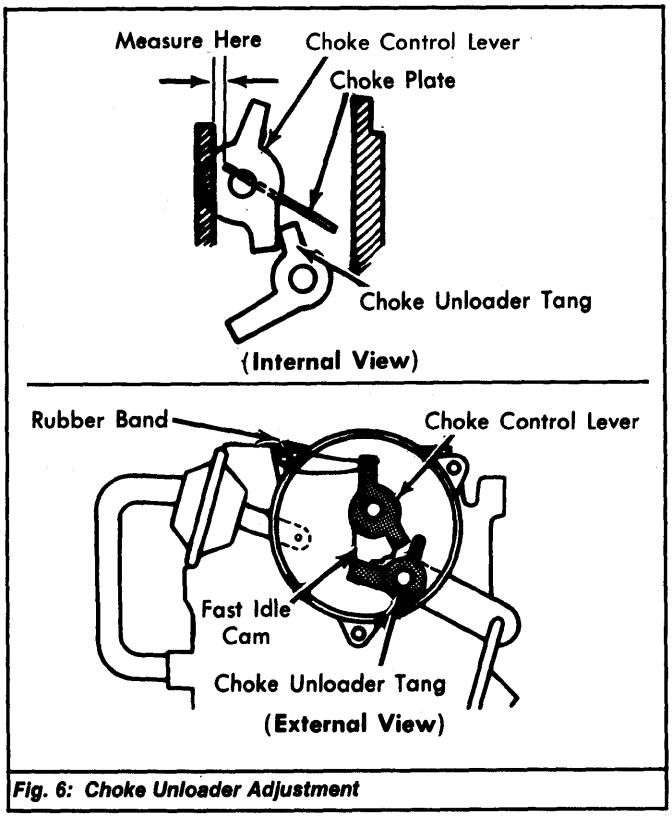

Fig. 6: Choke Unloader Adjustment

OVERHAUL

DISASSEMBLY

1) Main jets and needle valves on both primary and secondary sides are accessible from outside carburetor. Remove for service as necessary.

2) Remove throttle return spring, accelerator pump lever and connecting rod. Remove spring hanger and choke linkage if equipped and choke housing. Remove carburetor main body cover being careful not to damage float.

3) Remove accelerator piston, return spring and check ball. Remove float, needle valve and filter. Remove air bleeds and emulsion tubes. Remove slow jets and power valve. Remove drain plugs and main jets. Remove servo diaphragm by-pass jet and air bleed.

4) Remove throttle body from main body with (3) set screws. Do not remove anti-dieseling solenoid except to replace. Throttle body should not be disassembled unless a throttle valve or rod is being replaced.

CLEANING & INSPECTION

Wash parts in carburetor cleaner (solvent). DO NOT soak any components containing rubber, leather, or plastic. Soak components long enough to thoroughly clean all surfaces and passages of foreign matter. Remove any residue after cleaning components in solvent. Blow out all fuel passages dry with compressed air. Inspect all parts for wear or damage and replace as necessary.

REASSEMBLY

To reassemble, reverse disassembly procedure. Check carburetor linkage for smooth operation. Adjust float and linkage as required.

Hitachi DCG, DCH & DCJ 306 2-Barrel Carburetors (Cont.)

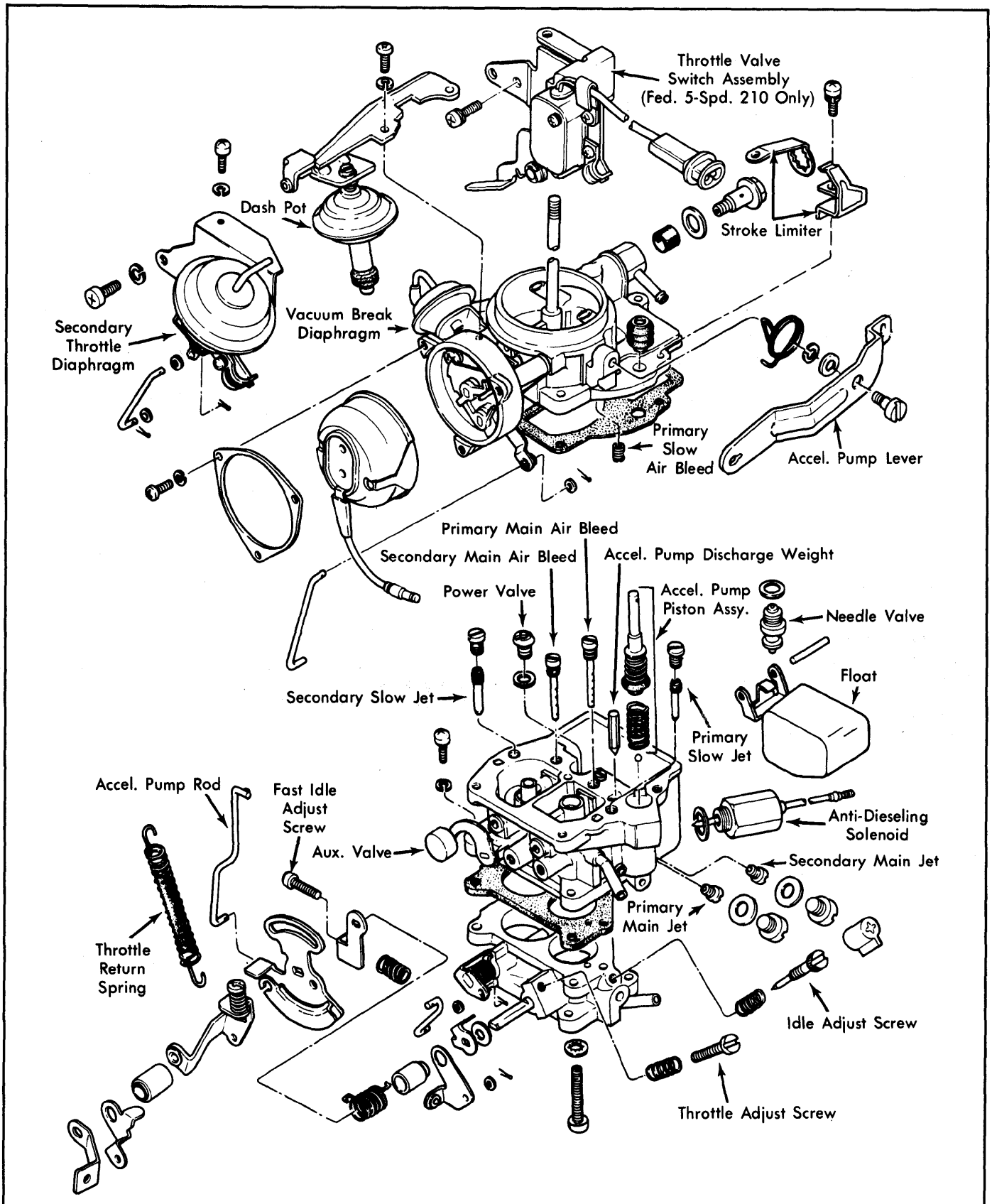

Fig. 7: Exploded View of Typical Hitachi 2-Barrel Carburetor (Datsun)

1974-79 FUEL SYSTEMS
Hitachi DCG, DCH & DCJ 306 2-Barrel Carburetors (Cont.)

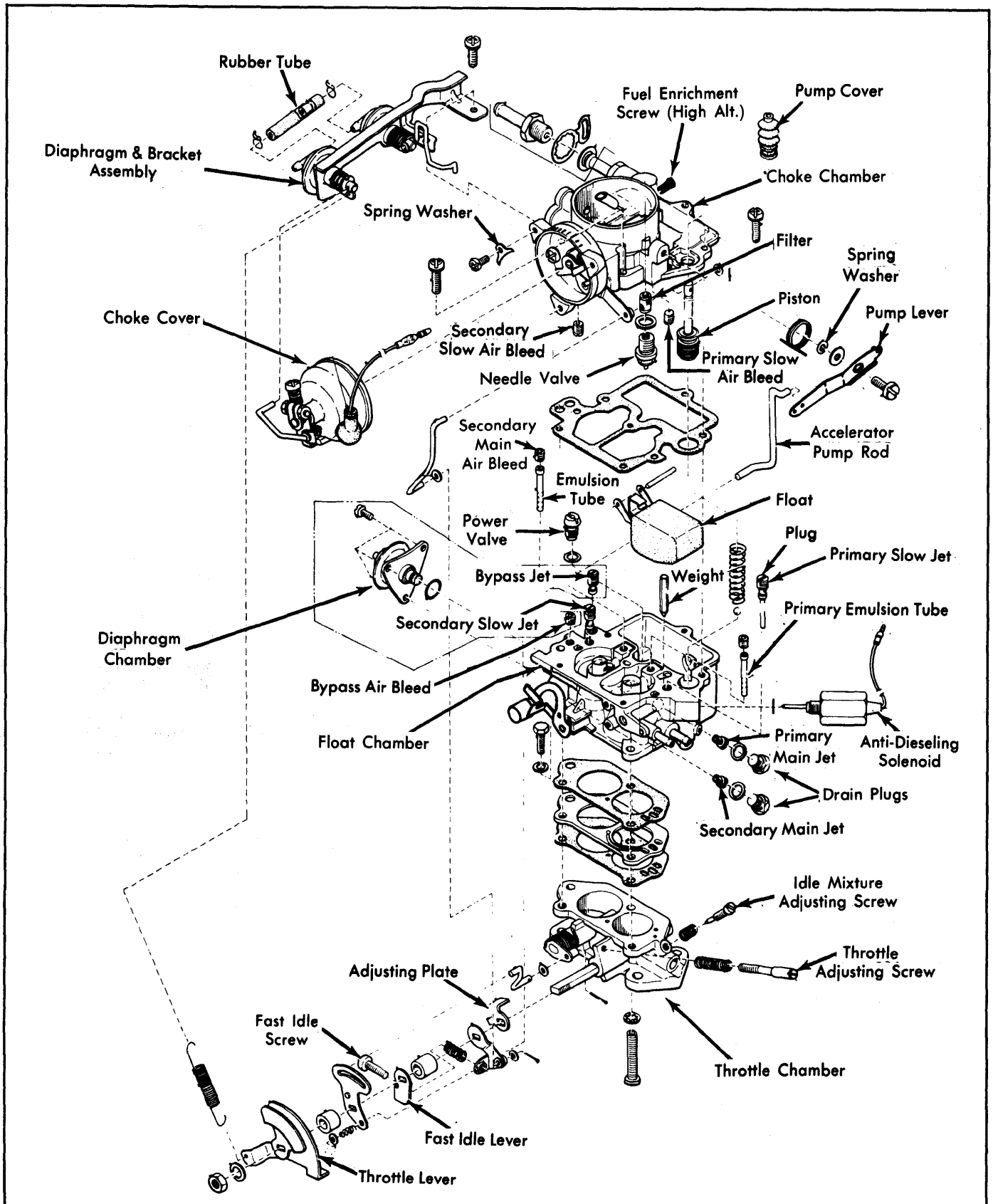

Fig. 8: Exploded View of Typical Hitachi 2-Barrel Carburetor (Subaru)

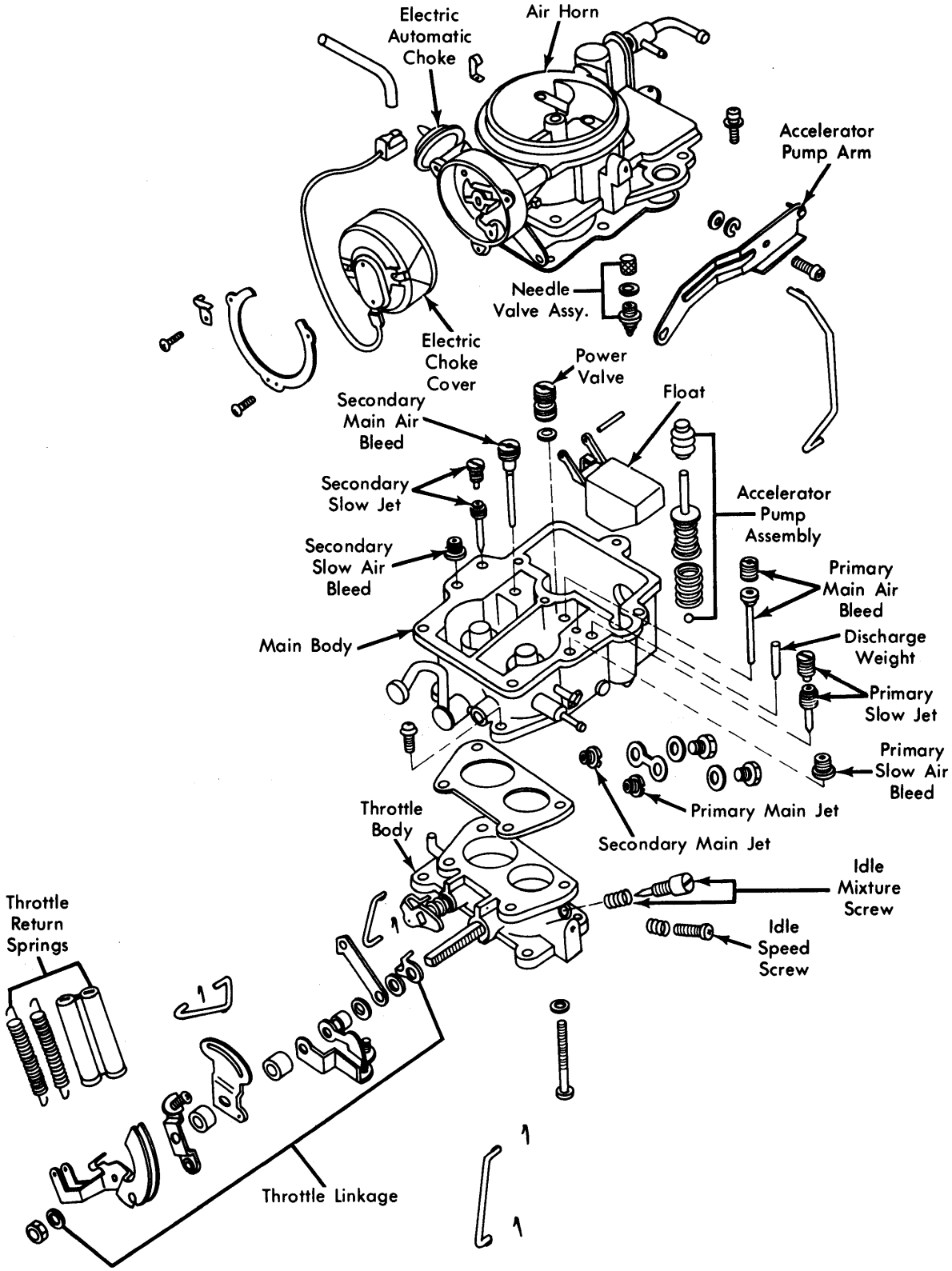

Fig. 9: Exploded View of Typical Hitachi 2-Barrel Carburetor (Mazda)

1974-79 FUEL SYSTEMS
Hitachi DCG, DCH & DCJ 306 2-Barrel Carburetors (Cont.)

1974 CARBURETOR ADJUSTMENT SPECIFICATIONS

Carb. No.	Idle Speed (Engine RPM) Hot	Idle Speed (Engine RPM) Fast	Float Level Setting In. (mm)	Float Drop Setting In. (mm)	Choke Linkage In. (mm)	Secondary Throttle In. (mm	Unloader Setting In. (mm)	Vacuum Break In. (mm)
Datsun								
DCH 306-6	800	1800	① .748 (19.17)	057 (1.46)	.....	.229 (5.87)	.079 (2.02)	.055 (1.41)
DCH 306-7	② 650	2700	① .748 (19.17)	.057 (1.46)	.....	.229 (5.87)	.079 (2.02)	.059 (1.51)
Honda								
DCG 306-45	800±50	.....	① .433 (11.10)	.057 (1.46)	.058 (1.49)	.229 (5.87)	.....	.....
DCG 306-46	750±50	.....	① .433 (11.10)	.060 (1.53)	.058 (1.49)	.229 (5.87)	.....	.....
Subaru								
DCG 306-18	850±50	.....	① .410 (10.51)	.060 (1.53)	.050 (1.28)	.240 (6.15)	.068 (1.74)	.....
DCG 306-19	850±50	.....	① .410 (10.51)	.060 (1.53)	.050 (1.28)	.240 (6.15)	.068 (1.74)	.....

① — Clearance is measured between float tang and fuel inlet needle valve.
② — In Drive.

1975 CARBURETOR ADJUSTMENT SPECIFICATIONS

Carb. No.	Idle Speed (Engine RPM) Hot	Idle Speed (Engine RPM) Fast	Float Level Setting In. (mm)	Float Drop Setting In. (mm)	Choke Linkage In. (mm)	Secondary Throttle In. (mm)	Unloader Setting In. (mm)	Vacuum Break In. (mm)
Datsun								
Man. Trans.	765	2450-2650	.59 (15)	.051-.067 (1.3-1.7)	.....	.23 (5.83)	.079 (2.01)	.054-.058 (1.36-1.48)
Auto. Trans.	670	2700-2900	.59 (15)	.051-.067 (1.3-1.7)	.....	.23 (5.83)	.079 (2.01)	.057-.061 (1.44-1.56)
Honda	800①	.....	.44 (11)	.051-.067 (1.3-1.7)	.....	.23 (5.83)	.....	.050-.066 (1.28-1.68)
Subaru	850	.....	.41 (10.5)	.051-.067 (1.3-1.7)	.....	.24 (6)	.128 (3.24)	.050-.060 (1.28-1.52)

① — Hondamatic 750 with transmission in 1st gear.

Hitachi DCG, DCH & DCJ 306 2-Barrel Carburetors (Cont.)

1976 CARBURETOR ADJUSTMENT SPECIFICATIONS

Application	Idle Speed (Engine RPM)		Float Level Setting	Float Drop Setting	Choke Linkage	Secondary Throttle	Unloader Setting	Vacuum Break
	Hot	Fast	In. (mm)	In. (mm)	In. (mm)	In. (mm)	In. (mm)	In. (mm)
Datsun								
B210								
Man. Trans.	765	2450-2650	.59 (15)	.051-.067 (1.3-1.7)	.....	.23 (5.83)	.079 (2.01)	.054-.058 (1.36-1.48)
Auto. Trans.	670	2700-2900	.59 (15)	.051-.067 (1.3-1.7)	.....	.23 (5.83)	.079 (2.01)	.057-.061 (1.44-1.56)
F10	700	2450-2650	.59 (15)	.051-.067 (1.3-1.7)	.....	.23 (5.83)	.079 (2.01)	.057.061 (1.44-1.56)
Honda	800①	.....	.44 (11)	.051-.067 (1.3-1.7)	.....	.23 (5.83)	.....	.050-.066 (1.28-1.68)
Mazda								
Calif.	700-750	.....	.44 (11)	.051-.067 (1.3-1.7)	.....	.213-.260 (5.4-6.6)	.....	.044-.056 (1.15-1.45)
Federal	700-750	.....	.44 (11)	.051-.067 (1.3-1.7)	.....	.213.260 (5.4-6.6)	.....	.063-.077 (1.61-1.95)
Subaru	850-950	.....	.41 (10.5)	.051-.067 (1.3-1.7)	.....	.24 (6)	.128 (3.24)	.050-.060 (1.28-1.52)

① — Hot idle on Hondamatic should be 750 RPM with transmission in 1st gear.

1977 CARBURETOR ADJUSTMENT SPECIFICATIONS

Model	Idle Speed (Engine RPM)		Float Level Setting	Float Drop Setting	Choke Linkage	Secondary Throttle	Unloader Setting	Vacuum Break
	Hot①	Fast	In. (mm)	In. (mm)	In. (mm)	In. (mm)	In. (mm)	In. (mm)
Datsun								
B210								
Man. Trans.	740	1900-2700	.59 (15)	.051-.067 (1.3-1.7)	.....	.23 (5.83)	.079 (2.01)	.054-.058 (1.36-1.48)
Auto. Trans.	665	2400-3200	.59 (15)	.051-.067 (1.3-1.7)	.....	.23 (5.83)	.079 (2.01)	.057-.061 (1.44-1.56)
F10	700	1900-2700	.59 (15)	.051-.067 (1.3-1.7)	.....	.23 (5.83)	.079 (2.01)	.057-.061 (1.44-1.56)
Mazda								
Calif.	700-750	3000-4000	.44 (11)	.051-.067 (1.3-1.7)	.....	.....	.....	.063-.077 (1.61-1.95)
Federal	700-750	3000-4000	.44 (11)	.051-.067 (1.3-1.7)	.....	.....	.....	.044-.056 (1.15-1.45)
Mazda GLC	700-750	3000-4000	.44 (11)	.051-.067 (1.3-1.7)	.....	.....	.....	.....
Subaru	800-900②	.....	.41 (10.5)	.051-.067 (1.3-1.7)	.....	.24 (6)	.124 (3.14)	.047-.060 (1.18-1.42)

① — Auto. Trans. in DRIVE
② — Federal & High Altitude.; California is 850-950 in NEUTRAL

1974-79 FUEL SYSTEMS
Hitachi DCG, DCH & DCJ 306 2-Barrel Carburetors (Cont.)

1978 CARBURETOR ADJUSTMENT SPECIFICATIONS

Application	Idle Speed (Engine RPM)		Float Level Setting	Float Drop Setting	Choke Linkage	Secondary Throttle	Unloader Setting	Vacuum Break
	Hot①	Fast	In. (mm)	In. (mm)	In. (mm)	In. (mm)	In. (mm)	In. (mm)
Datsun								
B210								
Man. Trans.	700	1900-2700	.59 (15)	.051-.067 (1.3-1.7)	.....	.23 (5.83)	.093② (2.36)②	.071-.078③ (1.80-1.98)③
Auto. Trans.	650	2400-3200	.59 (15)	.051-.067 (1.3-1.7)	.....	.23 (5.83)	.093 (2.36)	.071-.078 (1.80-1.98)
F10	700	1900-2700	.59 (15)	.051-.067 (1.3-1.7)	.....	.23 (5.83)	.093 (2.36)	.071-.078 (1.80-1.98)
Mazda GLC	700-750④	3000-4000	.44 (11)	.051-.067 (1.3-1.7)	.....	.22-.26 (5.4-6.6)	.....	.044-.056⑤ (1.12-1.42)⑤
Subaru	800-900⑥	.....	.41 (10.5)	.051-.067 (1.3-1.7)	.....	.24 (6)	.110⑦ (2.80)⑦	.047⑧ (1.18)⑧

① — Auto. Trans. in DRIVE.
② — 5-Speed Federal Hatchback is .085" (2.17 mm).
③ — 5-Speed Federal Hatchback is .079-.085" (1.98-2.17 mm).
④ — Auto. Trans. is 600-650 RPM.
⑤ — Federal. California is .063-.077" (1.65-1.95 mm).
⑥ — Federal & High Altitude. California is 850-950 RPM in NEUTRAL.
⑦ — Federal. California is .098" (2.48 mm); High Altitude is .102" (2.59 mm).
⑧ — Federal. California is .060" (1.42 mm).

1979 CARBURETOR ADJUSTMENT SPECIFICATIONS

Application	Idle Speed (Engine RPM)		Float Level Setting	Float Drop	Choke Linkage Setting	Secondary Throttle	Unloader Setting	Vacuum Break
	Hot①	Fast	In. (mm)	In. (mm)	In. (mm)	In. (mm)	In. (mm)	In. (mm)
Datsun								
210								
Man. Trans.	700	1900-2700	.59 (15)	.051-.067 (1.3-1.7	.....	.23 (5.83)	.0093② (2.36)	.071-.078③ (1.80-1.98)
Auto. Trans.	650	2400-3200	.59 (15)	.051-.067 (1.3-1.7)	.....	.23 (5.83)	.093 (2.36)	.071-.078 (1.80-1.98)
310	700④	1900-2700	.59 (15)	.051-.067 (1.3-1.7)	.....	.23 (5.83)	.093 (2.36)	.071-.078 (1.80-1.98)
Mazda GLC	750-850⑤	.....	.44 (11)	.051-.067 (1.3-1.7)	.....	.24 (6)	.09 (2.28)	.050 (1.27)
Subaru	800-900⑥	.....	.41 (10.5)	.051-.067 (1.3-1.7)	.....	.24 (6)	.110⑦ (2.80)	.047⑧ (1.18)

① — Auto. Trans. in DRIVE.
② — 5-speed Federal Hatchback is .85" (2.17 mm).
③ — 5-speed Federal Hatchback is .079-.085" (1.98-2.17 mm)
④ — 740 RPM on Federal vehicles.
⑤ — Auto. Trans. is 650-750 RPM.
⑥ — Federal & High Altitude. Calif. vehicles are 850-950 RPM in NEUTRAL.
⑦ — Federal. Calif. vehicle is .098" (2.48 mm); High Altitude is .102" (2.59 mm).
⑧ — Federal. Calif. vehicle is .060" (1.42 mm).