

HITACHI DCG 306, DCH 306, DCP 306 & DCR 306 2-BARREL

Datsun 210 & 310
Mazda GLC
Subaru

DESCRIPTION

Carburetor is a two barrel downdraft design with primary and secondary throttle system. 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. A mechanical accelerator pump and a 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 ignition switch is turned off. To control exhaust emissions, Subaru and Mazda use a throttle opener control system. All models use an electric choke system. Some models use an altitude compensator device to maintain optimum air/fuel ratio at higher altitudes as the air becomes less dense.

CARBURETOR IDENTIFICATION

Application	Hitachi Carb. No.	
	Man. Trans.	Auto. Trans.
Datsun		
210 Models		
1237 cc		
Federal	DCR306-100	.....
Calif.	DCR306-110	.....
1397 cc		
Federal	DCR306-104	.....
1488 cc		
Federal	DCR306-101	DCR306-102
Calif.	DCR306-111	DCR306-112
310 Models		
1397 cc		
Federal	DCR306-103	.....
Calif.	DCR306-113	.....
Mazda		
GLC	E508-13-600①	E508-13-600①
Subaru		
1600 cc Eng.	DCP306-11	.....
1800 cc Eng.	DCP306-12	DCP306-12

① — Number listed is Mazda part number.

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.

FLOAT LEVEL

NOTE — Float level may be checked through the sight glass of the float chamber. If fuel is not within .06" (1.5 mm) of the

mark with engine idling, remove air horn and proceed according to the following steps.

- 1) 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).
- 2) Bend tang to adjust to specifications. See Carburetor Adjustment Specifications table for correct specifications.

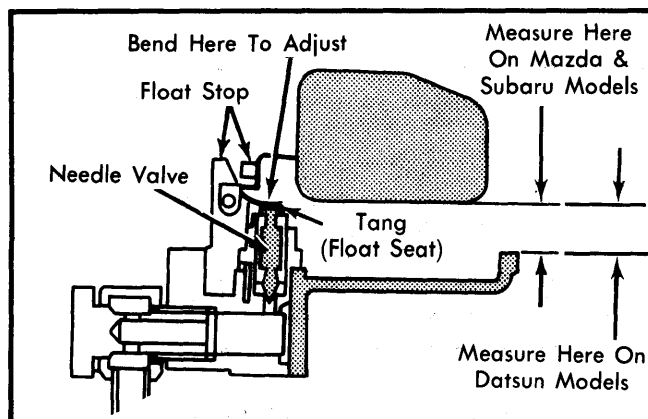


Fig. 1 Float Level Measurement and Adjustment Points

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. If clearance is not to specifications, adjust by bending float stop. See Carburetor Adjustment Specifications table for correct specifications.

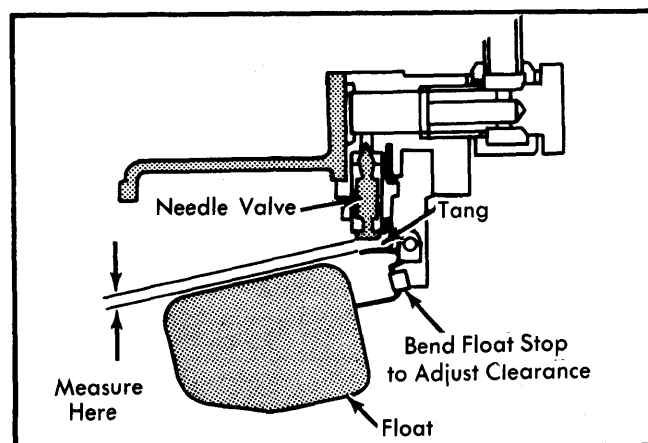


Fig. 2 Float Drop Measurement and Adjustment Points

FAST IDLE (OFF CAR)

Datsun — With choke cover removed, place fast idle screw on second step of fast idle cam and measure clearance between primary throttle valve and throttle bore. To adjust, turn fast idle screw.

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Mazda – Ensure that long arm of cam lever is on first step of fast idle cam and hold choke in fully closed position. Measure clearance between throttle plate and throttle bore wall. Adjust to specifications by turning fast idle screw clockwise to increase or counterclockwise to decrease clearance.

Subaru – With choke in closed position, place fast idle lever on second step of fast idle cam. Adjust clearance between primary throttle valve and throttle bore, by turning fast idle screw, to specifications.

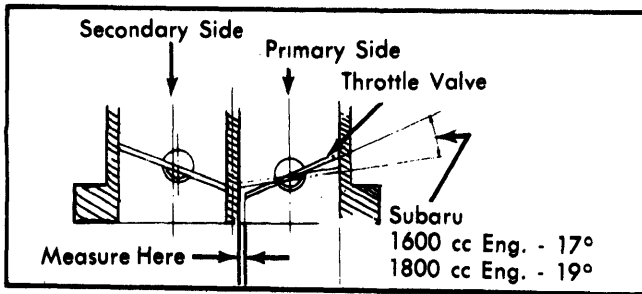


Fig. 3 Fast Idle Bench Adjustment

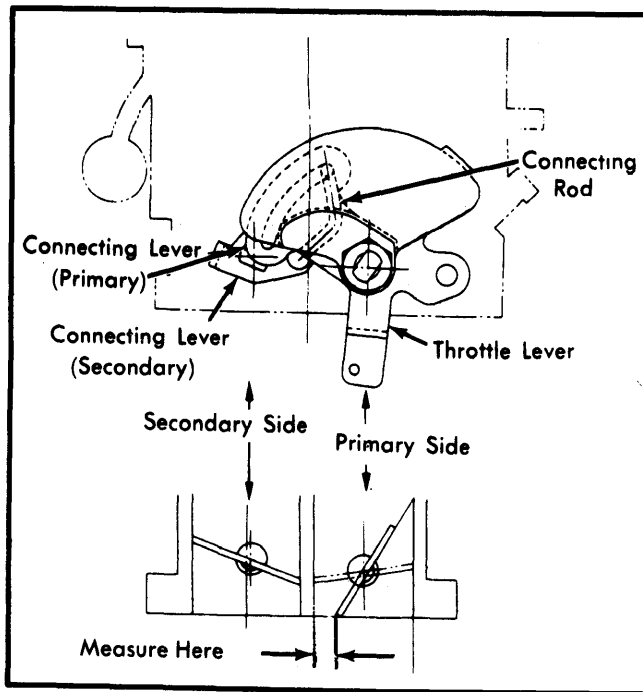


Fig. 4 Secondary Throttle Initial Opening Adjustment

SECONDARY THROTTLE INITIAL OPENING

All Models – With primary-to-secondary throttle connecting rod contacting end of slot in primary throttle lever, measure clearance between primary throttle plate and bore. If adjustment is necessary, bend connecting rod to obtain specified clearance. See Carburetor Adjustment Specifications table for correct specifications. See Fig. 4.

VACUUM BREAK

Datsun & Mazda – Open throttle and close choke. Release throttle lever first, to hold choke closed. Remove choke cover, and using rubber band, hold choke valve closed. 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 adjustment is necessary, bend vacuum break connecting rod. See Fig. 5.

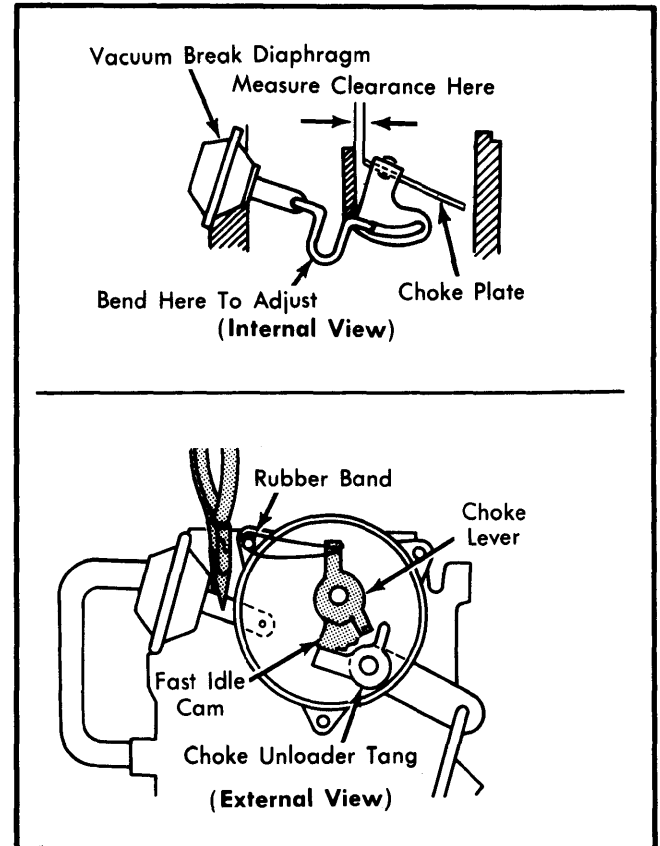


Fig. 5 Vacuum Break Adjustment

CHOKE UNLOADER

All Models – Open throttle valve to wide open position. Hold choke valve closed with rubber band (see Fig. 9). With throttle wide open and choke closed with rubber band, measure clearance between choke valve and air horn wall. If adjustment is necessary, bend choke unloader tang. See Carburetor Adjustment Specifications Table for correct specifications.

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 remove choke housing. Remove carburetor main body cover using care not to damage float.

1981 Hitachi Carburetors

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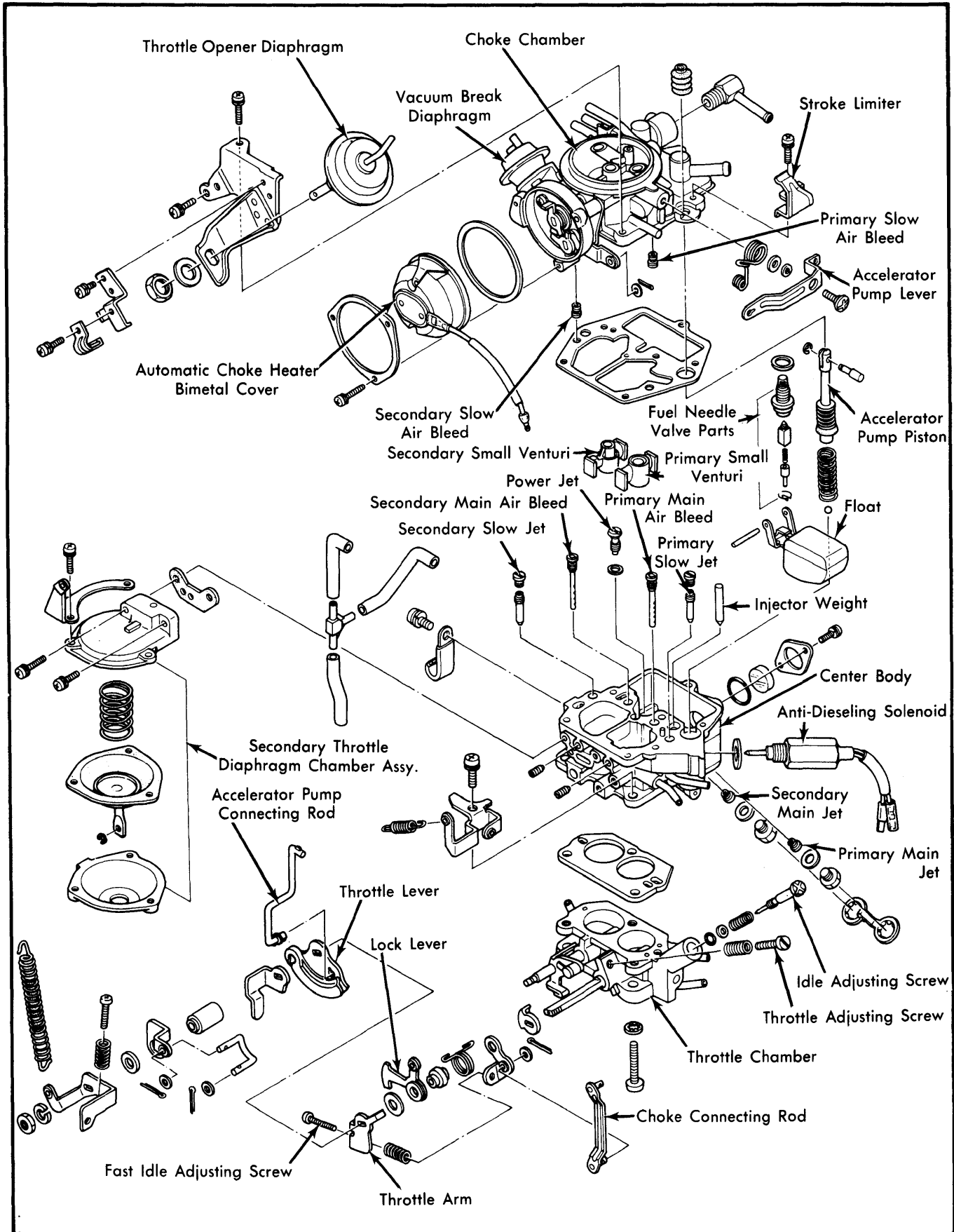


Fig. 6 Exploded View of Datsun 210 & 310 Hitachi DCR 306 Carburetor

HITACHI DCG 306, DCH 306, DCP 306 & DCR 306 2-BARREL (Cont.)

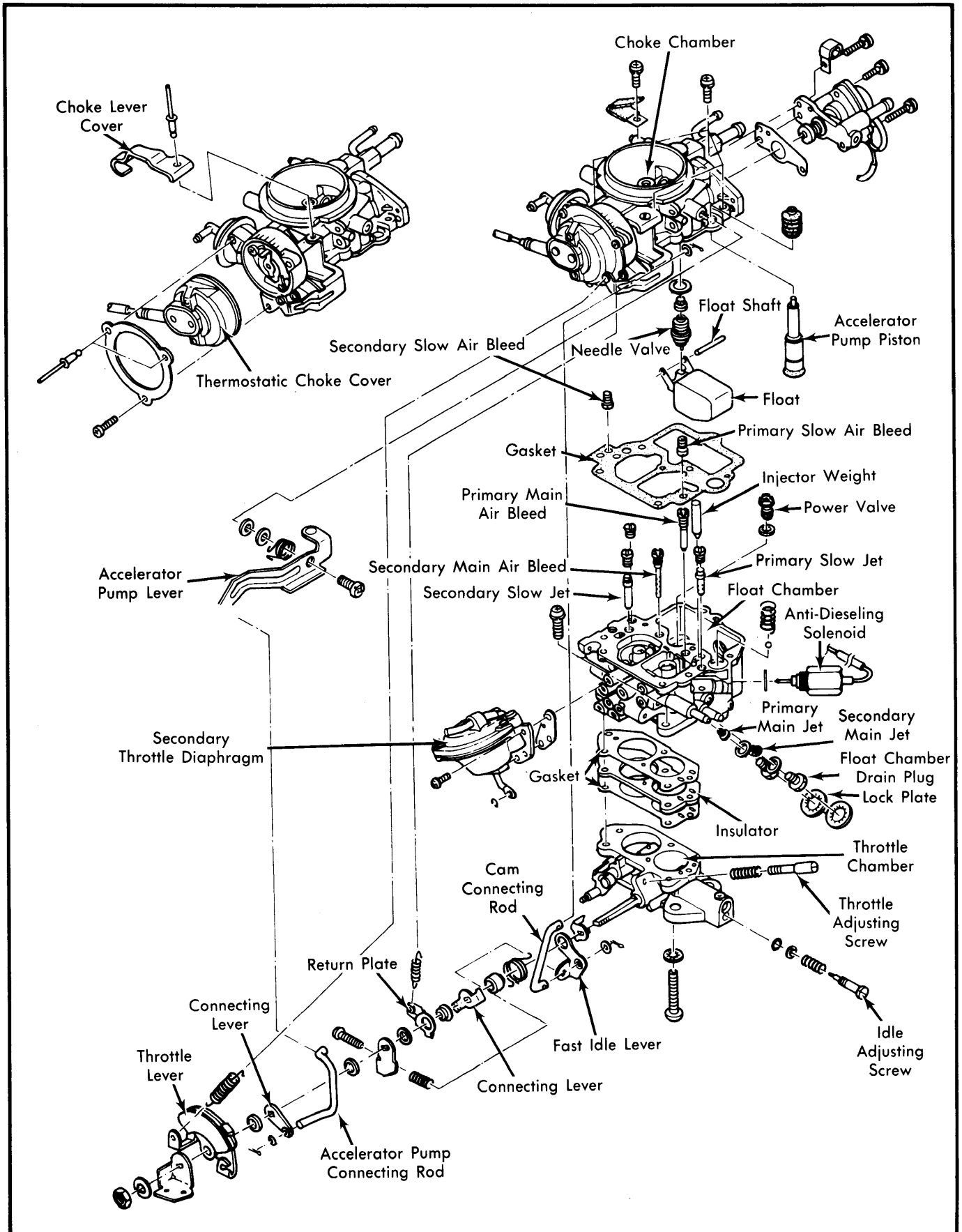


Fig. 7 Exploded View of Subaru Hitachi DCP 306 Carburetor

1981 Hitachi Carburetors

HITACHI DCG 306, DCH 306, DCP 306 & DCR 306 2-BARREL (Cont.)

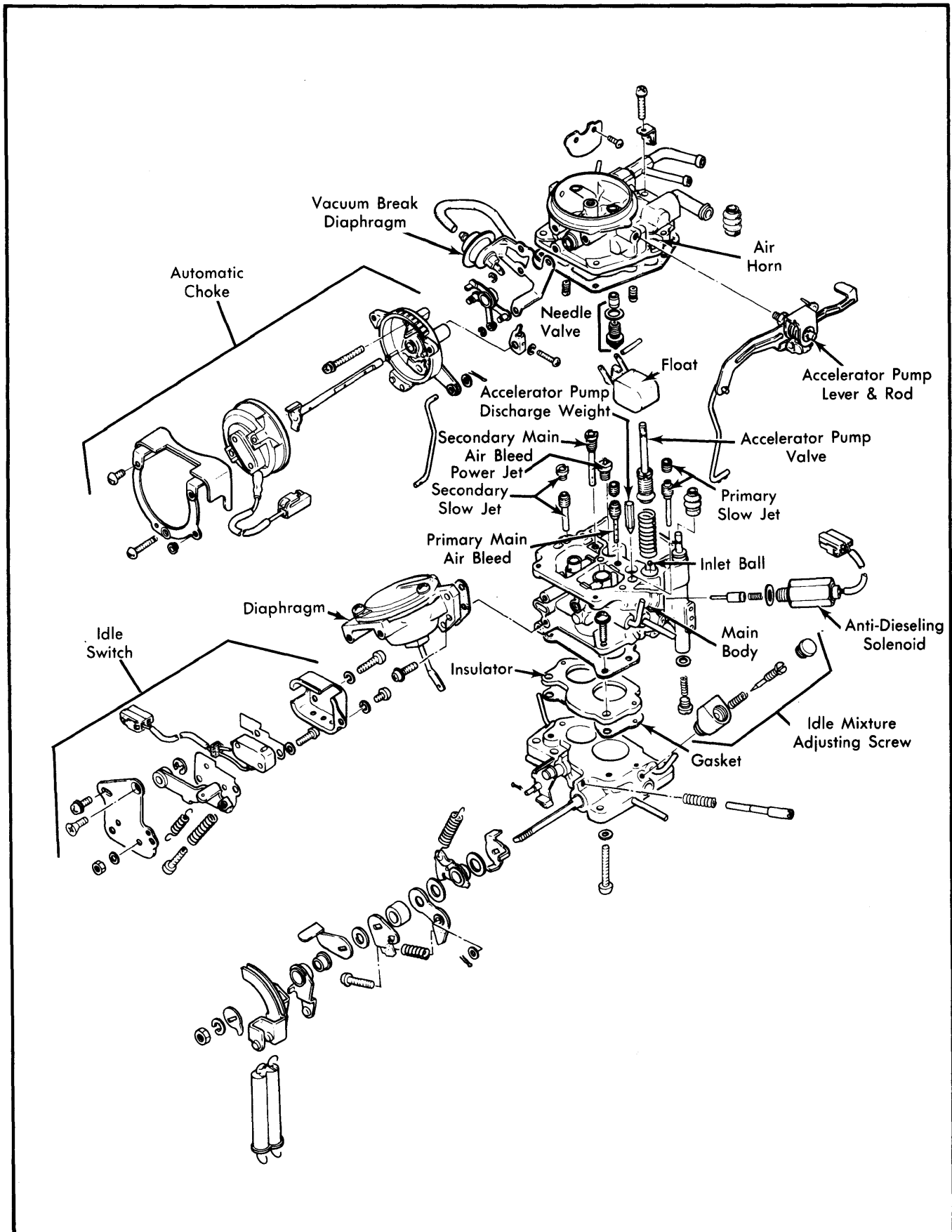


Fig. 8 Exploded View of Mazda GLC Hitachi Carburetor

HITACHI DCG 306, DCH 306, DCP 306 & DCR 306 2-BARREL (Cont.)

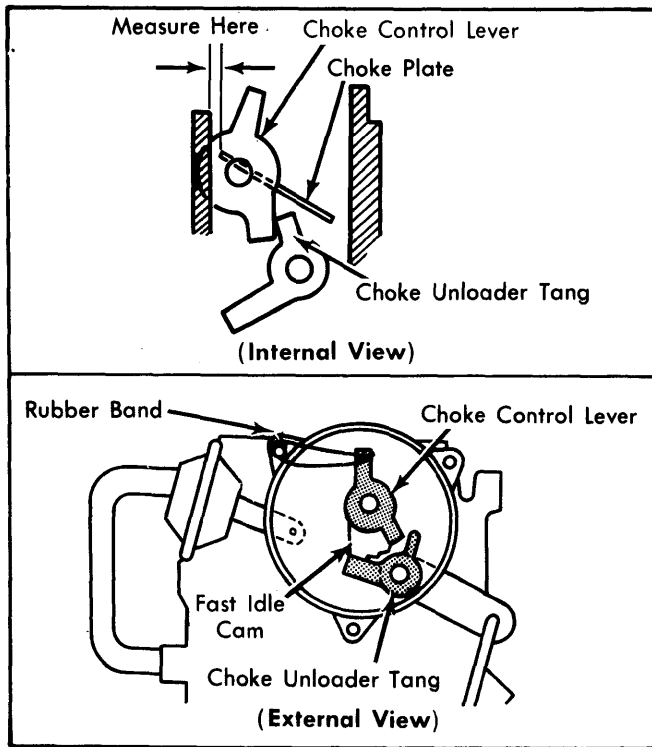


Fig. 9 Choke Unloader Adjustment

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

Replace all parts contained in service overhaul kits. Soak metal parts (except anti-dieseling solenoid) in a suitable cleaner. Blow air through passages to clean and dry. Inspect all parts for wear and replace as necessary.

REASSEMBLY

Reverse disassembly procedure and note the following: Check each link system for smooth operation. Adjust float and linkage as required.

CARBURETOR ADJUSTMENT SPECIFICATIONS								
Application	Idle Speed (Engine RPM)		Float Level In. (mm)	Float Drop Setting In. (mm)	Fast Idle Throttle Valve Setting In. (mm)	Secondary Throttle Clearance In. (mm)	Unloader Setting In. (mm)	Vacuum Break In. (mm)
	Hot	Fast						
Datsun 210	700 ^①	②	.75 (19)	.051-.067 (1.30-1.70)	.026-.031 ^③ (.650-.790)	.209-.249 (5.33-6.33)	.093 (2.36)	.063-.070 (1.61-1.79)
310	750	2400-3200 ^④	.75 (19)	.051-.067 (1.30-1.70)	.029-.034 (.730-.870)	.209-.249 (5.33-6.33)	.093 (2.36)	.063-.070 (1.61-1.79)
Mazda GLC	850 ^⑤		.43 (11)	.051-.067 (1.30-1.70)	.031-.035 (.790-.920)	.236 (6.0)	.073-.094 (1.86-2.40)	.060-.080 (1.53-2.03)
Subaru	600-800 ^⑥	.....	.41 (10.5)	.051-.067 (1.30-1.70)	.054 ^⑦ (1.38)	.236 (6.0)	17 & 19°	.....

- ① — Set Auto. Trans. to 650 RPM.
- ② — Set fast idle on 2nd step of cam: 1237 & 1397 cc Engine — 2400-3200 RPM; 1488 cc Engine — 2700-3500 RPM.
- ③ — Table lists 1237 cc Engine specification. Set 1397 & 1488 Engines (Man. Trans.) to .029-.034" (.730-.870 mm); set 1488 cc Engine (Auto. Trans.) to .039-.045" (1.00-1.14 mm).
- ④ — Set Calif. models to 2300-3500 RPM.
- ⑤ — Set Auto. Trans. to 750 RPM.
- ⑥ — Set Auto. Trans. to 700-900 RPM.
- ⑦ — Table lists 1800 cc Engine specification. Set 1600 cc Engine to .046" (1.17 mm).