

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

Datsun/Nissan Sentra, 210, 310, Mazda GLC, Subaru

DESCRIPTION

Carburetor is a 2-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.

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, Mazda and Subaru use a throttle opener control system. All models use an electric choke. Some models use an altitude compensator device to maintain optimum air/fuel ratio at higher altitudes. A dash pot is used on Datsun/Nissan 210 Auto. Trans. models to prevent stalling.

CARBURETOR IDENTIFICATION

Application	Man. Trans.	Auto. Trans.
Datsun/Nissan		
Sentra		
California	DCR306-142	DCR306-143
Federal	DCR306-131	DCR306-133
210		
1200 cc		
California	DCR306-116	.....
Federal	DCR306-106	.....
1400 cc	DCR306-109	.....
1600 cc		
California	DCR306-117	DCR306-118
Federal	DCR306-107	DCR306-108
310		
California	DCR306-140	.....
Federal	DCR306-130	.....
Mazda ¹		
Exc. Wagon	E548-13-600A	E548-13-600A
Wagon	D501-13-600	D501-13-600
Subaru		
1600 cc	DCP306-14	.....
1800 cc		
2WD		
Exc. Wagon	DCP306-14	DCP306-16
Wagon	DCP306-15	.....
4WD		
.....	DCP306-15	.....

¹ — Number listed is Mazda part number.

NOTE: For all on-vehicle adjustments not covered in this article, see appropriate TUNE-UP SERVICE PROCEDURES Article.

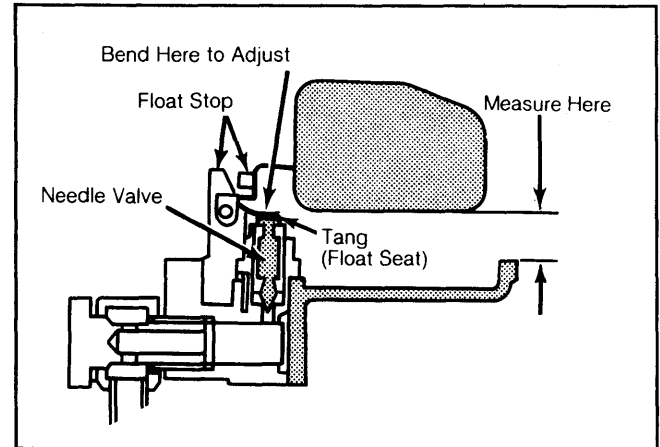
FLOAT LEVEL

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

2) Measure distance between float and air horn gasket surface (gasket removed). Bend tang to adjust to specifications.

Fig. 1: Float Level Adjustment



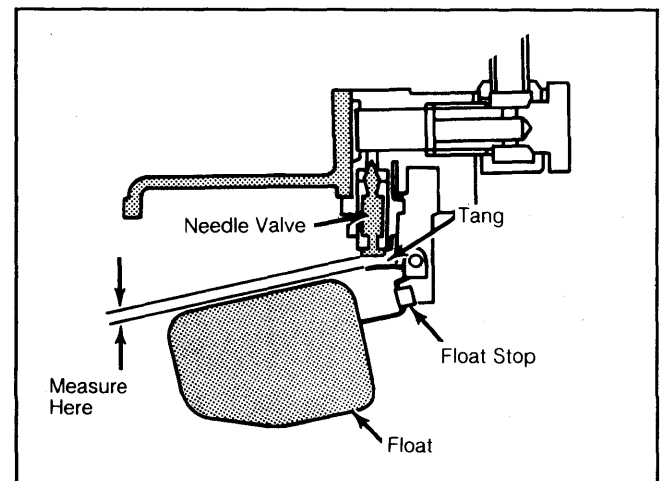
Bend tang to adjust.

FLOAT DROP

1) After checking float level, raise float until float stop contacts air horn projection. Hold float up in this position.

2) Measure clearance between float tang and needle valve seat. Bend float stop to adjust to specifications.

Fig. 2: Float Drop Adjustment



Bend float stop to adjust.

FAST IDLE (BENCH ADJUSTMENT)

Datsun/Nissan

1) Remove choke cover. Place fast idle screw on 2nd step of fast idle cam.

2) Measure clearance between primary throttle valve and throttle bore. Adjust to specifications by turning fast idle screw.

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Mazda

1) Place long arm of cam lever on 3rd step of fast idle cam. Hold choke in fully closed position. Measure clearance between throttle plate and throttle bore wall.

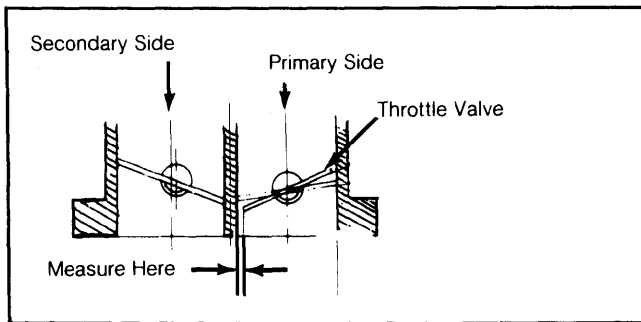
2) Adjust to specifications by turning fast idle screw clockwise to increase or counterclockwise to decrease clearance.

Subaru

1) Place fast idle lever on 1st (high) step of fast idle cam. Hold choke in fully closed position.

2) Measure clearance between primary throttle valve and throttle. Adjust to specifications by turning fast idle screw.

Fig. 3: Fast Idle Bench Adjustment

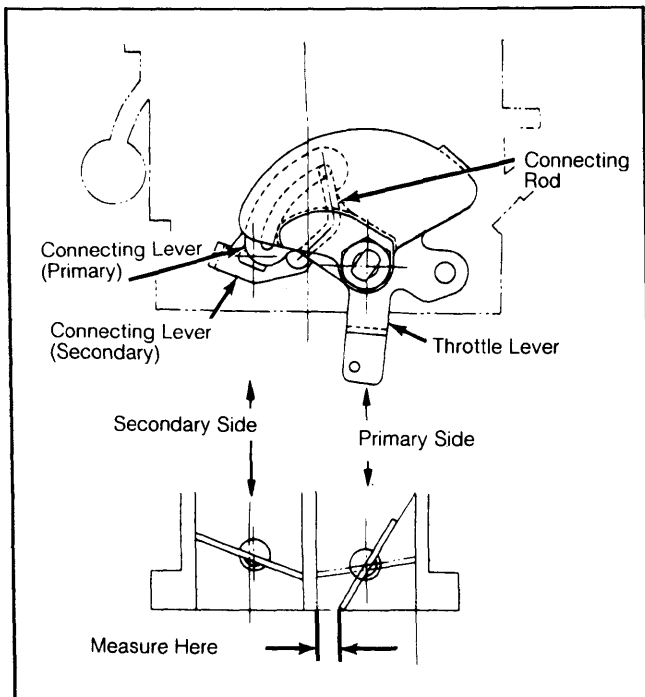


SECONDARY THROTTLE CLEARANCE

1) Ensure that primary-to-secondary throttle connecting rod contacts end of slot in primary throttle lever.

2) Measure clearance between primary throttle plate and bore. If adjustment is necessary, bend connecting rod to obtain specifications. See Fig. 4.

Fig. 4: Secondary Throttle Clearance Adjustment

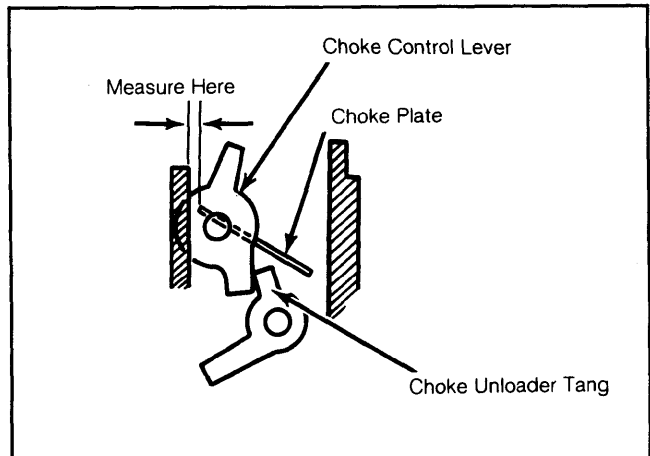


Bend connecting rod to adjust.

CHOKE UNLOADER

Open throttle valve to wide open position. Hold choke valve closed with rubber band. Measure clearance between choke valve and air horn wall. If adjustment is necessary, bend choke unloader tang. See Fig. 5.

Fig. 5: Choke Unloader Adjustment



Bend choke unloader to adjust.

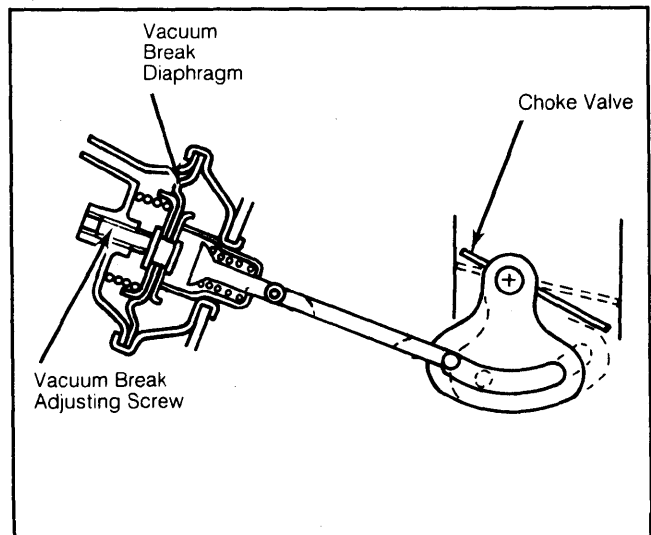
VACUUM BREAK

Datsun/Nissan Only

1) With engine cold, close choke valve. Push vacuum break stem to full straight position. Check clearance between choke valve and air horn.

2) If adjustment is necessary, remove plastic material from adjusting screw hole and adjust clearance by turning adjusting screw. See Fig. 6.

Fig. 6: Vacuum Break Adjustment



Datsun/Nissan models only.

DASH POT

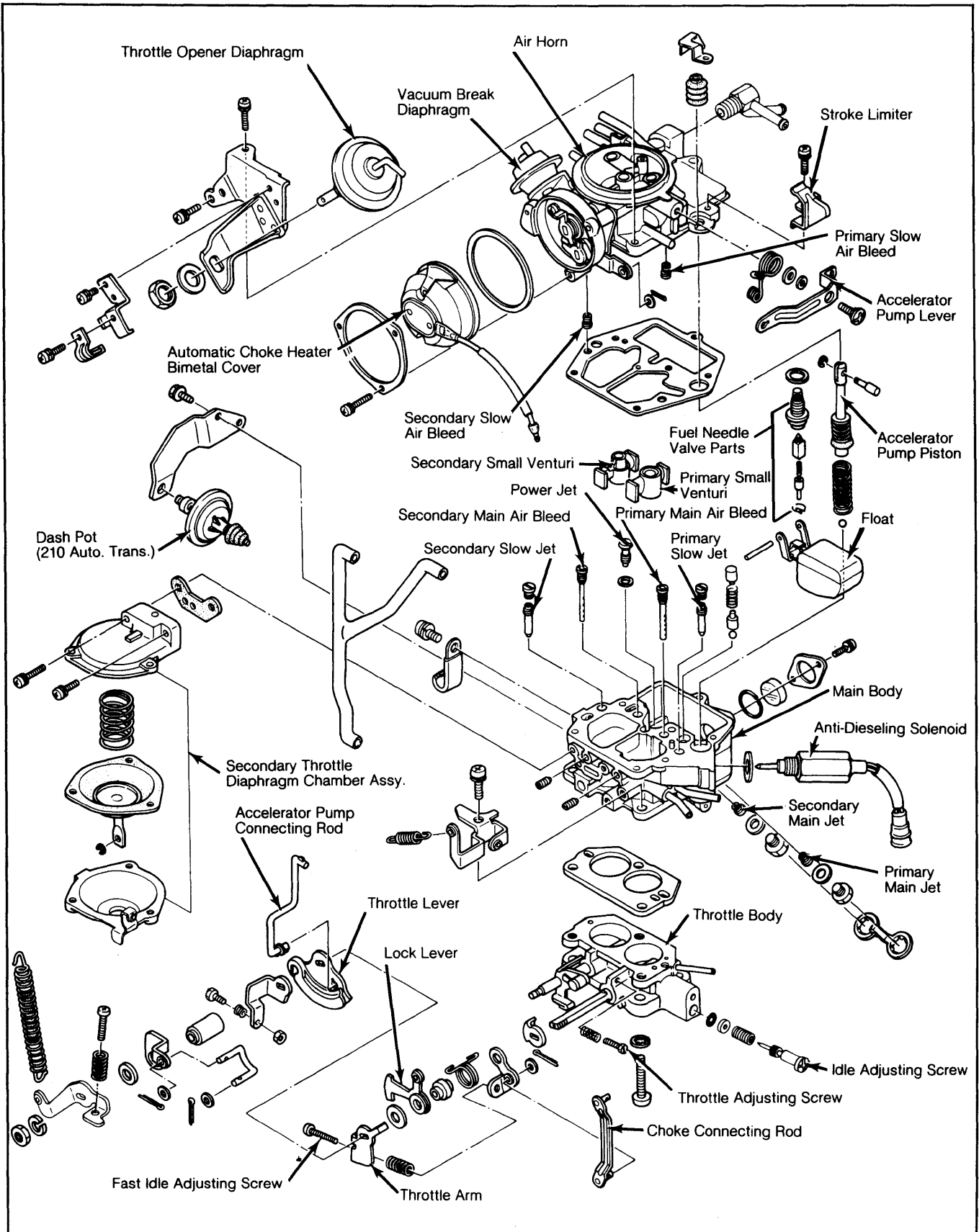
Datsun/Nissan 210 Auto. Trans. Only

Loosen dash pot lock nut. Ensure that dash pot stem comes in contact with throttle arm. Check that gap between primary throttle valve and carburetor bore is .017-.024" (.42-.62 mm). Turn dash pot to adjust.

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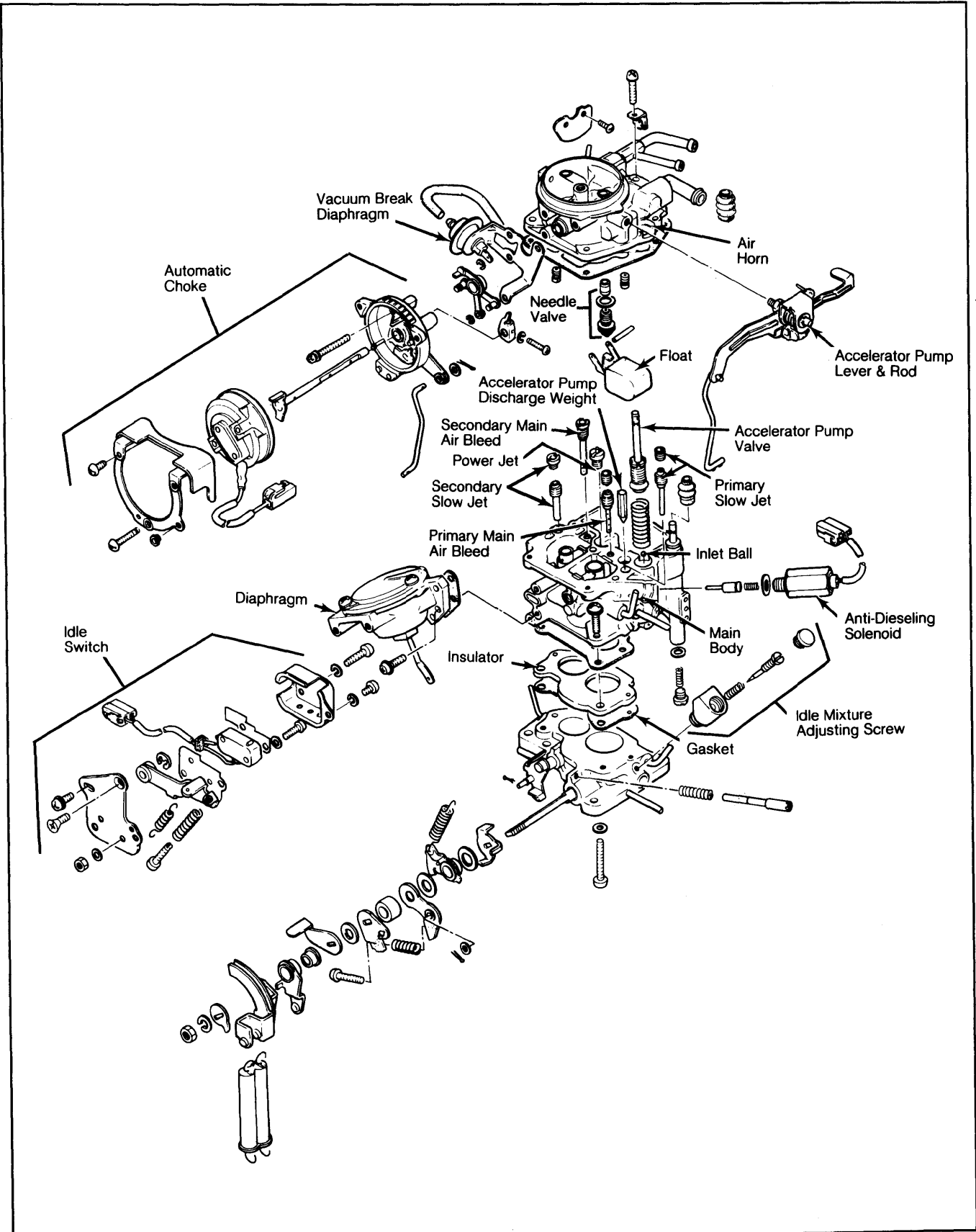
Fig. 7: Exploded View of Datsun/Nissan Sentra, 210 & 310 Hitachi DCR 306 Carburetor



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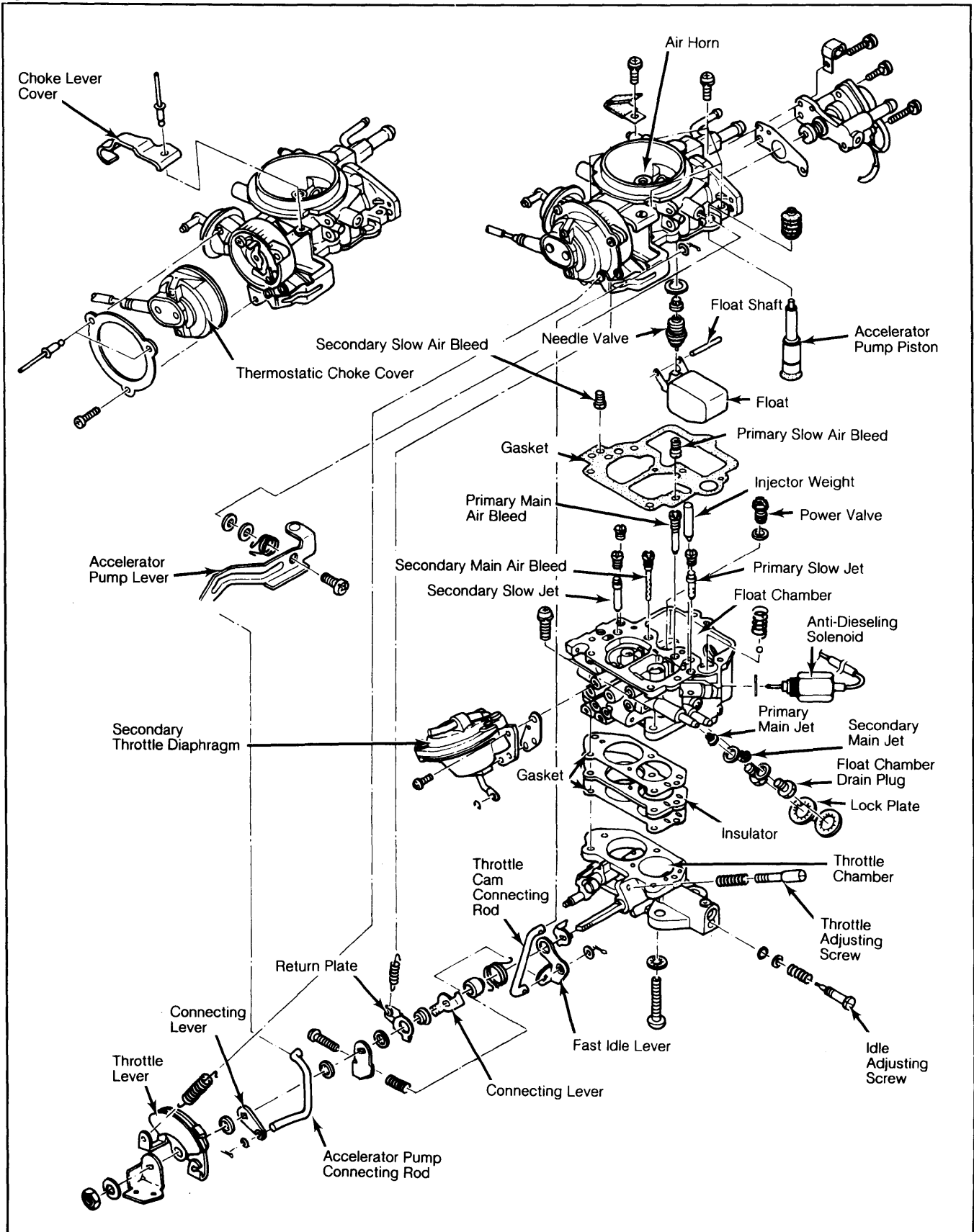
Fig. 8: Exploded View of Mazda GLC Hitachi Carburetor



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Fig. 9: Exploded View of Subaru Hitachi DCP 306 Carburetor



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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.

3) Remove carburetor main body cover using care not to damage float. Remove accelerator piston, return spring and check ball. Remove float, needle valve and filter.

4) 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.

5) 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 carburetor cleaner. Blow air through passages to clean and dry. Inspect all parts for wear and replace as necessary.

REASSEMBLY

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

CARBURETOR ADJUSTMENT SPECIFICATIONS

Application	Float Level In. (mm)	Float Drop In. (mm)	Fast Idle Throttle Valve In. (mm)	Secondary Throttle In. (mm)	Unloader Setting In. (mm)	Vacuum Break In. (mm)
Datsun/Nissan Sentra & 310 Man. Trans.	.47 (12)	.051-.067 (1.30-1.70)	.029-.034 (.73-.87)	.210-.250 (5.33-6.33)	.093 (2.36)	.063-.070 (1.61-1.79)
Auto. Trans.	.47 (12)	.051-.067 (1.30-1.70)	.039-.045 (1.00-1.14)	.210-.250 (5.33-6.33)	.093 (2.36)	.063-.070 (1.61-1.79)
210 1200 cc	.47 (12)	.051-.067 (1.30-1.70)	.026-.031 (.65-.79)	.210-.250 (5.33-6.33)	.093 (2.36)	.063-.070 (1.61-1.79)
1400 cc	.47 (12)	.051-.067 (1.30-1.70)	.029-.034 (.73-.87)	.210-.250 (5.33-6.33)	.093 (2.36)	.063-.070 (1.61-1.79)
1500 cc Man. Trans.	.47 (12)	.051-.067 (1.30-1.70)	.029-.034 (.73-.87)	.210-.250 (5.33-6.33)	.093 (2.36)	.063-.070 (1.61-1.79)
Auto Trans.	.47 (12)	.051-.067 (1.30-1.70)	.039-.045 (1.00-1.14)	.210-.250 (5.33-6.33)	.093 (2.36)	.063-.070 (1.61-1.79)
Mazda	.43 (11)	.051-.067 (1.30-1.70)	.024-.028 (.60-.74)	.287-.335 (7.30-8.50)	.077-.099 (1.96-2.50)	.....
Subaru 1600 cc	.41 (10.5)	.051-.067 (1.30-1.70)	.039 (.98)	.236 (6.00)	1	.....
1800 cc Man. Trans. 2-WD Exc. Wagon	.41 (10.5)	.051-.067 (1.30-1.70)	.039 (.98)	.236 (6.00)	1	.....
Wagon	.41 (10.5)	.051-.067 (1.30-1.70)	.048 (1.22)	.236 (6.00)	1	.....
4-WD	.41 (10.5)	.051-.067 (1.30-1.70)	.048 (1.22)	.236 (6.00)	1	.....
Auto. Trans.	.41 (10.5)	.051-.067 (1.30-1.70)	.052 (1.33)	.236 (6.00)	1	.....

¹ — Set unloader angle to 16°.