HITACHI DCG 286-16 & DCG 306-16 2-BARREL

Subaru FF-1 1100 (1971)
Subaru FF-1 1300G (1971)

Application	Carburetor
FF-1 1100	DCG 286-16
FF-1 1300G	DCG 306-16

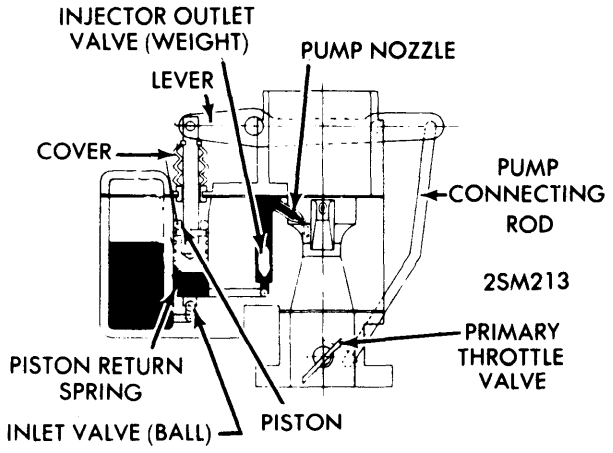
DESCRIPTION

Carburetor is a 2-barrel downdraft design and incorporates a manual choke. Choke is a butterfly valve type and is installed on primary barrel only. A piston type accelerator pump is used on primary barrel in addition to a vacuum response type power system. During normal driving, primary barrel only is used. During periods of high speed, secondary system comes into operation. Secondary barrel is equipped with an auxillary throttle valve and a step (transition) system to provide smooth action between primary and secondary barrels.

OPERATION

Choke System – When choke valve is fully closed, mixture is enriched for easy starting of engine. After starting, choke valve opens automatically (dependent upon vacuum) to amount required for proper mixture. When choke valve is fully closed, throttle/choke link system opens primary throttle valve to a pre-set value.

Accelerator Pump – Accelerator pump is a piston type, and is interlocked to primary side throttle valve with a link. When throttle valve is closed, piston moves upward and fuel flows into pump cylinder. When throttle valve is opened, fuel in cylinder is placed under pressure. Pressure lifts injector weight and fuel is delivered to pump nozzle and sprayed into large primary venturi.



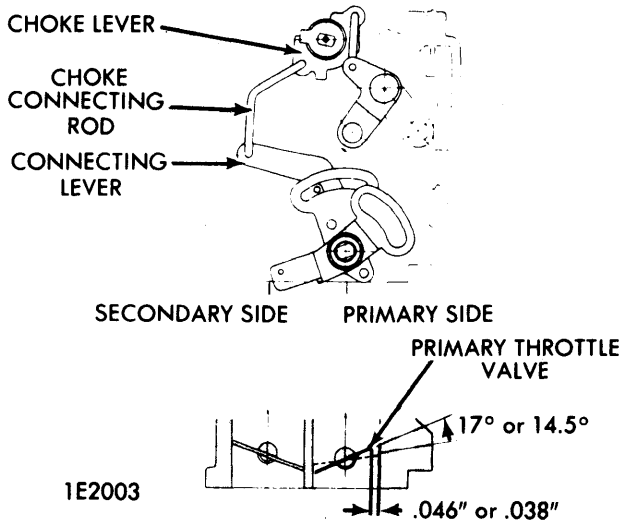
ACCELERATOR PUMP SYSTEM

Power System – During low speed operation, fuel delivery is made by primary side. A booster power valve is operated by intake manifold vacuum. During light load operation this vacuum is high enough to keep power valve closed against spring pressure. During heavy load operation and acceleration, intake manifold vacuum drops and allows spring action to open valve and supply fuel to primary throttle bore.

Secondary Barrel Auxiliary Throttle Valve – Valve is installed on upper part of secondary barrel. This valve does not open until mixture in primary barrel is flowing at a high rate (high engine speed). A counterweight is attached to auxiliary valve shaft and serves to keep valve closed until force of mixture overcomes counterweight.

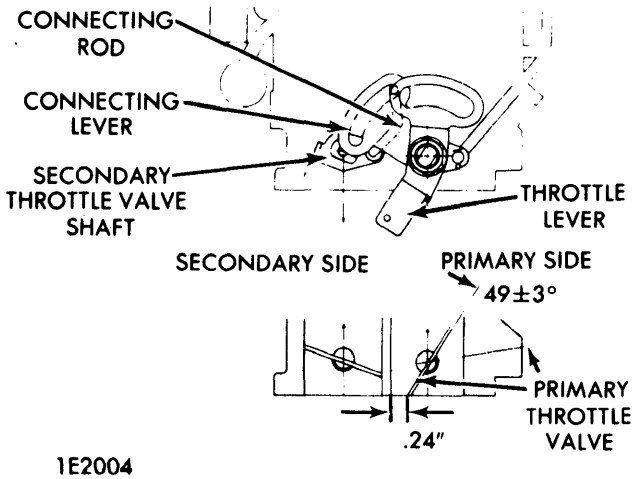
ADJUSTMENT

Carburetor Adjustment – Remove air pump hose and plug connector. Using a CO meter and tachometer, adjust idle mixture screw to a CO level of 9.5% (DCG 286-16) or 7.5% (DCG 306-16). During adjustment maintain engine RPM at 850 RPM (FF-1 1100) or 750 RPM (FF-1 1300G) using idle stop screw. After setting CO level reconnect air pump hose and adjust engine speed to 850 RPM (FF-1 1100) or 750 RPM (FF-1300G).



CHOKE TO PRIMARY THROTTLE LINKAGE

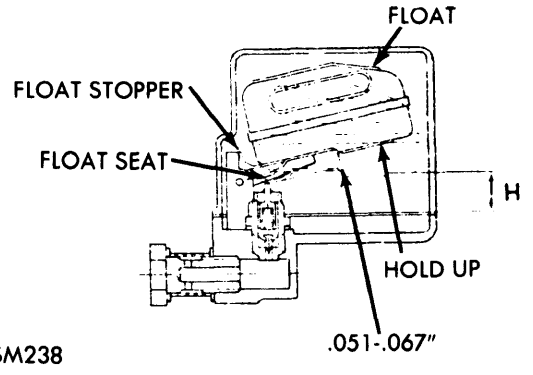
Choke/Primary Throttle Linkage Adjustment – With choke valve fully closed, measure clearance between throttle valve and throttle bore. This should be .038 in. (DCG 286-16) and .046 in. (DCG 306-16). These clearances will achieve desired angle of 14.5° (DCG 286-16) and 17° (DCG 306-16). To adjust, bend choke connecting rod.



PRIMARY TO SECONDARY THROTTLE LINKAGE

HITACHI DCG 286-16 & DCG 306-16 2-BARREL (Cont.)

Primary/Secondary Linkage – Measure clearance between throttle valve or primary barrel and throttle bore with connecting rod contacting groove end of connecting lever. This clearance should be .24 in. This corresponds to an opening of 49±3°. To adjust, bend connecting rod which links throttle valves.



FLOAT LEVEL ADJUSTMENT

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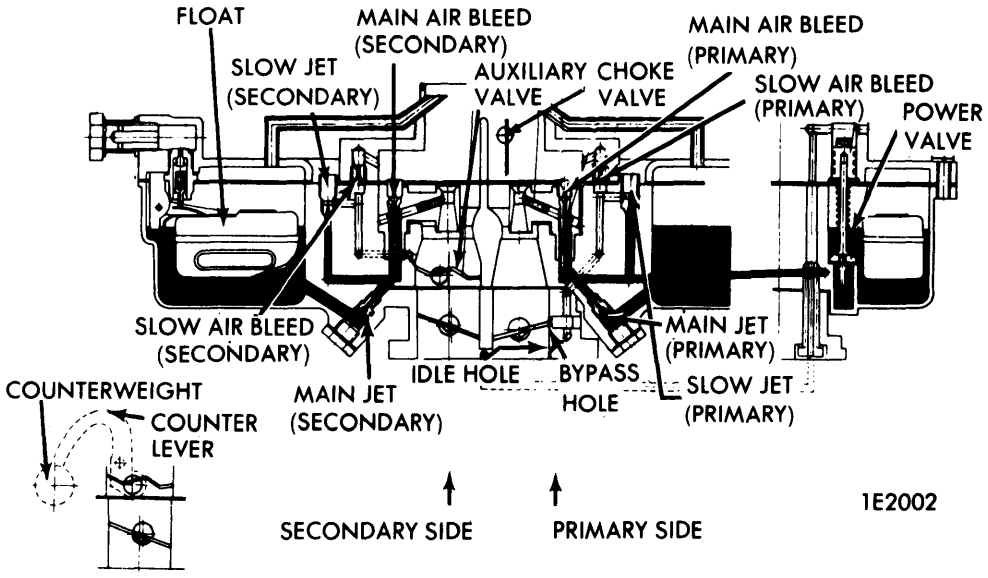
Maximum Level – Turn choke chamber upside down, raise float and then lower it slowly. When float seat makes contact with valve stem of needle valve measure distance "H", (see illustration). This distance should be about .413 in. Adjust by bending float seat.

Minimum Level – Adjust float position so that clearance between float seat and needle valve stem is .051-.067 in. when float is fully raised. To adjust, bend float stopper as required.

CARBURETOR SPECIFICATIONS

Application	DCG 286-16	DCG 306-16
Initial Operating Vacuum of Power Valve	2.36 in. Hg.	6.14 in. Hg.
Accelerator Pump Discharge	① .24 oz	① .41 oz.
Fuel Level At 2.39 psi	.69-.81 in.	.77-.89 in.
Idle Speed	750 RPM	850 RPM
CO%	② 9.5%	② 7.5%

① – Per 20 pump strokes.
② – With air pump disconnected.



DCG 286-16 & DCG 306-16 CONSTRUCTION