1974-79 FUEL SYSTEMS
Solex 4A1 4-Barrel Carburetors

Mercedes-Benz: 1974-76 280

DESCRIPTION

Carburetor is 2-stage, 4-barrel design equipped with vacuum controlled throttle valve diaphragm, diaphragm type accelerator pump, thermostatically controlled by-pass choke, and thermoelectric automatic choke.

ADJUSTMENTS

IDLE SPEED & MIXTURE

See appropriate TUNE-UP PROCEDURES article.

COLD (FAST) IDLE RPM

See appropriate TUNE-UP PROCEDURES article.

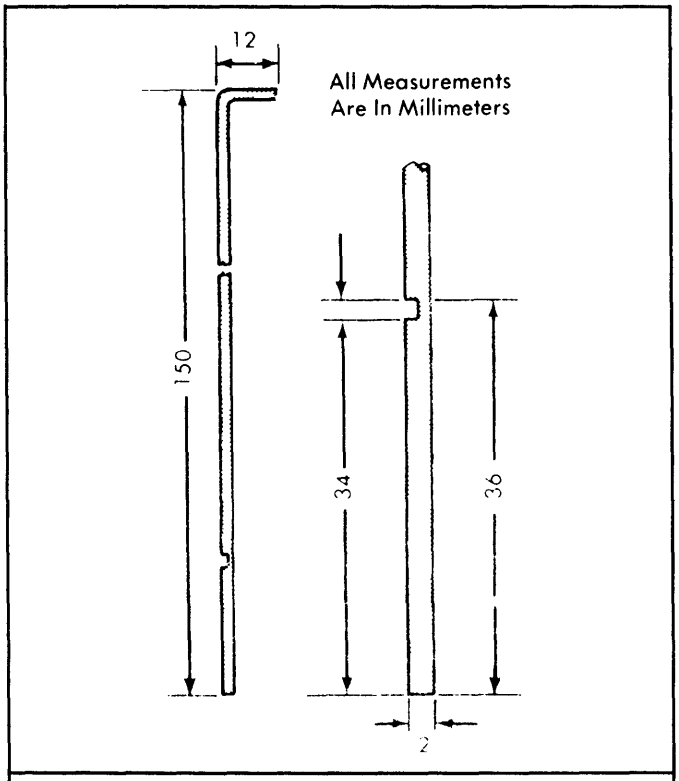

Fig. 1: Fuel Level Gauge Dimensions

FUEL LEVEL

1) Fabricate fuel level gauge to dimensions shown (in millimeters). *See Fig. 1.* Run engine for a short time at high idle speed. Shut off engine. Guide fuel level gauge through bore in carburetor cover as far as it will go.

2) To facilitate reading fuel level, mark gauge with chalk in measurement area. After gauge has been inserted, remove gauge and read fuel level. If level is correct, reading should be within notched area of gauge. If not, adjust FLOAT LEVEL.

FLOAT LEVEL

Remove carburetor air horn. Fabricate float level gauge to dimensions shown (in millimeters). *See Fig. 3.* While holding down on float shaft, hold gauge on gasket surface of carburetor, with its tip inserted into notch of float toe. Tip of gauge should just contact bottom of notch, without depressing float. *See Fig. 4.* Bend float arm to obtain correct float level.

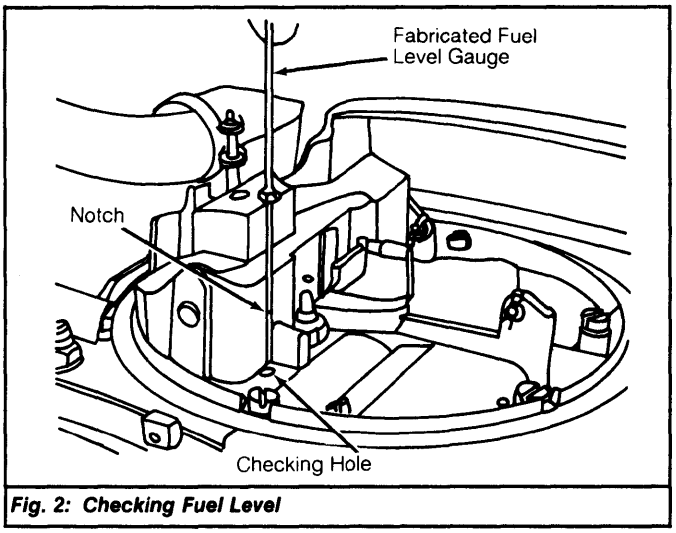

Fig. 2: Checking Fuel Level

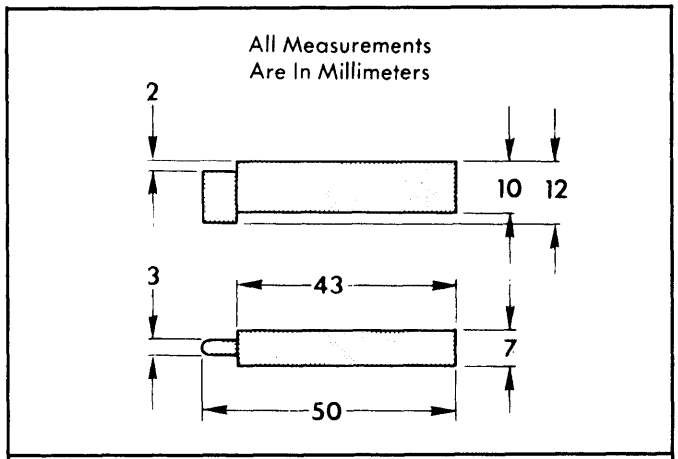

Fig. 3: Float Level Gauge Dimensions

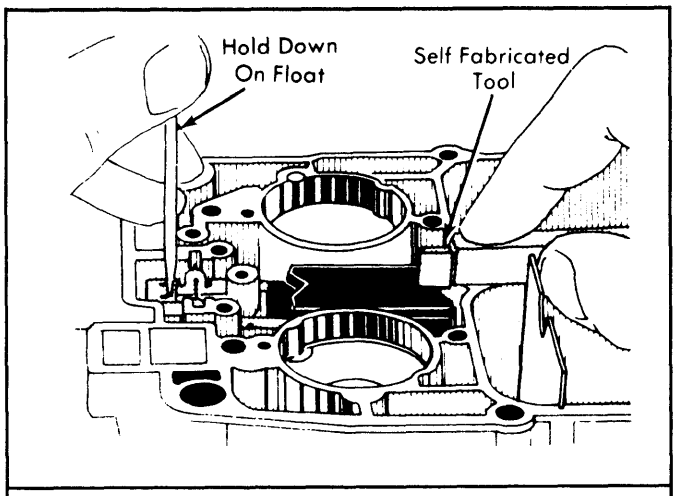

Fig. 4: Checking Float Level

CHOKE GAP

1974 Models - **1)** Run engine at idle speed until vacuum has pulled diaphragm in vacuum completely against stop. Clamp vacuum hose closed to trap vacuum in diaphragm.

2) Stop engine and check that diaphragm is resting against stop. Slightly raise throttle lever and position stepped disc against top stop and release throttle valve lever.

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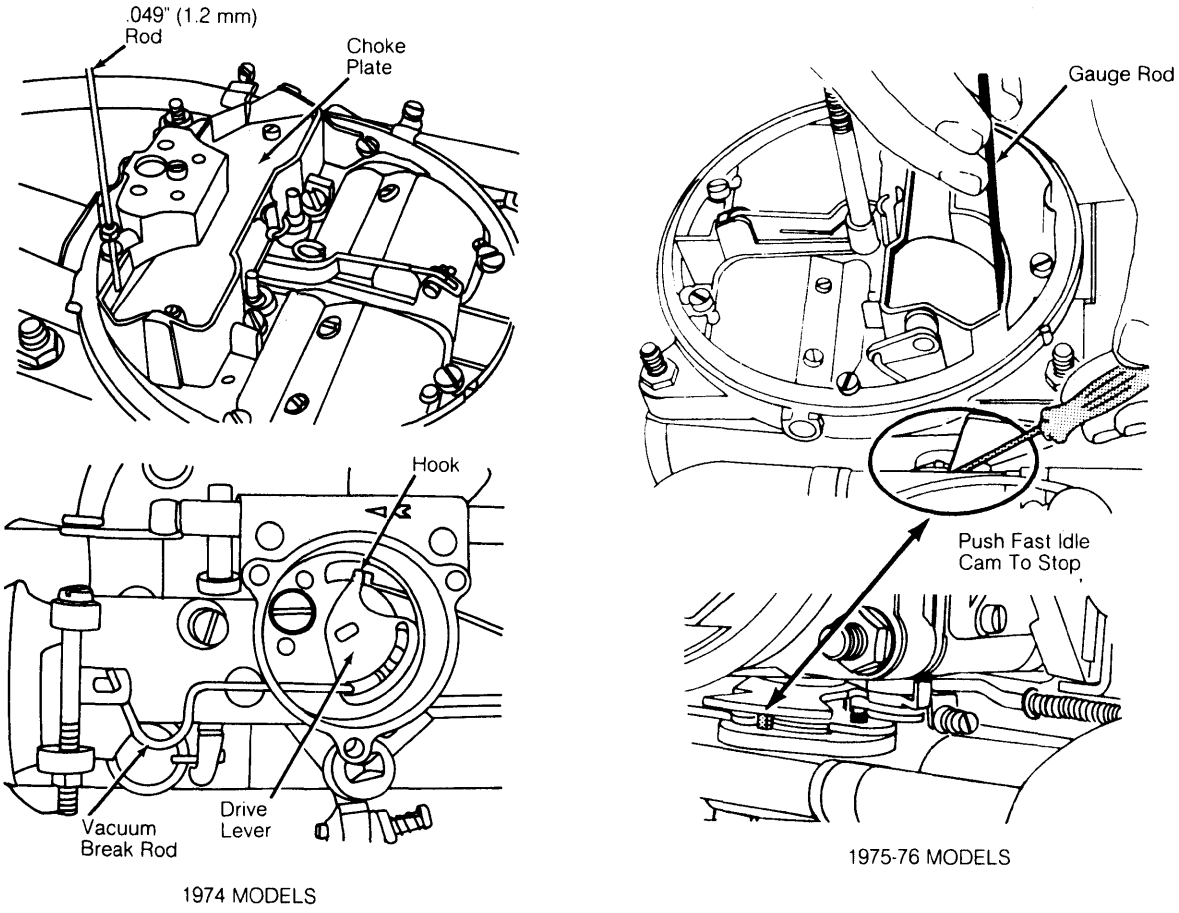

Fig. 5: Choke Gap Adjustment

3) Use a hook inserted through slot of choke housing, to push driver lever of in choke housing against stop. *See Fig. 5.* Vacuum break connecting rod will rest against stop in slot of drive lever.
4) Measure choke gap using a .049" (1.2 mm) rod placed between choke flap and carburetor wall. If adjustment is necessary, release cooling system pressure by remove radiator cap. Pull rear cooling water hose from starting device.
5) Hold connecting rod with screwdriver and use a second screwdriver to bend connecting rod as required. Ensure that vacuum diaphragm is completely against stop.
1975-76 Models - 1) With engine stopped, actuate throttle to half throttle position. While holding throttle in this position, use screwdriver to actuate fast idle cam driver to its stop. *See Fig. 5.*
2) Check that choke is fully closed without any free play. Release throttle lever and momentarily run engine to actuate vacuum diaphragm. While diaphragm is actuated, clamp its vacuum supply hose shut to trap vacuum diaphragm in actuated position.
3) Using a .10" (2.5 mm) gauge rod, measure choke gap between lower edge of choke valve and air horn wall. If choke gap is too small, check vacuum diaphragm for leaks. If no leak exists or if gap is too large, adjust gap using diaphragm adjusting screw.

CONTROL LINKAGE

1) Attach control rod and run engine at idle. Disconnect control pressure rod from automatic transmission and push slide rod together. Push angle lever toward rear. Push control pressure rod toward rear against stop and attach ball socket. Adjust if required.
2) Basic adjustment of control rod and connecting rod is determined by length in relation to angle lever. Control rod should be 4.72" (120 mm) long, connecting rod should be 12.17" (309 mm) when measured from center to center of ball head.

VACUUM GOVERNOR

1) With idle speed adjusted and engine at normal operating temperature. Pull vacuum hose from governor, then set speed to 1200-1400 RPM by means of adjusting screw and reinstall vacuum hose.

NOTE: Loosen lock nut before setting adjusting screw. Hold diaphragm rod with open end wrench at machined flats. When rod not held in place, diaphragm in vacuum box will be damaged.

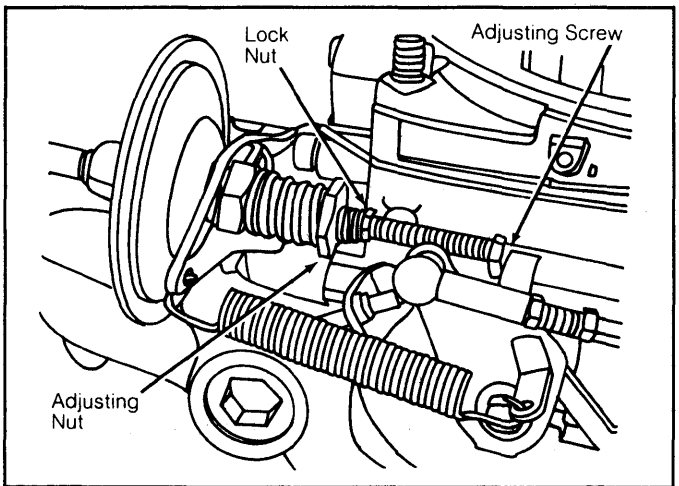

Fig. 6: Vacuum Governor Adjustment

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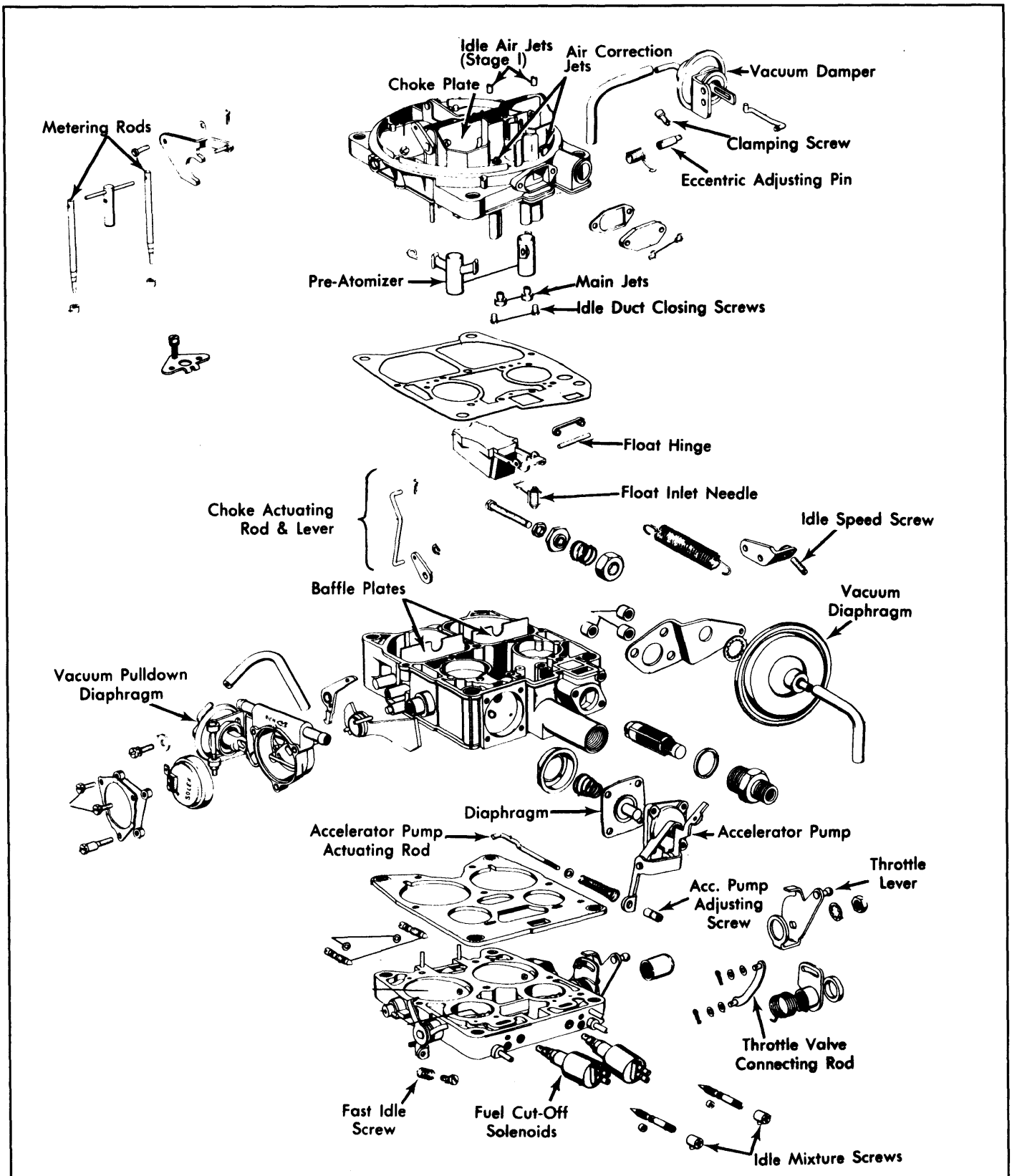

Fig. 7: Exploded View of Solex 4A1 4-Barrel Carburetor

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2) Place transmission in gear and check idle speed. Speed should be 600-700 RPM. If required, set compression spring to this speed by turning adjusting nut. *See Fig. 6.*
3) To test vacuum governor, turn power steering to full lock position, and turn air conditioning system on. Engine should keep running. Adjust speed again if required.

OVERHAUL

DISASSEMBLY

1) With carburetor removed from vehicle, remove clip and disconnect choke valve connecting rod. Remove retaining screws securing upper portion of carburetor to main carburetor body and remove upper carburetor body.
2) Remove accelerator pump cover and diaphragm. *See Fig. 7.* Remove float hold down clip and remove float with needle valve. Remove main jets and plugs for idle speed fuel ducts.

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.