1974-79 FUEL SYSTEMS
S.U. HS 1-Barrel Carburetors

1974 MG Midget

DESCRIPTION

Carburetor is a sidedraft design. Vacuum chamber has a piston which slides up and down, depending on manifold vacuum. This piston controls airflow through carburetor, and therefore controls acceleration.

Piston is damped by oil filled chamber which prevents piston from rising too rapidly on acceleration, and yet allows mixture to increase in richness for sudden acceleration.

For cold starts, a manual choke enriches air/fuel mixture by lowering jet away from needle. Throttle plate (valve) is equipped with overrun poppet valve which opens under high intake manifold vacuum. With valve open, normal air/fuel mixture is enriched.

ADJUSTMENTS

IDLE SPEED & MIXTURE

See appropriate TUNE-UP PROCEDURES article.

COLD (FAST) IDLE RPM

See appropriate TUNE-UP PROCEDURES article.

FLOAT LEVEL

With float chamber top removed and inverted, insert machined round bar between float and float chamber top. This distance should be between 1/8-3/16" (3.2-4.8 mm). If necessary, float lever should be reset at point where prongs meet float pin.

NOTE: Do not bend float arm between float and 90 degree bend of float arm.

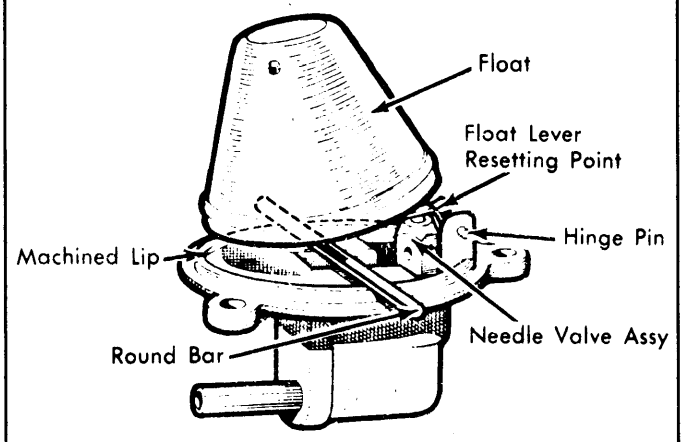

Fig. 1: Float Level Adjustment

JET CENTERING

NOTE: No jet centering is required with spring-loaded type jet needle.

1) Lift piston with piston lifting pin and allow piston to fall. If piston falls freely and a definite soft metallic "click" is heard, jet is centered. Check operation first with jet raised, then check again with jet lowered.
2) If piston does not fall freely with jet raised, but does fall freely with jet lowered, jet bearing and jet must be recentered. Jet centering is best accomplished when carburetors are removed and placed on a bench for servicing.
3) Disconnect lever between jet head and lever. Unscrew fuel line connection at float bowl and remove tube and jet as a unit. Unscrew jet adjusting nut, remove spring, and screw nut up to its fullest extent.
4) Refit jet head and feed tube. Loosen jet locking nut until jet bearing is just free to rotate with finger pressure. *See Fig. 2.*
5) Remove piston damper from top of suction chamber and gently press piston down onto jet bridge. Tighten jet locking nut, making sure jet head remains in correct position.
6) Lift piston and check that it falls freely with jet in raised and lowered positions. When operation is satisfactory, and adjustments are completed, replace adjusting lock spring and jet operating lever. Reconnect fuel line to float bowl.

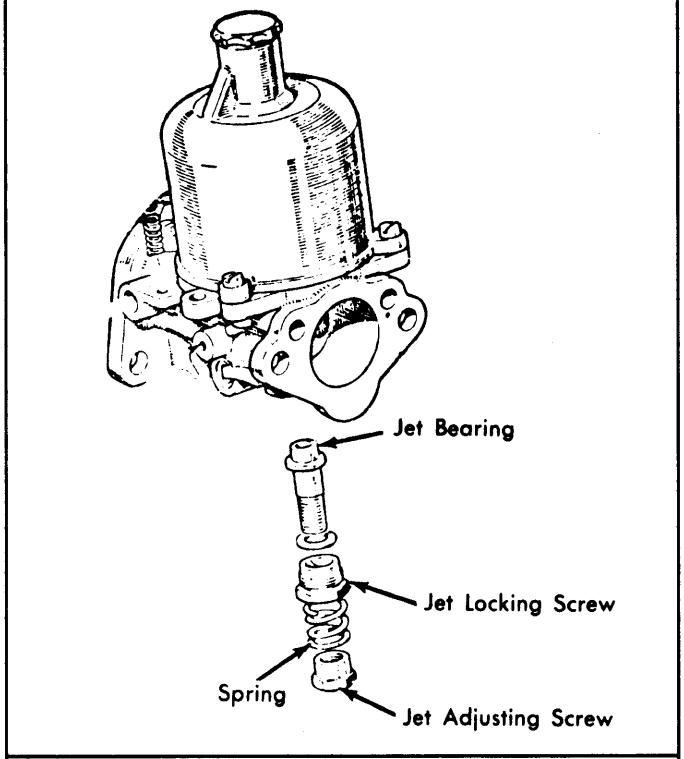

Fig. 2: Jet Centering Adjustment

OVERHAUL

NOTE: Manufacturer does not recommend carburetor overhaul, only the following information is provided.

FLOAT VALVE

Remove float bowl cover. Turn cover upside-down and remove float lever pin and float. Screw out valve and fit a new valve. Replace float and pin. Install cover, making sure that gasket is in good condition.

FIXED NEEDLE

Remove piston and suction chamber assembly. Loosen set screw which holds needle in place, and remove needle. *See Fig. 4.* Install a new needle so that shoulder is flush with base of piston. Tighten set screw.

SPRING LOADED NEEDLE

Loosen set screw and remove bushing, spring, and needle. Install new needle and spring, with bushing positioned so mark faces holes in bottom of piston. *See Fig. 5.* Set screw in spring loaded piston is shorter than in fixed needle type. The spring is used to maintain needle in its correct relationship with carburetor jet, improving control of emissions.

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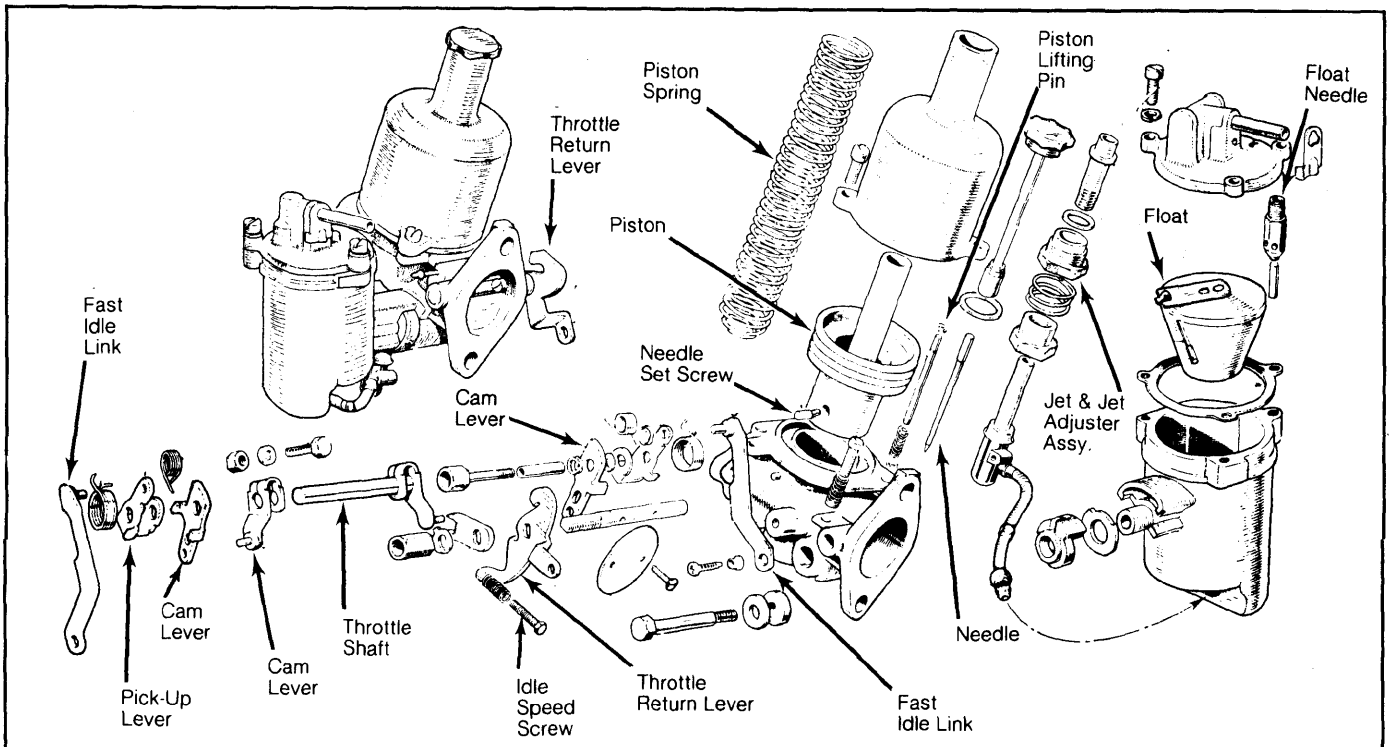

Fig. 3: Exploded View Of S.U. HS 1-Barrel Carburetor

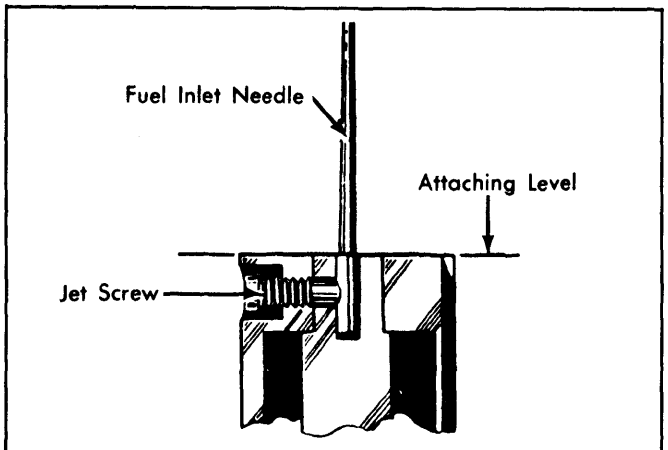

Fig. 4: Fixed Needle Replacement

SPINDLE BEARINGS

1) When new, there is about .0025" (.063 mm) clearance between diameter of spindle and its bearing bores. Any less clearance and distortion from engine heat may cause jamming. If wear causes this clearance to increase appreciably, resulting air leak will alter engine performance.

2) To correct, a new body casting will be needed. As an alternative, bearing bores may be reamed to oversize and suitable oversize throttle spindle will be required. Any levers or fittings connected to spindle will also have to be changed to oversize.

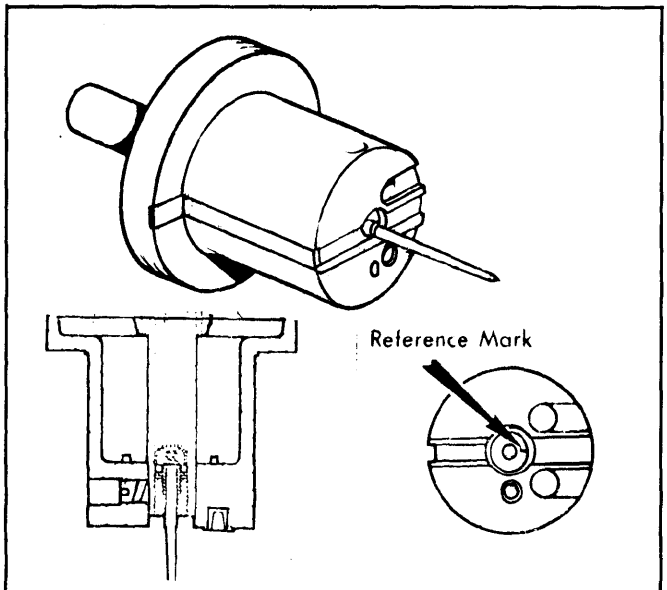

Fig. 5: Spring Loaded Needle Replacement

THROTTLE VALVE ASSEMBLY

1) Turn throttle spindle so that slot is in line with main bore. Slide valve into place. Turn spindle until throttle is closed and adjust until holes in valve match up with those in spindle.

2) Insert attaching screws in holes but do not tighten. Open throttle and close it again with some force. This will center the valve in relation to throttle bore.

3) Place tension on spindle to hold valve shut and tighten attaching screws. Hold carburetor up to light to check that throttle valve closes completely and is centered. After tightening screws, open out slit end of the screws a small amount. This will prevent loosening of screws.