

# Exhaust Emission Systems

## LOTUS DUPLEX SYSTEM (Cont.)

Lotus Elan (1968-72)

### DESCRIPTION

Lotus Elan exhaust emission control system consists of a modified induction system, twin Stromberg CD emission carburetors and a vacuum retard system. This system supplies a dry or heated air/fuel mixture to the cylinders and retards ignition timing during certain engine operations.

### OPERATION

#### INDUCTION SYSTEM

Zenith Duplex uses main and secondary galleries, from carburetor to engine, to achieve a dry mixture. Two throttles, main and secondary, are also used. At idle and low speeds, secondary throttle remains closed, causing the wet fuel mixture to flow through the conditioning chamber. From this chamber dry fuel flows back to intake manifold and into engine. At higher speeds mechanical linkage opens secondary throttle. With secondary throttle open fuel flows directly from carburetor to engine, by-passing the conditioning chamber.

#### VACUUM RETARD SYSTEM

To aid emission control at idle and engine overrun conditions, and as an engine brake to help compensate for throttle by-pass, a vacuum retard unit is installed on the distributor. Vacuum is controlled by a valve mounted to the back of rear carburetor. This valve allows vacuum to distributor vacuum diaphragm when throttles are closed, and stops vacuum when throttles are open.

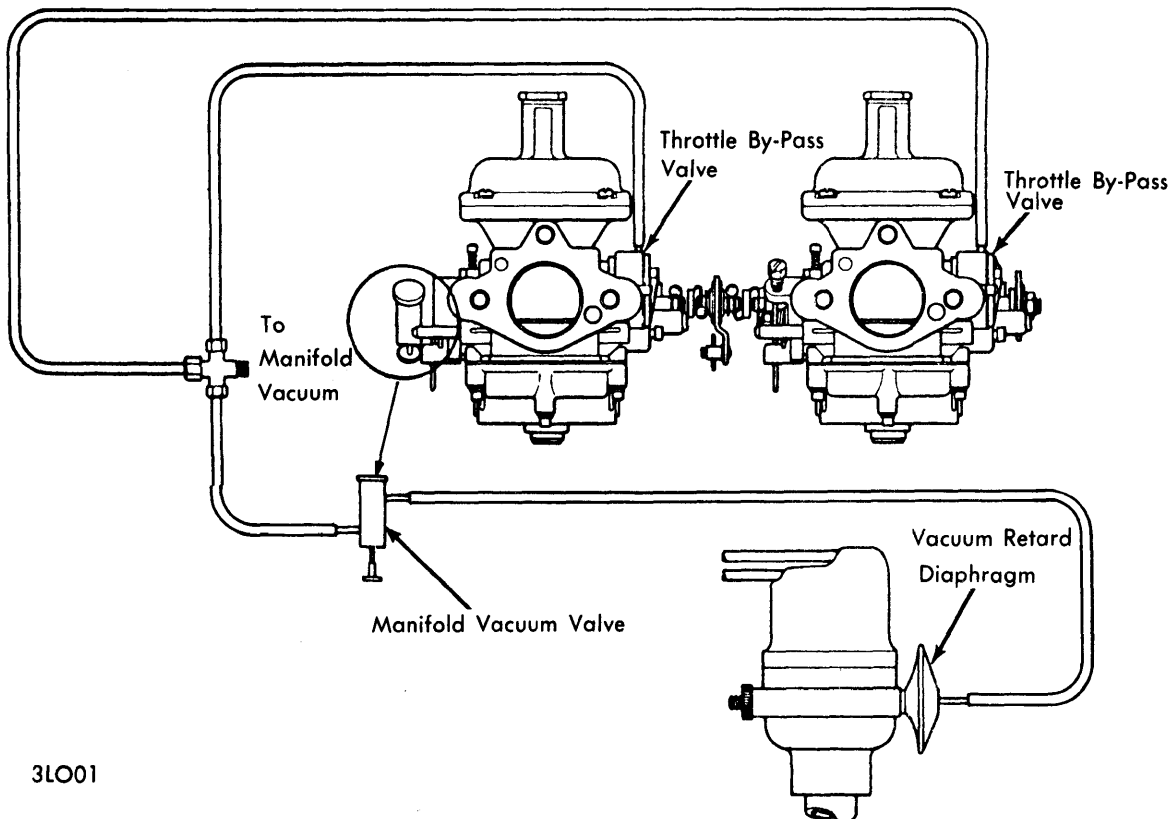
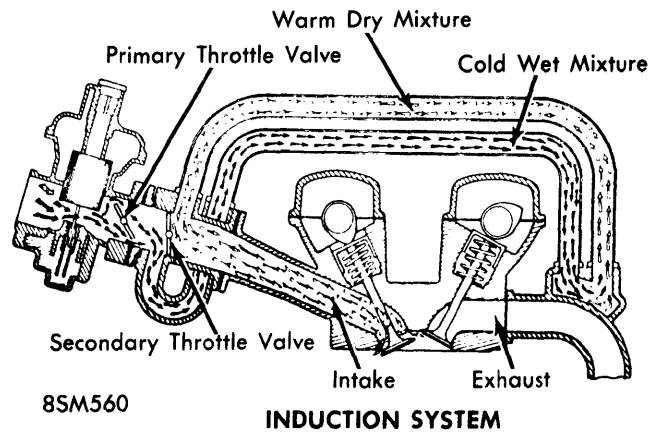
### CARBURETORS

Lotus Elan is equipped with two Zenith Stromberg 175 CD 2 SE carburetors. See *Stromberg CDSE Type 1-Barrel in CARBURETION Section.*

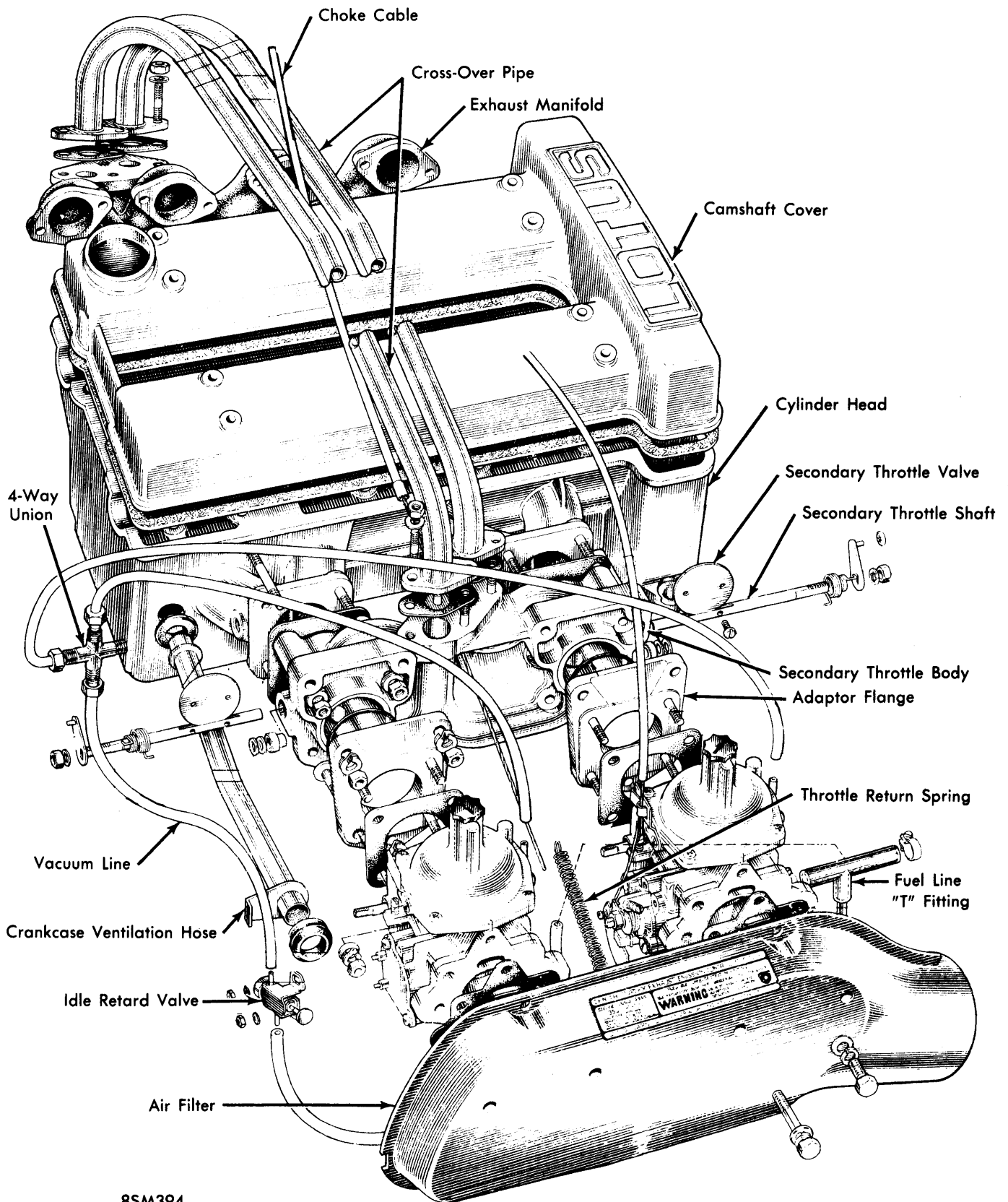
### ADJUSTMENTS

#### MANIFOLD VACUUM VALVE

Make sure that adjusting screw, on vacuum control valve plunger, allows approximately  $\frac{3}{32}$ " plunger movement when throttles are closing. After throttles are closed, plunger should have approximately  $\frac{1}{64}$ " free play.



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