

Exhaust Emission Systems

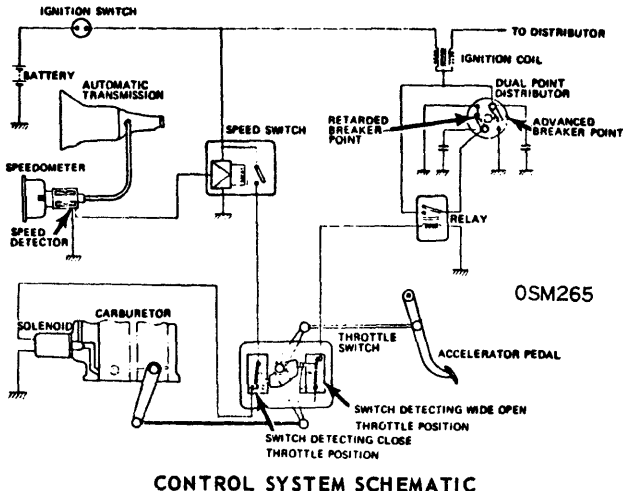
1970-71 510 ENGINE MODIFICATION (AUTO. TRANS.)

Datsun 510 with Automatic Transmission (1970-71)

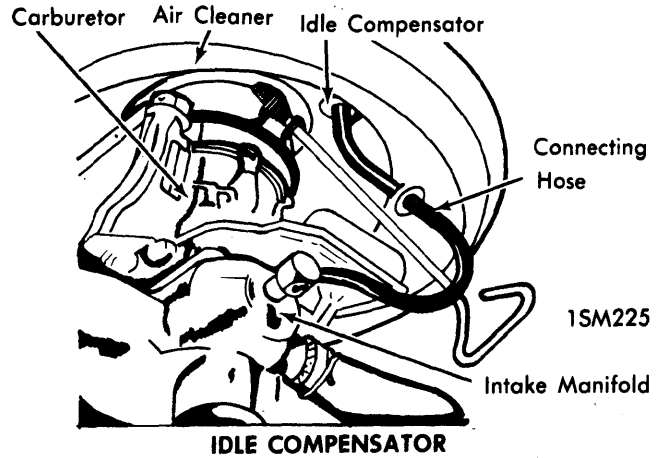
NOTE - Air Injection is also used with this system.

DESCRIPTION & OPERATION

Speed detector (located on speedometer) transmits variation of car speed to RPM switch. The RPM switch is off when car speed is 0 to 13 MPH and on when speed exceeds 13 MPH. Throttle switch is located on bell crank of accelerator linkage.



Idle Compensator - This unit serves as a means of delivering proper air/fuel mixture to engine in case of an overheated engine. If engine is overheated, bimetal thermostat in air cleaner will become heated by intake air. This will cause idle compensator valve to open, allowing fresh air into intake manifold. While valve is opened, engine will run somewhat above normal idle speed. Idle compensator valve begins to open at 126-136° F. and opens fully at 149° F. Valve is adjusted at factory and is not servicable, other than for replacement.



Following table shows operational condition of each unit according to engine and driving condition.

Engine or vehicle operations	Speed switch	Throttle switch		Relay	Solenoid valve current	Spark timing	
		Switch detecting close throttle position	Switch detecting wide open throttle position			"Advanced"	"Retarded"
Engine starting & warming up with choke	OFF	OFF	ON	OFF	OFF	O	—
Engine starting without choke (Hot restarting)	OFF	ON	ON	OFF	OFF	O	—
Idling	OFF	ON	ON	OFF	OFF	O	—
Engine racing	OFF	ON → OFF → ON	ON or ON → OFF → ON	OFF	OFF	O	—
Cruising or accelerating over 13 mph with partially open throttle	ON	OFF	ON	ON	OFF	—	O
Cruising or accelerating under 13 mph with partially open throttle	OFF	OFF	ON	OFF	OFF	O	—
Cruising or accelerating with wide open throttle	ON (over 13 mph) or OFF (under 13 mph)	OFF	OFF	OFF	OFF	O	—
Coasting	ON (over 13 mph) or OFF (under 13 mph)	ON	ON	OFF	ON (over 13 mph) or OFF (under 13 mph)	O	—
Remarks	When the car speed is under 13 mph, this switch is "OFF". And when the speed is over 13 mph, the switch is "ON".	When the throttle valve is nearly closed, this switch is "ON". And when the valve is even slightly opened the switch is "OFF".	When the throttle valve is partially opened, this switch is "ON". And when the valve is widely opened, the switch is "OFF".	When the relay is "ON", the primary ignition circuit from ignition coil to "retarded" breaker point is closed, so the "retarded" spark timing is provided	When the solenoid valve current is "ON", the fuel and air passage is opened and excessive mixture is supplied to reduce HC emission.	When the "retarded" spark timing is provided, HC emission is reduced.	

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