

Fig. S-25. Heart of Chrysler's electronic lean burn system is the spark control computer that consists of two circuit boards (inset).

## EMISSION CONTROL

Chrysler introduced the Electronic "Lean Burn" system on its 400 cu. in., 4 Bbl. V-8 engine during the 1976 model year. For 1977, lean burn applications were expanded to include 440, 360 and 318 cu. in. engines. See Fig. S-25.

A specially calibrated carburetor is used in conjunction with electronic spark advance to provide a way for the engine to burn a lean air-fuel mixture. Lean burn engines operate at an 18 to 1 air-fuel ratio.

The lean burn system utilizes seven sensors, Fig. S-26, and a spark control computer located next to the carburetor. The computer consists of two electronic printed circuit boards that monitor signals from sensors throughout the engine.

The computer makes thousands of calculations each minute. It analyzes the signals received and determines the exact moment of combustion. Then, it signals the electronic distributor when to fire the spark plugs.

Engines equipped with lean burn system require automatic transmission. Due to tighter emission standards for 1977, lean burn engines are equipped with catalytic converters.

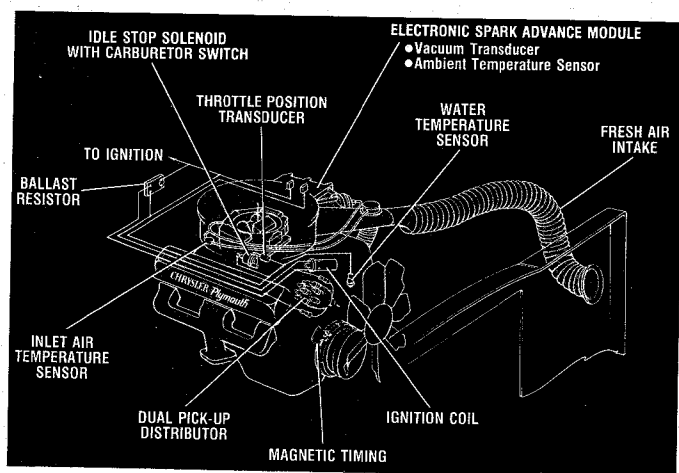


Fig. S-26. Seven sensors in Chrysler's lean burn engine supply the spark control computer with information needed to fire the spark plugs at the right time.

## ENGINE IGNITION

Ford installed a new Dura-Spark ignition system on all 1977 passenger cars and light trucks. The new system produces higher spark plug voltages. The performance characteristics of Ford's 1976 solid state ignition system is compared with Dura-Spark in Fig. S-27.

SPARK PLUG VOLTAGES

	START (10V) AT 200 RPM	RUN (14V) AT 800 RPM
1976 SOLID STATE IGNITION	32,000V	26,000V
1977 49 STATE DURA-SPARK	42,000V	36,000V
1977 CALIFORNIA DURA-SPARK	47,000V	42,000V

Fig. S-27. Ford's Dura-Spark ignition system for 1977 supplies higher spark plug voltages.