1974-79 EXHAUST EMISSION SYSTEMS
Mercedes-Benz Thermostatic Air Cleaners

230 Series

DESCRIPTION

A thermostatic air cleaner/intake air preheating system is used on 230 series only. This system helps control exhaust emissions by regulating the temperature of the air entering the carburetor. System consists of an intake air preheating shroud, a warm air duct, and air cleaner assembly with integral temperature control unit and vacuum actuator.

OPERATION

Temperature of air entering carburetor is determined by position of air flap in air cleaner snorkel. The air flap is actuated by vacuum actuator, which in turn is controlled by the temperature control unit. The temperature control unit regulates vacuum to vacuum actuator depending on engine load and ambient air temperature.

At temperatures below 86°F (30°C) and engine off, the warm air duct is closed off by air flap. With engine running, vacuum actuator lifts air flap and opens warm air duct. Warm air is drawn into carburetor.

At temperature between 86-104°F (30-40°C), the temperature control unit vent valve will gradually be opened by bimetallic spring and reducing vacuum to vacuum actuator. the air flap will assume a position depending on the available vacuum. By increasing or decreasing the amount of cold air, the air intake temperature will be maintained at 86-104°F (30-40°C).

At temperatures above 104°F (40°C), the temperature control unit vent valve and check valve will be completely opened by the bimetallic springs. The vacuum in the system will be reduced to such an extent that the vacuum actuator diaphragm can no longer be actuated. The air flap closes the warm air duct and only outside air will be drawn into carburetor.

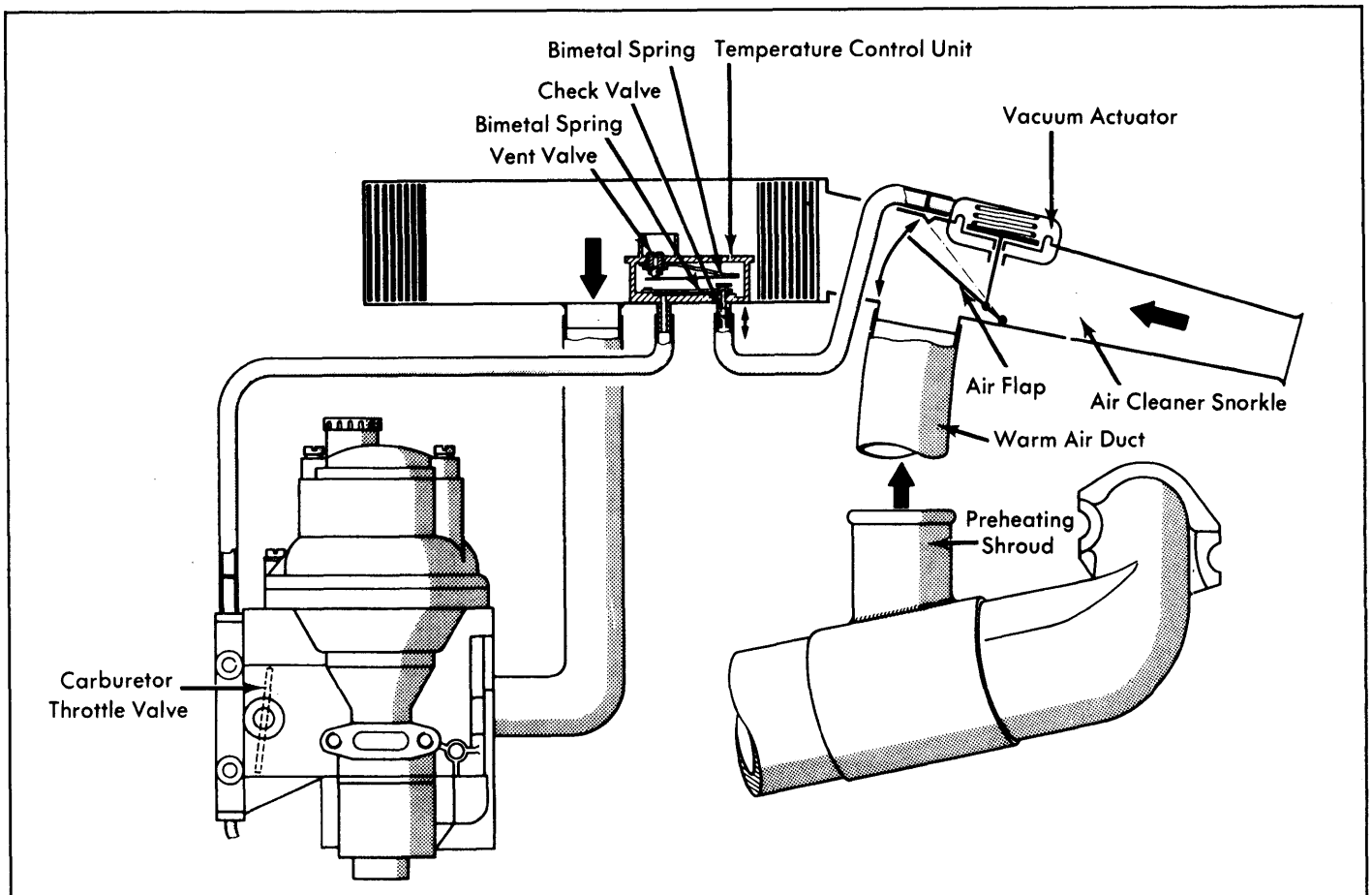

Fig. 1: Thermostatic Air Cleaner