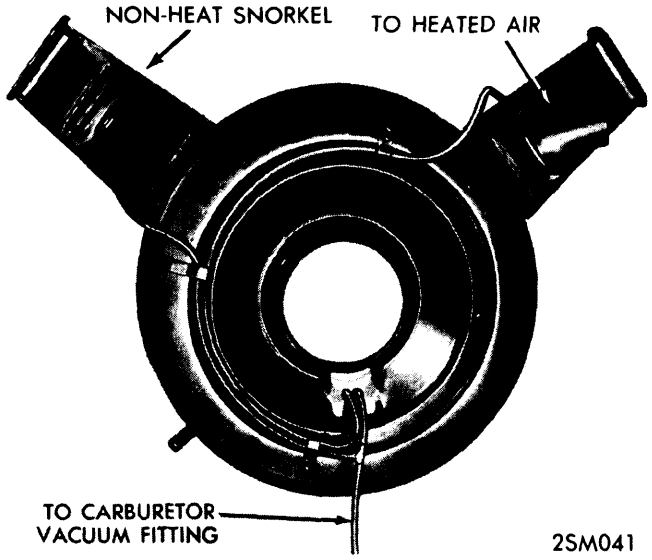
CHRYSLER CORP. THERMOSTATIC AIR CLEANER

DESCRIPTION

System consists of an air cleaner which incorporates a vacuum diaphragm, and air control valve and a thermostat. Air cleaner has two intakes, one for fresh air and other for heated air which is taken from a shroud located on exhaust manifold.

NOTE – Some models use an air cleaner with two snorkels. It performs like the single snorkel air cleaner, except that on hard acceleration, both snorkels open to fresh air. Only one of two snorkels is connected to manifold vacuum through a "tee" in vacuum hose between the carburetor and sensor.



DUAL SNORKEL AIR CLEANER

OPERATION

When underhood temperature reaches 10°F or lower, air will flow through stove, into a flexible connector and into adaptor on bottom of snorkel and into air cleaner. When underhood temperature is above 100°F, air will flow directly through snorkel and into air cleaner. When underhood temperature is between 10°F and 100°F, air will flow through both circuits after engine has been started and exhaust manifold begins to emit heat. The colder the underhood temperature, the more flow of air through stove, and the warmer the underhood temperature, the more flow of air through snorkel. Amount of air flowing through each circuit is controlled by a heat door in snorkel, to maintain a temperature between 95°F and 105°F, at temperature sensor (located in air cleaner housing). Regulating of induction air temperature is accomplished by intake manifold vacuum, a temperature sensor and a vacuum diaphragm (which operates control door). A vacuum line is connected to a nipple at carburetor base and leads to one side (either side) of sensor and another line is connected to opposite side of the sensor and leads to a diaphragm. The sensor (a bimetal strip) attached at one end controls a small air valve at opposite end. This valve is connected to same vacuum chamber that the two hoses connect into. When temperature (at sensor) is less than 95°F, valve is closed and intake manifold vacuum is routed to diaphragm, which lifts control door and permits heated air to enter air cleaner. When temperature (at sensor) is over 105°F, valve (in sensor) opens and decreases vacuum at diaphragm and spring in diaphragm housing pushes heat control downward, thus decreasing heated air flow and increasing air flow through snorkel.

TESTING

To test system, following procedures should be used:

1) With a cold engine and underhood temperature below 90°F, check heat control door (valve plate) in snorkel, it should be in up position (heat on position).

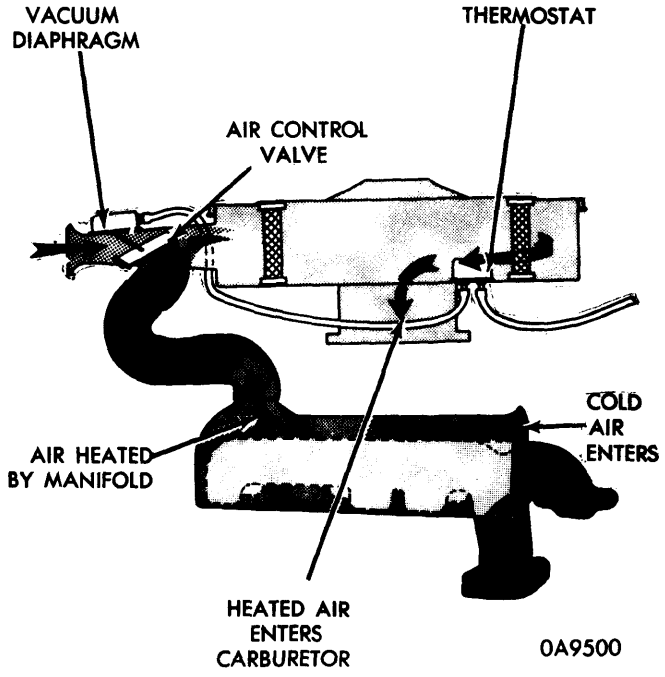
2) With engine warm and running, check air temperature entering snorkel at sensor. When air temperature entering outer end of snorkel is 110°F or higher, door should be in down position (heat off position).

3) Remove air cleaner from engine and allow to cool to 90°F. With 20 in. Hg vacuum applied to sensor, door should be up (heat on). If door does not open, check diaphragm.

4) Check diaphragm by applying 20 in. Hg vacuum to diaphragm. The diaphragm should not bleed down more than 10 in. Hg in five minutes. Release vacuum on diaphragm, then slowly increase vacuum and observe door operation. Door should lift off bottom of snorkel at not less than 5 in. Hg, and be in full open position with more than 9 in. Hg.

5) If vacuum diaphragm does not peform properly,replace it and repeat steps **1)** and **2)**.

6) If vacuum diaphragm does perform properly, but proper temperature is not maintained, replaced sensor and repeat temperature checks in steps **2)** and **3)**.



THERMOSTATIC CONTROLLED AIR CLEANER