1974-79 EXHAUST EMISSION SYSTEMS
Ford Motor Co. Thermostatic Air Cleaners

1978-79 Fiesta

DESCRIPTION

The air cleaner assembly, used on the Fiesta, is similar to many other units. It is designed to control the temperature of the air entering the carburetor, maintain a constant temperature of this air, and thereby assist in better combustion and lower emissions. The system consists of an air cleaner housing, a sensor inside the housing, a vacuum motor on the snorkel, a door which controls air flow, and necessary connecting tubing.

COLD WEATHER MODULATOR

Some models have a vacuum modulator located in the air cleaner. During engine operation in cold weather, it prevents the air cleaner snorkel door from opening to non-heated air. When ambient temperature is above 55°F (13°C), normal operations will resume.

OPERATION

The intake duct allows cold outside air or heated manifold shroud air to enter the carburetor, depending on the setting of the duct door. The door position is controlled by a vacuum motor which responds to various vacuum signals from a bimetal sensor in the air cleaner housing. During cold engine operation, the snorkel door is in the up, or heat on position. Only heated air from around the exhaust manifold is allowed to enter the carburetor. As the temperature inside the air cleaner warms up, the bimetal sensor bleeds off some vacuum and the snorkel door moves to allow some cooler outside air to enter the carburetor. When full normal operating temperatures are reached, the door will be down, allowing only outside air into the carburetor.

TESTING

1) Ensure ambient temperature is above 60°F (16°C). If vehicle is equipped with cold weather modulator, by-pass the modulator by disconnecting hoses from modulator and using a suitable tube to connect them together.
2) Apply parking brake and block drive wheels. Remove air cleaner cover. Visually inspect all components for damage. Remove parts necessary to see into snorkel and view the door.
3) With engine off (no vacuum), door should be in the heat off position (down). If not, check door for binding or sticking. Place a thermometer as near to the bimetal sensor as possible and start engine.
4) If door is open, turn off engine. Cool temperature sensor and restart engine. Observe door. It should now be closed. If so, go to next step. If it is still open, check vacuum components for malfunction.
5) If door is closed, reinstall air cleaner cover (without retaining nuts). With engine running, observe air door and record the time. Door should open within five minutes.
6) If not, remove cover and note temperature. If temperature is more than 75°F (24°C), replace the bimetal sensor. If temperature is less than 75°F (24°C), reinstall cover and run engine an additional 5 minutes. Check door position. If door is not open, replace sensor.
7) Turn off engine. Remove thermometer from air cleaner. Reinstall all components. As a final test, apply external vacuum of 16" Hg to the vacuum motor and hold this level. Motor should remain closed for at least one minute. In not, replace duct and valve assembly.