

## DESCRIPTION (Continued)

IF YOU ARE TAKING MEDICATION FOR THE TREATMENT OF ALCOHOLISM, SUCH AS ANTABUSE OR OTHER FORMS OF DISULFIRAM, SKIN CONTACT WITH FUEL METHANOL OR BREATHING ITS VAPORS CAN CAUSE THE SAME KIND OF ADVERSE REACTION AS DRINKING ALCOHOL. IN SENSITIVE INDIVIDUALS, SERIOUS PERSONAL INJURY OR SICKNESS COULD RESULT. IF YOU ARE TAKING SUCH MEDICATION, YOU SHOULD TAKE EXTRA CARE TO AVOID SKIN CONTACT WITH FUEL METHANOL AND TO AVOID BREATHING ITS VAPORS. IF YOU DO GET FUEL METHANOL ON YOUR SKIN, WASH IT OFF IMMEDIATELY. CONSULT A PHYSICIAN PROMPTLY IF YOU EXPERIENCE AN ADVERSE REACTION.

**WARNING: DO NOT MODIFY THE FUEL SYSTEM CONFIGURATION OR COMPONENTS, OR REPLACE COMPONENTS WITH PARTS NOT ESPECIALLY DESIGNED FOR USE WITH FUEL METHANOL. FORD MOTOR COMPANY HAS SPECIALLY-DESIGNED THE MATERIALS, COMPONENTS AND SYSTEM CONFIGURATION FOR METHANOL-FUELED VEHICLES AND EACH PARTICULAR SYSTEM IS PRECISELY CALIBRATED FOR EFFICIENT OPERATION. THE USE OF DIFFERENT PARTS OR MATERIALS COULD PRODUCE AN UNTESTED CONFIGURATION THAT COULD RESULT IN FIRE, PERSONAL INJURY, OR COULD CAUSE ENGINE DAMAGE.**

**WARNING: DO NOT OPERATE ENGINE OR SMOKE WHILE REFUELING.**

**CAUTION: Use only fuel methanol which meets Ford Specification ESE-M4C97-B. Use of other fuel methanol may cause powertrain damage as well as loss of vehicle performance. It will also invalidate any extended service agreement.**

**WARNING: IT IS IMPORTANT THAT YOUR FLEXIBLE FUEL VEHICLE BE PROPERLY MAINTAINED BY FORD FLEXIBLE FUEL TRAINED PERSONNEL. IF A PROBLEM OCCURS, IT IS IMPORTANT THAT PROPERLY TRAINED PERSONNEL DIAGNOSE THE CAUSE. IF THE PROBLEM RELATES TO THE FUEL SYSTEM, PROPER PART REPLACEMENT IS IMPERATIVE TO KEEP YOUR VEHICLE OPERATING AT NORMAL PERFORMANCE. FLEXIBLE FUEL COMPONENTS AND STANDARD FUEL COMPONENTS ARE NOT INTERCHANGEABLE AND IF YOUR VEHICLE IS NOT SERVICED IN ACCORDANCE WITH FLEXIBLE FUEL VEHICLE PROCEDURES, DAMAGE MAY OCCUR AND YOUR WARRANTY MAY BE INVALIDATED.**

#### What is Fuel Methanol?

Fuel methanol is a mixture of 85 percent methanol and 15 percent unleaded gasoline. The Flexible Fuel (FF) vehicles are able to run on fuel methanol, gasoline or any mixture in between.

Below about 10°C (50°F), the methanol vapor pressure is too low to produce the flammable air / fuel mixture necessary to engine operation.

Adding a co-fuel such as gasoline brings the resulting air / fuel vapor back into the flammable range.

Methanol is more chemically active than gasoline. It corrodes some metals and may cause some plastic and rubber components to swell, or become brittle and crack. For this reason, only FF vehicle components specifically designed for use with fuel methanol should be used.

#### Advantages of Fuel Methanol

Methanol can be produced from a variety of resources including coal and natural gas. The abundant reserve of coal and natural gas in the United States gives fuel methanol the potential to be an important fuel of the future.

Methanol has a high-octane rating which can be used to improve engine performance and efficiency.

Methanol is a clean-burning fuel, making it easier to meet emission standards. Being a liquid fuel used in internal combustion engines, the same basic service procedures used for gasoline engines also are used for engines operating on fuel methanol.

**CAUTION: If fuel methanol is spilled onto a painted surface, flush surface with water immediately and allow to air dry. Do not attempt to wipe spilled fuel methanol with any form of cloth or towel as this may damage the paint.**

An on-board vehicle powertrain control module (PCM) 12A650 accepts inputs from various engine sensors to compute the required fuel flow rate necessary to maintain a prescribed air / fuel ratio throughout the entire engine operational range. The PCM then outputs a command to the fuel injector to meter the appropriate quantity of fuel.

The PCM system also determines and compensates for the age of the vehicle and its uniqueness. The system will automatically sense and compensate for changes in altitude (i.e., from sea level to mountains) and will also permit push-starting the vehicle should it become necessary (manual transaxle only).

All engines use a closed-type positive crankcase ventilation (PCV) system and an exhaust emission system to control engine emissions within Government specifications.

To maintain the required exhaust emission levels, the fuel metering system must be kept in good operating condition and adjusted to specifications listed in the applicable Section of the Powertrain Control / Emissions Diagnosis Manual<sup>1</sup>, the applicable Section of this Group, or on the Vehicle Emission Control Information (VECI) decal.

Additional engine performance checks are required to keep the exhaust emissions at the specified minimum pollutant level. Refer to the Pre-Delivery manual, Section 00-03 for these performance checks and recommended intervals.

This Section covers cleaning and inspection procedures.

For fuel system component removal, disassembly, assembly, installation and major service operations, refer to the applicable Section of this Group.

<sup>1</sup> Can be purchased as a separate item.