## EM: Emission Compliance Introduction

EM: Pinpoint Tests

## WARNING: CROWN VICTORIA POLICE INTERCEPTOR VEHICLES EQUIPPED WITH FIRE SUPPRESSION SYSTEM, REFER TO SECTION 419-03 FOR IMPORTANT SAFETY WARNINGS. FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN PERSONAL INJURY.

**Note:** Canada and some states or metropolitan areas in the United States require periodic emission, or inspection/maintenance (I/M) tests. All Ford products are designed to pass these tests. If a Ford product fails an I/M test, it is probably because 1) the engine or catalyst temperature was not warm and stabilized before the test, or 2) the vehicle had idled excessively before the test.

If any new emission components are installed, carry out the following steps before repeating the I/M test procedure:

- Reset the keep alive memory (KAM). Refer to Section 2, Resetting The Keep Alive Memory (KAM).
- To relearn some basic adaptive learning (trim) values, run the engine at 2,500 RPM for 1 minute and idle the engine for 2 minutes.

## ENGINE "OUT" EMISSIONS (BEFORE CATALYTIC CONVERTER) NO EGR FUNCTION CO2 HIGHER HC **FOICHIOMETRIC IDEAL** LEAN MISFIRE\* LOWER 6 NOX co 16 18 20 22 12 14 10 LEANER – AIR FUEL RATIO – RICHER -

## Exhaust Gas Analysis Chart

\* EXACT AIR FUEL RATIO VARIES DEPENDING ON ENGINE Verifying an Excessive Grams Per Mile (GPM) Indication Using a Parts Per Million (PPM) Reading.

For vehicle gas reading(s) that are excessive, compare the actual gpm reading to the gas cutpoint level needed to pass testing. This gives an indication of how much the ppm reading has to be reduced (if the actual reading is twice the cutpoint, the baseline reading has to be cut in half or more).

Example:

- The actual HC produced by a vehicle is 1.6 gpm. The cutpoint for HC in this example is 0.8 gpm. The actual reading is twice the cutpoint.
- The HC reading obtained for the same vehicle during the baseline drive averages 440 ppm. In order for this vehicle to pass the I/M test, the HC reading from the verification trip must be at least half of the baseline reading, or an average of 220 ppm or less.
- This method only gives a general idea of how much the ppm reading needs to be reduced in order for the vehicle to pass an I/M test that calculates gpm. This test is not exact. Experience still has to be used to determine if the emission readings are reduced enough for the vehicle to pass the I/M test.

