

**[ LTO MEMORANDUM CIRCULAR NO. 94-208,  
August 18, 1994 ]**

**INTERIM EMISSION STANDARDS FOR USED IMPORTED MOTOR  
VEHICLES**

Pursuant to the Department of Environment and Natural Resources (DENR) Administrative Order No. 24, Series of 1994, re: the above subject, the following standards shall be adopted for purposes of inspection prior to initial registration of any imported used motor vehicle, provided that if the in-use emission standard of the country of origin differs from these standards, the more strict standard should be the basis of approval for initial registration of said vehicles:

Type of Pollutant	Maximum Limit	Test Method/Equipment
Equipment Carbon Monoxide (CO)*	3.5% vol.	Idling test/NDIR Analyzer
Hydrocarbon (HC)*	500 ppm	Analyzer Idling test/NDIR
Smoke**	50% HSU or 40% Bosch	Free acceleration from low idle engine speed/ Hartridge or Bosch smoke meter.

\* For spark-ignition (gasoline fueled) motor vehicle.

\*\* For compression-ignition (diesel-fueled) motor vehicle.

The test procedures and equipment described in the herein attached Annexes 1 and 2 shall be strictly observed.

This Memorandum Circular shall take effect on 01 September 1994.

For guidance and strict compliance.

Adopted: 18 Aug. 1994

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*Brig. Gen. AFP (Ret.)*  
*Assistant Secretary*

**ANNEX 1  
FREE ACCELERATION TEST IN-USE DIESEL FUEL MOTOR VEHICLES**

## **I**

### **Scope**

The Test is a smoke opacity measurement for in-use motor vehicle equipped with compression-ignition (diesel) engines, using the free acceleration from low idle speed method.

## **II**

### **Motor-Vehicle Test Condition**

- a. The test shall be carried out on a stationary vehicle at normal engine operating temperature.
- b. The combustion chamber shall not have been cooled or fouled by a prolonged period of idling preceding the test.
- c. The exhaust system shall not have any orifice (or leaks) through which the gases emitted by the engine might be diluted.

## **III**

### **Test Equipment**

- a. The light-absorption coefficient of the exhaust gases shall be measured with an opacimeter satisfying the conditions laid down in ECE Regulation No. 24, Revision 2E/ECE/TRANS 505. Rev Add 23 Rev. 2, Annex 8: Characteristics of Opacimeter.

## **IV**

### **Test Procedures and Smoke Opacity Measurement**

- a. Follow the opacimeter manufacturer's instruction in the proper installation, operation/use and checking the accuracy (calibration) before and after each test.
- b. Set the vehicle gear-change control in the neutral position and the handbrake effectively engaged.
- c. Start the engine and warm it up to its normal operating temperature.
- d. Insert sampling probe as deep as possible but not less than 30 centimeters from the tailpipe outlet.
- e. Accelerate the engine two to three times in order to remove deposits of soot and other carbon particles in the tail pipe.
- f. With the engine idling, depress the accelerator quickly, but not violently, to obtain maximum delivery from the injection pump (Figure 1 )<sup>\*</sup> Maintain this position until maximum engine speed is reached (about 2 to 4 seconds) and the governor comes into action.

As soon as this speed is reached, release the accelerator until the engine resumes its idling. Record the maximum reading of the smokemeter.

- g. Repeat the procedure in paragraph (4f) until the maximum opacity values read in each consecutive free-acceleration test are stabilized. The values read shall be regarded as stabilized when three consecutive readings are within a hand width of 0.3 m<sup>-1</sup> (equivalent to 5 HSU) and do not form a decreasing sequence. The test result shall be the arithmetic mean of the three stabilized values.