

so that the measurement will be made at right angles to the axis of the exhaust plume. For an end-of-line smokemeter the distance from the optical centerline to the exhaust pipe outlet shall be  $1 \pm 0.25$  inch. The full flow of the exhaust stream shall be centered between the source and the detector apertures (or windows and lenses) and on the axis of the light beam.

(2) Power shall be supplied to the control unit of the smokemeter in time to allow at least 15 minutes for stabilization prior to testing.

[48 FR 52203, Nov. 16, 1983, as amended at 49 FR 48141, Dec. 10, 1984; 62 FR 47122, Sept. 5, 1997]

**§ 86.884-10 Information.**

The following information, as applicable, shall be recorded for each test:

(a) Engine description and specifications. A copy of the information specified in this paragraph must accompany each engine sent to the Administrator for compliance testing. If the engine is submitted to the Administrator for testing under subpart N, only the information specified in § 86.1344-84 need accompany the engine. The manufacturer need not record the information specified in this paragraph for each test if the information, with exception of paragraphs (a)(3), (a)(12), and (a)(13) of this section, is included in the manufacturer's part I.

- (1) Engine-system combination.
- (2) Engine identification numbers.
- (3) Number of hours of operation accumulated on engine.
- (4) Rated maximum horsepower and torque.
- (5) Maximum horsepower and torque speeds.
- (6) Engine displacement.
- (7) Governed speed.
- (8) Idle rpm.
- (9) Fuel consumption at maximum power and torque.
- (10) Maximum air flow.
- (11) Maximum and test air inlet restriction.
- (12) Exhaust pipe diameter(s).
- (13) Maximum exhaust system backpressure.

(b) *Test data; general.* This information may be recorded at any time be-

tween four hours prior to the test and four hours after the test.

- (1) Engine-system combination.
- (2) Engine identification numbers.
- (3) Instrument operator.
- (4) Engine operator.
- (5) Number of hours of operation accumulated on the engine prior to beginning the warm-up portion of the test.
- (6) Calibration date(s) of neutral density filters used to calibrate the smokemeter.
- (c) *Test data; pre-test.*
  - (1) Date and time of day.
  - (2) Test number.
  - (3) Barometric pressure.
  - (4) [Reserved]
  - (5) Intake air humidity and temperature:

(i) *Humidity-conditioned air supply.* Air that has had its absolute humidity altered is considered humidity-conditioned air. For this type of intake air supply, the humidity measurement must be made within the intake air supply system, and after the humidity conditioning has taken place.

(ii) *Non-conditioned air supply.* Humidity measurements in non-conditioned intake air supply systems must be made in the intake air stream entering the supply system and within 18 inches of the inlet for supply system. Alternatively, the humidity measurements can be measured within the intake air supply stream.

(iii) Engine intake air temperature measurement must be made within 48 inches of the engine. The measurement location must be made either in the supply system or in the air stream entering the supply system.

(d) *Test data; modal.* (1) Observed engine torque and speed during the steady-state test conditions specified in § 86.884-7(a)(3)(i).

(2) On the recorder or automatic data collection equipment: Identify zero traces—calibration traces—idle traces (or printout of the zero and calibration values)—closed-throttle trace—open throttle trace—acceleration and lugdown test traces—start and finish of each test.

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