State of California
AIR RESOURCES BOARD

CALIFORNIA EXHAUST EMISSION STANDARDS AND TEST PROCEDURES
FOR NEW 1996 AND LATER TIER 1, TIER 2, AND TIER 3 OFF-ROAD
COMPRESSION-IGNITION ENGINES

PART II

Adopted: May 12, 1993
Amended: January 28, 2000
Amended: October 20, 2005

NOTE: This document incorporates by reference the International
Standards Organization (ISO) 8178 test procedure, Part 1, June 3,
modifications. Sections which have been included in their entirety
are set forth with the section number and title. California provisions
which modify specific ISO language provisions are denoted by the
words “DELETE” for the ISO language and “REPLACE WITH” for
the new California language. The symbols “*****” and “…” mean
that the remainder of the ISO text for a specific section is not shown
in these procedures but has been included by reference,
unchanged. ISO sections which are not listed are not part of the
procedures.

This Document is printed in a style to indicate changes from
existing provisions. All existing language is indicated by plain type.
All additions to language are indicated by underline. All deletions to
language are indicated by strikeout.

If there is any conflict between the provisions of this document and
the California Health and Safety Code, Division 26, or Title 13 of
the California Code of Regulations, the Health and Safety Code
and Title 13 apply.

Since the scope of this regulation is limited to off-road compression-ignition engines, the ISO provisions contained in the procedure identified above which pertain to Otto cycle engines or to engines used for applications other than off-road purposes shall not be applicable to Part II of these procedures.

ISO 8178, RIC Engines – Exhaust emission measurement – Part 1: Test bed measurement of gaseous and particulate exhaust emissions from RIC engines.

1. Scope

2. Normative References

3. Definitions

ADD:
Note: In addition to the definitions listed here, those definitions listed in Section 2 of the 1996-1999 Heavy-Duty Test Procedures and Section 89.2 of the 2000 Plus Limited Test Procedures shall apply.
4. Symbols and Abbreviations

ADD:
Note: In addition to the symbols and abbreviations listed here, those symbols and abbreviations listed in Section 3 of the 1996-1999 Heavy-Duty Test Procedures and Section 89.3 of the 2000 Plus Limited Test Procedures shall apply.

* * * * * *

5. Test Conditions

6. Test Fuels

DELETE
REPLACE WITH:

Test fuels shall meet the requirements specified in Section 25 of the 1996-1999 Heavy-Duty Test Procedures or Section 89.330 of the 2000 Plus Limited Test Procedures, as applicable.

7. Measurement Equipment and data to be measured

DELETE any reference to the single filter method.

8. Calibration of the analytical instruments

9. Calibration of the particulate sampling system

10. Running conditions (Test cycles)

11. Test run

DELETE any reference to the single filter method.

12. Data evaluation for gaseous and particulate emission

13. Calculation of the gaseous emissions

14. Calculation of the particulate emission

DELETE any reference to the single filter method.

15. Determination of the gaseous emissions

16. Determination of the particulates
1. Scope
2. Normative References
3. Definitions

**ADD:**
Note: In addition to the definitions listed here, those definitions listed in Section 2 of the 1996-1999 Heavy-Duty Test Procedures and Section 89.2 of the 2000 Plus Limited Test Procedures shall apply.

\* \* \* \* \*

4. Symbols and Abbreviations

**ADD:**
Note: In addition to the symbols and abbreviations listed here, those symbols and abbreviations listed in Section 3 of the 1996-1999 Heavy-Duty Test Procedures and Section 89.3 of the 2000 Plus Limited Test Procedures shall apply.

\* \* \* \* \*

5. Information regarding preparation of the test
DELETE any reference to ISO 8178-2.

6. Modes and weighting factors for test cycles

   *   *   *   *   *

   6.1 DELETE

   6.2 DELETE

   6.3 Test cycle types C “Off-road vehicles and industrial equipment”

   *   *   *   *   *

   6.3.2 DELETE

   6.4 DELETE

   6.5 DELETE

   6.6 DELETE

   6.7 DELETE

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1. Scope

   DELETE

   REPLACE WITH:

   This part specifies the calculation of the specific factors and exhaust flow, which are necessary to determine the emission test results in accordance with ISO 8178, Part 1.

2. Normative References
3. Definitions

ADD:
Note: In addition to the definitions listed here, those definitions listed in Section 2 of the 1996-1999 Heavy-Duty Test Procedures and Section 89.2 of the 2000 Plus Limited Test Procedures shall apply.

* * * * *

4. Symbols and Abbreviations

ADD:
Note: In addition to the symbols and abbreviations listed here, those symbols and abbreviations listed in Section 3 of the 1996-1999 Heavy-Duty Test Procedures and Section 89.3 of the 2000 Plus Limited Test Procedures shall apply.

* * * * *

6. Remarks

DELETE

7. Calculation of the Exhaust Gas Flow Using Fuel Specific Factors

8. Calculation of the Fuel Specific Factors

Tables

Appendix A

Appendix B

Appendix C