

CS-34 AMENDMENT 2 — CHANGE INFORMATION

The Annex to Decision 2003/3/RM is amended as follows:

The text of the amendment is arranged to show deleted text, new or amended text as shown below:

- (a) deleted text is marked with ~~strikethrough~~;
- (b) new or amended text is highlighted in grey;
- (c) an ellipsis (...) indicates that the remaining text is unchanged in front of or following the reflected amendment.

Certification Specifications
and
Acceptable Means of Compliance and Guidance Material
for
Aircraft Engine Emissions and Fuel Venting

CS-34

Amendment 2

(...)

CS-34

Book 1

Certification Specifications

CS 34.1 Fuel venting

The aircraft must be designed to comply with the applicable fuel venting requirements defined under 21.A.18(b)(1).

[Amdt 34/2]

CS 34.2 Aircraft engine emissions

(See AMC 34.2 and GM 34.2)

The aircraft engine must be designed to comply with the applicable emission requirements defined under 21.A.18(b)(2) and (3).

[Amdt 34/2]

CS-34

Book 2

**Acceptable Means of Compliance
and Guidance Material**

AMC 34.2 Aircraft engine emissions

The acceptable means of compliance for aircraft engine emissions are presented in:

- (a) for measurement of reference pressure ratio, Appendix 1 of ICAO Annex 16, Volume II;
- (b) for smoke emission evaluation, Appendix 2 of ICAO Annex 16, Volume II;
- (c) for instrumentation and measurement techniques for gaseous emissions, Appendix 3, except for its attachments, of ICAO Annex 16, Volume II;
- (d) for specification for fuel to be used in aircraft turbine engine emission testing, Appendix 4 of ICAO Annex 16, Volume II;
- (e) for instrumentation and measurement techniques for gaseous emissions from afterburning gas turbine engines, Appendix 5, except for its attachments, of ICAO Annex 16, Volume II; and
- (f) for compliance procedure for gaseous emissions and smoke, Appendix 6 of ICAO Annex 16, Volume II.

[Amdt. 34/2]

GM 34.2 Aircraft engine emissions

Guidance material for the application of the certification specifications for aircraft engine emissions is presented in:

- (a) for instrumentation and measurement techniques for gaseous emissions, the attachments to Appendix 3 of ICAO Annex 16, Volume II;
- (b) for instrumentation and measurement techniques for gaseous emissions from afterburning gas turbine engines, the attachments to Appendix 5 of ICAO Annex 16, Volume II;
- (c) for definitions and symbols, Part I of the ICAO Environmental Technical Manual, Volume II;

- (d) for emissions certification of turbojet and turbofan engines intended for propulsion only at subsonic speeds, Part III, Chapter 2 of the ICAO Environmental Technical Manual, Volume II; except for the exemption process from the NO_x emissions production cut-off requirements;
- (e) for turbojet and turbofan engines intended for propulsion at supersonic speeds, Part III, Chapter 3 of the ICAO Environmental Technical Manual, Volume II;
- (f) for smoke emission evaluation, Appendix 2 of the ICAO Environmental Technical Manual, Volume II;
- (g) for instrumentation and measurement techniques for gaseous emissions, Appendix 3 of the ICAO Environmental Technical Manual, Volume II;
- (h) for specification for HC analyser, Attachment A to Appendix 3 of the ICAO Environmental Technical Manual, Volume II; ~~and~~
- (i) for specification for fuel to be used in aircraft turbine engine emission testing, Appendix 4 of the ICAO Environmental Technical Manual, Volume II;
- (j) for measurement of reference pressure ratio, Appendix 1 to the ICAO Environmental Technical Manual, Volume II;
- (k) for specification for CO and CO₂ analysers, Attachment B to Appendix 3 to the ICAO Environmental Technical Manual, Volume II;
- (l) for specification for NO_x analyser, Attachment C to Appendix 3 to the ICAO Environmental Technical Manual, Volume II;
- (m) for calibration and test gases, Attachment D to Appendix 3 to the ICAO Environmental Technical Manual, Volume II;
- (n) for calculation of the emissions' parameters, Attachment E to Appendix 3 to the ICAO Environmental Technical Manual, Volume II;
- (o) for specification for additional data, Attachment F to Appendix 3 to the ICAO Environmental Technical Manual, Volume II; and
- (p) for compliance procedure for gaseous emissions and smoke, Appendix 6 to the ICAO Environmental Technical Manual, Volume II.

References throughout these Certification Specifications to the ICAO Environmental Technical Manual, Volume II, refer to ICAO Doc 9501 — Environmental Technical Manual, Volume II — Procedures for the Emissions Certification of Aircraft Engines, ~~First~~ Second Edition 2010~~4~~.

[Amdt 34/1]

[Amdt 34/2]