European Aviation Safety Agency

Certification Specifications and Acceptable Means of Compliance and Guidance Material

for

Aircraft Engine Emissions and Fuel Venting

CS-34

Amendment 2
12 January 2016

1 For the date of entry into force of this Issue, please refer to Decision 2016/001/R in the Official Publication of the Agency.
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Aircraft Engine Emissions and Fuel Venting

PREAMBLE

BOOK 1 – AIRCRAFT ENGINE EMISSIONS AND FUEL VENTING REQUIREMENTS

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Annex to ED Decision 2016/001/R

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PREAMBLE

CS-34 Amendment 2 — Effective: 26/01/2016

The following is a list of paragraphs affected by this amendment.

Title page Amended

Book 1
CS 34.1 Amended
CS 34.2 Amended

Book 2
AMC 34.2(a) to (f) Amended
GM 34.2(a) and (b) Amended
GM 34.2(f) to (i) Amended
GM 34.2(j) to (p) Added
GM 34.2 final section Amended

CS-34 Amendment 1 — Effective: 29/01/2013

The following is a list of paragraphs affected by this amendment.

Title page Amended
Contents Contents page added
Preamble Preamble page added

Book 2
GM 34.2(c) to (i) Added
GM 34.2 final section Added
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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]
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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 to ICAO Annex 16, Volume II;
(b) for smoke emission evaluation, Appendix 2 to ICAO Annex 16, Volume II;
(c) for instrumentation and measurement techniques for gaseous emissions, Appendix 3, except for its attachments, to ICAO Annex 16, Volume II;
(d) for specification for fuel to be used in aircraft turbine engine emission testing, Appendix 4 to 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, to ICAO Annex 16, Volume II; and
(f) for compliance procedure for gaseous emissions and smoke, Appendix 6 to 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 to ICAO Annex 16, Volume II;
(b) for instrumentation and measurement techniques for gaseous emissions from afterburning gas turbine engines, the attachments to Appendix 5 to 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 NOx 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 to the ICAO Environmental Technical Manual, Volume II;
(g) for instrumentation and measurement techniques for gaseous emissions, Appendix 3 to the ICAO Environmental Technical Manual, Volume II;
(h) for specification for HC analyser, Attachment A to Appendix 3 to the ICAO Environmental Technical Manual, Volume II;
(i) for specification for fuel to be used in aircraft turbine engine emission testing, Appendix 4 to the ICAO Environmental Technical Manual, Volume II;
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(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 NOx 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.


[Amdt 34/1]

[Amdt 34/2]