

A new amendment to Part 21 - Regulation (EU) 2019/897 -

What is changing for me?

Other changes

Your safety is our mission.

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-  Point 21.A.33 'Inspections and tests'
-  Issuance of TC, RTC (and similar)
-  Permit to fly for maintenance check
-  CAEP 10 implementation
-  The overall picture

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-  Point 21.A.33 'Inspections and tests'
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Point 21.A.33 (c) Inspections and tests

Changed

→ Before each test is undertaken during compliance demonstration under point 21.A.20, the applicant shall issue:

NEW

→ a **statement of conformity** (of the test specimen, the test and measuring equipment) listing any potential non-conformity,

NEW

→ a **justification that the non-conformity** will not affect the test results .

→ Note that the requirement to allow the Agency to review any data or information* related to compliance demonstration is not linked in any way to the LOI determination!

Changed

*before the amendment, point 21.A.33 (c) referred instead to 'report'

The relevant guidance

AMC
21.A.33

- provides additional details on 'inspection and tests'. The applicability of point 21.A.33 has been clarified. It also addresses the statement of conformity

NEW

GM
21.A.33(d)

- Provides guidance on the inspection and tests. It has been amended to reflect the changes at rule level

Changed



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Issuance of a TC/RTC (and similar)

21.B.103, 21.B.107,
21.B.111, 21.B.453

The Agency will issue the certificate when:

- The applicant has complied with all the applicable Section A requirements;
-  → the Agency, through its investigations **in accordance with point 21.B.100(a) or (b)**, as applicable, has not found any non-compliance with the applicable certification basis (TC, OSD, EP, as applicable); and
-  → no feature or characteristic **has been identified** that may make the product unsafe for the uses for which certification is requested

It was:

...no feature or characteristic makes the product unsafe for the uses for which certification is requested.

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What is a ‘Maintenance check flight’?

Reg (EU) 965/2012 as
amended by 2019/1384

“**maintenance check flight**” means a flight of an aircraft with an airworthiness certificate or with a permit to fly which is carried out for troubleshooting purposes or to check the functioning of one or more systems, parts or appliances after maintenance, if the functioning of the systems, parts or appliances cannot be established during ground checks and which is carried out in any of the following situations:

- (a) as required by the aircraft maintenance manual (AMM) or any other maintenance data issued by a design approval holder responsible for the continuing airworthiness of the aircraft; or
- (b) after maintenance, as required by the operator or proposed by the organisation responsible for the continuing airworthiness of the aircraft; or
- (c) as requested by the maintenance organisation for verification of a successful defect rectification; or
- (d) to assist with fault isolation or troubleshooting.

PtF is required
for (d) only!

PtF for certain maintenance check flights

21.A.701

Insertion of a new purpose for permit to fly (point 21.A.701 (a)(16))
for

16. flying an aircraft for troubleshooting purposes or to check the functioning of one or more systems, parts or appliances after maintenance

For the use in the context of a maintenance check flight

- if need to fly but airworthiness requirements are not met: maintenance is incomplete, a maintenance check flight is required (e.g. troubleshooting to be done in flight), but the need for it is not identified in the maintenance instructions

MCF overview of available material

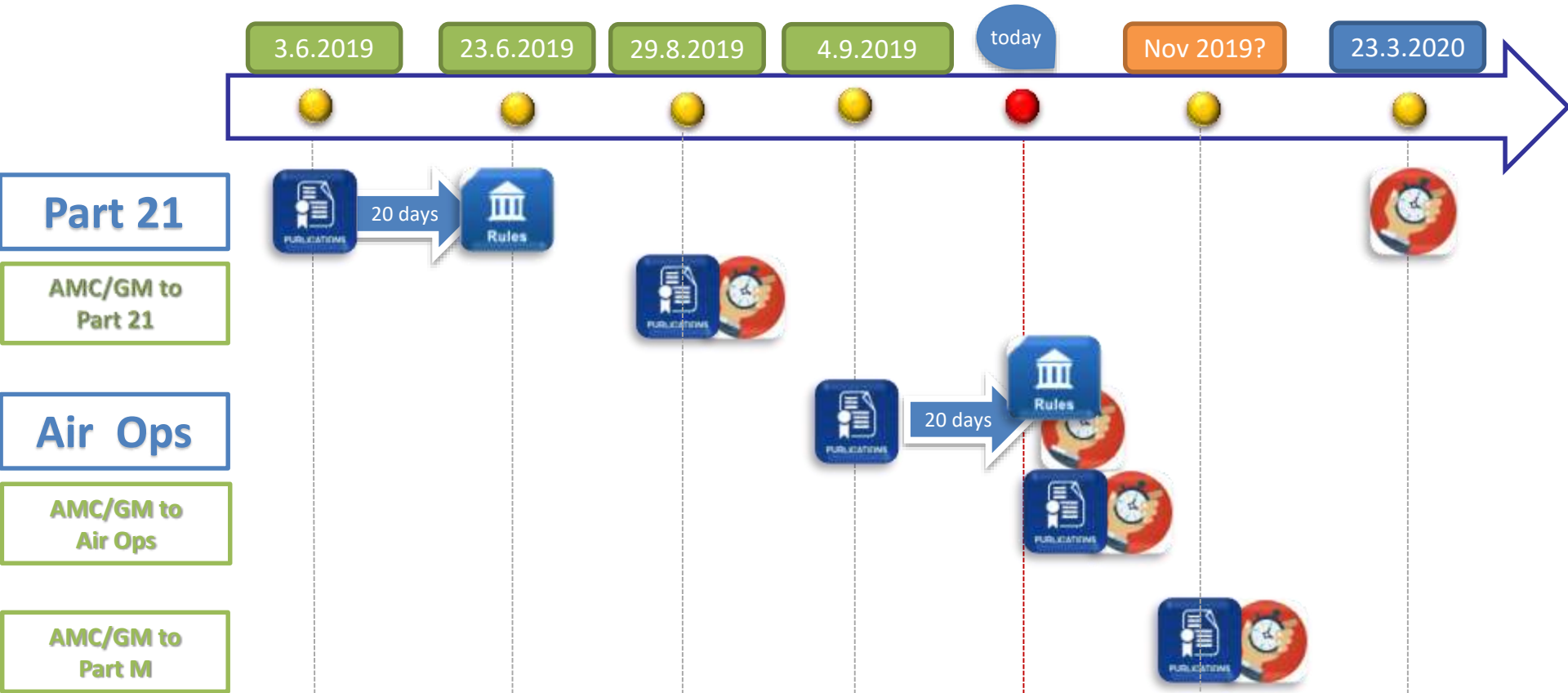


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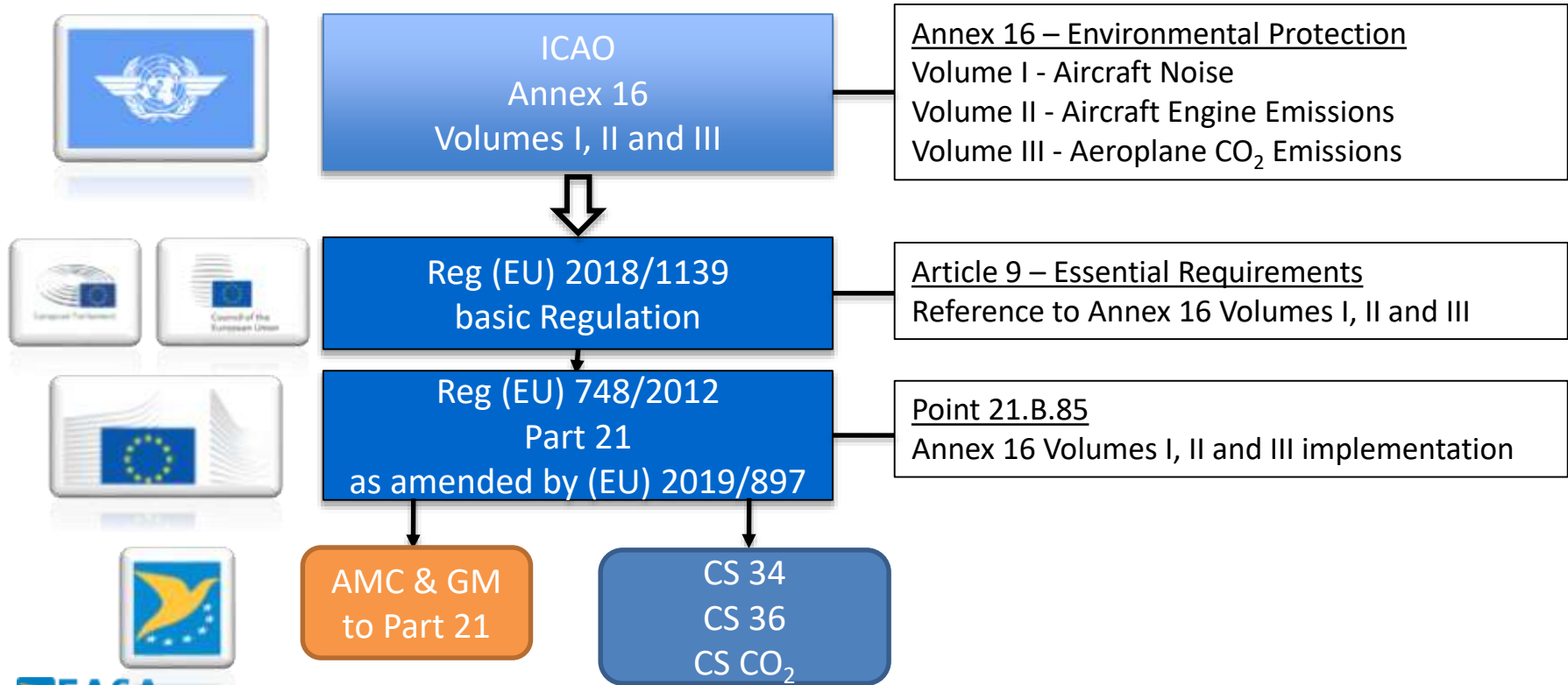
- Point 21.A.33 'Inspections and tests'
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Implementation of the CAEP/10 - Overview

- For environmental compatibility the Basic Regulation and Part 21 refer to ICAO Annex 16 (ICAO SARPs = EU essential requirements)
- The new Basic Regulation (EU) 2018/1139 has already included the requirement to comply with the latest amendment of the SARPs of ICAO Annex 16 Volumes I, II and III
 - Volume 1 **amendment 12**: aircraft noise
 - Volume 2 **amendment 9**: aircraft engine emissions
 - **Volume 3 first issue: aeroplane CO₂ emissions**



Implementation of the CAEP/10 - Overview



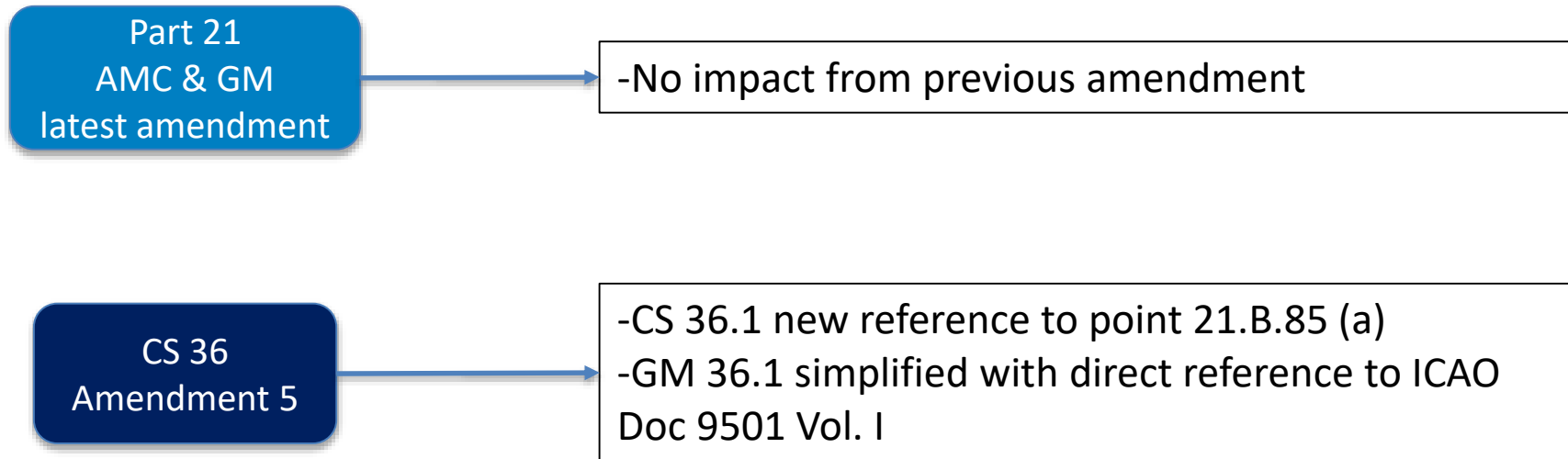
- ✓ Wording and procedural improvements
- ✓ No changes to the noise limits.

Reg (EU) 2018/1139
basic Regulation
Article 9 (2)

-Reference to Annex 16 Volume I, Amendment 12

Reg (EU) 748/2012
Part 21
as amended by (EU) 2019/897
point 21.B.85 (a)

- Reference to Annex 16 Volume I, Part II chapters for noise
[Same references as previously in point 21.A.18 (a)]



Aircraft engine emissions

1/3

- ✓ Wording and procedural improvements
- ✓ No changes to the emission limits.
- ✓ New nvPM emission concentration standard has been introduced...!!!

Reg (EU) 2018/1139
basic regulation
Article 9 (2)

-Reference to Annex 16 Volume II, Amendment 9

Reg (EU) 748/2012
Part 21
as amended Reg (EU) 2019/897
point 21.B.85 (b) + (c)

- point 21.B.85 (b): Reference to Annex 16 Volume II, Part II for fuel venting
[Same as previously in point 21.A.18 (b)(1)]
- point 21.B.85 (c): Reference to Annex 16 Volume II, Part III for smoke, gaseous and particulate matter emissions

Part 21
AMC&GM
latest amendment

-No impact from previous amendment

CS 34
Amendment 3

- CS 34.1 new reference to point 21.B.85 (b)
- CS 34.2 new reference to point 21.B.85 (c)
- AMC 34.2 reference to Annex 16 Vol. II Appendix 7 on compliance procedures for nvPM emissions
- GM 34.2 simplified with direct reference to ICAO Doc 9501 Vol. II (including nvPM emissions GM)
- Addition of AMC and GM for nvPM mass concentration emissions certification standard

ICAO Annex 16 Vol. II applicability

New applicability dates of Annex 16 Volume II nvPM mass concentration standard (Part III, Chapter 4):

- **1 January 2020** for all in-production turbofan and turbojet engine types intended for propulsion at subsonic speed and with a rated thrust greater than 26.7 kN



Aeroplane CO₂ emissions

1/5

- ✓ New requirement for jet aeroplanes with MTOM > 5700kg
- ✓ Propeller driven aeroplanes with MTOM > 8618kg


Reg (EU) 2018/1139
basic Regulation
Article 9 (2)

-Reference to Annex 16 Volume III, 1st edition

Reg (EU) 748/2012
Part 21
as amended by (EU) 2019/897
point 21.B.85 (d)

-point 21.B.85 (d): Reference to Annex 16 Volume III, Part II for aeroplane CO₂ emissions

Part 21
AMC&GM
latest amendment



New text including AMC&GM related to aeroplane CO₂ emissions for the following items:

- ☐ Examples of major changes
- ☐ Establishment of the TC basis
- ☐ Applicable design data
- ☐ Statement of conformity
- ☐ Applicable aeroplane CO₂ emissions requirements
- ☐ Approval requirements

Impact on:

- ☐ Subpart D: changes to TC and RTC
- ☐ Subpart F: Production w/o POA
- ☐ Subpart G: POA

CS CO₂
1st edition



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graph LR; A[CS CO2 1st edition] --> B[CS CO2.1 reference to point 21.B.85 (d)  
AMC CO2.1 reference to Annex 16 Vol.III Appendices 1 and 2  
GM CO2.1 direct reference to ICAO Doc 9501 Vol.III];
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- CS CO₂.1 reference to point 21.B.85 (d)
- AMC CO₂.1 reference to Annex 16 Vol.III Appendices 1 and 2
- GM CO₂.1 direct reference to ICAO Doc 9501 Vol.III

Applicability of CO2 requirements



MTOM >60 tons
>19 pax

1/1/2020

Applicable

MTOM >8618 kg



5,7 < MTOM ≤ 60 tons
≤ 19 pax

1/1/2023

Applicable



Derived versions of
Jet a/c with MTOM > 5700kg
Prop a/c with MTOM > 8618 kg

1/1/2023

Applicable

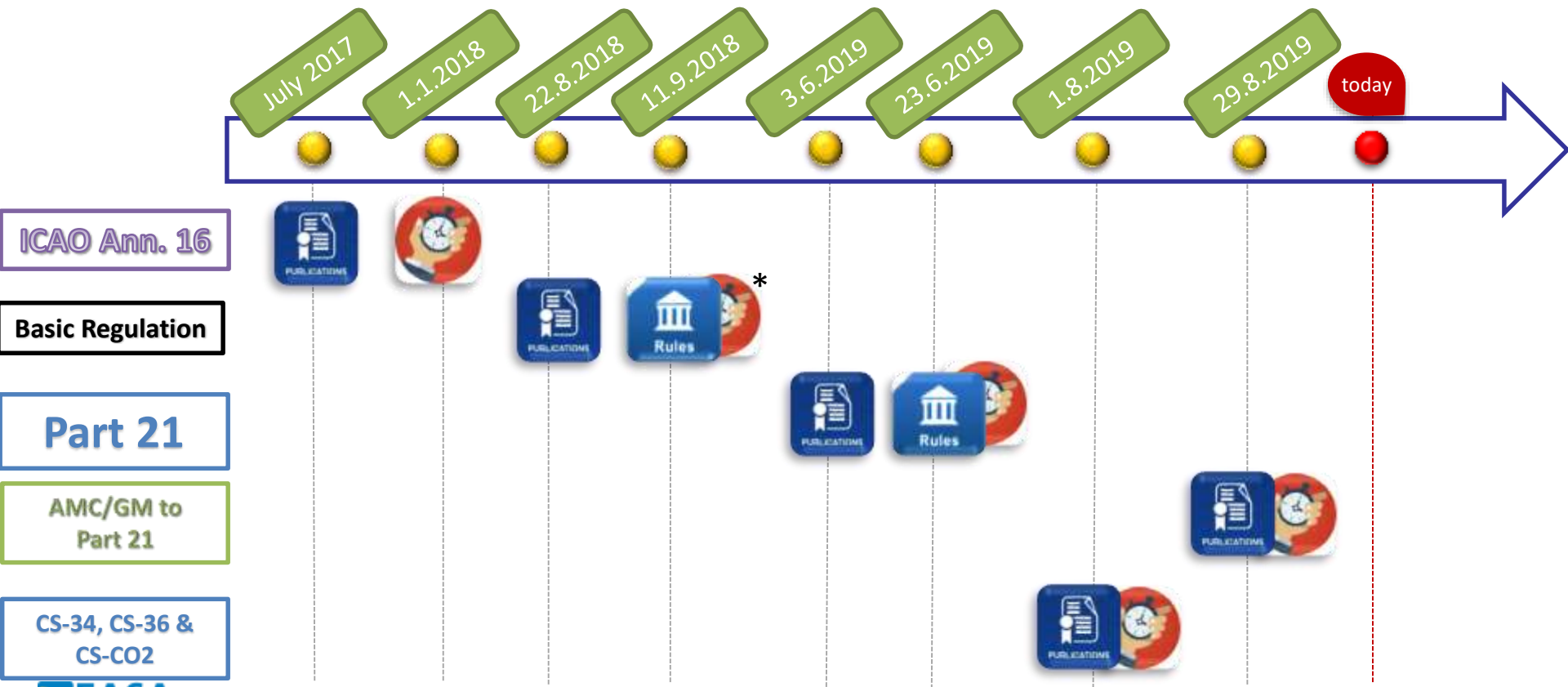


New production of
Jet a/c with MTOM > 5700kg
Prop a/c with MTOM > 8618 kg

1/1/2028

Applicable

CAEP10 overview of available material



* but see deferred applicability of ICAO standards on nvPM and CO2 above

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21.A.14 Demonstration of capability	Changed
21.A.15 Application	Changed
21.A.16A Certification specifications	
21.A.16B Special conditions	
21.A.17A Type certification basis	
21.A.17B OSD certification basis	
21.A.18 Designation of applicable EP req. and CSs	
21.A.20 Demonstration of compliance with the TC, OSD basis and EP req.	Changed
21.A.21 Issue of a type certificate	
21.A.21 Requirements for the issuance of TC and RTC	Changed
21.A.23 Issue of a restricted type certificate	
21.A.31 Type Design	
21.A.33 Inspections and tests	Changed
21.A.41 Type-certificate	
21.A.91 Classification of changes to a type-certificate	
21.A.93 Application	Changed
21.A.95 Requirements for approval of minor changes	Changed
21.A.97 Requirements for approval of major changes	Changed
21.A.101 TC, OSD cert basis and EP for a major change to a TC	Changed
21.A.103 Issue of approval	
21.A.113 Application for an STC	
21.A.114 Showing of compliance	
21.A.115 Issue of a STC	
21.A.130 Statement of conformity	Deleted
21.A.145 Approval requirements	Changed
21.A.147 Changes to the approved production organisation	
21.A.174 Application	
21.A.251 Terms of approval	
21.A.263 Privileges	
21.A.265 Obligations of the holder	
21.A.432C Application for a design repair	NEW
21.A.433 Repair design	Changed
21.A.435 Classification of repairs	Changed
21.A.437 Issue of a repair design approval	
21.A.605 Data requirements	Changed
21.A.606 Issue of an ETSOA	
21.A.701 Scope	Changed

21.B.70 Approval of changes to type certificate	Deleted
21.A.16A 21.B.70 Certification specifications	Changed
21.A.16B 21.B.75 Special conditions	Changed
21.A.17A 21.B.80 Type certification basis for a type certificate or restricted type certificate	Changed
21.A.17B 21.B.82 OSD certification basis for an aircraft TC or restricted TC	Changed
21.A.18 21.B.85 Designation of applicable EP req. and CS for a TC or restricted TC	Changed
21.B.100 Level of Involvement	NEW
21.A.21 21.B.103 Issuance of a TC or restricted TC	Changed
21.B.105 TC basis, EP requirements and OSD CB for a major change to a TC	NEW
21.A.103 21.B.107 Issuance of an approval of a change to a type certificate	Changed
21.B.109 TC basis, EP req. and OSD basis for a STC	NEW
21.A.115 21.B.111 Issuance of a STC	Changed
21.B.326 Certificate of airworthiness	Changed
21.B.450 TC basis, env. prot. req. for a major repair design approval	NEW
21.A.437 21.B.453 Issue of a repair design approval	Changed
21.A.606 21.B.480 Issuance of an ETSOA	Changed

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