

Consultation: Legislation for new types of Vertical Take-Off and Landing (VTOL) aircraft

Part C: Continuing Airworthiness

[UK Regulation \(EU\) No 1321/2014](#)

CAP3267C

Published by the Civil Aviation Authority 2026

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First published May 2026

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Part C: Continuing Airworthiness

Context

The CAA policy position is that the current continuing airworthiness framework and requirements are well established and are suitable for new types of VTOL aircraft. Following the consultation carried out in late 2025 and early 2026 (Consultation: Policy framework for new types of Vertical Take-off and Landing (VTOL) aircraft CAP 3186), the CAA decided to take forward its policy proposal that only minimal changes should be made to the Continuing Airworthiness Regulation (UK Regulation (EU) 1321/2014).

We therefore propose to use the current continuing airworthiness framework and requirements, only amending the regulations where necessary to accommodate Powered-Lift and Non-Conventional Helicopters. This approach will ensure new types of VTOL aircraft will be subject to the same high maintenance standards with the same level of oversight as applies to existing aircraft.

To enable this, we propose to amend Article 3 to clarify that in the Continuing Airworthiness Regulation, the term 'aircraft' should be read to include both new types of VTOL. Requirements that apply to aeroplanes should be read to apply to Powered-Lift and the requirements that apply to helicopters (and rotorcraft) should be read to apply to Non-Conventional Helicopters. The effect of these modifications will be that all existing requirements for aircraft, aeroplanes and helicopters will apply to the new types of VTOL.

The CAA position is that Powered-Lift are capable of take-off and landing using only 'engine' thrust, and are capable of wing-borne flight. Powered-Lift therefore fits within the definition of an aeroplane. Those without a wing will be out of scope of the Powered-Lift classification but will fit within the existing domestic and ICAO definition of helicopter.

We also propose to amend provisions to refer expressly to Powered-Lift or Non-Conventional Helicopters where specific requirements will apply only to those types of aircraft, or where we intend them to be treated differently from conventional aeroplanes and helicopters. These include provisions relating to standard maintenance implementation procedures, which the CAA considers would not be appropriate for Powered-Lift and Non-Conventional Helicopters, and provisions that will apply Part-ML to new types of VTOL that have been classified as non-Complex Motor-Powered Aircraft (non-CMPA). This will make it clear when the general position (that aeroplanes include Powered-Lift and helicopters include Non-Conventional Helicopters) does not apply.

The following sections illustrate the specific regulatory changes we are proposing. These changes will affect continuing airworthiness tasks, complex maintenance tasks, maintenance implementation procedures, pilot-owner maintenance and continuing airworthiness organisations. They also include changes required to align to CMPA proposals set out in Part B, as well as other changes to UK Regulation (EU) No 1321/2014 currently being progressed under RMT.0201 (such as the addition of the electric powerplant category to the engineer's licensing requirement).

Note that the Secretary of State will make the final decision whether to implement CAA's proposed amendments and as to the final wording of those amendments. The proposals set out below should be read with that in mind.

Key

Highlighted grey – new text.

~~Strikethrough~~ – to be deleted. In red where strikethrough is not obvious.

Note. There is another rulemaking task currently underway that will also affect UK Reg (EU) 1321/2014 (RMT.0201). Close coordination is required between these two parallel rulemaking tasks. Some proposed amendments relate to both tasks and have therefore been included in both consultations. In this consultation, we invite you to comment on all proposed amendments as they relate to new types of VTOL.

Article 3 Continuing airworthiness requirements

1. The continuing airworthiness of aircraft referred to in point (a) of Article 1 and components for installation thereon shall be ensured in accordance with the requirements of Annex I (Part-M), except for aircraft listed in the first subparagraph of paragraph 2 to which the requirements of Annex Vb (Part-ML) shall apply.

1 (a) For the purposes of this Regulation, 'aircraft' shall include: Aeroplanes, Helicopters (Rotorcraft), (including Non-Conventional Helicopters) and Powered-Lift, The requirements of this Regulation that apply to aeroplanes shall apply to Powered-Lift, and the requirements that apply to helicopters shall apply to Non-Conventional Helicopters, unless expressly stated otherwise.

2. The requirements of Annex Vb (Part-ML) shall apply to the following other than complex motor-powered aircraft:

- (a) aeroplanes of 2730 kg maximum take-off mass or less;
- (b) rotorcraft of 1200 kg maximum take-off mass or less, certified for a maximum of up to 4 occupants;
- (c) other ELA2 aircraft

Rationale

This aligns with the CAA policy as published in CAP 3186, in that the CAA proposes to make only minimal changes to the Continuing Airworthiness Regulation. Deeming the terms 'aircraft', 'aeroplane' and 'helicopter' to include the new types of VTOL brings those aircraft within the existing regulatory framework. Express reference to Powered-Lift and Non-Conventional Helicopters will only be made where and when required.

New paragraph 1(a) would mean that all references to aeroplanes in this Regulation should be read to include Powered-Lift, and all references to helicopters should be read to include Non-Conventional Helicopter unless these aircraft are identified separately. That will only be done where distinct requirements are intended to apply to Powered-Lift and Non-Conventional Helicopters.

The intended effect of the new paragraph 1(a) is that Powered-Lift and Non-Conventional Helicopters would generally be subject to the continuing airworthiness requirements in Part-M in accordance with paragraph 1. But where the CAA has exercised its discretion to classify a Powered-Lift or Non-Conventional Helicopter as other than complex motor-powered aircraft (Non-CMPA), the requirements of Part-ML would apply in accordance with paragraph 2.

Question 1: Do you agree or disagree with our proposed changes to Article 3 Continuing airworthiness requirements? Please explain your answer.

Annex I (Part M)

M.A.301 Continuing airworthiness tasks

The aircraft continuing airworthiness and the serviceability of operational and emergency equipment shall be ensured by:

[...]

(f) the accomplishment of any applicable:

- (1) airworthiness directive (AD);
- (2) operational directive with a continuing airworthiness impact;
- (3) continuing airworthiness requirement including, where applicable, requirements specific to lift/thrust units and high-energy storage and distribution systems established by the CAA;
- (4) measures required by the CAA in immediate reaction to a safety problem;

[...]

Rationale

This amendment is intended to make clear that continuing airworthiness tasks include requirements relating to new technologies for electric VTOL. This proposed amendment relates to both RMT.0201 and this consultation relating to new types of VTOL. It is intended to apply to both existing electric-powered aircraft and the new Powered-Lift and Non-Conventional Helicopters. We propose to use wording that is not specific to electric power so that this provision can be applied to and enable new technologies as they develop.

Appendix VII – Complex Maintenance Tasks

The following constitutes the complex maintenance tasks referred to in point M.A.801(b):

[...]

3. The performance of the following maintenance on a piston engine:

- a. dismantling and subsequent reassembling of a piston engine other than (i) to obtain access to the piston/cylinder assemblies; or (ii) to remove the rear accessory cover to inspect and/or replace oil pump assemblies, where such work does not involve the removal and re-fitment of internal gears;
- b. dismantling and subsequent reassembling of reduction gears;
- c. welding and brazing of joints, other than minor weld repairs to exhaust units carried out by a suitably approved or authorised welder but excluding component replacement;
- d. the disturbing of individual parts of units which are supplied as bench tested units, except for the replacement or adjustment of items normally replaceable or adjustable in service.

3a. The performance of maintenance on the power plant that would require disassembly of engine(s), main batteries or fuel cell(s).

3b. The performance of maintenance on high-pressure reservoirs and components belonging to high-pressure lines or systems related to the power plant.

[...]

4a. The performance of the following maintenance tasks on a Powered-Lift or Non-Conventional Helicopter:

- a. removal/installation of lift or thrust units or primary structural interfaces;
- b. opening, repair, or replacement of high-energy storage modules (including battery module stacks and associated thermal management) and primary high-voltage distribution harnesses;

c. rigging, tracking, or control-law parameter changes associated with coordinated multi-rotor lift/thrust units;

d. any maintenance action identified by the type certificate holder as safety-critical for Powered-Lift or Non-Conventional Helicopter configurations.

Rationale

Point M.A.801(b) provides that the complex maintenance tasks listed in Appendix VII require an approved organisation to issue the Certificate of Release to Service. These are tasks deemed by their content or complexity not to be within the scope or capability of a pilot-owner or independent certifying staff. The proposed new items are critical to the safe operation of the aircraft, or will require specialised tooling, equipment or facilities, and potentially require to be carried out by more than one person. For Powered-Lift and Non-Conventional Helicopters, the CAA considers that any maintenance tasks identified as safety-critical should be carried out by an approved organisation.

The proposed amendments to Appendix VII are to account for complex maintenance tasks on aircraft with new technologies, including:

- new points 3a and 3b added after point 3, and
- new point 4a added after point 4.

It is intended that the requirements in new points 3a and 3b would be in addition to the separate requirements in point 3.

The proposed addition of point 3a accounts for maintenance on future powerplants such as electric powerplants that are not currently covered under the current wording, and:

- new point 3b accounts for the high-pressure systems that may be added for technology such as hydrogen powered aircraft.

Question 2: Do you agree or disagree with our proposed changes to Annex I (Part M), including the changes to Appendix VII? Please explain your answer.

Annex Vb (Part ML)

ML.1

(a) In accordance with paragraph 2 of Article 3, this Annex (Part-ML) applies to the following other than complex motor-powered aircraft not listed in the air operator certificate of an air carrier licensed in accordance with Regulation (EC) No 1008/2008:

- (1) aeroplanes of 2730 kg maximum take-off mass (MTOM) or less;
- (2) rotorcraft of 1200 kg MTOM or less, certified for a maximum of up to 4 occupants;
- (3) other ELA2 aircraft;

Rationale

As noted in the rationale relating to proposed amendments to Article 3, the intention is that Part-ML will apply to Powered-Lift and Non-Conventional Helicopters where the CAA has exercised its discretion to classify them as Non-CMPA. We consider that no express amendment is required to achieve this effect in point ML.1, since the reference to 'aeroplanes' here is intended to include Powered-Lift and the reference to 'rotorcraft' is intended to include Non-Conventional Helicopters, in accordance with new Article 3(1)(a). The intended effect is that the less onerous maintenance requirements in Part-ML will apply to new types of VTOL classified as Non-CMPA, rather than the exacting requirements laid out in Part M.

ML.A.302 Aircraft maintenance programme

[.....}

(c) The AMP:

- (1) shall clearly identify the owner of the aircraft and the aircraft to which it relates, including any installed engine and propeller, as applicable;
- (2) shall include, alternatively:
 - (a) the tasks or inspections contained in the applicable minimum inspection programme ('MIP') referred to in point (d) for aeroplanes, sailplanes and balloons; the MIP is not applicable to Powered-Lift or Non-Conventional Helicopters.
 - (b) the instructions for continuing airworthiness ('ICA') issued by the design approval holder ('DAH');

[....]

(d) A MIP:

[....]

- (2) shall contain the following, as applicable to the aircraft type:
 - (a) servicing tasks as required by the DAH's requirements;
 - (b) inspection of markings;
 - (c) review of weighing records and weighing in accordance with Regulation (EU) No 965/2012, Regulation (EU) 2018/395 and Regulation (EU) 2018/1976;
 - (d) operational test of transponder (if installed);
 - (e) functional test of the pitot-static system;
 - (f) in the case of aeroplanes, as applicable to the aircraft powerplant;

- (i) operational tests for power and revolutions per minute (rpm), magnetos, fuel and oil pressure, engine temperatures;
- (ii) for engines equipped with automated engine control, the published run-up procedure;
- (iii) for dry-sump engines, engines with turbochargers and liquid-cooled engines, an operational test for signs of disturbed fluid circulation;
- (iv) in respect of a power plant other than piston engine, the maintenance tasks as defined in the ICA issued by the DAH of the aeroplane;

~~As long as this Annex does not specify an MIP for airships and rotorcraft, their AMP shall be based on the ICA issued by the DAH, as referred to in point (c)(2)(b).~~

For airships, rotorcraft, Powered-Lift and Non-Conventional Helicopters, where this Annex does not specify an MIP, their AMP must be based on the ICA issued by the DAH, as referred to in point (c)(2)(b).

[....]

Rationale

Point ML.A.302 is amended to account for innovative aircraft that do not meet the traditional definitions and in relation to RMT 0201.

The proposed inclusion of aeroplanes, sailplanes and balloons in point (c)(2) is intended to clarify the link to point (d) and to make clear that the MIP will not apply to new types of VTOL. This also means that references to 'aeroplane' in point (d) would not include Powered-Lift.

The proposed amendments to point (d)(2)(f) relate to RMT 0201. The new closing words to point (d) clarify how an AMP is intended to be established for new types of VTOL.

This reflects the CAA's view that with the differing design approaches, technology and materials anticipated to be used in Non-Conventional Helicopters and Powered-Lift, a Minimum Inspection Programme (MIP) would not be appropriate. Instead, the CAA considers that the maintenance programme for any new type of VTOL should follow the Design Approval Holder's instructions and be established in reliance on specific data provided by the DAH.

Appendix II – Limited pilot-owner maintenance

In addition to the requirements laid down in this Annex, the pilot-owner shall comply with the following basic principles before ~~it carries~~ carrying out any maintenance task:

- (a) Competence and responsibility

- (1) The pilot-owner shall always be responsible for any maintenance they perform.
- (2) The pilot-owner shall hold satisfactory level of competence to perform the task. It is the responsibility of a pilot-owner to be familiar familiarise-himself with the standard maintenance practices for his their aircraft and with the AMP.

(b) Tasks

The pilot-owner may carry out simple visual inspections or operations to check the airframe, engines, systems and components for general condition, obvious damage and normal operation. A maintenance task shall not be released by the pilot-owner if any of the following conditions occur:

- (1) it is a critical maintenance task;
- (2) it requires the removal of major components or a major assembly;

Rationale

These are minor editorial text changes.

Appendix III – Complex maintenance tasks not to be released by the pilot-owner

All of the following constitutes the complex maintenance tasks which, according to Appendix II, shall not be carried out by the pilot-owner. Those tasks shall be released either by an approved maintenance organisation or by independent certifying staff:

[...];

(c) the performance of all of the following maintenance on a piston engine:

- (1) dismantling and subsequent reassembling of a piston engine other than:
 - (i) to obtain access to the piston/cylinder assemblies; or
 - (ii) to remove the rear accessory cover to inspect and/or replace oil pump assemblies, where such work does not involve the removal and refitment of internal gears;
- (2) dismantling and subsequent reassembling of reduction gears;
- (3) welding and brazing of joints, other-than-minor weld repairs to exhaust units carried out by a suitably approved or authorised welder but excluding component replacement;

(4) the disturbing of individual parts of units which are supplied as bench-tested units except for the replacement or adjustment of items normally replaceable or adjustable in service;

(ca) the performance of maintenance on the power plant that would require disassembly of engine(s), main batteries or fuel cell(s);

(cb) the performance of maintenance on high-pressure reservoirs and components belonging to high-pressure lines or systems related to the power plant;

[...]

(da) the performance of the following maintenance tasks on a Powered-Lift or Non-Conventional Helicopter:

(1) removal/installation of lift or thrust units or primary structural interfaces;

(2) opening, repair, or replacement of high-energy storage modules (including battery module stacks and associated thermal management) and primary high-voltage distribution harnesses;

(3) rigging, tracking, or control-law parameter changes associated with coordinated multi-rotor lift/thrust units;

(4) any maintenance action identified by the type certificate holder as safety-critical for Powered-Lift or Non-Conventional Helicopter configurations;

[...]

Rationale

These are tasks that cannot be issued with a CRS by the pilot-owner as detailed in Appendix II of Part ML. They have been identified as complex maintenance tasks and are deemed by their content or complexity not to be within the scope or capability of a pilot-owner. The CAA considers that the proposed new items are critical to the safe operation of the aircraft, or that they are tasks which require specialised tooling, equipment or facilities, and they may require to be carried out by more than one person.

The amendment to Appendix III is to account for complex maintenance tasks on aircraft with new technologies. This includes:

- new points ca and cb are added after, and separate to, point c, and
- new point da is added after point d.

It is intended that the requirements in new points ca and cb would be in addition to the separate requirements in point c.

The proposed addition of point ca accounts for maintenance on future powerplants such as electric powerplants that are not currently covered under the current wording, and new

point cb accounts for the high-pressure systems that may be added for technology such as hydrogen powered aircraft.

Question 3: Do you agree or disagree with our proposed changes to Annex Vb (Part ML)? Please explain your answer.

Annex Vd (Part CAO)

CAO.A.020 Terms of approval

(a) The CAO shall specify the approved scope of work in its combined airworthiness exposition (CAE), as provided for in point CAO.A.025.

(1) For aeroplanes of more than 2730 kg maximum take-off mass (MTOM) and for helicopters of more than 1200 kg MTOM or certified for more than 4 occupants, the scope of work shall indicate the particular aircraft types. Changes to this scope of work shall be approved by the CAA in accordance with point (a) of point CAO.A.105 and point (a) of point CAO.B.065.

(2) For engines other than piston or electric ~~For complete turbine engines~~, the scope of work shall indicate the engine manufacturer or group or series or type or the maintenance task(s). Changes to this scope of work shall be approved by the CAA in accordance with point (a) of point CAO.A.105 and point (a) of point CAO.B.065.

(3) A CAO which employs only one person for both planning and carrying out of all maintenance tasks cannot hold privileges for the maintenance of:

(a) in the case of aircraft-rated organisations:

(i) aeroplanes, not including Powered-Lift, equipped with a turbine engine ~~(in the case of aircraft-rated organisations)~~;

(ii) ~~(b)~~ helicopters, not including Non-Conventional Helicopters, equipped with a turbine engine or with more than one piston engine ~~(in the case of aircraft-rated organisations)~~; and

(iii) Powered-Lift and Non-Conventional Helicopters.

(b) in the case of engine-rated organisations:

(i) ~~(c)~~ complete piston engines of 450 HP and above; ~~(in the case of engine-rated organisations)~~; and

(ii) ~~(d)~~ complete turbine engines; and ~~(in the case of engine-rated organisations)~~.

(iii) complete electric engines and future powerplants such as hybrid, hydrogen and fuel cell systems.

Rationale

M.A.201 states that for non-CMPA aircraft, the operator can have the tasks associated with airworthiness performed by a Part CAO organisation. There is no need to change the scope in CAO.A.020(1) for this reason.

The proposed changes to paragraph (3) will exclude Powered-Lift and Non-Conventional Helicopters, plus the relevant engines and motors, from the scope of work for a Part CAO organisation that employs only one person for planning and maintenance. The CAA considers that these aircraft and engines are deemed by their content and complexity not to be within the scope or capability of a single-person organisation. These new types of VTOL will require specialised tooling, equipment and possible facilities, and will require more than one person for maintenance.

Question 4: Do you agree or disagree with our proposed changes to Annex Vd (Part CAO)? Please explain your answer.

ANNEX A

Abbreviations

AD – Airworthiness Directive

AMP – Aircraft Maintenance Programme

CAE – Combined Airworthiness Exposition

CAO – Combined Airworthiness Organisation

CMPA – Complex Motor-Powered Aircraft

CRS – Certificate of Release to Service

DAH – Design Approval Holder

ELA – European Light Aircraft

EU – European Union

ICA – Instructions for Continuing Airworthiness

ICAO – International Civil Aviation Organisation

MIP – Minimum Inspection Programme

MTOM – Maximum Take-off Mass

RPM – Revolutions per Minute

VTOL – Vertical Take-off and Landing

ANNEX B

Summary of Questions

Question 1: Do you agree or disagree with our proposed changes to Article 3 Continuing airworthiness requirements? Please explain your answer.

Question 2: Do you agree or disagree with our proposed changes to Annex I (Part M), including the changes to Appendix VII? Please explain your answer.

Question 3: Do you agree or disagree with our proposed changes to Annex Vb (Part ML)? Please explain your answer.

Question 4: Do you agree or disagree with our proposed changes to Annex Vd (Part CAO)?