Comment response document: Conducting paid-for initial pilot training in UK National Permit to Fly aeroplanes

CAP 1928

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Chapter 1

Executive Summary

1.1 In keeping with our approach to make the regulation of General Aviation (GA) more proportionate, and as requested by the LAA, we launched a public consultation to propose extending paid-for initial (Ab initio) pilot training to be conducted using certain aeroplanes which operate on a UK national Permit to Fly (PtF). Furthermore, we proposed that this training can be undertaken by those pilots who are not registered owners of the aircraft. Currently, to undertake initial training in PtF aeroplanes, the student would need to be an owner or part-owner for this to be acceptable.

1.2 The consultation closed in February 2020 and resulted in 425 unique responses. The majority of responses (86%) agreed with the proposals. This document includes a summary of the responses received to the consultation questions, identifies the approach we plan to take and the next steps.

1.3 After an internal review of these proposals and the conclusion of the analysis of the consultation responses, we, and the collaborative stakeholder working group, were keen to progress. Therefore, we are planning to permit paid-for initial pilot training on ex CofA and ex-military aeroplanes (subject to assessment acceptability on a serial number and not type specific basis) as they are all factory-built aeroplanes and therefore conform to a uniform original build standard.

1.4 We believe that further discussion and in-depth analysis of the benefits, risks and impact of permitting paid-for initial pilot training on amateur built aeroplanes (for non-owners) is required before a conclusion can be determined at this time. The reason for this is we must satisfy ourselves that the safety mitigations needed for amateur built aeroplanes to be utilised in this way would result in an acceptable level of airworthiness assurance commensurate with that of an aeroplane operating on a Certificate of Airworthiness (CofA) within the current training fleet.

1.5 We believe that by permitting paid-for initial pilot training on serial number-specific ex-CofA and ex-military aeroplanes it will enable safety data to be captured and analysed. This will help determine if an acceptable level of safety can be established to allow the activity to continue on such aircraft on an enduring basis.

Chapter 2

Purpose and overall background

Purpose of this document

2.1 In January 2020, the CAA sought views on whether to extend paid-for initial (Ab initio) pilot training to allow it to be conducted using certain aeroplanes which operate on a UK national Permit to Fly (PtF) by those pilots who are not registered owners of the aircraft.

2.2 This paper explains how we have responded to your feedback to that consultation, and how we intend to progress this project. It is not seeking further views.

Background

2.3 These proposals were originally made by our stakeholders and were developed with a working group[1] comprising of key stakeholders from the sector.

Permit to Fly aeroplanes covered within the consultation are:

a) Aircraft which have not been built by an approved aircraft manufacturer, such as amateur-built aeroplanes, including those that are kit-built.

b) Aircraft which no longer qualify for a Certificate of Airworthiness (CofA). This is usually because they have been 'orphaned'. This means the Type Certificate holder has withdrawn support for the aircraft type and surrendered the Type Certificate.

c) Aircraft which have not been designed and manufactured to specified civil standards, such as ex-military aeroplanes. This can be further defined as those with a maximum total authorised weight below 2730kg and a piston engine rating of less than 450hp.

2.4 An Amendment reference (EU) 2019/1747 to Commission Regulation (EU) 1178/2011 (Part-FCL) has been published and came into force on 11 November 2019. This amendment to Part-FCL provides the possibility to recognise training and experience on certain Annex I Aircraft for the purpose of obtaining a Part-FCL licence.

2.5 This factor and others were considered by the CAA. Four options were considered:

Option 1.	To allow paid-for initial pilot training in amateur-built aeroplanes

Option 2.	To allow paid-for initial pilot training in aeroplanes that have previously held a CofA

[1] A list of these representative organisations is set out in Appendix C

Option 3.	To allow paid-for initial pilot training in aeroplanes that are ex-military who are not required to be operated in accordance with CAP632[2]

Option 4.	No change to the existing regulatory framework

2.6 All four options and their associated risks and opportunities were considered. The key risks included:

- There is a risk that some aircraft with undesirable handling characteristics or construction could lead to an increase in accidents;
- There is a risk that the proposed safety mitigations are not proportionate when compared to the current airworthiness provisions within EASA Part ML for aeroplanes operating on a CofA used in an ATO/DTO environment.
- There is a risk that the liability of the original amateur builder is not considered in sufficient detail.
- There is a risk that student-informed consent may not be appropriately considered.
- There is a risk that the CAA cannot be assured that A8-26 organisation airworthiness inspectors meet the same competency standards (in terms of experience, knowledge and skills) when compared with the Licensed Aircraft Engineers (LAE) cadre employed on CofA maintenance activities.

2.7 The opportunities included:

- A potential reduction in flight training costs that may encourage more student pilots, thereby supporting a vibrant GA Sector;
- It would allow a wider choice of training platforms to flying schools;
- It could help to develop the market for newer and more affordable flight training platforms.
- It could enhance innovation and offer more STEM opportunities.

[2] CAP 632: Operation of 'Permit-to-Fly' ex-military aircraft on the UK register

Chapter 3

Consultation Responses

3.1 In this chapter we examine the results of the consultation questions, the purpose of which was to seek views on:

i. Do you support the proposal to allow paid-for initial pilot training in amateur-built aeroplanes for non-owners which are subject to continuing airworthiness management and oversight by the LAA?

ii. Do you support the proposal to allow paid-for initial pilot training in Ex-Certificate of Airworthiness aeroplanes for non-owners which are subject to continuing airworthiness management and oversight by the LAA?

iii. Do you support the proposal to allow paid-for initial pilot training in Ex-Military PtF aeroplanes of which are subject to continuing airworthiness management and oversight by the LAA?

We asked

3.2 Having presented the possible advantages and disadvantages of allowing paid for initial pilot training in amateur-built, ex-CofA and ex-military aeroplanes for non-owners, we posed the question of whether we should proceed. Respondents were given yes/no/don't know choices, and the opportunity to leave qualitative comments. Respondents were also asked to provide their views on any additional benefits or restrictions they would like to include or exclude and whether an acceptable level of safety between the CofA fleet and PtF fleet could be achieved.

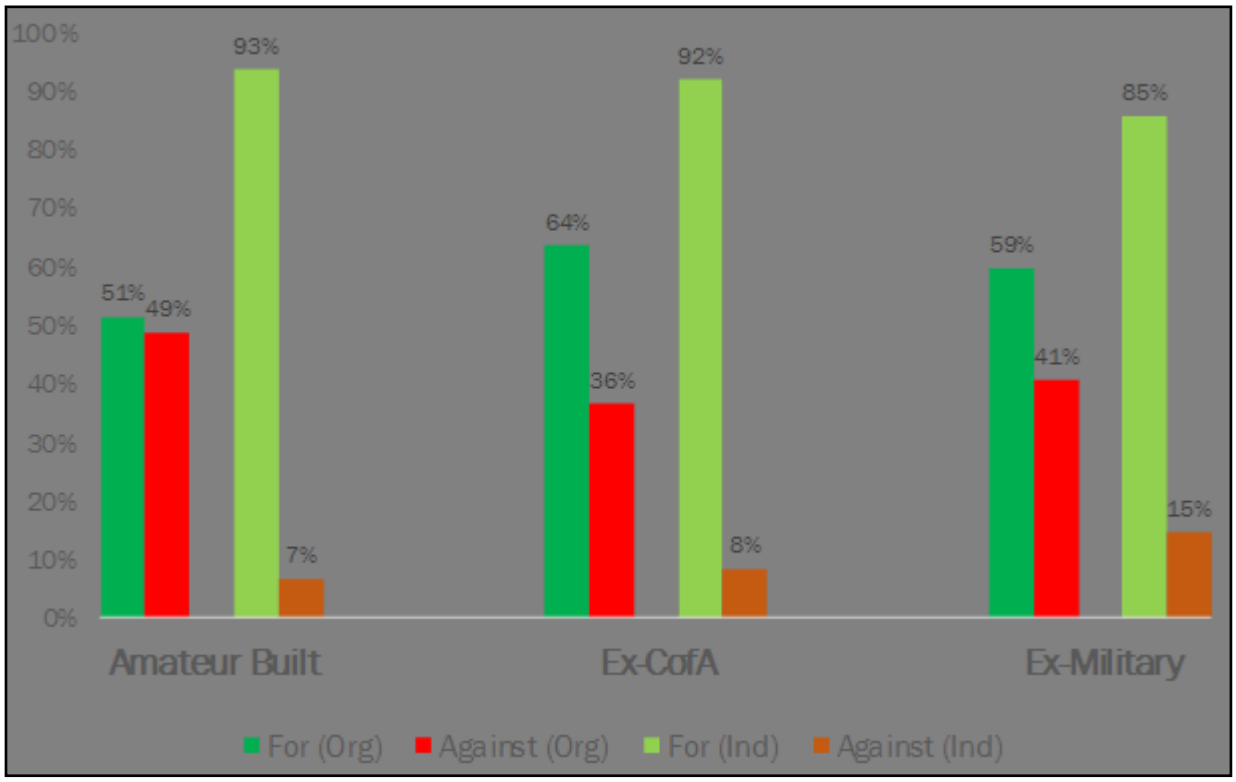
You said

3.3 In total 425 unique responses were received. These consisted of 74 responses from organisations such as pilot training organisations, aircraft manufacturers, aircraft maintenance organisations and GA associations including flying clubs and 351 individual responses, some of which were from pilots/owners of permit aircraft, engineers and LAA inspectors.

3.4 Nearly 75% of all responses from organisations were from a pilot training body, with the second most common being GA associations including flying clubs. With the individual responses it was not possible to ascertain the backgrounds of more than 80% of the respondents. Pilot/owners of permit aircraft made up the majority of the remaining 20%.

3.5 For all three types of aircraft, respondents were in favour of the proposals as can be seen in Figure 1. The amateur built fleet were least favoured by organisations but most favoured by individuals. Ex-CofA aircraft were most favoured by organisations. Ex-military aircraft were moderately favoured by organisations and least favoured by individuals.

Figure 1: Bar Graph Displaying Totality of Responses in Support of or Against Proposals



3.6 We read all the comments and categorised them into themes. The main reasons respondents gave in support of the three proposals were as follows:

- It may reduce costs to pilots/flying schools
- Some amateur built aircraft have similar build standards to CofA or factory-built aircraft
- It would increase choice of aircraft available
- It would help to replace ageing CofA aircraft
- It would provide growth to the training sector and enhance club involvement
- It would improve pilot knowledge of different types of aircraft

3.7 The most commonly cited benefit of using permit aircraft for ab-initio training by both organisations and individuals was the potential for reductions in costs for both pilots and flight schools. Whether this may result in reduced costs for the student, or increased margins for flying schools is unknown. The potential increase in aircraft types being used was also cited as a strong benefit of the proposal.

3.8 Individuals were mainly of the opinion that amateur build standards could be equally as robust as factory built or CofA aircraft, whereas organisations seemed less convinced. Organisations and individual respondents agreed that ageing CofA aircraft would likely be replaced through this alternative utilisation of permit aircraft.

3.9 Although the majority of respondents to the proposals were in favour, some of the reasons not to support the proposals were also categorised into themes. These were as follows:

- Permit aircraft would not be suitable or robust enough for flight training
- Difference of amateur build standards
- Unsuitable handling characteristics
- Difference in inspection standards
- Availability of maintenance history

3.10 Some organisation respondents expressed a concern that the inspector standards may not be sufficient for the additional level of intended operation. However, the most commonly cited reasons for not using permit aircraft for ab-initio training were the variability of build standards among amateur built aircraft and amateur built aircraft not being suitable or robust enough for training.

3.11 In conclusion, both organisations and individual respondents were in favour of using amateur built, ex CofA and ex-military aeroplanes for paid for initial flight training. However, there were some key concerns which were noted from the overall comments which we address in further detail below.

Key concerns and our response

3.12 We have summarised some of the key concerns received and have categorised them into themes below along with our response on how they may be mitigated.

Summary of concerns	CAA response
Instructors experience and competence especially in amateur built aeroplanes	Whilst we agree that amateur built aeroplanes may have different handling characteristics/cockpit layouts, it is considered that flying schools operating any such PtF aeroplanes for the purposes of training would need to ensure that their CFI has approved each aeroplane and that their instructors are wholly familiar with each individual aircraft before any instruction on them takes place.
Engine time in service and overhaul periods	The engine condition of any PtF aircraft used for the purposes of training must not be allowed to run beyond the manufacturer's recommended overhaul period or an agreed alternative means of compliance.
Robustness and suitability of amateur built aeroplanes	The LAA and flying schools would be required to put in place a condition monitoring process to track in-service reliability. This process will be a requirement in the mitigating procedure suite so that we can gather the appropriate occurrence and reliability data to assess the

	robustness and ongoing suitability. Annex 1 aircraft occurrence reporting is currently not mandatory; however, this would now be required. In addition, enhanced surveillance would need to be carried out on the LAA initial fleet to ensure compliance with required standards.
Maintenance procedures	Operators of PtF aircraft used for the purposes of training would be required to ensure compliance with a maintenance schedule approved by the LAA, which must be of an acceptable standard and commensurate to those requirements applied to CofA aircraft used for ATO/DTO operations.
Additional skills required for some aircraft (such as ex-military) which could result in an increase in incidents	Each PtF aircraft used for the purposes of training would be required to have a Pilots Operating Handbook or Aircraft Flight Manual available and have been approved by the CFI for that purpose.
Student informed consent and understanding	Consent of the student pilot was an important factor considered, and the LAA and flying schools would be required to ensure the student is fully informed of the airworthiness differences between CofA and PtF aircraft. The LAA has agreed to create and maintain records of any PtF aircraft approved for training, including a database of aeroplanes accepted.
Inspector standardisation	The CAA must be assured that all A8-26 Organisation inspectors involved in activities directly dealing (hands-on) with these aeroplanes shall be assessed as being appropriately competent in terms of their knowledge, experience, skills, initial training and continuation training to perform their allocated tasks. The LAA shall ensure that all inspectors directly dealing (hands-on) with these accepted aeroplanes receive sufficient formal mandatory continuation training in each two-year period to ensure that such staff have up-to-date knowledge of relevant technology, organisational procedures and human factor issues.
Liability of builder	The LAA would need to seek the written agreement of the original builder to ensure they have permission to assess the aeroplane for this new use. If the original builder declines the request, or they or their succeeding estate are unreachable, the aircraft would not be able to

	be used for this purpose.
Aeroplane occurrence data	As mentioned above in '*Robustness and suitability of amateur built aeroplanes',* Annex 1 aircraft occurrence reporting is not currently mandatory; however, this would need to be amended in order to ensure the generation of the in-service data required to assess the potential for enduring use of an aircraft. It is anticipated this would also help address the concerns expressed surrounding the current safety data.
Equivalency with Part ML, specifically for the airframes used for initial pilot training	We have completed a mapping of EASA Part ML requirements against our PtF continuing airworthiness requirements in A3-7, in addition to the proposed safety mitigations[3] in the consultations to identify any gaps. During the next phase of the project, the safety mitigations will be updated accordingly based on this analysis.

We did

3.13 We analysed the responses and explored in detail the practical implications for allowing paid-for initial pilot training on each of the three categories of aircraft involved. The detail of this is provided in Chapter 4 below.

[3] A list of the proposed safety mitigations detailed in the consultation (CAP 1823) can be found in Appendix A.

Chapter 4

Conclusion and Next Steps

Ex-CofA and Ex-Military aeroplanes

4.1 We are planning to permit (serial number specific) ex-CofA and ex-military aeroplanes to be used for paid-for ab-initio pilot training for non-owners of the aircraft. The rationale behind this is that ex-CofA and ex-military aeroplanes were originally factory-built and therefore do not differ in build standard philosophy from those already used for flight training.

4.2 Any aeroplane proposed for initial flight training will need to be evaluated to assess the suitability of the aircraft for its use in that role. The CAA intends to delegate this activity to the LAA. This acceptance would be based on specific aeroplane approvals and not generic type approvals.

4.3 The LAA will be required to have a process in place to perform the assessment of suitability and acceptance. Initial proposals for the process from the LAA, along with their proposed safety mitigations, were detailed in the consultation and can be found in Appendix A. Any changes or evolutions will be finalised between the CAA and the LAA during the next phase.

4.4 Aircraft assessed as acceptable would be required to be maintained using an Approved Maintenance Programme. A Pilots' Operating Handbook (POH) or Aircraft Flight Manual must also be available to assist in the operation of the aircraft.

4.5 Once an aircraft has been approved by the LAA and accepted for ab-initio training, an initial training suitability assessment would need to be conducted by the Chief Flying Instructor at the ATO/DTO. An Amendment reference (EU) 2020/723 to Commission Regulation (EU) 1178/2011 (Part-FCL) has been published which specifies the evaluation process for the use of Annex-I aircraft in flight training organisations. This can also be found in Appendix A.

4.6 Similar to the process for the CofA fleet who receive ongoing support from the manufacturer, these accepted aircraft will need to be provided with ongoing support from the LAA in accordance with their privileges within BCAR A8-26, Paragraph 2.3, regarding construction oversight and continuing airworthiness.

4.7 The LAA would need to seek the written agreement of the original builder to ensure they have permission to assess the aeroplane for this new use. If the original builder declines the request, or they or their succeeding estate are unreachable, the aircraft would not be able to be used for this purpose.

Next steps

4.8 Our next steps are:

- The LAA will liaise with the CAA to establish and agree the procedures in order to allow them to make the relevant assessments of aircraft in their fleet which could be suitable for training.
- The CAA will work with the LAA to develop an Occurrence Reporting System to ensure we are able to set up the condition monitoring processes to obtain the required in-service safety and reliability data.
- The CAA and LAA will need to finalise all mitigations, including those mentioned in the consultation and any that are identified going forward.
- The LAA will put in place their own internal procedures to ensue that their inspectors and engineers are current and competent for the additional tasks.
- The CAA will publish an ORS4 General Permission to allow paid-for initial pilot training in UK National Permit-to-Fly ex-CofA and ex-military aeroplanes. The General Permission will only apply to those aeroplanes that have been assessed and accepted under this activity.
- During the joint implementation phase, the project will be continuously reviewed to decide on the suitability of the approved aircraft to continue on an enduring basis.
- The LAA will establish a register of Permit-to-Fly aircraft approved for use in ab-initio training by non-owners which will be accessible/available-on-request to the CAA.

Amateur built aeroplanes

4.9 Working collaboratively with the LAA, the CAA have decided to take some additional time for further deliberation and analysis of the benefits, risks and impact of permitting paid for ab-initio pilot training in amateur built aeroplanes (for non-owners).

4.10 To that end, the CAA will be carrying out further, targeted engagement with the GA sector to include - but not limited to - aircraft manufacturing and flight training organisations. We will also continue to consult with the LAA in order to analyse additional safety intelligence data.

4.11 An updated document containing the conclusions of this further analysis will be available in due course.

APPENDIX A: Proposed safety mitigations detailed in consultation

A1. The LAA are required to put in place certain conditions for the use of individual aircraft which are to be used in the proposed role. These additional conditions were detailed in the consultation. This list is non-exhaustive and will continue to evolve during the implementation phase of the project:

a) Implement a mechanism to provide protection to the original builder of a PtF home-built aircraft which is proposed to be used for ab initio training. One such approach could be: before an aircraft can be used for flight training the original builder of the aeroplane must be made aware that it is to be used for this purpose and invited to agree in writing to the use in consideration for an indemnity. This is to ensure that the builder can make an informed decision to accept the possibility that, in the case of an accident during flight training, they might be held in some way liable for the initial airworthiness of the aircraft.

b) Create an acceptance process for allowing the aircraft to be used in the flight training environment, considering the initial design, initial airworthiness, continued airworthiness, flight testing, and suitability of the aircraft on an individual case by case basis (not on an aircraft type basis) and issue a certificate of acceptance.

c) The initial airworthiness of the aircraft type must have been approved by the LAA using a recognised design code as a basis, and using suitable additions or alternative means of compliance as deemed appropriate by the LAA.

d) The aircraft must be of a type that has been considered by the LAA to be suitable as a flight training platform.

e) The individual aircraft must hold a valid Permit-to-Fly and Certificate-of-Validity.

f) The aircraft must have been approved individually as suitable for flight training in respect of:

i. Instrumentation
ii. Control layout
iii. Modifications
iv. Communications
v. Handling Characteristics

g) Changes to the aircraft equipment must be notified to and approved by the LAA.

h) Ensure compliance with a maintenance schedule approved by the LAA, which must include at least a 50-hour, 100-hour and annual inspection and including any life-limited items within the aircraft.

i) A suitable Pilots' Operating Handbook must be available for the aircraft.

j) The aeroplane will have to be operated under an Approved Training Organisation (ATO) or a Declared Training Organisation (DTO).

k) The engine must not be allowed to run beyond the manufacturer's recommended overhaul period or must satisfy an agreed alternative means of compliance.

l) Owners are required to keep records within the aircraft technical logbook of all maintenance carried out.

A2. The consultation also proposed certain conditions on ATO/DTOs. As per paragraph 4.5 above, an amendment to Part FCL (*AMC2 ORA.ATO.135 – Training Aircraft and FSTDs* and *AMC3 DTO.GEN.240 – Training Aircraft and FSTDs*[4]) has since been published to include the evaluation process for Annex 1 aircraft which an ATO or DTO must adhere to if training is to be performed using such aircraft. This amendment states:

Two cases for the evaluation process of Annex-I aircraft are distinguished[5]:

(a) Annex-I aircraft that hold an ICAO-level certificate of airworthiness (CoA)

(1) To support the evaluation process performed by the competent authority and provide the competent authority with sufficient data related to the aircraft in question, an instructor who is qualified in accordance with Annex I (Part-FCL) to Regulation (EU) No 1187/2011 and nominated by the head of training (HT) of the DTO should assess that the aircraft is appropriately equipped and suitable for the training courses provided. The result of this assessment should be submitted to the competent authority and may be included already in the application for the authorisation.

(2) During the evaluation process, the competent authority should consider aircraft that hold a CoA issued in accordance with Annex 8 to the Chicago Convention to provide a level of safety comparable to that required by Annex II to the Basic Regulation, unless the competent authority determines that the airworthiness requirements used for certification of the aircraft, or the service experience, or the safety system of the State of design, do not provide for a comparable level of safety.

(*b) Annex-I aircraft that do not hold an ICAO-level CoA*

Before the inclusion of these aircraft in the fleet of an ATO/DTO and their use in training to obtain Part-FCL licences and ratings, the ATO/DTO should apply for the authorisation to the competent authority that should perform the evaluation process in the following order:

(1) Initial assessment by the competent authority and criteria taken into consideration.

[4] https://www.easa.europa.eu/sites/default/files/dfu/Easy_Access_Rules_for_Aircrew-Aug20.pdf

[5] In this section, where the term '*competent authority*' is used, it is the intention of the CAA to delegate this activity to the LAA.

The competent authority should take into account the following criteria (non-exhaustive list):

(i) national airworthiness requirements based on which the aircraft CoA was issued;

(ii) aircraft similarities to a certified variant;

(iii) aircraft with a satisfactory in-service experience as training aircraft;

(iv) simple and conventional aircraft design;

(v) aircraft that does not have hazardous design features or details, judging by experience; and

(vi) operable aircraft systems, equipment, and appliances that do not require exceptional skills or strength.

(2) Additional assessment by a qualified instructor

To support the evaluation process performed by the competent authority and provide the competent authority with sufficient data related to the aircraft in question, after the positive initial assessment by the competent authority as per point (1), an instructor who is qualified in accordance with Part-FCL and nominated by the HT of the ATO/DTO should show through an evaluation report that the aircraft is appropriately equipped and suitable for the training courses provided. That evaluation report should consider all of the following criteria:

(i) the aircraft should be safely controllable and manoeuvrable under all anticipated operating conditions, including after failure of one or more propulsion systems;

(ii) the aircraft should allow for a smooth transition from one flight phase to another without requiring exceptional piloting skills, alertness, strength, or workload under any probable operating conditions;

(iii) the aircraft should have sufficient stability to ensure that the demands made on the pilot are not excessive, considering the phase and duration of flight; and

(iv) the assessment should take into account control forces, flight deck environment, pilot workload, and other human factors (HF) considerations, depending on the phase and duration of flight.

Subject to a positive evaluation report as per point (2), the competent authority should issue the authorisation.

APPENDIX B: Abbreviations

Abbreviations	
EASA	European Aviation Safety Agency
LAA	Light Aircraft Association
CofA	Certificate of Airworthiness
PtF	Permit to Fly
ATO	Approved Training Organisation
DTO	Declared Training Organisation

APPENDIX C: Working group stakeholder organisations

Aircraft Owners & Pilots Association

Flight Training Organisations

British Microlight Aircraft Association

Light Aircraft Association

Aircraft Manufacturing Organisations