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Acceptance of home-built aircraft projects by the DCA Airworthiness Section

Introduction

This AIC states the requirements for the acceptance by the Cyprus DCA of a home-built aircraft project and the initial issue of a Cyprus Permit to Fly at the completion of the project.

Home-built aircraft projects must not fly unless a Permit to Fly is issued by the DCA, and then must fly only subject to its limitations. Once the DCA inspectors are satisfied with the airworthiness of the aircraft and various checks have been carried out, a Permit to Fly will be issued that will be renewed every two years.

The purpose of the amateur built project is the owner's recreation and education. Any project which, at any stage during the construction is in the opinion of the DCA considered to be for commercial or personal gain, i.e. intended for sale when complete, cannot be defined as a home-built project. The DCA may refuse to issue a Permit to Fly if it has good reason to believe that information relating to the acceptability of a project as a home-built project has been withheld or that misleading information was supplied by the applicant, for a project which otherwise would not be eligible. Also, the DCA may refuse to issue a Permit to Fly when the project is not considered anymore as home-built in accordance with this AIC.

Project details

The potential amateur builder must contact the DCA before embarking on a project with full details of the project in DCA Form 218. This form is included in Appendix A of this AIC. The DCA will assess the proposed project and contact the owner. The project should be ideally Type Accepted / Type Approved by another European Union Member State National Authority. In case it is not, a

lengthy investigation may take place before acceptance of the project by the DCA. Certificates of Conformity for the aircraft kit, the engine and the propeller must be presented to the DCA together with the submission of DCA Form 218. At this stage, a copy of the Builders Manual must be provided for the DCA library.

At the beginning of the project, the owner must submit an application for registration to the DCA (DCA Form 201). During the project and before the first flight, an application for the issue of the Permit to Fly (DCA Form 203) must be submitted by the owner. Both application forms can be supplied by the Safety Regulation Unit of the DCA.

Builders Log

The owner must keep a Builders Log and record details of the name of the builder, the work carried out and the man-hours for each work item during every stage of the project. The Builders Log must be updated every time work takes place.

The estimated build time of the basic project, if in kit form, must not be less than 500 man hours. This will not include such items as an elaborate paint scheme or a time consuming avionics or upholstery installation. The owner is not permitted to commission someone else to build the aircraft. The owner can obtain assistance from an experienced home-builder, but the owner must show in the Builders Log to have worked more than 51% of the project. Projects which are jointly owned by a number of individuals will be considered to be acceptable, provided that each individual makes a significant relative contribution to the building of the aircraft.

Stage inspections

Stage inspections of the aircraft will be performed by the DCA at suitable intervals. The Builders Manual usually specifies each of the main inspection stages required for the project. Whenever work reaches the end of a stage, the owner must call in the DCA inspector. The inspector may, however, want to visit several times in order to satisfy one inspection stage. The inspector should also be invited to look at any structure or system just before it is 'closed off'.

The inspector will examine the aircraft and check that the Builders Manual instructions are followed and that the quality of workmanship is satisfactory. The inspector will check and sign the Builders Log, thus clearing the project to proceed to the next stage.

Workshop and storage facilities. Materials

The area in which work takes place and parts are stored must be suitable and will be checked by the DCA. The working area must have adequate lighting,

heating and ventilation. In case of composite projects, the temperature and humidity must be controlled and be kept within the allowable limits of the resins. The DCA inspector will need to be satisfied of the origin and identity of the building materials. He will need to check the paperwork for all the more significant items of raw material and hardware used. With metal parts he will have to check not only the type of metal specification but also the state of heat treatment. The heat treatment must be done by an organization approved for this kind of process and the inspector will want to see the paperwork relating to the heat treatment.

There must be proper storage space for the aircraft materials. Epoxy resins and glues must be stored at room temperature. The owner must also have access to an appropriate collection of tools for the project.

Compliance with instructions / modifications

It is important that the owner / builder is always in compliance with the drawings or build manuals and that he is using the correct materials. Any deviation or modification from the drawings or the manufacturer's recommendations is subject to approval by the DCA Airworthiness Section.

Any modifications or departures from the drawings, or incorporation of new kit 'options' will need to be assessed against an appropriate design code, usually JAR-VLA. Each modification must be authorized specifically by the DCA. In general, a modification should also be approved by the designer.

Placards

Placards and labels must be installed as per the manufacturer's instructions. In addition, a placard with the following wording must be installed:

OCCUPANT WARNING
This aircraft has not been certificated to
an International Requirement

This placard must be in full view of the occupants; so, in the case of a tandem seater it may be necessary that two such placards are installed.

Also a fireproof (stainless steel) metal plate engraved or stamped with the aircraft nationality and registration marks should be installed in a prominent position on the fuselage.

All switches, knobs or levers should be labeled clearly to show their function and mode of operation. This includes engine controls, fuel valves etc.

Registration markings should be as per the AIC C16/2005.

Aircraft radio station authorisation

The owner should apply to the Department of Electronic Communications at the Ministry of Communications and Works so as to register the aircraft radio station and obtain a radio station authorization.

4-seater home-built projects

In the case of four seater home-built aircraft projects, the DCA would require the owner to show compliance with either CS23 or FAR 23 design codes. This is essentially the same code as is applied for example to the Cessna 172. Full compliance has to be shown with the applicable parts of this design code.

On completion

Once the project has been completed, and before the Permit to Fly is issued, the owner / builder must submit the following documents to the Airworthiness Section of the DCA:

- Completed and signed Builders Log
- Application for Registration
- Application for issue of the Permit to Fly
- Certificates of Conformity for the aircraft kit, the engine and the propeller
- The aircraft Radio License
- The aircraft Weight and Balance report
- Evidence that the engine and the propeller complies with all the applicable Airworthiness Directives / Service Bulletins
- The Airframe and Engine Log Books, and also a Log Book for the variable pitch propeller, if installed
- The aircraft Insurance document as per AIC C13/2005
- A written statement of the intended base airport

After clearance from the Airworthiness Section, a test flight will have to take place. The owner should contact Safety Regulation Unit (SRU) to arrange the details of this test.

Flight Operations / Licensing

The owner must contact the Flight Operation section of the SRU, at the DCA, to discuss the operational aspects once the project is completed. He must also contact the Licensing Section of the SRU for Flight Crew licensing matters. Guidance on these issues is also found in AIC C5/1991.

APPENDIX A

FORM DCA 218

DETAILS OF HOME-BUILT AIRCRAFT PROJECT1. Description

(a) Type:		(b) Registration*:	(c) Plans or Kit No:
(d) Empty weight:	(e) Gross weight:		(f) Max baggage weight:

* Registration markings will be given by the DCA after an application for registration is submitted and the project is accepted.

2. Intended Power Plant

(a) Engine type / model:		(b) Engine serial no.:	
(c) No. Cylinders:	(d) Fuel capacity:	(e) Horsepower (hp):	
(f) Propeller Type(fixed/var. pitch):	(g) No. of blades:	(h) Pitch: (if known)	
(i) Source and any history of engine:			

3. Owner / Builder's Details

Name:	Home tel.:
Email:	Work tel.:
Address:	
Build location:	

Owners signature:	Date:
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APPENDIX A**FOR DCA USE**

Date form 218 received:	
Checked by:	
Certificate of conformity of aircraft kit:	YES / NO
Copy of engine certificate of conformity (can be supplied later):	YES / NO
Copy of propeller certificate of conformity (can be supplied later):	YES / NO
Form 218 fully completed and signed:	YES / NO
Accepted by DCA:	YES / NO

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