

AIRWORTHINESS APPROVAL NOTE NO: 29089

APPLICANT: Aerosport Limited

AIRCRAFT TYPE: Ikarus C42 FB100

REGISTRATION NO: G-FIFT CONSTRUCTOR'S NO: 0409-6623

OPERATOR: -

INSTALLER -

DESIGN ORGANISATION: Aerosport Limited

CERTIFICATE CATEGORY: Permit to Fly

MODIFICATION NO: C42/007

MODIFICATION TITLE: **Approval of a Neuform Variable Pitch 3 Bladed Propeller on the Ikarus C42 FB 100 Type Approved Microlight**

1. **Introduction**

The aircraft is largely designed and manufactured for Aerosport (formerly Flybuy Ultralights) by Comco Ikarus Gerätebau GmbH, based at Mengen Airport in Southern Germany. It is the natural successor to the Company's market leader, the C22, of which over 1200 examples have been built. To date over 310 examples of the C42 have been built and flown, including those powered by the 80 hp Rotax 912UL.

The prototype C42 was first flown in 1995; the first production flight took place in Spring 1996. The lead aircraft has completed over 2400 hours.

The Ikarus C42 FB 100 with a Rotax 912ULS engine and either a Warp Drive, Arplast Ecoprop or GSC Tech 3 bladed propeller was approved by AAN 27832 Addendum 1. The fitment of a Neuform fixed pitch 3 bladed propeller was approved by AAN 29073.

This AAN 29089 approves an alternative Neuform, variable pitch 3 bladed propeller.

2. **Aircraft Build Standard**

The Ikarus C42 is a single engine, side by side, two seat microlight aeroplane. It has a strutted high wing, with ailerons and simple flaps. Its tricycle undercarriage is fixed and incorporates shock absorption on all three wheels.

The aeroplane is defined in the Type Approval Data Sheet (TADS), BM-68. The aeroplane used for the test flying of this new propeller, GFIFT, is the Company demonstrator.

3. Approval Procedures

This modification approval has been carried out in accordance with BCAR Section A Chapter A3-7.

4. Basis Of Approval

4.1 CAA Approval Basis For The Aircraft

The basis of approval of the Ikarus C42 FB 100 aeroplane is BCAR Section S, Issue 2 dated August 1999.

4.2 CAA Design Requirements For Permit to Fly

Any installed equipment for which the Air Navigation Order requires approval must be approved by the CAA.

4.3 Environmental Requirements

The applicable Noise certification standards are BCAR Section N, Issue 5, Chapter N3-6 and Schedule 3 of The Air Navigation (Environmental Standards) Order 2002 for two seat microlights.

4.4 Design Requirements Associated With Operational Approvals

Not applicable.

5. Compliance With The Basis Of Approval

5.1 Compliance With The Approval Basis For The Aircraft

The Applicant has provided a document titled "Neuform Variable Pitch Propeller, Type NEUFORM CR3-V-80-R2H, Installation on Aerosport C42" Issue 2 dated 21st/23rd May 2005 that describes the modification and includes a Compliance Check List against the relevant requirements in BCAR Section S. It also includes the details of a whirl test at Appendix 1, a Static Pull Test at Appendix 2, an Operating Handbook at Appendix 3 and of the flight testing carried out in Appendix 4. The Operating Handbook in Appendix 3 was superseded by the NOM/C42/001 document referenced in paragraph 5.5(a) below.

5.2 Compliance With Design Requirements For Permit to Fly

Not applicable

5.3 Compliance with Environmental Requirements

This configuration has been flight tested for noise measurement purposes and Noise Type Certificate No. 179M Issue 4 refers.

5.4 Compliance with Design Requirements Associated With Operational Approvals

Not applicable.

5.5 Required Manuals And Other Documents Including Mandatory Placards

a. Flight Manual

C42 Owner's Manual reference OHB/C42/001 Issue 9 or later revision and Aerosport document "Neuform Variable Pitch Propeller Operating Manual for Ikarus C42 FB 100 (Series Built Aircraft Only)" reference NOM/C42/001 Issue 1 or later revision.

b. Placards - Actual text, or reference to drawings of placards

See C42 Owner's Manual.

Placarding must include a warning that the aircraft is not certificated to an international standard.

c. Maintenance Manual

C42 Owner's Manual reference OHB/C42/001 Issue 9 or later revision and Aerosport document "Neuform Variable Pitch Propeller Assembly and Maintenance Manual Type CR3-V-R2H for Ikarus C42 with Rotax 912 ULS, Manual Adjustment by Hand Lever" reference NAM/C42/001 Issue 1 or later revision.

d. Weight and Balance Schedule.

See C42 Owner's Manual for permitted cockpit loads and for Weight and Balance Record.

e. Type Approval Data Sheet

Type Approval Data Sheet BM-68 Issue 6 refers.

6. Conditions Affecting This Approval

The compatibility of this modification with other previously approved modifications, (installed on the particular aircraft), must be verified by the installer. Where the potential for interactions between modifications exists, the advice of the CAA shall be sought.

7. Continued Airworthiness

The influence of the modification on Airworthiness Directive, Service Bulletin eligibility and other data must be considered and the publications monitored accordingly. The maintenance schedule for the aircraft should include reference to this material additional to the original design

8. Survey

No CAA survey is required.

9. Authorisation of Release to Service

In addition to the actions required by the procedures for release to service following maintenance or modification, all actions and ground test procedures specified by the modification instructions must be completed satisfactorily prior to signing the Certificate of Release to Service.

It must be verified that the documents or amendments to documents, and the placards defined under Section 5.5 above are as specified.

10. Approval

Subject to the conditions of Section 6 above, Aerosport Ltd modification C42/007 is approved for embodiment on any Ikarus C42 FB100 type approved microlight aircraft, provided that it conforms with the contents of this AAN, and is operated in accordance with the Flight Manual.

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N J Davis
For the Civil Aviation Authority

Date 11th November 2005