

AIRWORTHINESS APPROVAL NOTE NO: 21616

APPLICANT: Atlantic Air Transport Ltd

AIRCRAFT TYPE: Cessna 152

REGISTRATION NO: G-HART

CONSTRUCTOR'S NO: 152-79734

Approval of Conversion to Tailwheel Landing Gear to STC SA 175 GL
Atlantic Air Transport Ltd Modification No. AAT/MOD/069/89

1. Introduction

The purpose of the modification certificated by Ralph Bolen Inc. is to convert the tricycle landing gear to a tailwheel layout.

2. Description

The modification introduces the following changes:

- Nose landing gear and nosewheel steering removed
- Main landing gear moved forward
- Rear fuselage and rear bulkhead locally reinforced
- Steerable castoring tailwheel fitted
- Rudder bottom fairing cut back to clear tailwheel

The Ralph Bolen conversion was installed on the subject aircraft Con No. 152-79734 in 1978 by FAA Certified Repair Station C07-25, Ohio, USA.

3. Basis of Certification

The basis of certification of the STC was the USA Civil Air Regulations Part 3.

4. Technical Investigation

On request the FAA supplied the following information in support of the original approval of the STC (FAA Wichita letter dated 8 May 1989 refers):

- 1) The STC modification in general was designed to Civil Air Regulations Part 3 (CAR 3) May 15 1956, with amendments through 3-4. Specifically, data was submitted to substantiate CAR 3.241 through 3.252 and CAR 3.351 through 3.355.

- 2) Full compliance with the above requirements was demonstrated by landing gear drop test and static test.
- 3) There are no known problems in service with this tailwheel modification.

On the basis of the above information and Airworthiness Notice No. 15 procedure, this STC is acceptable to CAA.

5. Flight Test

A general handling and performance assessment on a Cessna F150H fitted with the Ralph Bolen conversion under STC SA 175GL had been made by CAA some time ago (Report GS1/4713SM). In view of the fact that the Cessna 152 is similar to the Cessna 150 to the extent that the difference in maximum power is only 15%; the CG envelope on the 152 does not extend so far aft as on the 150; and that spinning is prohibited by the STC, it was not considered necessary for a flight test to be made by CAA. A routine C of A renewal flight test to CAA Flight Test Schedule No. 2 Issue 7 was however made by the applicant with satisfactory results. Report 7101Y refers.

One handling feature noted in the earlier C of A test on the F150H (Report GS1/4713SM) was that if the tailwheel is raised early on the take-off run, a tendency to porpoise may occur. This was also encountered on an aircraft similarly modified to STC SA 175GL. This feature has been brought to the attention of pilots in CAA Cessna 152 Flight Manual Supplement No. 3.

6. Flight Manual and Placards

Removal of existing spinning placards and replacement of these by a placard stating "Spins prohibited" is required in accordance with the Limitations and Conditions of the STC.

Changes to the 1978 Cessna 152 Pilots Operating Handbook applicable to this aircraft, document reference D1107-2-13-RPC which are required when STC SA 175GL has been incorporated, are given in CAA Supplement No. 3.

7. Weight and Balance

The modified aircraft has been weighed and a Weight and CG Schedule has been issued.

8. Noise

The conversion to tailwheel landing gear is not considered to have any effect on the existing noise certification of this Cessna 152.

9. Inspection

The aircraft has been inspected and found to conform with the standard defined in this AAN. Its condition was considered airworthy.

10. Approval

This Cessna 152 when modified by the embodiment of Atlantic Air Transport Ltd Modification No. AAT/MOD/069/89 and any other aircraft of the same type similarly modified, is approved for certification in the Transport Category (Passenger) provided that it conforms to FAA Type Certificate Data Sheet 3A19 and the above modification and is operated in accordance with the Cessna 152 Pilots Operating Handbook and CAA Supplements thereto referenced in Paragraph 6 and is maintained to the Light Aircraft Maintenance Schedule CAA/LAMS/FW/1978, or any other schedule approved by the CAA.

J D Watkins

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For the Civil Aviation Authority

Date 30 May 1989