

AIRWORTHINESS APPROVAL NOTE NO: 24875 Addendum 1 Issue 2

APPLICANT: CAA Internal Purposes

AIRCRAFT TYPE: Piper PA-28-180

REGISTRATION NO: G-NITA CONSTRUCTOR'S NO: 28-2909

CERTIFICATE CATEGORY: Transport Category (Passenger)

MODIFICATION TITLE: **Blackwood Hand Controller; Crosswind Limitation
FAA approved STC SA1741WE**

1. **Introduction**

The Blackwood hand controller was originally approved by the FAA for installation on a range of Piper PA-28 aircraft by STC SA1741WE, dated 12 July 1968. This was CAA-approved on the same range of aircraft by Minor Modification No GO/41/74, dated 23 September 1974. This AAN has been raised to introduce a crosswind limitation to the Flight Manual Supplement.

Addendum 1 to this AAN has been raised to add examples of CAA letters that are issued to authorise individuals to install the device, and issue a Certificate of Release to Service.

Issue 2 - Correction of STC reference in final paragraph.

2. **Modification Description**

The Blackwood Hand Controller is a simple lever device that can be fitted to some of the older types of PA-28. The control attaches to the vertical post assembly of the left rudder on the right side. Attachment is made by drawing the nuts tight against the lock washers. When installed, the end of the handle is near the throttle. This control provides full rudder and nosewheel steering control without the use of the legs. A downward force applies left rudder, and an upward force applies right rudder. The hand control can be operated from either the left or right seat, and does not interfere with normal rudder leg operation by either pilot.

3. **Approval Basis**

CAA working practises allow the acceptance of foreign modifications of a conventional nature, certificated to an acceptable code of requirements by an Authority known to have standards similar to those of the CAA.

This modification has been FAA-Approved by the issue of Supplemental Type Certificate SA1741WE. In view of this FAA approval, no further technical investigation is necessary. This modification is approved on the basis of its FAA approval and the provisions of Airworthiness Notice No 15. This modification has already been approved (without a crosswind limitation) by Minor Mod No GO/41/73.

In view of the FAA's approval for a wide range of PA-28 aircraft, this AAN mirrors that approval, and covers the following models:

PA-28-140, 150, 160, 180; PA-28R-180, 200.

4. Compliance with Requirements

This modification has been assessed against the requirements of CAR 3 by the FAA and found to be compliant.

5. Flight Test

A CAA handling assessment has been carried out and reported in FTR 9225SM. The handling was acceptable to CAA, but a crosswind limit of 10 knots was recommended in view of the high hand workload in these circumstances.

6. Flight Manual

William H Blackwood has produced a Flight Manual Supplement that covers this installation on the appropriate aircraft. This was FAA approved on 13 June 1973. This approval is acceptable to the CAA. This Flight Manual Supplement must be included in the rear of the aircraft's CAA-approved Flight Manual. In addition, CAA Change Sheet No 1 Issue 1 to the Blackwood Flight Manual Supplement introducing the crosswind limit must be included, facing the approved supplement for the Blackwood hand controller. The contents/amendment sheet must be amended accordingly.

7. Installation

Installation of the device in the aircraft must be carried out by a person authorised by CAA to do so to ensure correct fitment. A placard to this effect is installed on the equipment in a conspicuous position (to minimise the possibility of inadvertent installation by unapproved individuals).

Authorisation of individuals to fit the device for their own use is given in writing by the CAA. Specimen letters have been produced, and embodied in the CAA Technical Procedures Manual as Appendices to Section E2-C34. There are three alternative letters to cover different circumstances. Copies of these letters are attached to this AAN.

8. Limitations

The following additional limitations are required to be observed:

Maximum crosswind with Blackwood
hand controller fitted: 10 kts

The following placard is to be installed in full view of the pilot:

"Operation of the aircraft with the hand-controlled rudder system must be conducted in accordance with the W H Blackwood FAA-Approved AFM Supplement dated 13 June 1973. Installer to be CAA-approved"

9. Approval

The installation of the disabled control bar in accordance with FAA Approved STC number SA1741WE is approved for installation and removal on this aircraft registration G-NITA or on any applicable PA-28 variant as stated in the STC provided the device is installed and removed by a person approved by CAA for the purpose (and placarded accordingly), and provided that the aircraft is operated in accordance with the approved Flight Manual, including the supplement and change sheet as specified in section 6 of this AAN.

Three pages of specimen letters attached.

C.J.Whittaker

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For the Civil Aviation Authority

Date 18th February 1999