AIRWORTHINESS APPROVAL NOTE NO: 26779

APPLICANT: Iscavia Limited

AIRCRAFT TYPE: Socata TB 20, (and TB20, TB21 Series within STC applicability)

REGISTRATION NO: G-BPAS CONSTRUCTOR'S NO: 283

INSTALLER: Iscavia Ltd

DESIGN ORGANISATION: Shadin Company Inc

CERTIFICATE CATEGORY: Transport Category (Passenger)

FAA approved STC SA1346GL
and associated engine STCs SE611GL and SE445GL
Shadin Digital Fuel Flow Indicating System

1. Introduction

This is a micro-processor controlled fuel flow indication system which is intended to supplement (but not replace) the standard fuel contents indicating systems.

It is at present uncertain whether the calculation/display unit has been shown to meet the applicable requirements to the extent necessary to allow it to be connected to essential systems. Hence this approval prohibits interconnection with other equipment.

2. Modification Description

The modification consists of a fuel flow transducer, and an instrument panel mounted totalizer and display unit. The transducer is located in the engine fuel line, and is designed so that if the rotor becomes jammed the fuel flow is not interrupted. The display unit has a micro-processor which counts the pulses from the transducer and provides information such as fuel flow rate, fuel remaining, remaining endurance etc. As an option the unit will accept data from Loran-C equipment so that further predictive information can be displayed, but this is not included in this approval. The system installation is defined in Shadin Report No. 4108.

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.

It has been verified with the FAA that the fuel flow transducer has been FAA-approved by the issue of Supplemental Type Certificates SE611GL or SE445GL, depending on engine type installed. In view of this FAA approval, no further technical investigation of the fuel flow transducer is necessary, and its use is approved on the basis of its FAA approval and the provisions of BCAR B2-2.

FAA STC SA1346GL states that the complete system including the Totalizer/display unit complies with the aircraft Type Certification basis. The installation of the processing and display unit is accepted on the basis of this STC approval, on condition that there is adequate power supply circuit protection, and no interconnection to any essential system. With these conditions it is considered that the installation meets the intent of JAR 23.1309

4. Compliance with Requirements

This modification to install a fuel flow transducer and totalizer unit has been assessed against the applicable requirements by the FAA, and was found to be compliant.

5. Flight Test

Not required.

6. Flight Manual

Not affected.

7. Noise

This modification is assessed as having no adverse effect on the aircraft noise, and the status of the aircraft relative to the noise legislation is unaffected. The existing noise certificate, if any, remains valid.

8. Limitations

The Shadin fuel flow processing and display unit must not be interconnected to any essential system.

The system relies on pilot input of fuel contents for all predictive calculations. The following placard must be installed adjacent to the display unit:

"Not to be used for primary navigation, flight planning or fuel calculations"

All placards specified by the manufacturer must be installed. Limitations, and conditions defined in the FAA STCs, and the manufacturer's documentation must be observed.

Attention is drawn to the condition stated on the FAA STCs that the compatibility of the 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.

9. Continued Airworthiness

The influence of the modification on Airworthiness Directive, Service Bulletin etc eligibility 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

10. Approval

This modification is approved for embodiment on any Socata TB20 or TB21 aircraft certificated in the Transport Category (Passenger), within the applicability of the referenced STCs, provided that it conforms to the contents of this AAN, is operated in accordance with the Flight Manual, and is maintained in accordance with a maintenance schedule approved by the CAA.

C.J.Whittaker
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For the Civil Aviation Authority

Date 16 February 1999