UK CIVIL AVIATION AUTHORITY
PROPELLER TYPE CERTIFICATE DATA SHEET NO. 105

Issue 6
January 1997

1. CERTIFICATION

Propellers of types detailed below are approved for use in civil aircraft classified in the Transport Category (Passenger) listed in Item 4 of this data sheet when they are installed, operated and maintained in accordance with the approved manufacturers manuals and other approved instructions.

2 CONSTRUCTOR

Dowty Aerospace Propellers
Cheltenham Road
Gloucester GL2 9QN
England

3 TYPE NUMBERS

(c) R.352/6-123-F/1
(c) R.352/6-123-F/2

4 APPROVED INSTALLATIONS

Propeller Model	Aircraft	Engine
(c)R.352/6-123-F/1 (c)R.352/6-123-F/2	Fokker F27 MK050 and Fokker F27 MK0502 Max.T.O Weight 47500 lb	Pratt & Whitney PW125B Take-off rating 2500SHP at 1200 propeller rpm Pratt & Whitney PW127B Take-off rating 2750SHP at 1200 propeller rpm

5 CERTIFICATION BASIS

BCAR Section A Issue 28 Chapter A3-2. JAR-P change 6, together with the installation requirements of JAR 25 paragraphs 33, 901(c), 905, 907, 933(c) the 937 and 1337(e), also Special Requirements detailed in CAA letter of 9/216/PR7/11 dated 5 June 1981.

6 PROPELLER PARTICULARS

6.1 Build Standard

	(c)R352/6-123-F/1	(c)R352/6-123-F/2
Specified in DIS No	66071500C	66071500C
General Arrangement Drawing No	660715101	660715104
Installation Drawing No	660715001	660715004
Blade Assembly Drawing No applicable to /1 and /2 propellers	660715241 660715246 660720248 660720249 660720250 660715251 660715252 660715253 660715254	
Design Specification /1 and /2 propellers	84.DS.0431	

6.2 Description

Variable pitch, constant speeding, feathering, using hydraulic control and counterweight. Beta control provides manual pitch selection for aircraft braking and ground manoeuvring. The pitch control system features an electronic control unit, the software of this unit meets the 'critical' standard of RTCADO-178.

6.3 Number and Description of Blades

Six blades, composite glass and carbon reinforced plastic construction, polyurethane coated and fitted with nickel leading edge sheaths for erosion protection and with electric de-icing overshoes.

6.4 Diameter

1 144 inches (3.65 metres)

6.5 Rotation

Rotation is clockwise viewed from the rear of the propeller (right hand tractor)

6.6 Engine Shaft Mounting

Special flange with 16 bolts and 2 dowels, all at 6.75 inches P.C.D.

6.7 Weight

Complete with spinner - 379 lb approximately (for reference only).

6.8 Equipment

	(c)R352/6-123-F/1	**(c)R352/6-123-F/2**
Spinner Type No SB 20/6/	664006001	664006002

The following equipment is applicable to /1 and /2 propellers

Beta Tube Assy Type No	696001004 696001006 696001007
Pitch Control Unit Type No	663007003 663007004 663007005
Propeller Electronic Control Unit Type No.	666000016 666000128 666000143
Feathering Pump Type No	638005003
Deicing Brush Block Bracket Assy No.	660715232 660715291 697050001

7 MANUALS

Propeller Maintenance	1051
Propeller Equipment Set	61-00-03
Propeller	61-10-34
Spinner	61-10-35
Feathering Pump	61-20-41
Beta Tube Assy	61-20-34
Pitch Control Unit	61-20-31
Propeller Electronic Control Unit	61-20-35

8 LIFE LIMITS AND RESTRICTIONS

8.1 Static Ground Running

Static ground running for maintenance purposes is to be carried out:-

8.1.1 with the aircraft pointing into the wind ± 30°

8.1.2 with engine running in the speed range 67½%-90% (810-1080) RPM kept to a minimum.

8.2 Ground Taxi Operations

To avoid high propeller stresses, stabilised ground operation in the propeller rpm range of 65% to 90% is not permitted with the aircraft static., except as follows:-

8.2.1 Transitions through the 65% -90% rpm speed range.

8.2.2 Taxi breakout from static.

8.2.3 Ground maneouvring in reverse pitch in E.E.C. mode.

8.2.4 Limited operation at 80% (960) rpm in the case of E.E.C. failure causing default to G.A.R. (Go-Around Rating).

8.3 Take-off

8.3.1 Tailwind take-off using 2250SHP or more must be rolling take-off

8.4 Maximum Torque and Overspeed

8.4.1 Overspeed

8.4.1.1 Continuous overspeeds to 106% (1272 PRPM) are permitted to complete the flight.

8.4.1.2 Continuous overspeeds in excess of 106% are not permitted. Overspeeds between 106% and 115% (1380 PRPM) not exceeding 15 seconds may be considered as transients and are permitted.

8.4.1.3 Propeller operation in excess of 115% PRPM is not permitted under any circumstances.

8.4.2 Overtorque

8.4.2.1 Maximum propeller torque is 12036 lb.ft at 100% propeller speed.

8.4.2.2 Maximum torque of 11290 lb.ft is permitted at 85% propeller speed.

8.4.2.3 Transient overtorques of up to 13115 lb.ft are permitted for a maximum duration of 20 seconds.

8.4.2.4 Actions required when, torque in excess of 13115 lb.ft is experienced are detailed in Service Bulletin F50-61-50

9. NOTES

Propellers types (c)R352/6-123-F/1 and /2 are identical except for the form of spinner attachment.