

I. General

1. Type/Variants:

AV-803 / AV-803-1

2. Type Certificate Holder:

Avia Propeller Ltd.
Beranovych 65/666
199 00 Praha 9 – Letnany
Czech Republic

Design Organisation Approval No: EASA.21J.072

3. Manufacturer:

Avia Propeller Ltd.
Beranovych 65/666
199 00 Praha 9 – Letnany
Czech Republic

4. EASA Certification Application Date:

AV-803-1			
19 April 2004			

Note: Application was made to CAA Czech Republic before Czech Republic had become EU member. The reference date for determining the applicable airworthiness standards has been agreed as: 23 October 2003.

5. EASA Certification Date:

AV-803-1			
27 March 2007			

II. Certification Basis

1. EASA Certification Basis:

- 1.1 Airworthiness Standards:
JAR-P Change 7 dated 22 October 1987 as modified
by Amendment P/96/1 of August 8, 1996
- 1.2 Special Conditions (SC): None
- 1.3 Exemptions: None
- 1.4 Equivalent Safety Findings (ESF): None

III. Technical Characteristics

1. Type Design Definition:

The AV-803-1 propeller model covers the following design configurations, which mainly have a different mechanical design of the blade pitch change mechanism, and each one of the design configuration optionally may have different versions of the hub flange. Each design configuration is defined by a main assembly drawing and an appropriate parts list.

AV-803-1-(*1) and AV-803-1-(*1)-C

Design Configuration "Constant Speed"

Drawing No. 106-0000 (hub flange B, D) dated February 9, 2007 (*2)

106-0003 (hub flange K) dated February 9, 2007 (*2)

Parts List No. R-106-0000 (hub flange B, D) dated February 9, 2007 (*2)

R-106-0003 (hub flange K) dated February 9, 2007 (*2)

AV-803-1-(*1)-C-F-R(W)

Design Configuration "Constant Speed, Feather, Reverse (System Walter)"

Drawing No. 106-0001 (hub flange E) dated February 9, 2007 (*2)

Parts List No. R-106-0001 (hub flange E) dated February 9, 2007 (*2)

Note:

(*1) optionally different versions of hub flange available

B = AS-127-D, SAE No.2 mod., ½ inch bolts

D = ARP 502

E = ARP 880

K = M14 Flange

(*2) effective is the declared issue or a later approved revision.

2. Description:

3-blade variable pitch propeller with a hydraulically operated blade pitch change mechanism providing the operation modes "Constant Speed", "Reverse" and "Feather". The hub and blades are milled out of aluminum alloy. Optionally the propeller may have installed a spinner and ice protection equipment.

3. Equipment:

Spinner: according to Avia Propeller Service Bulletin No. 2

Governor: according to Avia Propeller Service Bulletin No. 3

Ice Protection: according to Avia Propeller Service Bulletin No. 4

4. Dimensions:

Propeller-Diameter: max. 270 cm

5. Weights:

Propeller-Design Configuration

"Constant Speed": approx. 64 kg

"Constant Speed, Reverse, Feather": approx. 65 kg

6. Hub/Blade-Combinations:

Hub	Blade-Type
AV-803-1	-412, -420, -422, -423

7. Control System:

Propeller governors as listed in Avia Propeller Service Bulletin No. 3.

8. Adaptation to Engine:

Hub flanges as identified by a letter in the propeller designation (refer to note VI.3).

9. Sense of Rotation:

Sense of rotation (viewed in flight direction) as identified by a letter in the propeller designation (refer to note VI.3).

IV. Operational Limitations

1. Propeller Speed:

max. 2080 min⁻¹

2. Driving Power:

Turbine Version - max. 580 kW for a propeller-diameter/-speed of max. 270 cm / 2080 min⁻¹
Piston Version - max. 269 kW for a propeller-diameter/-speed of max. 270 cm / 1941 min⁻¹

3. Propeller Pitch Angle:

from -21° up to +82° measured at 75% radius station

V. Operating and Service Instructions

Operation and Installation Manual for hydraulically controlled variable pitch propeller	No. EN-1366 Date of Latest Issue/Revision December 12, 2006 (*)
Operation and Installation Manual for reversible hydraulically controlled variable pitch propeller; Reverse-Systems (G), (P), (W)	No. EN-1320 Date of Latest Issue/Revision December 12, 2006 (*)
Overhaul Manual and Parts List for hydraulically controlled variable pitch propeller	No. EN-1367 Date of Latest Issue/Revision December 12, 2006 (*)
Overhaul Manual and Parts List for reversible hydraulically controlled variable pitch propeller; Reverse-Systems (G), (P), (W)	No. EN-1291 Date of Latest Issue/Revision December 12, 2006 (*)
Overhaul Manual for Metal Blades (AV Series Blade)	No. EN-1370 Date of Latest Issue/Revision December 12, 2006 (*)
Service Bulletins	as noted in the current List of Service Bulletins

(*) effective is the declared issue or a later approved revision

Blade

- 1 code letter for position of pitch change pin
 - Blank = pitch change pin position for pitch change forces to decrease pitch
 - C = pitch change pin position for pitch change forces to increase pitch
 - CF = pitch change pin position for feather provision; pitch change forces to increase pitch
 - CR = pitch change pin position for reverse provision; pitch change forces to increase pitch
 - CFR = pitch change pin position for feather and reverse provision; pitch change forces to increase pitch

 - 2 code letter for blade design and installation
 - blank = right-hand tractor
 - RD = right-hand pusher
 - L = left-hand tractor
 - LD = left-hand pusher

 - 3 propeller diameter in cm

 - 4 No. of blade type (contains design configuration and aerodynamic data) according to the certified hub/blade – combinations

 - 5 code letter for design changes
 - small letter for changes which do not affect interchangeability of blade set
 - capital letter for changes which restrict or exclude interchangeability of blade set
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