



## **I. General**

### **1. Type/Variants:**

AV-842 / AV-842-1

### **2. Type Certificate Holder:**

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

### **3. Manufacturer:**

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

### **4. EASA Certification Application Date:**

AV-842-1			
17 April 2001			

**Note:** Application was made to CAA Czech Republic before EASA had been established. The reference date for determining the applicable airworthiness standards has been agreed as: 11 July 2002.

### **5. EASA Certification Date:**

AV-842-1			
02 May 2005			

## **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-842-1 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-842-1-(\*1) and AV-842-1-(\*1)-C  
Design Configuration "Constant Speed"  
Drawing No. 093-0000 dated February 3, 2004 (\*2)  
Parts List No. R-093-0000 dated February 3, 2004 (\*2)

AV-842-1-(\*1)-C-F  
Design Configuration "Constant Speed, Feather"  
Drawing No. 093-0001 dated February 1, 2005 (\*2)  
Parts List No. R-093-0001 dated February 1, 2005 (\*2)

Note:

(\*1) optionally different versions of hub flange available  
B = AS-127-D, SAE No.2 mod., ½ inch bolts  
C = SAE No. 2 mod., 7/16 Inch - 20 UNF bolts  
D = ARP 502

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

#### **2. Description:**

2-blade variable pitch propeller with a hydraulically operated blade pitch change mechanism providing the operation modes "Constant Speed" 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. 204 cm

#### **5. Weights:**

Propeller-Design Configuration	
"Constant Speed":	approx. 25 kg
"Constant Speed, Feather":	approx. 27 kg

## 6. Hub/Blade-Combinations:

Hub	Blade-Type
AV-842-1	-402, - 407, -408, -410

## 7. Control System:

Hydraulically operating governors corresponding to the data of Avia Propeller Service Bulletin No. 3.

## 8. Adaptation to Engine:

Hub flanges corresponding to the particular letter in the propeller designation (see chapter VI.4.).

## 9. Sense of Rotation:

Sense of rotation (viewed in flight direction) corresponding to the particular letter in the propeller designation (see chapter VI.4.).

## IV. Operational Limitations

### 1. Propeller Speed:

max. 2700 min<sup>-1</sup>

### 2. Driving Power:

max. 224 kW for a propeller-diameter/-speed of max. 204 cm / 2700 min<sup>-1</sup>

### 3. Propeller Pitch Angle:

from +6° to +86°

## **V. Operating and Service Instructions**

Operation and Installation Manual for hydraulically controlled variable pitch propeller	No. EN-1366 Issue December 3, 2004 (*)
Overhaul Manual and Parts List for hydraulically controlled variable pitch propeller	No. EN-1367 Issue December 3, 2004 (*)
Service Bulletins	as noted in the current List of Service Bulletins

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

## **VI. Notes**

1. The suitability of a propeller for a certain aircraft/engine-combination must be demonstrated within the scope of the type certification of the aircraft.
2. Propeller/engine/aircraft-combinations that have been demonstrated to comply with the requirements of JAR-P60(b), 160(b), 190 and 220 are listed in Avia Propeller Service Bulletin No. 5.
3. The overhaul intervals recommended by the manufacturer are listed in Avia Propeller Service Bulletin No. 1.

#### 4. Propeller designation system

Hub / Blade  
AV - 842 - 1 - B - ( ) - ( ) - ( ) - ( ) / ( ) ( ) 204 - 402 ( )  
1 2 3 4 5 6 7 8 9 10 11 1 2 3 4 5

##### Hub

- 1 Avia Propeller (manufacturer)
- 2 A - Automatic Propeller  
F - Fix Pitch Propeller  
G - Ground adjustable Propeller  
V - Variable Pitch Propeller
- 3 Blade Root diameter (72, 80, 84)
- 4 Number of Blade
- 5 No. of variant of the propeller model
- 6 code letter for flange type  
A = Motorglider engines bolt, 7/16 inch - 20 UNF, circle dia 80 mm  
B = AS-127-D, SAE No.2 mod., 1/2 inch - 20 UNF bolts  
C = SAE No. 2 mod., 7/16 Inch - 20 UNF bolts  
D = ARP 502  
E = ARP 880  
F = SAE No. 1., 3/8 inch - 24 UNF bolts  
G = Walter/LOM flange M 10 bolts  
H = PW 115, 9/16 inch - 18 UNF  
K = M14 Flange
- 7 code letter for counterweights  
blank = no or small counterweights for pitch change forces to decrease pitch  
C = counterweights for pitch change forces to increase pitch
- 8 code letter for feather provision  
blank = no feather position possible  
F = feather position installed
- 9 code letter for reverse provision  
blank = no reverse position possible  
R = reverse position installed
- 10 code letter for reverse system  
(A) = System Allison  
(G) = System Garrett  
(M) = System Muhlbauer  
(P) = System Pratt & Whitney  
(W) = System Walter
- 11 code letter for design changes  
small letter for changes which do not affect interchangeability  
capital letter for changes which restrict or exclude interchangeability

## 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