TYPE-CERTIFICATE DATA SHEET

No. P.028

for Propeller
V 508 series propellers

Type Certificate Holder
Avia Propeller Ltd.
Beranových 65/666
199 00 Praha 9 – Letňany
Czech Republic

For Models:
V 508
V 508B
V 508D
V 508D-2
V 508D-AG
V 508E
V 508E-AG
V 508Z
V 508H

Intentionally left blank

TABLE OF CONTENTS

I. General 4
1. Type / Models 4
2. Type Certificate Holder 4
3. Manufacturer 4
4. Date of Application 4
5. EASA Type Certification Date 4
II. Certification Basis 4
1. Reference Date for determining the applicable airworthiness requirements 4
2. EASA Certification Basis 4
2.1. Airworthiness Standards 4
2.2. Special Conditions (SC) 5
2.3. Equivalent Safety Findings (ESF) 5
2.4. Deviations 5
III. Technical Characteristics 5
1. Type Design Definition 5
2. Description 5
3. Equipment 6
4. Dimensions 6
5. Weight 6
6. Hub / Blade Combinations 6
7. Control System 6
8. Adaptation to Engine 6
9. Direction of Rotation 6
IV. Operating Limitations 6
1. Approved Installations 6
2. Propeller Speed 6
3. Maximum Take Off Power 6
4. Maximum Continuous Power and Speed 6
4. Propeller Pitch Angle 7
V. Operating and Service Instructions 7
VI. Notes 7
SECTION: ADMINISTRATIVE 9
I. Acronyms and Abbreviations 9
II. Type Certificate Holder Record 9
III. Change Record 9

I. General

1. Type / Models
V 508/ V 508B/ V 508D/ V-508D-2/ V 508D-AG/ V 508E/ V 508E-AG/ V 508Z/ V 508H

2. Type Certificate Holder
Avia Propeller Ltd.
Beranových 65/666
199 00 Praha 9 – Letňany
Czech Republic

Design Organisation Approval No.: EASA.21J.072

3. Manufacturer
Avia Propeller Ltd.

4. Date of Application

V 508	V 508B	V 508D	V 508Z	V 508D-AG
25 March 1975	13 April 1977	19 April 1982	18 June 1984	20 March 1995

V 508D-2	V 508E	V 508E-AG	V 508H	
06 April 2000	06 April 2000	06 April 2000	27 May 2011	

5. EASA Type Certification Date

V 508	V 508B	V 508D	V 508Z	V 508D-AG
17 April 1975	30 August 1977	13 September 1982	20 November 1984	05 April 1995

V 508D-2	V 508E	V 508E-AG	V 508H	
30 May 2000	30 May 2000	30 May 2000	29 June 2011	

Type certification of the V 508 series propeller models has been covered previously by Czech Republic Type certificate No.91-01, Rev.No.4. and partly by No. 75-02, Amendment 5.
Type certification of the V 508H propeller model has been covered by EASA.

II. Certification Basis

1. Reference Date for determining the applicable airworthiness requirements
25 March 1975 (for later updated amendments 09 February 1990 was used)

2. EASA Certification Basis

2.1. Airworthiness Standards
Initially BCAR, 7th edition of 15 May 1971 Section C, Sub-section C5

Later compliance with FAR Part 35-6 dated August 18, 1989 had been shown.

Note:

Application was made to CAA - Czech Republic (former Czechoslovakia) before EASA was established. The applicable airworthiness standards were established in accordance with the rule in Czech Republic (former Czechoslovakia) at the time of application.

2.2. Special Conditions (SC)

None

2.3. Equivalent Safety Findings (ESF)

None

2.4. Deviations

None

III. Technical Characteristics

1. Type Design Definition

The V 508 propeller model covers the following design configurations. Each design configuration is defined by a main assembly drawing and an appropriate parts list.

V 508, V 508B, V 508D, V 508D-2, V 508D-AG, V 508Z
Design Configuration “Constant Speed, Feather, Reverse (System Walter)”
Drawing No. 066-0000 dated March 16, 2009 (*)
Parts List No. R-066-0000 dated March 16, 2009 (*)

V 508E, V 508E-AG
Design Configuration “Constant Speed, Feather, Reverse
(System Walter, secondary pitch stop)”
Drawing No. 076-0000 dated March 16, 2009 (*)
Parts List No. R-076-0000 dated March 16, 2009 (*)

V 508H
Design Configuration “Constant Speed, Feather, Reverse (single acting, system Pratt&Whitney)
Drawing No. 100-0000 dated September 10, 2009 (*)
Parts List No. R-100-0000 dated March 21, 2006 (*)

(*) 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”, “Feather”; and “Reverse”. The hub is milled out of steel and blades are milled out of aluminium 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. 275 cm

5. Weight
Propeller-Design Configuration
"Constant Speed, Feather, Reverse": approx. 69 kg

6. Hub / Blade Combinations

Hub	Blade-Type
V 508(,-,B,D,Z,D-AG, D-2,E,E-AG)	-84, -99A, -99B, -106, 91, 93, -108B
V 508(H)	-84B, -99C, -99D, -106B, 91B, 93B, -108

7. Control System
Propeller governors as listed in Avia Propeller Service Bulletin No. 3.

8. Adaptation to Engine
Flange, bolt spacing diameter 107,95 mm

9. Direction of Rotation
Right-hand tractor (viewed in flight direction).

IV. Operating Limitations

1. Approved Installations
This propeller has been tested on a turbine engine.

2. Propeller Speed

max. 2080 min^{-1} (all blade types except Type -108/108B)
max. 2000 min^{-1} (Blade Type -108/108B)

3. Maximum Take Off Power

635 kW

4. Maximum Continuous Power and Speed

635 kW

4. Propeller Pitch Angle
From -21,5° to +82° measured at 75% radius station

V. Operating and Service Instructions

Operation and Installation Manual	P/N E-1500 Date of Latest Issue/Revision Issue 2, May 10, 2011 (*)
Overhaul Manual	P/N E-1461 Date of Latest Issue/Revision Issue 1, March 17, 2009 (*)
Overhaul Manual for Metal Blades	P/N EN-1370 Date of Latest Issue/Revision Issue 2, March 17, 2009 (*)
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 the propeller for a given aircraft/engine-combination must be demonstrated within the scope of the type certification of the aircraft.

2. The EASA approved Airworthiness Limitations Section of the Instructions for Continued Airworthiness is published in the applicable “Propeller Operation and Installation Manual” document, chapter 1. “Airworthiness Limitations”.

3. EASA Type Certificate and Type Certificate Data Sheet No.P.028 replace CAA - Czech Republic Type Certificate and Type Certificate Data Sheet No.91-04, Rev.No.4.

4. Propeller designation system:

Hub			/ Blade		
V 508	( )	/	99	A /	A
1	2		1	2	3

Hub

1 - Propeller model V508

2 - code letter for hub model

- blank = basic model without overspeed governor
- B = without overspeed governor
- D = with overspeed governor
- D-2 = with overspeed governor, basic setting of reverse angle -8 deg
- D-AG = with overspeed governor, basic setting of minimum flight angle 10 deg, used at agricultural aircraft
- E = with overspeed governor, with secondary pitch lock
- E-AG = with overspeed governor, with secondary pitch lock, used at agricultural aircraft
- Z = with overspeed governor, basic setting of reverse angle -3 deg, used at agricultural aircraft
- H = single acting

Blade

1 - propeller diameter in inches

2 - code letter for blade type (contains design configuration and aerodynamic data) according to the certified hub/blade – combinations

3 - code letter for de-icing

- A = without de-icing
- B1 = 28 VDC, single element
- B2 = 28 VDC, dual element

SECTION: ADMINISTRATIVE

I. Acronyms and Abbreviations

n/a

II. Type Certificate Holder Record

n/a

III. Change Record

TCDS Issue	Date	Changes	TC issue
Issue 01	07 April 2009	Initial Issue	Initial Issue, 07 April 2009
Issue 02	29 June 2011	Addition of model V 508H	29 June 2011
Issue 03	12 September 2011	Power increase of V 508H model	
Issue 04	22 August 2012	Addition of new blade models	
Issue 05	11 March 2013	Increase of maximum take-off power and max continuous power	
Issue 06	07 December 2017	Ref. EASA Major Change Approval 10063968 Addition of new blade models Modification of propeller diameter and speed	

-END-