COMANDO DA AERONÁUTICA
DEPARTAMENTO DE PESQUISAS E DESENVOLVIMENTO
CENTRO TÉCNICO AEROESPACIAL

TYPE CERTIFICATE DATA SHEET Nº EH-1999T07

Type Certificate Holder:

AVIA PROPELLER Ltd.
Beranových 666
Praha 9 – Letnany
199 00
Czech Republic

EH-1999T07-02

Sheet 01

AVIA PROPELLER

V508D-AG, V508, V508B, V508D, V508D-2, V508Z, V508E, V508E-AG

September 2004

Propellers of models described herein conforming with this data sheet, which is part of Type Certificate No. 1999T07, meet the minimum standards for use in certificated aircraft in accordance with pertinent aircraft data sheets and applicable portions of the Brazilian Aeronautical Regulations provided they are installed, operated, and maintained as prescribed by the approved manufacturer's manuals and other instructions.

TYPE	Constant speed, hydraulic, varieble pich tractor
ENGINE SHAFT	Flanged: 107.95 mm bolt circle.
HUB MATERIAL	Steel (forging)
BLADE MATERIAL	Aluminum alloy (forging)
NUMBER OF BLADES	Three

HUB ELIGIBLE V508, V508B, V508D, V508D-2, V508D-AG, V508Z, V508E, V508E-AG
For VJ8.508D-AG See NOTE 13

Blade Eligible (See note 2)	Max. Continuous Power		Takeoff power ISA		Nominal Limits		Approximate weight See NOTE 8	
	kW	rpm	kW	rpm	mm	in	kg	lb
Hub Model V508, V508B, V508D, V508D-2, V508D-AG, V508Z, V508E, V508E-AG								
059-1100 (066-1000, 066-1000.1 070-1000)	580	2 080	580	2 080	2 500	98.4	66.8 – 69,0	147.3 – 152.1
076-1100 (076-1000.2, 076-1000, 077-1000)	580	2 080	580	2 080	2 500	98.4	65.3 – 67.5	144.0 – 148.8
076-1100.1 (076-1000.3, 076-1000.1, 077-1000.1)	580	2 080	580	2 080	2 134	84.0	63.8 – 66.0	140.7 – 145.5
076-1100.2 (076-1000.4, 076-1000.5, 077-1000.2)	580	2 080	580	2 080	2 700	106.3	66.8 – 69.0	147.3 – 152.1

CERTIFICATION BASIS Brazilian Type Certificate N° 1999T07 based on the RBHA 35 (Brazilian Requirements for Aeronautical Certification), which endorses the FAR 35, amendments 35-1 to 35-6 inclusive.

TYPE CERTFICATION

Model	Application	Issued TC
VJ8.508D-AG (see NOTE 13)	22 March 1999	18 April 2000
V508, V508B, V508D, V508D-2, V508Z, V508E, V508E-AG	20 October 2003	30 September 2004

PRODUCTION BASIS Not Applicable.

IMPORT REQUIREMENTS Each propeller imported separately and/or spare parts must be accompanied by an export airworthiness approval issued by the primary authority, attesting that the particular propeller and/or parts were submitted to the governmental quality control before delivery and are in conformity with the CTA approved type design.

NOTES:

NOTE 1 Hub model designation:

059-2000	Propeller V508
065-2000	Propeller V508B
066-2000	Propeller V508D
074-2000	Propeller V508D-2
081-2000	Propeller V508D-AG
070-2000	Propeller V508Z
076-2000	Propeller V508E
077-2000	Propeller V508E-AG

NOTE 2 Blade Model Designation:

(a) 99A – Basic blade model designation, blade drawing P/N 059-1100, clockwise rotation (propeller diameter 2500 mm)
  (1) 99A/B1 – P/N 066-1000 – blade with de-icer for versions: V508, V508B, V508D, V508D-2, V508E
  (2) 99A/B2 – P/N 066-1000.1 – blade with de-icer for versions: V508, V508B, V508D, V508D-2, V508E
  (3) 99A/A – P/N 070-1000 – blade without de-icer for all versions.

(b) 99B – Basic blade model designation, blade drawing P/N 076-1100, clockwise rotarion (propeller diameter 2500 mm)
  (1) 99B/B1 – P/N 076-1000.2 – blade with de-icer for versions: V508, V508B, V508D, V508D-2, V508E
  (2) 99B/B2 – P/N 076-1000 – blade with de-icer for versions: V508, 508B, V508D, V508D-2, V508E
  (3) 99B/A – P/N 077-1000 – blade withou de-icer for all versions.

(c) 84 – Basic blade model designation, blade drawing P/N 076-1100.1, clockwise rotation (propeller diameter 2134 mm)
  (1) 84/B1 – P/N 076-1000.3 – blade with de-icer for versions: V508, 508B, V508D, V508D-2, V508E
  (2) 84/B2 – P/N 076-1000.1 – blade with de-ider for versions: V508, 508B, V508D, V508D-2, V508E
  (3) 84/A – P/N 077.1000.1 – blade without de-icer for all versions.

(d) 106 – Basic blade model designation, blade drawing P/N 076-1100.2, clockwise rotation (propeller diamter 2700 mm)
  (1) 106/B1 – P/N 076-1000.4 – blade with de-icer for versions: V508, 508B, V508D, V508D-2, V508E
  (2) 106/B2 – P/N 076-1000.5 – blade with de-icer for versions: V508, 508B, V508D, V508D-2, V508E
  (3) 106/A – P/N 077/1000.2 – blade without de-icer for all versions:

NOTE 3 Propeller designation.

The complete propeller designation is a combination of propeller hub, propeller blade and additional specification.

V508 E /99 B /B1, where:

V 508 Propeller type

E Hub version (model)
Blank – denotes without the overspeed governor
B – denotes without the overspeed governor
D – denotes with the overspeed governor.
D2 – denotes with the overspeed governor, reverse angle -8^{o}
D-AG – denotes with the overspeed governor, minimum flight angle 10^{o}, for agricultural operation.
E – denotes with the overspeed governor, with secondary picth lock.
E-AG – denotes with the overspeed governor, with secondary pitch lock, for agricultural operation
Z – denotes with the overspeed governor, reverse angle -3^{o}, for agricultural operation.

/99 Propeller diameter in inches

B Blade version (model)

/B1 Additional specification

A – denotes without de-icing
B1 – notes de-icing 28VDC, single elemet de-icer (two leads: power and ground).
B2 – denotes de-icing 28 VDC, dual element de-icer (three leads: inboard, outboard and ground).

NOTE 4 Pitch control.

(a) The propellers are approved for flight operation with propeller speed governors:

(1) without secondary pitch lock:

LUN 7815	- for version: V508
LUN 7815.01	- for version: V508B
LUN 7815.02	- for versions: V508D, V508D-AG
LUN 7815.03	- for versions: V508Z, V508D-2

(2) with secondary pitch lock:

LUN 7816	- for versions: V508E, V508E-AG
LUN 7816.01	- for versions: V508E, V508E-AG
LUN 7816.02	- for versions: V508E, V508E-AG

(b) The propellers are approved for flight operation with propeller overspeed governor:

(1) 065-2600	- for versions: V508D, V508D-AG, V508D-2, V508E, V508E-AG.
(2) 070-2600	- for version: V508Z

NOTE 5 (a) Feathering:

The propeller incorporate feathering an unfeathering features when equipped with appropriate mounted instruments (see Note 4 and 8). Blade feathering is accomplished by:

(1) by oil pressure	- all versions
(2) by outweighing moment of counterweights	- all versions

(b) Reversing

All propellers models incorporate reversing feature whe equipped with appropriate mounted instruments (see Note 4). Maximum reverse angle for propeller diameter of 2134 mm/84” and 2500 mm/99” (2700 mm/106”):

(1) V508, V508B, V508D, V508D-AG, V508E, V508E-AG	$-18^{o}30'$ ($-21^{o}30'$)
(2) V508Z	-3^{o} (-6^{o})
(3) V508D-2	-8^{o} (-11^{o})

NOTE 6 Clockwise rotation.

(a) Rotation of the approved propellers is clockwise when locking from the engine side.

NOTE 7 Interchangeability of the propeller blades.

Not applicable

NOTE 8 Accessories.

(a) The propellers are approved for flight operation with the following accessories:

(1) Propeller speed governor (see Note 4)

(2) Propeller overspeed governor (see Note 4)

(3) Electro-hydraulic controller LUN7880.01 – for versions: V508, V508B, V508D, V508D-2, V508E, V508Z, V508D-AG, V508E-AG.

(4) Auxiliary pump LUN 7840 – for versions: V508, V508B, V508D, V508D-2, V508E, V508Z, V508D-AG, V508E-AG.

(5) Pressure switch 0,7S LUN 1469-13 - for versions: V508, V508B, V508D, V508D-2, V508E, V508Z, V508D-AG, V508E-AG.

(6) Time relay LUN 2601 - for versions: V508, V508B, V508D, V508D-2, V508E, V508Z, V508D-AG, V508E-AG.

(7) Timer LUN 3190 - for versions: V508, V508B, V508D, V508D-2, V508E, V508Z, V508D-AG, V508E-AG.

(8) Brush block P 3560 - for versions: V508, V508B, V508D, V508D-2, V508E.
Brush block goodrich 3E2565-1 - for versions: V508, V508B, V508D, V508D-2, V508E.
Brush block P/N 066-6100 - for versions: V508, V508B, V508D, V508D-2, V508E.

(b) Propellers de-icing

(1) The following propeller assembly drawings denote the de-icing electrical installations:

Propeller hub: V508	- P/N 059-0000
Propeller hub: V508B	- P/N 065-0000
Propeller hub: V508D	- P/N 066-0000
Propeller hub: V508D-2	- P/N 074-0000
Propeller hub: V508 E	- P/N 076-0000

(2) The following blade assembly drawing drawings define the installation of the de-icer on the blade:

- P/N 066-1000,	Goodrich de-icer P/N C7057
- P/N 066-1000.1,	Goodrich de-icer P/N C7073
- P/N 076-1000.2,	Goodrich de-icer P/N C7057
- P/N 076-1000,	Goodrich de-icer P/N C7073
- P/N 076-1000.3,	Goodrich de-icer P/N C7057
- P/N 076-1000.1,	Goodrich de-icer P/N C7073
- P/N 076-1000.4,	Goodrich de-icer P/N C7057
- P/N 076-1000.5,	Goodrich de-icer P/N C7073

(c) Propeller spinner.

(1) (1) Weight of the propeller spinner is included in the total weight of propeller.

NOTE 9 Shank fairings.
Not applicable

NOTE 10 Special limits.
Time between overhauls are defined in these documents, part "Airworthiness Limitations":

Version (model)	Overhaul Manual (part number)	Installation and Operation Manual (part number)
V508, V508B V508D, V508D-2 V508D-AG V508E, V508E-AG V508Z	059-8952.7	059-8912.7

NOTE 11 Operating and Service Instructions.
Instruction for continued airworthiness are listed in these documents:

Version (model)	Overhaul Manual (part number)	Installation and Operation Manual (part number)	V508 Series Parts Catalogue (part number)
V508, V508B V508D V508D-2 V508D-AG V508E, V508E-AG V508Z	059-8952.7	059-8912.7	059-8922.7

NOTE 12 Special notes.
(a) The propellers installations must be approved in frame of type certification, or aircraft supplemetary certification and must meet the requirements of appropriate regualtion of the airworthiness.

NOTE 13 The VJ8-508 propeller system was originally approved under the certificate number 1999T07. It is defined by master drawing number 081.0000 as stated in Report V.35-0390-00. A designation change was proposed by AVIA and was accepted by the original Czech Civil Aviation Authority and reflected in the release 2 of the CAA Czech TOLZ 91-01.
The propeller system VJ8-508 corresponds to the V508 propeller unit and accessories.

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