



**TYPE CERTIFICATE DATA SHEET N° EH-2012T13**

Type Certificate Holder:

**MT-Propeller Entwicklung GmbH**

Flugplatzstrasse 1

94348 Atting

**GERMANY**

EH-2012T13-00

Sheet 01

MT-PROPELLER

MTV-14-B

MTV-14-D

05 October 2012

Propellers of models described herein conforming with this data sheet, which is part of Type Certificate No. 2012T13, 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.

<b>TYPE</b>	Hydraulic constant speed propeller with feathering and reversing feature (see Notes 3 and 4)
<b>ENGINE SHAFT</b>	See Note 1
<b>HUB MATERIAL</b>	Aluminum Alloy (Milled)
<b>BLADE MATERIAL</b>	Wood Blade: Laminated wood structure with composite (glasfiber-epoxi) cover. -500 blade series: Aramid Fiber Reinforced Plastics (AFRP) design -600 blade series: Carbon Fiber Reinforced Plastics (CFRP) design The leading edge is equipped with an erosion protection shield device.
<b>NUMBER OF BLADES</b>	4 (four).
<b>HUB</b>	See Note 1.

Hub Eligible (See Note 1)	Blades See Notes 2 & 6	Max. Continuous Power hp (rpm)	Takeoff power hp (rpm)	Diameter Limits m (in)	Pitch Angle* [°]	Approx. Max. Weight ** , *** kg (lb)
MTV -14 - B MTV - 14 - D	-17, -24, -30, -32, -36, -39, -40, - 53, -54, -56, -57, -59, -100, -101, - 105, -113, -114, -115, -117, -118, -	350 (2 700)	350 (2 700)	1.55 to 1.95 max. (61.0 to 76.8 max.)	Min. Max. -20° 86°	25 (55.1)
	119, -130, -301 -517, -556 -617, -656	307 (2 300)	307 (2 300)	1.95 to 2.03 (76.8 to 79.9)	-20° 86°	25 (55.1)

\* - The limits for the pitch angle are defined at 75% blade radius.

\*\* - Propellers with the option "Feather" are 5 kg (11.0 lb) and "Reverse" are 3 kg (6.6 lb) heavier.

\*\*\* - Propellers with both option "Feather and Reverse" are 8 kg (17.6 lb) heavier.

#### CERTIFICATION BASIS

Brazilian Type Certificate No. 2012T13 based on the Brazilian Regulation on Aeronautical Certification – RBHA 35, which endorses the FAR 35 effective 01 February 1965, Amendments 35-1 to 35-5, inclusive for wood-composite blades (original certification).

The following blade model was updated to FAR 35 effective 01 February 1965, Amendments -1 to -7, inclusive:

Wood-composite blades.

The following blade models were added and updated to FAR 35 effective 01 February 1965, Amendments -1 to -7, plus EASA Certification Standards CS-P 240, CS-P 360, CS-P 370, CS-P 380 effective 24 October 2003:

Full composite blades (-500 and -600 series).

#### TYPE CERTIFICATION

<u>Model</u>	<u>Application</u>	<u>Issued TC</u>
MTV-14-B	30 August 2012	05 October 2012
MTV-14-D	30 August 2012	05 October 2012

#### PRODUCTION BASIS

Not Applicable

#### IMPORT REQUIREMENTS

Each propeller imported separately and/or spare parts must be accompanied by an Airworthiness Certificate for Export and/or an Airworthiness Approval Tag, respectively, issued by EASA, attesting that the particular propeller and/or parts were submitted to the governmental quality control before delivery and are in conformity with the ANAC approved type design.

**NOTES:**

**NOTE 1** Hub model Designation MT V - 14 -[i] -[ii] -[iii] -[iv] (v) [vi] /, where:

- MT MT-Propeller Entwicklung GmbH  
V Variable pitch propeller.  
-14 Number of basic model.  
-[i] Letter code for Engine shaft (flange type).  
B = AS-127-D, SAE No. 2 mod., ½ inch-20 UNF bolts.  
D = ARP 502.  
-[ii] Letter code designating counterweights:  
Blank: None or small counterweights for pitch change forces to decrease pitch.  
C: Counterweights for pitch change forces to increase pitch.  
-[iii] Letter code for information about feathering.  
Blank: no feathering possible.  
F: Feathering position allowed.  
-[iv] Letter code for information about reverse.  
Blank: no reverse possible.  
R: reverse position allowed.  
(v) Letter code for information about reverse system.  
(M) = System Mühlbauer  
[vi] Letter code for information about design changes.  
Small letter: modifications which do not affecting interchangeability.  
Capital letter: modifications which affect interchangeability.

**NOTE 2** Blade Model Designation / [i] [ii] [iii] -[iv] [v] , where:

- [i] Letter code for position of pitch change pin.  
Blank: Position for pitch change forces to decrease pitch.  
C: Position for pitch change forces to increase pitch.  
CR: Position to allow reverse (pitch change forces to increase pitch)  
CF: Position to allow feather (pitch change forces to increase pitch)  
CFR: Position for feather and reverse (pitch change forces to increase pitch)

- [ii] Letter code for sense of rotation (viewed in flight direction)
  - Blank: Right hand tractor
  - RD: Right hand pusher
  - L: Left hand tractor
  - LD: Left hand pusher
- [iii] Propeller diameter in cm
- [iv] Number of blade design, contains construction and aerodynamic data.
- [v] Letter code for blade design changes
  - Small letter: modifications which do not affect interchangeability of blade sets.
  - Capital letter: modifications which affect interchangeability of blade sets.

- NOTE 3** Pitch control:  
a) Pitch control is provided by hydraulic system.  
b) The propellers are approved for flight operations with propeller speed governors which are listed in MT Service Bulletin No. 14( ).  
c) Time Between Overhauls (TBO) for governor is published in MT-Propeller Service Bulletin No. 1( ).
- NOTE 4** Feathering and Reversing:  
a) Feathering. The propellers may incorporate feathering and unfeathering features.  
b) Reversing. The propellers may incorporate reversing feature. Maximum reverse angle is minus 20°.
- NOTE 5** Left hand rotation model:  
Left hand models are identified by a letter-code in the blade designation. Version of the approved model with opposite hand rotation is approved at the same rating and diameter limitations. See Note 2.
- NOTE 6** Interchangeability:  
See NOTE 1 and NOTE 2.
- NOTE 7** Accessories:  
a) Propeller Spinners: Refer to published list in MT-Propeller Service Bulletin No. 13.  
b) Propeller Governors: Refer to published list in MT-Propeller Service Bulletin No. 14.  
c) Deicing Systems: Refer to published list in MT-Propeller Service Bulletin No. 15.
- NOTE 8** Shank Fairings: Not included or predicted in the design.
- NOTE 9** Special Limits: Not applicable.
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**NOTE 10**    **The propeller installation must be approved as part of the aircraft type certificate to demonstrate compliance with the applicable aircraft airworthiness standards.**

**NOTE 11**    Special Notes:

- a) Aircraft installations must be approved as part of the aircraft type certificate and demonstrate compliance with the applicable aircraft airworthiness requirements.
- b) All MTV-14-( ) propellers are to be operated within the limits of MT-Propeller Operation and Installation Manual No:
  - E-124    For non reversible propellers (latest revision)
  - E-504    For reversible propeller, system Mülhbauer (latest revision)
  - E-508    For hydraulic reversible propeller governor P-480( ) (latest revision)
  - E-1046    For hydraulic reversible propeller governor P-9( )( ) - ( ) (latest revision)
- c) All MTV-14-( ) propellers are to adhere to the TBO limits shown in the MT-Propeller Service Bulletin No.1( ). Propeller maintenance, on overhaul, and airworthiness limitations shall be accomplished in accordance with MT-Propeller Overhaul Manual No:
  - E-220    For non-reversible propeller (latest revision)
  - E-519    For reversible propeller, system Mülhbauer (latest revision)
  - E-1290    Composite Blade Overhaul Manual (latest revision)



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