TYPE-CERTIFICATE DATA SHEET

No. P.017

for Propeller
MTV-14 series

Type Certificate Holder
MT-Propeller Entwicklung GmbH

Flugplatzstraße 1
94348 Atting
Germany

For Models:
MTV-14-B
MTV-14-D

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I. General

1. Type / Models

MTV-14 / MTV-14-B, MTV-14-D

2. Type Certificate Holder

MT-Propeller Entwicklung GmbH
Flugplatzstraße 1
94348 Atting
Germany

Design Organisation Approval No.: EASA.21J.020

3. Manufacturer

MT-Propeller Entwicklung GmbH

4. Date of Application

MTV-14-B: 16 July 1991
MTV-14-D: 16 July 1991

5. EASA Type Certification Date

MTV-14-B: 26 September 1991
MTV-14-D: 26 September 1991

II. Certification Basis

1. Reference Date for determining the applicable airworthiness requirements:

16 July 1991

2. EASA Certification Basis

2.1. Airworthiness Standards

Note:
Application was made to LBA-Germany before EASA was established. The applicable airworthiness standards were established in accordance with the rule in Germany at the time of application. Initial airworthiness standard was 14 CFR Part 35 Amendment 35-5, effective 14 October 1980. Update to 14 CFR Part 35 Amendment 35-6, effective 18 August 1990, was made on 10 July 1998 (LBA-Germany Type Certificate Data Sheet No. 32.130/78 issue 03). Update to 14 CFR Part 35 Amendment 35-7, effective 28 December 1995, was made on 12 December 2006 (EASA Type Certificate Data Sheet No. P.017 issue 01).

MTV-14 propellers fitted with wooden blades	FAR 35 Amdt. 35-7 effective December 28, 1995
MTV-14 propellers fitted with full composite blades	FAR 35 Amdt. 35-7 effective December 28, 1995 plus CS-P 240, CS-P 360, CS-P 370, CS-P 380 initial issue effective October 24, 2003

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 MTV-14 propeller model is defined by a main assembly drawing and associated parts list:

MTV-14-(*1) and MTV-14-(*1)-C
Design Configuration “Constant Speed”
Drawing No. P-223-( ) dated 13 October 1988 (*2)
Parts List No. S-032-( ) dated 17 July 1991 (*2)

MTV-14-(*1)-C-F
Design Configuration “Constant Speed, Feather”
Drawing No. P-488-( ) dated 18 January 1996 (*2)
Parts List No. S-069-( ) dated 11 October 1996 (*2)

MTV-14-(*1)-C-R(M)
Design Configuration “Constant Speed, Reverse (System Mühlbauer)”
Drawing No. P-568-( ) dated 07 January 1998 (*2)
Parts List No. S-086-( ) dated 21 April 1998 (*2)

MTV-14-(*1)-C-F-R(M)
Design Configuration “Constant Speed, Feather, Reverse (System Mühlbauer)”
Drawing No. P-569-( ) dated 07 January 1998 (*2)
Parts List No. S-087-( ) dated 21 April 1998 (*2)

MTV-14-D-C-F-R(A)
Design Configuration “Constant Speed, Feather, Reverse (System Allison)”
Drawing No. P-1076-( ) dated 16 January 2008 (*2)
Parts List No. S-179-A dated 05 June 2018 (*2)

Note:

(*1) Two versions of hub flanges are available (refer to drawing):
- B = AS-127-D, SAE No. 2 mod., 1/2 inch bolts
- D = ARP-502, Type 1

(*2) Or later approved revision. Following a revision, the Drawing No. or the Parts List No. includes the corresponding revision letter, e.g. from P-223-1 in P-223-1-A.

2. Description

4-blade variable pitch propeller with a hydraulically operated blade pitch change mechanism providing the operation mode “Constant Speed”, “Feather” and “Reverse”. The hub is milled out of aluminium alloy. The blade materials are:

- Wooden blades: Laminated wood structure with a composite fibre cover;
- 500 blade series: Aramid Fiber Reinforced Plastics (AFRP) design;
- 600 blade series: Carbon Fiber Reinforced Plastics (CFRP) design.

The leading edge of the blade is equipped with an erosion protection device.
Optional equipment includes spinner and ice protection.

3. Equipment

Spinner: refer to MT-Propeller Service Bulletin No. 13
Governor: refer to MT-Propeller Service Bulletin No. 14
Ice Protection: refer to MT-Propeller Service Bulletin No. 15
All propeller equipment must be approved as part of the aircraft installation regardless of manufacturer.

4. Dimensions

Propeller diameter: 155 cm to 235 cm

5. Weight

Depending on Propeller-Design Configuration

“Constant Speed”:	approx. 25 kg
“Constant Speed, Reverse”:	approx. 28 kg
“Constant Speed, Feather”:	approx. 30 kg
“Constant Speed, Feather, Reverse”:	approx. 33 kg

6. Hub / Blade Combinations

MTV-14-( )	-17, -24, -30, -32, -36, -39, -40, -53, -54, -56, -57, -59, -86, -100, -101, -105, -113, -114, -115, -117, -118, -119, -130, -131,-301, -302 AFRP blades: -517, -556 CFRP blades: -617, -656

7. Control System

Propeller governors as listed in MT-Propeller Service Bulletin No. 14.

8. Adaptation to Engine

Hub flanges as identified by a letter-code in the propeller designation (see VI.5.)

9. Direction of Rotation

Direction of rotation (viewed in flight direction) as identified by a letter-code in the propeller designation (see VI.5.)

IV. Operating Limitations

1. Approved Installations

The suitability of a propeller for a given aircraft/engine combination must be demonstrated within the scope of the type certification of the aircraft.

2. Maximum Take Off Power and Speed

Max. Take Off Power (kW)	Max. Take Off Speed (rpm)	Diameter (cm)
298	2500	155 to 205
298	2030	155 to 220
280	2575	155 to 208
261	2700	Less than 195
257	2309	155 to 235
228	2300	195 to 203

3. Maximum Continuous Power and Speed

Max. Cont. Power (kW)	Max. Cont. Speed (rpm)	Diameter (cm)
261	2500	155 to 205
287	2030	155 to 220
280	2575	155 to 208
261	2700	Less than 195
243	2309	155 to 235
228	2300	195 to 203

4. Propeller Pitch Angle

From -20° up to +86° measured at 75% radius station

V. Operating and Service Instructions

Manuals	
Operation and Installation Manual for hydraulically controlled variable pitch propeller MTV-14-( ), MTV-14-( )-C, MTV-14-( )-C-F	No. E-124 (*)
Operation and Installation Manual for reversible hydraulically controlled variable pitch propeller; Reverse-Systems (M) MTV-14-( )-C-R(M), MTV-14-( )-C-F-R(M)	No. E-504 (*)
Operation and Installation Manual for reversible hydraulically controlled variable pitch propeller (constant speed propeller) MTV-14-D-C-F-R(A)	No. E-610 (*)

Instructions for Continued Airworthiness (ICA)	
Operation and Installation Manual for hydraulically controlled variable pitch propeller MTV-14-( ), MTV-14-( )-C, MTV-14-( )-C-F	No. E-124 (*)
Operation and Installation Manual for reversible hydraulically controlled variable pitch propeller; Reverse-Systems (M) MTV-14-( )-C-R(M), MTV-14-( )-C-F-R(M)	No. E-504 (*)
Operation and Installation Manual for reversible hydraulically controlled variable pitch propeller (constant speed propeller) MTV-14-D-C-F-R(A)	No. E-610 (*)
Overhaul Manual and Parts List for hydraulically controlled variable pitch propeller MTV-14-( ), MTV-14-( )-C, MTV-14-( )-C-F	No. E-220 (*)
Overhaul Manual and Parts List for reversible hydraulically controlled variable pitch propeller; Reverse-Systems (M) MTV-14-( )-C-R(M), MTV-14-( )-C-F-R(M)	No. E-519 (*)
Overhaul Manual and Parts List for reversible hydraulically controlled variable pitch propeller (constant speed propeller) MTV-14-D-C-F-R(A)	No. E-680 (*)
Overhaul Manual for Composite Blades (also applicable to wooden blades)	No. E-1290 (*)
Standard Practice Manual	No. E-808 (*)
Service Bulletins, Service Letters, Service Instructions	As published by MT-Propeller

(*) latest revision of

VI. Notes

1. The EASA approved Airworthiness Limitations Section of the Instructions for Continued Airworthiness is published in the applicable "Operation, Installation and Maintenance Manual" document, chapter 10.0 "Airworthiness Limitations Section”. This ALS section is empty because no life limit is necessary for these models.

2. Some models of this propeller can incorporate a start pitch lock which may prevent propeller feathering below a given propeller speed.

3. The overhaul intervals recommended by the manufacturer are listed in MT-Propeller Service Bulletin No. 1.

4. EASA Type Certificate and Type Certificate Data Sheet No. P.017 replace LBA-Germany Type Certificate and Type Certificate Data Sheet No. 32.130/78.

5. Propeller designation system:

				Hub							/	Blade					
MT	V	-	14	-	( )	( )	( )	( )	( )	( )	/	( )	( )	203	-	56	( )
1	2		3		4	5	6	7	8	9	/	1	2	3		4	5

Hub

1 MT-Propeller Entwicklung GmbH

2 Variable pitch propeller

3 Identification of propeller type

4 Letter code for flange type:
- B: AS-127-D, SAE No. 2 mod., 1/2 inch-20 UNF bolts
- D: ARP 502

5 Letter code for counterweights:
- blank = no or small counterweights for pitch change forces to decrease pitch
- C = counterweights for pitch change forces to increase pitch

6 Letter code for feather provision:
- blank = no feather position possible
- F = feather position allowed

7 Letter code for reverse provision:
- blank = no reverse position possible
- R = reverse position allowed

8 Letter code for reversing system:
- M = System Mühlbauer
- A = System Allison

9 Letter code for hub design changes:
- small letter for changes which do not affect interchangeability
- capital letter for changes which affect interchangeability

Blade

1 Letter code for position of pitch change pin:
- blank = pin position for pitch change forces to decrease pitch
- C = pin position for pitch change forces to increase pitch
- CF = pin position to allow feather; pitch change forces to increase pitch
- CR = pin position to allow reverse; pitch change forces to increase pitch
- CFR = pin position to feather and reverse; pitch change forces to increase pitch

2 Letter code for direction of rotation and installation:
- blank = right-hand tractor
- RD = right-hand pusher
- L = left-hand tractor
- LD = left-hand pusher

3 Propeller diameter in cm

4 Identification of blade design

5 Letter code for blade design changes:
- small letter for changes which do not affect interchangeability of blade set
- capital letter for changes which affect interchangeability of blade set

SECTION: ADMINISTRATIVE

I. Acronyms and Abbreviations

n/a

II. Type Certificate Holder Record

n/a

III. Change Record

TCDS Issue	Date	Changes	TC Issue Date
Issue 01	12 December 2006	Initial issue following completion of LBA project ref. T507-MTP-04/13 (Approval of full composite blades -517, -556, -617, -656, approval of wooden blades -54, -130, increase of diameter to 203cm, use of FAR35 with Amdts 35-1 to 35-7).	Initial Issue, 12 December 2006
Issue 02	29 June 2018	New EASA TCDS format. Approval of wooden blades -86, -131, -302. Addition of Allison reverse system -R(A). New power ratings (certificate 10066028). Amendment of paragraph III.3. Equipment. Amendment of the notes.	12 December 2006

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