

I. General

1. Type/Variants

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

2. Type Certificate Holder

MT-Propeller Entwicklung GmbH
Flugplatzstraße 1
94348 Atting
Germany

Design Organisation Approval Nr.: 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. Reference Date for determination of the applicable requirements

16 July 1991

6. Certification Date

MTV-14-B : 26 September 1991

MTV-14-D : 26 September 1991

Note: EASA Type Certification of the MTV-14 propeller has been covered previously by German Type Certificate No. 32.130/78

II. Certification Basis

1. Airworthiness Standards

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

Note: Initial type certification was based on airworthiness standard FAR 35 Amdt 35-5, effective 14 October 1980.
Update of type certification to airworthiness standard FAR 35 Amdt. 35-6 was made on application of MT-Propeller, dated 28 January 1997.
Update of type certification to airworthiness standard FAR 35 Amdt. 35-7 was made on application of MT-Propeller, dated 29. November 2004.

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)

Note:

- (*1) Two versions of hub flange are available:
- B = AS-127-D, SAE No. 2 mod., 1/2 inch bolts
- D = ARP-502, Type 1
- (*2) After a revision, the Drawing No. or the Parts List No. will be completed with the current 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 aluminum alloy. The blade materials are:

1. wood-composite blades: Laminated wood structure with epoxy-fiber glass cover
2. -500 blade series: Aramid Fiber Reinforced Plastics (AFRP) design
3. -600 blade series: Carbon Fiber Reinforced Plastics (CFRP) design

The leading edge of the blades are equipped with an erosion protection device. Optionally the propeller may have installed a spinner and ice protection equipment.

3. Equipment

Spinner: according to MT-Propeller Service Bulletin No. 13
Governor: according to MT-Propeller Service Bulletin No. 14
Ice Protection: according to MT-Propeller Service Bulletin No. 15

4. Dimensions

Propeller-Diameter: 155 cm to 203 cm

Note: The propeller type certification is valid for any MTV-14 propeller model with a diameter covered by the declared diameter range.
Individual propeller diameter is determined particularly by the demands of the aircraft on which the propeller will be installed.

5. Weights

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

Hub	Blades
MTV-14-()	-17, -24, -30, -32, -36, -39, -40, -53, -54, -56, -57, -59, -100, -101, -105, -113, -114, -115, -117, -118, -119, -130, -301 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 in the propeller designation (refer to note VI.3)

9. Direction of Rotation

Direction of rotation (viewed in flight direction) as identified by a letter in the propeller designation (refer to note VI. 3.)

IV. Operational Limits

1. Maximum Take Off Power and Speed

	Diameter ≤195 cm	195 cm < Diameter ≤ 203 cm
Maximum Take Off Power	261 kW	228 kW
Maximum Take Off Speed	2700 rpm	2300 rpm
Maximum Inadvertent Overspeed	-	2500 rpm

2. Maximum Continuous Power and Speed

	Diameter ≤195 cm	195 cm < Diameter ≤ 203 cm
Maximum Take Off Speed	2700 rpm	2300 rpm
Maximum Take Off Power	261 kW	228 kW

3. Propeller Pitch Angle

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

V. Operating and Service Instructions

Operation and Installation Manual for hydraulically controlled variable pitch propeller	No. E-124 Issue 05 May 1991 (*)
Operation and Installation Manual for reversible hydraulically controlled variable pitch propeller - reverse-Systems (M)	No. E-504, Issue 30 March 1998 (*)
Operation and Installation Manual for hydraulic reverse propeller governor P-480()	No. E-508, Issue 06 Sept. 1996 (*)
Operation and Installation Manual for hydraulic reversible propeller governor P-9()(-) ()	E-1046 Issue 01 April 2004 (*)
Overhaul Manual and Parts List for hydraulically controlled variable pitch propeller	No. E-220 Issue 28 May 1998 (*)
Overhaul Manual and Parts List for hydraulically controlled variable pitch propeller	No. E-128 Issue 07 May 1991 was replaced by E-220 on 01 June 1998
Overhaul Manual and Parts List for reversible hydraulically controlled variable pitch propeller; Reverse-Systems (M)	No. E-519 Issue 27 April 1998 (*)
Composite Blade Overhaul Manual	No. E-1290 Issue 3 14 Nov. 2006 (*)
Service Bulletins	as noted in the current List of Service Bulletins

(*) or later approved revision

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 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 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
