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# TYPE-CERTIFICATE DATA SHEET

EASA.P.096

**for Propeller**  
MTV-9 Series

**Type Certificate Holder**  
MT-Propeller Entwicklung GmbH

Flugplatzstraße 1  
94348 Atting  
Germany

For Models:

MTV-9-AA  
MTV-9-B  
MTV-9-D  
MTV-9-E  
MTV-9-K



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## **I. General**

### **1. Type / Models**

MTV-9 / MTV-9-AA, MTV-9-B, MTV-9-D, MTV-9-E, MTV-9-K

### **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-9-AA: 01 June 2017  
MTV-9-B: 19 January 1990  
MTV-9-D: not identified  
MTV-9-E: 17 May 2001  
MTV-9-K: 17 May 2001

### **5. EASA Type Certification Date**

MTV-9-AA: 06 December 2018  
MTV-9-B: 08 March 1990  
MTV-9-D: 17 December 1987  
MTV-9-E: 27 September 2001  
MTV-9-K: 27 September 2001



## **II. Certification Basis**

### **1. Reference Date for determining the applicable airworthiness requirements:**

Not identified<sup>1</sup>

<sup>1</sup> This is the application date of the first certified model, this being MTV-9-D. As the application date for the MTV-9-D could not be identified (see 4.), the reference date for determining the applicable airworthiness requirements is also not identified.

### **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 19 May 1999 (LBA-Germany Type Certificate Data Sheet No. 32.130/65 issue 6). Update to 14 CFR Part 35 Amendment 35-7, effective 28 December 1995, was made on 11 December 2003 (LBA-Germany Type Certificate Data Sheet No. 32.130/65 issue 10).

MTV-9-B, MTV-9-D, MTV-9-E, MTV-9-K	14 CFR Part 35, as amended by 35-1 through 35-7, effective 28 December 1995
MTV-9-AA	14 CFR Part 35, as amended by 35-1 through 35-7, effective 28 December 1995

#### **2.2. Special Conditions (SC):**

None

#### **1.3. Equivalent Safety Findings (ESF):**

None

#### **1.4. Deviations:**

None



### III. Technical Characteristics

#### 1. Type Design Definition

The MTV-9 propeller model consists of different design configurations, each one of the design configurations may have different versions of the hub flange. Each design configuration is by a main assembly drawing and associated parts list as per the following table:

Design Configuration	Assembly Drawing	Parts List
MTV-9-(*)-(C) Constant Speed	P-154-(x) P-1392-(x) **	S-013-(x) S-205-(x) **
MTV-9-(*)-C-F Constant Speed + Feather	P-540-(x) P-1576-(x) **	S-065-2-(x) S-220-(x) **
MTV-9-(*)-C-R(M) Constant Speed + Reverse (System Mühlbauer)	P-529-(x)	S-072-1-(x)
MTV-9-(*)-C-F-R(M) Constant Speed + Feather + Reverse (System Mühlbauer)	P-525-(x)	S-072-(x)
MTV-9-(*)-C-F-R(A) Constant Speed + Feather + Reverse (System Allison)	P-1573-(x)	S-219-(x)
MTV-9-(*)-C-F-R(P) Constant Speed + Feather + Reverse (System Pratt&Whitney)	P-424-(x)	S-055-(x)
MTV-9-(*)-C-F-R(W) Constant Speed + Feather + Reverse (System Walter)	P-786-(x)	S-136-(x)
<p><b>Notes:</b></p> <p>1. Five versions of hub flanges are available: *: -B = SAE No. 2 mod., 1/2" – 20 UNF bolts -D = ARP-502, 1/2" – 20 UNF bolts -E = ARP-880, 9/16" – 18 UNF bolts -K = 135 mm bolt circle diameter with 6 bolts, 9/16" each (for M-14 engines) **: -AA = flange mount for adapter to SAE No. 20 spline</p> <p>2. In the assembly drawing number and the part list number, the suffix (x) indicates the revision status.</p>		

#### 2. Description

3-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 blades have a laminated wood structure with a composite fibre cover. 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 (see also VI.6)  
Governor: refer to MT-Propeller Service Bulletin No. 14 (see also VI.6)  
Ice Protection: refer to MT-Propeller Service Bulletin No. 15 (see also VI.6)

### 4. Dimensions

Blade diameter: 175 cm to 260 cm

### 5. Weight

Depending on Propeller-Design Configuration

“Constant Speed”:	approx. 24 kg
“Constant Speed, Feather”:	approx. 29 kg
“Constant Speed, Reverse”:	approx. 27 kg
“Constant Speed, Feather, Reverse”:	approx. 32 kg

### 6. Hub / Blade Combinations

For all design configurations listed under III.1 the following wooden blades are applicable:

-02, -11, -14, -15, -18, -20, -21, -22, -25, -26, -27, -29, -33, -34, -35, -37, -42, -43, -45, -46, -50, -52, -55, -58, -61, -62, -63, -65, -66, -67, -102, -103, -104, -109, -111, -116, -120, -121, -133, -134, -135, -136, -142, -150, -151

### 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**

Diameter (cm)	Maximum Take Off Power (kW)	Maximum Take Off Speed (rpm)
175 to 213 cm	314	2700
175 to 250 cm	634	2300
175 to 260 cm	314	1975
175 to 260 cm	634	2200

### **3. Maximum Continuous Power and Speed**

Diameter (cm)	Maximum Continuous Power (kW)	Maximum Continuous Speed (rpm)
175 to 213 cm	314	2700
175 to 250 cm	634	2300
175 to 260 cm	314	1975
175 to 260 cm	634	2200

### **4. Propeller Pitch Angle**

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





## **V. Operating and Service Instructions**

<b>Manuals</b>	
Operation and Installation Manual for hydraulically controlled variable pitch propeller MTV-9-( ), MTV-9-( )-C-F	No. E-124 (*)
Operation and Installation Manual for reversible hydraulically controlled variable pitch propeller; Reverse-Systems (M) MTV-9-( )-C-R(M)	No. E-504 (*)
Operation and Installation Manual for reversible hydraulically controlled variable pitch propeller; Reverse-Systems (A), (P), (W) MTV-9-( )-C-F-R(A/P/W)	No. E-610 (*)

<b>Instructions for Continued Airworthiness (ICA)</b>	
Operation and Installation Manual for hydraulically controlled variable pitch propeller MTV-9-( ), MTV-9-( )-C-F	No. E-124 (*)
Operation and Installation Manual for reversible hydraulically controlled variable pitch propeller; Reverse-Systems (M) MTV-9-( )-C-R(M)	No. E-504 (*)
Operation and Installation Manual for reversible hydraulically controlled variable pitch propeller; Reverse-Systems (A), (P), (W) MTV-9-( )-C-F-R(A/P/W)	No. E-610 (*)
Overhaul Manual and Parts List for hydraulically controlled variable pitch propeller MTV-9-( ), MTV-9-( )-C-F	No. E-220 (*)
Overhaul Manual and Parts List for reversible hydraulically controlled variable pitch propeller; Reverse-Systems (M) MTV-9-( )-C-R(M)	No. E-519 (*)
Overhaul Manual and Parts List for reversible hydraulically controlled variable pitch propeller; Reverse-Systems (A), (P), (W) MTV-9-( )-C-F-R(A/P/W)	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 (ALS) 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.096 replace LBA-Germany Type Certificate and Type Certificate Data Sheet No. 32.130/65.



## 5. Propeller designation system:

Hub / Blade  
MT V - 9 - ( ) ( ) ( ) ( ) ( ) - ( ) / ( ) ( ) 200 - 15 ( )  
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 = SAE No. 2 mod., 1/2" – 20 UNF bolts
  - D = ARP-502, 1/2" – 20 UNF bolts
  - E = ARP-880, 9/16" – 18 UNF bolts
  - K = 135 mm bolt circle diameter with 6 bolts, 9/16" each (for M-14 engines)
  - AA = flange mount for adapter to SAE No. 20 spline
- 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
  - P = System Pratt & Whitney
  - W = System Walter
- 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
6. The equipment listed in SBs No.13, 14 and 15 is not included in the certified Type Design. Related propeller equipment must be approved as part of the aircraft installation regardless of manufacture.



## **SECTION: ADMINISTRATIVE**

### **I. Acronyms and Abbreviations**

CFR Code of Federal Regulations  
LBA Luftfahrt Bundesamt

### **II. Type Certificate Holder Record**

As per I.2

### **III. Change Record**

<b>TCDS Issue</b>	<b>Date</b>	<b>Changes</b>	<b>TC Issue Date</b>
Issue 01	06 December 2018	Initial issue following approval of additional rating, additional reverse systems, additional blade types as well as of additional propeller variant MTV-9-AA, EASA approval No. 10026692. The type was previously covered by LBA TCDS No. 32.130/65.	Initial Issue, 06 December 2018
Issue 02	22 March 2021	Include new power rating, reference EASA approval No. 10075916	As for Issue 1 above

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