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# TYPE-CERTIFICATE DATA SHEET

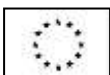
No. P.045

**for Propeller**  
MTV-47  
Series

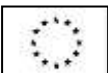
**Type Certificate Holder**  
MT-Propeller Entwicklung GmbH

Flugplatzstraße 1  
94348 Atting  
Germany

For Models:  
MTV-47-1

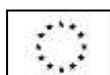


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## **I. General**

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

MTV-47 / MTV-47-1

### **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-47-1: 13 February 2018

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

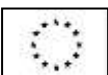
MTV-47-1: 04 February 2020

(see also Note 5)

## **II. Certification Basis**

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

13 February 2018



## 2. EASA Certification Basis

### 2.1. Airworthiness Standards

CS-P amendment 1, dated 16 November 2006

### 2.2. Special Conditions (SC): None

### 2.3. Equivalent Safety Findings (ESF): None

### 2.4. Deviations: None

## III. Technical Characteristics

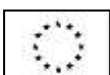
### 1. Type Design Definition

The MTV-47 propeller consists of different design configurations. 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-47-1-E/N-( )-( ) Constant Speed + Feather	P-1640-(x)	S-231-(x)
MTV-47-1-E/N-C-F-R(G) Constant Speed + Feather + Reverse (System Garrett)	P-1641-(x)	S-232-(x)
MTV-47-1-E/N-C-F-R(M) Constant Speed + Feather + Reverse (System Mühlbauer)	P-1642-(x)	S-233-(x)
MTV-47-1-E/N-C-F-R(P) Constant Speed + Feather + Reverse (System Pratt&Whitney)	P-1590-(x)	S-226-(x)
<b>Note:</b> There are two versions of hub flange available: -E: ARP 880 -N: BCD 5.125 inches, twelve 9/16"-18 UNF bolts, 2 index pins.		

## 2. Description

7-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 composite structure coated in with a composite fibre reinforced epoxy. 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

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.

### 4. Dimensions

Blade diameter: 160 cm to 270 cm

### 5. Weight

Depending on Propeller-Design Configuration

“Constant Speed”: approx. 74 kg  
“Constant Speed, Feather”: approx. 85 kg  
“Constant Speed, Reverse”: approx. 89 kg  
“Constant Speed, Feather, Reverse”: approx. 98 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, -360, -361, -362, -363, -364

### 7. Control System

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

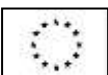
### 8. Adaptation to Engine

There are two versions of hub flange available:

-E: ARP 880  
-N: BCD 5.125 inches, twelve 9/16"-18 UNF bolts, 2 index pins.

### 9. Direction of Rotation

Direction of rotation (viewed in flight direction) as identified by a letter-code in the propeller designation (see VI.4.)



## **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. See also Note 5.

### **2. Maximum Take Off Power and Speed**

Diameter (cm)	Maximum Take Off Power (kW)	Maximum Take Off Speed (rpm)
160-230	1268	2000
160-270	1268	1700

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

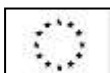
Diameter (cm)	Maximum Continuous Power (kW)	Maximum Continuous Speed (rpm)
160-230	1268	2000
160-270	1268	1700

### **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-47-1-E/N-( )-( )	No. E-124 (*)
Operation and Installation Manual for reversible hydraulically controlled variable pitch propeller; Reverse-Systems (M) MTV-47-1-E/N-C-F-R(M)	No. E-504 (*)
Operation and Installation Manual for reversible hydraulically controlled variable pitch propeller; Reverse-Systems (G), (P) MTV-47-1-E/N-C-F-R(G/P)	No. E-610 (*)

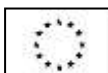


Instructions for Continued Airworthiness (ICA)	
Operation and Installation Manual for hydraulically controlled variable pitch propeller MTV-47-1-E/N-( )-( )	No. E-124 (*)
Operation and Installation Manual for reversible hydraulically controlled variable pitch propeller; Reverse-Systems (M) MTV-47-1-E/N-C-F-R(M)	No. E-504 (*)
Operation and Installation Manual for reversible hydraulically controlled variable pitch propeller; Reverse-Systems (G), (P) MTV-47-1-E/N-C-F-R(G/P)	No. E-610 (*)
Overhaul Manual and Parts List for hydraulically controlled variable pitch propeller MTV-47-1-E/N-( )-( )	No. E-220 (*)
Overhaul Manual and Parts List for reversible hydraulically controlled variable pitch propeller; Reverse-Systems (M) MTV-47-1-E/N-C-F-R(M)	No. E-519 (*)
Overhaul Manual and Parts List for reversible hydraulically controlled variable pitch propeller; Reverse-Systems (G), (P) MTV-47-1-E/N-C-F-R(G/P)	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. Propeller designation system:

MT V - 47-1 - ( ) ( ) ( ) ( ) - ( ) / ( ) ( ) 270 - 65 ( )  
1 2 3 4 5 6 7 8 9 / 1 2 3 4 5

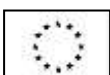
Hub / Blade

##### Hub

- 1 MT-Propeller Entwicklung GmbH
- 2 Variable pitch propeller
- 3 Identification of propeller type
- 4 Letter code for flange type:
  - E = ARP 880
  - N = BCD 5.125 inches, twelve 9/16"-18 UNF bolts, 2 index pins
- 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
  - G = System Garrett
  - P = System Pratt & Whitney
- 9 Letter code for hub design changes:
  - small letter for changes which do not affect interchangeability
  - capital letter for changes which affect interchangeability

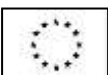
##### Blade

- 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**

Not applicable.

### **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	04 February 2020	Initial issue	Initial Issue, 04 February 2020
Issue 02	15 May 2020	Note 5 in issue 01 stated that compliance with CS-P Subpart D had not been demonstrated. Issue 02 removes this note and all references to the note after compliance with CS-P Subpart D has been demonstrated, reference EASA Major Change approval No. 10073264	

-END-

