



# SUPPLEMENTAL TYPE CERTIFICATE

**EASA.A.S.01202**

This certificate, established in accordance with Regulations (EC) No 1592/2002 and (EC) No 1702/2003 and issued to:

**MT-Propeller Entwicklung GmbH**  
Flugplatzstrasse 1  
94348 Atting  
Germany

certifies that the change in the type design for the product listed below with the limitations and conditions specified meets the applicable type certification basis and environmental protection requirements when operated within the conditions and limitations specified below:

**Original Product Type Certificate number:** *LBA TCDS No 1063 since issue 14*  
**Manufacturer:** *Socata Aerospatiale*  
**Model:** *Socata TB 21*

**Description of Design Change:**

Installation of MTV-9-B/198-52 hydraulically controlled 3-blade constant speed propeller



**Associated Technical Documentation:**

- Instructions for Continued Airworthiness and Installation Instructions No E-1189
- Airplane Flight Manual Supplement No E-1187
- German "Anhang zum Flughandbuch" No E-1186

**Limitations and Conditions:**

This STC is approved only for the product configuration as defined in the approved design data referred to in the paragraph "Description". Compatibility with other aircraft/engine configurations shall be determined by the installer.

This certificate shall remain valid unless otherwise surrendered or revoked.

For the European Aviation Safety Agency,  
Date of Issue: 1 August 2005

  
**Dr. N. Lohl**  
Certification Director



Ausgabe vom 20.06.2005  
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## **Umrüst- und Wartungsanweisung Nr. E-1188**

Für die Installation des 3-Blatt-Constant Speed Propellers

**MTV-9-B/198-52**

mit MT-Propeller Spinner P-666-2

an den Flugzeugbaureihen:

**Socata TB21 Gerätekenblatt Nr.: 1063**

DIE ÄNDERUNG DARF ERST DURCHGEFÜHRT WERDEN, WENN SICH DIE DURCHFÜHRENDE STELLE ÜBERZEUGT HAT, DASS NICHT BEREITS EINE ÄNDERUNG ERFOLGT IST, DIE IN VERBINDUNG MIT DIESER ÄNDERUNG ZU EINER BEEINTRÄCHTIGUNG DER LUFTTÜCHTIGKEIT DES LUFTFAHRZEUGES FÜHREN KANN.

### **I. Zugehörige Betriebsanweisungen:**

Betriebs- und Einbauanweisung Nr. E-124, neueste Ausgabe  
Anhang zum LBA-anerkannten Flughandbuch Nr. E-1186, neueste Ausgabe.

### **II. Wartungsanweisung/Lufttüchtigkeitsbegrenzungen**

Propeller:

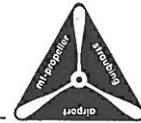
- ◆ Keine Lufttüchtigkeitsbegrenzungen.
- ◆ Wartungsanweisungen gemäss Betriebs- und Einbauanweisung für hydraulische Verstellpropeller Nr. E-124, neueste Ausgabe
- ◆ Überholungsintervall (TBO) gemäss MT-Propeller TM Nr. 1( ), neuste Ausgabe.

### **III. Umrüstanweisung**

1. Angebauten Verstellpropeller und Spinner abbauen.  
Vorhandener Propeller-Regler wird mit veränderter Einstellung weiter verwendet.  
Anschlagschraube für maximale Propellerdrehzahl wird auf 2575 U/min eingestellt.
2. Bei installiertem Flüssigkeitsenteisungssystem (TKS) muß das vorhandene Versorgungsröhrchen zum Propeller durch das Versorgungsröhrchen MT-Propeller Nr. B-471 ersetzt und mit Draht gesichert werden.
3. Stückliste der zusätzlichen Ausrüstungsteile für die Propellerumrüstung mit Flüssigkeitsenteisung

Menge	Sachnummer	Benennung
1	B-471	Rohr Fluid Deice Flugzeugseite

4. Triebwerksflansch und Propellerflansch des neuen Propellers reinigen. Neuen O-Ring verwenden. Keinen weiteren O-Ring auf den Kurbelwellenflansch setzen.
5. Propeller mit montiertem Spinnerträger und Spinnerstützplatte, jedoch ohne Dom auf den Triebwerksflansch schieben.  
Das Anzugsmoment der Flanschbolzen ist 85-90 Nm (63-66 foot-pounds) bei sauberem und trockenem Gewinde.

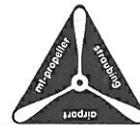


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Ausgabe vom 20.06.2005  
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6. Nach dem Einbau Spur des Propellers prüfen. Max. zulässig sind 3mm, 10cm von der Blattspitze entfernt, gemessen an der Austrittskante.
7. Spinnerdom montieren. Auf Markierungen achten. Schrauben AN526C1032R8 mit Scheiben A-1020 verwenden und mit 4-5 Nm (3-4 foot-pounds) anziehen.  
Wenn das Flugzeug nicht mit einem Propellerenteisungssystem ausgerüstet ist, darf das Flugzeug auch ohne Spinner betrieben werden. (Dann aber Bleche an den Blattausschnitten abbauen).
8. Drehzahlmessermarkierung bleibt unverändert.
9. Standlauf durchführen und Funktion und Dichtigkeit prüfen.  
Wenn i.O., Werkstattflug durchführen und Änderung im Bordbuch bescheinigen
10. Gewichts- und Schwerpunktaufzeichnungen und Ausrüstungsliste ändern in:

Propeller HC-C3YR-1RF/F7393F(B) mit Spinner und Enteisung „TKS“:	Masse = 31,6 kg Hebel = -1,21 m Moment = -38,20 kgm
Propeller HC-C3YR-1RF/F7393F(B) mit Spinner, ohne Enteisung „TKS“:	Masse = 31,0 kg Hebel = -1,21 m Moment = -37,51 kgm
Propeller HC-C2YK-1BF/F8477-4 mit Spinner und Enteisung „TKS“:	Masse = 25,6 kg Hebel = -1,21 m Moment = -30,98 kgm
Propeller HC-C2YK-1BF/F8477-4 mit Spinner, ohne Enteisung „TKS“:	Masse = 25,0 kg Hebel = -1,21 m Moment = -30,25 kgm
Propeller MTV-9-B/198-52 mit Spinner und Enteisung „TKS“:	Masse = 25,5 kg Hebel = -1,24 m Moment = -31,72 kgm
Propeller MTV-9-B/198-52 mit Spinner, ohne Enteisung „TKS“:	Masse = 24,9 kg Hebel = -1,24 m Moment = -30,88 kgm

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**Instructions for Continued Airworthiness  
and  
Installation Instruction**

**E-1189**

**Socata TB21**

**with**

**MTV-9-B/198-52**

**Hydraulic 3-Blade-Constant-Speed Propellers**

**and**

**P-666-2 spinner**

**20 June 2005**



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MTV-9-B/198-52 propeller



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## I. Introduction

### a) Applicable Manuals:

The inspection requirements, maintenance recommendations, trouble shooting and removal and installation procedures are contained in the Operation and Installation Manual No. E-124, date March 11, 2005 or later approved revisions for hydraulically controlled variable pitch propeller. Further applicable documents: the Airplane Flight Manual Supplement No. E-1187, date 20 June 2005 or later approved revisions.

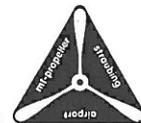
- b) Every owner should stay in close contact with his MT-Propeller dealer or distributor and Authorized MT-Propeller Service Shop to obtain the latest information pertaining to his propeller and its installation. MT-Propeller takes a continuing interest in having the owner get the most efficient use of his propeller and keeping it in the best mechanical condition. Consequently, MT-Propeller from time to time issues Service Bulletins, Service Letters and Manuals relating to the propeller and its installation. Service Bulletins are of special importance and should be complied with promptly. These are sent to dealers, distributors and latest registered owners. Service Letters deal with products improvements and service hints pertaining to the propeller and its installation. These are sent to dealers, distributors and occasionally (at the factory's discretion) to latest registered owners. If an owner is not having his propeller serviced by an Authorized MT-Propeller Service Shop or MT-Propeller USA or Gerd Mühlbauer GmbH, Germany, he should periodically check with a MT-Propeller dealer or distributor or the MT-Propeller's homepage to find out the latest information to keep his propeller up to date.

The list of valid MT-Propeller manuals, service bulletins, AD's and their latest revisions can be downloaded from the homepage of MT-Propeller ([www.mt-propeller.com](http://www.mt-propeller.com)).

Hardcopies can also be obtained from MT-Propeller Germany and MT-Propeller USA.

MT-Propeller Entwicklung GmbH  
Flugplatzstr.1  
94348 Atting, Germany  
Phone: ++49-(0)-9429-9409-0  
Fax: +49-(0)-9429-8432

MT-Propeller USA, Inc.  
1180 Airport Terminal Drive  
DeLand, FL 32724  
Phone: 386-736-7762  
Fax: 386-736-7696



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## II. Airworthiness Limitations

### Propeller:

- ◆ No limitations
- ◆ The time between overhauls (TBO) for the propeller are presented in Service Bulletin No. 1 ( ) latest issue.

### Airplane:

- ◆ No change



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### III. Installation Instruction for the 3-blade-constant speed MTV-9-B/198-52 propellers

BEFORE MODIFYING THE AIRCRAFT, IT HAS TO BE ASSURED BY THE EXECUTING COMPANY, THAT THE AIRWORTHINESS OF THE AIRCRAFT IS NOT AFFECTED BY ANY PREVIOUS MODIFICATION IN CONNECTION WITH THIS MODIFICATION.

1. Applicable Manuals:  
Operating and Installation Manual E-124, latest edition  
Airplane Flight Manual Supplement No. E-1187, latest edition
2. Remove existing variable pitch propellers and spinners per instructions of the Operating and Installation Manual E-124. Existing governor can be used. The high rpm stop screw for maximum governing speed must be adjusted to 2575 rpm.
3. If the fluid de-ice system (TKS) is installed, the existing fluid de-ice tube to the propeller must be removed. Install the MT-Propeller fluid de-ice tube No. B-471 and safety wire.
4. Parts List of the additional equipment for the propeller de-ice system

Quantity	Number	Title
1	B-471	Fluid Deice Tube

5. Clean propeller- and engine flange of the new propeller. Check for O-Ring in the hub of the MT Propeller (Propeller will be delivered with an pre-installed O-Ring). Do not put any further O-ring to the crankshaft flange. O-ring: Part No. C-048-B.
4. Fit propeller with mounted spinner front plate and spinner back plate, but without dome, to the engine flange. Torque mounting bolts tighten to 85-90 Nm (63-66 foot-pounds) with thread being clean and dry.
5. After completion of the installation, check track. Up to 3 mm (0.12 in) are max. allowed. Measured 10 cm (3.9 in) from blade-tip at the trailing edge.
6. Fit spinner dome onto the propeller. Observe the markings for alignment of the spinner (#1 blade to #1 in spinner). Use AN526C1032R8 screws with A-1020 washers and torque them with 4-5 Nm (3-4ftlbs). If the airplane is not equipped with propeller de-ice, the airplane may be operated without a spinner but in this case the filler plates must be removed.
7. Placards: none  
Markings and signs concerning other propellers must be removed.
8. Tachometer markings remain unchanged.



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9. Perform static test and check for function and oil leakage as directed by the Operating and Installation Manual E-124.  
If O.K. perform check flight and sign off change in the aircraft log book

10. Change weight and balance record and equipment list:

HC-C3YR-1RF/F7393F(B) with spinner and de-ice „TKS“:	Weight = 31.6 kg
	Arm = -1.21 m
	Moment = -38.20 kgm

HC-C3YR-1RF/F7393F(B) with spinner, without de-ice „TKS“:	Weight = 31.0 kg
	Arm = -1.21 m
	Moment = -37.51 kgm

HC-C2YK-1BF/F8477-4 with spinner and de-ice „TKS“:	Weight = 25.6 kg
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	Moment = -30.98 kgm

HC-C2YK-1BF/F8477-4 with spinner, without de-ice „TKS“:	Weight = 25.0 kg
	Arm = -1.21 m
	Moment = -30.25 kgm

MTV-9-B/198-52 with spinner and de-ice „TKS“:	Weight = 25.5 kg
	Arm = -1.24 m
	Moment = -31.72 kgm

MTV-9-B/198-52 with spinner, without de-ice „TKS“:	Weight = 24.9 kg
	Arm = -1.24 m
	Moment = -30.88 kgm

When installing the MTV-9-B/198-52 propeller, the equipment list must be amended to reflect addition of this propeller.

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European Aviation Safety Agency

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**Original Product Type Certificate number:** *LBA TCDS No 1063 since issue 14*  
**Manufacturer:** *Socata Aerospatiale*  
**Model:** *Socata TB 21*

**Description of Design Change:**

Installation of MTV-9-B/198-52 hydraulically controlled 3-blade constant speed propeller