



European Aviation Safety Agency

SUPPLEMENTAL TYPE CERTIFICATE

EASA.A.S.02491

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

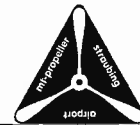
MT-Propeller Entwicklung GmbH
Flugplatzstraße 1
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Germany

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: *EASA TC No. EASA.IM.A.007*
Manufacturer: *Cirrus Design Company*
Model: *SR 22*

Description of Design Change:

Installation of 3-blade MTV-9-D/198-52 constant speed Propeller



EASA STC EASA.A.S.02491

INSTALLATION INSTRUCTIONS

Doc. No. E-1323

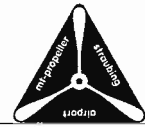
**MT-PROPELLER
MODEL MTV-9-D/198-52**

ON

Cirrus Design SR22

Original Issue – 28 February 2006

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Log of revisions

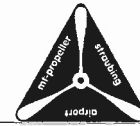
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1. INTRODUCTION

The modification replaces the existing Hartzell or McCauley constant speed propeller and spinner with the constant speed MT-Propeller Model MTV-9-D/198-52 and MT-Propeller Spinner. The existing governor is retained.

Note:

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

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2. INSTALLATION INSTRUCTIONS

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

2.1 Applicable Manuals:

MT-Propeller Operation and Installation Manual Doc. No. ATA 61-01-24 (E-124), latest revision. EASA approved Airplane Flight Manual Supplement Doc. No. E-1322, latest revision.

WARNING
Disconnect the ignition harness to the spark plugs before removing the existing propeller and spinner. Reconnect the ignition harness after the installation of the replacement propeller and spinner is completed. Failure to comply can result in bodily injury when the propeller is rotated during installation.

Spare Parts List for each MT-Propeller

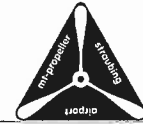
Note:

Listed items are will be delivered with the propeller.

Qty	Item	Part Number
6	Stop nuts	C-067
6	Washer	C-076
1	O-Ring	C-048-B
1	Spinner	P-187-B
as needed	Spinner Screws	AN526C1032R8
as needed	Washer	A-1020

2.2 Remove existing variable pitch propeller and spinner. Existing governor is compatible with the MT-Propeller. The high rpm stop screw of the governor for maximum governing speed must be adjusted to achieve the rated RPM.

2.3 Clean propeller flange of the MTV-9-D/198-52 propeller and engine flange. 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.



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2.5 Fit propeller with mounted spinner front plate and spinner back plate, but without dome, to the engine flange.

Torque stop nuts with washers crosswise tighten to 85-90 Nm (63-66 foot-pounds) with thread being clean and dry.

Caution:

Put washers below the stop nuts. Do not put it between propeller flange and engine flange. Do not pull the propeller onto flange of the engine drive shaft by the use of the stop nuts in order to avoid a damage of the hub. This can produce metal chips which can cause oil leaks on the O-Ring.

2.6 After installation, check track. Up to 3 mm (0.12 inches) are max. allowed, measured 10 cm (3.9 inches) from blade-tip at the trailing edge.

2.7 Fit spinner dome onto the propeller. Observe markings for alignment of the spinner (#1 blade to #1 in spinner). Torque screws with washers to 4-5 Nm (3-4 foot-pounds).

Note:

If the airplane is not equipped with propeller de-icing fluid ice protection system, the airplane may be operated without a spinner. However, the filler plates must be removed prior to engine start.

2.8 Placards and markings

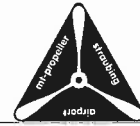
None.

Note:

Markings and signs concerning other propellers are obsolete and must be removed or permanently covered.

2.9 Perform static test, check for function and oil leakage.

2.10 Perform full power static RPM check, make adjustments as required. After adjustments are completed, final safety checks are made, safety wire installation as required, perform flight test and make all required log book entries.



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2.11 Change weight and balance record and equipment list:

Existing Propeller:

PHC-J3YF-1RF/F7694 or PHC-J3YF-1RF/F7693DF with spinner and de-ice:

Weight = 35.4 kg (78 lb)

Arm = -1.21 m (-47.6 in)

Moment = -42.83 kgm (-3712.8 inlb)

PHC-J3YF-1RF/F7694 or PHC-J3YF-1RF/F7693DF with spinner, without de-ice:

Weight = 34.8 kg (76.7 lb)

Arm = -1.21 m (-47.6 in)

Moment = -42.11 kgm (-3650.9 inlb)

Replacement Propeller:

MTV-9-B/198-52 with spinner and de-ice „TKS“:

Weight = 25.5 kg (56.2 lb)

Arm = -1.24 m (-47.6 in)

Moment = -31.72 kgm (-2675.1 inlb)

MTV-9-B/198-52 with spinner, without de-ice „TKS“:

Weight = 24.9 kg (54.9 lb)

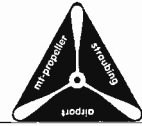
Arm = -1.24 m (-47.6 in)

Moment = -30.88 kgm (-2613.2 inlb)

For all other approved propellers refer to the applicable equipment list of the original AFM or to applicable STC documents.

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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EASA STC EASA.A.S.02491

**INSTRUCTIONS FOR CONTINUED
AIRWORTHINESS**

Doc. No. E-1324

**MT-PROPELLER
MODEL MTV-9-D/198-52**

ON

Cirrus Design SR22

Original Issue – 28 February 2006

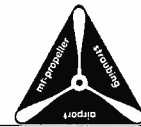
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Log of revisions

Rev. No.	Pages Revised	Description	Date
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Doc. No. E-1324	Instructions for Continued Airworthiness	DOA No. EASA.21J.020
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1. INTRODUCTION

This document outlines the compliance with FAR 23.1529 "Instructions for Continued Airworthiness" MT-Propeller Entwicklung GmbH MT-Propeller model MTV-9-D/198-52 on Cirrus Design SR22 airplanes.

Modification of Cirrus Design SR22 airplanes with this STC obligates the airplane operator to include the maintenance information provided by this document in the Operator's Aircraft Maintenance Manual and the Operator's Aircraft Scheduled Maintenance Program.

Applicable Documents:

MT-Propeller Operation and Installation Manual Doc. No. ATA 61-01-24 (E-124), latest revision.

MT-Propeller Service Bulletins and Service letters, see Note.

EASA approved Airplane Flight Manual Supplement Doc. No. E-1322, latest revision.

Note:

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

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2. DESCRIPTION

The modification removes the existing Hartzell or McCauley constant speed propeller and the appropriate spinner replacing it with the 3-blade MTV-9-D/198-52 propeller including spinner. The existing governor is retained.

3. CONTROL AND OPERATION INFORMATION

Refer to MT-Propeller Operation and Installation Manual Doc. No. ATA 61-01-24 (E-124).

4. SERVICING INFORMATION

MT-Propeller publications contain the information necessary to operate, maintain, and perform scheduled maintenance.

See Note under Section1 INTRODUCTION.

5. MAINTENANCE INSTRUCTIONS

Refer to MT-Propeller Operation and Installation Manual Doc. No. ATA 61-01-24 (E-124).

6. REMOVAL AND REPLACEMENT INFORMATION

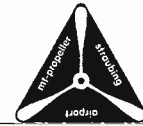
Refer to MT-Propeller Operation and Installation Manual Doc. No. ATA 61-01-24 (E-124).

7. DIAGRAMS

Refer to MT-Propeller Operation and Installation Manual Doc. No. ATA 61-01-24 (E-124).

8. LIST OF SPECIAL TOOLS

Refer to MT-Propeller Operation and Installation Manual Doc. No. ATA 61-01-24 (E-124).



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9. ADDITIONAL INFORMATION FOR COMMUTER CATEGORY AIRCRAFT

Not applicable.

10. OVERHAUL PERIODS

Refer to MT-PROPELLER SERVICE BULLETIN No. 1, latest issue

11. AIRWORTHINESS LIMITATIONS

The Airworthiness Limitations Section is approved and variations must also be approved.

There are no mandatory replacement times for any components.

Propeller:

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

Airplane:

- ◆ No change

12. REVISIONS

Any revisions to this document will be logged in the Log of Revisions sheet.

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MT-Propeller Entwicklung GmbH
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EASA APPROVED

AIRPLANE FLIGHT MANUAL SUPPLEMENT

Doc. No. E-1322

FOR

Cirrus Design SR22

WITH

MTV-9-D/198-52

Hydraulic 3-Blade-Constant-Speed Propeller

Serial No. _____

Registration No. _____

This supplement must be attached to the Airplane Flight Manual upon installation of the MTV-9-D/198-52 propeller.

The information contained in this document supplements or supersedes the information of the basic Airplane Flight Manual only in those areas listed. For Limitations, Procedures, and Performance Data not contained in this supplement, consult the basic Airplane Flight Manual.

Approved by the EASA STC Number: **EASA.A.S.02491**

Approval Date: 06 July 2006

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D-94348 Atting, Germany

Airplane Flight Manual Supplement
Log of revisions

Rev. No.	Description	Pages Revised	Approved by / Date

SECTION 1 - GENERAL

The information contained in this document supplements or supersedes the basic Airplane Flight Manual, only in those areas listed herein. For Limitations, Procedures, and Performance not contained in this supplement, consult the basic Airplane Flight Manual. For further information concerning the propeller refer to Section 2 and 7.

SECTION 2 - LIMITATIONS

Engine:	No change.
Propeller:	MTV-9-D/198-52
Diameter:	198 cm (78 in) Cut-off to 193 cm (76 in) allowed for repair.
Blade Angle:	At station 74 cm (29 in): Low pitch: 12.5° \pm 0.2° High pitch: 38° \pm 1.0°
Propeller Governor:	According to aircraft equipment list or according to MT-Propeller Service Bulletin No.14, latest issue.
Tachometer:	No change.
Manifold Pressure:	No change.
Placards:	Markings and signs concerning other propellers are obsolete.

SECTION 3 - EMERGENCY PROCEDURES

No change.

SECTION 4 - NORMAL PROCEDURES

No change.

SECTION 5 - PERFORMANCE

No change.

SECTION 6 - WEIGHT AND BALANCE AND EQUIPMENT LIST

Refer to the latest revised empty weight and center of gravity data for effect on loading instructions.

SECTION 7 - DESCRIPTION OF THE AIRPLANE AND ITS SYSTEMS

Propeller:

The MTV-9-D/198-52 propeller is a 3-blade hydraulic constant speed propeller with propeller de-icing fluid ice protection system as an additional option.
The MTV-9-D/198-52 propeller is equipped with lightweight composite blades which react quicker to rpm-changes than the standard propeller with metal blades.

Note:

If the airplane is not equipped with propeller de-icing fluid ice protection system, the airplane may be operated without a spinner but in this case the filler plates must be removed.

Propeller De-ice:

If the MTV-9-B/198-52 propeller is equipped with propeller de-icing fluid ice protection system, the informations of the Cirrus Design SR22 AFM Supplement P/N 13772-115 will remain unchanged.