

## TEMPORARY REVISION

### TR-MÄM-20-405

### Change from CHT to Coolant Temperature Measurement

This Temporary Revision TR-MÄM-20-405 is approved in conjunction with the Mandatory Design Change Advisory MÄM 20-405 and is valid in conjunction with the latest revision of the DV 20 Airplane Flight Manual until this Temporary Revision has been incorporated into the Airplane Flight Manual.

The limitations and information contained herein either supplement or, in the case of conflict, override those in the Airplane Flight Manual or its previous Temporary Revisions.

The technical information contained in this document is EASA approved under Approval No.10054456.

| Doc. No. | Chapter | Affected Pages    |
|----------|---------|-------------------|
| 4.01.03  | 1       | 1-7b              |
|          | 2       | 2-5a, 6a, 9a, 10a |
|          | 4       | 4-8a              |
|          | 6       | 6-15a             |
|          | 7       | 7-5a, 16a         |
|          | 8       | 8-7a              |

#### **Instruction**

- Print this document on yellow paper (single-sided).
- Insert this cover page as the first page of the AFM.
- Insert the other page of this TR in front of the corresponding AFM page.

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## 1.9. LUBRICANT AND COOLANT

### 1.9.2 COOLANT

*The Paragraph is added:*

- if MÄM-20-405 is installed:
- Antifreeze concentrate based on ethylene glycol, e.g. BASF Glysantin Protect Plus/G48,
- should be used with 50% water content.

#### **NOTE**

Coolant should be a low silicate and nitrite free formula.  
Follow coolant manufacturer directions regarding mixture percentages etc.

## 2.4. POWER PLANT LIMITATIONS

### 2.4.1. ENGINE

*Item g) is amended to read:*

- g) if MÄM 20-405 is installed:
  - Coolant Temperature
  - Maximum :120 °C (248 °F)
- if MÄM 20-405 is NOT installed:
  - Cylinder Head Temperature
  - Maximum :150 °C (302 °F)

#### **NOTE**

A short cooling run should be performed before shutdown at higher coolant and oil temperatures, to prevent vapour lock in the cylinder heads.

**2.5. POWERPLANT INSTRUMENT MARKINGS**

*The item 'Cylinder head temperature indicator' is amended to read:*

| Instrument   | Red Line = Lower Limit | Green Arc = Normal Operating Range | Yellow Arc = Caution Range | Red Line = Upper Limit |
|--|------------------------|------------------------------------|----------------------------|------------------------|
| if MÄM 20-405 is installed:<br>Coolant temperature indicator           |                        |                                    |                            | 120 °C<br>(248 °F)     |
| if MÄM 20-405 is NOT installed:<br>Cylinder head temperature indicator |                        |                                    |                            | 150 °C<br>(302 °F)     |

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## 2.13. KINDS OF OPERATION

Minimum Equipment, Powerplant Instruments:

***The item 'Cylinder Head Temperature indicator' is amended to read:***

- if MÄM 20-405 is installed:
  - Coolant Temperature indicator
- if MÄM 20-405 is NOT installed:
  - Cylinder Head Temperature indicator

**2.15 LIMITATION PLACARDS**

*The following Paragraph is added:*

The following placard is attached to the cooling slot winter shield:

|  |
|--|
| REMOVE AT OUTSIDE<br>TEMPERATURES ON<br>GROUND ABOVE 0°C<br>(32°F) |
|--|

The following placard is attached to the cowling baffle:

|   |
|---|
| INSTALL AT OUTSIDE<br>TEMPERATURES ON<br>GROUND ABOVE 0°C<br>(32°F) |
|---|

The following placard is attached to the instrument panel:

|  |
|--|
| Install Cowling Baffle and remove Winter Shield<br>above 0°C OAT on ground - see AFM |
|--|

*The following Paragraph is added:*

**2.17 FURTHER LIMITATIONS**

Engine Cooling

The winter shield must be installed at outside air temperatures on ground below 0°C (32°F).

The cowling baffle must be removed at outside air temperatures on ground below 0°C (32°F).

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## 4.4 NORMAL OPERATION CHECKLIST

### 4.4.1 PREFLIGHT INSPECTION

#### II. WALK AROUND CHECK AND VISUAL INSPECTION

##### 7. Nose

*The following is added:*

- b1) Check the outside air temperature on ground, remove / install the winter shield and
- the cowling baffle. Check for proper mounting.

**6.5. EQUIPMENT LIST**

*Item 16 is amended to read:*

| Seq. No.: | Part Description, Manufacturer, Type   | Serial No.: | Inst. | Mass [kg] (lbs) | Arm [m] (in)       |
|-----------|--|-------------|-------|-----------------|--------------------|
| 16        | if MÄM 20-405 is installed:<br>Coolant Temperature Indicator<br>TC1-9031-10-01_01    |             |       | 0.14<br>(0.31)  | -0.390<br>(-15.35) |
|           | if MÄM 20-405 is NOT installed:<br>Cylinder Head Temperature Indicator<br>HOAC 16160 |             |       | 0.14<br>(0.31)  | -0.390<br>(-15.35) |

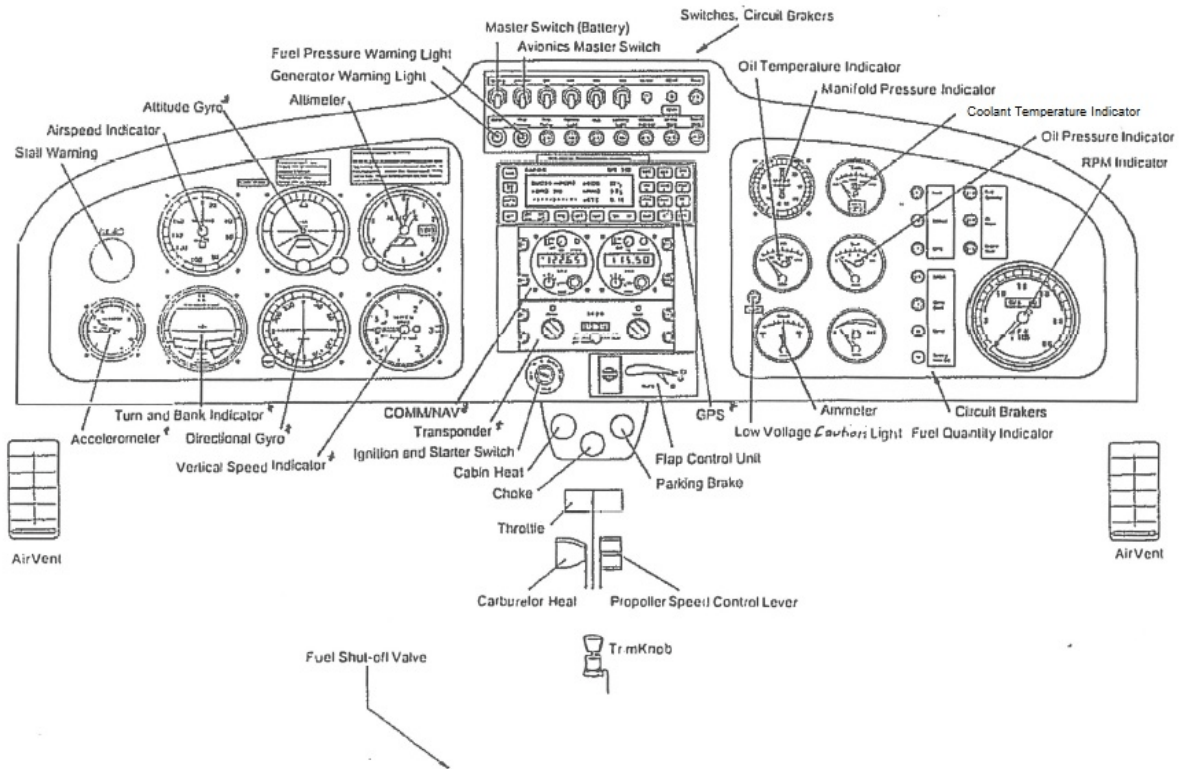
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### 7.4. INSTRUMENT PANEL

The figure is added:

if MÄM 20-405 is installed:



(instruments marked with \* are optional)

|                |               |             |      |
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## 7.11. ELECTRICAL SYSTEMS

*The following paragraph is added:*

if MÄM 20-405 is installed:

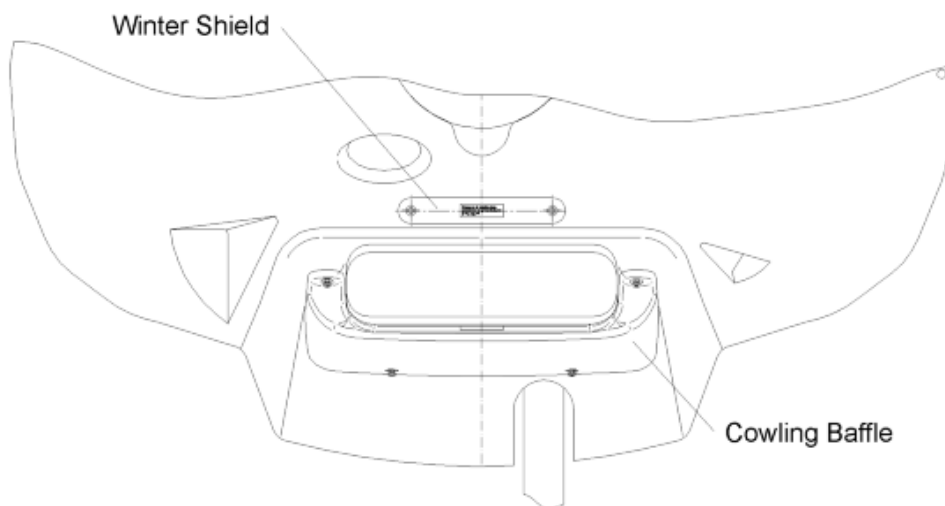
### Instruments

The instruments for temperature, oil pressure, and fuel quantity are connected in series with the respective sensors. The electrical resistance of a sensor changes with the measurable variable, which causes the power to the instrument and consequently the needle deflection to change. Oil pressure indicator, coolant temperature indicator and fuel pressure warning light are supplied with power through one circuit breaker. Oil temperature indicator and fuel quantity indicator are also protected together by one circuit breaker.

*The following is added:*

## **8.6 WINTER SHIELD AND COWLING BAFFLE**

For cold weather operation of the airplane a cover is provided to close the opening above the coolant radiator in the cowling. Additionally the cowling baffle must be removed. Both parts are attached to the cowling by use of camlocks. Installation and removal requires no special tools.



**Cowling Front View**