

**SUPPLEMENT N017  
TO THE AIRPLANE FLIGHT MANUAL  
DA 40 NG**

I **IAC AR CERTIFIED AIRPLANES**

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I **Design Change Advisory : NÄM 40-017/d**

I This Supplement is approved by EASA on behalf of IAC AR under EASA CSV 10025226.

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I This airplane must be operated in compliance with the information and limitations contained  
I herein.

I Prior to operation the pilot must take notice of all information contained in this supplement  
I to the Airplane Flight Manual.

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## 0.1 RECORD OF REVISIONS

Rev. No.	Reason	Chapter	Page(s)	Date of Revision	Approval Note	Date of Approval	Date Inserted	Signature
1	Changes related to OAM 40-334	2, 5	All except cover page	20-Apr-2011	Rev.1 to AFM Supplement N017 to AFM Doc.No. 6.01.15-E is approved by EASA on behalf of IAC AR under project No. 0010010719.	18-Jul-2011		
2	Changes related to MAM 40-638, Changes according to IAC AR, Corrections	All	All	17-Dec-2013	Rev.2 to AFM Supplement N017 to AFM Doc.No. 6.01.15-E is approved by EASA on behalf of IAC-AR under EASA CSV 10025226	29-Jul-2015		

**0.2 LIST OF EFFECTIVE PAGES**

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0	9-N017-1	17-Dec-2013
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## 1. GENERAL

No change.

## **2. OPERATING LIMITATIONS**

### **2.11 OPERATING ALTITUDE**

#### **NOTE**

- I For flights at altitudes above 3650 m or 12000 ft the crew
- I must use oxygen equipment. Flights between 3050 m or
- I 10000 ft and 3650 m or 12000 ft altitude without oxygen equipment for the crew are limited to a maximum of 30 minutes.
  
- I For airplane operation above 3050 m or 10000 ft for more than 30 minutes, oxygen supply must be provided for at least one passenger.
  
- I The flight level under IFR must not exceed 4250 m or 14000 ft.

The maximum permitted airfield elevation is less than 3050 m (10000 ft) Pressure Altitude.

### **2.12 FLIGHT CREW**

Piloting of the airplane is only permitted from the left hand front seat.

If the right hand control stick is not removed, the right seat must not be occupied by a passenger.

### **2.16 OTHER LIMITATIONS**

#### **2.16.9 AIRSPACE**

Flights in the CIS airspace are permitted only along the routes with continuous ATC monitoring using RBS mode with VHF covering zones.



### **2.16.10 OUTSIDE GROUND AIR TEMPERATURE**

The airplane may only be operated if the Outside Ground Air Temperature is in between -35 °C (-31 °F) and +45 °C (+113 °F).

- I If MÄM 40-638 (Cold Weather Operation) is carried out, the airplane may be operated
- I at Outside Ground Air Temperatures from -40°C (-40°F) to +45 °C (+113 °F).

### **2.16.11 RUNWAY SURFACE**

Take Off and landing operations must be conducted on paved dry or wet surfaces.

If OÄM 40-334 is carried out:

Take-off and landing on dry or wet paved surfaces or dry or wet unpaved surfaces with a minimum soil strength of 6 kg/cm<sup>2</sup> are permitted.

### **2.16.12 FLIGHTS OVER WATER**

Flights over water are permitted within the limitations prescribed by operational regulations.

### **3. EMERGENCY PROCEDURES**

#### **3.1 INTRODUCTION**

##### **3.1.1 GENERAL**

#### **NOTE**

If possible switch on the landing lights during emergency landings.

#### **NOTE**

After an emergency landing remove the VHF radio from the back of the pilots seat (or from under the pilots seat) and operate it as prescribed in the enclosed instruction.

#### **3.12 FAILURES IN THE CONTROLS SYSTEM**

##### **3.12.1 DISCONNECTED OR JAMMED CONTROLS**

###### Disconnected or Jammed Rudder

With a disconnected rudder adequate directional control can be achieved by using ailerons.

During approach use a glide path as shallow as possible and extend the pattern to achieve a long final.

During landing the airplane may turn initially in opposite direction of aileron use. Avoid bank angles exceeding 20° during the pattern and 10° on final approach.

During crosswind landings it is necessary to lower the wing into the wind. Before correcting the crab for runway heading, consider the yaw effect when changing the bank.

A change in power may lead to yaw movement (increase power will lead to left turn; decrease power will lead to right turn).

### Disconnected or Jammed Ailerons

Adequate lateral control can be achieved by using the rudder.

During approach use a glide path as shallow as possible and extend the pattern to achieve a long final.

During landing the airplane has to be controlled with use of rudder.

Avoid bank angles exceeding 20° during the pattern and 10° on final approach.

During crosswind landings it is necessary to crab into the wind. Directional changes prior touchdown may cause a wing lift and must be conducted carefully.

### Disconnected Elevator

Adequate pitch control can be achieved by using the elevator trim and engine power. The flap setting has to be chosen in accordance to weight, balance and power and shall be established in the very beginning of the final approach.

During approach use a glide path as shallow as possible and extend the pattern to achieve a long final.

During landing expect the airplane to pitch down when reducing power. Correct with elevator trim prior touch down and reduce power slowly. Avoid aggressive power changes during the approach.

Jammed Elevator

Adequate pitch control can be achieved by using engine power and the elevator trim in opposite sense whereas the main pitch control will be achieved with power and the effectiveness of trim is reduced.

With jammed elevator the airplane must be landed in the flaps up position.

During approach use a glide path as shallow as possible and extend the pattern to achieve a long final.

During landing expect the airplane to pitch down when reducing power. Correct with elevator trim prior touch down and reduce power slowly. Avoid aggressive power changes during the approach.

## **4A. NORMAL OPERATING PROCEDURES**

### **4A.5 CHECKLISTS FOR NORMAL OPERATING PROCEDURES**

#### **4A.5.7 TAKE OFF**

#### **NOTE**

In strong crosswinds steering can be augmented by use of the toe brakes. It should be noted, however, that this method increases the take-off roll, and should not generally be used.

Upon take-off the application of aileron control into the wind to maintain wings level and rudder to maintain directional control may be required.

#### **4A.5.13 APPROACH & LANDING**

#### **NOTE**

During landing in crosswind conditions, immediately prior to touchdown, lower upwind wing and align the fuselage with the runway by use of rudder. During rollout, hold aileron control into the wind and maintain directional control with rudder and brakes.

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**4B. ABNORMAL OPERATING PROCEDURES**

No change.

## **5. PERFORMANCE**

### **5.3 PERFORMANCE TABLES AND DIAGRAMS**

#### **5.3.7 TAKE-OFF DISTANCE**

For operation from unpaved surfaces the NOTES of the basic AFM are replaced by the following:

#### **NOTE**

For take-off from dry unpaved runways with a soil strength of 9.5 kg/cm<sup>2</sup> or more, the following corrections must be taken into account, compared to paved runways (typical values).

- Grass up to 5 cm (2 in) long: 5% increase in take-off-roll.
- Grass up to 10 cm (4 in) long: 10% increase in take-off roll.
- Grass longer than 10 cm (4 in): at least 30% increase in take-off roll.

#### **NOTE**

For wet grass, an additional 10% increase in take-off ground roll must be taken into account.

#### **NOTE**

For take-off from dry or wet unpaved runways with a soil strength between 7 kg/cm<sup>2</sup> and 9.5 kg/cm<sup>2</sup>, an 50% increase in take-off roll must be taken into account.

#### **NOTE**

For take-off from dry or wet unpaved runways with a soil strength between 6 kg/cm<sup>2</sup> and 7 kg/cm<sup>2</sup>, an 90% increase in take-off roll must be taken into account.

**NOTE**

An uphill slope of 2% (2 m per 100 m or 2 ft per 100 ft) results in an increase in the take-off distance of approximately 17%. The effect on the take-off roll can be greater.

**5.3.15 APPROVED NOISE DATA**

The certificated noise levels for the Diamond DA 40 NG comply with noise levels limits specified in Aviation Regulations, Part 36, Section F.

Noise levels:

MTOW [kg]	Propeller	Add. Modification	Actual [dB(A)]	Max. allowable [dB(A)]
1280	MTV-6-R/190-69	-	74.5	82.5
1280	MTV-6-R/190-69	OÄM 40-310 or MÄM 40-434	71.5	82.5
1280	MTV-6-R/190-69	OÄM 40-334	75.3	82.5
1280	MTV-6-R/190-69	OÄM 40-334 and (OÄM 40-310 or MÄM 40-434)	72.1	82.5

**NOTE**

The above noise levels are also in compliance with ICAO Annex 16, Volume 1, Chapter 10 noise limits.

No determination has been made by the IAC Aviation Register that the noise levels of this airplane are or should be acceptable or unacceptable for operation at, into, or out of any airport.



## 6. MASS AND BALANCE

No change.

## 7. DESCRIPTION OF THE AIRPLANE AND ITS SYSTEMS

No change.

## 8. AIRPLANE HANDLING, CARE AND MAINTENANCE

No change.

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