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# TYPE-CERTIFICATE DATA SHEET

EASA.A.513

DA 42 M

Diamond Aircraft Industries GmbH

N-A-Otto-Strasse 5  
A-2700 Wiener Neustadt  
Austria

For models: DA 42 M  
DA 42 M-NG

Issue 26: 08 February 2018

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## **SECTION A: DA 42 M**

### **A.I. General**

- |                                    |   |
|------------------------------------|---|
| 1. Data Sheet No.:                 | EASA A.513  |
| 2. a) Type:                        | DA 42 M   |
| b) Model:                          | DA 42 M   |
| c) Variant:                        | --  |
| 3. Airworthiness Category:         | Restricted  |
| 4. Type Certificate Holder:        | DIAMOND AIRCRAFT INDUSTRIES GMBH<br>N.A. OTTO-STR. 5<br>A-2700 WIENER NEUSTADT<br>AUSTRIA |
| 5. Manufacturer:                   | DIAMOND AIRCRAFT INDUSTRIES GMBH<br>N.A. OTTO-STR. 5<br>A-2700 WIENER NEUSTADT<br>AUSTRIA |
| 6. Certification Application Date: | 01-Jun-2006   |
| 7. (Reserved)                      | N/A   |
| 8. (Reserved)                      | N/A   |

### **A.II. EASA Certification Basis**

- |  |  |
|--|--|
| 1. Reference Date for determining the applicable requirements: | 02-Apr-2002  |
| 2. Airworthiness Requirements:                                 | JAR-23, Amendment 1, issued 01-Feb-2001<br>JAR-1, Change 5, issued 15-Jul-1996   |
| 3. Special Conditions:   | CRI D-02 Variable Elevator Stop<br>CRI E-02 Use of Jet Fuel for Reciprocating Engines<br>CRI E-03 Use of Diesel Fuel for Reciprocating Engines<br>CRI E-06 Engine Vibration Level<br>CRI E-07 Engine Torque<br>CRI F-01 Protection from the Effects of HIRF<br>CRI F-03 Protection from the Effects of Lightning Strikes, Indirect Effects |

	CRI F-07	Human Factors in Integrated Avionic System
	CRI F-08	Equipment Qualification for Mission Equipment
	CRI F-09	Safety Provisions for Mission Equipment
3. Exemptions:	N/A	
4. Deviations:	N/A	
5. Equivalent Safety Findings:	CRI D-01	Single Lever Power Control
	CRI E-04	Liquid Cooling – Coolant Tank
	CRI E-05	Electronically-controlled Reciprocating Diesel Engine
	CRI E-08	Fuel System – Hot Fuel Temperature
	CRI F-04	Power plant Instruments
	CRI B-03	Stall Speed in Icing Conditions
	CRI F-10	Automatic Electric Load Shedding
6. Requirements elected to comply:	With OÄM 42-324 installed: CS 23.2270 (a)-(d), (CS23/5)	
7. Environmental Standards:	CS 36, ICAO, Annex 16, Volume 1, Fourth Edition, Chapter 10	
8. (Reserved)	N/A	
9. (Reserved)	N/A	

### **A.III. Technical Characteristics and Operational Limitations**

1. Type Design Definition:	Current issue of Doc. No. 7.07.00, Chapter V002/7		
2. Description:	Twin engine, four-seated cantilever low wing airplane, composite construction, retractable tricycle landing gear, T-tail. The airplane is equipped with provisions for installation of various mission equipment.		
3. Equipment:	Equipment list, AFM, Doc. No. 7.01.05 or 7.01.06, Section 6, and AFM Supplement M00 See Note 7		
4. Dimensions:	Span	13.42 m	(44 ft 0 in)
	Length	8.56 m	(28 ft 1 in)
	Height	2.49 m	( 8 ft 2 in)
	Wing Area	16.29 m <sup>2</sup>	(175.3 sqft)
5. Engine:			
5.1.1 Model:	2 Technify Motors GmbH (formerly Thielert) TAE-125-02-99 or TAE 125-02-114, see Note 3		
5.1.2 Type Certificate:	EASA Engine Type Certificate Data Sheet E.055		

- 5.1.3 Limitations: Max take-off rotational speed 2300 r.p.m.  
Max continuous rotational speed 2300 r.p.m  
(Propeller shaft r.p.m)  
For power-plants limits refer to AFM, Doc. No. 7.01.05 or 7.01.06, Section 2
6. Load factors:
- |           | at $V_A$ | at $V_{NE}$ | with flaps in T/O or LDG position |
|-----------|----------|-------------|-----------------------------------|
| Positive: | 3.8      | 3.8         | 2.0                               |
| Negative  | -1.52    | 0           |                                   |
7. Propeller:
- 7.1 Model: 2 MT-Propeller MTV-6-A-C-F/CF187-129
- 7.2 Type Certificate: EASA Propeller Type Certificate Data Sheet P.094
- 7.3 Number of blades: 3
- 7.4 Diameter: 1870 mm
- 7.5 Sense of Rotation: CW
- 7.5 Settings:
- |                   |      |
|-------------------|------|
| Low pitch setting | 12 ° |
| Feather position  | 81 ° |
| Start Lock        | 15°  |
8. Fluids:
- 8.1 Fuel: Jet A-1 (ASTM 1655) see Note 6  
Diesel (EN 590) see Note 5
- 8.2 Oil: Engine Shell Helix Ultra 5W30 synthetic API SJ/CF or see AFM, Doc. No. 7.01.05 or 7.01.06, Section 2  
Gearbox Shell EP 75W90 API GL-4 or see AFM, Doc. No. 7.01.05 or 7.01.06, Section 2
- 8.3 Coolant: Water / Cooler Protection  
for more details see AFM, 7.01.05 or 7.01.06, Section 2
- 8.4 Ice Protection Fluid: AL-5 (DTD 406B) or Aeroshell Compound 07  
for more details see AFM, 7.01.05 or 7.01.06, AFM Supplement S03
9. Fluid capacities:
- 9.1 Fuel:
- |                     |              |                 |
|---------------------|--------------|-----------------|
| Standard Fuel Tank  |              |                 |
| Total:              | 196.8 liters | 52 US Gallons   |
| Usable:             | 189.2 liters | 50 US Gallons   |
| Auxiliary Fuel Tank |              |                 |
| Total:              | 104 liters   | 27,4 US Gallons |
| Usable:             | 100 liters   | 26,4 US Gallons |

9.2	Oil: each engine	Maximum:	6.0 liters	6.3 qts
		Minimum:	4.5 liters	4.8 qts
9.3	Coolant system capacity:	Approx. 7 liters		
10.	Air Speeds:	Design Manoeuvring Speed $v_A$ :		
		up to 1542 kg	119 KEAS	
		above 1542 kg	125 KEAS	
		Flap Extended Speed $v_{FE}$ :		
		Approach	135 KEAS	
		Landing	110 KEAS	
		Maximum Landing Gear Operation Speed $v_{LO}$ :		
		155 KEAS		
		Maximum Landing Gear Extended Speed $v_{LE}$ :		
		192 KEAS		
		Minimum Control Speed $v_{MC}$ :		
		68 KEAS		
		With OÄM 42-252 installed	72 KEAS	
		Maximum structural cruising speed $v_{NO}$ : 155 KEAS (= Maximum structural design speed $v_C$ )		
		Never exceed speed $v_{NE}$ : 192 KEAS		
11.	Maximum Operating Altitude:	5486 m (18 000 ft)		
12.	Allweather Operations Capability:	Day/Night-VFR, IFR Flights into known or forecast icing conditions See Note 4, 7		
13.	Maximum Weights:	Take-off	1785 kg (3935 lb)	
		Zero Fuel	1650 kg (3638 lb)	
			1674 kg (3690 lb) OÄM 42-188 installed	
			1730 kg (3814 lb) OÄM 42-188 & -195 installed	
		Landing	1700 kg (3748 lb)	
			1785 kg (3935 lb) OÄM 42-195 installed	
		For approved Weight Configurations see Note 11		
14.	Centre of Gravity Range:	Forward limit:		
		Up to 1468 kg	2.35 m behind Datum	
		At 1785 kg	2.40 m behind Datum	
		Varying linearly with mass in between		
		Rear limit:		
		At 1250 kg	2.42 m behind Datum	
		At 1600 kg and above	2.49 m behind Datum	
		Varying linearly with mass in between		

15. Datum:	2.196 m	in front of leading edge of stub-wing at the wing joint	
16. Control surface deflections:			
Aileron	trailing edge up	25°	± 2°
	trailing edge down	15°	+ 2 - 0°
Elevator	railing edge up	15.5°	± 0.5°
	trailing edge down	13°	± 1°
Elevator Trim Tab	nose up at elevator neutral	28°	± 5°
	nose down at elevator neutral	25°	± 5°
Rudder	left	27°	± 1°
	right	29°	± 1°
Rudder Trim Tab	trim RH at rudder neutral	30°	+ 5°- 0°
	trim LH at rudder neutral	29°	+ 5°- 0°
	With OÄM 42-252 installed:		
	trim RH at rudder neutral	+ 45°	± 3°
	trim LH at rudder neutral	+ 41°	± 3°
Flaps	Cruise flap setting	0°	+ 2°- 0°
	Approach flap setting	20°	+ 4° - 2°
	Landing flap setting	42°	+ 3° - 1°
17. Levelling Means:	floor of front baggage compartment levelled		
18. Minimum Flight Crew:	1 (Pilot)	see Note 9	
19. Maximum Passenger Seating Capacity:	3	see Note 9	
20. Baggage/Cargo Compartments:	see Note 8		
	Location	max. allowable Load	
	Front Baggage Compartment	30 kg (66 lb)	
	Behind Rear Seats	45 kg (100 lb)	
	Aft part of Baggage Extension	18 kg (40 lb)	
	Whole aft Baggage Compartment together	45 kg (100 lbs)	
21. Wheels and Tyres:	Nose Wheel Tyre Size	5.00 – 5	
	Main Wheel Tyre Size	15x6.0–6	
22. (Reserved):	N/A		

#### **A.IV. Operating and Service Instructions**

1. Flight Manual: Document No. 7.01.05 or 7.01.06 (with OÄM 42-102, GFC 700 Autopilot), including AFM Supplement M00 For TAE 125-02-114 equipped DA 42 M (OÄM 42-252) AFM Supplement S07 applies in addition
2. Technical Manual: Airplane Maintenance Manual (AMM) Document No. 7.02.01 (incl. Airworthiness Limitations) Service Information and Service Bulletins
3. Spare Parts Catalogue: Document No. 7.03.01
4. Instruments and aggregates: refer to AMM Doc. No. 7.02.01 Chapter 1

#### **A.V. Operational Suitability Data (OSD)**

The Operational Suitability Data elements listed below are approved by the European Aviation Safety Agency under the EASA Type Certificate EASA.A.005 as per Commission Regulation (EU) 748/2012 as amended by Commission Regulation (EU) No 69/2014.

1. Master Minimum Equipment List (MMEL)  
The MMEL is defined in the Document No: 7.11.01, Revision Original or later approved revisions.

#### **A.VI. Notes:**

1. This certification applies to serial numbers 42.005, 42.008, 42.157, 42.177, 42.191, 42.234, 42.247, 42.255, 42.262, 42.272, 42.282, 42.286, 42.293, 42.304, 42.319, 42.328 and serial number 42.M001 and subsequent . All of these serial numbers initially delivered as a DA 42 must be modified in accordance with Optional Service Bulletin OSB42-056 to comply with the DA 42 M type design.
2. For approved software versions of Garmin G1000 Integrated Avionic System see DAI MSB 42-008, at latest issue.  
If engine TAE 125-02-99 is installed then Garmin Software PNo. 010-00370-15 or later approved version is required.  
If engine TAE 125-02-114 is installed (Design Change OÄM 42-252), then Garmin Software PNo. 010-00370-22 including secondary configuration card or later approved version is required.
3. Approved engine model for installation in the DA 42 M:  
TAE 125-02-99 (Installation Variant 125-02-99-(0003)-(), SB TAE 000-0007)  
TAE 125-02-114 (Installation Variant 125-02-114-(0006)-(), SB TAE 000-0007)



Installation of engine types in pairs only.

Approved firmware and mapping in accordance with DAI MSB 42-007 at latest issue.

Engine retrofit installation from engine TAE 125-02-99 to TAE 125-02-114 is approved by Design Change OÄM 42-252 with OSB 42-107.

4. Flights into known or forecast icing conditions is approved if the liquid fluid ice protection system in accordance to Major Design Change OÄM 42-054 is installed. Additional Limitations apply with Mission Options or Mission Equipment installed, see Note 7
5. The use of Diesel fuel (EN 590) is approved if Major Design Change MÄM 42-037 is installed.
6. For additional approved Jet Fuel specifications see AFM Section 2.
7. The basic DA42 M does not include provisions for specific mission purposes. The following optional major design changes for specific missions as a provision for installation of mission equipment are approved.

#### OÄM 42-106 Belly Pod

The following additional Limitations apply:

- Flights into known or forecast icing conditions prohibited
- Maximum load in the belly pod: 80 kg
- Minimum flight mass: 1430 kg
- Minimum Crew for Mission Operations: 1 Pilot + 1 Operator
- AFM and AMM Supplement M01 must be furnished

#### OÄM 42-107 Universal Nose

The following additional Limitations apply:

- Flights into known or forecast icing conditions prohibited
- Maximum load in Universal Nose: 31 kg
- Maximum load in Underfloor Pod: 20 kg
- Minimum flight mass: 1430 kg
- Minimum Crew for Mission Operations: 1 Pilot + 1 Operator
- AFM and AMM Supplement M30 must be furnished
- Maximum operating speed with Universal Nose and/or Underfloor Pod installed  
130KEAS

#### OÄM 42-107/c Universal Nose

The following additional Limitations apply:

- Flights into known or forecast icing conditions prohibited
- Maximum load in Universal Nose: 65 kg
- Maximum load in Underfloor Pod: 20 kg
- Minimum flight mass: 1430 kg
- Minimum Crew for Mission Operations: 1 Pilot + 1 Operator

- Most rearward flight CG:                    2,436 m aft of Datum at 1430 kg  
    2,47 m aft of Datum at 1600 kg  
    2,47 m aft of Datum at 1785 kg  
    Linear variation in between
- AFM and AMM Supplement M130 must be furnished
- Maximum operating speed with Universal Nose and/or Underfloor Pod installed                    160KEAS

### OÄM 42-108 Nose Pod

The following additional Limitations apply:

- Flights into known or forecast icing conditions prohibited
- Maximum load in Nose Pod: 85 kg
- The use load in the Nose Pod may lead to Trim Weight installations in the lower vertical tail
- Maximum load in rear equipment compartment: 93 kg
- Minimum flight mass: 1430 kg
- Minimum Crew for Mission Operations: 1 Pilot + 1 Operator
- Most rearward flight CG:

2,426 m aft of Datum at 1430 kg
2,46 m aft of Datum at 1600 kg
2,46 m aft of Datum at 1785 kg
- Linear variation in between
- AFM and AMM Supplement M60 must be furnished
- Maximum operating speed with Equipment installed 160 KEAS

### OÄM 42-208 Nose Pod with standard baggage compartment

The following additional Limitations apply:

- Flights into known or forecast icing conditions prohibited
- Maximum load in Nose Pod: 85 kg
- The use load in the Nose Pod may lead to Trim Weight installations in the lower vertical tail
- Minimum flight mass: 1430 kg
- Minimum Crew for Mission Operations: 1 Pilot + 1 Operator
- Most rearward flight CG:

2,426 m aft of Datum at 1430 kg
2,46 m aft of Datum at 1600 kg
2,46 m aft of Datum at 1785 kg
- Linear variation in between
- AFM and AMM Supplement M160 must be furnished
- Maximum operating speed with Equipment installed 160 KEAS

The specific mission equipment and its installations are not part of the DA 42 M certification. Installation must be approved using the relevant AMM Supplement and the qualification criteria of CRI F-08 "Equipment Qualification for mission equipment".

IFR Flights with mission master switch activated approved with OÄM 42-141 installed.

8. Additional Limitations to the Baggage Compartment payload may apply after installation of mission equipment, these are included in the relevant Flight Manual Supplement

9. Additional Limitations/Requirements for the Flight Crew/Operator or passenger may apply when the specific mission changes are installed. These Limitations are included in the relevant AFM Supplement. See Note 7
10. Compliance to ICAO Requirements (Annex 8) has been demonstrated for the basic DA 42 M and its approved provisions only. For the mission equipment itself and its installation, demonstration of compliance to ICAO Annex 8 must be part of the individual installation approval otherwise this airplane does not comply to ICAO requirements.
11. The following Design Mass Configurations are approved.

Design Changes installed	Standard	OÄM 42-188	OÄM 42-188 and OÄM 42-195
MTOM	1785 kg (3935 lb)	1785 kg (3935 lb)	1785 kg (3935 lb)
MZFM	1650 kg (3638 lb)	1674 kg (3690 lb)	1730 kg (3814 lb)
MLM	1700 kg (3748 lb)	1700 kg (3748 lb)	1785 kg (3935 lb)

MTOM – maximum take-off mass; MZFM – maximum zero fuel mass; MLM – maximum landing mass

The retrofit installation of the design changes is only approved per TC Holder Service Bulletins.

## **SECTION B: DA 42 M-NG**

### **B.I. General**

- |                                       |   |
|---------------------------------------|---|
| 1. Data Sheet No.:                    | EASA A.513  |
| 2. a) Type:                           | DA 42 M   |
| b) Model:                             | DA 42 M-NG  |
| c) Variant:                           | --  |
| 3. Airworthiness Category:            | Restricted  |
| 4. Type Certificate Holder:           | DIAMOND AIRCRAFT INDUSTRIES GMBH<br>N.A. OTTO-STR. 5<br>A-2700 WIENER NEUSTADT<br>AUSTRIA   |
| 5. Manufacturer:                      | DIAMOND AIRCRAFT INDUSTRIES GMBH<br>N.A. OTTO-STR. 5<br>A-2700 WIENER NEUSTADT<br>AUSTRIA<br><br>CETC WUHU DIAMOND AIRCRAFT<br>MANUFACTURE CO., LTD.<br>ANHUI XINWU ECONOMIC DEVELOPMENT<br>ZONE, WUHU COUNTY<br>PEOPLE'S REPUBLIC OF CHINA |
| 6. Certification Application<br>Date: | 02-Jun-2009   |
| 7. (Reserved)                         | N/A   |
| 8. (Reserved)                         | N/A   |

### **B.II. EASA Certification Basis**

- |  |   |
|--|---|
| 1. Reference Date for<br>determining the applicable<br>requirements: | 02-Apr-2002   |
| 2. Airworthiness Requirements:                                       | JAR-23, Amendment 1, issued 01-Feb-2001<br>JAR-1, Change 5, issued 15-Jul-1996  |
| 3. Special Conditions:   | CRI A-06 Overweight Operation<br>CRI D-02 Variable Elevator Stop<br>CRI E-02 Use of Jet Fuel for Reciprocating<br>Engines |

	CRI E-03	Use of Diesel Fuel for Reciprocating Engines
	CRI E-04	Liquid Cooling – Coolant Tank
	CRI E-05	Electronically-controlled Reciprocating Diesel Engine
	CRI E-06	Engine Vibration Level
	CRI E-07	Engine Torque
	CRI F-01	Protection from the Effects of HIRF
	CRI F-03	Protection from the Effects of Lightning Strikes, Indirect Effects
	CRI F-04	Power plant Instruments
	CRI F-07	Human Factors in Integrated Avionic System
	CRI F-08	Equipment Qualification for Mission Equipment
	CRI F-09	Safety Provisions for Mission Equipment
3. Exemptions:	N/A	
4. Deviations:	N/A	
5. Equivalent Safety Findings:	CRI E-10	Electrical Fuel Pump
	CRI F-10	Automatic Electric Load Shedding
6. Requirements elected to comply:	CS 23.1507 (CS 23/0)	
	CS 23.49 (CS 23/1)	
	CS 23.562 (CS 23/1)	
	With OÄM 42-324 installed:	CS 23.2270 (a)-(d), (CS23/5)
7. Environmental Standards:	ICAO, Annex 16, Volume 1, Part II and as implemented in Decision No. 2003/4/RM amended by Decision 2007/007/R of The Executive Director of the Agency dated 2 April 2007, on certification specifications providing for acceptable means of compliance for aircraft noise CS-36, Amendment 1 see Note 2	
8. (Reserved)	N/A	
9. (Reserved)	N/A	

### **B.III. Technical Characteristics and Operational Limitations**

1. Type Design Definition: Current issue of Doc. No. 7.07.00, Chapter V006/7 including Design Changes VÄM 42-004, VÄM 42-005 and VÄM 42-006

2. Description: Twin engine, four-seated cantilever low wing airplane, composite construction, retractable tricycle landing gear, T-tail.  
The airplane is equipped with provisions for installation of various mission equipment.
3. Equipment: Equipment list, AFM, Doc. No. 7.01.15, Section 6 and AFM Supplement M00 See Note 3 and 7
4. Dimensions:
- |           |                      |              |
|-----------|----------------------|--------------|
| Span      | 13.42 m              | (44 ft 0 in) |
| Length    | 8.56 m               | (28 ft 1 in) |
| Height    | 2.49 m               | ( 8 ft 2 in) |
| Wing Area | 16.29 m <sup>2</sup> | (175.3 sqft) |
5. Engine:
- 5.1.1 Model: 2 E4 see Note 4
- 5.1.2 Type Certificate: EASA Engine Type Certificate Data Sheet E.200
- 5.1.3 Limitations: Max take-off rotational speed (5min) 2300 r.p.m.  
Max continuous rotational speed 2100 r.p.m  
(Propeller shaft r.p.m)  
with MÄM 42-600 installed 2300 r.p.m
- Max T/O Power (5min) 100%(123,5 kW)  
Max. continuous Power 92% (114 kW)  
For power-plants limits refer to AFM, Section 2
- 5.1.4 Firmware: see DAI MSB 42NG-002 See Note 4
- 5.1.5 Mapping: see DAI MSB 42NG-002 See Note 4
6. Load factors:
- |           |          |             |                                      |
|-----------|----------|-------------|--------------------------------------|
|           | at $V_A$ | at $V_{NE}$ | with flaps in T/O<br>or LDG position |
| Positive: | 3.8      | 3.8         | 2.0                                  |
| Negative  | -1.52    | 0           |                                      |
7. Propeller:
- 7.1 Model: 2 MT-Propeller MTV-6-R-C-F/CF187-129 or 2 MT-Propeller MTV-6-R-C-F/CF 190-69 see Note 17
- 7.2 Type Certificate: EASA Propeller Type Certificate Data Sheet P.094
- 7.3 Number of blades: 3
- 7.4 Diameter: 1870 mm or 1900 mm (MÄM 42-600)
- 7.5 Sense of Rotation: CW
- 7.5 Settings:
- |                   |                  |
|-------------------|------------------|
| Low pitch setting | 12 °             |
|                   | 13° (MÄM 42-600) |
| Feather position  | 81 °             |
|                   | 80° (MÄM 42-600) |

Start Lock 15°

8. Fluids:

- 8.1 Fuel: Jet A-1 (ASTM 1655) see Note 12  
Diesel (EN590) see Note 15
- 8.2 Oil: Engine Shell Helix Ultra 5W30 or 5W40  
or see AFM, Section 2  
Gearbox Shell SPIRAX GSX 75W-80  
or see AFM, Section 2
- 8.3 Coolant: Water / Cooler Protection  
for more details see AFM, Section 2
- 8.4 Ice Protection Fluid: AL-5 (DTD 406B) or Aeroshell Compound 07  
for more details see AFM, Suppl. S03

9. Fluid capacities:

- 9.1 Fuel: Standard Fuel Tank  
Total: 196.8 liters 52 US Gallons  
Usable: 189.2 liters 50 US Gallons  
Auxiliary Fuel Tank  
Total: 104 liters 27,4 US Gallons  
Usable: 100 liters 26,4 US Gallons
- 9.2 Oil: each engine Maximum: 7 liters  
Minimum: 5 liters
- 9.3 Coolant system capacity: Approx. 7 liters

10. Air Speeds:

Design Manoeuvring Speed  $v_A$   
up to 1700 kg 114 KEAS  
1701 to 1800 kg 121 KEAS  
above 1800 kg 125 KEAS  
Flap Extended Speed  $v_{FE}$   
Approach 135 KEAS  
Landing 110 KEAS  
Maximum Landing Gear Operation Speed  $v_{LO}$   
155 KEAS  
Maximum Landing Gear Extended Speed  $v_{LE}$   
192 KEAS  
Minimum Control Speed Airborne  $v_{MCA}$  75 KEAS  
MÄM 42-600 70 KEAS  
Maximum structural cruising speed  $v_{NO}$   
(= Maximum structural design speed  $v_C$ )  
155 KEAS



	Never exceed speed $v_{NE}$	192 KEAS
11. Maximum Operating Altitude:	5486 m (18 000 ft)	
12. Allweather Operations Capability:	Day/Night-VFR, IFR Flights into known or forecast icing conditions See Note 6, 7	
13. Maximum Weights:	See Note 16	
Take-off		1900 kg (4189 lb)
	If MÄM 42-678 is installed	1999 kg (4407 lb)
		1765 kg (3891 lb)
Zero Fuel		1835 kg (4045 lb)
	If MÄM 42-659 is installed	1805 kg (3979 lb)
Landing		1999 kg (4407 lb)
14. Centre of Gravity Range:	Forward limit	
	At 1450 kg	2.350 m behind Datum
	At 1468 kg	2.350 m behind Datum
	At 1900 kg	2.418 m behind Datum
	If MÄM 42-678 is installed	
	At 1999 kg	2.434 m behind Datum
	Varying linearly with mass in between	
	Rear limit	
	At 1450 kg	2.454 m behind Datum
	At 1700 kg and above	2.480 m behind Datum
	Varying linearly with mass in between	
	If OÄM 42-199 is installed (see note 13):	
	For all weights	2.450 m behind Datum
15. Datum:	2.196 m	in front of leading edge of stub-wing at the wing joint
16. Control surface deflections:		
Aileron	trailing edge up	25° ± 2°
	trailing edge down	15° + 2° - 0°
Elevator	railing edge up	15.5° ± 0.5°
	trailing edge down	13° ± 1°
Elevator Trim Tab	nose up at elevator neutral	28° ± 5°
	nose down at elevator neutral	25° ± 5°
Rudder	left	27° ± 1°
	right	29° ± 1°
Rudder Trim Tab	trim RH at rudder neutral	45° ± 3°
	trim LH at rudder neutral	41° ± 3°
	with MÄM 42-600 and MÄM 42-885 installed:	

	trim RH at rudder neutral	48°	± 3°
	trim LH at rudder neutral	36	± 5°
Flaps	Cruise flap setting	0°	+ 2° - 0°
	Approach flap setting	20°	+ 4° - 2°
	Landing flap setting	42°	+ 3° - 1°
17. Levelling Means:	floor of front baggage compartment levelled		
18. Minimum Flight Crew:	1 (Pilot)		
19. Maximum Passenger Seating Capacity:	3		
20. Baggage/Cargo Compartments:	Location	max. allowable Load	
	Front Baggage Compartment	30 kg (66 lb)	
	Behind Rear Seats	45 kg (100 lb)	
	Aft part of Baggage Extension	18 kg (40 lb)	
	Whole aft Baggage Compartment together	45 kg (100 lbs)	
21. Wheels and Tyres:	Nose Wheel Tyre Size	5.00 – 5	
	Main Wheel Tyre Size	15x6.0–6	
22. (Reserved):	N/A		

#### **B.IV. Operating and Service Instructions**

1. Flight Manual: Document No. 7.01.15 or 7.01.16 (MÄM 42-600 installed), including AFM Supplement M00
2. Technical Manual: Airplane Maintenance Manual (AMM) Document No. 7.02.15 (incl. Airworthiness Limitations) Service Information and Service Bulletins
3. Spare Parts Catalogue: Document No. 7.03.15
4. Instruments and aggregates: refer to AMM Doc. No. 7.02.15 Chapter 1

#### **B.V. Operational Suitability Data (OSD)**

The Operational Suitability Data elements listed below are approved by the European Aviation Safety Agency under the EASA Type Certificate EASA.A.005 as per Commission Regulation (EU) 748/2012 as amended by Commission Regulation (EU) No 69/2014.

##### 1. Master Minimum Equipment List (MMEL)

The MMEL is defined in the Document No: 7.11.01, Revision Original or later approved revisions.

## **B.VI. Notes:**

1. This certification applies to serial numbers 42.339, 42.MN001 and subsequent for production at Diamond-Austria. 42.MNW001 and subsequent for production in Wuhu/China, see Note 18. DA 42 M may be converted to Model DA 42 M-NG by DAI approved SB OSB 42-081. Serial Number 42.009 may be converted to DA 42 M-NG by OÄM 42-296. Serial Number 42.N034 may be converted to DA 42 M-NG by OÄM 42-295.
2. Approved Noise Levels in accordance to the EASA data sheet for noise TCDSN A.513, Mission Configurations as listed in Note 7 are part of the TCDSN.
3. For approved software versions of Gamin G1000 Integrated Avionic System see DAI MSB 42NG-003, at latest issue. Garmin Software Pno. 010-00670-01 or later approved version is required.
4. Approved engine model for installation in the DA 42 M-NG: E4-B  
with MÄM 42-600 installed : E4-C  
The approved firmware and mapping is according to DAI MSB 42NG-002 at latest issue.
5. Propeller Equipment : Governor: P-877-16
6. Flights into known or forecast icing conditions is prohibited if provisions for additional mission equipment (Note 7) are installed.
7. The basic DA42 M-NG does not include provisions for specific mission purposes. The following optional major design changes for specific missions as a provision for installation of mission equipment are approved. Approved combinations are defined in the relevant design change.

### OÄM 42-168 Belly Pod

The following additional Limitations apply:

- Flights into known or forecast icing conditions prohibited
- Maximum load in the belly pod: 80 kg
- Minimum flight mass: 1510 kg
- Minimum Crew for Mission Operations: 1 Pilot + 1 Operator
- AFM and AMM Supplement M01 must be furnished

### OÄM 42-169 Universal Nose System

The following additional Limitations apply:

- Flights into known or forecast icing conditions prohibited
- Maximum load in Universal Nose: 65 kg
- Maximum load of Underfloor Pod: 20 kg
- Maximum load of Gimbal SAR Pod: 50 kg
- Maximum load of Belly Recce Pod: 150 kg
- Minimum flight mass: 1510 kg
- Minimum Crew for Mission Operations: 1 Pilot + 1 Operator

- Most rearward flight CG: 2,45 m aft of Datum at 1510 kg  
2,47 m aft of Datum at 1700 kg and above  
Linear variation in between  
If the Belly Recce Pod without the Universal Nose is installed:  
2.454 m aft of Datum at 1450 kg  
2.480 m aft of Datum at 1700 kg and above  
Linear variation in between  
If OÄM 42-199 is installed (see note 13):  
for all weights 2,45 m aft of Datum
- AFM and AMM Supplement M30 must be furnished
- Maximum operating speed with Equipment installed 156 KIAS

#### OÄM 42-170 Nose Pod

The following additional Limitations apply:

- Flights into known or forecast icing conditions prohibited
- Maximum load in Nose Pod: 85 kg
- The use load in the Nose Pod may lead to Trim Weight installations in the lower vertical tail
- Maximum load in rear equipment compartment: 93 kg
- Minimum flight mass: 1510 kg
- Minimum Crew for Mission Operations: 1 Pilot + 1 Operator
- Most rearward flight CG: 2,44 m aft of Datum at 1510 kg  
2,46 m aft of Datum at 1700 kg and above  
Linear variation in between  
If OÄM 42-199 is installed (see note 13):  
2,44 m aft of Datum at 1510 kg  
2,45 m aft of Datum at 1605 kg and above  
Linear variation in between
- AFM and AMM Supplement M60 must be furnished
- Maximum operating speed with Equipment installed 156 KIAS

#### OÄM 42-208 Nose Pod with standard baggage compartment

The following additional Limitations apply:

- Flights into known or forecast icing conditions prohibited
- Maximum load in Nose Pod: 85 kg
- The use load in the Nose Pod may lead to Trim Weight installations in the lower vertical tail
- Minimum flight mass: 1510 kg
- Minimum Crew for Mission Operations: 1 Pilot + 1 Operator
- Most rearward flight CG: 2,44 m aft of Datum at 1510 kg  
2,46 m aft of Datum at 1700 kg and above

Linear variation in between  
If OÄM 42-199 is installed (see note 13):  
2,44 m aft of Datum at 1510 kg  
2,45 m aft of Datum at 1605 kg and above

Linear variation in between

- AFM and AMM Supplement M160 must be furnished
- Maximum operating speed with Equipment installed 156 KIAS

#### OÄM 42-250 Geostar

The following additional Limitations apply:

- Maximum load in Geostar Pod: 26 kg
- AFM and AMM Supplement M62 must be furnished

#### OÄM 42-255 Large Satellite Uplink

The following additional Limitations apply:

- Maximum load in Radome: 11 kg
- AFM Supplement M62 and AMM Supplement M20 must be furnished

#### OÄM 42-312 Terrastar

The following additional Limitations apply:

- Load load in Nose Boom: 2.7 +/-0,5 kg
- Load in Winglet Boom - Front Equipment Pod: 1.6 +0.2/-0.4 kg
- Load in Winglet Boom - Rear Equipment Pod: 70-80 % of payload in Front Equipment Pod
- Operation with loaded booms only.
- Maximum operating speed 156 KIAS
- Minimum flight mass: 1510 kg
- AFM Supplement M40 and AMM Supplement M40 must be furnished

8. The specific mission equipment and its installations are not part of the DA 42 M-NG certification. Installation must be approved using the relevant AMM Supplement and the qualification criteria of CRI F-08 "Equipment Qualification for mission equipment"
9. Additional Limitations to the Baggage Compartment payload may apply after installation of mission equipment, these are included in the relevant Flight Manual Supplement
10. Additional Limitations/Requirements for the Flight Crew/Operator or passenger may apply when the specific mission changes are installed. These Limitations are included in the relevant AFM Supplement.
11. Compliance to ICAO Requirements (Annex 8) has been demonstrated for the basic DA 42 M-NG and its approved provisions only. For the mission equipment itself and its installation, demonstration of compliance to ICAO Annex 8 must be part of

the individual installation approval otherwise this airplane does not comply with ICAO requirements.

12. For additional approved Jet Fuel specifications see AFM Section 2.

13. The Variable Elevator Stop is removed with OÄM 42-199 installed.

14. Overweight Operations

When Design Change OÄM 42-221 “Overweight Operations” is installed and MÄM 42-678 is not installed, certain types of missions are approved for the following Overweight Operations.

AFM Supplement M100, MTOM 2001 kg, MZFM 1835 kg

AFM Supplement M101, MTOM 1995 kg, MZFM 1835 kg

These Operations are subject to specific limitations such as OAT (Outside Air Temperature), Structural Temperature, Pilot’s Experience, Maneuver Limitations and only valid when Mission equipment as specified in Note 7 is installed. For details refer to AFM Supplement M100 or M101.

15. Operation with Diesel fuel is only approved, if OÄM 42-251 is installed.

16. The following Design Mass Configurations are approved:

Design Changes installed	Standard	OÄM 42-221		MÄM 42-659	MÄM 42-659 and MÄM 42-678	MÄM 42-659 and MÄM 42-678 and OÄM 42-260
		AFMS M100	AFMS M101			
MTOM	1900 kg (4189 lb)	2001 kg (4411 lb)	1995 kg (4398 lb)	1900 kg (4189 lb)	1999 kg (4407 lb)	2001 kg (4411 lb)
MZFM	1765 kg (3891 lb)	1835 kg (4045 lb)	1835 kg (4045 lb)	1835 kg (4045 lb)	1835 kg (4045 lb)	1835 kg (4045 lb)
MLM	1805 kg (3979 lb)	2001 kg (4411 lb)	1995 kg (4398 lb)	1900 kg (4189 lb)	1999 kg (4407 lb)	1999 kg (4407 lb)

MTOM – maximum take-off mass; MZFM – maximum zero fuel mass; MLM – maximum landing mass

The retrofit installation of the design changes is only approved per TC Holder Service Bulletins.

The Maximum Take Off Mass of 2001 kg (4411 lb) per OÄM 42-260 is intended only for cases were operationally more suitable to have an MTOM above 2000 kg. The forward Center of Gravity Limit at MTOM 2001 kg (4407 lb) is 2.434 m (95.83 in) aft of datum plane.

17. The installation of Propeller MTV-6-R-C-F/CF 190-69 is only approved by complete installation of design change MÄM 42-600 which includes a number of different modifications.

18. For serial number 42.MNW001 and subsequent produced in Wuhu/China under Chinese Production Certificate PC0030A, EASA is considered state of design. Pending a bilateral agreement between the People’s Republic of China and the European Union (EU), this aircraft serial numbers are not eligible for registration

in the EU. Spareparts with a Chinese Authorized Release Certificate are not eligible for EU registered aircraft.

## **ADMINISTRATIVE SECTION**

### I. Acronyms

N/A

### II. Type Certificate Holder Record

Diamond Aircraft Industries GmbH

N.A. Otto-Str. 5

A-2700 Wiener Neustadt

Austria

### III. Change Record

Issue	Date	Changes	TC Issue No. & Date
Issue 1	14-Dec-2007	Initial Issue	14-Dec-2007
Issue 2	02-Apr-2008	OÄM 42-102 Autopilot Garmin GFC700 Page 6, Section 1, AIV AFM	-
Issue 3	23-May-2008	OÄM 42-107 Universal Nose Page 7, Section 1, AV Note 7	-
Issue 4	06-Oct-2008	OÄM 42-141 IFR with Mission Master activated P-EASA.A.C.10811 Page 7, Section 1, AV Note 7	-
Issue 5	09-Jul-2009	OÄM 42-175 Fuel TS-1; P-EASA.A.C.12574 V Note 6	-
Issue 6	09-Oct-2009	New Model DA 42 M-NG VÄM 42-006; P-EASA.A.C.12413 OÄM 42-168, Belly Pod, EASA.A.C.12412 OÄM 42-169, Universal Nose, EASA.A.C.12411 ÖÄM 42-107/c, Universal Nose 65kg, EASA 0010001150-001 A.V. Note 7 Conformity status to ICAO Annex 8, A.V. Note 10	-
Issue 7	29-12-2009	Administrative Changes Cover page Page Change Record has been removed no longer required OÄM 42-170 Nose Pod; Project P-EASA.A.C.12410 B.V. Note 7 OÄM 42-170 added OÄM 42-108 Nose Pod; Project P-EASA.A.C.10129 A.V. Note 7 OÄM 42-108 added	-
Issue 8	13-Mar-2010	B.V. Note 1 Conversion SB added	-
Issue 9	16-Jul-2010	OÄM 42-188 Increase of the maximum Zero Fuel Weight , EASA Project Nr. 0010004589-001 including OÄM 42-195 maximum Landing mass 1785 kg AIII.13 weights changed AV. Note 11 added Format modified to standard EASA TCDS format.	-
Issue 10	01-Mar-2011	TS-1 fuels for model DA 42 M-NG, EASA Project Nr. 00100007250; OÄM 42-208 Nose Pod with standard baggage compartment, EASA Project Nr. 0010009315; Editorial Changes	-
Issue 11	26-April-2011	Section B.V, Note 12: Additional Fuel Grades added, EASA Project No. 0010010748-001	-
Issue 12	15-Sep-2011	Section B.V, Note 6; Section B.V, Note 12: General Ref. to AFM	-
Issue 13	06-Dec-2012	Editorial changes CRI F-05 deleted in accordance to CRI A-01	
Issue 14	18-Dec-2012	Section B:	

Issue	Date	Changes	TC Issue No. & Date
		OÄM 42-199 Removal of Variable Elevator Stop – aft CG Limits EASA Project No. 0010007850-001	
Issue 15	06-Feb-2013	Conversion error corrected Section B.V, Note 1: S/N 42.339 included	
Issue 16	15-April-2013	Overweight Operations OÄM 42-221 BII.3.SC A-06 added BII.6 Elect to Comply 23.49, 23.562(d) BIII.13. Weight Limits Note BV Note 14 added	
Issue 17	19-Dec-2013	Section A.III., 5.1.1 Engine TC- Holder change Section B.III., 8.1 Diesel fuel Operation Section B.V., 7. OÄM 42-251 EASA 0010026322	
Issue 18	25-Apr-2014	Section B.III 13 and 14: MTOM and MLM 1999 kg added, MZFM 1835 kg added, CG Limits updated. Section B.V Note 7 updated, Note 16 added. Note 14 updated EASA 0010018576	
Issue 19	5-June-2014	Section B.V.2 reference to Note 7 corrected Section B.V Note 7 updated, EASA 0010029104	
Issue 20	03-Dec-2014	Section A.III 5.1.1: TAE 125-02-114 engine added Section A.III 10: Vmc with TAE 125-02-114 installed updated Section A.III 16: Rudder Trim Tab deflection with TAE 125-02-114 installed updated Section A.IV 1: Added reference to TAE 125-02-114 AFMS S07 Section A.V Note 2: Garmin Software for different engine model updated Section A.V Note 3: TAE 125-02-114 engine added, Installation Variants clarified EASA 0010027848	
Issue 21	25-Mar-2015	Performance Enhancement MÄM 42-600/c added. EASA Project Number 0010035292: Section B.III 5.1.3, 7.1, 7.4, 7.5, 10, 15, B.IV AFM 7.01.16 added B.V Note 4 E4-C added, Note 7 updated and corrected, Note 17 added.	
Issue 22	01-Jul-2016	Section A.V. 4.: Correction of SB reference for TAE 125-02-114 Section B.V note 1: Serial Numbers 42.009 and 42.N034 added as eligible for model DA 42 M-NG	
Issue 23	17-Aug-2017	Section A.V: OSD/MMEL added Section A.VI: Renumbered, was A.V Section B.I: Item 5: Manufacturer Cetec Wuhu/China added Section B.V: OSD/MMEL added Section B.VI: Renumbered, was B.V Section B.VI: Note 1 amended, S/Nos for Cetec Wuhu/China added Section B.VI: Note 18 added	
Issue 24	06-Dec-2017	Editorial for harmonization only: Section A.III.16: Rudder and Elevator Trim Tab, identification of adjustable values (main surface neutral) Section B.III.16: Rudder and Elevator Trim Tab, identification of adjustable values (main surface neutral) EASA PN 10050088: Section B.VI. 7. Information for OÄM 42-312 Terrastar added.	
Issue 25	12-Jan-2018	Optional Installation of Inflatable Restraint Safety Belt with Integrated Airbag (OÄM 42-324, EASA PN 10052689 Section A.II.6.: With OÄM 42-324 installed: CS 23.2270 (a)-(d), (CS23/5) added Section B.II.6.: Wording standardized; With OÄM 42-324 installed: CS 23.2270 (a)-(d), (CS23/5) added	
Issue 26	08-Feb-2018	EASA 10050087: Section B.VI 7. OÄM 42-303 Belly Recce Pod added.	