SAAU

TYPE CERTIFICATE DATA SHEET № TL 0046

DA 42 M

Type Certificate Holder: Diamond Aircraft Industries GmbH
N.A. Otto-Str. 5
A-2700 Wiener Neustadt
Austria

Models: DA 42 M
DA 42 M-NG

Issue 4, 26 June 2013

This Data Sheet which is integral part of Type Certificate № TL 0046 prescribes the conditions and limitations under which the product(s) for which the Type Certificate was granted meet(s) the airworthiness requirements and environmental protection requirements, stated in Certification basis mentioned in this Data Sheet.

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I. General
II. Certification Basis
III. Technical Characteristics and Operational Limitations
IV. Operating and Service Instructions
V. Notes
SECTION 1: DA 42 M

I. General

Data Sheet No.: TL 0046

1. a) Type: DA 42 M
   b) Variant: N/A

2. Airworthiness Category: Restricted

3. Type Certificate Holder: Diamond Aircraft Industries GmbH
   N.A. Otto-Str. 5
   A-2700 Wiener Neustadt
   Austria

4. Manufacturer: Diamond Aircraft Industries GmbH
   N.A. Otto-Str. 5
   A-2700 Wiener Neustadt
   Austria

5. EASA Application Date: 01 June 2006

6. Reserved:

7. EASA Type Certification Date: 14 Dec 2007

8. SAAU Certification Date: 15 June 2010

II. Certification Basis

1. Reference Date for determining the applicable requirements: 02-Apr-2002

2. SAAU Application Date 14-July-2009

3. (Reserved)

4. Certification Basis: As defined in CRI A-01 and
   CRI A02 Restricted Type Certification Basis

5. Airworthiness Requirements: JAR-23, Ammd. 1, issued 01 February 2001
   JAR-1, Change 5, issued 15-Jul-1996

6. SAAU Airworthiness Requirements: AR-23 «Airworthiness Standards for Civil Light
   Airplane»

7. EASA Special Conditions: CRI D-02, Variable Elevator Stop
   CRI E-02, Use of Jet Fuel for Reciprocating Engines
   CRI E-03, Use of Diesel Fuel for Reciprocating Engines
8. (Reserved):

9. EASA 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

10. SAAU Equivalent Safety Findings:
    - AR 23.1061(b); 23.1063 Liquid Cooling - Coolant Tank (ref. CRI E-5)
    - AR 23.1141; 23.1143; 23.1145; 23.1165; 23.1309 Electronically-controlled Reciprocating Diesel Engine (ref. CRI E-6)
    - AR 23.961; 23.1309 Fuel System - Hot Fuel Temperature (ref. CRI E-7)
    - AR 23.1305; 23.1521(b)(2), (c)(2) Powerplant Instruments (ref. CRI E-8)
    - D23F.8.4.2.3 for Intercom equipment (ref. CRI A-5)

11. EASA Environmental Standards:
    - CS 36, ICAO, Annex 16, Volume 1, Fourth Edition, Chapter 10

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)
5. Engines:
2 Thielert TAE 125-02-99
EASA Type Certificate Data Sheet E.055
SAAU Type Certificate Data Sheet TD 0048

5.1 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:

\[
\begin{array}{ccc}
\text{Positive} & \text{at } V_A & \text{at } V_{NE} & \text{with flaps in T/O or} \\
& 3.8 & 3.8 & \text{LDG position} \\
\text{Negative} & -1.52 & 0 & 2.0 \\
\end{array}
\]

7. Propellers:
2 MT-Propeller MTV-6-A-C-F/CF187-129
EASA Type Certificate Data Sheet P.094
SAAU Type Certificate Data Sheet TG 0011

7.1 Number of blades: 3
7.2 Diameter: 1870 mm
7.3 Sense of Rotation: CW
7.4 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 Fluids
AL-5 (DTD 406B) or Aeroshell Compound 07
for more details see AFM, 7.01.05 or 7.01.06, 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
9.2 Oil: each engine
- Usable: 100 liters  26.4 US Gallons
- Maximum: 6.0 liters  6.3 qts
- Minimum: 4.5 liters  4.8 qts

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

Maximum structural cruising speed $V_{NO}$
(= Maximum structural design speed $V_C$):
- Never exceed speed $V_{NE}$: 155 KEAS  192 KEAS

11. Maximum Operating Altitude: 5486 m (18 000 ft)

12. All weather Capability:
- Day/Night-VFR, IFR
- Flights into known or forecast icing conditions
- See Note 4, 7

13. Maximum Masses:
- Take-off
  - Zero Fuel: 1785 kg (3935 lb)
  - 1650 kg (3638 lb)
  - 1674 kg (3690 lb) OÄM 42-188 installed
  - 1730 kg (3814 lb) OÄM 42-188 & -195 installed
  - 1700 kg (3748 lb)
  - 1785 kg (3935 lb) OÄM 42-195 installed
- Landing

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:
  - up to 1250 kg  2.42 m behind Datum
  - up to 1600 kg an 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:

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
<th>Angle(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aileron</td>
<td>trailing edge up</td>
<td>25° ± 2°</td>
</tr>
<tr>
<td></td>
<td>trailing edge down</td>
<td>15° ± 2/-0°</td>
</tr>
<tr>
<td>Elevator</td>
<td>railing edge up</td>
<td>15.5° ± 0.5°</td>
</tr>
<tr>
<td></td>
<td>trailing edge down</td>
<td>13° ± 1°</td>
</tr>
<tr>
<td>Elevator Trim Tab</td>
<td>nose up at elevator 10° up</td>
<td>+ 17° ± 5°</td>
</tr>
<tr>
<td></td>
<td>nose down at elevator 10° up</td>
<td>- 35° ± 5°</td>
</tr>
<tr>
<td>Rudder</td>
<td>left</td>
<td>27° ± 1°</td>
</tr>
<tr>
<td></td>
<td>right</td>
<td>29° ± 1°</td>
</tr>
<tr>
<td>Rudder Trim Tab</td>
<td>trim RH at rudder 20° LH</td>
<td>+ 34° ± 5°</td>
</tr>
<tr>
<td></td>
<td>trim LH at rudder 20° LH</td>
<td>+ 18° ± 5°</td>
</tr>
<tr>
<td>Flaps</td>
<td>Cruise flap setting</td>
<td>0° ± 2° - 0°</td>
</tr>
<tr>
<td></td>
<td>Approach flap setting</td>
<td>20° + 4° - 2°</td>
</tr>
<tr>
<td></td>
<td>Landing flap setting</td>
<td>42° + 3° - 1°</td>
</tr>
</tbody>
</table>

17. Levelling Means: floor of front baggage compartment leveled

18. Minimum Flight Crew: 1 (Pilot) see Note 9

19. Maximum Passenger Seating Capacity: 3 see Note 9

20. (Reserved)

21. Baggage / Cargo Compartments

<table>
<thead>
<tr>
<th>Location</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front Baggage Compartment</td>
<td>30 kg (66 lb)</td>
</tr>
<tr>
<td>Behind Rear Seats</td>
<td>45 kg (100 lbs)</td>
</tr>
<tr>
<td>Aft part of Baggage Extension</td>
<td>18 kg (40 lb)</td>
</tr>
<tr>
<td>Whole aft Baggage Compartment</td>
<td>45 kg (100 lbs)</td>
</tr>
</tbody>
</table>

22. Wheels and Tyres

<table>
<thead>
<tr>
<th>Type</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nose Wheel Tyre</td>
<td>5.00 – 5</td>
</tr>
<tr>
<td>Main Wheel Tyre</td>
<td>15x6.0-6</td>
</tr>
</tbody>
</table>

IV. Operating and Service Instructions

- **Airplane Flight Manual (AFM)**
  - Document No. 7.01.05 or 7.01.06 (with OÄM 42-102, GFC 700 Autopilot ) including AFM Supplement M00
- **Airplane Maintenance Manual (AMM)**
  - (incl. Airworthiness Limitations)
  - Service Information and Service Bulletins
  - Document No.7.02.01
- **Supplement N048 to the Airplane Flight Manual for operation in Ukraine**
  - Doc. No. 7.01.05-E
  - Doc. No. 7.01.06-E
Spare Parts Catalogue: Document No. 7.03.01

Instruments and aggregates: refer to AMM Doc. No. 7.02.01 Chapter 1

V. 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 DA42 must be modified with Optional Service Bulletin OSB42-056 to comply with the DA42M type design.

2. For approved software versions of Gamin G1000 Integrated Avionic System see DAI MSB 42-008, at latest issue. Garmin Software PNo. 010-00370-15 or later approved version is required.

3. Approved engine model for installation in the DA 42 M: TAE 125-02-99 125-02-(0003)-( )

   The approved firmware and mapping is according to DAI MSB 42-007 at latest issue.

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 42-107c 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 160 KEAS

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 DA42 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.

<table>
<thead>
<tr>
<th>Design Changes installed</th>
<th>Standard</th>
<th>OÂM 42-188</th>
<th>OÂM 42-188 and OÂM 42-195</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTOM</td>
<td>1785 kg (3935 lb)</td>
<td>1785 kg (3935 lb)</td>
<td>1785 kg (3935 lb)</td>
</tr>
<tr>
<td>MZFM</td>
<td>1650 kg (3638 lb)</td>
<td>1674 kg (3690 lb)</td>
<td>1730 kg (3814 lb)</td>
</tr>
<tr>
<td>MLM</td>
<td>1700 kg (3748 lb)</td>
<td>1700 kg (3748 lb)</td>
<td>1785 kg (3935 lb)</td>
</tr>
</tbody>
</table>

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

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

12. For commercial transportation a FDR must be installed.

13. In case of the crew consists of two pilots the installation of a CVR should be provided.

14. In case of the flights over difficult of access and sparsely populated regions and the big water spaces the installation of the one emergency radio beacon "COSPAS-SARSAT" (406MHz) should be provided.

15. MÂM 42-XXX – mean number of Mandatory Type design change. OÂM 42-XXX – mean number of optional Type design change.
SECTION 2: DA 42 M-NG

I. General

Data Sheet No.: TL 0046

1. a) Type: DA 42 M
   b) Variant: DA 42 M-NG

2. Airworthiness Category: Restricted

3. Type Certificate Holder: Diamond Aircraft Industries GmbH
   N.A. Otto-Str. 5
   A-2700 Wiener Neustadt
   Austria

4. Manufacturer: Diamond Aircraft Industries GmbH
   N.A. Otto-Str. 5
   A-2700 Wiener Neustadt
   Austria

5. EASA Application Date: 02-June-2009

6. Reserved:

7. EASA Type Certification Date: 06-Oct-2009

8. SAAU Certification Date: 15 June 2010

II. Certification Basis

1. Reference Date for determining the applicable requirements: 02-Apr-2002

2. SAAU Application Date 26-Oct-2009

3. Requirements elected to comply: CS 23.1507 Manoeuvring Speed

4. Certification Basis: As defined in CRI A-01, DA 42 NG and CRI A02 Restricted Type Certification Basis

5. Airworthiness Requirements: JAR-23, Ammd. 1, issued 01 February 2001
   JAR-1, Change 5, issued 15-Jul-1996

6. SAAU Airworthiness Requirements: AR-23 «Airworthiness Standards for Civil Light Airplane»

7. EASA Special Conditions: CRI A-06 Overweight Operation
   CRI D-02, Variable Elevator Stop
   CRI E-02, Use of Jet Fuel for Reciprocating 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

8. (Reserved):

9. EASA Equivalent Safety Findings:
   CRI E-10, Electrical Fuel Pump
   CRI F-10, Automatic Electric Load Shedding

10. SAAU Equivalent Safety Findings:
    AR 23.991(a), (b) Electrical Fuel Pump (ref. CRI E-9)
    D23F.8.4.2.3 for Intercom (ref. CRI A-5)

11. EASA 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

III. Technical Characteristics and Operational Limitations

1. Type Design Definition:
   Current issue of Doc. No. 7.07.00, Chapter V006/7 including Design Changes VÂM 42-005, VÂM 42-006, MÂM 42-313, MÂM 42-316 to 318, MÂM 42-322, MÂM 42-325 and following

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, See Note 3 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 m² (175.3 sq ft)

5. Engines:
   2 E4
5.1 Firmware: see DAI MSB 42NG-002 See Note 4
5.2 Mapping: see DAI MSB 42NG-002 See Note 4
5.3 Limitations:
   Max take-off rotational speed (5min) 2300 r.p.m.
   Max continuous rotational speed 2100 r.p.m
   (Propeller shaft r.p.m)
   Max T/O Power (5min) 100% (123.5 kW)
   Max. continuous Power 92% (114 kW)
   For power-plants limits refer to AFM, Doc. No. 7.01.15, Section 2

6. Load factors:
   at $V_A$  at $V_{NE}$  with flaps in T/O or
   Positive: 3.8 3.8 2.0
   Negative -1.52 0

7. Propellers:
   2 MT-Propeller MTV-6-R-C-F/CF187-129
   See Note 5
   EASA Type Certificate Data Sheet P.094
   SAAU Type Certificate Data Sheet TG 0011
   7.1 Number of blades: 3
   7.2 Diameter: 1870 mm
   7.3 Sense of Rotation: CW
   7.4 Settings
   Low pitch setting: 12°
   Feather position 81°
   Start Lock 15°

8. Fluids:
   8.1 Fuel: Jet A-1 (ASTM 1655) see Note 15
   8.2 Oil: engine
   Shell Helix Ultra 5W30 or 5W40
   or see AFM, Doc. No. 7.01.15, Section 2
   gearbox
   Shell SPIRAX GSX 75W-80
   or see AFM, Doc. No. 7.01.15, Section 2
   8.3 Coolant:
   Water / Cooler Protection
   for more details see AFM, 7.01.15, Section 2
   8.4 Ice Protection Fluids
   AL-5 (DTD 406B) or Aeroshell Compound 07
   for more details see AFM, 7.01.05, 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

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

Maximum structural cruising speed $V_{NO}$
(= Maximum structural design speed $V_C$):
- Never exceed speed $V_{NE}$: 155 KEAS
- 192 KEAS

11. Maximum Operating Altitude: 5486 m (18 000 ft)

12. All weather Capability:
Day/Night-VFR, IFR
Flights into known or forecast icing conditions
See Note 6, 7

13. Maximum Masses:
- Take-off: 1900 kg (4189 lb)
- Zero Fuel: 1765 kg (3891 lb)
- Landing: 1805 kg (3979 lb)
For Overweight Operations see note 18

14. Centre of Gravity Range:
- Forward limit:
  - up to 1510 kg: 2.357 m behind Datum
  - at 1900 kg: 2.418 m behind Datum
- Rear limit:
  - At 1510 kg: 2.460 m behind Datum
  - up to 1700 kg: 2.480 m behind Datum
- Varying linearly with mass in between
- If OÄM 42-199 is installed (see note 16):
  - 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:

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aileron</td>
<td>trailing edge up</td>
<td>25° ± 2°</td>
</tr>
<tr>
<td></td>
<td>trailing edge down</td>
<td>15° ± 2° - 0°</td>
</tr>
<tr>
<td>Elevator</td>
<td>raling edge up</td>
<td>15.5° ± 0.5°</td>
</tr>
<tr>
<td></td>
<td>trailing edge down</td>
<td>13° ± 1°</td>
</tr>
<tr>
<td>Elevator Trim Tab</td>
<td>nose up at elevator 10° up</td>
<td>+ 17° ± 5°</td>
</tr>
<tr>
<td></td>
<td>nose down at elevator 10° up</td>
<td>- 35° ± 5°</td>
</tr>
<tr>
<td>Rudder</td>
<td>left</td>
<td>27° ± 1°</td>
</tr>
<tr>
<td></td>
<td>right</td>
<td>29° ± 1°</td>
</tr>
<tr>
<td>Rudder Trim Tab</td>
<td>trim RH at rudder 20° LH</td>
<td>+ 54° ± 5°</td>
</tr>
<tr>
<td></td>
<td>trim LH at rudder 20° LH</td>
<td>+ 22° ± 5°</td>
</tr>
<tr>
<td>Flaps</td>
<td>Cruise flap setting</td>
<td>0° + 2° - 0°</td>
</tr>
<tr>
<td></td>
<td>Approach flap setting</td>
<td>20° + 4° - 2°</td>
</tr>
<tr>
<td></td>
<td>Landing flap setting</td>
<td>42° + 3° - 1°</td>
</tr>
</tbody>
</table>

17. Levelling Means: floor of front baggage compartment leveled

18. Minimum Flight Crew: 1 (Pilot)

19. Maximum Passenger Seating Capacity: 3

20. (Reserved)

21. Baggage / Cargo Compartments

<table>
<thead>
<tr>
<th>Location</th>
<th>Max. allowable Load</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front Baggage Compartment</td>
<td>30 kg (66 lb)</td>
</tr>
<tr>
<td>Behind Rear Seats</td>
<td>45 kg (100 lbs)</td>
</tr>
<tr>
<td>Aft part of Baggage Extension</td>
<td>18 kg (40 lb)</td>
</tr>
<tr>
<td>Whole aft Baggage Compartment</td>
<td>45 kg (100 lbs)</td>
</tr>
<tr>
<td>together</td>
<td></td>
</tr>
</tbody>
</table>

22. Wheels and Tyres

<table>
<thead>
<tr>
<th>Tyre Size</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Nose Wheel Tyre Size</td>
<td>5.00 – 5</td>
</tr>
<tr>
<td>Main Wheel Tyre Size</td>
<td>15x6.0-6</td>
</tr>
</tbody>
</table>

IV. Operating and Service Instructions

Airplane Flight Manual (AFM) Document No. 7.01.15 including AFM Supplement M00

Airplane Maintenance Manual (AMM) Document No.7.02.15 including Supplement M00
(incl. Airworthiness Limitations)

Service Information and Service Bulletins

Spare Parts Catalogue: Document No. 7.03.15

Instruments and aggregates: refer to AMM Doc. No. 7.02.15 Chapter 1
Supplement N048 to the Airplane Flight Manual for operation in Ukraine

V. Notes

1. This certification applies to serial numbers 42.339, 42.MN001 and subsequent for production at Diamond-Austria. DA 42 M may be converted to Variant DA 42 M-NG by DAI approved SB OSB 42-081

2. Approved Noise Levels in accordance to the EASA data sheet for noise TCDSN A.513, Mission Configurations as listed in Note 8 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
   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.

   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
   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: 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
   2,47 m aft of Datum at 1900 kg
   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 KEAS

   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
2.46 m aft of Datum at 1900 kg
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
2.45 m aft of Datum at 1900 kg
Linear variation in between
AFM and AMM Supplement M60 must be furnished
Maximum operating speed with Equipment installed 156 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: 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
2.46 m aft of Datum at 1900 kg
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
2.45 m aft of Datum at 1900 kg
Linear variation in between
AFM and AMM Supplement M160 must be furnished
Maximum operating speed with Equipment installed 156 KIAS

8. The specific mission equipment and its installations are not part of the DA42 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 it’s 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
12. For commercial transportation a FDR must be installed.

13. In case of the crew consists of two pilots the installation of a CVR should be provided.

14. In case of the flights over difficult of access and sparsely populated regions and the big water spaces the installation of the one emergency radio beacon "COSPAS-SARSAT" (406MHz) should be provided.

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

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

17. MÄM 42-XXX – mean number of Mandatory Type design change. OÄM 42-XXX – mean number of optional Type design change.

18. Overweight Operations
When Design Change OÄM 42-221 “Overweight Operations” is 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.

Head of aeronautical products
type certification department

Sergii Gaidenko