SAA

TYPE CERTIFICATE DATA SHEET № TL 0045

DA 42

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

Models:
DA 42
DA 42 M
DA 42 NG
DA 42 M-NG

Issue 1, 15 June 2010

This Data Sheet which is integral part of Type Certificate № TL 0045 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.

List of effective Pages:

<table>
<thead>
<tr>
<th>Page</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
</tr>
</thead>
<tbody>
<tr>
<td>Issue</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Page</th>
<th>15</th>
<th>16</th>
<th>17</th>
<th>18</th>
<th>19</th>
<th>20</th>
<th>21</th>
<th>22</th>
<th>23</th>
<th>24</th>
<th>25</th>
<th>26</th>
<th>27</th>
<th>28</th>
</tr>
</thead>
<tbody>
<tr>
<td>Issue</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Page</th>
<th>29</th>
<th>30</th>
</tr>
</thead>
<tbody>
<tr>
<td>Issue</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>
SECTION 1: DA 42
   I. General
   II. Certification Basis
   III. Technical Characteristics and Operational Limitations
   IV. Operating and Service Instructions
   V. Notes

SECTION 2: DA 42 M
   I. General
   II. Certification Basis
   III. Technical Characteristics and Operational Limitations
   IV. Operating and Service Instructions
   V. Notes

SECTION 3: DA 42 NG
   I. General
   II. Certification Basis
   III. Technical Characteristics and Operational Limitations
   IV. Operating and Service Instructions
   V. Notes

SECTION 4: DA 42 M-NG
   I. General
   II. Certification Basis
   III. Technical Characteristics and Operational Limitations
   IV. Operating and Service Instructions
   V. Notes
SECTION 1: DA 42

I. General

Data Sheet No.: TL 0045

1. a) Type: DA 42
   b) Variant: 

2. Airworthiness Category: JAR-23 Normal Category

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
   Diamond Aircraft Industries Inc.
   1560 Crumlin Sideroad, London Ontario
   N5V 1S2
   Canada

5. JAA Certification Application Date: 02-Apr-2002

6. JAA validation Date (JAA recommendation): 13 May 2004

7. EASA Type Certification Date: 13 May 2004

8. SAA Certification Date: 15 June 2010

II. Certification Basis

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

2. SAA Application Date 10-Oct-2006

3. (Reserved)
4. Certification Basis: As defined in CRI A-01, latest Issue

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

6. SAA 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
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-05, Installation of FADEC reciprocating Diesel engine and propeller
CRI F-07, Human Factors in Integrated Avionic System

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

10. SAA 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)
Д23F.8.4.2.3 for Intercom equipment (ref. CRI A-5)

11. EASA Environmental Standards:
    JAR 36, issued 23-May-1997
    CRI A-03 for additional national requirements
    See Note 2

III. Technical Characteristics and Operational Limitations

1. Type Design Definition:
    Current issue of Doc. No. 7.07.00, Chapter 7 including Design Changes MÄM 42-001 to 42-012 and following

2. Description:
    Twin engine, four-seated cantilever low wing airplane, composite construction, retractable tricycle landing gear, T-tail.

3. Equipment:
    Equipment list, AFM, Doc. No. 7.01.05, Section 6,
    See Note 3

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 sqft)

5. Engines:
    2 Thielert TAE 125-01 or TAE 125-02-99 see Note 4 and Note 9
    EASA Type Certificate Data Sheet E.055
    SAA Type Certificate Data Sheet TD 0048

5.1 Firmware:
    see DAI MSB 42-007
    See Note 4

5.2 Mapping:
    see DAI MSB 42-007
    See Note 4

5.3 Engine Limits:
    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, Section 2

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

7.1 Settings
   Low pitch setting: 12°
   Feather position 81°
   Start Lock 15°

8. Fluids:
   8.1 Fuel:
      Jet A-1 (ASTM 1655) see Note 8
      Diesel (EN 590) see Note 7

   8.2 Oil:
      engine Shell Helix Ultra 5W30 synthetic API SJ/CF
      or see AFM, Doc. No. 7.01.05, Section 2
      gearbox Shell EP 75W90 API GL-4
      or see AFM, Doc. No. 7.01.05, Section 2

   8.3 Coolant:
      Water / Cooler Protection-Mixture
      for more details see AFM, 7.01.05, 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: 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 155 KEAS
Speed $V_{LO}$:

Maximum Landing Gear Extended Speed $V_{LE}$:

Minimum Control Speed $V_{MC}$:

Maximum structural cruising speed $V_{NO}$
($=\text{Maximum structural design speed } V_C$):

Never exceed speed $V_{NE}$:

11. Maximum Operating Altitude: 4200 m (13 779 ft)

12. All weather Capability: Day/Night-VFR, IFR
Flights into known or forecast icing conditions
See Note 5

13. Maximum Masses:
   Take-off
   1700 kg (3748 lb)
   1785 kg (3935 lb) see Note 6
   Zero Fuel
   1650 kg (3638 lb)
   Landing
   1700 kg (3560 lb)

14. Centre of Gravity Range:
   Forward limit
   up to 1468 kg
   at 1785 kg
   2.35 m behind Datum
   varying linearly with mass in between

   Rear limit:
   up to 1250 kg
   at 1600 kg an above
   2.42 m behind Datum
   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. (reserved)

17. Levelling Means:
   floor of front baggage compartment leveled

18. Minimum Flight Crew:
   1 (Pilot)

19. Maximum Passenger Seating
   3
Enable display of content.

Capacity:

20. (Reserved)

21. Baggage / Cargo Compartments
   Location                                Max. allowable Load
   Front Baggage Compartment 30 kg (66 lb)
   Behind Rear Seats       45 kg (100 lbs)
   Aft part of Baggage Extension 18 kg (40 lb)
   Whole aft Baggage            45 kg (100 lbs)
   Compartment together       45 kg (100 lbs)

22. Wheels and Tyres
   Nose Wheel Tyre Size 5.00 – 5
   Main Wheel Tyre Size 15x6.0-6

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)

Airplane Maintenance Manual (AMM) (incl. Airworthiness Limitations)
Service Informations and Service Bulletins

Supplement N048 to the Airplane Flight Manual for operation in Ukraine

V. Notes

1. This certification applies to serial numbers 42.004 and subsequent for production at Diamond-Austria, serial numbers 42.AC001 and subsequent for production at Diamond–Canada, excluding serial numbers 42L.001 and 42L.002.

2. Approved Noise Levels in accordance to the EASA data sheet for noise TCDSN A.005.

3. For approved software versions of Gamin G1000 Integrated Avionic System see
DAI MSB 42-008, at latest issue. If engine TAE 125-02-99 is installed (Design Change MÄM 42-198), than Garmin Software PNo. 010-00370-15 or later approved version is required.

4. Approved engine model for installation in the DA 42
   TAE 125-01 125-01-(017)-( )
   TAE 125-02-99 125-02-(0003)-( )

   The approved firmware and mapping is according to DAI MSB 42-007 at latest issue. Installation of engine types in pairs only. Engine TAE 125-02-99 was previously approved as TAE 125-02

5. 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.

6. The maximum takeoff mass of 1785 kg (3935 lbs) is approved if Major Design Change MÄM 42-088 is installed.

7. The use of Diesel fuel (EN 590) is approved if Major Design Change MÄM 42-037 is installed.

8. For the detailed approved Jet fuel types see AFM Section 2. JET A (ASTM D 1655), Jet Fuel 3 (GB6537-94) and TS-1 (GOST 10227-86) are approved fuel types.

9. Engine retrofit installation from engine TAE 125-01 to TAE 125-02-99 is approved by Design Change MÄM 42-198 with OSB 42-046.

10. For commercial operation a FDR must be installed.

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

12. 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.
SECTION 2: DA 42 M

I. General

Data Sheet No.: TL 0045

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

2. Airworthiness Category: Normal

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. SAA Certification Date: 15 June 2010

II. Certification Basis

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

2. SAA Application Date 14-July-2009

3. (Reserved)

4. Certification Basis: As defined in CRI A-01, latest Issue

5. Airworthiness Requirements: JAR-23, Ammd. 1, issued 01 February 2001
   JAR-1, Change 5, issued 15-Jul-1996
6. SAA 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
   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-05, Installation of FADEC reciprocating Diesel engine and propeller
   CRI F-07, Human Factors in Integrated Avionic System

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

10. SAA 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)
    Д23F.8.4.2.3 for Intercom equipment (ref. CRI A-5)

11. EASA Environmental Standards:
JAR 36, issued 23-May-1997
CRI A-03 for additional national requirements
See Note 2

III. Technical Characteristics and Operational Limitations

1. Type Design Definition: Current issue of Doc. No. 7.07.00, Chapter 7 including Design Changes MÄM 42-001 to 42-012 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 options.

3. Equipment: Equipment list, AFM, Doc. No. 7.01.05, 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 m² (175.3 sqft)

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

5.1 Firmware: see DAI MSB 42-007 See Note 3
5.2 Mapping: see DAI MSB 42-007 See Note 3
5.3 Engine Limits: 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, Section 2

6. (Reserved)

EASA Type Certificate Data Sheet P.094
SAA Type Certificate Data Sheet TG 0011

7.1 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, Section 2
            gearbox Shell EP 75W90 API GL-4
            or see AFM, Doc. No. 7.01.05, Section 2
  8.3 Coolant: Water / Cooler Protection
                for more details see AFM, 7.01.05, Suppl. S03
  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: 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 $V_{LO}$:
    Maximum Landing Gear Extended
    Speed $V_{LE}$:
    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: 4200 m (13 779 ft)

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

13. Maximum Masses:
   Take-off 1785 kg (3935 lb)
   Zero Fuel 1650 kg (3638 lb)
   Landing 1700 kg (3560 lb)

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. (reserved)

17. Levelling Means: floor of front baggage compartment levelled

18. Minimum Flight Crew: 1 (Pilot)

19. Maximum Passenger Seating Capacity: 3

20. (Reserved)

21. Baggage / Cargo
   Compartments
   Location Max. allowable Load
Front Baggage Compartment 30 kg (66 lb)
Behind Rear Seats 45 kg (100 lbs)
Aft part of Baggage Extension 18 kg (40 lb)
Whole aft Baggage Compartment together 45 kg (100 lbs)

22. Wheels and Tyres
   Nose Wheel Tyre Size 5.00 – 5
   Main Wheel Tyre Size 15x6.0-6

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) Document No.7.02.01
Service Informations and Service Bulletins

Supplement N048 to the Airplane Flight Manual for operation in Ukraine Doc. No. 7.01.05-E
Doc. No. 7.01.06-E

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.

5. The use of Diesel fuel (EN 590) is approved if Major Design Change MÄM 42-037 is installed.

6. For the detailed approved Jet fuel types see AFM Section 2.
   JET A (ASTM D 1655), Jet Fuel 3 (GB6537-94) and TS-1 (GOST 10227-86) are approved fuel types.

7. The basic DA42 M does not include provisions for specific mission purposes. The specific type design for mission equipment and its installations are not part of the DA42 M certification; this is approved only in accordance to EASA TCDS A.513

8. For commercial operation a FDR must be installed.

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

10. 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.
SECTION 3: DA 42 NG

1. General

Data Sheet No.: TL 0045

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

2. Airworthiness Category: JAR-23 Normal Category

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: 17-Jan-2008

6. Requirements elected to comply: CS 23.1507 Manoeuvring Speed

7. EASA Type Certification Date: 06 March 2009

8. SAA Certification Date: 15 June 2010

II. Certification Basis

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

2. SAA Application Date 26-Oct-2009

3. (Reserved)

4. Certification Basis: As defined in CRI A-01 DA 42 NG, latest Issue

5. Airworthiness Requirements: JAR-23, Ammd. 1, issued 01 February 2001
   JAR-1, Change 5, issued 15-Jul-1996
6. SAA 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
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-05, Installation of FADEC reciprocating Diesel engine and propeller
CRI F-07, Human Factors in Integrated Avionic System

8. Reserved:

9. EASA Equivalent Safety Findings: CRI E-10, Electrical Fuel Pump
10. SAA Equivalent Safety Findings: AR 23.991(a), (b) Electrical Fuel Pump (ref. CRI E-9)
    Д23F.8.4.2.3 for Intercom equipment (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 V004/7 including Design Changes VĀM 42-004, MĀM 42-313, MĀM 42-316 to 318, 42-322, 42-325 and following

2. Description: Twin engine, four-seated cantilever low wing airplane, composite construction, retractable tricycle landing gear, T-tail.

3. Equipment: Equipment list, AFM, Doc. No. 7.01.15, Section 6
   See Note 3

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
   see Note 4
   EASA Type Certificate Data Sheet E.200
   SAA Type Certificate Data Sheet TD 0047
   5.1 Firmware: see DAI MSB 42NG-002 See Note 4
   5.2 Mapping: see DAI MSB 42NG-002 See Note 4
   5.3 Engine Limits: 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. (Reserved)

7. Propellers: 2 MT-Propeller MTV-6-R-C-F/CF187-129
   See Note 5
   EASA Type Certificate Data Sheet P.094
   SAA Type Certificate Data Sheet TG 0011
7.1 Settings
Low pitch setting: 12°
Feather position 81°
Start Lock 15°

8. Fluids:
8.1 Fuel: Jet A-1 (ASTM 1655)

8.2 Oil: engine
Shell Helix Ultra 5W30 or 5W40
or see AFM, Doc. No. 7.01.15, Section 2

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. S02

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: 4200 m (13 779 ft)

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

13. Maximum Masses:
   Take-off 1900 kg (4189 lb)
   Zero Fuel 1765 kg (3891 lb)
   Landing 1805 kg (3979 lb)

14. Centre of Gravity Range:
   Forward limit up to 1510 kg 2.357 m behind Datum
   at 1900 kg 2.418 m behind Datum
   varying linearly with mass in between

   Rear limit: At 1510 kg 2.357 m behind Datum
   up to 1700 kg an above 2.480 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. (reserved)

17. Levelling Means: floor of front baggage compartment levelled

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>
</tbody>
</table>

22. Wheels and Tyres

<p>| | |</p>
<table>
<thead>
<tr>
<th></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
- Airplane Maintenance Manual (AMM) (incl. Airworthiness Limitations)
- Service Informations and Service Bulletins
- Supplement N048 to the Airplane Flight Manual for operation in Ukraine Doc. No. 7.01.15-E

V. Notes

1. This certification applies to serial numbers 42.339, 42.379, 42.N001 and subsequent for production at Diamond-Austria. DA42 may be converted to Variant DA 42 NG by DAI approved SB OSB 42-068.

2. Approved Noise Levels in accordance to the EASA data sheet for noise TCDSN A.005

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 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 approved if the liquid fluid ice protection system in accordance to Major Design Change OÄM 42-160 is installed.

7. For commercial operation a FDR must be installed.

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

9. 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.
SECTION 4: DA 42 M-NG

I. General

Data Sheet No.: TL0045

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

2. Airworthiness Category: JAR-23 Normal Category

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: 12-Nov-2008 of Major Change

6. Reserved:

7. EASA Type Certification Date: 09 June 2009

8. SAA Certification Date: 15 June 2010

II. Certification Basis

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

2. SAA 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, latest Issue

5. Airworthiness Requirements: JAR-23, Ammd. 1, issued 01 February 2001
   JAR-1, Change 5, issued 15-Jul-1996
6. SAA 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
   - 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-05, Installation of FADEC reciprocating Diesel engine and propeller
   - CRI F-07, Human Factors in Integrated Avionic System

8. (Reserved):

9. EASA Equivalent Safety Findings: CRI E-10, Electrical Fuel Pump
10. SAA Equivalent Safety Findings: AR 23.991(a), (b) Electrical Fuel Pump (ref. CRI E-9)
    Д23Ф.8.4.2.3 for Intercom equipment (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 V004/7 including Design Changes VÄM 42-004, VÄM 42-005, MÄM 42-313, MÄM 42-316 to 318, 42-322, 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 options.

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 sqft)

5. Engines: 2 E4 see Note 4 EASA Type Certificate Data Sheet E.200 SAA Type Certificate Data Sheet TD 0047

5.1 Firmware: see DAI MSB 42NG-002 See Note 4
5.2 Mapping: see DAI MSB 42NG-002 See Note 4
5.3 Engine Limits: 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. (Reserved)

7. Propellers: 2 MT-Propeller MTV-6-R-C-F/CF187-129 See Note 5
7.1 Settings
Low pitch setting: 12°
Feather position 81°
Start Lock 15°

8. Fluids:
8.1 Fuel:
Jet A-1 (ASTM 1655)

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. S02

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 $V_{NE}$: 192 KEAS

11. Maximum Operating Altitude: 4200 m (13 779 ft)

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

13. Maximum Masses:
   Take-off 1900 kg (4189 lb)
   Zero Fuel 1765 kg (3891 lb)
   Landing 1805 kg (3979 lb)

14. Centre of Gravity Range:
   Forward limit
   up to 1510 kg 2.357 m behind Datum
   at 1900 kg 2.418 m behind Datum
   varying linearly with mass in between
   
   Rear limit:
   At 1510 kg 2.460 m behind Datum
   up to 1700 kg an above 2.480 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. (reserved)

17. Levelling Means:
   floor of front baggage compartment leveled

18. Minimum Flight Crew:
   1 (Pilot)

19. Maximum Passenger Seating Capacity:
   3
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</td>
<td></td>
</tr>
<tr>
<td>Compartment together</td>
<td>45 kg (100 lbs)</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) (incl. Airworthiness Limitations) Document No. 7.02.15 including Supplement M00
- Service Informations and Service Bulletins
- Supplement N048 to the Airplane Flight Manual for operation in Ukraine Doc. No. 7.01.15-E

V. Notes

1. This certification applies to serial numbers 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.005

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 approved if the liquid fluid ice protection system in accordance to Major Design Change OAM 42-160 is installed.

7. The basic DA42 M-NG does not include provisions for specific mission purposes.

The specific type design for mission equipment and its installations are not part of the DA42 M-NG certification; this is approved only in accordance to EASA TCDS A.513

8. For commercial operation a FDR must be installed.

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

10. 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.

Head of aeronautical product
type certification department

Sergii Haidenko