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:

Page:	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Issue:	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Page:	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Issue:	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Page:	29	30												
Issue:	1	1												

CONTENT

SECTION 1: DA 42

I. General

Data Sheet No.:	TL 0045
1. a) Type: b) Variant:	DA 42 -------
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:	ICAO, Annex 16, Volume 1, Third Edition, 1993, Amdt. 7 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}:		192 KEAS
Minimum Control Speed V_{MC}:		68 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:	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 Ib) 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 varying linearly with mass in between	2.35 m behind Datum 2.40 m behind Datum
Rear limit:	up to 1250 kg up to 1600 kg an above varying linearly with mass in between	2.42 m behind Datum 2.49 m behind Datum
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	

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 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	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

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 Ibs) 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: b) Variant:	DA 42 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:	ICAO, Annex 16, Volume 1, Third Edition, 1993, Amdt. 7

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 m^2 (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)

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 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}:		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):	155 KEAS
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 4
13. Maximum Masses:	
Take-off	1785 kg (3935 Ib)
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) Service Informations 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

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

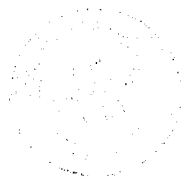
I. General

Data Sheet No.:	TL 0045
1. a) Type: b) Variant:	DA 42 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 VÄM 42-004, 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.

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 m^2 (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. continous 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
	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):		155 KEAS
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 Ib)	
Zero Fuel	1765 kg (3891 lb)	
Landing	1805 kg (3979 lb)	
14. Centre of Gravity Range:		
Forward limit	up to 1510 kg at 1900 kg varying linearly with mass in between	2.357 m behind Datum 2.418 m behind Datum
Rear limit:	At 1510 kg up to 1700 kg an above Datum varying linearly with mass in between	2.357 m behind Datum 2.480 m behind
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. 7.01.15
Airplane Maintenance Manual (AMM) (incl. Airworthiness Limitations) Service Informations and Service Bulletins	Document No.7.02.15
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

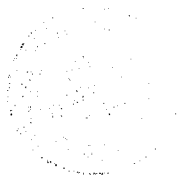
I. General

Data Sheet No.:	TL0045
1. a) Type: b) Variant:	DA 42 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) 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 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. continous 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

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):		155 KEAS
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 Ib)	
Zero Fuel	1765 kg (3891 lb)	
Landing	1805 kg (3979 lb)	
14. Centre of Gravity Range:		
Forward limit	up to 1510 kg at 1900 kg varying linearly with mass in between	2.357 m behind Datum 2.418 m behind Datum
Rear limit:	At 1510 kg up to 1700 kg an above Datum varying linearly with mass in between	2.460 m behind Datum 2.480 m behind
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	

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. 7.01.15 including AFM Supplement M00
Airplane Maintenance Manual (AMM) (incl. Airworthiness Limitations) Service Informations and Service Bulletins	Document No.7.02.15 including Supplement M00
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 OÄM 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