SAA

TYPE CERTIFICATE DATA SHEET № TL 0044

DA 40

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

Model: DA 40D

Issue 1, 15 June 2010

This Data Sheet which is integral part of Type Certificate № TL 0044 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>
</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>
</tr>
</tbody>
</table>
CONTENT

I. General
II. Certification Basis
III. Technical Characteristics and Operational Limitations
IV. Operating and Service Instructions
V. Notes
I. General

Data Sheet No.: TL 0044

1. a) Type: DA 40
   b) Variant: DA 40 D

2. Airworthiness Category:
   a) Normal
   b) Utility

3. Type Certificate Holder:
   Diamond Aircraft Industries GmbH
   N.A. Otto-Str. 5
   A-2700 Wiener Neustadt
   Austria
   EASA.21J.052

4. Manufacturer:
   Diamond Aircraft Industries GmbH
   N.A. Otto-Str. 5
   A-2700 Wiener Neustadt
   Austria
   AT.21G.001
   Shandong Bin Ao Aircraft Industries Co., Ltd
   Dagao, Zhanhua County, Binzhou
   People´s Republic of China
   EASA .21G.0014

5. Certification Application Date: 20-Feb-1997
   11-Jan-2002, for Major Change OÄM 40-100
   - DA 40 D

6. JAA Recommendation Date: 24-Oct-2000

7. Austro Control Type certificate No.
   FZ 021-JAA

8. EASA Certification Date: 21. January 2005 (reissue for EASA)

9. SAA Certification Date: 15 June 2010

II. Certification Basis

1. Reference Date for determining 24-Oct-1998
the applicable requirements:

2. SAA Application Date 10-Oct-2006

3. (Reserved)

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

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 E-05, Reciprocating Engine using Jet
Fuel
CRI E-06, Use of Diesel Fuel and Diesel/Jet
Fuel Blends for Reciprocating Engines
CRI E-09, Engine Vibration Level
CRI E-10, Engine Torque
CRI F-01, Protection from the Effects of
HI RF
CRI F-03, Protection from the Effects of
Lightning Strikes, Indirect Effects
CRI F-06, Installation of a FADEC Diesel
Engine and Propeller
CRI F-07 Human Factors in Integrated
Avionic Systems
CRI F-08 Software, Hardware Assurance
Level and Highly, Integrated or Complex
Aircraft Systems

8. Reserved:

9. EASA Equivalent Safety Findings: CRI D-01, Single Lever Power Control
CRI E-07, Coolant Tank
CRI E-08, Electronically-controlled
Reciprocating Diesel Engine
CRI E-11, Fuel System – Hot Fuel
Temperature
CRI F-05, Powerplant Instruments

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) D23F.8.4.2.3 for Intercom equipment (ref. CRI A-5)

11. 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. 6.07.00, Chapter O100/7 including Design Changes M Ä M 40-075 and following

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

3. Equipment:
Equipment list, AFM, Doc. No. 6.01.05, Section 6
see Note 9

4. Dimensions:
Span 11.94 m (39 ft 2 in)
Length 8.01 m (26 ft 3 in)
Height 1.97 m (6 ft 6 in)
Wing Area 13.54 m² (146 sqft)

5. Engines:
1 Thielert TAE 125-01 or TAE 125-02-99
see Note 10 and Note 11
EASA Type Certificate Data Sheet E.055
SAA Type Certificate Data Sheet TD 0048

5.1 Firmware:
see Note 5
5.2 Mapping:
see Note 5
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. 6.01.05, Section 2

6. (Reserved)

7. Propellers: 1 MT-Propeller MTV-6-A/187-129 
EASA Type Certificate Data Sheet P.094 
SAA Type Certificate Data Sheet TG 0011

7.1 Settings 
Low pitch setting: 12 °
High pitch setting: 28 °

8. Fluids: 
8.1 Fuel: Jet A-1 (ASTM 1655) see Note 12
Diesel EN 590 see Note 6

8.2 Oil: engine Shell Helix Ultra 5W30 synthetic API SJ/CF 
or see AFM, Doc. No. 6.01.05, Section 2

gearbox Shell EP 75W90 API GL-4 
or see AFM, Doc. No. 6.01.05, Section 2

8.3 Coolant: Water / Cooler Protection-Mixture 
for more details see AFM, 6.01.05, Section 2

9. Fluid capacities:

9.1 Fuel: Standard Fuel Tank
Total: 113.6 liters 30 US Gallons
Usable: 106.0 liters 28 US Gallons

Long Range Fuel Tank
Total: 155.2 liters 41 US Gallons
Usable: 147.6 liters 39 US Gallons

9.2 Oil:
Maximum: 6.0 liters 6.3 qts
Minimum: 4.5 liters 4.8 qts

10. Air Speeds:
Design Manoeuvring Speed $V_{A}$:
up to 980 kg 94 KIAS
above 980 kg 108 KIAS

Flap Extended Speed $V_{FE}$:
full flaps 91 KIAS
take-off flaps 108 KIAS
Maximum cruising speed $V_{NO}$
($=\text{Maximum structural design speed } V_C$):
129 KIAS
Never exceed speed $V_{NE}$:
178 KIAS

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

12. All weather Capability:
Day-VFR
Night VFR
IFR, See Note 3
Flight into expected or actual icing conditions is prohibited

13. Maximum Masses:
Take-off
Utility Category: 980 kg (2161 lb)
Normal Category: 1150 kg (2535 lb)

Landing
1092 kg (2407 lb) or
1150kg (2535 lbs) see Note 8

14. Centre of Gravity Range:
Forward limit
up to 980 kg 2.40 m behind Datum
at 1150 kg 2.46 m behind Datum
varying linearly with mass in between

Rear limit:
for all masses with Long Range Fuel Tank 2.59 m behind Datum

15. Datum:
2.194 m in front of leading edge of stub-wing at the wing joint

16. (reserved)

17. Levelling Means:
wedge 600 : 31 top surface of fuselage tube in front of dorsal fin

18. Minimum Flight Crew:
1 (Pilot)

19. Maximum Passenger Seating Capacity:
3

20. (Reserved)
21. Baggage / Cargo
Compartments
   Location                        Max. allowable Load
   Behind Rear Seats               30 kg (66.14 lbs)
   Baggage Tube                    5 kg (11.02 lbs)
   With Baggage Extension          45 kg (100 lbs)     see Note 7

22. Wheels and Tyres
   Nose Wheel Tyre Size            5.00 – 5
   Main Wheel Tyre Size            6.00 – 6 or
                                   15x6.0-6     see Note 4
                           for approved Types and rating
                           see AMM, Doc. No. 6.02.01

IV. Operating and Service
Instructions

Airplane Flight Manual (AFM)   Document No. 6.01.05-E
Airplane Maintenance Manual    Document No. 6.02.01
   (AMM) (incl. Airworthiness
   Limitations)
Service Informations and Service
   Bulletins

Supplement N048 to the Airplane
   Flight Manual for operation in
   Ukraine                         Doc. No. 6.01.05-E

V. Notes

1. This certification applies to Serial Numbers 40.080, 40.084 and D4.001 and
   subsequent, with the exception of Serial Number D4.013, D4.111, D4.198,
   D4.199, D4.200 and D4.201 for the Production in Austria. Serial Numbers
   40.DS001 and subsequent are applicable for the production in China.

2. Approved Noise Levels are part of the EASA Noise TCDS.

3. For IFR operation the optional design change ÖÄM 40-136 or ÖÄM 40-193
   must be incorporated.

4. The tire dimension 15x6.0-6 is only approved in conjunction with the 18 mm
   MLG strut in accordance with MÄM 40-123.
5. For approved engine software version (Firmware and Mapping) of TAE 125-01 or TAE 125-02-99 see DAI Service Bulletin MSB D4-044, latest issue.

6. Operation with Diesel fuel is only approved if MÄM 40-129 is incorporated.

7. The increased baggage load is applicable if the baggage extension, Optional Design Change OÄM 40-163 is installed.

8. The landing mass of 1150 kg (2535 lbs) is only approved with Mandatory Design Change MÄM 40-123 installed.

9. Installation of the G1000 Integrated Avionic System is only approved if OÄM 40-193 (IFR) or 40-224 (VFR) is incorporated. For approved software version see DAI Service Bulletin MSB D4-045, latest issue.

10. Approved engine model for installation in the DA 40D
    TAE 125-01 125-01-(005)-( )
    TAE 125-02-99 125-02-(0001)-( )

Engine TAE 125-02-99 was previously approved as TAE 125-02

11. Engine retrofit installation from engine TAE 125-01 to TAE 125-02-99 is approved by Design Change MÄM 40-256 with OSB D4-055

12. For 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.

13. For commercial operation a FDR must be installed.

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

15. In case of the flights over difficult of access and sparsely populated regions and the big water spaces the installation of the emergency radio beacon "COSPAS-SARSAT" (406MHz) on the airplanes with s/n up to D4.185 should be provided according to Service Bulletin № OSB D4-051.

Head of aeronautical product type certification department

Sergii Haidenko