



European Aviation Safety Agency

EASA

**TYPE-CERTIFICATE
DATA SHEET**

EASA.A.022

DA 40

Diamond Aircraft Industries GmbH

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

For models: DA 40
 DA 40 D
 DA 40 F
 DA 40 NG

Issue 10: 10 November 2010

CONTENT

SECTION A: DA 40

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

SECTION B: DA 40 D

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

SECTION C: DA 40 F

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

SECTION D: DA 40 NG

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

ADMINISTRATIVE SECTION

- I. Acronyms
- II. Type Certificate Holder Record
- III. Change Record

SECTION A: DA 40

A.I. General

1. Data Sheet No.: A.022
2. a) Type: DA 40
b) Model: DA 40
c) Variant: --
3. Airworthiness Category: Normal
Utility
4. Type Certificate Holder: DIAMOND AIRCRAFT INDUSTRIES GMBH
N.A. OTTO-STR. 5
A-2700 WIENER NEUSTADT
AUSTRIA
EASA.21J.052
5. Manufacturer: DIAMOND AIRCRAFT INDUSTRIES GMBH
N.A. OTTO-STR. 5
A-2700 WIENER NEUSTADT
AUSTRIA
AT.21G.0001

DIAMOND AIRCRAFT INDUSTRIES INC.
1560 CRUMLIN SIDEROAD, LONDON ONTARIO,
N5V 1S2 CANADA
161-93 (TCCA)
6. Certification Application Date: 20-Feb-1997
7. National Certifying Authority: Austrocontrol GmbH / Austria
8. National Authority Type Certificate Date: 24-Oct-2000 (JAA Recommendation Date)
FZ 021-JAA

A.II. EASA Certification Basis

1. Reference Date for determining the applicable requirements: 24-Oct-1998
2. Airworthiness Requirements: As defined in CRI A-01, latest issue
JAR-23, Change -, issued 11-Mar-1994
JAR-1, Change 5, issued 15-Jul-1996

3. Special Conditions:
- CRI F-01 Protection from the Effects of HIRF
 - CRI F-03 Protection from the Effects of Lightning Strikes, Indirect Effects
 - CRI O-01 Glider Towing
 - CRI O-02 Tow Cable Retraction Mechanisms
3. Exemptions: None
4. Deviations: None
5. Equivalent Safety Findings: None
6. Requirements elected to comply: JAR-23, NPA 23-3, ACJ Material
7. Environmental Standards: ICAO, Annex 16, Volume 1, Third Edition, 1993
CRI A-03 for additional national requirements
See Note 2
CRI A-03 1200, for Take Off mass of 1200 kg
See Note 11
8. Additional National Requirements: None
9. (Reserved) N/A

A.III. Technical Characteristics and Operational Limitations

1. Type Design Definition: Current issue of Doc. No. 6.07.00, Chapter 5 including Design Changes MÄM 40-001 to 40-007 and following
2. Description: Single engine, four-seated cantilever low wing airplane, composite construction, fixed tricycle landing gear, T-tail
3. Equipment: Equipment list, AFM, Doc. No. 6.01.01, Section 6
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 m ² | (146 sqft) |
5. Engine:
- 5.1.1 Model: 1 Textron Lycoming IO-360 M1A
 - 5.1.2 Type Certificate: FAA Engine Type Certificate Data Sheet 1E10
 - 5.1.3 Limitations: Max take-off rotational speed 2700 r.p.m.
Max continuous rotational speed 2400 r.p.m.
For power-plants limits refer to AFM, Doc. No. 6.01.01, Section 2

6. Load factors:
- | | at V_A | at V_{NE} | with flaps in T/O
or LDG position |
|------------------|----------|-------------|--------------------------------------|
| Normal Category | | | |
| Positive: | 3.8 | 3.8 | 2.0 |
| Negative | -1.52 | 0 | |
| Utility Category | | | |
| Positive: | 4.4 | 4.4 | 2.0 |
| Negative: | -1.76 | -1 | |
7. Propeller:
- 7.1 Model: 1 mt-Propeller MTV-12-B/180-17()
() – designations: none or f
- 7.2 Type Certificate: EASA Propeller Type Certificate Data Sheet P.013
- 7.3 Number of blades: 3
- 7.4 Diameter: 1800 mm
- 7.5 Sense of Rotation: Clockwise
- 7.6 Setting: Low pitch setting: 10.5°
High pitch setting: 30°
8. Fluids:
- 8.1 Fuel: AVGAS 100 LL
- 8.2 Oil: Oils conforming to spec. SAE J1899 / MIL-L-22851
For more details see AFM, Doc. No. 6.01.01,
Section 2
- 8.3 Coolant: None
9. Fluid capacities:
- 9.1 Fuel: Standard Fuel Tank:
- | | | |
|---------|--------------|-----------------|
| Total: | 156 liters | 41.2 US Gallons |
| Usable: | 152.2 liters | 40.2 US Gallons |
- Long Range Fuel Tank (see note 7):
- | | | |
|---------|--------------|---------------|
| Total: | 193 liters | 51 US Gallons |
| Usable: | 189.2 liters | 50 US Gallons |
- 9.2 Oil: Maximum: 7.70 liters 8 qts
Minimum: 3.785 liters 4 qts
- 9.3 Coolant system capacity: N/A

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 structural cruising speed v_{NO}
(= Maximum structural design speed v_C):
- 129 KIAS
- Never exceed speed v_{NE} : 178 KIAS
11. Maximum Operating Altitude: 5000 m (16 404 ft)
12. Allweather Operations Capability: Day-VFR
Night VFR see Note 3
IFR see Note 4
Flight into expected or actual icing conditions is prohibited
13. Maximum Weights:
- Take-off:
- Utility Category: 980 kg (2161 lb)
- Normal Category: 1150 kg (2535 lb) or
1200 kg (2646 lb) see Note 11
- Landing: 1092 kg (2407 lb) or
1150 kg (2535 lbs) see Note 10
14. Centre of Gravity Range:
- Forward limit:
- up to 980 kg 2.40 m behind Datum
- at 1200 kg 2.48 m behind Datum
- varying linearly with mass in between
- Rear limit:
- for all masses 2.59 m behind Datum
- with Long Range Fuel Tank 2.55 m behind Datum
15. Datum: 2.194 mm
in front of leading edge of stub-wing at the wing joint
16. Control surface deflections:
- Aileron up $20^\circ, \pm 2^\circ$
 down $13^\circ, +2/-0^\circ$
- Elevator (a) With Standard Fuel Tank:
- up $23^\circ, \pm 1^\circ$
- down $15^\circ, \pm 1^\circ$
- or values listed under (c)

	(b) With Long Range Fuel Tank:	
	up	23°, +0/-1°
	down	16°, +1/-0°
	or values listed under (c)	
	(c) With MTOM 1200 kg (MÄM 40-227 installed) and for all configurations permitted:	
	up	18°, +0/-1°
	down	16°, +1/-0°
Trim tab (elevator neutral)	Serial Numbers 40.006 to 40.044 (except 40.030):	
	Trim nose up	+ 18°, ± 2°
	Trim nose down	- 33°, ± 2°
	Serial Numbers 40.030 and 40.045 and subsequent:	
	Trim nose up	+ 12°, ± 2°
	Trim nose down	- 39°, ± 2°
Rudder	With Standard Fuel Tank:	
	Left	29°, ± 1°
	Right	31°, ± 1°
	With Long Range Fuel Tank or MÄM 40-113 (Large Rudder) installed:	
	Left	24°, ± 1°
	Right	26°, ± 1°
Flaps	Take off flap setting	20°, ± 2°
	Landing flap setting	42°, ± 1°
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. 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 9
21. Wheels and Tyres:	Nose Wheel Tyre Size	5.00 – 5
	Main Wheel Tyre Size	6.00 – 6 or 15x6.0-6 see note 8
	For approved Types and rating see AMM, Doc. No. 6.02.01	
22. (Reserved):	N/A	

A.IV. Operating and Service Instructions

1. Flight Manual: Airplane Flight Manual Doc. No. 6.01.01-E
2. Technical Manual: Airplane Maintenance Manual Doc. No. 6.02.01
(incl. Airworthiness Limitations)
Service Informations and Service Bulletins
3. Spare Parts Catalogue: Illustrated Parts Catalogue Doc. No. 6.03.01/02
4. Instruments and aggregates: refer to AMM Doc. No. 6.02.01 Chapter 1

B.V. Notes:

1. This certification applies to Serial numbers 40.006 to 40.200 for production at Diamond-Austria and Serial numbers 40.201 and subsequent for production at Diamond-Canada, excluding Serial Number 40.010.
2. Approved Noise Levels are part of the EASA Noise TCDS.
3. For Night VFR operation the optional design change OÄM 40-064 must be incorporated.
4. For IFR operation the optional design change OÄM 40-067 must be incorporated.
5. For glider towing operation the optional design change OÄM 40-063 must be incorporated.
6. Aeroplanes produced by Diamond – Canada may be imported to a country within the EU, on basis of a Canadian Certificate of Export, signed by a representative of Transport Canada covering conformity with the effective Issue of this Data Sheet.
7. The Long Range Fuel Tank, as defined in OÄM 40-071, applicable for Serial Number 40.030 and subsequent.
8. The tire dimension 15x6.0-6 is only approved in conjunction with the 18 mm MLG strut in accordance with MÄM 40-123 or the tall MLG strut in accordance to OÄM 40-283.
9. The increased baggage load is applicable if the baggage extension, Optional Design Change OÄM 40-163 is installed.
10. The landing mass of 1150 kg (2535 lbs) is only approved with Mandatory Design Change MÄM 40-123 or the tall MLG strut in accordance to OÄM 40-283 is installed.
11. The maximum take off mass of 1200kg (2646 lbs) is only approved if mandatory design change MÄM 40-227 and a main landing gear strut by MÄM 40-123 maximum landing mass of 1150 kg (2535 lbs) or the tall MLG strut in accordance to OÄM 40-283 is installed.

SECTION B: DA 40 D

B.I. General

1. Data Sheet No.: A.022
2. a) Type: DA 40
b) Model: DA 40 D
c) Variant: --
3. Airworthiness Category: Normal
Utility
4. Type Certificate Holder: DIAMOND AIRCRAFT INDUSTRIES GMBH
N.A. OTTO-STR. 5
A-2700 WIENER NEUSTADT
AUSTRIA
EASA.21J.052
5. Manufacturer: DIAMOND AIRCRAFT INDUSTRIES GMBH
N.A. OTTO-STR. 5
A-2700 WIENER NEUSTADT
AUSTRIA
AT.21G.0001

SHANDONG BIN AO AIRCRAFT INDUSTRIES
CO.,LTD
DAGAO, ZHANHUA COUNTY, BINZHOU
PEOPLE´S REPUBLIC OF CHINA
EASA.21G.0014
6. Certification Application Date: 20-Feb-1997
for Major Change OÄM 40-100 - DA 40 D:
11-Jan-2002
7. National Certifying Authority: Austrocontrol GmbH / Austria
8. National Authority Type Certificate Date: 24-Oct-2000 (JAA Recommendation Date)
FZ 021-JAA

B.II. EASA Certification Basis

1. Reference Date for determining the applicable requirements: 24-Oct-1998
2. Airworthiness Requirements: As defined in CRI A-01, latest issue
JAR-23, issued 11-Mar-1994, incl. Amdt. 1
JAR-1, Change 5, issued 15-Jul-1996

- | | | |
|--------------------------------------|--|---|
| 3. 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 HIRF |
| | 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 |
| | CRI F-08 | Software, Hardware Assurance Level and Highly Integrated or Complex Aircraft Systems |
| 3. Exemptions: | None | |
| 4. Deviations: | None | |
| 5. 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 |
| 6. Requirements elected to comply: | None | |
| 7. 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 | |
| 8. Additional National Requirements: | N/A | |
| 9. (Reserved) | N/A | |

B.III. Technical Characteristics and Operational Limitations

- | | |
|----------------------------|---|
| 1. Type Design Definition: | Current issue of Doc. No. 6.07.00, Chapter O100/7 including Design Changes MÄM 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 m ² | (146 sqft) |
5. Engine:
- 5.1.1 Model: 1 Thielert TAE 125-01 or TAE 125-02-99
see Note 10 and Note 11
- 5.1.2 Type Certificate: Engine Type Certificate Data Sheet EASA E.055
- 5.1.3 Firmware: see Note 5; MSB D4-044
- 5.1.4 Mapping see Note 5; MSB D4-044
- 5.1.5 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. 6.01.05, Section 2
6. Load factors:
- | | at v_A | at v_{NE} | with flaps in T/O
or LDG position |
|------------------|----------|-------------|--------------------------------------|
| Normal Category | | | |
| Positive: | 3.8 | 3.8 | 2.0 |
| Negative | -1.52 | 0 | |
| Utility Category | | | |
| Positive: | 4.4 | 4.4 | 2.0 |
| Negative: | -1.76 | -1 | |
7. Propeller:
- 7.1 Model: 1 mt-Propeller MTV-6-A/187-129
- 7.2 Type Certificate: EASA Propeller Type Certificate Data Sheet P.094
- 7.3 Number of blades: 3
- 7.4 Diameter: 1870 mm
- 7.5 Sense of Rotation: Clockwise
- 7.6 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
For more details see AFM, Doc. No. 6.01.05, Section 2
Gearbox: Shell EP 75W90 API GL-4
For more details 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
- 9.3 Coolant system capacity: Approx. 7 Liter
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 structural cruising speed v_{NO}
(= Maximum structural design speed v_C):
129 KIAS

Never exceed speed v_{NE} : 178 KIAS
11. Maximum Operating Altitude: 5000 m (16 404 ft)
12. Allweather Operations Capability: Day-VFR
Night VFR
IFR see Note 3
Flight into expected or actual icing conditions is prohibited

13. Maximum Weights: Take-off:
 Utility Category: 980 kg (2161 lb)
 Normal Category: 1150 kg (2535 lb)
- Landing: 1092 kg (2407 lb) or
 1150 kg (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 2.59 m behind Datum
 with Long Range Fuel Tank 2.55 m behind Datum
15. Datum: 2.194 mm
 in front of leading edge of stub-wing at the wing joint
16. Control surface deflections:
- | | | |
|--------------------------------|---|-------------|
| Aileron | up | 20°, ± 2° |
| | down | 13°, +2/-0° |
| Elevator | With Standard Fuel Tank: | |
| | up | 23°, ± 1° |
| | down | 15°, ± 1° |
| | With Long Range Fuel Tank installed: | |
| | up | 23°, +0/-1° |
| | down | 16°, +1/-0° |
| Trim tab
(elevator neutral) | Trim nose up | + 12°, ± 2° |
| | Trim nose down | - 39°, ± 2° |
| Rudder | With Standard Fuel Tank: | |
| | Left | 29°, ± 1° |
| | Right | 31°, ± 1° |
| | With Long Range Fuel Tank or MÄM 40-113 (Large Rudder) installed: | |
| | Left | 24°, ± 1° |
| | Right | 26°, ± 1° |
| Flaps | Take off flap setting 20°, ± 2° | |
| | Landing flap setting 42°, ± 1° | |
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. 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
21. 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
22. (Reserved):	N/A	

B.IV. Operating and Service Instructions

1. Flight Manual: Airplane Flight Manual Doc. No. 6.01.05-E
2. Technical Manual: Airplane Maintenance Manual Doc. No. 6.02.01 (incl. Airworthiness Limitations)
Service Informations and Service Bulletins
3. Spare Parts Catalogue: Illustrated Parts Catalogue Doc. No. 6.03.05
4. Instruments and aggregates: refer to AMM Doc. No. 6.02.01 Chapter 1

B.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 OÄM 40-136 or OÄM 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 is 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 D4-061.
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.

SECTION C: DA 40 F

C.I. General

1. Data Sheet No.: A.022
2. a) Type: DA 40
b) Model: DA 40 F
c) Variant: --
3. Airworthiness Category: Normal
Utility (see Note 6)
4. Type Certificate Holder: DIAMOND AIRCRAFT INDUSTRIES GMBH
N.A. OTTO-STR. 5
A-2700 WIENER NEUSTADT
AUSTRIA
EASA.21J.052
5. Manufacturer: DIAMOND AIRCRAFT INDUSTRIES GMBH
N.A. OTTO-STR. 5
A-2700 WIENER NEUSTADT
AUSTRIA
AT.21G.0001

DIAMOND AIRCRAFT INDUSTRIES INC.
1560 CRUMLIN SIDEROAD, LONDON ONTARIO,
N5V 1S2 CANADA
161-93 (TCCA)
6. Certification Application Date: 20-Feb-1997
8. July 2004 for DA 40 F (VÄM 40-002)
7. National Certifying Authority N/A
8. National Authority Type N/A
Certificate Date:

C.II. EASA Certification Basis

1. Reference Date for determining the applicable requirements: 24-Oct-1998
2. Airworthiness Requirements: As defined in CRI A-01, latest issue
JAR-23, Change -, issued 11-Mar-1994
JAR-1, Change 5, issued 15-Jul-1996

- | | | |
|--------------------------------------|--|--|
| 3. Special Conditions: | CRI F-01 | Protection from the Effects of HIRF |
| | CRI F-03 | Protection from the Effects of Lightning Strikes, Indirect Effects |
| | CRI O-01 | Glider Towing |
| | CRI O-02 | Tow Cable Retraction Mechanisms |
| 3. Exemptions: | None | |
| 4. Deviations: | None | |
| 5. Equivalent Safety Findings: | None | |
| 6. Requirements elected to comply: | JAR-23, NPA 23-3, ACJ Material | |
| 7. Environmental Standards: | ICAO Annex 16, Volume 1, Part 2, Chapter 10, Amendment 7 , CRI A-03F | |
| 8. Additional National Requirements: | None | |
| 9. (Reserved) | N/A | |

C.III. Technical Characteristics and Operational Limitations

- | | | | |
|----------------------------|--|----------------------|--------------|
| 1. Type Design Definition: | Current issue of Doc.No. 6.07.00, Chapter V002/7 Design Change VÄM 40-002 (including and excluding the design changes as listed in the VÄM). | | |
| 2. Description: | Single engine, four-seated cantilever low wing airplane, composite construction, fixed tricycle landing gear, T-tail, fix pitch propeller. | | |
| 3. Equipment: | Equipment list, AFM, Doc.No. 6.01.02, Section 6 | | |
| 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 m ² | (146 sqft) |
| 5. Engine: | | | |
| 5.1.1 Model: | 1 Textron Lycoming O-360-A4M | | |
| 5.1.2 Type Certificate: | FAA Engine Type Certificate Data Sheet 286 | | |
| 5.1.3 Limitations: | Max take-off rotational speed 2700 r.p.m.
Max continuous rotational speed 2700 r.p.m
For power-plants limits refer to AFM, Doc. No. 6.01.02, Section 2 | | |

- | 6. Load factors: | at V_A | at V_{NE} | with flaps in T/O
or LDG position |
|------------------|------------------|-------------|--------------------------------------|
| | Normal Category | | |
| | Positive: 3.8 | 3.8 | 2.0 |
| | Negative -1.52 | 0 | |
| | Utility Category | | |
| | Positive: 4.4 | 4.4 | 2.0 |
| | Negative: -1.76 | -1 | |
7. Propeller:
- 7.1 Model: 1 Sensenich 76EM8S10-0-63
or
1 Mühlbauer MT 188R135-4G
- 7.2 Type Certificate: FAA TCDS P4EA (Sensenich 76EM8S10-0-63)
or
EASA TCDS P.006 (Mühlbauer MT 188R135-4G)
- 7.3 Number of blades: 2
- 7.4 Diameter: 1930 mm (Sensenich 76EM8S10-0-63)
1880 mm (Mühlbauer MT 188R135-4G)
- 7.5 Sense of Rotation: Clockwise
8. Fluids:
- 8.1 Fuel: AVGAS 100 LL
- 8.2 Oil: Oils conforming to spec. SAE J1899 / MIL-L-22851
For more details see AFM, Doc. No. 6.01.02,
Section 2
- 8.3 Coolant: N/A
9. Fluid capacities:
- 9.1 Fuel: Standard Fuel Tank:
Total: 156 liters 41.2 US Gallons
Usable: 152.2 liters 40.2 US Gallons
- Long Range Fuel Tank:
Total: 193 liters 51 US Gallons
Usable: 189.2 liters 50 US Gallons
- 9.2 Oil: Maximum: 7.70 liters 8 qts
Minimum: 3.785 liters 4 qts
- 9.3 Coolant system capacity: N/A

10. Air Speeds:	<p>Design Manoeuvring Speed v_A:</p> <table border="0"> <tr> <td>up to 980 kg</td> <td>94 KIAS</td> </tr> <tr> <td>above 980 kg</td> <td>108 KIAS</td> </tr> </table> <p>Flap Extended Speed v_{FE}:</p> <table border="0"> <tr> <td>full flaps</td> <td>91 KIAS</td> </tr> <tr> <td>take-off flaps</td> <td>108 KIAS</td> </tr> </table> <p>Maximum structural cruising speed v_{NO} (= Maximum structural design speed v_C):</p> <p style="text-align: right;">129 KIAS</p> <p>Never exceed speed v_{NE}: 178 KIAS</p>	up to 980 kg	94 KIAS	above 980 kg	108 KIAS	full flaps	91 KIAS	take-off flaps	108 KIAS
up to 980 kg	94 KIAS								
above 980 kg	108 KIAS								
full flaps	91 KIAS								
take-off flaps	108 KIAS								
11. Maximum Operating Altitude:	5000 m (16 404 ft)								
12. All-weather Operations Capability:	<p>Day VFR</p> <p>Night VFR</p> <p>IFR</p> <p>Flight into expected or actual icing conditions is prohibited</p>								
13. Maximum Weights:	<p>Take-off:</p> <table border="0"> <tr> <td>Utility Category:</td> <td>980 kg (2161 lb)</td> </tr> <tr> <td>Normal Category:</td> <td>1150 kg (2535 lb)</td> </tr> </table> <p>Landing: 1150 kg (2535 lbs)</p>	Utility Category:	980 kg (2161 lb)	Normal Category:	1150 kg (2535 lb)				
Utility Category:	980 kg (2161 lb)								
Normal Category:	1150 kg (2535 lb)								
14. Centre of Gravity Range:	<p>Forward limit</p> <table border="0"> <tr> <td>up to 980 kg</td> <td>2.40 m behind Datum</td> </tr> <tr> <td>at 1150 kg</td> <td>2.46 m behind Datum</td> </tr> </table> <p>varying linearly with mass in between</p> <p>Rear limit</p> <table border="0"> <tr> <td>for all masses</td> <td>2.59 m behind Datum</td> </tr> <tr> <td>with Long Range Fuel Tank</td> <td>2.55 m behind Datum</td> </tr> </table>	up to 980 kg	2.40 m behind Datum	at 1150 kg	2.46 m behind Datum	for all masses	2.59 m behind Datum	with Long Range Fuel Tank	2.55 m behind Datum
up to 980 kg	2.40 m behind Datum								
at 1150 kg	2.46 m behind Datum								
for all masses	2.59 m behind Datum								
with Long Range Fuel Tank	2.55 m behind Datum								
15. Datum:	<p>2.194 mm</p> <p>in front of leading edge of stub-wing at the wing joint</p>								
16. Control surface deflections:	<table border="0"> <tr> <td rowspan="2">Aileron</td> <td>up</td> <td>20°, ± 2°</td> </tr> <tr> <td>down</td> <td>13°, +2/-0°</td> </tr> <tr> <td>Elevator</td> <td colspan="2">With Standard Fuel Tank:</td> </tr> </table>	Aileron	up	20°, ± 2°	down	13°, +2/-0°	Elevator	With Standard Fuel Tank:	
Aileron	up		20°, ± 2°						
	down	13°, +2/-0°							
Elevator	With Standard Fuel Tank:								

	up	23°, ± 1°
	down	15°, ± 1°
	With Standard Fuel Tank for intentional spinning (see Note 6):	
	up	21°, ± 0.5°
	down	18°, ± 0.5°
	With Long Range Fuel Tank:	
	up	23°, +0/-1°
	down	16°, +1/-0°
Trim tab	Nose up	+ 12°, ± 2°
(elevator neutral)	Nose down	- 39°, ± 2°
Rudder	Left	24°, ± 1°
	Right	26°, ± 1°
Flaps	Take off flap setting 20°, ± 2°	
	Landing flap setting 42°, ± 1°	
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. 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 5
21. Wheels and Tyres:	Nose Wheel Tyre Size	5.00 – 5
	Main Wheel Tyre Size	6.00 – 6 or 15x6.0-6
	For approved Types and rating see AMM, Doc. No. 6.02.01	
22. (Reserved):	N/A	

C.IV. Operating and Service Instructions

1. Flight Manual: Airplane Flight Manual Doc. No. 6.01.02-E
2. Technical Manual: Airplane Maintenance Manual Doc. No. 6.02.01
(incl. Airworthiness Limitations)
Service Informations and Service Bulletins
3. Spare Parts Catalogue: Illustrated Parts Catalogue Doc. No. 6.03.01/02
4. Instruments and aggregates: refer to AMM Doc. No. 6.02.01 Chapter 1

C.V. Notes:

1. This certification applies to Serial numbers 40.F001 and subsequent for production at Diamond-Austria, and Serial numbers 40.FC001 and subsequent for production at Diamond-Canada.
2. Approved Noise Levels are part of the EASA Noise TCDS.
3. reserved.
4. Aeroplanes produced by Diamond – Canada may be imported to a country within the EU, on basis of an Canadian Certificate of Export, signed by a representative of Transport Canada covering conformity with the effective Issue of this Data Sheet.
5. The increased baggage load is applicable if the baggage extension, Optional Design Change OÄM 40-163, is installed.
6. The DA40F is certified for intentional spin if OÄM 40-201 is installed.

The following additional Limitations/Conditions apply:

- Center of Gravity Range 2,45 – 2,50 m
- Maximum fuel loading 2x38 liters (2x10gal)
- Canopy Jettison System OÄM 40-203 must be installed
- Mt Propeller MT 188R135-4G must be installed
- Elevator settings must be according to OÄM 40-201
- Long Range Tank must not be installed
- Wheel fairings must not be installed
- Baggage is not allowed

SECTION D: DA 40 NG

D.I. General

1. Data Sheet No.: A.022
2. a) Type: DA 40
b) Model: DA 40 NG
c) Variant: --
3. Airworthiness Category: Normal
4. Type Certificate Holder: DIAMOND AIRCRAFT INDUSTRIES GMBH
N.A. OTTO-STR. 5
A-2700 WIENER NEUSTADT
AUSTRIA
EASA.21J.052
5. Manufacturer: DIAMOND AIRCRAFT INDUSTRIES GMBH
N.A. OTTO-STR. 5
A-2700 WIENER NEUSTADT
AUSTRIA
AT.21G.0001
6. Certification Application Date: 20-Feb-1997
for Major Change VÄM 40-004 - DA 40 NG:
17-Jan-2008
7. National Certifying Authority N/A
8. National Authority Type N/A
Certificate Date:

D.II. EASA Certification Basis

1. Reference Date for determining the applicable requirements: 24-Oct-1998
2. Airworthiness Requirements: As defined in CRI A-01 NG, latest issue
JAR-23, issued 11-Mar-1994, incl. Amdt. 1
3. 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 HIRF

	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
3. Exemptions:	None	
4. Deviations:	None	
5. 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 E-12	Electric Fuel Pumps
	CRI B-01	Stall Warning
	CRI F-05	Powerplant Instruments
6. Requirements elected to comply:	None	
7. Environmental Standards:	ICAO, Annex 16, Volume 1, Chpt. 10, 5. Edition	CS 36, Amendment 1
8. Additional National Requirements:	N/A	
9. (Reserved)	N/A	

D.III. Technical Characteristics and Operational Limitations

1. Type Design Definition:	Current issue of Doc. No. 6.07.00, Chapter V004/7 together with Design Changes VÄM 40-004; MÄM 40-398; MÄM 40-403; MÄM 40-404; MÄM 40-409; MÄM 40-411; MÄM 40-414; OÄM 40-306; OÄM 40-307 and following		
2. Description:	Single diesel engine, four-seated cantilever low wing airplane, composite construction, fixed tricycle landing gear, T-tail, winglets (option)		
3. Equipment:	Equipment list, AFM, Section 6		
4. Dimensions:	Span	11.63 m	(38 ft 2 in)
	Length	8.06 m	(26 ft 5 in)
	Height	1.97 m	(6 ft 6 in)
	Wing Area	13.244 m ²	(142,6 sqft)

5. Engine:

- 5.1.1 Model: 1 Austro Engine E4, see Note 7
- 5.1.2 Type Certificate: Engine Type Certificate Data Sheet EASA E.200
- 5.1.3 Firmware: see Note 3; MSB 40NG-002
- 5.1.4 Mapping see Note 3; MSB 40NG-002
- 5.1.5 Limitations: Max take-off rotational speed 2300 r.p.m.
Max continuous rotational speed 2100 r.p.m
(Propeller shaft r.p.m)
For power-plants limits refer to AFM, Section 2

6. Load factors:		at v_A	at v_{NE}	with flaps in T/O or LDG position
	Positive:	3.8	3.8	2.0
	Negative	-1.52	0	

7. Propeller:

- 7.1 Model: 1 mt-Propeller MTV-6-R/190-69
- 7.2 Type Certificate: EASA Propeller Type Certificate Data Sheet P.094
- 7.3 Number of blades: 3
- 7.4 Diameter: 1900 mm
- 7.5 Sense of Rotation: Clockwise
- 7.6 Settings: Low pitch setting: $14.5^\circ \pm 0.2^\circ$ (@0.75R)
High pitch setting: $35^\circ \pm 1.0^\circ$ (@0.75R)

8. Fluids:

- 8.1 Fuel: Jet A, Jet A-1 (ASTM 1655)
see note 6
- 8.2 Oil: Engine: Shell Helix Ultra 5W30 and 5W40
Gearbox: Shell SPIRAX GSX 75W-80
- 8.3 Coolant: Water / Cooler Protection-Mixture
for more details see AFM, 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: 7.0 liters
Minimum: 5.0 liters

9.3	Coolant system capacity:	Approx. 7 Liter	
10.	Air Speeds:	Operating Manoeuvring Speed v_O :	
		up to 1080 kg	101 KIAS
		from 1080 to 1180 kg	108 KIAS
		above 1180 kg	113 KIAS
		Flap Extended Speed v_{FE} :	
		full flaps	98 KIAS
		take-off flaps	110 KIAS
		Maximum structural cruising speed v_{NO} (= Maximum structural design speed v_C):	
			130 KIAS
		Never exceed speed v_{NE} :	
			172 KIAS
11.	Maximum Operating Altitude:	5000 m (16 404 ft)	
12.	All-weather Operations Capability:	Day-VFR Night VFR IFR Flight into expected or actual icing conditions is prohibited	
13.	Maximum Weights:	Take-off:	1280 kg (2822 lb)
		Landing:	1216 kg (2681 lb)
		Minimum Flight:	940 kg (2072 lb)
		Maximum Zero Fuel:	1200 kg (2646 lb)
14.	Centre of Gravity Range:	Forward limit	
		from 940 to 1080 kg	2.40 m behind Datum
		at 1280 kg	2.46 m behind Datum
		varying linearly with mass in between	
		Rear limit	2.53 m behind Datum
15.	Datum:	2.194 mm in front of leading edge of stub-wing at the wing joint	
16.	Control surface deflections:		
	Aileron	up	$20^\circ, \pm 2^\circ$
		down	$13^\circ, +2/-2^\circ$
	Elevator	up	$21^\circ, +0/-1^\circ$
		down	$17^\circ, +1/-0^\circ$
	Trim tab	Trim nose up	$+ 12^\circ, \pm 2^\circ$

(elevator neutral)	Trim nose down	- 39°, ± 2°
Rudder	Left	24°, ± 1°
	Right	26°, ± 1°
Flaps	Take off flap setting	20°, ± 2°
	Landing flap setting	42°, ± 1°
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. Baggage/Cargo Compartments:	Location	Max. allowable Load
	Behind Rear Seats	30 kg (66.14 lbs)
	Baggage Tube	5 kg (11.02 lbs)
	Short Baggage Extension	15 kg (33 lbs) see note 4
	With Baggage Extension	45 kg (100 lbs) see note 4
21. Wheels and Tyres:	Nose Wheel Tyre Size	5.00–5, 6 PR, 120mph
	Main Wheel Tyre Size	15x6.0-6, 6 PR, 160 mph
22. (Reserved):	N/A	

D.IV. Operating and Service Instructions

1. Flight Manual: Airplane Flight Manual Doc. No. 6.01.15-E
2. Technical Manual: Airplane Maintenance Manual Doc. No. 6.02.15
(incl. Airworthiness Limitations)
Service Informations and Service Bulletins
3. Spare Parts Catalogue: Illustrated Parts Catalogue Doc. No. 6.03.15
4. Instruments and aggregates: refer to AMM Doc. No. 6.02.15 Chapter 1

D.V. Notes:

1. This certification applies to Serial Numbers D4.111, D4.365, 40.N001 and subsequent, for the Production in Austria. DA 40 D airplanes with Serial Numbers 40.080, 40.084, D4.001 and subsequent manufactured in Austria may be converted to Model DA 40 NG by DAI approved Service Bulletin OSB D4-080.
2. Approved Noise Levels are part of the EASA Noise TCDS.
3. For approved E4 engine software version see DAI Service Bulletin MSB 40NG-002, latest issue.
4. The baggage load in the short baggage extension is applicable if Optional Design Change OÄM 40-331 is installed. The increased baggage load of 45 kg (100 lbs) is applicable if the baggage extension, Optional Design Change OÄM 40-164, is installed.
5. For approved software version of the G1000 Integrated Avionic System see DAI Service Bulletin MSB 40NG-003, latest issue.
6. For detailed approved Jet Fuel Types see AFM Section 2. JET A (ASTM D 1655) and TS-1 (GOST 10227-86) are approved fuel types.
7. Approved engine model configuration for installation in the DA 40 NG: E4-A

ADMINISTRATIVE SECTION

I. Acronyms

II. Type Certificate Holder Record

DIAMOND AIRCRAFT INDUSTRIES GMBH
N.A. OTTO-STR. 5
A-2700 WIENER NEUSTADT
AUSTRIA

III. Change Record

Issue	Date	Changes	TC Issue No. & Date
Issue 1	18-Jan-2005	Transfer from JAA TCDS JAA/23/00-001 issue 12 to the EASA Type Design Landing mass 1150 kg	21-Jan-2005
Issue 2	15-Apr-2005	DA 40 F Variant	15-Apr-2005
Issue 3	28-Sep-2005	MAM 40-071/c Fuel Capacity OAM 40-193, 40-224 Garmin G1000 Integrated Avionic System MAM 40-216 Engine Temp. Range Page 1: Issue 3 added Page 1: List of effective pages updated Page 4: CRI O-02 Name corrected Page 4, 5, 6, 9, 10, 11: Numbering / formatting corrected Page 5: Fuel tank capacity corrected Page 7, 13, 14, 15, 16: Formatting corrected Page 9: CRI F-07 and CRI F-08 added Page 9: Section 2.B.III.3 Reference to Notes added Page 10: "Distilled Water / Cooler Protection" changed to "Water / Cooler Protection-Mixture" Page 12: Section 2.B.V.5: Reference changed to DAI MSB Page 12: Section 2.B.V Note 9 and 10 added. Page 13: CRI O-02 Name corrected Page 14: Fuel tank capacity corrected Page 17: Numbering corrected Page 17: Issue 3 added	-
Issue 4	21-Dec-2006	MAM 40-256 Engine TAE 125-02 in the DA40D Page 9: Section 2, B.III.5 : add engine TAE125-02 and Note 10 and 11 Page 11: Section 2, BV.2 : add noise level for engine TAE 125-02 Page 11: Section 2, BV.5 : engine TAE 125-02 Page 11: Section 2, BV.10 : add engine model Page 11 : Section 2, BV.11 : add engine retrofit	-

Issue 5	28-Mar-2007	OÄM 40-203 DA40F propeller MT188R135-4G OÄM 40-201 DA40F Intentional spin Deletion of conforming Serial Number 40.010 MÄM 40-227, DA40 T/O mass 1200 kg EASA Noise TCDS Page 14 : Section 3, CIII.7 : add propeller Page 6 : Section 1, A.V.1 : ex 40.010 Page 16 : Section 3, C.V. add. Note 6 Page 7 : Section 1, A.V. add Note 11 Page 4 : section 1, All.10, add. CRI A-03 1200 kg Page 6 : Section 1, AV.2 delete noise data Page 11,12 : section 2 BV. Delete noise data Page 16 : section 3 CV. Delete noise data Page 16 : section 3, AV.3. note 3 deleted not valid for DA40F	-
Issue 6	11-Jun-2007	Engine redefinition from TAE 125-02 to TAE 125-02-99 Page 9: Section 2, BIII.5 : Page 11: Section 2, BV.2 : Page 11: Section 2, BV.5 : Page 11: Section 2, BV.10 : Page 11 : Section 2, BV.11 : Correction of the CG range for 1200 kg max Takeoff mass Page 5 : section 1, AllI.14, change fwd limit 2,48 at 1200 kg	-
Issue 7		China Production Delete experimental airplane D4.111 "Tall" main landing gear strut OÄM40-283 page 6 : Section 1, AV.8 page 11, 12 : Section 2. BV.1 page 8, 12 : Section 2, BI.4 page 10 : Section 2, BIII.7 page 4 : Section 1, AllI.7 page13 :Section 3, CI,4	-
Issue 8	10-Jul-2009	Fuel TS-1 dir the DA40D , EASA Project P-EASA.A.C.12579 B.III 8.1 and B IV add Note 12 A.V. Note 11 editorial corrections	-
Issue 9	08-Apr-2010	Variant DA 40 NG; EASA Project No. P-EASA.A.C.09011 Section 4 added	08-Apr-2010
Issue 10		New Layout. Section D: Note 1 modified to include converted aircraft. EASA Project No. 0010006923 Baggage load for short baggage extension added. Note 4 modified. EASA Project No. 0010006848 TS-1 Fuel added to note 6, EASA Project No. 0010007198	-