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# TYPE-CERTIFICATE DATA SHEET

EASA.IM.A.022

**DA 40**

**Type Certificate Holder**  
**Diamond Aircraft Industries Inc.**

1560 Crumlin Sideroad  
London, ON, N5V1S2  
Canada

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

Issue 23: 15 November 2017





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## **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 INC.  
1560 CRUMLIN SIDEROAD, LONDON ONTARIO,  
N5V 1S2 CANADA
5. Manufacturer: DIAMOND AIRCRAFT INDUSTRIES INC.  
1560 CRUMLIN SIDEROAD, LONDON ONTARIO,  
N5V 1S2 CANADA  
161-93 (TCCA)  
  
DIAMOND AIRCRAFT INDUSTRIES GMBH  
N.A. OTTO-STR. 5  
A-2700 WIENER NEUSTADT  
AUSTRIA  
AT.21G.0001
6. Certification Application Date (Europe): 20-Feb-1997
7. (Reserved): N/A
8. (Reserved): N/A

### **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<br>CRI F-03 Protection from the Effects of Lightning Strikes, Indirect Effects<br>CRI O-01 Glider Towing<br>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<br>CRI A-03 for additional national requirements<br>See Note 2<br>CRI A-03 1200, for Take Off mass of 1200 kg<br>See Note 11                        |
| 8. | Additional National Requirements: | None  |
| 9. | (Reserved)                        | N/A   |

### **A.III. Technical Characteristics and Operational Limitations**

- |    |                         |   |
|----|-------------------------|---|
| 1. | Type Design Definition: | Doc. No. D40-AW-0120, latest revision   |
| 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)<br>Length         8.01 m          (26 ft 3 in)<br>Height         1.97 m          (6 ft 6 in)<br>Wing Area     13.54 m <sup>2</sup> (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.<br>Max continuous rotational speed 2400 r.p.m<br>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, 100 (ASTM D910), see Note 12
- 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  $v_A$ :
- |                  |          |
|------------------|----------|
| 780 kg to 980 kg | 94 KIAS  |
| above 980 kg     | 108 KIAS |
- with MÄM 40-227 carried out
- |                   |          |
|-------------------|----------|
| 780 kg to 1036 kg | 94 KIAS  |
| above 1036 kg     | 111 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<br>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 down	$20^{\circ}, \pm 2^{\circ}$ $13^{\circ}, +2/-0^{\circ}$
Elevator	(a) With Standard Fuel Tank: up down or values listed under (c) (b) With Long Range Fuel Tank: up down or values listed under (c) (c) With MTOM 1200 kg (MÄM 40-227 installed) and for all configurations permitted:	$23^{\circ}, \pm 1^{\circ}$ $15^{\circ}, \pm 1^{\circ}$ $18^{\circ}, +0/-1^{\circ}$ $16^{\circ}, +1/-0^{\circ}$
Trim tab (elevator neutral)	Serial Numbers 40.006 to 40.044 (except 40.030): Trim nose up Trim nose down Serial Numbers 40.030 and 40.045 and subsequent: Trim nose up Trim nose down	$+ 18^{\circ}, \pm 2^{\circ}$ $- 33^{\circ}, \pm 2^{\circ}$ $+ 12^{\circ}, \pm 2^{\circ}$ $- 39^{\circ}, \pm 2^{\circ}$
Rudder	With Standard Fuel Tank: Left Right With Long Range Fuel Tank or MÄM 40-113 (Large Rudder) installed: Left Right	$29^{\circ}, \pm 1^{\circ}$ $31^{\circ}, \pm 1^{\circ}$ $24^{\circ}, \pm 1^{\circ}$ $26^{\circ}, \pm 1^{\circ}$
Flaps	Take off flap setting Landing flap setting	$20^{\circ}, \pm 2^{\circ}$ $42^{\circ}, \pm 1^{\circ}$
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<br>15x6.0-6 see note 8 |
|                       | For approved Types and rating see AMM, Doc. No.<br>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

#### **A.V. Notes:**

1. (a) Serial Numbers Eligible

40.006 through 40.083 (except 40.010 and 40.080)

40.201 and subsequent

(b) Effective 15-Nov-2017, the design responsibility for the model DA 40 is transferred from Diamond Aircraft Industries GmbH and EASA to Diamond Aircraft Industries Inc. and Transport Canada.

(c) The following serial numbers were produced by Diamond Aircraft Industries GmbH while Diamond Aircraft Industries GmbH was the type certificate holder:

40.006 through 40.083 (except 40.010 and 40.084)

The following serial numbers were produced by Diamond Aircraft Industries Inc. while Diamond Aircraft Industries GmbH was the type certificate holder:

40.201 through 40.1208 (except 40.213)

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. (removed)







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.
12. AVGAS 100 and 100LL also designated as 100/130 or 100/130LL, for additional approved fuel grades see AFM Section 2.





## **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 INC.  
1560 CRUMLIN SIDEROAD, LONDON ONTARIO,  
N5V 1S2 CANADA
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 (Europe): 20-Feb-1997  
for Major Change OÄM 40-100 - DA 40 D:  
11-Jan-2002
7. (Reserved): N/A
8. (Reserved): N/A

### **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
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: Doc. No. D40-AW-0129, latest revision
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 <sup>2</sup>	(146 sqft)
5. Engine:
  - 5.1.1 Model: 1 Technify Motors GmbH 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°   |







40.DS001 through 40.DS175 (except 40.DS173)

(b) Effective 15-Nov-2017, the design responsibility for the model DA 40 D is transferred from Diamond Aircraft Industries GmbH and EASA to Diamond Aircraft Industries Inc. and Transport Canada.

(c) The following serial numbers were produced by Diamond Aircraft Industries GmbH while Diamond Aircraft Industries GmbH was the type certificate holder:

40.080, 40.084 and D4.001 through D4.399 (except D4.013, D4.111, D4.198 through D4.201, D4.246, D4.362, D4.365, D4.379, D4.380, D4.383 through D4.388, D4.390, D4.391, D4.393 through D4.398)

The following serial numbers were produced by Shandong Bin Ao Aircraft Industries Co. Ltd. while Diamond Aircraft Industries GmbH was the type certificate holder:

40.DS001 through 40.DS175 (except 40.DS173)

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, until further notice, 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, until further notice, 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 additional approved Jet Fuel specifications see AFM Section 2.







## **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 INC.  
1560 CRUMLIN SIDEROAD, LONDON ONTARIO,  
N5V 1S2 CANADA
5. Manufacturer: DIAMOND AIRCRAFT INDUSTRIES INC.  
1560 CRUMLIN SIDEROAD, LONDON ONTARIO,  
N5V 1S2 CANADA  
161-93 (TCCA)  
  
DIAMOND AIRCRAFT INDUSTRIES GMBH  
N.A. OTTO-STR. 5  
A-2700 WIENER NEUSTADT  
AUSTRIA  
AT.21G.0001
6. Certification Application Date: 20-Feb-1997  
8. July 2004 for DA 40 F (VÄM 40-002)
7. (Reserved): N/A
8. (Reserved): N/A

### **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: | Doc. No. D40-AW-0121, latest revision  |                      |              |
| 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 <sup>2</sup> | (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 mt propeller MT 188R135-4G		
7.2 Type Certificate:	FAA TCDS P4EA (Sensenich 76EM8S10-0-63) or EASA TCDS P.006 (mt propeller MT 188R135-4G)		
7.3 Number of blades:	2		
7.4 Diameter:	1930 mm (Sensenich 76EM8S10-0-63) 1880 mm (mt propeller MT 188R135-4G)		
7.5 Sense of Rotation:	Clockwise		
8. Fluids:			
8.1 Fuel:	AVGAS 100 LL, 100 (ASTM D910) see Note 7		
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 <math>v_A</math>:</p> <table border="0" style="margin-left: 40px;"> <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 <math>v_{FE}</math>:</p> <table border="0" style="margin-left: 40px;"> <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 <math>v_{NO}</math> (= Maximum structural design speed <math>v_C</math>):</p> <p style="text-align: right;">129 KIAS</p> <p>Never exceed speed <math>v_{NE}</math>: 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 Night VFR IFR</p> <p>Flight into expected or actual icing conditions is prohibited</p>								
13.	Maximum Weights:	<p>Take-off:</p> <table border="0" style="margin-left: 40px;"> <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" style="margin-left: 40px;"> <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" style="margin-left: 40px;"> <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:									





Aileron		
	up	20°, ± 2°
Elevator	down	13°, +2/-0°
	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 (elevator neutral)	Nose up	+ 12°, ± 2°
Rudder	Nose down	- 39°, ± 2°
Flaps	Left	24°, ± 1°
	Right	26°, ± 1°
	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. (a) Serial Numbers Eligible  
40.FC001 and subsequent  
(b) Effective 15-Nov-2017, the design responsibility for the model DA 40 F is transferred from Diamond Aircraft Industries GmbH and EASA to Diamond Aircraft Industries Inc. and Transport Canada.  
(c) The following serial numbers were produced by Diamond Aircraft Industries Inc. while Diamond Aircraft Industries GmbH was the type certificate holder:  
40.FC001 through 40.FC029
2. Approved Noise Levels are part of the EASA Noise TCDS.
3. reserved.
4. (removed).
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

7. AVGAS 100 and 100LL also designated as 100/130 or 100/130LL, for additional approved fuel grades see AFM Section 2





## **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 INC.  
1560 CRUMLIN SIDEROAD, LONDON ONTARIO,  
N5V 1S2 CANADA
5. Manufacturer: DIAMOND AIRCRAFT INDUSTRIES INC.  
1560 CRUMLIN SIDEROAD, LONDON ONTARIO,  
N5V 1S2 CANADA  
161-93 (TCCA)  
  
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 VÄM 40-004 - DA 40 NG:  
17-Jan-2008
7. (Reserved): N/A
8. (Reserved): N/A







## 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: Doc. No. D40-AW-0130, latest revision
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 <sup>2</sup>	(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 <sub>A</sub>	at V <sub>NE</sub>	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°± 0.2° (@0.75R)  
High pitch setting: 35°± 1.0° (@0.75R)





8. Fluids:

- 8.1 Fuel: Jet A, Jet A-1 (ASTM 1655), see note 6  
Diesel (EN590) see note 10
- 8.2 Oil: Engine: Shell Helix Ultra 5W30 and 5W40  
Gearbox: Shell SPIRAX GSX or S6 GXME 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  $v_{0}$ :  
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)  
1310 kg (2888 lb) see note 8  
Landing: 1216 kg (2681 lb)  
1280 kg (2822 lb) see note 8  
Minimum Flight: 940 kg (2072 lb)  
Maximum Zero Fuel: 1200 kg (2646 lb)  
1265 kg (2789 lb) see note 8
14. Centre of Gravity Range: Forward limit  
from 940 to 1080 kg 2.40 m behind Datum  
at 1310 kg 2.469 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°, ± 2°   |
|                                | down                  | 13°, +2/-2° |
| Elevator                       | up                    | 21°, +0/-1° |
|                                | down                  | 17°, +1/-0° |
| Trim tab<br>(elevator neutral) | Trim nose up          | + 12°, ± 2° |
|                                | 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
	OÄM 40-334:		6.00-6, 6 PR, see note 8
	Main Wheel Tyre Size		15x6.0-6, 6 PR, 160 mph
	OÄM 40-334:		8.50-6, 6 PLY, see note 8
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. (a) Serial Numbers Eligible

D4.111, D4.365, 40.N001 and subsequent (except 40.N183 through 40.N187, 40.N189 through 40.N211, 40.N213 through 40.N223, 40.N228 through 40.N234 and 40.N340 through 40.N344)

40.NS001 and 40.NS002

40.NC001 and subsequent

DA 40 D airplanes with Serial Numbers 40.080, 40.084, D4.001 and subsequent produced by Diamond Aircraft Industries GmbH may be converted to Model DA 40 NG by DAI approved Service Bulletin OSB D4-080.

(b) Effective 15-Nov-2017, the design responsibility for the model DA 40 NG is transferred from Diamond Aircraft Industries GmbH and EASA to Diamond Aircraft Industries Inc. and Transport Canada.

(c) The following serial numbers were produced by Diamond Aircraft Industries GmbH while Diamond Aircraft Industries GmbH was the type certificate holder:

D4.111, D4.365, 40.N001 through 40.N366 (except 40.N183 through 40.N187, 40.N189 through 40.N211, 40.N213 through 40.N223, 40.N228 through 40.N234 and 40.N340 through 40.N344)

The following serial numbers were produced by Shandong Bin Ao Aircraft Industries Co. Ltd. while Diamond Aircraft Industries GmbH was the type certificate holder:

40.NS001 and 40.NS002

The following serial numbers were produced by Diamond Aircraft Industries Inc. while Diamond Aircraft Industries GmbH was the type certificate holder:

40.NC001 and 40.NC002





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 additional approved Jet Fuel specifications see AFM Section 2.
7. Approved engine model configuration for installation in the DA 40 NG: E4-A
8. The following Design Mass Combinations are approved:

Installed Design Changes	Standard	MÄM 40-574 or OÄM 40-334	MÄM 40-662
MTOM	1280 kg (2822 lb)	1280 kg (2822 lb)	1310 kg (2888 lb)
MZFM	1200 kg (2646 lb)	1265 kg (2789 lb)	1265 kg (2789 lb)
MLM	1216 kg (2681 lb)	1280 kg (2822 lb)	1280 kg (2822 lb)

MTOM – Maximum Take-Off Mass MZFM – Maximum Zero Fuel Mass MLM – Maximum Landing Mass

9. For glider towing operation the optional design change OÄM 40-312 must be incorporated
10. Operation with Diesel fuel is only approved, if OÄM 40-370 is installed

## **ADMINISTRATIVE SECTION**

I. Acronyms

II. Type Certificate Holder Record

Until 15-Nov-2017

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





since 15-Nov-2017

DIAMOND AIRCRAFT INDUSTRIES INC.  
1560 CRUMLIN SIDEROAD, LONDON ONTARIO,  
N5V 1S2 CANADA

### III. Change Record

Issue	Date	Changes	TC Issue No. & Date
Issue 1 through 22	15-Nov-2017	Issues as done prior transfer of TC. Kept for record only	-
Issue 23	15-Nov-2017	First published issue for TCDS EASA.IM.A.022, after TC-Transfer of the original EASA TC A.022 at TCDS EASA.A.022, Issue 22 to Diamond Aircraft Industries Inc., Canada, with TCCA TC A-224.	15-Nov-2017

