

# *European Aviation Safety Agency*

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## **EASA TYPE-CERTIFICATE DATA SHEET**

### **Diamond DA20-A1 and DA20-C1**

**Type Certificate Holder:**

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

**Manufacturer:**

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

For variants:           DA20-A1  
                              DA20-C1

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

## **Change Record**

## **SECTION 1 DA20-A1**

### **A.I. General**

- |   |   |
|---|---|
| 1. a) Type:                                     | DA20-A1   |
| b) Variant:                                     | ---   |
| 2. Airworthiness Category:                      | CS-VLA  |
| 3. Type Certificate Holder:                     | Diamond Aircraft Industries Inc.<br>1560 Crumlin Sideroad, London Ontario,<br>N5V 1S2<br>CANADA |
| 4. Manufacturer:                                | Diamond Aircraft Industries Inc.<br>1560 Crumlin Sideroad, London Ontario,<br>N5V 1S2<br>CANADA |
| 5. EASA Certification Application Date:         | None (Prior to 28. September 2003, accepted under<br>EU Regulation EC 1702/2003)                |
| 6. TCCA Type Certification Date:                | 29. July 1994   |
| 7. EU Member States reference Type Certificates | Austria: FZ 014-ACG<br><br>Germany: LBA 1099<br>Italia: A 410<br>Spain: 260-I                   |
| 8. EASA Type Certificate Issue Date:            | 07. November 2008   |

### **A.II. Certification Basis**

- |  |  |
|--|--|
| 1. Reference Date for determining the applicable requirements: | Accepted under EU Regulation EC 1702/2003  |
| 2. (Reserved)  |  |
| 3. (Reserved)  |  |
| 4. Certification Basis:  | The EASA Aircraft Type Certification standard includes that of TCCA TCDS A-191, based on individual EU member state acceptance or certification of this standard prior to 28. September 2003 using JAR-VLA as the applicable airworthiness requirement. Other standards conforming to TC/TCDS standards certificated by individual EU member states prior to 28. September 2003 are also acceptable. (See note 2.) |
| 5. Airworthiness Requirements:                                 | JAR-VLA including Amendment VLA/92/1   |
| 6. Requirements elected to comply:                             | None   |

7. Special Conditions: None
8. (Reserved):
9. Equivalent Safety Findings: Model equipped with Rotax 912 A3 engine: Findings of equivalent safety to AWM 523-VLA.203(a) for the Rotax 912 A3 engine as per Transport Canada letter 5010-A518 (AARDD) dated 22. June 1995.
10. Environmental Standards: ICAO, Annex 16, Volume I, see EASA Type Certificate Data Sheet Noise TCDSN IM.A.223

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

1. Type Design Definition: Configuration Document No. DA20-A1  
(Project Description DA 4.07.00)
- Including Diamond Aircraft Drawing No. 20-0100-00-00 for the optional retrofit of the Rotax Model 912 S3 engine  
(Project Description PD-DA20-100)
2. Description: Single engine, two-seated cantilever low wing airplane, composite construction, fixed tricycle landing gear, T-tail
3. Equipment: see Equipment List, AFM. In addition a fire extinguisher and a fuel pipette acc. AFM must be installed.
4. Dimensions:
- |           |                     |                  |
|-----------|---------------------|------------------|
| Span      | 10.84 m             | (35 ft. 7.0 in)  |
| Length    | 7.17 m              | (23 ft. 6.0 in)  |
| Height    | 2.10 m              | ( 6 ft. 11.0 in) |
| Wing Area | 11.6 m <sup>2</sup> | (125 sqft)       |
5. Engines: Rotax 912 A3 or 912 F3 or 912 S3  
EASA Engine TCDS No. E.121
- Engine Limits:
- |  |             |
|--|-------------|
| Model with engine Rotax 912 A3 or 912 F3 |             |
| Max take-off rotational speed            | 5800 r.p.m. |
| Max continuous rotational speed          | 5500 r.p.m. |
| Propeller reduction                      | 1:2.2727    |
| Model with engine Rotax 912 S3           |             |
| Max take-off rotational speed            | 5800 r.p.m. |
| Max continuous rotational speed          | 5500 r.p.m. |
| Propeller reduction                      | 1:2.43      |

For power-plants limits, refer to AFM.

6. (Reserved)

7. Propellers:

Hoffmann HO-V352F/170FQ or  
Hoffmann HO-V352F/C170FQ  
LBA TCDS No. 32.130/88

Propeller limits:

Diameter  
Maximum: 1.70 m (5 ft 6.9 in.) + 0 mm  
Minimum: 1.70 m (5 ft 6.9 in.) - 10 mm (0.39 in.)  
Low pitch setting: 10.5°  
High pitch setting: 30°

8. Fluids:

Fuel:

AVGAS 100LL or  
Unleaded Automotive Fuel 95 RON / 91 AKI  
(Specification EN 228)

See AFM for approved possible fuel types.

Oil:

See AFM for approved possible oil types.

9. Fluid capacities:

Fuel:

Usable:	74 litres	19.5 US Gall.
Total:	76 litres	20.1 US Gall.

Oil:

Minimum:	3.0 litres	3.2 US Qt.
Maximum:	3.4 litres	3.6 US Qt.

10. Air Speeds:

Design Manoeuvring Speed  $v_A$ :

104 KIAS

Flap Extended Speed  $v_{FE}$ :

81 KIAS

Maximum structural cruising speed  $v_{NO}$ :

116 KIAS

Never exceed speed  $v_{NE}$ :

157 KIAS

11. All-weather Capability:

Day-VFR (see note 2)

12. Maximum Masses:

Model with engine Rotax 912 A3 or 912 F3

Take-Off 730 kg (1609 lbs)

Landing 730 kg (1609 lbs)

Model with engine Rotax 912 S3

Take-Off 750 kg (1653 lbs)

Landing 750 kg (1653 lbs)

13. Centre of Gravity Range:

Forward limit (for all masses):

250 mm ( 9.84 in.) behind Datum

Rear limit (for all masses):

390 mm (15.35 in.) behind Datum

14. Datum:

tangent to the leading edge of the wing at the root rib

15. (reserved)

- |   |   |
|---|---|
| 16. Levelling Means:                    | Wedge 52:1000, 500mm (19.69 in) in front of the rudder fin.                     |
| 17. Minimum Flight Crew:                | 1 (Pilot)   |
| 18. Maximum Passenger Seating Capacity: | 1   |
| 19. (Reserved)                          |   |
| 20. Baggage / Cargo Compartments:       | Max. allowable load<br><br>20 kg (44 lbs) only permissible with baggage harness |
| 21. Wheels and Tyres                    |   |
| Nose Wheel Tyre Size                    | 4.00 – 4 or 5.00 – 5  |
| Main Wheel Tyre Size                    | 5.00 x 5, 6 ply or 15 x 6.00-5  |
|   | For approved types and rating, refer to AFM.                                    |

#### **A.IV. Operating and Service Instructions**

- |   |  |
|---|--|
| 1. Airplane Flight Manual (AFM)   | Model with engine Rotax 912 A3 or 912 F3<br>Document No. DA202-VLA<br><br>Model with engine Rotax 912 S3<br>Document No. DA202-100-VLA (English) or<br>Document No. DA2002D-100-VLA (German) |
| 2. Airplane Maintenance Manual (AMM)<br>(incl. Airworthiness Limitations) | Document No. DA201   |
| 3. Service Informations, Service Bulletins and Services Letters           |  |
| 4. Life Limited Parts   | as listed in AMM Document No. DA201, chapter 4   |

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

1. S/N 10002 through 10092 originally equipped with Rotax 912 A3 engine may be retrofitted with a Rotax 912 F3 engine accordance with Service bulletin DA20-73-01.  
  
S/N 10093 through 10331 inclusive is originally equipped with Rotax 912 F3 engine.  
  
S/N 10002 through 10332 inclusive originally equipped with Rotax 912 A3 or F3 engine may be modified to a Rotax 912 S3 by Diamond Aircraft or its Agents in accordance with Diamond Drawing No. 20-0100-00-00.
2. Night VFR, IFR, Acrobatic flights including intentional spins are prohibited. Flight in known or expected icing condition is also prohibited.

3. The minimum oil pressure limit for Rotax 912 A3 and 912 F3 powered Da20-A1airplanes, as delivered, is 1.5 bar (22psi). Rotax has retroactively revised the minimum oil pressure limit for Rotax 912 A3 and 912 F3 engines to be 0,8 bar (12 psi) below 3500 RPM and 2.0 bar (29 psi) above 3500 RPM. The original oil pressure limits are valid for aircraft equipped with an oil pressure gauge marked accordingly. The revised limit is valid for any aircraft retrofit with an oil prossure gauge marked with the revised limits. (see also AFM)

## **SECTION 2 DA20-C1**

### **B.I. General**

1. a) Type: DA20-A1  
b) Variant: DA20-C1
2. Airworthiness Category: CS-VLA
3. Type Certificate Holder: Diamond Aircraft Industries Inc.  
1560 Crumlin Sideroad, London Ontario,  
N5V 1S2  
CANADA
4. Manufacturer: Diamond Aircraft Industries Inc.  
1560 Crumlin Sideroad, London Ontario,  
N5V 1S2  
CANADA
5. EASA Certification Application Date: None (Prior to 28. September 2003, accepted under  
EU Regulation EC 1702/2003)
6. TCCA Type Certification Date: 19. December 1997
7. EU Member States reference Type Certificates Germany: LBA 1099  
  
Italia: A 410  
United Kingdom: Approval Note No. 27046
8. EASA Type Certificate Issue Date: 07. November 2008

### **B.II. Certification Basis**

1. Reference Date for determining the applicable requirements: Accepted under EU Regulation EC 1702/2003
2. (Reserved)
3. (Reserved)
4. Certification Basis: The EASA Aircraft Type Certification standard includes that of TCCA TCDS A-191, based on individual EU member state acceptance or certification of this standard prior to 28. September 2003 using JAR-VLA as the applicable airworthiness requirement. Other standards conforming to TC/TCDS standards certificated by individual EU member states prior to 28. September 2003 are also acceptable. (See note 4.)
5. Airworthiness Requirements: JAR-VLA including Amendment VLA/92/1
6. Requirements elected to comply: None



7. Special Conditions: None
8. (Reserved):
9. Equivalent Safety Findings: None
10. Environmental Standards: ICAO, Annex 16, Volume I, see EASA Type Certificate Data Sheet Noise TCDSN IM.A.223

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

1. Type Design Definition: Configuration Document No. DA20-C1
2. Description: Single engine, two-seated cantilever low wing airplane, composite construction, fixed tricycle landing gear, T-tail
3. Equipment: see Equipment List, AFM. In addition a fire extinguisher and a fuel dipstic acc. AFM must be installed.
4. Dimensions:
- |           |                     |               |
|-----------|---------------------|---------------|
| Span      | 10.87 m             | (35 ft. 8 in) |
| Length    | 7.17 m              | (23 ft. 6 in) |
| Height    | 2.19 m              | ( 7 ft. 2 in) |
| Wing Area | 11.6 m <sup>2</sup> | (125 sqft)    |
5. Engines: Teledyne Condinental Motors IO-240-B  
EASA Engine TCDS No. IM.E.169
- Engine Limits: Max take-off rotational speed 2800 r.p.m.  
Max continuous rotational speed 2800 r.p.m
- For power-plants limits, refer to AFM.
6. (Reserved)
7. Propellers: Hoffmann HO-14HM-175-157 or  
Sensenich W69EK7-63 or  
Sensenich W69EK7-63G or  
Sensenich W69EK-63 (up to Aircraft S/N C0149)
- |                              |                   |                    |
|------------------------------|-------------------|--------------------|
| Propeller limits (Diameter): | HO-14HM-175-157 : | 1.750 m (68.9 in.) |
|                              | W69EK7-63 :       | 1.752 m (69.0 in.) |
|                              | W69EK7-63G :      | 1.752 m (69.0 in.) |
|                              | W69EK-63 :        | 1.752 m (69.0 in.) |
8. Fluids:  
Fuel: AVGAS 100 or 100LL

See AFM for approved possible fuel types.

Oil:

See AFM for approved possible oil types.

9. Fluid capacities:

Fuel:

S/N C0001 to C0013

Usable:	80.5 litres	21.3 US Gall.
Unusable:	14.5 litres	3.8 US Gall.
Total:	95.0 litres	25.0 US Gall.

S/N C0014 and subsequent, and S/N C0001 to C0013 if Service bulletin DA C1-28-01 incorporated

Usable:	91 litres	24.0 US Gall.
Unusable:	2 litres	0.5 US Gall.
Total:	93 litres	24.5 US Gall.

All S/N if 20 U.S. Gal. fuel tank (Dwg. No. 22-2813-00-00 is installed)

Usable:	76 litres	20.0 US Gall.
Unusable:	2 litres	0.5 US Gall.
Total:	78 litres	20.5 US Gall.

Oil:

Minimum:	3.79 litres	4 US Qt.
Maximum:	5.68 litres	6 US Qt.

10. Air Speeds:

Design Manoeuvring Speed  $v_A$ :

106 KIAS

Flap Extended Speed  $v_{FE}$ :

100 KIAS with flaps in T/O position (15°)  
78 KIAS with flaps in Landing position (45°)

Maximum structural cruising speed  $v_{NO}$ :

118 KIAS

Never exceed speed  $v_{NE}$ :

164 KIAS

11. All-weather Capability:

Day-VFR  
(see note 4.)

12. Maximum Masses:

Take-Off	750 kg (1653 lbs)
Landing	750 kg (1653 lbs)

13. Centre of Gravity Range:

Forward limit (for all masses):

202 mm ( 7.96 in.) behind Datum

Rear limit (for all masses):

317 mm (12.49 in.) behind Datum

14. Datum:

tangent to the leading edge of the wing at the root rib

15. (reserved)

16. Levelling Means:

Wedge 55.84:1000, 2000mm (78.7 in.) behind the canopy.

17. Minimum Flight Crew:

1 (Pilot)

18. Maximum Passenger Seating Capacity:

1

19. (Reserved)

20. Baggage / Cargo Compartments:

Max. allowable load

20 kg (44 lbs) only permissible with baggage harness

21. Wheels and Tyres

Nose Wheel Tyre Size

5.00 – 5, 6 ply

Main Wheel Tyre Size

5.00 – 5, 6 ply

For approved types and rating, refer to AFM.

#### **B.IV. Operating and Service Instructions**

1. Airplane Flight Manual (AFM)

Document No. DA202-C1 (English)

Document No. DA202-C1-D (German)

2. Airplane Maintenance Manual (AMM)  
(incl. Airworthiness Limitations)

Document No. DA201-C1

3. Service Informations, Service Bulletins and Services Letters

4. Life Limited Parts

as listed in AMM Document No. DA201-C1, Ch. 4

#### **B.V. Notes**

1. Night VFR, IFR or Acrobatic flights including intentional spins are prohibited. Flight in known or expected icing condition is also prohibited.

### **Change Record**

<b>Issue</b>	<b>Date</b>	<b>Changes</b>
Issue 1	07. Nov 2008	Initial Issue
Issue 2	02.July 2009	Editorial Changes Clarification of the 912 A3 engine capability according to the TCCA TC A.III.5. Note 1 A.V.1 rewording Typographical Error B.III.2 and 5