Civil Aviation Authority
United Kingdom

TYPE-CERTIFICATE DATA SHEET

UK.TC.A.00053

for

DA20

Type Certificate Holder

Diamond Aircraft Industries Inc.

1560 Crumlin Sideroad, London Ontario

N5V 1S2

Canada

Model(s):	DA20-A1 DA20-C1
Issue:	1
Date of issue:	30 January 2023

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Note: In this TCDS, references to EU regulations are to those regulations as retained and amended in UK domestic law under the European Union (Withdrawal) Act 2018 and are referenced as “UK Regulation (EU) year/number or UK Regulation (EU) No. number/year”.

Section 1 DA20-A1

I. General

1. **Type / Variant or Model**

Type	DA20
Variant or Model	DA20-A1

2. **Airworthiness Category**

CS-VLA see Note 2

3. **Manufacturer**

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

4. **Type Certificate Holder**

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

5. **Certification Application Date**

None (Prior to 28. September 2003, accepted under EU Regulation EC 1702/2003)

6. **National Certifying Authority**

Transport Canada

7. **National Authority Type Certificate Date**

Transport Canada TC A-191 dated 29.July 1994

8. **Type Certificate Data Sheet Number**

UK.TC.A.00053
(former EASA IM.A.223)
Pre 2003 European Certifications
Austria: FZ 014-ACG
Germany: LBA 1099
Italy: ENAC A 410
Spain: 260-I

II. Certification Basis

1. **Reference Date for determining the applicable requirements**

Accepted under EU Regulation EC 1702/2003

2. **Airworthiness Requirements**

JAR-VLA including Amendment VLA/92/1

3. **Special Conditions**

SC A-02 Night VFR

SC B-01 Intentional Spinning

4. **Exemptions**

None

5. **Deviations**

None

6. **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

7. **Environmental Standards**

7.1 Noise Requirements

See TCDSN UK.TC.A.00053

8. **Additional Requirements**

The EASA Aircraft Type Certification standard included 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.)

III. Technical Characteristic and Operating 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**

Equipment List in AFM.

In addition a fire extinguisher and a fuel pipette/ dipstick according AFM must be installed.

4. **Dimensions**

Span:	10.84m	(35 ft 7 in)
Length:	7.17m	(23 ft 6 in)
Height:	2.10m	(6 ft 11 in)

Wing Area:	11.6m^2	(125 sq ft)

5. Engine

5.1 Model

Rotax 912 A3 or 912 F3 or 912 S3

5.2 Type Certificate

UK.TC.E.00050

5.3 Limitiations

with engine Rotax 912 A3 or 912 F3	
Max take-off rotational engine speed	5800 r.p.m.
Max continuous rotational engine speed	5500 r.p.m
Propeller reduction	1:2.2727
with engine Rotax 912 S3	
Max take-off rotational engine speed	5800 r.p.m.
Max continuous rotational engine speed	5500 r.p.m
Propeller reduction	1:2.43

For power-plants limits refer to AFM, Section 2

6. Fluids

6.1 Fuel

AVGAS 100 LL or

Unleaded Automotive Fuel 95 RON / 91 AKI (Specification EN 228)

See AFM for approved possible fuel types.

6.2 Oil

Oils conforming to 4 stroke motorcycle oil of a registered brand with gear additives that meets or exceeds API classification SF or SG

For more details see AFM, Section 2

6.3 Coolant

EVANS NPG+ waterless coolant or 50/50 Glycol type coolant as specified in the latest revision of ROTAX Service Bulletin SI-912-016

7. Fluid Capacities

7.1 Fuel

Total:	76 litres	20.1 US Gallons
Usable:	74 litres	19.5 US Gallons

7.2 Oil

Maximum:	3.4 litres	3.6 qts
Minimum:	3.0 litres	3.2 qts

7.3 Coolant System Capacity

Closed loop coolant system

Maximum:	2.5 liters	2.6 qts
Minimum:	2.4 liters	2.5 qts

8. **Propeller**

8.1 Model

Hoffmann HO-V352F/170FQ or
Hoffmann HO-V352F/C170FQ

8.2 Type Certificate

LBA TCDS No. 32.130/88

8.3 Number of blades

2

8.4 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.)

8.5 Sense of Rotation

Counter Clockwise

8.6 Setting

Low pitch setting: 10.5°
High pitch setting: 30°

9. **Air Speed Limitiations**

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

10. **Load Factors**

	At V_A:	V_{NE}	With flaps in T/O or LDG Position
Normal Category			
Positive	4.4	4.4	2.0
Negative	-2.2	-2.2	0

11. **Maximum Operating Altitude**

-

12. **Operating Limitations**

Day/Night-VFR see Note 2,3

13. **Maximum Mass**

with engine Rotax 912 A3 or 912 F3

Take-Off:	730 kg	(1609 lbs)
Landing:	730 kg	(1609 lbs)

with engine Rotax 912 S3

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

14. **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

15. **Datum**

Tangent to the leading edge of the wing at the root rib.

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. **Maximum Baggage/Cargo Loads**

20 kg (44 lbs) only permissible with baggage harness.

20. **Control Surface Deflections**

Aileron	Up: 16º, ±1º Down: 13º, ±1º
Elevator	Up: 16º, ±1º Down: 14º, ±1º
Trim tab (elevator neutral)	See AMM
Rudder	Left: 30º, ±1º Right: 30º, ±1º
Flaps	Take-off Flap setting: 15º, ±1º
	Landing: 40.5º, ±1º

21. **Wheels and Tyres**

Nose Wheel Tyre Size	5.00 – 4, 6 ply or
	5.00 – 4, TR60 valve tube
Main Wheel Tyre Size	5.00 – 5 ,6 ply or
	15 x 6.0-5

For approved Types and rating see AMM

IV. Operating and Service Instructions

1. **Flight Manual**

Model with engine Rotax 912 A3 or 912 F3

Document No. DA202

Model with engine Rotax 912 S3

Document No. DA202-100 (English) See Note 4.

2. **Technical Manual**

Airplane Maintenance Manual Doc. No. DA201.

3. **Illustrated Parts Catalogue**

Illustrated Parts Catalogue Doc. No. DA203-A1

4. **Instruments and aggregates**

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 in accordance with Diamond Drawing No. 20-0100-00-00

2. IFR, Acrobatic flights are prohibited. Flight in known or expected icing condition is also prohibited. Intentional Spins with flaps up are approved in accordance to the Flight Manual.

3. Night VFR flights has been approved if the required equipment according to Flight Manual is installed. Night VFR is not approved if engine 912 A3 is installed.

4. Flight Manual DA202-VLA is valid for day VFR, no intentional spinning aircraft only and superceeded by Manual DA202 Revision 18 and Manual DA202-100 Revision 6 or later Transport Canada approved Revision, covering all kinds of operation. Manual DA202-VLA will be no longer revised.

5. The minimum oil pressure limit for Rotax 912 A3 and 912 F3 powered DA20-A1 airplanes, 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 pressure gauge marked with the revised limits. (see also AFM)

Section 2 DA20-C1

I. General

1. **Type / Variant or Model**

Type	DA20
Variant or Model	DA20-C1

2. **Airworthiness Category**

CS-VLA see Note 1

3. **Manufacturer**

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

4. **Type Certificate Holder**

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

5. **Certification Application Date**

None (Prior to 28. September 2003, accepted under EU Regulation EC 1702/2003)

6. **National Certifying Authority**

Transport Canada

7. **National Authority Type Certificate Date**

Transport Canada TC A-191 dated 19 Dec 1997

8. **Type Certificate Data Sheet Number**

UK.TC.A.00053
(former EASA IM.A.223)
Pre 2003 European Certifications
Italy: ENAC A 410
(Former UK Approval Note 27046)

II. Certification Basis

1. **Reference Date for determining the applicable requirements**

Accepted under EU Regulation EC 1702/2003

2. **Airworthiness Requirements**

JAR-VLA including Amendment VLA/92/1

3. **Special Conditions**

CRI A-07 Maximum Take Off Mass 800 kg
CRI A-02, Night VFR

SC B-01 Intentional Spinning

4. **Exemptions**

None

5. **Deviations**

None

6. **Equivalent Safety Findings**

A-08 Night VFR with 800kg MTOM

7. **Requirements elected to comply**

None

8. **Environmental Standards**

See TCDSN UK.TC.A.00053

9. **Additional Requirements**

The EASA Aircraft Type Certification standard included 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 1.)

III. Technical Characteristic and Operating 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**

Equipment List in AFM.

In addition a fire extinguisher and a fuel pipette/ dipstick according AFM must be installed.

4. **Dimensions**

Span:	10.87m	(35 ft 7 in)
Length:	7.17m	(23 ft 6 in)
Height:	2.19m	(6 ft 11 in)
Wing Area:	11.6m^2	(125 sq ft)

5. **Engine**

5.1 Model

Teledyne Condinental Motors IO-240-B

5.2 Type Certificate

Engine Type Certificate Data Sheet EASA.IM.E.169

5.3 Limitiations

Max take-off rotational engine speed	2800 r.p.m.
Max continuous rotational engine speed	2800 r.p.m

For power-plants limits refer to AFM, Section 2

6. Fluids

6.1 Fuel

AVGAS 100 or 100 LL See Note 4

6.2 Oil

Aviation engine oil TCM specification MHS24
For more details see AFM

6.3 Coolant

N/A

7. Fluid Capacities

7.1 Fuel

S/N C0001 to C0013

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

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 Gal.
Unusable:	2 litres	0.5 US Gal.
Total:	93 litres	24.5 US Gal.

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

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

7.2 Oil

Maximum:	5.68 litres	6 qts
Minimum:	3.79 litres	4 qts

7.3 Coolant System Capacity

N/A

8. Propeller

8.1 Model

Sensenich W69EK7-63 or
Sensenich W69EK7-63G or
Sensenich W69EK7-63GM
Sensenich W69EK-63

8.2 Type Certificate

LBA TCDS No. 32.110/29

8.3 Number of blades

2

8.4 Diameter

W69EK7-63GM:	1.752 m (69.0 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.)

8.5 Sense of Rotation

Clockwise

8.6 Setting

Fixed Pitch

9. **Air Speed Limitiations**

Design Manoeuvring Speed V_A:	106 KIAS
Flap Extended Speed V_{FE}:	
flaps in T/O position (15°)	100 KIAS
flaps in Landing position (45°)	78 KIAS
Maximum structural cruising speed V_{NO}:	118 KIAS
Never exceed speed V_{NE}:	164 KIAS

10. **Load Factors**

	At V_A:	V_{NE}	With flaps in T/O or LDG Position
Normal Category			
Positive	4.4	4.4	2.0
Negative	-2.2	-2.2	0

11. **Maximum Operating Altitude**

-

12. **Operating Limitations**

Day/Night VFR (see Note 1)

13. **Maximum Mass**

Ramp Weight:	803 kg (1770 lb)
Take-off / Landing:	800 kg (1764 lb)

see Note 2

14. **Centre of Gravity Range**

Forward limit	
up to 750 kg	202 mm (7,96 in)
at 800 kg	205 mm (8,07 in)
behind Datum, varying linearly with mass in between	
Rear limit	
up to 750 kg	317 mm (12,48 in)
at 800 kg	309 mm (12,16 in)
behind Datum, varying linearly with mass in between	

15. **Datum**

Tangent to the leading edge of the wing at the root rib.

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. **Maximum Baggage/Cargo Loads**

20 kg (44 lbs) only permissible with baggage harness.

20. **Control Surface Deflections**

Aileron	Up: 15.5º, ±1º Down: 13.5º, ±1º
Elevator	Up: 25º, ±1º Down: 15º, ±1º
Trim tab (elevator neutral)	See AMM
Rudder	Left: 27º, ±1º Right: 27º, ±1º
Flaps	Take-off Flap setting: 15º, ±1º
	Landing: 45º, ±1º

21. **Wheels and Tyres**

Nose Wheel Tyre Size	5.00 – 4, 6 ply
Main Wheel Tyre Size	5.00 – 5 ,6 ply
For approved Types and rating see AMM	

IV. Operating and Service Instructions

1. **Flight Manual**

Document No. DA202-C1 (English)

2. **Technical Manual**

Document No. DA201-C1.

3. **Spare Parts Catalogue**

DA203-C1

4. **Instruments and aggregates**

V. Notes

1. IFR flights are prohibited. Acrobatic flights are prohibited. Flight in known or expected icing condition is also prohibited. Intentional Spins with flaps up are approved in accordance to the Flight Manual**.**

   Night VFR flights has been approved if the required equipment according to Flight Manual Document DA202-C1, Rev 26 or later Transport Canada approved AFM revisions is installed.

2. The DA20-C1 was originally certified at a MTOW of 750kg (1653 lb). Based on the Special Condition A-07 the MTOW of 800kg was approved post-certification. All DA20-C1 aircraft equipped with Propeller W69EK7-63, W69EK7-63G, W69EK7-63GM or W69EK-63 are eligible for 800kg when operated in accordance to Flight Manual DA20-C1 Document DA202-C1, Rev 25 (Supplement 4 required for 800kg MTOW) or later Transport Canada approved revisions. At AFM Rev 26 supplement 4 is incorporated into the AFM.

3. This certification applied to Serial Numbers C0001 and subsequent.

4. Approved fuel specifications of AVGAS 100LL are CGSB 3.25 (Canadian) and ASTM D910 (USA)**.**

Section 3 Administration

I. Acronyms and Abbreviations

Acronym / Abbreviation	Definition
Amdt.	Amendment
AWM	Airworthiness Manual
C.G.	Centre of Gravity
CAA	Civil Aviation Authority
CR	(European) Commission Regulation
CS	Certification Specification
DGAC FR	Direction Générale de l'Aviation Civile (France)
EASA	European Union Aviation Safety Agency
IFR	Instrument Flight Rules
KIAS	Knots Indicated Air Speed
JAA	Joint Aviation Authorities
JAR	Joint Aviation Requirements
kg	Kilogram
LDG	Landing
Max	Maximum
min	Minute
Min.	Minimum
MSL	Mean Sea Level
PA	Pressure Altitude
PWR	Power
R.H.	Right-hand
RPM	Revolutions per minute
s/n	Serial Number
sec	Seconds
TCCA	Transport Canada Civil Aviation
TC	Type Certificate
TCDS	Type Certificate Data Sheet
TCDSN	Type Certificate Data Sheet for Noise
TCH	Type Certificate Holder
TO	Take-Off
VFR	Visual Flight Rules
V_{NE}	Never Exceed Speed

II. Type Certificate Holder Record

TCH Record	Period
Diamond Aircraft Industries Inc. 1560 Crumlin Sideroad, London Ontario N5V 1S2 Canada	Present. No changes.

III. Amendment Record

TCDS Issue No.	TCDS Issue Date	Changes	TC Issue and Date
1	30 Jan 2023	This certificate supersedes EASA.IM.A.223. All technical data taken from EASA.IM.A.223 Issue 05 and incorporating TCCA TCDS A-191 changes to issue 18	Issue 1 30 Jan 2023

– END –