

DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION

TA4CH  
Revision 13  
DIAMOND  
DA20-A1  
DA20-C1  
August 26, 2004

TYPE CERTIFICATE DATA SHEET NO. TA4CH

This data sheet, which is part of Type Certificate No. TA4CH, prescribes conditions and limitations under which the product for which the type certificate was issued meets the airworthiness requirements of the Federal Aviation Regulations.

Type Certificate Holder:           Diamond Aircraft Industries Inc.  
  1560 Crumlin Sideroad  
  London, Ontario  
  Canada N5V 1S2

I - Model DA20-A1 (Utility Category) Approved December 9, 1994

Engine                                 Rotax 912 A3 or 912 F3 or 912 S3

Fuel                                    AVGAS 100LL  
  See Aircraft Flight Manual for other approved fuel types.

Oil                                      API System "SF" or "SG" multi grade (See Aircraft Flight Manual recommendations).  
  Do not use aviation grade lubricants

Engine Limits (912 A3 or 912 F3)		<u>HP</u>	<u>Engine R.P.M.</u>	<u>Propeller R.P.M.</u>
	Maximum Takeoff Power	80.0	5800	2550
	Maximum Continuous Power	78.0	5500	2420
(912 S3)	Maximum Takeoff Power	99.0	5800	2385
	Maximum Continuous Power	93.0	5500	2260

Propeller and  
Propeller Limits                 Hoffmann HO-V352F/170FQ or HO-V352F/C70FQ  
  Reduced Propeller speed, step-down ratio: 1:2.2727 (compared to engine speed).  
  Diameter 66.9 in (+0, -.39 in), 170 cm (+0, -10 m)  
  No. of Blades:                     Two  
  Pitch:                                10° - 35° (75% station)

Airspeed Limits	Vne	Never Exceed Speed	161 KCAS
	Vno	Maximum Structural Cruising Speed	116 KCAS
	V <sub>A</sub>	Maneuvering Speed	104 KCAS
	V <sub>fe</sub>	Maximum Flap Extended Speed	81 KCAS

C.G. Range                         +9.84 in to +15.35 in (+250 mm to +390 mm)

Empty Weight  
C.G. Range                         None

Levelling Means                 Wedge 52:1000, 19.69 in (500 mm) in front of rudder fin.

Maximum Weight                 912 A3 or 912 F3 Engine: 1609 lbs (730 kg)  
  912 S3 Engine:                 1653 lbs (750 kg)

Minimum Crew                    One (1) Pilot.

No. of Seats                       Two at +5.6 in (+143 mm)

Maximum Baggage               44 lbs (20 kg) at +32.44 in (+824 mm). Only permissible with baggage harness

Fuel Capacity                     20.9 gal (79 liters) at +32.44 in (+824 mm)  
  Usable: 20.3 gal (77 liters) (See Note 1)

Oil Capacity                       3.6 qt (3.4 liters) maximum, 3.2 qt (3 liters) minimum at -41.7 in (-1060 mm)

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Coolant Capacity 2.6 qt (2.5 liters) maximum, 2.5 qt. (2.4 liters) minimum at -41.7 in (-1060 mm)

Control Surface Movements

AILERON	16° ± 1° UP	13° ± 1° DOWN
ELEVATOR	16° ± 1° UP	14° ± 1° DOWN
FLAP	15° ± 1° (T/O)	40.5° ± 1.5° (LDG)
RUDDER	30° ± 1° left	30° ± 1° right

Manufacturer's Serial Nos.

Those aircraft shown to comply with Canadian DOT Aircraft Type Certificate A-191. The Canadian Department of Transport Certificate of Airworthiness for Export endorsed as noted under "Import Requirements" must be submitted for each individual aircraft for which application for certification is made (See Note 5 and 6).

II - Model DA20-C1 (Utility Category) Approved April 6, 1998

Engine Teledyne Continental Motors IO-240-B

Fuel AVGAS 100LL

Engine Limits Maximum Continuous Power 2800 r.p.m. (125 hp)

Propeller and Propeller Limits

- Hoffmann HO-14HM-175-157  
Diameter 68.9 in (175 cm)  
No. of Blades: Two
- Sensenich W69EK7-63 or W69EK7-63G  
Diameter 69 in (175.2 cm)  
No. of Blades: Two
- Sensenich W69EK-63 (up to Aircraft S/N C0149)  
Diameter 69 in (175.2 cm)  
No. of Blades: Two

Airspeed Limits

V <sub>ne</sub>	Never Exceed Speed	158.7 KCAS
V <sub>no</sub>	Maximum Structural Cruising Speed	117.7 KCAS
V <sub>A</sub>	Maneuvering Speed	106.9 KCAS
V <sub>fe</sub>	Maximum Flap Extended Speed	
	Take-off position (15°)	100 KCAS
	Landing position (45°)	81 KCAS

C.G. Range +8.07 in to +12.16 in (+205 mm to +309 mm) at 1764 lbs (800 kg)  
+7.95 in to +12.48 in (+202 mm to +317 mm) at 1653 lbs (750 kg) or less  
Straight line variation between points given

Empty Weight C.G. Range

None

Levelling Means Wedge 55084:1000, 78.7 in (2000 mm) behind canopy.

Maximum Weight Ramp Weight 1770 lbs (803 kg)  
Take-off 1764 lbs (800 kg)  
Landing 1764 lbs (800 kg)

Minimum Crew One (1) Pilot.

No. of Seats Two at +5.6 in (+143 mm)

Maximum Baggage 44 lbs (20 kg) at +32.44 in (+824 mm). Only permissible with baggage harness

Fuel Capacity	S/N C0001 thru C0013: 25 gal (95 liters) at +32.44 in (+824 mm) Usable: 21.3 gal (80.5 liters) (See Note 1)		
	S/N C0014 and subsequent, and S/N C0001 thru C0013 if Service Bulletin DA C1-28-01 has been incorporated: 24.5 gal (93 liters) at +32.44 in (+824 mm) Usable: 24 gal (91 liters) (See Note 1)		
	All S/N if 20 U.S. Gal. Fuel tank (Dwg. No. 22-2813-00-00) is installed: 20.5 gal (78 liters) at +32.44 in (+824 mm) Usable: 20 gal (76 liters) (See Note 1)		
Oil Capacity	6 qt (5.68 liters) maximum, 4 qt (3.79 liters) minimum at -39.6 in (-1005 mm)		
Control Surface Movements			
	AILERON	16° ± 1° UP	13° ± 1° DOWN
	ELEVATOR	25° ± 1° UP	15° ± 1° DOWN
	FLAP	15° ± 1° (T/O)	45° ± 1° (LDG)
	RUDDER	30° ± 1° left	30° ± 1° right
Manufacturer's Serial Nos.	Those aircraft shown to comply with Canadian DOT Aircraft Type Certificate A-191. The Canadian Department of Transport Certificate of Airworthiness for Export endorsed as noted under "Import Requirements" must be submitted for each individual aircraft for which application for certification is made.		

#### Data Pertinent to All Models

Reference Datum	The reference datum (RD) for the center of gravity (CG) is tangent to the leading edge of the wing at the root rib.
Import Requirements	A U.S. Airworthiness Certificate may be issued on the basis of the Canadian Department of Transport "Certificate of Airworthiness for Export" signed by or for the Minister of Transport. This form must contain the following statement: "This certifies that the aircraft described below has been manufactured in conformity with data forming the basis for DOT Type Certificate No. A-191, (FAA Type Certificate No. TA4CH)".
Certification Basis	FAR 21.29 and FAR 23 effective February 1, 1965, as amended by 23-1 through 23-42. JAR-VLA effective April 26, 1990, through Amendment VLA/92/1 effective January 1, 1992, used as a safety equivalence to FAR 23, as provided by AC 23-11.  FAR 36 dated December 1, 1969, as amended by current amendment as of the date of type Certification.  <u>Model DA20-A1:</u> Findings of Equivalent Level of Safety: FAR 23.903(a)(1) (ref. Finding ACE-95-1, dated December 2, 1994).

Equipment	<p>The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification. In addition, the following equipment is also required:</p> <p>Transport Canada Approved Flight Manual DA20 Katana (DA20-A1 with Rotax 912 A3 or F3 engine) Document No. DA202 dated July 28, 1994 or later approved revision.  Transport Canada Approved Flight Manual DA20/100 Katana (DA20-A1 with Rotax 912 S3 engine) Document No. DA202-100 Issue 1, dated June 19, 2000 or later approved revision.  Transport Canada Approved Flight Manual DA20-C1 (DA20-C1) Document No. DA202-C1 Issue 1 dated Decemebr 19, 1997 or later approved revision.  Transport Canada Approved Maintenance Manual DA20-A1 Katana (DA20-A1) Document No. DA201, Chapter 4  Transport Canada Approved Maintenance Manual DA20-C1 (DA20-C1) Document No. DA201-C1, Chapter 4  Fire Extinguisher.</p>
Service Information	<p>Service Bulletins, structural repair manuals, vendor manuals, overhaul and maintenance manuals, and aircraft flight manuals which contain a statement that the document is Transport Canada approved or Transport Canada approved through the Manufacturers Design Approval Representative are accepted by the FAA and are considered FAA approved. (These approvals pertain to the design data only).</p>
NOTE 1	<p>A current weight and balance report including list of equipment included in certificated empty weight must be provided with each aircraft at the time of original certification. The certificated empty weight and corresponding center of gravity location must include for Model DA20-A1, full oil and unusable fuel of 3.31 lbs (1.5 kg) at +32.44 in.; for Model DA20-C1, S/N C0001 thru C0013, full oil and unusable fuel of 22.2 lbs (10 kg) at +32.44 in.; and for Model DA20-C1, S/N C0014 and subsequent and S/N C0001 thru C0013 if Service Bulletin DA C1-28-01 has been incorporated, full oil and unusable fuel of 2.76 lbs (1.3 kg) at +32.44 in</p>
NOTE 2	<p>All placards specified in the Transport Canada Approved Airplane Flight Manual, and those listed in Chapter 11 of the Maintenance Manual, must be displayed in the airplane in the appropriate locations.</p>
NOTE 3	<p>Components which are life limited are listed in Maintenance Manual, Document No. DA201, Chapter 4 for Model DA20-A1 and Document No. DA201-C1, Chapter 4 for Model DA20-C1. Revisions to the Airworthiness Limitations must be approved by Transport Canada on behalf of the FAA.</p>
NOTE 4	<p>All external portions of the airplane exposed to sunlight must be painted white except of the areas of markings and warning marks.</p>
NOTE 5	<p>DA20-A1 S/N 10002 through 10092 were produced with the Rotax 912 A3 engine. S/N 10093 and subsequent were produced with the Rotax 912 F3 engine. The finding of equivalent safety to FAR 23.903(a)(1) for the Rotax 912 A3 engine is applicable only to those serial numbers originally produced with the Rotax 912 A3 engine.</p>
NOTE 6	<p>DA20-A1 S/N 10002 through 10092, originally equipped with the Rotax 912 A3 engine, may be retrofitted with the Rotax 912 F3 engine in accordance with Diamond Aircraft Service Bulletin DA20-73-01.</p> <p>DA20-A1 S/N 10002 through 10331, originally equipped with the Rotax 912 A3 or 912 F3 engine, may be retrofitted with the Rotax 912 S3 engine, by Diamond Aircraft Industries or its agents, in accordance with Diamond Aircraft Drawing No. 20-0100-00-00.</p>

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