



AGÊNCIA NACIONAL DE AVIAÇÃO CIVIL - BRASIL

TYPE CERTIFICATE DATA SHEET Nº EA-2010T03

Type Certificate Holder:

DIAMOND AIRCRAFT INDUSTRIES GMBH
N.A. Otto-Str. 5
A-2700 Wiener Neustadt
AUSTRIA

EA-2010T03-00
Sheet 01

DIAMOND

DA 42 NG
DA 42 M-NG

30 March 2010

This data sheet, which is part of Type Certificate No. 2010T03, prescribes conditions and limitations under which the product, for which the Type Certificate was issued, meets the airworthiness requirements of the Brazilian Aeronautical Regulations.

I - Model DA 42 NG (Normal Category), approved 30 March 2010.

Model DA 42 M-NG (Normal Category), approved 30 March 2010.

ENGINE	2 Austro Engine E4 (CHT 2010T01)	
FUEL	Jet A1, Jet A	
ENGINE LIMITS	Max. takeoff 2 300 RPM Max. Continuous 2 100 RPM	
OIL	Engine: Shell Helix Ultra 5W30 or 5W40 or see AFM Gearbox: Shell SPIRAX GSX 75W-80 or see AFM	
PROPELLER AND PROPELLER LIMITS	2 MT-Propeller MTV-6-R-C-F/CF187-129 (2005T03)	
	Low pitch setting:	12°
	Feather position:	81°
	Start lock:	15°
AIRSPPEED LIMITS (IAS)	Never exceed speed (V_{NE}):	188 kias
	Maneuvering (V_A) - :	Up to 1 700 kg 112 kias
		Above 1 700 kg to 1 800 kg 119 kias
		Above 1 800 kg 122 kias
	Max. Structural Cruising speed (V_{NO}):	151 kias
	Flaps extended (V_{FE})	
	(landing):	113 kias
	(Approach):	133 kias
	Minimum control speed - Air (V_{MCA}):	76 kias
	L. G. operation - extend (V_{LO}):	188 kias
	L. G. operation - retract (V_{LO}):	152 kias
	L. G. extended (V_{LE}):	188 kias

CG RANGE	Forward limits: At 1 510 kg - 2.357 m behind Datum At 1 900 kg – 2.418 m behind Datum Varying linearly with mass in between Rear limit: At 1 510 kg – 2.460 m behind Datum At 1 700 kg and above – 2.480 m behind Datum Varying linearly with mass in between		
DATUM	2.196 m in front of leading edge of stub-wing at wing joint		
LEVELING MEANS	Floor of front baggage compartment levelled		
MAXIMUM WEIGHT	Takeoff:	1 900 kg	
	Landing:	1 805 kg	
	Zero Fuel:	1 765 kg	
MINIMUM CREW	1 pilot		
MAXIMUM PASSENGERS	3		
MAXIMUM BAGGAGE	Front Baggage Compartment:	30 kg	
	Behind Rear Seat:	45 kg	
	Aft part of Baggage Extension:	18 kg	
	Whole aft Baggage Compartment together:	45 kg	
FUEL CAPACITY	Standard fuel tank: Total - 196.8 liters Usable - 189.2 liters Auxiliary fuel tank: Total - 104 liters Usable – 100 liters		
OIL CAPACITY	Each engine: Maximum – 7 liters Minimum – 5 liters		
ANTI-ICE FLUID	AL-5 (DTD 406B) or Aeroshell Compound 07. For more details see AFM Suppl. S02		
MAXIMUM OPERATING ALTITUDE	5 486 m (18 000 ft)		
CONTROL SURFACE MOVEMENTS	Elevator:	Up $15.5^{\circ} \pm 0.5^{\circ}$	Down $13^{\circ} \pm 1^{\circ}$
	Elevator trim tab:	$+17^{\circ} \pm 5^{\circ}$	Nose up at elevator 10° up
		$-35^{\circ} \pm 5^{\circ}$	Nose down at elevator 10° up
	Rudder:	Right $29^{\circ} \pm 1^{\circ}$	Left $27^{\circ} \pm 1^{\circ}$
	Rudder trim:	$+54^{\circ} \pm 5^{\circ}$	Trim RH at rudder 20° LH
		$+22^{\circ} \pm 5^{\circ}$	Trim LH at rudder 20° LH

Aileron:	Up $25^{\circ} \pm 2^{\circ}$	Down $15^{\circ} +2^{\circ}, - 0^{\circ}$
Wing flaps:	Cruise Flap setting:	$0^{\circ}, +2^{\circ} -0^{\circ}$
	Approach:	$20^{\circ}, +4^{\circ} -2^{\circ}$
	Landing:	$42^{\circ}, +3^{\circ} -1^{\circ}$

SERIAL NUMBER ELIGIBLE

For DA 42 NG: 42.339, 42,379, 42N001 and subsequent.

For DA 42 M-NG: 42.MN001 and subsequent.

A Certificate of Airworthiness for Export endorsed as noted under "Import Requirements" must be submitted for each individual aircraft for which application for a Brazilian Certificate of Airworthiness is made.

IMPORT ELIGIBILITY

A Brazilian Certificate of Airworthiness may be issued on the basis of on an EASA Export Certificate on Airworthiness (or a third country Export Certificate on Airworthiness, in case of used aircraft imported from such country), including the following statement:

"The aircraft covered by this certificate has been inspected, tested and found to be in conformity with the Brazilian approved type design as defined by the Brazilian Type Certificate no. 2010T03 and in condition of safe operation".

The ANAC Report H.10-2240-00, dated 30 March 2010 or further revisions, contains the Brazilian requirements for the acceptance of these airplanes. (See note 4)

CERTIFICATION BASIS

Brazilian Type Certificate No. 2010T03 issued on 30 March 2010 based on the RBHA 21.29, including the following requirements.

- RBHA 23 (corresponding to FAR Part 23 including amendments 1 thru 55),
- RBHA 36 (corresponding to ICAO Annex 16, Vol. I, third edition, 1993, amdt. 7),
- and including the following EASA Special Conditions and EASA Equivalent Safety Findings listed in EASA certification basis and endorsed by ANAC:

EASA Special Conditions:

- CRI D-02, Variable Elevator Stop
- CRI E-02, Use of Jet Fuel for Reciprocating Engines
- CRI E-04, Liquid Cooling – Coolant Tank
- CRI E-05, Electronically controlled Reciprocating Diesel Engine
- CRI E-06, Engine Vibration Level
- CRI E-07, 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-04, Power plant Instruments
- CRI F-05, Installation of FADEC reciprocating Diesel engine and propeller
- CRI F07, Human Factors in Integrated Avionic System

EASA Equivalent Safety Findings:

- CRI E-10, Electrical Fuel Pump

REQUIRED EQUIPMENT

The basic required equipment, as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the airplane.

DATA PERTINENT TO ALL MODELS:**NOTES:**

- NOTE 1** Weight and balance.
A current weight and balance report including list of equipment included in the certificated empty weight, and loading instructions when necessary, must be provided for each aircraft at the time of original certification.
The certificated empty weight and corresponding center of gravity location must include full oil, coolant and unusable fuel.
- NOTE 2** Markings and placards. The placards specified in the approved Aircraft Flight Manual, including the placards in Portuguese specified in the Aircraft Flight Manual Supplement N023 must be displayed.
- NOTE 3** Continuing Airworthiness. Instruction for Continued Airworthiness and Service Life Limited components is included in the Maintenance Manual Document No. 7.02.15 (for DA 42 NG) and 7.02.15 including Supplement M00 (for DA 42 M-NG). Revisions to Airworthiness limitation must be approved by EASA.
- NOTE 4** The differences of the Brazilian airplanes in relation to the basic EASA type design are summarized below:
1. The Brazilian Airplane Flight Manual cover page
2. Markings and placards listed in Aircraft Flight Manual Supplement N023
- NOTE 5** DA 42 model may be converted to DA 42 NG model by DAI approved SB OSB 42-068.
DA 42 M model may be converted to DA 42 M-NG model by DAI approved SB OSB 42-081.
- NOTE 6** For approved software versions of Garmin G1000 Integrated Avionics System see DAI MSB 42NG-003, at latest issue. Garmin Software PN 010-00670-01 or later approved version is required.
- NOTE 7** Approved engine model for installation in the DA 42 N and DA 42 M-NG: E4-B
The approved firmware and mapping is according to DAI MSB 42NG-002 at latest issue.
- NOTE 8** Propeller Equipment: Governor: P-877-16
- NOTE 9** Flight into known or forecast icing conditions is approved if the liquid fluid ice protection system in accordance to Major Design Change OÂM 42-160 is installed.
- NOTE 10** The Basic DA42 M-NG does not include provisions for specific mission purpose.

The specific type design for mission equipment and its installation are not part of DA42 M-NG certification; this is approved only in accordance to ANAC EA 2010T04

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