



AGÊNCIA NACIONAL DE AVIAÇÃO CIVIL - BRASIL

TYPE CERTIFICATE DATA SHEET Nº EA-2007T01

Type Certificate Holder:

COLUMBIA AIRCRAFT MANUFACTURING CORP.

Nelson Road, 22550

Bend, OR, 97701

USA

EA-2007T01
Sheet 01

COLUMBIA
LC42-550FG
LC41-550FG

April 2007

This data sheet, which is part of Type Certificate No. 2007T01, 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 LC42-550FG (Utility Category), approved 16 April 2007.

ENGINE	Teledyne Continental Model IO-550-N.
FUEL	100 or 100LL grade aviation fuel.
ENGINE LIMITS	Maximum takeoff power and maximum continuous power = 310 hp at 2 700 rpm. See Engine Type Certificate Data Sheet EM-9102 for additional limits.
OIL	See engine type certificate data sheet EM-9102.
PROPELLER AND PROPELLER LIMITS	Hartzell Model PHC-J3YF-1RF/F7691D-1 or PHC-J3YF-1RF/F7691DK-1 Hartzell Spinner Assembly, Part No. C-6446-1 Minimum diameter = 1.93 m (76 in) Maximum diameter = 1.95 m (77 in) Low pitch = $14.1^\circ \pm 0.2^\circ$ High pitch = $34.7^\circ \pm 1.0^\circ$ Pitch limits measured at 0.76 m (30 in) radial distance. Do not exceed 0.51 m (20 in) manifold pressure with propeller RPM below 2 200. See Propeller type certification Data Sheet EH-9804 for additional limits.
AIRSPEED LIMITS (CAS)	Maximum operating (V_{mo}) 1 542 kg (3 400 lb): 149 kcas (148 kias) Maximum operating (V_{mo}) 1 134 kg (2 500 lb): 128 kcas (127 kias) Maximum Structural Cruising Speed (V_{NO}): 180 kcas (178 kias) Never exceed speed (V_{NE}): 235 kcas (232 kias) Flaps extended (V_{FE}) - landing: 120 kcas (119 kias) - Intermediate: 130 kcas (129 kias) Note: V_{NO} decreases by 4 kias and V_{NE} decreases by 5 kias for each 305 m (1 000 ft) above 3 658 m (12 000 ft) (pressure altitude)

Pavot

CG RANGE

Straight line variation between points.

Aft Limits	2.79 m (110 in) aft of datum from 1 134 kg (2 500 lb) to 1 542 kg (3 400 lb).
Forward Limits	2.61 m (103 in) aft of datum from 1 017 kg (2 240 lb) to 1 134 kg (2 500 lb) then 2.72 m (107 in) aft of datum at 1 542 kg (3 400 lb).
Maximum zero fuel weight	2.61 m (103 in) aft datum at 1 237 kg (2 725 lb) to 2.79 m (110 in) at 1 466 kg (3 228 lb)
Minimum flying weight	2.61 m (103 in) aft datum at 1 017 kg (2 240 lb) to 2.79 m (110 in) at 1 134 kg (2 500 lb)

DATUM

The forward edge of the wing saddle is located 2.47 m (97.05 in) aft of the reference datum. Refer to the latest revision of "Airplane Maintenance Manual", Document No. RB050002, for detailed instructions.

LEVELING MEANS

Plumb target and plumb line hanger are located in the rear seat area.

WEIGHT LIMITS

Ramp and Takeoff:	1 542 kg (3 400 lb)
Landing:	1 466 kg (3 230 lb)
Empty Weight	1 166 kg (2 568 lb)
Zero Fuel:	1 237 kg (2 725 lb) at 2.61 m (103 in) varying linearly to 1 466 kg (3 228 lb) at 2.79 m (110 in)
Minimum flying weight	1 017 kg (2 240 lb) at 2.61 m (103 in) varying linearly to 1 135 kg (2 500 lb) at 2.79 m (110 in)

MINIMUM CREW

1 pilot

NO. OF SEATS

4 seats total: 2 located at 2.79 m (110 in) aft of datum.
2 located at 3.59 m (141.4 in) aft of datum.

MAXIMUM BAGGAGE

9 kg (20 lb) allowed on the hat shelf
54.48 kg (120 lb) total

FUEL CAPACITY

401 L (106 gallons) total; 371 L (98 gallons) useable.
(Two 200.5 L (53 gallons) tanks in wings at 3.00 m (118 lb) aft of datum).

OIL CAPACITY

8 qts drainable. See Engine Type Certificate Data Sheet EM-9102.

**MAXIMUM OPERATING
ALTITUDE**

4 267 m (14 000 ft) without approved oxygen system installed.
5 486 m (18 000 ft) with approved oxygen system installed.

**CONTROL SURFACE
MOVEMENTS**

Elevator:	Up 13° +0°, -0.5°	Down 12° ±1°
Elevator trim tab:	Up 21° ±1°	Down 30° ±1°
Rudder:	Right 17° ±1°	Left 17° ±1°
Left rudder limiter:	11.5° ±0.5°	
Aileron:	Up 22° ± 1°	Down 18° ± 1°
Aileron trim tab:	Up 22.4° ± 1°	Down 19.6° ± 1°
Aileron servo tab:	Up 20° ±1°	Down 12° ±1°
Wing flaps:	Cruise 0 ± 1°	
	Takeoff 12° ± 1°	
	Landing 40° ± 1°	

SERIAL NUMBER ELIGIBLE

42001 and on.

IMPORT ELIGIBILITY

A Brazilian Certificate of Airworthiness may be issued on the basis of FAA Certificate of Airworthiness for Export (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. 2007T09 and in condition of safe operation".

CERTIFICATION BASIS

Brazilian Type Certificate No. 2007T01 issued on 16 April 2007 based on the RBHA 23, corresponding to FAR 23 - including Amendments 1 through 46 (Utility Category) effective on 01 February 1965, except for RBHA/FAR 23.1305 and RBHA/FAR 23.1359. RBHA/FAR 23.1305 as amended through 23-52 and RBHA/FAR 23.1359 as amended through 23-49; and

RBHA 36, corresponding to FAR 36 as amended on the date of FAA certification.

Equivalent Level of Safety (ELOS) Findings for LC42-550FG:

Stall and spin requirements of RBHA/FAR 23.201, 23.203, and 23.221 in accordance with ELOS No. ACE-98-1 as detailed in the FAA memo dated 3 September 1998 (FAA memo reference no. 98-190S-581) and ELOS No. ACE-98-2 as detailed in the FAA memo dated 7 October 1998 (FAA memo reference no. 98-190S-608).

Emergency exit requirements of RBHA/FAR 23.807 in accordance with ELOS No. ACE-99-02 as detailed in FAA memo dated 2 February 1999 (FAA memo reference no. 99-190S-64).

Special Condition Findings for LC42-550FG:

Special Condition 23-160-SC is applicable to all airplanes regardless of which avionics package is installed.

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 with a list of equipment included in the certificated empty weight must be provided for each aircraft at the time of original airworthiness certification.

NOTE 2**Markings and placards.**

The placards specified in the latest ANAC approved revision of POH (Document No. RB050005) must be displayed.

NOTE 3**Continuing Airworthiness.**

Major structural repairs must be accomplished at ANAC certified repair stations rated for composite aircraft structure work, in accordance with FAA approved Columbia repair methods or other methods approved by the ANAC.

Panos

- NOTE 4** The differences of the Brazilian airplanes in relation to the basic FAA type design are summarized below:
1. The Brazilian Airplane Flight Manual front page
 2. Markings and placards.
- NOTE 5** Exterior colors are limited to those specified in the latest FAA approved revision to Chapter 4 of "Airplane Maintenance Manual", Document N° RB050002.
- NOTE 6** The airframe life limit may be extended beyond 12 000 flight hours when a non-destructive inspection process specifically approved by the FAA for this purpose is used.

II - Model LC41-550FG (Utility Category), approved 16 April 2007.

ENGINE	Teledyne Continental Model TSIO-550-C.														
FUEL	100 or 100LL grade aviation fuel														
ENGINE LIMITS	Maximum takeoff power and maximum continuous power = 310 hp at 2 600 rpm. See Engine Type Certificate Data Sheet EM-2006T06 for additional limitations.														
OIL	See engine type certification data sheet. EM-2006T06														
PROPELLER AND PROPELLER LIMITS	Hartzell Model HC-H3YF-1RF/F7693DF or HC-H3YF-1RF/F7693DFK Hartzell Spinner Assembly, Part No. C-6446-1 Minimum diameter = 1.95 m (77 in) Maximum diameter = 1.98 m (78 in) Low pitch = $16.5^\circ \pm 0.1^\circ$ High pitch = $43.0^\circ \pm 1.0^\circ$ Pitch limits measured at 0.76 m (30 in) radial distance. Do not exceed 0.51 m (20 in) manifold pressure with propeller RPM below 2 200. See Propeller type certification Data Sheet EH-2006T05 for additional limits.														
AIRSPEED LIMITS (CAS)	<table border="0"> <tr> <td>Maximum operating (V_{MO}) 1 634 kg (3 600 lb):</td> <td>162 kcas (158 kias)</td> </tr> <tr> <td>Maximum operating (V_{MO}) 1 180 kg (2 600 lb):</td> <td>138 kcas (135 kias)</td> </tr> <tr> <td>Maximum Structural Cruising Speed (V_{NO}):</td> <td>185 kcas (181 kias)</td> </tr> <tr> <td>Never exceed speed (V_{NE}):</td> <td>235 kcas (230 kias)</td> </tr> <tr> <td>Flaps extended (V_{FE})</td> <td></td> </tr> <tr> <td>- landing:</td> <td>120 kcas (117 kias)</td> </tr> <tr> <td>- Intermediate:</td> <td>130 kcas (127 kias)</td> </tr> </table> <p>Note: V_{FE} decreases by 2.4 kias for each 305 m (1 000 ft) above 3 658 m (12 000 ft) (pressure altitude) V_{NO} decreases by 3.5 kias for each 305 m (1 000 ft) above 3 658 m (12 000 ft) (pressure altitude). V_{NE} decreases by 4.4 kias for each 305 m (1 000 ft) above 3 658 m (12 000 ft) (pressure altitude).</p>	Maximum operating (V_{MO}) 1 634 kg (3 600 lb):	162 kcas (158 kias)	Maximum operating (V_{MO}) 1 180 kg (2 600 lb):	138 kcas (135 kias)	Maximum Structural Cruising Speed (V_{NO}):	185 kcas (181 kias)	Never exceed speed (V_{NE}):	235 kcas (230 kias)	Flaps extended (V_{FE})		- landing:	120 kcas (117 kias)	- Intermediate:	130 kcas (127 kias)
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CG RANGE

Straight line variation between points.

Aft Limits	2.85 m (112 in) aft of datum from 1 317 kg (2 900 lb) to 1 634 kg (3 600 lb)
Forward Limits	2.68 m (105 in) aft of datum from 1 180 kg (2 600 lb) to 1 317 kg (2 900 lb) then 2.76 m (108.8 in) aft of datum at 1 634 kg (3 600 lb)
Maximum zero fuel weight	2.72 m (107.2 in) aft datum at 1 498 kg (3 300 lb) to 2.85 m (112 in) at 1 498 kg (3 300 lb)
Minimum flying weight	2.68 m (105 in) aft datum at 1 180 kg (2 600 lb) to 2.85 m (112 in) at 1 317 kg (2 900 lb)

DATUM

The forward edge of the wing saddle is located 2.47 m (97.05 in) aft of the reference datum. Refer to the latest revision of "Airplane Maintenance Manual", Document No. RB050002, for detailed instructions.

LEVELING MEANS

Plumb target and plumb line hanger are located in the rear seat area.

WEIGHT LIMITS

Ramp and Takeoff:	1 634 kg (3 600 lb).
Landing:	1 553 kg (3 420 lb).
Empty Weight:	1 229 kg (2 708 lb).
Zero Fuel:	1 498 kg (3 300 lb) at 2.72 m (107.2 in) varying linearly to 1 498 kg (3 300 lb) at 2.85 m (112 in).
Minimum flying weight	1 180 kg (2 600 lb) at 2.68 m (105 in) varying linearly to 1 317 kg (2 900 lb) at 2.85 m (112 in).

MINIMUM CREW

1 pilot

NO. OF SEATS

4 seats total: 2 located at 2.79 m (110 in) aft of datum.
2 located at 3.59 m (141.4 in) aft of datum.

MAXIMUM BAGGAGE

9 kg (20 lb) allowed on the hat shelf
54.48 kg (120 lb) total

FUEL CAPACITY

401 L (106 gallons) total; 371 L (98 gallons) useable.
(Two 200.5 L (53 gallons) tanks in wings at 3.00 m (118 lb) aft of datum).

OIL CAPACITY

8 qts drainable. See Engine Type Certificate Data Sheet EM-2006T06.

MAXIMUM OPERATING ALTITUDE

4 267 m (14 000 ft) without ANAC approved oxygen system installed.
5 486 m (18 000 ft) or 7 620 m (25 000 ft) with ANAC approved oxygen system installed. (See airplane flight manual for the specific limitation for the airplane as equipped).

CONTROL SURFACE MOVEMENTS

Elevator:	Up 23° ±1°	Down 14° ±1°
Elevator trim tab:	Up 21° ±1°	Down 30° ±1°
Rudder:	Right 30° ±1°	Left 30° ±1°
Aileron:	Up 21.6° ± 1°	Down 17.7° ± 1°
Aileron trim tab:	Up 22.4° ± 1°	Down 19.6° ± 1°
Aileron Servo tab:	UP 20° ±1°	Down 12° ±1°
Wing flaps:	Cruise 0 ± 1°	
	Takeoff 12° ± 1°	
	Landing 40° ± 1°	

SERIAL NUMBER ELIGIBLE

S/N Eligible: 41002 and on.

IMPORT ELIGIBILITY

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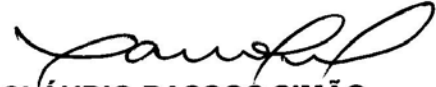
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1. The Brazilian Airplane Flight Manual front page;
2. Markings and placards.

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- NOTE 5** Exterior colors are limited to those specified in the latest FAA approved revision to Chapter 4 of "Airplane Maintenance Manual", Document N° RC050001.
- NOTE 6** The airframe life limit may be extended beyond 12 000 flight hours when a non-destructive inspection process specifically approved by the FAA for this purpose is used.



CLÁUDIO PASSOS SIMÃO
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