

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

A21CE Revision 14 American Champion (Bellanca) (Champion) 8KCAB 8GCBC August 25, 2008
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TYPE CERTIFICATE DATA SHEET NO. A21CE

This data sheet, which is part of Type Certificate No. A21CE, prescribes conditions and limitations under which the product for the which type certificate was issued meets the airworthiness requirements of the Federal Aviation Regulations.

Type Certificate Holder: American Champion Aircraft Corp.
P. O. Box 37
Rochester, WI 53167

Type Certificate Holder Record: Bellanca Aircraft Corporation transferred TC A21CE to
Champion Aircraft, Inc. on November 1, 1982

Champion Aircraft, Inc. transferred TC A21CE to
Tetelestai, Inc. on October 11, 1988

Tetelestai transferred TC A21CE to
FRA Enterprises, Inc. on December 27, 1988

FRA Enterprises, Inc. transferred TC A21CE to
American Champion Aircraft on May 30, 1989

I - Model 8KCAB, 2 PCLM (Normal and Acrobatic Category), Approved October 16, 1970

Engine Lycoming IO-320-E1A or IO-320-E1B or AEIO-320-E1B or AEIO-320-E2B
(IO-320-E1A and IO-320-E1B must be modified per STC SE7CE)
(See NOTE 5 for optional engine and applicable limitations)
(See NOTE 8 concerning optional C.G. range and maximum weight)

Fuel 80/87 minimum grade aviation gasoline

Engine Limits For all operations, 2700 r.p.m. (150 hp.)

Propeller and Propeller Limits

1. (a) Hartzell HC-C2YL-4/C7663-4 or HC-C2YL-4F/FC7663-4 or HC-C2YL-4BF/FC7663-4 (Eligible with all engines except AEIO-320-E2B)
Diameter: not over 72 in., not under 70 in.
Pitch setting at 30 in. sta.: low 11^o, high 20^o
- (b) Hartzell spinner ass'y 836-52
- (c) Hartzell propeller governor F6-3A or F6-31 or Woodward D210688
2. Sensenich 74DM6S8-0 (Eligible with AEIO-320-E2B only)
Static rpm. at maximum permissible throttle settings:
not over 2450, not under 2200
no additional tolerance permitted
Diameter: not over 74 in., not under 73 in.

Airspeed Limits (CAS) Never exceed 180 mph (156 knots)
Maximum Structural Cruising 160 mph (139 knots)
Maneuvering Normal Category 121 mph (105 knots)
Acrobatic Category 130 mph (113 knots)

C. G. Range Normal Category (+13.5) to (+21.0) at 1800 lbs.
(+11.5) to (+21.0) at 1550 lbs. or less
Acrobatic Category (+13.5) to (+18.5) at 1800 lbs.
(+11.5) to (+18.5) at 1550 lbs. or less
Straight line variation between points given

Empty wt.
C. G. Range None

Maximum Weight 1800 lbs. Normal Category
1800 lbs. Acrobatic Category

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No. of Seats	2 (1 at +14, 1 at +44) 2 (1 at +14, 1 at +45) when Front Adjustable Seat is installed.			
Maximum Baggage	100 lbs. (+71) (Normal Category Only)			
Fuel Capacity	Wing tanks: 40.0 gal. (+26) Inverted header tank: 1.5 gal. (-13) See NOTE 1 for unusable fuel			
Oil Capacity	10 qt. (-34) See NOTE 1 for undrainable oil			
Control Surface Movements	Elevator	Up	30 ⁰	Down 30 ⁰
	Elevator Trim Tab	Up	19.5 ⁰	Down 44 ⁰
	Ailerons	Up	20 ⁰	Down 20 ⁰
	Rudder	Right	30 ⁰	Left 30 ⁰
Serial Nos. Eligible	3-70, 4-71, 6-71, 5-72, 7-72 thru 53-72, 54-73 thru 119-73, 120-74 thru 161-74, 162-75 thru 218-75, 220-75, 221-75, 219-76, 222-76 thru 280-76, 281-77 thru 357-77, 358-78 thru 456-78, 457-79 thru 576-79, 577-80 thru 642-80, 643-90, 644-91 and up.			

II - Model 8GCBC, 2 PCLM-SM (Normal Category), Approved April 30, 1974
2 PCLM, (Restricted Category), Approved May 14, 1975

Engine	Lycoming O-360-C2A, C2E, C1A, C1E, or C1G			
Fuel	91/96 minimum grade aviation gasoline 100/130 may be used 100% of the time.			
Engine Limits	For all other operations, 2700 r.p.m. (180 hp.) (See NOTE 6 for additional limitations)			
Propeller and Propeller Limits	<ol style="list-style-type: none"> 1. Propeller (Landplane Only) McCauley 1A200HFA80 (Fixed Pitch) Static rpm. at maximum permissible throttle settings: Not over 2350, not under 2100 (for Restricted Category aircraft utilized for chemical dispensing operations - not over 2360, not under 2260) No additional tolerance permitted Diameter: Not over 80 in., not under 79 in. Caution: Avoid operation between 1700 and 2100 rpm during descending flight. 2. Propeller <ol style="list-style-type: none"> (a) Hartzell HC-C2YR-1BF/F7666A (Constant Speed) or Hartzell HC-C2YK-1BF/F7666A (Constant Speed) Diameter: Not over 76 in., not under 72 in. Pitch setting at 30 in. sta.: low 12⁰, high 29⁰ (b) Hartzell spinner ass'y 836-52 (c) Woodward Propeller Governor B210776 (replacement for B210681) Woodward Propeller Governor T210761 (for O-360-C1G only) MT Propeller Governor P-860-3 (alternate for T210761) Aero-Tech Propeller Governor ATF4-4a-1 (alternate for T210761) Aero-Tech Propeller Governor FTT210761 (alternate for T210761) Placard Required: "AVOID 2000-2350 CONTINUOUS OPER." 3. Propeller <ol style="list-style-type: none"> (a) Hartzell HC-C3YR-1RF/F7282 (Constant Speed) Diameter: Not over 72 in., not under 70 in. Pitch setting at 30 in. sta.: low 9.2 ± 0.1⁰, high 30.5 ± 0.5⁰ (b) Hartzell spinner ass'y 82A2295-1P (c) Woodward Propeller Governor B210776 (replacement for B210681) Woodward Propeller Governor T210761 (for O-360-C1G only) MT Propeller Governor P-860-3 (alternate for T210761) Aero-Tech Propeller Governor ATF4-4a-1 (alternate for T210761) Aero-Tech Propeller Governor FTT210761 (alternate for T210761) Placard Required: "AVOID 1950-2350 CONTINUOUS OPER. BELOW 15 IN M.P." 			

4. Propeller (Seaplane Only, equipped with EDO 89-2000 floats)
 McCauley 1A200HFA80 (Fixed Pitch)
 Static rpm. at maximum permissible throttle settings:
 Not over 2400, not under 2260 No additional tolerance permitted
 Diameter: Not over 80 in., not under 79 in.
 Placard Required: "AVOID OPERATION BETWEEN 1700 and 2100 RPM DURING DESCENDING FLIGHT."

5. Propeller
 (a) MT-Propeller MTV-15-B/203-58
 Diameter: not over 80.25 in., not under 79.75 in.
 Pitch setting at 30 in. sta.: low $7.5 \pm 0.2^\circ$, high $28.0 \pm 1.0^\circ$
 (b) MT spinner ass'y P-271-2
 (c) Woodward propeller governor B210776 (replacement for B210681)
 Woodward propeller governor T210761 (for O-360-C1G only)
 MT Propeller Governor P-860-3 (alternate for T210761)
 Aero-Tech Propeller Governor ATF4-4a-1 (alternate for T210761)
 Aero-Tech Propeller Governor FTT210761 (alternate for T210761)

6. Propeller
 (a) MT-Propeller MTV-9-B/190-18a
 Diameter: not over 75 in., not under 74.5 in.
 Pitch setting at 30 in. sta.: low $9.0 \pm 0.2^\circ$, high $28.0 \pm 1.0^\circ$
 (b) MT spinner ass'y P-271-1
 (c) Woodward propeller governor B210776 (replacement for B210681)
 Woodward propeller governor T210761 (for O-360-C1G only)
 MT Propeller Governor P-860-3 (alternate for T210761)
 Aero-Tech Propeller Governor ATF4-4a-1 (alternate for T210761)
 Aero-Tech Propeller Governor FTT210761 (alternate for T210761)

Airspeed Limits (CAS)

Landplane:	
Normal Category	
Never exceed	162 mph (141 knots)
Maximum Structural Cruising	130 mph (113 knots)
Maneuvering	115 mph (100 knots)
Flaps Extended	100 mph (87 knots)
Restricted Category	
Maximum Operating Speed	120 mph (104 knots)
Maneuvering	112 mph (97 knots)
Flaps Extended	100 mph (87 knots)

Seaplane (with EDO 89-2000 floats):	
Normal Category	
Never exceed	148 mph (129 knots)
Maximum Structural Cruising	120 mph (104 knots)
Maneuvering	115 mph (100 knots)
Flaps Extended	100 mph (87 knots)

C. G. Range

Landplane:
 Normal Category and Restricted Category (Ferry operation only - see approved AFMS)
 (+14.2) to (+19.2) at 2150 lbs.
 (+10.5) to (+19.2) at 1450 lbs. or less
 Straight line variation between points given

 Restricted Category (utilized for dispensing operations)
 (+17.0) to (+19.2) at 2600 lbs.
 (+10.5) to (+19.2) at 1650 lbs. or less
 Straight line variation between points given

 Seaplane (with EDO 89-2000 floats):
 Normal Category
 (+14.2) to (+18.2) at 2150 lbs.
 (+10.5) to (+18.2) at 1675 lbs. or less
 Straight line variation between points given

Empty wt.

C. G. Range None

Maximum Weight

Normal Category Landplane and Seaplane, (and Restricted Category Ferry configuration): 2150 lbs.
 Restricted Category (utilized for chemical dispensing operations): 2600 lbs.

No. of Seats

2 (1 at +12, 1 at +42)
 2 (1 at +12, 1 at +43) when Front Adjustable Seat is installed.

Maximum Baggage	100 lbs. (+69) 30 lbs. (+102) Optional extended baggage installation 7-1596 (Note: No baggage permissible on Restricted Category aircraft during chemical dispensing operations).				
Fuel Capacity	Landplane: 36 gal. or 72 gal. (two 18 gal. or 36 gal. tanks in wings at +24.50) See NOTE 1 for data on unusable fuel. Seaplane: 36 gal. (two 18 gal. tanks in wings at +24.50) See NOTE 1 for data on unusable fuel.				
Oil Capacity	8 qt. (fixed pitch propeller), or 10 qt. (constant speed propeller), at (-36). See NOTE 1 for undrainable oil				
Control Surface Movements	Elevator	Up	29 ⁰	Down	26 ⁰
	Elevator Trim Tab	Up	19.5 ⁰	Down	45 ⁰
	Ailerons	Up	27.5 ⁰	Down	19 ⁰
	Rudder	Right	25 ⁰	Left	25 ⁰
	Flaps	Up	0 ⁰	Down	28 ⁰
Serial Nos. Eligible	Normal Category: 1-74 thru 119-74, 120-75 thru 187-75, 188-76 thru 235-76, 236-77 thru 260-77, 261-78 thru 289-78, 290-79 thru 330-79, 331-80 thru 356-80, 358-80, 360-80, 357-84, 359-84, 361-91 and up. Restricted Category: 129-75, 135-75 and up.				

Data Pertinent to All Models

Datum	Wing leading edge
Leveling Means	Drop plumb line from wing leading edge such that plumb line is 12.18 in. (Model 8KCAB), 10.18 in. (Model 8GCBC) forward of front face of fuselage-strut attach fitting.
Certification Basis	Part 23 of the Federal Aviation Regulations dated February 1, 1965, as amended by 23-1 and 23-6 (Normal and Acrobatic Category); and FAR 36, amended thru 39-24, for Model 8KCAB FAR 36, amended thru 36-9, for Model 8GCBC. FAR 36, amended thru 36-24, for Model 8GCBC with MT-Propeller. Part 21.25 of the Federal Aviation Regulations dated February 1, 1965 (Restricted Category), for Model 8GCBC aircraft (S/N 129-75, 135-75 and up). S/N 129-75, 135-75 and up are eligible for Multiple Airworthiness Certification in the Restricted Category when agricultural spray equipment is installed per Bellanca Drawing 7-1492. Application for Type Certificate dated November 16, 1967. Type Certificate No. A21CE issued October 16, 1970.
Production Basis	American Champion Aircraft Production Limitation Record 333CE, dated Dec. 26, 1995. Production authorized Oct. 5, 1992 (8KCAB) and June 17, 1993 (8GCBC).
Equipment	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 items are required: <ol style="list-style-type: none"> 1. FAA Approved Airplane Flight Manual for Model 8KCAB and Model 8GCBC. 2. Accelerometer (Acrobatic Category Only) per Champion Drawing 7-1422 (Model 8KCAB). 3. Stall warning indicator Champion Drawing 4-1401.

NOTE 1. Current weight and balance report, together with list of equipment included in certificated empty weight must be provided for each aircraft at time of original certification. The certificated empty weight and corresponding center of gravity location must include for Model 8KCAB, unusable fuel of 4.5 lb. at (-13) in. and 13.5 lb. at (+26) in. and undrainable oil of 5 lb. at (-34) in., and for Model 8GCBC unusable fuel of 8.4 lb. at (+15.00) in. for 36 gal. system or 13 lb. at (+15.00) in. for 72 gal. system and undrainable oil 4 lb. at (-36) Constant Speed Propeller Only.

NOTE 2. All placards specified in the FAA Approved Airplane Flight Manual must be displayed in the airplane.

<u>Model</u>	<u>Manual Issue Date</u>	<u>Revision No.</u>	<u>Revision Date</u>	<u>Serial No. Applicability</u>
8KCAB 150 h.p. (C.S & F.P.)	April 15, 1971	Original Issue 1	----- 8-3-72	3-70 4-71 thru 174-75
	April 14, 1975	Original Issue 1 2	----- 10-1-75 6-2-76	175-75 thru 221-75 except 219-76 219-76, 222-76 thru 256-76 257-76 thru 307-77
	May 9, 1977	Original Issue A B	----- 8-16-77 2-15-78	308-77 thru 337-77 338-77 thru 357-77 358-78 thru 456-78 except 411-78
8KCAB 180 h.p.	April 7, 1977	Original Issue A B	----- 2-15-78 8-8-78	299-77 thru 369-78 370-78 thru 456-78 458-79 thru 576-79
8GCBC	April 30, 1974	Original Issue 1 2 3 3 4 5	----- 12-26-74 10-1-75 6-2-76 4-7-77 2-15-78	1-74 thru 127-75 128-75 thru 187-75 188-76 thru 220-76 221-76 thru 248-77 249-77 thru 268-78 269-78 thru 289-78
8GCBC (Seaplane)	September 24, 1974	Original Issue 1	----- 2-15-78	129-75, 135-75 thru 268-78 269-78 thru 289-78
8GCBC (Agricultural)	May 12, 1975, 1974	Original Issue 1	----- 2-15-78	129-75, 135-75 thru 268-78 269-78 thru 289-78

All subsequent airplanes contain an Airplane Flight Manual bearing a serial number effectivity.

NOTE 3. Mandatory inspection times for strut attach fittings 3-1691 (8KCAB) and 3-1692 (8GCBC) on metal spar winged aircraft must be inspected in accordance with American Champion Aircraft Airworthiness Limitations, dated May 9, 1996 or later FAA approved revision.

NOTE 4. The -5.0g limit load factor (Acrobatic Category) is required due to expected flight loads while accomplishing certain approved maneuvers. (Model 8KCAB)

NOTE 5. Optional engine and applicable limitations (Model 8KCAB)

Engine	Lycoming AEIO-360-H1A or AEIO-360-H1B
Fuel	91/96 minimum grade aviation gasoline 100/130 may be used 100% of the time.
Engine Limits	For all other operations, 2700 r.p.m. (180 hp.)
Propeller and Propeller Limits	<ol style="list-style-type: none"> 1. (a) Hartzell HC-C2YR-4CF/FC7666A-2 Diameter: not over 74 in., not under 72 in. Pitch setting at 30 in. sta.: low $11.0 \pm 0.2^{\circ}$, high $28.0 \pm 1.0^{\circ}$ (b) Hartzell spinner ass'y 836-52 (c) Woodward propeller governor D210688 (AEIO-360-H1A Engine Only) Woodward propeller governor B210988 (AEIO-360-H1B Engine Only) MT Propeller Governor P-880-3 (alternate for B210988) Aero-Tech Propeller Governor ATF6-58-1 (alternate for B210988) Aero-Tech Propeller Governor ATB210988 (alternate for B210988) (d) Placard required: "AVOID CONT. RPM 2000-2350-ALL OPER. 2600-2700 ACRO ONLY." <ol style="list-style-type: none"> 2. (a) MT MTV-15-B-C/C188-34 Diameter: 74 ± 0.2 in. Pitch setting at 27.75 in. sta.: low $9.0 \pm 0.2^{\circ}$, high $34.0 \pm 1.0^{\circ}$ (b) MT spinner ass'y (c) Woodward propeller governor D210688 (AEIO-360-H1A Engine Only) Woodward propeller governor B210988 (AEIO-360-H1B Engine Only) MT Propeller Governor P-880-3 (alternate for B210988) Aero-Tech Propeller Governor ATF6-58-1 (alternate for B210988) Aero-Tech Propeller Governor ATB210988 (alternate for B210988) (d) Placard required: "AVOID CONT. RPM 2600-2700 ACRO ONLY."

- 3. (a) MT MTV-9-B-C/C188-18b
or MT MTV-9-B-C/C188-18a
Diameter: 74 ± 0.2 in.
Pitch setting at 26.2 in. sta.: low 7.0 ± 0.2°, high 27.0 ± 1.0°
- (b) MT spinner ass'y P-208-C or P-282-1
- (c) Woodward propeller governor D210688 (AEIO-360-H1A Engine Only)
Woodward propeller governor B210988 (AEIO-360-H1B Engine Only)
MT Propeller Governor P-880-3 (alternate for B210988)
Aero-Tech Propeller Governor ATF6-58-1 (alternate for B210988)
Aero-Tech Propeller Governor ATB210988 (alternate for B210988)
- (d) Placard required: "AVOID CONT. RPM
2600-2700 ACRO ONLY."

Airspeed Limits (CAS) Never exceed	200 mph (174 knots)
Maximum Structural Cruising	160 mph (139 knots)
Maneuvering Normal Category	121 mph (105 knots)
Acrobatic Category	130 mph (113 knots)

C. G. Range (+13.5) to (+18.5) at 1800 lbs.
(Normal or Acrobatic) (+11.5) to (+18.5) at 1550 lbs. or less
Straight line variation between points given

NOTE 6. In order to comply with the requirements of Part 36 of the Federal Aviation Regulations, revised Engine Limits have been established for the Model 8GCBC (S/N 342-80 and up). The revised limits are:

Engine Limits Maximum normal operating power, 2550 r.p.m. (150 hp.)
For all other operations, 2700 r.p.m. (180 hp.)

These limits do not apply to 8GCBC equipped with an MT MTV-15-B/203-58 or MTV-9-190-18a propeller.

These limits do not apply to aircraft utilized for dispensing agricultural chemicals and fire fighting materials.

NOTE 7. Removed

NOTE 8. The following changes apply to 8KCAB aircraft serial numbers 934-2003 and up and to any other 8KCAB (180 hp.) that has 7-1535 wing frames (or 7-1521 covered wing frames), 4-2038 extended steel gear (or 4-2035 aluminum gear), and the Approved Flight Manual Supplement.

Airspeed Limits (CAS) Never exceed:	200 mph (174 knots)
Maximum Structural Cruising	160 mph (139 knots)
Maneuvering Normal Category	107 mph (93 knots)
Acrobatic Category	130 mph (113 knots)

Normal Category Operation
(+14.7) to (+18.5) at 1950 lb.
(+11.5) to (+18.5) at 1550 lb. or less

Acrobatic Category Operation:
(+13.5) to (+18.5) at 1800 lb.
(+11.5) to (+18.5) at 1550 lb. or less

Straight line variation between points given.
Maximum Weight Normal Category: 1950 lb.
Acrobatic Category: 1800 lb.