DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

A38CE
Revision 14
Textron Aviation
2000
November 27, 2017

TYPE CERTIFICATE DATA SHEET NO. A38CE

This data sheet which is part of the Type Certificate No. A38CE 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:	Textron Aviation Inc. One Cessna Boulevard Wichita, Kansas 67215
Type Certificate Holder Record:	Beech Aircraft Corporation transferred to Raytheon Aircraft Company on April 15, 1996 Raytheon Aircraft Company transferred to Hawker Beechcraft Company on March 26, 2007 Hawker Beechcraft Corporation transferred to Beechcraft Corporation on April 12, 2013 Beechcraft Corporation transferred to Textron Aviation Inc. on October 12, 2016

I. Model 2000, Starship 1 (Commuter Category), approved June 14, 1988

Engine	Two (2) United Aircraft of Canada, Ltd., or Pratt & Whitney of Canada PT6A-67A (turboprop) per P&WC Specification No. 950.
Fuel	JET A, JET A-1, and JET B conforming to P&WC S.B. 132044(2)(3) or ASTM Spec. D-1655; JP-4, JP-5 (MIL-T-5624); JP-8 (MIL-T-83133). See FAA Approved Airplane Flight Manual (AFM) for emergency fuels. Fuel not containing icing inhibitors must have MIL-I-27686 fuel system icing inhibitor added in amounts of not less than 0.06%, or more than 0.15% by volume. The FAA Approved AFM contains procedures for blending icing inhibitor to fuel.
Oil (Engine & Gearbox)	UACL PT6 Engine Service Bulletin No. 14001 lists approved brand oils.

I. Model 2000 (cont'd)

Engine limits

	Shaft HP	Torque	N1 Gas Generator Speed	Prop Shaft Speed	Max. Permissible Turbine Interstage Temp. (Deg. C)
Takeoff (5 min.)	1200	*100%	104%	1700	850°
Max. cont. *(1)*	1200	*100%	104%	1700	840°
Max. cont. *(2)*	1193	*100%	104%	1690	840°
Starting transient (5 sec.)					1000°

**100% torque - 3707 ft.-lb.*
(1) NC-4 thru NC-20
(2) NC-21 and on and NC-4 thru NC-20 with Beech Kit 122-3003

At low altitude and low ambient temperature, the engines may produce more power at takeoff than that for which the airplane has been certified. Under these conditions the displayed torque limitations shall not be exceeded. The AFM provides minimum torque settings for T.O. It must be possible to achieve these settings without exceeding ITT or N_1 limits.

Oil temperature: -40° C minimum starting
-40° C to 110°C idle
0° C to 110° C max. continuous

Propeller and propeller limits

Two (2) McCauley 5JFR36C1003 hubs, each with five (5) McCauley D-L104DSZ-0 blades
Diameter: 104 in. (maximum, no reduction permitted

Pitch settings at:	LH	RH
Flight idle stop	-----See NOTE 4-------	
Ground idle stop	-----See NOTE 5-------	
Feathered	90.9°	91.7°

Continuous ground idle between 700 and 1000 rpm is prohibited.

Continuous flight operation between 1450 and 1580 rpm is prohibited.

Airspeed limits (IAS)

S/N NC-4 thru NC-28

Max. operating speed, V_{MO}	250 knots up to 10,000 ft. Linear variation between 10,000 ft. and 12,000 ft. to 270 knots 270 knots from 12,000 ft. to 21,000 ft.
Max. operating Mach No., M_{MO}	.60 (above 21,000 ft.)

S/N NC-29 and on and NC-4 thru NC-28 with Beech Kit 122-9002

Max. operating speed, V_{MO}	245 knots up to 10,000 ft. Linear variation between 10,000 ft. and 12,000 ft. to 265 knots 265 knots from 12,000 ft. to 21,900 ft.
Max. operating Mach No., M_{MO}	.60 (above 21,900 ft.)

S/N NC-4 and on

Maneuvering speed, V_A	175 knots (S/N NC-4)
Maneuvering speed, V_A	181 knots (S/N NC-5 and on and NC-4 with Beech Service Bulletin No. 2343)
Gust penetration speed, V_B	192 knots
Max. flap extension speed (100% position, 14°), V_F	180 knots
Landing gear extended, V_{LE}	200 knots
Landing gear operating, V_{LO}	200 knots extending
Landing gear operating, V_{LO}	180 knots retracting

I. Model 2000 (cont'd)

C.G. Range (landing gear extended)

S/N NC-4
FS 314.6 to FS 320.0 at 14,400 lb.
FS 308.0 to FS 320.0 from 13,575 lb. and below

S/N NC-5 thru NC-20 and NC-4 with Beech Service Bulletin No. 2343
FS 309.4 to FS 320.0 at 14,400 lb.
FS 307.0 to FS 320.0 from 13,450 lb. and below

S/N NC-21 thru NC-28 and NC-4 thru NC-20 with Beech Kit 122-3003
FS 309.7 to FS 320.0 at 14,500 lb.
FS 307.0 to FS 320.0 from 13,450 lb. and below

S/N NC-29 and on and NC-4 thru NC-28 with Beech Kit 122-9002
FS 310.9 to FS 320.0 at 14,900 lb.
FS 307.0 to FS 320.0 from 13,450 lb. and below

Straight line variation between given points
Moment change due to flap/forward wing sweep and retraction of landing gear = +2316 in-lb.

Empty Weight C. G. Range: None

Datum: 86.2 inches forward of the center of the front jack point located at aft end of the nose gear door opening.

Leveling Means: The aircraft is leveled with a plumb bob using leveling points located at FS 176.40. The upper point is in the top main cabin door frame just forward of the top latch pin hole. The lower leveling point is in the bottom cabin door frame.

Maximum Weight

	(1)	*(2)*	*(3)*
Ramp	14,510 lb.	14,610 lb.	15,010 lb.
Takeoff	14,400 lb.	14,500 lb.	14,900 lb.
Landing	13,680 lb.	13,680 lb.	13,680 lb.
Zero fuel	12,200 lb.	12,200 lb.	12,600 lb.

(1) NC-4 thru NC-20
(2) NC-21 through NC-28 and NC-4 thru NC-20 with Beech Kit 122-3003
(3) NC-29 and On and NC-4 thru NC-28 with Beech Kit 122-9002

Minimum Crew: One pilot; or one pilot and one copilot
See NOTE 6

No. of Seats & Cargo Landing: Maximum 11 including crew at FS 143. See loading instructions in AFM for approved seating and cargo configurations.

Maximum baggage:
160 lbs. at FS 182 (forward)
250 lbs. at FS 340 (folded aft couch)
525 lbs. at FS 386 (aft)

Fuel Capacity

Tank	Cap. (gal.)	Usable (gal.)	Arm
S/N NC-4 thru NC-28			
Left side	269.0	267.0	+322.2
Right side	269.0	267.0	+322.2
S/N NC-29 and on and NC-4 thru NC-28 with Beech Kit 122-9002			
Left side	284.5	282.5	+321.0
Right side	284.5	282.5	+321.0

Oil Capacity: 32 qt. total (29 quart drainable) at FS 447.4 (includes 12 qt. usable in two integral engine tanks)

Maximum Operating Altitude: 41,000 ft.

I. Model 2000 (cont'd)

Control Surface Movements

Surface	Trailing Edge Position Up/Outboard	Neutral	Down/Inboard
Elevon tabs	10°	2° TEU	6°
Right elevon			
Roll deflections			
Pitch full aft	33°	9° TEU	9°
Pitch neutral	19°	2° TED	16°
Pitch full fwd	15°	5° TED	17°
Left elevon			
Roll deflections			
Pitch full aft	37°	13° TEU	5°
Pitch neutral	23°	2° TEU	12°
Pitch full fwd	19°	1° TED	13°
Elevator tabs***(1)	18°	0°	2°
Elevator tabs***(2)	20.5°	2.5° TEU	-0.5°
Elevator**	13°	0°	28°
Rudder tabs	18°	0°	18°
Rudder	34°	0°	34°
Wing flap maximum	14°		
Forward wing position (Sweep angle related to flap position)	Flaps down	-4° (fwd sweep)	
	Flaps up	30° (aft sweep)	

* Nominal Values - See Model 2000 Maintenance Manual for rigging instructions, deflections, and corresponding tolerances.
** Elevator TEU = A/C pitch down; TED = A/C pitch up
*** Initial rigging only. Final rigging is by flight test in accordance with the Model 2000 Maintenance Manual.
(1) NC-4 thru NC-28
(2) NC-29 and on and NC-4 thru NC-28 with Beech Kit 122-9002.

Serial Nos eligible

NC-4 and On

Certification Basis

FAR Part 23, effective February 1, 1965, as amended by Amendments 23-1 through 23-34; Special FAR No. 27, effective February 1, 1974, as amended by Amendments 27-1 through 27-5; FAR Part 36 as amended by Amendments 36-1 through 36-15; Special Conditions No. 23-ACE-11 and Exemption No. 4827 from compliance with Section 23.807(d)(1)(i), Exemption No. 5094 from compliance with Section 23.207(c) and Exemption 5411 from Sections 23.473(c) and 23.1001. Compliance with ice protection has been demonstrated in accordance with FAR 23.1419.

Equivalent Safety Items

(1)	Landing Gear Warning	FAR 23.729(f)(2)
(2)	RPM Control Knob	FAR 23.781(b)
(3)	Fuel Pressure Gauge	FAR 23.1305(g)
(4)	Powerplant Instrument Markings Torque/ITT	FAR 23.1549(b) and (c)

Application for Type Certificate dated February 2, 1987. Type Certificate No. A38CE issued June 14, 1988, obtained by manufacturer under Delegation Option Procedures.

Production Basis

S/N NC-5, NC-11 and On, Production Certificate No. 8

S/N NC-4 and NC-6 through NC-10, prior to original certification of each aircraft, an FAA representative performed a detailed inspection for workmanship, materials, and conformity with the approved technical data, and a check of the flight characteristics.

Delegation Option Manufacturer No. CE-2 authorized to issue airworthiness certificate under delegation provisions of Part 21 of the Federal Aviation Regulations.

I. Model 2000 (cont'd)

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 of equipment are required.

1. Crew member oxygen mask, Beech P/N 101-384220-5, or EROS, P/N MC-10-15-10, or Beech P/N 101-384220-7, or SCOTT-EROS P/N MC-10-15-12, or Beech P/N 101-384220-9, or SCOTT-EROS P/N MC-10-15-18.

Data Pertinent to All Models

NOTE 1. Current weight and balance data, loading information, and a list of equipment included in empty weight must be provided for each airplane at the time of original certification.

(a) Basic empty weight includes unusable fuel of 38.0 lbs. at (326.0 in.) with 10.5 lbs. being undrainable.
(b) Basic empty weight includes engine oil of 58.5 lbs. at (447.4 in.).

NOTE 2. All placards required in the FAA Approved Airplane Flight Manual (AFM) must be installed in the appropriate location. The following AFM's are applicable:

Beech Part Number	122-590013-3G (S/N NC-4 thru NC-20 only)
Beech Part Number	122-590013-23 (S/N NC-21 thru NC-28; NC-4 thru NC-20 with Beech Kit 122-3003)
Beech Part Number	122-590013-37 (S/N NC-29 and on; NC-4 thru NC-28 with Beech Kit 122-9002)

NOTE 3. Mandatory retirement times and inspection times are contained in the Limitations Section, Chapter 4, of the FAA Approved Model 2000 Maintenance Manual. These limitations may not be changed without FAA Approval.

NOTE 4. The flight idle stop is set to absorb 17.5% torque at 1500 propeller rpm, sea level std. day.

NOTE 5. The ground idle stop is set to absorb 9.5% torque at 1500 propeller rpm, sea level std. day.

NOTE 6. Airplane S/N's NC-4 through NC-22 must be modified by Beechcraft Kit P/N 122-3001 prior to operations with one pilot. Except where otherwise prescribed by the appropriate operating regulations:

(a) One pilot with a BE2000S type rating. Pilot must adhere to single pilot equipment requirements contained in the AFM Kinds of Operations Equipment List; or
(b) One pilot and one co-pilot. Pilot must have a BE-2000 or BE-2000S type rating.

NOTE 7. Single Pilot Operation under 14 CFR Part 135 is permitted for the Model 2000. The Kansas City Airplane Evaluation Group evaluated the Model 2000 and determined that it complies with 14 CFR Part 135.163(e). See FAA Policy memorandum dated February 17, 2000. "INFORMATION: Alternate Static Source, SFS-1 Memo of 12/13/99."

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