DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION

A00016WI Revision 0 Textron Aviation Inc. 408 March 11, 2022

TYPE CERTIFICATE DATA SHEET NO. A00016WI

This data sheet which is part of Type Certificate No. A00016WI 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

I. Model 408 (Normal Category) Approved March 11, 2022

Engines

Two Pratt & Whitney PT6A-65SC (turboprop)

Engine Limits

	Shaft Horsepower	Torque (%)**	N1 Gas Generator Speed (%)*	Prop Shaft Speed (rpm)*	Max. Permissible Interstage Turbine Temp (°C)
Takeoff	1110	100	104	1700	830
Max. continuous	1110	100	104	1700	815
Max. cruise	980	100	104	1500	780
Starting transient (5 sec)					1000
Max. reverse (1 min)	900			1650	760
*See NOTE 6					
**100% = 3,429 lb-ft					

Fuel

FUEL TYPE	SPECIFICATION
JP-8	MIL-DTL-83133
JET A, A-1	ASTM SPEC. D1655
Chinese No.3 Jet Fuel	SAC GB 6537
рт	GOST 10227 or
K1	GSTU 320.00149943.007
TS-1	GOST 10227 or
	GSTU 320.00149943.011

Fuel capacity

Oil

Total usable fuel 4,826 lb. (720 gal). Two wing tanks with 2,413 lb. (360 gal) usable each (See NOTE 1 for unusable); +296.81 in. aft of datum.

Pratt & Whitney Maintenance Manual, Document No. 3135622, lists approved brand oils.

(Engine & Gearbox)

Engine Oil Capacity 7.2 gal. total (3.6 gal. per each engine) at +242.33 in. (1.5 gal. usable in each integral engine tank). See NOTE 1.

Oil temperaturesMinus 40°C minimum starting
32°C to 99°C normal operating
>99°C to 110°C limited to 10 minutes
Refer to the Airplane Flight Manual (AFM) for other oil temperature limits.

Page No.	1	2	3	4
Rev. No.	0	0	0	0

I.	Model 408 (cont'd)				
	Propeller and Propeller Limits	Two McCauley 4-blade, full feathering and reversible, metal propo Model: 4HFR34C779/110FDA-0		llers	
		Diameter: 110 in. (maximum); Minimum Allowable for repairs: 108 in.			
		No further reduction permitted Pitch Settings at: Reverse -9.0 +/- 0.2 degrees			
		Fe	athered +88.0 +/- 0.2 degrees		
		See McCaulo	ey Propeller TCDS P3NE for addit	tional details and lim	itations.
	Airspeed Limitations:				
		V _{MO} (Maxin	num operating speed)		
		Sea Lev	vel (0 ft.) to 12,614 ft.	210 KIAS (210 K	CAS)
		M_{MO} above 12,614 ft.		0.40 MI (0.40 MA ea Level)	(CH calibrated)
		19.000	lb.	151 KIAS (151 K	CAS)
		See AF	M for variations with weight and a	ltitude.	,
		V _{RA} (Rough	air speed)	179 KIAS (179 K	CAS)
		E1		0.40 M _I (0.40 MA	CH calibrated)
		$V_{\rm FF}$ (Ur	Flap extension speeds V_{TE} (Up (0°) to 1 (10°) extension)		(CAS)
		V_{FE} (1 (10°) to 2 (20°) extension)		170 KIAS (169 K	CAS)
		Vfe (2 (20°) to Full (35°) extension)	140 KIAS (137 K	CAS)
		Minimum C	Minimum Control Speeds (V_{MCA} and V_{MCG})		ction IV, Performance
		Maximum T	Maximum Tire Ground Speed		
	C.G. Range Design C.G. Limits:				
		Forward:	FS 276.56 in. at 10,800 lb. to 14 Linear variation from FS 276.56	4,330 lb. 5 in. at 14,330 lb. to l	FS 281.94 in. at 19,000 lb.
		Aft: Linear variation from FS 290.62 in. at 10,80 FS 292.70 in. at 16,500 lb. to 19,000 lb.		2 in. at 10,800 lb. to l 9,000 lb.	FS 292.70 in. at 16,500 lb.
	Empty Wt. C.G. Range	None			
	Maximum Weight:	Ramp:	19,070 lb.		
Takeoff: 19,000 lb.		19,000 lb.			
		Landing:	18,600 lb.		
		Zero Fuel:	Refer to AFM		
	Minimum Crew for all Flights	One Pilot			
	Number of Seats:	 The maximum number of passenger seats approved: a. Passenger variant is 19. b. Freighter variant is 0. Reference Weight and Balance Data in AFM for approved seating and cargo configurations. 			
	Cabin Loading:			and cargo configurations.	
	Maximum Baggage:	Nose Compa	artment:		300 lb.
		Passenger Variant Aft Baggage Compartment (including shelf):			1,200 lb.
		Freighter Variant Cargo Compartment (including shelf): 6,000 lb.			
		Aft Baggage	Compartment Shelf:		400 lb.

I. Model 408 (cont'd)

Maximum Operating 25,000 ft. Altitude:

Control Surface Movements (Up/Down/Left/Right refers to motion of the trailing edge of each control surface):

Elevator	Up	24.0 +1.0/-0.0 degrees
	Down	15.0 +/-1.0 degrees
Elevator Tab	Up	6.5 +/-1.0 degrees
	Down	13.0 +/-1.0 degrees
Rudder	Right	30.5 +/-0.5 degrees
	Left	30.5 +/-0.5 degrees
Rudder Tab	Right	11.0 +/-0.5 degrees
	Left	11.0 +/-0.5 degrees
Aileron Left and Right	Up	17.5 +1.0/-0.0 degrees
	Down	17.5 +/-1.0 degrees
Aileron Tab Right	Up	13.0 +/-1.0 degrees
	Down	13.0 +/-1.0 degrees
Wing Flap	Up	0.0 +/-0.1 degrees
	1	10.0 +/-1.0 degrees
	2	20.0 +/-1.0 degrees
	Full	35.0 +/-1.0 degrees

See Airplane Maintenance Manual for rigging instructions.

Serial Nos. Eligible:	408-0001 and On
Datum	91.89 in. forward of nose jack point.
Leveling Means	<u>Longitudinal:</u> Place level directly on the outboard pilot seat rail and ensure it is parallel with the seat rail. <u>Lateral</u> : Place the leveling bar across the pilot seat rails flush against the rear seat stops at approximately FS 163.98 in.

Certification Basis:

- 1. 14 CFR Part 23, effective February 1, 1965, including Amendments 23-1 through 23-64.
- 2. The detailed design standards used as a means of compliance in accordance with § 23.2010 are documented in PR-408-001, Model 408 Detailed Design Standard Collector.
- 3. Special Conditions. At this time, no special conditions have been identified.
- 4. Equivalent Safety. At this time, no equivalent safety findings have been identified.
- 5. Exemptions. At this time, no exemptions have been identified.
- 6. Additional Design Requirements and Conditions. At this time, no additional design requirements have been identified.
- 7. Optional Design Regulations. The Model 408 complies with the following optional design regulations:

Ice protection in accordance with § 23.2165 Performance and Flight Characteristics Requirements for Flight in Icing Conditions and §23.2540 Flight in Icing Conditions provided the optional ice protection systems are installed. Refer to the AFM for limitations.

- 8. § 23.2005 Certification Level and Performance Level:
 - a. Freighter Variant Level 1, Low Speed
 - b. Passenger Variant Level 4, Low Speed

I. <u>Model 408</u> (cont'd)

Environmental Standards:

- 1. Noise Standards: 14 CFR Part 36, as amended by Amendments 36-1 through 36-31.
- 2. Noise Standards: A finding of regulatory adequacy pursuant to the "Noise Control Act of 1972" (49 USC Section 44715).
- 3. Fuel Venting and Exhaust Emissions Standards: 14 CFR Part 34, as amended by Amendments 34-1 through 34-5A.

Production Basis: None

Equipment:

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

Data Pertinent to all Models

NOTE 1. Current weight and balance information, including list of equipment included in certificated empty weight, and loading instructions are provided for each airplane at the time of original certification.

The certificated empty weight and corresponding center of gravity location must include:

Unusable Fuel	39.80 lb. at +296.69 in.
Full Oil	58.32 lb. at +242.33 in.

- NOTE 2. Airplanes must be operated according to the FAA Approved AFM, part number 408FM-00 AFM Volume 1, 408NP-00 AFM Volume 2 Normal Procedures, and 408EAP-00 AFM Volume 3 Emergency/ Abnormal Procedures (or later FAA approved revision). All placards required by either the FAA Approved AFM, the applicable operating rules, or the certification basis, must be installed as specified for this Type Certificate via Parts List 7800000, Airplane Assembly. A useful placard reference is the Textron Aviation Illustrated Parts Catalogue (IPC). Any discrepancies identified between the IPC and an aircraft under inspection needs to be reconciled using the previously stated parts list.
- NOTE 3. See Airworthiness Limitations Manual (Chapter 4) for inspections, mandatory retirement life information, and other requirements for continued airworthiness.
- NOTE 4. Aircraft definition for Type Certificate is Parts List 7800000, Airplane Assembly.
- NOTE 5. Certification Maintenance Requirements (CMR) are found in Airworthiness Limitations Manual, Chapter 4. Engineering approval of the CMRs is documented in the Textron Aviation System Safety Assessment reports.
- NOTE 6. The maximum propeller shaft overspeed limit is 110 percent (1,870 rpm) in an emergency to complete flight. 100 percent propeller shaft speed is defined as 1,700 rpm and is the normal steady state operating limit. Gas generator speeds up to 104 percent are approved for unlimited periods subject to applicable temperature and other limits. 100 percent gas generator speed is defined as 37,468 rpm.

---- END ----