TYPE CERTIFICATE DATA SHEET No. 2023T03

Type Certificate Holder:

TEXTRON AVIATION INC.
One Cessna Boulevard
Wichita, Kansas 67215

State of Design Reference Document: FAA TCDS A00016WI, Revision 1, dated 25 Aug 2022

EA-2023T03

TEXTRON

408

27 June 2023

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 Civil Aviation Regulations.

I - MODEL 408 (Normal Category), approved on 27 June 2023.

ENGINE

Two Pratt & Whitney PT6A-65SC (turboprop)

FUEL

Type:	Specifications:
JP-8	MIL-DTL-83133
JET A, A-1	ASTM SPEC. D1655
Chinese No.3 Jet Fuel	SAC GB 6537
RT	GOST 10227 or GSTU 320.00149943.007
TS-1	GOST 10227 or GSTU 320.00149943.011

FUEL CAPACITY

Total usable fuel 2 189,0 kg (4,826 lb) (18 268,4 l (720 gal)). Two wing tanks with 1094,5 kg (2,413 lb) (1 362,8 l (360 gal)) usable each (See NOTE 1 for unusable); +7,5 m (+296.81 in) aft of datum.

ENGINE LIMITS

	Shaft Horsepower	Torque (%)**	N1 Gas Generator Speed (%)*	Prop Shaft Speed (rpm)*	Max. Permissible Interstage Turbine Temp (ºC)
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)					
*See NOTE 6 **100% = 3,429 lb-ft					

OIL Engine & Gearbox:
Pratt & Whitney Maintenance Manual, Document No. 3135622, lists approved brand oils

OIL TEMPERATURE

	°C
Maximum Permissible (10 minutes maximum):	+110
Maximum continuous:	+99
Minimum for starting:	+40

Refer to the Airplane Flight Manual (AFM) for other oil temperature limits.

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.

PROPPELLER LIMITS

Model: 4HFR34C779/110FDA-0

Diameter Maximum:	2,79 m (110 in)
Diameter Minimum Allowable for repairs:	2,74 m (108 in)

No further reduction permitted

Pitch Settings at: Reverse -9.0 +/- 0.2 degrees
Feathered +88.0 +/- 0.2 degrees

* See McCauley Propeller TCDS P3NE for additional details and limitations.

AIRSPEED LIMITS

Maximum operating (V_{MO}): Sea level to 3 844,7 m (12,614 ft):	210 KIAS (210 kcas)
Maximum operating (M_{MO}): above 3 844,7 m (12,614 ft):	0.40 MI (0.40 MACH calibrated)
Maximum operating (V_O): maneuvering speed Sea Level to 8 618,2 kg (19,000 ft): See AFM for variations with weight and altitude.	151 KIAS (151 kcas)
Rough air speed (V_{RA}):	179 KIAS (179 kcas) 0.40 MI (0.40 MACH calibrated)
Flaps extended (V_{FE}):	
V_{FE} (Up (0°) to 1 (10°) extension)	170 KIAS (170 kcas)
V_{FE} (1 (10°) to 2 (20°) extension)	170 KIAS (169 kcas)
V_{FE} (2 (20°) to Full (35°) extension)	140 KIAS (137 kcas)
Minimum Control Speeds (V_{MCA} and V_{MCG}):	Refer to AFM Section IV, Performance
Maximum Tire Ground Speed:	139 knots

CENTER OF GRAVITY RANGE DESIGN C.G. LIMITS

Forward:	FS 7,02 m (276.56 in) at 4 898,8 kg (10,800 lb) to 6 500,0 kg (14,330 lb). Linear variation from FS 7,02 m (276.56 in) at 6 500,0 kg (14,330 lb). to FS 7,16 m (281.94 in) at 8 618,2 kg (19,000 lb).
Aft:	Linear variation from FS 7,38 m (290.62 in) at 4 898,8 kg (10,800 lb) to FS 7,43 m (292.70 in) at 7 484,3 kg (16,500 lb). FS 7,43 m (292.70 in) at 7 484,3 kg (16,500 lb) to 8 618,2 kg (19,000 lb).

EMPTY WT. CENTER OF GRAVITY RANGE

None

MAXIMUM WEIGHT (see NOTE 1)

	kg (lb)
Takeoff:	8 618,2 (19,000)
Landing:	8 436,8 (18,600)
Zero Fuel:	Refer to AFM
Ramp:	8 650,0 (19,070)

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.

CABIN LOADING

Reference Weight and Balance Data in AFM for approved seating and cargo configurations

MAXIMUM BAGGAGE

Nose Compartment:	136,1 kg (300 lb).
Passenger Variant Aft Baggage Compartment (including shelf):	544,3 kg (1,200 lb).
Freighter Variant Cargo Compartment (including shelf):	2 721,6 kg (6,000 lb)
Passenger Variant Overhead Bin (each):	27,2 kg (60 lb).
Aft Baggage Compartment Shelf:	181,4 kg (400 lb).

MAXIMUM OPERATING ALTITUDE

7 620 m (25,000 ft)

CONTROL SURFACE MOVEMENTS

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

See Airplane Maintenance Manual for rigging instructions.

S/N ELIGIBLE

408-0001 and On

DATUM

2,33 m (91.89 in) forward of nose jack point.

LEVELING MEANS

Longitudinal: Place level directly on the outboard pilot seat rail and ensure it is parallel with the seat rail.
Lateral: Place the leveling bar across the pilot seat rails flush against the rear seat stops at approximately FS 4,16 m (163.98 in.

CERTIFICATION BASIS

1. RBAC 23 Amendment 64, which corresponds to the 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. No special conditions have been identified.
4. Equivalent Safety. No equivalent safety findings have been identified.
5. Exemptions. No exemptions have been identified.
6. Additional Design Requirements and Conditions. 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

ENVIRONMENTAL STANDARDS:

1. Noise Standards: RBAC 36, which corresponds to the FAA 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: RBAC 34, which corresponds to 14 CFR Part 34, as amended by Amendments 34-1 through 34-5A.

PRODUCTION BASIS

Production Certificate No. 4 amended to Model 408, effective June 6, 2022. See NOTE 7 for airplane serial effectivity of Production Certificate No. 4 on new airplanes serials.

EQUIPMENT

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

NOTES:

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	18,05 kg (39.80 lb) at +7,54 m (+296.69 in)
Full Oil	26,45 kg (58.32 lb) at +6,16 m (+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.

NOTE 7

The following serials will be certified TC only: 408-0001 through 408-0008. Production Certificate No. 4 applies to the following Model 408 serial numbers: 408-0009 and On.

NOTE 8

Markings and placards. All markings and placards for passenger information, external markings for emergency, and load limits in cargo/baggage compartments must be presented in Portuguese or bilingual. A list of these placards and the respective translations acceptable to ANAC is provided in the reports referred in the Import Requirements Item.

For the approved markings and placards translations contact the TC holder or STC holder (as applicable) and/or ANAC at the following address: progcert@anac.gov.br..

---------- *END* ----------

LATEST CHANGE RECORD

Revision 00: Dated: 27 Jun 2023
(Original version)

This TCDS is available at ANAC website:
https://sistemas.anac.gov.br/certificacao/Produtos/EspecificacaoOrgE.asp