Civil Aviation Authority
United Kingdom

TYPE-CERTIFICATE DATA SHEET

UK.TC.A.00092

for

Model 3000

Type Certificate Holder

Textron Aviation Defense LLC

9709 East Central

Wichita, Kansas 67206

United States of America

Model(s):	Model 3000 (PM Series)
Issue:	1
Date of issue:	14 November 2023

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Section 1 Model 3000 (PM Series)

I. General

This Type-Certificate Data Sheet (TCDS) is the concise definition of the type-certificated product accepted and or approved by the CAA in the UK for the affected types and models.

This TCDS includes:

1. Details of the type design that affect the TCDS that have been approved or accepted by the CAA in the UK since 01 January 2021.
2. Details of the type design that affected the TCDS and were approved or accepted by EASA before 31 december 2020, and were incorporated into EASA TCDS EASA.IM.A.636 at Issue 4 dated 06 March 2020 and are therefore accepted by the UK under Article 15 of Annex 30 of the UK-EU Trade and Cooperation Agreement.
3. All EASA approved or accepted Changes, including manuals and any other data that is considered part of Type Design are deemed to be UK-CAA approved if issued before 31 December 2020. Any changes after this date to Type Design Data must be shown to be UK-CAA approved or accepted.

1. Type / Variant / Model

a) Type: Model 3000
b) Variant or Model: N/A

2. Type Certificate Holder

Textron Aviation Defense LLC
9709 East Central
Wichita, Kanas 67206
United States of America

II. Certification Basis

1. Reference Date for determining the applicable requirements is 15 January 1996.

2. Airworthiness Requirements

   Textron Aviation Defense LLC elects to comply with CS-23 Amendment 1, dated 12 February 2009

   CS- ACNS, Airborne Communications, Navigiation and Surveillance, initial issue, dated 17 December 2013

3. Special Conditions

   B-02 High Speed Characteristics

   B-52 Human Factors

   C-03 Speed Margins

   C-03 Yawing Manoeuvre

   D-01 Take-Off Warning System

   D-02 Extension and Retraction Systems

   D-03 Wheels

   D-04 Brakes and Braking Systems

   D-05 Doors

   D-06 Bird Strike

   D-102 Emergency Exits / Canopy Fracturing System

   D-103 Ejection Seat

   E-101 Digital Electronic engine/propeller control PMU

   E-114 Suction Defuel

D-117 Protection of the Digital Electronic Engine/Propeller (Power Management Unit) from the Indirect Effects of Lightning

F-02 Hydraulic Systems

F-52 High Intensity Radiated Fields (HIRF) Protection

F-54 Lightning Protection – Indirect Effects (IEL)

F-101 OBOGS

F-104 HUD Certification

4. Exemptions

Not available under UK regulations

5. Deviations

(Reserved)

6. Equivalent Safety Findings

C-106 Emergency landing dynamic conditions – HIC

C-107 Emergency landing dynamic conditions – lumbar loads

D-105 Emergency Evacuation Provisions

D-106 Fire Extinguisher

D-107 Cabin Pressure Altitude Warning Indication

D-203 Canopy Fracture Initiation System (CFIS-B)

E-115 Single Power Control Lever

E-116 Digital Propeller Tachometer and Markings

F-103 Electronic Standby Direction Indicator

ESF 23.841-01 (FAA TXTAV-106452-A-SM1) Cabin rate of climb indicator removal

ESF 23.1555-01 (FAA TXTAV-106452-A-SM2) Yellow-black markings

7. Environmental Protection

CS-34 – Aircraft Engine Emissions and Fuel Venting, of 23 January 2013;

CS-36 – Aircraft Noise, of 23 January 2013

III. Technical Characteristic and Operating Limitations

1. Type Design Definition: As defined in Textron Aviation Defense LLC Build Standard Definition, report 133E702051 latest approved or accepted revision.

2. Description

The Model 3000 is a low wing monoplane with a pressurized, two-place stepped tandem seating cockpit. Power is provided by a Pratt & Whitney Canada (P&WC) PT6A-68 turboprop engine. The engine drives a four-blade constant speed Hartzell propeller. The fuel system configuration is composed of two integral wing storage tanks and a collector tank with a combined usable quantity of 1,100 pounds (498.95Kg). Flight controls are manual with electric trim. A hydraulic system powers the flaps, landing gear, nose-wheel steering and speed brake. A vapor cycle air conditioner/bleed air inflow system provides environmental control in the cockpits. Aircrew oxygen is provided by an Onboard Oxygen Generating System (OBOGS). Direct current (DC) electricity powers the aircraft‘s electrical system. The aircraft is approved for day and night operation in instrument flight rules (IFR) weather conditions.

3. Equipment

The basic required equipment as prescribed in applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification. (See Limitations Section of CAA Approved Airplane Flight

Manual for Kinds of Operation equipment list.) All pilots and occupants must receive TA Defense approved egress training and wear TA Defense approved flight apparel per the AFM.

4. Dimensions

Wing Span	10.19 m (33 feet 5 inches)
Length	10.16 m (33 feet 4 inches)
Height	3.25 m (10 feet 8 inches)
Landing Gear Track	2.54 m (8 feet 4 inches)
Landing Gear Wheel Base	2.31 m (7 feet 7 inches)
Fuselage Width	0.96 m (38 inches) maximum
Propeller Diameter	2.46 m (97 inches)

5. Engine

5.1. Model PT6A-68

Pratt and Whitney of Canada, Ltd. of United Technologies Corp.
Pratt and Whitney Division PT6A-68 (turboprop).

5.2 Type Certificate EASA.IM.E.038 (see Transport Canada TCDS E-24)

5.3 Limits

Shaft horsepower	N_1 Gas Generator Speed (%)		Prop Shaft Speed (RPM)	Maximum Permissible Turbine Interstage Turbine (Deg. C)
Take Off	1100	104%	2000	820
Maximum Continuous	1100	104%	2000	820
Ground Idle	-	51% min.	-	750
Starting	-	-	-	1000 (5 sec.)
Transient	1447 (20 sec.)	104%	2200	870 (20 sec.)

6. Load factors

Aircraft symmetrical load factor envelope is +7g, -3.5g (non-stores aircraft)

7. Propeller

7.1 Model	Hartzell HC-E4A–2 ( ) Hub with E9612 Blades
7.2 Type Certificate	EASA.IM.P.133
7.3 Number of blades	4
7.4 Diameter	246.38 cm (97 Inches)
7.5 Sense of Rotation	Clockwise, when viewed from the engine side of the propeller

8. Fluids

8.1 Fuel

JP-4, JP-5, JP-8, JET-A, JET-A1, and JET-B.
Anti-Icing Additive per MIL-I-85470 is required in concentration of .10% - .15% by volume.

8.2 Oil

Pratt and Whitney Service Bulletin No. 18001 lists approved brand oils.

8.3 Coolant

N/A

9. Fluid capacities

9.1 Fuel

TANK	CAP Litres (GAL)	USABLE Litres (GAL)	ARM cm (inches)
LH	348.26 (92.0)	340.69 (90.0)	+431.29 (+169.8)
RH	348.26 (92.0)	340.69 (90.0)	+431.29 (+169.8)

See Note 1 for data on unusable and undrainable fuel.

Note: Fuel tanks are interconnected and function as one tank. Fuel is free to flow between tanks. Total usable fuel 348.26 l (90.0 gal) + 348.26 l (90.0 gal) = 681.37 l (180 gallons)

9.2 Oil

17 l (18 Quarts) total at F. S. 89.4
See Note 1 for data on undrainable oil.

9.3 Coolant system capacity N/A

10. Air Speeds (KIAS)

Maximum Operating Speed	316
Maximum Operating Mach No.	0.67
Maximum Flap Extension Speed	150
Landing Gear Extended	150
Manoeuvring Speed	227

11. Maximum Operating Altitude — 31 000 ft
12. Approved Operations Capability — VFR Day and Night
IFR Day and Night
13. Maximum Masses

Ramp	3152 kg (6950 lbs)
Takeoff	3130 kg (6900 lbs)
Landing	3130 kg (6900 lbs)
Zero Fuel	2654 kg (5850 lbs)

14. Centre of Gravity Range (Landing Gear Extended)

Fuelled C.G. Range (Landing Gear Extended)

Allowable Forward C.G. up to 2653.52 kg (5850 lbs) at F.S. 418.26 cm (164.67 in)

Allowable Forward C.G. from 2653.52 kg (5850 lbs) at F.S. 418.26 cm (164.67 in) to 3129.79 kg (6900 lbs) at F.S. 420.24 cm (165.45 in)

Allowable Forward C.G. from 3129.79 kg (6900 lbs) up to 3152.47 kg (6950 lbs) at F.S. 420.24 cm (165.45 in)

Allowable Aft C.G. up to 3152.47 kg (6950 lbs) at F.S. 430.15 cm (169.35 in)

Zero Fuel C.G. Range (Landing Gear Extended)

Allowable Forward C.G. up to 2653.52 kg (5850 lbs) at F.S. 418.59 cm (164.80 in)

Allowable Aft C.G. up to 2653.52 kg (5850 lbs) at F.S. 429.82 cm (169.22 in)

Empty Weight C.G. Range (Landing Gear Extended)

Allowable Forward C.G. up to 2370.02 kg (5225 lbs) at F.S. 418.90 cm (164.92 in)

Allowable Aft C.G. from 2199.92 kg (4850 lbs) at F.S. 418.90 cm (164.92 in) to 2370.02 kg (5225 lbs) at F.S. 419.66 cm (165.22 in)

15. Datum — Firewall Location F.S. 299.97 cm (118.1 in)

16. Control surface deflections

Rudder	Right 24°	Left 24°
Rudder Tab	Right 6°	Left 11°
Elevators	Up 18°	Down 16°
Elevator Trim Tab	Up 5.5°	Down 22°
Ailerons	Up 20°	Down 11°
Aileron Trim	Biased Centering Spring	
Wing Flap	Takeoff 23°	Landing 50°
Speedbrake	67.5°	

17. Levelling Means — Inclinometer on canopy rail measuring -6.00 degrees

18. Minimum Flight Crew — One (1) Pilot

19. Maximum Seating Capacity — Two (2)

20. Baggage/Cargo Compartments — 36.29 kg (80 Lbs) F.S. 688.34 cm (271.0 in)

21. Wheels and Tyres — Refer to Textron Aviation Defense Maintenance Manual (133-590075-007):
- Chapter 32-40-01 for applicable MLG wheel size
- Chapter 32-40-02 for applicable NLG wheel size

Refer to Component Maintenance Manual 133-590075-0045 Chapter 32-45-26 for MLG Tire size (20x4.4)

Refer to Component Maintenance Manual 133-590075-0021 Chapter 32-47-24 for NLG Tire size (16x4.4)

22. OBOGS — The On-Board Oxygen Generating System (OBOGS) requires overhaul or replacement every 4500 hours, see A.IV. 2.

IV. Operating and Service Instructions

1. Flight Manual — P/N 133-590066-0005 Revision 5 or later approved revision

Airplane Flight Manual Supplements

P/N 133-590066-0043 Revision 0 or later approved revision

P/N 133-590066-0039, Revision 0 or later approved revision

P/N 133-590066-0033, Revision 0 or later approved revision

P/N 133-590066-0049, Revision 0 or later approved revision

2. Maintenance Manual — P/N 133-590075-0007 Revision 5 or later approved revision

This aircraft is equipped with an On-Board Oxygen Generating System (OBOGS). The Oxygen Concentrator (P/N 3261132-0106 or

	later approved configuration, quantity 1) and the Oxygen Regulators (P/N 3260050-0403 or later approved configuration, quantity 2) require overhaul or replacement every 4500 hours.
3. Structural Repair Manual	P/N 133-590075-0015 Revision 4 or later approved revision
4. Weight and Balance Manual	
Sample Basic Weight	P/N 133-590075-0051 Revision 0 or later approved revision
Loading Data,	P/N 133-590075-0053 Revision 2 or later approved revision
5. Illustrated Parts Catalogue	P/N 133-590075-0009 Revision 5 or later approved revision

V. Operational Suitability Data

1. OSD MCS Content	133E703672 Rev.-

VI. Notes

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 18.91 kg (41.7 lb) at 425.96 cm (167.7 in) with 6.58 kg (14.5 lb) being undrainable.

(b) Basic empty weight includes engine oil of 16.49 kg (36.35 lb) at 227.08 cm (89.4 in) with 1.16 kg (2.55 lb) being undrainable.

NOTE 2. All placards required in the Model 3000 CAA approved AFM P/N 133-590066-0005 as determined applicable by aircraft serial number must be installed in the appropriate location.

NOTE 3. A mandatory retirement time for all structural components is contained in the CAA Approved Limitations Section of the Model 3000 Maintenance Manual, P/N 133-590075-0007.

NOTE 4. Zero and negative G flight.

a) Intentional zero G is limited to 5 seconds.

b) Negative G operation (including inverted) is limited to 60 seconds.

c) The following sustained negative G limitations ensure recovery of the centre section fuel tank:

(i) With fuel greater than 90.72 kg (200 lbs) per side at the manoeuvre entry point – unrestricted number of negative G manoeuvres within 60 seconds followed by 30 seconds upright (positive G) flight before conducting additional negative G manoeuvres.

(ii) With fuel, less than 90.72 kg (200 lbs) per side at the manoeuvre entry point - unrestricted number of negative G manoeuvres within 60 seconds followed by 60 seconds upright (positive G) flight before conducting additional negative G manoeuvres.

(iii) Do not exceed -2.5G for negative G operation longer than 30 seconds.

NOTE 5. Airplane must be operated in accordance with Model 3000 CAA Approved AFM P/N 133-590066-0005 as determined applicable by aircraft serial number.

NOTE 6. This aircraft contains a canopy fracturing system and ejection seat system that was CAA approved based on the Special Conditions provisions on 21A.16(a). Due to the uniqueness of this equipment, corresponding Operational characteristics, and need for recurring maintenance activity, all ejection seat training, maintenance, and component replacement schedules must be conducted in accordance with the CAA approved Airworthiness Limitations Section of Maintenance Manual P/N 133-590075-0007.

NOTE 7. This aircraft incorporates design features which install components in the fire zone (forward of the firewall) that normally are not installed in a fire zone (i.e. battery, nose gear actuator, tire, etc.). These components required special tests and/or analyses to ensure no additional hazard was caused when exposed to the effects of an engine fire. Any replacement of non-original components in this area must meet original airworthiness requirements.

NOTE 8. Prior to issuance of a UK Certificate of Airworthiness, the airplane must be modified in accordance with drawing 133-005004 for Model 3000 as determined applicable by aircraft serial number.

NOTE 9. deleted

NOTE 10. Company name change effective 5/5/2017. The following serial numbers are manufactured under the name of Textron Aviation Defense LLC: PM-103 and after; PN-253 and after.

Section 2 Administration

I. Acronyms and Abbreviations

ACNS:	Airborne Communications, Navigation and Surveillance
APU:	Auxiliary Power Unit
Am	Amendment
AWO:	All Weather Operation
CAA	Civil Aviation Authority
CRI:	Certification Review Item
CS:	Certification Specification
EASA:	European Union Aviation Safety Agency
ESF:	Equivalent Safety Finding
FAA:	Federal Aviation Administration
FAR	Federal Airworthiness Requirement
FCD	Flight Crew Data
ICAO:	International Civil Aviation Organization
JAR:	Joint Aviation Requirement
MMEL:	Master Minimum Equipment List
MEL:	Minimum Equipment List
NPA:	Notice of Proposed Amendment
OSD	Operational Suitability Data
INT/POL:	JAA Interim Policy
RVSM:	Reduced Vertical Separation Minima
SB:	Service Bulletin
SC:	Special Condition
S/N:	Serial Numbe
TC	Type Certificater
TCDS:	Type Certificate Data Sheet
TCDSN:	Type Certificate Data Sheet for Noise

II. Type Certificate Holder Record

TCH Record	Period
Textron Aviation Defense LLC 9709 East Central Wichita, Kansas 67206 United States of America	Since 05 May 2017. To Date

III. Amendment Record

TCDS Issue No.	TCDS Issue Date	Changes	TC Issue and Date
1	14 Nov 2023	Initial issue, replacing EASA.IM.A.636 Issue 4. • Section II. Page 4: Updated Certification Basis for Canopy Cracking Initiation System (CFIS-B) UK-CAA CRI D-205 ELoS, based on UK approval ref UK.MAJ.00114. • Annex to UK TCDS ref UK.TC.A.00092 Issue 1, was created to publish selected special conditions, deviations, equivalent safety findings that are part of the applicable certification basis.	Issue 1 14 Nov 2023

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