TYPE-CERTIFICATE
DATA SHEET

NO. EASA.IM.A.636

for
Model 3000

Type Certificate Holder
Textron Aviation Defense LLC
9709 East Central
67206 Wichita, Kansas
United States of America

For models: Model 3000 (PM Series)
CONTENTS

SECTION A: MODEL 3000 (PM SERIES) ............................................................................................................ 4
  A.I. General .................................................................................................................................................. 4
  A.II. EASA Certification Basis .................................................................................................................... 4
  A.III. Technical Characteristics and Operational Limitations ................................................................. 6
  A.IV. Operating and Service Instructions ................................................................................................ 9
  A.V. Notes .................................................................................................................................................. 11

ADMINISTRATIVE SECTION .......................................................................................................................... 13
  I. Acronyms & Abbreviations .................................................................................................................... 13
  II. Type Certificate Holder Record ......................................................................................................... 13
  III. Change Record ..................................................................................................................................... 13
SECTION A: MODEL 3000 (PM SERIES)

A.I. General

1. Type/ Model/ Variant
   1.1 Type Model 3000
   1.2 Model Model 3000 (PM Series)
   1.3 Variant

2. Airworthiness Category Normal and Aerobatic

3. Manufacturer Textron Aviation Defense LLC 9709 East Central 67206 Wichita, Kansas United States of America

4. EASA Type Certification Application Date 14 October 2015

5. State of Design Authority United States of America

6. State of Design Authority Type Certificate Date 30 July 1999

7. EASA Type Certification Date 23 June 2017

A.II. EASA 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, Navigation 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-04  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
4. Exemptions
Not available under EU regulations.

5. Deviations
(Reserved)

6. Equivalent Safety Findings

C-106  Emergency landing dynamic conditions - HIC
C-107  Emergency landing dynamic conditions – lumbar loads
D-106  Fire Extinguisher
D-107  Cabin Pressure Altitude Warning Indication
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;
A.III. Technical Characteristics and Operational Limitations

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

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wing Span</td>
<td>10.19 m (33 feet 5 inches)</td>
</tr>
<tr>
<td>Length</td>
<td>10.16 m (33 feet 4 inches)</td>
</tr>
<tr>
<td>Height</td>
<td>3.25 m (10 feet 8 inches)</td>
</tr>
<tr>
<td>Landing Gear Track</td>
<td>2.54 m (8 feet 4 inches)</td>
</tr>
<tr>
<td>Landing Gear Wheel Base</td>
<td>2.31 m (7 feet 7 inches)</td>
</tr>
<tr>
<td>Fuselage Width</td>
<td>0.96 m (38 inches) maximum</td>
</tr>
<tr>
<td>Propeller Diameter</td>
<td>2.46 m (97 inches)</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th></th>
<th>Shaft Power (hp)</th>
<th>N1 Gas Generator Speed ( % )</th>
<th>Prop Shaft Speed (RPM)</th>
<th>Maximum Permissible Turbine Interstage Turbine ( Deg. C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Take Off</td>
<td>1100</td>
<td>104%</td>
<td>2000</td>
<td>820</td>
</tr>
<tr>
<td>Maximum Continuous</td>
<td>1100</td>
<td>104%</td>
<td>2000</td>
<td>820</td>
</tr>
<tr>
<td>Ground Idle</td>
<td>-</td>
<td>51% min.</td>
<td>-</td>
<td>750</td>
</tr>
<tr>
<td>Starting</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1000 (5 sec.)</td>
</tr>
<tr>
<td>Transient</td>
<td>1447 (20 sec.)</td>
<td>104%</td>
<td>2200</td>
<td>870 (20 sec.)</td>
</tr>
</tbody>
</table>
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


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

<table>
<thead>
<tr>
<th>TANK</th>
<th>CAP Litres (GAL)</th>
<th>USABLE Litres (GAL)</th>
<th>ARM cm (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LH</td>
<td>348.26 (92.0)</td>
<td>340.69 (90.0)</td>
<td>+431.29 (+169.8)</td>
</tr>
<tr>
<td>RH</td>
<td>348.26 (92.0)</td>
<td>340.69 (90.0)</td>
<td>+431.29 (+169.8)</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Type</th>
<th>Ramp</th>
<th>Takeoff</th>
<th>Landing</th>
<th>Zero Fuel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>3152 kg</td>
<td>3130 kg</td>
<td>3130 kg</td>
<td>2654 kg</td>
</tr>
<tr>
<td>(lbs)</td>
<td>(6950 lbs)</td>
<td>(6900 lbs)</td>
<td>(6900 lbs)</td>
<td>(5850 lbs)</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Surface</th>
<th>Rudder</th>
<th>Rudder Tab</th>
<th>Elevators</th>
<th>Elevator Trim Tab</th>
<th>Ailerons</th>
<th>Aileron Trim</th>
<th>Wing Flap</th>
<th>Speedbrake</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Right 24°</td>
<td>Right 6°</td>
<td>Up 18°</td>
<td>Up 5.5°</td>
<td>Up 20°</td>
<td>Biased Centering Spring</td>
<td>Takeoff 23°</td>
<td>67.5°</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Down 16°</td>
<td>Down 22°</td>
<td>Down 11°</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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.

A.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


   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.


   P/N 133-590075-0015 Revision 4 or later approved revision
   Sample Basic Weight
   Loading Data,

5. Illustrated Parts Catalogue
   revision

6. OSD MCS Content

P/N 133-590075-0051 Revision 0 or later approved revision
P/N 133-590075-0053 Revision 2 or later approved revision
P/N 133-590075-0009 Revision 5 or later approved revision

133E703672 Rev.-
A.V. **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 EASA 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 EASA 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 EASA 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 EASA 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 EASA 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 an EASA 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.
ADMINISTRATIVE SECTION

I. Acronyms & Abbreviations
   F.S.  Fuselage Station

II. Type Certificate Holder Record
    Textron Aviation Defense LLC
    9709 East Central
    67206 Wichita, Kansas
    United States of America

III. Change Record

<table>
<thead>
<tr>
<th>Issue</th>
<th>Date</th>
<th>Changes</th>
<th>TC Issue No. &amp; Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Issue 01</td>
<td>23/06/2017</td>
<td>Initial Issue</td>
<td>Initial Issue, 23/06/2017</td>
</tr>
<tr>
<td>Issue 02</td>
<td>16/01/2018</td>
<td>Updated type design definition; addition of CRI</td>
<td></td>
</tr>
<tr>
<td>Issue 03</td>
<td>25/07/2018</td>
<td>Reduction of max. operating altitude, Note 9 removed</td>
<td></td>
</tr>
<tr>
<td>Issue 04</td>
<td>06/03/2020</td>
<td>Change of cert. basis and max. operating altitude; addition of OSD-MCS reference</td>
<td></td>
</tr>
</tbody>
</table>

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