Type Acceptance Report

TAR 8/21B/5

Dassault Falcon 7X

TABLE OF CONTENTS

Executive Summary

New Zealand Type Acceptance has been granted to the Dassault Falcon 7X Series based on validation of EASA Type Certificate A.155. There are no special requirements for import.

Applicability is currently limited to the models and/or serial numbers detailed in Appendix 1, which are now eligible for the issue of an Airworthiness Certificate in the Standard Category in accordance with NZCAR §21.177, subject to any outstanding New Zealand operational requirements being met. (See Section 5 of this report for a review of compliance of the basic type design with the operating Rules.) Additional variants or serial numbers approved under the foreign type certificate can become type accepted after supply of the applicable documentation, in accordance with the provisions of NZCAR §21.43(b).

1. Introduction

This report details the basis on which Type Acceptance Certificate No.8/21B/5 was granted in the Standard Category in accordance with NZCAR Part 21 Subpart B.

Specifically the report aims to:

(a) Specify the foreign type certificate and associated airworthiness design standard used for type acceptance of the model in New Zealand; and

(b) Identify any special conditions for import applicable to any model covered by the Type Acceptance Certificate; and

(c) Identify any additional requirements which must be complied with prior to the issue of a NZ Airworthiness Certificate or for any subsequent operations.

2. ICAO Type Certificate Details

Manufacturer:	Dassault Aviation
Type Certificate:	A.155
Issued by:	European Aviation Safety Agency
Model:	Falcon 7X
MCTOW	69,000 lb [31,298 kg]
Max. No. of Seats:	22 (3 crew and 19 passengers – cabin interior and seating configuration must be approved)
Noise Standard:	ICAO Annex 16, Vol.1, Chapter 4, Amendment 8.
Engines:	Pratt & Whitney Canada PW307A
	Type Certificate: E-33
	Issued by: Transport Canada

3. Type Acceptance Certificate

The application for New Zealand type acceptance of the Dassault 7X was from the manufacturer, dated 18 July 2007. The first example is due to be delivered mid-2009. As part of the Type Acceptance a CAA certification team made a validation vist to the manufacturer at Merignac.

Type Acceptance Certificate No. 8/21B/5 was granted on 30 January 2009 to the Dassault Falcon 7X based on validation of EASA Type Certificate A.155. (The PW307A engine is covered by Type Acceptance Certificate No. 7/21B/40). Specific applicability is limited to the coverage provided by the operating documentation supplied. There are no special requirements for import into New Zealand.

The Falcon 7X is a triple-turbofan large-size cabin long-range business jet. Although it shares the same fuselage diameter as its predecessor the Falcon 900, it is a new design on a new Type Certificate introducing many new features, including composite construction; fly-by-wire flight controls; and sidestick controllers. The manufacturer states it is the first aircraft designed entirely in a virtual environment.

It is equipped with the same avionics suite, the Honeywell Primus EPIC "Enhanced Avionics System" (EASy), used on the Falcon 900EX and the Falcon 2000EX.

The prototype first flew in May 2005 and the type certificate was awarded in April 2007.

4. NZCAR §21.43 Data Requirements

The type data requirements of NZCAR Part 21B Para §21.43 have been satisfied by supply of the following documents:

(1) ICAO Type certificate:

EASA Type Certificate Number A.155

EASA Type Certificate Data Sheet no. EASA.A.155 at Issue 01 dated 27.4.07 – Falcon 7X approved 27.4.07

(2) Airworthiness design requirements:

(i) Airworthiness Design Standards:

The certification basis of the Dassault 7X is JAR 25 at change 15, plus a number of requirements which the manufacturer elected to comply with at amendment 16, as listed on the TCDS, plus JAR AWO at change 2. Twenty one special conditions were applied. One deviation was granted and seventeen findings of equivalent level of safety made. These have been reviewed and accepted by the CAA.

This is an acceptable certification basis in accordance with NZCAR Part 21B Para §21.41 and Advisory Circular 21-1, as JAR 25 is equivalent to Part FAR 25, the basic standard for Transport Category Airplanes called up under Part 21 Appendix C. There are no non-compliances and no additional special conditions have been prescribed by the Director under §21.23.

(ii) Special Conditions:

CRI B-01 – Stalling and scheduled operating speeds – The 7X fly-by-wire flight control system includes a high incidence protection function which prevents the aircraft exceeding an angle of incidence which would result in an aerodynamic stall. This function cannot be overridden. Dassault were required to demonstrate the capability and reliability of the system, including aircraft handling at high incidence. A new reference stall speed is defined.

CRI B-02 – Motion and effects of controls – To cover the introduction of sidestick pilot flight controls, additional requirements were added encompassing control forces and displacement sensitivity, pilot forces, and required control operation annunciators.

CRI B-03 – Static directional, lateral and longitudinal stability and low energy awareness – With the electronic flight control system (EFCS), the traditional link between control forces and stability margins has not been maintained, and the aircraft has in fact been designed for neutral stability. Dassault were required to demonstrate by simulation and flight tests that adequate speed control is available without excessive pilot workload, and there is acceptable high and low speed protection. A low energy awareness alert is required.

CRI B-04 – Flight envelope protection – Provides additional requirements during operation of the Flight Envelope Protection features of the EFCS to ensure the transition for the pilot is seamless, aircraft controllability is maintained and structural limits are not exceeded.

CRI B-05 – Normal load factor limiting system – As the EFCS incorporates a load factor limiting system, the design load factors are specified as 2.5 positive and 1.0 negative with high lift devices retracted, and 2.0 positive and 0.0 negative with high lift devices extended.

CRI C-01 – Design maneuver requirements – Introduces specific requirements for design manoeuvres to allow for the control laws built into the EFCS.

CRI C-02 – Limit forces and torque – Introduces new limit maximum pilot control forces due to the use of sidestick controllers which are designed to be used by the wrist and not the arms.

CRI C-03 – Design dive speed V_d – Defines a new manoeuvre for determining V_D/M_D as the EFCS incorporates a high speed protection system which limits nose down pilot authority at speeds above Vc/Mc.

CRI C-05 – Interaction of systems and structure – Provides additional requirements for aircraft equipped with systems which directly or as a result of failure or malfunction affect its structural performance.

CRI C-06 – Fuel tank crashworthiness – Details more precise emergency landing conditions that have been developed in past certification programs for landing gear under overload conditions, including side loads and the attitude to be considered at impact.

CRI D-02 – Electronic flight control unusual features – Dassault were required to show that the EFCS would continue to operate, and would not hinder aircraft recovery, following any abnormal attitude or inadvertent operation of the envelope protection outside normal operation.

CRI D-05 – Flight controls – Harmonised 25.671 – Provides new or clarified requirements related to abnormal attitude recovery, prevention against risk of maintenance errors, specific risk of dormant failures, flight control jams and runaways, and controllability with all engine failed. This was prompted by efforts to harmonise with FAA requirements, recommendations from the NTSB as a result of accident investigations, and the need to update the rule to address recent Special Conditions applied to fly-by-wire control systems.

CRI D-07 – Nose wheel steering – Towbarless towing – Dassault were required to show that during towbarless towing of the aircraft, damage to the aircraft steering system was either precluded (the option chosen by Dassault) or any damage was indicated to the crew.

CRI D-09 – Airworthiness standards for subsonic aeroplanes to be operated above 41,000 ft – Provides additional requirements for flight above 41,000 ft, including additional failure modes and/or equipment provisions, covering pressure vessel integrity, air-conditioning, pressurisation, and the oxygen system.

CRI D-11 – Fire protection of thermal and acoustic insulation material – Provides new standards of flammability test methods and critera for cabin insulation materials, that specifically address flame propagation and entry of an external fire into the aeroplane under realistic fire conditions, based on an FAA draft NPRM.

CRI D-22 – Fuselage doors – Introduces revised door requirements developed in co-operation with the FAA and ARAC intended to achieve commonality between JAR and FAR requirements and clarify the requirements for latching, locking, warning and safety assessment of doors.

CRI E-01 – Fuel tank safety – Introduces special requirements to minimise the possibility of a centre fuel tank explosion by showing that the possibility of ignition is extremely improbable, and to assess the design to minimise heat transfer to the fuel tanks or the development of flammable vapors.

CRI E-04 – Reversing system requirements – Dassault were required to show that either the aircraft can continue safe flight with an in-flight thrust reverser deployment, or that such a deployment was extremely improbable and could not result from a single failure or malfunction (the Dassault approach).

CRI E-05 – Sustained engine imbalance – Dassault showed by analysis that engine vibration from loss of a fan blade or shaft failure would not induce excessive vibration in the cockpit or engine pylons. (This CRI is primarily applicable to wing-mounted large diameter engines but was included by EASA for harmonisation with the FAA.)

CRI F-06 – Protection from effects from HIRF – Standard special condition for protection from HIRF detailing the required test environment and conditions.

CRI F-24 – Human factors aspects of flight deck design – Additional guidance and requirements for Human Factors analysis of a fully integrated flight deck with additional features from already certificated EASy equipped Falcon aircraft.

(iii) Deviations:

CRI D-18 – Personal injury criteria of dynamic testing of side facing sofa – Establishes the minimum acceptable testing and human injury criteria that will be applied to the Falcon side-ways facing sofa. However this is processed as a deviation because it cannot show an equivalent level of safety to forward/aft facing seats.

(iv) Equivalent Level of safety Findings:

CRI C-09 – JAR 25.251, 25.305 and 25.629 – Vibration, buffet and aeroelastic stability requirements – Dassault has elected to comply with NPA 25BCD-236 Vibration, Buffet and Aeroelastic stability requirements which significantly differ from JAR 25 at Change 15. This decreases the margin to be taken on the VD/MD versus altitude envelope which is to be shown to be free from aeroelastic instability in normal conditions, from 20% to 15 %, and provides a more comprehensive set of requirements related to failures and malfunctions which could affect aeroelastic stability. The intention is to align with the intent of FAR 25 amendment 25-77 for flutter requirements.

CRI C-12 – JAR 25.361 – Engine failure loads – Dassault has elected to comply with NPA 25C-305 Engine Failure Loads which significantly differ from JAR 25 at Change 15. Engine/ APU torque and engine failure load requirements have been harmonised between JAA and FAA and will ensure that relative to earlier generations of jet-engines adequate design standards are available for engine mounts and engine supporting structure

CRI C-15 – JAR 25.341, 25.343(b), 25.345(c), 25.371, 25.373(a), 25.391, 25.1517 – Gust and continuous turbulence – Dassault has elected to comply with NPA 25C-309 Gust and continuous turbulence which differs considerably from the load requirement from JAR 25.341(b) Change 15, and has been introduced for the purposes of harmonisation of FAA and JAA requirements.

CRI C-16 – JAR 25.963(g) – Fuel tank access cover - Dassault has elected to comply with paragraph 8 of NPA 25E-304 Fuel tank structural integrity/fuel tank access covers which contains the requirements and interpretative material for the fuel tank access covers and has been introduced for the purposes of harmonisation of FAA and JAA requirements.

CRI D-12 – JAR 25.811(d)(1) and (d)(2) – Emergency exit locator sign used also as marking sign – cabin without divider – Dassault proposed using a single combined passenger exit marking sign/locator sign as required by JAR 25.811(d)(1) and (2) where there is no divider in the cabin. Due to limited headroom it cannot be installed in the aisle, the sign can be seen from any seat in the cabin and it will meet the most stringent lighting requirements of either sign.

CRI D-13 – JAR 25.811(d)(1) and (d)(3) – Emergency exit locator sign used also as marking sign – cabin with divider – Dassault proposed using a single combined passenger exit marking sign/bulkhead sign as required by JAR 25.811(d)(1) and (3) where there is no divider in the cabin, on the same justification as used for D-12.

CRI D-15 – JAR 25.831(a) – Packs-off take off – As the air-conditioning is automatically switched off for 5 minutes during take-off, Dassault was required to show that the cabin and cockpit environment was acceptable during that period, including no unacceptable temperature increase or CO/CO_2 increase.

CRI D-19 – JAR 25.699(b) – Lift and drag device indicator – With the EASy cockpit displays, high lift device positions are not displayed for more than 15 seconds if they are retracted and the aircraft is above 18,500 ft. This is accepted on the basis that the 'clean' configuration is the normal configuration for cruise conditions and crew situational awareness is not affected, and the crew do receive indication if the devices are in any other configuration.

CRI E-02 – JAR 25.865, 25.1181, 25.1195, 25.1203 – Engine fire protection in designated fire zones – The engine nacelle has two fire zones, both equipped with fire detectors but only zone one has a fire extinguisher. The absence of a fire extinguisher in zone two was accepted following an analysis including service history of the risk of fire and its subsequent containment, which concluded that in the unlikely event of fire in zone two, it would be controlled.

CRI E-08 – JAR 25.1093(b) – Falling and blowing snow – Dassault has elected to comply with NPA 25E-288 which proposes to introduce " falling and blowing snow " requirements to JAR 25 for harmonisation with FAR 25.1093 at Amendment 72.

CRI E-10 – JAR 25.1549 – Powerplant instruments – colour markings – With the EASy cockpit displays powerplant operating range arcs are given in white instead of green. This was accepted on the basis that the digital and pointer readouts are given in green when in the normal range, and Dassault test pilots found the white arc easier to read than green.

CRI E-12 – JAR 25.971 – Fuel tank sump – The forward (fuselage) fuel tank of the 7X has no sump. This was accepted on the basis that the forward tank is connected to a lower collector tank and in the ground attitude any water accumulating in the foward tank will flow down to the lower collector tank sump. Any water which does accumulate in the fuel lines will be within the engine and fuel system component qualification conditions.

CRI F-22 – JAR 25.1357(e), 25.1309 – Honeywell PRIMUS EPIC Integrated Modular Avionics system (compliance with requirements for individual circuit protection) – The 7X EASy integrated avionics system has two Modular Avionics Units (MAU) which each contain 16 or more individual avionics modules, most of which are 'essential' functions. Each MAU has two separate power supply units with circuit protection, which in turn feed the individual avionics modules. There is no individual circuit protection for each essential load and there is a possibility of one single failure in a unit affecting another essential function. This was accepted on the basis of a detailed systems failure analysis, the requirements for which are detailed in the CRI.

CRI F-35 – JAR 25.1459(a)(2) – Use of IRS for DFDR vertical acceleration – The 7X takes acceleration data from the IRS for the DFDR in lieu of a dedicated three axis accelerometer. The IRS is located outside the aircraft's c.g. limits. Dassault was required to show that using a correction algorithm the data represents accurately the accelerations at the c.g. and operates effectively during the high peak loads that could occur from from a crash situation.

CRI F-37 – JAR 25.1329, 25.1335 – Revisions to JAR 25.1329 and 25.1335 resulting from Flight Guidance Systems harmonisation - Dassault has elected to comply with NPA 25F-344 "Revisions to JAR 25.1329 and 25.1335 resulting from Flight Guidance Systems Harmonisation" which introduces updated and harmonised airworthiness requirements for all types of modern flight guidance systems and common standards between EASA and FAA.

CRI F-41 – JAR 25.1322 – CAS window red message line space – In the EASy displays, a maximum of 10 red warning messages can be shown, and if there are more than ten, they will not be constantly visible. This was accepted on the basis that an analysis showed that the probability of having more than 10 messages was less than the probability of the display itself failing; that each message has an audible warning and must scroll down the list before going out of view; and the separate checklist window advises the pilots of the number of active emergency propcedures to be performed.

CRI G-01 – JAR 25X.1591 – Operation on contaminated runways – EASA has proposed by NPA new requirements under 25.1591 for operation on runways classified as "contaminated". Dassault initially elected to prohibit operation on contaminated runways. (The AFM has subsequently been revised to include wet runway data.)

(v) Airworthiness Limitations:
MM Chapter 5-40-00 – DGAC-Approved Recommended Maintenance Schedules, T.B.O. and Airworthiness Limitations – Document DGT 107421

(3) Aircraft Noise and Engine Emission Standards:

(i) *Environmental Standard:* The Model 7X has been certificated under ICAO Annex 16, Vol.1, Chapter 4, Amendment 8 for noise, and ICAO Annex 16 Volume 2 Part II and Part III Chapter 2, Amendment 4 for emissions.

(ii) *Compliance Listing:*
F7X – 08-800 DGT107299 ed3 – FAA – Noise certification compliance Report
F7X – 08-003 DGT107411 – Fuel Venting and Emmissions Compliance
F7X – DGT111812 – MO192-800 SF1 Noise Certification Compliance

(4) Certification Compliance Listing:

F7X – 00-103 DGT102021 ed4 – Record list for EASA Certification Review Items
F7X – 00-100 DGT108784 ed1 – Type Certification - Compliance Check List

(5) Flight Manual: EASA-Approved Airplane Flight Manual – Dassault Falcon 7X
Document DGT 105608– CAA Accepted as AIR 3021
(CD-ROM is Field Publication No 783)

(6) Operating Data for Aircraft, and Engine:

(i) Maintenance Manual:
Maintenance Review Board Report Document DGT 102566
*Aircraft Maintenance Manual
*Structural Repair Manual
*Standard Practices Manual
*Wiring Manual

(ii) Current service Information:
*Service Bulletins

(iii) Illustrated Parts Catalogue:
*Illustrated Parts Catalog

*Contained on Falcon 7X DVD Field Publication No 787

(7) Agreement from manufacturer to supply updates of data in (5), and (6):

CAA 2171 from J-P Dargentolle, Head of Airworthiness, dated 18 July 2007

(8) Other information:

F7X – 01-100 DGT102837 ed2 – Technical Specifications
F7X – List of approved options
F7X – Airplane Description DGT 97831 *
F7X – Operations Manual DGT 105609 *
F7X – Quick Reference Handbook # 1 DGT 105610 *
F7X – Quick Reference Handbook # 2 DGT 105611 *

* Contained on CODDE (Crew Operational Documentation Dassault EASy) CD

Certification Reports:

DGT115376	Compliance Checklist with NZCAA Rule Requirement
DGT105656	01-210 Airplane Flight Manual Substantiation Summary
DGT91443	01-300 Safety Assessment Process Methods & Formats
DGT101369	06-200 Performance – Methods & Means for Performance Analysis
DGT101230	11-100 Markings & Placards (Interior) – Description & Location
DGT101231	11-101 Markings & Placards (Exterior) – Description & Location
DGT95696	23-100 Radio Communications Description
DGT96724	25-140 Passenger Cabin Accommodation
DGT92980	25-140 Specs & Guidelines for 7X Cabin Interior Completion
DGT102003	30-200 Definition of Artificial Ice Shapes – Analysis
DGT103546	30-220 Performance in Icing Conditions for Normal/Failed Anti-ice
DGT105395	30-620 Flight in Natural icing Conditions – Flight Test Report
DGT106999	30-630 Flight with Simulated ice Shapes – Flight Test Report
DGT96088	31-130 Combi CVR/DFDR System description
DGT96947	31-150 TAWS Description
DGT98411	31-160 TCAS System Description
DGT84866	35-100 Oxygen System Description
DGT98542	34_3-130 Weather Radar Description
DGT88914	35-200 Substantiation of Oxygen Cylinder Capacity/Cautions/Pipes
DGT104077	39_1-201 Similarity Analysis for Windshield Direct Lightning Effects
DGT101216	39_2-500 HIRF/Lightning Indirect Effects Protection – GT Program
DGT107605	39_2-501 HIRF/Lightning Indirect Effects Protection – GT Report
DGT96701	40-110 Crew Alerting System Description
DGT86366	51-001 Structural Certification Plan
DGT86146	51-050 Fatigue and Damage Tolerance Synthesis
DGT99651	51-060 Airframe Vibration and Flutter Synthesis
DGT96173	51-100-1 Finite Element General Model Description
DGT104151	51-524-4-P Side Facing Sofa Dynamic Test Plan
DGT107550	51-524-4-R Side Facing Sofa Dynamic Test Report
DGT102000	71-240 IPPS Fire Protection Strategy

5. Additional New Zealand Requirements

Compliance with the retrospective airworthiness requirements of NZCAR Part 26 is a prerequisite for the grant of a type acceptance certificate.

Civil Aviation Rules Part 26

Subpart B – Additional Airworthiness Requirements

Appendix B – All Aircraft

PARA:	REQUIREMENT:	MEANS OF COMPLIANCE:
B.1	Marking of Doors and Emergency Exits	JAR §25.811(f) at change 15. (See MM Ch 11-00-00)
B.2	Crew Protection Requirements – CAM 8 Appdx. B # .35	Not Applicable – Agricultural Aircraft only

Appendix C – Air Transport Aeroplanes – More than 9 Pax

PARA:	REQUIREMENT:	MEANS OF COMPLIANCE:
C.1	Doors and Exits	JAR §25.783(b) & (e) at Change 15
C.2.1	Additional Emergency Exits – per FAR 23.807(b) @ 10.5.93	Main door is a FAR 25 Type I – Meets 23.807(b). There is one overwing RHS Type III emergency exit. For emergency exits, an ELOS has been issued iaw CAR 26.53(b). See CAA Memo dated 30-1-09.
C.2.2	Emergency Exit Evacuation Equipment – Descent means	Emergency exit is located over the wing.
C.2.3	Emergency Exit Interior Marking – Size/self-illuminating	JAR §25.811(d) and §25.812(b) at Change 15
C.3.1	Landing Gear Aural Warning – Automatic Flap Linking	JAR §25.729(e) at Change 15

Compliance with the following additional NZ operating requirements has been reviewed and were found to be covered by either the original certification requirements or the basic build standard of the aircraft, except as noted:

Civil Aviation Rules Part 91

Subpart F – Instrument and Equipment Requirements

PARA:	REQUIREMENT:		MEANS OF COMPLIANCE:	
91.505	Seating and Restraints – Safety belt/Shoulder Harness		JAR §25.785 at Change 15	
91.507	Pax Information Signs – Smoking, safety belts fastened		JAR §25.791 at Change 15	
91.509 Min. VFR	(1) ASI (2) Machmeter (3) Altimeter (4) Magnetic Compass (5) Fuel Contents (6) Engine RPM (7) Oil Pressure	JAR §25.1303(b)(1) at Ch 15 JAR §25.1303(c)(2) at Ch 15 JAR §25.1303(b)(2) at Ch 15 JAR §25.1303(a)(3) at Ch 15 JAR §25.1305(a)(2) at Ch 15 JAR §25.1305(b)(3) at Ch 15 JAR §25.1305(a)(4) at Ch 15	(8) Coolant Temp (9) Oil Temperature (10) Manifold Pressure (11) Cylinder Head Temp. (12) Flap Position (13) U/c Position (14) Ammeter/Voltmeter	N/A – No separate coolant JAR §25.1305(a)(6) at Ch 15 N/A –Turbofan N/A – Turbofan JAR §25.699(a) at Ch 15 JAR §25.729(e) at Ch 15 JAR §25.1351(b)(6) at Ch 15
91.511 Night	(1)Turn and Slip (2) Position Lights	JAR §25.1303(b)(5) at Ch 15 JAR §25.1385 thru 1397	(3) Anti-collision Lights (4) Instrument Lighting	JAR §25.1401 at Ch 15 JAR §25.1381 at Ch 15
91.513	VFR Communication Equipment		See below under 91.519	
91.517 IFR	(1) Gyroscopic AH (2) Gyroscopic DI (3) Gyro Power Supply (4) Sensitive Altimeter	JAR §25.1303(b)(1) at Ch 15 JAR §25.1303(b)(1) at Ch 15 JAR §25.1331 at Change 15 JAR §25.1303(b)(2) at Ch 15	(5) OAT (6) Time in hr/min/sec (7) ASI/Heated Pitot (8) Rate of Climb/Descent	JAR §25.1303(a)(1) at Ch 15 JAR §25.1303(a)(2) at Ch 15 JAR §25.1303(b)(1) at Ch 15 JAR §25.1303(b)(1) at Ch 15
91.519	IFR Communication and Navigation Equipment		Dassault EASy avionics system (Honeywell Primus Epic) is a fully integrated Flight Management System. It includes dual VOR/ILS, ADF, DME, GPS, with triple INS. Capable of RNP approval down to 0.3 NM.	
91.523	Emergency Equipment: (a) More Than 9 pax - First Aid Kits per Table 7 - Fire Extinguishers per Table 8 (b) More than 20 pax - Axe readily accessible to crew (c) More than 61 pax - Portable Megaphones per Table 9		***To be determined on an individual aircraft basis*** ***To be determined on an individual aircraft basis*** N/A – Less than 20 Pax. N/A – less than 61 pax.	
91.529	ELT - TSO C91a or C126 after 1/4/97 (or replacement)		Rescu AF406 ELT (C126) Fitted as standard. (DGT97831)	
91.531	Oxygen Indicators - Volume/Pressure/Delivery		MDU displays O_2 status, quantity and supply. Individual passenger masks have flow indicators. (Report DGT84866)	

91.535	Oxygen for Pressurised Aircraft: (1) Flight Crew Member On-Demand Mask; (2) Crew Member - Pax Oxygen Mask; Portable PBE 120l (3) Spare Oxygen Masks/PBE (4) Min Quantity Supplement Oxygen (6) Required Supplemental/Therapeutic Oxygen Above FL250 - Quick-Donning Crew On-Demand Mask - Supplemental O_2 Masks for all Pax/Crew - Supplemental Mask in Washroom/Toilet Above FL300 - Total Outlets Exceed Pax by 10% - Extra Units Uniformly Distributed - Automatically Presented Above FL140 - Manual Means of Deploying Pax Masks	Basic O_2 system has 115 ft^3 bottle with: - 3 crew quick-donning masks - 1 portable O_2 bottle with 2 masks in cabin - 1 dual PSU/mask in each fwd & aft lavatory - 4 dual and 11 single PSU/mask outlets in cabin (Selectable by crew, automatic deployment at 14,500 ft +/- 500 ft.) - 2 therapeutic O_2 outlets with stowed masks. Maximum passenger capacity is 19, cabin masks total is 23. Dassault O_2 bottle capacity calculations demonstrate that under the various emergency scenarios presented, smallest number of passengers covered is 36. Maximum operating altitude is 51,000 ft. (Reports DGT96724 and DGT88914)
91.541	SSR Transponder and Altitude Reporting Equipment	Dual Mode S Honeywell transponders part of EASy system. (Report DGT95696)
91.543	Altitude Alerting Device - Turbojet or Turbofan	Part of Crew Alerting System. (Report DGT96701)
91.545	Assigned Altitude Indicator	N/A – Has Altitude Alerting System
A.15	ELT Installation Requirements	Rescu AF406 ELT (C126) Fitted as standard. (DGT97831)

Civil Aviation Rules Part 125

Subpart F - Instrument and Equipment Requirements

PARA:	REQUIREMENT:		MEANS OF COMPLIANCE:
125.355	Seating and Restraints		JAR §25.785 at Change 15
125.357	Additional Instruments (Powerplant and Propeller)		JAR §25.1305 at Change 16
125.359	Night Flight	Landing light, Pax compartment	Fitted as standard. (DGT97831)
125.361	IFR Operations	Speed, Alt, spare bulbs/fuses	N/A – Bulbs and fuses not used on 7X.
125.361	SE IFR Requirements – If Applicable		N/A – three engines
125.363	Emergency Equipment (Part 91.523 (a) and (b))		***To be determined on an individual aircraft basis***
125.365	Public Address and Crew Member Intercom System		Public Address system is a factory option - ***To be determined on an individual aircraft basis***
125.367	Cockpit Voice Recorder Appendix B.3 requires TSO C84/C123		7X has two Combi CVR/FDR units, meeting TSO C123a and C124a. FDR meets 88 parameter requirement. (Reports DGT96088 & DGT97831)
125.369	Flight Data Recorder Appendix B.4 requires TSO C124		As above.
125.371	Additional Attitude Indicator		SFD (Secondary Flight Display) – LHS Instrument Panel (DGT97831)
125.373	Weather Radar Appendix B.6 requires TSO C63		Honeywell Primus 880 part of EASy system. (Report DGT98452)
125.375	Ground Proximity Warning System Appendix B.7 requires TSO C92		GPWS & EGPWS modules are integral part of EASy avionics system. (Report DGT115376)
125.377	HUMS		Not Applicable – Not a single-engined aeroplane
125.379	Terrain Awareness and Warning System (TAWS) Appendix B.9 requires TSO C151a or b		GPWS & EGPWS modules are integral part of EASy avionics system. (Report DGT115376)
125.381	Airborne Collision Avoidance System (ACAS II) Appendix B.10 requires TSO C118/119a or C119b		ACARS system is a factory option - ***To be determined on an individual aircraft basis***

Attachments

The following documents form attachments to this report:

Three-view drawing Dassault Falcon Model 7X
Copy of EASA Type Certificate Data Sheet Number A.155

Sign off

……..	…….....
Peter Gill	Checked – David Gill
Airworthiness Engineer	Team Leader Airworthiness
Date:	Date:

……..

Checked – Owen Olls
Continuing Airworthiness Specialist
Date:

Appendix 1

List of Type Accepted Variants:

Model:	*Applicant:*	*CAA Work Request:*	*Date Granted:*
Falcon 7X	Dassault Aviation	8/21B/5	30 January 2009