
Type Acceptance Report

TAR 17/21B/9

DASSAULT FALCON 2000EX

TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
1. INTRODUCTION	1
2. AIRCRAFT CERTIFICATION DETAILS	2
3. APPLICATION DETAILS AND BACKGROUND INFORMATION	3
4. NZCAR §21.43 DATA REQUIREMENTS	4
5. NEW ZEALAND OPERATIONAL RULE REQUIREMENTS	11
ATTACHMENTS	13
APPENDIX 1	13

Executive Summary

New Zealand Type Acceptance has been granted to the Dassault 2000EX Series based on validation of Type Certificate EASA.A.008. 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).

NOTE: The information in this report was correct as at the date of issue. The report is generally only updated when an application is received to revise the Type Acceptance Certificate. For details on the current type certificate holder and any specific technical data, refer to the latest revision of the State-of-Design Type Certificate Data Sheet referenced herein.

1. Introduction

This report details the basis on which Type Acceptance Certificate No.17/21B/9 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(s) in New Zealand; and
- (b) Identify any special conditions for import applicable to any model(s) 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. Aircraft Certification Details

(a) State-of-Design Type and Production Certificates:

Manufacturer: Dassault Aviation
Type Certificate: EASA.A.008
Issued by: European Aviation Safety Agency
Production Approval: FR.21G.0006

(b) Models Covered by the Part 21B Type Acceptance Certificate:

(i) **Model:** Falcon 2000EX

MCTOW: 40,700 lb [18,461 kg]
41,300 lb [18,734 kg] – with Mod.1826 embodied
42,200 lb [19,142 kg] – with Mod.s 1826 and 1842
42,800 lb [19,414 kg] – with Mod.s 1826, 1842 and 3622

Max. No. of Seats: 21 (19 passengers, as limited by emergency exits.)

Noise Standard: ICAO Annex 16, Vol.1, Amendment 7, Chapter 3

Engine: Pratt & Whitney Canada PW308C
Type Certificate: E-31
Issued by: Transport Canada

3. Application Details and Background Information

The original application for New Zealand type acceptance of the Dassault 2000EX was from the manufacturer, dated 20 February 2007. This was started under CAA Work Request number 7/21B/32, but was not completed. A second application was received from the manufacturer on 15 December 2016. The first-of-type example was serial number 110 registered ZK-OCB. The Falcon 2000 is a twin-turbofan low-wing mid-to-large-size-cabin pressurised intercontinental business jet.

Type Acceptance Certificate Number 17/21B/9 was granted on 19 July 2017 to the Dassault Falcon 2000EX based on validation of Type Certificate number EASA.A.008. Specific applicability is limited to the coverage provided by the operating documentation supplied. There are no special requirements for import into New Zealand.

The twin-jet Falcon 2000 was originally designed for a transcontinental range (3000 NM) mission as a shortened version of the Dassault Falcon 900 widebody tri-jet, fitted with two General Electric/Honeywell CFE738 engines and Collins proline IV avionics.

The Falcon 2000EX version was developed for extended range by the installation of two extra fuel tanks and more efficient Pratt & Whitney Canada PW308C engines, with an associated weight increase (11%) and some minor changes. This version is defined under M1802, which calls up seven other major modifications. Production aircraft were from Manufacturer's Serial Number MSN001 through MSN027, except MSN006.

EASy is the commercial name for the version with three Major Modifications embodied: M1691 installs the Enhanced Avionics System, a digital flight deck concept based on the Honeywell Primus Epic system; M1745 installs a new oxygen system electro-pneumatic altimetric controller; and M1504 installs the All Falcon Common Pressurization System. Production of the 2000EX-EASy was MSN006 and from MSN028 through MSN0217.

Subsequent commercial designations of the basic 2000EX-EASy model include:

- Falcon 2000DX – A lower range version with Modification M3000 Reduced fuel tank capacity. (MSN601 to MSN604)
- Falcon 2000LX – An increased range version with Modification M2846 Installation of winglets. (MSN218 through MSN262 [M2846 was optional before MSN218])
- Falcon 2000LXS – A further improved performance version of the 2000LX incorporating M5000 inboard movable slats installation with winglet performance credit. (MSN263 on)
- Falcon 2000S – A lower range version of the 2000LXS with M5001/M3000 reduced fuel tank capacity. (MSN701 on)

Only the last two versions are currently in production, as of 2017.

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, or were already held by the CAA:

(1) ICAO Type certificate:

EASA Type Certificate Number EASA.A.008

EASA Type Certificate Data Sheet no. EASA.A.008 at Issue 6 dated 15 Dec 2015

- Model Falcon 2000 approved November 30th, 1994
- Model Falcon 2000EX approved March 7th, 2003

Commercial designations only:

- Model Falcon 2000EX "EASy" approved June 17th, 2004
- Model Falcon "2000DX" approved September 19th, 2007
- Model Falcon "2000LX" approved April 23rd, 2009
- Model Falcon "2000LXS" approved March 19th, 2013
- Model Falcon "2000S" approved March 19th, 2013

(2) Airworthiness design requirements:

(i) *Airworthiness Design Standards:*

The certification basis of the Dassault 2000 was JAR 25 Change 13 effective on October 5, 1989 and JAR AWO Change 1, plus additional elect-to-comply material as noted on the TCDS. Twenty two Special Conditions were imposed, five equivalent level of safety findings (ELOS) made, and two deviations granted. These have all been reviewed and accepted by the CAA.

For the 2000EX this was updated to JAR 25 change 14 plus Orange Paper 25/96/1, except for some JAR 25 paragraphs which remain at change 13, as listed on the TCDS, plus some paragraphs at change 15, and JAR AWO Change 1. Fifteen of the Special Conditions were carried over or updated, and an additional five new ones imposed; three new ELOS were made to add to the existing five which were carried over from the F2000; as were the two deviations.

For the EASy version the certification basis additional paragraphs were updated to JAR 25 change 14 plus Orange Paper 25/96/1, as noted on the TCDS. Four new special conditions were imposed, six additional ELOS made and one new deviation granted. These have also all 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, because JAR 25 is equivalent to Part FAR 25, which is 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:*

F2000 and F2000EX:

B-04 Stall and Stall Warning Speeds and Manoeuvre Capability (NPA 25B-215) – NPA 25B-215 redefines the datum stall speed, from which minimum operational speeds are derived, as not less than the 1-g stall speed.

C-06 Interaction of Systems and Structures (NPA 25C-199) – This provides interpretive material for assessment of compliance of systems which directly, or as a result of failure or malfunction, affect structural performance. (The only load-related feature on the Falcon 2000 is the automatic slat extension system.)

C-12 Carbon Horizontal Stabilizer – Certification Basis – A specific certification basis was established for the new horizontal stabiliser structural box made of carbon-fibre, introduced under Major Modification M1293.

D-1123 Fire Containment Containers (airplanes with M-OPT0044 or M-OPT0176) – This applied special conditions to Fire Containment Containers to be used in the aft un-pressurised Forward Servicing Compartment, which do not strictly meet the requirements of a Class F Cargo Compartment. A fire containment test was defined, supported by a Content Limitation list, with labelling of the container, AFM entries and a specified pre-flight content inspection.

D-05 Resistance to the Fire and its Terminology – NPA 25D-181 was applied, which specified various minor changes to fire resistance requirements, and also introduced the standard ISO/DIS 2685 as the substantiation method for the various levels of resistance to fire. However this was only for new equipment and was assessed on an individual basis.

D-06 Doors (NPA 25D-251) – To correct an editorial error cargo and service doors not suitable for use as an emergency exit need only meet JAR §25.783(e) and (f) and be safeguarded against opening in flight as a result of mechanical failure or failure of a single structural element.

D-10 Operation at 47,000 ft – This applied additional requirements for flight above FL410 provided for in the Rules, based on the Falcon 900 Special Condition.

E-05 APU Categorization – Dassault classified the APU as “essential” to provide engine re-start capability in-flight following dual engine shut-down and to provide electrical power back-up following total electrical power loss in-flight. However it is not the back-up for the loss of total generator power as the battery capacity will be demonstrated to comply with JAR §25.1351(d).

F-05 Operation without Normal Electrical Power (NPA 25D, F-179) and Miscellaneous Electrical Requirement – NPA 25D, F-191 published in Orange Paper Amendment 90/1 updated the requirements for electrical systems and was applied to the F2000.

F-18 E-GPWS airworthiness approval – This applied criteria for the EGPWS system in the absence of any JAA policy or guidance material.

F-21 Electronic stand-by instrument system (MEGGITT) – Dassault replaced the usual three electromechanical stand-by indicators (attitude, airspeed and altitude) with a single electronic display, for which there is no specific JAA regulation.

F2000EX:

A-109 Functions and Reliability Testing JAR §21.35 A.N.D.R. – Dassault had to satisfactorily complete a period of 300 hours of flight operation to demonstrate function and reliability and show exposure to the variety of uses that are likely to occur when in routine service.

B-103 Automatic Reserve Performance System – The PW308 has an ARP system. Dassault claimed performance credit during the go-around, which is not covered under the Rules. Certification criteria were set, which included JAR1 Appendix applicability; critical time interval determination; power setting requirements; and operating limitations substantiation.

B-107 Steep Approach Landing Capability – This introduces a later regulatory standard based on NPA 25B-267 and Flight Working Paper 737, with additional conditions to address the impact on structure (fatigue), flight in icing conditions and aircraft systems.

C-107 Fuel Tank Crashworthiness (INT / POL/25/9) – The local fuel head can be used to justify the crashworthiness of the fuel tanks. The installation must be such that the tanks will not be ruptured with the aircraft sliding with its landing gear retracted, nor by a landing gear, nor by an engine tearing away. Inboard fuel tanks must meet specified inertia loads.

C-110 Yawing Manoeuvre (INT / POL /25/8) – An interpretation was issued for guidance in calculating yawing manoeuvre loads required under JAR §25.351, to specifically define the rudder control deflection case to be considered.

D-115 Wheels, brakes and braking system (NPA 25D-291) – NPA 25D-291 was issued to provide harmonised FAA/JAA guidance with respect to certification of Transport Category aircraft braking systems. Full details are in Appendices 1 and 2.

E-09 Thrust Reverser Certification Policy – Under current interpretations compliance with JAR §25.933(a)(2) must be met unless it can be shown that in-flight deployment is extremely Improbable (i.e. a failure rate $<10^{-9}$ as defined in JAR §25.1309). Consideration should be given to human errors, as well as other design precautions relative to system segregation and external events.

F-106 Protection against HIRF (INT /POL/25/2 Issue 2) – The standard Internal Policy paper on HIRF was applied to the Falcon 2000EX.

K-01 All Weather Operations NPA AWO-3 and –4 – NPA AWO-3/4 were applied as being more appropriate to the autopilot design and to Category 2 operation of the F2000EX.

F2000EX (EASy):

D-1120 Cabin Stretcher (applicable to airplanes fitted with Modification M3416) – This applies to a modification which introduces a Medevac configuration. JAR §25.785(a) at Change 13 applies to medical stretchers without consideration of 25.562 inertia forces. Each part of the support/stretcher/restraining means has to be in full compliance with the certification basis, and in addition the stretcher shall provide an adequate restraining means for a patient. All equipment must be approved against the qualification standard, and mattresses must meet JAR §25.853(c).

F-1106 Protection against HIRF – JAR §25.1309 (a) ; JAR §25.1431 (a) – The usual requirements for the identification and protection from High Intensity Radiated Fields.

F-1123 Requirement for Human Factors – JAR 25 change 14 plus OP/96/1 – The EASy concept has new features which raise issues in the area of human interaction. The Special Condition is very similar to the subsequently published INT/POL/25/14 “Human factors aspects of flight deck design” which was issued on March 15, 2001.

F-1130 Micro IRS (MIRS) – The Micro Inertial Reference System has some unusual design features, including Align in Motion Capability; Automatic Mode Control Logic; and Electronic Tray Alignment. These had to be evaluated for both certification and human factors requirements.

(iii) *Equivalent Level of safety Findings:*

F2000 and F2000EX:

CRI D-07 Emergency Exit Sign used also as Locator 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-08 Emergency Exit Locator Sign used also as Marking Sign – Cabin with Divider – Dassault proposed using the same single combined passenger exit marking sign /bulkhead sign where there is a divider in the cabin, based on the same justification as used for D-07.

CRI D-09 Type III Emergency Exit Handle Lighting – Under JAR §25.811(e)(3) for Type III exits the handle must be self-illuminated, while for Type I or Type A exits an alternative emergency lighting system may be used. Dassault proposed the same option for the Type III exit, because it is equally effective and avoids the use of radioactive materials in a small cabin.

CRI F-12 Oxygen Masks in Galley Area – JAR §25.1447(c)(3) requires two oxygen masks in a galley working area. As the Falcon does not have a dedicated galley but only a small area in the entrance way, Dassault proposed to use the spare passenger mask which is close to the galley.

CRI D-GENE-03 Improved Flammability Standards for Thermal/Acoustic Insulation Materials – Dassault applied the upgraded standard included in FAR 25.856 and draft NPA 25D-345, as these are becoming the common production definition for all Falcon aircraft.

F2000EX:

CRI E-110 Engine Fire Protection in Designated Fire Zone – The Falcon 2000 has two engine fire zones, of which only Zone 1 has both a detector and a fire extinguisher system. This was accepted for Zone 2, which contains the compressor section, on the basis of compliance with criteria showing a fire originating in that area can be controlled.

CRI E-112 Turbine Engine Tailpipe Fire Detection – The PW308C does not incorporate fire detection within the tailpipe section. This was accepted because the engine has design features which minimise the number of potential ignition sources and limit the amount of flammable fluid which could leak into the tailpipe, coupled with the safe service history of similar designs.

CRI G-101 Contaminated Runway Performance Limitations – Dassault Aviation has elected to voluntarily comply with NPA 25G-334 Draft Final Rule dated 12 July 2004, which uses more accurate methodologies to determine aircraft performance on contaminated runways.

F2000EX (EASy):

CRI D-1115 JAR §25.699(b) Lift and Drag Device Indicator – On the EASy system flap/slat position is not displayed above 18,500 ft. This was accepted because normal indications are not required at that altitude and any abnormal condition detected triggers display of the lift device position indication.

CRI D-1124 JAR §25.813(c)(2) Table Obstruction to Type III Emergency Exit (airplanes with M4400-013) – The table placed in its most adverse configuration and location results in more than minor obstructions into the projected opening of the exit. This was accepted based on compensating factors of performing an evacuation rate test to justify specific aspects and show the occupants can evacuate through the obstructed exit in the same time as a fully compliant TTO&L configuration; and the remaining exit size is larger than the minimum for a Type IV exit.

CRI D-1126 JAR §25.813(c)(2) Seats Obstruction to Type III Emergency Exits (airplanes with M-OPT0119) – This was accepted for a manually moveable seat provided the obstructed exit size can be shown to be as effective as a Type IV exit or it can be restored by a simple and obvious method following any failure of a seat control; provision of a reliable and effective monitoring and annunciation system that notifies pilots and passengers if the seats are not properly located and configured prior to taxi, takeoff or landing; along with an AFM Supplement which defines the pre-flight briefing and appropriate actions in the event of an alert.

CRI D-1127 JAR §25.813(c)(2) Table Obstruction to Type III Emergency Exits (airplanes with M-OPT0055) – Similarly to D-1126 some obstruction was accepted provided the

effectiveness of the exit was maintained by cockpit message, illuminated cabin alert sign and aural alarm, and the remaining opening with deployed table is larger than a Type IV exit.

CRI E-1103 JAR §25.1549 Powerplant Instruments – Colour Markings – Powerplant instrument colour coding on the Honeywell Primus system does not fully comply with the rules in that the N₁ and ITT have a white arc. This was accepted because the pointer and digital readout are green when in the normal range and the white arc is easier to read.

CRI F-1136 JAR §25.1357(e); JAR §25.1309 Honeywell PRIMUS EPIC Integrated Modular Avionics System – There is no individual circuit protection for the voltages supplied by the MAU channel power supply to each “essential” load, and single failures in a MAU channel power supply or in the MAU backplane will affect the functioning of simultaneous “essential” functions. An ESF was accepted on the basis of minimizing single failures which can lead to the loss of an MAU channel, specific protection is applied to the cooling fans and the loss of one MAU channel is classified as no more than minor.

(iv) *Exemptions:*

F2000 and F2000EX:

CRI C-11 Personal injury criteria of dynamic testing of side-facing sofas – Current rules do not adequately address the injury criteria associated with side impacts. This established the minimum acceptable testing and personal injury criteria that would be applied to side-facing sofa. An exemption was required on a temporary basis pending development of the full rule.

CRI F-15 Oxygen requirements (see note 1) – An exemption was granted for those parts of the JAR which refer to National Requirements for the oxygen system. The TCDS States under Note 1: “Compliance with JAR 25 Oxygen requirements is to be shown for each individual airplane in accordance with relevant national operational requirements.”

F2000 and F2000EX:

CRI DEV D-1121 Firm Handhold (airplanes with M3416) – The requirement for a firm handhold along aisles cannot be met with all interior layouts because of the distance between seats and lack of defined aisle in some cases. This deviation was accepted subject to recommendations to remain seated in moderate turbulence; there must be one route with handholds to enable passengers to reach their seats; and in other areas with more standard seating layouts handholds are provided.

(v) *Airworthiness Limitations:*

MM Chapter 5-40-00 – DGAC-Approved Recommended Maintenance Schedules, T.B.O. and Airworthiness Limitations – Documents DGT 651 (F2000EX) and DGT-DTF/NAV 95907 (F2000EX-EASy)

(3) Environmental Certification:

(i) *Environmental Standard:*

Falcon 2000EX has been certificated for emissions under ICAO Annex 16 Volume 2 Part III, and for noise under ICAO Annex 16 Volume 1, Chapter 3, or Chapter 4 CS36 Amendment 1 if Modification M2422 is embodied.

(ii) *Compliance Listing:*

Type Certificate Data Sheet for Noise no. EASA.A.008 for Falcon 2000 – Issue 11

(4) Certification Compliance Listing:

DTM No. 21.078 – Falcon 2000 JAA Type Certification Compliance Checklist

DGT-F/NAV 80593 – Falcon 2000 JAA Certification Review Items M1802-00-103

DGT-F/NAV 88635 – Falcon 2000EX JAA Compliance Check List M1802-00-100

DGT-DTF/NAV 97633 – Falcon 2000EX EASy Certification Review Items

DGT-F/NAV 97786 – Falcon 2000EX Compliance Check List M1691-00-101

DGT 108117 – Falcon 2000EX EASY Certification Collection – F2000-M2846
Certification Plan (Scope: F2000EX EASy-M2846)

DGT 120770 – Falcon 2000 Series Certification Plan M5000-001 – Certification
Collection (Scope: Falcon 2000EX-EASy)

(5) Flight Manual:

EASA-Approved Master Airplane Flight Manual – Dassault FALCON
2000EX (applicable to airplane after modification M1802) – Document
DGT84278 – CAA Accepted as AIR 3432

EASA-Approved Master Airplane Flight Manual – Dassault FALCON
2000EX EASy, FALCON 2000DX, FALCON 2000LX, FALCON 2000S,
FALCON 2000LXS (applicable to airplane after modification M1691) –
Document DGT88898 – CAA Accepted as AIR 2999

Note: DGT 88898 is the “Master” AFM, applicable to the F2000 EX EASy. The
individual serial number manual is customised with some pages containing
specific applicability indication to modification (Commercial Model) status
and/or avionics standard, of which three standards exist:

- STD1 for F2000EX EASy fitted with EASyI avionics;
- STD2 for F2000EX EASy fitted with EASyII avionics;
- STD3 for F2000EX EASy fitted with M5000 design change (2000S/LXS)

(6) Operating Data for Aircraft, and Engine:

(i) *Maintenance Manual:*

Aircraft Maintenance Manual (AMM) *
Structural Repair Manual (Part 1) *
Fault Isolation Manual *
Illustrated Tools and Equipment Manual *
Consumable Products Manual *
Wiring Diagram Manual *

Falcon 2000EX – DGT 125293 Maintenance Planning Document Chapter 5
Falcon 2000EX EASy – DGT 125294 Maintenance Planning Document Chapter 5

Falcon 2000EX MM – DGT 113877 Chapter 5-40 Airworthiness Limitations

(ii) *Current service Information:*

Service Bulletins *
Service Advisories *

(iii) *Illustrated Parts Catalogue:*

Aircraft Illustrated Parts Catalog (AIPC) *

* Available on the FIELD 5 (Falcon Interactive Electronic Library by Dassault)

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

CAA 2171 from Dassault Aviation Head of Airworthiness dated 25-Dec-2016

Dassault provides CAA access to service and flight publications on the Customer Portal at <https://customer.dassaultfalcon.com>

(8) Other information:

DGT-F/NAV91363 – Falcon 2000EX Summary of Changes Versus F2000 and Certification Bases – Revision 1 dated 03-Apr-03

DGT-F/NAV 85906 – Falcon 2000EX Certification Document M1802-24-200 – Electrical Load Analysis of the Type Aircraft – Issue 3 dated 12-Feb-03

DGT-DTF/NAV 93010 – Falcon 2000EX Certification Document M1691-24-200 – Electrical Load Analysis of the Type Aircraft & Load Shedding in Case of Generator Failure – Issue 2 dated 20-Apr-04

Falcon 2000EX – Crew Operational Documentation for Dassault EASy – CODDE1 Airplane Description – Publication DGT94085

FALCON 2000EX EASy/DX/LX/LXS/S – Operational Suitability Manual Master Minimum Equipment List – Publication DGT94656

FALCON 2000EX EASy/DX/LX/LXS/S – Maintenance and Operating Procedures for MMEL – Publication DGT94658

5. New Zealand Operational Rule Compliance

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 §25.0811
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 Part 25 §25.0809(b) and (d)
C.2.1	Additional emergency exits – per FAR 23.807(b) @ 10.5.93	Meets equivalent JAR Part 25 Certification requirements
C.2.2	Emergency Exit Evacuation Equipment – Descent means	JAR Part 25 §25.0809(f)
C.2.3	Emergency Exit Interior Marking – Size/self-illuminating	JAR Part 25 §25.0811(e) and JAR Part 25 §25.0812(b)
C.3.1	Landing Gear Aural Warning – Automatic Flap Linking	JAR Part 25 §25.0729(e)

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 Part 25 §25.0785(g)
91.507	Pax Information Signs – Smoking, safety belts fastened	JAR Part 25 §25.0791
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) JAR §25.1303(c)(2) JAR §25.1303(b)(2) JAR §25.1303(a)(3) JAR §25.1305(a)(2) JAR §25.1305(c)(3) JAR §25.1305(a)(4)
		(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 – Turbofan JAR §25.1305(a)(6) N/A – Turbofan N/A – Turbofan JAR §25.0699 JAR §25.0729(e) JAR §25.1351 (b)(6)
91.511	Night VFR Instruments and Equipment	Fitted as Standard in the EASy digital flight deck
91.513	VFR Communication Equipment	Fitted as Standard in the EASy digital flight deck
91.517	IFR Instruments and Equipment	Fitted as Standard in the EASy digital flight deck
91.519	IFR Communication and Navigation Equipment	Fitted as Standard in the EASy digital flight deck
	The basic Falcon 2000EX is compliant to Basic RNAV and NAT MNPS airworthiness requirements. (See TCDS) All versions of the Falcon 2000EX EASy are compliant to RNP RNAV, P-RNAV, B-RNAV, RNP10, NAT MNPS and GPS Primary Means (See TCDS Section 3.8.5) All versions of the Falcon 2000EX are compliant to RVSM requirements, provided Modification M1251 is applied.	
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	Operating Rule – Compliance to be determined by operator Operating Rule – Compliance to be determined by operator Not Applicable – Less than 20 passenger seats Not Applicable – Less than 61 passenger seats
91.529	ELT – TSO C91a or C126 after 1/4/97 (or replacement)	Operating Rule – Compliance to be determined by operator
91.531	Oxygen Indicators (1) Amount of oxygen available, whether being delivered: Visual/oral warning when cabin exceeds 10,000 ft AMSL: (2) To each individual user amount and delivery to unit:	(1)(i) JAR §25.1441(c) and JAR §25.1449 (ii) JAR §25.841(b)(6) (2) Oxygen quantity provided through the ECS synoptic.
91.535	Oxygen for Pressurised Aircraft: (1) Flight Crew Member On-Demand Mask; 15 min PBE (2) 1 Set of Portable 15 min PBE (3) Crew Member – Pax Oxygen Mask; Portable PBE 120l (4) Spare Oxygen Masks/PBE (5) Min Quantity Supplement Oxygen	The FALCON 2000 oxygen system is designed for two crew, 9 passengers, and a third crew member as a passenger. The oxygen supply system comprises a high pressure cylinder with a built-in pressure reducer; a filler connector; a refilling gauge; a pressure gauge on the co-pilot console; and lines. The crew oxygen system consists of two EROS MC10-12-101

	(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	crew masks and two mask boxes. EROS MXP 210-00 smoke goggles are also provided. (TSO C99 combination.) The passenger oxygen system consists of: an EROS RVA 71-01 controller; mask boxes; constant flowrate EROS MW 37 masks, (one above each pax seat including third crew seat, two in the toilet compartment plus one extra mask close to the galley); First aid masks with connectors; supply lines; and a first aid oxygen supply manual control valve.
	The oxygen system is sized and equipped to meet JAR 25/JAR OPS1-770 [level 1] and FAR 121/135 [level 2] requirements. See: DTM 21.108 Rev.A – Falcon 2000 – Type Certification – 35-100 – Oxygen System – Description DTM 21.111 Rev.B – Falcon 2000 – Type Certification – 35-700 – Oxygen System – Authority Inspection Conclusions DGT-F/NAV 85139: Falcon 2000 – M1802 – Certification Document M1802-35-200 Oxygen System – Substantiation of Oxygen Cylinder Capacity – Issue 1 04-Dec-01 (Standard Puritan cylinder is 2200 litre, Optional is 3300 litre.) Dassault Compliance Matrix – CAR Part 91 – Oxygen (Falcon 2000EX Maximum Operating Altitude is 47,000 ft.)	
91.541	SSR Transponder and Altitude Reporting Equipment	Fitted as Standard in the EASy digital flight deck
91.543	Altitude Alerting Device – Turbojet or Turbofan	Fitted as Standard in the EASy digital flight deck
91.545	Assigned Altitude Indicator	Not Applicable – Altitude alerting device fitted
A.15	ELT Installation Requirements	To be determined on an individual aircraft basis

Civil Aviation Rules Part 125

Subpart F - Instrument and Equipment Requirements

PARA:	REQUIREMENT:	MEANS OF COMPLIANCE:
125.355	Seating and Restraints	JAR §25.785
125.357	Additional Instruments (Powerplant and Propeller)	JAR §25.1305
125.359	Night Flight	Landing light, Pax compartment Fitted as Standard
125.361	IFR Operations	Speed, Alt, spare bulbs/fuses Fitted as Standard in the EASy digital flight deck
125.361	SE IFR Requirements – If applicable	Not Applicable – Not a single-engined aeroplane
125.363	Emergency Equipment (Part 91.523 (a) and (b))	Operating Rule – Compliance to be determined by operator
125.365	Public Address and Crew Member Intercom System	Honeywell AV900 fitted as standard (TSO C50c)
125.367	Cockpit Voice Recorder Appendix B.3 requires TSO C84/C123	All versions of the Falcon 2000EX are compliant with CVR (EU-OPS1) requirements (2 hrs) provided Mod.1514 applied [fits Honeywell AR-120 TSO C123a]
125.369	Flight Data Recorder Appendix B.4 requires TSO C124	Honeywell LW-FDR to ED112/TSO C124b fitted as standard under Modification M3790
125.371	Additional Attitude Indicator	Fitted as Standard in the EASy digital flight deck
125.373	Weather Radar – Appendix B.6 requires TSO C63	Fitted as Standard in the EASy digital flight deck (Honeywell Primus 880)
125.375	GPWS – Appendix B.7 requires TSO C92	Superseded by EGPWS
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	All versions of the Falcon 2000EX are compliant with EGPWS (EU-OPS1) requirements (See TCDS)
125.381	Airborne Collision Avoidance System (ACAS II) Appendix B.10 requires TSO C118/119a or C119b	All versions of the Falcon 2000EX are compliant with TCAS II Change 7 (EU-OPS1) requirements (See TCDS)

The Falcon 2000EX would operate under NZCAR Part 125, based on a maximum payload of 2717 kg (See AFM §1.100.3)

NOTES: 1. A Design Rule reference in the Means of Compliance column indicates the Design Rule was directly equivalent to the CAR requirement, and compliance is achieved for the basic aircraft type design by certification against the original Design Rule.

2. The CAR Compliance Tables above were correct at the time of issue of the Type Acceptance Report. The Rules may have changed since that date and should be checked individually.

3. Some means of compliance above are specific to a particular model/configuration. Compliance with Part 91/119 operating requirements should be checked in each case, particularly oxygen system capacity and emergency equipment.

Attachments

The following documents form attachments to this report:

Three-view drawing Dassault Falcon Model 2000EX
Copy of Type Certificate Data Sheet Number EASA.A.008

Sign off

.....
David Gill
Team Leader Airworthiness

.....
Checked – Gaetano Setteneri
Airworthiness Engineer

Appendix 1

List of Type Accepted Variants:

<i>Model:</i>	<i>Applicant:</i>	<i>CAA Work Request:</i>	<i>Date Granted:</i>
Falcon 2000EX	Dassault Aviation	17/21B/9	19 July 2017

(includes commercial versions 2000EX-EASy, 2000DX, 2000LX, 2000S and 2000LXS)