EUROPEAN AVIATION SAFETY AGENCY

Operational Evaluation Board Report

Dassault Aviation Falcon 900EX EASy
Falcon 900DX, Falcon 900LX

Draft Revision 11

10 April 2012

European Aviation Safety Agency
Postfach 10 12 53
D-50452 Köln
Germany

Revision Record

Rev. No.	Content	Date
Version 2	Publication	11 May 2004
Version 3	F900EX EASy Step 3, F900DX	15 June 2006
Version 4	Limitations, LIFUS, HUD	15 February 2008
Version 5	ECL Customization	15 May 2008
Version 6	EFVS, (EC) 8/2008	25 September 2008
Revision 7	NADP, (EC) 859/2008	05 January 2009
Revision 8	FAST F2000EX EASy to F900EX EASy	29 May 2009
Revision 9	F900LX	6 July 2011
Revision 10	F900EX EASy II	29 September 2011
Draft Rev 11	EFVS, Steep Approach Landing	10 April 2012

Dassault Aviation has requested a JOEB process for evaluation of the Falcon 900EX EASy. Due to the various subjects, subgroups have been set up and are:

- MMEL Subgroup
- FCL & OPS Subgroup
- HUD / EVS Subgroup

The OEB Report covers the FCL-OPS activities.

OEB Report Revision 11 takes into account EFVS and Steep Approach Landing Procedure.

Contents

Dassault Aviation Documents

Falcon 900EX EASy Documents (February 2004)

F900EX EASy - DSC 03-3105 - Pilot Initial Type Rating Training Course – DA Spec
F900EX EASy - DSC 03-3516 - Pilot Initial Type Rating Training Course - Flow& Detailed Objectives
F900EX EASy - DSC03-3516 - Pilot Initial Type Rating Training Course

Falcon 900EX EASy Step 2-3, Falcon 900DX Documents (2005)

DOT 05-021-TOD - SPEC F900EX EASy step 3 training module - issue 05 - LM
DOT 05-184-TOD FSI syllabus Step3 training module - issue 01 - LM
DSC 03-3105-TOD - ANNEX A - Simulator Detailed specifications - issue 07 - YT
DSC 03-3105-TOD SPEC F900EX EASy step 3 & F900DX pilot initial training course - issue 07 - YT
DSC 03-3516-TOD Appendix to DSC 03-3105-TOD - issue 01 - YT
ODR F900EX EASy Step 3 to F900DX - DSC 04-2030-TOD issue 03 - AF
ODR F900EX EASy step2 to step3 - DOT 05-008-TOD issue 06 - LM

Operation Evaluation Board

FCL & OPS Subgroup

Capt. Xavier BARRAL
(Initial JOEB Chairman)

Capt. Thierry BOUCHEZ
(OEB Chairman)

Capt. Poul JENSEN – Advisor
(JAA/EASA Consultant)

Capt. Philippe RAUL - Advisor
(DGAC-France Flight Inspector**)**

Capt. Poul B. Rasmussen
(EASA Coordinator)

Capt. Herbert Meyer
(EASA - Section Manager, Operational Suitability – Fixed Wing)

Capt. Frank Van de Broek
(EASA – OEB Coordinator, Operational Suitability – Fixed Wing)

Preamble

The report specifies the EASA/JAA type rating and identifies the initial training, familiarization, checking and currency minimum requirements for pilots converting to the:

Falcon 900EX EASy

EASA/JAA recommends the approval of the included training course(s).

EASA/JAA recommends the attached ODR tables, when available.

EASA/JAA recommends that the licence endorsement for Falcon 900EX EASy, Falcon 900EX EASy Step 3, Falcon 900DX, and Falcon 900LX, including those aircraft modified with EASyII, will be:

Falcon 900EX EASy

EASA/JAA recommends as the only means of compliance during pilot training and day-to-day operations the use of the following Dassault Aviation documents, as authorized by a letter of the JOEB Chairman dated 02nd March 2004 :

CODDE 1 -Doc DGT91832-Airplane Description
CODDE 2 -Doc DGT84973-Operations Manual
CODDE 3 -Doc DGT92995-Quick Reference Hand Book 1
CODDE 3 -Doc DGT92996-Quick Reference Hand Book 2

The Initial course fulfils the requirements of JAR-FCL 1.261(c)(2) and associated AMC.

The EASA/JAA also recommends:

- Addendum B resulting from the evaluation performed for the Falcon 900EX EASy Step 3 Variant.

- Addendum C resulting from the evaluation performed for the Falcon 900DX variant.

- Addendum D resulting from the evaluation performed for FAST Falcon 2000EX EASy to Falcon 900EX EASy.

- Addendum E resulting from the evaluation performed for the Falcon 900LX variant.

- Addendum F resulting from the evaluation performed for the Falcon 900EX EASyII variant.

Evan Nielsen
Head of Flight Standards
EASA Certification Directorate

Date: 29 September 2011

Operational Evaluation Report

Acronyms

AC	Advisory Circular
AFM	Airplane Flight Manual
AFCS	Automatic Flight Control System
AGM	Advanced Graphic Modules
AP	Autopilot
AT	Auto throttle
CCD	Cursor Control Device
CCW	Counter Clock Wise
CODDE 1	Crew Operational Documentation for Dassault Aviation EASy - Airplane description DGT91832
CODDE 2	Crew Operational Documentation for Dassault Aviation EASy - Operation Manual DGT84973
CODDE 3	Crew Operational Documentation for Dassault Aviation EASy-QRH 1 DGT92995 and QRH 2 DGT92996
CMC	Centralised Maintenance Computer
CPT	Cockpit Procedure Trainer
CRM	Crew Resource Management
DC	Display Controller
EASy	Enhanced Avionics System
ECL	Electronic Check List
EDM	Emergency Descent Maneuver
EFIS	Electronic Flight Instrument System
EGPWS	Enhanced Ground Proximity Warning System
EICAS	Engine Indicating and Crew Alerting System
EVS	Enhanced Vision System
EFVS	Enhanced Flight Vision System
FAA	Federal Aviation Administration
FAST	Falcon Aircraft Shortened Training
FFS	Full Flight Simulator
FGS	Flight Guidance System
FMS	Flight Management System
FSB	Flight Standardization Board
FTD	Flight Training Device
GPWS	Ground Proximity Warning System
HUD	Head Up Guidance Display
I-NAV	Integrated Navigation Display
IRS	Inertial Reference System
JAA	Joint Aviation Authority
LOF	Line-oriented Flying
MAU	Modular Avionics Units
MCDU	Multi-Function Control Display Units
MDU	Multi-functions Display Units
MKB	Multi-functions Keyboard
NADP	Noise Abatement Departure Procedure
ND	Navigation Display
ORI	Operational Review Item
PDU	Primary Display Unit
PFD	Primary Flight Display
PIC	Pilot In Command
RFMU	Radio Frequency Management Unit
SFD	Secondary Flight Display
TCAS	Traffic Alert and Collision Avoidance System
TRTO	Type Rating Training Organization
VGS	Visual Guidance System
VNAV	Vertical Navigation
WOW	Weight on Wheels

Executive Summary

The European Aviation Safety Agency / Joint Aviation Authorities (EASA/JAA) conducted the Operational Evaluation (OE) as it is recommended in the JOEB handbook.

Throughout this document the designation “F900EX EASy” includes Falcon 900EX EASy, Falcon 900EX EASy Step 3, Falcon 900DX, and Falcon 900LX, including those aircraft modified with EASyII.

In the frame of FAST, the designation "F2000EX EASy" includes Falcon 2000EX EASy, Falcon 2000DX and Falcon 2000LX variants.

The Operational Evaluation was conducted using the processes detailed in the JAA document JOEB Handbook, dated December 2002 and in the FAA AC 120-53 Crew Qualification and Pilot type rating requirements for Transport Category Aircraft operated under FAR Part 121, dated 13 May 1991.

In addition, the Operational Evaluation performed for the variants F900EX EASy Step 3, F900DX, F900LX, and F900EX EASyII was made in accordance with the “Common Procedures Document for conducting Operational Evaluation” jointly signed by JAA / FAA / TCCA dated 10-Jun-2004.

JAR references, as JAR-OPS 1 (§ 1.940, 1.945,1.950, 1.965, 1.970 and 1.980 including associated appendices, AMCs and IEMs), JAR-FCL 1 (§1.215, 1.220, 1.225, 1.230 1.235,and 1.261 including associated appendices, AMCs and IEMs) requirements, have been considered.
This OEB report applies to commercial operations. However, for the reasons contained in the report, the OEB also recommends private and corporate operators to follow the findings of this report.

The OEB recommends the acceptance of this Report.

A – Operational Evaluation Report (FCL OPS Subgroup) Falcon 900EX EASy

A1.0 Purpose and Applicability

This report:

- defines the type rating assigned to the Falcon 900EX EASy
- proposes the Master Common Requirement – MCR tables
- defines the minimum line flying under supervision (LIFUS)
- recommends checking and currency

A1.1 Overview

The Falcon 900EX EASy is a new type of aircraft due to the fact the avionics is entirely a new concept, however the airframe and some other features are those of the Falcon 900EX.

For the time being Dassault Aviation has not yet considered any cross-qualification (or pilot training commonality) from other existing types of Falcons from / towards the F900EX EASy.

The EASy concept has been certified in three Steps on the F900EX EASy : Step 1, Step 2, and Step 3. Each EASy Step has upgraded and improved the avionics. All F900EX EASy have now been retrofitted into Step 3, and there is no more F900EX EASy with Step 1 or Step 2. F900DX has been certified directly with EASy Step 3. Refer to Addendum B and C of this Report for more explanations.

The JOEB team have three pilots dedicated to:

- Human Factors : one pilot was included in the Human Factors process during the certification

- Evaluation of the pilot initial type rating course : two other pilots were sent to TETERBORO (NJ, USA) to follow the first pilot initial type rating course with the task to agree this course on a JAA basis.

A1.2 General information on the flights

Capt. Xavier BARRAL (JOEB Chairman) was included in the Human Factors team and used as an expert with the certification pilots from CEV/FAA/Customers.

All the flights and their contents are included in Appendix n°4.

In parallel to have an agreed FFS the F-DGAC accepted to send a team to TETERBORO. The FFS was agreed on JAR-STD 1A Level D.

A1.3 Type rating course

Two JOEB team experts have followed the training course and a meeting with Dassault Aviation has permitted to bring the necessary changes (see Appendix n°3).

A2.0 Pilot Type Rating Requirements

In reference to JAR-FCL 1.220 and JOEB evaluation process, we recommend that the licence endorsement for the type will be:

Falcon 900EX EASy

See Appendix n°3 for the accepted Pilot Initial Type Rating Training Course. However, the normal special procedure and the pilot training have not been assessed by the JOEB.

A3.0 Master Common Requirements (MCR)

A3.1 Limitations

For all the limitations, refer to Airplane Flight Manual and/or CODDE2 manual.

A3.2 Avionics

The use of EPIC (from Honeywell) and the EASy system developed by Dassault Aviation need to have a strict adherence of the code of colours. The colors code is detailed in CODDE 1.

A3.3 Aural warnings

There are:

- fault aural warning
- EGPWS messages
- TCAS messages

Refer to CODDE 2 and / or CODDE 3.

A3.4 Aircraft approach and circling category

As per Appendix 2 to JAR-OPS 1.430(c), the Falcon 900EX EASy is classified in Category C.

A3.5 Approach profiles

F900EX EASy is certified for Steep Approaches up to 6°, and 5,5° for London City airport.

However, the normal special procedure and the pilot training have not been assessed by the JOEB.

A3.6 Abnormal and Emergency procedures

The Electronic Check-List (ECL) is the primary reference for the crew. The AFM, CODDE 3 and ECL should be updated simultaneously (to the extend practicable), to ensure that there are no discrepancy between them. However, any discrepancy that may exist due to the nature of the paper versus the electronic, should be brought to the knowledge of the Operator.

A3.7 Customization of Normal Checklists

The customization process for Normal Checklists within the ECL was evaluated by the JOEB, and was found acceptable, provided Operators comply with the guidance provided by Dassault' "General Rules - Guidance for Customizing Normal Procedures" document reference DGAC-07-DOT-097 dated 01 April 2008 at Issue 02 and as amended. This document is available at Dassault Aviation upon request.

A4.0 Master Difference Requirements (MDR)

MDR for training levels:

		FROM AIRPLANE			
		F900EX EASy	F900DX	F900LX	F900EX EASyII
TO AIRPLANE	F900EX EASy	N/A	B/B/B	B/A/A	*
	F900DX	B/B/B	N/A	B/A/A	*
	F900LX	B/A/A	B/A/A	N/A	*
	F900EX EASyII	D/B/B	D/B/B	D/B/B	N/A

Note: the difference between F900EX EASY Step 2 and Step 3 is not detailed in above MDR table, but is still tracked in Addendum B.

*: Difference course from EASyII to EASyI have not been evaluated.

A5.0 Line Flying Under Supervision - LIFUS

In the case of an initial pilot type rating on the Falcon 900EX EASy, a minimum of 10 legs plus a line check is recommended for LIFUS.

For pilots already qualified and current on Falcon 2000EX EASy and / or Falcon 7X, due to similar EASy avionic suits on Falcon 900EX EASy, the JOEB has determined that the Falcon 900EX EASy LIFUS could be reduced to 5 legs plus a line check.

A6.0 Acceptable 'Operator Difference Requirements' (ODR)

For the moment no ODR tables are available between the variants of F900EX EASy and other Falcon types, Dassault Aviation has not yet applied for a comparison with another of their products.

In JOEB Report version 3, dated 9 October 2006, the variants Falcon 900EX EASy Step 3 and Falcon 900DX have been added. Please refer to the Dassault Aviation documents in Appendix n°2 – ODR table (available on request to the Authorities).

In OEB Report version 9, the variant Falcon 900LX has been added. Please refer to Addendum E of this Report.

In OEB Report version 10, the variant Falcon 900EX EASyII has been added. Please refer to Addendum F of this Report.

A7.0 Initial pilot Training Course – Pilot Type Rating Training Course

The JOEB has determined that one Pilot Type Rating Training Course is available (refer to Appendix n°3).

At the time of the evaluation, the only FFS existing was located in TETERBORO (NJ, USA) so the pilot type rating training course were done there.

Note: the pilot type rating course is recommended for approval provided that operator specific documentation is used throughout the course.

A8.0 Familiarization / Differences Pilot Type Rating Training Course

In JOEB Report version 3, dated 9 October 2006, the variants Falcon 900EX EASy Step 3 and Falcon 900DX have been added in Addendum B and C (see pages 24 and 26).

In OEB Report version 9, the variant Falcon 900LX has been added in Addendum E of this Report.

In OEB Report version 10, the variant Falcon 900EX EASyII has been added in Addendum F of this Report.

A9.0 Checking

Proficiency checks must be conducted in accordance with JAR-FCL 1.245 ‘Type and class ratings – Validity, revalidation and renewal’ and JAR-OPS 1.965 ‘Recurrent training and checking’.

A10.0 Currency

Compliance with JAR-OPS 1.970 ‘Recent experience’ or JAR-FCL 1.026 ‘Recent experience for pilots not operating in accordance with JAR-OPS 1’ as appropriate is required for recent experience.

A10.1 OPS recommendations

Due to criticality of fuel computations, crews should be familiar with all aspects of fuel management to include normal and abnormal procedures and the manner in which fuel computations are made.

Although not required, it is highly recommended that each operator or flight training center develop an effective academic and practical upset simulator program.

A11.0 Cabin Crew Requirements

The JOEB has yet to evaluate this requirement if needed.

In the case of an JAR-OPS 1 Operator carries an official cabin crew, that person has to fulfill all the requirements contained in the Subpart O of JAR-OPS 1.

A12.0 Head Up Display – HUD

A HUD is proposed as an option on Falcon 900EX EASy. This HUD is certified for manual Cat II and Cat III operations.

The JOEB Chairman was part of the certification team who performed the simulator runs required for the HUD certification.

The HUD was found acceptable by the JOEB.

Appendix 6 of this JOEB Report provides an acceptable HGS Certification Training course, with a minimum of 4 hours of ground school instruction, followed by a minimum of 2 hours of simulator training (excluding 0.5 hour briefing). Pilots with no HGS experience will first go through an 1 hour simulator training session for HGS familiarization purposes. If HGS Familiarization Training is separated from HGS Certification Training, the familiarization course comprises 2.5 hours of ground school instruction, followed by a minimum of 1.5 hours of simulator training (excluding 0.5 hour briefing).

The check-ride further to the HGS Certification Training should last at least 1 hour, and should be conducted in accordance with Appendix 1 to JAR-OPS 1.450(g).

Note: due to similar installation and use of the HGS on Falcon 2000EX EASy, a pilot who is qualified accordingly with the HGS Certification Training course (resp. HGS Familiarization Training course) on Falcon 2000EX EASy becomes qualified de-facto for the HGS Certification Training (resp. HGS Familiarization Training) on Falcon 900EX EASy.

Crews have to be trained on the HUD, and have to follow CODDE 2 HUD procedures.

A13.0 Enhanced Flight Vision System – EFVS

EFVS modification M3802 or M5141

The JOEB has evaluated the EFVS on the basis of the Falcon 2000EX EASy EFVS which is similar, and found it satisfactory for its intended functions.

Note: the EFVS on the Falcon 2000EX EASy has been fully evaluated by the JOEB: refer to appropriate JOEB Report for more details.

The enhanced vision provided by the EFVS may not be used as a basis for descent and operation below instrument approach minimums (e.g. minimum descent altitude, decision altitude/height). Refer to appropriate CODDE2 Section for limitations, procedures, and call-outs.

The JOEB recommends the EFVS pilot training course in Appendix 8. The JOEB has determined that each pilot in command of an aircraft equipped with this EFVS should receive a minimum of 4 hours of ground school instruction followed by a minimum of 2 hours of simulator training in the left hand seat of a Level C simulator with a daylight visual display, or a Level D simulator.

In addition, the JOEB recommends special training emphasis in the following areas:

- First Officer (right seat pilot / PNF) has to be trained with a Captain (left seat pilot / PF) during the EFVS pilot training course,
- On a human factor basis, to avoid tunnel effect or any other effects affecting the Captain's perception, the task of the First Officer is very important in the final approach phase (when the real scene appears through the enhanced vision). The call-outs from both pilots, during this phase of flight, are paramount,
- The EFVS and the HGS should be used during normal flight as often as possible,
- The documentation to be used during training and day-to-day operations is CODDE1, CODDE2, CODDE3 provided by Dassault Aviation.

Note 1: Due to similar installation and use of the EFVS on Falcon 2000EX EASy, if a pilot is type rated on both the Falcon 900EX EASy and Falcon 2000EX EASy, successful completion of the Falcon 900EX EASy EFVS Pilot Training Course makes him/her qualified for using the EFVS on both types of airplanes, provided he/she is made aware, through self instruction, of the exclusivity EFVS or HGS CatII/III on the Falcon 900EX EASy, when applicable.

Note 2: The F2000EX EASy simulator can be used to train EFVS on F900EX EASy, even for those pilots who are not type rated on F2000EX EASy.

Improved EFVS modification M-OPT0145

This EFVS is an improvement to the EFVS already evaluated – see above.

The EASA OEB has evaluated this Improved EFVS on the basis of the Falcon 2000EX EASy Improved EFVS which is similar, and found it satisfactory for its intended functions.

Note: the EFVS on the Falcon 2000EX EASy has been fully evaluated by the EASA OEB: refer to appropriate OEB Report for more details.

This Improved EFVS is certified for use during all phases of flight and ground operations. The enhanced vision provided by the Improved EFVS may not be used as a basis for descent and operation below instrument approach minimums – no use of §h Appendix 1 (New) to EU-OPS1.430 (e.g. minimum descent altitude, decision altitude/height). Refer to appropriate CODDE2 Section for limitations, procedures, and call-outs.

The same recommendations as for the previous EFVS are made by the EASA OEB on this Improved EFVS:

The JOEB recommends the EFVS pilot training course in Appendix 8. The JOEB has determined that each pilot in command of an aircraft equipped with this EFVS should receive a minimum of 4 hours of ground school instruction followed by a minimum of 2 hours of simulator training in the left hand seat of a Level C simulator with a daylight visual display, or a Level D simulator.

In addition, the JOEB recommends special training emphasis in the following areas:

- First Officer (right seat pilot / PNF) has to be trained with a Captain (left seat pilot / PF) during the EFVS pilot training course,
- On a human factor basis, to avoid tunnel effect or any other effects affecting the Captain's perception, the task of the First Officer is very important in the final approach phase (when the real scene appears through the enhanced vision). The call-outs from both pilots, during this phase of flight, are paramount,
- Despite of the EVS improvements for visual situation awareness, the EVS shall never be used to deviate from CODDE2 standard escape procedures, when EGPWS, TCAS, or Windshear warnings are triggered.
- Pilots should be advised that the visual contrasts in the FFS are better than those in the aircraft;
- The EFVS as well as the HGS should be used during normal flight as often as possible,
- The documentation to be used during training and day-to-day operations is CODDE1, CODDE2, CODDE3 provided by Dassault Aviation.

Note 1: Due to similar installation and use of the Improved EFVS on Falcon 2000EX EASy, if a pilot is type rated on both the Falcon 900EX EASy and Falcon 2000EX EASy, successful completion of the Falcon 900EX EASy EFVS Pilot Training Course makes him/her qualified for using the Improved EFVS on both types of airplanes.

Note 2: The F2000EX EASy simulator can be used to train Improved EFVS on F900EX EASy, even for those pilots who are not type rated on F2000EX EASy.

Note 3: For pilots who have already been trained on previous EFVS on either F900EX EASy or F2000EX EASy, a familiarization course (Training Level B) is needed to make them qualified for using the Improved EFVS on both types of airplanes. Appendix 8, providing EFVS Pilot Training Specifications, includes specifications for this familiarization course.

A14.0 Alternate means of compliance

A14.1 Noise Abatement

Operational procedure for close-in Noise Abatement Departure Procedure (NADP)

A14.1.1 Falcon JOEB Recommendation

Dassault Aviation has proposed the Falcon JOEB to evaluate a thrust reduction procedure at 400 feet AAL during a close-in noise abatement departure procedure (NADP).

Further to the examination made by the Falcon JOEB of the substantiations provided by Dassault Aviation and the simulator trials undertaken by the Falcon JOEB (see §A14.1.2 below), the Falcon JOEB has determined that a thrust reduction at 400 feet AAL during a Noise Abatement Departure Procedure is safe and acceptable.

This thrust reduction height (400 feet AAL) can be used by Operators as an Acceptable Means of Compliance (AMC) to meet OPS 1.235 of JAR-OPS 1 and Annex III to the European Council Regulation (EEC) No. 3922/91 ("EU-OPS 1"), as amended (see applicability in paragraph A14.1.4).

Prior to operating the Falcon 900EX EASy on a close-in NADP with a thrust reduction at 400 feet AAL, the Falcon JOEB recommends the areas of training emphasizes outlined in §A14.1.3 below.

A14.1.2 Supporting substantiations provided by Dassault Aviation

This proposal has been substantiated by Dassault Aviation through:

- an analysis document (ref. DGT114673),
- an operational procedure for close-in NADP (CODDE2), and
- an evaluation of the thrust reduction procedure, based on the CODDE2 close-in NADP, using a Falcon 900EX EASy full flight simulator. This evaluation on the full flight simulator has involved a pool of 2 Falcon JOEB pilots, each being under the control of a Dassault Aviation pilot and test engineers. A total of 19 take-offs with thrust reduction at 400 feet AAL have been performed by this pool of Falcon JOEB pilots. Abnormal situations, including engine failure and windshear conditions, were introduced to assess a crew's ability to discontinue the noise abatement procedure and adopt the procedure appropriate to the abnormal condition.

No flight testing in the aeroplane was deemed necessary by the Falcon JOEB.

A14.1.3 Associated areas of training emphasizes

Prior to operating the Falcon 900EX EASy on a close-in NADP with a thrust reduction at 400 feet AAL, the Falcon JOEB recommends the following areas of training emphasizes:

- Crew must be trained using the procedure provided by Dassault Aviation in their CODDE2 (close-in NADP),
- Crew should be made aware that the CODDE2 close-in NADP - and only this one - supersedes normal Falcon 900EX EASy's Standards Operating Procedures (SOPs). Crew training should emphasize on the task sharing described in CODDE2, in particular for the thrust reduction at 400 feet AAL which is to be performed by the PNF under the authority of the PF,

- Crew training should emphasize the two key parameters during the departure briefing: N1 to be set at 400 feet AAL, and PATH angle to be set. These two parameters (reduced N1 and PATH angle) are computed by Dassault Aviation and can be found in the CODDE2,
- The initial NADP training should comprise, as a minimum, three normal take-offs, and two abnormal take-offs (e.g. engine failure / medium windshear at thrust reduction),
- The recurrent NADP training should be annually, and should include, as a minimum, one normal take-off and one abnormal take-off,
- If both pilots are intended to act as PF, all take-offs should be conducted with PF position in right seat, then PF position in left seat.

A14.1.4 Applicability to specific airports

See Attachment 1: NADP Procedure - London City Airport and Other Airports.

A15.0 Aircraft Regulatory Compliance Check-List

Falcon 900EX EASy has been shown compliant with JAR-OPS 1 Subparts K&L - see Appendix 5 for this Aircraft Regulatory Compliance Check List.

Falcon 900EX EASy, including those aircraft modified with EASyII, have also been shown compliant with Commission Regulation (EC) 859/2008 Subparts K&L which applies in the EU States starting September 20th, 2008 - see Appendix 5bis for this Aircraft Regulatory Compliance Check List.

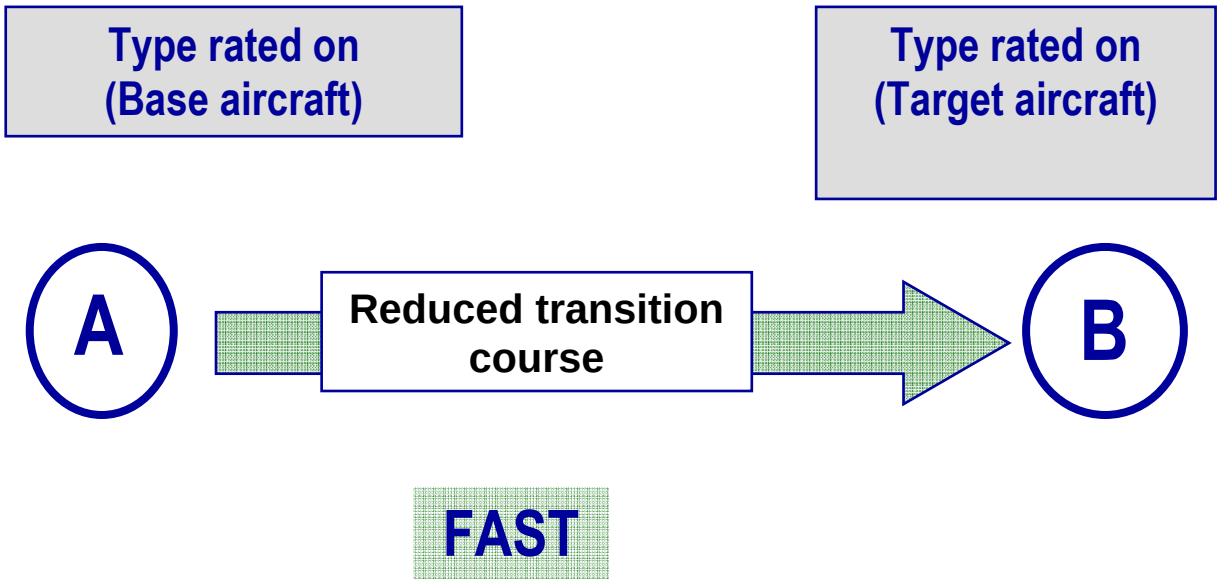
Note: Aircraft Regulatory Compliance Check List to JAR-OPS 1 Subparts K&L (Appendix 5) is kept in this JOEB Report for JAA States not belonging to the EU.

A16.0 Transition course / FAST concept:

A16.1 General concept:

FAST designation stands for Falcon Aircraft Shortened Training.

As shown in the figure here below, it designates a short transition course for a pilot being Type Rated on aircraft A, and going for a Type Rating on aircraft B:



This reduced transition training is based on the fact that aircraft A and aircraft B have similar technology, operational procedures, and handling characteristics. Those similarities are documented in ODR tables.

In the frame of FAST, the credits sought are limited to training.

A16.2 FAST F2000EX EASy to F900EX EASy:

First application of FAST concept has been demonstrated on a transition course from F2000EX EASy to F900EX EASy.

Evaluation took place on October 2008 and involved both EASA and FAA.

For further details, please refer to Addendum D.

B – Addendum Falcon 900EX EASy Step 3 to Operational Evaluation Report Dassault Falcon 900EX EASy

Addendum B includes the Dassault Aviation comments provided by memo ref. DGT311049 dated 20 February 2006.

VARIANT F900EX EASy Step 3

B1 Introduction

The Step 3 is an improvement of the existing Falcon 900EX EASy. Step 3 is defined by modification M3876, approved by certification on 08 August 2005 under n°: EASA A.C 01399.

M3876 only consists in a software modification. However JOEB considers the new functionalities have a direct impact for the crew already using the aircrafts with Step 2.

It should be noted that during the transition period during which Step 3 was certified but not retrofitted yet on all Step 2 aircraft, new aircraft were directly delivered into Step 3, and all existing Step 2 aircraft were retrofitted into Step 3 in accordance with a retrofit planning covering a period of less than one year (end of retrofit for all aircraft was June 2006).

Now, the entire fleet of F900EX EASy is flying in Step 3 configuration.

B2 Pilot Transition Training from Step 2 to Step 3

With the manufacturer, the JOEB defined what will be the differences and consequently what are the minimum pilot training requested by this modification.

As explained above, this transition training is temporary, and should be useless once all aircraft are retrofitted into Step 3.

The referenced documents for the transition training are:

- CODDE 1 (Airplane Description) ref. DGT91832 issue 04, doc F900-OPS-401
- CODDE 2 (Operations Manual) ref. DGT84973 issue 04, doc F900-OPS-402
- QRH 1 (Quick Reference Handbook 1) - ref. DGT92995 issue 5, doc F900-OPS-403
- QRH 2 (Quick Reference Handbook 2) - ref. DGT92996 issue 5, doc F900-OPS-404
- ODR F900EX EASy Step 2 to Step 3, ref. DOT 05/008-TOD issue 06, doc F900-OPS-410-1
- DA general Pilot Training spec. for F900EX EASy Step 3, ref. DOT 05/021-TOD issue 05, doc F900-OPS-411-1 titled "Dassault Aviation specifications for the pilot training for the third certification of Falcon 900EX EASy ("Step 3")"
- FSI syllabus for Pilot Training, F900EX EASy Step 3, ref. DOT 05/184-TOD issue 01, doc F900-OPS-412 titled "Flight Safety International (FSI) syllabus for the pilot training of the third certification of Falcon 900EX EASy ("Step 3")"

The Master Difference Requirements (MDR) table is:

		FROM Airplane	
		F900EX EASy Step 2	**F900EX EASy Step 3**
TO Airplane	**F900EX EASy Step 2**	**N/A**	**N/A**
	F900EX EASy Step 3	**C / B / B**	**N/A**

Pilot training device to transition from a Step 2 aircraft to a Step 3 aircraft is at the minimum:
- FTD according to JAR STD 2A, or FBS (Fixed Based Simulator).

B3 Pilot Initial Training on Step 3

The referenced documents for the initial training are :

- CODDE 1 (Airplane Description) ref. DGT91832 issue 04 or later issue, doc F900-OPS-401
- CODDE 2 (Operations Manual) ref. DGT84973 issue 04 or later issue, doc F900-OPS-402
- QRH 1 (Quick Reference Handbook 1) - ref. DGT92995 issue 5 or later issue, doc F900-OPS-403
- QRH 2 (Quick Reference Handbook 2) - ref. DGT92996 issue 5 or later issue, doc F900-OPS-404
- General Pilot Training Specifications for F900EX EASy/F900DX, ref. DSC 03/3105-TOD issue 07 or later issue, doc F900-OPS-411-2 titled "Dassault Aviation specifications F900EX EASy & F900DX Pilot Initial Type Rating Training Course"
- Detailed Pilot Training Specifications for F900EX EASy/F900DX, ref. DSC 3/3516-TOD issue 01 or later issue, doc F900-OPS-411-2 titled "Appendix to Dassault Aviation specifications F900EX EASy & F900DX Pilot Initial Type Rating Training Course"

B4 Pilot Licence Endorsement

JOEB recommends that the pilot licence endorsement remains the same as for F900EX EASy Step 1 / Step 2, that is to say:

Falcon 900EX EASy.

C – Addendum F900DX to Operational Evaluation Report Dassault Falcon 900EX EASy

Addendum C includes Dassault Aviation comments provided by memo ref. DGT311049 dated 20 February 2006.

VARIANT FALCON 900DX

C1 Introduction

During the JOEB meeting held in Paris on 15/16th February 2005, the JOEB has reviewed the ODR tables dealing with this proposed variant, i.e. F900EX EASy Step 3 towards F900DX (see appendix 2, see Table of Contents on page 5), and also the General Pilot Training Specifications for F900EX EASy / F900DX. These documents were presented by Dassault Aviation.

The F900DX is a F900EX EASy Step 3 with the application of modification M4000.

The modification M4000 concerns mainly the fuel system:

- removal of rear fuel tank, and
- full capacity of 18830 lbs for the F900DX (range 4000 Nm) instead of 21000 lbs for the F900EX EASy (range 4500 Nm).

C2 JOEB Evaluation

A visit of the first aircraft (s/n 601) was scheduled as soon as it is at our disposal.

This visit was done on 11th July 2005 in Dassault Aviation facilities in Bordeaux-Mérignac.

The aircraft was presented to Captain Xavier Barral (JOEB Chairman for Dassault Aviation) by Etienne Faurdessus (Dassault Aviation test pilot), Louis Hucher (JOEB focal point Dassault Aviation), Christophe Giraudeau (Dassault Aviation).

JOEB had the following questions:

- protection of weights and balance,
- managing of fuel system, cruise transfers,
- ECL: specific or generic.

With the help of the Dassault Aviation's team, we used the EASy concept on the ground, aircraft powered by GPU.

The JOEB followed the normal flow proposed in CODDE 2 and we introduced several flights synopsis.

1. We changed TO (take-off) weights to see if the protections were there and LW (landing weight) as well (Step 3 does not permit to enter weights out of range of this variant : the crew is advised by an amber message and you cannot continue the normal flow)
2. Fuel system: we passed on review all the fuel chapter with the use of normal, abnormal and emergency check-lists in both ways: ECL and QRH (paper).

No discrepancies were found and that satisfied the JOEB concerns about this variant.

The results of ODR tables were founded satisfactory and were endorsed by the JOEB.
Consecutively the MDR table for that variant is:

		FROM AIRPLANE	
		F900EX EASy	F900DX
TO AIRPLANE	F900EX EASy	N/A	B/B/B
	F900DX	B / B / B	N/A

C3 Operational Documentation

The final version of the CODDEx applicable to F900DX was released last October 2005 and EASA gave the type certificate subsequently on 21 October 2005 (reference of EASA approval of M4000 is AC 02186).

JOEB recommends approval of the following Dassault Aviation documents:

- CODDE 1 issue 01- Airplane Description (Ref DGT100785)
- CODDE 2 issue 01-Operations Manual (Ref DGT101524)
- CODDE 3 QRH 1 issue 01 (Ref DGT101235)
- CODDE 3 QRH 2 issue 01 (Ref DGT101236)
- ODR tables F900EX EASy Step 3 towards F900DX, ref. DSC 04/2030-TOD issue 03, doc F900-OPS-410-2
- General Pilot Training Specifications for F900EX EASy/F900DX, ref. DSC 03/3105-TOD issue 07, doc F900-OPS-411-2 titled "Dassault Aviation specifications F900EX EASy & F900DX Pilot Initial Type Rating Training Course"
- Detailed Pilot Training Specifications for F900EX EASy/F900DX, ref. DSC 3/3516-TOD issue 01, doc F900-OPS-411-2 titled "Appendix to Dassault Aviation specifications F900EX EASy & F900DX Pilot Initial Type Rating Training Course"

ATTENTION
The pilot initial type rating training course of the Falcon 900EX EASy includes the specificities of the F900DX variant. In other words, the same pilot initial type rating training course must be taken for pilots of F900EX EASy and for pilots of F900DX.

Note : For pilots already type rated on the F900EX EASy without having followed a pilot initial type rating training course which included the F900DX specificities, a one hour specific module stressing on F900DX specificities must be taken by these pilots to be authorized to fly the F900DX variant. This one hour module could be included in a recurrent course.

C4 Pilot Licence Endorsement

JOEB recommends adoption of this variant: F900EX-M4000, called commercially F900DX. The JOEB recommends that the same pilot type rating (single licence endorsement) as the F900EX EASy be applied to the F900DX, i.e:

Falcon 900EX EASy

The Appendix 1 to JAR-FCL 1.220 has therefore to be updated with this variant as follows :

1 **Manufacturer**	**2** **Aeroplanes**	**3**	**4** **Licence Endorsement**
Dassault	Falcon 900EX EASy Falcon 900DX		Falcon 900EX EASy

Addendum D – Falcon Aircraft Shortened Training - Falcon 2000EX EASy to Falcon 900EX EASy

D1 Introduction

This addendum covers Falcon Aircraft Shortened Training (FAST) from F2000EX EASy to F900EX EASy.

D2 Transition from F2000EX EASy to F900EX EASy:

FAST is aimed at pilots with a type rating on F2000EX EASy who are willing to become qualified on F900EX EASy. In addition to being F2000EX EASy type rated, the following pre-requisites shall be met by all FAST program participants by applying:

- A minimum of 150 hours PIC and/or Co-pilot time on the base aircraft
- And by adding the following requirements:
    - A proficiency check must have been performed on the base aircraft within the previous 12 months
    - An approved knowledge test, proposed by the training provider, must have been passed prior to beginning the FAST course.

		FROM AIRPLANE	
		F2000EX EASy/DX/LX	F900EX EASy/DX/LX
TO AIRPLANE	F2000EX EASy/DX/LX	N/A	No Credit
	F900EX EASy/DX/LX	E (training credits)	N/A

D3 Operator Difference Requirements

Operators Difference Requirements are provided in the following document:

> Operator Differences Requirements - FAST - F2000EX EASy to F900EX EASy (ref. DGAC08DSOF096 Issue 01 dated 2-Oct-2008).

D4 Training Specifications

Training specifications are provided in the following document:

> FAST F2000EX EASy to F900EX EASy - Technical Specifications (ref. DGAC08DSOF095 Issue 02 dated 4-Nov-08).

D5 Checking and Currency:

Checking is conducted on the F900EX EASy.

Under the FAST concept, pilot type rating check is a full skill test (it is not limited to the differences identified in the ODR table).

Demonstration conducted with EASA focused on initial transition training. No credit for checking and currency have been sought.

D6 Operational Documentation

The existing CODDEx documentation of each aircraft remains applicable.

D7 Pilot Licence Endorsement

Existing Pilot Licence Endorsement designations remain applicable.

E – Addendum to Operational Evaluation Board Report Dassault Falcon 900EX EASy

VARIANT FALCON 900LX

E1 Introduction

Dassault Aviation applied in March 2010 to EASA Flight Standards for the evaluation of Falcon 900LX, which is the commercial designation of a Falcon 900EX EASy fitted with winglets installed per Modification M5281. Dassault Aviation proposed the F900LX be a variant to F900EX EASy.

ODR tables dealing with this proposed variant, i.e. F900EX EASy towards F9000LX, are provided in Dassault Aviation document DGAC10DSOF001.

T2 test have been performed by EASA OEB pilot. T2 test was arranged from Dassault Aviation flight test base. T2 test has demonstrated that following winglets installation there is no adverse differences in handling characteristics and no perceptible differences in aircraft stability and manoeuvring characteristics.

E2 Master Difference Requirement (MDR) - Transition from F900EX EASy / F900DX to F900LX

		FROM AIRPLANE		
		F900EX EASy	F900DX	F900LX
TO AIRPLANE	F900EX EASy	N/A	B/B/B	B/A/A
	F900DX	B/B/B	N/A	B/A/A
	F900LX	B/A/A	B/A/A	N/A

E3 Operational Documentation

CODDEx version applicable to F900LX is listed here below. OEB recommends approval of the following Dassault Aviation documents:

- CODDE 1 (Airplane Description) ref. DGT91832 Revision 10
- CODDE 2 (Operations Manual) ref. DGT84973 Revision 16
- QRH 1 (Quick Reference Handbook 1) - ref. DGT92995 Revision 15
- QRH 2 (Quick Reference Handbook 2) - ref. DGT92996 Revision 14

F900LX cruise performance are covered in a specific Performance Manual: DGT122758.

E4 Familiarization training

The pilot initial type rating training course of the Falcon 900EX EASy includes the specificities of the F900LX variant. In other words, the same pilot initial type rating training course must be taken for pilots of F900EX EASy and for pilots of F900LX.

Note: For pilots already type rated on the F900EX EASy without having followed a pilot initial type rating training course which included the F900LX variant, a familiarization course (training Level B) covering the difference between the F900EX EASy and the F900LX must be taken by these pilots to be authorized to fly the F900LX variant. In-house training is acceptable, provided Dassault Aviation documentation is used.

The training areas of special emphasis applicable to the F900LX are the following:

- Effect of high speed Arthur failure with AP coupled
- Use of nose wheel steering (NWS) during cross-wind take-off (> 15 knots)
- In case of maximum fuel asymmetry, marked roll tendency during the flare.
- Modification of flight preparation, with restriction on center of gravity (CG) computation.

E5 Pilot Licence Endorsement and determination of pilot type rating

OEB recommends adoption of F900LX as a variant to F900EX EASy/DX.

The OEB recommends that the same pilot type rating (single licence endorsement) as the F900EX EASy and F900DX be applied to the F900LX, i.e:

Falcon 900EX EASy

The JAA Class and Type Ratings List and Endorsement List (Aeroplanes) (Table 8) has therefore to be updated with this variant as follows:

1 Manufacturer	2 Aeroplanes		3	4 Licence Endorsement
	Model	Name		
Dassault		Falcon 900EX EASy F900DX F900LX		Falcon900EX EASy

F – Addendum to Operational Evaluation Board Report Dassault Falcon 900EX EASy

VARIANT FALCON 900EX EASyII

F1 Introduction

Dassault Aviation applied in May 2010 to EASA Flight Standards for the evaluation of Falcon 900EX EASyII, which is a Falcon 900EX EASy with Modification M5340. The application was a joint application with the FAA FSB. Dassault Aviation proposed the F900EX EASyII be a variant to F900EX EASy.

Major EASyII avionics functions evaluated included the following:

- SBAS (Satellite-Based Augmentation System) GPS
- ADS-B Out (Automatic Dependent Surveillance – Broadcast)
- RAAS (Runway Awareness Advisory System)
- ADM (Automatic Descent Mode)
- Paperless Charts
- LPV approach capability
- SVS (Synthetic Vision System)
- XM™ graphical weather display

EASA OEB found F900EX EASyII operationally suitable provided crew are trained in accordance with the recommendations of this Addendum, and operate the aircraft in accordance with Dassault Aviation CODDE documents philosophy or equivalent.

Note: EASy avionics prior EASyII is called EASyI for the purpose of this Addendum, except for §F6.

Sample ODR tables dealing with this proposed variant, i.e. F900EX EASy towards F9000EX EASyII, are provided in Dassault Aviation document DGAC08DSOF091.

EASA OEB agreed with Dassault Aviation proposal to follow the “T test” process as described in the CPD: T1, T2, T3 tests.

- T1 test: T1 test has been waived and integrated in T3 test.

- T2 test: EASA OEB has accepted Dassault Aviation analysis showing that T2 test is successfully passed. The analysis shows that wings, fuselage, and engines, are the same between F900EX EASy and F900EX EASyII, so that handling qualities are unchanged with M5340 applied.

- T3 test: T3 test has been conducted by EASA OEB pilots on a F900EX EASyII full flight simulator: appropriate portion of the proficiency check / LOF-oriented has been administered. EASA OEB pilots were first given the difference training course F900EX EASy/DX/LX → F900EX EASyII.

Note: for the purpose of this addendum, a cockpit Procedure Trainer (CPT) is a training device which represents the cockpit environment including the cockpit controls, displays and computer programs necessary to represent the aircraft in ground and flight operations to the extent that the systems appear to function as in an aeroplane.
The purpose of the CPT is to allow learning the functioning of the controls and displays as well as practicing CRM principles and application of procedures.

A CPT is based on software issued from FFS simulation, with the exception of Avionics, which is rehosted from the Aircraft software; it is validated for its intended use.

F2 Master Difference Requirement (MDR) - Transition from F900EX EASy / F900DX / F900LX to F900EX EASyII

Refer to paragraph A4.0 of this Report.

F3 Operational Documentation

CODDEx version applicable to F900EX EASyII is listed here below. OEB recommends approval of the following Dassault Aviation documents:

- CODDE 1 (Airplane Description) ref. DGT91832 Revision 11
- CODDE 2 (Operations Manual) ref. DGT84973 Revision 18
- QRH 1 (Quick Reference Handbook 1) - ref. DGT92995 Revision 17
- QRH 2 (Quick Reference Handbook 2) - ref. DGT92996 Revision 16

F4 Difference training:

The prerequisite to this difference training course is:

- Either a valid type rating on F900EX EASyI, or
- A full initial type rating training on F900EX EASyI, up to but excluding the check ride.

As a result of the OEB evaluation, a footprint for the difference training course consisting in 4 hours ground course, 3 hours Cockpit Procedure Trainer (or by default a fixed base simulator without visual facilities) and 2 hours full flight simulator for each crew member has been found to comply with the applicable regulation and Sample ODR Levels.

F4.1 Training Areas of Special Emphasis

The training areas of special emphasis applicable to difference training course F900EX EASy/DX/LX → F900EX EASyII are the following:

- Proficiency in using FPV vertical and lateral displacement in new IPFD design
    - The Flight Path Vector, as well as Flight Director, is now subject to wider displacements in case of turbulence, crosswind, or engine failures. The pilot shall be proficient in using the uncaged FPV, especially in low speed maneuvers such as loss of lateral engine after take-off, or strong crosswind during take-off. Pilots must be alerted to the wide scale relative to pitch attitude and path to avoid over-controlling.
- Proficiency in performing ILS/LPV approaches in raw data
    - Due to the new layout of the IPFD, the sensitivity of the FPV has increased, pilots should be made aware of this new feature, training in this area should focus on maintaining the desired flight path especially during turbulent conditions.
- Proficiency in using FPV in connection with synthetic vision (terrain, virtual runway)
    - The display of the synthetic vision should be cross-checked with references to ground based navigation aids, pilots must be alerted that the relevance of the synthetic vision depends on GPS accuracy, as well as terrain and airport database. Note: The SVS should only be used for situational awareness.
- Proficiency in using all Flight Management Computer Windows

- There are multiple small changes relative to departure and approach windows, pilots must be alerted to and trained on these changes.

- Proficiency in using TO and GA modes of EASyII.

F5 Checking

Checking level B, could be under the format of multiple choice questionnaires, and should include as a minimum all items listed in F4.1 above.

F6 Currency

- Pilot current on Falcon 900EX EASyI have to undergo the difference course in order to be proficient on Falcon 900EX EASyII.

- To maintain currency on the Falcon 900 EASyI and/or Falcon 900EX EASyII the following applies:

i. If a pilot has not flown on one variant for more than 6 months, he must perform a self-review on that variant prior to flying on that variant.
ii. If a pilot has not flown on one variant for more than one year, he must perform a minimum two hours Cockpit Procedure Training (CPT) session on that variant, covering the differences between EASyI and EASyII specially take off and go around procedures.
iii. If the Falcon 900EX EASyII has not been flown within a period of 2 years following the differences training, further differences training or a proficiency check on that variant will be required.
iv. If the Falcon 900EX EASyI has not been flown within a period of 2 years, the pilot shall meet any refresher training requirements as determined by the Authority and complete a proficiency check in accordance with Appendices 1 and 2 to JAR–FCL 1.240.

F7 Pilot Licence Endorsement and determination of pilot type rating

OEB recommends adoption of F900EX EASyII as a variant to F900EX EASy/DX/LX.

The OEB recommends that the same pilot type rating (single licence endorsement) as the F900EX EASy, F900DX, and F900LX be applied to the F900EX EASyII, i.e:

Falcon 900EX EASy

The JAA Class and Type Ratings List and Endorsement List (Aeroplanes) (Table 8) has therefore to be updated with this variant as follows:

1 Manufacturer	**2 Aeroplanes**		**3**	**4 Licence Endorsement**
	Model	**Name**		
Dassault		Falcon 900EX EASy Falcon 900DX Falcon 900LX	(D) **7**	Falcon900EX EASy
		Falcon 900EX EASyII Falcon 900DX EASyII Falcon 900LX EASyII		
	7 The differences training course is valid from the Falcon 900EX EASy/DX/LX to the Falcon 900EX EASy/DX/LX modified with EASyII (M5340) for crewmembers previously qualified on the Falcon 900EX EASy/DX/LX. The Falcon 900EX EASy/DX/LX modified with EASyII (M5340) to Falcon 900EX EASy/DX/LX differences training shall be evaluated or a full type rating training shall be accomplished.			

G – Addendum to Operational Evaluation Board Report Dassault Falcon 900EX EASy

STEEP APPROACH LANDING

G.1 General Description of the Steep Approach

G.1.1 A Steep Approach is used primarily when there are obstacles in the approach path that are too high to allow a normal 3° approach path. An app roach path angle of 4,5 degrees or more is considered a steep approach.

G.1.2 The EASA OEB has determined that the conduct of steep approach landing operations requires no higher piloting skill level that than of normal 3° approaches. However, since steep approach landing operations are often tailored to demanding airports - located in mountainous areas, having short runways - the EASA OEB requires flight training, including briefing (no formal academic training, i.e. no classroom training), for competency in conducting steep approach landing operations.

G.1.3 The EASA OEB found that Falcon 900EX EASy Series are operationally suitable for steep approach landing operations up to an approach path angle of 6.0 degrees with aircrew trained in accordance with the requirements set in this addendum, and using associated CODDE2 procedures provided by Dassault Aviation.

G.2 The Operational Suitability Evaluation process

An Operational Suitability Evaluation of Falcon 900EX EASy Series Steep Approach, using a Falcon 900EX EASy full flight simulator was performed by EASA OEB on 25 October 2011. No flight testing in the aeroplane was deemed necessary by the EASA OEB.

G.3 EU-OPS Requirements for Steep Approach Procedures

The following EU-OPS and associated AMC references relate to steep approaches:

- Appendix 1 to OPS1.515(a)3: Steep approach procedures
- EU-OPS1.975: Route and aerodrome competence qualification
- AMC OPS1.975 §5 (TGL44): Route and aerodrome competence qualification (Category C aerodrome)

G.4 Falcon 900EX EASy References

Refer to appropriate CODDE2 and AFM Annexes.

G.5 Steep Approaches Aerodrome Requirements

Operators must comply with any aerodrome specific requirements for steep approaches (e.g. in London City - EGLC).

Note: Pilots performing steep approaches at Lugano airport (LSZA) must be informed about the Dassault letter titled "Falcon - Lettre de non-objection pour les approches de Lugano" (Reference DGT-DTC/CER 568463 dated 22 June 2006). This letter specifies that Dassault has no objection regarding the initial phase of the approach flown at 6.65º provided that the aircraft is operated in accordance with the AFM or the associated operating manual, and that the operator has obtained operational approval from the competent Authority.

G.6 Specifications for Training

G.6.1 Pilot Training Prerequisite

No prerequisite is required before entering the Steep Approach pilot course except a current type rating on the aeroplane, or full initial type rating training up to, but excluding, the check ride.

G.6.2 The crew must be trained in using the procedure provided in the Dassault Aviation CODDE2 Operating Manual (Normal Operations - Special Procedures - Operations) or in the equivalent company SOP's.

The Steep Approach pilot training course can be included as an integral part of the aeroplane type rating training course.

G.6.3 Steep Approach Pilot Training Programme

G.6.3.1 Flight Training

Flight training (as PF or PNF) may be conducted in a Level C or D FFS, or in the aircraft with a Type Rating Instructor (TRI) and must address the following:

- Briefing prior to the simulator session, or during the flight preparation to include: AFM/CODDE2 Limitations, Normal / Abnormal Procedures, Performance with special emphasis on increased landing distance.
- Phases of the Steep Approach, to include: Stabilized approach concept as a key success for steep approach landing, appropriate slats / flaps configuration, approach speed, and flare initiation.

G.6.3.2 Initial Training

The initial training should comprise, as a minimum, three Steep Approaches:

- one approach following a 5.5° Approach Path Angle with full stop landing to comply with normal procedures; and
- one approach following a 6° Approach Path Angle with engine anti-ice management introducing an abuse in speed, managed by crew using AB1 and AB2 alternatively (pilot has to demonstrate his ability to be stabilized at 1000 ft), until touchdown followed by a go-around; and
- one approach following a 5.5° or 6° Approach Path Angle with an engine failure below 400 ft, followed by a full stop landing or a go-around at pilot discretion.

When a HUD is installed, the OEB recommends to perform the first approach using the HUD (final phase is VMC), and in accordance with the CODDE2/AFM Limitations section applicable for steep approaches. In flight, the OEB recommends HUD use during the VMC phase.

G.6.3.3 Recurrent Training

The Recurrent Steep Approach training should be performed every 6 months, and should include, as a minimum, one Steep Approach and a second Steep Approach where non-normal situations are introduced during the Approach.

G.6.3.4 Training Areas of Special Emphasis

The approach briefing should include all aspects of the Steep Approach, including as a minimum:

- normal and abnormal procedures during the Steep Approach;
- transition from a glide path reference system to a visual glide path indicating system; and
- computation of the field length data when using steep approach criteria.

The crew should become proficient on the task sharing described in the Special Procedure for Steep Approach, in particular regarding go-around. Both pilots shall be trained in the procedure as PF and PNF, as applicable.

G.6.3.5 EASy II Differences

Differences regarding the EASy II cockpit are addressed in a ground course, describing the flight management windows (descent / approach phase of flight and landing configuration tab).

G.7 Recent Experience / Currency

The OEB determined that there are no specific recent experience or currency requirements for Steep Approaches.

G.8 Training credit

Training credit (Initial and Recurrent) can be given for Steep Approaches training performed on Falcon 2000EX EASy Series.

G.9 Period of Validity of Competence

Before performing Steep Approach Landing Operations, an operator shall ensure that the pilot in command fulfills the same requirements of EU-OPS1.975(b)(c) and (d).

G.10 Checking Requirements

There is no requirement for knowledge checking or flight proficiency testing for Falcon 900EX EASy Series steep approach qualification.

Proof of completion of Falcon 900EX EASy Series or Falcon 2000EX EASy Series steep approach training is sufficient to demonstrate qualification.

Attachment 1

NADP Procedure - London City Airport / Other Airports

1. Applicability to London City Airport

This procedure has been assessed by the Falcon JOEB team for London City Airport.

Refer to Dassault CODDE2, reference DGT84973.

2. Other Airports

The process and the associated close-in NADP procedure have been developed for the London City Airport, and can be validated for other airports, provided:

- The new NADP procedure is accepted by the local Authority, and
- All obstacle clearance requirements are fulfilled.