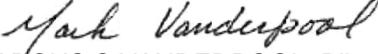


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Signature	 MARCUS S.VANDERPOOL, Pilot and Maintenance Training, Textron Aviation

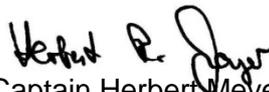


## **Operational Suitability Data (OSD) Flight Crew**

**Cessna Model C-510 (Mustang)**

**10 February 2015**



**CESSNA C-510 (Mustang)****Operational Suitability Data (OSD) – Flight Crew**

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**Revision Record**

<b>Rev. No.</b>	<b>Content</b>	<b>Date</b>
OEB Report Rev 2	Operational Evaluation Board Report Cessna C-510	22 Oct 2010
OSD FC Original	Replaces and incorporates the OEB report (Rev. 2) for the Cessna C-510	10 Feb 2015

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## Acronyms

ADC	Air Data Computer
AFCS	Automatic Flight Control System
AFM	Airplane Flight Manual
AHRS	Attitude and Heading Reference System
AP	Autopilot
CAS	Crew Alerting System
CPD	Common Procedures Document for conducting Operational Evaluation Boards, dated 10 June 2004
CS-FCD	Certification Specifications for Operational Suitability Data (OSD) Flight Crew Data CS-FCD, Initial issue, 31 January 2014
CS-FSTD(A)	Certification Specifications for Aeroplane Flight Simulation Training Devices of 4 July 2012
Difference Level	a designated level of difference as defined in CS-FCD
EASA	European Aviation Safety Agency
EFIS	Electronic Flight Instrument System
EGPWS	Enhanced Ground Proximity Warning System
EICAS	Engine Indicating and Crew Alerting System
EU-OPS	Commission Regulation (EC) No 859/2008 of 20 August 2008 amending Council Regulation (EEC) No 3922/91 as regards common technical requirements and administrative procedures applicable to commercial transportation by aeroplane
FADEC	Full Authority Digital Engine Control
FD	Flight Director
FDR	Flight Data Recorder
FFS	Full Flight Simulator (Level C or D)
FMS	Flight Management System
FTD	Flight Training Device
GPWS	Ground Proximity Warning System
DH	Decision Height
LED	Light Emitting Diode
LST	License Skill Test
MDA	Minimum Descend Altitude
MFD	Multi-Function Display
MSA	Minimum Safe Altitude
MTOM	Maximum Take Off Mass
OAT	Outside Air Temperature
OEB	EASA Operational Evaluation Board
OPC	Operator Proficiency Check
OSD	Operational Suitability Data

Part-FCL.....	Annex I to Commission Regulation (EU) No 1178/2011 of 3 November 2011 laying down technical requirements and administrative procedures related to civil aviation aircrew pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council (as amended)
Part-ORO.....	Annex III to Commission Regulation (EU) No 965/2012 of 05 Oct 2012 laying down technical requirements and administrative procedures related to air operations pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council (as amended)
Part-SPA.....	Annex V to Commission Regulation (EU) No 965/2012 of 05 Oct 2012 laying down technical requirements and administrative procedures related to air operations pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council (as amended)
OTD .....	Other Training Device
PF .....	Pilot Flying
PFD .....	Primary Flight Display
PNF .....	Pilot Non Flying
Route Sector .....	as defined in Part-FCL ["Route sector" means a flight comprising take-off, departure, cruise of not less than 15 minutes, arrival, approach and landing phases]
RVSM .....	Reduced Vertical Separation Minimum
SOP .....	Standard Operating Procedures
TAWS .....	Terrain Awareness Warning System
TCAS .....	Traffic Alert and Collision Avoidance System
TCDS .....	Type Certificate Data Sheet

## Preamble

### 1. Introduction

Where references are made to requirements and where extracts of reference texts are provided, these are at the amendment state at the date of evaluation or publication of this document. Users should take account of subsequent amendments to any references, in particular concerning requirement for civil aviation aircrew and air operations.

Determinations made in this document are based on the evaluations of specific configurations of aircraft models, equipped in a given configuration and in accordance with current regulations and guidance.

Modifications and upgrades to the aircraft evaluated require additional OSD assessment for type designation, training / checking / currency, operational credits, and other elements within the scope of the OSD evaluations.

In accordance with Commission Regulation (EU) No 69/2014 of 27 Jan 2014, the Operational Suitability Data contained in this document are identified as follows:

**[M]** ..... mandatory Operational Suitability Data, bearing the status of rule (see GM No 3 to 21A.15(d))

**[AMC]** ..... non-mandatory Operational Suitability Data, bearing the status of Acceptable Means of Compliance (see GM No 3 to 21A.15(d))

### 2. C-510 operational evaluation

An operational evaluation of initial pilot type rating training was performed by one OEB pilot during the period 30 April - 11 May 2007 at Flight Safety International (FSI) in Wichita, Kansas.

The aircraft configuration of the evaluated model was in accordance with EASA TCDS EASA.IM.A.502 of 21 May 2007.

The evaluation was performed in accordance with the Common Procedures Document (CPD), EU-OPS and JAR- FCL1 and are compliant with the provisions of CS-FCD.

**3. Operational Evaluations – Group Composition**

<b>Name</b>	<b>Organization</b>	<b>Function</b>
Per Kirk Laursen <sup>1)</sup>	EASA	OEB Chairman
Herbert Meyer <sup>2)</sup>	EASA	EASA Section Manager
Evan Nielsen <sup>1)</sup>	EASA	EASA Flight Standards Manager
Poul Rasmussen <sup>1)</sup>	EASA	OEB Section Manager Business Jets

<sup>1)</sup> Operational evaluation May 2007

<sup>2)</sup> OSD transition Oct 2014

## **Operational Suitability Data (OSD) – Flight Crew**

### **1. Aircraft Type Designation and Pilot License Endorsement [M]**

With reference to Part-FCL, FCL.010 ('type of aircraft') and GM1 FCL.700, the C-510 has been evaluated for aircraft categorisation and license endorsement.

The license endorsement is established as "C510".

Manufacturer	Aircraft Model / Name	License Endorsement	Variants	Complex	SP / SP HPA / MP	OEB FC REPORT / OSD FC available	Remarks
Cessna	510 (Citation Mustang)	C510	–	X	SP HPA	X	OSD FC C-510, dated 27 Jan 2015

### **2. Aircraft Specifics**

The C-510 is a low wing aircraft with retractable tricycle landing gear, T-tail, pressurized cabin, and two turbofan engines which are pylon mounted on the rear fuselage. The maximum operating altitude is 41.000 feet, the Vmo/Mmo are 250 kts/M 0.63, and the MTOM is 3921 kgs. The aircraft is certified for a minimum crew of one pilot, specific operations may require a crew of two pilots.

#### **2.1 Aircraft Approach Category [M]**

With reference to Part-CAT, CAT.OP.MPA.320(b) the minimum straight-in approach category for the C-510 is as follows:

Aircraft	Category
C-510	B

#### **2.2 All Weather / Low Visibility Operations [AMC]**

The operational evaluations were limited to Approach Category I operations and standard take-off minima.

### **3. Operator Differences Requirements (ODR)**

Not applicable.

### **4. Master Differences Requirements (MDR)**

Not applicable.

## **5. Specifications for Pilot Training**

### **5.1 C-510 Initial Type Rating Training**

#### **5.1.1 Prerequisites**

**[M]** Pilot pre-requisites are contained at Appendix 1.

**[AMC]** Pilots should be familiar with the Garmin 1000 avionics operation and EFIS/FMS systems prior to C-510 initial type rating training.

#### **5.1.2 Training syllabus**

**[M] 5.1.2.1** Training must be in compliance with the elements contained at Appendix 1.

**[AMC] 5.1.2.2** The training syllabus evaluated by EASA is the Cessna Citation Mustang (C-510) Type Rating Training Programme, dated 25 April 2007. Training consists of classroom instruction and programmed instruction in OTD and FFS. Classroom instruction is mixed with OTD instruction and FFS lessons as a follow up on each day subjects. OTD sessions are designed to reinforce classroom learning, as well as to introduce crews to SOPs, normal, abnormal, and emergency check list application, as well as to the practical operation of the aircraft.

#### **5.1.3 Training Areas of Special Emphasis (TASE)**

**[M]** The following item must receive special emphasis during initial type rating training:

- Interpretation and use of the Crew Alerting System (CAS) combined with the Pilots' Abbreviated Checklist.

## **6. Line Flying Under Supervision (LIFUS) / Supervised Operating Experience (SOE) / Familiarization Flights**

LIFUS should be performed in accordance with ORO.FC.220 and AMC1 ORO.FC.220(e). Furthermore, GM1 ORO.FC.220(d) provides guidelines for operators to use when establishing their individual requirements. Supervised Operating Experience (SOE) may be established in accordance with Part-FCL, FCL.720.A (g) through the operational suitability evaluation.

**[M]** Pilots obtaining an initial type rating on a C-510 without previous experience on a turbo-jet, pressurised turbo-prop, or multi-engine turbo-prop aircraft must receive the number of hours of LIFUS / SOE as shown in the table of Appendix 1.

**[AMC]** Where there is a change of operating conditions or route structure this should be taken into account and may need additional route sectors to cover these elements.

## 7. Recurrent Training

Recurrent training must be compliant with EU regulations for civil aviation aircrew and air operations, as applicable, and include the identified Training Areas of Special Emphasis.

**[AMC]** The applicable requirements established in EU regulations for civil aviation aircrew and air operations should be considered as a minimum and expanded, as appropriate, for pilots who have had only limited exposure and/or who do no longer fulfil the currency requirements.

**[M]** Operators must establish an approved recurrent training and checking programme which is relevant to the aircraft variant(s) flown and its intended operation.

**[AMC]** The requirements for a recurrent training programme may vary with several factors which have a significant influence. Some of these factors are: actual exposure of the flight crew member(s), specific routes and aerodromes used by the operator and new developments in technology. These factors and/or a combination thereof will determine the required recurrent training.

## 8. Specification for Checking

Part-FCL, Appendix 9, A. paras. 13 - 17 contain specific requirements for the skill test / proficiency check for SP aeroplane type ratings, when operated in MP operations.

**[M]** With reference to Part-FCL, Appendix 9 B., initial and recurrent testing/checking must follow the Part-FCL profile for "Multi-Pilot Aeroplanes and Single-Pilot High-Performance Complex Aeroplanes"

**[M]** In accordance with Part-FCL, Appendix 9 B.6.(h), when a skill test or proficiency check is performed in MP operations, the type rating shall be restricted to MP operations. If privileges of SP are sought, the manoeuvres / procedures referenced in B.6.(h) must be completed in addition as SP.

**[AMC]** Pilots having completed training in the SP role should take the skill test / proficiency check acting as the only cockpit crew member throughout the test / check. Where the test is conducted in a full flight simulator, the examiner should not occupy the second cockpit seat.

**[AMC]** The LST for SP operations should consist of 2 hours as PF. The LST for MP operations should consist of 2 hours as PF and 2 hours as PNF.

## Appendix 1

### [M] Pre-requisites and training for initial type rating training on the C-510

Part-FCL, FCL.720.A (b) and (c) applies regarding experience requirements and prerequisites for type ratings for SP high performance complex aeroplanes.

In addition, pilots seeking the privilege to operate the aeroplane in MP operations shall meet the requirements of FCL.720.A (d) (4).

In accordance with Part-FCL, Appendix 9, paragraph B. 6 (h), when a skill test or proficiency check is performed in MP operations, the type rating shall be restricted to MP operations.

If SP privileges are sought, the manoeuvres / procedures referenced in Part-FCL, Appendix 9, paragraph 6 (h) must be completed in addition as single-pilot.

Pilots who do not meet the prerequisites for operations as PIC should receive a license endorsement containing the limitation "Co-pilot only".

	License and Experience prerequisites to start training	Combined aircraft and FTD/OTD training	Combined FFS and FTD/OTD training	Testing	SOE or LIFUS (as PF)
SP OPERATIONS OR MP OPERATIONS AS PIC	ATPL(A) + any previous turbo-jet aircraft type rating	12 hrs + 4 hrs FTD or OTD *	SP: 16 hrs FFS  MP: 16 hrs FFS + 16 hrs FTD or OTD	Partial Skill  Test	0 hrs
	ME Rating + IR Rating Min. 1000 hrs				25 hrs
	ME Rating + IR Rating Min. 500 hrs				50 hrs
MP OPERATIONS AS CO-PILOT	CPL + IR Rating Min. 200 hrs Min. 70 hrs PIC	12 hrs + 4 hrs FTD or OTD *	16 hrs FFS + 16 hrs FTD or OTD	Skill Test  License Endorsement: "Co-pilot only"	0 hrs

\*Training of selected emergency procedures