Airworthiness Directive Cancellation Notice

AD No.: 2011-0241-CN

Issued: 18 October 2017

Note: This Airworthiness Directive (AD) Cancellation Notice (CN) is issued by EASA, acting in accordance with Regulation (EC) 216/2008 on behalf of the European Union, its Member States and of the European third countries that participate in the activities of EASA under Article 66 of that Regulation.

Design Approval Holder's Name:
DASSAULT AVIATION

Type/Model designation(s):
Falcon 7X aeroplanes

Effective Date: 18 October 2017

TCDS Number(s): EASA.A.155

Foreign AD: Not applicable

Cancellation: This Notice cancels EASA AD 2011-0241 dated 19 December 2011.

CANCELLED: ATA 27 – Flight Controls – Horizontal Stabilizer Pitch Trim – Modification / Operational Limitations

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Manufacturer(s):
Dassault Aviation (Dassault)

Applicability:
Falcon 7X aeroplanes, all manufacturer serial numbers (MSN).

Reason:
In 2011, a Dassault Falcon 7X aeroplane experienced an uncontrolled pitch trim runaway during descent. The crew succeeded in recovering a stable situation and performed an uneventful landing. The results of the initial investigation showed that there was a production defect in the Horizontal Stabilizer Electronic Control Unit (HSECU) which could have contributed to the cause of the event. Two different HSECU were in use at the time, Part Number (P/N) 051244-02 and P/N 051244-04.

This condition, if not corrected, could lead to loss of control of the aeroplane.

To address this potential unsafe condition, pending the development of corrective actions by the design approval holder, EASA issued emergency AD 2011-0102-E to prohibit further flights.

After that AD was issued, to allow re-starting flight operations and providing protection against further pitch trim runaway events, Dassault developed modification (mod) M1235 and mod M1236, which are implemented in-service through accomplishment of Dassault Aviation Service Bulletin

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(SB) F7X-211. It was also determined that the flight envelope must be restricted, so Dassault developed the corresponding Aircraft Flight Manual (AFM) limitations and a placard, to be installed in full view of the pilots, as part of the instructions of SB F7X-211. In addition, modified operational procedures were developed for in-flight activation of the new protection. A certification maintenance requirement (CMR), to repetitively test the new Horizontal Stabilizer Trim Actuator (HSTA) electric motors reversion relays (installed with mod M1235 and mod M1236), was developed and introduced into chapter 5.40 of the Aircraft Maintenance Manual (AMM). Finally, a temporary revision of the Master Minimum Equipment List (MMEL) was introduced to prohibit dispatch in case of some specific identified failures.

Consequently, EASA issued Emergency AD 2011-0114-E, which superseded EASA AD 2011-0102-E, to require, for aeroplanes equipped with HSECU P/N 051244-02, two modifications (Dassault mod M1235 and mod M1236), an amendment of the AFM and installation of a placard, an amendment of the MMEL, and repetitive operational tests of the HSTA electric motors reversion relays. For aeroplanes equipped with HSECU P/N 051244-04, the prohibition of flights was maintained.

After EASA AD 2011-0114-E was issued, Dassault issued SB F7X-212 to provide instructions, for aeroplanes equipped with HSECU P/N 051244-04, to remove the HSECU for verification by Rockwell Collins and replace it with an HSECU that has passed the verification, having a name plate with a “V” stamped on it. Consequently, EASA issued AD 2011-0114R1 to allow aeroplanes equipped with HSECU P/N 051244-04 to resume flights under the same conditions as those previously established for aeroplanes equipped with HSECU P/N 051244-02, provided an HSECU P/N 051244-04 with stamped “V” is installed.

After EASA AD 2011-0114R1 was issued, a modification for HSECU P/N 051244-04 was developed that corrects the production defect. This modified unit has P/N 051244-05 and is eligible for installation. Consequently, EASA issued AD 2011-0114R2 to allow aeroplanes equipped with HSECU P/N 051244-05 to resume flights under the same conditions as those previously established for aeroplanes equipped with HSECU P/N 051244-02, or with HSECU P/N 051244-04 with stamped “V”.

Following issuance of EASA AD 2011-0114R2, Dassault developed a modification of the Fly-By-Wire (FBW), mod M1245, and issued the corresponding Dassault SB F7X-214, to improve the monitoring and reversion logic of the Horizontal Stabilizer Trim System (HSTS), ensuring earlier failure detection and quicker reversion. In addition, Dassault issued Revision 13 of the AFM, which incorporates the AFM changes required by EASA AD 2011-0114R2 (CP55 and CP56), as well as the new changes resulting from Dassault mod M1245 (CP58). Finally, Dassault introduced CMRs, operational tests of the HSTS electric motors reversion relays and of the HSTS trim emergency command, into Chapter 5.40 of the Dassault F7X AMM (CP010). Consequently, EASA issued AD 2011-0169 to require accomplishment of Dassault mod M1245, a further amendment of the AFM, and implementing the operational tests of the HSTS electric motors reversion relays and trim emergency command, as specified in Dassault CP010. Accomplishment of these actions restored the full original certified flight envelope of the aeroplane.

After EASA AD 2011-0169 was issued, further analyses have demonstrated that, once Dassault Aviation mod M1245 is embodied, it is allowed to restore the originally certified MMEL items which were temporarily removed, as required by paragraph (4) of EASA AD 2011-0114R2. Consequently, EASA published AD 2011-0241, retaining the requirements of EASA AD 2011-0169, which was

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superseded, expanding the Applicability to all MSN and, for aeroplanes fitted with FBW standard 2.1.7.3, allowing the MMEL limitations, imposed by EASA AD 2011-0114R2, to be removed.

Since EASA issued AD 2011-0114R2 and AD 2011-0241, it was determined that all aeroplanes have been modified, all remaining operational limitations were introduced by normal AFM and MMEL revisions, and the associated CMR tasks are introduced in revision 4 of Chapter 5.40 of F7X AMM, compliance with which is required by EASA AD 2015-0095.

For the reasons described above, this Notice cancels EASA AD 2011-0241.

Required Action(s) and Compliance Time(s):

None

Ref. Publications:

Dassault Aviation SB F7X-211 Revision 1 dated 14 June 2011, or Revision 2 dated 22 June 2011, or with erratum dated 8 July 2011.

Dassault Aviation SB F7X-212 Revision 1 dated 23 June 2011, or Revision 2 dated 07 July 2011.

Dassault Aviation SB F7X-214 Original dated 30 August 2011, or with erratum dated 26 January 2012.

Remarks:

1. This AD-CN was posted on 23 June 2017 as PAD 17-083-CN for consultation until 21 July 2017. No comments were received during the consultation period.

2. Enquiries regarding this AD-CN should be referred to the EASA Safety Information Section, Certification Directorate. E-mail: ADs@easa.europa.eu.

3. For any question concerning the technical content of this AD-CN, please contact your Dassault Falcon Technical Assistance:
   - For Europe, Middle East and Africa based operators:

     Hot Line: (33) 1 47 11 37 37
   - For USA, Canada and Mexico based operators:

     Help Desk: (1) 800-2FALCON (2325266)
   - All other areas:

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