

**SAFETY REGULATION GROUP
AIRWORTHINESS
COMMUNICATION**



2009/03

Applicability: All Operators and Maintenance Organisations.

ENSURING SATISFACTORY CO-ORDINATION BETWEEN OPERATORS AND MAINTENANCE ORGANISATIONS FOR MAINTENANCE CHECK FLIGHTS

1 Introduction

- 1.1 In a recent incident involving a Boeing 737-700 aircraft, control of the aircraft was temporarily lost during a post-maintenance check flight. Adjustments had been made to the elevator balance tabs and the loss of control occurred when the crew initiated an Elevator Power-Off (manual reversion) check of the flying controls.
- 1.2 The initial investigations have highlighted the importance of ensuring that when customer work orders are raised, they are suitably detailed and accurately specify the defects or tasks to be addressed by the maintenance organisation. Where necessary, in support of work orders and to enable further technical assessment, copies of any relevant check flight reports, technical log sector record pages, or other applicable maintenance data should also be made available. Initial investigations have indicated that a failure to supply a comprehensive and accurate work order to the maintenance organisation led to maintenance tasks being accomplished which were inappropriate to correct the originating flight defect.
- 1.3 Whilst the incident itself was specific to the Boeing 737 aircraft type, many of the issues identified can be read across to other aircraft types.
- 1.4 This AIRCOM is intended to remind all Operators and Maintenance organisations of their responsibilities, and to offer additional general advice and guidance in respect of maintenance check flights, any flights conducted for investigative purposes, or test flying, customer acceptance flights, or lease 'hand back' flights. The importance of formal and accurate recording of defects is also highlighted.

2 Background

- 2.1 Annex 1 of Commission Regulation (EC) No. 2042/2003, reference Part M, paragraph M.A. 301(8), identifies the need for "maintenance check flights when necessary", as part of the management of Continued Airworthiness tasks.
- 2.2 The decision as to when these maintenance check flights should be conducted resides with the Operator's Part M Subpart G Continuing Airworthiness Management Organisation (CAMO) and, where necessary, in liaison with the applicable maintenance organisation.

3 Operator/Maintenance organisation responsibilities

3.1 Transcription of Maintenance data

- 3.1.1 Part M, paragraph M.A.201(e), requires the Operator to make any request for maintenance to the contracted maintenance organisation, via a formal contract/work order. This must be assessed for completeness by the Operator's Part M Subpart G organisation and subsequently by the maintenance organisation. If there is any doubt whatsoever regarding the intent of a work instruction or the accomplishment of the maintenance task, referral should be made back to the originating work order and supporting data, or where necessary to the applicable Part M Subpart G organisation. Where the maintenance organisation has its own internal procedures to translate work requests into appropriate work cards or work sheets, this should be subject to additional checks to avoid the potential for further error. It is essential that verification of the task be made whenever transcription occurs.
- 3.1.2 Only the Operator's representative can raise work orders on the maintenance organisation. In the case of aircraft 'hand back', the Lessor has no part to play in this, any request being progressed through the Operator's representative. Transfer of continuing airworthiness responsibility from the Lessee to the Lessor only occurs after the aircraft has been formally returned to the Lessor, upon completion of all required works.

3.2 Acceptability of individuals

- 3.2.1 Part M, paragraph M.A.706, requires a Part M Subpart G Continuing Airworthiness Management Organisation (CAMO) to review the acceptability of individuals involved in the organisation's business processes and to carry out an analysis of tasks to be performed. This extends to individuals that are not directly employed by the CAMO but who may be representatives contracted to an Operator's CAMO. This assessment must be fully recorded, including the basis on which the determination is made.
- 3.2.2 With the increasing number of "return to Lessor" aircraft 'hand backs', and the associated complexity of the work programme needed to meet the conditions of the lease, there is a need to clarify the lines of responsibility between the Lessee (the Operator), the Lessor and the maintenance organisation. An important element in this is the role of the Operator's representative.
- 3.2.3 An Operator's representative must ensure that communication lines between all parties remains clear and unambiguous. This includes, where necessary, the identification and notification of any additional tasks or work to be performed and ensuring that it is fed into the system in a proper and co-ordinated manner.

3.3 Maintenance Check Flights

- 3.3.1 Prior to any maintenance check flight, a full pre-brief must be conducted between engineering and operations, during which the Flight Crew must be made aware of the specific reasons for the check flight. In particular, specific note must be made of any maintenance tasks that have a direct effect on the control of the aircraft's attitude or the propulsive efficiency of the aircraft.

- 3.3.2 The maintenance organisation exposition should specify the check flight interface arrangements with Operators responsible for conducting maintenance check flights. It should be noted that approved maintenance data may specify the functions and tests that need to be performed during maintenance check flights and the flight conditions that need to be satisfied to enable the flight to be safely and properly conducted. It is important that such data is brought to the attention of the Operator, and to the flight crew that will conduct the flight. The Operator should ensure that this information is accurately prescribed within their check flight schedule. When check flights are conducted, all test results and defects must be suitably recorded using the check flight report and the technical log as appropriate.
- 3.3.3 After the maintenance check flight, a full and formal debrief must be conducted by the flight crew to the Operator's and Maintenance organisation's representatives; this debrief must be recorded in writing to avoid any subsequent confusion. Copies of relevant check flight reports and technical log pages should be provided to the maintenance organisation at this time. Any request for further maintenance, whether it is an observation or a reported defect, must be agreed with all parties and transcribed accurately onto a written works order.
- 3.3.4 Whilst the aircraft may be operated in accordance with the Operator's standard operating procedures, it must be remembered that check flights are non-routine activities and require special consideration of the management of the associated risks. Further guidance on the conduct of maintenance check flights and the qualification of flight crews for that purpose is contained in the CAA Check Flight Handbook, which is available on the CAA website.

4 Recommendation

- 4.1 Operators and Maintenance Organisations are recommended to take note of this AIRCOM and visit the CAA website where the CAA Check Flight Handbook can be found at www.caa.co.uk. Please search for "Check Flight Handbook".

5 Queries

- 5.1 Any queries as a result of this AIRCOM should be addressed to Airworthiness Strategy and Policy Department at the following e-mail address: Requirements@caa.co.uk.



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Head Airworthiness Division

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Recipients of new AIRCOMs are asked to ensure that these are copied to their 'in house' or contracted organisations, to relevant outside contractors, and to all members of their staff who could have an interest in the information or who need to take appropriate action in response to this Communication.

Review SD March 2010