

16/2009**Applicability: All AOC Holders****STANDARD INSTRUMENT DEPARTURE (SID) AND STANDARD ARRIVAL (STAR) CLIMB AND DESCENT PROCEDURES AND PHRASEOLOGY****1 Introduction**

- 1.1 A recent change to International Civil Aviation Organization (ICAO) Doc 4444 (PANS-ATM) introduced revised procedures and phraseology associated with climb and descent instructions issued to aircraft following a SID or a STAR. The purpose of this FODCOM is to inform operators that currently the CAA has not fully implemented the change within UK Airspace and to advise how UK operators should comply with the procedures when operating outside UK airspace.

2 Discussion

- 2.1 Background information on the origin of the ICAO procedure change, the CAA actions undertaken and the results of the meeting with industry to resolve concerns can be found at: www.caa.co.uk/ATSDocuments.
- 2.2 When amending a clearance, it is current UK and ICAO practice that in all stages of flight the new clearance shall automatically cancel the previous clearance. However, ICAO recognised that this was not the case in all States worldwide and that there were also variations between en-route procedures and those for SID/STARs. Consequently, ICAO decided that a change to SID/STAR climb and descent procedures and associated phraseology was required to remove any ambiguity and reduce the potential for level busts. ICAO acknowledged that these new procedures and associated phraseology must be compatible with Precision Area Navigation (P-RNAV) procedures being progressively introduced worldwide.
- 2.3 The CAA completed a lengthy safety analysis with the aim of minimising the risk of inconsistent interpretation of the meaning of “cleared level” between pilots and controllers. This resulted in the publication of FODCOM 01/2009. Subsequently, due to the significant number of concerns raised by industry, it was decided to withdraw the FODCOM pending further consideration.
- 2.4 A meeting was held between the CAA and industry on 30 January 2009 with the aim of deciding how the UK should respond to ICAO’s proposed change both in UK airspace and internationally. The meeting agreed that, in principle, the UK procedures should be consistent with ICAO. However, prior to the publication of revised ICAO-compliant procedures for UK airspace and as a result of concerns raised, ICAO issued a State Letter acknowledging that States had encountered difficulties implementing the new PANS-ATM procedures and undertook to consult further on the revised procedures.
- 2.5 **Following the issue of the State Letter it has been decided that the UK will not implement the revised ICAO procedures until further international consultation has been completed. Therefore, the current UK procedures as detailed at paragraph 3 below remain in force (SI 2009/06 refers).**

3 Procedures and Phraseology within UK Airspace

- 3.1 In the UK, for **all** stages of flight, instructions to climb or descend cancel any previous restrictions, unless they are reiterated as part of that instruction. Additionally, for aircraft on a SID, the word ‘now’ will be added to climb clearances above the SID profile.

e.g. “Jet 123 climb now FL 120” means that the aircraft should climb directly to FL 120, ignoring the vertical profile of SID.

- 3.2 In the UK, levels to be flown on STARs are as directed by Air Traffic Control (ATC), although the relevant charts contain level information for planning purposes.

4 Procedures and Phraseology outside UK airspace

- 4.1 A number of States have implemented the revised ICAO procedures, whilst others have not. Outside UK airspace crews should assume that ICAO-compliant procedures and phraseology are in use unless a notification of a difference is filed in an individual State's Aeronautical Information Publication (AIP). Crews should follow the ICAO procedures unless operating in a State that has notified a difference or where the operator has determined that the revised PANS-ATM procedure has not been adopted. (The revised ICAO procedures and radiotelephony (RTF) phraseology are given in paragraph 5 below.)
- 4.2 **Guidance to crews should recommend that, in the case of any doubt about the intention of a clearance, they should request clarification from ATC. If doubt arises when airborne, the safest course of action will always be to follow the SID/STAR profile while seeking clarification.**

5 Revised ICAO Procedures and RTF Phraseology

The revised procedures introduced in ICAO Doc 4444 in November 2007 are as follows.

5.1 Aircraft on a SID

- 5.1.1 For a SID ICAO Doc 4444 states (paragraph 6.3.2.4):

'When a departing aircraft on a SID is cleared to climb to a level higher than the initially cleared level or the level(s) specified in a SID, the aircraft shall follow the published vertical profile of a SID, unless such restrictions are explicitly cancelled by ATC.'

- 5.1.2 When the level restrictions are explicitly cancelled, the ICAO phraseology for a SID (paragraph 12.3.1.2(z) of ICAO Doc 4444) is:

"CLIMB TO (level) LEVEL RESTRICTION(S) (SID designator) CANCELLED"

or

"CLIMB TO (level) LEVEL RESTRICTION(S) (SID designator) AT (point) CANCELLED".

e.g. "Jet 123 Climb to FL 100 level restrictions DEVAL 1G cancelled" means that the aircraft should climb directly to FL 100, ignoring the vertical profile of SID DEVAL 1G.

NOTE: In the UK 'to' is not used in connection with flight levels in order to reduce the possibility of misunderstanding in circumstances where the flight level includes the figure two, e.g. flight level 220. (**CAP 413** Appendix 1 refers.)

- 5.1.3 When the level restrictions are not explicitly cancelled, the ICAO phraseology for a SID (paragraph 12.3.1.2(a) of ICAO Doc 4444) is:

"CLIMB TO (level)".

e.g. "Jet 123 Climb to FL 100" means that the aircraft should follow the vertical profile of SID DEVAL 1G to its completion and then climb to FL 100.

5.2 Aircraft on a STAR

- 5.2.1 For a STAR ICAO Doc 4444 (paragraph 6.5.2.4) states:

'When an arriving aircraft on a STAR is cleared to descend to a level lower than the level or the level(s) specified in a STAR, the aircraft shall follow the published vertical profile of a STAR, unless such restrictions are explicitly cancelled by ATC. Published minimum levels based on terrain clearance shall always be applied.'

- 5.2.2 When the level restrictions are explicitly cancelled, the ICAO phraseology for a STAR (paragraph 12.3.1.2(aa) of ICAO Doc 4444) is:

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“DESCEND TO (level) LEVEL RESTRICTION(S) (STAR designator) CANCELLED”

or

“DESCEND TO (level) LEVEL RESTRICTION(S) (STAR designator) AT (point) CANCELLED”.

e.g. “Jet 123 Descend to 3000 feet level restrictions GOKUL 2J cancelled” means that the aircraft should descend directly to 3000 feet, ignoring the vertical profile of STAR GOKUL 2J.

- 5.2.3 When the level restrictions are not explicitly cancelled, the ICAO phraseology for a STAR (paragraph 12.3.1.2(a) of ICAO Doc 4444) is:

“DESCEND TO (level)”.

e.g. “Jet 123 Descend to 3000 feet” means that the aircraft should follow the vertical profile of STAR GOKUL 2J to its completion and then descend to 3000 feet.

5.3 Aircraft in Other Phases of Flight

- 5.3.1 In all other phases of flight a climb or descent instruction from ATC automatically cancels any previous ATC instruction.

6 Operators’ Responsibilities

- 6.1 The revised ICAO procedures represent a significant change to the way crews are expected to respond to climb/descent instructions whilst following a SID or a STAR. There is a potential for confusion, which will have flight safety implications if these new procedures are not followed correctly in each individual State. Operators should ensure that company Standard Operating Procedures (SOPs) are updated, and crews are adequately briefed and appropriately trained. Training personnel should be given guidance on how these changes are to be incorporated into training programmes with particular reference to the correct simulation of ATC phraseology.
- 6.2 Operators flying to destinations outside the UK should ensure that crews are aware of those States whose SID/STAR ATC phraseology does not conform to ICAO Doc 4444. Crews should be required to report any instances of the use of phraseology or procedures that do not correspond to those notified for the State concerned.

7 Recommendation

- 7.1 **Operators should ensure that their crews are reminded that the current UK procedures remain in force (SI 2009/06 refers); that crews are appropriately briefed about, and trained in, the changes to SID/STAR procedures and phraseology that they may encounter outside UK airspace; and that their guidance is amended accordingly.**

8 Queries

- 8.1 Any queries as a result of this FODCOM should be addressed to Head of Flight Operations Policy Department at the following e-mail address: FOP.Admin@caa.co.uk.

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Recipients of new FODCOMs are asked to ensure that these are copied to their 'in house' or contracted maintenance organisation, 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.

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