

Supplementary Instruction (SI)

CAP 493 MATS Part 1

Safety Regulation Group
Air Traffic Standards



Number 2010/04

Issued: 30 March 2010

Effective: Immediate

PROCEDURES AND PHRASEOLOGY CONCERNING LEVEL RESTRICTIONS ASSOCIATED WITH STANDARD INSTRUMENT DEPARTURES

1. Introduction

- 1.1 The purpose of this SI is to re-emphasise current UK SID procedures, phraseology, and guidance for controllers, as well as providing an update on recent ICAO activity in this area. This SI replaces SI 2009/06 and SI 2009/14. A FODCOM and an AIC will also be re-issued to update aircraft operators.
- 1.2 Edition 15 of ICAO Doc 4444 – PANS ATM (November 2007) introduced revised procedures and phraseology associated with climb instructions issued to aircraft following a Standard Instrument Departure (SID), which generated significant variation from UK procedures. Due to safety concerns regarding the ICAO changes, and pending further analysis by the CAA, UK controllers were advised in AT SIN 119 (10 December 2007, www.caa.co.uk/atsin119) to adhere to extant UK procedures, with the word 'now' added to climb clearances above the SID profile, e.g. 'c/s climb now flight level 120'. SI 2009/06 and SI 2009/14 further updated on ICAO developments, UK actions, and procedures to be followed.
- 1.3 ICAO also introduced similar procedures for Standard Terminal Arrival Routes (STARs). However, within the UK, levels to be flown on STARs are 'as directed by ATC', although the relevant charts contain level information for planning purposes. Therefore, no UK action was required regarding this element of the revised ICAO procedures.
- 1.4 Detailed information on the origin of the ICAO procedure change, CAA actions undertaken, and ICAO activity can be found at www.caa.co.uk/atsdocuments.

2. UK Phraseology and Procedures for Climb Clearances to Aircraft on SIDs

- 2.1 In the UK, for all stages of flight, instructions to climb and descend cancel any previous restrictions, unless the latter are reiterated as part of the instruction. However, to emphasise the UK variation from ICAO Doc 4444, when an aircraft on a SID is required to climb **directly** to the cleared level, **without reference to the vertical profile of the SID**, controllers are to **include the word 'now'**.

e.g. "Jet 347 climb **now** FL120"

- 2.2 Pilots flying on a SID in the UK FIRs have been briefed to expect climb instructions that cancel the SID vertical profile to include the word 'now'. In the absence of this word being used, for instructions to climb above the SID profile, pilots will request clarification from ATC. In some cases omission of 'now' has resulted in a delayed climb, and in at least one instance, a deviation from and then return to the vertical profile of the SID, thus generating an increased safety risk, particularly in congested airspace.
- 2.3 Controllers shall **not** issue a climb instruction to aircraft on SIDs that requires the pilot to follow the SID vertical profile and only subsequently climb above the final level of the SID, e.g. for a SID with an upper level of 6,000 feet, instructing an aircraft to 'climb FL100'. Such an instruction fails unsafe and in congested airspace would be likely to result in a loss of separation.

3. Additional UK ATC Considerations

- 3.1 As detailed above, the use of the RT term 'climb now' shall be constrained to those occasions when the controllers require the aircraft to climb **directly** to a level above the SID profile, without reference to vertical restrictions published as part of the SID. Therefore, controllers must be aware that the SID vertical profile provides separation from other procedures, terrain, and ensures containment within controlled airspace. Therefore, and in accordance with legacy CAP 493 procedures, the controller continues to have the option of either:
- a) leaving the aircraft on the SID vertical profile **without further climb instruction** (see paragraph 2.3 above); or,
 - b) providing a climb instruction above the SID profile and reiterating restrictions as necessary to ensure aircraft and terrain separation, or airspace containment, e.g. "climb **now** F120, cross XYZ 5,000 ft or above"; or,
 - c) ensuring aircraft and terrain separation or airspace containment through lateral instructions (see paragraph 3.2 below).

Note: In order to ensure that controllers can accurately predict flight profiles to maintain standard vertical separation between aircraft, pilots of aircraft commencing a climb or descent in accordance with an ATC Clearance should inform the controller if they anticipate that their rate of climb or descent during the level change will be less than 500 ft per minute, or if at any time during such a climb or descent their vertical speed is, in fact, less than 500 ft per minute (UK AIP ENR 1.1.3).

- 3.2 Lateral instructions that amend the SID route immediately result in the level restrictions associated with the SID no longer being applicable. Therefore, in such circumstances, and in accordance with legacy CAP 493 procedures, controllers are to reiterate the level profile to be followed as part of such an instruction. In the interests of ensuring clarity to flight crew, this shall also include the word 'now', e.g. "fly heading 095, climb now FL80" or "route direct EFG, climb now altitude 5,000 feet".
- 3.3 The CAA is aware of varying levels of implementation and understanding of the ICAO PANS ATM procedures by overseas aircraft operators and ATC providers. Furthermore, as the UK procedures are at variance with ICAO, controllers must remain alert to the potential for incorrect or unexpected interpretation of ATC instructions by non-UK aircraft operators and take appropriate action to ensure any required separation. In particular, controllers should be alert to pilots accepting a climb clearance and either continuing to follow a step profile or maintaining the terminal altitude of the SID until the procedure is complete. Where it is apparent that

an immediate climb to the allocated level has not been commenced, controllers shall reiterate the instruction, and may also make explicit reference to the cancellation of the SID level restrictions, e.g.: "Climb now FL100, SID level restrictions cancelled".

4. ICAO Safety Review

- 4.1 As a result of safety concerns regarding the revised Doc 4444 procedures, ICAO initiated a review to determine the extent and severity of difficulties being encountered. From the State responses, ICAO has identified that their current provisions have not provided the intended simplicity, efficiency, and global standardisation to ensure flight safety. Consequently ICAO has reported that they will be working expeditiously to determine the optimum solution and will co-ordinate with States, ANSPs and international organisations. Certain parties may be requested to conduct simulations in support of this effort.
- 4.2 The CAA continues to work with the UK aviation industry, and in Europe and with ICAO towards satisfactory resolution. When the proposed ICAO solution is promulgated, a UK review will be undertaken to establish if the current ICAO difference can be removed.

5. Queries

- 5.1 Any queries or further guidance required on the content of this SI should be addressed to:

ATS Enquiries
Air Traffic Standards
CAA Safety Regulation Group
2W Aviation House
Gatwick Airport South
West Sussex
RH6 0YR
E-mail: ats.enquiries@caa.co.uk

- 5.2 Any queries relating to the availability of this SI should be addressed to:

ATS Documents
Air Traffic Standards
CAA Safety Regulation Group
2W Aviation House
Gatwick Airport South
West Sussex
RH6 0YR
E-mail: ats.documents@caa.co.uk

6. Cancellation

- 6.1 This SI shall remain in force until further notice.

The following SIs remain current:

Number	Title
2010/02	<i>Reporting of Unidentified Flying Objects (UFOs)</i>
2010/03	<i>Malicious use of Lasers against Aircraft and ATS Personnel</i>
2010/04	<i>Procedures and Phraseology concerning Level Restrictions associated with Standard Instrument Departures</i>