

EMERGENCY DESCENTS IN UK CONTROLLED AIRSPACE.

1 Introduction

1.1 This Circular has been produced for controllers, pilots and their training organisations to highlight the factors involved in an emergency descent in UK Controlled Airspace. The information contained herein is only to be used in conjunction with any applicable Standard Operating Procedures or Aircraft Flight Manuals. This Circular does not affect promulgated Oceanic procedures, which are published in AIP ENR Section 2.2.

2 ICAO Procedure

2.1 Procedures for pilots upon hearing an emergency descent broadcast are published in ICAO Doc. 4444 (PANS-ATM) paragraph 15.1.4. More recently, ICAO have published detailed procedures in Doc. 7030/EUR - Regional Supplementary Procedures paragraph 9.1 for pilots experiencing an emergency descent in the European Region. The Regional Supplementary Procedures are reproduced in paragraph 2.2 below.

2.2 Doc. 7030/EUR states that, when an aircraft receiving an ATC service experiences sudden decompression or a malfunction requiring an emergency descent, the aircraft shall, **if able**:

- a. Initiate a turn away from the assigned route or track before commencing the emergency descent;
- b. advise the appropriate air traffic control unit as soon as possible of the emergency descent;
- c. set transponder to Code 7700 and select the Emergency Mode on the automatic dependent surveillance/controller-pilot data link communications (ADS/CPDLC) system, if applicable;
- d. turn on aircraft exterior lights;
- e. watch for conflicting traffic both visually and by reference to ACAS (if equipped); and
- f. co-ordinate its further intentions with the appropriate ATC unit.

2.3 The aircraft should not descend below 10000 ft amsl, or Minimum Safe Altitude, whichever is the higher.

2.4 Turning-off or Remaining on Track in UK Controlled Airspace

2.4.1 UK Controlled Airspace is complex and congested; traffic is often oriented on the airway in certain directions or flows. Therefore, if able, **pilots should remain on the assigned route or track whilst carrying out the emergency descent**; unless to do so otherwise would endanger the aircraft. Notification of this preferred action in UK Controlled Airspace shall be published in the UK AIP GEN section under PANS-ATM paragraph 15.1.4 - Emergency Descent.

2.4.2 If a turn away from an assigned route or track is initiated, pilots should note that they may not be aware of traffic in their proximity (especially if flying on an assigned heading): nor of aircraft below them, not on the selected frequency, in adjacent airspace sectors. However, it is ultimately the pilot's responsibility to take the action most appropriate in the circumstances.

2.5 Selection of Emergency Transponder Code

2.5.1 In busy, highly sectorised airspace, controllers may adjust their situation displays to filter out aircraft in adjacent sectors, which will be separated vertically or horizontally from aircraft in their own sector. This is done to prevent clutter on the controller's display. Selection of the emergency code 7700 will override the display filter and highlight to **all** controllers the emergency state of the aircraft, whether or not the aircraft is in their sector (including vertically). This function allows controllers to act quickly in providing separation from an aircraft in emergency descent as it passes through their sector. The prompt selection of 7700 is of paramount importance.

2.6 Action by Other Pilots

2.6.1 Upon hearing an emergency broadcast, made by a pilot or controller, pilots of other aircraft must maintain a radio silence and listen for further ATC instructions, maintain a good visual look out and respond to ACAS/TCAS as directed.

3 TCAS

3.1 Pilots must also give consideration to the appropriate response to ACAS/TCAS, especially when flying in busy, complex airspace. Dependent upon the prevailing circumstances and with regard to the safety of the aircraft and passengers, it is anticipated that pilots conducting an emergency descent will react to TCAS RAs in the normal manner if able. Even if full compliance with the RA demand is not achievable attempting to follow the sense of the demand will increase safety margins.

4 Controller Procedures

4.1 The first indication of an emergency descent that a controller will receive may be an unexpected change in level on the situation display; a short broadcast from the pilot concerned or observation of the emergency SSR code, 7700.

4.2 Immediately upon recognising that an emergency descent is in progress controllers should acknowledge the emergency by RTF. If the pilot has not done so already, a simple prompt to select 7700 is acceptable, even during a time of intense flight deck workload. Pilots will be wearing their emergency oxygen masks and communications will be difficult, often with excessive noise on the frequency when the pilot transmits. However, controllers should not make repeated requests for 7700 to be selected.

4.3 A controller's priority is to provide separation from all conflicting traffic on the emergency aircraft's track, issuing avoiding action and traffic information as appropriate. A rapid descent will cause the aircraft to pass through numerous sectors very quickly; therefore, coordination with adjacent sectors and even control centres is essential. In exceptional circumstances, a suggested heading may be offered; however, controllers should remember that they may not be fully aware of any particular handling difficulties the aircraft may have.

4.4 When deemed necessary, controllers may broadcast an emergency message, or cause such message to be broadcast, to warn other aircraft of the emergency descent. The emergency broadcast message should contain instructions for specific actions to be taken by aircraft addressed or, alternatively, instructions to continue in accordance with their current clearances, and to stand by on the appropriate channels for further clearances and instructions. Pilots should maintain a good look out and respond to ACAS/TCAS as directed.

5 Conclusion

5.1 This Circular draws attention to the preferred emergency descent procedure in UK Controlled Airspace and also gives information to supplement training for such unusual circumstances.

5.2 The content of this Circular is intended to form a basis for pilot and controller training. As necessary, operators and ATS providers should provide appropriate guidance, based on the content of this Circular in their operation manuals and ensure that all pilots and controllers are aware of it.