NATS

UNITED KINGDOM
AERONAUTICAL INFORMATION CIRCULAR

AIC: P 079/2010
07-OCT-2010
Safety

Civil Aviation Authority

NATS Ltd
UK Aeronautical Information Service
Heathrow House
Bath Road
Hounslow, Middlesex TW5 9AT
URL: http://www.ais.org.uk
Phone: 020-8750 3779 (Editorial)
Phone: 01242-283100 (Distribution - Tangent Direct)
Phone: 01489-612383 (Content - NATS/Operational Procedures)

MODE S PROCEDURES - AUTOMATIC DOWNLINKING OF AIRCRAFT COCKPIT PRESSURE SETTING FOR ATC USE.

1 Introduction

1.1 This document should be read in conjunction with UK Aeronautical Information Publication Section GEN 1-5, Paragraph 5.3 - Carriage of SSR Transponder Equipment.

2 Mode S EHS transponders may automatically provide particular flight deck parameters to air traffic systems that have not been used previously by ATC. The Mode S EHS technology makes it possible for aircraft to downlink the flight deck altimeter setting in the form of a Mode S parameter known as Barometric Pressure Setting (BPS).

3 A study by NATS of aircraft flying within the London Terminal Control Area (TMA) has highlighted some operator anomalies in the setting of flight deck BPS. This circular will reinforce the safety benefits that will be realised by the correct application of cockpit barometric pressure settings and the downlinking of the data for ATC use.

4 Mode S technology provides the capability of downlinking the altimeter sub-scale setting being used on the aircraft flight deck. A NATS study has established that a clear majority of flight crews change altimeter settings in a timely manner in accordance with ICAO Procedures for Air Navigation Services - Aircraft Operations (PANS-OPS)*. However, there are a few examples of errant behaviour.

Note: *UK Operating Procedures differ from PANS-OPS.

5 The risk of level deviations caused by altimeter setting errors is highest when the atmospheric pressure is low and the risk is significant when the pressure in the London TMA is forecast to be less than 996 mb. AIC 96/2007 (Pink 128) was raised to highlight the level bust issue but altimeter setting error remains the second largest cause of reported level deviations in the London TMA.

6 Mode S BPS data is provided by a large proportion of flights in London Terminal Control airspace and the NATS study has shown this data to be of a very high integrity in the majority of cases. There are, however, some known problems with data supplied by some aircraft when above the transition altitude, which precludes its use by ATC for flights departing from London TMA aerodromes. Nevertheless, although the provision of Mode S BPS is not mandated, NATS considers that the downlinked data is of sufficient integrity to be used by ATC for aircraft descending below the transition altitude and that this will contribute to the prevention of level busts by inbound aircraft.

7 **From November 2010,** BPS data will be automatically downlinked from all compliant aircraft to ATC workstations within the London Terminal Control Centre at Swanwick. Controllers will have an indication on the radar screens that the downlinked setting is not within a specific range of the correct pressure setting.

8 The UK CAA and NATS wish to highlight the positive safety impact that the downlinking of BPS will have on the prevention of Level Busts. Thus, an automatic monitoring of downlinked BPS will be applied to LTMA arrivals. Therefore, Operators are to advise their aircrew that for LTMA arrivals that are cleared to descend below the Transition Altitude, the downlinked BPS will be automatically monitored. Where the ground system indicates that the downlinked BPS is outside a specified range, ATC at the London Terminal Control Centre may issue the correct QNH on more than one occasion as a reminder to the pilot.

8.1 **When ATC pass a reminder of the QNH, it is anticipated that the pilot monitoring will cross check the altimeter settings.**

THIS PAGE INTENTIONALLY LEFT BLANK