ALTIMETER SETTING PROCEDURES

INTRODUCTION

A list of the applicable rules can be consulted in section GEN 1.6. In the sections below, a descriptive summary is offered to help airspace users, although if there is any discrepancy, the Rule will prevail over the content of the AIP. The content of this AIP section does not fulfil the quality requirements.

The altimeter setting procedures generally conform to those contained in ICAO Doc. 8168-OPS/611 and are explained in detail in the following paragraphs.

GENERAL

Transition altitude at Spanish aerodromes is established at 6000 ft, except:

- Andorra-La Seu D'Urgell where it is 8000 ft.
- Granada/Federico García Lorca.Granada-Jaén where it is 7000 ft.
- Madrid/Adolfo Suárez Madrid-Barajas, Madrid/Getafe, Madrid/Cuatro Vientos, Madrid/Torrejón and Málaga/Costa del Sol where it is 13000 ft.

Vertical position of aircraft at or below the transition altitude is expressed in terms of altitudes whereas at or above the transition level it is expressed in terms of flight levels. While passing through the transition layer, vertical position is expressed in terms of flight levels when climbing and in terms of altitude when descending.

Flight level zero is located at the atmospheric pressure level 1013.2 HPa (29.92 inches). Consecutive flight levels are separated by a pressure interval corresponding to 500 ft (152.4 m) in the standard atmosphere.

PROVISION OF INFORMATION ON ALTIMETER SETTING

Air traffic service units shall have available, at all times, for transmission to aircraft in flight, on request, the information necessary to determine the lowest flight level that ensure an adequate vertical margin over the ground, in the routes or segments thereof, where such information is required.

This information may consist of climatological data, if so formulated in regional air navigation agreements.

Flight information centres and area control centers shall have available, for transmission to aircraft in flight on request, an adequate number of QNH or pressure forecasts reports regarding flight information regions and control areas under their responsability.

The altimeter setting communicated to aircraft shall be rounded to the nearest lower whole hectopascal.

EN-ROUTE

An aircraft shall be flown en-route at the cruising level corresponding to its magnetic track and type of flight (IFR or VFR), as detailed below. Cruising levels to be flown en-route are referred to:

a. Flight levels (FL), for those flights conducted at a level equal to or above the minimum usable flight level.
b. Altitudes, for those flights conducted below the minimum usable flight level.

APPROACH AND LANDING

The QNH reference shall be made available in the routine approach and landing clearances.

Vertical position of aircraft is expressed by reference to flight levels until they cross the transition level, below which it is expressed by reference to altitudes.

NOTE: Within TMA MADRID and TMA CANARIAS the military jet aircraft authorized for uninterrupted penetration must change to altitudes on initial descent.

The QFE reference shall be provided on request, as shown below:

a. The respective threshold elevation for precision approaches (ILS or PAR/GCA).
b. The respective threshold elevation for instrument approaches (non-precision approaches) when the mentioned threshold has an elevation of two metres less than the aerodrome elevation, or below.
c. The aerodrome elevation in any other cases.

TABLE OF CRUISING LEVELS

The following take precedence over the levels in this table:

a. ATC clearances,
b. The levels published in ENR 3 for each airway.

Within areas where a vertical separation minimum (RVSM) of 300 m (1000 ft) between FL290 and FL410 inclusive is applied:

TRACK (*)											
From 090° to 269° (ODD's)						From 270° to 089° (EVEN's)					
IFR Flights			VFR Flights			IFR Flights			VFR Flights		
FL	Altitude		FL	Altitude		FL	Altitude		FL	Altitude	
	Metres	Feet		Metres	Feet		Metres	Feet		Metres	Feet
TRACK (*)											
From 090° to 269° (ODD's)						From 270° to 089° (EVEN's)					
IFR Flights			VFR Flights			IFR Flights			VFR Flights		
FL	Altitude		FL	Altitude		FL	Altitude		FL	Altitude	
	Metres	Feet		Metres	Feet		Metres	Feet		Metres	Feet
10	300	1000	-	-	-	20	600	2000	-	-	-
30	900	3000	35	1050	3500	40	1200	4000	45	1350	4500
50	1500	5000	55	1700	5500	60	1850	6000	65	2000	6500
70	2150	7000	75	2300	7500	80	2450	8000	85	2600	8500
90	2750	9000	95	2900	9500	100	3050	10000	105	3200	10500
110	3350	11000	115	3500	11500	120	3650	12000	125	3800	12500
130	3950	13000	135	4100	13500	140	4250	14000	145	4400	14500
150	4550	15000	155	4700	15500	160	4900	16000	165	5050	16500
170	5200	17000	175	5350	17500	180	5500	18000	185	5650	18500
190	5800	19000	195	5950	19500	200	6100	20000			
210	6400	21000				220	6700	22000			
230	7000	23000				240	7300	24000			
250	7600	25000				260	7900	26000			
270	8250	27000				280	8550	28000			
290	8850	29000				300	9150	30000			
310	9450	31000				320	9750	32000			
330	10050	33000				340	10350	34000			
350	10650	35000				360	10950	36000			
370	11300	37000				380	11600	38000			
390	11900	39000				400	12200	40000			
410	12500	41000				430	13100	43000			
450	13700	45000				470	14350	47000			
490	14950	49000				510	15550	51000			

(*) Magnetic track, or in polar areas at latitudes higher than 70 degrees and within such extensions to those areas as may be prescribed by the competent authorities, grid tracks as determined by a network of lines parallel to the Greenwich Meridian superimposed upon a polar stereographic chart on which the direction towards the North Pole is employed as the Grid North.