ENR 1.7 ALTIMETER SETTING PROCEDURES

1. Introduction

The altimeter setting procedures in use generally conform to those contained in ICAO Doc 8168, Vol I, part 6 and are given in full below, Differences are shown in quotation marks.

Transition altitudes are given on the instrument approach charts.

QNH reports and temperature information for use in determining adequate terrain clearance are provided in MET broadcasts and are available on request from the air traffic services units. QNH values are given in hectopascals.

2. Basic Altimeter Setting Procedures

2.1. *General*

2.1.1. The system of altimetry in Kathmandu FIR (VNSM) makes use of a transition layer to separate aircraft using QNH from those using 1013.2 hPa. The transition layer for Kathmandu FIR is between a transition altitude of 13500 ft. and a transition level of FL 150. Cruising within the transition layer is not permitted.

2.1.2. Vertical positioning of aircraft when at or below the transition altitude is expressed in terms of altitude, whereas such positioning at or above the transition level is expressed in terms of flight levels. While passing through the transition layer, vertical positioning is expressed in terms of altitude when descending and in terms of flight levels while ascending.

2.1.3. All air traffic at or below the transition altitude will use Katmandu QNH supplied by ATC units. At controlled aerodromes other than Katmandu, in-bound traffic will set local QNH on entering control zone boundary and out-bound traffic will change form local QNH to Katmandu QNH on leaving the control zone boundary.

2.1.4. The change from QNH to 1013.2 hPa will be made on climbing through the transition altitude. During descent the change from 1013.2 hPa to QNH will be made at the transition level.

2.1.5. Flight level zero is located at the atmospheric pressure level of 1 013.2 hPa (29.92in). Consecutive flight levels are separated by a pressure interval corresponding to 500 ft (152.5m) in the standard atmosphere.

Note.– Examples of the relationship between flight levels and altimeter indications are given in the following table, the metric equivalents being approximate:

Flight Level	Altimeter indication	
Number	Feet	Meters
150	15000	4550
200	20000	6100
250	25000	7620

2.2. ***Take-off and Climb***

2.2.1. A QNH altimeter setting is made available to aircraft in taxi clearance prior to take off.

2.2.2. Vertical positioning of aircraft during climb is expressed in terms of altitudes until reaching the transition altitude, above which vertical positioning is expressed in terms of flight levels.

2.3. ***Vertical Separation - En route***

2.3.1. IFR flights, and VFR flights above transition level FL150, when in level cruising flight, shall be flown at such flight levels, corresponding to the magnetic tracks shown in flight tables of cruising levels- Para. 5

2.4. ***Approach and Landing***

2.4.1. A QNH altimeter setting is made available in approach clearance and in clearance to enter the control zone.

2.4.2. QFE altimeter settings are not available

2.4.3. Vertical positioning of aircraft during approach is controlled by reference to flight levels until reaching the transition level, below which vertical positioning is controlled by reference to altitudes.

2.5. ***Missed Approach***

2.5.1. The relevant portions of 2.1.2, 2.2 and 2.4 shall be applied in the event of a missed approach.

3. Description of Altimeter setting region

(to be developed)

4. Procedures applicable to operators (including pilots)

4.1. ***Flight planning***

The levels at which a flight is to be conducted shall be specified in a fight plan:

a) in terms of flight levels if the flight is to be conducted at or above the transition level, and
b) in terms of altitudes if the flight is to be conducted in the vicinity of an aerodrome and at or below the transition altitude.

Note l.– Short flight in the vicinity of an aerodrome may often be conducted only at altitudes below the transition altitude.

Note 2.– Flight levels are specified in a plan by number and not in terms of feet or meters as is the case with altitudes.

5. **The cruising levels to be observed when so required are as follows,**

TABLE OF CRUISING LEVELS

5.1. The pilot-in-command of an IFR or VFR flight at or above FL150, shall select a level corresponding to the appropriate magnetic track as indicated in the following semi-circular cruising levels.

5.2. Between FL290 and FL410 (inclusive), RVSM separation of 1000' is applied.

Table 1 : Semi - Circular cruising levels within Kathmandu FIR (VNSM)

TRACK							
From 000 degrees to 179 degrees				From 180 degrees to 359 degrees			
IFR Flight		VFR Flight		IFR Flight		VFR Flight	
Flight Level	Altitude (Ft)	Flight Level	Altitude (Ft)	Flight Level	Altitude I (Ft)	Flight Level	Altitude (Ft)
150	15000	155	15500	160	16000	165	16500
170	17000	175	17500	180	18000	185	18500
190	19000	195	19500	200	20000		
210	21000			220	22000		
230	23000			240	24000		
250	25000			260	26000		
270	27000			280	28000		
290	29000			300	30000		
310	31000			320	32000		
330	33000			340	34000		
350	35000			360	36000		
370	37000			380	38000		
390	39000			400	40000		
410	41000			430	43000		
450	45000						

5.3. The pilot-in-command of a VFR or IFR flight at or above 3000 ft, below altitude 13500 ft AMSL shall select a level corresponding to the appropriate magnetic track as indicated in the following quadrant cruising levels

Table 2: Quadrantal Cruising Levels

000° 089°	090° 179°	180° 269°	270° 359°
ODD Thousand	ODD +500 ft	EVEN Thousand	EVEN +500 ft
3000 ft	3500 ft	4000 ft	4500 ft
5000 ft	5500 ft	6000 ft	6500 ft
7000 ft	7500 ft	8000 ft	8500 ft
9000 ft	9500 ft	10000 ft	10500 ft
11000 ft	11500 ft	12000 ft	12500 ft
13000 ft	13500 ft		

5.4 The pilot-in-command of an IFR or VFR flight at or above FL 150, shall select a level corresponding to the appropriate Non-RVSM Semi- Circular levels within Kathmandu FIR.

Table 3: Non-RVSM Semi – Circular cruising levels within Kathmandu FIR

VNSM

TRACK							
From 000 degrees to 179 degrees				**From 180 degrees to 359 degrees**			
IFR Flight		**VFR Flight**		**IFR Flight**		**VFR Flight**	
Flight Level	Altitude (FT)	Flight Level	Altitude (FT)	Flight Level	Altitude (FT)	Flight Level	Altitude (FT)
150	15000	155	15500	160	16000	165	16500
170	17000	175	17500	180	18000	185	18500
190	19000	195	19500	200	20000		
210	21000			220	22000		
230	23000			240	24000		
250	25000			260	26000		
270	27000			280	28000		
290	29000			310	31000		
330	33000			350	35000		
370	37000			390	39000		
410	41000			430	43000		
450	45000						