ENR 1.7 ALTIMETER SETTING PROCEDURES

1.7.1 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, and in inches on request.

1.7.2 Basic altimeter setting procedures

1.7.2.1 General

1.7.2.1.1. A transition altitude is specified for each aerodrome. No transition altitude is less than 1500ft (450m) above an aerodrome.

1.7.2.1.2. Vertical positioning of aircraft when at or below the transition altitude is expressed in terms of altitude, whereas such position 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 when ascending.

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

Examples of the relationship between flight levels and altimeter indications are given in the following table:

Flight level	**Altimeter indication**
Number	**Feet**
10	1000
15	1500
20	2000
50	5000
100	10000
150	15000
200	20000

1.7.2.2 Take-off and climb

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

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

1.7.2.3 Vertical separation - en route

1.7.2.3.1. Vertical separation during en-route flight shall be expressed in terms of flight levels at all times.

1.7.2.3.2. IFR flights, and VFR flights above 3000 ft AMSL when in level cruising flight, shall be flown at such flight levels, corresponding to the magnetic tracks shown in the following table, so as to provide the required terrain clearance:

	000°-179°		**180°-359°**	
	IFR	**VFR**	**IFR**	**VFR**

	10	15	20	
	30	35	40	45
	50	55	60	65
Flight	70	75	80	85
Level	90	95	100	105
Number	...	etc	...	etc
	270		280	
	290		310	
	330		350	
	etc		etc	

NOTE: Some of the lower levels in the above table may not be usable due to terrain clearance requirements.

1.7.2.4 LUSAKA NDOLA TMA

1.7.2.4.1. **within or below the joint Lusaka/Ndola TMA all flights (whether IFR or VFR) north of latitude of Kenneth Kaunda (1520South) up to Ndola latitude 1259South will be allocated flight levels as shown in the table below**

MAGNETIC TRACK	
270° -089°	090° - 269°
THROUGH NORTH	**THROUGH SOUTH**
FLGHT LEVELS	FLIGHT LEVELS
70	60
90	80
110	100
130	120
150	140
170	160
etc	etc

NOTE: at or above flight level 245 the normal semi-circular rule of flight level allocation will apply. All flights below FL070 in the joint Lusaka/Ndola TMA will be operated under VFR only. Flights within the joint Lusaka/Ndola TMA maybe operated under VFR/IFR with 1000ft between them.

1.7.2.5 Approach and landing

1.7.2.5.1. A QNH altimeter setting is made available in approach clearance and in clearance to enter the traffic circuit.

1.7.2.5.2. QFE altimeter settings are available on request.

1.7.2.5.3. Vertical position 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.

1.7.2.6 Missed approach

1.7.2.6.1. Shall be conducted in accordance with the instrument flight procedure charts for relevant aerodromes.

1.7.3 Description of altimeter setting region

The altimeter setting regions are Lusaka, Ndola, Livingstone, Mfuwe, Kasama, Mongu, Mansa, Chipata and Solwezi.

1.7.4 Procedures applicable to operators (including pilots)

1.7.4.1 Flight planning

The levels at which a flight is to be conducted shall be specified in a flight 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.

- Short flights in the vicinity of an aerodrome may often be conducted only at altitudes below the transition altitude.
- Flight levels are specified in a flight plan by number and not in terms of feet as is the case with altitudes.

1.7.5 Tables of cruising levels

The cruising levels to be observed when so required are as follows:in areas where, on the basis of regional air navigation agreement and in accordance with conditions specified therein, a reduced vertical separation minimum (RVSM) or 300 m (1 000 ft) is applied between FL 290 and FL 410 inclusive:

Magnetic track											
000°-179°						180°- 359°					
IFR flight			VFR flight			IFR flight			VFR flight		
Flight level	Altitude		Flight level	Altitude		Flight level	Altitude		Flight level	Altitude	
	Feet	Metres		Feet	Metres		Feet	Metres		Feet	Metres
-90			0	___	___	0			___	___	___
10	1000	300	___	___	___	20	2000	600	___	___	___
30	3000	900	35	3 500	1 050	40	4 000	1 200	45	4 500	1 350
50	5 000	1 500	55	5 500	1 700	60	6 000	1 850	65	6 500	2 000
70	7 000	2 150	75	7 500	2 300	80	8 000	2 450	85	8 500	2 600
90	9 000	2 750	95	9 500	2 900	100	10 000	3 050	105	10 500	3 200
110	11 000	3 350	115	11 500	3 500	120	12 000	3 650	125	12 500	3 800
130	13 000	3 950	135	13 500	4 100	140	14 000	4 250	145	14 500	4 400
150	15 000	4 550	155	15 500	4 700	160	16 000	4 900	165	16 500	5 050
170	17 000	5 200	175	17 500	5 350	180	18 000	5 500	185	18 500	5 650
190	19 000	5 800	195	19 500	5 950	200	20 000	6 100	205	20 500	6 250
210	21 000	6 400	215	21 500	6 550	220	22 000	6 700	225	22 500	6 850
230	23 000	7 000	235	23 500	7 150	240	24 000	7 300	245	24 500	7 450
250	25 000	7 600	255	25 500	7 750	260	26 000	7 900	265	26 500	8 100
270	27 000	8 250	275	27 500	8 400	280	28 000	8 550	285	28 500	8 700
290	29 000	8 850	290	29 000	8 850	300	30 000	9 150	300	30 000	9 150
310	31 000	9 450	310	31 000	9 450	320	32 000	9 750	320	32 000	9 750
330	33 000	10 050	330	33 000	10 050	340	34 000	10 350	340	34 000	10 350
350	35 000	10 650	350	35 000	10 650	360	36 000	10 950	360	36 000	10 950
370	37 000	11 300	370	37 000	11 300	380	38 000	11 600	380	38 000	11 600
390	39 000	11 900	390	39 000	11 900	400	40 000	12 200	400	40 000	12 200
410	41 000	12 500	410	41 000	12 500	430	43 000	13 100	430	43 000	13 100
450	45 000	13 700	450	45 000	13 700	470	47 000	14 350	470	47 000	14 350
490	49 000	14 950	490	49 000	14 950	510	51 000	15 550	510	51 000	15 550
etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.

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