AD 2. AERODROMES

VOBG AD 2.1 AERODROME LOCATION INDICATOR AND NAME

VOBG - HAL AIRPORT BENGALURU / DOMESTIC

VOBG AD 2.2 AERODROME GEOGRAPHICAL AND ADMINISTRATIVE DATA

1	Aerodrome reference point coordinates and its site	125708N 0773953E 322.5 DEG at 762m from Control TWR	
2	Direction and distance of aerodrome reference point from the center of the city or town which the aerodrome serves	6.3 Nm (11.6 Km) south east of Bengaluru City	
3	Aerodrome elevation and reference temperature	2912 FT / 33.9 DEG C	
4	Magnetic variation, date of information and annual change	2.15 DEG W (1995) /0.017 DEG E	
5	Name of aerodrome operator, address, telephone, telefax, e-mail address, AFS address, website (if available)	Hindustan Aeronautics Limited (HAL) Chief Manager (AO), HAL Airport, Bengaluru - 560037	
		Telephone:	91-80-22315083
		Fax:	+91-80-22313032, +91-80-22312076
		AFS:	VOBGZPZX
		Email:	halatcmail@gmail.com
6	Types of traffic permitted (IFR/VFR)	IFR/VFR	
7	Remarks	NIL	

VOBG AD 2.3 OPERATIONAL HOURS

1	Aerodrome Operator	MON - SAT: 0130 - 0930 UTC (0700-1500 IST)
2	Custom and immigration	NIL
3	Health and sanitation	Available on prior notice
4	AIS briefing office	H24
5	ATS reporting office (ARO)	H24
6	MET Briefing office	H24
7	Air Traffic Service	H24
8	Fuelling	0030 - 1630 UTC
9	Handling	H24 Available on prior notice to HAL-Air India Joint Working Group.
10	Security	H24
11	De-icing	NIL
12	Remarks	1. Prior permission required for Non-Sked Flights (Including Military) 2. AVGAS 100 LL Refuelling not AVBL.

VOBG AD 2.4 HANDLING SERVICES AND FACILITIES

1	Cargo-handling facilities	Contact HAL-A1 JWG for details
2	Fuel and Oil types	JET A1 (with IOC/BPCL) MWM-451 (with IOC)

3	Fuelling facilities and capacity	IOC: 6KL, 16KL & 27KL refuellers. BPCL: 9KL,127KL & 18KL refuellers.	
4	De-icing facilities	NIL	
5	Hangar space for visiting aircraft	Nil	
6	Repair facilities for visiting aircraft	HAL: Servicing checks 'C' & 'D', structural repairs, and composite repairs for B-737 & ATR-72 Repair/Overhaul facilities with overhaul division of HAL for certain military aircrafts.	
7	Remarks	HAL - Air India joint working group provide ground handling on prior notice.	
		HAL - AI JWG Office	+91-80-22323214 +91-80-22317829 Fax: +91-80-22317041
		IOC Operational Room (Except Sundays and holidays)	91-80-25220944 FAX: 080-25227096
		BPCL Operational Room (All Days)	+91-9845514113

VOBG AD 2.5 PASSENGER FACILITIES

1	Hotel(s) at or in the vicinity of aerodrome	In the City
2	Restaurant(s) at or in the vicinity of aerodrome	In the city
3	Transportation possibilities	Taxies, Coaches and Public Buses
4	Medical Facilities	HAL Hospital at AD and in the city
5	Bank and post office at or in the vicinity of aerodrome	Banks: at AD Post office: 0300-1100 (0830-1630 IST)
6	Tourist office	NIL
7	Remarks	1.Fixed base operation at AD fully airconditioned 12-seater conference room pilot rest room pantry with dining room. PH: +91-80-25227374

VOBG AD 2.6 RESCUE AND FIRE FIGHTING SERVICES

1	Aerodrome category for fire fighting	Within ATS HR: CAT-7
2	Rescue equipment	Limited equipments available
3	Capability for removal of disabled aircraft	Cranes , Tractors, Jacks , Tow Bars available.
4	Remarks	Upgradable to Cat 9 when required.

VOBG AD 2.7 SEASONAL AVAILABILITY CLEARING

1	Type(s) of clearing equipment	AD serviceable during all seasons
2	Clearance priorities	AD serviceable during all seasons
3	Remarks	AD serviceable during all seasons

VOBG AD 2.8 APRONS, TAXIWAYS AND CHECK LOCATIONS/POSITIONS DATA

1	Designation, surface and strength of aprons	Designator: Apron 1 Surface: Concrete Strength: PCN 55/R/B/W/T Designator: Apron 2 Surface: Concrete Strength: Designator: Apron 3 Surface: Concrete Strength: Designator: Apron 4 Surface: Concrete Strength: Designator: Apron 5 Surface: Concrete Strength: Designator: Apron 6 Surface: Concrete Strength:
2	Designation, width, surface and strength of taxiways	Designator: E1 Width: 23 M Surface: Asphalt Strength: PCN 55/F/A/W/T Designator: E2 Width: 23 M Surface: Asphalt Strength: Designator: M Width: 23 M Surface: Asphalt Strength: PCN 50/F/A/W/T Designator: W1 Width: 23 M Surface: Asphalt Strength: PCN 56/F/A/W/T Designator: W2 Width: 23 M Surface: Asphalt Strength: PCN 47/F/A/X/T
3	Location and elevation of altimeter checkpoints	Apron1 2910FT; Apron2 2935FT ; Apron3 2904FT
4	Location of VOR checkpoints	East Link TWY: Holding Position 284 DEG/0.5NM E2: Holding Position 045 DEG/0.3NM West Link TWY: Holding Position 273 DEG/1.3NM W2: Holding Position 273 DEG/1.67NM RWY 09 THR: 269 DEG/1.7NM RWY 27 THR: 055 DEG/0.2NM

5	Position of INS checkpoints	RWY 09 THR: 125656.00N 0773913.70E (876.116M) RWY 27 THR: 125706.00N 0774103.60E (881.690M) West Link TWY W1: 878.309M East Link TWY E1: 887.046M ARP: 125708.00N 0773952.07E (888.347M)
6	Remarks	W1/E1 refer to holding positions. Apron1: 9 bays for A320/B737 or similar ACFT Apron2: 3 bays for cargo/VIP ACFTS Apron3: 2 bays for AN-32& 2 bays for Dornier or similar ACFT. Apron4: 4bays for AN-32 or similar ACFT. Apron5: 5 bays for A320/B737 or similar ACFT Apron6: 4 bays for A320/B737 or similar ACFT

VOBG AD 2.9 SURFACE MOVEMENT GUIDANCE AND CONTROL SYSTEM AND MARKINGS

1	Use of aircraft stand identification signs, taxiway guidelines and visual docking/parking guidance system at aircraft stands	Taxiing guidance provided on RTF. Guidelines at Airport.
2	Runway and taxiway markings and lights	RWY Markings: Designation, THR, TDZ, Centerline, Edge. RWY Lighting: Edge, THR/End. TWY Markings: Center Line, Holding Position . TWY Lighting: Edge
3	Stop bars (if any)	NIL
4	Remarks	NIL

VOBG AD 2.10 AERODROME OBSTACLES

In Approach/Take-off/Circling Area and at AD					
1	**2**	**3**	**4**	**5**	**6**
RWY/Area affected	Obstacle type	Coordinates	Elevation	Marking/LGT	Remarks
27/TKOF 09/APCH	TREE	125655.2N 0773855.9E	2898 FT	NIL	Tree on Bund
27/TKOF 09/APCH	TREE	125653.3N 0773850.6E	2933 FT	NIL	Tree (Pipal)
27/TKOF 09/APCH	TREE	125654.2N 0773846.0E	2948 FT	NIL	Tree
27/TKOF 09/APCH	TREE	125652.4N 0773832.8E	2966 FT	NIL	Tree
27/TKOF 09/APCH	TREE	125650.0N 0773859.3E	2946 FT	NIL	Tree
27/TKOF 09/APCH	OTHER	125656.2N 0773857.0E	2890 FT	NIL	Mobile Road Traffic
27/TKOF 09/APCH	TREE	125659.8N 0773858.0E	2922 FT	NIL	Tree
27/TKOF 09/APCH	TREE	125655.9N 0773844.3E	2932 FT	NIL	Tree
27/TKOF 09/APCH	TREE	125657.2N 0773841.8E	2958 FT	NIL	Tree
27/TKOF 09/APCH	BUILDING	125653.3N 0773833.1E	2946 FT	NIL	Building

In Approach/Take-off/Circling Area and at AD					
1	**2**	**3**	**4**	**5**	**6**
RWY/Area affected	Obstacle type	Coordinates	Elevation	Marking/LGT	Remarks
27/TKOF 09/APCH	TREE	125652.6N 0773851.2E	2953 FT	NIL	Group of Trees
27/TKOF 09/APCH	TREE	125701.4N 0773839.3E	2965 FT	NIL	Group of Trees
27/TKOF 09/APCH	POLE	125659.4N 0773911.7E	2894 FT	NIL	WDI
27/TKOF 09/APCH	BUILDING	125658.2N 0773910.4E	2882 FT	NIL	Temple
27/TKOF 09/APCH	FUEL SYSTEM	125653.3N 0773911.7E	2882 FT	NIL	Pump Station
27/TKOF 09/APCH	POLE	125652.6N 0773912.0E	2893 FT	NIL	Electric Pole
27/TKOF 09/APCH	WALL	125652.4N 0773912.0E	2876 FT	NIL	Boundary Wall
27/TKOF 09/APCH	OTHER	125651.7N 0773912.0E	2889 FT	NIL	Mobile Road Traffic
27/TKOF 09/APCH	ANTENNA	125656.2N 0773904.2E	2878 FT	NIL	LOC Antenna
27/TKOF 09/APCH	OTHER	125702.7N 0773902.0E	2891 FT	NIL	Mobile Road Traffic
27/APCH 09/TKOF	BUILDING	125708.7N 0774103.8E	2903 FT	NIL	Security Hut
27/APCH 09/TKOF	BUILDING	125702.8N 0774103.8E	2903 FT	NIL	Security Hut
27/APCH 09/TKOF	POLE	125657.2N 0774106.0E	2912 FT	NIL	WDI
27/APCH 09/TKOF	TREE	125706.1N 0774125.3E	2900 FT	NIL	Tree
27/APCH 09/TKOF	POLE	125702.8N 0774303.2E	3000 FT	NIL	HT Pylon Mast
27/APCH 09/TKOF	POLE	125716.2N 0774303.6E	3013 FT	NIL	HT Pylon Mast
In circling area and at AD	POLE	130357.0N 0774701.6E	3287 FT	LGTD	Air Mast
In circling area and at AD	TOWER	125458.1N 0773535.0E	3402 FT	LGTD	TV Tower
In circling area and at AD	TOWER	125458.0N 0773452.7E	3363 FT	LGTD	Microwave Tower 2
In circling area and at AD	TOWER	125854.0N 0773520.7E	3271 FT	LGTD	Microwave Tower 1
In circling area and at AD	BUILDING	125544.1N 0773506.7E	3209 FT	LGTD	Jayanagar Complex
In circling area and at AD	BUILDING	125826.0N 0773637.7E	3291 FT	LGTD	Public Utility Building

VOBG AD 2.11 METEOROLOGICAL INFORMATION PROVIDED

1	Name of the associated meteorological office	AD MET service, Bengaluru
2	Hours of service and, where applicable, the designation of the responsible meteorological office outside these hours	H24
3	Office responsible for preparation of TAFs and periods of validity and interval of issuance of the forecasts	BIAL (Devanahali) H-24

4	Availability of the trend forecast for the aerodrome and interval of issuance	NIL
5	Information on how briefing and/or consultation is provided	Self-briefing
6	Types of flight documentation supplied and language(s) used in flight documentation	NIL
7	Charts and other information displayed or available for briefing or consultation	METAR
8	Supplementary equipment available for providing information on meteorological conditions, e.g. weather radar and receiver for satellite images;	Satellite Pictures
9	The air traffic services unit(s) provided with meteorological information	HAL ATS Reporting Office
10	Additional information, e.g. concerning any limitation of service.	Ph: +91-80-25220960, +91-80-22322658 Fax-+91-80-25228387

VOBG AD 2.12 RUNWAY PHYSICAL CHARACTERISTICS

Designations	TRUE Bearings	Dimensions of RWY (M)	Strength of pavement (PCN) and associated data) and surface of runway and associated stopways	Geographical coordinates for threshold and runway end
1	2	3	4	5
09	85.00 DEG	3306 x 61 M	60/F/A/X/T Asphalt	THR: 125656.00N 0773913.70E
27	265.00 DEG	3306 x 61 M	60/F/A/X/T Asphalt	THR: 125706.00N 0774103.60E

THR elevation and highest elevation of TDZ of precision APP RWY	Slope of runway and associated stopway	Dimensions of stopway (M)	Dimensions of clearway (M)	Dimensions of strips (M)
6	7	8	9	10
THR: 2874.0FT TDZ:	0.63%	90 x 61 M	300 x 150	3666 x 165 M
THR: 2893.0FT TDZ:	0.39%		300 x 150	3666 x 165 M

Dimensions of runway end safety areas	Location and description of arresting system (if any)	Existence of an obstacle-free zone	Remarks.
11	12	13	14
150M x 61M	Location: RWY09 Dumbell 40M beyond THR. Description: Barrier is raised only for fighter ops. Barrier when raised at the end of active RWY has height of approximately 3.4m. Barrier arms in lowered position has height of approximately 0.25m on either side beyond dumbell. Barrier is remotely controlled from TWR. Pilots to exercise caution while landing and takeoff	Eastern side of Airport	1. Over all Slope: 0.35 % 2. A distance of 90M is available as SWY for RWY 09. However, caution should be exercised for a steep drop in terrain after 60M from the described SWY. 3. Width of strip: 90M North of RWY centerline. 75M South of RWY centerline. 4. Trees have been planted in the Golf club grounds, which is situated approximately 1km west of RWY (Approach path of RWY09), these trees are being pruned by golf club personnel periodically on the advice of ATS authorities to be within permissible limit. 5. RESA of 150M & 140M is available. Caution has to be exercised for a steep drop in the terrain after RESA for RWY 09
150M x 61M	Location: RWY27 Dumbell 32M beyond THR. Description: Barrier is raised only for fighter ops. Barrier when raised at the end of active RWY has height of approximately 3.4m. Barrier arms in lowered position has height of approximately 0.25m on either side beyond dumbell. Barrier is remotely controlled from TWR. Pilots to exercise caution while landing and take-off	Eastern side of Airport	1. Over all Slope: 0.35 % 2. A distance of 90M is available as SWY for RWY 09. However, caution should be exercised for a steep drop in terrain after 60M from the described SWY. 3. Width of strip: 90M North of RWY centerline. 75M South of RWY centerline. 4. Trees have been planted in the Golf club grounds, which is situated approximately 1km west of RWY (Approach path of RWY09), these trees are being pruned by golf club personnel periodically on the advice of ATS authorities to be within permissible limit. 5. RESA of 150M & 140M is available. Caution has to be exercised for a steep drop in the terrain after RESA for RWY 09

VOBG AD 2.13 DECLARED DISTANCES

RWY Designator	Take-off run available TORA (M)	Take-off distance available TODA (M)	Accelerate distance available ASDA (M)	Landing distance available LDA (M)	Remarks (including runway entry or start point where alternative reduced declared distances have been declared)
1	2	3	4	5	6
09	3306	3606	3396	3307	For Heavy Aircraft: TORA: 3155 M TODA: 3429 M ASDA: 3155 M LDA : 3307 M
27	3306	3606	3306	3307	For Heavy Aircraft: TORA: 3155 M TODA: 3429 M ASDA: 3155 M LDA : 3307 M

VOBG AD 2.14 APPROACH AND RUNWAY LIGHTING

Runway Designator	Type, length and intensity of approach lighting system	Runway threshold lights, colour and wing bars	Type of visual slope indicator system	Length of runway touchdown zone lights
1	2	3	4	5
09	SALS 300 M	Green	PAPI LEFT/3.00 DEG	
27	SALS 300 M	Green	PAPI LEFT/3.00 DEG	

Length, spacing, colour and intensity of runway centre line lights	Length, spacing, colour and intensity of runway edge lights	Colour of runway end lights and wing bars	Length and colour of stopway lights	Remarks
6	7	8	9	10
	3300 M 60 M	Red		NIL
	3300 M 60 M	Red		NIL

VOBG AD 2.15 OTHER LIGHTING, SECONDARY POWER SUPPLY

1	Location, characteristics and hours of operation of aerodrome beacon/identification beacon (if any)	ABN	NIL
		IBN	Nil
2	Location and lighting (if any) of anemometer/ landing direction indicator;	LDI	Appx. 700 M North of Control Tower unlighted
		Anemometer	Over ATS reporting office (1000m north of control tower) unlighted
3	Taxiway edge and taxiway centre line lights;	Edge	All TWY except W2 (Reflectors AVBL)
		Centre Line	NIL
4	Secondary power supply including switch-over time;	Secondary power supply to all lighting at AD 6 sec.	

5	Remarks	UPS available to essential installations.

VOBG AD 2.16 HELICOPTER LANDING AREA

1	Geographical coordinates of the geometric centre of touchdown and lift-off (TLOF) or of each threshold of final approach and take-off (FATO) area	Helipad Alpha: 125735.1N 0774036.6E Helipad Bravo: 125718.1N 0774043.6E
2	TLOF and/or FATO area elevation:	Helipad Alpha: 881m Helipad Bravo: 891m
3	TLOF and FATO area dimensions to the nearest metre or foot, surface type, bearing strength and marking;	Helipad Alpha: 92mx46m White "H" Helipad Bravo: 25mx15m White "H" strength to be determined for both the Helipad.
4	True bearings of FATO;	NIL
5	Declared distances available	NIL
6	Approach and FATO lighting;	NIL
7	Remarks	NIL

VOBG AD 2.17 AIR TRAFFIC SERVICE AIRSPACE

1	Airspace designation, geographical coordinates and lateral limits	CTR: Not Established
2	Vertical limits	
3	Airspace classification	
4	Call sign and language(s) of the air traffic services unit providing service;	HAL TOWER / HAL APPROACH, English
5	Transition altitude	7000 FT
6	Hours of applicability	
7	Remarks	Restricted Airspaces viz, VOR 181A/VOR 181B/VOR 185 are controlled by HAL (Bengaluru) ATC.

VOBG AD 2.18 AIR TRAFFIC SERVICES COMMUNICATION FACILITIES

Service Designation	Call sign	Channel(s)	SATVOICE Number(s), if available
1	**2**	**3**	**4**
PAR	HAL PRECISION	119.500 MHZ	
APP	HAL APPROACH	127.700 MHZ	
TWR	HAL TOWER	123.500 MHZ	
ATIS	HAL INFORMATION	128.250 MHZ	
RADAR	HAL RADAR	122.700 MHZ	
RADAR	HAL RADAR	127.700 MHZ	

Logon address, as appropriate	Hours of operation	Remarks
5	**6**	**7**
	0130 - 1630 UTC	NIL
	H24	VDF Available
	H24	VDF Available
	H24	Computer generated Voice

Logon address, as appropriate	Hours of operation	Remarks
	0130 - 1630 UTC	Secondry Freq.
	H24	Primary Freq.

VOBG AD 2.19 RADIO NAVIGATION AND LANDING AIDS

Type of aids, magnetic variation and type of supported operation for ILS/ MLS, basic GNSS, SBAS and GBAS, and for VOR/ILS/MLS station used for technical lineup of the aid	Identification	Frequency(ies), Channel number(s), Service provider, and reference path identifier(s) (RPI), as appropriate	Hours of operation, as appropriate;
1	2	3	4
LOC 27	IBLR	110.500 MHz	H24
GP 27	--	329.600 MHz	H24
DME ILS 27	IBLR	CH24X	H24
DVOR/DME	BBG	115.500 MHz CH102X	H24

Geographical coordinates of the position of the transmitting antenna	Elevation of transmitting antenna of DME/ elevation of GBAS reference point	Service volume radius from the GBAS reference point	Remarks
5	6	7	8
125654.7N 0773903.9E			Elevation of LOC antenna 2879 FT
125700.6N 0774055.6E			Elevation of Glide Path Antenna 2962 FT
125700.6N 0774055.6E	2943 FT		ILS DME Collocated With GP
125659.1N 0774051.6E	2945 FT		

VOBG AD 2.20 LOCAL AERODROME REGULATIONS

NIL

VOBG AD 2.21 NOISE ABATEMENT PROCEDURES

NIL

VOBG AD 2.22 FLIGHT PROCEDURES

1.PAR PROCEDURE:

RWY	09	27
Threshold elevation (FT)	2872	2890
Inbound track (M)	088	268
Intermediate Approach Altitude (FT)	4500	4500
IF range from touch down(NM)	10	10
Glide angle	3 DEG (5.3%)	3 DEG (5.3%)
Termination point dist. from touch Down (NM)	1	1
OCA (FT)	3200	3200
Missed approach procedure: climb straight ahead to 4500FT turn right to join VOR holding at 6000FT, OR; climb straight ahead to 4500FT turn left to join VOR holding at 6000 FT.		

VOBG AD 2.23 ADDITIONAL INFORMATION

i.Coordinates of stands in Apron 1

Stand No	Coordinates	Remarks
1	N125713.00 E0773941.00	1. All the stands to be used in Power-in/push-back mode.
2	N125713.00 E0773943.00	
3	N125713.00 E0773944.00	2. Nose-in guidance (PAPA-AGNIS) available for Bays 5/5A & 6. along with Aerobridge facility.
4	N125713.00 E0773945.00	
5	N125713.00 E0773947.00	3a. When Stand 5A is used, the vehicular path west of stand will remain closed
5A	N125712.00 E0773946.00	
6	N125713.00 E0773949.00	3b. Two B747-400 types of aircraft could be parked in Bays 5A & Bay 6 simultaneously.
7	N125713.00 E0773952.00	
8	N125710.00 E0773952.00	4. When Bay 4 is occupied, the aircraft parked in Bay 1, 2 & 3 (except ATRs) shall be pushed
9	N125710.00 E0773949.00	back up to main taxiway to avoid jet blast to the aircraft in stand 4.
10	N125710.00 E0773947.00	

ii. Operators of Medium/Heavy aircraft to ensure availability of Tow Bar for Pushback due to Nose-In Parking Stands.

iii. TWY W2 operational for occasional use during daytime at the discretion of ATC. First 150M of TWY shoulder of intersection with TWY W1 (West Link) TWY is not ramped / merged with the adjoining area. All the taxiing aircraft to exercise caution.

iv. TWY E2 available for operation during day and night for light and medium type of aircraft. Length 1390M from east link TWY to THR RWY 27.

v. H24, Regular Helicopter flying will take place over Bravo Helipad which is 250 M North of RWY 09/27. All ARR/ DEP ACFT to exercise caution.

vi. All Arrivals and Departures aircrafts may activate ACAS when flying over VOYK Air-Force base as intense training flights are in progress.

vii. Microwave mast installed LOC 125714N 0773950E. Height 921M AMSL. Distance 1139 FT approx. from ARP. Lighted by night.

viii. Heavy aircrafts to lineup 152m (500ft) ahead of THR markings to protect arrester barrier at both ends of RWY. For heavy aircrafts SWY not available for RWY 09/27.

ix. APN 5 bay 1 is located south of main TWY behind APN 1 bay 7 and bay 8. ACFT parked in bay 7 and bay 8 may push back across the main TWY to APN 5 bay 1 facing north.

'x. Pushback bay' LOC south of main TWY ABM APN 1 behind bay 5 and bay 6. ACFT parked in APN 1 bay 5 and bay 6 to push back across main TWY to 'pushback bay' facing north.

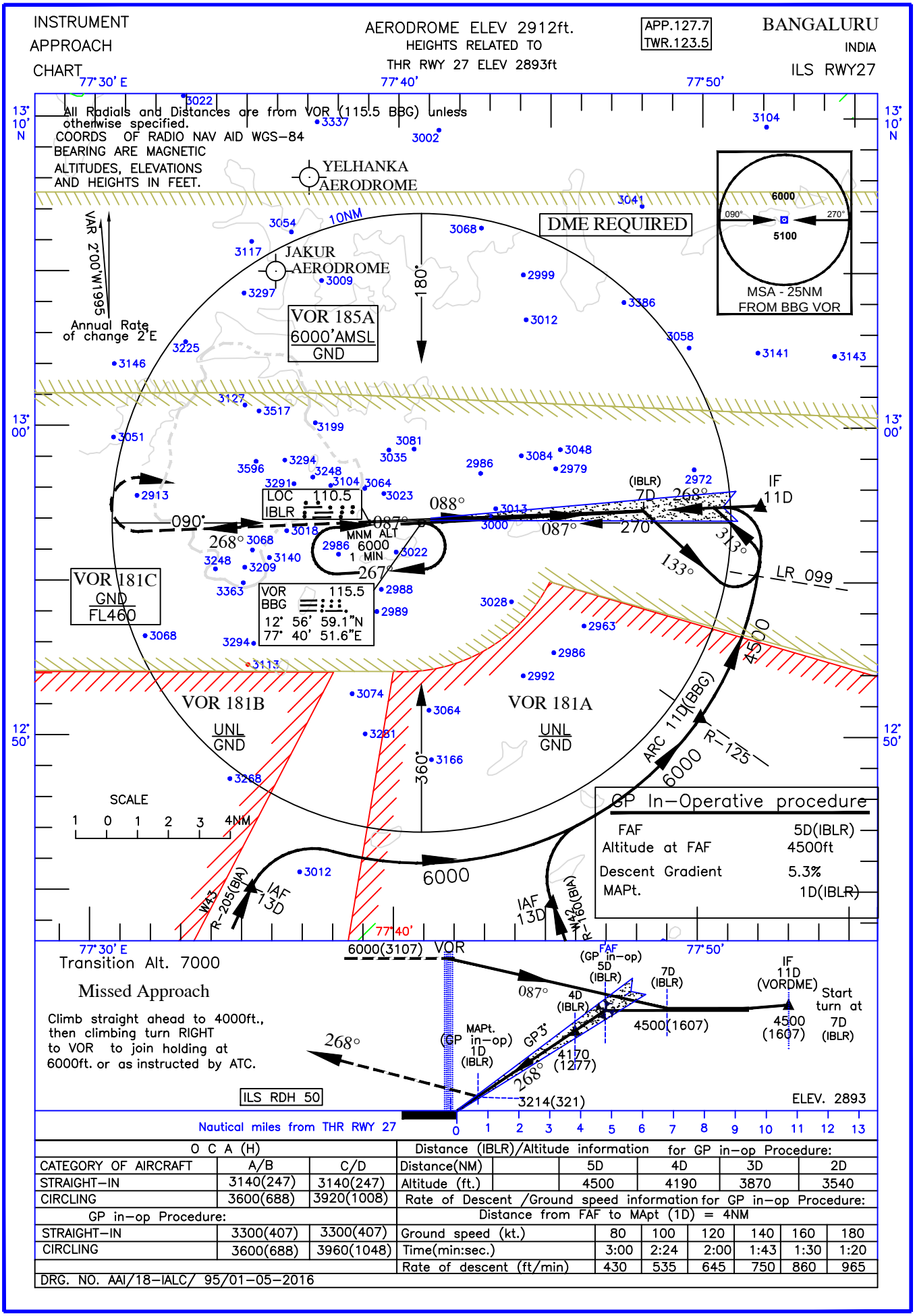
xi. Exercise caution during landing and take-off between 1130 to 1330 due to excess bird activity.
DLY 0000-0200 EXP DLA for ARR/DEP due excessive bird act over the airfield.

xii. Exercise caution for metal plate (Judder Plate) 1.5 M x 2.5 M fixed on RWY. From RWY27 Dumbell longitudianally.2500 FT laterally, 30FT north of Centre line.

xiii. Avoid arrival /departure 0015 min prior to and 0045 min after sunset due bat activity over the Airport.

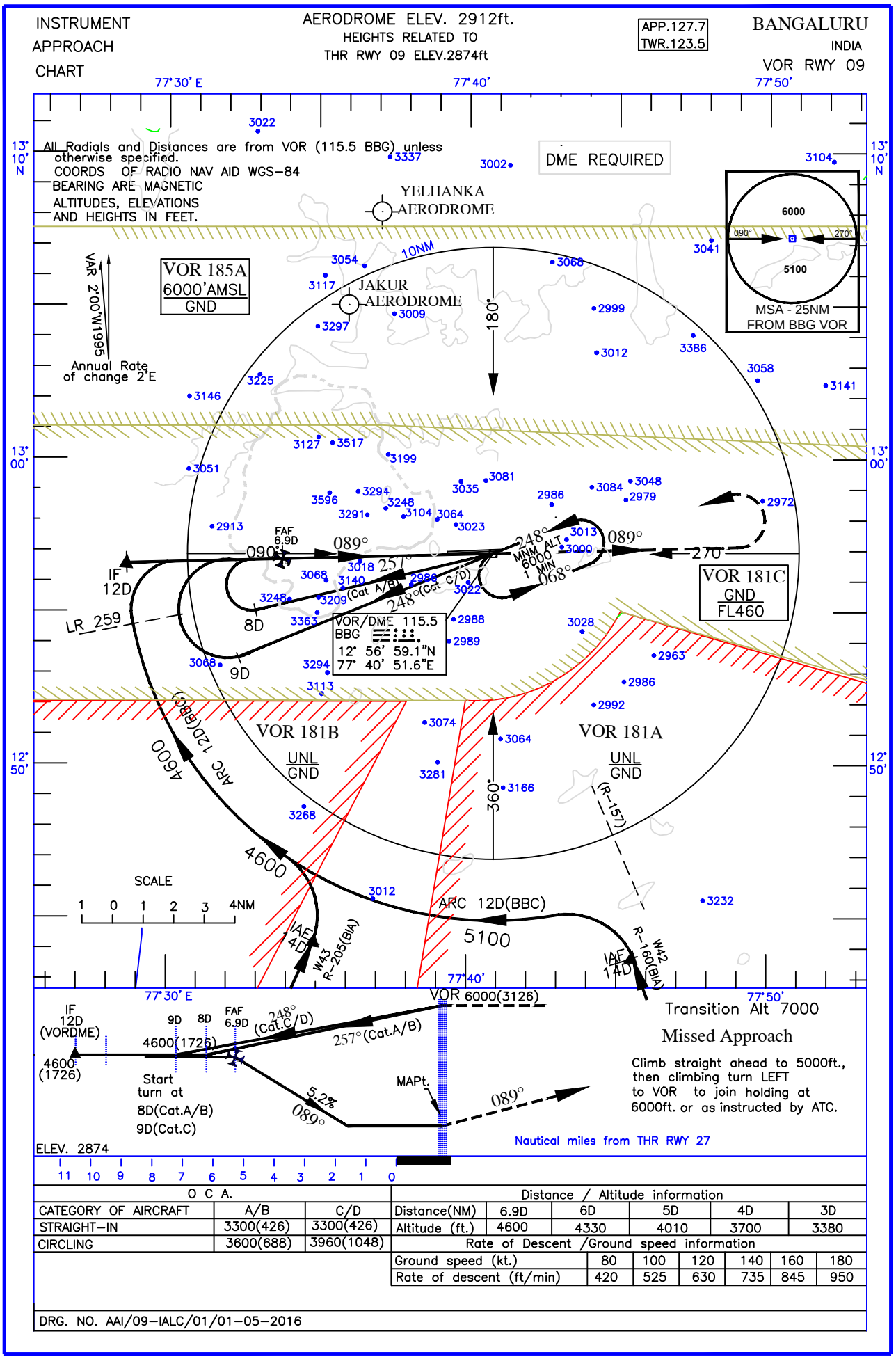
VOBG AD 2.24 CHARTS RELATED TO AN AERODROME

1.ILS Procedure RWY 27
2.VOR Procedure RWY 09
3.VOR Procedure RWY 27



O C A (H)			Distance (IBLR)/Altitude information for GP in-op Procedure:					
CATEGORY OF AIRCRAFT	A/B	C/D	Distance(NM)		5D	4D	3D	2D
STRAIGHT-IN	3140(247)	3140(247)	Altitude (ft.)		4500	4190	3870	3540
CIRCLING	3600(688)	3920(1008)	Rate of Descent /Ground speed information for GP in-op Procedure:					
GP in-op Procedure:			Distance from FAF to MApt (1D) = 4NM					
STRAIGHT-IN	3300(407)	3300(407)	Ground speed (kt.)	80	100	120	140	160	180
CIRCLING	3600(688)	3960(1048)	Time(min:sec.)	3:00	2:24	2:00	1:43	1:30	1:20
			Rate of descent (ft/min)	430	535	645	750	860	965

DRG. NO. AAI/18-IALC/ 95/01-05-2016

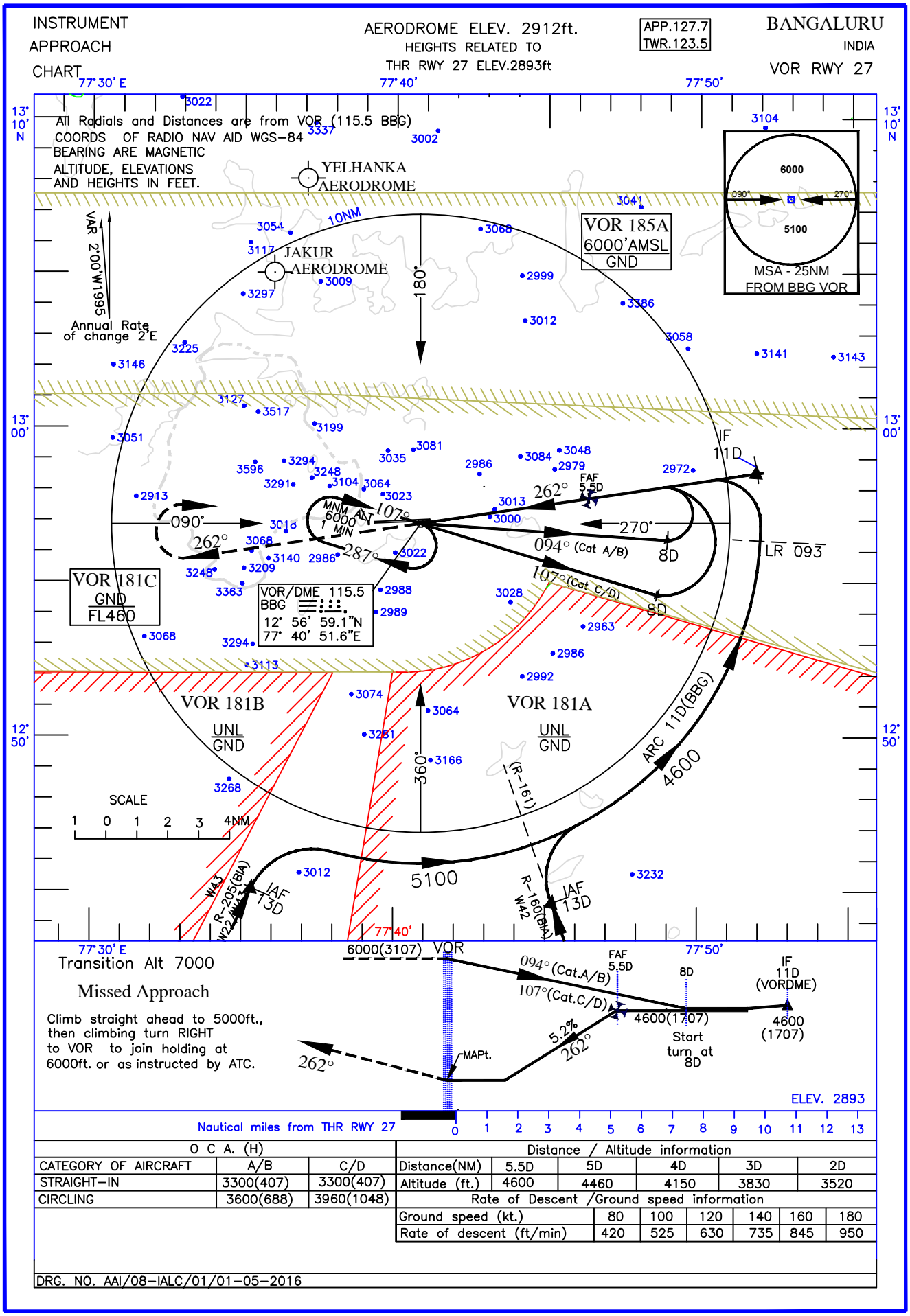


O C A.		
CATEGORY OF AIRCRAFT	A/B	C/D
STRAIGHT-IN	3300(426)	3300(426)
CIRCLING	3600(688)	3960(1048)

Distance / Altitude information					
Distance(NM)	6.9D	6D	5D	4D	3D
Altitude (ft.)	4600	4330	4010	3700	3380

Rate of Descent /Ground speed information						
Ground speed (kt.)	80	100	120	140	160	180
Rate of descent (ft/min)	420	525	630	735	845	950

DRG. NO. AAI/09-IALC/01/01-05-2016



O C A. (H)		
CATEGORY OF AIRCRAFT	A/B	C/D
STRAIGHT-IN	3300(407)	3300(407)
CIRCLING	3600(688)	3960(1048)

Distance / Altitude information						
Distance(NM)	5.5D	5D	4D	3D	2D	
Altitude (ft.)	4600	4460	4150	3830	3520	
Rate of Descent /Ground speed information						
Ground speed (kt.)	80	100	120	140	160	180
Rate of descent (ft/min)	420	525	630	735	845	950

DRG. NO. AAI/08-IALC/01/01-05-2016