

Table-1

Altitude Band	Airspac Class	Flight Visibility	Distance from cloud
At and above 3050 m	C G	8 Km	1500 m horizontally 300m (1000 ft) vertically
Below 3050 m (10000 ft) AMSL and above 900 m (3000 ft) AMSL or above 300 m (1000 ft) above terrain, whichever is the higher.	C G	5 Km	1500 m horizontall 300 m (1000 ft) vertically
At and below 900 m (3000 ft) AMSL or, 300 m (1000 ft) above terrain, whichever is the higher.	C	5 Km	1500 m horizontally 300 m (1000 ft) vertically
	G	5 Km*	Clear of cloud and with the surface in sight
* HELICOPTERS may be permitted to operate in less than 1 500 m flight visibility, if maneuvered at a speed that will give adequate opportunity to observe other traffic or any obstacles in time to avoid collision.			

6. VFR flights shall comply with the provisions of 3.6 of Annex 2 and respective chapter of Civil Aviation Requirements for Rules of the Air (CAR 2) :
 - a) when operated within class C airspace;
 - b) when forming part of aerodrome traffic at controlled aerodromes; or
 - c) when operated as special VFR flights.

7. An aircraft operated in accordance with the visual flight rules which wishes to change to compliance with the instrument flight rules shall:
 - a) if a flight plan was submitted, communicate the necessary changes to be effected to its current flight plan, or
 - b) when so required by 3.3 of Annex 2, submit a flight plan to the appropriate air traffic services unit and obtain a clearance prior to proceeding IFR when in controlled airspace.

ENR 1.3 INSTRUMENT FLIGHT RULES

1. Rules Applicable to all IFR Flights

1.1. *Aircraft equipment*

Aircraft shall be equipped with suitable instruments and with navigation equipment appropriate to the route to be flown.

1.2. *Minimum Levels*

Except when necessary for take-off or landing or when specifically authorized by the DGCA, an IFR flight shall be flown at a level which is not below the published minimum flight altitude, or, where no such minimum flight altitude has been established:

- a) over high terrain or in mountainous areas, at a level which is at least 600 m (2000 ft) above the highest obstacle located within 8 km of the estimated position of the aircraft;
- b) elsewhere than as specified in a), at a level which is at least 300 m (1000 ft) above the highest obstacle located within 8 km of the estimated position of the aircraft.

Note.— The estimated position of the aircraft will take account of the navigational accuracy which can be achieved on the relevant route segment, having regard to the navigational facilities available on the ground and in the aircraft.

1.3. *Change from IFR Flight to VFR Flight*

1.3.1. An aircraft electing to change the conduct of its flight from compliance with the instrument flight rules to compliance with the visual flight rules shall, (if a flight plan was submitted), notify the appropriate air traffic services unit specifically that the IFR flight is cancelled and communicate thereto the changes to be made to its current flight plan.

1.3.2. When an aircraft operating under the instrument flight rules is flown in or encounters visual meteorological conditions, it shall not cancel its IFR flight unless it is anticipated, and intended, that the flight will be continued for a reasonable period of time in uninterrupted visual meteorological conditions.

2. Rules applicable to IFR flight within controlled airspace

2.1. IFR flights shall comply with the provisions of 3.6 of Annex 2, respective Chapter of Civil Aviation Requirements for Rules of the Air (CAR 2) to the Convention on International Civil Aviation when operated in controlled airspace.

2.2. An IFR flight operating in cruising flight in controlled airspace shall be flown at a cruising level, or, if authorised to employ cruise climb techniques, between two levels or above a level, selected from the tables of cruising levels Ref. ENR 1.7 - 4 Table I & II except that the correlation of levels to track prescribed there in shall not apply whenever otherwise indicated in air traffic control clearances or specified in the Aeronautical Information Publication

3. Rules applicable to IFR flights outside controlled airspace

3.1. *Cruising Levels*

An IFR flight operating in level cruising flight outside of controlled airspace shall be flown at a cruising level appropriate to its track as specified in the tables of cruising levels Ref. ENR 1.7 - 4 Table I & II.

Note.– This provision does not preclude the use of cruise climb techniques by aircraft in supersonic flight.

3.2. *Communications*

An IFR flight operating outside controlled airspace but within or into areas, or along routes designated by appropriate ATS authority in accordance with 3.3.1.2 c) or d) of Annex 2, respective Chapter of Civil Aviation Requirements for Rules of the Air (CAR 2) shall maintain a listening watch on the appropriate radio frequency and establish two-way communication, with the air traffic services unit providing flight information service.

3.3. *Position Reports*

An IFR flight operating outside controlled airspace is required to,

- submit a flight plan, and
- maintain a listening watch on the appropriate radio frequency and establish two-way communication with the air traffic services unit providing flight information service and shall report position as specified in 3.6.3 of ICAO Annex-2, respective Chapter of Civil Aviation Requirements for Rules of the Air (CAR 2)

ENR 1.4 ATS AIRSPACE CLASSIFICATION AND DESCRIPTION

ENR 1.4.1 A T S Airspace Classification

1. Introduction

The airspace in the Kathmandu FIR (VNSM) has been classified in accordance with appendix -4 of ICAO Annex – 11.

2. Classification of airspaces

Within the Kathmandu FIR, the airspaces are classified and designated in accordance with the following:

Class C: IFR and VFR flights are permitted, all flights are provided with air traffic control service, and IFR flights are separated from other IFR flights and from VFR flights. VFR flights are separated from IFR flights and receive traffic information in respect of other VFR flights

Class G: IFR and VFR flights are permitted and receive flight information service.

ATS airspaces within Kathmandu FIR (VNSM) are classified and designated as follows:

Class C airspace - within controlled airspaces (Airways, TMA, CTR)

Class G airspace - Outside controlled airspaces.

ENR 1.4.2 A T S Airspace Description

The requirements for the flight within each class of airspace are as shown in the following table.

Class	Type of Flight	Separation Provided	Service Provided	VMC visibility and distance from cloud minima	Speed limitation	Radio communication requirement	Subject to an ATC clearance
C	IFR	IFR from IFR IFR from VFR	Air traffic control service	Not applicable	Not applicable	Continuous two-way	Yes
	VFR	VFR from IFR	1) Air traffic control service for separation from IFR; 2) VFR/ VFR traffic information (and traffic avoidance advice on request)	8 km at and above 3050m (10000ft) AMSL 5 Km below 3050m (10000 FT) AMSL 1500 M horizontal; 300 M vertical distance from cloud	250 KT IAS below 3050 m (10000 FT) AMSL	Continuous two-way	Yes
G	IFR	Nil	Flight information service	Not applicable	250 KT IAS below 3050 m (10,000 ft.) AMSL	Continuous two-way	No
	VFR	Nil	Flight information Service	8Km at and above 3050 m (10000 ft.) AMSL 5 Km below 3050 m (10000 ft.) AMSL 1500 m horizontal; 300 m vertical distance from cloud. At and below 900 m (3000 ft.) AMSL or 300 m (1000 ft.) above terrain whichever is higher - 5 Km*, (1000 m for Helicopters) clear of cloud and in sight of ground or water	250 KT IAS below 3050 m (10000 ft) AMSL	Continuous two-way	No

* Helicopters may be permitted to operate in less than 1500 M flight visibility, if maneuvered at a speed that will give adequate opportunity to observe other traffic or any obstacles in time to avoid collision

Note.– Classes of airspace A,B,D,E and F are not used in Kathmandu FIR

ENR 1.5 HOLDING, APPROACH AND DEPARTURE PROCEDURES

ENR 1.5.1 General

1.1. The holding, approach and departure procedures in use through out the Kathmandu FIR (VNSM) are based in accordance with the criteria contained in ICAO Doc 8168- Procedure for Air Navigation Services-Operation (PANS-OPS).

1.1.1 The holding and approach procedures in use have been based on the values and factors contained in parts III and IV of Vol.I of the PANS-OPS. The holding patterns shall be entered and flown as indicated on the applicable approach charts.

1.1.2 An aircraft approaching an aerodrome under IFR for the purpose of making a landing shall conform to the holding and instrument approach procedures for the radio navigational aid employed as prescribed in the appropriate instrument approach charts.

1.1.3 Pilots will be expected to know the correct holding, approach and departure procedures.

1.2. Holding Procedures

1.2.1. An aircraft shall hold in flight as required for the purpose of establishing separation and for absorbing delays caused by traffic peaks or weather. Holding shall be accomplished in accordance with approved procedures. If aircraft are required to hold at a point for which there is no approved procedure, they shall do so in a manner specified by ATC. If a delay of 30 minutes or more is anticipated the pilot-in-command will be notified as early as possible along with the operating agency.

1.2.2. A request by a pilot-in-command to deviate from an approved holding procedure may be approved, if known conditions permit.

1.2.3. When an aircraft is holding over an aerodrome which is closed for landing or where weather conditions are less than the prescribed minima; ATC will nominate a schedule of reporting time normally at 15 minutes interval.

1.2.4. During an instrument approach sequence the aircraft estimated to arrive first over a holding point will be assigned the lowest level available. The succeeding aircraft will be given priority in the order of their estimated time of arrival over such point.

1.2.5. Holding patterns for all controlled aerodromes are indicated on the applicable approach charts.

1.2.6. VFR Holding points in Kathmandu are detailed in sub-section VNKT AD 2-51 and VNKT AD 2- 52.

1.2.7. Initial approach tracks and holding patterns associated with Tribhuvan International Airport is detailed in charts VNKT AD 2 – 49/50 prepared for the purpose. Holding patterns for other airfields are indicated on the applicable approach charts.

1.3. Low Level Holding Areas (Tribhuvan International Airport)

1.3.1. The holding areas for procedural traffic landing at Tribhuvan International Airport depend on the runway in use at Tribhuvan International Airport and are as follows:

- a) RWY 02/20 --- GURAS holding area – lower / upper limits 11500/13500 ft.
- b) RWY 02/20 --- IGRIS holding area-- lower / upper limits 10500/13500 ft.
- c) RWY 02/20 --- DARKE holding area-- lower / upper limits 10500/13500 ft.

1.3.2. Details of these holding areas are given in sub-section ENR 3.6. They are also shown in charts VNKT AD 2 – 49.

1.4. High Level Holding Areas (Tribhuvan International Airport)

1.4.1. High Level Holding Areas are also established at GURAS and Kathmandu VOR (KTM) the lower/upper limits are FL150/FL190 and FL150/FL250 respectively. Details of these areas are given in sub section ENR 3.6. They are also shown in charts VNKT AD 2 – 50. The GURAS and KTM holding shall not be used simultaneously at same level.

1.5. Holding Speeds

1.5.1. The maximum holding speed for all holding areas at Kathmandu is IAS 230 Kts.

1.5.2. During condition of turbulence, pilots may request clearance to hold at higher speeds for both high and low level holding areas.

1.6. Standard Instrument Departure (SID) and Standard Instrument Arrival (STAR)

Pilots departing from and landing at controlled aerodromes should refer to the procedures in respective STAR charts in part 3. Aerodrome (AD).

ENR 1.5.2 Arriving flights

2.1. IFR flights entering and landing within a terminal control area/ CTR will be cleared to a specified holding point and instructed to contact approach/ aerodrome control at a specified time, level or position. The terms of this clearance shall be adhered to until further instructions received from approach/ aerodrome control. If the clearance limit is reached before further instructions have been received, holding procedure shall be carried out at the level last authorized.

2.2. Entry to the holding patterns and procedures shall be carried out as precisely as possible. Pilots are advised to inform ATC for any deviation.

2.3. Pilots making instrument approaches at controlled aerodrome shall refer to the procedures in the respective instrument approach charts in part 3 Aerodrome (AD).

2.4. In TIA, arriving VFR aircraft shall be required either to enter and remain within TMA at appropriate level till control zone boundary for further descent below 7500' AMSL or to fly well clear of TMA and enter control zone at a level below 7500' AMSL. Aircraft making VOR/DME Approach must include level while reporting position (Radial/DME). In case the

aircraft reports incorrectly against the prescribed procedure, the controller shall alert the aircraft accordingly.

2.5. *IFR Flights Entering Control Zones.*

- 2.5.1. a) Aircraft shall establish communication with the aerodrome control tower before entering the control zone and report position, level and flight conditions at the first contact.
- b) In case of Tribhuvan International Airport, aircraft shall establish communication with Kathmandu Approach Control before entering control area or control zone.

2.5.2. A clearance up to the aerodrome or to an appropriate holding point shall be issued along with the following instructions by the control tower/ Kathmandu approach,

- a) The type of instrument approach to be expected;
- b) Expected Approach Time (EAT), if delay exceeds 5 minutes
- c) Expected time for onward clearance, if instructions are issued to hold for an indefinite period at a holding point from which instrument approach is not intended,

2.5.3. Control TWR/Approach control will also specify the following information:

- a) runway to be used
- b) landing information

2.6. *VFR Flight Entering Control Zone*

- 2.6.1. a) Aircraft shall establish communication with the aerodrome control tower before entering the control zone and report position, level and flight conditions at the first contact.
- b) In case of Tribhuvan International Airport aircraft shall establish communication with approach control unit before entering control area or control zone.

2.6.2. Approach control /Aerodrome control will provide instructions for progressive descents, changes in route, clearance limits and holding instruction. It will also advise and update necessary details of the runway to be used and other landing information;

2.7. *Visual Approach*

2.7.1. An IFR flight may be cleared to execute a visual approach provided that the pilot can maintain visual reference to the terrain and;

- a) The reported ceiling is at or above the approved initial approach level for the aircraft so cleared; or
- b) The pilot reports at the initial approach level or at any time during the instrument approach procedure that the meteorological condition are such that with reasonable assurance a visual approach and landing can be completed.
- c) The visibility at the aerodrome is 5 km or more.

2.7.2. Notwithstanding Para 2.7.1(b) and (c), if the pilot reports that he has the aerodrome in sight and conduct his approach with visual reference to terrain, the flight may be

cleared for a visual approach/ circle to land. Separation shall be provided between an aircraft cleared to execute a visual approach and other arriving and departing aircraft.

2.8. *Provision of information for Landing*

2.8.1. ATC shall supply the following information for landing operation;

- a) Runway in use
- b) Wind direction and speed, QNH and temperature
- c) Significant weather information, including low cloud and visibility
- d) Cross-wind component, if this equals or exceeds 8 knots for single-engine aircraft or 12 knots for multi-engine aircraft.
- e) Down wind component, if pilot chooses to operate in downwind
- f) Aerodrome surface conditions
- g) Presence of birds on or in the vicinity of the runway.

2.8.2. ATC, whenever practicable, advise the aircraft about the wake turbulence and its hazards.

2.9. *Selection of Runway-in-Use for landing*

2.9.1. The term 'runway-in-use' shall be used to indicate the runway that, at a particular time, is considered by the aerodrome control tower to be the most suitable to be used by the types of aircraft expected to land at the aerodrome.

2.9.2. Normally, an aircraft will land into the wind unless safety, the runway configuration, meteorological conditions and available instrument approach procedure or air traffic conditions determine that a different direction is preferable. In selecting the runway in use, however, the unit providing aerodrome control service shall take into consideration, besides, surface wind speed and direction, other relevant factors such as the aerodrome traffic circuit, the length of runway, and the approach and landing aids available.

Note.— The decision to land on a wet runway or when the presence of birds has been advised, rests solely with the pilot-in-command

2.10. *Selection of Circuit Direction*

2.10.1. Circuit directions and turns shall be specified by aerodrome controller, taking into consideration of the traffic and separation requirements.

Note.— If a particular runway circuit turn is essential for the safe operation of the aircraft, the pilot in command shall make a request to ATC, which may be granted if conditions permit.

2.11. *Landing*

2.11.1. Irrespective of the clearance received, a pilot-in-command shall not land unless he has received a specific clearance to do so in the terms "CLEAR TO LAND".

2.11.2. Unless specifically permitted, aircraft shall not hold on the runway.

2.12. **Separation Requirement for Landing:**

2.12.1. An aircraft shall not be issued landing clearance until:

- a) A preceding departing aircraft using the same runway is airborne, and has crossed up wind end or commenced a turn;
- b) A preceding landing aircraft using the same runway has vacated it.

2.13. **Taxing after Landing**

2.13.1. Unless otherwise authorized by ATC, an aircraft shall promptly vacate the runway and proceed to the normal parking area via the shortest available taxiway. However, an aircraft shall not backtrack on the runway without obtaining a clearance.

2.13.2. A pilot-in-command unfamiliar with the aerodrome shall request for guidance to the terminal. The controller will then issue necessary instructions.

ENR 1.5.3 Departing Flights

3.1. IFR flights departing from controlled aerodromes will receive initial ATC clearance. The clearance limit will normally be the aerodrome of destination. IFR flights departing from un-controlled aerodromes must make prior arrangements.

3.2. The instrument departure procedures are only applicable for aircraft with all engines operating.

3.3. Pilots departing from controlled aerodromes, where standard instrument departure procedures have been published, shall comply accordingly.

3.4. Minimum climb gradient specified in the charts take in to account necessary obstacle clearance requirements.

3.5. VFR flights departing from TIA shall be required either to leave Control Zone at a level below 7500' AMSL and fly well clear of TMA before climbing to en route level or reach at or above 7500' by Control Zone boundary in order to remain within controlled airspace.

1.5.4 Other Relevant Information and Procedure

1. Engine Starting Procedure

1.1. When operating at controlled aerodromes, the pilot-in-command of an aircraft shall request clearance to start engines. Clearance to start engines will be given by using the phrase "START-UP APPROVED"

Note1.— Once the start-up clearance is issued, it is expected that the pilot-in-command shall start engines within 5 minutes

Note2.— 2 At TIA, surface movement control is provided on 121.9 MHZ to control all ground movement of aircraft other than the movement on the runway

2. Procedures for push back and engine start up at TIA

2.1. Aircraft departing from TIA shall get permission for push back.

2.2. To avoid confusion, pilots shall use the correct phraseology as detailed in Para 2.1, when ready for push back.

2.2.1. The pilot shall notify ATC when the aircraft is ready to push back within 5 min using the following phraseology:

- callsign;
- destination;
- proposed flight level and alternate level, if any;
- parking position;- and
- ready to push back in 5 minutes.

2.2.2. On receipt of the "ready to push back" call, ATC will advise the pilot push back clearance and an ATC clearance may be issued accordingly. If pre-departure coordination with an adjacent centre is required, the pilot will be instructed to standby.

2.2.3. By the completion of push back, the departing aircraft must have all engines running and shall be ready for taxi, unless otherwise instructed by ATC.

3. Information provided prior to Take-off.

3.1. *Prior to departure the aircraft shall be provided with the following information:*

- a) Runway-in-use;
- b) Wind direction and speed, QNH and temperature;
- c) A time check to the nearest half minute;
- d) The crosswind component on the runway-in-use (if it equals or exceeds 8 knots for single engine or 12 knots for multi-engine aircraft);
- e) Significant aerodrome surface conditions;
- f) Presence of birds or animals on the runway (likely to be hazardous); and
- g) Significant weather observation made by control tower or met personnel.

Note.— The decision to take-off on a wet runway or when the presence of birds has been advised, rests solely with the pilot-in-command

4. Selection of Runway-in-Use for take off

4.1. The term 'runway-in-use' shall be used to indicate the runway that, at a particular time, is considered by the aerodrome control tower to be the most suitable to be used by the types of aircraft expected to take off at the aerodrome.

4.2. Normally, an aircraft will take off into the wind unless safety, the runway configuration, meteorological conditions or air traffic conditions determine that a different direction is preferable. In selecting the runway in use, however, the unit providing aerodrome control service shall take into consideration, besides, surface wind speed and direction, other relevant factors such as the aerodrome traffic circuit, the length of runway.

4.3. If the nominated runway or direction is not suitable for some reason the pilot-in-command shall request for alternative runway or direction prior to taxi.

4.4. A pilot-in-command shall not hold on the runway in use unless permitted to do so.

Note.— The decision to take off on a wet runway or when the presence of birds has been advised, rests solely with the pilot-in-command

5. Selection of Turn

5.1. Taking into consideration of traffic separation requirements turns shall be specified by control tower

5.2. Direction of turn shall not be specified in the take off clearance, where a standard instrument departure(SID) has been authorised.

Note.—If a particular turn is considered to be essential for the safe operation of aircraft, the pilot-in-command shall request for the same including the word 'REQUEST.....'

6. Departure Instruction

6.1. Departure instruction are issued to a departing aircraft in order to apply or achieve separation, make optimum use of airspace, and as necessary for weather and noise avoidance procedures, which consist of;

- a) altitude restrictions (if required)
- b) direction of turn (if required)
- c) any other instruction as and when necessary

6.2. Departure instruction are issued in the form of SID, where such procedures are designed and this must be complied by the pilot-in-command until established on a cleared out bound route.

7. Take-Off

7.1. Irrespective of other clearances, a pilot-in-command shall not take-off unless he has received a specific clearance in the terms "CLEARED FOR TAKE OFF"

Note.— Whenever practicable, aircraft shall be advised of the expected occurrence of hazards caused by wake turbulence.

7.2. Unless otherwise instructed by ATC, a pilot-in-command shall establish flight on the departure track as soon as practicable after take-off at a distance not more than 5 miles from the aerodrome.

8. Separation Minima for Take-Off

8.1. An aircraft will not be permitted to commence take-off until

- a) a preceding departing aircraft using the same runway has crossed the upwind end of the runway or commenced a turn.

- b) a preceding landing aircraft using the same runway has vacated it.

9. Communication Failure Procedure

9.1. *Communication failure.*

If a communication failure precludes compliance with 9.1.1, the aircraft shall comply with the communication failure procedures of Annex 10, Volume II, and with such of the following procedures as are appropriate. The aircraft shall attempt to establish communications with the appropriate air traffic control unit using all other available means. In addition, the aircraft, when forming part of the aerodrome traffic at a controlled aerodrome, shall keep a watch for such instructions as may be issued by visual signals,

9.1.1. *If in visual meteorological conditions, the aircraft shall:*

- a) continue to fly in visual meteorological conditions; land at the nearest suitable aerodrome; and report its arrival by the most expeditious means to the appropriate air traffic control unit ;
- b) if considered advisable, complete an IFR flight in accordance with 9.1.2.

9.1.2. *If in instrument meteorological conditions or when the pilot of an IFR flight considers it inadvisable to complete the flight in accordance with 9.1.1 a), the aircraft shall:*

- a) in airspace where radar is not used in the provision of air traffic control, maintain the last assigned speed and level, or minimum flight altitude if higher, for a period of 20 minutes following the aircraft's failure to report its position over a compulsory reporting point and thereafter adjust level and speed in accordance with the filed flight plan;
- b) in airspace where radar is used in the provision of air traffic control, maintain the last assigned speed and level, or minimum flight altitude if higher, for a period of 7 minutes following:
 - 1. the time the last assigned level or minimum flight altitude is reached; or
 - 2. the time the transponder is set to Code 7600; or
 - 3. the aircraft's failure to report its position over a compulsory reporting point; whichever is later, and thereafter adjust level and speed in accordance with the filed flight plan.
- c) when being radar vectored or having been directed by ATC to proceed offset using RNAV without a specified limit, rejoin the current flight plan route no later than the next significant point, taking into consideration the applicable minimum flight altitude;
- d) proceed according to the current flight plan route to the appropriate designated navigation aid or fix serving the destination aerodrome and, when required to ensure compliance with e) below, hold over this aid or fix until commencement of descent;
- e) commence descent from the navigation aid or fix specified in d) at, or as close as possible to, the expected approach time last received and acknowledged; or, if no expected approach time has been received and acknowledged, at, or as close as possible to, the estimated time of arrival resulting from the current flight plan;

- f) complete a normal instrument approach procedure as specified for the designated navigation aid or fix; and
- g) land, if possible, within thirty minutes after the estimated time of arrival specified in e) or the last acknowledged expected approach time, whichever is later.

9.2. *Receiver or Transmitter Failure Only*

Aircraft which experience failure of transmitting or receiving facility only, shall proceed in accordance with paragraph 9.1 above, but shall also:

- a) In the event of receiver failure, transmit intentions and subsequently transmit position reports etc. on the appropriate frequency; and
- b) In the event of transmitter failure, continue to maintain watch on the appropriate ground/air frequency.

9.3. *Action taken by ATC*

9.3.1. When unable to maintain two-way communication with an aircraft which has been given ATC clearance to enter a control zone or control area, or when ATC is unable to establish communication with an aircraft in accordance with standard procedures, two-way communication failure will be assumed. ATC will act in the following manner unless it is known that the aircraft is not adhering to the flight plan received:

- a) Maintain separation between aircraft on the assumption that aircraft experiencing radio failure will adopt the procedures in paragraph 9.1 above;
- b) Transmit on the appropriate air/ground channels the altitude, route and EAT, or ETA, to which it is assumed the aircraft is adhering, and the weather conditions at the destination aerodrome and suitable alternates (When this information is already being transmitted on the appropriate channels either by routine broadcast, or in messages to other aircraft, a special transmission will be made only at the discretion of ATC). If practicable, the weather conditions in the area, or areas, suitable for a descent through cloud will also be transmitted;
- c) Endeavour by means of any available ground radar to check whether the aircraft is receiving, and able to comply with instructions from ATC, and subsequently, to give all possible guidance to the aircraft;
- d) Inform the operator concerned, or his designated representative; and
- e) Inform ATC at the alternate aerodrome, or the appropriate ATC unit of the circumstances; if (by agreement with the operator or his designated representative) instructions to divert are transmitted to the aircraft, transmit the latest weather report and any current unserviceability report of approach aids at the alternate, and request the appropriate ATC unit to attempt to establish communication with the aircraft.

9.3.2. Before presuming that the aircraft has proceeded to another area or aerodrome, ATC will allow:

- a) A period of 30 minutes after the last acknowledged EAT;
- b) If no EAT has been acknowledged, a period of 30 minutes after the last acknowledged ETA; or

- c) If no ETA has been acknowledged, a period of 30 minutes after the ETA computed from the last acknowledged position report and the flight plan times for subsequent sectors of the flight.

9.3.3. If the aircraft has not reported or landed by the end of the appropriate period, alerting action will be initiated and pertinent information concerning the aircraft will be given to the operating agencies and/or the pilots of any other aircraft concerned and normal operations resumed if they so desire, It is the responsibility of the operating agencies and/ or the pilots of aircraft to determine whether they will resume normal operations or take other action.

9.3.4. The Period referred to in 9.3.2 above will be reduced when:

- a) Through the use of electronic or other aids, ATC can determine the position of the aircraft experiencing the failure, and can determine that action contrary to that prescribed above can be taken without impairing safety ; or
- b) It becomes known that the aircraft has landed.

ENR 3. ATS ROUTES

ENR 3.1 ATS ROUTES

Route Designator (RNP type) Name of Significant Points Coordinates	Tracks (Mag) Distance	Upper limit Lower limit MFA Airspace classification	Lateral Limits (NM)	Direction of cruising levels		Remarks/ Controlling Unit & Frequency
				Odd	Even	
B345						
▲ NONIM 275000 N 0872600 E	<u>202°/022°</u> 34 NM	<u>FL 460</u> FL 250 FL 250 Class C	10 NM	↑	↓	For Kathmandu/Lhasa/ Kathmandu bi-directional International ATS Route Kathmandu ACC Primary Freq. 126.5 MHZ, Sec- ondary Freq. 124.7 MHZ *1. Incoming A/C to Kathmandu may descend to 13,500' af- ter crossing 40DME from 'KTM' *2. Outbound A/C from Kathmandu must reach FL170 at or be- fore 40DME from 'KTM'
▲ TUMLI 271859 E 0871143 E	<u>282°/102°</u> 51 NM	<u>FL 460</u> FL 170 FL 170* Class C				
▲ KIMTI 272948 N 0861604 E	<u>282°/102°</u> 50 NM					
▲ KATHMANDU VOR (KTM) 274025 N 0852055 E	<u>270°/090°</u> 49 NM					
▲ NARAN 274046 E 0842547 E	<u>259°/079°</u> 54 NM	<u>FL 460</u> 10500 ft 10500 ft Class C				
▲ BHAIRAHAWA VOR (BWA) 273012 N 0832558E	<u>251°/071°</u> 14 NM					
▲ LUMSI 272539 N 0831103 E	<u>252°/072°</u> 130 NM					
▲ LUCKNOW VOR (LLK) 264535 N 0805207 E						
G 598						
▲ LUCKNOW VOR (LLK) 264535 N 0805207 E	<u>084°/264°</u> 204 NM			↓		For International flights, INBOUND ONLY Terminates over SMR: SIMARA-KATHMANDU Follow G-336 Kath- mandu ACC Primary Freq: 126.5 MHZ, Secondary Freq. 124.7 MHZ
▲ PARSA 270822 N 0843954 E	<u>085°/265°</u> 17 NM					
▲ SIMARA VOR (SMR) 270951 N 0845856 E		<u>FL 460</u> 10500 ft 10500 ft Class C				

Route Designator (RNP type) Name of Significant Points Coordinates	Tracks (Mag) Distance	Upper limit Lower limit MFA Airspace classification	Lateral Limits (NM)	Direction of cruising levels		Remarks/ Controlling Unit & Frequency
				Odd	Even	
G 336						
▲ PATNA VOR (PPT) 253455 N 0850519 E	<u>357°/177°</u> 79 NM	FL 460 11500' 11500' Class C	20 NM		↓	For International Flights INBOUND ONLY (Except Kathmandu- Varanasi) Kathmandu ACC Primary Freq. 126.5 MHZ, Secondary Freq. 124.7MHZ
▲ BIPOB 265355 N 0850030 E	<u>355°/175°</u> 16NM					
▲ SIMARA VOR (SMR) 270951 N 0845856 E	<u>033°/213°</u> 36 NM					
▲ KATHMANDU VOR (KTM) 274025N 0852055 E						
G 335						
▲ KATHMANDU VOR (KTM) 274025 N 0852055 E	<u>103°/283°</u> 6 NM	FL 460 12000' 12000' Class C	10 NM		↓	For international flight, OUT- BOUND ONLY. Kathmandu ACC Primary Freq. Freq: 126.5 MHZ, Secondary Freq. 124.7MHZ
▲ LOCATOR NALINCHOWK (LNC) 273901 N 0852754 E	<u>157°/337°</u> 46 NM					
▲ LALBA 265650 N 0854823 E	<u>156°/336°</u> 15 NM					
▲ SEETA 264244 N 0855518 E	<u>214°/034°</u> 5 NM					
▲ LALEK 263810 N 0855151 E	<u>215°/035°</u> 74 NM					
▲ PATNA VOR (PPT) 253455 N 0850519 E						

Route Designator (RNP type) Name of Significant Points Coordinates	Tracks (Mag) Distance	Upper limit Lower limit MFA Airspace classification	Lateral Limits (NM)	Direction of cruising levels		Remarks/ Controlling Unit & Frequency
				Odd	Even	
G 463						
▲ MONDA 252100 N 0862600 E	<u>324°/144°</u> 72 NM	F 460 11500' 11500' Class C	10 NM			INBOUND ONLY Terminates over SIMARA For Simara-Kath- mandu Follow G-336 Kathmandu ACC Primary Freq.- 126.5 MHZ Secondary Freq. 124.7 MHZ
▲ IPLAS 261900 N 0853900 E	<u>325°/145°</u> 31 NM					
▲ GOVKO 264446 N 0851852 E	<u>326°/146°</u> 22 NM					
▲ ROMEO 270312 N 0850408 E	<u>326°/146°</u> 8 NM					
▲ SIMARA VOR (SMR) 270951 N 0845856 E						
G 590						
▲ VARANASI VOR (BBN) 252712 N 0825151 E	<u>048°/228°</u> 33 NM	F 460 11500' 11500' Class C	10 NM			FOR BOTHWAY Terminates over SMR. SMR-KTM Follow G 336 Kathmandu ACC Primary Freq. 126.5 MHZ, Secondary Freq. 124.7 MHZ
▲ RISPA 254900 N 0831900 E	<u>048°/228°</u> 106 NM					
▲ OMUPA 270001 N 0844716 E	<u>047°/227°</u> 14 NM					
▲ SIMARA VOR (SMR) 270951 N 0845856 E						

Route Designator (RNP type) Name of Significant Points Coordinates	Tracks (Mag) Distance	Upper limit Lower limit MFA Airspace classification	Lateral Limits (NM)	Direction of cruising levels		Remarks/ Controlling Unit & Frequency
				Odd	Even	
R 325						
▲ KATHMANDU VOR 'KTM' 274025 N 0852055 E	<u>103°/283°</u> 6 NM	FL 460 12000' 12000' Class C	10 NM	↓		For International Flights OUTBOUND ONLY Kathmandu ACC Primary Freq. 126.5 MHZ, Secondary Freq. 124.7MHZ
▲ LOCATOR NALINCHOWK (LNC) 273901 N 0852754 E	<u>157°/337°</u> 46 NM					
▲ LALBA 265650 N 0854823 E	<u>156°/336°</u> 15 NM					
▲ SEETA 264244 N 0855518 E	<u>152°/332°</u> 4 NM					
▲ KABEM 263912 N 0855724 E	<u>154°/334°</u> 96 NM					
▲ SALOR 251300 N 0864400 E						
R344						
▲ KATHMANDU VOR (KTM) 274025 N 0852055 E	<u>125°/305°</u> 50 NM	FL 460 11500' 11500' Class C	10 NM	↓		For International Flights OUTBOUND ONLY For INBOUND, prior permission required for International Flights. Kathmandu ACC Primary Freq. 126.5 MHZ, Sec- ondary Freq. 124.7MHZ
▲ AHALE 271148 N 0860705 E	<u>125°/305°</u> 35 NM					
▲ CHURE 265148 N 0863907 E	<u>125°/ 305°</u> 40 NM	FL 460 10500' 10500' Class C				
▲ BIRATNAGAR VOR (BRT) 262858 N 0871458E	<u>164°/344°</u> 8 NM					
▲ BIRAT 262110 N 0871815 E	<u>164°/344°</u> 49 NM					
▲ KATI HAR NDB (KH) 253400 N 0873330 E						

Route Designator (RNP type) Name of Significant Points Coordinates	Tracks (Mag) Distance	Upper limit Lower limit MFA Airspace classification	Lateral Limits (NM)	Direction of cruising levels		Remarks/ Controlling Unit & Frequency
				Odd	Even	
G348						
▲ KATHMANDU VOR (KTM) 274025 N 0852055 E	<u>102°/282°</u> 50 NM	FL 460 FL170 FL170* Class C	10 NM	↓	↑	Kathmandu ACC Pri- mary Freq. 126.5 MHZ , Secondary Freq. 124.7 MHZ *1. Incoming A/C to Kathmandu may descend to 13,500' after crossing 40DME from 'KTM' *2. Outbound A/C from Kathmandu must reach FL170 at or before 40DME from 'KTM'
▲ KIMTI 272948 N 0861604 E	<u>102°/282°</u> 51 NM					
▲ TUMLI 271859 E 0871143 E	<u>122°/302°</u> 62 NM					
▲ METOM 264605 N 0881055 E	<u>122°/302°</u> 9 NM					
▲ BAGDORA VOR (BBD) 264118 N 0881936 E						
R581						
▲ CALCUTTA VOR (CEA) 224403 N 0882749 E	<u>328°/148°</u> 110 NM				↓	INBOUND ONLY terminates over SIMARA
▲ DUMKA 241100 N 0872100 E	<u>325°/145°</u> 86 NM					
▲ MONDA 252100 N 0862600 E	<u>324°/144°</u> 72 NM					
▲ IPLAS 261900 N 0853900 E	<u>325°/145°</u> 31 NM					
▲ GOVKO 264446 N 0851852 E	<u>326°/146°</u> 22 NM	FL 460 11500' 11500' Class C	20 NM		↓	FOR SIMARA- KATHMANDU. Fol- low G-336 KATH ACC Primary Freq: 126.5 MHZ, Secondary Freq. 124.7 MHZ
▲ ROMEO 270312 N 0850408 E	<u>326°/146°</u> 8 NM					
▲ SIMARA VOR (SMR) 270951 N 0845856 E						

ENR 3.3 AREA NAVIGATION (RNAV) ROUTES

Route Designator (RNP type) Name of Significant Points Coordinates	Tracks (Mag) Distance	Upper limit Lower limit MFA Airspace classification	Lateral Limits (NM)	Direction of cruising levels		Remarks/ Controlling Unit & Frequency
				Odd	Even	
L626 (RNP10)						
▲ KATHMANDU 'KTM' VOR 274025 N 0852055 E*	<u>270°/090°</u> 49 NM	<u>FL 460</u> 10500 FT 10500 FT Class C	20 NM		↓	KATHMANDU ACC 126.5 MHZ <i>NOTE.— PILOT MAY USE 121.5 MHz AS AN ALTERNATE FRQ IF REQUIRED.</i> KATHMANDU APP 120.6 MHZ 125.1 MHZ
▲ NARAN 274046 N 0842547 E	<u>288°/108°</u> 50 NM	<u>FL 460</u> FL 160 FL 160 Class C				
▲ PALPA 275653 N 0833216 E	<u>290°/110°</u> 108 NM	<u>FL 460</u> FL 160 FL 160 Class C				
▲ SUKET 283516 N 0813806 E	<u>286°/106°</u> 81 NM	<u>FL 460</u> 11500 FT 11500 FT Class C				
▲ MAHEN 285748 N 0800853 E	<u>276°/096°</u> 3 NM					
▲ ONISA 285808 N 0800533 E						

* WGS 84 Coordinates

ENR 3.5 OTHER ROUTES

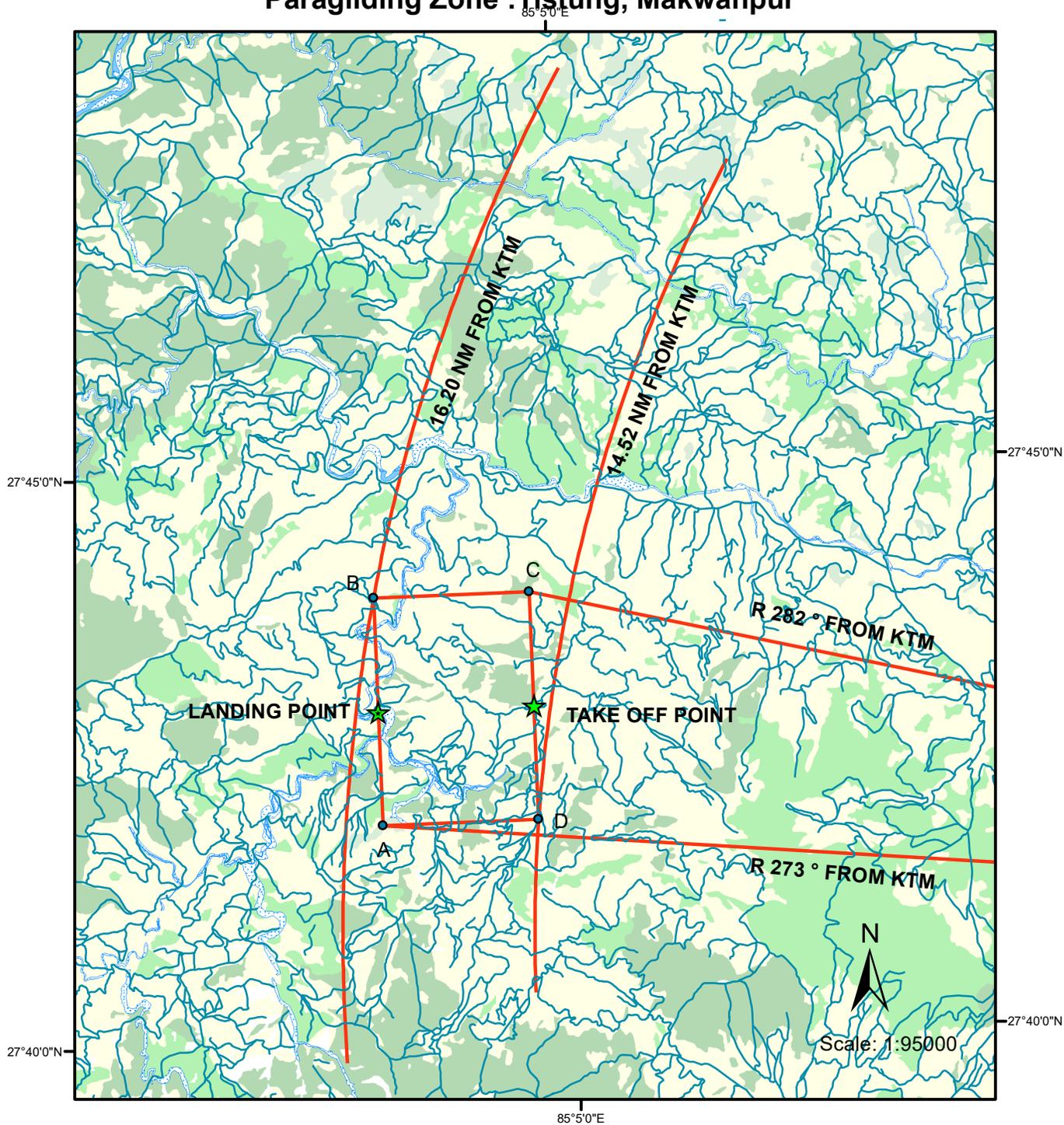
Route Designator (RNP type) Name of Significant Points Coordinates	Tracks (Mag) Distance	Upper limit Lower limit MFA Airspace classification	Lateral Limits (NM)	Direction of cruising levels		Remarks/ Controlling Unit &Frequency
				Odd	Even	
W 17						
NARAN 274046 N 0842547 E	<u>282°/102°</u> 41 NM	UNL 10500' 10500' Class G	10 NM	↑	↓	Flight Information service is provided Kathmandu ACC Freq. 126.5 MHZ
JULET 274930 N 0834030 E	<u>282°/102°</u> 37 NM					
THARA 275720 N 0830000 E	<u>284°/104°</u> 39 NM					
TULSI 280642 N 0821730 E						
W 19						
BHAIRAHAWA VOR "BWA" 273012 N 0832558 E	<u>300°/120°</u> 26 NM	UNL 8000' 8000' Class G	10 NM	↑	↓	Flight Information service is provided Kathmandu ACC Freq. 126.5 MHZ
HARRE 274320 N 0830000 E	<u>302°/122°</u> 44 NM					
TULSI 280642 N 0821730 E						
W 41						
KATHMANDU VOR "KTM" 274025 N 0852055 E	<u>293°/113°</u> 50 NM	FL460 11500' 11500' Class C	10 NM	↑	↓	i) Air Traffic Control service is provided within Kathmandu TMA and Nepalgunj CTR. ii) Flight Information Service is provided Kathmandu ACC Freq. 126.5 MHZ
MANKA 280028 N 0842907 E	<u>293°/113°</u> 29 NM					
POKHARA (ARP) 281200 N 0835854 E	<u>266°/086°</u> 52 NM	UNL 12000' 12000' Class G				
PUTAN 280840 N 0830000 E	<u>267°/087°</u> 38 NM	UNL 10500' 10500' Class G				
TULSI 280642 N 0821730 E	<u>269°/089°</u> 34 NM	UNL 6000' 6000' Class G				
NEPALGUNG VOR 'NGJ' 280605 N 0813903 E						

<p>BELKHA PARAGLIDING ZONE, Udhayapur.</p> <p>Take-off Point Belkha : 26° 51' 24.54" N; 087° 08' 16.14" E</p> <p>Landing Point Koshikinar (Main) : 26° 50' 49.22" N; 087° 08' 48.57" E</p> <p>Belkha Landing Site (Alternate) 26° 50' 55.60" N; 087° 08' 45.77" E</p> <p>Boundary Points Lateral Limit C1 26° 51' 50.30" N; 087° 08' 11.62" E C2 26° 51' 50.12" N; 087° 09' 05.46" E C 3 26° 50' 48.09" N; 087° 09' 05.59" E C4 26° 50' 33.20" N; 087° 08' 15.39" E</p>	<p><u>2000 ft. AMSL</u> GND</p>	<p>Elevation of Take-off Point: 1450 ft. Elevation of Landing Point Koshikinar (Main) : 178ft.</p> <p>Elevation of Belkha Landing site (Alternate) :196 ft.</p> <p>Remarks:</p> <ol style="list-style-type: none"> 1. Paragliding Zone lies within R343- R346 and 22 DME-25 DME from 'BRT' VOR/DME 2. Time of operation : Sunrise to Sunset during VMC 3. Prior coordination with Biratnagar Tower shall be needed before commencing the Paragliding training activities. <p>See the paragliding Zone Chart for details ENR 5.5-14</p>
<p>DHARAN PARAGLIDING TRAINING ZONE, Dharan</p> <p>Take-off Point Dharan : 26° 51' 06.94" N; 087° 18' 40.26" E</p> <p>Landing Point Dharan (Main) : 26° 45' 30.79" N; 087° 17' 38.96" E</p> <p>Landing Point Uurlabari, Morang (Alternate) : 26° 45' 30.99" N; 087° 40' 10.71" E</p> <p>Boundary Points Lateral Limit T1 26° 52' 28.71" N; 087° 18' 16.28" E T2 26° 49' 26.25" N; 087° 17' 12.90" E T 3 26° 48' 59.06" N; 087° 18' 09.55" E T4 26° 47' 44.01" N; 087° 26' 11.07" E T5 26° 42' 53.66" N; 087° 41' 27.49" E T6 26° 47' 01.32" N; 087° 43' 41.07" E</p>	<p><u>4500 ft. AMSL</u> GND</p>	<p>Elevation of Take-off Point: 4002 ft. Elevation of Landing Point Dharan (Main) : 787ft. Elevation of Landing Point Uurlabari, Moring (Alternate) : 375 ft.</p> <p>Remarks</p> <ol style="list-style-type: none"> 1. Training Paragliding Zone lies within R004-R058 and 21 DME - 32 DME from 'BRT' VOR/DME 2. Time of Training Operation : Sunrise to Sunset during VMC 3. Prior coordination with Biratnagar Tower shall be needed before commencing the Paragliding training activities. <p>See the paragliding Zone Chart for details ENR 5.5-15</p>
<p>PARAGLIDING ZONE Suryachaur, Sivapuri, Nuwakot</p> <p>Point A 27°50'28.5216"N; 085°17'01.29"E Point B 27°51'07.0452"N; 085°19'09.5"E Point C 27°49'44.1876"N; 085°19'41.034"E Point D 27°49'05.6712"N; 085°17'33.9984"E</p> <p>Radial/Dis. From KTM Point A 341°/10.6NM Point B 352°/11NM Point C 354°/9.35NM Point D 341°/9NM</p>	<p><u>6500ft AMSL</u> GND</p>	<p>BTN 0415 UTC to 1015 UTC</p> <p>Take off point : 27°49'24.9377"N; 085°18'36.9133"E</p> <p>Landing Point : 27°50'47.7888"N; 085°18'05.4223"E</p> <p>See the paragliding Zone Chart for details ENR 5.5-16</p>
<p>PARAGLIDING ZONE Tistung, Makwanpur</p> <p>Point A 27°41'53.7108"N; 085°03'07.8624"E Point B 27°43'53.85"N; 085°03'06.6816"E Point C 27°43'54.5556"N; 085°04'39.00"E Point D 27°41'54.4236"N; 085°04'40.15"E</p> <p>Radial/Dis. From KTM Point A 273.00°/15.88NM Point B 280.43°/16.20NM Point C 282.00°/14.87NM Point D 273.92°/14.52NM</p>	<p><u>5000ft AMSL</u> GND</p>	<p>BTN 0415 UTC to 1015 UTC</p> <p>Take off point (Badere Bhanjyang) : 27°42'54.49"N; 085°04'39.58"E</p> <p>Landing Point (Lidhi Dobhan) : 27°42'53.78"N; 085°03'07.27"E</p> <p>See the paragliding Zone Chart for details ENR 5.5-17</p>

Note :-

1. A prior permission from Tribhuvan International Airport Civil Aviation Office is required for each flight before starting the operation at Lalitpur.
2. Paragliding company must coordinate with Pokhara Tower before starting the operation at Pokhara, Bandipur and Sirkot.
3. Pilots to exercise caution while flying over that area.
4. Paragliding company should acquire prior permission from Surkhet Civil Aviation Office before conducting the Paragliding Operation at Surkhet.
5. Paragliding activities shall be conducted strictly during the VMC conditions.
6. It is advised to operate with full coordination with Biratnagar ATS Operation before starting each operation of Paragliding at Dharn, Sunsari.
7. **Ultra-Light Routes at Pokhara Airport**
 - a. These routes are applicable in VFR operation ONLY. Above stated maximum altitude is just for guideline. Terrain clearance is Pilot's sole responsibility.
 - b. Deviation subject to weather and traffic avoidance in these routes is prior coordination with Pokhara tower

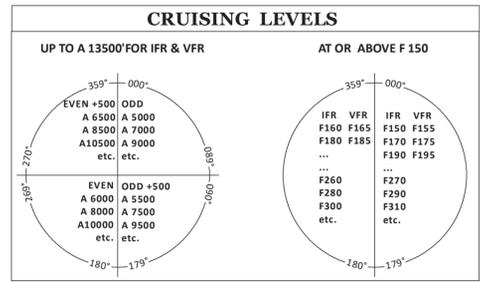
Paragliding Zone : Tistung, Makwanpur



ID	Latitude	Longitude	Vertical limit
Take off point (Badere Bhanjyang)	27°42'54.49"N	085°04'39.58"E	Below 5000ftAMSL /GND
Landing Point (Lidhi Dobhan)	27°42'53.78"N	085°03'7.27"E	
Lateral Limit			
Boundary Point	Latitude	Longitude	Radial/Dis. From KTM
Point A	27°41'53.7108"N	085°3'7.8624"E	273.00°/15.88 NM
Point B	27°43'53.85"N	085°3'6.6816"E	280.43°/16.20NM
Point C	27°43'54.5556"N	085°04'39.00"E	282.00°/14.87 NM
Point D	27°41'54.4236"N	085°4'40.15"E	273.92°/14.52 NM

NEPAL EN-ROUTE CHART SCALE 1:1250000 (Consult current NOTAMS for latest information)

RADIO COMMUNICATION FREQUENCY			
1 Kathmandu	121.9 MHz	18 Lamidanda (VNL D)	122.5 MHz
GND	121.9 MHz	19 Lukla (VNL K)	120.150 MHz
TWR	118.1/118.5 MHz	20 Mahedranagar (VNMN)	122.3 MHz
ACC	126.9/124.7 MHz	21 Manang (VNM A)	118.3 MHz
APP	120.6/125.1 MHz	22 Meghauli (VNM G)	122.5 MHz
ATIS	127 MHz	23 Nepalgunj (VNM G)	118.3 MHz
2 Baglung (VNL B)	123.95 MHz	24 Phaplu (VNL P)	122.5 MHz
3 Bajhang (VNL B)	122.5 MHz	25 Pokhara (VNL K)	123.8 MHz
4 Bajura (VNL B)	122.5 MHz	26 Rajbiraj (VNL R)	122.5 MHz
5 Bhairahawa (VNL B)	122.5 MHz	27 Ramechhap (VNL R)	122.5 MHz
6 Bharatpur (VNL B)	122.3 MHz	28 Rara (VNL R)	122.5 MHz
7 Biratnagar (VNL T)	123.8 MHz	29 Rukum (Chaurjahari) (VNL C)	122.5 MHz
8 Bhojpur (VNL B)	122.3 MHz	30 Rujmatar (VNL T)	122.3 MHz
9 Chandragadhi (VNL G)	122.5 MHz	31 Salley (VNL S)	122.5 MHz
10 Dang (VNL D)	122.5 MHz	32 Sanfebagar (VNL S)	122.5 MHz
11 Dhangadhi (VNL H)	122.3 MHz	33 Simara (VNL S)	118.3 MHz
12 Dolpa (VNL D)	122.5 MHz	34 Simkot (VNL S)	122.5 MHz
13 Janakpur (VNL J)	122.5 MHz	35 Surkhet (VNL S)	122.5 MHz
14 Jomsom (VNL J)	122.5 MHz	36 Tamkharika (VNL T)	122.3 MHz
15 Jumla (VNL J)	122.5 MHz	37 Tumlingtar (VNL T)	123.95 MHz
16 Kandelanda (VNL K)	122.3 MHz	38 Taplejung (VNL T)	122.5 MHz
17 Khandivada (VNL K)	122.5 MHz		



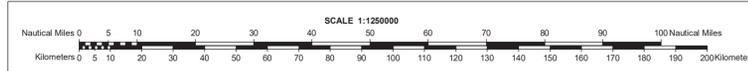
* On ATS route B345/G348 (KIMI-KTM)
 1. Incoming A/C to Kathmandu may descend to 13,500' after crossing 40DME from 'KTM'
 2. Outbound A/C from Kathmandu must reach FL170 at or before 40DME from 'KTM'

This Enroute Chart is thoroughly updated and prepared using existing Aeronautical Charts of scale 1:500000 and other data and information available in the Civil Aviation Authority of Nepal (CAAN).
 Coordinates are in Lambert Conformal Conic Projection System with 84° longitude as the Central Meridian, Standard Parallels 25°20' and 30°40'.
 All heights are in feet. All bearings are magnetic.

LEGEND

AERONAUTICAL INFORMATION

- Flight Information Region (FIR)
- Control zone boundary
- TMA boundary
- ATZ boundary
- Airway (Controlled route)
- Domestic ATS route
- VFR route
- Mountain Flight route
- Non-Directional Radio Beacon (NDB)
- Locator
- Compulsory reporting point
- VOR/DME
- Waypoint
- Aerodrome: Paved with refuelling facility
- Aerodrome: Paved (AC)
- Aerodrome: Unpaved (E or G)
- Aerodrome: Not in operation
- Obstruction point, Transmission Tower/View Tower
- Mountain pass
- Elevation, Runway length and Runway designation
- Asphalt Concrete, Earthen and Gravel



Magnetic Variation 0° East, 2012

ATS AIRSPACE-INDEX CHART

