



AIR RULES AND PROCEDURES

Ground
School

RULES OF THE AIR

CERTIFICATE OF AIRWORTHINESS

- No airplane may be flown unless it is registered and has a flight permit or C and A (certificate of airworthiness).
- Must conform with respect to equipment, maintenance and operation to the conditions specified in the certificate.
- The keeping in force of the certificate is dependant upon the aircraft being maintained in accordance with the standards.
- The C of A is continuous but may be out of force if the owner or operator fails to take action on airworthiness directives, and manufacturer's service bulletins, scheduled inspections or maintenance and the rectification of defects which adversely affect flight safety.
- An annual airworthiness information report must be submitted on the anniversary date of the issue of the certificate. The report requires the owner/operator of the aircraft to submit information on the most recent inspection, recent significant aircraft damage, flying hours in the reporting period, recent modifications, and aircraft, engine and propeller data.
- If the report is not filed, the C of A will automictically expire.
- It is the owner or operator responsibility to ensure that there is proper documentary evidence in the aircraft journey log to prove that all required standards have been met.

LOGS AND LICENCES

PILOT'S LICENCE

DUAL INSTRUCTION

- No person is authorized to give instruction unless he/she holds a flight instructor rating.
- Commercial or airline transport pilots may however, give a check out to a licensed pilot on a new type of airplane. Flying time in the logbook is entered as dual, pilot-in-command, or co-pilot in accordance with the duties the pilot performed.

RULES AND RIGHT-OF-WAY

Based on their ability to maneuver, aircrafts have priority for the right-of-way in the following order:

1. Fixed or free balloons
2. Gliders
3. Airships
4. Power driven fixed wing or rotary wing airplanes

- When two aircraft are approaching head-on or approximately so, each should alter course to the right in order to avoid any danger of collision.
- An aircraft overtaking another, whether climbing, descending or in horizontal flight, shall alter its heading to pass on the right.
- When two airplanes are on converging courses at approximately the same altitude, the airplane that has the other on its right must give way.

PROTECTION OF WILDLIFE

- Pilots should be aware that flying over herds of wild animals such as reindeer, caribou, moose or muskoxen may result in reducing the animal population.
- In the interest of conserving wildlife, pilots must not fly at an altitude of less than 2,000 ft AGL when in the vicinity of herds of wildlife animals or above wildlife refuges/bird sanctuaries, depicted on affected aeronautical charts.
- Than landing and takeoff of aircraft in areas designated as bird sanctuaries may require a permit.

FUR AND POULTRY FARMS

- Avoid overflying these farms below 2,000 ft AGL.
- Fur farms may be marked with chrome yellow and black stripes painted on pylons or roofs. In addition , a red flag may be flown during whelping season. (February-May).

NIGHT EQUIPMENT

- Aircraft operating at night must be equipped with the following approved, serviceable and functioning flight instruments;
- An airspeed indicator
- A sensitive pressure altimeter
- A direct reading magnetic compass
- A turn and bank indicator
- A gyro magnetic compass or heading indicator (if the flight is to be conducted beyond the immediate vicinity of the airport)
- A means to illuminate the flight instruments.
- An aircraft that is to be flown within the Northern Domestic Airspace must have on board a means of establishing direction that is not dependant on a magnetic source.
- Each crew member must have access to a reliable time piece and a functioning flash light.
- Any aircraft operating in a controlled airspace must be equipped with a functioning two-way radio communication.



NIGHT LIGHTING

- Aircrafts operating at night, in the air and while maneuvering on the ground must also be equipped with a functioning navigation light system .
- An anti-collision light must also be installed on any airplane that will be operated at night. This high intensity flashing light may be either white or red or red/white segmented. It must be visible through 360° and project 30° above and below the horizontal plane of an aircraft.
- Between sunset and sunrise, an aircraft moored on the water and anchored to a fixed object either on land or in the water must display a white light visible in all directions for a distance of 2 miles.
- Anti-collision beacons should not be on while flying in dense cloud because of the possible flicker vertigo effect on the pilots.

OVER WATER FLIGHTS (helicopters)

For single engine helicopter

- Car's 602.62/ 602.63 (4)
- Must be within gliding distance of shore.
- With lifejackets; no more than 15 minutes or 25 nautical miles; whichever is less.
- Beyond 25 nautical miles or 15 minutes you require a life raft.
- If water is below 10° C a life suit must be on board.

For multi engine helicopters

- Must be within gliding distance of shore.
- With life jackets; no more than 30 minutes or 50 nautical miles; whichever is less.
- Beyond 50 nautical miles or 30 minutes you require a life raft and survival kit.
- If the water is below 10° C a life suit must be on board.

OVER WATER FLIGHTS

Class 7 – 703.23 , 723.23

Single engine helicopter

- No passengers beyond gliding distance at shore
- If you have life jackets or pop out floats, you can go up to 15 minutes or 25 nautical miles whichever is less
- Beyond 15 minutes and 25 nautical miles you require a life raft, a flight plan, ditching procedures in your ops manual, radio contact at all times, and if the water is less than 10° C you must have a life vest.



AEROBATICS

- Any maneuver intentionally performed by an aircraft, involving an abrupt change in its altitude, an abnormal attitude, or abrupt variation in speed is considered to be aerobatic flight.
- Aerobatics are not permitted over any urban or populous areas. They are not permitted in controlled airspace or in any air route, or over any assembly of people except with written authorization from Transport Canada.
- Passengers may not be carried in an aircraft performing aerobatics unless the pilot-in-command has at least 10 hours dual flight instruction in conducting maneuvers, or 20 hours conducting aerobatic maneuvers.
- No person operating an aircraft shall conduct aerobatic manoeuvres when flight visibility is less than 3 miles, or below 2,000 feet AGL.
- The recovery from a practice spin should be made at an altitude not lower than 2,000 feet above the ground.

AIRCRAFT OCCURRENCES

- A reportable aviation incident is defined as an occurrence involving an aircraft with a gross weight of over 5,700 kg where an engine fails, smoke or fire occurs, malfunction of aircraft system, fuel shortage or depressurization occurs; the aircraft is refuelled with incorrect fuel; there is loss of separation or risk of collision during flight; or, during landing or take-off, there is failure of the aircraft to execute a safe and effective procedure.
- In the case of an accident, the information to be reported includes the type, nationality and registration marks of the aircraft, the name of the owner or operator, the name of the pilot-in-command, the date and time of the accident, the last point of departure and the point of intended landing of the aircraft, the position of the aircraft with reference to some easily identified geographical point, the number of crew members and passengers and whether they were killed or seriously injured, the nature of the accident and the extent of damage to the aircraft, a description of any dangerous goods aboard the aircraft, the name and address of the person making the report.



AIR TRAFFIC SERVICES

- The following air traffic control and information services are provided by ATC through area control centre, terminal control units and control towers.
- **Airport Control Service** - is provided by airport control towers to aircraft and vehicles on the maneuvering area of an airport and to aircraft operating in the vicinity of an airport.
- **Area Control Service**- is provided by ACCs to IFR and VFR flight operating within specified control areas.
- **Terminal Control Service**- is provided by ACC or TCUs to IFR and VFR flights operating within specified control areas.
- **Terminal Radar Service**- is provided by ATC units to IFR aircraft operating within radar service area.
- **Alerting Service**- notifies appropriate organizations regarding aircraft in need of search and rescue services.
- **Airspace Reservation Service**- provides reserved airspace for specified air operations in controlled airspace and disseminates information about these reservations.
- **Aircraft Movement Information Service**- collects, processes and disseminates information about aircraft flights operating into or within the air defence identification zones.
- **Customs Notification Service (ADCUS)**- provides advance notification to customs officials for transborder flights at specified ports of entry.
- **Flight Information Service**- is provided by ATC units to assists pilots by supplying information about known hazardous flight conditions.

FLIGHT RULES

- Visual flight rules (VFR)- the rules in which apply when flying by means of visual reference to the ground.
- Instrument flight rules (IFR)- the rules in which apply when flying by means of reference to the instruments in the cockpit.
- It is the responsibility of the pilot-in-command to determine whether a flight will be conducted in accordance with visual or instrument flight rules.

CLEARANCES AND INSTRUCTIONS (ATC)

- An air traffic control clearance is an authorization from an ATC unit for an aircraft to proceed within controlled airspace under specific conditions.
- An air traffic control instruction is a directive issued by an ATC unit for air traffic control purposes.

FLIGHT PLANS & ITINERARIES

- For any VFR flights that will be conducted beyond a radius of 25 nautical miles from the airport of departure, the pilot-in-command is required to file an ICAO-standard VFR flight plan or VFR flight itinerary with an ATS unit such as air traffic control unit, a flight service station, a flight information centre, or a community aerodrome radio station. The pilot also has the option of leaving a flight itinerary with a responsible person who will notify search and rescue in the event that the flight is overdue.
- A flight plan should contain the following information:
 - Type of flight plan
 - Aircraft identification
 - The type of aircraft and the type of NAV/COMM/SSR equipment expressed by means of the equipment codes.

Note: the first suffixes must indicate the NAV/COM equipment followed by an oblique stroke and another suffix to denote SSR equipment.

Nav/Comm Equipment

N	No NAV/COMM/Approach equipment
S	Standard (VHF, ADF, VOR and ILS)
D	DME
F	ADF
G	GPS
H	HF RTF
I	INS
J	Data Link
K	MLS
L	ILS
O	VOR
R	RNP
T	TACAN
U	UHF
V	VHF
W	RVSM Certification
X	MNPS Certification
Y	CMNPS Certification
Z	Other Equipment

SSR Equipment

N	Nil
A	Transponder, Mode A.
C	Transponder, Mode A and Mode C.
X	Transponder, Mode S without both aircraft identification or pressure altitude transmission.
P	Transponder, Mode S with pressure altitude transmission but no aircraft identification transmission.
I	Transponder, Mode S with aircraft identification transmission but no pressure altitude transmission.
S	Transponder, Mode S with both pressure altitude and aircraft identification transmission.

PRIORITY / PRIORITÉ ADDRESSEE(S) / DESTINATAIRE(S)
 <<= FF →

FILING TIME / HEURE DE DÉPÔT ORIGINATOR / EXPÉDITEUR
 → <<=

SPECIFIC IDENTIFICATION OF ADDRESSEE(S) AND/OR ORIGINATOR / IDENTIFICATION PRÉCISE DU(DES) DESTINATAIRE(S) ET/OU DE L'EXPÉDITEUR

3 MESSAGE TYPE / TYPE DE MESSAGE 7 AIRCRAFT IDENTIFICATION / IDENTIFICATION DE L'AÉRONEF 8 FLIGHT RULES / RÉGLES DE VOL TYPE OF FLIGHT / TYPE DE VOL
 <<= (FPL - C.F.-X.Y.Z. - I - G <<=

9 NUMBER / NOMBRE TYPE OF AIRCRAFT / TYPE D'AÉRONEF WAKE TURBULENCE CAT. / CAT. DE TURBULENCE DE SILLAGE 10 EQUIPMENT / ÉQUIPEMENT
 - C.1.7.2 / I - /SD/C <<=

13 DEPARTURE AERODROME / AÉRODROME DE DÉPART TIME / HEURE
 - C.Y.X.D 2.0.3.0 <<=

15 CRUISING SPEED / VITESSE DE CROISIÈRE ALTITUDE / LEVEL / NIVEAU ROUTE / ROUTE
 N.0.1.4.0 A. → 080 V301 YYC V304 YEA A050N140 R18 YYN
 V300 YXB V304 YWG

16 DESTINATION AERODROME / AÉRODROME DE DESTINATION TOTAL EET / DURÉE TOTALE ESTIMÉE SAR ALTN AERODROME / AÉRODROME DE DÉGAGEMENT 2ND ALTN AERODROME / 2e AÉRODROME DE DÉGAGEMENT
 - C.Y.W.G 0.5.3.0 → C.Y.Q.K → C.Y.Y.I <<=

18 OTHER INFORMATION / RENSEIGNEMENTS DIVERS

19 ENDURANCE / AUTONOMIE EMERGENCY RADIO / RADIO DE SECOURS
 HRS MINS PERSONS ON BOARD / PERSONNES À BORD UHF VHF ELT ELT TYPE / TYPE D'ELT
 - E/ 0.5.2.0 → P/ 0.0.4 → R/ A.F

SURVIVAL EQUIPMENT / ÉQUIPEMENT DE SURVIE JACKETS / GILETS DE SAUVETAGE
 POLAR DESERT MARITIME JUNGLE UHF VHF
 → S / P → J / L V

DINGHIES / CANOTS COLOUR / COULEUR
 NUMBER CAPACITY COVER COULEUR
 → / → → <<=

AIRCRAFT COLOUR AND MARKINGS / COULEUR ET MARQUES DE L'AÉRONEF WHEELS SEAPLANE SKIS AMPHIBIAN
 A / BLUE WITH WHITE TRIM - - -

REMARKS / REMARQUES
 → / <<=

AN ARRIVAL REPORT WILL BE FILED WITH / UN COMPTE RENDU D'ARRIVÉE SERA NOTIFIÉ À:
 WINNIPEG TOWER BY RADIO
 NAME AND PHONE NUMBER OR ADDRESS OF PERSON(S) OR COMPANY TO BE NOTIFIED IF SEARCH AND RESCUE ACTION INITIATED /
 NOM ET NUMÉRO DE TÉLÉPHONE OU ADRESSE DE LA (DES) PERSONNE(S) OU COMPAGNIE À AVISER SI DES RECHERCHES SONT ENTREPRISES
 SUNRISE AVIATORS LTD. WINNIPEG, MB., (204) 555-1234

PILOT-IN-COMMAND / PILOTE COMMANDANT DE BORD PILOT'S LICENCE NO. / N° DE LICENCE DU PILOTE
 C / AYR. G. KNOT AT0001 <<=

FILED BY / DÉPOSÉ PAR SPACE RESERVED FOR ADDITIONAL REQUIREMENTS / ESPACE RÉSERVÉ À DES FINS SUPPLÉMENTAIRES

FLIGHT PLANS & ITINERARIES

- A flight itinerary shall contain the following information:
- Aircraft registration and type
- Estimated duration of flight ETA at destination.
- Route of flight or the specific boundaries of the area of flight operations.
- Location of overnight stops, if applicable.

At this time we will practice a flight plan . (pg. 215, 3.16)



TRANSBORDER FLIGHTS

A flight plan must be filed for any flight that crosses the border into the united states.

- Require a transponder code
- Prior to flight you need to fill out a eAPIS report.
- You also need a cross border sticker

- On return flight same as above but also must contact Canpass at least 2 hours prior to arrival, but not more than 48 hours before entering Canada. (permit holders)
- Non-permit holders must also contact Canpass a second time upon arrival in Canada at a designated airport of entry during customs office hours.

CRUISING ALTITUDES

- In controlled airspace, the altitude or flight level to be flown is the one assigned by air traffic control. In uncontrolled airspace, when operating IFR in level cruising flight, the altitude or flight level must be appropriate to the direction of flight.

At altitudes below FL 290

000° to 179°	ODD thousands or flight levels (3,000' 5,000' ASL, etc., or FL 210, etc.)
180° to 359°	EVEN thousands or flight levels (2,000' 4,000' ASL, etc., or FL 200, FL 229, etc.)

At altitudes above FL 290

000° to 179°	At 4,000 foot intervals beginning at 29,000' pressure altitude (FL 290, FL 330, FL 370, etc.)
180° to 359°	At 4,000 foot intervals beginning at 31,000' pressure altitude (FL 310, FL 350, FL 390, etc.)

Cruising Altitudes for
U.S. – see page 115-
from the ground up

CRUISING SPEEDS

- All Canadian controlled airspace below 10,000 feet ASL is considered as a “speed limit area”, and all aircraft must conform to the regulations pertaining to operation within this area.
- Within 10 nautical miles of a controlled airport and at an altitude of less than 3,000 feet AGL. Airplanes may be flown at an indicated airspeed no greater than 200 knots.
- In controlled airspace but beyond the 10 nautical mile limit around controlled airports and below 10,000 feet ASL, airplanes may be flown in a climb, descent or in a level flight at an indicated airspeed no greater than 250 knots, unless otherwise authorized by an ATC clearance or instruction.
- Only if the minimum safe speed for a particular aircraft is greater than the above mentioned speed, may the aircraft be operated at a higher speed.

WEATHER MINIMA FOR VFR FLIGHT

Visibility minima for flight in control zones and ATZs are:

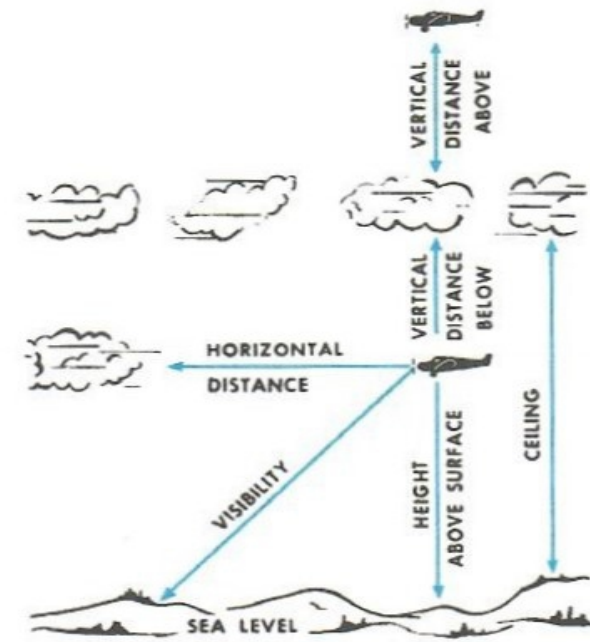


Fig. 4. Weather Minima References

Flight Visibility and Ground
Visibility (when reported)

Not less than 3 miles

Aircraft shall be operated at a height above the surface and at a distance from any cloud that is not less than the following:

Distance from Cloud	500' vertically 1 mile horizontally
Height above surface	500'

The aircraft must be operated at all times with visual reference to the surface.

WEATHER MINIMA FOR VFR FLIGHT

WITHIN UNCONTROLLED AIRSPACE

At or above 1,000 feet above surface

Flight visibility by Day	Not less than 1 mile
Flight visibility at Night	Not less than 3 miles
Distance from clouds	500' vertically 2,000' horizontally

WITHIN OTHER CONTROLLED AIRSPACE

Flight visibility	Not less than 3 miles
Distance of aircraft from cloud	500' vertically 1 mile horizontally

SPECIAL VFR

VFR OVER THE TOP

- With a VFR over the top rating, a pilot who does not hold an IFR rating has an option for dealing with poor weather conditions along part or all of their intended route. The VFR OTT rating allows a pilot to conduct a flight in VFR conditions above en route cloud layer providing the following conditions exist:
 1. The flight is conducted during the day
 2. Departure and climb above en route cloud layer can be done under VFR.
 3. Descent and arrival at the destination can be accomplished under VFR.
 4. During cruise portion of the flight conducted above the cloud layer, the aircraft is operated at a vertical distance from the cloud of at least 1,000 feet.
 5. Where the aircraft is operated between two cloud layers, the vertical distance between the layers is at least 5,000 feet.
 6. The weather at the destination aerodrome is forecast to have sky condition of scattered cloud or to be clear ; the ground visibility of 5 miles or more with no forecast of precipitation, fog, thunderstorms or blowing snow. The forecast conditions shall be valid, in the case of an aerodrome forecast, for one hour before and for two hours after the estimated time of arrival. If no aerodrome forecast, the forecast conditions shall be valid for one hour before or and for three hours after the estimated time of arrival.

TRANSITION AREAS

FUEL REQUIREMENTS

- In addition to VFR and IFR fuel requirements, every aircraft shall carry an amount of fuel that is sufficient to provide for :
 1. Taxiing and foreseeable delays prior to takeoff
 2. Meteorological conditions
 3. Foreseeable air traffic routings and traffic delays
 4. Landing at a suitable aerodrome in the event of loss of cabin pressurization or, in the case of a multi-engine aircraft, failure of engine, at the most critical point during flight
 5. Any other foreseeable conditions that could delay the landing of the aircraft.

In the case of a helicopter, to fly to the destination aerodrome and then to fly for 20 minutes at normal cruising speed.

MINIMUM VFR FLIGHT ALTITUDES

- The regulations impose minimum flight altitude for VFR flight based on the type of area over which the flight is being conducted.
- Built up areas. Except when landing or taking off, the minimum altitude at which an aircraft in VFR flight may be flown over the built up area of any community or over any open air assembly of people is an altitude that, in emergency, would permit landing of that aircraft without creating a hazard to persons or property on the ground.
- In no case can the altitude be less than 1,000 feet above the highest obstacle within a radius of 2,000 feet from the aircraft.
- Areas which are not built up. Except when landing or taking off, the minimum altitude at which an aircraft may be flown over areas that are not built up is 500 feet above the highest obstacle within a radius of 500 feet from the aircraft.
- Non-populous areas or open water. Provided no hazard is created for people or property on the ground, an aircraft may be flown over non populous areas or over open water at lower altitudes so long as it is at least 500 feet from any person, vessel, vehicle or structure.

VFR FLIGHT IN CLASS B AIRSPACE

- Class B airspace is part of controlled airspace system. VFR flight is permitted, but is subject to the control services provided by ATC.
- No special license, rating or endorsement is required to act as a pilot-in-command of an aircraft in VFR flight in Class B airspace.
- Before entering the class B airspace, the pilot-in-command of the aircraft must file a VFR flight plan stating the altitude at which the flight is to be conducted and the route that is to be followed.
- Clearance for VFR flight within Class B airspace is given only if the altitude requested is available and if traffic conditions are such that the flight can be accommodated. Clearance is not usually given prior to take-off but rather upon receipt of a position report that the flight has reached the last 1,000 foot altitude below the base of the class B airspace.
- A functioning two way radio is essential and throughout the flight, the pilot must maintain a listening watch on the appropriate radio frequency and must make position reports as required by the ATC unit. A transponder capable of Mode C altitude reporting is also required.
- The pilot is responsible at all times for maintaining VFR flight.
- If the aircraft is operating VFR in a control zone that is designated Class B airspace and if the weather falls below VFR minima, the pilot must land at an aerodrome on which the control zone is based.
- It is essential that the assigned altitude be maintained with precision and that no deviation be made from the clearance without advising ATC.

EMERGENCY WHILE VFR IN CLASS B AIRSPACE

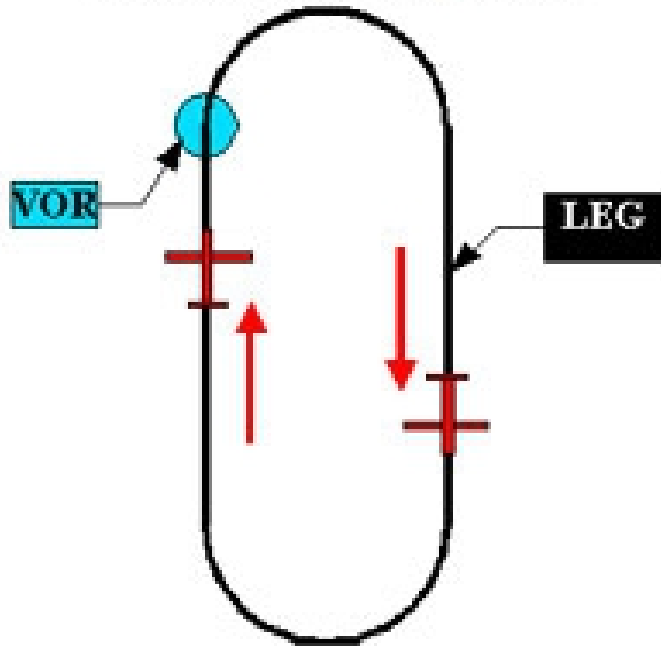
If instrument weather conditions are encountered, leave the class B airspace immediately either horizontally or by descending. Advise ATC as soon as possible of your action.

In the event of a radio failure, leave class B airspace immediately and, when clear, proceed with the flight maintaining VFR. Report your action ASAP.

In the event of engine failure or any other cause necessitating an immediate descent, advise ATC immediately.

HOLDING PATTERN

Standard holding pattern



- There are several situations in flying in which a pilot may be asked to hold over a particular fix. This can happen if clearance to proceed past a clearance limit cannot be given. Sometimes on arrival at an airport, a pilot is asked to hold over a beacon until landing clearance can be given.
- Because of traffic congestion, VFR flight may be asked to orbit visually over a geographic location, VFR checkpoint or call up point until they can be cleared to the airport.

IDENTIFICATION ZONES

- Special procedures are in effect for aircrafts operating in the Air Defense Identification Zones. These rules are applicable to all aircrafts.
- To enter and fly within an ADIZ, it is required that the pilot-in-command file and IFR flight plan, a defense VFR flight plan or a flight itinerary with an air traffic control unit, a flight service station or a community aerodrome radio station.

SPARSELY SETTLED AREAS

- Flight in such sparsely settled areas requires precautions and procedures because limited navigation facilities, severe weather conditions, limited weather information, limited fuel supplies and servicing facilities.
- To fly in such areas, an aircraft should be capable of two-way radio communication with a ground station in the area. An ELT of an approved type should always be carried on board.
- When operating over water as a distance of more than 50 miles from shore, a pilot is expected to continuously monitor the emergency frequency 121.5 MHz, unless he/she is carrying out communications on other VHF frequencies or if cockpit duties or aircraft electronic equipment limitations do not permit simultaneous monitoring of two VHF frequencies.

SURVIVAL EQUIPMENT

- Regulations require certain survival equipment to be carried on board any aircraft operated over land, especially in the sparsely settled areas and anywhere where rescue is more difficult because of inaccessibility.

- Survival equipment must be sufficient for the survival on the ground, for a minimum of 72 hours, of each person carried on board.

- All crew members and passengers should be dressed in, or have on board clothing that will be adequate for survival in the coldest conditions for the season of the year in which the flight is conducted.



THE END