

CIVIL AVIATION AIRCRAFT ACCIDENT SUMMARY **FOR THE YEAR 1999**

1. INTRODUCTION

The information contained in the publication is 50th in the series. "Notifiable accidents", which took place in India during the year 1999 have been listed in a classified chronological order along with the summary and the cause of the accidents.

There have been 5 accidents during the year. One accident to lufthansa cargo India Ltd. had taken place in Kathmandu and was investigated by the Accident Investigation Commission, Govt.of Nepal. Remaining 4 accidents have been investigated by Inspector of Accidents. Three accidents have proved fatal resulting in death of 2 passengers and 9 crew members.

Incidents such as precautionary landings, forced landings, aborted take off, airmisses, bird strikes etc. are not listed in this publication, although all these have been investigated.

The recommendations emanating from all such investigations of accidents and incidents are being implemented for enhancing the level of air safety.

NOTE: All timings given in this publication are in IST (Indian Standard Time).

2. Definitions

i) **Accident**

An occurrence associated with the operation of an aircraft which takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked , in which :-

- a) A person is fatally or seriously injured as a result of being in the aircraft, or direct contact with any part of the aircraft, including parts which have become detached from the aircraft, or direct exposure to jet blast, except when the injuries are from natural causes, self-inflicted or inflicted by other persons, or when the injuries are to stowaways hiding outside the areas normally available to the passengers and crew; or
- b) The aircraft sustains damage or structural failure which adversely affects the structural strength, performance or flight characteristics of the aircraft, and would normally require major repair or replacement of the affected components, except for engine failure or damage, when the damage is limited to the engine, its cowlings or accessories, or for damage limited to propellers, wing tips, antennas, tyres, brakes, fairings, small dents or puncture holes in the aircrafts skin; or
- c) The aircraft is missing or is completely inaccessible.

NOTE : An aircraft is considered to be missing when the official search has been terminated and the wreckage has not been located.

ii) **Serious Injury :**

An injury which is sustained by a person in an accident and which :

- a) Require hospitalisation for more than 48 hours, commencing within seven days from the date the injury was received; or
- b) Results in a fracture of any bone (except simple fractures of fingers, toes or nose); or
- c) Involves lacerations which cause severe hemorrhage nerve, muscle or tendon damage; or
- d) Involves injury to any internal organ; or
- e) Involves second or third degree burns, or any burns affecting more than five percent of the body surface; or
- f) Involves verified exposure to infectious substances or injurious radiation.

3. INVESTIGATION OF ACCIDENTS (Aircraft Rules, 1937)

Rule 71 - Inspector's Investigation :

The Director General may order the investigation of any accident involving an aircraft whether such accident is required to be notified under Rule 68 or not, and may, by general or special order, appoint any person (hereinafter referred to as an "Inspector of Accidents") for the purpose of carrying out such investigation.

Rule 74 - Committee of Inquiry :

The Central Government may, at its discretion, appoint a committee of Inquiry composed of two or more persons to hold an inquiry into an accident in which an aircraft is involved, and such a committee shall have the same powers as an Inspector of Accidents.

Rule 75 - Formal Investigations:

Where it appears to the Central Government that it is expedient to hold a formal investigation of an accident it may, whether or not an investigation or an inquiry has been made under Rule 71 or 74, by order direct a formal investigation to be held.

The Central Government shall appoint a competent person (referred as Court), to hold the investigation, and may appoint one or more persons possessing legal, aeronautical engineering or other special knowledge to act as accessory to the Court.

The Court shall hold the investigation in open Court in such manner and such conditions as the Court may think fit for ascertaining the causes and circumstances of the accident and for enabling it to make the report hereinafter mentioned :

Provided that where the Court is of opinion that holding the investigation is likely

- a) To be prejudicial to the interests of any country; or
- b) To jeopardize the personal safety of a person who is willing to make any statement or give evidence, the Court may hold in camera, the whole or part of the investigation.

4. TYPES OF FLYING

i) Airline Operation:

The operation include all scheduled, non-scheduled and non-revenue flying by Indian Airlines, Air India, Alliance Air, SHOD (Indian Airlines), Jet Airways, Sahara Air and Air Taxi Operators.

ii) Non-Scheduled Operations:

The operation include all non-scheduled ferry, non-revenue, charter and test flying by other operators holding non-scheduled operators permit and engaged primarily in such operations.

iii) Flying Training:

Includes all flights for the purpose of initial issue of a flying licence, for conversion and practice flying or qualifying for renewal / endorsement of pilots licence and test and ferry flying by organisation engaged primarily in flying training.

iv) Aerial Work:

Includes aerial survey, aerial, mustering on a commercial basis, aerial ambulance, aerial agricultural operations etc. and test and ferry flying by organisation engaged principally in aerial work operations.

v) Private and Business:

Includes private, pleasure and business flying and practice flying when the flying is not directly connected with the purposes of obtaining a higher licence qualifications.

NON SCHEDULED OPERATION -1

1. AIRCRAFT:
Type : B-727-243
Registration : VT-LCI
2. DATE AND TIME : 07-7-99, at 19:34 Hrs.
3. LOCATION : near Kathmandu

- | | | | | | | | | | | | | | | | | | | | |
|------------|--------------------|------------------|---|---------|-------|------------------|------------|------|----------------|------------|-----|----------------|-----|-----|-----|--------|-----|-----|-----|
| 4. | TYPE OF OPERATION | : | Cargo Flight | | | | | | | | | | | | | | | | |
| 5. | PERSONS ON BOARD | : | Crew : 5, Passengers : Nil | | | | | | | | | | | | | | | | |
| 6. | INJURY INDEX | : | <table border="0"> <tr> <td></td> <td>Fatal</td> <td>Serious</td> <td>Minor/None</td> </tr> <tr> <td>Crew</td> <td>5</td> <td>Nil</td> <td>Nil</td> </tr> <tr> <td>PAX</td> <td>Nil</td> <td>Nil</td> <td>Nil</td> </tr> <tr> <td>Others</td> <td>Nil</td> <td>Nil</td> <td>Nil</td> </tr> </table> | | Fatal | Serious | Minor/None | Crew | 5 | Nil | Nil | PAX | Nil | Nil | Nil | Others | Nil | Nil | Nil |
| | Fatal | Serious | Minor/None | | | | | | | | | | | | | | | | |
| Crew | 5 | Nil | Nil | | | | | | | | | | | | | | | | |
| PAX | Nil | Nil | Nil | | | | | | | | | | | | | | | | |
| Others | Nil | Nil | Nil | | | | | | | | | | | | | | | | |
| | -- | | | | | | | | | | | | | | | | | | |
| 7. | DAMAGE TO AIRCRAFT | : | Destroyed | | | | | | | | | | | | | | | | |
| 8. | PILOT-IN-COMMAND | : | <table border="0"> <tr> <td>Licence</td> <td>:</td> <td>FAA ALTP-1805792</td> </tr> <tr> <td>Age</td> <td>:</td> <td>57 Yrs approx.</td> </tr> <tr> <td>Total Hrs.</td> <td>:</td> <td>23,861.20 Hrs.</td> </tr> </table> | Licence | : | FAA ALTP-1805792 | Age | : | 57 Yrs approx. | Total Hrs. | : | 23,861.20 Hrs. | | | | | | | |
| Licence | : | FAA ALTP-1805792 | | | | | | | | | | | | | | | | | |
| Age | : | 57 Yrs approx. | | | | | | | | | | | | | | | | | |
| Total Hrs. | : | 23,861.20 Hrs. | | | | | | | | | | | | | | | | | |

SUMMARY

Lufthansa Cargo India Boeing 727- 243 aircraft VT-LCI operating cargo flight from Kathmandu to New Delhi on 7.7.99 had taken off from Tribhuvan International Airport, Kathmandu using runway 20. After take off, while climbing the aircraft had proceeded across 4 DME arc prior to commencing a shallow right turn. As the aircraft was in a 10-degree bank right turn at approximately 4.4 DME crossing the Kathmandu VOR/ DME on 247 degree radial, the GPWS warning sounded. The stick shaker activated 11 seconds after the initial GPWS warning as the speed dropped below 171 knots. The aircraft impacted the terrain, on the side of a hill, 6 NM south west of Kathmandu VOR/ DME and crashed.

The probable cause of the accident is:

"The accident occurred as the crew after take off did not adhere to the published Standard Instrument Departure (SID) procedure for runway 20 at Kathmandu, Nepal."

Contributory factors: The factors contributing to the occurrence were, incomplete departure briefing given by P1 while other cockpit activities were in progress, the unexpected airspeed decay to V 2 -3 during initial right climbing turn South of the VOR which occurred while P2 was busy with ATC, the improper power and climb profile used by P1 after rolling the aircraft out on a Southwest heading following the initial airspeed loss, the inadequate intra cockpit crew co- ordination and communication as the aircraft proceeded to and across the KTM VOR 4DME arc before recommencing a shallow right turn and the incorrect and slow response to the initial and subsequent GPWS activation prior to the collision with the terrain.

Factors: Pilot: Disregard to laid down procedures, regulations and instructions.

PRIVATE & BUSINESS-1

- | | | | |
|----|---------------|---|---|
| 1. | AIRCRAFT: | | |
| | Type | : | Cheetah-SA 350 |
| | Registration | : | VT-EUI |
| 2. | DATE AND TIME | : | 29-03-99, at 0900 Hrs. |
| 3. | LOCATION | : | Hilltop in the Gund Valley Srinagar, (J & K) |

- | | | | | | | | | | | | | | | | | | | | |
|------------|--------------------|----------------|--|---------|-------|----------|------------|------|----------------|------------|---|--------------|-----|-----|---|--------|-----|-----|----|
| 4. | TYPE OF OPERATION | : | Helisking Operation | | | | | | | | | | | | | | | | |
| 5. | PERSONS ON BOARD | : | Crew: 1, Passengers : 4 | | | | | | | | | | | | | | | | |
| 6. | INJURY INDEX | : | <table border="0"> <tr> <td></td> <td>Fatal</td> <td>Serious</td> <td>Minor/None</td> </tr> <tr> <td>Crew</td> <td>Nil</td> <td>Nil</td> <td>1</td> </tr> <tr> <td>PAX</td> <td>Nil</td> <td>Nil</td> <td>1</td> </tr> <tr> <td>Others</td> <td>Nil</td> <td>Nil</td> <td>--</td> </tr> </table> | | Fatal | Serious | Minor/None | Crew | Nil | Nil | 1 | PAX | Nil | Nil | 1 | Others | Nil | Nil | -- |
| | Fatal | Serious | Minor/None | | | | | | | | | | | | | | | | |
| Crew | Nil | Nil | 1 | | | | | | | | | | | | | | | | |
| PAX | Nil | Nil | 1 | | | | | | | | | | | | | | | | |
| Others | Nil | Nil | -- | | | | | | | | | | | | | | | | |
| 7. | DAMAGE TO AIRCRAFT | : | Substantial | | | | | | | | | | | | | | | | |
| 8. | PILOT-IN-COMMAND | : | <table border="0"> <tr> <td>Licence</td> <td>:</td> <td>CHPL-261</td> </tr> <tr> <td>Age</td> <td>:</td> <td>55 Yrs approx.</td> </tr> <tr> <td>Total Hrs.</td> <td>:</td> <td>8319:50 Hrs.</td> </tr> </table> | Licence | : | CHPL-261 | Age | : | 55 Yrs approx. | Total Hrs. | : | 8319:50 Hrs. | | | | | | | |
| Licence | : | CHPL-261 | | | | | | | | | | | | | | | | | |
| Age | : | 55 Yrs approx. | | | | | | | | | | | | | | | | | |
| Total Hrs. | : | 8319:50 Hrs. | | | | | | | | | | | | | | | | | |

SUMMARY

Cheetah SA 350 helicopter VT-EUI of Govt. of Jammu & Kashmir was involved in an accident while engaged in a helisking mission in Gund valley, near Srinagar on 29.3.99. The helicopter had taken off from Nehru Helipad, Srinagar with four foreign nationals on board and was to land on a hilltop in the Gund valley. While attempting to land on the hilltop at a height of approx. 12,700 feet, the pilot experienced severe turbulence. He applied right pedal and in the process, the helicopter hit the hillock and went out of control. The helicopter rolled down the hill slope and got substantially damaged. There was no fire at any stage.

The probable cause of the accident is:

“The pilot's decision to land at unsuitable area in unfavorable winds condition/ turbulence.”

Factor:

| | | |
|--------|---|--------------------|
| Pilot | : | Aircraft handling. |
| Others | : | Weather |

Contributory factor: "Handling of the flight by the pilot having been not proper."

FLYING TRAINING-1

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|----|-------------------|--------------------------------|
| 1. | AIRCRAFT: | |
| | Type | : Swati LT-2M |
| | Registration | : VT-STD |
| 2. | DATE AND TIME | : 15-3-99, at 0943 Hrs. |
| 3. | LOCATION | : Patna Aerodrome |
| 4. | TYPE OF OPERATION | : Circuit and Landing exercise |

5. PERSONS ON BOARD : Crew : 2, Passengers : Nil
6. INJURY INDEX : Fatal Serious Minor/None
 Crew 2 Nil Nil
 PAX Nil Nil Nil
 Others Nil Nil -
7. DAMAGE TO AIRCRAFT : Destroyed
8. PILOT-IN-COMMAND : Licence : CPL -1152
 Age : 48 Yrs approx.
 Total Hrs. : 1886:18 Hrs.

SUMMARY

Swati aircraft VT- STD of Bihar Flying Institute, Patna was engaged in circuit and landing exercise at Patna Aerodrome with an Instructor pilot and a trainee on board on 15.3.99. After an event free take off and a circuit, the pilot made touch and go. However during initial climb there was loss of engine power. The pilot probably attempted a 180 deg. left turn to come back on the reciprocal runway. During the process, the aircraft with steep left bank stalled at low height and crashed on the railway track just outside the airport boundary wall. The post accident fire nearly consumed all the wooden and fabric construction of the aircraft leaving behind steel tubular members. Both the occupants on board got severely charred and died in the accident.

The probable cause of the accident is:

"The aircraft stalled and impacted ground during execution of a steep turn towards down wind leg, subsequent to possible loss of engine power during initial climb after take off."

Factors: Pilot : Aircraft handling

Aircraft: Loss of Engine power.

FLYING TRAINING-2

1. AIRCRAFT:
 Type : TB - 20
 Registration : VT-IGA
2. DATE AND TIME : 11-6-99, at 1229 Hrs.
3. LOCATION : Village Karahia, Dist. Gazipur
4. TYPE OF OPERATION : Training Flight

5. PERSONS ON BOARD : Crew : 2, Passengers : 2
6. INJURY INDEX : Fatal Serious Minor/None
 Crew 2 Nil Nil
 PAX 2 Nil Nil
 Others Nil Nil --
7. DAMAGE TO AIRCRAFT : Destroyed
8. PILOT-IN-COMMAND : Licence : ALTP - 1675
 Age : 52 Yrs approx.
 Total Hrs. : 8126:15 Hrs.

SUMMARY

TB-20 aircraft VT- IGA owned and operated by IGRUA was engaged in training flight from IGRUA, Fursatganj to Patna via Varanasi. The aircraft was under the command of Capt. S.R. Singh along with a trainee pilot Mohd. Tariq. Two passengers were also on board the aircraft. The flight was to be conducted under Visual Flying Rules. On enroute to Patna from Varanasi the aircraft encountered CB cells. The pilot lost control of the aircraft and went into a spiral dive. During attempt to recover, the aircraft loading exceeded the design limits leading to in-flight breakage of the aircraft and it crashed at Village Karahia, Distt. Gazipur. There was no fire. All the four occupants sustained fatal injuries.

The probable cause of the accident is:

"Accident resulted when pilot overloaded the aircraft beyond design limits in an attempt to recover from spiral in which aircraft had gone after pilot lost control in CB."

Factor:

- Pilot - Aircraft handling
- Others - Weather

FLYING TRAINING (GLIDING)-3

1. AIRCRAFT:
Type : L-23 Super Blanik
Registration : VT-GLM
2. DATE AND TIME : 07-06-99, at 1145 Hrs.
3. LOCATION : Sanganer Airport, Jaipur
4. TYPE OF OPERATION : Training Flight
5. PERSONS ON BOARD : Crew : 2
6. INJURY INDEX :

| | Fatal | Serious | Minor/None |
|--------|-------|---------|------------|
| Crew | Nil | 2 | Nil |
| PAX | Nil | Nil | Nil |
| Others | Nil | Nil | -- |
7. DAMAGE TO AIRCRAFT : Substantial
8. PILOT-IN-COMMAND :

| | |
|------------|------------------|
| Licence | : GPL - 860 |
| Age | : 33 Yrs approx. |
| Total Hrs. | : 386:24 Hrs. |

SUMMARY

Super Blanik glider VT-GLM of Jaipur Gliding Club was involved in an accident during take-off at Jaipur on 7-6-99. The glider was engaged in training sorties under the supervision of instructor pilot Capt. Murari Lal. The initial six sorties on the day were uneventful. During the seventh sortie, after take-off, the launching bungie cord/ cable failed to release despite repeated efforts. The crew experienced jerk during take-off roll and tried to release the cable. The left cable got released, however it got entangled with the landing gear fork where as the right cable remained attached with the glider. The pilot showed a red flag to the winch operator as the cable was not getting released. After gaining some more height, the right cable also got released, however it went un-noticed by the crew. The winch operator tried to cut the cable with the help of cable cutter provided on the winch but could not succeed. The weak-link provided in the cable as an additional safety feature also failed to break (under tension). The glider in the meantime lost considerable height and crashed on the ground resulting in substantial damage to the glider and injuries to the occupants. There was no fire at any stage.

The probable cause of the accident is:

" The accident was caused due to cable getting entangled into the main landing gear fork and inability of the pilot to effect safe landing and lack of ability of the winch operator to handle the emergency. Indifferent Management/individuals were the contributory cause."

Factor: Pilot - Aircraft handling

TABLE - 2
ACCIDENT STATISTICS AND FATALITY RATE OF AIR INDIA FOR THE YEAR
1999

| Type of Operation | Scheduled Domestic / International |
|--|---|
| Hours Flown (No.) | 12967 / 63338 |
| Passengers carried (No.) | 752943 / 2379632 |
| Kilometers flown (in thousand) | 7420 / 46423 |
| Passenger Kilometers flown (in thousand) | 733854 / 10805238 |
| Total Number of Accidents | NIL |
| Number of Fatal Accidents | NIL |
| Crew fatalities | NIL |
| Passenger fatalities | NIL |
| Fatality rate per 100 million passenger Km (crew) | NIL |
| Fatality rate per 100 million passenger Km (passenger) | NIL |
| Accident rate per 100 million Km. flown | NIL |
| Fatal Accident per 100 million passenger Km flown | NIL |
| Accident rate per 100,000 Hours flown | NIL |
| Fatal Accident rate per 100,000 Hours flown | NIL |

TABLE - 3
ACCIDENT STATISTICS AND FATALITY RATE OF INDIAN AIRLINES FOR
THE YEAR 1999

| Type of Operation | Scheduled Domestic / International |
|--|---|
| Hours Flown (No.) | 75311 / 33602 |
| Passengers carried (No.) | 4649148 / 1260563 |
| Kilometers flown (in thousand) | 44518 / 19614 |
| Passenger Kilometers flown (in thousand) | 4581465 / 2300426 |
| Total Number of Accidents | NIL |
| Number of Fatal Accidents | NIL |
| Crew fatalities | NIL |
| Passenger fatalities | NIL |
| Fatality rate per 100 million passenger Km (crew) | NIL |
| Fatality rate per 100 million passenger Km (passenger) | NIL |
| Accident rate per 100 million Km. flown | NIL |
| Fatal Accident per 100 million passenger Km flown | NIL |
| Accident rate per 100,000 Hours flown | NIL |
| Fatal Accident rate per 100,000 Hours flown | NIL |

TABLE - 4
ACCIDENT STATISTICS AND FATALITY RATE OF ALLIANCE AIR FOR THE
YEAR 1999

| Type of Operation | Scheduled Domestic |
|--|---------------------------|
| Hours Flown (No.) | 34503 |
| Passengers carried (No.) | 1884490 |
| Kilometers flown (in thousand) | 18360 |
| Passenger Kilometers flown (in thousand) | 1434859 |
| Total Number of Accidents | NIL |
| Number of Fatal Accidents | NIL |
| Crew fatalities | NIL |
| Passenger fatalities | NIL |
| Fatality rate per 100 million passenger Km (crew) | NIL |
| Fatality rate per 100 million passenger Km (passenger) | NIL |
| Accident rate per 100 million Km. flown | NIL |
| Fatal Accident per 100 million passenger Km flown | NIL |
| Accident rate per 100,000 Hours flown | NIL |
| Fatal Accident per 100,000 Hours flown | NIL |

TABLE - 5
ACCIDENT STATISTICS AND FATALITY RATE OF JET AIRWAYS FOR THE
YEAR 1999

| Type of Operation | Scheduled Domestic |
|--|---------------------------|
| Hours Flown (No.) | 88181 |
| Passengers carried (No.) | 4647380 |
| Kilometers flown (in thousand) | 46874 |
| Passenger Kilometers flown (in thousand) | 3924760 |
| Total Number of Accidents | NIL |
| Number of Fatal Accidents | NIL |
| Crew fatalities | NIL |
| Passenger fatalities | NIL |
| Fatality rate per 100 million passenger Km (crew) | NIL |
| Fatality rate per 100 million passenger Km (passenger) | NIL |
| Accident rate per 100 million Km. flown | NIL |
| Fatal Accident per 100 million passenger Km flown | NIL |
| Accident rate per 100,000 Hours flown | NIL |
| Fatal Accidents rate per 100,000 Hours flown | NIL |

TABLE - 6
ACCIDENT STATISTICS AND FATALITY RATE OF SAHARA AIRLINES FOR
THE YEAR 1999

| Type of Operation | Scheduled Domestic |
|--|---------------------------|
| Hours Flown (No.) | 13161 |
| Passengers carried (No.) | 453139 |
| Kilometers flown (in thousand) | 7526 |
| Passenger Kilometers flown (in thousand) | 466238 |
| Total Number of Accidents | NIL |
| Number of Fatal Accidents | NIL |
| Crew fatalities | NIL |
| Passenger fatalities | NIL |
| Fatality rate per 100 million passenger Km (crew) | NIL |
| Fatality rate per 100 million passenger Km (passenger) | NIL |
| Accident rate per 100 million Km. flown | NIL |
| Fatal Accident per 100 million passenger Km flown | NIL |
| Accident rate per 100,000 Hours flown | NIL |
| Fatal Accidents per 100,000 Hours flown | NIL |

TABLE - 7
ACCIDENT STATISTICS AND FATALITY RATE OF AIR INDIA, INDIAN
AIRLINES, ALLIANCE AIR, JET AIRWAYS AND SAHARA AIRLINES
FOR THE YEAR 1999

| Type of Operation | Scheduled Domestic & International |
|--|---|
| Hours Flown (No.) | 321063 |
| Passengers carried (No.) | 16027295 |
| Kilometers flown (in thousand) | 190735 |
| Passenger Kilometers flown (in thousand) | 24246840 |
| Total Number of Accidents | NIL |
| Number of Fatal Accidents | NIL |
| Crew fatalities | NIL |
| Passenger fatalities | NIL |
| Fatality rate per 100 million passenger Km (crew) | NIL |
| Fatality rate per 100 million passenger Km (passenger) | NIL |
| Accident rate per 100 million Km. flown | NIL |
| Fatal Accident per 100 million passenger Km flown | NIL |
| Accident rate per 100,000 Hours flown | NIL |
| Fatal Accidents per 100,000 Hours flown | NIL |