

CIVIL AVIATION AIRCRAFT ACCIDENT **SUMMARY FOR THE YEAR 2001**

1. INTRODUCTION

The information contained in the publication is 52nd in the series. "Notifiable accidents", which took place in India during the year 2001 have been listed in a classified chronological order along with the summary and the cause of the accidents.

There have been seven accidents during the year. One accident to King Air C - 90 aircraft VT-EFF operated by Jindal Strips Ltd was investigated by Committee of Inquiry. Remaining Six accidents have been investigated by Inspector of Accidents. Three accidents have proved fatal resulting in death of 15 passengers and 5 crewmembers.

Incidents such as precautionary landings, forced landings, aborted take off, air misses, 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 hospitalization 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 haemorrhage 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 includes 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.

PRIVATE & BUSINESS-1

1. AIRCRAFT:
Type : Piper Aeostar 600
Registration : VT-AKS
2. DATE AND TIME : 13-05-2001, at 1347 Hrs.
3. LOCATION : M A Hannan International
Airport, Chittagaon, Bangladesh.
4. TYPE OF OPERATION : Calibration Flight.
5. PERSONS ON BOARD : Crew : 02, Passengers : 01.
6. INJURY INDEX : Fatal Serious Minor/None
Crew Nil 01 01
PAX Nil Nil NIL
Others Nil Nil NIL
7. DAMAGE TO AIRCRAFT : Substantial
8. PILOT-IN-COMMAND : Licence : PPL No. 2405
Age : 47 Yrs approx.
Total Hrs. : 1274.15 Hrs.

SUMMARY

PA 600 aircraft VT-AKS owned and operated by Karsan Aviation was engaged in calibration flight of the Radio Navigation Aids installed in MA Hannan International Airport, Chittagong, Bangladesh on 13-05-2001. First two sorties were uneventful. The third sortie commenced at 1250 Hrs. for continuation of calibration of the Precision Approach Path Indicator. When the flight crew noticed low fuel level warning light, they informed ATC that they are returning back for full stop landing. Immediately after that the aircraft crash-landed. Both the pilots got injured, however the sole passenger escaped unhurt. There was no post accident fire but the aircraft was substantially damaged.

The cause of the accident was due to non compliance by the flight crew with the approved Emergency Operating Procedures of the section 4 of the Flight Manual (i.e. selection of fuel supply selector switch of both the engines to X-FEED position when low fuel warning light illuminated thereby connecting both the engine fuel supply to depleted wing tanks) resulting in fuel starvation of the both engines, though the remaining fuel in the fuselage tank was adequate for making a safe landing.

Factor: Pilot: Non Adherence to the recommended and approved procedures of the aircraft flight manual.

PRIVATE & BUSINESS-2

1. AIRCRAFT:
Type : Cheetah,SA 315 B
Registration : VT-EUY
2. DATE AND TIME : 07-07-2001, at 1115 Hrs.
3. LOCATION : Near Amarnath Helipad.
4. TYPE OF OPERATION : Charter Flight.
5. PERSONS ON BOARD : Crew : 01, Passengers : 04.
6. INJURY INDEX : Fatal Serious Minor/None
Crew Nil Nil 01
PAX Nil Nil 04
Others Nil Nil NIL
7. DAMAGE TO AIRCRAFT : Substantial
8. PILOT-IN-COMMAND : Licence : CHPL No. 477
Age : 43 Yrs approx.
Total Hrs. : 3883.15 Hrs.

SUMMARY

Cheetah helicopter VT-EUY owned and operated by Govt. of J&K was on a flight from Srinagar to Amarnath on 07.07.2003. The aircraft took off from Neharu Helipad, Srinagar under the command of Capt G S Reen with four passengers on board. During approach to land at Amarnath helipad the helicopter descended in an uncontrolled manner, and landed on its skis on a glacier about 200 feet away from the helipad. Subsequently the helicopter slide down, overturned and fell in a narrow stream, which was about 60 to 70 feet below the helipad elevation. The helicopter was substantially damaged and all the persons on board escaped with minor enjuries. There was no fire.

The probable cause of the accident is attributed to:

"The Cheetah helicopter of J & K Govt. crashed probably due to down-draft experienced while in final approach for a landing."

Factor: Weather.

FLYING TRAINING-1

1. AIRCRAFT:
Type : Swati LT II
Registration : VT-STO
2. DATE AND TIME : 29.11.2001, at 1354hrs.
3. LOCATION : Near Karamana, Tiruvananthapuram.
4. TYPE OF OPERATION : Training Flight.
5. PERSONS ON BOARD : Crew : 01, Passengers : Nil.
6. INJURY INDEX : Fatal Serious Minor/None
Crew Nil Nil 01
PAX Nil Nil Nil
Others Nil Nil Nil
7. DAMAGE TO AIRCRAFT : Substantial
8. PILOT-IN-COMMAND : Licence : CPL No. 4021
Age : 25 Yrs approx.
Total Hrs. : 263.10 Hrs.

SUMMARY

Swati LT II aircraft VT-STO owned by DGCA and operated by Kerala Aviation Training Centre was engaged in a training flight on 29.11.2001. The aircraft took off at 1333 hrs, under the command of Capt. S G Saji, from runway 32 for left hand circuit landing and completed first two circuits and landing uneventfully. The ATC instructed the pilot to carry out right hand circuit for the third circuit due to departure of M/s Expo Aviation aircraft. During the descent at right base to runway 32, as the pilot reduced the power he observed engine roughness. In anticipation to reduce the engine roughness the pilot, instead of pulling out the carburetor heat knob he pulled out mixture control knob resulting in engine stoppage in flight. The aircraft crash-landed in a coconut farm and got substantially damaged due to impact. The pilot, the sole occupant of the aircraft escaped with minor injuries. There was no evidence of post accident fire.

The probable cause of the accident is attributed to:

“During the descent at right base runway 32, the pilot, unintentionally pulled out the mixture control knob, which resulted in stoppage of engine in flight and was forced to crash land after overshooting the paddy field boundary wall into the coconut farm.”

Factor: Pilot - Non Adherence to approved procedures of the aircraft flight manual.

NON SCHEDULED OPERATION -1

1. AIRCRAFT:
Type : Piper Aztec, PA 23-250
Registration : VT-AAI
2. DATE AND TIME : 26-03-2001, at 2240 hrs.
3. LOCATION : At Bahaduri near Ojhar, Nasik.
4. TYPE OF OPERATION : Charter Flight
5. PERSONS ON BOARD : Crew : 01, Passengers : 05.
6. INJURY INDEX : Fatal Serious Minor/None
Crew Nil 01 NIL
PAX Nil 05 NIL
Others Nil Nil --
7. DAMAGE TO AIRCRAFT : Destroyed
8. PILOT-IN-COMMAND : Licence : ALTP No. 1368
Age : 40 Yrs approx.
Total Hrs. : 10060:26 Hrs.

SUMMARY

PA 23-250 aircraft VT-AAI owned and operated by Ahmedabad Aviation Academy, Ahmedabad, was engaged in a charter flight from Shirpur to Mumbai on 26.03.2001. The aircraft took off at 2154 hrs. from Shirpur under the command of Capt. Sohil Handa. There were five passengers on board. After about half an hour of flight, both the engines got shut down one after another due fuel starvation. The aircraft during crash landing got destroyed due impact and post impact fire. All six persons on board received serious injuries.

The probable cause of the accident is attributed to:

“Aircraft impacting the field during force landing due both engines shut down in flight on account of fuel starvation due depletion of fuel in the inboard tanks. The fuel starvation was on account of improper fuel management as fuel was available in outboard tanks and the pilot forgot to change over the fuel selection from inboard tanks to outboard tanks in time due to task saturation in a time critical situation. The factor that led to the situation was mainly distraction, fatigue, lack of currency on type of aircraft.”

Factor: Pilot - Non Adherence to the recommended and approved procedures of the aircraft flight manual.

NON SCHEDULED OPERATION -2

1. AIRCRAFT:
Type : Bell 206 L4
Registration : VT-SPA
2. DATE AND TIME : 02-01-2001, at 1140 hrs.
3. LOCATION : Hathipaon, Mussorie.
4. TYPE OF OPERATION : Charter Flight
5. PERSONS ON BOARD : Crew : 01, Passengers : 05.
6. INJURY INDEX : Fatal Serious Minor
Crew 01 Nil NIL
PAX 04 01 NIL
Others Nil Nil --
7. DAMAGE TO AIRCRAFT : Destroyed
8. PILOT-IN-COMMAND : Licence : CHPL No. 427
Age : 46 Yrs approx.
Total Hrs. : 2498:30 Hrs.

SUMMARY

Bell 206 L4 helicopter VT-SPA owned and operated by M/s Span Air Pvt. Ltd. New Delhi, was engaged in a charter flight from Mussorie to Deharadoun on 02.01.2001. The helicopter took off at 1130 hrs from Mussorie under the command of Capt. R K Yadav with five passengers on board. The helicopter along with the other helicopter VT - SPB which took off three minutes earlier followed northerly heading to show snowfall to the passengers. After about five minutes VT-SPB turned left for Doon Valley and Capt Yadav made 180 degree turn and hit a tree and crashed. Five persons including the pilot received fatal injuries and one passenger survived with serious injuries. There was minor post impact fire.

The probable cause of the accident is attributed to:

"Accident was caused when pilot after noticing the wires late, applied rapid cyclic control, resulting in helicopter decelerating, loss in translational lift, increased power demand which was not available. This caused development of vortex ring with blade root stall, recovery from which was not possible.

Low flying and overloading were the contributory causes to the accident."

Factor: Pilot - Non Adherence to the approved procedures.

NON SCHEDULED OPERATION -3

1. AIRCRAFT:
Type : Dauphin H/C, SA-365N
Registration : VT-ELA
2. DATE AND TIME : 08-05-2001, at 1215 Hrs.
3. LOCATION : Sessa, Arunachal Pradesh.
4. TYPE OF OPERATION : Charter Flight
5. PERSONS ON BOARD : Crew : 02, Passengers : 05.
6. INJURY INDEX : Fatal Serious Minor/None
Crew 02 Nil Nil
PAX 05 Nil Nil
Others Nil Nil --
7. DAMAGE TO AIRCRAFT : Destroyed
8. PILOT-IN-COMMAND : Licence : CHPL No. 213
Age : 59 Yrs approx.
Total Hrs. : 7760:30 Hrs.

SUMMARY

Dauphin helicopter VT-ELA owned and operated by M/s Pawan Hans Helicopters Ltd. was engaged in a special flight from Itanagar to Rupa (overlying Bhalukpong Helipad) and then to Seppa - Tezpur and back to Itanagar on 08.05.2001.

Commencement of the flight and enroute flying at 3000 feet up to overhead Bhalukpong was uneventful. The pilots then commenced climb to 6000 feet with clearance from ATC, Tezpur and proceeded direct to Rupa. The helicopter was flown close to hills. However, on entering between high hills the pilot lost visual contact with the terrain and collided with a hill slope and got destroyed. All the seven persons on board received fatal injuries. There was no evidence of fire at any stage.

The probable cause of the accident is attributed to:

The pilots while flying in hilly terrain and on entering between high hills during adverse weather conditions lost visual contact with the surrounding terrain and collided with a hill-slope.

Factor: Weather.

NON SCHEDULED OPERATION -4

1. AIRCRAFT:
Type : King Air C 90
Registration : VT-EFF
2. DATE AND TIME : 30-09-2001, at 1331 Hrs.
3. LOCATION : Near Mainpuri (UP).
4. TYPE OF OPERATION : Charter Flight
5. PERSONS ON BOARD : Crew : 02, Passengers : 06.
6. INJURY INDEX : Fatal Serious Minor/None
Crew 02 Nil Nil
PAX 06 Nil Nil
Others Nil Nil --
7. DAMAGE TO AIRCRAFT : Destroyed
8. PILOT-IN-COMMAND : Licence : CPL No. 2702
Age : 33 Yrs approx.
Total Hrs. : 1596:30 Hrs.

SUMMARY

King Air C 90 aircraft VT-EFF owned by Birla Global Finance Ltd. and operated by M/s Jindal Strips Ltd., New Dehli took off from Delhi on 30.09.2001 at 1241 hrs with six passengers and two crewmembers on board. The aircraft was bound to Kanpur. En route it reported Aligarh as estimated. Short of next reporting point KADAS the aircraft was about 10 miles right of track for which the permission was obtained and the pilot requested for direct routing to Kanpur. Captain was advised by ATC Lucknow, to co-ordinate with Gwalior and Agra for traffic information. Thereafter, the aircraft lost the contact with the ATC and crashed. All the persons on board received fatal injuries. The aircraft got destroyed due fire.

The probable cause of the accident is attributed to:

The pilot while flying through active thunder storm at cruise altitude encountered severe updrafts in intense and mature cloud formation and possibly underwent an abnormal and abrupt manoeuvre, most probably a steep spiral dive, resulting in in-flight breakage of the aircraft structure on account of aerodynamic overloads leading to total loss of controls followed with heavy impact with the ground causing fatal injuries to all the occupants.

Factor: Pilot

Contributory Factor: Weather.

TABLE - 1

CLASSIFICATION OF ACCIDENTS (POWERED AIRCRAFT) BY NATURE OF FLIGHT

2001

Nature of Flight	No. of Accidents	No. of Fatal Accidents	Crew		Passengers		Others		Aircraft Damage		
			Killed	Seriously Injured	Killed	Seriously Injured	Killed	Seriously Injured	Destroyed	Substantial	Minor/Nil
1	2	3	4	5	6	7	8	9	10	11	12
Airlines Operation	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL
Aerial Work	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL
Flying Training	01	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	01	NIL
Non Scheduled Operation	04	03	05	01	15	06	NIL	NIL	04	NIL	NIL
Private & Business`	02	NIL	NIL	01	NIL	NIL	NIL	NIL	NIL	02	NIL

TABLE - 2
ACCIDENT STATISTICS AND FATALITY RATE OF **AIR INDIA** FOR THE YEAR 2001

Type of Operation	Scheduled Domestic / International
Hours Flown (No.)	13995/65721
Passengers carried (No.)	744360/2422291
Kilometers flown (in thousand)	8100/48162
Passenger Kilometers flown (in thousand)	714306/10708019
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 2001

Type of Operation	Scheduled Domestic / International
Hours Flown (No.)	76985/40558
Passengers carried (No.)	4469571/1310649
Kilometers flown (in thousand)	46674/23741
Passenger Kilometers flown (in thousand)	4546824/2731283
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 2001

Type of Operation	Scheduled Domestic
Hours Flown (No.)	29594
Passengers carried (No.)	1593416
Kilometers flown (in thousand)	15489
Passenger Kilometers flown (in thousand)	1175724
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 2001

Type of Operation	Scheduled Domestic
Hours Flown (No.)	117518
Passengers carried (No.)	5715822
Kilometers flown (in thousand)	60119
Passenger Kilometers flown (in thousand)	4695894
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 2001

Type of Operation	Scheduled Domestic
Hours Flown (No.)	21063
Passengers carried (No.)	604747
Kilometers flown (in thousand)	11779
Passenger Kilometers flown (in thousand)	687054
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 2001

Type of Operation	Scheduled, Domestic & International
Hours Flown (No.)	259155/106279
Passengers carried (No.)	13127916/3732940
Kilometers flown (in thousand)	142161/71903
Passenger Kilometers flown (in thousand)	11819802/13439302
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