

REFERENCE

Copy
COPY

REFERENCE COPY
Air Safety Directorate Library



सत्यमेव जयते

भारत सरकार

GOVERNMENT OF INDIA

नागर विमानन विभाग

CIVIL AVIATION DEPARTMENT

दुर्घटना सार

ACCIDENTS SUMMARY

1984

विमान सुरक्षा निदेशालय

नागर विमानन विभाग

पर्यटन और नागर विमानन मंत्रालय

AIR SAFETY DIRECTORATE

CIVIL AVIATION DEPARTMENT

MINISTRY OF TOURISM & CIVIL AVIATION

Air Safety Directorate Library



सत्यमेव जयते

भारत सरकार

GOVERNMENT OF INDIA

नागर विमानतल विभाग

CIVIL AVIATION DEPARTMENT

दुर्घटना सार

ACCIDENTS SUMMARY

1984

विमान सुरक्षा निदेशालय

नागर विमानन विभाग

पर्यटन और नागर विमानन मंत्रालय

AIR SAFETY DIRECTORATE

CIVIL AVIATION DEPARTMENT

MINISTRY OF TOURISM & CIVIL AVIATION

CIVIL AVIATION AIRCRAFT ACCIDENT SUMMARY FOR THE YEAR 1984

1. INTRODUCTION

84 The information contained in this publication is 35th in the series. 'Notifiable accidents', which took place in India during the year 1984 have been listed in a classified chronological order alongwith the summary and the causes of the accidents.

प्रा । There have been 15 accidents during the year, all to Indian registered aircraft, out of which one aircraft नाए was involved in an accident at Bangkok. The Thai authorities had delegated the investigation of this accident to the Director General of Civil Aviation, India. Two of these accidents proved fatal resulting in death of one crew member, one passenger and one outsider.

All accidents have been investigated by Inspectors of Accidents.

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

त जा The recommendations emanating from all such investigations of accidents and incidents are being किडे implemented for enhancing the level of air safety. Statistical data of accidents and fatalities in respect of airline operations including flying/gliding clubs and aerial operation is listed in tables I to IX.

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

2. DEFINITIONS

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 or upon the aircraft or by direct contact with the aircraft or anything attached thereto; except when the injuries are from natural causes, self-inflicted or inflicted by other persons or when the injuries are to stow-aways 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 component; 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 aircraft 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.

Serious Injury

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

- (a) requires 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 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.

Substantial Damage

Any damage which necessitates the replacement or extensive repair of any major component.

3. INVESTIGATION OF ACCIDENTS

(Aircraft Rules 1937)

Rule 68—Notification of Accidents

An accident in which an aircraft is involved shall be notified in accordance with the provisions of sub-rules (3), (4) and (5) of this rule if between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked :—

- (a) Any person suffers death or serious injury as a result of being in or upon the aircraft or by direct contact with the aircraft or anything attached thereto, or
- (b) the aircraft receives substantial damage.

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 Investigation

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 and with respect to any such formal investigation the following provisions shall apply namely :

The Central Government shall appoint a competent person (hereinafter referred to as 'the Court'), to hold the investigation, and may appoint one or more persons possessing legal, aeronautical engineering, or other special knowledge to act as assessors, it may also direct that the Court and the assessors shall receive such remuneration as it may determine.

4. TYPES OF FLYING

1. Airline Operation

The operations include all scheduled, non-scheduled and non-revenue flying by the two nationalised airlines under Air Corporation Act, 1953.

2. Non-Scheduled Operations

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

3. Flying Training

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

4. 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.

5. Private and Business

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

Av. 15013/4/84-A

9

(41)

AIRLINES OPERATION-1

1. Aircraft
Type : Boeing 747
Registration : VT-EDU
2. Date and time
2nd June, 1984; 2119 hrs.
3. Location
Bangkok airport
4. Type of operation
Scheduled operation
5. Persons on board
Crew : 21; Passengers : 293
6. Injury index

	Fatal	Serious	Minor	None
Crew	Nil	Nil	Nil	21
Passengers	Nil	1	7	285
Others	Nil	Nil	Nil	—

7. Damage to aircraft
Nil, Engine substantially damaged
8. Pilot-in-Command
Licence : ALTP No. 682
Age : 45 years
Total hours : 9877

Summary

Air India Boeing 747 aircraft VT-EDU was operating scheduled passenger flight AI-315 (Bangkok-Delhi sector) on 2-6-84. About five minutes after take-off from Bangkok, No. 4 engine fire warning came 'ON'. The flight crew carried out engine fire check list and discharged both the fire bottles but the fire warning persisted. The commander therefore, decided to land back at Bangkok after dumping fuel. While proceeding to fuel dumping sector the Flight Engineer went down in the aft passenger cabin and confirmed actual fire on No. 4 engine. The Commander abandoned the fuel dumping plan and made an emergency over-weight landing at Bangkok on the nearest runway 03L. The engine fire persisted throughout the flight with increasing intensity and was extinguished after landing by the Safety Services of Airports Authority of Thailand and Royal Thai Air Force. The engine suffered extensive fire damage.

The passengers were evacuated using escape slides. During the process of evacuation, eight passengers received injuries, two of whom were hospitalised.

The probable cause of the accident has been attributed as :

"The inflight engine fire was caused by a fuel leak on the left forward side of the engine near the air to fuel convertor valve which was observed by the Aircraft Maintenance Engineer during Transit 'C' Check of the aircraft prior to take off but the leak was not conclusively identified and remained unrectified.

- The injuries to the passengers were caused as they overshot the escape slide ends due to momentum and grazed the hard ground during the process of emergency evacuation. Non-adherence to the emergency evacuation procedure by some of the cabin crew members was a contributory factor".

- Factors : (i) Aircraft—Fire in engine
 (ii) Personnel—Flight attendant.

Av. 15013/3/84-As

11

212

AIRLINES OPERATION-2

1. Aircraft
Type : Boeing 737
Registration : VT-EGI
2. Date and time
6th June, 1984; 0102 hrs.
3. Location
Calcutta Airport
4. Type of operation
Scheduled operation
5. Persons on board
Crew : 6; Passengers : 121+2
6. Injury index

	Fatal	Serious	Minor/None
Crew	Nil	Nil	6
Passengers	Nil	Nil	121+2
Others	Nil	Nil	—
7. Damage to aircraft
Substantial
8. Pilot-in-Command
Licence : ALTP No. 945
Age : 39 years
Total hours : 6537.40

Summary

Indian Airlines Boeing 737 aircraft VT-EGI was operating scheduled passenger service IC-266 from Madras to Calcutta on the night of 5th June 84. Due to weather reported over Calcutta, the Commander did two holdings over Calcutta VOR. During VOR holding, when latest Calcutta weather was communicated to the aircraft, the Commander decided to make an ILS let down procedure for landing. As the aircraft crossed 1000 ft. height, control tower transmitted latest surface wind and asked the aircraft to report runway in sight. The Commander reported runway in sight about 1½ minutes prior to touch down and the aircraft was cleared to land with the advice to exercise caution as runway surface was wet due to rain. There was rain over the airfield and soon after touch down, the aircraft rolled for about 1800 feet towards left before entering kutchra and during this process nose wheel folded backwards. The aircraft sustained substantial damage.

No person on board received any injuries and there was no fire.

The probable cause of the accident has been attributed as :

"The Commander could not maintain directional control of the aircraft during landing at night under cross-winds due loss of visual cues on account of heavy rain conditions encountered at the time of touch down".

Factors : (i) Weather—rain

(ii) Personnel—Pilot—Failed to maintain directional control.

S/221

AV. 15013/7/84 - As

13

43

AIRLINES OPERATION—3

1. Aircraft
Type : Boeing 737
Registration : VT-EGI
2. Date and time
27th October, 1984; 2040 hrs.
3. Location
Ahmedabad airport
4. Type of operation
Scheduled operation
5. Persons on board
Crew : 6; Passengers : 126
6. Injury index

	Fatal	Serious	Minor/none
Crew	Nil	Nil	6
Passengers	Nil	Nil	126
Others	1	Nil	—
7. Damage to aircraft
Minor
8. Pilot-in-Command
Licence : ALTP No. 899
Age : 42 years
Total hours : 6551.05

Summary

Indian Airlines Boeing 737 aircraft VT-EGI was operating scheduled passenger flight IC-493 (Jaipur-Ahmedabad sector) on 27-10-84. The aircraft landed at Ahmedabad airport at 2040 hrs. Soon after touch down, the pilot noticed a man near the centre line of the runway and informed the ATC. The man was hit by the undercarriage door panel and got killed. The aircraft sustained minor damage. There was no fire.

The cause of the accident has been attributed to the aircraft hitting a person who was unauthorisedly crossing the runway when the aircraft was landing.

Factors : Other—unauthorised crossing of runway.

Av. 15013/1/84 - AC

15

49

FLYING TRAINING-1

1. Aircraft Type : HS-748
Registration : VT-DUO
2. Date and time 5th March, 1984; 2046 hrs.
3. Location Hyderabad airport
4. Type of operation Training flight
5. Persons on board Crew : 3; Passengers : Nil

6. Injury index	Fatal	Serious	Minor/none
Crew	Nil	1	2
Passengers	Nil	Nil	Nil
Others	Nil	Nil	—

7. Damage to aircraft Substantial
8. Pilot-in-Command Licence : ALTP No. 971
Age : 34 years approx.
Total hours : 5585

Summary

Indian Airlines HS-748 aircraft VT-DUO was engaged in Pilot-in-Command training flights with instructor and two trainee pilots on board at Hyderabad on 5-3-84. Initially one of the trainee pilots carried out training exercises during 11 touch and go flights and then another trainee pilot carried out similar exercises during five sorties uneventfully. In the sixth sortie, soon after touch down the instructor asked that trainee pilot for 'go-around'. The trainee pilot opened throttles of both the engines. At the same time the instructor pulled back the HP Cock lever of the starboard engine to shut position to simulate the engine failure condition. The trainee pilot, however could not recognise the situation and the aircraft, while rolling on the runway, started swinging to the right side. The trainee pilot and the instructor tried to correct the swing but the aircraft continued swinging. The trainee pilot rotated the aircraft without any call for VR from the instructor pilot. Nose wheel of the aircraft got lifted up but the aircraft did not get airborne as the speed was low. At this stage, the instructor took over the controls and pushed the starboard HP Cock lever forward with the intention to continue take-off. Under these conditions, the starboard propeller got auto-feathered and the aircraft could not get airborne. It finally collided with the aerodrome boundary wall and sustained substantial damage.

The instructor and the trainee pilot sustained minor injuries and the other trainee pilot received serious injuries. There was no fire.

The cause of the accident has been attributed as:

"The instructor adopted wrong procedure for simulating starboard engine failure during reject take-off exercise. The trainee-pilot could not recognise the emergency. He handled the situation incorrectly and rotated the aircraft prematurely disregarding decision speed. The instructor took over the controls without proper call out and he also continued for take-off with one engine inoperative on undulated soft ground disregarding decision speed and the circumstances".

Factors : (i) Personnel—Pilot—Failed to follow approved procedures, directives, instructions.

(ii) Personnel Crew—co-ordination inadequate.

85-M/P(N)101DGofCA-3

Deliberate

Av. 15015/21/84 - AC
 17

(43)

FLYING TRAINING-2

1. Aircraft
Type : Pushpak MK-I
Registration : VT-DNQ
2. Date and time
7th March, 1984; 1805 hrs.
3. Location
Ludhiana aerodrome
4. Type of operation
Training flight
5. Persons on board
Crew : 1; Passengers : 1

6. Injury index	Fatal	Serious	Minor/None
Crew	Nil	Nil	1
Passengers	Nil	Nil	1
Others	Nil	Nil	—

7. Damage to aircraft
Substantial
8. Pilot-in-Command
Licence : PPL No. 3036/2
Age : 36 years
Total hours : 85.50

Summary

Pushpak aircraft VT-DNQ, operated by Ludhiana Aviation club, was engaged in training flights at Ludhiana on 7-3-84. The aircraft was under the command of a PPL holder and there was one passenger on board. During take-off immediately after getting airborne, the aircraft dropped back onto the runway and swung to the left. The aircraft continued rolling towards the left edge of the runway and again got airborne. After attaining a height of approximately 15 feet, it stalled and impacted the ground. The aircraft was substantially damaged.

The pilot and the passenger escaped unhurt. There was no fire.

The cause of the accident has been attributed to the pilot's attempt to "unstick" the aircraft before attaining adequate air speed causing aircraft to bounce back onto the runway and swing. His subsequent attempt to early take-off resulted in aircraft stalling.

Factors : Personnel—Pilot—Aircraft handling (failed to maintain flying speed).

Stall

Av. 15015 / 2/84 - AS
19

FLYING TRAINING—3

(46)

1. Aircraft Type : Pushpak MK I
Registration : VT—DPS
2. Date and time 18th March, 1984; 1310 hrs.
3. Location Silver Sand Beach Resort
near Mahabalipuram
4. Type of operation Training (cross-country)
5. Persons on board Crew : 1; Passengers : 1

6. Injury index	Fatal	Serious	Minor/None
Crew	1	Nil	Nil
Passengers	1	Nil	Nil
Others	Nil	Nil	—

7. Damage to aircraft Destroyed
8. Pilot-in-Command Licence : PPL No. 3208
Age : 21 years approx.
Total hours : 155.30

Summary

Pushpak aircraft VT-DPS, operated by Madras Flying Club was on a cross-country flight from Madras to Chidambaram (overflying) and back with a pilot and a passenger on board. The pilot deviated from his assigned track and indulged in unauthorised low flying over the Silver Sand Beach Resort. While turning, the aircraft wing tip touched water and the aircraft flipped over onto the surface of the sea. The aircraft was destroyed.

Both the occupants died on the spot due to drowning. There was no fire.

The cause of the accident has been attributed to unauthorised low flying almost over the sea surface indulged in by the pilot.

Factors : Personnel—Low flying.

Deliberate

Av. 15015/3/84-As
21

(27)

FLYING TRAINING—4

1. Aircraft
Type : Pushpak
Registration : VT-DSO
2. Date and time
24th April, 1984; 2240 hrs.
3. Location
Patiala Airfield
4. Type of operation
Practice flying
5. Persons on board
Crew : 1; Passengers : Nil
6. Injury index

	Fatal	Serious	Minor/None
Crew	Nil	Nil	1
Passengers	Nil	Nil	Nil
Others	Nil	Nil	—
7. Damage to aircraft
Substantial
8. Pilot-in-Command
Licence : CPL No. 1016
Age : 35 years
Total hours : 2200 approx.

Summary

Pushpak aircraft VT-DSO, operated by Patiala Aviation club, was engaged in night flying practice at Patiala on 24-4-84. The pilot had been authorised to do night cross country flight to Jandiala and back. After an uneventful flight the aircraft landed at Patiala. During taxiing, the aircraft collided with a stone-chip stack lying on the right side near the end of the runway and sustained substantial damage.

The pilot escaped unhurt. There was no fire.

The cause of accident has been attributed to pilot's failure to exercise normal observation and caution during taxiing, resulting into collision with the known obstruction (Stone-chip stacks) on the right side of taxi-way. Higher taxiing speed was the contributory factor.

Factors : Personnel—Pilot—Failed to see or avoid objects or obstructions.

Lead.

Av. 18215/6184 - A
 23

(18)

FLYING TRAINING-5

1. Aircraft Type : Pushpak MK I
Registration : VT-DNN
2. Date and time 27th October, 1984; 1600 hrs.
3. Location Nilokheri (Haryana)
4. Type of operation Training (cross-country)
5. Persons on board Crew : 2; Passengers : Nil

6. Injury index	Fatal	Serious	Minor/None
Crew	Nil	Nil	2
Passengers	Nil	Nil	Nil
Others	Nil	Nil	—

7. Damage to aircraft Substantial
8. Pilot-in-Command Licence : CPL No. 1371
Age : 26 years approx.
Total hours : 375.40

Summary

Pushpak aircraft VT-DNN, operated by Karnal Aviation Club, was engaged in training cross-country flight (Karnal-Hissar-Karnal) on 27-10-84. The aircraft took-off from Karnal with trainee pilot and an Assistant Pilot Instructor on board. The flight to Hissar was uneventful. During their return flight, the pilots lost their way and drifted to the left of the track. They decided to force land and made a safe forced landing near a canal on a barren field 12 kms. West of Nilokheri. After ascertaining their position from the villagers, the pilots attempted a take-off from an unprotected/unguarded field. During the take-off roll, a cow ran through the path of the aircraft and collided with it. The aircraft sustained substantial damage due to collision and the cow got killed.

Both pilots escaped unhurt. There was no fire.

The cause of the accident has been attributed to the collision of the aircraft with an animal when take-off was attempted on an unprotected/unguarded field subsequent to safe forced landing on account of loss of track during cross-country flight.

Factors : Personnel—Pilot—Operational decision.

Del: [Signature]

76. 15015/7/84 - A

25

FLYING TRAINING—6

1. Aircraft
Type : Pushpak MK I
Registration : VT-DMY
2. Date and time
4th December, 1984; 1430 hrs.
3. Location
Near Hissar
4. Type of operation
Training (cross-country)
5. Persons on board
Crew : 1; Passengers : Nil

(M)

6. Injury index	Fatal	Serious	Minor/None
Crew	Nil	Nil	1
Passengers	Nil	Nil	Nil
Others	Nil	Nil	—

7. Damage to aircraft
Substantial
8. Pilot-in-Command
Licence : DFC SPL No. 636
Age : 23 years
Total hours : 33.20

Summary

Pushpak aircraft VT-DMY, operated by Delhi Flying club, was engaged in a solo cross country flight from Delhi to Hissar on 4-12-84. The aircraft was under the command of a student trainee pilot and this was his second solo cross country flight. The aircraft deviated from the assigned track and drifted to the right. The pilot however regained the track and climbed as he reached near the destination. At this stage he noticed the fuel quantity diminishing and decided to force land in a field. The diminishing quantity of fuel in the main tank was due to mismanagement of fuel by the trainee pilot as a result of keeping the fuel transfer valve 'ON' in climb attitude. During the forced landing the aircraft sustained substantial damage.

The trainee pilot escaped unhurt. There was no fire.

The probable cause of the accident has been attributed to collision of the aircraft with a tree during the forced landing on account of fuel mis-management by the trainee pilot, after the loss of track in cross-country flight.

- Factors :
- (i) Personnel—Pilot—Mismanagement of fuel
 - (ii) Personnel—Pilot—Navigational error
 - (iii) Personnel—Pilot—Failed to avoid objects.

Deliberate

Av. 15013 / 4184 - AS

27

AERIAL WORK—1

1. Aircraft Type : Basant
Registration : VT-EET
2. Date and time 15th August, 1984; 0930 hrs.
3. Location Village Jandlikalan near Hissar
4. Type of operation Aerial application
5. Persons on board Crew : 1; Passengers : Nil
6. Injury index

	Fatal	Serious	Minor/None
Crew	Nil	Nil	1
Passengers	Nil	Nil	Nil
Others	Nil	Nil	—

7. Damage to aircraft Substantial
8. Pilot-in-Command Licence : SCPL No. 632
Age : 41 years
Total hours : 3266.15

Summary

Basant aircraft VT-EET, operated by Directorate of Agricultural Aviation, was engaged in cotton spray operations at Jandlikalan village near Hissar on 15-8-84. The pilot carried out first reconnaissance flight of the day. It was also his first operational sortie on Basant aircraft. After carrying out reconnaissance of the area the aircraft landed heavily on account of which the engine sagged downwards due to failure of top engine mount brackets.

The pilot escaped unhurt. There was no fire.

The probable cause of the accident has been attributed to the failure of top engine mount brackets under impact load in a heavy landing due to presence of excessive shrinkage porosity in the brackets' castings. Limited experience of the pilot on Basant aircraft was the factor for the heavy landing.

- Factors : (i) Personnel—Pilot—Aircraft handling.
 (ii) Personnel—Pilot—Lack of familiarity with aircraft.

8/10/84

AV. 15013/8/84 - As

29

AERIAL WORK -2

1. Aircraft Type : Bell 47 G5 helicopter
Registration : VT-DZV
2. Date and time 31st December, 1984; 1615 hrs.
3. Location Near Karjan (Distt. Baroda)
4. Type of operation Aerial application
5. Persons on board Crew : 1; Passengers : Nil

(51)

6. Injury index

	Fatal	Serious	Minor/None
Crew	Nil	Nil	1
Passengers	Nil	Nil	Nil
Others	Nil	Nil	—

7. Damage to aircraft

Substantial

8. Pilot-in-Command

Licence : CHPL No. 12

Age : 46 years approx.

Total hours : 7708.50

Summary

Bell 47 G5 helicopter VT-DZV, operated by Pierce Leslie Finance & Investment Ltd., Madras, was engaged in aerial spraying of cotton crop at village Karamdi near Karjan on 31-12-84. The pilot completed 16 sorties of the day uneventfully. During the 17th sortie, after dispensing the insecticide when the helicopter was in the final approach, its engine failed when it was 40-50 feet AGL. The pilot made a forced landing in the nearby plain field which resulted in heavy landing. During the heavy landing, the helicopter sustained substantial damage.

The pilot escaped unhurt. There was no fire.

The probable cause of the accident has been attributed as :

"The accident occurred during forced landing following engine failure at a low height and speed due to fatigue failure of the Magneto Idler Gear Shaft. The fatigue nucleated in the region of sharp radius corner in the opposite ends of the shaft".

Factors : Aircraft—Power plant (reciprocating).

Av. 15013/2/84 - AS

31

PRIVATE-1

1. Aircraft Type : King Air, B-100
Registration : VT-EGQ
2. Date and time 14th May, 1984; 1130 hrs.
3. Location Jamshedpur aerodrome
4. Type of operation Private
5. Persons on board Crew : 1; Passengers : 2

6. Injury index	Fatal	Serious	Minor/None
Crew	Nil	Nil	1
Passengers	Nil	Nil	2
Other	Nil	Nil	—

7. Damage to aircraft Substantial
8. Pilot-in-Command Licence : CPL No. 443
Age : 47 years
Total hours : 7000.

Summary

King Air B-100 aircraft VT-EGQ, operated by Govt. of Bihar, was on a flight from Ranchi to Jamshedpur with a pilot and two passengers on board. After touch down at Jamshedpur, the pilot experienced shuddering on the controls during landing roll and after rolling for some distance, experienced loss of directional control. The aircraft left the paved surface and came to rest after the nose and the left main landing gears had entered a trench on the side of the runway. The trench had been dug for the purpose of runway electrification work. The aircraft sustained substantial damage.

The pilot and the passengers escaped unhurt. There was no fire.

The probable cause of the accident has been attributed to the failure of the port main landing gear torque-link during landing roll subsequent to the rupture of the nose wheel inflation valve. Presence of the fatigue crack contributed to the failure of the torque link.

- Factors : (i) Aircraft—Airframe (Landing Gear)
 (ii) Aircraft—Fatigue failure (Landing Gear)

Av. 15013/5/84-As

33

PRIVATE-2

1. Aircraft Type : Chetak helicopter
Registration : VT-ECF
2. Date and time 22nd June, 1984; 1418 hrs.
3. Location Near Uttarkashi (U.P.)
4. Type of operation Private
5. Persons on board Crew : 1; Passengers : 5

6. Injury index	Fatal	Serious	Minor/None
Crew	Nil	Nil	1
Passengers	Nil	1	4
Others	Nil	Nil	—

7. Damage to aircraft Substantial
8. Pilot-in-Command Licence : CHPL No. 171
Total hours : 6875.25

Summary

Chetak helicopter VT-ECF, operated by Directorate of State Civil Aviation U.P., was on a flight from Lucknow to Badrinath via Uttarkashi on 22-6-84. After making a stop-over at Uttarkashi, the helicopter took-off with six persons on board including crew. Approximately three minutes after getting airborne, the pilot experienced unusual vibrations on the cyclic control at an altitude of 150-200 feet. The pilot decided to make an emergency landing in a field. The helicopter made a heavy landing in the nose down attitude and was substantially damaged.

One passenger received serious injury while the pilot and the other passengers escaped unhurt. There was no fire.

The probable cause of the accident has been attributed as :

"The helicopter encountered severe cross-wind shortly after take-off with gross weight in excess of the maximum authorised weight resulting in cyclic-control vibrations. On account of high gross weight the pilot could not arrest the sink rate while attempting forced landing in the confined unprepared area of the valley and the helicopter crashed".

- Factors : (i) Personnel—Pilot—Aircraft handling.
 (ii) Personnel—Loaded improperly.

STCU

Av. 15015/5/84-As

35

PRIVATE-3

1. Aircraft Type : Bonanza A-35
Registration : VT-DAA
2. Date and time 3rd October, 1984; 1155 hrs.
3. Location Rourkela airport
4. Type of operation Private
5. Persons on board Crew : 1; Passengers : 3

6. Injury index	Fatal	Serious	Minor/None
Crew	Nil	Nil	1
Passengers	Nil	Nil	3
Others	Nil	Nil	—

7. Damage to aircraft Substantial
8. Pilot-in-Command Licence : CPL No. 253
Age : 44 years
Total hours : 5687.48

Summary

Bonanza A-35 aircraft VT-DAA, operated by M/s East Air (P) Ltd. Bhubneshwar was engaged in giving joy rides consisting of circuits and landings on 3-10-84. The aircraft took off for the 17th sortie of the day with 3 passengers and the pilot on board. After an uneventful flight, the aircraft made a belly landing. The aircraft sustained substantial damage.

The pilot and the passengers escaped unhurt. There was no fire.

The cause of the accident has been attributed as "Probably skill fatigued pilot forgot to lower the under-carriage before landing".

Factors : Personnel—Skill Fatigue, pilot failed to extend landing gear.

Slit

AV-15015/8/84-AS

37

PRIVATE-4

1. Aircraft Type : Beechcraft Bonanza A-35
 Registration : VT-DAG
2. Date and time 17th December, 1984; 1052 hrs.
3. Location Varanasi airport
4. Type of operation Private
5. Persons on board Crew : 1, Passengers : 3
6. Injury index
- | | Fatal | Serious | Minor/None |
|------------|-------|---------|------------|
| Crew | Nil | Nil | 1 |
| Passengers | Nil | Nil | 3 |
| Others | Nil | Nil | — |
7. Damage to aircraft Substantial
8. Pilot-in-Command
 Licence : CPL No. 77
 Age : 48 years approx.
 Total hours : 5515

Summary

Bonanza A-35 aircraft VT-DAG operated by Aviators' Co-operative Society, Patna, was engaged in a charter flight from Patna to Varanasi on 17-12-84. There were also three passengers on board. After being cleared by Varanasi Tower for a visual approach, the aircraft landed in a 'wheels up' condition approximately 2500 feet from beginning of runway 27 and dragged on the surface for approximately 400 feet before finally coming to rest on its under surface. The aircraft sustained substantial damage.

The pilot and the passengers escaped unhurt. There was no fire.

The cause of accident has been attributed as :

"The aircraft landed in 'wheels up' condition because the pilot did not carry out the prescribed cockpit check list and failed to extend the landing gear".

Factors : Personnel—Pilot—Failed to extend landing gear.

Deliberate

TABLE 1

Classification of Accidents (Powered aircraft) by nature of the flight for the year 1984

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
Airlines Operations	3	1	..	..	..	1	1	..	..	1	2
Non-scheduled Operations	..	..	..	..	..	..	..	..	..	..	..
Flying Training.	6	1	1	1	1	..	..	..	1	5	..
Aerial work	2	..	..	..	..	..	..	..	..	2	..
Private and Business	4	..	..	..	..	1	..	..	..	4	..
Total	15	2	1	1	1	2	1	..	1	12	2

1

1

1

TABLE 2

Accident statistics and Fatality Rate of Air India for the year 1984

Type of operation	Scheduled International
Hours flown (No.)	67,184
Passengers carried (No.)	1,800,925
Kilometers flown (in thousands)	46,703
Passenger kilometers flown (in thousands)	8,344,717
Total No. of accidents	1
No. of fatal accidents	Nil
Crew fatalities	Nil
Passengers fatalities	Nil
Fatality rate per 100 million Passenger Kms. (Crew)	Nil
Fatality rate per 100 million Passengers Kms. (Passengers)	Nil
Accident rate per 100 million Kms. flown	2.141
Accident rate per 100 million Pax. Kms. flown	0.0119
Fatal accident per 100 million Pax. Kms. flown	Nil
Accident rate per 100,000 hrs. flown	1.488
Fatal accident per 100,000 hrs. flown	Nil

TABLE 3

Accidents statistics & Fatality Rate of Indian Air lines for the year 1984

Type of operation	Scheduled
Hours flown (No.)	114,152
Passengers carried (No.)	8,326,739
Kilometers flown (in thousands)	56,269
Passenger kilometers flown (in thousands)	5,924,373
Total No. of accidents	3*
Number of fatal accidents	1
Crew fatalities	Nil
Passenger fatalities	Nil
Fatality rate/100 million Pax. Kms. (Crew)	Nil
Fatality rate/100 million Pax. Kms. (Pax)	Nil
Accident rate/100 million Kms flown	5.331
Accident rate/100 million Pax. Kms. flown	0.0506
Fatal accidents/100 million Kms. flown	1.777
Accident rate/100,000 hrs flown	2.628
Fatal accident/100,000 hrs flown	0.876

*Includes one accident pertaining to Training flight.

TABLE 4

Combined accident statistics & Fatality rate of Air India and Indian Airlines for the year 1984

Type of operation	Scheduled Domestic and International
Hours flown (No.)	181,336
Passengers carried (No.)	10,127,664
Kilometers flown (in thousands)	102,972
Passenger kilometers flown (in thousands)	14,269,090
Total number of accidents	4
No. of fatal accidents	1
Crew fatalities	Nil
Passenger fatalities	Nil
Fatality rate per 100 million Pax. Kms. (Crew)	Nil
Fatality rate per 100 million Pax. Kms. (Pax.)	Nil
Accident rate per 100 million Kms. flown	3.884
Accident rate per 100 million Pax. Kms. flown	0.028
Fatal accidents per 100 million Kms. flown	0.971
Accident rate per 100,000 hrs. flown	2.2058
Fatal accident per 100,000 hours flown	0.551

TABLE 5

Aircraft accidents of Flying Clubs/Institutes (excluding Gliding Clubs) and Agro operators for the year 1984

Operation	No. of accidents		Hours flown	Hours flown/accident	Accident rate per 10000 hrs		Fatalities		
	Total	Fatal			Total	Fatal	Crew	Pax.	Others
Flying Clubs/ Institutes	6	1	29,025	4837.5	2.067	0.0345	1	1	Nil
Aerial work	2	—	5,750	2875	3.478	0	Nil	Nil	Nil

TABLE 6

Glider accidents of Gliding Clubs for the year 1984

Number of accidents		No. of launches	No. of launches/accident	Accident rate per 10000 launches		Fatalities		
Total	Fatal			Total	Fatal	Crew	Pax.	Others
Nil	Nil	32,381	—	0	0	Nil	Nil	Nil

TABLE 7

Powered Aircraft accidents by class of Pilots licence for the year 1984

Class of licence held	Total accidents	Fatal
SPL	1	—
PPL	2	1
CPL	5	—
SCPL	1	—
ALTP	4	1
CHPL	2	—
Total	15	2

TABLE 8
 Aircraft accidents by phase of operation

Phase of operation	Total involvements	% of total
Static	—	0.00
Taxi	1	6.67
Take-off	3	20.0
Inflight	1	6.67
Landing	10	66.67

TABLE 9
 Total accident rate by Kind of Flying

Kind of Flying (Powered Aircraft)	Rate per 100,000 aircraft hours flown
1. <i>Airlines Operations</i>	
(a) Indian Airlines	2.628
(b) Air India	1.488
2. <i>Flying Clubs/Institutes</i>	20.67
3. <i>Aerial work</i>	34.78