

INVESTIGATION REPORT OF CESSNA AIRCRAFT
AP-BAW BELONGING TO RAWALPINDI FLYING
CLUB WHICH MET WITH AN ACCIDENT ON
2TH JANUARY, 1990

Authority to Investigate:

HQCAA/1901/AIB dated
8th January 1990.

Aircraft Information

- | | |
|-----------------------------|----------------------------|
| 1. Owner of the aircraft | Rawalpindi Flying Club |
| 2. Type | Cessna -152 |
| 3. Nationality | Pakistani |
| 4. Aircraft Registration | AP-BAW |
| 5. Place & Date of Incident | Islamabad Airport(07-1-90) |

Synopsis

1. On 7th January, 1990 at about 1250 hours, after having been cleared by the Chief Flying Instructor Rawalpindi Flying Club, for his first solo mission Mr. Musharab Amin, a student pilot at Rawalpindi Flying Club, took off in Cessna-152 aircraft (Reg. No. AP-BAW). He was briefed to take off, fly a normal circuit /pattern and execute a full stop landing. He took off from Runway-30 and flew the pattern without any problem. His approach looked steady and well controlled, however, he either rounded out slightly high or got ballooned up and then pushed the control column forward and let the aircraft hit the ground in a nose low attitude. This developed into a porpoise condition and thus causing the breaking of the nose wheel strut from close to the mounting point. The student got further confused, applied left brake, and caused the aircraft to veer sharply to the left. (refer Appendix- A). As a sequel to this, right wing hit one of the runway lights along the left side of the runway. Runway light as well as the right wing were damaged extensively. The student pilot meanwhile, managed to switch off the engine and the aircraft came to stop after having gone off the runway on katcha (Appendix- B and B1&2 refer) with nose down attitude.

Injuries to Persons

None

Damage to the Aircraft

1. Right Wing Tip
2. Stringer aft out bolt.
3. Rib wing centre section right hand station 138.
4. Rib wing centre section station 156

5. Rib wing centre section station 174.
6. Stringer wing right hand lower centre and lower aft.
7. Stringer wing right hand upper forward.
8. Wing skin upto station 174.
9. Nose wheel oleo strut and nose wheel.
10. Engine mounting frame.
11. Engine crankshaft sustained shock.
12. Propeller.
13. Fuel filter screen mounting bracket.
14. Engine exhaust assey.
15. Carburettor and air box assey.
16. Shimmy dampner.
17. Nose gear steering tubes.
18. Engine lower cowling with landing light.

Other Damage

Two runway lights damaged.

Personal Information

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|----------------------|--------------------------------|
| 1. Student Pilot | Mr. Musharab Amin. |
| 2. Date of Birth | |
| 3. Licence | - (Student Pilot) |
| 4. Flying Experience | - 14 Hours |
| 5. Medical Fitness | Medically fit.
(Appendix-C) |

Aircraft Information

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| 1. Aircraft type and Manufacturer's S.No. & year of Construction. | - Cessna - 152
S.No. 15282835 |
| 2. Registration Marking | - AP-BAW |
| 3. Engine Type & S.No. | - Lycoming-O-235 |
| 4. Certificate of Registration No. | - 546 (Rev-1) |

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5. C of R date issued - 8-5-1985
6. Certificate of Airworthiness - 499 (Rev-1)
7. C of A date of last renewal and Validity - 3-9-1989 to 2-9-1990.
8. Owner of the Aircraft - Rawalpindi Flying Club
9. Weight of the aircraft - 1088 Lbs.
10. Date of last weighing and centre of gravity position. - 9.4.1986
11. History of Airframe:
 - (a) Hours since new - 8,852 hours
 - (b) Hours since last C of A renewal. - 422 hours
 - (c) Modification status - Upto date.
12. Engine History:
 - (a) Hours since new - 2434:00 hours
 - (b) Hours done since last C of A renewal - 422:00 hours
 - (c) Modification status - Upto date
13. Accessory History - All accessories within life.
14. Defects - No Technical defect.
15. Type of fuel used - 100 LL
16. Meteorological information, - Weather was clear, and was not a factor.
17. Aids to Navigation - Available
18. Flight Recorder - Not available.
19. Fire - There was no fire prior to or after landing.

Technical Investigation:

Aircraft Cessna-152, AP-BAW had accumulated a total of 8852 hours on airframe and 422:00 hours on Engine. The aircraft had gone for annual Certificate of Airworthiness Inspection on 03-9-89. There was no defect history of airframe, engine or accessories. The aircraft was fully airworthy prior to commencement of flight.

A N A L Y S I S

1. The evidence adduced reveals that the student pilot had flown a total of about 14 hours in Cessna-152 before he was taken up for first solo check by the Chief Flying Instructor of the club. Since the grade folders have not been maintained, it is not clear what proficiency level he had attained in various exercises. He commenced his flying training on 24th October, 1989 and in over two months flew only 14 hours. Thus he lacked continuity in his training which is an essential aspect at least till first solo and consolidation stage is over. At the same time, he flew with six different instructors, except the last nine missions (average duration of 30 minutes each) which he flew with the C.F.I. Thus at least half of his flying training had gone waste because of frequent change of I.Ps. and above all due to absence of grade slips/record of students performance each instructor had to start from the scratch all over again that too in his own way. Thus the student pilot basically remained weak, and did not get instructions and cover each aspect of training in a methodical manner. In addition to critically examining his performance in pre-solo exercises; had he flown regularly with one experienced I.P. his weakness in personality viz-a-viz getting easily flustered and confused etc. would have shown up at some stage.
2. He has confirmed that he was neither demonstrated nor taught salvaging a situation of bad landing viz-a-viz ballooning up, porpoise or bouncing up. (Refer Appendix- D). This is exactly what got him. If not fully proficient the S.P. should have had the ability to recognize the wrong and at least know what not to do to help avoid aggravating the situation.
3. The pattern of events indicates that the student pilot had developed a purely mechanical skill for landing and only in one landing configuration i.e. with 10° flaps. Had he practiced some no flap approaches and landings he would have experienced ballooning up floating tendencies after round out, and learned the patience required in letting the aircraft to loose speed and settle.
4. Although the C.F.I. claims that the student pilot displayed consistency and steadiness in handling the aircraft on approach and landing during the solo check flight, each student will behave differently under different circumstances, more so on first solo because of element of excitement, he is not in normal frame of mind. (refer Appendix- E) Again for all this the I.P. had to watch for and prepare the student

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mentally too, for the first solo flight. Above all, there was hardly any good reason for pushing a student pilot on first solo, in a hurry, when he had not even completed the dual flying time as laid down in the syllabus (see Appendix- F).

5. Had some provision of V.H.F. R/T at the mobile control been made at least for the purposes of monitoring/conducting of safe recovery of solo student pilots during the consolidation stage and under emergency conditions, it would have made all the difference and probably averted this kind of mishap.

F I N D I N G S

The Board finds that:

- (a) Mr. Masharab Amin, the student pilot at Rawalpindi Flying Club had undergone about 14 hours dual flying training, with six different I.P. in over two months' period.
- (b) The student pilot flew a short check mission with Capt. Raja Abdul Rauf, the CFI of the Rawalpindi Flying Club just before he was cleared and sent on first solo mission, which was properly authorised by the C.F.I.
- (c) The weather conditions were favourable with surface wind almost calm.
- (d) The student pilot took off and flew a normal circuit pattern and made a steady approach in 10° flaps down aircraft configuration. During round out the aircraft ballooned. The S.P. misjudged and over reacted to the situation; and pushed the control stick forward thereby letting the aircraft come down in a nose low attitude. The nose wheel hit the ground and the aircraft bounced up again and touched the ground on main wheels. This process of bouncing between nose wheel and main wheel repeated twice before the nose wheel strut gave-way from close to the mounting point. The propeller too, touched the ground and got damaged. By this time the S.P. had lost his wits and started to fight with the control, thereby aggravating the situation. The aircraft swung to the left and went off the runway. During the swing the aircraft's right wing hit one of the runway lights, as a result of which both the runway lights as well as the right wing got extensively damaged. The aircraft at one stage stood on its nose too.
- (e) Mr. Masharab Amin, the student pilot is absolved of the blame due to inexperience.
- (f) Capt. Raja Abdul Rauf is blamed for having violated Rules 162 of CAR 1978 for:
 - i.) Having failed to ascertain, before authorising the student pilot to fly solo that he was capable of handling the aircraft in a safe manner and shall not constitute a hazard to Air Navigation.

- ii) Having failed to supervise and ensure that the student pilots flying training was conducted in a methodical manner.
- (g) A number of inexperienced Assistant Flying Instructors are working in the Club on adhoc and honorary basis for the sake of beefing up their flying experience. They show up during their spare time.
- (h) There is no ground Instructor employed to take classes on regular basis.
- (j) Missionwise assessment of the student pilots, flying grade folders and progress in academic subjects, are not being maintained by the Club.

RECOMMENDATIONS:

Considering the experience (6000 hours Instructional experience) and long tenure as CFI and above all clear record:

Capt. Raja Abdul Rauf may only be served with a warning to be extra careful in regulating the procedures and in pre-solo checks.

Individual Grade folders of Student Pilots should be maintained and each mission be graded on the prescribed grade slip.

Emphasis should be laid on the continuity of flying training at least upto PPL stage, preferable with one Instructor having FI Rating.

No Instructor should be employed on adhoc basis.

- 5) Aptly qualified ground Instructor should be employed on regular basis for conducting the ground training.

Flight Syllabus should be strictly followed, prior to clearing the student pilot for Solo mission.



(APPENDIX-B)



(APPENDIX-B-1)



(APPENDIX-B/2)