

ORIGINAL



CIVIL AVIATION AUTHORITY

AIRCRAFT INCIDENT INVESTIGATION M/S SCHON AIR

CESSNA-152 REG.NO.AP-BES WHICH OCCURRED

ON 03RD FEBRUARY, 1996

AT

QUAID-E-AZAM INTERNATIONAL AIRPORT

KARACHI.



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KARACHI, PAKISTAN

AIRCRAFT INCIDENT INVESTIGATION

INVESTIGATION REPORT: M/S SCHON AIR (PVT) LTD.
CESSNA -152 AIRCRAFT REG NO AP-BES WHICH HAD
AN INCIDENT ON 3RD FEBRUARY, 1996
AT KARACHI AIRPORT.

Authority:- Director General Civil Aviation Authority
Memorandum No. HQ CAA/1901/178/SIB dated 15th
November, 1994

COMPOSITION OF INVESTIGATION TEAM

- | | | |
|-----|---|-----------------------|
| (a) | Air Cdre (Retd) Rashid A. Bhatti
Pilot Investigator, SIB CAA | Investigator Incharge |
| (b) | Wg Cdr (Rtd) Sajjad Ahmed
Technical Investigator CAA | Investigator |

1. AIRCRAFT INFORMATION

- | | | | |
|------|---|---|--|
| 1.1. | Registration Marks | : | AP-BES |
| 1.2. | Aircraft type and
maker's Sl. No. | : | Cessna-152 II
SNo.152-85336 |
| 1.3. | Engine types, airframe
positions and maker's S
No. | : | Lycoming 0-235 L2C
One in Nose
S.No.L-18323-15 |
| 1.4 | Certificate of Reg No and
validity. | : | 645 |
| 1.5. | Certificate of
Airworthiness No. and
date of expiry, and flight
manual No. | : | 598 Validity 18-04-96
Flight Manual No.85336 |

- 1.6. Certificate of Safety date : 01-02-1996 Validity 15-02-96
and time (GMT) of issue
and period of validity.
- 1.7. Date of construction of : 1981
airframe.
- 1.8 Name and address of : Schon Air Ltd General Aviation
Owner Area QIAP Karachi
- 1.9 Gross Weights. Maximum : 1670 Lbs
permitted by C of A for
this flight, at the time of
incident
- 1.10 Loading. Centre of gravity : Within limits.
limits in C of A and
centre of gravity position
at the time of incident
and commence- ment of
flight.
- 1.11 Airframe history. (Give : Hours since new 8559:30
flying times since Hours since COAW 866:20
manufacture, last Hours since last check
overhaul and last periodic 03(Approx)
check.
- 1.12 Engine history. (Give : Hours since new 6978:25
flying time since Hours since O/H 2472:20
manufacture, last Hours since last check
overhaul and last periodic 03(Approx)
check.
- 1.13 Accessory history. : Same as engine life
(Operat- ing life and i.e. 2472:20 Hrs
operating time since
manufacture and
overhaul.

- 1.14 Defects. (List & remarks : Damage report attached.
upon any technical
defects in airframe
engines or accessories,
discovered during
investigation).

2. CREW INFORMATION

2.1 **Pilot-in-Command**

2.1.1. Name : Syed Ali Kamran Rizvi

2.1.2. Position in the cockpit : Captain

2.1.3. Date of Birth : 28-05-1971

2.1.4. Type of Lic and No : CPL 1831

2.1.5. Medical dt with status : 23-10-1995

2.1.6. **Rating**

2.1.6.1. Type(s) held : Cessna-172

2.1.6.2. Type current : C-172, C-150/152

2.1.6.3. Flt.Instructor : Two Flight

2.1.7. **Flying Experience**

2.1.7.1. Grand total : 582 Hours

2.1.7.2. Total-in-Command : 503:45

2.1.8. Where trained : Schon Air

3. **SUMMARY OF THE INCIDENT**

3.1 On 3rd February, 1996 at about 1040 hrs the Maintenance crew of M/s PIAC Airbus(A-300) Registration No. AP-BEL parked at bay No.59 was allowed by ATC to run its engines at idle engine rpm during the maintenance recovery process. The engineer started both the engines and during the running operation advanced both the engine power beyond idle. Due to the Airbus jet blast M/s Schon Air Cessna-152 registration No. AP-BES taxiing via taxi way Hotel in front of bay No.59 was tilted and its right wing and engine propeller touched the ground; however, no personnel injury was caused.

4. **INJURY TO PERSONS**

4.1 There was no injury to any passenger or the crew members.

5. **DAMAGE TO AIRCRAFT**

5.1 The Schon Air Cessna-152 Reg No AP-BES was substantially damaged.

6. **OTHER DAMAGES**

6.1 Non.

7. **METEOROLOGICAL CONDITIONS**

7.1 The weather was fair and visibility was good.

8. **NAVIGATIONAL & LANDING AIDS**

8.1 Not relevant.

9. **COMMUNICATIONS**

9.1 Not relevant.

10. **AERODROME AND GROUND FACILITIES**

10.1 Not relevant.

11. **FLIGHT RECORDERS**

11.1 The DFDR report of M/s PIAC Airbus Rg No AP-BEL is attached as appendix 'F' to this report.

12. **WRECKAGE**

12.1 Not relevant.

13. **FIRE**

13.1 No fire or smoke was caused due to the incident.

14. **SURVIVAL ASPECTS**

14.1 The crew of the Cessana aircraft disembarked using normal exits.

15. **TEST & RESEARCH**

15.1 Non.

16. **OBSERVATIONS**

16.1 Ground run operation of aircraft parked on stand No.59 is permitted at idle power only as per section AGA page 2.6 of AIP (Aeronautical Information Publication) Pakistan.

16.2 Schon Air Cessna aircraft Reg. No AP-BES had a third party insurance coverage from Pakistan General Insurance Company limited.

16.3 Fire extinguishers are not deployed during engine start up.

17. **WITNESSES**

17.1 Statement of witnesses are given in Exhibits B, C & D to this report.

18. **INVESTIGATION**

18.1 On 3rd February, 1996 rectification on No.2 engine for vibration defect was being carried out on M/s PIAC Airbus (A-300) Reg No AP-BEL which was parked at bay No.59. After carrying out necessary maintenance the ground engineer obtained permission from the ATC to run the engines at idle power. Permission to run subject engine was granted by ATC because simultaneous ground run operation of aircraft parked on bay No.59 is permitted on all engines at idle power in accordance with section AGA page 26 AIP (Aeronautical Information Publication) Pakistan.

18.2 Prior to engine start-up, Engr Jamshed Khan who was handling rectification on No.2 engine was asked by electrical engineer to check No.1 engine also as it was taking longer time than normal during start-up. Engr Jamshed Khan started both the engines using APU and both engine rpms were stabilized at idle range (N1 24-25%) (N2 66 - 67%). After carrying out necessary checks at idle rpm Engr Jamshed Khan advanced No.2 engine power beyond idle to check its vibration. During this process both No.1 & No.2 engine rpm

were advanced to various power settings beyond idle the details of which are given in exhibit 'F' to this report. From the DFDR report it has been established that during ground run No.1 engine maximum power was advanced to N1 (66) - N2 (90.2) at 10:40 PST and No.2 engine maximum power was advanced to N1 (66.7) - N2 (90.7) at 10:47 PST (Refer exhibit 'F' to this report).

18.3 At about 1044 hours Schon Air Cessna-152 Reg No. AP-BES landed after a training mission and was allowed to taxi back to the hangar via taxi way Bravo and Hotel. At about 1047 hrs while on taxi way Hotel and passing in front of bay No.59 the Cessna aircraft came in jet blast coming from the Airbus Reg No AP-BEL whose engines were being run at much higher rpm than idle.

18.4 **CONCLUSION**

18.4.1 Schon Air Cessna-152 aircraft Reg No AP-BES taxiing on taxi way Hotel was tilted by the jet blast coming from the engines of Airbus Reg No AP-BEL whose both engines were being run beyond idle contrary to the provisions of section AGA page 2.6 of AIP Pakistan which does not permit ground running of engines beyond idle at bay No.59.

19. **FINDINGS**

19.1 Documentation of the aircraft was in order.

19.2 The crew licences were appropriate and valid.

19.3 On 6th February, 1996 at about 1040 hours both engines of Airbus registration No. AP-BEL parked at bay No 59 were being given ground run during maintenance recovery process.

- 19.4 Prior permission was obtained from ATC to run engines at idle rpm by Engr Jamshed Khan before engine start-up.
- 19.5 During ground run both engines power was increased beyond idle and maximum engine power settings of No.1 and No.2 engine as validated from DFDR were increased to (N1-66 N2-90.2) and (N1-66.7 N2-90.7) respectively.
- 19.6 Due to engines jet blast of Airbus Reg No AP-BEL the taxing Cessna-152 Reg No AP-BES tilted and was substantially damaged. the details of which are given in Exhibit 'G' to this report.
- 19.7 Simultaneous idle running of both engines is allowed on aircraft parked at bay No. 59 in accordance with section AGA page 2.6 of AIP Pakistan the details of which are given in exhibit ' D-1 & D-2' ' to this report.
- 19.8 Standard operating procedures covering safe maintenance practices peculiar to maintenance operations at line maintenance II do not exist at M/S PIAC.
- 19.9 Substantial damage was caused to M/s Schon Air Cessna-152 Reg No AP-BES due to the jet blast of Airbus Reg No AP-BEL the details of which are given in Exhibit ' G ' to this report.
- 19.10 No fire extinguisher was deployed near the Airbus during engine ground run at bay No 59.
- 19.11 Handy Check list for engine ground run on any type of engine does not exists at M/s PIAC.
- 19.12 M/s PIAC does not have any policy or procedure which makes it mandatory for the ground crew to deploy fire appliances during engine ground run operation.

- 19.13 Schon Air Cessna -152 Reg No AP-BES had a third party insurance coverage from Pakistan General Insurance Company Limited the details of which are given in exhibit ' H ' to this report.

20. **CAUSES**

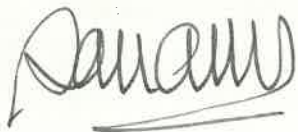
- 20.1. The incident was caused due to the jet blast of the engines which were being run at power settings more than idle.
- 20.2. Non compliance of the instructions given in section AGA page 2.6 of AIP (Aeronautical information Publication) Pakistan regarding engine ground run operation for aircraft parked at bay No. 59.
- 20.3 Non existence of SOPs on safe maintenance practices peculiar to maintenance operations at M/s PIAC line maintenance II QIAP Karachi.

21. **RECOMMENDATIONS**

- 21.1 Handy check list on ground run for various engines including emergencies pertaining to fire, engine inadvertent acceleration, engine failure to stop etc should be prepared by M/s PIAC on priority.
- 21.2 Standard operating procedures covering safe maintenance practices peculiar to maintenance operations at line maintenance II QIAP Karachi should be prepared and engineers/technicians should be directed to read the SOPs periodically.
- 21.3 All M/s PIAC maintenance stations in the country should prepare SOPs on similar lines given in para 21.2 above.

21.4 Fire appliances in sufficient quantities should be deployed and manned during engine ground run operations.

21.5 M/s PIAC should pay to Schon Air the cost of damage incurred to Cessna aircraft Reg No AP-BES *after mutual agreement* *Rashid*



(SAJJAD AHMAD)
Investigator



(RASHID A. BHATTI)
Investigator Incharge



APP E1

RIGHT WING DAMAGE



APP E2

RIGHT WING TIP DAMAGE



APP. "E3"

RIGHT WING TIP DAMAGE ANOTHER VIEW



APP. "E4"

RIGHT WING TIP TWISTED



APP. E5

RIGHT WING UNDER SURFACE SCRATCHED AND BUCKLED



APP. E6

RIGHT WING TWISTED AND BUCKLED



APP. E7"

DAMAGED PROPELLER BLADE



APP. E8"

DAMAGED PROPELLER



APP. "E9"

DAMAGE PROPELLER BLADE ANOTHER VIEW



APP. "E10"

DAMAGED PROPELLER BLADE ANOTHER VIEW



APP. E11

DAMAGED PROPELLER BLADE



APP. E12

RIGHT MAIN WHEEL HUB CRACKED