

INVESTIGATION REPORT INTO FLYING INCIDENT
INVOLVING F-27 AIRCRAFT, REG. MARK AP-AUR,
BOTH TYRES BURST ON LEFT HAND SIDE ON LANDING
AT 0645 H ON 12TH DECEMBER, 1984 AT ISL. AIRPORT

1. AIRCRAFT INFORMATION

- 1.1 Aircraft Type and Manufacturer's S.No. : Fokker F-27
S.No. 10307
- 1.2 Registration Marking : AP-AUR
- 1.3 Engine Type, Installation & Manufacturer's S.No. : DART 532-7
: PORT Engine S.No. 13193
: STBD Engine S.No. 8220
- 1.4 Certificate of Registration. : 392/1
- 1.5 Certificate of Airworthiness No. : 346
- 1.6 Certificate of Maintenance : Valid upto 13-12-1984.
- 1.7 Date of Construction of Airframe. : 1966
- 1.8 Owner : P.I.A.C.
- 1.9 Weight permitted by C of A. : 19773 Kg.
- 1.10 Weight at time of accident: 19700 Kg. (Appr.)
- 1.11 C of G : Within limits.
- 1.12 AIRFRAME HISTORY
 - 1.12.1 Hours since new : 37333.40 Hours.
 - 1.12.2 Hours since C of A inspection : 36874.40 Hours.
 - 1.12.3 Modification : Upto Date
- 1.13 ENGINE HISTORY
 - 1.13.1 Hours Since TSO overhaul : PORT 2644.41 Hours
: STBD 704.58 Hours
 - 1.13.2 Hours since TSI installation : PORT 40.14 Hours
: STBD 704.58 Hours
 - 1.13.3 Modification : Upto Date
- 1.14 Accessory History : Nil
- 1.15 Defects : Nil

/Crew Information

2. CREW INFORMATION

2-1 PILOT-IN-COMMAND (A.F.I.)

2-1-1	Name	-	Mr. Imran Usman.
2-1-2	Date of Birth	-	) Not available.
2-1-3	Where Trained.	-	) -"
2-1-4	Type of Licence and No.	-	) -"
2-1-5	Aircraft type ratings	-	) -" <u>On leave.</u>
2-1-6	Aircraft type rating current.	-	) -"
2-1-7	Medical date with Status.	-	12th Dec'84.
2-1-8	Total in Command	-	Not available.
2-1-9	Total Flying experience	-	-"
2-1-10	Total in Command on the type incident occurred.	-	272 hours.
2-1-11	Date of joining the P.I.A.	-	Not available.

2-2 CO-PILOT

2-2-1	Name	-	Mr. Mahmood Ahmed.
2-2-2	Date of birth	-	Not available.
2-2-3	Where trained	-	-"
2-2-4	Type of Licence & No.	-	C.P.L. No. 965
2-2-5	Aircraft type ratings	-	Not available.
2-2-6	Aircraft type rating current.	-	-"
2-2-7	Medical date with Status.	-	12th Dec'84.
2-2-8	Total Flying experience	-	1450 hours.
2-2-9	Total in Command	-	Not available.
2-2-10	Total in Command on the type incident occurred.	-	-"
2-2-11	Date of joining the P.I.A.	-	-"

/Summary

3. SUMMARY

- 3-1 Captain Imran Usman P-36176 was the Commander of PK-652/121284, on F-27 aircraft, Reg. No. AP-AUR. First Officer, Mahmood Ahmed P-43277 was Co-Pilot on this scheduled flight.
- 3-2 According to the statement of Captain Imran Usman (See Appendix "A"). He took off from Lahore, when he was at F.L. 100, he observed that the emergency bottle pneumatic pressure had exceeded the caution yellow mark and was closed to the Red range (over pressure limit). The pressure was approximately 3500 P.S.I. The Captain therefore, used the emergency brakes to went to execussive pressure; till the pressure was reduced to 2800 P.S.I. Thereafter he put the emergency brake knob in the "OFF" position. Furthermore as a precaution against trapped residual pressure, the Captain and the First Officer both operated the brake paddles (Appendix "A" & "B").
- 3-3 Captain Imran Usman carried out a normal approach on runway 30 at Islamabad Airport. The touch down was normal as stated by the Captain and First Officer (Appendix "A" & "B").
- 3-4 After selection of ground fine pitch Captain felt that aircraft swung towards left (Appendix "C"), which was controlled by full application of rudder and nose wheel deflection. Initially there was little response from normal. (Appendix "A" & "B"). The aircraft came to a complete stop approximately 550 feet down the runway, slightly to the right side of centre line (Appendix "F").
- 3-5 The Investigator Incharge reached the scene of the incident at 0700 Z on the same day.

/Injury to persons

4. INJURY TO PERSONS

4-1 There was no injury to the occupants.

5. DAMAGE TO AIRCRAFT

5-1 The following damage was noted:-(Appendix "D").

5-1-1 Port both main tyres and starboard outer tyre have burst.

5-2 The following components were removed for shop check:-

5-2-1 Brake and Maxret Units of all wheels.

5-2-2 Pressure regulations of left hand and right hand sides.

5-2-3 Rapid exhaust valves of left hand and right hand sides.

5-2-4 Valve exhaust Main.

5-2-5 Relief valve.

5-2-6 Emergency Brake Pressure indicator.

6. OTHER DAMAGES

6-1 No other damage reported.

7. METEOROLOGICAL CONDITIONS

7-1 Weather was fair (Appendix "E").

7-2 Weather was not a factor.

8. AIDS TO NAVIGATION

8-1 Aids to Navigation were operating normal.

8-2 Aids to Navigation were not a factor.

9. COMMUNICATION

9-1 Communication was not a factor.

10. AERODROME AND GROUND FACILITIES

10-1 Normal facilities were available at the airport.

10-2 Aerodrome and ground facilities were not a factor.

11. FLIGHT RECORDERS

11-1 Fitted.

12. WRECKAGE

12-1 Damaged aircraft was removed from the scene of incident for carrying out necessary repairs.

/Fire

13. FIRE

13-1 No fire occurred.

14. SURVIVAL ASPECT

14-1 All occupants were safe.

15. TEST AND RESEARCH

15-1 Not required.

16. OBSERVATIONS

16-1 It was noted that wrong Jack was taken to the site. A proper Jack was brought to the scene of incident after 20 minutes.

16-2 Passengers ladder was not taken to the site but instead a tractor was used to "off load" the passengers.

16-3 This resulted in considerable delay in clearing the runway.

I N V E S T I G A T I O N

17. SCENE OF ACCIDENT

17-1 The investigator incharge reached on the scene of incident at 0700 Z on the same day.

17-2 On arrival, initial discussion was held with Sr. Airworthiness Surveyor, Duty Engineering Officer (PIA) and Flight Safety Officer (PIA).

17-3 Both the left hand tyres on port side were found burst while starboard side outer tyre were also found burst (Appendix "G").

18. EXAMINATION OF WRECKAGE

18-1 The aircraft was examined by the Investigator Incharge, Sr. Airworthiness Surveyor and Duty Engineering Officer (PIA). The details of damage are given as Appendix "D".

/The aircraft

18-2 The aircraft was removed from the scene of incident for carrying out the necessary repairs.

19. WITNESSES

19-1 The following information was obtained from the witnesses:-

19-1-1 According to Captain Imran Usman statement (Appendix "A") after take off from Lahore, during cruise at F.L. 100, he observed that emergency bottle pneumatic pressure had crossed the caution yellow arc and was close to the red arc range (over pressure limit). The pressure was approximately 3500 PSI, as such he used the emergency brake to vent the excessive pressure. When system pressure reduced to 2800 PSI, he put the emergency brake selector knob at "OFF" position. However, for further protection against trapped residual pressure, Captain and First Officer both operated brake paddles a couple of times (Appendix "A" & "B").

19-1-2 Captain Imran Usman carried out a normal radar vectored ILS approach for runway 30 at Islamabad Airport. Touch down was normal as stated by Captain & First Officer (Appendix "A" & "B").

19-1-3 After selection of ground fine pitch Captain felt that aircraft swung towards left which was controlled by full application of rudder and nose wheel deflection. Initially there was little response from brakes, however after bringing the aircraft to centerline, when brakes were re-applied the response

/was normal

was normal (Appendix "A" & "B").

19-1-4 The aircraft was brought to complete stop, approximately 5500 feet down the runway 30, slightly to the right side of center line on the runway (Appendix "F").

20. DOCUMENTS

20-1 The following information was obtained from the documents:-

20-1-1 The aircraft was properly registered bearing Nationality and Registration Mark AP-AUR.

20-1-2 Aircraft was properly maintained having valid C of A, C of M and D.I.

20-1-3 Flight was properly authorised.

20-1-4 C.P.L. was valid.

20-1-5 C.P.L. No. 965 was valid.

21. DISCUSSION

21-1 ANALYSIS

21-1-1 Captain Imran Usman P-36176 was on a scheduled flight on PK-652/121284, on F-27 aircraft, Reg. No. AP-AUR.

21-1-2 According to the statement of Captain Imran Usman (Appendix "A"). He took off from Lahore, when he was at F.L. 100, he observed that the emergency bottle pneumatic pressure had exceeded the caution yellow mark and was closed to the Red range (over pressure limit). The pressure was approximately 3500 P.S.I. The Captain therefore, used the emergency brakes to vent the excessive pressure; till the pressure was reduced to 2800 P.S.I. Thereafter he put the emergency brake knob in the "OFF" position.

/Furthermore

Furthermore as a precaution against trapped residual pressure, the Captain and the First Officer both operated the brake paddles (Appendix "A" & "B").

21-1-3 Captain Imran Usman carried out a normal approach on runway 30 at Islamabad Airport.

21-1-4 After selection of ground fine pitch Captain felt that aircraft swung towards left which was controlled by full application of rudder and nose wheel deflection. Initially there was little response from brakes, however after bringing the aircraft to centerline, when brakes were re-applied the response was normal. (Appendix "A" & "B"). The aircraft came to a complete stop approximately 5500 feet down the runway slightly to the right side of centre line (Appendix "F").

21-1-5 Cockpit inspection was carried out and following things were noted:-

- a. Pneumatic isolating valve was in normal position.
- b. Emergency brake control knob had broken seal and was in full "OFF" position.
- c. Normal bottle pressure was 3100 PSI
"Emergency" bottle pressure 3000 PSI.

21-1-6 The serial number, time since overhaul and time since Installation of Main wheel tyres are given in Appendix "D".

21-1-7 Engineering section of Islamabad Airport checked the aircraft AP-AUR after the ground incident. Following components of the aircraft were removed for shop inspection (App. "D").

/Brake

- a. Brake and Maxret Units of all wheels.
- b. Pressure regulations of left hand and right hand sides.
- c. Rapid exhaust valves right hand and left hand sides.
- d. Valve exhaust Main.
- e. Relief valve.
- f. Emergency Brake Pressure indicator.

22. CAUSE

- 22-1 The probable cause could be due to some residual pressure trapped in wheel brake assembly, resulting in locked wheel landing.
- 22-2 Shop reports on components are awaited from PIA Engineering staff at Karachi, before any final cause is established.

23. FINDINGS

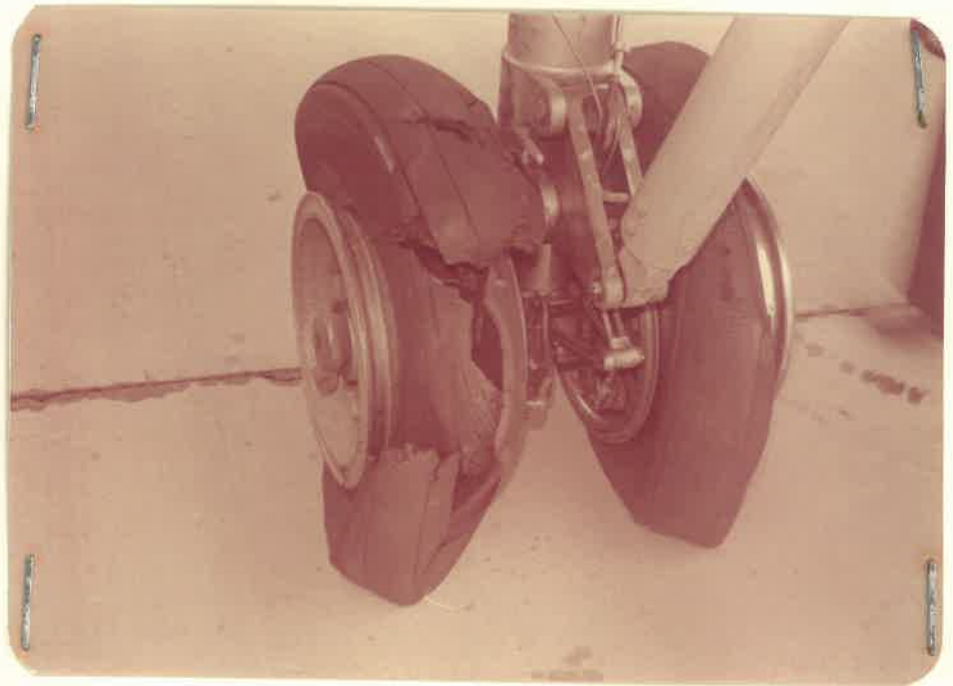
- 23-1 The aircraft was properly registered.
- 23-2 The certificate of airworthiness was valid.
- 23-3 The certificate of maintenance was valid.
- 23-4 The daily inspection was carried out which was valid.
- 23-5 Flight was properly authorised.
- 23-6 Captain Imran Usman was holding a valid CPL with valid A.F.I., rating.
- 23-7 First Officer, Mahmood Ahmed held a valid C.P.L.
- 23-8 There were no defects reported on this aircraft.
- 23-9 No modification was found pending.
- 23-10 Based on discussions at para 21 of this report the exact cause could not be established, till shop reports on components are received from PIA Engineering staff at Karachi. Hence it is not possible to give any findings.

24. RECOMMENDATIONS

- 24-1 Necessary recommendations would be made on receipt of shop reports on components, from Engineering staff P.I.A.

VARIOUS VIEWS OF PORT
MAIN WHEEL BURST TYRES

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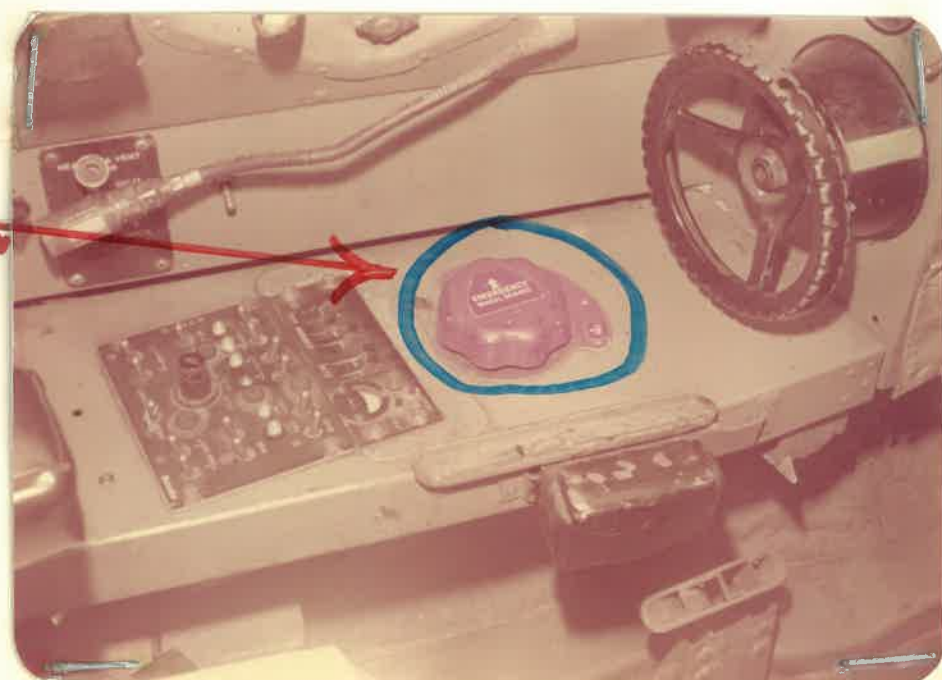
F-27 A/C.
AP-AUR



STBD. OUTER
TYRE BURST



EMERGENCY
SELECTOR
KNOB IN **"OFF"**
POSITION
WITH BROKEN
SEAL.



SKIDDING MARKS OF PORT MAIN
WHEEL TYRES ON RUNWAY
VARIOUS VIEWS

①



②



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