



Islamic Republic of IRAN

Civil Aviation Organization

Accident Report



State File Number: A13921212EPFIC
Type of Occurrence: Accident
Date of Occurrence: March 03th 2014
Place of Occurrence: Near Kish Airport
Aircraft Type: Falcon 20
Registration: EP-FIC
Operator: Aseman Airlines
Owner: IRI CAO

Aircraft Accident

Investigation Bureau(AAIB)

Date of Issue: 20 DEC 2016

FINAL REPORT ON ACCIDENT
FALCON - DA20, EP-FIC AIRCRAFT

03. Mar.2014

Foreword

This report has been prepared based upon the evidences collected during the investigation, opinion obtained from the experts. The investigation has been carried out in accordance with Annex 13 to the convention on International Civil Aviation and under the Rule of Aircraft (Investigation of Accidents and Incidents) of the government of IR OF IRAN.

The investigation is conducted not to apportion blame or to assess individual or collective responsibility.

The sole objective is to draw lessons from this accident which may help to prevent such future accidents or incidents

SYNOPSIS:

At 15:15 UTC (18:45 local time) on 03.Mar.2014 Aircraft Falcon 20 MSN : 334 with REG. Mark : EP-FIC (Manufacture Date : 22.07.1975) under property and operation of CAO.IRI Flight Inspection Department experienced accident while Calibration flight of Airport navigation aid systems and crashed to the sea nearby Kish Island free zone , south of I R .of IRAN and completely destroyed.

All 4 aircraft occupants (crew) were fatally injured and search & rescue has been began accordingly. On the day after of accident time, three victims were found and the transferred to Kish island free zone. The search for aircraft wreckage and remain dead body was continued .Finally, the aircraft wreckage and some parts of bone belong to remained victim were found after about two months. The wreckage of the aircraft was transferred to Kish Island airport and the parts are set down in the special area and the wreckage was reconstructed for detailed investigation and to reach the analysis of the accident.

The Notification of the accident was send to the ICAO and the State of Manufacturer (BEA) based on the annex 13. Related Accredited representative and his advisers from the BEA and Dassault Company were invited to investigate the wreckage. The conclusion of the BEA was received on May 2015.

The final conclusion showed that probably spatial disorientation was occurred for pilot flying and aircraft has hit to the surface of the water unconsciously.

1- History of the flight:

- The Aircraft mission was Calibration flight. The flight was planned for departure from Mehrabad airport, Tehran to Kish Island airport. Eight persons were onboard of the aircraft (3 Pilots, 4 Ground technicians, a Security guard member). The flight was under operation of Iran Aseman Airline with valid Air Operation Certificate (AOC No; FS-102).
- The aircraft has taken off from RWY 29L from THR airport at 15:03 Local time and reached to cruise level FL270.The aircraft has landed on RWY 09 L Kish island airports at 16:44 local time.
- Four ground technicians have got off from the aircraft and refueling was done.
- At time 17:44 LMT , the aircraft has taken off RWY 27R and requested to join Right downwind up to 1000 ft. and 8 miles from the airport.
- after successful performing 7 complete flight (approach & climbing) for Navigation – Aids inspection purposes; at the 8th cycle ,just at turning to the final stage of approach before runway threshold the aircraft crashed into the sea and was destroyed at time 18:45 local time.

2- Analysis:

Based on all available evidences, documents and data analyses the final findings are as follows:

- 1- Both pilot and copilot have valid certifications for flight. They have begun works on CAO office and then attended to the flight, so they had not enough rest before flight.
- 2- While departure from THR airport, the crew has encountered to Radio Altimeter malfunction during flight and aircraft has landed in Kish airport successfully. No registered maintenance action have been made in Kish island and crew decided to have Visual Flight accordingly.

- 3- The flight has been begun in day time but the latest approach & Climb was after sunset in direction to the west.
- 4- The communication between the pilot and tower controller shows that the aircraft had 7 successful flights cycle (low approach and climbing) without any deficiency but at 8th cycle crashed to the sea and was completely destroyed with no survivors.
- 5- There was not any report and no sign of deficiencies on the engines and related components.
- 6- the last flight cycle was after sunset and regarding assigned runway in use (toward the west), there were suspect to significant illusion which could trigger pilot disorientation as flight crew were suffering weary following office morning duty .
- 7- The crash occurred at the final phase of flight just turning to final to check runway 27 "PAPI" lights. The crew was not aware of low altitude from the water due to spatial disorientation and probably failure of radio altimeter.
- 8- The aircraft was not equipped with: CVR, DFDR but it meets standards of ICAO Annex 6 due to manufacture date of the aircraft.
- 9- The physical signs of the aircraft wreckages show that the pilots were not neither ready to land nor emergency situation before impacting sea water. The evidences of wreckage are:
 - Landing gears are in up& Lock positions
 - Flaps are not in Landing positions
 - The Hydraulic actuators of Elevator show no attempts by the pilots to avoid water impact.

3- CONCLUSIONS:

The Main Cause of Accident:

Regarding aforementioned analyses it seems that the fatigues of pilots have caused incapability to adopt themselves with flight conditions and their interactions are due to spatial disorientation (illusion). This type of error prevented pilots to avoid from crash in to the sea.

Contributing Factors:

- Malfunction of aircraft radio altimeter.
- Flight crew fatigue.
- Lack of enough supervision on flight calibration operations

4- Safety recommendations:

- ✓ It is recommended, that the operation of the Calibration flights for Airport navigation aid systems should be separated from The Civil Aviation Authority.
- ✓ Civil Aviation Authority should establish an oversight group for calibration flight for Airport navigation aid systems to ensure safety of flight operation in the airports.

