Aircraft Type	**Fokker 50**
Aircraft Registration	**5Y-MHT**
Aircraft Serial Number	**20171**
Operator	**Silverstone Air Services**
Name of Owner	**Silverstone Air Services**
Number/Type of Engines	**Twin engine, PW125B**
Year of Manufacture	**23/11/1989**
Date and Time (UTC)	**19/09/2020, 04:55Z**
Location	**Aden Abdulle International Airport**
Type of Flight	**Cargo**
Flight Phase	**Landing**
Departure Airport	**Mogadishu**
Destination Airport	**Beletweyn**
Persons on Board	**Four Crew (Captain, Co-pilot, One Engineer and One Loadmaster)**
Injuries	**2 Serious Injuries and 2 Minor Injuries**
Damage to Aircraft	**Aircraft completely destroyed**
Pilot's License	**YK-3994-AL / YK-8073-CL**
Pilot's Age	**42 Years / 26 Years**
Pilot's Total Flying Experience	**12000 Hours / 2249 Hours**
Hours Flown in the Last 24hrs	**4.5hrs**
Hours Flown in the Last 48hrs	**10hrs**
Hours Flown in the Last 7 days	**15hrs**
Dangerous Goods	**None**
Information Sources	**Aircraft Accident Investigation Branch**
Investigator in Charge	**Liban Said Shire (Team Leader)**

Foreword

In accordance with Annex 13 to the Convention on International Civil Aviation and with AAIB regulations, the investigation has not been conducted so as apportion blame, nor to assess individual or collective responsibility. The sole objective is to draw lessons from this occurrence which may help to prevent future accidents. Consequently, the use of this report for any purpose other than for the prevention of future accidents and incidents could lead to erroneous interpretations. The Preliminary Report contains information, as known at this time.

SYNOPSIS

A Fokker 50 aircraft operated by Silverstone crash landed at Aden Abdulle International Airport (HCMM) in Mogadishu, Federal Republic of Somalia on 19/09/2020 at 04:55Z.

The flight originated from Mogadishu (HCMM) to Bletweyne (HCMN) with four crew. Captain reported technical problem specifically hydraulic system and requested turn back to Mogadishu airport. After landing on runway 05, the aircraft lost control and veered off on the right and impacted with airport perimeter concrete wall therefore the aircraft sustained damage undercarriage, nose, and the starboard side wing.

The crew were evacuated from the aircraft, 2 seriously injured and 2 with minor injuries. The aircraft was later cleared off the runway and relocated to North ramp.

History of Flight

The Fokker 50, with registration 5Y-MHT, operated by Silverstone Air Services, flew from Mogadishu and turned back reporting issue with hydraulic system on 19/09/2020 at 04:55Z, with four crew on board.

Factual Information

On the day of the accident, the pilot completed pre-flight planning and departed from Mogadishu 04:40Z with 2000 kg of fuel on board, arriving at Mogadishu airport at 04:55Z, with flight time of 15 minutes. The pilot had obtained current weather information. The planned route was 163 nm and was estimated to take 45 minutes.

On arrival at Mogadishu airport, the pilot conducted approach procedure to runway 05 and landed after that he lost control, veered off on the right and collided with airport perimeter wall. The ground speed of the airplane at touchdown was 104 kts, the incident occurred at 04:55Z at the runway, 29 ft AMSL, Latitude $02^{0}00'48"$N and Longitude $45^{0}18'18"$E.

Injuries to persons			
Injuries	**Crew**	**Passenger**	**Other**
Fatal	0	N/A	N/A
Serious	2	N/A	N/A
Minor/None	2	N/A	N/A

Damage to Aircraft

Examination of the accident site showed the aircraft was damaged on the starboard side wing, undercarriage, nose and completely destroyed. Please refer to appendices.

Other Damage

Nil

Personnel Information

The pilot held Air Transport Pilot License. The Captain has a total of 12000 flight hours, including 6000 hours in command and 5000 on type.

Captain information:

- The Captain is 42 Years old, Kenyan Nationality
- The Captain holds a valid ATPL license YK-3994 AL, issued by Kenyan Authority on the aircraft type as category 1.
- He holds a valid Medical Certificate issued on 30/07/2020.

Sequence of Events

According to the pilot report, the planned departure time was planned for 07:30 hrs local time on 19th Sept 2020. We arrived at the airport at 06:45hrs local time for a departure of 07:30hrs. The aircraft had been preloaded the previous night. We conducted our preflight checks as required, and all was ok at this point. We were cleared to start at 07:32hrs for Beletweyn flight level 180, runway 23. We departed around 07:38hrs and took a left turn towards Beletweyn. After takeoff checks, we got an indication that the gear did not fully retract. We then checked the hydraulic pressure, the indication was 10 psi, and the quantity was showing zero. The hydraulics system pressure went below 800psi, at which point even the alternative brake mechanism is no longer serviceable and/or applicable. The engineer on board also confirmed the same. At this point, we knew we have lost all hydraulic fluid and requested to turn back and fly South Mogadishu about 20 miles to give us enough time to prepare for landing as we refer to the QRH.

The QRH directed us to manually lowering the gear and manually use the flaps, which was done and we got an indication that all gears were down and locked. We proceeded with the normal checklist for landing as we requested for landing clearance runway 05. As per the QRH, we knew we had only 1 brake application and no steering. We touched down runway 05 with flaps 35 at 07:55 hrs local time and as we rolled, the aircraft veered off to the right and hit the wall.

Aircraft Information

Fokker 50, Registration 5Y-MHT, Serial number 20171 was manufactured in 1989. It is high wing, airplane certified cargo category, the structure being of mainly aluminum construction. It was registered in Kenya on 19 August 2019. It has accrued a total 37793.1 hours of flight time at the last recorded logbook entry.

The airplane is fitted with two Pratt and Whitney PW125B. Documents obtained from Silverstone Air Services revealed that the aircraft has a valid Certificate of Airworthiness issued on the 11/09/2020 and expiring on the 10/09/2021. The airplane is fitted with equipment required for safe flight. The airplane has no previous failures.

Maintenance Inspection Information

The most recent scheduled maintenance activity was 650FH check carried out on 30/07/2020, no significant discrepancies were detected, the most recent unscheduled maintenance was replacement main wheel, left hand and right hand nose wheel, TCAS indicator, modulated bungee control, brake unit, pitot static system check, and number four wheel on the 28/02/2020.

Meteorological Information

Surface pressure charts showed a slow moving low pressure, leading to a light South flow over Mogadishu. The forecast weather was generally good visibility and broken cloud cover at 2100ft. The wind direction 210 South West at a wind speed of 10kts.

A meteorological report (METAR) was issued by ATC at the day of the accident. It stated the weather at the airfield was South wind at 10 kts, visibility sky clear, a broken cloud layer with base 2100ft, a temperature of 27^0C, a dew point of 21 Celsius an airfield QNH of 1013 HPa.

Aids to Navigation

Mogadishu Airport was equipped with VHF/HF radios which was operating at the time of the accident.

Communications

The airplane was fitted with VHF radios, portable GPS unit and FMS.

The tower frequency operated on 118.1 MHZ. Communication was established between the aircraft and the tower at the time of the accident.

Aerodrome Information

Aden Abdulle International Airport is located at Latitude $02^{0}00'48"$N and Longitude $45^{0}18'18"$E.

The elevation of the field is 29 ft. The operating hours for Mogadishu Airport were 06:00 – 22:00 hours for all seven days a week.

Flight Recorders

Not applicable.

Wreckage and Impact Information

The aircraft was landing phase, damaging the aircraft starboard side wing, nose and undercarriage. The photographs of the accident appear in appendices.

Medical and Pathological Information

The crew were injured. 2 serious injuries and 2 minor injuries.

Fire

Fire did not occur.

Survival Aspects

The accident was survivable; the aircraft was equipped with harness type restraint system.

Tests and Research

The aircraft was removed from the runway under supervision of aircraft accident investigation personnel and Favori (ground handling service provider at Aden Abdulle International Airport).

The inspection revealed that there was damage on undercarriage and right wing therefore the damages are not repairable.

Additional information

N/A

Useful or effective investigation techniques

Nil.

Analysis

The pilot landed to runway 05 and lost control, veered off on the right and crashed into the airport perimeter wall. The team noticed that the aircraft nose impacted on the perimeter wall. Emergency services, fire fighters from UNSOS, Police, AMISOM, AAIB, Bancroft and SCAA attended the scene. The emergency services saved the crew which was stuck in the cockpit.

Conclusion

- The aircraft is considered not to be in an airworthy and serviceable condition.
- The pilot held a valid ATPL license from Kenyan Authority.
- The root cause of the accident is the failure of hydraulic system.
- The contributory factor is lack of steering control and braking.

Recommendation

- Fire brigade must be equipped with required removal equipment.
- Airport must be licensed.
- It is a requirement to maintain international safety standards.
- The airport perimeter concrete wall must be eliminated immediately.
- All aircraft are required to be inspected.
- Proper rescue equipment is required
- SOPs, training and rehearsals must be implemented.
- Securing the crash side (cordon) is a necessary.

Appendices

Figure 1: Propeller damage (It is evident that propeller was running which implies the engine was still functioning)

Figure 2: Image of marks made by tires of landing gear

Figure 3: Images of marks made by tires of undercarriage

Figure 4: Aircraft veered off on the right and impacted to the perimeter wall