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Accident Investigation Coordinating Committee

Aircraft Accident Report 2017/03

Final Report on the Accident to
Viking Air DHC-6-200, 8Q-IAG
Dhoores Floating Platform, Maldives
16 November 2017

Introduction

Maldives is a signatory to Convention on International Civil Aviation (Chicago 1944) which established the principles and arrangements for the safe and orderly development of international air transport. Article 26 of the Convention obligates Signatories to investigate accidents to civil aircraft occurring in their State.

This investigation has been conducted in accordance with Annex 13 to the Chicago Convention, the Civil Aviation Act 2/2012 and the Civil Aviation Regulations. The sole objective of this investigation and the Draft Final Report is to prevent accidents and incidents. It is not the purpose of this investigation to apportion blame or liability.

The AICC was assisted by the Maldives Civil Aviation Authority (CAA), Island Aviation Services Limited, the Maldives National Defence Force and the Maldives Police Service.

The recommendations in this report are addressed to the CAA, unless otherwise stated.

All times in this report are in local time unless stated otherwise. Time difference between local and UTC is +5 hours.

The report is released on 29 May 2019.

Mr. Abdul Razzak Idris

Chairperson

Accident Investigation Coordinating Committee



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Aircraft Accident Report No: 2017/03

Owner	Gravitas Aviation Ltd
Registered Owner	Island Aviation Services Ltd.
Operator	Island Aviation Services Ltd.
Aircraft Type	Viking Air (De Havilland) DHC-6-200
Nationality	Maldivian
Registration	8Q-IAG
Manufacturer's Serial Number	226
Place of Accident	Dhoores (DOR) Water Aerodrome Latitude: N 02°54'56.6" Longitude: E 072°52'53.0"
Date and Time	16 November 2017 at 0926hours

Synopsis

Flight Q27100, a Viking Air (De Havilland) DHC-6-200 aircraft with registration marks 8Q-IAG, suffered an accident during the take-off run from DOR water aerodrome near "AAAVEEE Nature's Paradise Island" (Dhoores Island) at 0926 hours on 16 November 2017. The aircraft was operating a commercial flight under Visual Flight Rules (VFR) with 12 passengers, destined to Velana International Airport (MLE).

At the time of the accident, the weather at the departure point was bad. The aircraft was on take-off roll accelerating when it struck a sea swell, bounced and struck hard on a second swell, continued and struck a third swell. On striking the second swell the crew felt that the right float got detached and on striking the third swell the crew realized that the left float also got detached that pushed the aircraft nose into water. At this point the engines were shut down by the PIC. The floats were cut and the propellers were damaged due to propellers striking the floats. The detached floats were trapped under the wings keeping the aircraft afloat with the nose immersed in water. Water then started rushing into the aircraft.

All 12 passengers and three crew were able to evacuate the aircraft without physical injury. Passenger bags were recovered. The aircraft was towed and secured at the floating platform.

The accident was notified to the Aircraft Accident Investigation Committee (AICC) at 0945 hours. Three Inspectors arrived at the scene at 1515 hours and the investigation commenced.

1 Factual information

1.1 History of the flight

The aircraft 8Q-IAG was scheduled to make 4 sectors on the accident flight.

The crew carried out the pre-flight and walk-around checks prior to the first flight of the day. No abnormalities were reported or recorded by the pilots.

The flight scheduled to MLE-MLF-KMA-DOR-MLE was released with 3 crew members (2 flight crew and 1 cabin crew) and 7 passengers from MLE-MLF. As per the flight release document, the aircraft was loaded with 265 lbs of baggage and 1,600 lbs of fuel, with a take-off mass of 11,665 lbs.

The company usually schedules a sequence of flight sectors back to back and issues a combined “flight release” for these flight sectors.

The PIC was PF for the sector MLE-MLF, First Officer was PF for the sector MLF-KMA, and the KMA-DOR sector was flown by the PIC. According to the crew, taxi-out, take-off, cruise and the landing on all these 3 sectors were normal. The landing at DOR was carried out crosswind, parallel to the swell patterns.

The aircraft cast off from the floating platform of DOR with the same crew members and 12 passengers. The PIC gave control to the first officer to taxi the aircraft from DOR as he was the nominated PF for the sector. According to the flight crew, as the sea conditions were bad, both pilots discussed the best path for the take-off and chose the best possible direction taking the swell patterns into consideration. This path was chosen because the swell effect is usually less prominent nearer to the island. On take-off run the aircraft struck a swell which felt like a small bump, the first officer continued the take-off run and

struck the second swell on the right float. On striking the second swell the crew felt that the right float got detached. The aircraft bounced again and came down on the third swell, partially detaching the left float as well. The pilots tried to adjust the speed on every bounce by lowering the nose primarily to ride the swells and avoid heavy impact on the next swell. On impacting the third swell, with the floats already detached, the propellers cut into the floats before the aircraft came to a stop. The PIC carried out the engine shutdown procedures and gave the command to evacuate. By this time the cabin crew already had initiated the evacuation process. The first officer then opened the left cabin emergency door and helped the passengers in the evacuation.

The standby dhoni came to the aircraft soon after the crash. The passengers were in the water wearing the life jackets. A dinghy boat came near the aircraft within approximately 2 minutes of the crash. Six passengers who escaped out from the left hand emergency exit were taken on board the dinghy boat. The remaining six passengers were taken on board the standby dhoni from the right side. All the passengers were taken to the resort safely.

1.1.2 Flight Crew

The accident flight was the fourth flight of the day for both the commander and the first officer.

The PIC and the co-pilot have been flying DHC-6 aircraft on floats for more than 6 years.

The crew reported to duty at IASL base at 0615 hours. As per the day's schedule, they were assigned the following flight(s);

- MLE – MLF – KMA – DOR – MLE.
- MLE - NIY – MLE
- MLE – W Maldives – MLE

1.1.3 Loading

Aircraft load – Maximum Take Off Weight: 12,500 lbs.

DOR-MLE Take Off Weight: 12,008 lbs.

The load sheet served as the passenger manifest. A copy of the load sheet was retained with dispatch before take-off as required per the company Operations Manual.

Baggage in the passenger compartment was secured using a belt. The cabin crew reported baggage came loose during the impact and some bags fell on his head while some fell on his feet.

There is no mechanism to secure baggage in the aft compartment, however a bulkhead separates the aft baggage compartment from the passenger compartment. This aft baggage compartment was not used in the accident flight.

1.2 Injuries to persons

Injuries	Crew	Passengers	Others
Fatal	-	-	-
Serious	-	-	-
Minor/None	3	12	-

1.3 Damage to aircraft

1.3.1 Primary damage

Both floats were substantially damaged. These include deformed/detached struts and pylon. Large sections of the forward float skin were cut due to propeller strike. Float attachments showed no evidence of premature failure. Refer to TSB report LP166/2018.

1.3.2 Secondary damage

The nose section was severely damaged and detached from the airframe forward of the station 40.00 during salvage operation. The aircraft was partially submerged at the shore with water level reaching approximately 2 feet above cabin floor. As a result, most of the components installed in the avionics and passenger compartments sustained damage due to water ingress. Secondary damages also include tears and deformations of the wing and engine bottom cowling. There was no evidence to suggest catastrophic failure of any engine component. The propellers sustained damage due to cutting into the detached floats. The floats sustained small tears and scratches during salvage operation.

1.4 Other damage

None

1.5 Personnel information

1.5.1 Commander

Age:	34 years
License:	MV.FCL.ATPL
Aircraft Ratings:	DHC-6 / IR
Last proficiency check:	LPC (21.06.2017)
Last instrument rating renewal:	21.06.2017
Last line check:	25.07.2017
Last medical:	06.09.2017 (Class 1)
Flying experience:	Total all types: 5,899.15 hours
	On Type: 5,599.10 hours
	Last 90 days: 129.10 hours
	Last 28 days: 75.25 hours
	Last 24 hours: 0 hours
Previous rest period:	14 th & 15 th November 2017 (58 hours)

1.5.1 Co-pilot

Age: 43 years
 License: MV.FCL.ATPL
 Aircraft Ratings: DHC-6 / IR
 Last proficiency check: LPC (13.05.2017)
 Last instrument rating renewal: 31.05.2017
 Last line check: 03.06.2017
 Last medical: 19.03.2017 (Class 1)
 Flying experience: Total all types: 4,974.20 hours
 On Type: 4,705.00 hours
 Last 90 days: 124.30 hours
 Last 28 days: 63.20 hours
 Last 24 hours: 4.20 hours
 Previous rest period: 10th & 11th November 2017 (58 hours)

1.5.1 Cabin crew

Age: 30 years
 Licence: CCL
 Last recurrent training: 11.10.2017
 Last medical: 02.06.2016 (Class 3)
 Previous rest period: 14th & 15th November 2017 (58 hours)

1.6 Aircraft information

1.6.1 General information

The DHC-6-200 "Twin Otter" is an unpressurised, all-metal, high wing aircraft powered by two Pratt & Whitney PT6A-20 engines driving Hartzell three-blade, reversible-pitch, full feathering propellers. However, this aircraft was modified to increase the MTOW to 12,500 lbs by installation of a 300 series wing and engines (PT6A-27) under FAA STC No. SA02252LA.

Manufacturer:	Viking Air (De Havilland)
Registration:	8Q-IAG
Powerplants:	2 x Pratt & Whitney PT6A-27 turboprop engines
Manufacturer's serial number:	226

Year of construction:	1969
Airframe hours at time of accident:	42,772.38 hours
Certificate of Airworthiness:	Normal category, issued on 19 March 2015
Airworthiness Review Certificate:	Extended on 20 March 2017

1.6.2 Cabin layout and configuration

The aircraft was in float configuration with Wipaire 13000S floats. The cabin was configured for 15 passengers. Baggage is placed near the right rear passenger door and the aft baggage compartment. The aircraft has two main exits and two emergency exits in the cabin and two exits in the cockpit. The right rear passenger exit is usually blocked with baggage.

The right rear passenger exit and the left emergency exit were used for evacuation on the accident flight.

1.6.3 Recent maintenance

The last scheduled maintenance check was Equalised Maintenance for Maximum Availability (EMMA) number 40, carried out on 28 October 2017 (at 42,694.01 TAT and 75,624 TAC). A scheduled left-hand propeller replacement was carried out on 22 June 2015. Five defects were reported in the 30 days prior to the accident. These include;

1. Inability to transmit on any frequency,
2. Rudder not locking,
3. Torque fluctuations on three separate occasions,
4. A broken exit window,
5. A forward fuel gauge reset error.

The last engine compressor wash was done on 15th November 2017. The last aircraft maintenance release was after the daily check on 15th November 2017.

The aircraft had no open deferred defects at the time of the accident or any other reported defects on the day of the accident.

1.6.4 Flight controls

The flight controls consist of conventional, manually actuated primary flight controls operated through cables, pulleys, and mechanical linkages. Rudder and elevator trim are manually controlled and mechanically actuated; aileron trim is electrically actuated. Secondary flight controls consist of hydraulically actuated wing flaps. A stall warning system provides warning of impending stall.

1.6.5 Weight and balance

The aircraft was last weighed on 11th November 2014 by IKHANA, an aircraft maintenance organisation based in USA. The weight and balance was then adjusted to account for changes related to conversion into float configuration. The basic data was then converted into Index format for use by flight operations.

Limitations

Maximum Take-Off Mass:	12,500 lbs
Unladen centre of gravity Station:	213.84 inches of datum
Unladen Index:	13.09
Centre of Gravity Limits:	Forward 207.74 inches (25% of MAC) Aft 213.20 inches (32% of MAC)

1.6.6 Powerplants

The aircraft was powered by two Pratt & Whitney Canada PT6A-27 turboprop engines. Each engine is fitted with a Hartzell (HC-B3TN-3DY), three-bladed, constant speed, full feathering and reversible propeller.

The pilots did not report any anomalies related to the engines or propellers.

1.7 Meteorological information

There is no weather station in Dhaalu Atoll and hence this information cannot be provided. Crew indicated they usually do flyovers to ascertain conditions at the landing area and the same was done at DOR before landing.

1.8 Aids to navigation

The aircraft was operating under visual flight rules. Navigation was not a factor in this accident.

1.9 Communications

The aircraft was equipped with two VHF sets both of which were serviceable at the time of departure. The pilots did not report a communication problem.

1.10 Aerodrome and approved facilities

Dhoores water aerodrome is uncontrolled, equipped with one floating platform that is switched to two different locations depending on the monsoon. The platform get located at N02°54'56.6"E072°52'53.0" in N/E monsoon and at N02°55'7.7"E072°53'9.4" in S/W monsoon. The floating platform was inspected on 11 January 2016 and approved on 20 January 2016.

1.11 Flight Recorders

The aircraft was not equipped with a flight data recorder (FDR) or cockpit voice recorder (CVR) – not required by MCARs

1.12 Wreckage and impact information

1.12.1 Accident site

The accident occurred in the open water off DOR, located in Dhaalu Atoll, Maldives.

The aircraft was afloat with both floats detached. The detached floats were trapped under the wings keeping the aircraft afloat with the nose immersed in water.

1.12.3 Salvage operations

The wreckage was salvaged and brought near the DOR shore on the same day and it was brought to IASL base at Velana International Airport on the following day. The salvage operation was jointly accomplished by MNDF and IASL personnel, overseen by the investigators.

1.13 Medical and pathological information

The crew did not have any pre-existing medical conditions that may have contributed to the accident. Medical examinations were performed on all crew members and there was no evidence of alcohol, drugs or any toxic substance usage that may have contributed to the accident.

1.14 Fire

No fire involved.

1.15 Survival aspects

As soon as the accident took place, the cabin crew initiated the evacuation process assisted by the flight crew.

The standby dhoni and a dinghy boat came to the aircraft soon after the crash. The passengers were in the water wearing the life jackets. The six passengers who evacuated out from the left hand emergency exit were taken on board the dinghy boat. The remaining six passengers were taken on board the standby dhoni from the right side rear door. All the passengers were taken to the resort safely.

ELT was activated and appropriate COSPAS SARSAT messages were received, though no search was required.

Cabin attendant, PIC and First Officer collectively initiated evacuation of the occupants immediately after the crash. Left side emergency exit and rear right main exit of the aircraft were used for evacuation. It took less than a minute to evacuate all the passengers from the aircraft. The cabin attendant faced difficulties to open the rear right

main exit door as the baggage came loose on impact and the baggage lay on the floor impeding the evacuation.

1.16 Tests and research

Metallurgical test was carried out on some parts that were damaged during the accident. The test results showed that those components failure were likely caused as a result of an impact during the occurrence. All fractured surfaces were typical of instantaneous overstress fracture. Plastic deformation accompanied the fractures, which is also consistent with an overstress fracture mode.

Refer Appendix 5.1 for metallurgical test report.

1.17 Organisational and management information

1.17.1 Company structure

Island Aviation Services Ltd (IASL) is a Maldives Civil Aviation Authority (MCAA) approved Air Operator. IASL provides international and domestic air services with a fleet of A320/321, DHC-8 and DHC-6 float aircraft. The company is authorized to conduct scheduled IFR and non-scheduled day VFR Operations. DHC-6 float aircraft is operated on day VFR only.

Regular inspections and periodical flight checks were conducted on the operation and crew by the MCAA to verify compliance and competency. The company also holds an Aircraft Maintenance Organisation Approval. Annual audits with random spot checks and regular Airworthiness Review Inspections were carried out by the MCAA.

2. Analysis

2.1 General

The analysis of this investigation is based on the information gathered through interviews of the crew members, passengers, eyewitnesses, damage report of the engineers, metallurgical test reports and the photographic evidence.

No abnormalities were reported during any of the previous flights of the day. Examinations carried out on the wreckage revealed no evidence of any technical defects which could have contributed to the accident.

The accident occurred during the take-off run from DOR in bad weather. There were 3 or 4 different patterns of swells, which is normal in DOR. As a 90 degree cross wind take-off, parallel to the swell would have put the Island directly on the take-off path. Therefore the chosen take-off path was keeping the island to the port side (left) of the aircraft.

During the take-off run, the aircraft struck a swell which was more like a small bump. The aircraft continued the take-off when it struck the second swell on the right float. The crew felt that the right float got detached when it hit the second swell. The crew tried to adjust the speed on every bounce by lowering the nose primarily to ride the swells and avoid heavy impact on the next swell. On impacting the third swell, the left float also got partially detached and the propellers cut into the floats before the aircraft came to a stop.

The engine shutdown procedures and evacuation of the passengers and crew took place in accordance with the procedures laid down in the OM.

2.2 Flight crew

There was no evidence of adverse medical conditions that affected the flight crew. Drug tests indicated that neither the PIC nor the FO were under the influence of, or impaired by, drugs or alcohol at the time of accident.

2.3 Crew training

The operator is approved to conduct DHC-6 type conversion and recurrent training courses by the MCAA through Operator's Operating Manual Part D. The flight crew had completed the required training as per the Operator's OM.

2.4 Survival Aspects

2.4.1 Evacuation

Six passengers and the flight crew evacuated through left side emergency exit while the remaining six passengers and the cabin crew evacuated from the rear right exit.

No passengers or crew reported any difficulties in evacuation.

2.4.2 Emergency Response

Emergency response by the resort to rescue all occupants were timely and effective.

3. Conclusions

3.1 Findings

The investigation identified the following findings;

- a. The airplane was certified, equipped, and maintained in accordance with MCARs and approved procedures.
- b. There were no known existing defects reported on the airplane, its systems, or Powerplants.
- c. Float attachments failed due to heavy impact.
- d. The flight crew were properly trained and certified for their duties.
- e. The swell patterns at DOR is normally unpredictable and come from different directions. Take-off attempt from DOR was made in bad weather, rough sea conditions and with unusually longer swell distances.
- f. Take-off attempt into wind was not possible due to close proximity to the island and swell conditions.
- g. At the time of the accident, the PF was the co-pilot.

3.2. Causes

The investigation identified the following causes;

The take-off attempt was made in bad weather, not to the most appropriate direction and with unusually longer swell distances.

4. Safety Recommendations

4.1 Recommendations to the MCAA

Subsequent to the findings of the investigation of this accident, the AICC makes the following recommendations to the MCAA:

- a. For regular water aerodromes where unusual sea/swell conditions prevail, consider getting the operator(s) to submit an alternate landing and take-off area during periods when the primary area is not favourable for landing and take-off.
- b. Normal landing gear of aircraft are lifed components. It is noted in seaplanes the float system is not lifed and therefore, it is recommended to consider the float system to be lifed, even though it is not directly linked to the causal factors of this accident.

4.2 Recommendations to the Operator

Subsequent to the findings of the investigation of this accident, the AICC makes the following recommendations to the Operator:

- a. For regular water aerodromes where unusual sea/swell conditions prevail, consider designating an alternate landing and take-off area during periods when the primary area is not favourable for landing and take-off.
- b. Run a recurrent training program for all cockpit crew on OPS Manual Part B-DHC 6, to ensure standard procedures and limitations are followed and adhered to.

5. Appendices

5.1 Metallurgical Test Result



OPERATIONAL SERVICES BRANCH ENGINEERING LABORATORY PROJECT SUMMARY	Occurrence Number A17F0290	Occurrence Classification 5	Date of Occurrence 16 November 2017
	Project Title: Examination of aircraft structural elements		
Project Number: LP166/2018	Vehicle Type: 8Q-IAG Viking 6 200 aircraft		
Prepared By:			
Approved By: <i>[Signature]</i>		Released On: 10 Sep 18	
Released By: <i>[Signature]</i>		Revision: 1	

Project Summary:

Figure 1 shows the components received for examination. Figures 2 through 6 display close-up photographs of these components.

All fracture surfaces were typical for instantaneous overstress fracture. Plastic deformation accompanied the fractures, which is also consistent with an overstress fracture mode.

These components likely failed as a result of an impact during the occurrence.

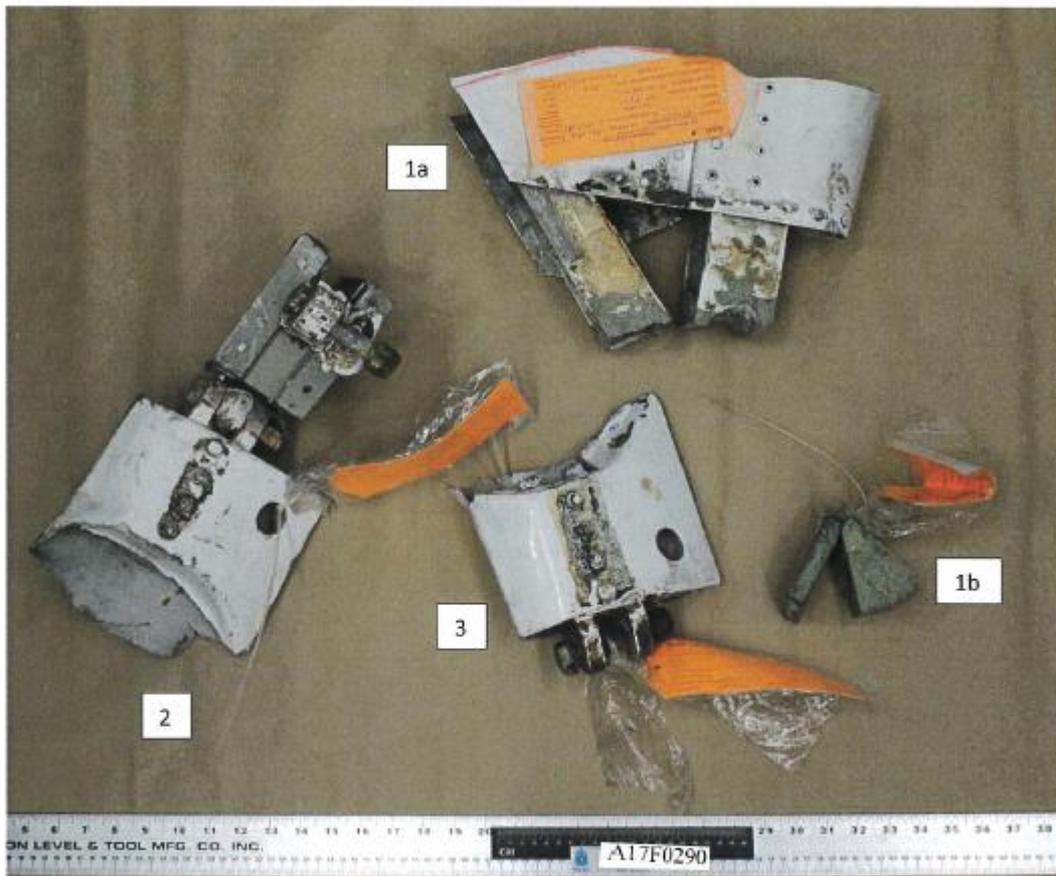


Figure 1: Aircraft components photographed as received in the TSB laboratory
1a and 1b – portion of left-hand (LH) pylon to fuselage attachment
2 – part of left-hand forward (LH FWD) strut assembly
3 – part of right-hand forward (RH FWD) strut assembly

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Figure 2: Cut-off piece of LH pylon to fuselage attachment (item 1a in Figure 1) photographed from the other side

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Figure 3: Cut-off piece of LH pylon to fuselage attachment (item 1a in Figure 1) photographed from the fractured side

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Figure 4: Separated pieces of the LH pylon to fuselage attachment (item 1b in Figure 1)

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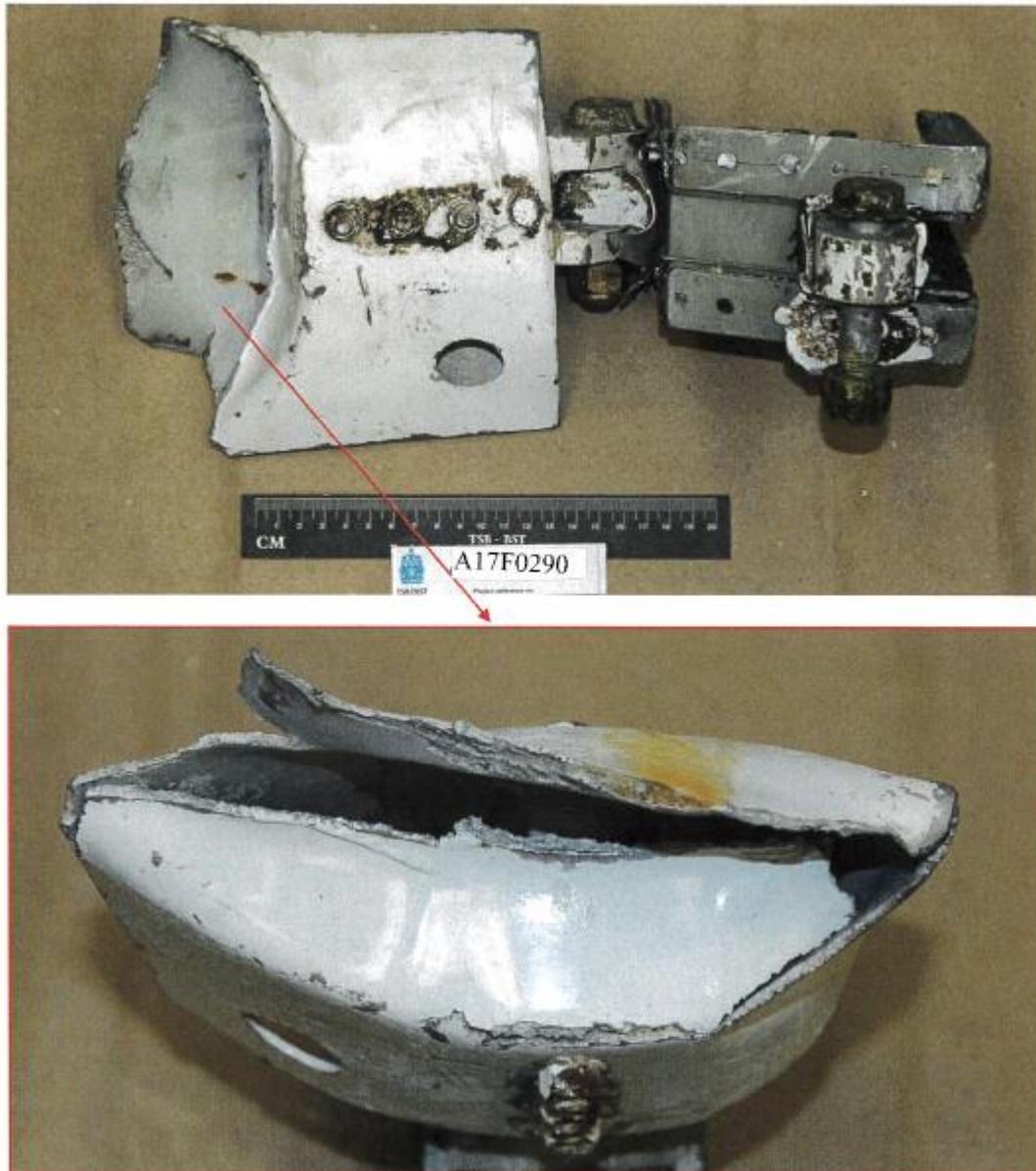


Figure 5: Part of LH FWD strut assembly

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Figure 6: Part of RH FWD strut assembly

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5.2 List of Abbreviations

AICC	: Accident Investigation Coordinating Committee
COM	: Communication
CVR	: Cockpit Voice Recorder
DHC-6-200	: Viking Air Twin Otter 200 Series
DOR	: Aavee Nature's Paradise Island (Dhoores Island)
ELT	: Emergency Locator Transmitter
EMMA	: Equalised Maintenance for Maximum Availability
FDR	: Flight Data Recorder
FT	: Feet
FO	: First Officer
IASL	: Island Aviation Services Limited
Kts	: Knots
KMA	: Kandinma Maldives
Lbs	: Pounds
LT	: Local time
MCAA	: Maldives Civil Aviation Authority
MCAR	: Maldives Civil Aviation Regulations
MLE	: Male'
MLF	: Maalifushi
MNDF	: Maldives National Defence Force
MPS	: Maldives Police Service
NIY	: Niyaama Private Island
NM	: Nautical Mile
OM	: Operator's Manual
PF	: Pilot Flying
PIC	: Pilot in command
RWY	: Runway
TSB	: Transportation Safety Board of Canada
UTC	: Universal Coordinated Time
VFR	: Visual Flight Rules
VHF	: Very High Frequency

5.3 Responses to Stakeholders comments to Draft Final Report

Stake Holder Name: Island Aviation Services Limited

Page #	Clause, para.	Current Statement	Stakeholder Comments	Accept/Reject Status	Justification for the action taken by AICC
5	-	16 November 2017 at 0945 hours	Time is mentioned later as 0926 hrs	Accepted	Time has been corrected to 0926.
5	Synopsis, 1 st line of 2 nd paragraph	.. departure point was bad	Consider rewording to 'below favourable conditions, but within acceptable VFR conditions'	Rejected	More appropriate to use 'bad'.
5	Synopsis, 8 th line of 2 nd paragraph	Water then started rushing into the aircraft.	Consider revising to 'flowing into'. From the photographs we had and statements of crew, water came into the nose area only	Rejected	Since it is not a pressurized fuselage, water rushes in and therefore more appropriate to use the word rushing.
6	1.1 History of the Flight, 3 rd line of 6 th paragraph	... sea conditions were bad	Consider revising, 'the sea conditions near the platform were not calm'	Rejected	More appropriate to use 'bad'.
7	1.1.2 Flight Crew, 1 st line of 1 st paragraph	flight was the third flight of the day	Fourth flight	Accepted	Corrected to read fourth flight
7	1.1.2 Flight Crew, 2 nd line of 1 st paragraph	The PIC and the co-pilot have been flying DHC-6 aircraft on floats for more than 7 years.	License for PIC was issued in 2014 License for FO was issued in 2014 They have been flying for ~4 years.	Rejected	But Changed to more than 6 years PIC: started initial training on floats on 10-11-2010, Check Ride carried out on 10.01.2011, CPL issued on 12.01.2011 and ATPL on 24.06.2014

					FO: started initial training on floats 07.04.2011, Check Ride carried out on 16.05.2011, CPL issued on 17.05.2011 and ATPL on 24.12.2014
8	1.1.3 Loading, 2 nd line of 3 rd paragraph	...impact and some bags fell on his head while some fell on his feet	This is not included in the statement given to IASL	Rejected	A per the interview carried out by AICC, the Cabin crew was found to state so...
11	1.6.1 General Information, 8 th line of the table	Renewed on 2 June 2017	Renewed on 20 March 2017	Accepted	Changed to "Extended on 20 March 2017"
14	1.15 Survival aspects, 2 nd line of 2 nd paragraph	... were in the water wearing the life jackets	During the course of IASL investigation, all life vests that had been onboard 8Q-IAG on the accident were found to be serviceable and unexpired. Suggest to include the serviceability and expiry	Rejected	As there were no issues with life jackets, there is no need to highlight it.
14	1.15 Survival aspects, 2 nd line of 2 nd paragraph	...passengers who escaped...	consider rewording to 'evacuated'	Accepted	Replaced the word with evacuated.

15	2.1 General, 1 st line of 3 rd paragraph	... DOR in bad weather	consider rewording to 'below favorable conditions'	Rejected	It is factually correct.
17	3.1 Findings (e)	DOR was made in bad weather	consider rewording to 'below favorable conditions, but within acceptable VFR conditions'	Rejected	It is factually correct.
18	3.2 Causes	...made in bad weather...	consider rewording to 'below favorable conditions, but within acceptable VFR conditions'	Rejected	It is factually correct.

Stake Holder Name: MCAA

Page #	Clause	Current Statement	Stakeholder Comments	Accept/Reject Status	Justification for the action taken by AICC
19	4.1 Recommendation to MCAA (b)	b. Normal landing gear of aircraft are lifed components. It is noted in seaplanes the float system is not lifed and therefore, it is recommended to consider the float system to be lifed.	We disagree with the recommendation 4.1(b) to mandate a life for the landing gears. The investigation report does not include sufficient amount of evidence to justify this change. The metallurgical tests suggest the fracture of the floats was typical for instantaneous overstress fracture.	Rejected	Though it is not directly linked to the causal factors, AICC believes that it is important that the float gears are given with life – Hard Time. So added the phrase “, even though it is not directly linked to the causal factors of this accident.” to the end of the sentence.

17	2.4.2 Emergency Response	Emergency response by the resort to rescue all occupants were timely and effective.	We disagree with 2.4.2 statements that suggest emergency response was timely and effective and 1.15 paragraph 3 which suggests a search was not required. We note that the CAA or AICC was not notified of the ELT activation within the first two days of the accident.	Rejected	As it is not directly linked to the causal factors, AICC feel that it is unnecessary to elaborate on ELT.
19	4.1 Recommendation to MCAA (a)	a. For regular water aerodromes where unusual sea/swell conditions prevail, consider getting the operator(s) to submit an alternate landing and take-off area during periods when the primary area is not favourable for landing and take-off.	On site investigation strongly suggests 4.1(a) is a very desirable recommendation. Section 3.1(e) describes the reasons for this lightly but we feel 1.10 can be expanded to give more justification to this finding.	Rejected	AICC feels that the statements is sufficient and carry sufficient for taking appropriate action by the stakeholder.