



**HELLENIC REPUBLIC  
MINISTRY OF INFRASTRUCTURE AND TRANSPORT**

**HELLENIC AIR & RAIL  
SAFETY INVESTIGATION AUTHORITY  
(HARSIA)**



**ACCIDENT INVESTIGATION INTERIM REPORT  
OF PILATUS PC-6/B2-H4 AIRPLANE  
DITCHED 2NM EAST OF HERAKLION INTERNATIONAL AIRPORT (LGIR)  
ON DECEMBER 15<sup>th</sup>, 2022**

**Accident Interim Report**

The information contained in this Accident Interim Report is published to inform Public and Aviation Industry about the general circumstances of the Accident that occurred on December 15<sup>th</sup>, 2022.

This Accident Investigation is carried out by the Hellenic Air & Rail Safety Investigation Authority according to:

- Annex 13 of the Chicago Convention
- EU regulation (EU) 996/2010
- Law 5014/2023

*“According to Annex 13 of the Chicago Convention of the International Civil Aviation, EU Regulation 996/2010 and Law 5014/2023, Accidents and Incidents Investigation is not intended to attribute blame or liability. The sole purpose of this investigation and the findings is to prevent accidents and incidents.”*

**Note:** This Interim Report contains facts which have been determined up to the time of issue. It is published to inform the aviation industry and the public of the general circumstances of accidents and serious incidents and should be regarded as tentative and subject to alteration or correction if additional evidence becomes available.

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## Abbreviation List

FL	:	Flight Level
h	:	Hour(s)
kg	:	Kilogram(s)
kt	:	Knot(s)
m	:	Meter(s)
MEA (L)	:	Multi Engine Airplane (Land)
min	:	Minute(s)
N	:	North
NM	:	Nautical mile(s)
No	:	Number
RWY	:	Runway
SEA (L)	:	Single Engine Airplane (Land)
sec	:	Second(s)
SID	:	Standard Instrument Departure
UTC	:	Coordinated Universal Time
°	:	Degree



**OPERATOR** : PT. SMART CAKRAWALA AVIATION  
**OWNER** : PT. SMART CAKRAWALA AVIATION  
**MANUFACTURER** : PILATUS AIRCRAFT LTD  
**A/C TYPE** : PC-6/B2-H4  
**NATIONALITY** : INDONESIAN  
**A/C REGISTRATION** : PK-SNF  
**LOCATION of ACCIDENT** : SEA AREA 2NM EAST OF HERAKLION  
INTERNATIONAL AIRPORT  
**DATE and TIME** : DECEMBER 15<sup>th</sup>, 2022 at 07:52 h  
Note : All Times are UTC, LT = UTC + 2

## **SYNOPSIS**

On 15<sup>th</sup> December 2022, the Airplane PILATUS PC-6/B2-H4 with call sign PKSNF, of Operator PT. SMART CAKRAWALA AVIATION, was performing a Delivery Flight from Heraklion International Airport (LGIR) of Greece to Hurghada International Airport (HEGN) of Egypt. Onboard the aircraft were the Pilot and the Operations Manager of PT. SMART CAKRAWALA AVIATION. Aircraft took-off at 07:49h from RWY 09 of LGIR. Two minutes later while the aircraft was 3-4NM east of LGIR, Pilot declared “*MAYDAY-MAYDAY-MAYDAY back for RWY*” due to engine issue. Aircraft made an 180° right turn towards the airport departed. The lack of sufficient power from the engine led the pilot to execute ditching. Aircraft was ditched at 07:52h, 2NM east of Heraklion International Airport. Pilot and Operations Manager escaped from the aircraft without suffering serious injuries.

However, in the attempt of the passengers to get to shore, Operations Manager was drowned.

# 1. FACTUAL INFORMATION

## 1.1 History of the flight

On 15<sup>th</sup> December 2022, a PILATUS PC-6/B2-H4 aircraft, registered PK-SNF was being operated by PT. SMART CAKRAWALA AVIATION on a Delivery Flight from Heraklion International Airport (LGIR) of Greece to Hurghada International Airport (HEGN) of Egypt with call sign PKS NF. Onboard the aircraft were the Pilot and the Operations Manager of PT. SMART CAKRAWALA AVIATION.

It was a brand-new aircraft that was manufactured in 2022. Republic of Indonesia, Ministry of Transportation, Directorate General of Civil Aviation had issued a Special Flight Permit (from Buochs Airport in Switzerland to Pondok Cabe Airport in Indonesia) and relevant Operating Limitations.

Previous legs were executed without issues as depicted in the following Table:

**Table 1**

	<b>Date</b>	<b>Leg</b>	<b>Flight Time</b>
1	12 Dec 2022	LSZC (Buochs Airport) – LJMB (Maribor Edvard Rusjan Airport)	2h 54min
2	12 Dec 2022	LJMB (Maribor Edvard Rusjan Airport) – LYPG (Podgorica Airport)	2h 20 min
3	14 Dec 2022	LYPG (Podgorica Airport) - LGIR (Heraklion International Airport)	4h 44min

The Pilot of the flight had executed the third leg from LYPG to LGIR on 14<sup>th</sup> December 2022 from the above-mentioned legs as he was not able to enter Switzerland due to delays in issuance of visa. The aircraft landed in Heraklion International Airport at 14:30h on 14<sup>th</sup> December 2022.

Pilot mentioned the following at his report. When the aircraft parked, pilot installed the external locks at the flight control surfaces as well as the engine covers and propeller strap. Then both Pilot and Operations Manager went at the hotel for rest. Next morning, they woke up at around 04:30h had breakfast at the hotel and briefing with pilot of another PILATUS PC-6/B2-H4

aircraft, registered PK-SND operated by PT. SMART CAKRAWALA AVIATION who was also performing similar delivery flight. Both aircrafts had started the journey together. All crew left the hotel at around 05:30h and reached the airport at around 05:50h. Up to this time all were going well as the Pilot mentioned. At around 06:30h crew arrived at the aircraft (PK-SNF). Pilot unlocked the doors and prepared the cabin while waiting for fuel. After preparing the cabin he proceeded with the removal of flight control locks, engine covers and propeller strap. While he was removing these items, he noted that on the vertical/horizontal stabiliser lock, the pins which secured the vertical portion of the device had been bent. He had to bend both pins back into position to remove them. After that, he started the preflight inspection. He inspected the propeller and verified that all 4 blades were within limits. From there he inspected the left side of the engine using a step ladder. He verified that they had sufficient oil, he inspected the general condition of the engine specifically checking for any leaks or blue dye from the FCU. He checked all engine bay circuits and the electronics which were in good condition. Then he inspected the right side of the engine. Pilot specifically focused on this occasion to verify the FCU linkage condition and that all split pins were in place. He also inspected the emergency power solenoid to make sure it was free and operational. He deemed that the engine bay was safe and moved on with the inspection after closing the cowls. He proceeded with inspecting the right leading edge of the wing and wing strut, verifying all split pins were in and checking the general condition of it. He did the same with the trailing edge and he found all satisfactory. From there he continued to inspect the side of the fuselage and he opened the access bay door to verify that all control cables and tail lock were in satisfactory condition. He also inspected the tail section of the aircraft, he verified the horizontal stabiliser bolts were in good condition along with other items to view in the inspection bays. Movable surfaces were all in working order. He continued with the same procedure on the opposite side of the aircraft, minus the access bay. Upon completion of the inspection, he deemed the aircraft in airworthy condition.

At 07:20h, the fuelling was completed. Fuel caps were verified secure and correct and the fuel drain was accomplished on the three drain points.

At 07:40h, flight plans were requested and filled accordingly and once Pilot confirmed with the crew from the other aircraft that they were ready to go, he got into the aircraft and requested to start. Once start clearance was received he started up, he cycled the propeller twice, he checked the stand-by power that was working correctly, he checked the trim interrupt and completed the checks with verifying that the stall warning and annunciators, were working correctly. Once completed he switched the generator and accessories on. It was initially given a SID which they did not want to use unless they had to. Upon getting taxi clearance they were given the option to change runways and also the SID for departure, so they elected to take a 09 departure on a coast-wise SID. Once taxiing due to the length of the runway being much more than sufficient, they elected to depart via intersection Charlie. Pilot made the request and it was granted.

At 07:48h the aircraft lined-up on the runway. Pilot as he mentioned at his statement, he proceeded to put the aircraft to high Idle, lock the tail wheel, verify it was unlocked with a control surface and rudder check. He switched on the strobe light, he set power, verified all engine parameters were in the green and got airborne. The take-off and the initial departure were all normal. They passed through 1000 feet and he prepared for the journey ahead. Shortly after approximately 1000 feet whilst he was in control, he was flying on track and at airspeed when he noticed that there was a louder than normal noise in the cockpit. He turned to see that the door was opened and slightly unlatched on the right side. Once he noted that the aircraft was stable he asked the Operations Manager to assist him. Pilot unlatched the shoulder harness in an attempt to stretch to close it. At the moment his torso was turned to stretch to try close the door. He felt the aircraft was losing power. He initially thought the power lever had been knocked, or the friction lock let the power go to idle. He turned back into his position immediately. He saw power was spooling back rapidly and attempted to use the throttle, but without response. He then attempted to switch on and use the emergency power, but there was no response. Whilst doing this he elected to turn back, and return to the departing airport, while also maintaining best glide. The aircraft was descending and he was focused on trying to maintain glide airspeed and got the engine going on again. He judged that he had less than a minute before ditching. He made the mayday call at roughly this point then he put the fuel boost on and switched on the Ignition and Starter trying to relight the engine. He judged at this stage that it was too late for him to feather the prop so he focused on what options he had for landing. During this stage, he asked the Operations Manager to assist him in order to re-attach his shoulder harness. As he stated the safest option he could see was a ditching. He saw rocks below the surface of the water right next to the shore, he tried to get as close to the shore as possible and set the aircraft up for a ditching. He elected to delay putting down the flaps until the last few seconds to try get as much out of the glide as possible. He held the aircraft above the water for as long as he could, bleeding off the airspeed. He touched the main wheels on the surface of the water first and 'skied' it for a bit as he was trying to bleed off as much energy as he could.

Once the aircraft slowed the main gear dug in and pulled the aircraft nose first into the water. All he remembers is having the left windshield hit his face, and then they were underwater. He removed the straps and exited the aircraft through the front window. He swam over to the starboard side of the aircraft to assist Operations Manager who had already exited the aircraft through his door. They were not injured apart from minor injuries to pilot's face and a slight bloody nose on Operations Manager. Once out of the aircraft and safe they cheered that they got out of the aircraft safe. They had a brief conversation about what could have happened and Operations Manager told him that he heard a "POP" noise when the aircraft lost power. Pilot did not hear that but this could be explained by the fact that he was using noise cancelling headset.

The aircraft initially was on its back but it then started sinking faster and the nose pitched down and tail pointed up. They held onto the aircraft as it was going down. They initially realised that if they were

trying to open the door then the aircraft would sink rapidly. Pilot tried diving down to retrieve the life raft multiple times but it was impossible to get into the cabin to get it. During this they floated with the aircraft further out to the sea due to the currents. As the aircraft became fully submerged, Pilot told Operations Manager that they had no choice but swim to the shore. They started to swim, and as Pilot was assisting Operations Manager to swim, they were getting cold and very tired. Pilot was screaming at the people on the shore to help them get to land. Pilot was struggling to help Operations Manager so they stopped swimming and tried to rest. Pilot released him for a second to try turn to the coast to scream for help. When Pilot turned back, Operations Manager had been pulled far away from him because of the water currents and he could not get back to the Pilot. Pilot continued shouting for help and a while after he was starting to struggle to stay afloat. Pilot felt that he was close to drowning himself. This is when two or three individuals who had swam from the shore reached him. He shouted at them in order to save Operations Manager who was drifting away. The Pilot could not see him at this point. The Coast Guard boat arrived later after this and assisted both of them. The Pilot was picked up first and shortly after the Operations Manager. When Operations Manager was pulled on board, he was unconscious. The individuals who were on board attempted to resuscitate him. The Pilot was taken off the boat when it arrived at the port while the medical staff assisted the Operations Manager.

## 1.2 Injuries to persons

Injuries	Crew	Passengers	Total in the aircraft	Others
Fatal	0	1	1	0
Serious	0	0	0	0
Minor	1	0	1	0
None	0	0	0	0
Total	1	1	2	0

## 1.3 Damage to aircraft

The aircraft, a few minutes after ditching, sank in the sea and remained there. The aircraft was destroyed after being severely damaged during ditching and rested at the bottom of the sea.

## 1.4 Other damage

No other damage was reported.

## 1.5 Personnel Information

### 1.5.1 Pilot

The Pilot of the aircraft was a holder of a CPL(A) license from the Civil Aviation Authority of South Africa (SACAA) with an initial issue date of 01 Aug. 2016, date of last issue 24 Mar. 2022 and expiration date 31 Mar. 2023. Possessed the SEA(L) and MEA(L) valid up to 31 Mar. 2023.

The language proficiency certificate was level 6 with no time limit.

He had a valid medical certificate in grades 1 up to 31 Mar. 2023, 2 and 4 valid up to 31 Mar. 2027.

The Pilot had also a Certificate of Validation for the CPL(A) license from the Indonesian General Directorate of Civil Aviation (DGCA). This certificate was valid from 06 Dec. 2022 until 20 Dec. 2022 and was applicable to a PC-6 aircraft type for Ferry Flight.

Total Flying Hours: 2.847,4h

Total hours on PC-6: 813,3h

Total hours on C208B: 1.566,9h

Hours Flown	Completed
24 hours	4,5 hours
7 Days	4,5 hours
90 Days	5,5 hours

### 1.5.2 Operations Manager

On board was the Operations Manager of the operating company of the aircraft. He had an ATPL license with more than 23.000 flight hours. The pilot's license was not valid as the medical certificate was expired as of March 31, 2019.

## 1.6 Aircraft Information

### 1.6.1 General Information

Aircraft Manufacturer	:	Pilatus Aircraft LTD
Model	:	PC-6/B2-H4
Serial Number	:	1019
Year of Manufacture	:	2022
Registration Marks	:	PK-SNF
Total Aircraft Hours since Manufacture	:	12,54h
Total hours since Last Periodic Inspection	:	12,54h
Special Certificate of Airworthiness	:	Issue date 11 Dec 2022 valid up to 11 Jan. 2023
Aviation Insurance Certificate	:	Valid from 17 Jun. 2022 – 16 June 2023
Aircraft Aeronautical Station License	:	Valid from 25 Nov. 2022 up to 25 Nov. 2024

### Engine

Engine Manufacturer	:	Pratt & Whitney Canada Corp.
Type	:	PT6A-27
Serial number	:	PCE-PG0570
Total Aircraft Hours since Manufacture	:	12,54h
Total hours since Last Periodic Inspection	:	12,54h

### Propeller

Propeller Manufacture	:	Hartzell.
Type	:	HC-D4N-3P
Serial number	:	FY5114
Total Aircraft Hours since Manufacture	:	12,54h
Total hours since Last Periodic Inspection	:	12,54h

### **1.6.2 Maintenance**

The aircraft was manufactured in 2022. It had 12,54h flight hours in total including test flights from the manufacturer. The manufacturing company had performed a power check of the engine on 16 Aug. 2022. Also, for the said aircraft a Declaration of Conformity (EASA Form 52) had been issued with an issue date of 04 Nov. 2022.

In accordance with the operating specifications of the air carrier certificate number AOC 135-062 as stated in the document DGCA Form Nr 120-06a the PT. Smart Cakrawala Aviation was authorized by the Indonesian Civil Aviation Authority to perform maintenance on a Pilatus Porter PC-6/B2-H4 aircraft.

### **1.6.3 Aircraft Fuel**

The aircraft was certified by the manufacturer to use CPW 204 specification fuel. According to the aircraft's flight manual, fuel meeting this specification may include but is not limited to ASTM-D-1655 Jet A, Jet A-1 and Jet B. On December 15, 2022 before the departure of the flight from Heraklion International Airport (LGIR) refuelling was accomplished, fuel uplift 167 US gallons of JET A-1 fuel. The total pre-flight fuel inside the aircraft is estimated at about 298 US gallons (1128lt).

### **1.6.4 Aircraft Load**

The PC-6 B2-H4 has the following operating weight limits:

- Maximum Take-off Weight (MTOW) 2.800 kg (6.173 lb)
- Maximum Zero Fuel Weight (MZFW) 2.400 kg (5.291 lb)
- Maximum Landing Weight (MLW) 2.660 kg (5.864 lb)

Empty Aircraft Weight: 1.472,22 Kg

Capt. Weight: 85kg

Ops Manager Weight: 95 kg

Cargo at station 5.28: 130 kg

Aircraft fuel tanks: 464 kg

Aircraft was equipped with External Pilatus Tanks: 370 kg

Calculated Take off fuel: 2.617 kg

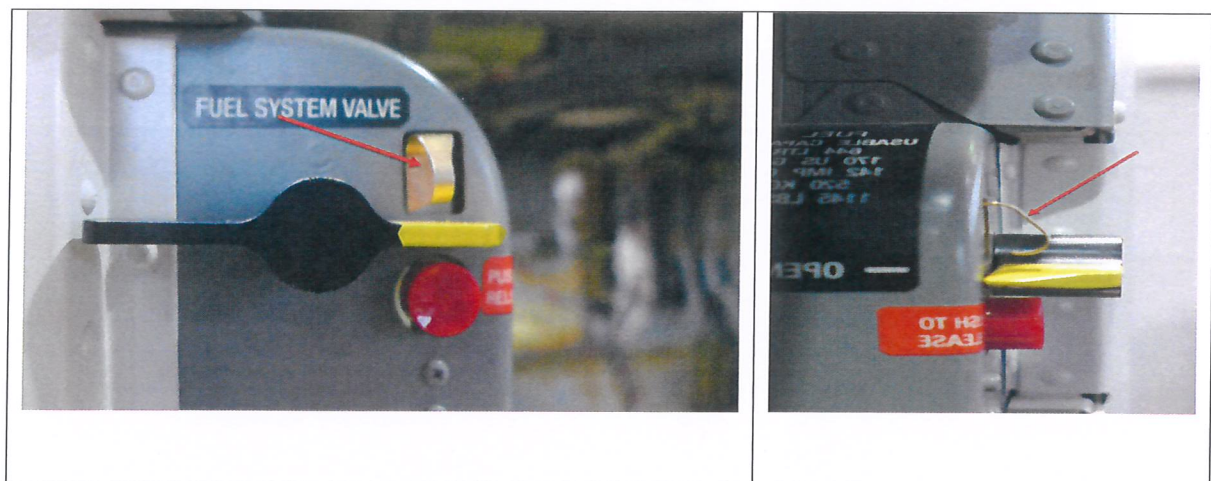


## 1.6.5 Aircraft Fuel System

### 1.6.5.1 General Description of Fuel System

According to the aircraft's Maintenance Manual, the aircraft's fuel is stored in two main fuel tanks with a capacity of 85 US gallons (321lt) each and two optional tanks with a capacity of 64 US gallons (246lt). The total amount of fuel that this aircraft can store in its tanks amounts to 298 US gallons (1.128lt). The two main tanks are located in the wings of the aircraft while the optional tanks are located in external tanks mounted under the wings.

A fuel collector tank is installed in the fuselage of the aircraft which has an integrated auxiliary fuel pump. Fuel passes through a fuel shutoff valve to the aircraft engine driven pump. The valve is manually operated from the cockpit making isolation of the engine fuel supply possible in the event of an emergency but also allowing engine components to be removed without the need for fuel draining. The valve switch is in the "OPEN" position during normal engine operation. In order for the valve switch to be in the "CLOSE" position, the red button must first be pressed and then the switch must be turned to the "CLOSE" position.



**Figure 1:** Fuel System Valve Switch

Water that may be accumulated in fuel tanks is drained into a water collection tank through pipes located at the lowest point of the tanks.

The fuel filter is mounted in the engine compartment in front of the motorized fuel pump and has a bypass relief valve.

Between the fuel filter and the engine driven pump, a fuel flow transmitter is installed that supplies electrical signals which are in proportion to the rate of fuel flow. These signals are transmitted to the signal conditioner.

The signal conditioner changes the frequency signals in to an analogue output which is displayed on the fuel flow indicator and the fuel used totalizer.

The fuel flow indicator displays fuel flow rate and the fuel used totalizer shows the total fuel used.

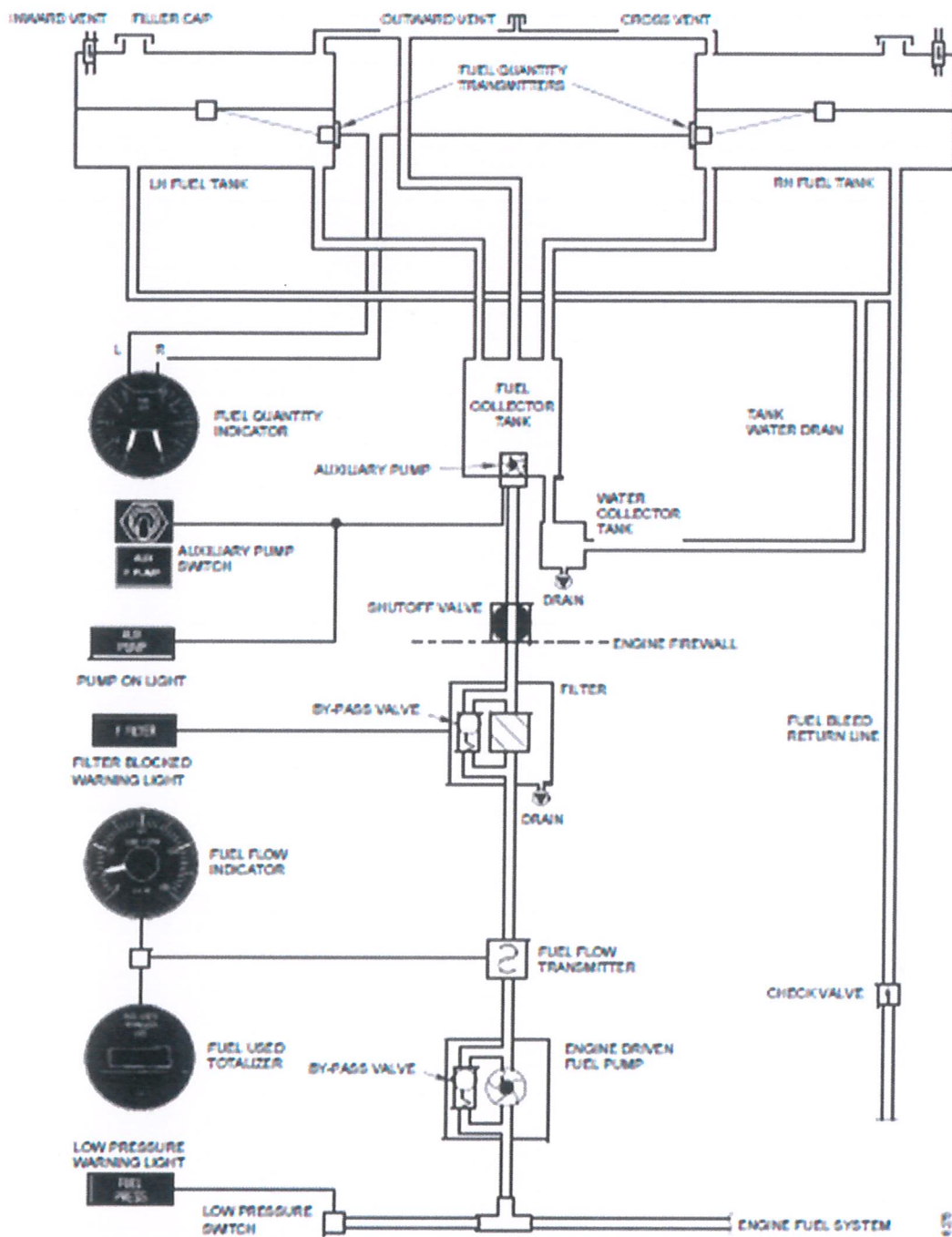


Figure 2:

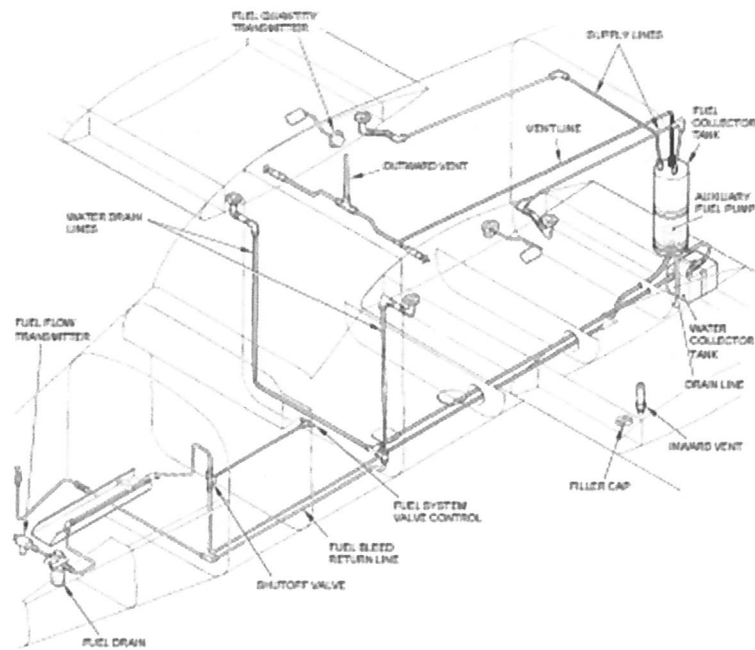


Figure 3:

### 1.6.5.2 Fuel System Operation

The fuel is transferred from the fuel tanks by gravity to the fuel collection tank. From there with the help of the auxiliary pump the fuel is routed to the fuel filter through the fuel shut-off valve. The fuel filter has a bypass valve that allows further flow of fuel to the engine in case the filter is clogged.

If this happens, then an "F FILTER" lamp will light up on the cockpit instrument panel. The fuel passes through the fuel flow meter and then from the low-pressure motorized pump pumps the fuel to the high-pressure pump that supplies fuel to the fuel control unit. If low fuel pressure is detected at the outlet of the motorized pump, then a low-pressure warning light will light up on the cockpit instrument panel "LOW PRESSURE WARNING LIGHT".

## **1.7 Meteorological Information**

The meteorological conditions prevailing at Heraklion International Airport (LGIR) as recorded in the next METAR issued on 15 Dec. 2022 at 09:50h, they gave wind speed 14kt from 160°, temperature 21°C, dew point 15°C and barometric pressure 1015 hPa.

Also, shortly before take-off, the ATC controller informed the Pilot of the aircraft that the wind had a speed of 13 kt from 160°.

## **1.8 Aids to navigation**

Not applicable.

## **1.9 Communications**

The Pilot's communications with the ATC were without problems.

## **1.10 Aerodrome Information**

Heraklion Airport (LGIR) has two runways, the 09/27 with dimensions 2714 x 45m and 12/30 with dimensions 1566 x 50m. Its latitude is 35° 20' 23" North. and its longitude is 25° 10' 49" East.





## 1.11 Flight Recorders

The aircraft was equipped with flight data recording capabilities (APIBOX System). The data is stored on an SD memory card installed on the right side of the cockpit instrument panel and on a memory card installed in an impact-and temperature-resistant unit on the aircraft's tail.

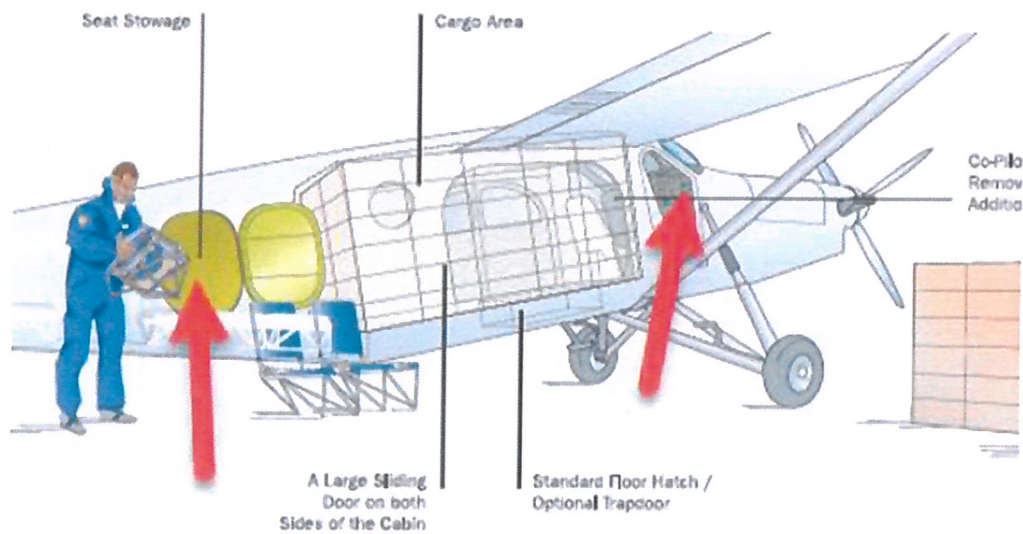


Figure 5

Divers managed to collect the memory card located on the cockpit instrument panel. Attempts were made to remove the tail section unit from the aircraft but this was not possible as access to the point where the unit was installed was impossible. Note that both memory cards store the same flight data.

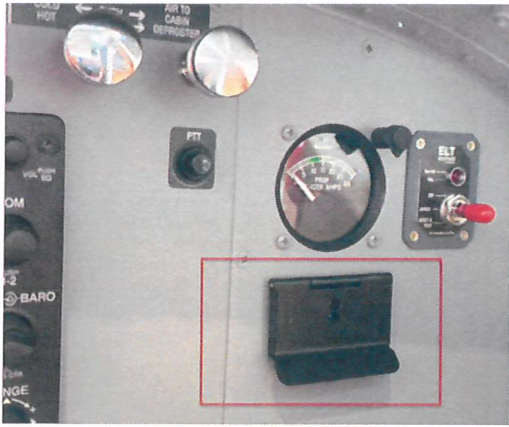


Figure 6

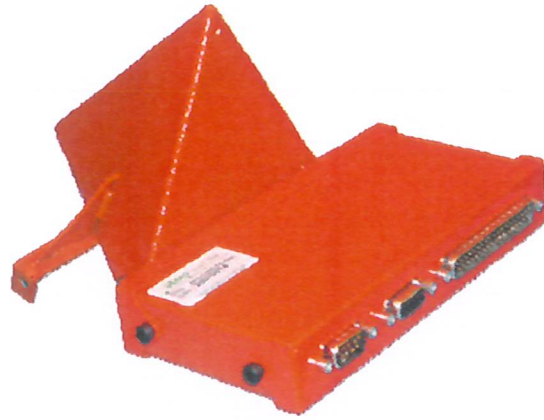


Figure 7

The memory card was transferred to AAIASB offices. With the help of the "iAero Debriefing Software" program and following the instructions of the "DEBRIEFING ADMINISTRATOR HANDBOOK FOR APIBOX SYSTEM", flight data was downloaded at AAIASB offices.

The following table shows some of the parameters of the aircraft and engine as taken by the APIBOX recording system. More specifically, the columns from left to right show the time (UTC), altitude in feet (Alt ft), ground speed (Ground Speed kt), compressor speed (NG RPM), propeller speed (NP RPM), engine torque (TQ psi), fuel flow (FF gal/h), gas temperature between high and low turbine (ITT °C).

**Table 2: Aircraft/ Engine Parameters from APIBOX**

UTC Time	Alt	Ground Speed	NG	NP	TQ	Fuel Flow	ITT	Remarks
HH:MM:ss	ft	kt	RPM	RPM	psi	gal/h	°C	
07:42:02	97	0	0		0.2	0	14	A/C on Ground
07:42:05	97	0	17.9		0.6	7	15	Engine Start
07:42:19	97	0	35.9	175	2.7	16	470	Engine Start
07:45:01	98	0	53.6	1175	3.1	17	511	Engine Running on ground
07:45:02	98	0	53.6	1174	3.3	18	511	Engine Running on ground
07:46:36	99	2.2	62.9	1284	5.8	23	495	Taxi to Runway
07:48:11	90	8.9	67	1326	7.4	22	552	Taxi to Runway
07:48:29	82	16.6	74.9	1528	11.8	28	491	Before Rolling-Start



07:48:37	81	19.7	90.4	2021	34	53	539	Rolling
07:48:50	85	54.5	93.3	2010	41.6	51	592	Rolling
07:49:04	150	76.6	93.4	2014	42	49	598	Lift off
07:49:23	331	84	93.3	2010	42.2	52	599	Climbing
07:49:30	459	79.7	93.3	2005	42	52	598	Climbing
07:49:40	577	82	93.4	2005	41.8	51	597	Climbing
07:49:50	645	90.3	93.2	2007	41.4	52	598	Climbing
07:49:55	698	91.9	93.3	2008	41.4	49	597	Climbing
07:50:00	756	93.8	93.3	2001	41.2	51	599	Climbing
07:50:05	809	96	93.5	2001	41.2	51	596	Climbing
07:50:10	868	95.3	93.5	2003	41	50	599	Climbing
07:50:15	928	95	93.3	2001	41	48	602	Climbing
07:50:20	987	95	93.4	2002	40.7	52	602	Climbing
07:50:25	1040	95.9	93.4	2004	40.5	50	602	Climbing
07:50:30	1093	97	93.5	2003	40.7	52	600	Climbing
07:50:31	1102	97.3	93.5	2001	40.7	50	600	Pilot gave the Controls to Ops Manager
07:50:41	1265	90.1	93.5	1999	40.2	51	600	Pilot trying to explain
07:50:50	1390	89.3	93.4	2001	40.5	48	598	Door is open/Trying to close door
07:50:54	1427	91.1	93.3	2000	39.7	18	600	Fuel Flow decrease
07:50:55	1437	91.2	92.9	1994	39.1	12	596	Engine Parameters decreasing
07:50:56	1450	91.4	92.9	1993	38.5	8	596	Engine Parameters decreasing
07:50:57	1463	91.4	92.8	1996	38.3	7	594	Engine Parameters decreasing
07:50:58	1477	90.7	92.3	1995	37.6	4	592	Engine Parameters decreasing
07:50:59	1489	91	92.4	1995	37.3	9	594	Engine Parameters decreasing
07:51:00	1499	91.5	78.6	1872	9.3	11	562	Engine Parameters decreasing
07:51:01	1506	91.2	59	1675	0	8	472	Zero fuel flow
07:51:03	1517	87.5	39.9	1436	0	8	371	Maximum climb
07:51:04	1516	85.4	33.3	1350	-0.2	6	325	Starting descend
07:51:05	1506	84.1	27.4	1277	0	4	294	Starting descend
07:51:06	1489	82.2	23.5	1229	0	5	270	Starting Right turn towards airport
07:51:07	1471	82.2	21.3	1198	0	3	257	A/C returning back at airport

07:51:08	1452	81	19.9	1187	0	10	246	A/C returning back at airport
07:51:09	1431	79.4	18.4	1178	-0.2	16	238	A/C returning back at airport
07:51:10	1410	77.2	16.8	1113	0	7	227	A/C returning back at airport
07:51:11	1389	71	15.3	1050	0	16	220	A/C returning back at airport
07:51:12	1367	71	14.2	1012	-0.2	5	214	A/C returning back at airport
07:51:13	1343	68.9	13.3	984	-0.2	14	210	A/C returning back at airport
07:51:14	1317	67.3	12.7	968	-0.2	5	207	A/C returning back at airport
07:51:15	1286	66.3	12	951	0	15	201	Mayday
07:51:16	1250	65.9	11.3	941	0	5	198	Loss of altitude
07:51:17	1215	64.8	10.6	943	-0.2	15	195	Loss of altitude
07:51:18	1181	64.8	10	945	-0.2	4	189	Loss of altitude
07:51:20	1121	64.4	9.5	989	-0.2	7	187	Loss of altitude
07:51:21	1093	65.6	9.1	1083	-0.2	7	183	Loss of altitude
07:51:22	1071	67	8.8	1070	-0.2	4	179	Loss of altitude
07:51:23	1051	67.4	8.5	1030	-0.2	5	176	180° right turn completed
07:51:24	1030	67.2	8.3	1001	-0.2	2	175	Reported issue with engine
07:51:25	1009	67.8	8	974	-0.2	1	171	Aircraft descending
07:51:26	994	65.9	7.7	951	-0.2	1	171	Aircraft descending
07:51:27	977	64.7	7.5	938	-0.2	1	169	Aircraft descending
07:51:28	959	64	7.3	921	-0.2	1	164	Aircraft descending
07:51:29	941	63.8	7	908	-0.2	2	162	Aircraft descending
07:51:30	920	63.1	6.9	899	-0.2	4	163	Aircraft descending
07:51:31	897	63.1	6.7	923	-0.2	1	160	Aircraft descending
07:51:32	872	64.6	6.6	962	-0.2	5	158	Aircraft descending
07:51:33	848	65	6.4	953	-0.2	33	158	Aircraft descending
07:51:34	825	65.6	6.3	937	-0.2	25	156	Aircraft descending
07:51:35	804	65.4	6.2	920	-0.2	2	153	Aircraft descending
07:51:36	784	64.8	6.1	903	-0.2	1	153	Aircraft descending
07:51:37	765	64.4	5.9	883	-0.2	0	153	Aircraft descending
07:51:38	743	64.8	5.8	865	-0.2	10	150	Aircraft descending
07:51:39	719	65.4	5.6	858	-0.2	3	150	Aircraft descending
07:51:40	693	65.8	5.5	851	-0.2	1	151	Aircraft descending
07:51:41	665	65.9	5.4	845	-0.2	2	149	Aircraft descending

07:51:42	638	66.1	5.3	842	-0.2	13	152	Aircraft descending
07:51:43	609	67.2	5.1	846	-0.2	12	147	Aircraft descending
07:51:44	578	67.2	5.1	850	-0.2	32	150	Aircraft descending
07:51:45	546	68.1	5	879	-0.2	5	147	Aircraft descending
07:51:46	516	68.9	5	937	-0.2	7	147	Aircraft descending
07:51:47	487	70.1	4.9	978	-0.2	13	144	Aircraft descending
07:51:48	457	70.9	5	949	-0.2	7	144	Aircraft descending
07:51:49	429	71	5	917	-0.2	1	147	Aircraft descending
07:51:50	400	70.9	5	890	-0.2	1	145	Aircraft descending
07:51:51	371	71.5	4.9	870	-0.2	14	145	Getting ready for ditching
07:51:52	343	71	4.9	853	-0.4	5	143	Getting ready for ditching
07:51:53	317	70.4	8.8	847	-0.4	44	142	Getting ready for ditching
07:51:54	291	69.8	16.2	928	-0.4	1	139	Getting ready for ditching
07:51:55	266	71.2	18.9	989	-0.4	8	136	Getting ready for ditching
07:51:56	242	72.1	20.8	1012	-0.2	9	131	Getting ready for ditching
07:51:57	220	72.4	21.6	975	-0.2	8	125	Getting ready for ditching
07:51:58	199	72.4	22	965	-0.2	5	123	Getting ready for ditching
07:51:59	174	71.8	22.3	1009	-0.2	5	120	Getting ready for ditching
07:52:00	147	72.2	22.5	1035	-0.2	3	115	Getting ready for ditching
07:52:02	88	73.1	22.7	1088	-0.2	3	110	Getting ready for ditching
07:52:04	37	77.3	22.7	1116	-0.2	3	102	Getting ready for ditching
07:52:06	16	74.6	23.3	1050	-0.2	3	123	Getting ready for ditching
07:52:08	5	69.8	22.8	1017	-0.2	3	115	Getting ready for ditching
07:52:10	7	64.8	22.6	930	-0.2	2	108	Getting ready for ditching
07:52:12	1	60.4	22.2	885	-0.2	2	99	Ditching
07:52:13	0	57.2	22.1	828	-0.2	47	98	
07:52:14	0	52.7	22.5	757	0	4	98	

## 1.12 Wreckage and impact information

### 1.12.1 Accident sight

The aircraft ditched in a sea area East of Heraklion Airport and at a distance of approximately 1.65nm from the threshold of Runway 27.

The coordinates of the ditching point are as follows:

Latitude is 35° 20' 9.6" North

Longitude is 25° 13' 24.42" East



Figure 8: The course of aircraft PK-SNF

### 1.12.2 Aircraft crash

After the aircraft ditched, it remained on the sea surface for a few minutes with its front part into the sea and later it was sunk.



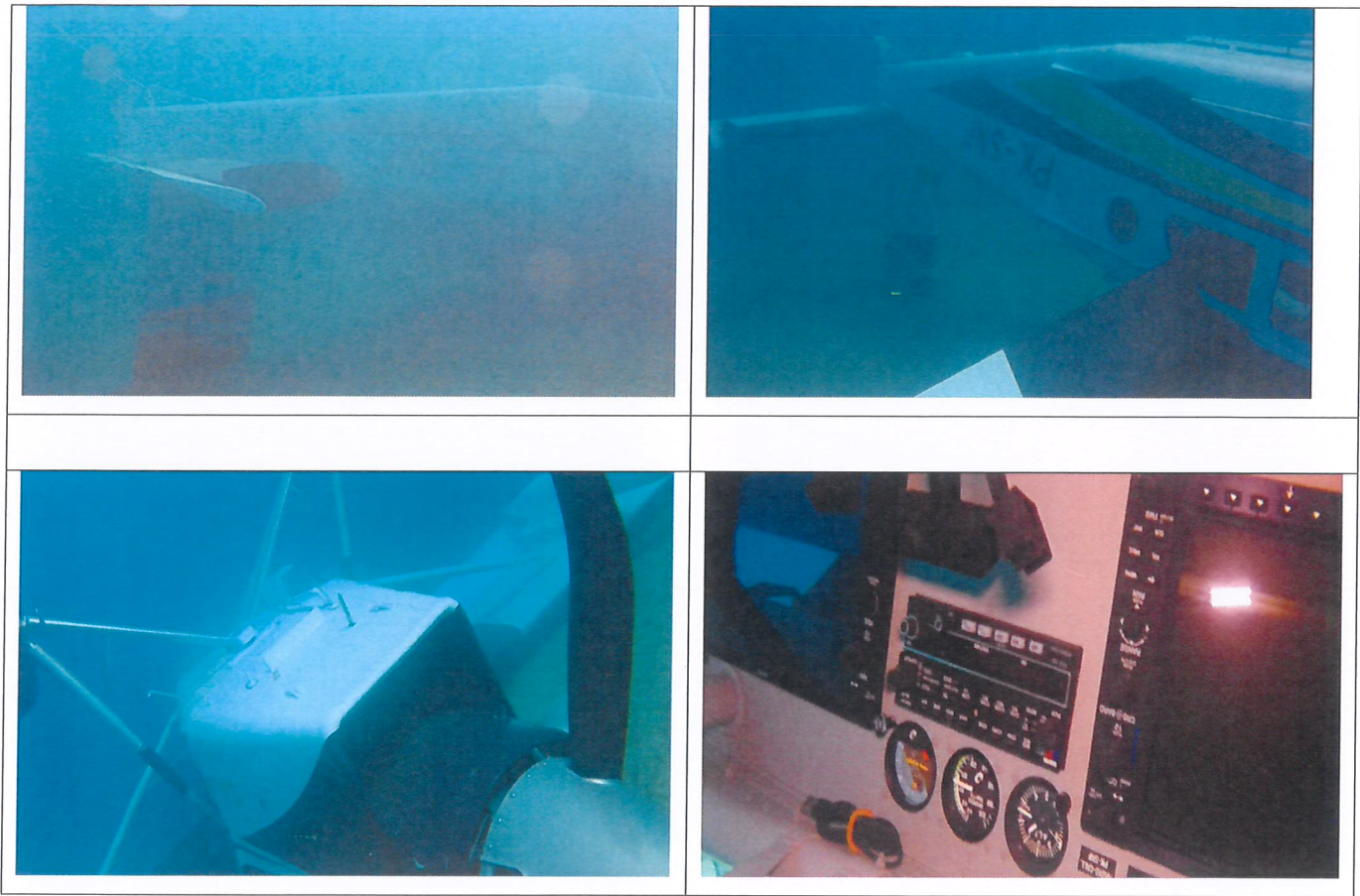
Figure 9: The semi-merged aircraft.



### 1.12.3 Aircraft Examination

The aircraft could not be recovered from the sea until this report was issued.

Photos taken by the divers show the aircraft on the seabed with its upper part touching the bottom.



### 1.13 Medical and Pathological Information

The toxicological examination of the two occupants did not reveal the use of substances or alcohol.

The pilot of the aircraft went with the ambulance to the emergency department of the General Hospital "VENIZELIO-PANANEIO" where he was examined with injuries that were caused during the ditching of the aircraft and the exit of the pilot from the aircraft which were not considered serious.

According to the forensic examination carried out on the Director of Flight Operations, his death was due to drowning in seawater.

### 1.14 Fire

Not applicable

## 1.15 Survival Aspects

The pilot exited the cockpit front window, which was broken on impact, while the Operations Manager exited the aircraft using its right front door. After exiting the aircraft, both of them were satisfied that they were saved after the forced ditching. There was a lifeboat on board which they did not use as they considered it dangerous to remove it from the semi-submerged aircraft.

The two tried to swim to land, in this attempt the Pilot helped the Operations Manager to swim as the strong sea currents made their effort difficult.

The transcript of the conversations from RSC frequencies and telephone connections shows the following:

- 09:50:55 The aircraft declares Mayday Mayday Mayday (distress signal).
- 09:51:07 Activation of an emergency plan.
- 09:52:04 Contact the fire brigade.
- 09:52:07 Activation of aircraft ELT at frequency 121.500
- 09:54:09 The ATC communicates with a competent Airport Officer who has undertaken to notify the Port Authority
- 09:54:34 Inform ATHENS AND MAKEDONIA AREA CONTROL CENTERS DIVISION on the incident.
- 10:03:04 Communication of ATC with coast guard
- 10:03:12 Confirmation from the coast guard that all ships have been informed
- 10:15:32 Take-off of Helicopter for search and rescue.
- 10:19:45 Coast guard vessel found the crew and the procedure for the collection of persons started

### 1.16 Test and Research

The following checks have been done up to this time.

- Check to determine quantity of fuel in the fuel system downstream from the shut-off valve in a PC-6/B2-H4 with PT6A-27 aircraft.
- Calculation of the amount of fuel system downstream from the shut-off valve.
- Simulation of the pilot's movement to close the aft rear door.

### 1.17 Organizational and management information

Not applicable.

### 1.18 Additional information

Not applicable.

### 1.19 Useful or effective investigation techniques

Not applicable.

Nea Philadelphia, 28 December 2023

THE CHAIRMAN

A. Binis

THE MEMBERS

C. Papadimitriou

G. Flessas

C. Valaris

I. Chrysakis

Exact Copy

THE SECRETARY

V. Fouseki

