



**HELLENIC REPUBLIC
MINISTRY OF INFRASTRUCTURE AND TRANSPORT**

**AIR ACCIDENT INVESTIGATION AND
AVIATION SAFETY BOARD
(AAIASB)**



**ACCIDENT INVESTIGATION REPORT
ULTRA-LIGHT AIRCRAFT P2008 JC SX-IRN
AT PROTI SERRON ON AUGUST 03, 2020**

ACCIDENT INVESTIGATION REPORT

01 / 2023

Ultra-Light Aircraft P2008 JC SX-IRN

At Proti Serron on August 03, 2020

This Accident investigation was carried out by the Air Accident Investigation and Aviation Safety Board according to:

- **Annex 13 of the Chicago Convention**
- **EU regulation (EU) 996/2010**
- **Law 2912/2001**

“According to Annex 13 of the Chicago Convention of the International Civil Aviation, EU Regulation 996/2010 and Law 2912/2001, 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.

Therefore, the use of this Report for any purpose other than to prevent future Accidents and Incidents could lead to misinterpretations.”

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TITLE

OPERATOR	:	SKIES AVIATION ACADEMY
OWNER	:	SKIES AVIATION ACADEMY
MANUFACTURER	:	CONSTRUZIONE AERONOTICHE TECNAM S.P.A
A/C TYPE	:	TECNAM P2008 JC
COUNTRY OF MANUFACTURE	:	ITALY
NATIONALITY	:	GREEK
A/C REGISTRATION	:	SX-IRN
LOCATION OF ACCIDENT	:	PROTI SERRON
DATE & TIME	:	AUGUST 03, 2020, AT 06:35 UTC
Note	:	All times UTC (LT = UTC + 3)

SYNOPSIS

A Student Pilot was performing a planned and briefed Air Navigation SOLO Flight at 4,500 ft MSL¹ on an Ultra-light Aircraft. In his contact with Kavala ATC, over STRYMON Point at 05:57:20 UTC, he requested to deviate from the Flight Plan to descent to 1000 feet and to proceed towards the villages of Rodolivos and Proti Serron, to remain in the area for ten minutes, then to proceed to ALISTRATI. According to the GPS GARMIN, the aircraft proceeded towards the village of Rodolivos, executing maneuvers over the area and then proceeded towards the village of Proti Serron over which he executed again maneuvers and finally crashed into the top of a Platanus tree, ended up vertically into the facade of a building, causing minor damages to it and to a parked motorcycle. He himself suffered minor injuries and was transported to the local Hospital.

The National and International Authorities were informed with the document of AAIASB / 2148 on 11-08-2020.

1. Agenzia Nazionale per la Sicurezza del Volo (ANSV) appointed an ACCREP and a Technical Advisor to the Appointed ACCREP.
2. Austrian Federal Safety Investigation Authority (FSIA) appointed an ACCREP.
3. EASA appointed a Technical Advisor and may review its level of involvement according to the needs of the Investigation.
4. HCCA appointed a Technical Advisor to the IIC.

¹ MSL: Mean Sea Level.

1 FACTUAL INFORMATION

1.1 History of Flight

After the scheduled, before departure, detailed briefing, conducted by SKIES AVIATION ACADEMY, concerning the Flight Plan route, the Student Pilot took-off normally for the scheduled at 4500 feet MSL Navigation Flight according to the Flight Plan. During flight the Pilot, at position STRYMON, requested permission from Kavala ATC to descent to 1000 feet, to deviate from the Flight Plan, to proceed towards the villages of Rodolivos, Proti Serron and ALISTRATI. According to the GPS GARMIN Flight Recorder, with which the Aircraft is equipped, the Pilot deviated from the Flight Plan, descended, and for 20 minutes overflowed the villages of Rodolivos and Proti Serron. In one of the overflying manoeuvres over Proti Serron, the Aircraft collided with the top of a platanus tree, cut-off branches and ended up in a vertical position on the facade of a building, causing damages to it and to a motorcycle. The Pilot suffered minor injuries. The Recording Device has recorded altitudes from 36 to 236 feet and speeds from 46 to 120 kts.

1.2 Injuries to Persons

Injuries	Flight Crew	Passengers	Others
Deaths	0	0	0
Serious	0	0	0
Minor / None	1 / 0	0 / 0	0

1.3 Damage to Aircraft

The Aircraft suffered major damages and was considered Total Loss.

1.4 Other Damages

Minor damages to a building and to a motorcycle.

1.5 Personnel Information

1.5.1 The Pilot

Pilot Licence	Student Pilot - Integrated EASA ATPL
Medical Certificate	EL 14823 Class 1: Valid until 10/09/2020
Total Flight Hours	51:35 hrs
Last 90 days Flight hrs	51:35 hrs
Last 7 days Flight hrs	1:29 hrs
Last 28 days Flight hrs	35:59 hrs

1.6 Aircraft Information

1.6.1 Aircraft General Information

MANUFACTURER	:	Tecnam Aircraft
A/C TYPE	:	P2008 JC
M.S.N.	:	1158
Year of Construction	:	2019
Total Flight HRS	:	215
Last Maintenance Inspection	:	July 22, 2020 - 200 hrs Inspection
Airworthiness Certificate	:	36/2019: December 03, 2019, until December 03, 2020
Certificate of Registration	:	CAA December 03, 2019
Engine	:	ROTAX 912

Specifications

- **Capacity:** 1+1
- **Length:** 6.97 m
- **Wingspan:** 9 m
- **Wing area:** 12.16 m²
- **Height:** 2.67 m
- **Empty Weight:** 375 kg
- **Max Take-Off Weight:** 600 kg
- **Fuel capacity:** 123 lt
- **Range:** 575 nm
- **Power Plan:** 1BRP-Rotax GmbH 912 S2
- **Propellers:** 2-bladed Tonini GT fixed pitch

Performance

- **Cruse speed:** 116 kts
- **Stall speed:** 39 kts Flaps down
- **VS1 (stall, clean):** 45 KIAS

1.6.2 Maintenance Data.

There is no information of any malfunctions before the Accident.



Photo 1: SX-IRN Aircraft.

1.7 Meteorological Information

LGAL, Alexandroupoli Airport METAR/SPECI (Greece) SA 03/08/2020

METAR LGAL 030420Z 02012KT 9999 FEW030 23/18 Q1013=

METAR LGAL 030450Z 02010KT 9999 FEW030 24/18 Q1013 $\cong$ (TAKE-OFF TIME)

METAR LGAL 030520Z 03009KT 9999 FEW030 25/18 Q1013=

METAR LGAL 030550Z 05013KT 9999 FEW030 26/18 Q1013

TAF LGAL 030500Z 0306/0315 03012KT 9999 FEW020 BECMG 0313/0315 19010KT=

METAR/SPECI from LGKV, Chrysoupoli Airport (Greece) SA 03/08/2020

METAR LGKV 030420Z 04004KT CAVOK 23/16 Q1012=

METAR LGKV 030450Z 07005KT 9999 FEW030 24/16 Q1013=

METAR LGKV 030520Z 07005KT 9999 FEW030 25/16 Q1013=

METAR LGKV 030550Z 05005KT 9999 FEW030 25/15 Q1013=

METAR LGKV 030620Z 05005KT 9999 FEW030 25/15 Q1013 $\cong$ (CRASH TIME)

METAR LGKV 030650Z 09007KT 9999 FEW030 27/14 Q1013=

METAR LGKV 030720Z 09007KT 9999 FEW030 27/14 Q1013=

METAR LGKV 030750Z 10006KT 9999 FEW030 28/15 Q1013=

TAF LGKV 030500Z 0306/0406 07010KT 9999 FEW030 BECMG 0309/0311 22010KT FEW030 SCT080 BECMG 0321/0323 07010KT FEW030=

1.8 Aids to Navigation

Not applicable.

1.9 Communications

According to the Tape Recorder transcript of Kavala ATC at 05:57:20 a change of route and altitude was requested by the Pilot and agreed by ATC towards the village of PROTI and ALISTRATI point, and the Student Pilot reported estimate over PROTI at 06:02 and over ALISTRATI at 06:08 UTC. The ATC requested a report over ALISTRATI and a report when climbing again. On the ATC report for 2000 feet altitude there was no respond from SKIES 05.

There after there was no contact between ATC and SKIES 05 despite the several attempts from Kavala ATC to contact directly SKIES 05 and also no responds from calls of overflying Aircrafts to relay with SKIES 05.

The loss of communication between Kavala ATC and SKIES 05 was most probably due to the very low altitude of SKIES 05. The reason of miss communication with the overflying Aircrafts cannot be confirmed with the available data and information. The communication of the overflying flights SX-AEO and OAL 098 were conducted after the Accident as such with no success.

1.10 Aerodrome Information

Not applicable.

1.11 Flight Recorders

The Aircraft was equipped with a GPS GARMIN that recorded:

Track – Altitude – Speed – Ground Proximity Warning System (GPWS).

1.12 Wreckage and Impact information

The Aircraft after colliding with the platanus tree ended up vertically on façade of a building with the lower part of the fuselage touching the ground. The propeller disintegrated at distances indicating that the engine was running at high speeds.

The tail part of the fuselage is resting on the ground as seen on Photo 2.



Photo 2: The Aircraft at the accident site.

The propeller was destroyed indicating that the engine was running at full power in high rpm (Photo 3).



Photo 3: The Aircraft Propeller.

The Aircraft Engine Power Throttle lever was pictured after the Accident as being in Full Power (Photo 4).

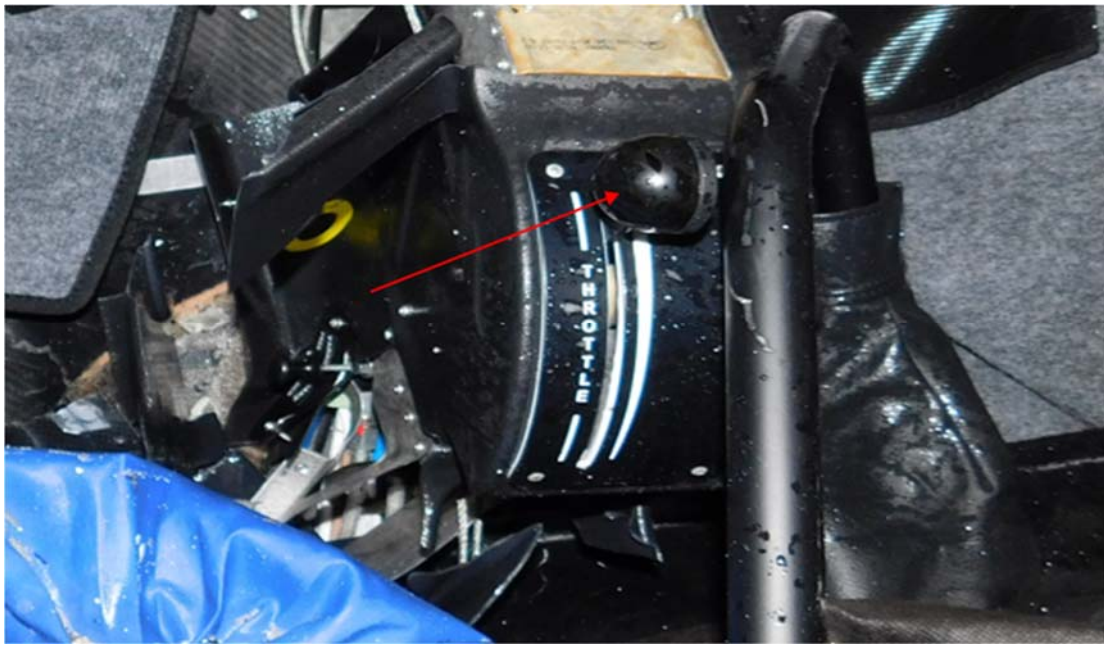


Photo 4: Engine Throttle in full power.

The Stall Warning Circuit Breaker was found in the disconnect position (Photo 5).



Photo 5: Stall Warning Circuit Breaker in disconnect position.

The Fuel Tank Selector Switch was in Mid Position (Photo 6).



Photo 6: Fuel Tank Selector Switch.

1.13 Survival Aspects

The Pilot was transported to the local Hospital as he had suffered minor injuries.

1.14 Fire

Not applicable.

1.15 Organizational and Management Information

With HCAA approval, SKIES AVIATION ACADEMY is conducting Aircraft Pilot's Training.

1.16 Additional Information

For that SOLO flight the Student Pilot followed, and the instructor signed a Pre Flight Risk Assessment Form and a SOLO Navigation Brief Certificate.

1.17 Useful or Effective Investigation Techniques

During physical and Borescope inspection of the debris the followings were confirmed:

1. Nothing abnormal was found in the Engine and its accessories.
2. A Borescope Inspection was performed on the internal parts of the Engine and specifically on the Crankshaft, the Cylinders and the Gear Box and no malfunction or problematic rotation of its moving parts was found.
3. The Propeller had obvious signs of impact with obstacles and operating at a high number of rpm.

4. The remaining obvious marks on the fuselage are the result of the Aircraft colliding with obstacles. As part of the investigation, many photos of the findings were captured. Among them were found and captured:

- The Stall Warning Circuit Breaker in the Disconnect Position.
- The Throttle Power Lever in the Maximum Power Position.
- The Fuel Selector Switch in a Position between Left and Right tank.

1.17.1 Person interviewed:

In the scope of this Investigation six (6) interviews were conducted. Three (3) of them taken from persons that were eyewitnesses of the Accident.

As stated by Accident eyewitnesses, the aircraft engine was heard running normally before the Accident. As stated by the Pilot, the Aircraft stalled before the Accident.

2 ANALYSIS

For the execution of this SOLO flight, a Risk Assessment Form was conducted, and the Pilot was briefed and signed a SOLO Briefing Certificate and Acknowledge.

The Aircraft SX-IRN with call sign SKIES 05 took-off from Alexandroupoli Airport (LGAL), at 04:55 UTC, to conduct a SOLO visual Navigation Flight in VMC conditions according to the Flight Plan.

According to the Flight Plan, SKIES 05 would fly at 4.500 feet MSL flying West bound from LGAL Airport and overflying the following way points: IDILO, SOSUS, AMALA, ASKOS, STRYMON and then North-Northeast bound towards ALISTRATI and return to LGAL, overflying the same waypoints. The total flying distance is 132 NM.

After STRYMON way point, North-Northeast bound to ALISTRATI, the Pilot requested to descent to 1000 feet MSL and to proceed to Proti Serron and remain in the area for 10 minutes.

Kavala ATC requested his time estimate for Proti Serron and ALISTRATI. The Pilot responded “Proti Serron at 06:02 UTC and ALISTRATI at 06:08 UTC”.

At 05:58 UTC the clearance was 2000 feet and to report climb again. The Pilot responded “Say again”. That was the last recorded transmission from flight SKIES 05.

According to Radar capture, the Pilot deviated from his Flight Plan towards the villages of Rodolivos and Proti Serron, remained in the area for about 35 min executing low altitude manoeuvres over Rodolivos and Proti Serron. The Radar capture recorded low level flights between 36 to 236 feet and speeds between 46 to 120 kts. On his last low passage over a square in Proti Serron, at 06:35 UTC SKIES 05 collided with a Platanus tree and then ended up on the facade of a building almost in a vertical position.

3 CONCLUSIONS

3.1 Findings

- The Aircraft was Airworthy and maintained according to the Manufacturer Maintenance Manual.
- The physical and Borescope inspection of the debris did not reveal any malfunctions before the Accident.
- The Pilot had an adequate Rest Period before the Flight.
- The Pilot had undergone a satisfactory detail briefing before the SOLO Flight.
- The Pilot deviated from the Flight Plan track and altitude, executing low level manoeuvres over populated areas of the villages Rodolivos and Proti Serron as depicted from the captured Radar Track (Appendix 5.2).
- He executed, out of the Flight Plan, on his own initiative, without the required pre-Flight information, with low passages, less than 2000 feet from the ground, over residential areas of the villages of Rodolivos and Proti Serron as depicted by the Radar Recording (Appendix 5.1 & 5.2).
- The route weather was good and is not a contributing factor to the Accident.

3.2 Probable Cause(s)

Rules Violation governing the Standard Operating Procedures according to the Flight Plan and the detailed Preflight Briefing, is the probable cause of the Accident.

3.3 Contributing Factors

Flying at low altitude and at low speed over a populated area, is the Contributing Factors to that Accident.

4 SAFETY RECOMMENDATIONS

To: Hellenic Civil Aviation Authority

2023-01: In order to increase situation awareness and in the concept of Human Factors, the Hellenic Civil Aviation Authority, as the Supervisory Authority of all approved Pilot Training Schools, should ensure, in the training program, that the RESPECT for FLIGHT RULES is STRONG AND CONTINUOUS.

Nea Philadelphia, 11 January 2023

THE CHAIRMAN

Ioannis Kondylis

Exact Copy

THE SECRETARY

Kyriakos Katsoulakis

THE MEMBERS

Akrivos Tsolakis

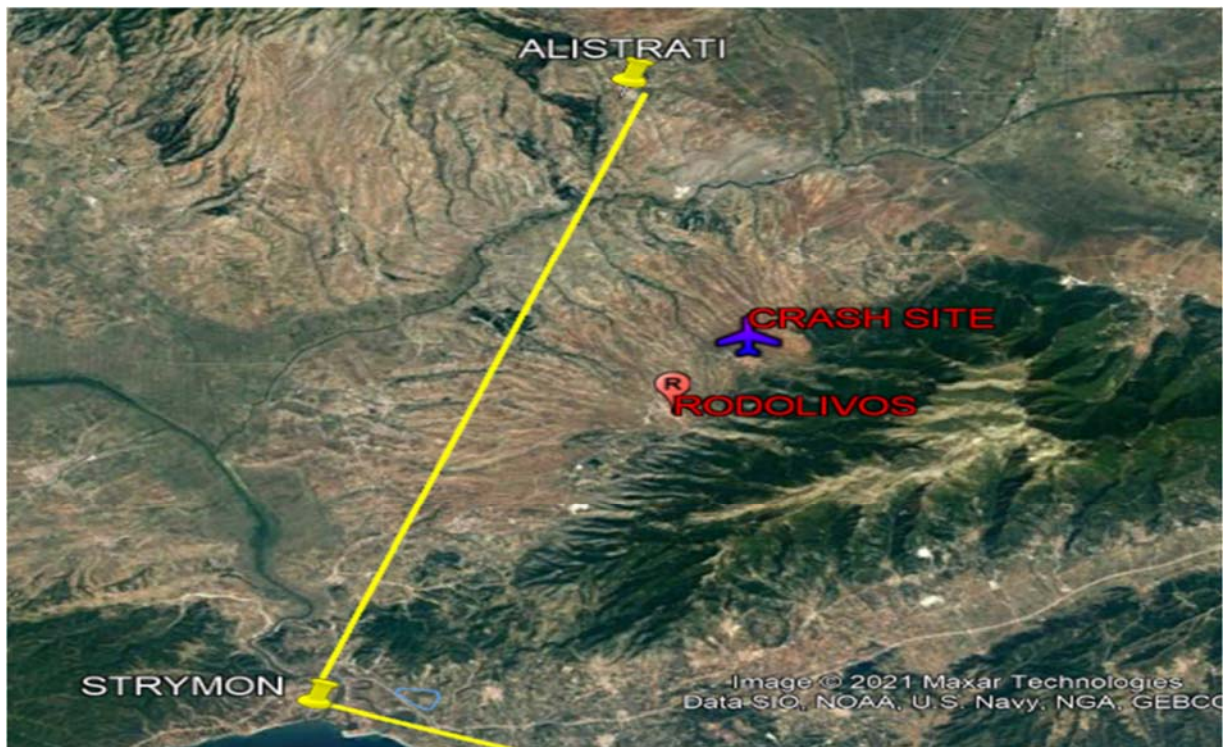
Grigorios Flessas

Cristos Valaris

Charalampos Tzonos-Komilis

5 APPENDICES

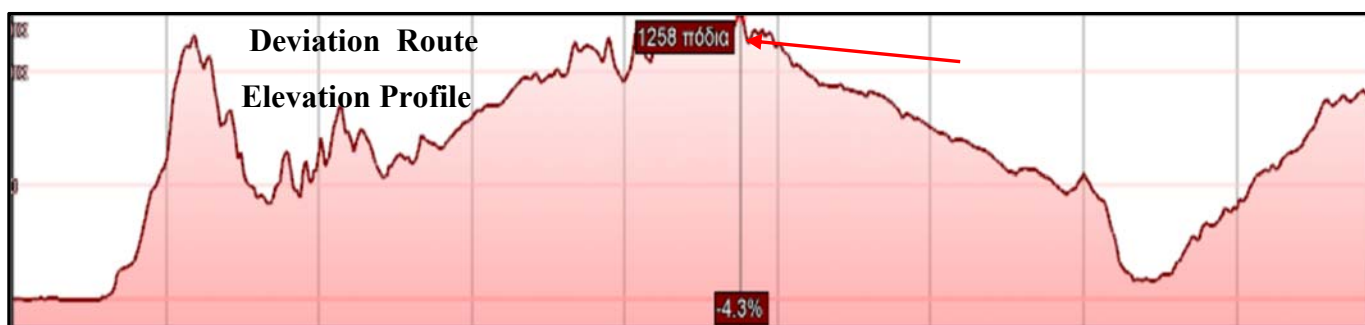
5.1 Flight Plan Track



DETAIL A: Last Flight Track.

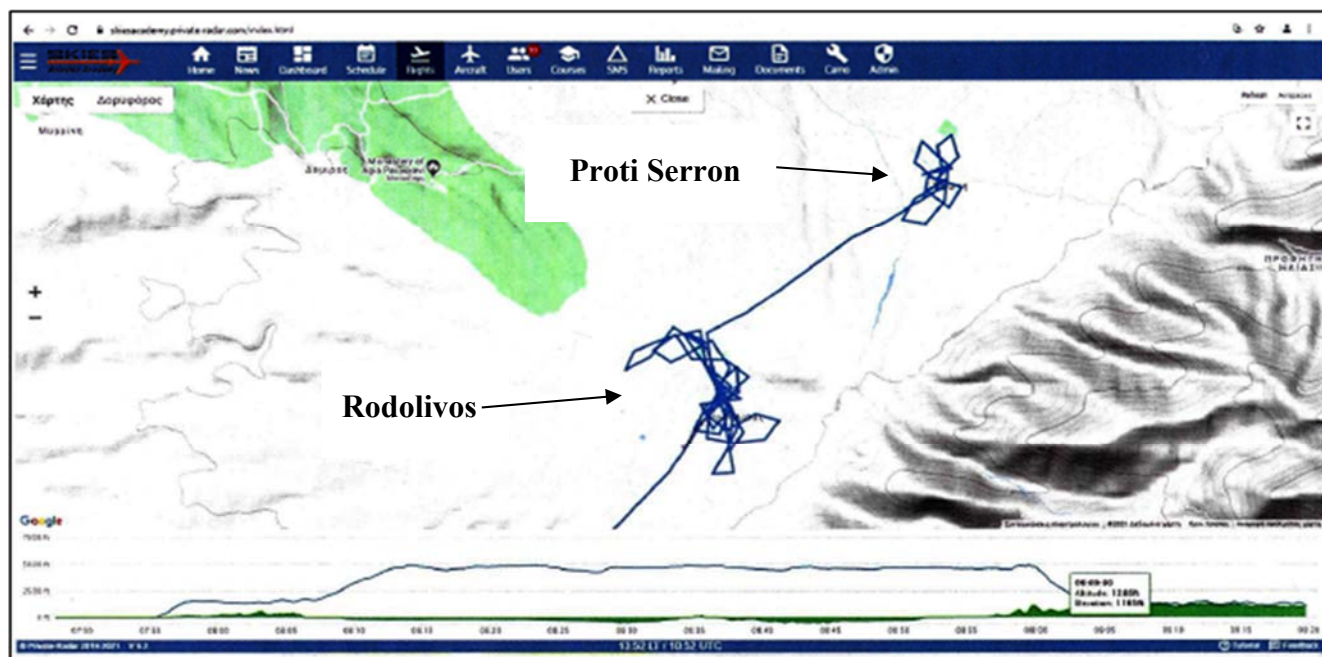


Flight Plan Route Elevation Profile



Deviation Route Elevation Profile

5.2 Radar capture over Rodolivos and Proti Serron



5.3 Wreckage Photos





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