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AVIACIÓN **C**IVIL

Interim Statement A-019/2011

Accident involving a PZL W-3A,
PZL W-3AS helicopter,
registration SP-SUI,
operated by LPU Heliseco
sp. z o.o., in the municipality
of Tabuyo del Monte (León),
on 18 June 2011



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SUBSECRETARÍA

COMISIÓN DE INVESTIGACIÓN
DE ACCIDENTES E INCIDENTES
DE AVIACIÓN CIVIL

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Foreword

This document constitutes the interim statement envisioned in Article 16.7 of Regulation (EU) no. 996/2010 of the European Parliament and of the Council, as well as in paragraph 6.6 of Annex 13 to the Convention on International Civil Aviation. The statement includes the details of the progress of the investigation and the most important operational safety issues revealed to date. The information provided herein is subject to change as the investigation proceeds.

Pursuant to the contents of Regulation (EU) no. 96/2010 of the European Parliament and of the Council and of Annex 13 to the Convention on International Civil Aviation, the investigation is purely technical in nature and is not intended to determine or apportion blame or liability. The investigation is being conducted without necessarily resorting to evidentiary procedures and for the sole purpose of preventing future accidents.

Consequently, the use of this information for any purpose other than to prevent future accidents may result in faulty conclusions or interpretations.

Abbreviations

ATPL(H)	Airline Transport Pilot License (Helicopter)
CPL(H)	Commercial Pilot Licence (Helicopters)
h	Hour(s)
JAR-OPS	Joint Aviation Regulations
TQ1	Engine torque 1
TQ2	Engine torque 2
GPS	Global Positioning System
s	Second

DATA SUMMARY

LOCATION

Date and time	Saturday, 18 June 2011; 17:05 local time
Site	Tabuyo del Monte (León)

AIRCRAFT

Registration	SP-SUI
Type and model	PZL W-3A, PZL W-3AS
Operator	LPU Heliseco sp. z o.o.

Engines

Type and model	PZL-10W
Number	2

CREW

	Pilot in command	Copilot
Age	52 years old	38 years old
Licence	ATPL(H)	CPL(H)
Total flight hours	7,075 h	859 h
Flight hours on the type	1,700 h	622 h

INJURIES

	Fatal	Serious	Minor/None
Crew			2
Passengers			9
Third persons			

DAMAGE

Aircraft	Destroyed
Third parties	Trees around the wreckage

FLIGHT DATA

Operation	Aerial work – Commercial – Training
Phase of flight	Takeoff – Initial climb

REPORT

Date of approval	3rd May 2012
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1. SUMMARY OF EVENT

On 18 June 2011 at 17:05 local time, a PZL W-3A, PZL W-3AS, helicopter, registration SP-SUI, took off from the heliport at the firefighting base in Tabuyo del Monte (León). During the initial climb maneuver, there was a drastic reduction in torque (TQ1) on the number one engine¹. Faced with this situation, the crew decided to return to the base. Due to the progressive loss of altitude during the return flight and to the obstacles in its path, the aircraft did not reach its destination and ended up falling in a wooded area.

The flight was scheduled as part of the base firefighting teams' training program. Onboard the aircraft were two pilots, both qualified for the flight, and nine firefighters, headed by a squad leader. All of them either escaped uninjured or with slight bruises.

2. INVESTIGATION

The aircraft was verified to have been maintained in accordance with the approved maintenance program and had a valid airworthiness certificate. The crew was also properly licensed and qualified for the flight.

The aircraft had a total of 3,076 flight hours and the last maintenance performed on it were the 25-, 50-, 100- and 300-h inspections, all of them completed simultaneously a few days earlier. It had flown three hours since.

The aircraft was outfitted with flight data and cockpit voice recorders, the contents of which were recovered and validated for the investigation. GPS data from the flight are also available.

Data from the flight data recorder confirm that around 22 s into the climb, there was a rapid drop in torque (TQ1), combined with a gradual reduction in compressor rpm's. This led the automatic power synchronization systems to increase the torque on the number two engine (TQ2), the value of which remained elevated for the rest of the flight.

The information on the cockpit voice recorder, along with the GPS positioning data, allowed investigators to reconstruct the flight path and the actions taken by the crew following the loss of torque in the number one engine.

The investigation is looking into various aspects, such as compliance with the JAR-OPS 3 "Performances" requirements, the actions of the crew and the inspection of the aircraft's systems.

¹ The PZL W-3AS aircraft is equipped with two engines.

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As regards this last aspect, components of the electronic fuel control system, the fuel pumps and the turbine's hydro-pneumatic revolutions limiter have been inspected. The affected engine has also been subjected to a boroscopic inspection, which results were as following:

- The engine rotates freely.
- The blades of low pressure compressor suffered damages, their intensity was decreasing since of 60% in the 1st stage to 2% in the 6th stage.
- The high pressure compressor, combustion chamber, high pressure turbine, low pressure turbine had not been apparent damages.
- At engine inlet was found fire extinguishing powder and tree twigs.

Still to be performed are functional tests of the above components. Suitable testing protocols are still being determined in concert with the aircraft manufacturer through its accredited representative in Poland, as the State of design, of registration and of the operator of the aircraft.

Once the findings from these tests are available, the final report will be written and published.