Federal Public Service
Mobility and Transport
Air Accident Investigation Unit

Air Accident Investigation Unit
- (Belgium)
CCN
Rue du Progrès 80 Bte 5
1030 Brussels

FINAL REPORT ON THE ACCIDENT TO THE SAILPLANE LAK-17 AT REGISTERED D-KJGA IN SUARLEE - NAMUR ON 09 MAY 2009

Ref. AAIU-2009-7
Issue date: 25 January 2011
Status: FINAL

FOREWORD

This report is a technical document that reflects the views of the investigation team on the circumstances that led to the accident,

In accordance with Annex 13 of the Convention on International Civil Aviation, it is not the purpose of aircraft accident investigation to apportion blame or liability. The sole objective of the investigation and the Final Report is the determination of the causes, and define recommendations in order to prevent future accidents and incidents.

In particular, Article 13 of the Royal Decree of 9 December 1998 stipulates that the safety recommendations made in this report do not constitute any suspicion of guilt or responsibility in the accident.

Unless otherwise indicated, recommendations in this report are addressed to the Regulatory Authorities of the State having responsibility for the matters with which the recommendation is concerned. It is for those Authorities to decide what action is taken.

The investigation was conducted by L. Blendeman.

NOTE:
For the purpose of this report, time will be indicated in UTC, unless otherwise specified.

Federal Public Service
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AAIU-2009-7

Synopsis

Date and hour of the accident

09 May 2009 – 11:35UTC

Aircraft

LAK-17AT, registered D-KJGA

Accident location

Outside the Temploux airfield (EBNM), along side the E42 motorway.

Aircraft owner

The pilot was the private owner of the sailplane

Type of flight

Private

Persons on board

1 Pilot, fatally injured.

Abstract

After a major modification was embodied to his sailplane; the installation of an engine, and further certification in Germany, the pilot wanted to perform a flight to test the modification.

The sailplane was towed to an altitude of 1600 ft agl, without any problem. The pilot of the towing airplane had a last radio contact when the sailplane separated from the towing airplane.

The sailplane was last seen crossing the EBNM airfield, in the direction of the landing circuit. A witness saw the engine was out, but did not hear the engine operating. The airbrakes were seen extended.

Upon reaching the circuit, when it was expected to turn left, the sailplane went into a spin (or hook turn, according to a witness) to the right.

The sailplane crashed alongside the motorway E42. The pilot died on impact.

1. Factual information.

1.1 History of flight.

The sailplane underwent recently major change for the installation of an engine and propeller (Major change EASA AC11123, installation of a SOLO 2350 engine (sn 967) and propeller LAK P4-90 (sn077)). The change was performed by the Joint Stock Company “Sportine Aviacija” in March 2009. The airplane went in Germany for test and certification and came back on May 6, 2009 to its owner in Belgium.

For its first flight after the major change, the pilot decided to test the system.

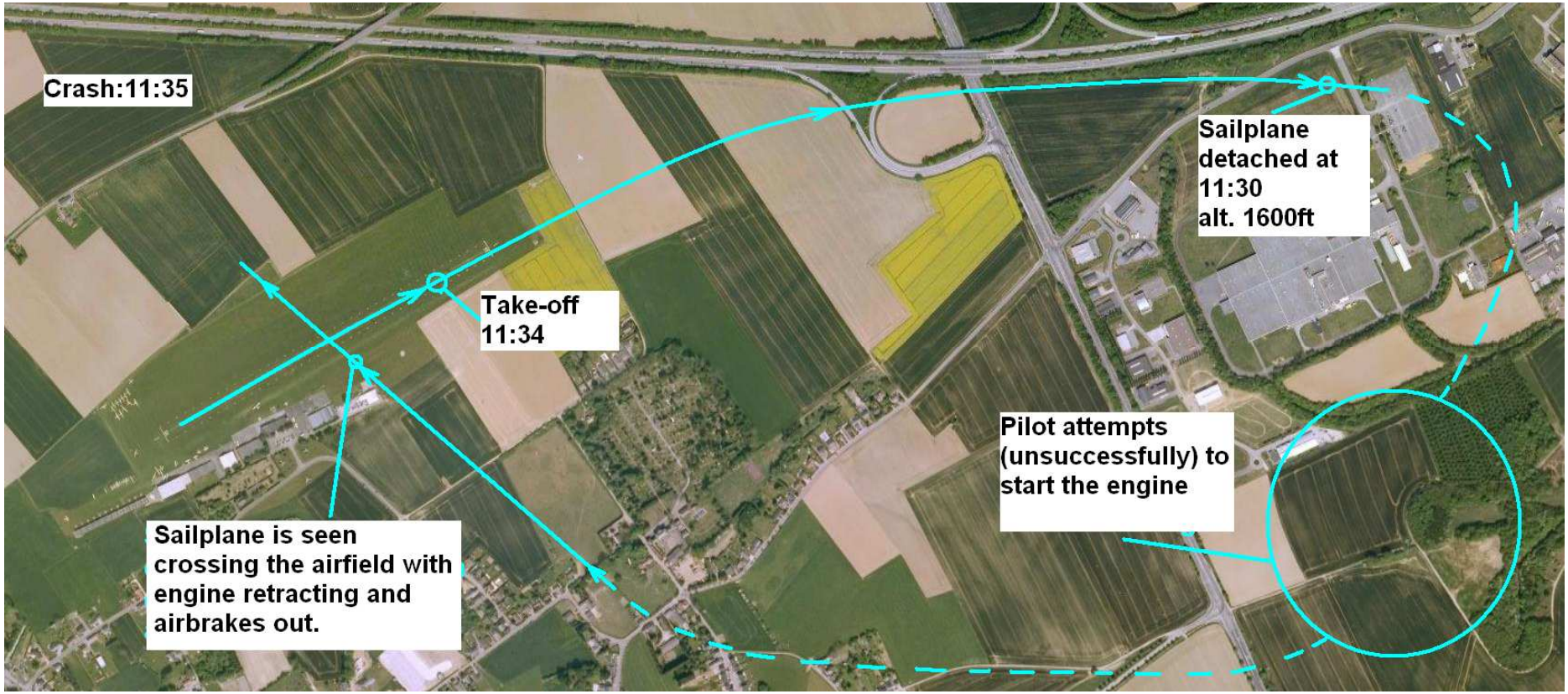
He arrived at the Temploux airfield, with the sailplane inside its trailer. With the help of some friends, he assembled his sailplane.

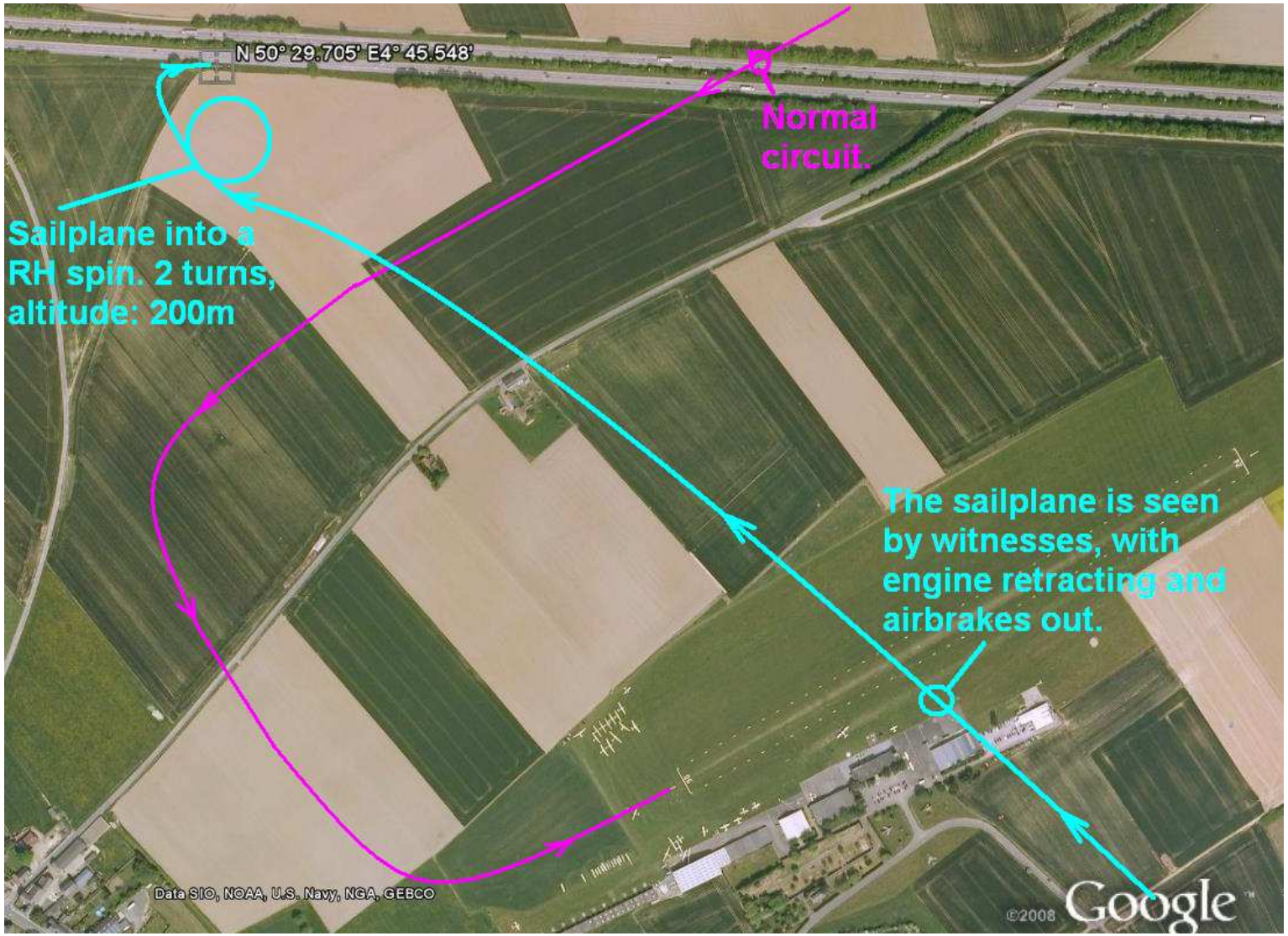
The sailplane was towed by a DR 400 /180 R, registered D-EISH up to an altitude of 1600ft agl. They took of from Temploux airfield at 11:24.

The sailplane released from the towing airplane at 11:30.

After deploying the powerplant, the pilot tried, unsuccessfully, to start the engine. These tests led the sailplane to reduce altitude.
The sailplane was last seen crossing the EBNM airfield, in the direction of the landing circuit (LH for Runway 06). A witness saw the engine deployed and retracting, but did not hear the engine operating. The airbrakes were seen extended, and the landing gear retracted.

Upon reaching the circuit, when it was expected to turn left, the sailplane stalled and went into a spin (or hook turn, according to a witness) to the right.
The sailplane crashed alongside the motorway E42 at 11:35. The pilot died upon impact.


Crash:11:35
Take-off
11:34
Sailplane
detached at
11:30
alt. 1600ft
Pilot attempts
(unsuccessfully) to
start the engine
Sailplane is seen
crossing the airfield with
engine retracting and
airbrakes out.


N 50° 29.705' E4° 45.548'
Normal circuit.
Sailplane into a RH spin. 2 turns, altitude: 200m
The sailplane is seen by witnesses, with engine retracting and airbrakes out.
Data SIO, NOAA, U.S. Navy, NGA, GEBCO
©2008 Google

1.2 Injuries to persons.

Injuries	Pilot	Passenger	Others	Total
Fatal	1	0	0	1
Serious	0	0	0	0
Minor	0	0	0	0
None	0	0	0	0
Total	1	0	0	1

1.3 Damage to aircraft.

The sailplane is totally destroyed.

1.4 Other damage.

None.

1.5 Personnel information.

Sex: male
Age: 64 years old
Nationality: Belgian
License: Sailplane Pilot Licence, issued by the French DGAC, on July 16, 2003.
Medical: Class 2 certificate, issued on February 20, 2009, valid until February 20, 2011.

The pilot had a total flight experience of 1694 FH and 1073 flights.

He participated regularly in international soaring competitions, in Belgium and abroad.

The pilot owned the sailplane since May 2007, and had performed the engine start procedure on another LAK-17AT.

1.6 Aircraft information.

The LAK-17A is a self-sustaining sailplane in the FAI 15m/18m class, designed according to JAR-22 category “U” requirements. The manufacturer is the Joint Stock Company “Sportine Aviacija”.

The LAK-17A is a mid-wing sailplane with flaps, T-tail, retractable landing gear and a water ballast tank of 180 liters capacity in the wings and 8 liters in the fin.

The sailplane is made of composite materials, such as Kevlar, carbon and glass fiber. The airbrakes are situated in the upper surfaces only.

The fuselage is of monocoque construction. The one-piece Plexiglass canopy hinges forward, together with the instruments panel.

The sailplane type was first certified by the Lithuanian CAA on 12 November 1999.
EASA has issued a Type Certificate Data Sheet for the LAK-17A, under the reference EASA. A.083, issue 01, dated 21/04/2006, with the LAK-17AT as a variant.

The LAK- 17AT is a sailplane equipped with a retractable power-plant.

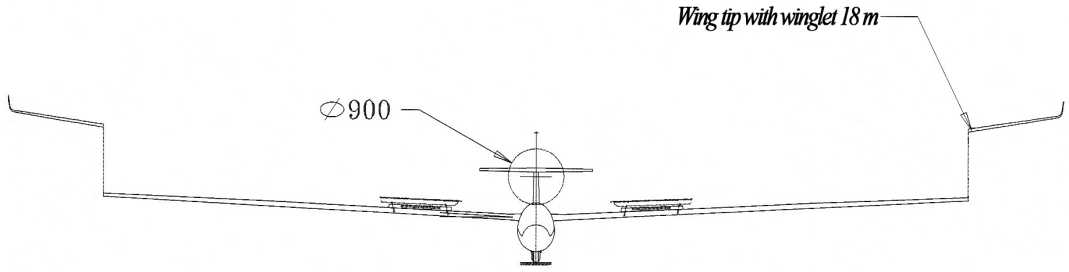
The engine installed in the LAK-17AT is a SOLO 2350 two cylinder, air cooled, two stroke engine. The engine cannot be used for take-off, and the starting up in flight occurs by wind milling of the propeller. The engine is operating only at full RPM – no throttle control.

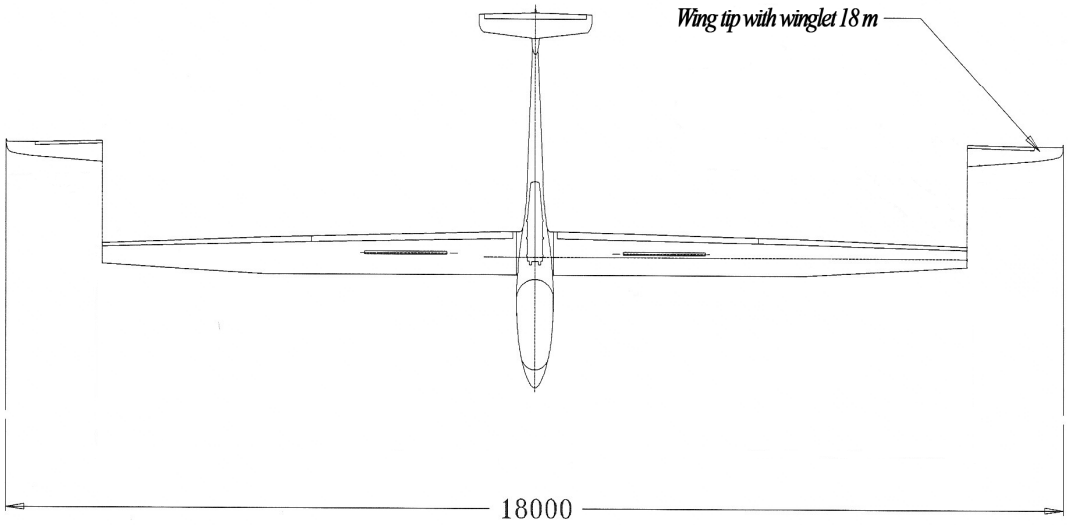
General characteristics

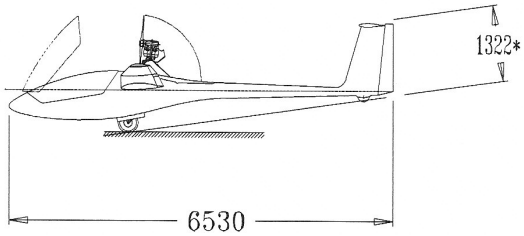
- **Crew:** One pilot
- **Capacity:** 180 kg water ballast
- **Length:** 6.530 m
- **Wingspan:** 15.00 m (optional 18m)
- **Height:** 1.29 m
- **Wing area:** 9.06 m² (9.8 m²)
- **Max Take-off mass:** 500 kg
- **Maximum Mass of all non-lifting parts:** 263 kg

Performance

- **Never Exceed speed:** 275 km/h (148kts)
- **Manoeuvering speed:** 190 km/h (103kts)
- **Maximum Winch tow speed:** 140 km/h (76kts)
- **Maximum glide ratio:** 46
- **Rate of sink:** 0.54 m/s







Airframe:

- **Manufacturer:** Joint Stock Company “Sportine Aviacija”
- **Type:** LAK-17AT
- **Serial number:** 133T1
- **Built year:** 2002
- **Registration:** D-KJGA
- **Configuration:** 18m with winglets.
- **Total Flight hours:** 470FH (as LAK-17A)
- **Certificate of airworthiness:** Substitute Inspection Certificate (Ersatz-Prüfschein) T522E19908C, valid until 31.05.2009.

The sailplane was originally a LAK-17 A, registered D-6988. It was modified in March 2009 by the application of the EASA Major Change EASA.A.C.11123.

The modification was performed by the manufacturer “UAB Sportine Aviacija”, Part 21 POA ref: LT 21G 0001.

After the modification, the registration of the sailplane was changed into D-KJGA (German LBA rule). The Substitute Inspection Certificate issued by the Luftfahrt-Bundesamt identify the modified sailplane as a LAK 17AT, serial number 133T1.
The modification consisted in a fuselage rework, accommodating the engine and controls. The wings of the original sailplane were retained. A test flight was performed after modification.

The manufacturer confirms that the Flight Manual applicable for D-KJGA is the Flight Manual of the LAK-17AT.

To-date, Out of the 66 LAK-17A sailplane produced, 5 were modified in LAK-17AT (s/n: 133, 135, 140, 141 and 149).

Engine:

- **Manufacturer:** Solo Kleinmotoren GmbH
- **Type:** Solo 2350
- **Serial number:** 967
- **Total Flight hours:** 1FH

Propeller:

- **Manufacturer:** Joint Stock Company “Sportine Aviacija”
- **Type:** LAK P4-90
- **Serial number:** 0777
- **Total Flight hours:** 1FH

Owner: The pilot was the owner.

Engine Operation

The flight manual defines the procedure for the operation of the engine in flight:

4.5.7. Extension and starting/restarting the engine in flight.

(a) With the engine deployed, but not running, the rate of sink at 90 km/h increases to 1.8m/s (355 ft/min). Therefore starting/restarting the engine should only be done over landable terrain and not below 400m (1315 ft) above ground. Should a flight be conducted over a wide expanse of un-landable terrain, the engine should then be started/re-started at 1000m (3300ft) above ground level so that if the engine does not start, all the emergency starting procedures must be followed in place including retraction of the engine if necessary.

(b) In a normal starting situation the loss of altitude from starting the deployement procedure until the engine is running is about 70m (230ft) and the same for every start. Time for extraction of the engine in flight is up to 15 sec.

(c) Extracting and starting the engine:

a. Fly at 90…110 km/h (49…60kts) with flaps set at +2. Avionics master switch must be “on”.
b. Engine electronics switch “on”.
c. Make sure propeller brake is on and fuel valve is closed.
d. Extract the engine: to extract the engine, the switch on the right side of the MCU display has to be switched up to the “extract” position. First, the door opens till the limit switch for opened door activates. After this, the engine extracts till the limit switch for the engine is activated and then the door closes back.
e. Open the fuel valve.
f. Check if the control light “engine extended” is on.
g. Check visually if engine is extracted.
h. Remove propeller brake.
i. Switch the ignition “on” (the switch is located under the LCD of MCU).
j. Press fuel pump for few seconds.
k. Open the de-compressor valve.
l. Increase the speed to about 130…140 km/h (70 … 76 kts).
m. Release de-compressor. Engine should start.

Warning: always pay attention to the altitude!

Warning:
select your power-plant extension retraction speed correctly:
- flaps must be at +2 position;
- make sure your selected speed for power-plant extension / retraction is at least 8…10 km/h (4…5 kts), higher as if stall speed for your flight configuration.

4.5.8 Stopping and retracting the engine in flight

(a) Lift the rear view mirror so that you see the propeller.
(b) Slow down to 90 … 110 km/h (49 … 60 kts).
(c) Switch off the ignition.
(d) Close the fuel valve.
(e) To stop engine, open the de-compressor and release. Repeat if needed.
(f) When propeller stops, apply propeller brake.
(g) Check if propeller is in right position. If not, slightly open the de-compressor valves so propeller rotates and bottom on a propeller brake.
(h) When propeller is stopped switch the extract/retract switch to the retract position.
(i) After engine retraction set the ILEC-MCU switch to “off”. With only short gliding flights i.e. saw tooth cross country flights, the switch can be left in position “on”.

Note: the final position of the engine is indicated to the pilot by a Green LED position light on the side of the Motor Control Unit on the instrument panel.

Approach and landing.

Use of airbrakes; general

Sailplanes are designed to fly with minimum loss of height (or sink) for a given forward movement. This is known as the glide angle. As such it would be very difficult to land them, without some means of increasing this glide angle.
Therefore, sailplanes are fitted with airbrakes (or dive brakes) to increase the rate of sink and increase the glide angle.

When partially deployed, the airbrakes will decrease the lift; when fully deployed, they present a large vertical surface area and so provide significant drag and sink.

As such the deployment and retraction of airbrakes, and the degree in which this is done, varies during the approach and landing.

The final turn is used to align the sailplane to the centerline of the runway. It is normally initiated early enough to avoid overshooting the centerline of the intended approach.

Once the turn is completed, the approach speed and directions are checked, adjusted if necessary using the airbrakes, and then maintained until the flare. The airbrakes are primarily used as required to maintain the correct stabilized approach path.

When clearance of any obstacle on the approach is assured, the approach should continue ideally at approximately half airbrake. Any tendency to undershoot or overshoot the landing area should be corrected by appropriate adjustment of the airbrake settings.

Full airbrake is normally deployed once the sailplane is firmly on the ground.

The procedure itself is detailed in the flight manual:

4.5.6. Approach and landing.

Land always in the gliding configuration, engine retracted!
Recommended flaps position is “L” (landing).

In light winds and without water ballast the approach to landing should be flown at about 95 km/h(*) (51 kts.). Stronger winds require increased airspeeds. The very effective dive brakes make a short landing possible; however, do not approach too slowly with fully extended dive brakes as the aircraft may drop during the flare out. The glider should touch down on the main and tail wheel. The main wheel brake can then be applied for a shortened ground roll. When flying with inside - slip with airbrakes extended vibrations of the sailplane occurs. The control stick should be in aft position. Due to side - slip control force decrease or reversal is possible.

Warning: *Stall speed will increase, fly faster. Glide ratio with the engine extended and stopped is degraded down to about 18 units and sink rate is about 1,8 m/s (355 ft./min).*

Caution: *Stall warning with extended engine is marginal and covered by the engine vibration. Increase the approach speed.*

Landing with the engine extended and stopped - see emergency procedures Chapter 3.10. Land with the engine extended only if the engine can't be retracted.

Notes:

(*) The flight manual of the non-powered sailplane LAK-17A gives a speed of 90 km/h (LAK-17A Flight Manual Page 4.9)

Emergency procedures

The flight manual defines the following procedure for the spin recovery, and identifies

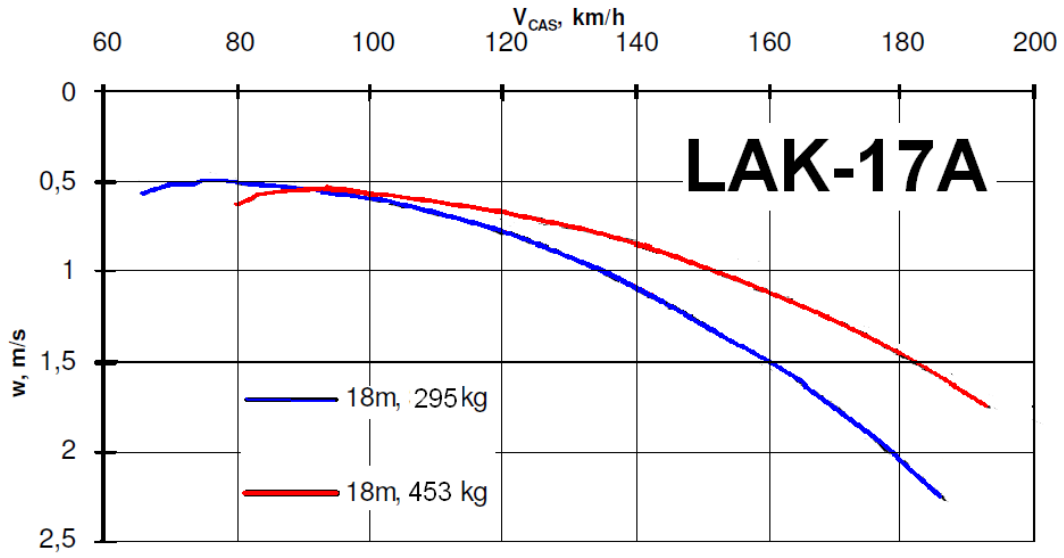
Caution: Altitude loss due to an incipient spin from straight flight with prompt recovery is 30m, increasing to 60m from circling flight and 60m to 120m with airbrakes extended. Maximum speed during recovery is 190 km/h.

Stall Speeds and Flight Polar

For the LAK-17A (Sailplane without engine)

	Stall speed in level flight, km/h	
Flap position	without water ballast	with maximum take off weight
L	69	82
+2	69	84
+1	72	87
0	75	92
-1	76	93

Note: the exact configuration of the sailplane (wing span, winglets) is not specified for this table.

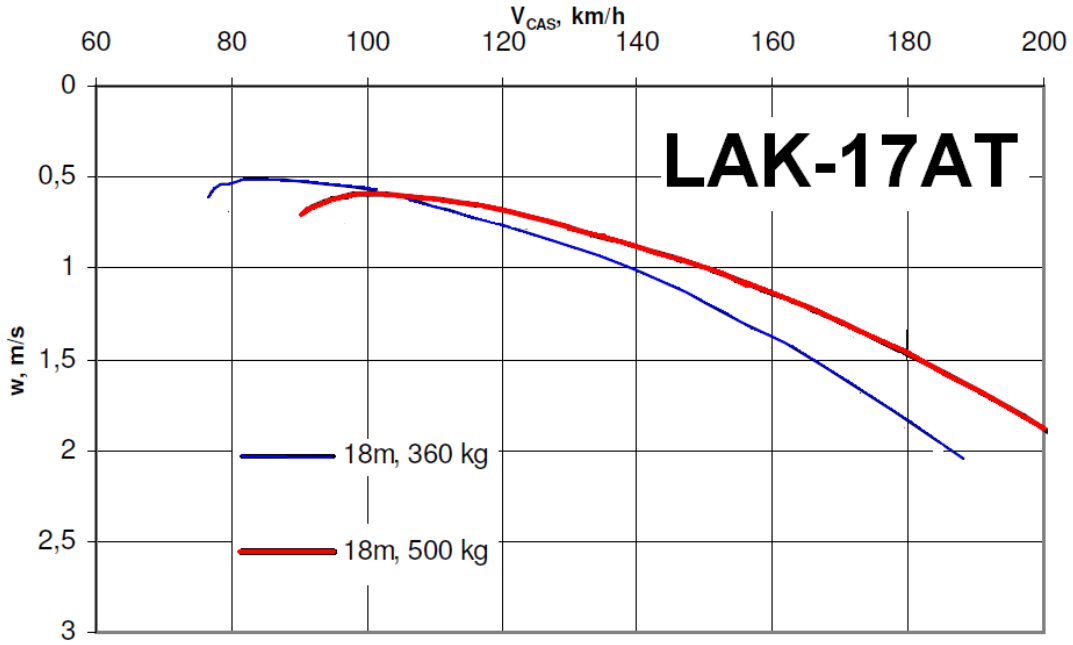


The polars apply to a clean aircraft.

For the LAK-17AT (Powered Sailplane)

	Stall speed in level flight, km/h	
Flap position	without water ballast	with maximum take off weight
L	85	93
+2	86	94
+1	87	96
0	88	97
-1	89	99

The stall speeds for LAK-17AT were determined in May 2004 by testing a LAK-17AT with power plant extended and propeller stopped.



The polars apply to a clean aircraft, engine retracted.

Airspeed indicator markings.

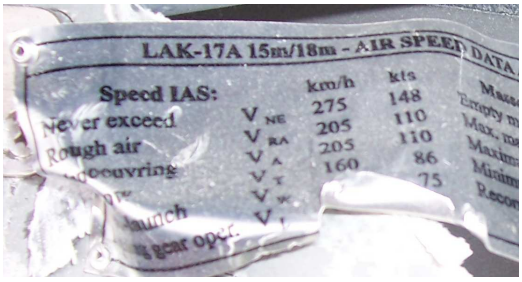
The airspeed indicator has coloured indications. The ranges indicated are different for the non-powered (LAK-17A) and the powered version (LAK-17AT).

Marking colour	IAS value or range (km/h)		Significance
	LAK-17 A	LAK-17 AT	
White	90 – 160	102 – 160	Positive Flaps Operating Range: Lower limit is 1.1 V_{SO} (*) in landing configuration at maximum weight. Upper limit is maximum speed permissible with flaps extended positive.
Green	100 – 205	108 – 190	Normal Operating Range: Lower limit is 1.1 V_{S1} (**) at maximum weight and most forward C.G. with flaps neutral. Upper limit is rough air speed.
Yellow	205 – 275	190 – 275	Maneuvers must be conducted with caution and only in smooth air.
Red Line	275	275	Maximum speed for all operations
Blue Line		95	Speed for best climb Vy, flaps in position "+2"
Yellow triangle	90	95	Approach speed at maximum weight without water ballast.

(*) V_{S0} stands for the stall speed in landing configuration
(**) V_{s1} stands for the stall speed in clean configuration (flaps 0).

The airspeed indicator (Winter Bordgeräte Type 6 FMS – S. Nr 6421455 – W. Nr 122548) found on the wreckage of D-KJGA bore the markings adequate for a LAK-17A (instead of LAK-17 AT).

The Limitation placard found inside the cockpit was also referring to the non-powered version LAK-17 A.



The modification.

The installation of the engine system is approved by EASA as a Major Change in the type design. The reference is EASA.AC11123, issued on 6 November 2008.
The Major Change Approval document refers to the Information Bulletin N°017A.8.65.012I, issued by JSC “Sportine aviacija”.

The Information Bulletin N°017A.8.65.012I, issued on 23.03.2008 concerns “The engine SOLO 2350 installation into the fuselage sailplane LAK-17A beforehand in the UAB “Sportine aviacija” manufacture bay.
The installation of the engine, with all the related components must be done in accordance with the following list of drawings;

- LAK-17AT65000000SB
- LAK-17AT64030000SB
- LAK-17AT67010000SB
- LAK-17AT50680000SB
- LAK-17AT69000000SB
- LAK-17AT72100000SB
- LAK-17AT72500000,
- LAK-17AT65010000SB
- LAK-17AT61000000SB
- LAK-17AT75000000SB
- LAK-17AT85010000SB

Service Bulletin N°017AT.7.66.002A.

The list seems to show several typographical errors, as the manufacturer sent us the complete set of drawings **(**LAK-17AT72500000 should read LAK-17AT72500000SB, and we received LAK-17AT78000000SB, instead of LAK-17AT75000000SB).

Nevertheless, the drawings do not describe the installation of the Motor Control Unit and the modification to be brought to the airspeed indicator and the “Airspeed data and loading” placard.

1.7 Meteorological conditions.

Observations made at EBNM:

Wind
Direction: variable
Wind speed: 02 kts

Temperature: 17℃

QNH: 1018 hPa

Clouds:
Few at 3200ft

Visibility: more than 10km

1.8 Aids to navigation.

The sailplane was equipped with a LX7007 variometer including a GPS-Navigation System.

1.9 Communication.

The sailplane was equipped with a radio. No radio communication was recorded during the flight.

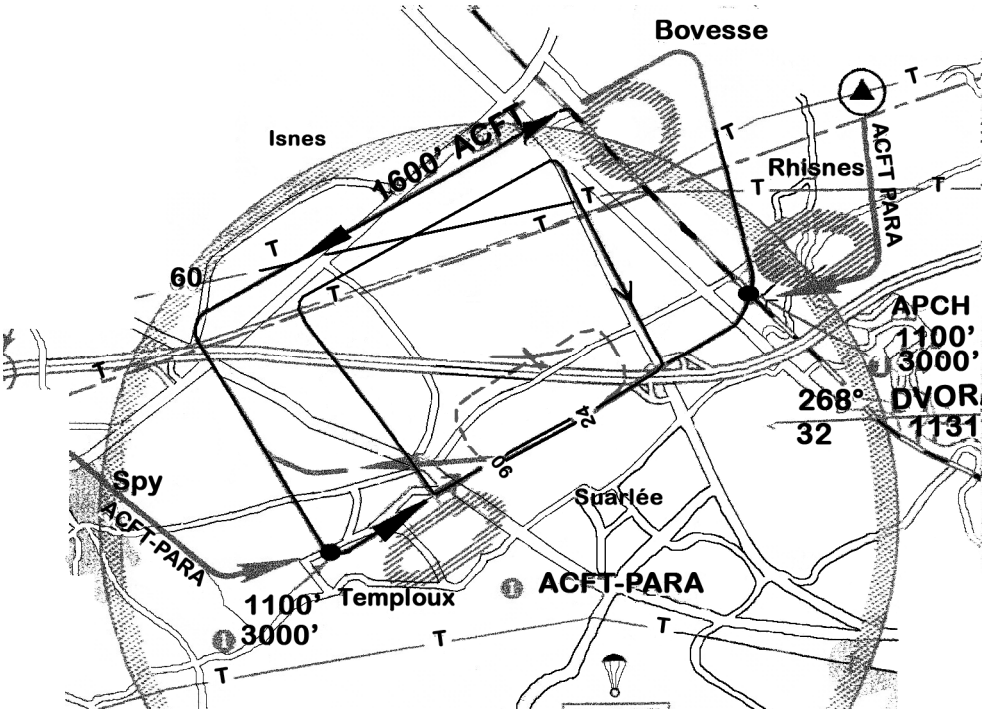
1.10 Aerodrome information.

The Namur – Suarlée airfield (EBNM) is located near the city of Namur, at 50 km SE of Brussels and 60 km SW of Liege.

Coordinates are N 50°29' 17'' – E 4°46' 08

The airfield is equipped with a 696 m long x 27 m wide grass runway, oriented 064°/244°.
Elevation is 594 ft above sea level.

The circuit is RH for Runway 24; LH for Runway 06.
The airfield is operated during daytime hours.
Flight information services are given by radio: "Namur Radio" - 118.000 MHz - Information only, no ATC .



1.11 Flight recorders.

The equipment allows also the recording of flight data.

The read-out was performed at Avi-Benelux's facilities. The equipment had not been activated by the pilot, so there was no information available about the flight.

1.12 Wreckage and impact information.

The sailplane was seen in a RH spin. It hit the pavement of the motorway E42 after having hit several trees bordering the road.

The cockpit hit first the ground and left a visible white mark on the pavement. It skidded a further 7m, turned around, and finally rested on the RH border of the road.

The cockpit broke up on impact.
The RH wing bears traces of impact with the vegetation, and is torn from the wing root.

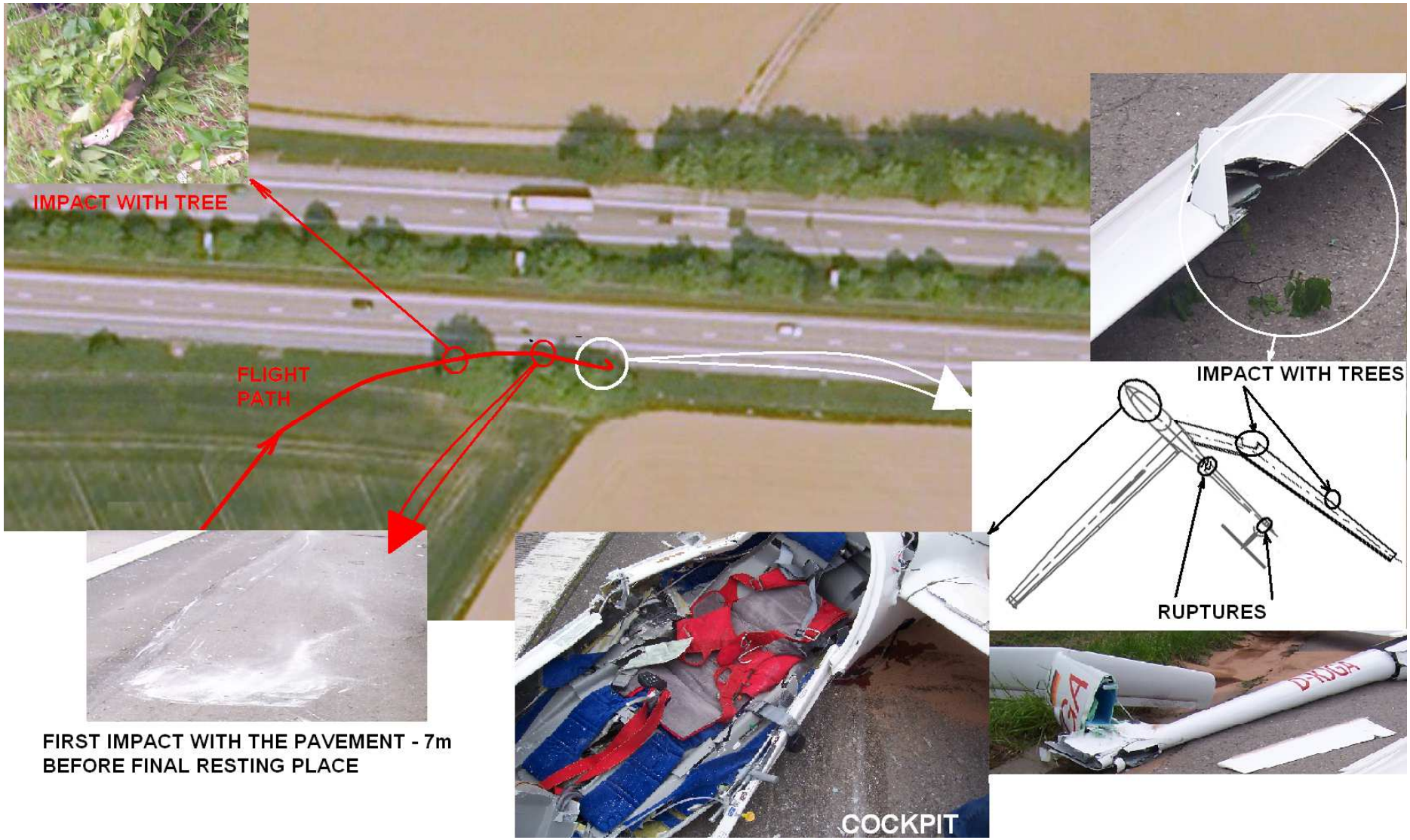
The fuselage is broken in two parts and the rudder section is broken at its connection with the fuselage.

The winglets are separated from the wings.

The airbrakes are out, and the landing gear was still retracted.

Position of the controls:

Flaps: O
Trim: 1/3 forward.
Airbrakes: in-between position.
Tail ballast: closed
Prop brake: off


IMPACT WITH TREE
FLIGHT
PATH
IMPACT WITH TREES
RUPTURES
FIRST IMPACT WITH THE PAVEMENT - 7m
BEFORE FINAL RESTING PLACE
COCKPIT

1.13 Medical and pathological information.

There was no autopsy performed on the pilot.

1.14 Fire.

There was no fire.

1.15 Survival aspects.

None, the pilot was still strapped inside the cockpit.

1.16 Tests and research.

Not applicable

1.17 Organizational and management information.

Not applicable

2. Analysis.

The Flight

The purpose of the flight was the testing of the engine.

The pilot decided to be towed to an altitude of 1600 ft agl, which would give him the opportunity to make at least one attempt to start the engine, before having to return.

The flight was a short one, from 11:30 when the sailplane released from the towing airplane, and the crash, around 11:35.
Assuming the pilot began to deploy the engine immediately, the flight time would indeed be:

- 15 seconds to get the engine in vertical position.
- A sink rate of 1.8 m/s (355 ft/min) with engine deployed, starting from an altitude of 1600 ft, would give a flight of 4 min 30 seconds, without thermal influence.

We could assume the pilot made several unsuccessful attempts to start the engine.

The pilot came back above the airfield, with the intention of landing. However, he had still to retract the engine, as prescribed in the procedure (avoid landing with engine deployed, unless in an emergency).

The engine was seen retracting.
The engine takes 15 seconds to deploy, we may consider it takes the same time to retract; this means that the engine was retracted before reaching the downwind part of the circuit. The “retracted” position is indicated to the pilot by a green LED on the Motor Control Unit display.

Performing simultaneously the two operations (preparing for landing, and retracting the engine) requires some extra attention from the pilot; in particular the speed control; the airspeed must be kept between 90…110 km/h, which would be lower than the speed normally used in the circuit (typically 1.3 x the stall speed for the chosen configuration).
This might not be the preferred action for a pilot dealing with a sailplane having different characteristics (after modification) than the one he knows (the same sailplane before the modification).

The sailplane flew beyond the normal circuit, indicating either it was not the intention of the pilot to join downwind at that point, or the sailplane was still too high at that point.

Airspeed was low, and the sailplane eventually went into a RH spin; this would indicate the RH wing stalled during a left turn. With this assumption, the intention of the pilot would have been to join the circuit from the left, instead to take a longer path, from the RH side.

The airbrakes were seen deployed when the sailplane crossed the runway, and the engine retracting. It is not typical to see airbrakes operation outside the circuit unless there's a good reason for it. However, this might indicative of the pilot's intention to land as soon as possible, in a shortened left circuit.

All of the above would indicate the pilot was in a particular hurry to reach the ground. However, the pilot did not communicate his intention by radio, nor did he indicate an emergency.

The reasons may have been:

- either a conscious choice of the pilot, irritated by the unsuccessful attempts to start the engine, eager to get on the ground as soon as possible to investigate on the causes of the problem.
- Or the result of a degraded medical condition of the pilot, becoming unwell for an unknown reason. There was no autopsy performed, so this hypothesis cannot be verified

.

The high stress, or the medical condition, might have had an impact on the pilot's ability to take adequate decisions, or on his awareness of the flight conditions (airspeed, bank angle, coordination of the controls, awareness of the differences between the 'old' sailplane and the 'modified' on which he was flying, …).

Engine starting operation

The pilot did perform the procedure before, on the same type of powered sailplane, and reviewed the procedure before starting with a friend who owns the same type of powered sailplane.

The pilot did not try to start the engine on the ground.

The pilot attempts to start the engine in flight were unsuccessful. He made probably several attempts, up to an altitude on which he decided to return to the airfield for landing.

The flight manual underlines the precautions needed before attempting to start the engine, (safe altitude, above landable terrain, etc…); this seems to indicate that it is not uncommon to have engine failing to start-up.

A powered sailplane is essentially a sailplane, and the addition of the engine is primarily to avoid field landing.

The procedure to start-up the engine is quite lengthy, and work intensive; this might have increased the stress on the pilot.

Stall speed and airspeed indication

As outlined in Chapter 1.6 (page 16 – 17), the stall speed of the LAK-17AT is higher than those of the non-powered LAK-17A. The actual difference in stall speed between the two versions depends from the configuration of the sailplane, wingspan, the use of airbrakes, the retraction of the engine, etc..
The data show a difference between 5 to 13 km/h.

The Flight Manual prescribes that the minimum speed of the LAK-17AT sailplane in approach should have been around 95 km/h. However, D-KJGA was still equipped with the original - LAK-17A - speed indicator.
The minimum speed in approach is indicated on the airspeed indicator by the yellow triangle and the low end of the white band. On D-KJGA, they indicated a speed of 90 km/h.

The presence of inadequate markings on the airspeed indicator was not identified by the manufacturer, upon final inspection, test flight and delivery, nor during the inspection by the German LBA, nor – most probably - by the pilot himself.

The indications on the speed indicator are reminders for the pilot, as they do not take all the various configuration possible into account, as detailed in the applicable flight manual.

Nevertheless, the inadequate markings on the airspeed indicator could have led the pilot to fly the sailplane with a reduced stall speed margin.

The Modification.

The modification instructions covering the the Major Change Approval EASA.A.C.11123 do not cover all the changes necessary to make the modified LAK-17A conforming to the conditions identified in the LAK-17AT flight Manual.

In consequence, D-KJGA was certified and delivered with an airspeed indicator markings of a LAK-17A sailplane.

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3. Conclusions.

3.1 Findings.

The pilot had a valid Sailplane pilot license

The pilot had adequate experience on the type of sailplane without engine, but a minimal experience of the powered version of the sailplane.

The modification performed on D-KJGA by the manufacturer was done in conformity with the Major Change Approval EASA.AC.11123. The airworthiness was confirmed by the German LBA with the Substitute Inspection Certificate (Ersatz-Prüfschein) T522E19908C, valid until 31.05.2009.

The modification instructions, as approved by EASA on the Major Change Approval EASA.AC.11123. do not require a change of the markings of the airspeed indicator.

The configuration of the D-KJGA sailplane did not meet the requirements for the LAK-17AT. In particular, the airspeed indicator showed the markings of the LAK-17A, instead of the LAK-17AT, as required by the LAK-17AT Flight Manual.

3.2 Causes.

The accident was caused by sailplane be flown at a speed close to the stall speed, that during a left turn, caused the sailplane to stall at low altitude.

Contributing factor.
The sailplane was still equipped with the original airspeed indicator of the non-powered version.

4. Safety recommendations.

4.1. Recommendation 2010-S-5

AAIU(be) recommends Lithuania to require the Joint Stock Company “Sportine Aviacija” to revise the Information Bulletin N°017.A.8.65.0121I in order to incorporate all ins tructions needed to ensure the conformity of a modified LAK-17A with the requirements of the Flight Manual.

4.2. Recommendation 2010-S-6

AAIU(be) recommends EASA to advise the TC-Holder to take appropriate actions and to revise the Information Bulletin N° 017.A.8.65.0121I and subsequently revise the Major Change Approval EASA.AC.11123, in order to ensure conformity of the modified LAK-17A with all the conditions identified in the LAK-17AT Flight Manual, and take all appropriate interim measures for the modified LAK-17A already flying.