

BULLETIN

AIRCRAFT ACCIDENT INVESTIGATION BOARD/NORWAY (AAIB/N) (TRANSLATED FROM NORWEGIAN)

Postbox 165, N-1330 OSLO LUFTHAVN, NORWAY

Telephone: (+47) 67 12 23 19 - 67 59 36 55 BUL 46/98

Telefax: (+47) 67 12 53 33 Date 8 December 1998

Aircraft

- type & reg.: Piper PA-28 Arrow, D-EYYY
- year of man.: 1980
No & type of engines: Lycoming IO-360 C
Radio call signal: DYY
Date & time: 23 June 1998 at 1235 hours
Location: Runway 01 at Svolvær airport Helle, Norway
Type of occurrence: Aircraft-accident, touchdown in front of the runway
Type of flight: Private flying
Weather cond.: Wind: 050°/090° 04-10 kt. Weather: CAVOK.
 Temperature and dewpoint 17°C/7°C. QNH: 1016 hPa
Light cond.: Daylight
Flight cond.: VMC
Flight plan: VFR
No. of persons onb.: 4
Injury: None
Aircraft damage: All landing gears broken off, damage to propeller, fuselage
 and wings
Other damage: One approach light destroyed
Pilot in Command:
- sex, age: Male, 64 years of age
- licence: PPL-A
- fl.experience: 1 200 hours of flight time
Information sources: Report from the Pilot in Command, report from the duty
 AFIS officer, report from the owner, report from the local
 police with enclosed photos and survey of accident area,
 and the AAIB/N's proper investigations.

All times given in this report is local time (UTC + 2 hours), if not otherwise stated

The Aircraft Accident Investigation Board has compiled this bulletin for the sole purpose of improving flight safety. The object of any investigation is to identify faults or discrepancies which may endanger flight safety, whether or not these are causal factors in the accident, and to make safety recommendations. It is not the Board's task to apportion blame or liability. Use of this report for any other purpose than for flight safety should be avoided.

SUMMARY

The aircraft, D-EYYY, was approaching on a VFR flight plan from Tromsø airport Langnes. The weather conditions were excellent, with light easterly winds. The wind gave the flight a light crosswind component from the right at the time when the aircraft entered the final approach for runway 01 at Svolvær airport Helle. The flight was uneventful until the start of the approach.

At the end of the final approach the aircraft encountered a high sink rate combined with low airspeed, for which the Pilot in Command (PiC) did not correct. The aircraft sank below the normal approach path and collided with an approach light pole approx. 27 m in front of the runway end. Thereafter the aircraft hit the terrain just in front of the runway and all landing gears were torn off. The aircraft then slid approx. 80 m on the belly onto the runway surface, before it came to rest.

The threshold of runway 01 at Svolvær airport is positioned 40 m in from the end of the runway.

The aircraft was substantially damaged and the propeller was bent/destroyed. There was no fire. The airport fire and rescue service arrived at the scene within 1 minute after the landing. The four persons onboard quickly evacuated, without injury.

The PiC states in his report that the reason for the high sink rate, which led to the hard landing in front of the runway, was a combination of low airspeed and wind shear.

The owner of the aircraft has given a short report on the accident. He was seated up front beside the pilot. He states that he noted that the PiC, on all approaches he observed, maintained a low airspeed on final. On the final approach at Svolvær the airspeed was reduced to a value so low that the stall warning was triggered. The PiC did not react in any other way than by pulling the elevator control. This increased the aircraft sink rate, and eventually positioned the aircraft so low in relation to the normal glide path that it hit the terrain just in front of the runway.

According to the AFIS officer on duty in the tower, changes in the wind force and direction were very limited during the time the aircraft was on final. The last indicated wind provided by the AFIS officer was 050° 10 kt.

COMMENTS FROM THE ACCIDENT BOARD

The AAIB/N considers this accident to be caused by a substantial lack of basic aircraft handling skills; i.e. the elementary mistake of not keeping correct airspeed on the final approach. To maintain a correct airspeed during the critical phase of the final approach also means to have a good margin over the stall speed. This is one of the first elementary lessons that a pilot learns during primary flight training. The Pilot Operating Handbook for PA-28R-201 Cherokee Arrow III states the final approach airspeed to be 75 kt.

According to the owner of the aircraft the PiC performed several approaches with low airspeed on the final.

In a comment to the draft report on this accident the owner states:

"It was my habit to fly the Piper on approach faster than recommended in the handbook. The handbook recommends an approach speed of 75 knots. Usually I was flying 90 knots if the runway length was sufficient for an approach like this.

However, I noticed, that the pilot in command generally flew slower approaches than I was used to. In no case I have observed that the pilot in command flew slower on final than the handbook recommended speed of 75 knots.

My comment "low airspeed" has to be seen in connection with my habit to fly approaches with 90 knots.

Nevertheless the whole accident is seen on a video tape. The ground speed indicated on the moving map/GPS display shows on short final a speed of 54 knots. Estimating the wind at around 4 to 5 knots from a 30°, the airspeed must have been around 57 knots."

Since there were only small changes in the wind conditions, and the weather otherwise was excellent, this accident must have been caused solely by unsatisfactory handling/flying technique. As the aircraft was equipped with a functioning stall warning, the PiC was also given a clear reminder of the low speed he kept. The AAIB/N considers that this accident would not have happened if the aircraft had been flown according to instructions in the operating handbook.

The existence of the mentioned video tape has not been known to the AAIB/N until the deadline for comments to the draft report. The given data from the video tape does not change the AAIB/Ns view on the cause of this accident.