REPORT INTO THE ACCIDENT INVOLVING K21 G-CHPV NEAR PORTMOAK ON 8 JULY 2022

Circumstances

The aircraft had flown multiple times on 8 July 2022 engaged in training flying and trial lessons. On the accident flight the aircraft launched by winch to around 1100 feet AGL and subsequently soared for about 50 minutes prior to recovering to the circuit to land at the site. The glider flew a wide circuit of the airfield and a long approach. It was clear to observers on the ground that the aircraft would not reach the airfield at Portmoak and it crashed in a paddock short of the runway. The instructor was uninjured however the front seat pilot received minor injuries namely bruising. During the approach to land the instructor reported that the airbrakes jammed open and despite strenuous efforts to do so he was unable to retract them

Investigation

The investigation was conducted by correspondence.

The aircraft was inspected by a BGA Senior Inspector at the site of the accident and no fault could be found to account for the reported airbrake malfunction. A deeper inspection was carried out by the repair agency to which the aircraft was removed and no fault was found. The chief engineer at the repair agency did report some abrasion of the plate which locates the airbrake lever when the aircraft is flown by a disabled pilot. Additionally all of the control runs and areas inaccessible without disassembly were also inspected for potential loose articles which could have caused the controls to jam. No loose articles were discovered and no witness marks were evident to account for the failure of the airbrakes to operate normally.

Post accident the owner of the property adjacent to the accident site posted a video of the last 15 seconds of the flight on the internet. The airbrake paddles are a bright red/orange colour and are not visible in the footage.

Logger traces from three consecutive flights in the accident aircraft with different pilots the third of which was the accident flight identified that this pilot flew nearly 2 1/2 times further downwind than on the first and nearly double that of the second. The actual weather on the day was of a strong blustery wind which would have been even stronger at height.

The airframe has been modified using an approved modification to allow disabled pilots to be able to operate all of the primary and secondary flying controls. The modification involves fitting a hand rudder operated by the left hand and the fitting of a plate with 5 holes into which a pin in the airbrake lever can locate in allowing the airbrakes to be set in 5 different positions. This pin is located into a threaded hole and an “R” clip is added as an additional safety device.

When the aircraft is flown by a non-disabled pilot the hand rudder is removed and the pin in the airbrake lever is also removed. There appeared to be some confusion amongst operators as to whether or not it was necessary to remove the airbrake pin. A Safety Recommendation is at the foot of this report to address this issue.

Once the hand rudder and airbrake pin are removed the aircraft is then returned to standard operation of all controls.

The instructor on the accident flight was very familiar with this aircraft and the modifications made to it having flown it on multiple previous occasions.

Discussion

Despite in depth investigation to identify any possible source of a restriction no evidence for the reported airbrake malfunction could be identified. This coupled with the lack of any sign of airbrake extension in the accident video suggests that the pilot was possibly mistaken with his perception of his actions.

Conclusion

The lack of any evidence to support an airbrake malfunction suggests that the strong and blustery wind conditions present at the site are a more probable cause of the accident. It appears from logger evidence that the pilot simply allowed the aircraft to drift so far downwind in the circuit that he was unable to achieve his intended landing site. Whilst a failure of the airbrakes to retract cannot be 100% eliminated the exact cause of the accident will be impossible to identify.

Recommendation

It is recommended that the BGA remind clubs operating K21 gliders modified to accommodate disabled pilots of the need to completely remove both parts of the modification prior to operating the aircraft for non-disabled flying.

C V J Heames
BGA Senior Accident Investigator
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