

SERIOUS INCIDENT

Aircraft Type and Registration:	Parrot Anafi USA	
No & Type of Engines:	4 electric motors	
Year of Manufacture:	2020 (Serial no: PF728210AB1A000399)	
Date & Time (UTC):	18 April 2021 at 0450 hrs	
Location:	Near Princes Risborough, Buckinghamshire	
Type of Flight:	Commercial Operations (UAS)	
Persons on Board:	Crew - None	Passengers - None
Injuries:	Crew - N/A	Passengers - N/A
Nature of Damage:	Damage to rotor blade, propeller arms, and battery locking mechanism	
Commander's Licence:	Other	
Commander's Age:	35 years	
Commander's Flying Experience:	6 hours (of which 3 were on type) Last 90 days - 6 hours Last 28 days - 3 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot and further analysis by the AAIB	

History of the flight

The unmanned aircraft (UA) was operating at 60 m agl with an observer maintaining visual line of site and an operator controlling the aircraft and camera. The weather was overcast but with good visibility and low wind. The UA had been conducting a survey of nearby fields and woodland and had been flying for approximately 11 minutes. It was stable and hovering as the operator yawed the aircraft to pan the camera around. The controller suddenly lost connection with the UA and the tablet screen showing the camera picture displayed "white noise". The operator noticed that the UA's Wi-Fi signal had reduced from green to red but there was no other information displayed.

The observer watched as the UA pitched forwards and rapidly descended into the ground in nearby woodland. The aircraft was found 300 m away upside down. One rotor blade had snapped, a rotor arm had been dislodged, the rotor arms were unable to fold out and the battery had been released and was located next to the aircraft. (Figure 1).



Figure 1

UA showing damage to rotor and dislodged battery

Aircraft examination

The UA was recovered and sent to the manufacturer for examination. The manufacturer reported it was likely that during the component surface mounting process, an abnormal solder connection between the UA's battery and the aircraft's printed circuit board (PCB) power circuit caused the UA to lose power during flight.

The manufacturer has completed a check of every unit and PCB in its facility as well as their surface mounting technology process and equipment. A sample check of the UAs in storage awaiting sale, including their demonstration fleet and those units returned for after sales service, was also completed without finding any further abnormalities. There had been no previous reports of failures linked to abnormal soldering.