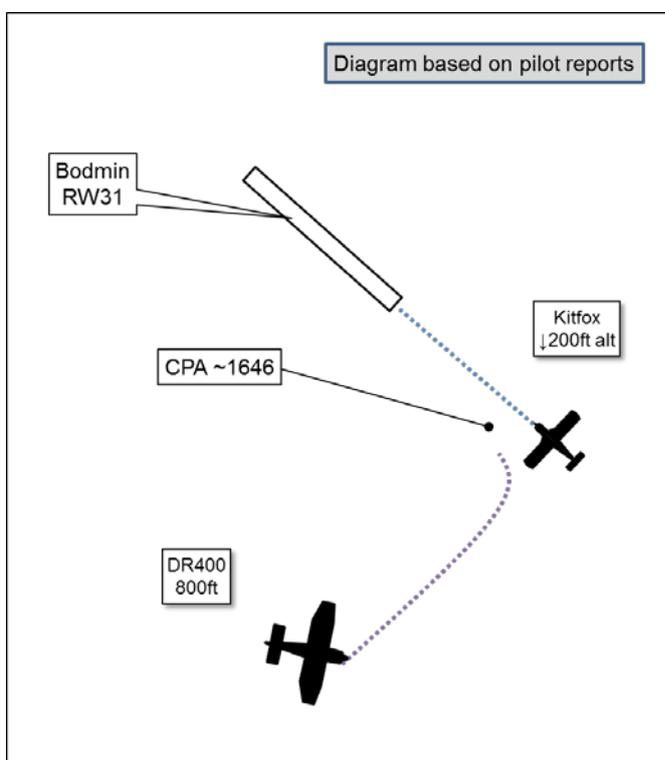


## AIRPROX REPORT No 2019165

Date: 21 Jun 2019 Time: 1646Z Position: 5029N 00439W Location: Bodmin

### PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Kitfox	DR400
Operator	Civ FW	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	AGCS	AGCS
Provider	Bodmin	Bodmin
Altitude/FL	NK	NK
Transponder	A, C, S	A, C, S
<b>Reported</b>		
Colours	Cream, Orange	
Lighting	NR	NR
Conditions	VMC	VMC
Visibility	>10km	'Very Good VFR'
Altitude/FL	200ft	800ft
Altimeter	QFE (998hPa)	QFE
Heading	310°	NR
Speed	55kt	70kt
ACAS/TAS	Not fitted	Unknown
Alert	N/A	N/A
<b>Separation</b>		
Reported	50ft V/100m H	200ft V/5-600m H
Recorded	NK	



**THE KITFOX PILOT** reports he climbed to circuit height, 800ft QFE, having conducted a touch-and-go on RW31. A downwind call was given and, whilst passing approximately abeam the mid-point of RW31, a DR400 was heard calling joining downwind and was advised that there was one other aircraft in the circuit (the Kitfox). He believed the DR400 pilot reported the other traffic in sight. The Kitfox pilot turned onto left-hand base-leg and reported "turning Left Base for RW31". Upon intercepting the centre-line of RW31, he turned onto final approach and reported final. Once established on the approach at 600ft QFE (over Cardinham Church), Bodmin Radio reported the surface-wind which was acknowledged. Shortly afterwards the DR400 pilot reported turning base-leg. The Kitfox was at about 200ft when a call was made by another aircraft (on the ground) 'Aircraft on Finals - you have another aircraft very close behind you', he replied 'thank you' and continued the approach without sight of the other aircraft or knowledge of its position or intentions because there was no real option - a turn could have exacerbated the situation. Shortly after, and as the Kitfox passed over the threshold, the DR400 was heard to call a "go around" and was seen heading away to the southwest and climbing as it overtook on the port side.

The pilot assessed the risk of collision as 'Medium'.

**THE DR400 PILOT** reports he called Bodmin Radio for joining instructions and was given QFE and advised there was one in the circuit. He joined downwind for RW31, using the road as the downwind line. He had not heard any calls when downwind. On rolling out on base turn his passenger spotted the other aircraft 500-600yds away. At this point someone on the airfield, possibly the aircraft at the holding point did an open-mike transmission saying 'that's an Airprox'. In his opinion the other person could not make such a judgment from 1200yds away. He (the DR400 pilot) transmitted that he had not heard any calls, there was still no response from the aircraft ahead so he assumed it was non-radio. He continued the base turn and followed him to the left-hand side of the runway centreline waiting to see whether the aircraft ahead was landing or doing a go-around, once he saw it land he went around. The other pilot did not call clear of the runway.

**THE EUROSTAR PILOT** reports he had completed his power checks and had taxied to the hold for RW31. The hold faces final approach and they had an unobstructed view of downwind, base and final approach. They held their position due to a Kitfox on final, and he heard the DR400 pilot call for join. He watched the Kitfox descend towards the runway, there was nothing unusual about his approach. The Robin reported left-base and he saw it at a level much lower than circuit height and it appeared to be much closer to the runway than the standard base leg position. The Robin made a very steep turn and it soon became apparent that the Robin was on a collision course with the Kitfox. Both appeared to be at the same level (about 300ft) and the distance between them was about 500ft and closing. He felt a sense of disbelief and panic as he watched the incident unfolding. He deliberated on the best course of action; he knew he could not issue an instruction and didn't want to give any information that would increase the risk of collision. He only had a matter of seconds to act and so he made a broadcast to the aircraft on finals advising him that there was conflicting traffic to his left. The Kitfox continued his approach and landed, the Robin reported going around. He estimated the separation to be between 50-100ft, both aircraft appeared to be a similar size so he estimated them to be the same distance away from him. There was then an exchange on the radio between the DR400 pilot and the Air Ground operator, with the Robin pilot claiming the Kitfox had not called final, but the AGO told him that he had and that the AGO had passed information on the Kitfox on the initial call to Bodmin radio. The DR400 exited final approach and made a diagonal track at low-level (about 400ft) back to downwind, from there it followed the same path that it took before, a low, tight circuit with a steep final turn. In his opinion the Kitfox pilot had done everything correctly, with accurate circuit position reports and, had the DR400 pilot adopted a standard circuit, both in terms of height and position, then this incident would not have happened. He also thought it would be helpful if there was a set of concise phrases that pilots could use to warn other pilots about potential collisions, with insufficient time to think of what to say, it would be easy to inadvertently say something that would increase the risk. One of the club instructors had published an article in the newsletter drawing attention to the issues raised by the incident.

**THE BODMIN AGO** reports the Kitfox had been in the circuit conducting touch and go approaches for most of the afternoon and was on his fourth session of the day. The DR400 pilot called inbound and requested the airfield information. He was given the airfield details and told there was one in the circuit, this was acknowledged and the pilot reported that he would join downwind. The Kitfox continued with his circuits, he had called downwind, turning base and finals for every one of his circuits all afternoon and did so on this circuit. The DR400 called downwind and stated that he had 'traffic in sight' which the AGO took to mean that he was visual with the Kitfox ahead of him. The Kitfox pilot called base and then final at around 1645 and the AGO responded with surface wind speed and direction, which was acknowledged. The DR400 pilot called base shortly afterwards, a response was not required from Bodmin Radio. The Kitfox was clearly descending on final with no issues and the DR400 had indicated he had turned onto base leg so he turned his gaze inwards from the Kitfox and was not looking out of the tower. An EV97 pilot who was on the ground with engines running made a blind call to the effect of 'aircraft on final, there is an aircraft approaching you rapidly from your left at the same height, go around'. He looked out of the Tower to see the Kitfox on late final and the DR400 turning tight in towards him from the direction of a very close in and late base-leg. At no time had the DR400 pilot called 'final'. The DR400 then called going-around and flew straight ahead of the Kitfox, climbing away and immediately entering into a left-hand turn away from the runway centreline. The Kitfox continued to land. The EV97 pilot said 'that was an Airprox and should be reported'. The Kitfox landed at 1647 and the DR400 completed his tight 'go-around' circuit and landed at 1648.

## **Factual Background**

The weather at Newquay was recorded as follows:

METAR EGHQ 211620Z 33006KT 9999 FEW032 15/07 Q1022=

## Analysis and Investigation

### UKAB Secretariat

The Kitfox and DR400 pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard<sup>1</sup>. An aircraft operated on or in the vicinity of an aerodrome shall conform with or avoid the pattern of traffic formed by other aircraft in operation<sup>2</sup>.

### Summary

An Airprox was reported when a Kitfox and a DR400 flew into proximity in the Bodmin circuit at 1646hrs on Friday 21<sup>st</sup> Jun 2019. Both pilots were operating under VFR in VMC, both were in receipt of an AGCS from Bodmin.

### **PART B: SUMMARY OF THE BOARD'S DISCUSSIONS**

Information available consisted of reports from the pilots of both aircraft involved and from a third pilot who witnessed the event, radar photographs/video recordings and a report from the Air/Ground Operator. Relevant contributory factors mentioned during the Board's discussions are highlighted within the text in bold, with the numbers referring to the Contributory Factors table displayed in Part C.

The Board first looked at the actions of the Kitfox pilot. He was flying a normal circuit and, being already established downwind as the DR400 pilot joined the circuit, could justifiably have expected the DR400 pilot to fit in behind him. He did not see the DR400 approaching from behind (**CF7**) but was alerted to it by the pilot on the ground; however, by then there was little he could do to increase the separation.

For his part, the DR400 pilot was joining the circuit and had been told about the Kitfox ahead. The A/G operator reported that the DR400 pilot had transmitted that he had the traffic in sight but the DR400 pilot had not mentioned this in his report and so, without any recording of the R/T, members could not be sure whether he had seen the Kitfox and then lost sight of it, or whether he had not seen it at all. Irrespective, the DR400 pilot seemed to be surprised by his passenger pointing the Kitfox out on final, and he reported not hearing any calls from the Kitfox pilot, which implied he wasn't expecting to see it ahead of him. Notwithstanding, ultimately he was required to integrate with the circuit traffic already established, which he had been told about by the Air/Ground Operator (**CF2, CF4, CF5, CF6**); if he was unsighted or unsure as to the Kitfox's position, then the DR400 pilot would have been better advised to have asked for further information from the A/G operator or Kitfox pilot themselves, and/or held away from the circuit until he was sure of its position. The reports from the Air/Ground Operator and the witness suggested that the DR400 pilot appeared to have flown a tight visual circuit, and members agreed that, having been told there was one ahead, and then seeing it ahead, he would have been better placed by either extending downwind to allow spacing between him and the Kitfox or going around as soon as he saw it whilst on base leg (**CF3**); in not doing so, the Board considered that he had flown into conflict with the Kitfox (**CF8**). Members also noted that when going around he should have manoeuvred positively onto the dead-side rather than flying past the Kitfox on the live-side.

The Board briefly looked at the actions of the Air/Ground Operator and agreed that he was not required to integrate the circuit traffic (**CF1**), which was the pilots' responsibility. He reported that the DR400 pilot had called the traffic in sight and so could justifiably have thought that the DR400 pilot would therefore position himself behind, so the Board thought that there was little more he should have done in the circumstances and that it was understandable that he had transferred his attention to tasks inside the tower once he had established that the DR400 was visual with the Kitfox.

Finally, the Board discussed the actions of the EV97 pilot and commended him for his call on the frequency to alert the aircraft on final of the unfolding situation (albeit in this instance it appeared that

<sup>1</sup> SERA.3205 Proximity.

<sup>2</sup> SERA.3225 Operation on and in the Vicinity of an Aerodrome.

the DR400 pilot was already visual with the Kitfox and there was little that the Kitfox pilot could do to resolve the situation). They acknowledged that it was difficult to know whether to step in on the frequency or not, and as a general rule they advocated not issuing any instructions to other pilots, not least because the exact geometry can look different from the ground and to do so could exacerbate the situation. However they thought that in this situation he was correct to warn the pilots about each other and that his call had alerted the A/G operator to the situation.

In assessing the risk, the Board agreed that although it had looked close from the ground, the DR400 pilot had been visual with the Kitfox and therefore would not have collided with it. Accordingly, they assessed the risk as Category C, safety had been degraded but there was no risk of collision.

## **PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK**

### Contributory Factors:

2019165			
CF	Factor	Description	Amplification
<b>Ground Elements</b>			
<b>• Situational Awareness and Action</b>			
1	Contextual	• Situational Awareness and Sensory Events	Not required to monitor the aircraft under the agreed service
<b>Flight Elements</b>			
<b>• Regulations, Processes, Procedures and Compliance</b>			
2	Human Factors	• Flight Crew ATM Procedure Deviation	Regulations/procedures not complied with
<b>• Tactical Planning and Execution</b>			
3	Human Factors	• Insufficient Decision/Plan	Inadequate plan adaption
4	Human Factors	• Aircraft Navigation	Did not avoid/conform with the pattern of traffic already formed
<b>• Situational Awareness of the Conflicting Aircraft and Action</b>			
5	Human Factors	• Lack of Action	Pilot flew into conflict despite Situational Awareness
6	Human Factors	• Monitoring of Other Aircraft	Pilot did not sufficiently integrate with the other aircraft
<b>• See and Avoid</b>			
7	Human Factors	• Monitoring of Other Aircraft	Non-sighting or effectively a non-sighting by one or both pilots
8	Human Factors	• Lack of Action	Pilot flew into conflict

Degree of Risk: C

### Safety Barrier Assessment<sup>3</sup>

In assessing the effectiveness of the safety barriers associated with this incident, the Board concluded that the key factors had been that:

#### **Flight Elements:**

**Regulations, Processes, Procedures and Compliance** were assessed as **ineffective** because the DR400 pilot did not integrate with the Kitfox in the visual circuit.

<sup>3</sup> The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the [UKAB Website](#).

**Tactical Planning and Execution** was assessed as **ineffective** because the DR400 pilot did not alter his circuit pattern to fit in behind the Kitfox.

**Situational Awareness of the Conflicting Aircraft and Action** were assessed as **partially effective** because the DR400 pilot was aware that there was one aircraft in the circuit, but did not adjust his join or circuit to take it into consideration.

**See and Avoid** were assessed as **partially effective** because although the DR400 pilot saw the Kitfox late, he had had enough time to make the decision to execute an earlier go-around.

