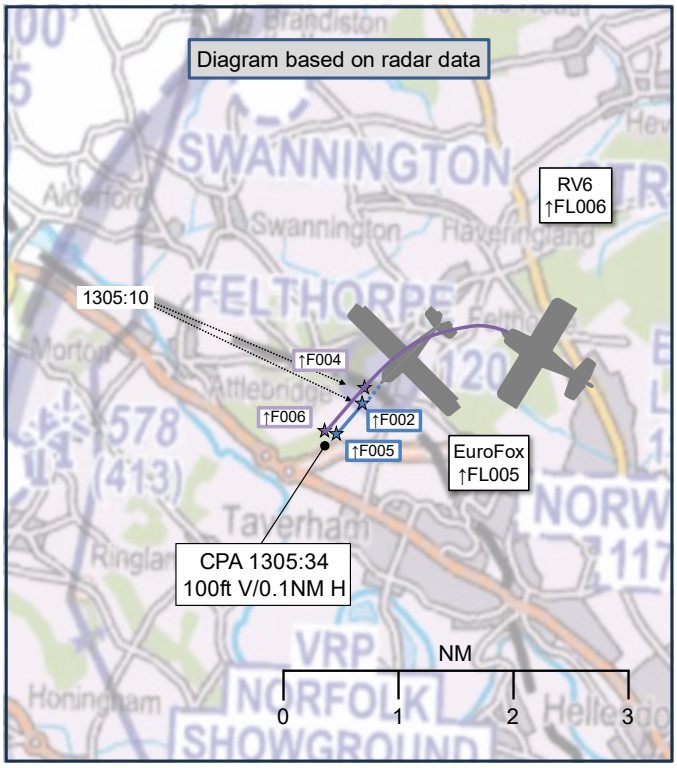
AIRPROX REPORT No 2023224

Date: 23 Sep 2023 Time: 1306Z Position: 5242N 00111E Location: Felthorpe

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	EuroFox	Vans RV6
Operator	Civ FW	Civ FW
Airspace	Norwich CTR	Norwich CTR
Class	D	D
Rules	VFR	VFR
Service	Listening Out	ACS[1]
Provider	Norwich	Norwich
Altitude/FL	FL005	FL006
Transponder	A, C, S	A, C, S
Reported		
Colours	White	White
Lighting	None	Strobes, Nav
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	0ft	800ft
Altimeter	QNH	NK
Heading	230°	NK
Speed	Taxying[2]	80kt
ACAS/TAS	Not fitted	Not fitted
Separation at CPA		
Reported	600ft V/1500ft H	200ft V/200ft H
Recorded	100ft V/0.1NM H	



THE NORWICH CONTROLLER reports that the EuroFox was departing Felthorpe Airfield when the RV6 was final to land. Both aircraft were on Norwich Tower frequency, [the pilots] making blind calls on their position in the circuit as per the Letter of Agreement. The RV6 [pilot] initiated a go-around at the time when the EuroFox got airborne. The RV6, being faster, caught up the EuroFox and flew over the top, while it was climbing out. Traffic was called to both [pilots] by Norwich Airport controller. The pilots in question were not visual with each other and flew upwind on top of each other, separated by 100ft or less, according to the ATM at Norwich Airport. The aircraft made minimal lateral separation and flew crosswind and downwind leg. They did not call visual and lateral separation was minimal (less than 0.5NM) with vertical separation of 100ft or less. Eventually the RV6 pulled ahead and turned final for Felthorpe Airfield and the EuroFox positioned behind on final. Both aircraft landed safely.

The controller assessed the risk of collision as 'High'.

THE EUROFOX PILOT reports that they were backtracking for RW23 and were halfway along when they misheard a call from the RV pilot, so were almost at the beginning of RW23 when they heard the RV pilot call final. Not knowing the state of the grass on the edge of the runway, they turned the aircraft 180° and took off immediately. They then did a circuit and, on landing, immediately apologised to the RV pilot. They noted that they recognised how dangerous their actions had been. The RV pilot had been a member of Felthorpe for thirty years and proceeded to give them some good tips about the airfield as they have only been there about a month and their previous airfield was a lot quieter with plenty of room to escape off the runway. They noted that they had learnt lessons from the incident.

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

[1] Norwich Radar is the executive authority for all Norwich airspace, but the Felthorpe circuit traffic operates on the Norwich Tower frequency.
[2] The pilot reported taxying, although the Airprox took place once airborne.

THE RV6 PILOT reports that the EuroFox pilot was unfamiliar with the Felthorpe procedures. Felthorpe is a very small airfield within Norwich Class D airspace; the circuits are tight. At this particular time, the circuit was quite busy with a EuroFox and Chipmunk which was on final RW23 as they arrived overhead at 1200ft. They carried out a radio call confirming RW23 in use, descended on the deadside and joined the circuit at 800ft, calling 'downwind 23 touch and go' which they carried out. They then called 'downwind 23 full stop', at this point the EuroFox entered RW23, they called 'finals 23', but with the Eurofox on the runway, carried out a missed approach. They then tracked the now taking-off EuroFox on the deadside, requesting whether their intentions were to remain in the circuit or depart to the north. They were visual with the Eurofox as they remained in the circuit and, as they were a lot faster, requested a priority to land and carried out a tight circuit with normal downwind, final call, and subsequently landed normally. Both aircraft landed safely.

The pilot assessed the risk of collision as 'None'.

Factual Background

The weather at Norwich was recorded as follows:

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METAR COR EGSH 231250Z 26007KT 230V310 9999 SCT020 17/11 Q1016 NOSIG=
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An LOA between Felthorpe and Norwich ATC states:

Part One

4. Arrivals: Aircraft inbound to Felthorpe will route via Lenwade Lakes VRP at 1200ft QNH. Pilots flying in from other airfields shall notify NAL ATC iaw para 2.

4.1 Radio equipped aircraft should establish contact with Norwich Radar on 119.355 MHz as soon as practicable (15-20nm out as a guide) requesting VFR entry into CAS. Aircraft should remain outside CAS until specifically cleared to enter. Non-standard routings may be offered subject to other traffic, but the joining altitude should remain at 1200ft QNH to ensure separation with any aircraft established in the Felthorpe circuit. Approaching the Lenwade Lakes VRP, ATC will issue the NAL surface wind to aid the aircraft captain in choosing the most appropriate runway for landing and will transfer the aircraft to Norwich Tower on 124.255 MHz

5. Visual Circuit. Aircraft in the Felthorpe circuit will operate VFR not above 800ft QNH. RWs 05 & 16 RH. RWs 23 & 34 LH. Circuits should remain north of the A1067 and transponder equipped aircraft shall squawk 7367.

5.1. Radio equipped aircraft in the Felthorpe circuit will, in order to maintain situational awareness, make standard 'downwind' and 'final' calls. Norwich ATC will not acknowledge the 'downwind' call but will acknowledge the 'final' call with 'Roger'. The NAL surface wind will not be given but is available on request. The phraseology to be used is:

"Callsign, Downwind Runway xx Felthorpe".

"Callsign, Final RW xx Felthorpe"

Part Two

3. Appropriate traffic information shall be given, by Tower or Radar, to VFR/IFR flights operating in the vicinity of Felthorpe and vice versa. NAL ATC will pass the NAL surface wind to inbound traffic on request or approaching the Lenwade Lakes VRP or at an appropriate point for ac making a non-standard join. Ac will then be transferred to Tower. Pilots are then required to make std circuit calls as per para 5.1.

Analysis and Investigation

UKAB Secretariat

An analysis of the NATS radar replay was undertaken. The RV6 could be identified using Mode S data, and could be seen conducting visual circuits at Felthorpe, see Figure 1 with Felthorpe marked with a white cross.

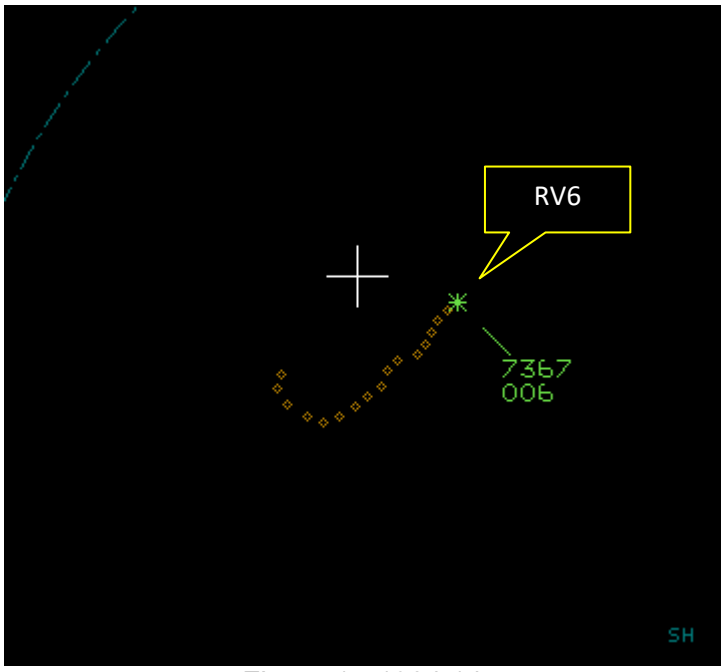


Figure 1 - 1304:14

At 1305:10 the EuroFox appeared on the radar in SSR only, and could also be identified using Mode S data (Figure 2).

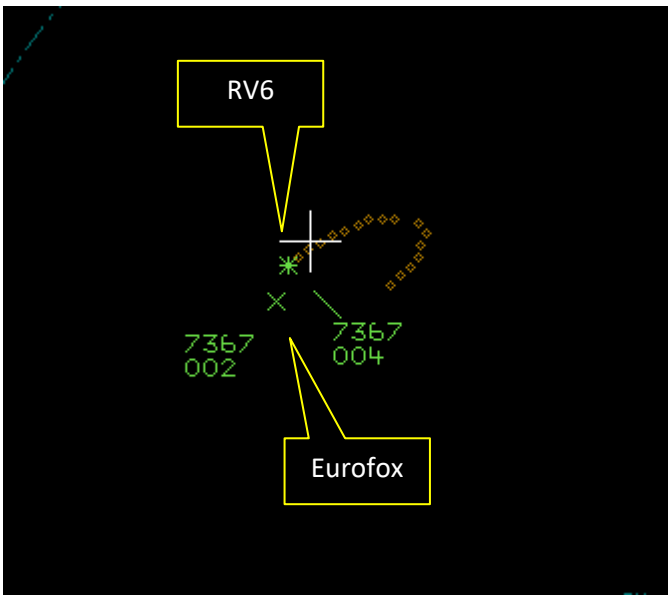


Figure 2 - 1305:10

The RV6 continued to catch-up with the EuroFox until CPA at 1305:24 when radar separation indicated 100ft and 0.1NM, Figure 4.

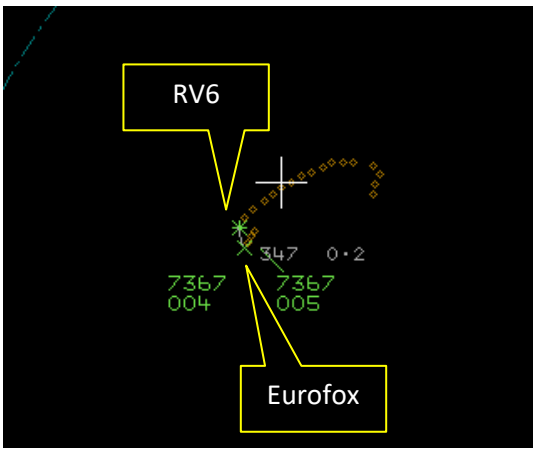


Figure 3 - 1305:24

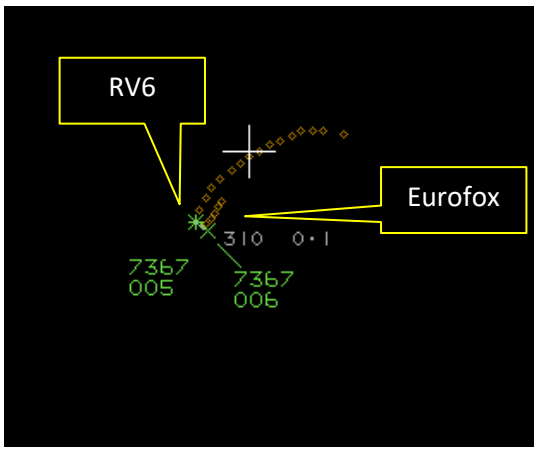


Figure 4 – CPA 1, 1305:34

Following this, both aircraft appeared to turn onto a downwind heading and fly a visual circuit with the EuroFox flying inside and slightly below the RV6. At 1305:34 the radar separation again indicated 100ft and 0.1NM (see Figure 5) after which the RV6 pulled away and made an approach to Felthorpe.

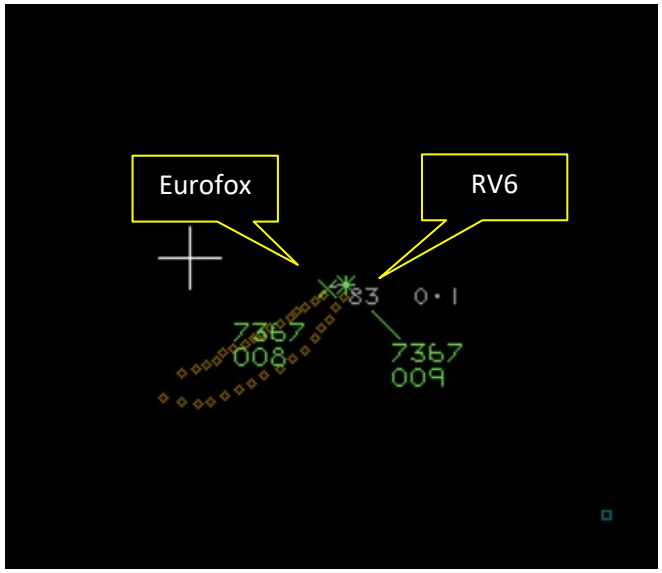


Figure 5 - CPA2, 1306:54

The EuroFox and RV6 pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard.[3] 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.[4]

Summary

An Airprox was reported when a EuroFox and an RV6 flew into proximity at Felthorpe at 1306Z on Saturday 23rd September 2023. Both pilots were operating under VFR in VMC, both in receipt of a Radar Control Service from Norwich ATC.

[3] (UK) SERA.3205 Proximity.
[4] (UK) SERA.3225 Operation on and in the Vicinity of an Aerodrome.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings and a report from the air traffic controller involved. 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 Airprox had been reported by the Norwich controller and the Board therefore discussed their actions first. They were told by a member familiar with Norwich operations that Felthorpe was situated within the Norwich CTR, it operates with a number of different aircraft types and that the pilots have varying degrees of experience. The circuit is close to the Norwich RW27 climb-out lane, therefore circuits at Felthorpe are restricted to remain north of the A1067, which does mean that circuits have to be kept tight. The pilots operating in the Felthorpe visual circuit operate on the Norwich Tower frequency; as such, RT calls are kept to a minimum - usually a downwind and final call only. The Board was told that the RT recordings demonstrated that the controller had become concerned by the proximity of the two aircraft (**CF1**) and had done their best to provide as much Traffic Information as possible to each pilot in order to enable them to become visual with one another. The Board commended the controller for their efforts, and noted that there had been very little more they could have done in the circumstances.

The Board next looked at the actions of the EuroFox pilot. It was clear that the pilot had been inexperienced with regard to operations from Felthorpe, but members thought that the pilot perhaps should have pre-briefed prior to their flight to ensure that they knew which parts of the airfield had been available for taxying. They noted that the EuroFox pilot reported that they had not heard the RV6 make the downwind call, although this and the RV6 pilot's 'final' call could clearly be heard on the RT. Nevertheless, once they realised that the RV6 pilot had been on short final whilst they were on the runway, members thought that the EuroFox pilot should have made a quick RT call to ensure that the RV6 pilot had been aware of their presence (**CF2**). Members with flying experience noted that it was important not to panic in such circumstances, as this invariably would make the situation worse. As it happened, the EuroFox pilot, despite the situational awareness that the RV6 had been on short final (**CF5**), elected to take-off in front of the RV6, thus not conforming to the pattern of circuit traffic (**CF3**).

Turning to the RV6 pilot, they had been conducting circuits and had made all the appropriate circuit calls. They had seen the EuroFox on the runway and had already been in the process of carrying out a missed approach. Members noted that the EuroFox performance means that it can climb quite quickly and so the aircraft would have climbed up to the level of the RV6 fairly swiftly, although once at the same level the RV6 would have been the quicker aircraft. The RV6 pilot reported moving over to the deadside to remain clear of the EuroFox, however, members thought that they should have given the EuroFox a wider berth (**CF3**, **CF5**), particularly because, at first, the intentions of the EuroFox pilot had been unclear, with an expectation that it had been going to depart to the north. Members wished to highlight to pilots that overtaking in the circuit was never a good idea, particularly when dealing with an inexperienced pilot that may react unexpectedly. However, they also acknowledged that the nature of the circuit at Felthorpe, with its restrictions due to the Norwich activity, limited the options available.

When determining the risk of the Airprox, the Board considered the reports from both pilots and that of the controller, together with the radar replay screenshots. They noted that the RV6 pilot had been visual throughout the incident and that, although the controller had assessed the risk as 'high', it would have been based upon seeing the aircraft on the ATM or from some distance away through binoculars. Some members thought that there had been a risk of collision because the EuroFox pilot had acted unexpectedly in getting airborne directly in front of the RV6, whilst others noted that because the RV6 pilot had been visual, there had been no risk of collision. In the end the latter view prevailed, although the Board unanimously agreed that safety had been degraded; Risk Category C.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2023224			
CF	**Factor**	**Description**	**ECCAIRS Amplification**	**UKAB Amplification**
	Ground Elements			
	• Situational Awareness and Action			
1	Human Factors	• Expectation/ Assumption	Events involving an individual or a crew/ team acting on the basis of expectation or assumptions of a situation that is different from the reality	Concerned by the proximity of the aircraft
	Flight Elements			
	• Tactical Planning and Execution			
2	Human Factors	• Accuracy of Communication	Events involving flight crew using inaccurate communication - wrong or incomplete information provided	Ineffective communication of intentions
3	Human Factors	• Action Performed Incorrectly	Events involving flight crew performing the selected action incorrectly	Incorrect or ineffective execution
4	Human Factors	• Monitoring of Environment	Events involving flight crew not to appropriately monitoring the environment	Did not avoid/conform with the pattern of traffic already formed
	• Situational Awareness of the Conflicting Aircraft and Action			
5	Human Factors	• Incomplete Action	Events involving flight crew performing a task but then not fully completing that task or action that they were intending to carry out	Pilot did not sufficiently integrate with the other aircraft despite Situational Awareness

Degree of Risk: C.

Safety Barrier Assessment[5]

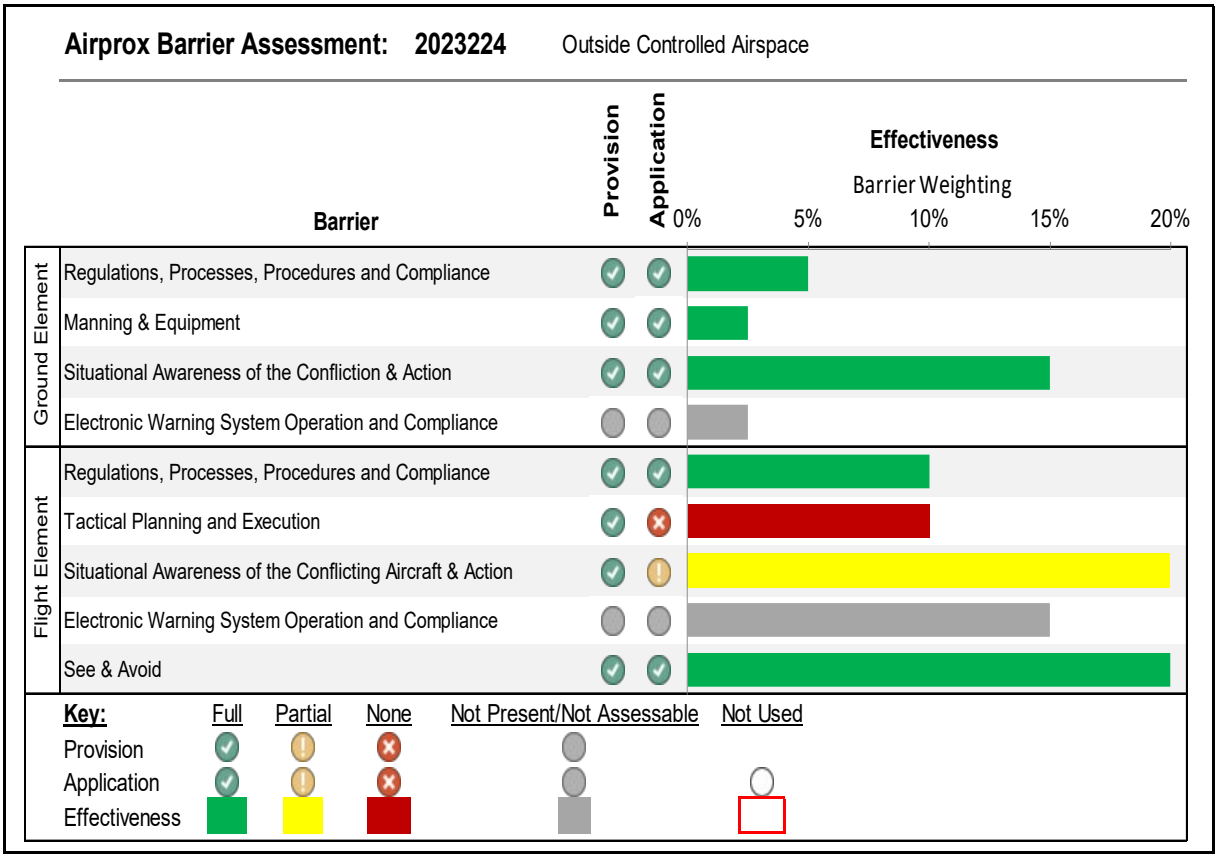
In assessing the effectiveness of the safety barriers associated with this incident, the Board concluded that the key factors had been that:

Flight Elements:

Tactical Planning and Execution was assessed as **ineffective** because the EuroFox pilot did not state their intention to take-off in front of the RV6, and therefore did not conform with the pattern of traffic formed by the approaching RV6. However, subsequently, the RV6 pilot could have adapted their circuit pattern to keep well clear of the EuroFox.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **partially effective** because the EuroFox pilot had known that the RV6 had been on final, but got airborne anyway and once it had become obvious that the EuroFox had taken off ahead of them, the RV6 pilot could have allowed sufficient space so that both aircraft could conduct their circuits safely.

[5] The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the UKAB Website.


Airprox Barrier Assessment: 2023224
Outside Controlled Airspace
Barrier
Provision
Application
Effectiveness
Barrier Weighting
0%
5%
10%
15%
20%
Ground Element
Regulations, Processes, Procedures and Compliance
Manning & Equipment
Situational Awareness of the Confliction & Action
Electronic Warning System Operation and Compliance
Flight Element
Regulations, Processes, Procedures and Compliance
Tactical Planning and Execution
Situational Awareness of the Conflicting Aircraft & Action
Electronic Warning System Operation and Compliance
See & Avoid
Key:
Full
Partial
None
Not Present/Not Assessable
Not Used
Provision
Application
Effectiveness