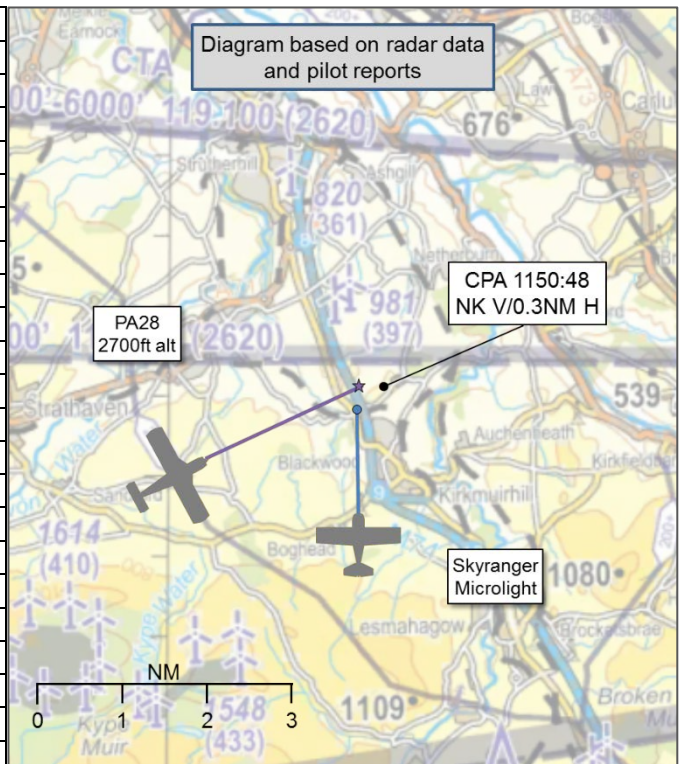


**AIRPROX REPORT No 2020093**

Date: 08 Aug 2020 Time: 1150Z Position: 5541N 00355W Location: Strathaven

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

Recorded	Aircraft 1	Aircraft 2
Aircraft	Skyranger	PA28
Operator	Civ FW	Civ FW
Airspace	Scottish FIR	Scottish FIR
Class	G	G
Rules	VFR	VFR
Service	Basic	None
Provider	Scottish Information	
Altitude/FL	NK	2700ft
Transponder	Not Fitted	A, C, S
<b>Reported</b>		
Colours	White, Red, Blue	Blue, White
Lighting	Strobes	NK
Conditions	VMC	VMC
Visibility	NK	NK
Altitude/FL	3500ft	3000ft
Altimeter	QNH	NK
Heading	NR	065°
Speed	NR	121kt
ACAS/TAS	Unknown	Unknown
Alert	Unknown	Unknown
<b>Separation</b>		
Reported	50ft V/150m H	Not Seen
Recorded	NK V/ 0.3NM H	



**THE SKYRANGER PILOT** reports that they were descending and trying to spot the airfield, the pilot was concentrating on height in the main and the passenger was looking intermittently in direction of Strathaven. The passenger didn't spot the other aircraft until it was in the 11 o'clock position and the pilot saw it when the aircraft was directly in front. It was low-wing with a bright blue fuselage and white wings.

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

**THE PA28 PILOT** reports that flight times and photographs from the SkyDemon flight log would indicate that it was their aircraft in the area at the time of the reported Airprox, however, they did not see the other aircraft.

**THE SCOTTISH INFORMATION CONTROLLER** reports that they were notified about the Airprox some days after the event and had no prior knowledge of it. The flight strip indicated that the Skyranger microlight pilot called on frequency at 1116Z, at that time a different FISO was in position. The pilot reported 4NM north of Sanquhar at 1137Z and then 6NM north-east of Cumbernauld at 1211Z. The controller recalled that the aircraft diverted from the initial destination of Strathaven to a nearby airfield at 1223Z. The aircraft was not equipped with a transponder and the FIR and Scottish TMA were extremely busy that day, recording a record 179 flights, the highest of the year. The weather was ideal for the GA community.

**Factual Background**

The weather at Glasgow was recorded as follows:

METAR EGPF 081150Z AUTO VRB03KT 9999 FEW030 19/11 Q1026=

## Analysis and Investigation

### UKAB Secretariat

The Skyranger and PA28 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> If the incident geometry is considered as converging then the PA28 pilot was required to give way to the Skyranger.<sup>2</sup>

### Occurrence Investigation

#### NATS

The Skyranger was a fixed wing (3-axis) microlight. On the day of the event the pilot had contacted Scottish Information at 1116Z with details of their flight from “Lancs” to Strathaven. Strathaven is a popular microlight site, marked on VFR charts, approximately 16NM south east of Glasgow Airport, and 20NM north east of Prestwick Airport. Strathaven is situated in Class G airspace, with the Scottish TMA Class D airspace above at 4500ft.

Timeline of events:

1116Z The Skyranger pilot first contacted Scottish Information.

1136Z The pilot contacted Scottish Information to inform them of their intention to divert.

1136:54Z Skyranger: “Scottish, change of plan, we’re going direct to [airfield], we’re just at Strathaven at this stage [C/S].”

1137:06Z Scottish “[C/S] roger, report your present position and level.”

1137:10Z Skyranger: “4NM North of Sanquhar and we’re at five thousand feet on 1026 [C/S].”

1137:26Z Scottish “[C/S] roger Glasgow QNH 1026 remain outside controlled airspace.”

1137:32Z Skyranger: “[C/S] wilco QNH1026 for Glasgow [C/S].”

1137:45Z Scottish “And [C/S] confirm your intended routeing will be overhead Cumbernauld remaining outside controlled airspace at all times.”

1137:50Z Skyranger “[C/S} confirmed”

1150Z From radar replay, a primary contact, believed to be the Skyranger, could be seen in close proximity to an unknown return squawking 7000. There was no associated aircraft data available for the unknown aircraft, however it appeared to have departed from Prestwick. The primary contact matched the position reports and route of the Skyranger, and CPA with the unknown radar return occurred at 11:50:44Z.

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

<sup>2</sup> SERA.3210 Right-of-way (c)(2) Converging.

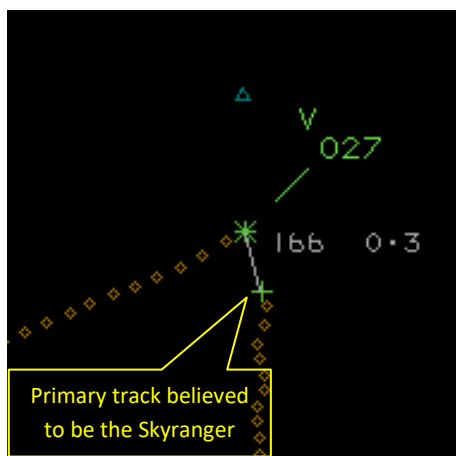


Figure1: 1150:44

The primary contact passed behind the unknown aircraft and the indicated distance did not drop below 0.3NM. At 11:50:59 the indicated distance increased to 0.5NM and continued to increase.

The FISO on duty at the time of the Airprox was on a D10 dayshift, this shift ran from 10:00L – 18:00L and is used to provide relief to the morning and afternoon shifts respectively. Saturday 8th August was day 5 of a 6 day cycle, the FISO states they were not fatigued and had no issues either at home or at work to effect their ability to perform their role. During interview the FISO reported the traffic loading on the day of the event was high, and the traffic complexity was also high. They felt that their overall workload was high, but manageable, and at no point felt they did not have a good picture of the sector. The FISO remembered the microlight in question because they changed their destination airfield; the FISO believed the pilot made a position report in the vicinity of Sanquhar and at the same time informed them of the intention to divert. The next time the FISO remembered the pilot reporting on frequency was in the vicinity of Cumbernauld. At no time did the FISO remember hearing an Airprox being reported on frequency, or any transmission that might suggest the pilot was concerned about the proximity of another aircraft. When asked about the use of the Flight Information Display (FID) on the day of the event, the FISO said that they were able to keep an eye on it to assist with situational awareness, however at no point did they observe a potential conflict. As the Skyranger was non-transponding it would not have caught their eye on the FID in the same way an SFIS (code-callsign converted) track would. The FISO noted that the day of the event was the busiest day of the year so far on the FIR position with almost 180 movements. As it was such a busy day on the FIR position and nothing unusual occurred or was reported at the time, the FISO has no additional information to add to the investigation.

## Prestwick Centre MATS Pt.2 FIS

### 1.3.3 Flight Information Display

*“The FID is available to assist FISOs in the reduction and prevention of airspace infringements by aircraft in receipt of a Basic Service. Use of the FID is optional and the FISO may use the FID to aid situational awareness. The FISO shall use the pilot's R/T report(s) to record details of their flight, position etc. on the FIS FPS display. The FISO may use the FID when there is reason to doubt an aircraft position or pilot's knowledge of the airspace along their route as derived solely from R/T exchange between the pilot and the FISO. UK FIS R/T phraseology shall not be changed to enable FID use. The FISO shall not refer to use of the FID in any R/T exchange with aircraft to which they are providing a Basic Service. The FISO may use the FID to warn aircraft of unusual activity noticed, but not notified, in an area. Unusual activity is defined as 'Three or more plots observed in close proximity to each other and remaining in the same geographic area'. The following phraseology shall be used when issuing such a warning. 'I am aware that there is increased activity in the vicinity of XXXX.’”*

The FISO stated during interview that they were utilising the FID for situational awareness on the day of the event. However, due to the range the FID is set at and the geographical size of the

Scottish Information sector, along with the volume of traffic on the day of the event, it is not unusual for a non-transponding aircraft to not be observed during a scan of the FID.

In conclusion, an Airprox was reported by the Skyranger pilot in the vicinity of Strathaven. The Airprox was not reported on frequency with Scottish Information, so the FISO had no knowledge of the event until informed by the CAA. A primary contact believed to be Skyranger could be seen on radar replay passing 0.3NM behind an unknown aircraft at the time the Airprox was reported to have occurred. The unknown aircraft was not in contact with Scottish Information. It would be difficult to observe on the FID given how busy the sector was on the day and the range the FID is set to, and the FISO reported they did not observe the potential conflict at the time of the event.

## Summary

An Airprox was reported when a Skyranger and a PA28 flew into proximity in the vicinity of Strathaven at 1150Z on Saturday 8<sup>th</sup> August 2020. Both pilots were operating under VFR in VMC, the Skyranger pilot in receipt of a Basic Service from Scottish Information, the PA28 pilot was not in receipt of an ATS.

## **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 FISO 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.

Due to the exceptional circumstances presented by the coronavirus pandemic, this incident was assessed as part of a 'virtual' UK Airprox Board meeting where members provided a combination of written contributions and dial-in/VTC comments.

The Board first looked at the actions of the Skyranger pilot. They were receiving a Basic Service from Scottish Information, but without a transponder, the FISO did not know their exact location and therefore would have been unlikely to pass any Traffic Information. As a result, the Skyranger pilot did not receive any situational awareness on the PA28 prior to seeing it cross ahead (**CF3**). The Skyranger was not fitted with a CWS, furthermore, the lack of a transponder meant that the Skyranger was not detectable by any CWS in other aircraft either. However, because it was not known whether the PA28 was fitted with a CWS, the Board did not think it was a contributory factor on this occasion. Nonetheless, without a surveillance based ATS, or a CWS, see-and-avoid was the last remaining barrier available to the pilot. In the event, see-and-avoid had not been effective because the pilot did not see the PA28 until it was in their 12 o'clock, and therefore too late to take any meaningful action (**CF4**). Members noted that the Airprox had not been reported on frequency, which delayed the tracing of the PA28 and meant that it was some days before the FISO was informed; pilots were urged to consider reporting Airprox on frequency at the time of the event to allow ATC agencies to preserve valuable data.

The PA28 pilot was not aware of the Airprox until contacted after the event and did not see the Skyranger at all (**CF4**). Members noted that although he was entitled to fly in Class G airspace without an ATS, the area that the Airprox took place was beneath controlled airspace and was in the vicinity of the East Kilbride VRP, which was a busy entry and exit point for the Glasgow CTR. They thought that with this in mind, the PA28 pilot would have been wise to have requested an ATS (**CF2**) which may have provided him with situational awareness on other traffic in the area (**CF3**).

The Board then briefly discussed the role that the Scottish Information FISO had to play. They were providing a Basic Service (**CF1**) and members were reminded that they did not have direct access to a radar as such, but to an FID. Not being controllers, FISOs could provide Traffic Information if it was known aircraft were likely to be in close proximity, however, most of their situational awareness was based upon pilots' position reports cross-referred to the FID. Without a transponder it would have been very difficult for the FISO to know the position of the Skyranger and so Traffic Information was unlikely.

In determining the risk of the Airprox, members quickly agreed that, notwithstanding that neither pilot was visual with the other prior to CPA, fortuitously, the geometry and separation of the two aircraft had been such that, although safety had been degraded, there had been no risk of collision. Risk Category C.

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

### Contributory Factors:

2020093			
CF	Factor	Description	Amplification
<b>Ground Elements</b>			
<b>• Situational Awareness and Action</b>			
1	Contextual	• ANS Flight Information Provision	Not required to monitor the aircraft under the agreed service
<b>Flight Elements</b>			
<b>• Tactical Planning and Execution</b>			
2	Human Factors	• Communications by Flight Crew with ANS	Pilot did not communicate with appropriate ATS provider
<b>• Situational Awareness of the Conflicting Aircraft and Action</b>			
3	Contextual	• Situational Awareness and Sensory Events	Pilot had no, late or only generic, Situational Awareness
<b>• See and Avoid</b>			
4	Human Factors	• Monitoring of Other Aircraft	Non-sighting or effectively a non-sighting by one or both pilots

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:**

**Tactical Planning and Execution** was assessed as **partially effective** because the PA28 pilot did not communicate with ATC.

**Situational Awareness of the Conflicting Aircraft and Action** were assessed as **ineffective** because neither pilot had any prior knowledge that the other was there.

**See and Avoid** were assessed as **ineffective** because neither pilot took any action to increase the separation.

<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](#).

<b>Airprox Barrier Assessment: 2020093</b>		Outside Controlled Airspace						
<b>Barrier</b>		<b>Provision</b>	<b>Application</b>	<b>Effectiveness</b> 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	✗	✗					
<b>Key:</b>		<u>Full</u>	<u>Partial</u>	<u>None</u>	<u>Not Present/Not Assessable</u>	<u>Not Used</u>		
Provision	✓	⚠	✗	⊘				
Application	✓	⚠	✗	⊘		○		
Effectiveness								