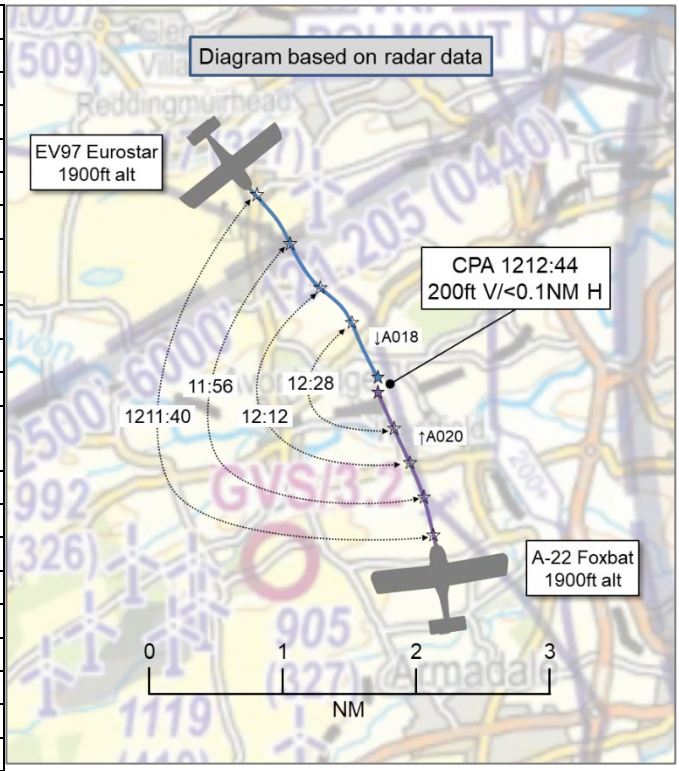
AIRPROX REPORT No 2020164

Date: 19 Nov 2020 Time: 1213Z Position: 5556N 00343W Location: 4NM S of Falkirk

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	EV97 Eurostar	A-22 Foxbat
Operator	Civ FW	Civ FW
Airspace	Scottish FIR	Scottish FIR
Class	G	G
Rules	VFR	VFR
Service	None[1]	Basic[2]
Provider	Edinburgh App	Edinburgh App
Altitude/FL	FL014	FL016
Transponder	A, C, S	A, C, S
Reported		
Colours	Blue/silver	Orange
Lighting	Wingtip strobes	Strobes, nav, landing light
Conditions	VMC	VMC
Visibility	40NM	NR
Altitude/FL	1800ft	1900ft
Altimeter	QNH (1027hPa)	NK
Heading	155°	340°
Speed	82kt	85kt
ACAS/TAS	Not fitted	Unknown
Separation		
Reported	200ft V/200m H	400ft V/1NM H
Recorded	200ft V/<0.1NM H	



THE EV97 EUROSTAR PILOT reports that they had been receiving Basic Service from Scottish Information and that they had handed them over to Edinburgh Approach, they recalled. The pilot saw the other aircraft, appearing out of the sun, while they were receiving details of a Basic Service from Edinburgh. The aircraft was seen in their 1 o'clock position at higher level and they banked left. They first saw the aircraft at a range of approximately 350m and about 200ft above.

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

THE A-22 FOXBAT PILOT reports that they had just taken off from [a local airfield] inside the Edinburgh zone and had been in touch with Edinburgh Approach the entire time, operating with an Edinburgh squawk code. They left the zone at Cobbinshaw and remained at the boundary of the Edinburgh CTR on a Basic Service. They informed ATC that they would be tracking towards Falkirk. As they were approaching Falkirk, an aircraft called up Edinburgh Approach. This call was cut short as the pilot claimed to be taking avoiding action. At this point, they saw a long-wing aircraft pass 500ft below. The other pilot informed ATC of avoiding action; the A-22 pilot felt separation was suitable at the time of contact and that no avoiding action was necessary. The pilot opined that [the EV97] was very close to the Edinburgh CTR before making contact with Edinburgh Approach. The controller wasn't given an opportunity to give Traffic Information. Visual contact was difficult as the other aircraft passed below on their left-hand side. They had left their landing light on for increased visibility, with strobe and navigation lights. They were unaware of [the EV97] operating close to their vicinity.

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

[1] The EV97 Eurostar pilot was in the process of contacting Edinburgh to request a Basic Service.
[2] No Air Traffic Service was formally agreed, but considered to be receiving the equivalent of a Basic Service.

THE EDINBURGH APPROACH CONTROLLER reports that they were working from the ADC position in RIT[3] when they received a free-call from [the EV97 pilot]. Halfway through their initial contact, the pilot broke off their call. The pilot re-contacted them a couple of seconds later saying they had just had to take avoiding action. The controller asked if they were alright to continue and then identified them with an Edinburgh VFR squawk approximately 15NM SW of Edinburgh Airport. The controller assumes that the aircraft that the pilot had to take avoiding action against was [the A-22] (an aircraft under a Basic Service with an Edinburgh VFR squawk allocated). The controller did not see the confliction until the initial call from [the EV97 pilot], by which time it was too late to call traffic. At no time did [the A-22 pilot] say anything about the close proximity of another aircraft.

Factual Background

The weather at Edinburgh Airport was recorded as follows:

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METAR EGPH 191220Z 27008KT CAVOK 06/00 Q1028=
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Analysis and Investigation

Edinburgh ATC

Edinburgh Airport ATC provided the UKAB with an investigation report. This report largely mirrors the report from CAA ATSI and so, to avoid duplication, only the conclusions of the Edinburgh Airport ATC investigation are included below:

- [The EV97] and [the A-22] conflicted with a closest point of approach of 100-300ft vertically and no lateral separation.

- [The EV97] and [the A-22] pilots became visual with each other at a similar time, around 5sec before the point of minimum separation, which allowed the pilot of [the EV97] to take avoiding action.

- [The A-22] pilot was under a Basic Service from Edinburgh and as such was responsible for their own separation from other aircraft. [The EV97] pilot was responsible for their own separation as they were under no Air Traffic Service at all, having only just started to pass details to Edinburgh. As a result, Edinburgh ATC was not responsible for the deconfliction of the two aircraft.

- The Edinburgh controller did not see the confliction prior to the event but was not required to monitor the aircraft involved under the Basic Service that [the A-22] pilot was receiving. The controller was aware of their general requirement to prevent collisions between aircraft and was certain that they would have done this (regardless of service being provided) had they been aware of the confliction.

CAA ATSI

The A-22 pilot, having previously called the Edinburgh controller for a clearance whilst on the ground at [a local airfield], reported airborne at **1158:56**. Their intention was to leave Edinburgh's CTR to the southwest via the Cobbinshaw Reservoir VRP before turning northwest for Falkirk, and had been cleared to do so not above an altitude of 2000ft on the Edinburgh QNH.

The Edinburgh controller was located in the Visual Control Room at Edinburgh, and was providing a combined Aerodrome Control and Radar Control service, together with UK Flight Information Services, (known as Radar in the Tower (RitT)). The controller had been vectoring another aircraft for an ILS approach at Edinburgh, which landed shortly after the A-22 pilot called airborne from [the

[3] Radar in the Tower.

local airfield]. The controller then dealt with a second aircraft which had called on the ground at [the local airfield] for a clearance to transit to the east to Dalkeith.

At **1203:30** the A-22 pilot reported leaving controlled airspace at the Cobbinshaw Reservoir VRP. The Edinburgh controller acknowledged this, requested an estimated time of return, but No Air Traffic Service was agreed with the pilot. According to their written report, the pilot assumed that they were receiving a Basic Service, and it is considered likely that the Edinburgh controller was operating as if such a service was being provided.

The EV97 initially appeared as a primary-only contact on the area radar replay used for this investigation. The Edinburgh unit investigation report provided a snapshot of their radar showing the EV97 with a Scottish Information transponder code at **1204:08**, passing to the west of Stirling, tracking southeast at an altitude of 2800ft, coincidental with the airborne call from the second aircraft out of [the local airfield]. The pilot of the second [local airfield] aircraft reported leaving controlled airspace at Dalkeith at **1210:55** which was acknowledged by the controller. The EV97 was 5NM northwest of the A-22 at this time (Figure 1). At **1212:11** the EV97 pilot called the controller (Figure 2).

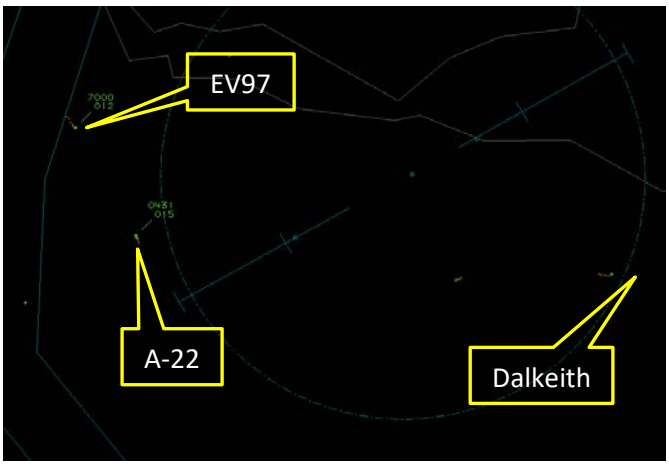

Figure 1 – 1210:55

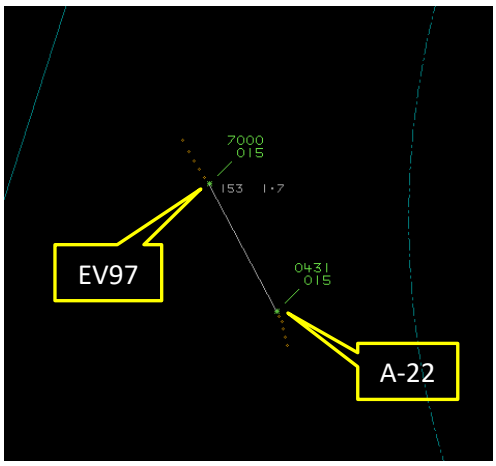

Figure 2 – 1212:11

The EV97 pilot continued; "*we're a Eurostar EV97, current position three miles southwest of Polmont* (VRP) *and…*". The transmission stopped at **1212:29**. There was a gap in transmissions before the Edinburgh controller replied at **1212:45** (Figure 3), advising that they would provide a Basic Service and passed the Edinburgh QNH, during which CPA occurred. The EV97 was observed to have initiated a descent and passed below (200ft) and to the east (0.1NM) of the A-22 (Figure 4).

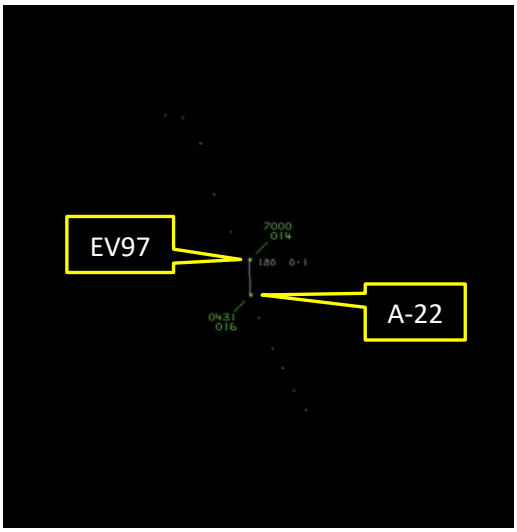

Figure 3 – 1212:45 – CPA

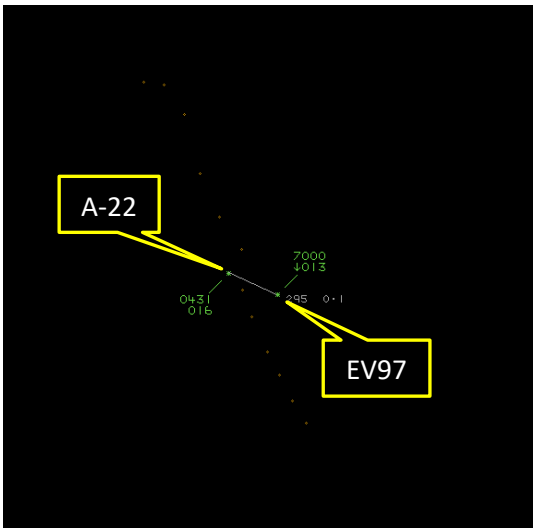

Figure 4 – 1212:48

The pilot of the EV97 then reported to Edinburgh "*sorry, we just had to take avoiding action for er oncoming aircraft*".

The pilot of the EV97 in their written report stated that they had been receiving a Basic Service from Scottish Information before they "*handed me to Edinburgh Approach*"; no such handover took place. They went on; "*just made first contact with Edinburgh Approach and the other aircraft appeared out of the sun*", and that they "*banked left*".

The A-22 pilot reported first seeing the EV97 as it passed "*500ft below*".

The Edinburgh controller reported that they hadn't seen the confliction until hearing the initial call by the EV97 "*by which time it was too late to call traffic*".

The Edinburgh unit investigation highlighted that the controller had been previously providing Traffic Information to other aircraft but that they hadn't seen the confliction between these two until after the event. Edinburgh ATC has VDF but it was not operational that day. The investigation concluded that, even if it had been, the time between the first call by the EV97 pilot and CPA would still have been insufficient to pass adequate Traffic Information. The STCA also did not alert as it is set to not alert for Edinburgh VFR codes against other conspicuity codes.

In accordance with CAP 774 UK Flight Information Services (Chapter 2 Para 2.5):

> *Given that the provider of a Basic Service is not required to monitor the flight, pilots should not expect any form of traffic information from a controller/FISO. A pilot who considers that he requires a regular flow of specific traffic information shall request a Traffic Service.*

Also (Para 2.7),

> *A controller with access to surveillance-derived information shall avoid the routine provision of traffic information on specific aircraft but may use that information to provide a more detailed warning to the pilot.*

And finally (Para 2.9),

> *Whether traffic information has been provided or not, the pilot remains responsible for collision avoidance without assistance from the controller.*

There was no requirement for the controller to continuously monitor the aircraft, despite having access to surveillance equipment, and they did not see the confliction. The service provided by Scottish Information is not based on the use of surveillance equipment.

Both aircraft were operating in Class G airspace where pilots are ultimately responsible for their own collision avoidance irrespective of the ATS being provided.

UKAB Secretariat

The EV97 Eurostar and A-22 Foxbat pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard.[4] If the incident geometry is considered as head-on or nearly so then both pilots were required to turn to the right.[5]

Summary

An Airprox was reported when an EV97 Eurostar and an A-22 Foxbat flew into proximity 4NM S of Falkirk at 1213Z on Thursday 19th November 2020. Both pilots were operating under VFR in VMC; the EV97 Eurostar pilot was in the process of requesting a Basic Service from Edinburgh Approach and the A-22 Foxbat pilot was in receipt of a Basic Service from Edinburgh Approach.

[4] SERA.3205 Proximity.
[5] SERA.3210 Right-of-way (c)(1) Approaching head-on.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings, reports from the air traffic controllers involved and reports from the appropriate operating authorities. 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 considered the actions of the EV97 Eurostar pilot and heard from a GA pilot member that the Scottish Information FISOs often (though not always) offer pilots the facility to conduct a handover to their next agency; this was confirmed by an ATC member familiar with activities in the Scottish FIR. Whilst the EV97 pilot reports a handover having been conducted, there had been no means of verifying this information and so members wondered if they had, in fact, been expecting a handover from the Scottish FISO but, when this had not been forthcoming, they had decided to free-call Edinburgh. Members agreed that the call to Edinburgh had been later than would normally be expected and so this had left the Edinburgh controller with too little time to identify the aircraft, place it under a Service and issue Traffic Information should it be required (**CF4**, **CF5**). This, coupled with the fact that the EV97 pilot had not been carrying any on-board equipment capable of detecting the A-22, had meant that the EV97 pilot had not had any situational awareness of the presence and relative proximity of the A-22 (**CF6**). A GA pilot member raised the importance of pilots conducting occasional weaves during the cruise to assist in the detection of any potential threats that may be obscured by the nose or wings of their aircraft. In this case, however, the A-22 had been sighted by the EV97 pilot slightly above their aircraft at close range, and members agreed that, although the EV97 pilot had taken immediate action in banking left, their late sighting of the A-22 had been a contributory factor in this Airprox (**CF8**).

The Board then discussed the actions of the A-22 Foxbat pilot and noted that they had been operating under a Basic Service from the Edinburgh controller since their departure from a local airfield. Some members opined that, given the capabilities available to the controller at the time (Radar in the Tower), the A-22 pilot might have been better served in requesting a Traffic Service, as this would most likely have led to the controller monitoring the A-22's progress more closely and may have given the controller the opportunity to spot the EV97 on a reciprocal track and at a similar altitude to that of the A-22. In the event, the A-22 pilot had not received any information regarding the presence of the EV97 and therefore had had no situational awareness regarding its relative position (**CF6**). The Board felt that this had left the A-22 pilot with See and Avoid as the only viable barrier to mid-air collision. Once again, a GA pilot member mentioned the importance of gentle manoeuvres in the climb, cruise and descent as a means of eliminating blind-spots and assisting in the detection of potential threats. Members acknowledged that the A-22 pilot had sighted the EV97 as it had passed below their aircraft and assessed the separation as adequate, but nonetheless felt that the A-22 pilot's sighting of the EV97 had been too late for them to materially affect the separation and had, therefore, been contributory to the Airprox (**CF7**).

Turning to the actions of the Edinburgh controller the Board noted that, although no formal Service had been agreed (albeit there may be a local agreement between Edinburgh ATC and the local airfield), they had been delivering a Basic Service to the A-22 pilot and, as such, had not been required to monitor the progress of the A-22 (**CF1**). In addition, members agreed that the controller had had no situational awareness of the presence of the EV97 (**CF2**) until the pilot had made their initial call to the controller and therefore could not have passed any Traffic Information to the A-22 pilot. At this point the controller noticed the confliction between the 2 aircraft (**CF3**) but the EV97 pilot had already taken steps to resolve the conflict. The Board heard from an ATC adviser that the Edinburgh controller would have been dividing their attention between the Air Traffic Monitor, the radar screen, the circuit pattern and the ground environment and so, quite justifiably, an aircraft on a Basic Service would not have demanded much of the controller's attention. The Board also discussed the use of STCA at Edinburgh, noting that it had been configured so as not to alarm between Edinburgh VFR transponder codes and general conspicuity transponder codes. Some members felt that this had been a missed opportunity for

the STCA to alert the controller to the conflict; however, other members with controller experience considered that STCA is not a suitable system for VFR separation and the number of false alarms generated should it be configured in this manner would rapidly desensitize controllers to a genuine loss of separation of IFR traffic.

Finally, the Board considered the risk involved in this event. Members noted that neither pilot had assessed the risk of collision as 'High', the A-22 pilot had considered the separation as adequate and that the EV97 pilot had had time to effect an increase in separation between the 2 aircraft (which had probably accounted for the A-22 pilot's relative ease at the point at which they saw the EV97). The Board also took into account the separation recorded from the NATS radar replay and concluded that, although safety had been degraded, timely and effective avoiding action had been taken by the pilot of the EV97 which had removed any risk of collision. Accordingly, the Board assigned a Risk Category C to this Airprox.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2020164		
CF	**Factor**	**Description**	**Amplification**
	Ground Elements		
	• Situational Awareness and Action		
1	Contextual	• ANS Flight Information Provision	Not required to monitor the aircraft under the agreed service
2	Contextual	• Situational Awareness and Sensory Events	The controller had generic, late or no Situational Awareness
3	Human Factors	• Conflict Detection - Detected Late	
	Flight Elements		
	• Tactical Planning and Execution		
4	Human Factors	• Late Decision/Plan	
5	Human Factors	• Accuracy of Communication	Ineffective communication of intentions
	• Situational Awareness of the Conflicting Aircraft and Action		
6	Contextual	• Situational Awareness and Sensory Events	The pilot had generic, late or no Situational Awareness
	• See and Avoid		
7	Human Factors	• Monitoring of Other Aircraft	Non-sighting or effectively a non-sighting by one or both pilots
8	Human Factors	• Monitoring of Other Aircraft	Late-sighting by one or both pilots

Degree of Risk: C

Safety Barrier Assessment[6]

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

Ground Elements:

Situational Awareness of the Confliction and Action were assessed as **not used** because the Edinburgh controller was not required to monitor the A-22 Foxbat under the terms of a Basic Service and did not, therefore, detect the conflict with the EV97 Eurostar.

Electronic Warning System Operation and Compliance were assessed as **not used** because the STCA at Edinburgh Airport is not configured to alert against general conspicuity transponder codes.

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

Flight Elements:

Tactical Planning and Execution was assessed as **partially effective** because the EV97 Eurostar pilot called the Edinburgh controller when only 3NM from the CTR boundary, thus not giving the controller sufficient time to assimilate the position of the aircraft and issue Traffic Information if necessary.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because neither pilot was aware of the presence of the other aircraft prior to them sighting each other.

See and Avoid were assessed as **partially effective** because the EV97 Eurostar pilot only saw the A-22 Foxbat in time to take last-minute avoiding action, and the A-22 Foxbat pilot did not see the EV97 Eurostar in time to materially affect the separation.