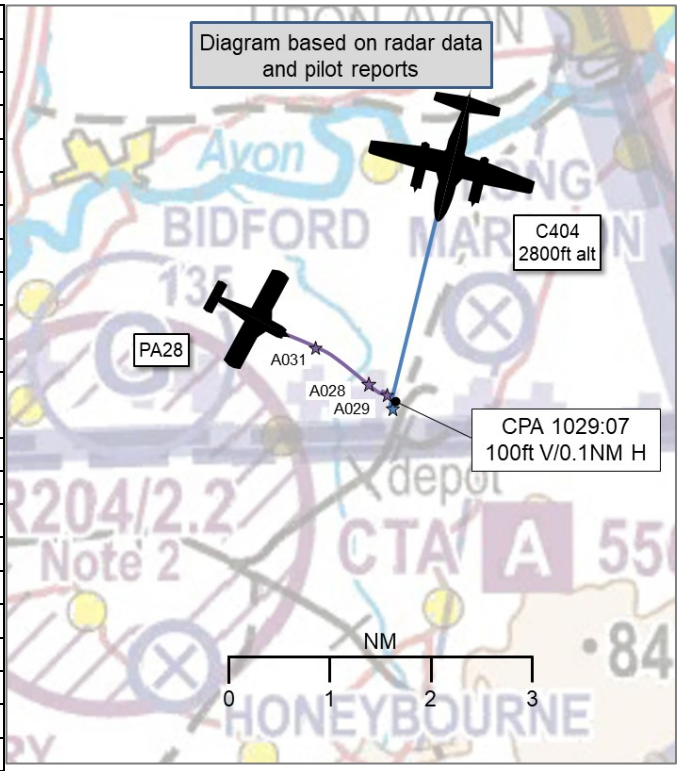
AIRPROX REPORT No 2020124

Date: 16 Sep 2020 Time: 1029Z Position: 5207N 00146W Location: 1NM SW Long Marston

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	C404	PA28
Operator	Civ Comm	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Basic[1]	None
Provider	Birmingham	N/A
Altitude/FL	2800ft	2900ft
Transponder	A, C, S	A, C
Reported		
Colours	Blue, White, Magenta	Blue, White
Lighting	HISL, Nav	Strobe
Conditions	VMC	VMC
Visibility	>10km	10km
Altitude/FL	2700ft	2900ft
Altimeter	QNH (1026hPa)	QNH (1018hPa)
Heading	190°	100°
Speed	170kt	110kt
ACAS/TAS	Not fitted	Not fitted
Separation		
Reported	300ft V/0.25NM H	400ft V/1NM H
Recorded	100ft V/0.1NM H	



THE C404 PILOT reports that they were carrying out a survey detail over Weymouth, having just left Birmingham's airspace after a zone transit, Birmingham advised them that there was traffic crossing right-to-left 300ft above and ahead. Poor visibility resulted in a very late identification of the crossing traffic in the area of the Long Marston disused aerodrome with less than 300ft vertical and 0.25NM horizontal separation off the right wing. The crossing traffic had clearly seen them before they had seen it as it had initiated a climbing turn away as they saw it. The aircraft past behind and higher than them. They believe that a mid-air collision would not have happened, but it was a little close for comfort. Minimal avoiding action was taken so it is hard to distinguish the exact location.

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

THE PA28 PILOT reports that they were 2/3rds of the way through a PPL skills test and had just finished the diversion leg. The C404 was obscured by their port wing, they became visual about 1NM away about 400ft below. The C404 pilot did not make any apparent change in direction and neither did they. They assume the C404 pilot did not see them until late as the C404 pilot would have given way to them as per the rules of the air.

The pilot assessed the risk of collision as 'Not high risk'.

THE BIRMINGHAM CONTROLLER reports that they don't remember much about the flight. They remember the C404 leaving controlled airspace, the pilot was provided with a Traffic Service, as requested. Traffic Information was passed a number of times, but the pilot did not acknowledge. Because the pilot did not appear to be listening out, when the pilot did acknowledge the Traffic Information the service was downgraded to a Basic Service.

[1] The C404 pilot had originally been on a Traffic Service, which was downgraded by the Birmingham controller.

Factual Background

The weather at Birmingham was recorded as follows:

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METAR EGBB 161020Z 05008KT 020V090 9999 FEW020 21/16 Q1025
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Analysis and Investigation

Birmingham Investigation Report

The C404 was transiting through the Birmingham CAS from East Midlands towards the southwest on a Traffic Service initially, this was upgraded to a Radar Control Service inside the zone. To the southwest, the RAD1 controller downgraded the service to a Traffic Service as the C404 exited CAS. The RAD1 controller passed Traffic Information to the C404 pilot about traffic believed to be working Brize crossing the path of C404, this information was unanswered, along with 3 further calls, the C404 pilot answered the fourth call and Traffic Information was passed once again. The C404 pilot acknowledged the Traffic Information this time. The RAD1 controller then changed the service to a Basic Service.

An STCA was activated as the two contacts were on diverging tracks and at similar heights (Figure 1).

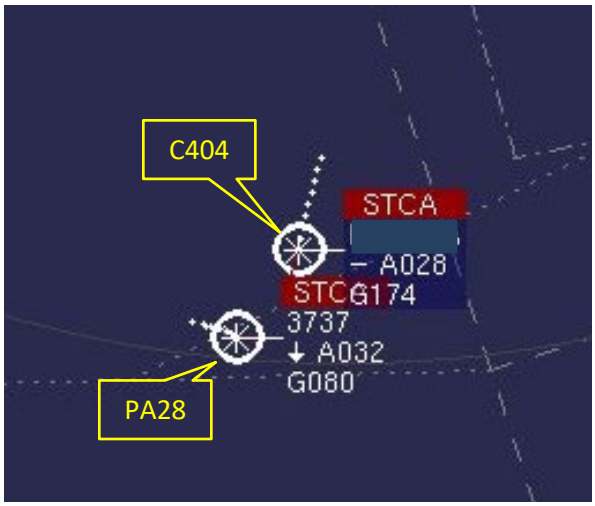

Figure 1

The STCA alert ceased as the contacts tracked away from each other (Figure 2).

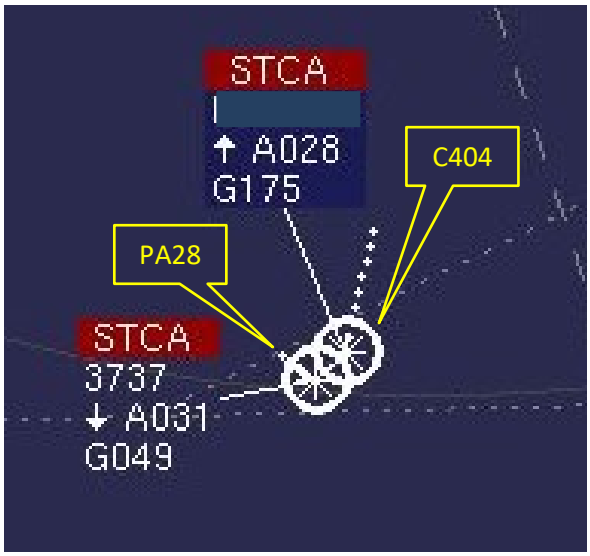

Figure 2

The C404 pilot then requested to change frequency to Brize.

CAA ATSI

The C404 had just completed a transit of Birmingham's controlled airspace, and on exiting, at 1026:10, was advised by the Birmingham controller of a change of service from Radar Control to Traffic Service which was acknowledged. The PA28 was 10NM to the southwest of the C404, and according to its transponder code in communication with Brize Radar, (subsequently found not to be the case) (Figure 3).

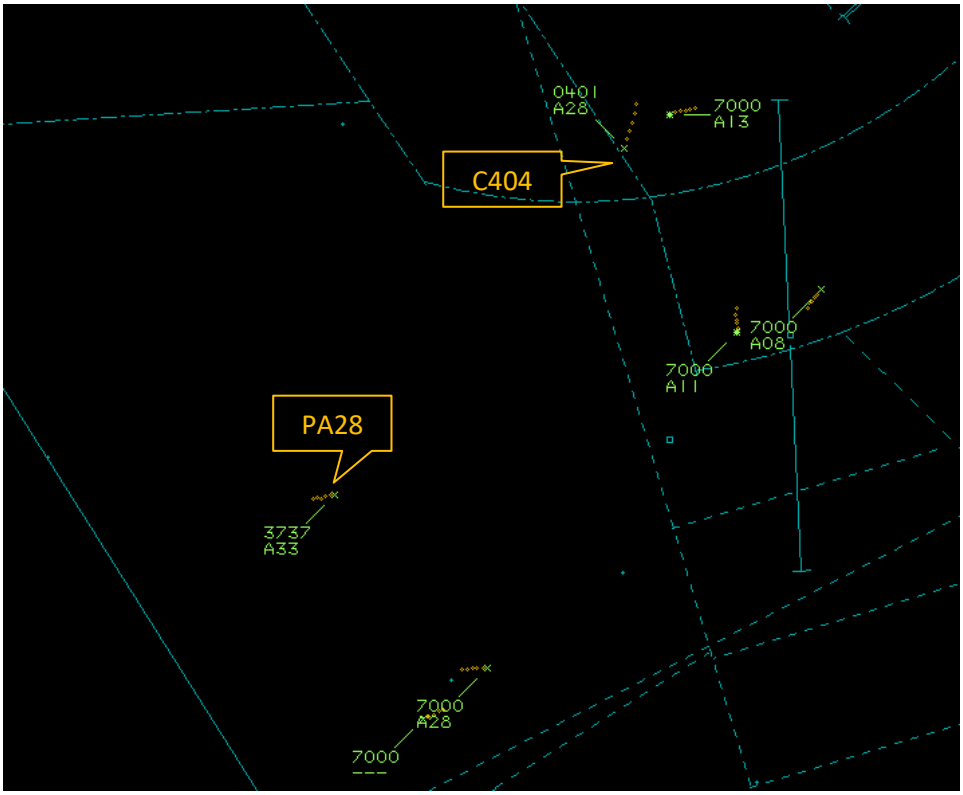

Figure 3: 1026:10 – P28A 10NM SW of C404

At 1027:25 the Birmingham controller passed Traffic Information to the C404 pilot on the PA28; *"there's traffic in your right one o'clock range of five miles, crossing you right to left, looks like it's working Brize, indicating three thousand three hundred feet"* (Figure 4).

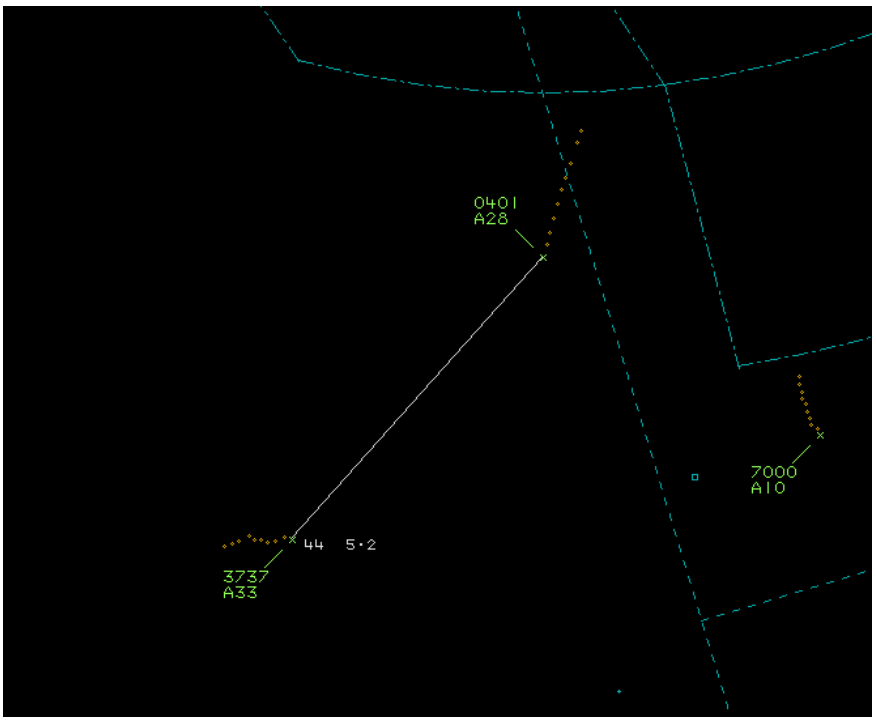

Figure 4: 1027:25

The controller received no reply from the C404, and repeated the Traffic Information to the C404 pilot at 1027:40 and 1027:45, before finally receiving a response at 1027:50. The controller repeated the Traffic Information at 1027:57; *"there's traffic just coming into your twelve o'clock now at a range of three miles, indicating three thousand three hundred feet routing eastbound"* (Figure 5).

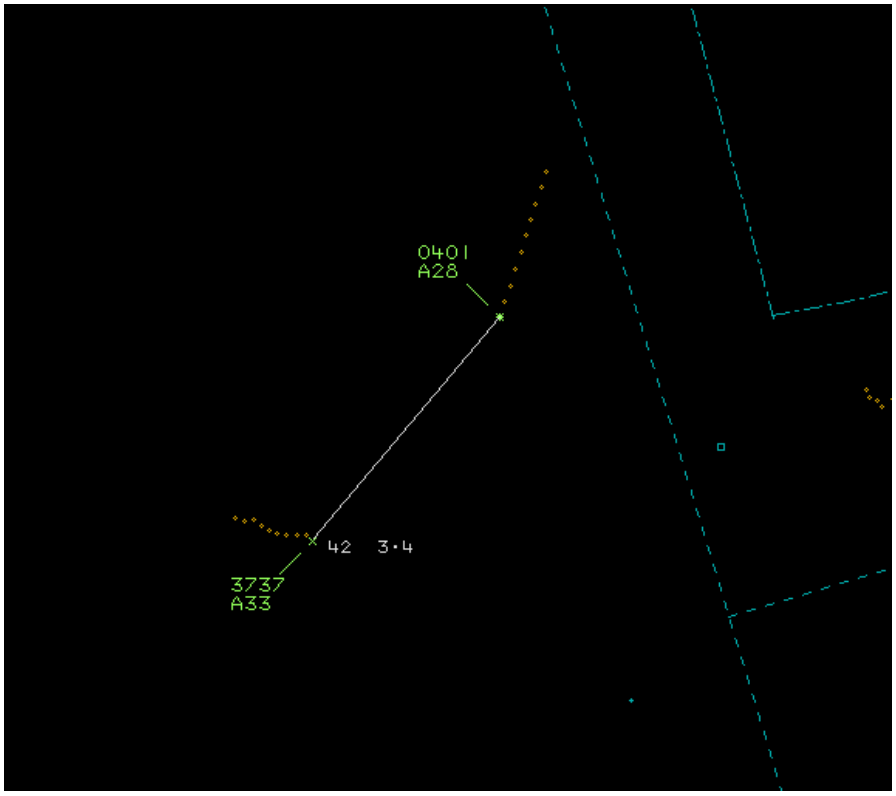

Figure 5: 1027:57

The pilot of the C404 acknowledged this Traffic Information but did not report visual with the PA28. The controller then, at 1028:05, changed the service to a Basic Service and requested that the C404 report leaving the frequency which was again acknowledged by the pilot. The two aircraft continued

to close but no further Traffic Information was passed by the controller, nor requested by the pilot of the C404.

At 1028:49 the PA28 was observed to be in a descent (Figure 6).

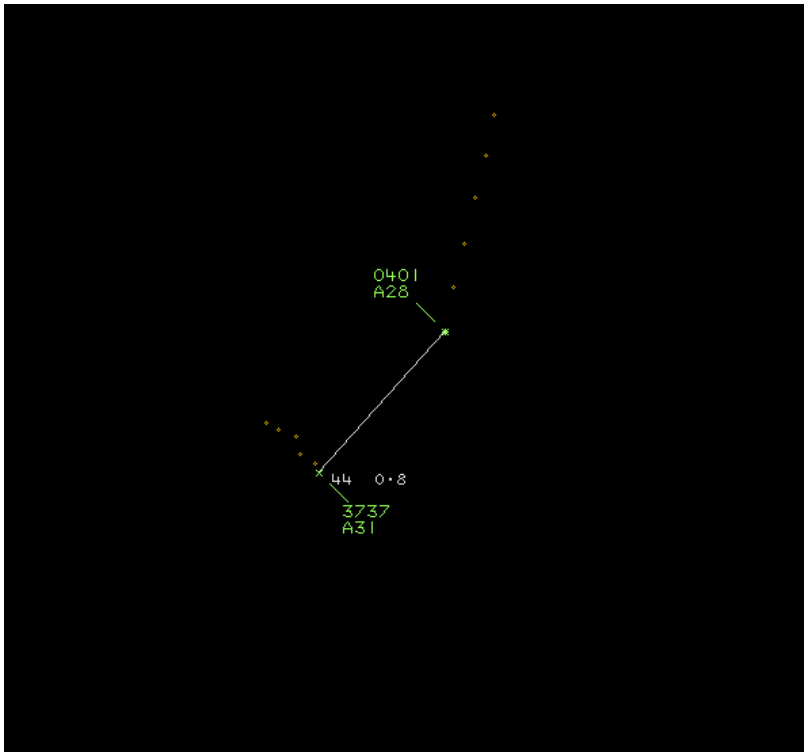

Figure 6: 1028:49

The PA28 was indicating at the same level as the C404 at 1029:00 (Figure 7)

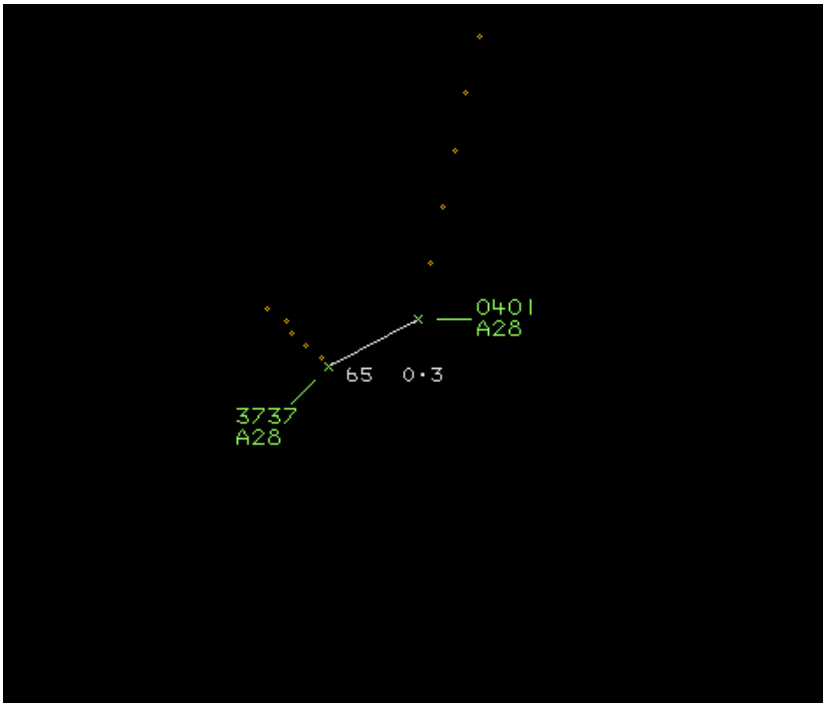

Figure 7: 1029:00

CPA took place, according to the radar replay, just before 1029:07 (Figure 8).

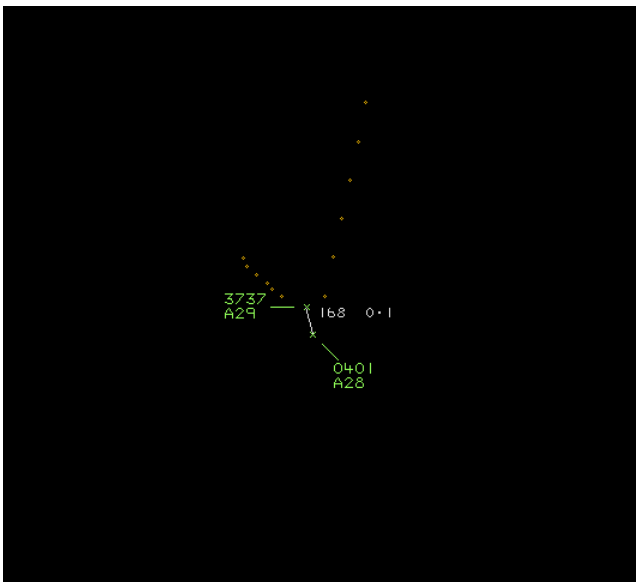

Figure 8: 1029:07

The pilot of the C404 reported that due to poor visibility, they did not see the PA28 until very late, but believed that the PA28 had seen them as they observed them initiating a climbing turn away, ultimately passing above and behind them. In their written report they stated that they were under a Traffic Service. At the time the controller first called the traffic this was correct, but the controller then changed it and the pilot was technically receiving a Basic Service at the time of CPA which they had acknowledged.

The PA28 pilot's short report only indicated that the C404 had been obscured under their port wing until approximately 1NM, about 400ft beneath them. They reported that they did not make any changes to heading or level to avoid. Their report also indicated that they were not receiving any ATS.

The Birmingham controller stated that they did not remember much about the incident, (the C404 did not report the Airprox to the controller). They recalled passing the Traffic Information "*a number of times, but he wasn't listening out. For this reason, on acknowledgement of the traffic I changed the service to a basic service".*

For a Traffic Service to be effective, it is incumbent upon the pilot to maintain a good listening watch on the frequency, to ensure any Traffic Information that is being passed is comprehended and if necessary, acted upon. However, ATSI considered the actions of the controller inappropriate in terminating the Traffic Service at that point apparently just because the pilot was not listening out, without at least first issuing a warning to the pilot that they were required to maintain a good listening watch. Further, having identified the potential confliction, the controller then made no further reference to the PA28, whilst the two aircraft continued to close for a further minute with what could ultimately be considered a definite risk of collision.

The Airprox took place in Class G airspace where ultimately, regardless of the ATS being provided, the pilots are responsible for collision avoidance.

UKAB Secretariat

The C404 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.[2] If the incident geometry is considered as converging then the C404 pilot was required to give way to the PA28.[3]

[2] SERA.3205 Proximity
[3] SERA.3210 Right-of-way (c)(2) Converging.

Summary

An Airprox was reported when a C404 and a PA28 flew into proximity 1NM SW of Long Marston at 1029Z on Wednesday 16th September 2020. Both pilots were operating under VFR in VMC, the C404 pilot in receipt of a Basic Service from Birmingham and the PA28 pilot not in receipt of a service.

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 began by looking at the actions of the Birmingham controller. They agreed that the C404 pilot had not adequately monitored the frequency which had resulted in the controller passing the same Traffic Information (TI) a number of times before the C404 pilot acknowledged. Because of this the controller decided to downgrade the service to a Basic Service, without any advance warning or acceptable reason. The controller had passed TI to the C404 pilot about the conflicting PA28 prior to downgrading the service and should have passed updated TI when the aircraft separation continued to decrease and the STCA was triggered (**CF1, 2, 3 & 4**). This combined to demonstrate a less than satisfactory duty-of-care from the controller.

The Board then turned to the actions of the C404 pilot. The GA member said that the C404 can be a complicated aircraft to fly and this may have resulted in the C404 pilot not monitoring the frequency as thoroughly as they should have, regardless, if they were receiving a Traffic Service they should monitor the frequency constantly to ensure they have the enhanced situational awareness that the TI from a controller provides. When the C404 pilot did acknowledge the TI they continued towards the confliction and, because of the reduced visibility, did not see the PA28 until they were closer than normal (**CF12**), Board members agreed that the pilot should have either asked for additional TI or adjusted their flight profile based on the TI already provided(**CF5**). Members agreed that the C404 pilot had not fully assimilated the TI (**CF9**) evidenced by the fact that they did not respond to several calls of TI, nor did they act upon it.

Then the Board looked at the actions of the PA28 pilot. They had been descending towards the level of the C404 but their wing had obscured the other aircraft until they were about 1NM away at which point they saw the C404 (**CF10**). They had no knowledge of the C404 because they were not receiving a service from a suitable Air Traffic unit (**CF8**). The GA Board members said that when carrying out a PPL Skills Test the instructor's workload can be quite high, especially with a low-hours student, they opined that the PA28 pilot should have requested a Traffic Service from a suitable Air Traffic unit to increase their situational awareness (**CF6 & 7**). Although the PA28 pilot saw the C404 at 1NM they continued to track towards the C404 without any evidence that the C404 pilot had seen them, Board members agreed that they should have either stopped their descent or altered their flight path to ensure adequate separation in case the C404 pilot had not seen them and turned towards them.

Finally, the Board turned to the risk. They agreed that, although safety had been degraded, the PA28 pilot had seen the C404 early enough to maintain separation and there was no risk of collision (**CF11**), a Risk Category C.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2020124		
CF	**Factor**	**Description**	**Amplification**
	Ground Elements		
	• Regulations, Processes, Procedures and Compliance		
1	Human Factors	• ATM Regulatory Deviation	Regulations and/or procedures not complied with
	• Situational Awareness and Action		
2	Human Factors	• ANS Traffic Information Provision	TI not provided, inaccurate, inadequate, or late
	• Electronic Warning System Operation and Compliance		
3	Human Factors	• ATM personnel operation/interpretation of equipment	Controller did not adequately act on the EWS indications
4	Technical	• STCA Warning	
	Flight Elements		
	• Tactical Planning and Execution		
5	Human Factors	• Insufficient Decision/Plan	Inadequate plan adaption
6	Human Factors	• Accuracy of Communication	Ineffective communication of intentions
7	Human Factors	• Communications by Flight Crew with ANS	Appropriate ATS not requested by pilot
	• Situational Awareness of the Conflicting Aircraft and Action		
8	Contextual	• Situational Awareness and Sensory Events	Pilot had no, late or only generic, Situational Awareness
9	Human Factors	• Understanding/Comprehension	Pilot did not assimilate conflict information
	• See and Avoid		
10	Contextual	• Poor Visibility Encounter	One or both aircraft were obscured from the other
11	Contextual	• Loss of Separation	A conflict in the FIR
12	Human Factors	• Monitoring of Other Aircraft	Late-sighting by one or both pilots

Degree of Risk: C.

Safety Barrier Assessment[4]

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

Ground Elements:

Regulations, Processes, Procedures and Compliance were assessed as **ineffective** because the Birmingham controller downgraded the C404 pilot's service and did not update the Traffic Information on a known confliction even though they received a proximity alert from the STCA.

Situational Awareness of the Confliction and Action were assessed as **partially effective** because the controller did not update the Traffic Information already passed to the C404 pilot on the conflicting PA28.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the STCA alerted the controller to the confliction between the PA28 and C404 but the controller did not adequately act on the alert.

Flight Elements:

Tactical Planning and Execution were assessed as **partially effective** because the C404 pilot had received Traffic Information about the PA28 but did not adapt their plan accordingly. The PA28

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

pilot was carrying out a PPL skills test and would have been better served requesting a Traffic Service due to the higher workload with a low-hours student pilot.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because the PA28 pilot had no information about the C404. The C404 pilot did not fully assimilate the position of the PA28 from the Traffic Information from the Birmingham controller.

See and Avoid were assessed as **partially effective** because the PA28 could not see the C404 whilst descending until later than desirable. Both pilots saw the other aircraft late.