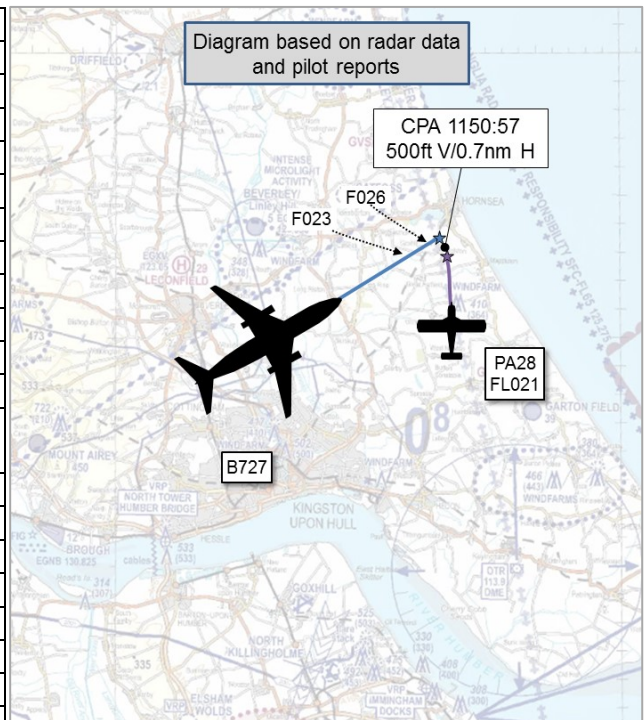


AIRPROX REPORT No 2018039

Date: 21 Mar 2018 Time: 1150Z Position: 5353N 00010W Location: 1nm SW Hornsea

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	B727	PA28
Operator	Civ Comm	Civ Trg
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Traffic	Basic
Provider	Humberside	Humberside
Altitude/FL	FL026	FL021
Transponder	A, C, S	A, C
Reported		
Colours	Red, White	White, Blue
Lighting	Nav, Strobe, Anti-Col	Strobe, Nav, Landing
Conditions	VMC	VMC
Visibility	>10km	9km
Altitude/FL	2500ft	2300ft
Altimeter	NK	RPS
Heading	090°	003°
Speed	220kt	95kt
ACAS/TAS	TCAS II	Not fitted
Alert	RA	N/A
Separation		
Reported	1000ft V/1.5nm H	300ft V/1000m H
Recorded	500ft V/0.7nm H	



THE B727 PILOT reports that he was transiting east between Hull and Beverley when he was notified of VFR traffic ‘right 2 o’clock co-altitude’. He gained visual contact and assessed that the aircraft would pass behind him by 1nm. Initially the bearing appeared to open until the traffic came within 2.5nm when he received a TCAS TA followed by a TCAS RA (climb) and adjusted his flight profile according to the RA, climbing to 3500ft. When he levelled at 3500ft the TCAS reported ‘Clear of conflict’. The other pilot did not appear to adjust his heading or height.

He assessed the risk of collision as ‘None’.

THE PA28 PILOT reports that he was in the cruise towards Scarborough, about 5nm to the south of Hornsea, about 100-200ft below cloud operating VFR. He saw the B727 approaching from his left as it appeared from behind an isolated cloud, climbing through his level. He made a right turn away from the B727, remaining visual with it throughout until well clear. He was surprised he wasn’t contacted by the Humberside controller, and opined that this may have been because they either didn’t think there was a confliction, he didn’t hear the call, or just due to the frequency being busy (he notes there were a few crossed transmissions). He believed the possibility of the 2 aircraft getting close was very low due to his having the other aircraft in sight during the potentially critical stages of the encounter.

He assessed the risk of collision as ‘Low’.

THE HUMBERSIDE CONTROLLER reports that he was screening a trainee. The B727 pilot had free-called from Doncaster and when it was west of Hull general Traffic Information was passed on a PA28 and a C172, both on a Basic Service with Humberside, operating in the vicinity of Hull at a similar level to the B727. Traffic Information was passed to the B727 pilot again when the PA28 was 5nm east of the B727, at which point he reported contact and said he would remain visually clear. At this point

Traffic Information was passed to the B727 pilot on the C172 that was approximately 3nm behind the PA28. In the vicinity of Hornsea, the B727 pilot reported climbing to 3000ft to avoid traffic. At this point there was approximately 0.5nm and 100ft separation. The B727 was then handed over to Anglia Radar.

Factual Background

The weather at Linton-on-Ouse was recorded as follows:

METAR EGXU 211150Z 27013KT 9999 SCT028 BKN250 07/01 Q1028 BLU NOSIG

Analysis and Investigation

CAA ATSI

At 1132:23, the PA28 pilot was issued an SSR code of 4262 by Humberside Tower.

The PA28 pilot established communication with Humberside Radar at 1141:36 and stated that they were flying at 2300ft. The controller passed the Barnsley Regional Pressure Setting (RPS) 1023 and a Basic Service was agreed.

At 1143:43, the B727 pilot established communication with Humberside Radar and reported that they were airborne from Doncaster on a radar heading of 020°, approximately 20nm to the west; they requested a Traffic Service. The controller issued an SSR code to the B727 pilot of 4273. The pilot reported that they were flying a B727, maintaining 3000ft on the Doncaster QNH 1030.

At 1144:30, the controller reallocated the B727 pilot an SSR code of 4275.

The B727 pilot reported their route as crossing the Humber between Hull and Beverley as they transited to the east at 1144:43. The pilot then requested a handover to Anglia Radar.

The B727 was identified by the controller at 1144:55 (Figure 1), a Traffic Service was agreed, and the controller passed the Barnsley RPS 1023.

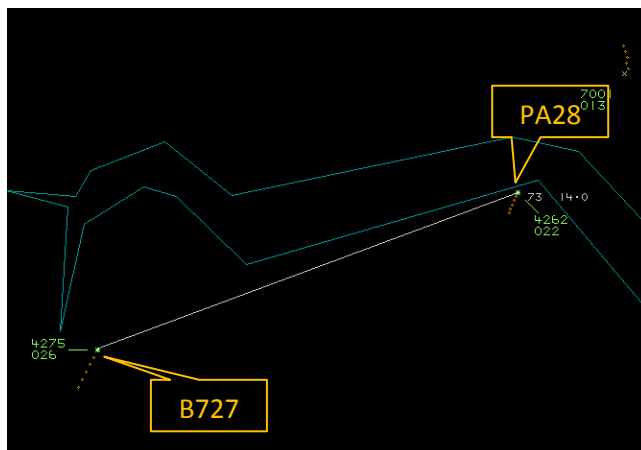


Figure 1 – 1144:55

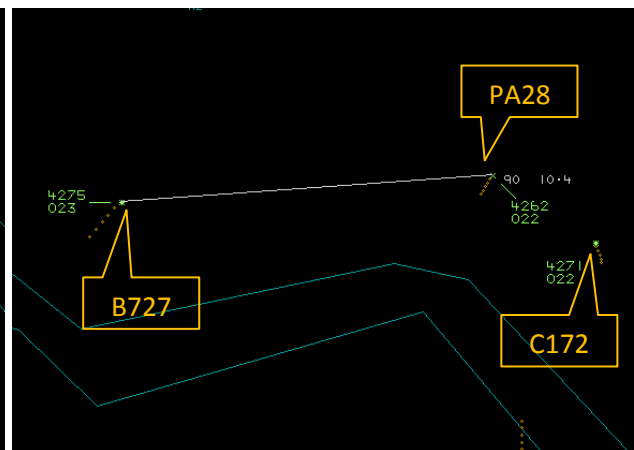


Figure 2 -1147:27

At 1145:25, the B727 pilot reported descending to 2500ft to remain VMC which was acknowledged by the controller.

The controller passed generic Traffic Information to the B727 pilot on the PA28 and a C172 at 1147:27 (Figure 2).

At 1149:19, the controller passed Traffic Information to the B727 pilot on the PA28 as east by 5nm, northbound at a similar level (Figure 3). The B727 pilot reported visual contact with the PA28 and that he would remain visually clear.

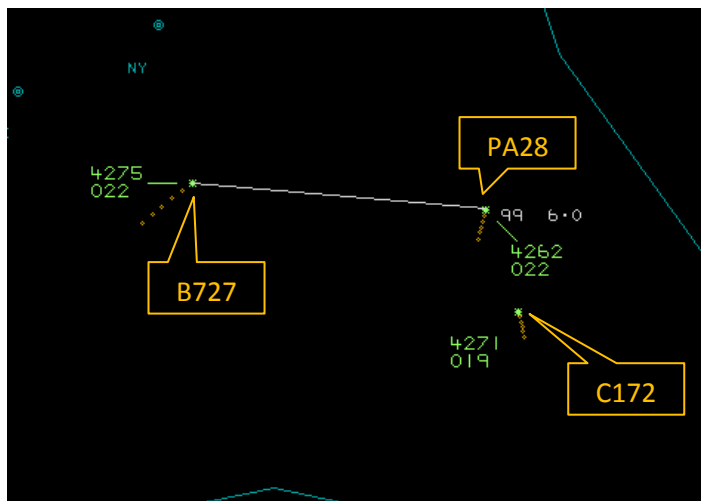


Figure 3 – 1149:19

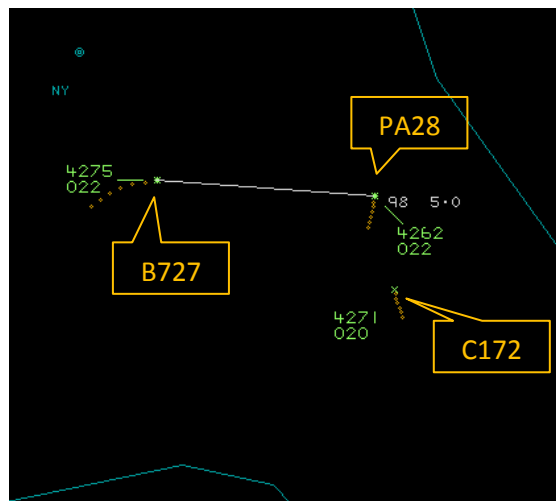


Figure 4 – 1149:34

At 1149:34, the controller passed Traffic Information to the B727 pilot on the C172 (Figure 4). The B727 pilot reported they had seen two contacts.

At 1149:46, the controller passed Traffic Information to the PA28 pilot on the B727 as west by 5nm east bound and stated that the B727 had the PA28 in sight [this was not acknowledged by the PA28 pilot] (Figure 5).

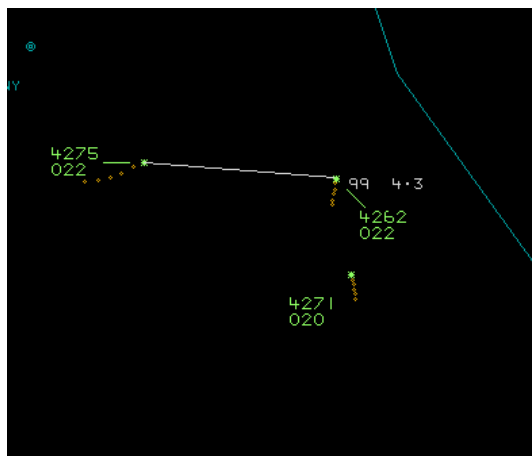


Figure 5 – 1149:46

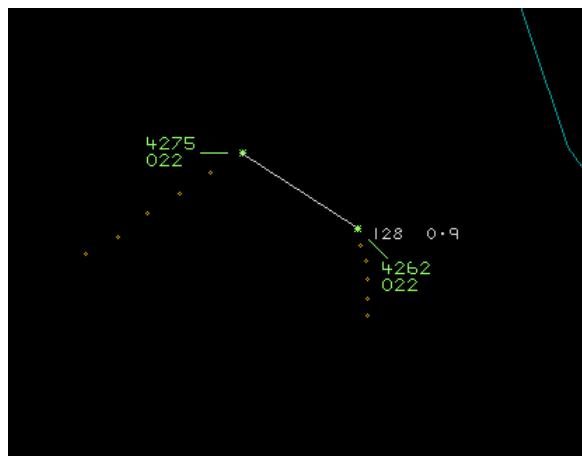


Figure 6 – 1150:49

At 1150:49, the B727 pilot informed the controller that they were climbing to 3000ft to avoid traffic (Figure 6).

CPA occurred at 1150:55 (Figure 7), with an indicated 0.7nm and 500 feet between the two aircraft.

At the time of the Airprox the B727 pilot was receiving a Traffic Service from Humberside radar. The PA28 pilot was receiving a Basic Service from Humberside radar. Traffic information was passed to both aircraft and was updated for the B727 pilot.

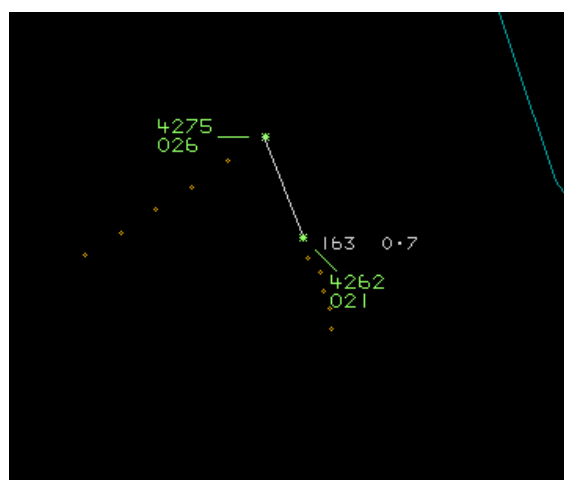


Figure 7 – 1150:55

Under a Traffic Service the controller is not required to achieve any deconfliction minima and CAP 493 states,

“The controller shall pass traffic information on relevant traffic, and shall update the traffic information if it continues to constitute a definite hazard, or if requested by the pilot. However, high controller workload and RTF loading may reduce the ability of the controller to pass traffic information, and the timeliness of such information. “

Also,

“Traffic is normally considered to be relevant when, in the judgement of the controller, the conflicting aircraft’s observed trajectory indicates that it will pass within 3 NM and, where level information is available, 3,000 ft of the aircraft in receipt of the Traffic Service or its level-band if manoeuvring within a level block. However, controllers may also use their judgment to decide on occasions when such traffic is not relevant, e.g. passing behind or within the parameters but diverging. Controllers shall aim to pass information on relevant traffic before the conflicting aircraft is within 5 NM, in order to help the pilot meet his collision avoidance responsibilities and to allow time for an update in traffic information if considered necessary.”

Under a Basic Service the controller is not required to provide traffic information, however CAP 493 states,

“If a controller notices that a definite risk of collision exists, a warning shall be issued to the pilot. ((EU) 923/2012 SERA.9001 and SERA.9005(b)(2))”

The Airprox took place in Class G airspace and therefore separation between aircraft is ultimately the responsibility of the pilot.

UKAB Secretariat

The B727 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 hazard¹. If the incident geometry is considered as converging then the B727 pilot was required to give way to the PA28².

Occurrence Investigation

The B727 operating company investigation report concluded that:

“Airprox is the greatest Risk on the Company Risk Register. This incident was handled correctly and demonstrates the effectiveness of our Preventative Barriers that include TCAS and the best use of available Radar Services. The incident reinforces the Company position that all GA aircraft should be mandated to carry an appropriate Electronic Conspicuity device. No further action required.”

Summary

An Airprox was reported when a B727 and a PA28 flew into proximity at 1150hrs on Wednesday 21st March 2018. Both pilots were operating under VFR in VMC, the B727 pilot in receipt of a Traffic Service from Humberside and the PA28 pilot in receipt of a Basic Service from Humberside.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from the pilots of both aircraft, transcripts of the relevant RT frequencies, radar photographs/video recordings, reports from the air traffic controllers involved and reports from the appropriate ATC and operating authorities.

¹ SERA.3205 Proximity.

² SERA.3210 Right-of-way (c)(2) Converging.

The Board began by first looking at the actions of the B727 pilot. Members commented that in transiting an airliner-sized aircraft at 2500ft, which is within the usual height band of GA traffic in Class G airspace, the pilot was increasing the risk of conflicting with GA aircraft albeit he had mitigated this risk somewhat by seeking a Traffic Service which would hopefully provide information on aircraft detected by ATC subject to their task-load. Accepting that there may have been operational requirements to do so and accept the higher risk, members opined that it may have been more prudent, with the available SA, to have climbed at an earlier stage to increase the separation, even if it put him in IMC for a short period, and then let-down over the sea with Humberside. The Board also agreed that although the B727 pilot had assessed that the PA28 would pass behind, he did not know if the PA28 pilot had seen him, or what the PA28 pilot's intentions were, thus an assumption that the PA28 would maintain track was flawed, especially because the B727 pilot was required to give way to the PA28. Noting that the PA28 had not seen the B727 because of cloud, some members wondered to what extent the B727 had been able to maintain VMC: above 140kts, 1000ft vertically and 1500m horizontally separated from cloud.

The Board then looked at the actions of the PA28 pilot and noted that he had seen the B727 late as it had appeared from behind a cloud. Given the weather conditions and the fact he was operating 100-200ft below the cloudbase, members considered that he would have been better placed in asking for a Traffic Service rather than a Basic Service in order to ensure he received assistance from ATC. Notwithstanding, although he was under only a Basic Service, he did receive Traffic Information; however, from his report and his lack of acknowledgement on the radio, it seems that he did not assimilate this.

The Board then turned to the cause and risk of the Airprox. Noting that the B727 pilot had seen the PA28 relatively early, it had been his misjudgement of the geometry of the incident that had resulted in him not initially reacting until a TCAS TA and then RA had prompted him to climb. Members agreed that the B727 pilot could have done more at an earlier stage to increase separation from the PA28, especially because he had Traffic Information and a TCAS display that was presumably indicating the closing vector. The Board therefore agreed that the B727 pilot had flown into conflict with the PA28, and that a contributory factor was his decision not to climb to give way to the PA28 when he received Traffic Information and initially saw it. Notwithstanding, the Board agreed that both pilots were visual with the other aircraft as they closed, and had reacted early enough that a collision had been averted. Allied to the fact that the separation at CPA was 500ft at 0.7nm, members assessed that although safety had been reduced, there had been no risk of collision; risk Category C.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The B727 pilot flew into conflict with the PA28.

Contributory Factor(s): The B727 pilot elected not to climb to give way to the PA28.

Degree of Risk: C.

Safety Barrier Assessment³

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

Flight Crew:

Regulations, Processes, Procedures, Instructions and Compliance were assessed as **partially effective** because the B727 pilot did not make an early decision on giving way to the PA28.

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

Tactical Planning was assessed as **partially effective** because the B727 pilot had decided to fly within the GA height bands below cloud rather than climb and receive a surveillance based service from Humberside.

Situational Awareness & Action was assessed as **partially effective** because although the B727 pilot was aware of the PA28 early through Traffic Information, he took later than desirable actions to increase the separation between the aircraft.

