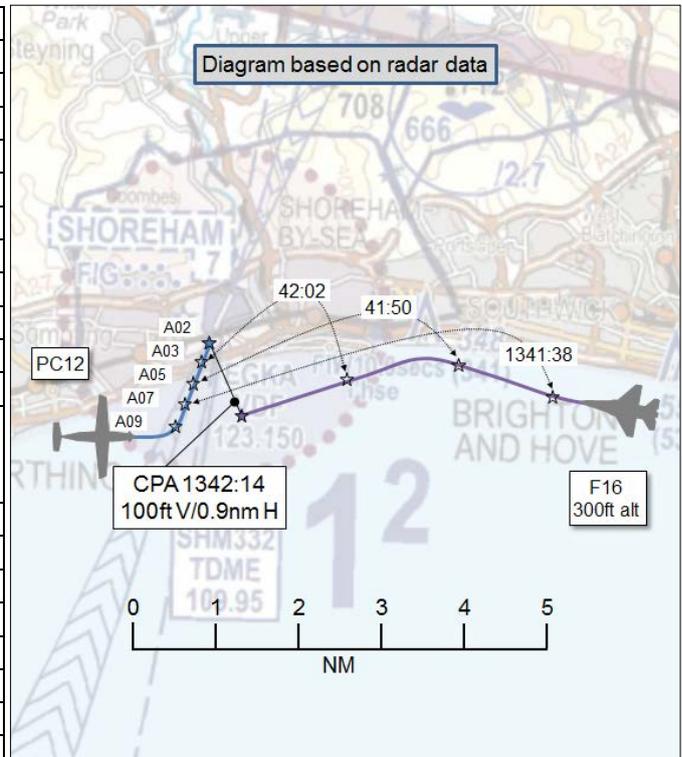


AIRPROX REPORT No 2017161

Date: 14 Jul 2017 Time: 1342Z Position: 5049N 00018W Location: Brighton City airport

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	PC12	F16
Operator	Civ Comm	Foreign Mil
Airspace	Shoreham ATZ	Shoreham ATZ
Class	G	G
Rules	IFR	VFR
Service	Aerodrome	Basic
Provider	Shoreham	London FIR
Altitude/FL	200ft	300ft
Transponder	A,C,S	A,C,S
Reported		
Colours	Brown	Grey
Lighting	strobes,beacons, nav,landing, recognition, taxi	Nav, flashing strobe on tail
Conditions	VMC	VMC
Visibility		>10km
Altitude/FL	NK	250ft
Heading	320°	NK
Speed	NK	NK
ACAS/TAS	TCAS I	Not fitted
Alert	None	N/A
Separation		
Reported	Not seen	NK
Recorded	100ft V/0.9nm H	



THE BRIGHTON SENIOR AIR TRAFFIC CONTROLLER reports that an F16 flew straight through final approach RW02, east to west, and very low-level, within seconds of commercial IFR traffic (a PC12) being cleared to land RW02. The ATS Assistant telephoned Farnborough who reported there was matching traffic wearing a London FIR squawk. FIR then reported there were 3 [actually 2] F16s transiting to Fairford around the coast to Bournemouth at 250ft - they believed that the other 2 probably remained south of the ATZ. In the controller's opinion there was a high risk because the unknown jet traffic was low-level and not communicating with Shoreham whilst passing through the ATZ without clearance or warning of traffic on final.

He perceived the severity of the incident as 'High'.

THE PILATUS PC12 PILOT reports that it would appear that an aircraft crossed their route during the final approach at Shoreham airport. They did not see anything around them and did not remember any information being given by Shoreham Tower about traffic around them especially during a final approach inside an ATZ. He reported that he thought that they had priority having been cleared for final approach or to land.

THE F16 PILOT reports that his flight data was no longer available to check the tapes or the flight recorder. No hazards were observed. Many VFR aircraft were avoided, none were seen as close to or a factor to his aircraft or to their formation. He stayed south over the sea in the neighbourhood of Brighton City Airport.

THE LONDON FIR FLIGHT INFORMATION SERVICES OPERATOR (FISO) reports that he was working as the sole FISO on the London FIR, and that traffic had generated a moderate/busy workload. There was a mix of traffic which included two F16 military jets to Fairford. They informed

him that they would be 250ft over the sea, 2000ft over the land, and that their routing would be DVR, over the sea to Bournemouth. He advised the pilots to remain outside CAS and passed their details to Bournemouth radar. He was informed by Shoreham that a fast-jet had crossed the approach of [RW02] whilst a PC12 was on final approach. He passed the details of the F16 to Shoreham, which was the only aircraft he was working in that area at that time.

Factual Background

The weather at Brighton City was recorded as follows:

EGKA 141320Z 31011KT 9999 FEW035 20/10 Q1020

Analysis and Investigation

CAA ATSI

The F16 was one of a pair who had free-called London Information at 1316:40 whilst over the English Channel still north of Dover. They reported their intentions as being to follow the coastline to their destination at not above 250ft over water and 2000ft over the land. The London FISO allocated the FIR conspicuity squawk 1177 to the lead aircraft, and a Basic Service was agreed.

At 1318:00 the F16 pilot reported descending to low-level and advised that they would probably therefore be below R/T coverage. This appeared to be the case because at 1321:50, the FISO requested the F16 pilots to report passing Dover, but received no response.

At 1329:35 a clipped transmission was heard, attributable to the F16s, reporting that again they were descending to low-level along the south coast to Bournemouth. At 1330:35, the FISO called the F16 pilots but received no reply. At 1332:25, the FISO regained 2-way communications with the F16 pilots, asking them to confirm that they would remain clear of controlled airspace, and passed them the frequency for Bournemouth ATC. (The F16s continued with London Information until 1346).

Radar contact with the F16s was intermittent until 1341:30, when they reappeared 0.5nm south of Brighton, maintaining an altitude of 300ft. The track of the single F16 involved in the Airprox has been reproduced in Figure 1 (the second F16 was further offshore).



Figure 1 – F16 track in vicinity of Brighton and Shoreham.

At 1341:30, the PC12, which was inbound IFR to Shoreham, crossed the projected track of the F16 which was slightly over 6nm away (Figure 2).

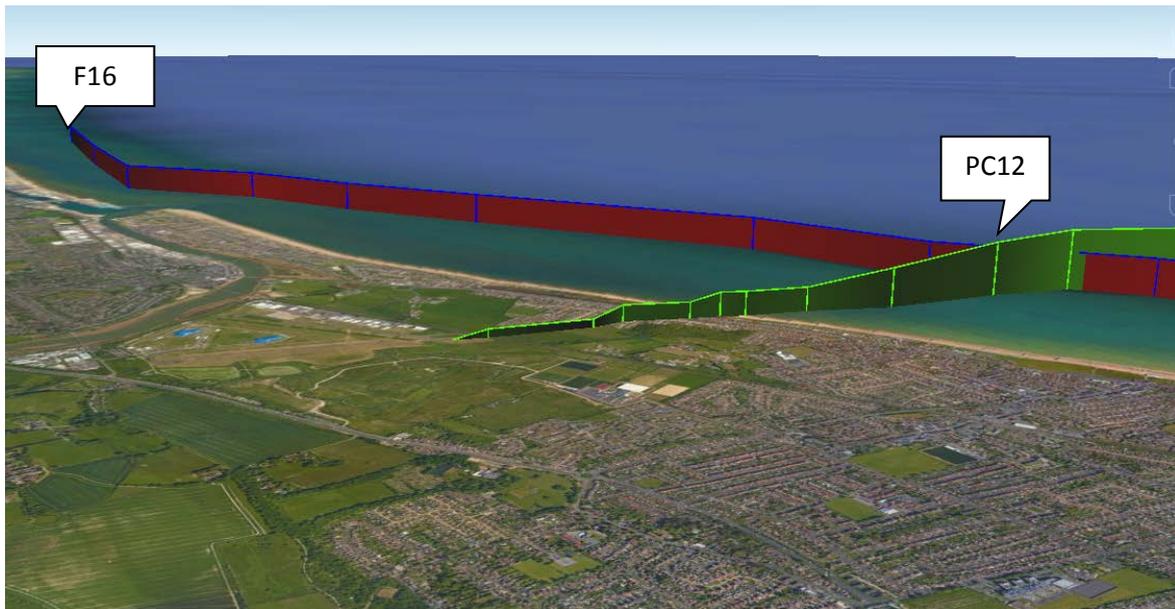


Figure 2 – F16 & PC12 positions at 1341:30.

CPA occurred at 1342:14, with the aircraft separated by 0.9nm laterally and 100ft vertically (Figures 3 & 4).

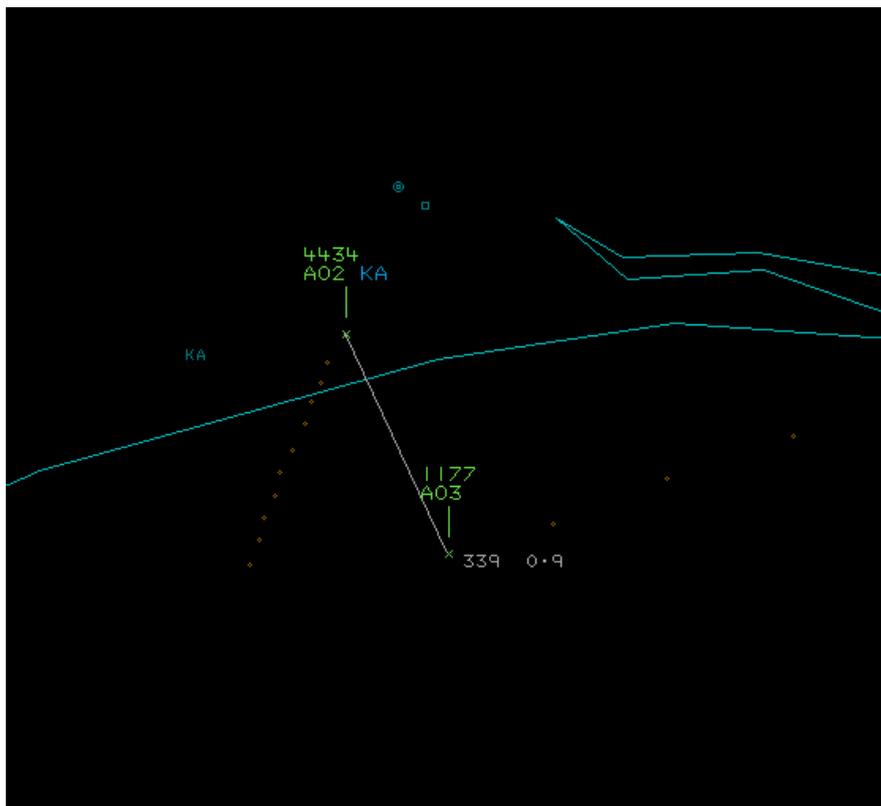


Figure 3 – 1342:14.

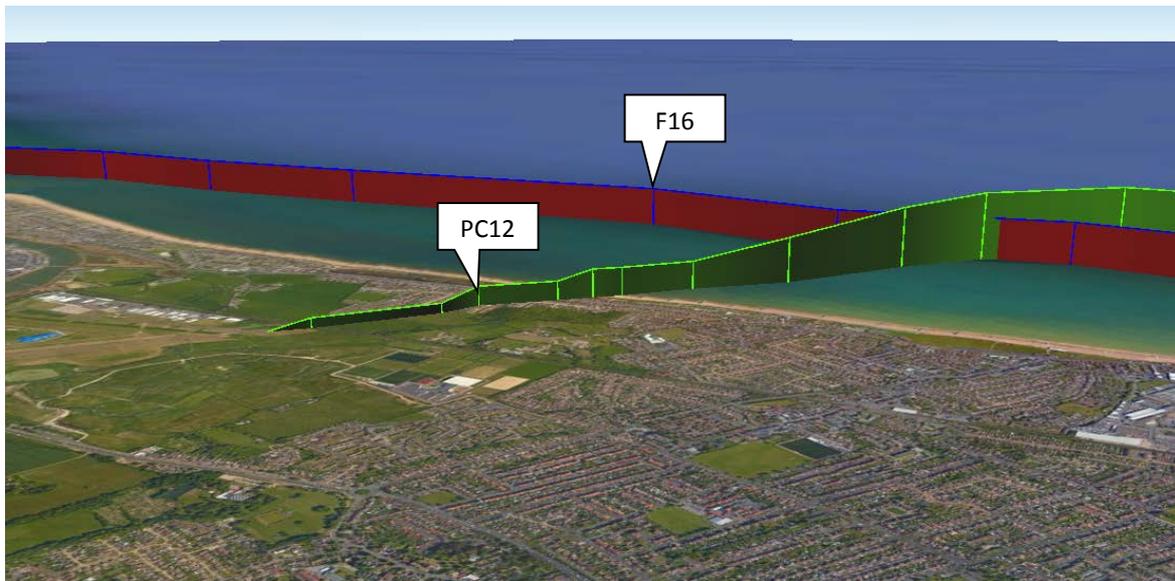


Figure 4 – 1342:14.

At 1342:40 the Shoreham Tower controller made a general broadcast advising the presence of low-level fast-jet traffic westbound.

It was noted that the F16s infringed the Shoreham ATZ at 1342:02, but apparently made no attempt to contact Shoreham (Figure 5).



Figure 5 – Track of F16.

As shown in Figure 6, the F16s were also in a designated 'Avoidance Area' within Low Flying Area 18 (LFA18). The MAA confirmed that the F16s had not received permission to fly in this LFA.



Figure 6 – Extract from Low Flying Chart LFA18.

UKAB Secretariat

The PC12 and F16 pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard¹. 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 operation². If an aerodrome has an air traffic control unit the commander [of an aircraft] shall not fly, take off or land within the aerodrome traffic zone unless they have obtained the permission of that unit to enable the flight to be conducted safely within the aerodrome traffic zone³.

MAA RA 2330 (Low Flying) paragraphs 12 and 13 state:

'Avoidance Areas. Fixed-wing aircraft should not enter Avoidance Areas without the prior approval of MOD CAS-AS LF.'

'Air Traffic Zones. Aircraft within the UKLFS should not enter Air Traffic Zones including Aerodrome Traffic Zone (ATZ) and Military Aerodrome Traffic Zone (MATZ) without prior permission of the controlling authority.'

The UK Military Low Flying Handbook, Section 1, 01.02.01 (Description of the UK Low Flying System (UKLFS)) states:

'The UKLFS comprises Class G Airspace extending vertically from the surface to 2000'agl/amsl and laterally to the UK FIR boundaries.'

Summary

An Airprox was reported when a PC12 and an F16 flew into proximity within the Shoreham ATZ at 1342 on Friday 14th July 2017. The PC12 pilot was operating under IFR in VMC, in receipt of an Aerodrome Control Service from Shoreham and the F16 pilot was in receipt of a Basic Service from London FIR.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available included reports from both pilots, the controller and FISO concerned, area radar and RTF recordings and reports from the appropriate ATC and operating authorities.

The Board first noted that the Airprox had been filed by ATC at Shoreham after they had noticed the F16 pass at low-level through the RW02 approach, within the ATZ, behind the landing PC12. Although unauthorised flight within an ATZ could not be countenanced, members noted that the aircraft were separated by about 6nm as the PC12 went through the F16's nose, and 0.9nm as the F16 flew behind the PC12. The PC12 was inbound to Shoreham on an IFR flight plan and had positioned visually for RW02 before being cleared to land.

Members noted that the F16 had been one of a pair routing via Dover and Bournemouth to Fairford for the Air Tattoo. The pilot had contacted London Flight Information and had been in receipt of a Basic Service from the FISO. He had advised them to remain clear of Controlled Airspace and had advised Bournemouth of their details. The FISO had no reason to suspect that they would enter Shoreham's ATZ, but some members wondered whether he should have queried the F16s height of transit when they stated they would be at 250ft over the sea. Foreign military aircraft were not entitled to fly below 2000ft in any part of the UK without approval from the UK MOD, and this included the sea and coastal areas of the FIR. Although the F16 pilots should have been aware of this rule, a timely reminder from the FISO may have prompted them to reconsider their routing. Other members doubted that the FISO would know this regulation given that it was a military rule, and they wondered

¹ SERA.3205 Proximity.

² SERA.3225 Operation on and in the Vicinity of an Aerodrome.

³ The Rules of the Air Regulations 2015, Rule 11 (Flight within aerodrome traffic zones) (2)(3).

whether sufficient prominence had been given to the minimum allowable height for foreign military aircraft transits, and their applicability over the sea also, as part of the Fairford Air Tattoo participation instructions. Notwithstanding, members agreed that, irrespective of the height issue, the F16 pilot's should also have reasonably known that they should not enter an ATZ without permission. The Shoreham ATZ was clearly marked on the applicable maps, and neither had requested or been given permission to enter.

Turning to the cause and risk, some members thought that, notwithstanding the ATZ infringement, the incident was simply a sighting report given the distances involved. However the majority view was that the ATZ penetration had to be recognised as a factor and so the Board quickly decided that the cause of the Airprox was that the F16 pilot had flown through the Shoreham ATZ and into proximity with the PC12. As for the risk, the distances involved led some members to propose that the risk was Category E, normal safety standards and procedures had pertained. However, in debating this point, it was considered that it should not be considered normal procedure for an aircraft to enter an ATZ without permission. Accordingly, the Board assessed the Airprox as risk Category C, no risk of collision.

The Board discussed whether a recommendation should be made to ensure that Fairford provided sufficient information to visiting crews to the Air Tattoo on the procedures required in the UK to carry out low-flying. However, the military members opined that this was already the case, and that it had simply not been complied with in this instance.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The F16 pilot flew through the Shoreham ATZ and into proximity with the PC12.

Degree of Risk: C.

Safety Barrier Assessment⁴

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

ANSP:

Situational Awareness and Action were assessed as **ineffective** because the Shoreham controller was not aware of the presence of the F16 until a late visual sighting was obtained, and the London FIR FISO was not aware of the position of the F16 relative to Shoreham's ATZ.

Flight Crew:

Regulations, Processes, Instructions, Procedures and Compliance were assessed as **ineffective** because the F16 pilot did not obtain permission to enter the Shoreham ATZ, LFA18 or the Brighton designated Avoidance Area.

Tactical Planning was assessed as **ineffective** because the F16 pilot did not remain clear of the Shoreham ATZ or obtain permission to enter the Low Flying System.

Situational Awareness and Action were considered as **partially effective** because the F16 pilot reported that he had avoided a number of aircraft. However, he had not specified that he had seen the PC12.

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

Warning System Operation and Compliance were assessed as **partially available** because only the PC12 was equipped with TCAS.

