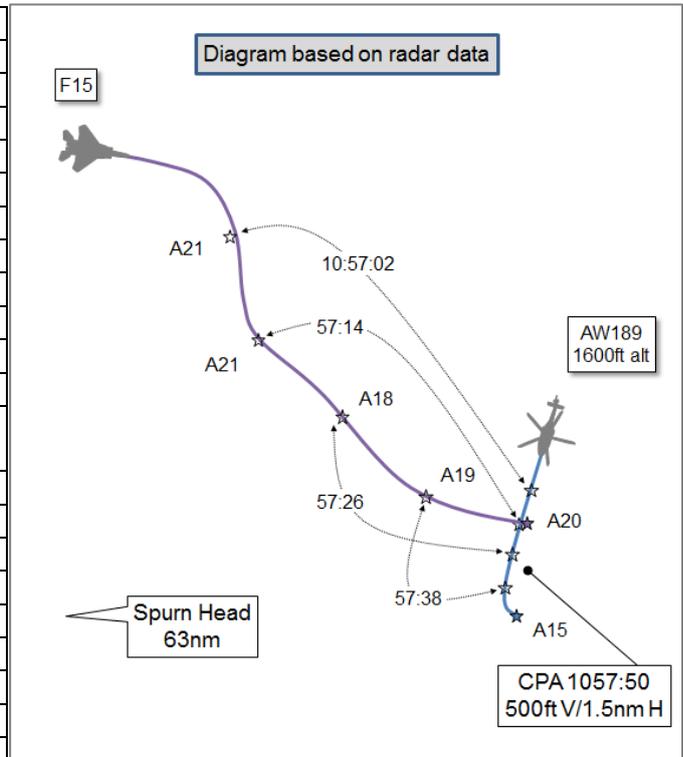


**AIRPROX REPORT No 2017272**

Date: 01 Dec 2017 Time: 1058Z Position: 5348N 00150E Location: Below EGD323D

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

Recorded	Aircraft 1	Aircraft 2
Aircraft	AW189	F15
Operator	Civ Comm	Foreign Mil
Airspace	London FIR	London FIR
Class	G	G
Rules	IFR	VFR
Service	Deconfliction	None
Provider	Anglia Radar	N/A
Altitude/FL	1500ft	2000ft
Transponder	A, C, S	A, C, S
<b>Reported</b>		
Colours	Blue, white	Grey
Lighting	Strobes, nav, position	Anti-col, nav, position
Conditions	VMC	VMC
Visibility	>10km	>50nm
Altitude/FL	1500ft	1600ft
Altimeter	QNH (1015hPa)	Rad Alt
Heading	195°	110°
Speed	140kt	515kt
ACAS/TAS	TCAS II	Not fitted
Alert	TA	N/A
<b>Separation</b>		
Reported	0ft V/2nm H	100ft V/2nm H
Recorded	500ft V/1.5nm H	



**THE AW189 PILOT** reports being in straight and level cruise over the North Sea. On first contact with Anglia Radar, the controller advised of military traffic in danger areas 323A and B, active above FL050, and later advised of traffic crossing left to right at about 5nm and about 500ft above. The traffic was seen and identified as an F15, which was not on their frequency. A few minutes later, the Anglia Radar controller advised that traffic was closing in the 4 o'clock position at a range of about 10nm. The helicopter TCAS display confirmed this and showed the traffic 300ft above but descending and eventually levelling at the same altitude, 1500ft. The PF saw the traffic at an estimated range of 5nm and identified it as an F15. Simultaneously, the Anglia Radar controller issued an avoiding action left turn onto 090° and a TCAS TA and aural warning were generated. The PF immediately turned left, followed by another avoiding action turn from the controller, right onto 180°, as they approached 090°. The PM advised that the traffic passed behind, indicating 2nm separation on TCAS at the closest point, and then departed to the east with no further incident. The AW189 pilot told the Anglia Radar controller that he would be filing 'a report'.

He assessed the risk of collision as 'Medium'.

**THE F15 PILOT** reports that the AW189 was initially observed on the radar at 10nm and then visually by both crew members at approximately 4nm. The F15 pilot turned left onto 120° to maintain a safe distance from the helicopter, but it began a right turn towards them, he reported, so the pilot then turned onto 100° to avoid it. Visual contact was maintained from 4nm until they passed it and it was no longer a conflict.

He assessed the risk of collision as 'None'.

**THE ANGLIA RADAR CONTROLLER** reports that the AW189 was routing southbound at 1500ft when a military fast-jet, which was not on frequency, passed behind, right-to-left, at a similar level. Traffic Information was passed to the AW189 pilot. The military jet then changed track to route towards the helicopter. The controller passed avoiding action, left onto a heading of 090°. The military jet continued to route towards the AW189 so the controller passed further avoiding action, right onto a heading of 180°. The AW189 pilot reported becoming visual with the military jet as it passed 2nm north at the same level. Despite there being no prescribed separation minima, it was not possible to maintain deconfliction minima of 5nm due to the speed differential of the aircraft and the high energy manoeuvres of the fast-jet. The AW189 pilot advised he would be filing an Airprox report because he thought that the actions of the military pilot were not acceptable.

## Factual Background

The weather at Norwich and Humberside was recorded as follows:

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EGNJ 011050Z 30011KT 9999 VCSH FEW025TCU SCT040 03/02 Q1023=
EGSH 011050Z 36009KT 320V030 9999 FEW015 SCT044 06/03 Q1020 NOSIG=
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## Analysis and Investigation

### CAA ATSI

ATSI had access to reports from the AW189 pilot, the Anglia Radar controller and the F15 pilot. The local area radar replay data and the Anglia Radar radio recordings were reviewed for the period of the incident. Screenshots produced in this report are provided using recordings of the area radar. All times UTC.

The Airprox was reported by the pilot of an AW189 helicopter when it came into proximity with an F15 while both aircraft were operating over the North Sea approximately 67nm north of Norwich. The AW189 was an IFR flight, and was effectively in receipt of an Offshore Deconfliction Service from Anglia Radar at the time of the Airprox. The F15 was operating under VFR from Lakenheath and was general handling at low-level. The F15 pilot reported as being on a Swanwick Mil UHF frequency at the time of the Airprox. The aircraft was not transponding a Swanwick Military SSR code and ATSI could not determine what type of service, if any, was being received.

The Anglia Radar controller was dealing with a number of helicopters operating to and from oil platforms in the southern North Sea area. The Danger Areas in the vicinity were very busy with military aircraft conducting high energy manoeuvres at all levels. Two of the military aircraft were routinely observed to be operating below 1000ft in the vicinity of the Oil Platforms. The high rate of climb and descent of the military aircraft resulted in the Mode C readouts not always being available on the controller's radar display. The AW189 was not displayed on the controller's radar display for the first 16 mins of its flight.

At 1038:58, the AW189 pilot checked in with the Anglia Radar controller and advised that they were lifting from [platform name], climbing to altitude 1500ft, and were routing to Norwich, with 18 POB. The controller advised the pilot that the aircraft was not yet showing on radar. A Basic Service was agreed and the Humber QNH of 1016hPa was passed. The controller warned the pilot that there was a lot of military activity in the Danger Areas above them and that the aircraft had on occasion been at low level, but were currently at a higher level. At 1043:00, the AW189 pilot reported level at 1500ft and this was acknowledged by the controller. At 1044:50, the controller advised the AW189 pilot that there were 2 aircraft operating just south of the Schooner Platform and that the Mode C was dropping out due to the fast rate of climb and descent of the aircraft. The AW189 pilot responded that they were VMC and looking. At 1045:50, the controller asked the pilot to pass their radial and range from Norwich and the pilot responded with 017° at 100nm. The controller then advised the AW189 pilot that the military aircraft appeared to be at 1000ft, south of the Schooner platform and that if the aircraft remained low-level they would let them know.

At 1050:00, the AW189 was still not showing on the controller's radar display and the controller passed further generic Traffic Information to the AW189 pilot, advising that there was a military contact about 5nm southeast of Schooner, tracking northwest and indicating altitude 3500ft. The pilot responded that they were looking, they made a comment about the cloud base and then called visual with the military aircraft. At 1055:00, the controller instructed the AW189 pilot to squawk ident and went on to identify the aircraft and advise the pilot that they may receive late or no warning of the military traffic from low-level, due to them appearing and disappearing on the radar and that they would keep the pilot advised. At 1056:50, the controller passed Traffic Information to the AW189 pilot, advising that there was military traffic in their 4 o'clock position, 8nm distant, that it would be passing behind right to left, and was indicating 2000ft. The pilot responded that they were looking (Figure 1).

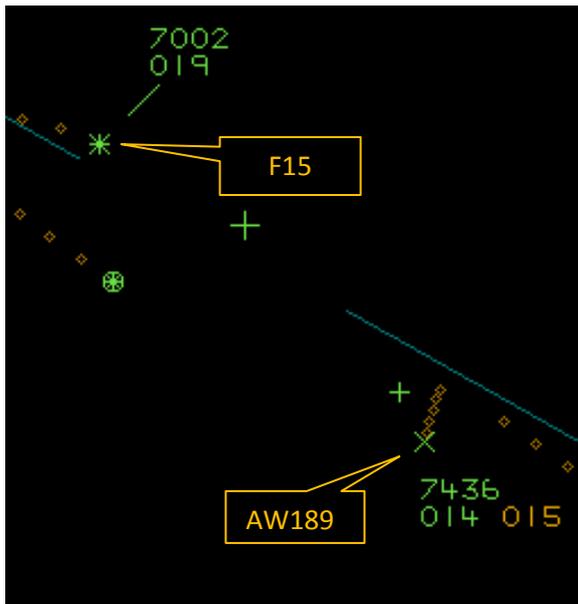


Figure 1 – 1056:50



Figure 2 – 1057:52

At 1057:20, the controller passed an avoiding action left turn on to 090° and updated the position of the military traffic as being northwest of the AW189 by 5nm, the pilot acknowledged the avoiding action turn and the controller then updated the Traffic Information, advising that the traffic was now just north of the AW189 by 2nm and that it was passing behind right to left. The controller then instructed the pilot to turn right heading 180°. The pilot acknowledged the heading change and advised the controller that they were now visual with the traffic and that it was passing down their left-hand side at the same level, about 2nm away. The pilot advised the controller that they would be filing a report and the controller commented that the aircraft appeared to change track at the last minute. CPA occurred at 1057.52 over the Southern North Sea in Class G airspace with the aircraft separated by 1.5nm laterally and 500ft vertically (Figure 2).

There were a number of military aircraft operating in the Danger Areas above where the Airprox occurred (Danger Area 323C & D). The lower limit of these Danger Areas is FL 050. When analysing the Radar replay data for the period of the Airprox event, some radar contacts were observed conducting high energy manoeuvres well below this level [as they were entitled to do].

The AW189 pilot stated in their report that they believed that they were under an Offshore Deconfliction Service (SSR only). This service was not available to the pilot initially due to the aircraft not being displayed on the controllers Radar display. When the AW189 appeared on the Radar display they were identified by the controller. Whilst the service was not changed from the previously agreed Basic Service, the controller issued a warning of late or no traffic information, this was due to the unpredictable manoeuvres and intermittent nature of the military tracks and the associated Mode C information. This would indicate that the controller also believed that they were providing a Deconfliction Service. CAP 493 and CAP 774 state that, under the terms of a Deconfliction Service in Class G Airspace:

'controllers are required to provide traffic information, accompanied with a heading and/or level instruction aimed at achieving a planned deconfliction minima against all observed conflicting aircraft. The deconfliction minima against un co-ordinated traffic are:

5 NM laterally (subject to surveillance capability and regulatory approval);  
or

3,000 ft vertically and, unless the SSR code indicates that the Mode C data has been verified, the surveillance returns, however presented, should not merge.'

The requirements go on to explain:

'high controller workload or RTF loading may reduce the ability of the controller to pass deconfliction advice and the timeliness of such information. Furthermore, unknown aircraft may make rapid and unpredictable manoeuvres. Consequently, it is recognised that controllers cannot guarantee to achieve these deconfliction minima; however, they shall apply all reasonable endeavours.

In areas of high traffic density, Deconfliction Service may be provided, despite the controller considering it unlikely that deconfliction minima will be achieved. In such circumstances controllers should advise the pilot of reduced traffic information delivery and that deconfliction minima may not be achieved.'

An Airprox occurred when an AW189 came into proximity with an F15 while both aircraft were operating in Class G Airspace over the North Sea, approximately 67 miles north of Norwich. In Class G Airspace under the terms of a Deconfliction Service the controller provides specific surveillance-derived Traffic Information and allocates headings and/or levels to fly, aimed at achieving planned deconfliction minima, or for positioning and/or sequencing. Nevertheless, the avoidance of other traffic remains the pilot's responsibility.

The unpredictability and intermittent nature of the military aircraft operating in the Danger Areas above where the Airprox occurred created challenges to the controller in terms of the provision of deconfliction minima, traffic information and avoiding action advice. Despite these challenges the controller discharged their responsibilities effectively when they issued the pilot with a warning of late or no traffic information, and continued to pass timely and accurate traffic information and avoidance advice until the pilot reported having the F15 in sight.

### **UKAB Secretariat**

The AW189 and F15 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>.

### **NATS Ltd Occurrence Investigation**

The NATS Ltd occurrence investigation concluded that the AW189 helicopter, returning from a rig to Norwich and receiving an Offshore Deconfliction Service from Anglia Radar, came into close proximity with an unknown fast-jet squawking 7002. The Anglia Radar controller passed traffic information and then avoiding action but was unable to maintain Deconfliction Minima due to the large speed differential and unpredictable manoeuvres of the fast-jet.

### **Summary**

An Airprox was reported when an AW189 and an F15 flew into proximity at 1058 on Friday 1<sup>st</sup> December 2017. Both pilots were operating under VFR in VMC, the AW189 pilot in receipt of an Offshore Deconfliction Service from Anglia Radar and the F15 pilot not in receipt of a Service.

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

## **PART B: SUMMARY OF THE BOARD'S DISCUSSIONS**

Information available consisted of reports from both pilots, radar photographs/video recordings, a report from the air traffic controller involved and reports from the appropriate ATC authority.

The Board first considered the pilots' actions, noting first that the event took place in Class G airspace and that both the AW189 and F15 crews were entitled users of that airspace. Members discussed the likely perception of the AW189 pilot, and felt that his appreciation of the TCAS information and the application of avoiding action turns by the Anglia Radar controller had no doubt added to his sense of alarm. Considering the total safety picture, members noted that the F15 crew reported they had detected the AW189 on their radar at a range of 10nm and obtained a visual sighting at 4nm. The F15 crew turned in order to increase separation, but the AW189's coincidental avoiding action left turn caused the F15 crew to modify their initial turn by a further 20°, again with the AW189 in sight.

Given the separation at CPA, members agreed that the incident was probably best described as the AW189 pilot being concerned by the proximity of the F15, no doubt in part due to its speed, but that in this instance normal procedures and safety standards had pertained and there had been no risk of collision.

Members wondered whether the F15 crew were aware that helicopters operating at low-level in the North Sea were normally fitted with TCAS and could be operating under an Offshore Deconfliction Service, both of which could result in alerts or avoiding action, especially in the proximity of high-speed traffic. Members also discussed the degree to which USAFE-UK crews were aware of the extent of low-level commercial helicopter traffic in the North Sea, recognising that military personnel tend only to remain on assignment in one location for a short period of time (typically no more than 2 or 3 years) and may not be as familiar with UK operations as indigenous operators. The Board felt that the associated turnover of crews could result in a potential loss of 'corporate memory', and they resolved to recommend that 'USAFE-UK consider promulgation of North Sea helicopter activity to F15 crews'.

## **PART C: ASSESSMENT OF CAUSE AND RISK**

<u>Cause:</u>	The AW189 pilot was concerned by the proximity of the F15.
<u>Degree of Risk:</u>	E.
<u>Recommendations:</u>	USAFE-UK consider promulgation of North Sea helicopter activity to F15 crews.

### Safety Barrier Assessment<sup>2</sup>

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

#### **ANSP:**

**Warning System Operation and Compliance** were assessed as **not used** because the Anglia Radar console was not configured with an automatic warning system.

#### **Flight Crew:**

**Warning System Operation and Compliance** were assessed as **effective** on the part of the AW189 but only **partially available** because the F15 was not fitted with a TAS or CWS.

<sup>2</sup> The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the [UKAB Website](#).

