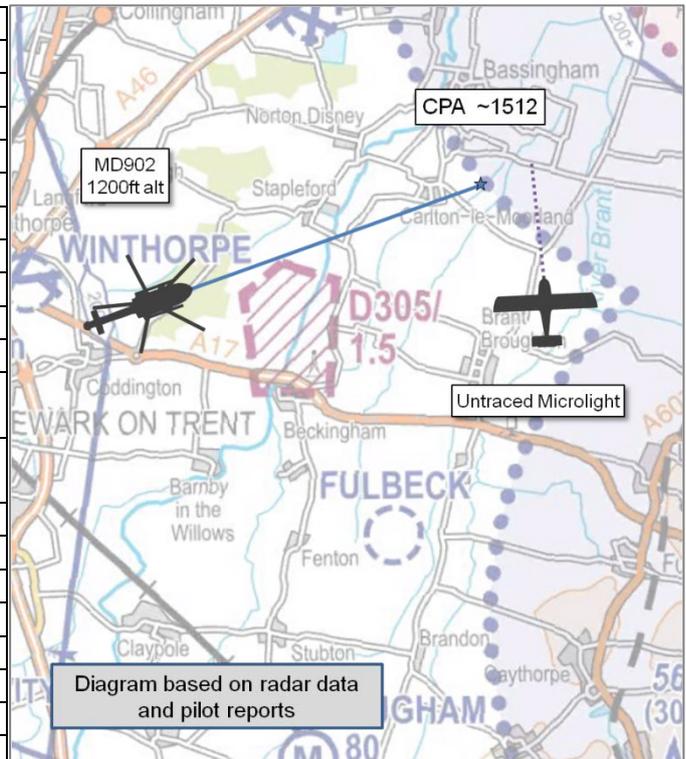


AIRPROX REPORT No 2017001

Date: 05 Jan 2017 Time: 1512Z Position: 5307N 00038W Location: SW Waddington

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	MD902	Light Aircraft
Operator	HEMS	Unknown
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	
Service	Basic	
Provider	Waddington	
Altitude/FL	FL007	
Transponder	A, C	
Reported		
Colours	Yellow	White with red stripe
Lighting	Strobes, Nav, HISLs	
Conditions	VMC	
Visibility	30km	
Altitude/FL	1200ft	
Altimeter	RPS (1034hPa)	
Heading	070°	
Speed	110kt	
ACAS/TAS	TCAS I	
Alert	None	
Separation		
Reported	0ft V/0.25nm H	
Recorded	NK	



THE MD902 PILOT reports that he was transiting back to RAF Waddington, as they approached Newark they contacted Waddington Zone for a Basic Service. Waddington gave warning of traffic in the 1 o'clock position with no transponder information. Then a second aircraft was called to the left and above. Whilst looking out for both reported aircraft, a high-wing, light-aircraft with fixed undercarriage was seen directly ahead in the 12 o'clock position at a range of about 0.25nm, moving slowly from right to left. He took avoiding action by turning right.

He assessed the risk of collision as 'Medium'.

THE LIGHT AIRCRAFT PILOT could not be traced.

THE WADDINGTON ZONE CONTROLLER reports that the MD902 was inbound to Waddington on a Basic Service. He gave Traffic Information on traffic 4 miles away from the helicopter, which he believed to be a glider. The MD902 pilot then continued with the ADC. After he had landed the pilot telephoned to say that the other aircraft was a microlight and that he would be filing an Airprox. The Microlight was within the MATZ, but outside the ATZ.

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

THE WADDINGTON SUPERVISOR reports that he was unaware of the Airprox until the pilot telephoned after landing to report it.

Factual Background

The weather at Waddington was recorded as follows:

METAR EGXW 051450Z 32001KT CAVOK 04/01 Q1034 BLU NOSIG=

Portions of the tape transcripts between the Waddington Zone/Waddington ADC and the MD902 are below:

To	From	Speech Transcription	Time
Waddington Zone	MD902	Waddington err hello again {MD902 c/s} repeat I repeat 4 POB just approaching Newark to re-join basic service on route one zero three zero at the moment	15:07:25
MD902	Waddington Zone	{MD902 c/s} Waddington roger squawk ident	15:07:34
Waddington Zone	MD902	Ident you have and requesting fuel field in sight	15:07:37
MD902	Waddington Zone	{MD902 c/s} roger Waddington information code November, runway two zero, colour code blue, QFE one zero two five request your POB	15:07:52
Waddington Zone	MD902	{MD902 c/s} roger four POB and runway two zero one zero two five	15:08:09
MD902	Waddington Zone	{MD902 c/s} traffic right one o'clock four miles crossing right to left no height information	15:08:15
Waddington Zone	MD902	Copied looking {MD902 c/s}	15:08:23
GCC	Waddington Zone	GCC traffic (pause) right one o'clock two miles manoeuvring no height information	15:08:29
Waddington Zone	GFC	GFC	15:08:39
MD902	Waddington Zone	{MD902 c/s} further traffic left eleven o'clock two miles crossing left to right indicating two thousand feet above	15:08:48
Waddington Zone	MD902	{MD902 c/s} looking	15:08:54
Waddington Zone	GTO	Waddington err Golf Tango Oscar recovering to Wickenby with field in sight happy to continue with Wickenby one three three four five	15:09:04
GTO	Waddington Zone	Golf Tango Oscar roger squawk seven thousand change en route good day	15:09:11
Waddington Zone	GTO	seven thousand change en route good day	15:09:14
MD902	Waddington Zone	{MD902 c/s} previously called traffic now twelve o'clock two miles opposite direction no height information further traffic left ten o'clock one mile crossing left to right indicating two thousand feet above	15:09:18
Waddington Zone	MD902	Visual with traffic and looking for recovery and {MD902 c/s} visual	15:09:30
Waddington Zone	MD902	{MD902 c/s} visual with that aircraft report field	15:09:51
MD902	Waddington Zone	{MD902 c/s} roger Report aerodrome in sight	15:09:53
Waddington Zone	MD902	Wilco 29	15:09:54
Waddington Zone	MD902	{MD902 c/s} visual with the field	15:12:02
MD902	Waddington Zone	{MD902 c/s} roger traffic in your right two o'clock four miles manoeuvring no height information possible glider	15:12:06
Waddington Zone	MD902	And looking thank you {MD902 c/s}	15:12:15
MD902	Waddington Zone	{MD902 c/s} continue with Waddington Air traffic one two one decimal three	15:12:19
Waddington Zone	MD902	One two one decimal three {MD902 c/s}	15:12:22
Waddington Tower	MD902	{MD902 c/s} we'll join downwind right for two zero for your information for Waddington zone you have got a microlight on the north edge south west edge of the MATZ about eleven hundred feet	15:13:12
MD902	Waddington Tower	{MD902 c/s} many thanks and er cross report finals bay one one	15:13:25

To	From	Speech Transcription	Time
Waddington Tower	MD902	Cleared cross l'm for bay eleven {MD902 c/s}	15:13:31
Waddington Tower	MD902	{MD902 c/s} turning right base for bay eleven	15:15:27
MD902	Waddington Tower	{MD902 c/s} land your discretion bay eleven surface wind two seven zero five knots	15:15:35
Waddington Tower	MD902	Cleared land bay eleven and for your information it's a (inaudible) microlight he's outside your ATZ inside MATZ looks like he's heading north towards Lincoln	15:15:40

Analysis and Investigation

Military ATM

Figures 1-4 depict the position of the MD902 when Waddington Zone passed Traffic Information. The screen shots are taken from a radar replay using the Claxby and therefore do not represent the picture seen by the Waddington Zone controller.

At 15:08:15 (Figure 1), the Waddington Zone controller passed TI to the MD902 on traffic right, 1 o'clock, 4nm, crossing right to left, no height information (not visible in screen shot).



Figure 1: Geometry at 15:08:15
(MD902 squawking 0020)

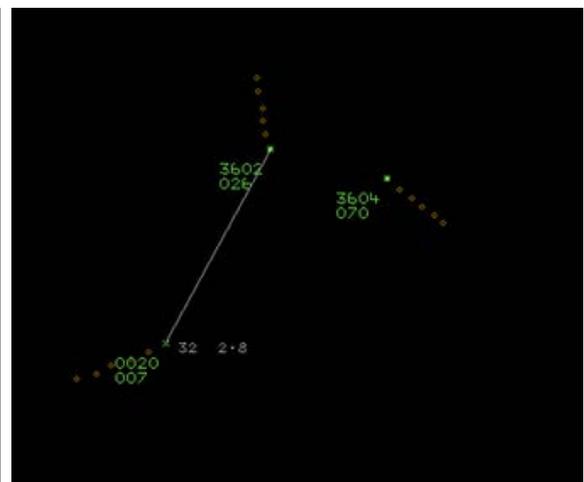


Figure 2: Geometry at 15:08:48

At 15:08:48 (Figure 2), the Waddington Zone controller passed TI on traffic left, 11 o'clock, 2nm, crossing left to right, indicating 2000ft above.

At 15:09:18 (Figure 3), the Waddington Zone controller passed TI on traffic 12 o'clock, 2nm, opposite direction, no height information (not visible in screen shot) and further traffic left, 10 o'clock, 1nm, crossing left to right, indicating 2000ft above. The Airprox is believed to have occurred within the next minute.

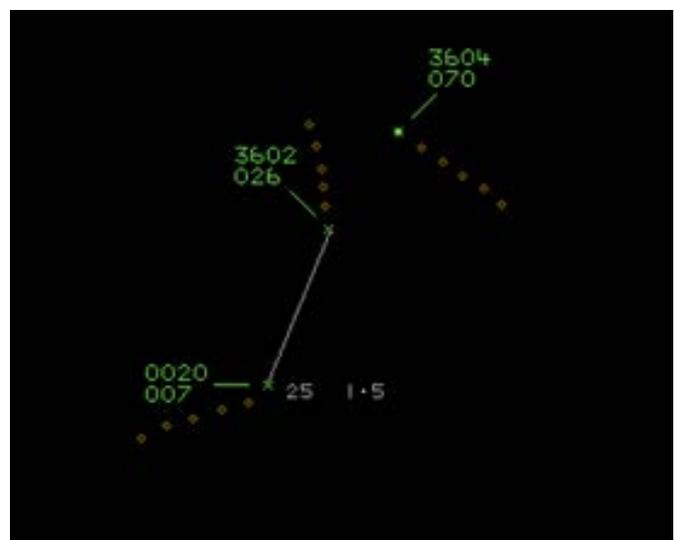


Figure 3: Geometry at 15:09:18 (MD902 0020)

At 15:12:06 (Figure 4), the Waddington Zone controller passed TI on traffic right, 2 o'clock, 4nm, manoeuvring, no height information (not visible in screen shot) prior to releasing the aircraft to Waddington Tower.

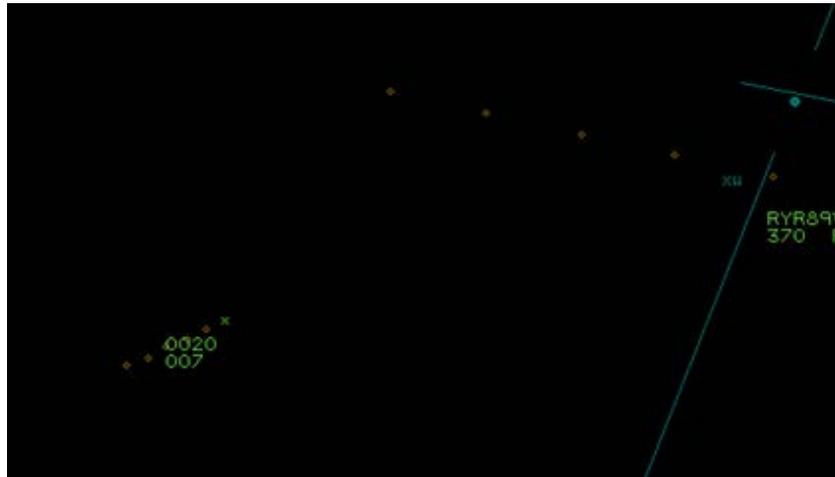


Figure 4: Geometry at 15:12:06 (MD902 0020)

The MD902 pilot requested and was receiving Basic Service; therefore, there was no requirement for the Waddington Zone controller to pass TI unless he believed there to be a definite risk of collision, iaw CAP 774. None of the TI passed constituted a conflicting aircraft in these circumstances and the provision of 'enhanced' information to Basic Service aircraft can lead to misunderstanding about the level of service being applied.

While looking for the traffic detailed in Figure 3, the MD902 pilot became visual with a light, fixed-wing aircraft in the 12 o'clock position, moving slowly from right to left, and took avoiding action to the right. From the narrative, it is not apparent whether the TI-induced scan enabled the pilot to become visual with the Airprox traffic or whether searching for traffic at a greater range distracted from lookout in the closer vicinity.

UKAB Secretariat

The MD902 and light-aircraft 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 head-on or nearly so then both pilots were required to turn to the right². If the incident geometry is considered as converging then the MD902 pilot was required to give way to the light aircraft³.

Summary

An Airprox was reported when an MD902 and a light aircraft flew into proximity at about 1512 on Thursday 5th January 2017. The MD902 pilots was operating under VFR in VMC, on recovery to RAF Waddington, and in receipt of a Basic Service. The light aircraft pilot could not be traced.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from the pilot of the MD902, 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)(1) Approaching head-on.

³ SERA.3210 Right-of-way (c)(2) Converging.

The Board first looked at the actions of the MD902 pilot. Noting that he was under only a Basic Service members wondered whether he would have been better served asking for a Traffic Service so that he could properly take advantage of Traffic Information. That said, members thought that the Traffic Information passed in any case by Waddington had probably cued the pilot to prioritise his lookout ahead and, by doing so, he saw the micro-light (albeit later than he might have liked), and was able to take effective avoiding action.

The Board commented that it was unfortunate that the microlight pilot could not be traced; without his report it was impossible to know whether he was visual with the MD902 or not, and what his thought processes and perceptions were. Notwithstanding, members noted that although he was operating in Class G airspace and was entitled to be there, it was thought that he would have been better served by giving Waddington a call as he crossed along the western edge of their MATZ. In doing so, he would have improved the Waddington controllers' situational awareness and their ability to integrate other traffic. Microlights often don't have a very good radar signature and so, as in this case, the Waddington Controller could not see it on the radar, and could not know it was there. Absent any microlight electronic conspicuity equipment, this left see-and-avoid as the only remaining barrier against mid-air collision.

Finally, the Board looked at the actions of the controller. Although the MD902 was under only a Basic Service, the controller had given lots of Traffic Information and the Board noted that the Military ATM report had commented that he was not required to do so. However, members knew that controllers often provided Helimed pilots with an 'enhanced' service, giving more Traffic Information than usual. In the end, the microlight wasn't showing on the Waddington radar and so the controller didn't call it specifically, but the Board thought it was likely that by calling the other traffic he had encouraged the pilot to focus his look-out ahead and so see the microlight. There followed a long discussion about provision of radar services in the UK, and whether, by giving Traffic Information to aircraft on a Basic Service over and above that which constitutes a definite risk of collision as laid down in CAP774, controllers ran the risk of confusing pilots as to the boundaries of the types of service. Noting that it was a fine line between what one controller felt was 'duty of care' and another felt was unnecessary Traffic Information, the Board wondered whether more guidance was necessary. The CAA advisor noted that, as part of its enduring safety oversight processes, the CAA continually evaluates the UK Flight Information Services and the requirements that drive the UK's codification of ICAO Annex 11 and Doc 4444 PANS-ATM texts on Flight Information Service. He went on to comment that a number of separate work streams were in train that may generate a future requirement to review the UK Flight Information Services.

Turning to the cause and risk of the Airprox, the Board quickly agreed that this had been a late sighting by the MD902 pilot, and potentially a non-sighting by the microlight pilot. However, because the MD902 pilot had been able to take timely and effective avoiding action the Board thought that there had been no risk of collision and so they assessed the risk as Category C.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: A late sighting by the MD902 pilot and potentially a non-sighting by the microlight pilot.

Degree of Risk: C.

Safety Barrier Assessment⁴:

⁴ Modern safety management processes employ the concept of safety barriers that prevent contributory factors or human errors from developing into accidents. Based on work by EASA, CAA, MAA and UKAB, the table depicts the barriers associated with preventing mid-air-collisions. The length of each bar represents the barrier's weighting or importance (out of a total of 100%) for the type of airspace in which the Airprox occurred (i.e. Controlled Airspace or Uncontrolled Airspace). The colour of each bar represents the Board's assessment of the effectiveness of the associated barrier in this incident (either Fully Effective, Partially Effective, Ineffective, or Unassessable/Inapplicable). The chart thus illustrates which barriers were effective and how important they were in contributing to collision avoidance in this incident. The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the [UKAB Website](#).

The Board decided that the following key safety barriers were contributory in this Airprox:

Flight Crew Compliance with ATC Instructions was **inapplicable** because ATC had not passed any specific information on the microlight.

Flight Crew Situational Awareness was **partially effective** because the MD902 pilot had been given Traffic Information on other aircraft in the area and this had cued him to see the microlight.

Onboard Warning/Collision Avoidance Equipment was **ineffective** because the micro-light was not transponder equipped.

See and Avoid was considered **effective** because although this was a late sighting the MD902 pilot was able to take timely and effective avoiding action.

