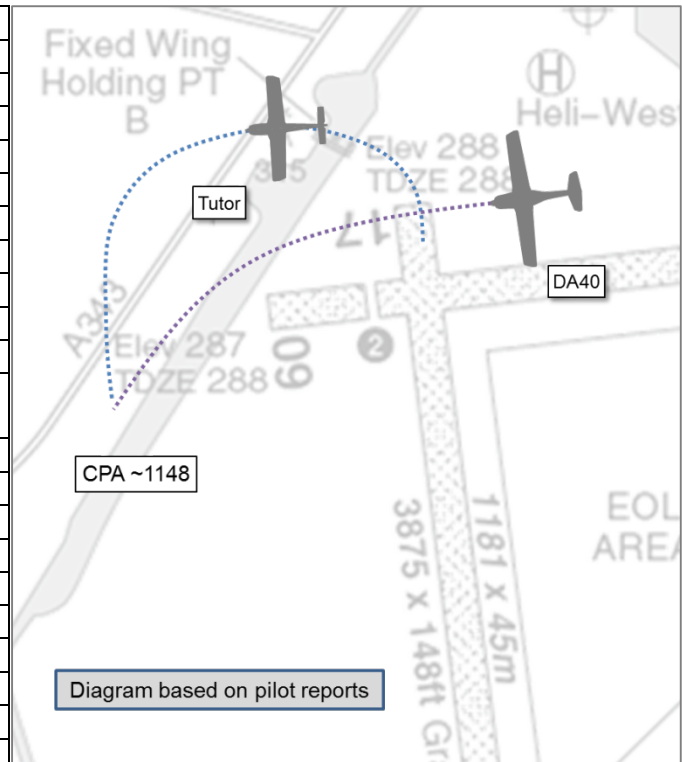


AIRPROX REPORT No 2016088

Date: 23 May 2016 Time: 1148Z Position: 5109N 00134W Location: Middle Wallop airfield
Elevation 297ft.

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	DA40	Tutor
Operator	Civ Trg	HQ Air (Trg)
Airspace	ATZ	ATZ
Class	G	G
Rules	VFR	VFR
Service	Aerodrome	Aerodrome
Provider	Middle Wallop	Middle Wallop
Transponder	A,C,S	A,C,S
Reported		
Colours	White	White
Lighting	Strobes, nav, landing	HISL, nav
Conditions	VMC	VMC
Visibility	40km	>10km
Altitude/FL	1300ft	1000ft
Altimeter	QFE	QFE (1008hPa)
Heading	260°	175°
Speed	95kt	80kt
ACAS/TAS	Not fitted	Not fitted
Separation		
Reported	150ft V/300m H	100ft V/200m H
Recorded	NK	



THE MIDDLE WALLOP AERODROME CONTROLLER reports that the pilot of a DA40 fixed-wing aircraft called requesting airfield information following a local flight. He was instructed to join overhead, RW35, QFE1009hPa and Traffic Information was passed on an aircraft on climb out to depart (the Tutor). The pilot read back the runway and QFE, and reported that he was in the overhead. Due to the design of the Tower he was unable to verify the position of the DA40 in the overhead. He observed the departing Tutor established downwind. The DA40 then came back in to view crossing onto the live side and appeared to be at a similar level to the Tutor. At the same time the pilot reported that he was visual with an aircraft downwind and that he was turning right to position behind. He passed Traffic Information to the Tutor pilot who confirmed he was also visual. The Mode C display on the Hi-Brite VCR Radar Display (VRD) in the Tower indicated that the DA40 was 100ft above the Tutor. The pilot of the DA40 appeared to fly the profile of a crosswind join and therefore had not called deadside where standard procedure would have been to provide an update on Traffic Information. Speaking with the pilot of the DA40 after the incident, he stated that he was not visual with the Tutor before commencing his descent; he then became visual and turned right to position behind. In the controller's opinion, the distance between the two aircraft at the time of the incident was such that safety may have been compromised.

THE DIAMOND DA40 PILOT reports that he was cleared by Middle Wallop for an overhead join to RW35 from the north-east. He was informed that there was 'one departing the circuit' or words to that effect. His student called 'overhead' on his command. As he perceived there was no circuit traffic, he elected to perform a crosswind join, descending to 1500ft QFE over the upwind end of the runway (non-standard overhead join as briefed by ATC). However, he did not call this join to ATC. On crossing RW35 upwind end, he turned 90° and began descent. He saw a Tutor at the start of the downwind leg about 800m away, estimated at circuit height (1000ft QFE). He stopped descent, passed over the aircraft and determined that the most expeditious course of action was to turn to follow the Tutor downwind, which he did, descending in the turn to 1000ft QFE. He considered that a

combination of not advising ATC of a change of intentions and the downwind departure of the Tutor resulted in the two aircraft heading towards the same piece of airspace without prompting a Traffic Information call from ATC.

He assessed the risk of collision as 'None'.

THE GROB TUTOR PILOT reports that he rolled-out on the downwind leg for a VFR departure to the south-west. The R/T between the DA40 pilot and ATC indicated that a he would be conducting an overhead join (normal VFR arrival for Middle Wallop) during his departure from the end of the downwind leg. He was in the process of informing his Grading Candidate where the DA40 would be, and at what height for the overhead join, when it appeared about 200m ahead of him at about 1100ft moving from left to right. He made his "downwind to depart" call to ATC and informed them that he was visual with the DA40 and was unclear as to why it was there. Once clear of the ATZ, and working Wallop Approach, he asked them to find out what type of join the DA40 had been conducting. (He did not want to do this on the Wallop Tower frequency because the DA40 students would have heard the conversation). The occurrence was discussed with the ATC SATCO on RTB; he informed him that a report had been submitted.

He assessed the risk of collision as 'Medium'.

Factual Background

The weather at Middle Wallop was recorded as follows:

METAR EGVP 231150Z 33007KT 9999 SCT034 SCT065 15/07 Q1019 BLU NO SIG

Middle Wallop ATZ, situated within Class G airspace, is a 2nm circle with an upper limit of 2000ft.

CAP 493 (Manual of Air Traffic Services Part 1)¹ states:

At aerodromes with an ATC unit, all movements within the ATZ are subject to the permission of that unit. Aircraft will comply with instructions given by RTF and maintain a listening watch.

Analysis and Investigation

CAA ATSI

The area radar recordings were obtained but provided no evidence because the occurrence happened below radar coverage. Local radar recordings were not available but local R/T recordings were, and a field interview was conducted with the controller.

Middle Wallop is primarily a helicopter training unit for the British Army but is also used by a couple of fixed-wing operators (for training); in this occurrence RW35 was in use for fixed-wing aircraft. Although a military unit, ATC is provided by a civil Air Navigation Service Provider (ANSP). However, the MATS Part 2 (the unit-specific Manual of ATC procedures) includes procedures derived from the Military Flying Orders Book (FOB). Chapter 10 of CAP413 (Radiotelephony Manual) details specific Military phraseology to be used by military ATC and aircrew where it may differ from civil operations. At Middle Wallop this phraseology is adopted by the civil ANSP at what is essentially a military unit. When a civil registered aircraft is handled by ATC at Middle Wallop, more explicit instructions are included, either in accordance with normal civil ATC practice, or to ensure pilots are fully aware of the procedures that apply in the area they are operating in. However, although both aircraft involved in this event were civil registered, the aircraft were known to be operating on a contract for the MoD, and as regular operators at Middle Wallop, they were signatories to the FOB. Therefore both pilots were expected to conform to Chapter 10, CAP413 phraseology instructions.

¹ Section 1, Chapter 2, Paragraph 6.1 (1).

Figure 1 shows the airfield layout from the UK MIL AIP. With the exception of a short hard-surface helicopter runway, the entire Middle Wallop airfield is grass. To the east of RW35 is the Engine Off Landing (EOL) Area; aircraft overflying this area do so at a minimum of 1500ft in order to remain 500ft above the helicopter traffic operating in the EOL.

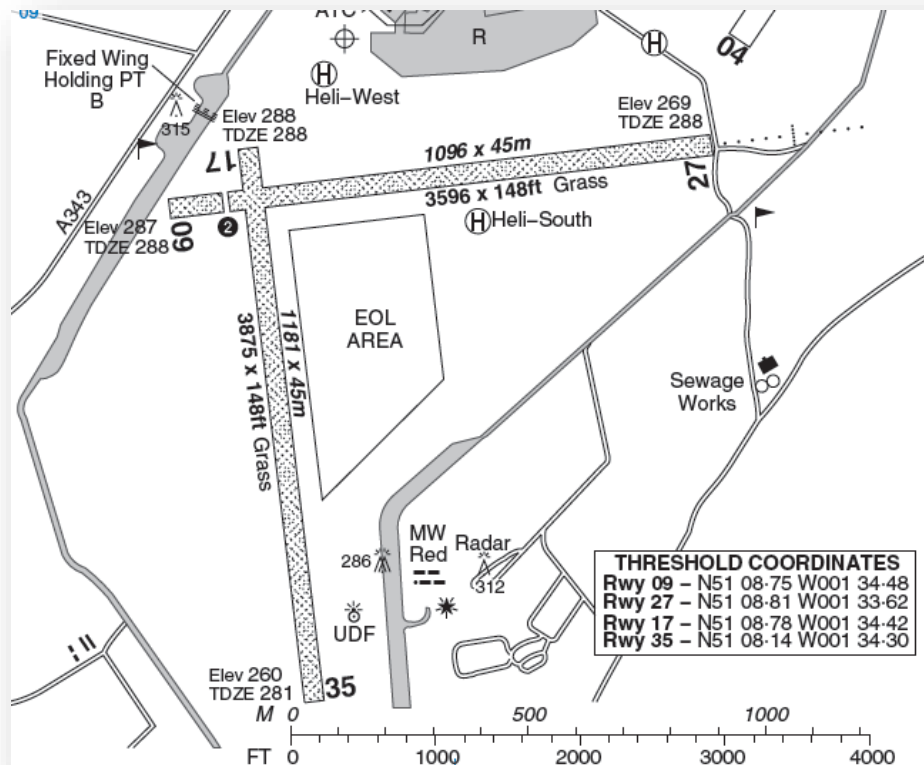


Figure 1.

The inbound DA40 had departed Middle Wallop on a local training detail and was returning from the north-east. The controller had observed an aircraft approaching from the north-east on the Aerodrome Traffic Monitor (ATM). However, because its pilot had not spoken to Wallop Tower at around 5nm (when most inbound would call), the controller assumed the aircraft was overflying. This was a common occurrence, Wallop Radar only have a UHF radio, so non-UHF equipped aircraft wishing to transit this airspace routinely work Boscombe Radar. Boscombe only coordinate with Wallop Tower if the aircraft is inbound to Middle Wallop or at a lower level. To further complicate this situation, Boscombe had been working the DA40 and had attempted to coordinate, but the telephone line was temporarily unserviceable, which was unknown to both Boscombe Radar and Wallop Tower.

The Tutor was operating on a local training detail and had taxied out for departure. At 1146:32 the Tutor pilot was cleared for take-off from RW35. The departure procedure for the Tutor was to get airborne and make a left turn to depart to the south-west. This procedure involved departing from the downwind position at 1000ft. This is organised to provide separation against those aircraft arriving from the south-west above 1500ft.

The Wallop Aerodrome controller had a pending flight progress strip on the DA40 so, when the pilot called at 1147:42, he was able to issue a joining instruction to join overhead for RW35. Figure 2 indicates the expected circuit join that the DA40 pilot would make. Traffic Information about the departing aircraft was passed. The controller reported that the DA40 was approximately 2.5nm from Middle Wallop at this time.

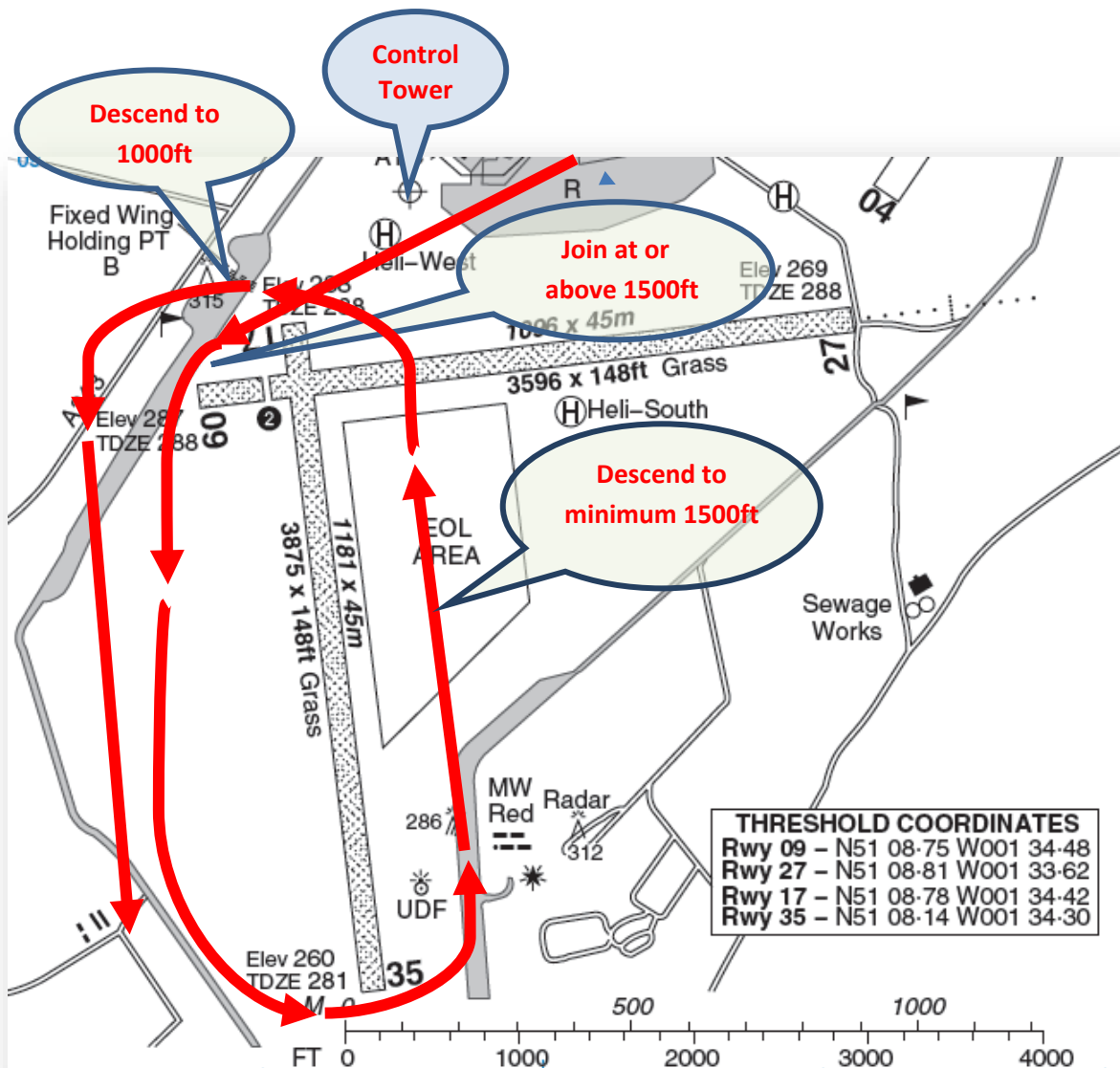


Figure 2.

The DA40 pilot read back the clearance and, at 1148:05, he reported “*Overhead now*” (although given the initial call it is likely the DA40 had approximately 2nm to run). Due to the position of the DA40 the controller could not see it as it overflew the Control Tower, but the controller was expecting to see it to the west of the runway heading south.

At 1149:30 the DA40 pilot reported “*just joining overhead and I’ve just noticed an aircraft downwind...I’m actually going to turn in to the right behind him*”. The controller immediately asked the Tutor pilot if he could see the DA40 joining behind them to which he reported “*Yeah, he was cutting in front of me at about eleven hundred feet, not sure why he was doing that*”. The DA40 pilot, although reporting turning right to go behind the Tutor, had meant that an orbit to the right was being executed to bring the DA40 in behind the Tutor downwind. The DA40 pilot had descended to approximately circuit height prior to passing in front of the Tutor. Figure 3 shows the probable track the inbound DA40 took (in red) with the Tutor track (in blue).

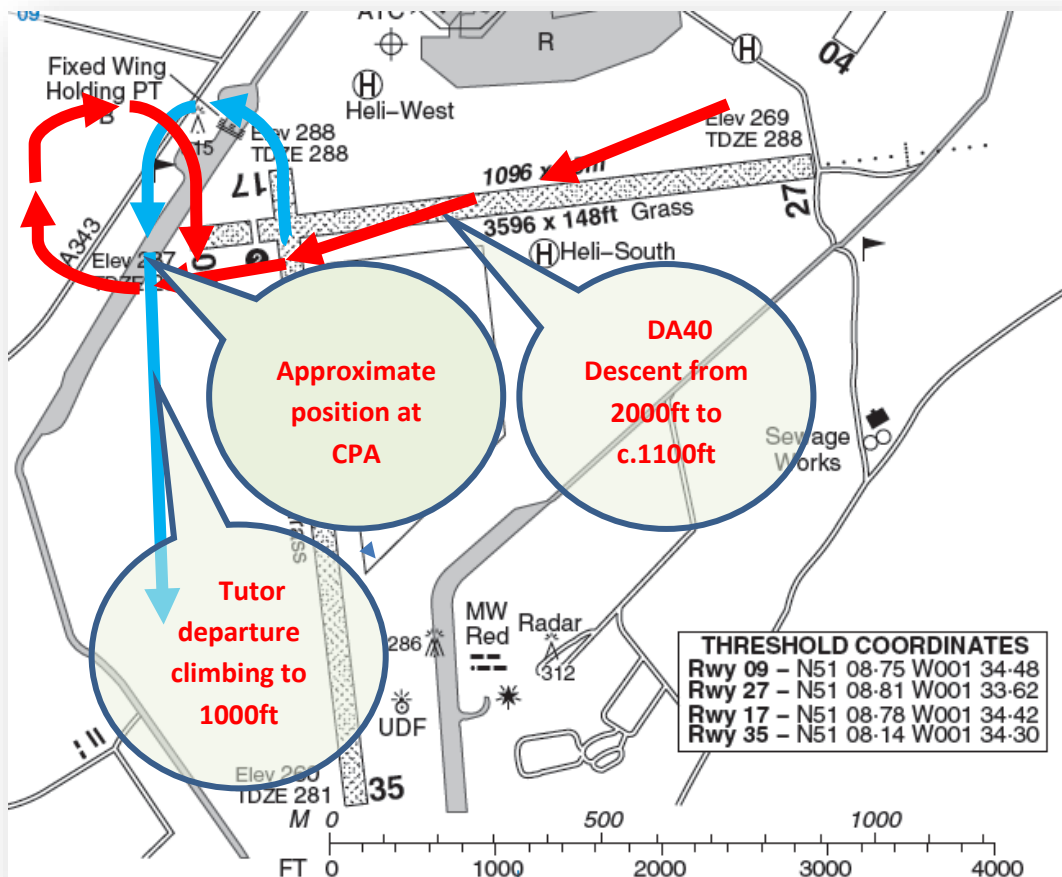


Figure 3-Approximate position of CPA.

The controller had observed the departing Tutor turning downwind and was surprised to see the DA40 appear at a lower level and not heading in the expected direction. No 'dead-side' join was flown by the DA40, who appeared not to have complied with the standard overhead join procedures. The controller stated that although the DA40 was civilian registered, they expected the pilot to be complying with the FOB procedures as the operator was known, and as such issued instructions using phraseology in accordance with Chapter 10 of CAP413.

On seeing the proximity of the two aircraft west of the tower, the controller considered that the safety of the two aircraft had been compromised and had submitted the Airprox report. Both aircraft were operating VFR in class G airspace and as such the pilots were responsible for their own collision avoidance.

UKAB Secretariat

The DA40 and Tutor pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard². 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 operation³.

² SERA.3205 Proximity.

³ SERA.3225 Operation on and in the Vicinity of an Aerodrome.

Comments

HQ Air Command

This incident prompted a safety investigation at the unit concerned which highlighted a number of inconsistencies and omissions between documented procedures and those being used in practice. The unit is to be commended on the thoroughness of the investigation and all the recommendations that were forthcoming to address the issues that contributed to the loss of separation between 2 aircraft in the circuit. The investigation concluded that the cause of the incident was, essentially, that the DA40 pilot did not join the circuit in accordance with the clearance issued by ATC. Notwithstanding a number of contributory factors, this incident highlights the importance of issuing clear and unambiguous instructions and procedures and then ensuring that they are followed. In this case the DA40 pilot modified his join from that which was cleared without informing ATC, on the assumption that the Tutor would depart to the north and that the downwind portion of the circuit would be clear (as he had not been passed the direction of the Tutor's departure as part of the initial TI). The controller had intended to update TI on the Tutor to the DA40 pilot when the DA40 pilot called 'deadside descending' – a call that was not made due to the modified join being executed. Fortunately, the DA40 pilot saw the Tutor in front of him on the downwind leg and took action to position behind with enough vertical separation to minimise any risk of collision, albeit he did overtake the Tutor.

Summary

An Airprox was reported when a DA40 and a Tutor flew into proximity at 1149 on Monday 24th May 2016. Both pilots were operating under VFR in VMC within Class G airspace of the Middle Wallop ATZ, in receipt of an Aerodrome Control Service. The Tutor was departing Middle Wallop RW35 to the south-west with a left turn downwind. Although the DA40 pilot had been cleared to join overhead for a left-hand circuit to RW35, he did not follow his ATC clearance.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

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

The Board noted that both pilots were locally based at the airfield and that the Airprox had been filed by the Middle Wallop Aerodrome Controller, rather than either of the pilots, because he had considered that the distance between the two aircraft was such that safety may have been compromised.

The Board first discussed the actions of the DA40 pilot. Following a local flight, he had contacted the Tower to request to rejoin the circuit. The controller cleared the DA40 pilot to join overhead for RW35, which was read back correctly. He was also informed about an aircraft climbing out (the Tutor) but no further information about its type or routeing was issued because the controller's intention was to update the Traffic Information when the DA40 pilot called deadside descending. Some members thought that ATC's call only that the other traffic was climbing out, without giving a route, was probably instrumental in the DA40 pilot believing that there was no circuit traffic likely to conflict with his aircraft. That being said, in deciding to change his arrival routeing from overhead, as instructed, to joining crosswind still required him to inform ATC of his changed intentions. Because he did not do so, ATC were then not prompted to update their Traffic Information, and were waiting instead for his deadside-descending call to provide the update. ATC members commented that an ATC response to his initial call along the lines of 'Tutor departing downwind' would have resolved any chance of a conflict. That being said, and recognising that the DA40 flight was a training exercise, members were disappointed that the instructor appeared not to understand the significance of properly informing ATC of any changes to his intentions, even if the circuit had been clear.

For his part, the Board noted that the Tutor pilot was departing to the south west, which entailed leaving the circuit on the downwind leg at 1000ft. The Tutor pilot reported that he had been aware of the DA40 joining the circuit as he had heard ATC clearing the pilot for an overhead join. Because the DA40 pilot had not informed the controller about his changed intentions, members agreed that the Tutor pilot had no way of knowing that the DA40 was now not joining overhead and would instead be in his vicinity. Given that he was also no doubt partially focused on instructing his own student, members agreed that there was little more the Tutor pilot could have done to improve matters.

The Board quickly decided that the cause of the Airprox was that the DA40 instructor did not join the circuit in accordance with his clearance and flew into conflict with the Tutor. In discussing the risk, due to a lack of radar recordings it was not possible to positively define the minimum separation that had occurred. However, members noted that the DA40 pilot had reported that he had seen the Tutor early enough to avoid any risk of a collision, and the Tutor pilot did not take any avoiding action because the DA40 was already crossing his path when he first observed it. As a result, although they unanimously agreed that safety had been degraded, with no risk of a collision due to the DA40 pilot's early sighting of the Tutor, the Board assessed the Airprox as risk Category C.

The Board was heartened to hear from the HQ Air member that, as a result of this Airprox, the operational procedures for Middle Wallop have been extensively reviewed and amended accordingly.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The DA40 instructor did not join the circuit in accordance with his clearance and flew into conflict with the Tutor.

Degree of Risk: C.