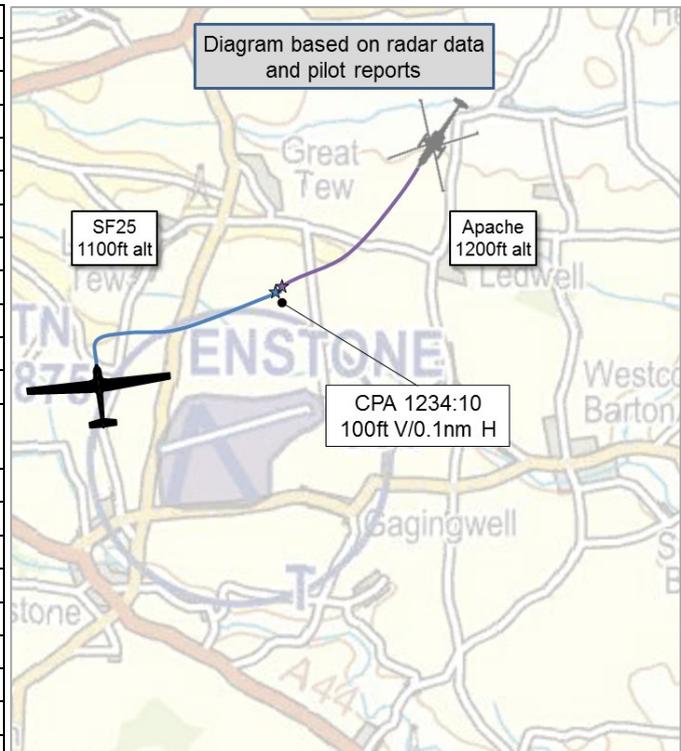


AIRPROX REPORT No 2018023

Date: 15 Feb 2018 Time: 1234Z Position: 5156N 00124W Location: Enstone Airfield

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

| Recorded | Aircraft 1 | Aircraft 2 |
|-------------|-----------------|----------------------|
| Aircraft | SF25 | Apache |
| Operator | Civ Club | HQ JHC |
| Airspace | London FIR | London FIR |
| Class | G | G |
| Rules | VFR | VFR |
| Service | AGCS | Basic |
| Provider | Enstone | Brize Zone |
| Altitude/FL | 1100ft | 1200ft |
| Transponder | A, C | State/Modes |
| Reported | | |
| Colours | White, Red | Military Colours |
| Lighting | Not reported | Nav, Strobe, Landing |
| Conditions | VMC | VMC |
| Visibility | >10km | >10km |
| Altitude/FL | 800ft | ~1300ft |
| Altimeter | QFE (987hPa) | QNH |
| Heading | 080° | 245° |
| Speed | 70kt | 110kt |
| ACAS/TAS | FLARM | Not fitted |
| Alert | Unknown | N/A |
| Separation | | |
| Reported | 200ft V/200m H | 200ft V/400mft H |
| Recorded | 100ft V/0.1nm H | |



THE SF25 PILOT reports that he was in the RHS instructing a student in the LHS, flying in the right-hand circuit to RW26 at Enstone. They were mid-way along the downwind leg when he spotted a potentially conflicting aircraft, which he identified as a military Apache helicopter. The Apache was at approximately 600ft agl, 200ft below his height (800ft QFE), flying in the opposite direction a small distance laterally from him to the north, tracking east-west, whilst he was tracking 080° on the downwind leg. At the point of visual contact (approximately 500m and closing) he took control and manoeuvred to the right, away from the traffic. The Apache continued westbound and passed perhaps as close as 200m down his left-hand side, remaining below his height throughout. He made a radio transmission to alert any other Enstone traffic that there was a military helicopter near the circuit, which was answered to by an aircraft on the ground at Enstone.

He assessed the risk of collision as 'High'.

THE APACHE PILOT reports that the non-handling pilot (NHP) identified that the route took them over what appeared to be a small microlight site on the M5219-Air¹ chart and informed the handling pilot (HP). The HP acquired the site visually and turned the aircraft to the right to avoid overflying the site, unintentionally placing the aircraft on the opposite track to the downwind leg for the active runway. When abeam the site, both crew identified a motor-glider on an opposite track, slightly above and to the left. The HP commenced a descending right-turn to avoid. The crew discussed the event immediately afterwards, both felt that the safety of the aircraft was not compromised, given that both had seen the motor-glider and the HP had initiated a descending turn immediately. The aircraft Commander informed the authoriser following the sortie. He would like to highlight that the M5291A chart depicts Enstone airfield as a small micro-light site symbol which overlaps a standard minor

¹ 1:250000 scale National series produced by AIDU every 6 months using OS base map information overprinted with DGC obstruction and powerlines data plus AIDU airspace information.

aerodrome symbol. The 1:500,000 CAA civil air chart depicts the airfield with a 1nm radius circle, a "T" for training airfield, and provides a contact frequency.

He assessed the risk of collision as 'Low'.

Factual Background

The weather at Oxford was recorded as follows:

METAR EGUB 151150Z 26014KT 9999 FEW030 08/00 Q1011 BLU NOSIG

Analysis and Investigation

UKAB Secretariat

The SF25 and Apache 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.

A copy of the information from chart M5219-A and the UKLFB with respect to Enstone airfield are reproduced below:

| | |
|-------------------------------------|--|
| WARNINGS | Nil |
| LIGHT AIRCRAFT LANDING SITES | |
| Knoll Hill | N52 24-13 W002 09-53 (SO 892783) |
| Milson | N52 21-67 W002 32-67 (SO 629738) A (ICF 135.475 Mhz) |
| Hanley House Farm | N52 17-97 W002 28-13 (SO 680670) A (ICF 135.475 Mhz) |
| Shelsley Walsh | N52 15-68 W002 23-39 (SO 734627) No frequency, Air Ambulance only |
| Bidford | N52 08-38 W001 50-79 (SP 105491) |
| Long Marston | N52 08-00 W001 45-00 (SP 171484) A, and MS, FP, HG (ICF 129.825 Mhz) |
| Banbury | N52 06-12 W001 22-74 (SP 425451) (ICF 119.450 Mhz) |
| Hardwick | N52 05-13 W003 03-49 (SO 275436) |
| Defford Croft Farm | N52 04-98 W002 07-97 (SO 909428) (ICF 122.250 Mhz) |
| Ledbury (Vintage ac) | N52 04-39 W002 28-19 (SO 678418) A (ICF 135.475 Mhz) |
| Stockley Hill | N52 02-56 W002 55-64 (SO 364387) |
| Hinton-in-the-Hedges | N52 01-72 W001 12-40 (SP 544370) A, and FP (ICF 119.450 Mhz) |
| Haywood Lodge | N52 01-55 W002 46-05 (SO 477367) and MS |
| Velcourt | |
| (Ledbury airstrip) | N52 00-07 W002 28-41 (SO 675338) (ICF 135.475 Mhz) |
| Allensmore | N51 59-38 W002 46-84 (SO 464327) (ICF 135.475 Mhz) |
| Finmere | N51 59-10 W001 03-28 (SP 649323) |
| Southwick Farm | N51 58-34 W002 10-05 (SO 885305) |
| Enstone | N51 55-79 W001 25-70 (SP 393259) and MS, T (ICF 129.875 Mhz) |
| Willington | N51 54-72 W002 14-39 (SO 835238) and MS, GS |
| Arlingham | N51 48-21 W002 26-20 (SO 699118) |
| HELICOPTER LANDING SITES | |

Figure 1: M5219-A

Figure 2: UKLFB extract

Military Flying Regulation RA2307 is currently slightly different from the current SERA rules of the air and states that:

15. Flight in the Vicinity of an Aerodrome. An Air System, while flying in the vicinity of what the Aircraft Commander knows, or ought reasonably to know, to be an Aerodrome or whilst moving on an Aerodrome, should, unless otherwise authorized by an ATC unit, be flown such that it will:

- a. Conform to the pattern of traffic formed by other Air Systems intending to land at that Aerodrome, or keep clear of the airspace in which the pattern is formed.*
- b. Make all turns to the left unless otherwise permitted by local ATC procedures or to avoid the danger of collision.*

16. Due to the high energy states of low flying Air Systems in the UK Military Low Flying System, it might not be possible to avoid every minor Aerodrome, helicopter landing site and microlight site en-route. The UK Military Low Flying Handbook (UKMLFHB) states those sites that have mandatory avoids, and the avoidance criteria for each site, and Aircraft Commanders should observe these stated avoids by the stipulated distances and heights. Nevertheless, Aircraft Commanders should also endeavour to plan to avoid other unstated minor sites where possible.

² SERA.3205 Proximity.

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

Comments

JHC

JHC assess that the Apache crews selection of a Basic Service from Brize Zone and a plan to laterally avoid the minor aerodrome was appropriate for their transit in Class G airspace and from the SA gained from the depiction of Enstone on the M5219-A chart. That said, had the M5219-A chart reflected the CAA VFR chart depiction of Enstone as a busy training aerodrome with an initial contact frequency, this may have driven a different course of action from the crew in their selection of UKFIS and routing. The issue appears to be a perennial one where busy civil aerodromes are not protected by an ATZ; as such, the Apache Force have raised a recommendation to tackle the issue and will engage with AIDU to consider potential solutions open to them.

Summary

An Airprox was reported when a SF25 and an Apache flew into proximity in the vicinity of Enstone airfield at 1234 on Thursday 15th February 2018. Both pilots were operating under VFR in VMC, the SF25 pilot listening out on Enstone Radio and the Apache pilot in receipt of a Basic Service from Brize Zone.

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.

The Board began by looking at the actions of the Apache pilot. They noted that the military map the Apache crew were using had a different marking for Enstone from the civil equivalent maps but that it was, nonetheless, clearly depicted and mentioned in the UKLFHB with an ICF. The JHC member opined that the map was misleading because Enstone was marked as a microlight site and not a busy training airfield. He also commented that it also does not have a contact frequency marked on the map and, although there is one in the UKLFHB, this was not readily available to the crew. He said that JHC have recognised that there is an issue with the maps not reflecting the level of detail required for the type of operation at an aerodrome and that this was being addressed, but would take time to progress through the update cycles. The Board acknowledged that the Apache crew had endeavoured to avoid Enstone once they had recognised that their planned route would take them through the airfield, but unfortunately their attempt had not ensured a sufficient margin laterally to avoid the pattern of traffic. One member opined that pilots should also consider avoiding airfields vertically because this can sometimes be a better option if lateral manoeuvres are not feasible. Notwithstanding the Apache crew's attempts to avoid Enstone, the Board agreed that they would have been better served by planning their route to avoid the site completely.

For his part, the Board agreed that the SF25 pilot had probably seen the Apache as early as could be expected given that he was looking down on the camouflaged aircraft against a dark background. Members noted that he had been able to manoeuvre right, away from the conflict, in a timely manner.

The Board looked to the cause of the Airprox and agreed that once the Apache crew had identified Enstone, they had tried to avoid the circuit but could have done more to ensure greater separation. As such, members assessed that the Apache pilot had not sufficiently avoided the pattern of traffic at Enstone and had flown into conflict with the SF25. Turning to the risk, they agreed that the SF25 pilot had seen the Apache sufficiently early to conduct a timely and effective avoiding manoeuvre such that there had been no risk of collision; accordingly they assessed the risk as Category C.

Noting the disparity between the RA2307 and SERA wording, and although not germane to the incident, the Board resolved to recommend that the MAA review RA2307 wording to reflect SERA and the Rules of the Air 2015.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The Apache pilot did not adequately avoid the pattern of traffic at Enstone and flew into conflict with the SF25.

Degree of Risk: C.

Recommendation(s): MAA reviews the wording of RA2307 to reflect The Rules of the Air Regulations 2015 and SERA wording.

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:

Flight Crew:

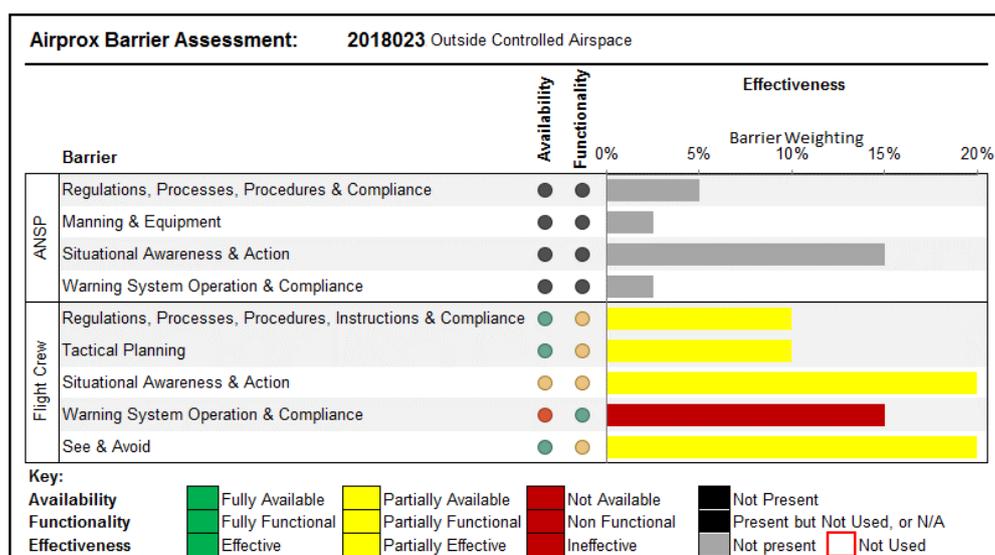
Regulations, Processes, Procedures, Instructions and Compliance were assessed as **partially effective** because the Apache pilot did not conform with the pattern of traffic at Enstone Airfield.

Tactical Planning was assessed as **partially effective** because Enstone Airfield was marked on the Apache pilots map (albeit not with sufficient detail to ascertain the type and intensity of the operation), but he did not plan to avoid it by a sufficient margin.

Situational Awareness and Action were assessed as **partially effective** because the location of Enstone Airfield was marked on the M5219-A map and the Apache pilot was required to avoid its pattern of traffic, which he did not do by a sufficient margin.

Warning System Operation and Compliance were assessed as **ineffective** because although the SF25 was equipped with FLARM, this can only alert when the conflicting aircraft is also fitted with a serviceable FLARM, therefore the Apache would not have registered on the SF25's display.

See and Avoid were assessed as **partially effective** because the SF25 pilot was visual with the Apache in a timely manner, but the Apache crew only saw the SF25 at the last minute.



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