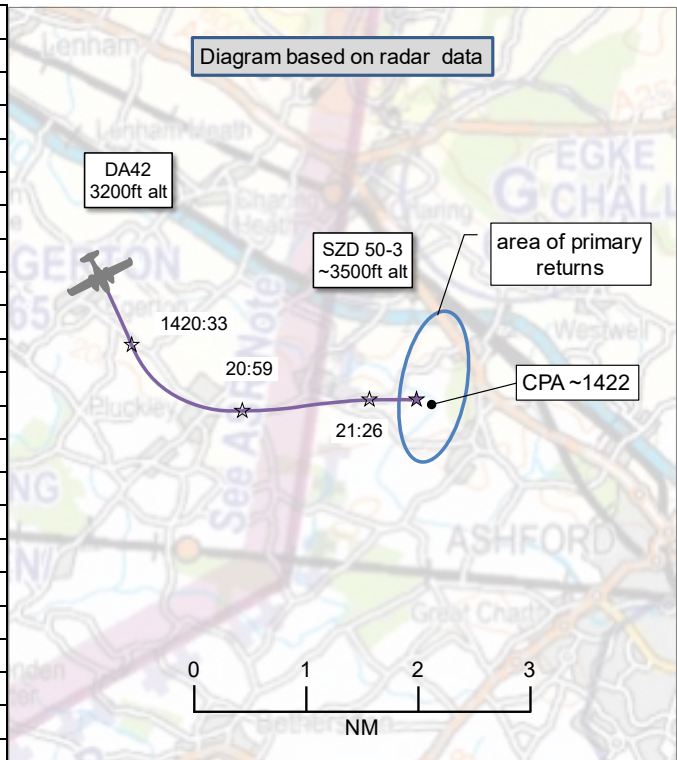


AIRPROX REPORT No 2023124

Date: 21 Jun 2023 Time: ~1422Z Position: 5111N 00048E Location: 2NM south of Challock.

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	SZD 50 Puchacz	DA42
Operator	Civ Gld	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	IFR
Service	None	Procedural
Provider	NA	Lydd Approach
Altitude/FL	NK	3200ft
Transponder	Not fitted	A, C, S+
Reported		
Colours	White	White
Lighting	None	Strobes
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	3500ft	3200ft
Altimeter	QFE	QNH (1018hPa)
Heading	circling	135°
Speed	50kt	125kt
ACAS/TAS	FLARM	Not fitted
Alert	None	None
Separation at CPA		
Reported	100ft V/0m H	Not Seen
Recorded	NK	



THE SZD 50-3 PILOT reports they were conducting a glider training flight and had arranged an aerotow ‘wave off’ practice at 2900ft QFE. They had taken off from [their point of departure] on an approximate southerly heading into wind. The tow pilot gave the ‘wave off’ release signal at 2900ft QFE and the pilot under training duly released the tow and turned left. They continued the turn when they became aware of the other aircraft approaching from their 7 o’clock [position], very close and just below, they were both looking out to the left at that time. The other aircraft passed very quickly approximately west-to-east underneath them. They reversed the turn to see the other aircraft continuing on course. In the short time they saw [the other aircraft] they were not aware that it made any avoiding manoeuvre. They believed this type of aircraft carries out instrument approach training at Lydd but the area marked on the chart is of Ashford. Looking at the trace online it gave the height of [a DA42] as 3100ft AMSL and they were 3500ft AMSL so there should have been 400ft vertical separation. Flying gliders, they were used to flying in close proximity to other gliders but they were very concerned how close this aircraft was.

The pilot assessed the risk of collision as ‘High’.

THE DA42 PILOT reports they were operating a multi-engine piston and instrument rating renewal flight from [the same departure and destination airfield]. After performing a procedural instrument approach (ILS) to [their first airfield’s approach point], they flew to [their second airfield’s approach point] to fly a radio navigation approach (RNP) approach for RW21. They were cleared to SORDI at an altitude of 3200ft, which they did in the open FIR. The first they became aware of the Airprox was by an email requesting a report. They had not seen the glider, however the student briefed about the possibility of gliding and hence routed to the south of Challock gliding site. Since this was during the instrument rating renewal phase of the flight, flying screens were up in the DA42.

THE LYDD CONTROLLER reports a DA42 [pilot] called Lydd Approach southeast of DET at 3000ft at 1417 and was cleared to SORDI at an altitude of 3200ft for a RNP approach to RW21, on a Procedural [non-radar] Service squawking 7067. The pilot reported at SORDI at 1424, followed the procedure via TUMVA and carried out a missed approach at 1431. Subsequently the Air Traffic Service Assistant received a phone call from a gliding club [member] who reported they had been in a glider which had come close to a twin aircraft. The glider was not on the Lydd frequency so was unknown traffic at the time of the incident.

Factual Background

The weather at Lydd was recorded as follows:

1420Z 22014KT 9999 FEW022 21/16 Q1018

Analysis and Investigation

CAA ATSI

CAA ATSI reviewed the reports and noted that with only one aircraft [communicating] with Lydd, the other being unknown traffic, there was little that the controller could do. They had one observation on reviewing the Lydd Manual of Air Traffic Services (MATS) Part 2 for controller responsibilities regarding gliding sites in the vicinity, they found the following text:

10.4 Gliding Sites. The nearest gliding site, at Challock, 17nm NNW of Lydd does not significantly affect airport operations.

However, they believed that this was not entirely true as a review of their approach plates for the RNP approaches to RW21 indicated that the Initial Approach Fixes (IAF) LONRU & SORDI are only 4.2NM and 5.1NM to the east-southeast of Challock. Any aircraft conducting an RNP approach from the southwest, as the [DA42] pilot was, would likely be routing to within 3NM of Challock. The report from [the DA42 pilot] suggests that they had been briefed on the proximity of the gliding site.

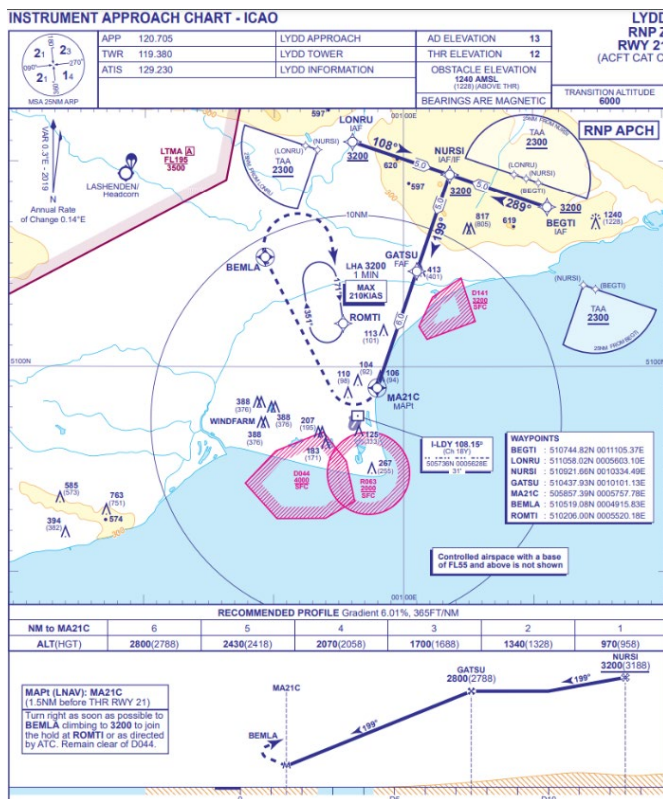


Figure 1: Approach Procedure Z to RW21

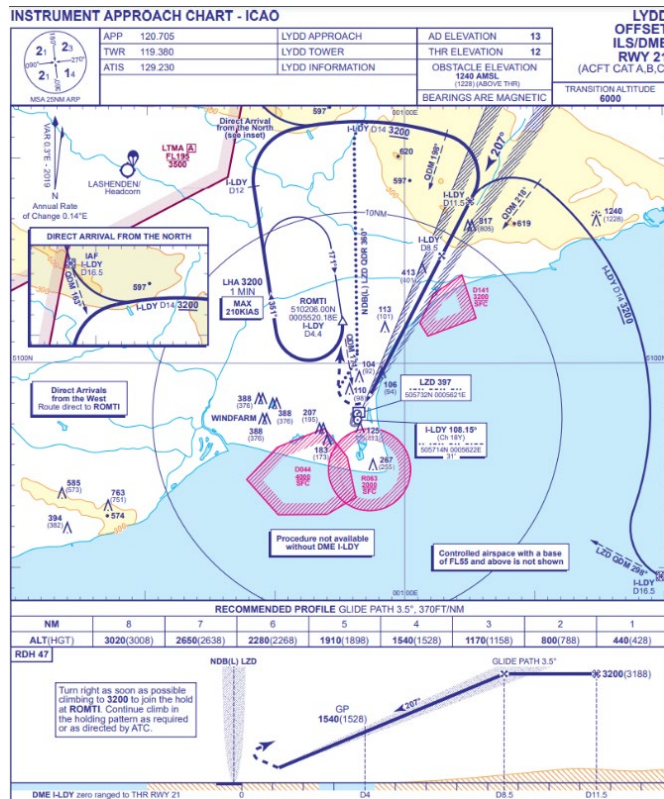


Figure 2: Approach Procedure Y to RW21

CAA ATSI has informed the ATM Ops Inspector for Lydd who may consider asking Lydd to review their MATS Part 2 entry with a view to having controllers warn aircraft on RNP approaches to RW21 routing to either of these IAFs about the possible glider activity in the vicinity.

UKAB Secretariat

An analysis of the NATS radar replay was undertaken and, while the DA42 was visible at all times, the SZD 50-3 aircraft was visible by primary returns only. The glider pilot was manoeuvring the SZD 50-3 and the DA42 pilot had routed to the south of the gliding site when making their way to the initial approach fix of SORDI for an instrument approach procedure (Figure 3).

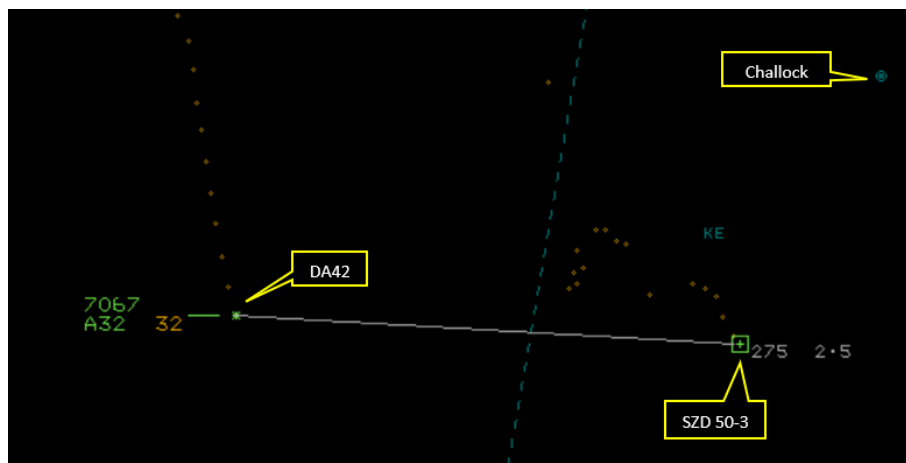


Figure 3 – Time 1420:33 DA42 changed track to the east.

One minute after turning to track towards SORDI, the DA42 passed to the south of the glider site and close to the SZD 50-3 glider (Figure 4).

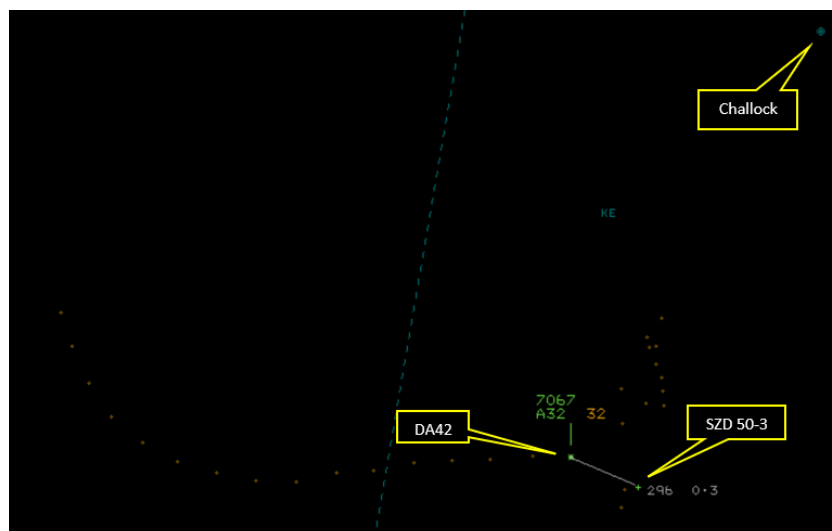


Figure 4 – Time 1421:33 with the DA42 tracking easterly.

It was noted that the glider site did not significantly affect Lydd Airport operations, according to Lydd airport's manual for ATS, although the IAFs were examined and commented upon by CAA ATSI regarding their relative distances from the glider site, with SORDI being 5.1NM to the east-southeast (Figure 5).

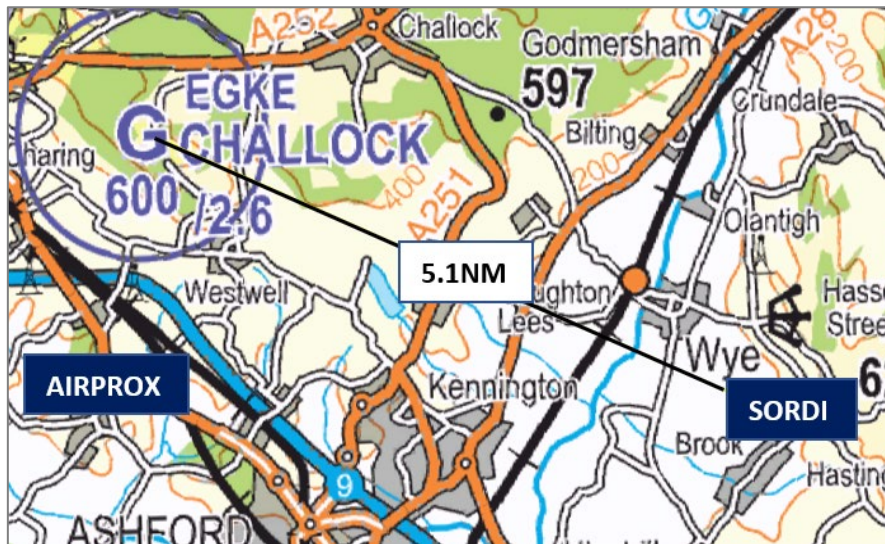


Figure 5 – position of the initial approach fix in use

The SZD 50-3 and DA42 pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard.¹ If the incident geometry is considered as converging then the DA42 pilot was required to give way to the SZD 50-3.² If the incident geometry is considered as overtaking then the SZD 50-3 pilot had right of way and the DA42 pilot was required to keep out of the way of the other aircraft by altering course to the right.³

Comments

AOPA

Instrument training has to be accomplished in a safe, efficient and practical manner, it is heartening to see the pilots were aware of the gliding site and took appropriate action to avoid. Regulatory approach design requires a large amount of airspace to accommodate the approach which hopefully, as Radio Navigation Procedure (RNP) approaches become more available and used, the volume of airspace required can be reduced.

BGA

Challock is one of about 80 UK gliding sites listed in UK AIP ENR 5.5, all of which are labelled on the CAA 1:500,000 and 1:250,000 charts with a "G" symbol (as shown in the chart segment in Part A). A greater density of gliders, and aircraft towing gliders, may be expected in the vicinity of gliding sites at any time during daylight hours, and at any altitude up to cloudbase.

This incident has elements in common with Airprox 2022146, also near Challock airfield, between a Discus B and DA42 that was also on an IFR training detail en route to SORDI. As noted by CAA ATSI, Initial Approach Fixes (IAF) LONRU & SORDI for RNP approaches to Lydd RW21 are close to Challock Airfield. In addition, the IAF for a direct arrival from the north for an offset ILS/DME approach to Lydd RW21 is about 1NM west-northwest of Challock Airfield (Figure 6). The maximum winch launch altitude at Challock Airfield is 2600ft AMSL.

¹ (UK) SERA.3205 Proximity.

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

³ (UK) SERA.3210 Right-of-way (c)(3) Overtaking.

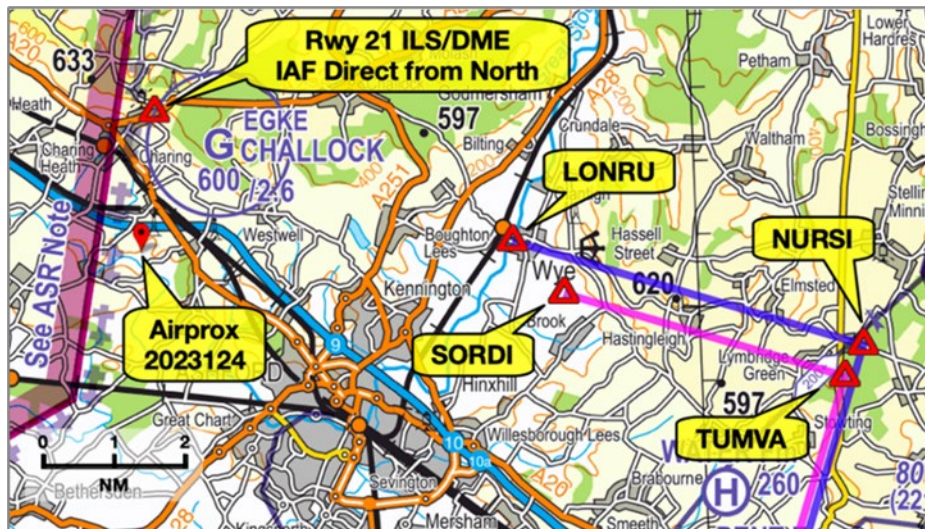


Figure 6 – Lydd initial approach fixes in the vicinity of Challock.

Summary

An Airprox was reported when an SZD 50-3 and a DA42 flew into proximity 2NM south of Challock at around 1422Z on Wednesday 21st June 2023. The SZD 50-3 pilot was operating under VFR in VMC and was not in receipt of an Air Traffic Service. The DA42 pilot was operating under IFR in VMC and in receipt of a Procedural Service from Lydd Approach.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of pilot reports, radar photographs/video recordings, a report from the controller involved and reports from the appropriate operating authorities. Relevant contributory factors mentioned during the Board's discussions are highlighted within the text in bold, with the numbers referring to the Contributory Factors table displayed in Part C.

The Board first considered the actions of the glider pilot, and noted that although they had been utilising an electronic conspicuity device it had not been able to detect the transponding DA42 (**CF3**). It was also noted that the glider pilot had been operating to the south of the glider site near published approach fixes for Lydd Airport. The Board noted that other aircraft could also be using this airspace to approach these fixes but that the glider pilot had not been in contact with Lydd ATC and had not been communicating with an ANSP. The Board considered that these factors had probably led to the glider pilot's lack of situational awareness of the DA42 (**CF2**). Furthermore, the Board agreed that the glider pilot had not seen the DA42 (**CF4**) until it had passed beneath them, effectively a non-sighting.

Turning their attention to the actions of the DA42 pilot, the Board was heartened that they had planned to avoid the gliding site en route to Lydd, only turning to the south of the site to continue on to their initial approach fix of SORDI. Members noted that, although the DA42 pilot had been aware of the site, thereby providing them with generic situational awareness of the possibility of gliders operating in the vicinity (**CF2**), they had not seen (**CF4**) or been made aware of the glider operating in the area.

The Board noted that the DA42 had not been fitted with any additional form of EC equipment which, on this occasion, may have provided some additional information to aid visual acquisition. Given that it was a flying school aircraft, members thought that with the benefits that EC equipment brought, flying schools should look to equip their aircraft with such devices as soon as possible. It was for flying schools to decide on their own requirements for additional equipment according to their needs, but the Board wished to highlight that additional funding has been made available for electronic conspicuity devices through the CAA's Electronic Conspicuity Rebate Scheme, which has been extended until 31st March 2024.⁴

⁴ <https://www.caa.co.uk/general-aviation/aircraft-ownership-and-maintenance/electronic-conspicuity-devices/>

The Board then considered the interaction of ATC and noted that the Lydd controller had only been in contact with the DA42 pilot and had been unaware of the glider operating in the vicinity of the initial approach fix. The members considered that the controller's knowledge of Challock glider site would have been sufficient to have provided the controller with generic information on the possibility of gliders operating in the vicinity (**CF1**). The Board agreed that the gliding site had affected the Lydd approach fix and that CAA ATSI was right to consider that the Lydd MATS Pt2 be corrected to reflect that.

Members recalled 2 other Airprox that had occurred in the vicinity under similar circumstances (Airprox 2019282 and 2022146) and considered options to improve safety in the area. The Board noted that Airprox 2019282 had been the subject of a Safety Recommendation which had not been implemented. Given that a 3rd Airprox had now taken place involving a glider from Challock and an aircraft conducting the RNP procedure to RW21 at Lydd, the Board resolved to make 2 Safety Recommendations, namely that: *Kent Gliding Club and Lydd Airport establish a Letter of Agreement to address the risk of concurrent activities in the same volume of airspace and Lydd Airport depicts Challock gliding site on the applicable Instrument Approach Charts.*

When assessing the risk of the Airprox, the Board considered the reports from both pilots and the controller, together with the radar screenshots. The Board agreed that the overall reduced situational awareness, non-sighting by one pilot and effective non-sighting by the other pilot had resulted in safety having been much reduced (**CF5**) and accordingly assigned Risk Category B.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2023124			
CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
Ground Elements				
• Situational Awareness and Action				
1	Contextual	• Traffic Management Information Action	An event involving traffic management information actions	The ground element had only generic, late, no or inaccurate Situational Awareness
Flight Elements				
• Situational Awareness of the Conflicting Aircraft and Action				
2	Contextual	• Situational Awareness and Sensory Events	Events involving a flight crew's awareness and perception of situations	Pilot had no, late, inaccurate or only generic, Situational Awareness
• Electronic Warning System Operation and Compliance				
3	Technical	• ACAS/TCAS System Failure	An event involving the system which provides information to determine aircraft position and is primarily independent of ground installations	Incompatible CWS equipment
• See and Avoid				
4	Human Factors	• Monitoring of Other Aircraft	Events involving flight crew not fully monitoring another aircraft	Non-sighting or effectively a non-sighting by one or both pilots
• Outcome Events				
5	Contextual	• Near Airborne Collision with Aircraft	An event involving a near collision by an aircraft with an aircraft, balloon, dirigible or other piloted air vehicles	

Degree of Risk: B.

Recommendations:

1. Kent Gliding Club and Lydd Airport establish a Letter of Agreement to address the risk of concurrent activities in the same volume of airspace.
2. Lydd Airport depicts Challock gliding site on the applicable Instrument Approach Charts.

Ground Elements:

Situational Awareness of the Confliction and Action were assessed as **ineffective** because the Lydd controller had generic information on the presence of the glider site, but no information on when gliders were operating.

Flight Elements:

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because the glider pilot had no situational awareness of the presence of the DA42, and the DA42 pilot had only generic situational awareness of the presence of the glider by virtue of the location of the glider site.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the EC equipment carried by the glider could not detect the presence of the DA42.

See and Avoid were assessed as **ineffective** because the glider pilot had not seen the DA42 until it had passed underneath them, and the DA42 pilot had not seen the glider.

Airprox Barrier Assessment: 2023124		Outside Controlled Airspace						
Barrier	Provision	Application	Effectiveness Barrier Weighting					
			0%	5%	10%	15%	20%	
Ground Element	Regulations, Processes, Procedures and Compliance	✓	✓					
	Manning & Equipment	✓	✓					
	Situational Awareness of the Confliction & Action	⚠	✗					
	Electronic Warning System Operation and Compliance	⊖	⊖					
Flight Element	Regulations, Processes, Procedures and Compliance	✓	✓					
	Tactical Planning and Execution	✓	✓					
	Situational Awareness of the Conflicting Aircraft & Action	✗	✓					
	Electronic Warning System Operation and Compliance	✗	✓					
	See & Avoid	✗	✗					
Key:								
	Full	Partial	None	Not Present/Not Assessable	Not Used			
Provision	✓	⚠	✗	⊖				
Application	✓	⚠	✗	⊖	⊖			
Effectiveness								