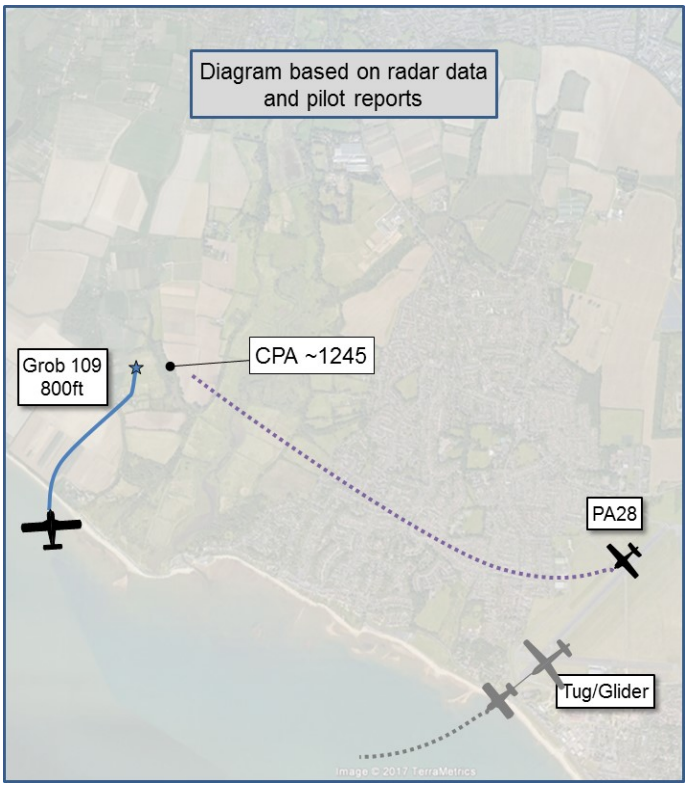
AIRPROX REPORT No 2017156

Date: 15 Jul 2017 Time: 1245Z Position: 5050N 00113W Location: Lee on Solent Airfield

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Grob 109	PA28
Operator	Civ Trg	Civ Trg
Airspace	Lee on Solent Airfield	Lee on Solent Airfield
Class	G	G
Rules	VFR	VFR
Service	AGCS	AGCS
Provider	Lee Radio	Lee Radio
Altitude/FL	800ft	NK
Transponder	S	NK
Reported		
Colours	White	Black, White
Lighting	Strobe, Landing	Strobe, Nav, Landing
Conditions	VMC	VMC
Visibility	>10km	10km
Altitude/FL	1000ft	1000ft
Altimeter	QNH (1022hPa)	NK
Heading	050°	NK
Speed	90kt	100kt
ACAS/TAS	PowerFLARM	Not fitted
Alert	Unknown	N/A
Separation		
Reported	50ft V/100m H	Not Seen
Recorded	NK	



THE GROB 109 PILOT reports that he was with a student on the second circuit of a RW23RH pattern. He was downwind abeam the 23 end of the runway, when the student sighted a PA28 on the right-hand side at 2 o'clock, similar level and 200-300m away on a converging track. He entered a hard turn to the left to avoid; he had no visual indication of how close the aircraft got to each other. The PA28 appeared from his east and on a perpendicular heading to him; it appeared to him that the PA28 had attempted to join the circuit late downwind at right angles to the downwind track. He had heard the PA28 pilot reporting that he was joining the circuit from the coast and had tried to sight the PA28, eventually seeing it when it was inside the circuit. He completed a right-hand orbit before establishing back in the circuit. The PA28 continued onto right base and finals before departing the circuit.

During a telephone conversation, the Grob 109 pilot additionally added that, dependent upon the wind direction, Tug/Glider combinations sometimes depart on runway heading with a left or right turn out, a right turn is common especially if there is a significant westerly wind, normally on RW23 and then they follow the powered visual circuit. He also had the impression, from the R/T exchange after the event, that the PA28 pilot had mistaken him for the Tug aircraft. He said that the PA28 pilot had tried to contact him but unfortunately the PA28 pilot's telephone number had been recorded incorrectly and he had not had the opportunity to return his call.

He assessed the risk of collision as 'High'.

THE PA28 PILOT reports that he was instructing a student on their first circuit session. After three circuits, and whilst on final for RW23, a tug/glider combination announced take off from the gliding area. He judged it was safe to continue the approach, and expected the tug/glider to turn left into the

gliding circuit for release. Upon getting airborne from the touch-and-go, the tug/glider combination turned right towards the fixed-wing right-hand circuit. His options were limited due to the gliding circuit to his left and he did not want to maintain straight ahead in case the glider released and turned back to the glider circuit. He therefore made an early right turn at about 300ft, which he announced on the R/T, toward the mid-point downwind. On his final approach, he heard the Grob 109 pilot ask for his details as the Grob 109 pilot believed an Airprox had taken place. Neither he nor his student saw the Grob 109 in the circuit, or heard any calls from the Grob 109 pilot. He has talked to the AGCS operator about the incident, who said that they had never seen a tug/glider turn right and had expected it to turn left. He has tried to talk to the Grob 109 pilot but they have not returned his calls. In hindsight, he believes that he had no option but to turn right as he could not turn left or continue straight ahead as he was unaware of the speed of the Glider/Tug combination, but as it looked like a relatively slow chipmunk, he was concerned if he turned back to the left (Runway heading), he could catch up or become in conflict with the release cable.

THE TUG and GLIDER PILOTS could not recall anything occurring that was untoward about that day or time. The Lee AGCS operator confirmed by telephone that the Tug pilot had turned to the right.

Factual Background

The weather at Southampton was recorded as follows:

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METAR EGHI 151220Z 23007KT 190V270 9999 FEW018 BKN023 19/13 Q1022=
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Analysis and Investigation

UKAB Secretariat

The Grob 109 and PA28 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]. 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 operation[2].

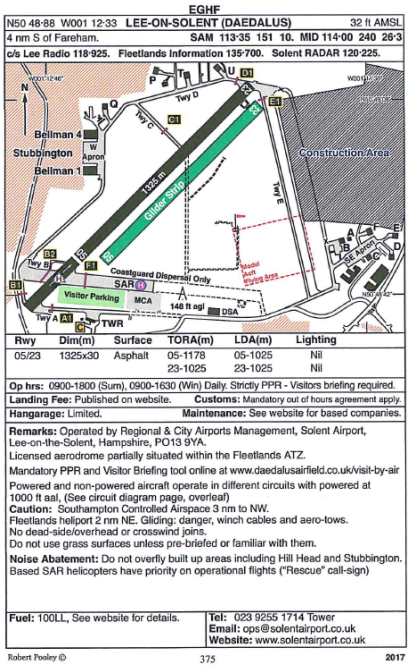


Figure 1: Lee-on-Solent Aerodrome Diagram

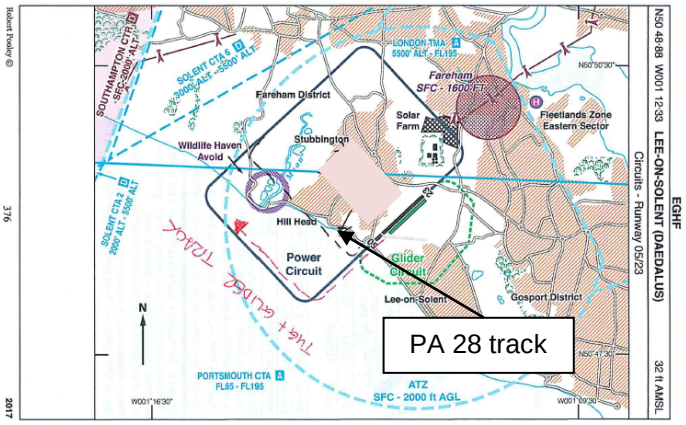


Figure 2: Lee-on-Solent circuit diagram showing the PA28 and Tug/Glider combo tracks as reported by the PA28 pilot

[1] SERA.3205 Proximity.
[2] SERA.3225 Operation on and in the Vicinity of an Aerodrome.

Lee-on-Solent UK AIP[3] entry states that:

Circuits

(a) Circuits – Main Runways 05/23

(ii) Circuits at 1000 ft aal. Glider circuit to the south - LH on Runway 23 and RH on Runway 05 and powered circuits to the north, LH on Runway 05 and RH on Runway 23.

(b) Be aware that gliders approach from the opposite direction on base leg. They will normally be lower than powered aircraft and have priority.

Summary

An Airprox was reported when a Grob 109 and a PA28 flew into proximity in the Lee-on-Solent visual circuit at 1245 on Saturday 15th July 2017. Both pilots were operating under VFR in VMC, both pilots in receipt of an AGCS Service from Lee Radio.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from the pilots of both aircraft.

The Board firstly looked at the actions of the PA28 pilot. Some members wondered why he had not broken off the approach when he heard the tug/glider reporting that he was taking-off; his decision hinged on whether he believed there was sufficient separation to continue his approach to the runway and subsequently complete his touch-and-go. Members agreed that he would not have expected the tug/glider combination to drift to the right, across his departure track, and so his decision to continue his approach was rational. Having then seen the tug/glider move towards his track as he climbed away, he had little option but to turn to the right to avoid the combination. He then continued his turn to climb into the visual circuit and join the downwind leg at a later position than normal. Members agreed that once the PA28 pilot had turned away from the tug/glider combination he should have reassessed the situation and either turned back onto runway heading if he had space available (avoiding the tug/glider combination), or positively cleared his track to ensure he did not infringe other aircraft in the visual circuit as he climbed towards the downwind track. In this latter respect, members commented that the PA28 should have been aware of the Grob 109 in the circuit from both its pilot's position reports and the fact that it was already established in the circuit when the PA28 joined. Unfortunately, the PA28 pilot had either lost situational awareness on the Grob 109, or was not aware of it at all. As a result, neither the PA28 instructor nor his student saw the Grob 109 in the circuit as they turned downwind whilst still climbing.

The Board then turned to the actions of the tug/glider combination. Members agreed that although they were not part of the Airprox they had contributed to the scenario. Some members wondered whether the tug pilot had assimilated that the PA28 was on finals when he started his takeoff run, and whether he should have held on the ground until the PA28 had passed him on the adjacent runway. Although they could not be sure given the sparseness of the tug pilot's report, it seemed to the Board that he was not aware of the PA28 since he would have been unlikely to have turned or drifted to the right if he had known it was there behind him. The Board agreed that either the Lee-on-Solent AIP entry should emphasise the practice of tug/gliders departing and turning left or right, especially when following the powered visual circuit, to warn visiting pilots of the potential confliction, or that tug pilots should be briefed not to turn right until well clear of the powered visual circuit.

The Board then looked at the actions of the Grob 109 pilot. They noted that he had been aware that the PA28 was 'joining the circuit from the coast' and, despite the ambiguity of this transmission, had been looking out for it. He had eventually seen the PA28 at a late stage approaching from his right, inside the circuit pattern, and had carried out an emergency left-hand turn to avoid before then conducting a right-hand orbit for spacing.

[3] UK AIP EGHF AD 2.22 Flight Procedures.

The Board then looked at the cause and risk of the Airprox. They agreed that, having taken his avoiding right turn to account for the tug/glider combination, the PA28 pilot had either lost situational awareness on the Grob 109, or did not have that situational awareness to start with. Either way, the PA28 pilot had not integrated with the Grob 109 which was already established in the visual circuit. The Board therefore assessed the cause as being that the PA28 pilot had climbed into conflict with the Grob 109, with a contributory factor that the tug/glider combination had turned/drifted towards the PA28's flight path on take-off thereby inducing him to turn right early. The Board then turned to the risk and noted that the PA28 pilot did not see the Grob 109 at all. Notwithstanding, the Grob 109 pilot had seen the PA28 late, and had been able to take emergency avoiding action. Accordingly, the Board determined that safety had been much reduced below the norm and the degree of risk was assessed as Category B.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The PA28 pilot climbed into conflict with the Grob 109.

Contributory Factor(s): The tug/glider combination drifted towards the PA28 flight path on take-off.

Degree of Risk: B.

Safety Barrier Assessment[4]

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

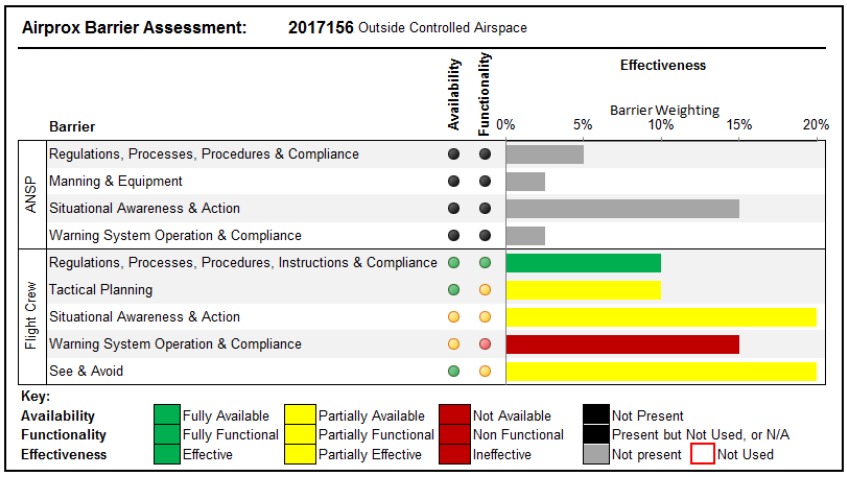
Flight Crew

Tactical Planning was assessed as **partially effective** because although the PA28 turned early, to separate from the Tug/Glider combo, he did not then adapt his plan to ensure that he was adequately separated from other aircraft in the visual circuit.

Situational Awareness & Action was assessed as **partially effective** because the PA28 pilot did not assimilate the radio calls from the Grob 109 pilot who was also operating in the visual circuit.

Warning System Operation and Compliance was assessed as **ineffective** because the Grob 109's PowerFlarm did not alert to the presence of the PA28; the PA28 pilot reported that he was transponding, but this did not show on the radar recording, possibly due to his altitude.

See and Avoid was assessed as **partially effective** because the PA28 did not see the Grob 109, and the Grob 109 saw the PA28 late and carried out emergency avoiding action.



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