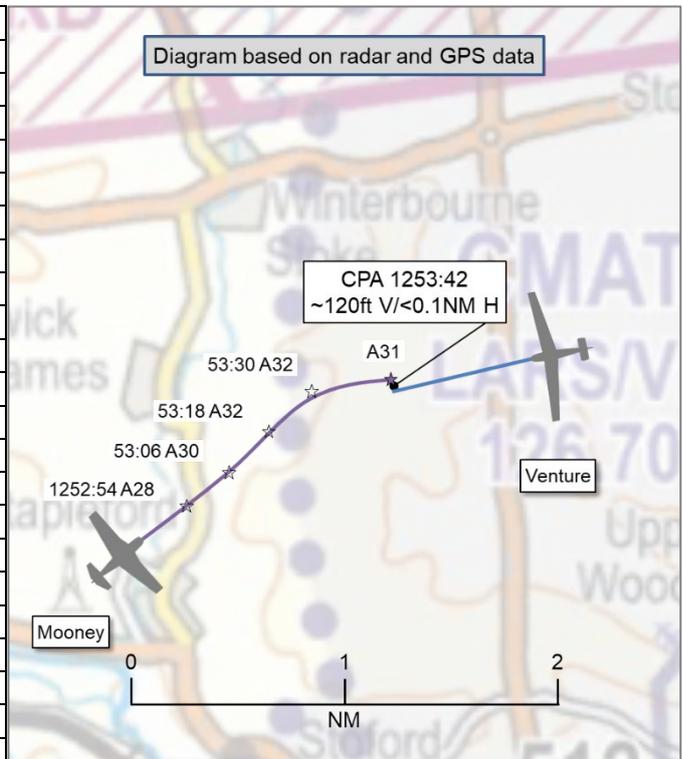


AIRPROX REPORT No 2020104

Date: 29 Aug 2020 Time: 1254Z Position: 5109N 00152W Location: 5NM W Boscombe Down

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Venture TMG	Mooney M20
Operator	Civ FW	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Listening Out	None
Provider	Boscombe LARS	N/A
Altitude/FL	~3220ft	FL32 (~3100ft)
Transponder	Not fitted	A, C, S
Reported		
Colours	Red, white	Red, white
Lighting	HISL	Strobes
Conditions	VMC	VMC
Visibility	>50NM	>10km
Altitude/FL	3200ft	3100ft
Altimeter	QNH (NK hPa)	QNH (NK hPa)
Heading	265°	NK
Speed	60kt	110kt
ACAS/TAS	PowerFLARM	None
Alert	TA	None
Separation		
Reported	0ft V/50m H	10ft V/150ft H
Recorded	~120ft V/<0.1NM H	



THE VENTURE PILOT reports being in straight and level cruise when he suddenly became aware of a PowerFLARM alert with distance information of 1km rapidly counting down over three or four flashes to virtually nothing. He looked ahead to left and right and saw another aeroplane in a banked turn to its right, which was tending towards a head on situation. He immediately banked hard to the left and the other aircraft passed out of sight below the right wing. The pilot stated that had he done nothing or turned right there would almost certainly have been a collision.

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

THE M20 INSTRUCTOR reports in straight and level cruise when he saw a red glider [sic] pass down the right hand side. A recently qualified PPL was flying the aircraft after having practised instrument approaches at another airfield. They were preparing for recovery to home base and, because the grass runway was in operation (which was normally not used because of the low prop clearance on a Mooney), the Instructor was studying the airfield chart and wrongly believed that the pilot flying was keeping a good lookout. He noted that, in hindsight, the flying pilot though no longer ‘under the hood’ after practising instrument approaches, may not have mentally transitioned from a simulated IFR environment to VFR and this may have affected his judgment to keep a good lookout. Also, because the instructor hadn’t considered this possibility, he was content for the other pilot to fly the aircraft during the cruise phase of the flight, the instructor planning to take over for the landing because the other pilot had no landing experience on a Mooney. The instructor noted that there were no external services available to offer Traffic Information inside the Boscombe Zone.

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

Factual Background

The weather at Boscombe Down was recorded as follows:

METAR EGDM 291250Z AUTO 34015KT 9999 FEW038/// BKN050/// 15/06 Q1011=

Analysis and Investigation

UKAB Secretariat

The Venture and Mooney 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.

Bournemouth is listed in the UK AIP ENR 1.6 paragraph 4.1.6 as one of the 'ATS Units Participating in the Lower Airspace Radar', with a service radius of 30NM and availability 0800-2000 (0700-1900). There were no NOTAMs issued for 29th August 2020 that affected LARS service radius or availability.

Summary

An Airprox was reported when a Venture motor glider and a Mooney M20 flew into proximity 5NM west of Boscombe Down at 1254Z on Saturday 29th August 2020. Both pilots were operating under VFR in VMC, neither in receipt of a FIS.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings, reports from the air traffic controllers 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.

Due to the exceptional circumstances presented by the coronavirus pandemic, this incident was assessed as part of a 'virtual' UK Airprox Board meeting where members provided a combination of written contributions and dial-in/VTC comments.

Members first discussed the actions of the M20 crew and agreed that it appeared there had been a breakdown in CRM, with the PF pilot student perhaps not applying as robust a lookout as was required, while the Instructor pilot was heads-in the cockpit (**CF6**). Members agreed with the M20 Instructor's analysis and felt that a more comprehensive brief on the change from simulated IFR to VFR and the responsibilities within Class G was warranted (**CF4**). That being said, the Board also agreed that a pragmatic application of the semi-circular VFR levels would have helped both crews (**CF1**) in that it would have placed the aircraft at different levels. None of the crew had anything but generic SA that other aircraft were likely to be airborne on a fine weather day (**CF3**) but the Board disagreed with the M20 Instructor's assertion that there were no external services available to offer Traffic Information inside the Boscombe Zone. As far as the Board could tell, Bournemouth LARS was available and both aircraft were within the area designated for service provision (**CF2**). In the event, the Venture PowerFLARM alerted (**CF5**), giving the Venture pilot enough warning to see and avoid the M20, albeit later than desirable and after a late sighting (**CF9**). The M20 Instructor, and presumably PF, only saw the Venture as it passed by, effectively a non-sighting (**CF8**).

Board members debated the risk, with some of the opinion that the late PowerFLARM alert, degree of separation at CPA and manoeuvrability of the Venture indicated that a collision had been avoided purely by providence. After further discussion, the majority of members agreed that the Venture pilot's narrative indicated that the degree of separation at CPA had been materially improved, that providence alone had not dictated the outcome, but that safety had indeed been much reduced (**CF7**).

¹ SERA.3205 Proximity.

² SERA.3210 Right-of-way (c)(1) Approaching head-on.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK**Contributory Factors:**

	2020104		
CF	Factor	Description	Amplification
	Flight Elements		
	• Tactical Planning and Execution		
1	Human Factors	• Action Performed Incorrectly	Incorrect or ineffective execution
2	Human Factors	• Communications by Flight Crew with ANS	Pilot did not communicate with appropriate ATS provider
	• Situational Awareness of the Conflicting Aircraft and Action		
3	Contextual	• Situational Awareness and Sensory Events	Pilot had no, late or only generic, Situational Awareness
4	Human Factors	• Mentoring	
	• Electronic Warning System Operation and Compliance		
5	Contextual	• Other warning system operation	Warning from a system other than TCAS
	• See and Avoid		
6	Human Factors	• Distraction - Job Related	Pilot looking elsewhere
7	Contextual	• Near Airborne Collision with Aircraft, Balloon, Dirigible or Other Piloted Air Vehicle	Piloted air vehicle
8	Human Factors	• Monitoring of Other Aircraft	Non-sighting or effectively a non-sighting by one or both pilots
9	Human Factors	• Monitoring of Other Aircraft	Late-sighting by one or both pilots

Degree of Risk: B.

Recommendation: Nil.

Safety Barrier Assessment³

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

Flight Elements:

Tactical Planning and Execution was assessed as **partially effective** because Bournemouth was available to provide a LARS to both pilots.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **partially effective** because the Venture pilot received late SA on the converging M20 from the PowerFLARM alert.

See and Avoid were assessed as **partially effective** because the Venture pilot saw the M20 at a late stage and the M20 pilot saw the Venture as they passed, effectively a non-sighting.

³ The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the [UKAB Website](#).

Airprox Barrier Assessment: 2020104		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 Conflicion & 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	■	■	■	■	□			