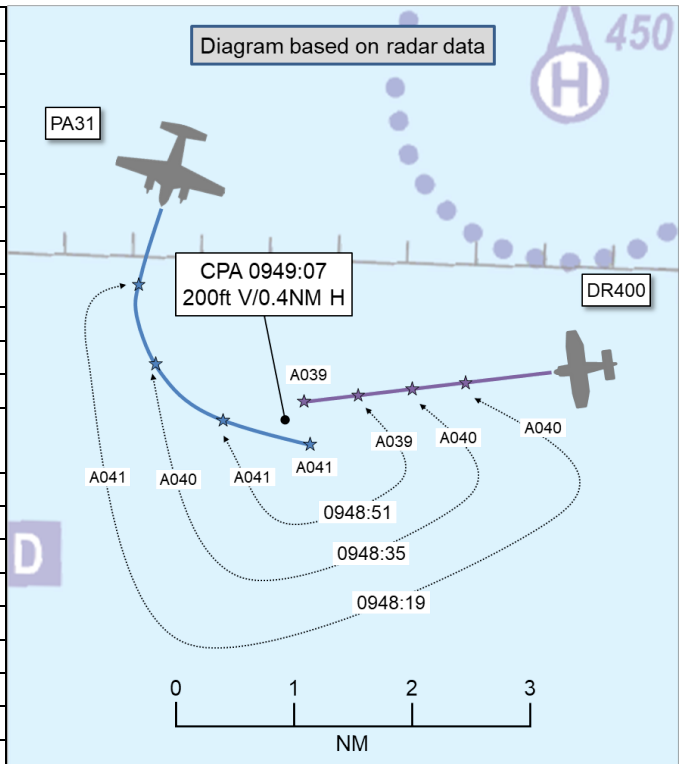


AIRPROX REPORT No 2023088

Date: 18 May 2023 Time: 0949Z Position: 5359N 00355W Location: 26NM ESE Isle of Man Airport

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	PA31	DR400
Operator	Civ Comm	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Basic	Establishing contact
Provider	Ronaldsway Appr	Ronaldsway Appr ¹
Altitude/FL	4100ft	3900ft
Transponder	A, C, S	A, C, S
Reported		
Colours	Red, white	Blue, white
Lighting	Strobes, nav	Nav, anti-col, strobes, beacon
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	4000ft	4000ft
Altimeter	QNH	NR
Heading	197°	NR
Speed	130kt	NR
ACAS/TAS	TAS	Not fitted
Alert	TA	N/A
Separation at CPA		
Reported	0ft V/0.5NM H	NK V/NK H
Recorded	200ft V/0.4NM H	



THE PA31 PILOT reports that, during an oil-spill-response training flight for a new sensor operator, a general aviation single-engine aircraft transiting the Irish Sea got very close to them, warranting disconnection of the autopilot and an evasive manoeuvre.

At the time, Ronaldsway Approach had a brief radar outage and both aircraft were receiving a Basic Service only [they recalled]. [The PA31 pilot] had reached the Millom West area ahead of the [other] aircraft. The Ronaldsway Approach controller had informed them about the other aircraft but [they were] not visual with it at the time, however, it was visible on the aircraft TAS. At this time, they had started their high-level survey of the simulated oil-spill area. The Ronaldsway Approach controller informed the [pilot of the other] aircraft of their presence, informing them that they were conducting “a survey” in that area, at which point the pilot of the other aircraft replied with “visual”. [The pilot of the PA31] was aware that the other aircraft was in their 7-8 o'clock position, hence why they were not visual with it at that moment. Upon reaching the end of their survey line, they automatically started turning left as per the loaded SAR pattern. Aware that the other aircraft was nearby and flying through their area of survey, they were maintaining a good lookout as they turned. Once they had turned through approximately 90° to the left, they became visual with the other aircraft flying almost straight towards them. At this point, they were on the right-hand-side of the conflicting aircraft. They disconnected the autopilot and rolled to the right [they recall] to increase the distance between them. The TAS triggered a traffic proximity warning.

¹ The pilot of the DR400 reported having been in receipt of a Basic Service from London Information but had called the Ronaldsway Approach controller to request ‘entry into the zone’ en-route to their destination.

The [pilot of the PA31 opined that] the pilot of the conflicting aircraft made no attempt to alter their altitude or course, despite knowing that [the PA31] was surveying the Millom West area, and had acknowledged that they were visual with it.

The pilot assessed the risk of collision as 'High'.

THE DR400 PILOT reports that they were in CAVOK conditions but completely unaware of what happened. They opine that some time had passed since the occurrence and they possibly may have forgotten something, but they hadn't heard any traffic on the London Info frequency or were they made aware [of any traffic].

The pilot assessed the risk of collision as 'High'.

THE RONALDSWAY CONTROLLER reports that at 0944, the status indicator in the radar room showed that the MLAT system had failed, so they made a phone call to report it. At the same time, [the pilot of the PA31] called, requesting a Traffic Service, approximately 30NM southeast of the airfield. They advised them that they had had a [secondary] radar failure, gave a Basic Service and passed the Ronaldsway QNH. There appeared to be a radar return approximately 8NM behind the [PA31] but, as it was routeing in the same direction, they didn't pass Traffic Information at that stage. At 0947, [the pilot of the DR400] called on the Radar frequency, requesting a transit of controlled airspace. By that time, [the pilot of the PA31] appeared to have turned towards the southeast and both aircraft were now in potential confliction. They passed Traffic Information to both pilots so that they were both aware that there was believed to be traffic operating at a similar level in the area. The [pilot of the PA31] replied that they had the other aircraft on TCAS and, shortly afterwards, the [pilot of the DR400] reported the [PA31] was in sight. [The Ronaldsway controller] was unable to positively identify either aircraft due to the MLAT failure and didn't feel that trying to perform a primary radar identification was appropriate given that the primary returns believed to be from each aircraft were fairly close to each other.

Factual Background

The weather at Isle of Man airport was recorded as follows:

METAR EGNS 180950Z 26011KT 9999 FEW013 13/10 Q1027 NOSIG

Analysis and Investigation

CAA ATSI

The RT confirms the controller's report, who, having received the initial call from [the pilot of the DR400], immediately passed Traffic Information (at 0947:38) to them on [the PA31]; "*Traffic for you, believed to be in your area, is a Navajo operating on a survey very similar level*", before then continuing to take the rest of the pilot's details. The aircraft were 4.2NM apart, and converging (Figure 1).

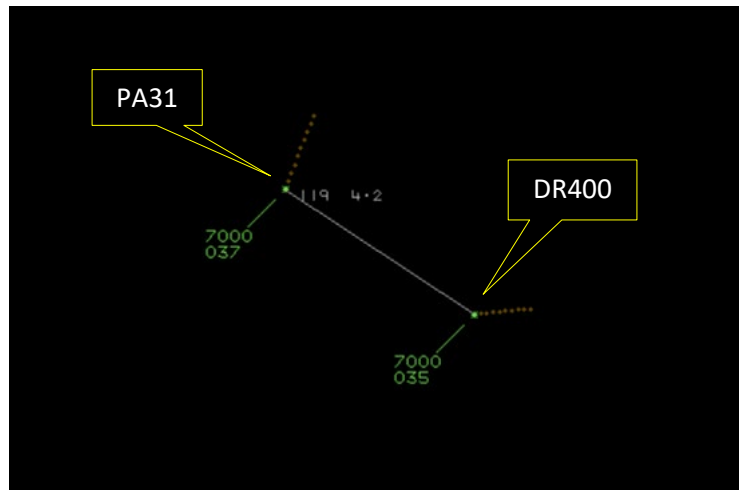


Figure 1 – 0947:38

The controller then passed Traffic Information to [the pilot of the PA31] at 0948:08 (the separation was 3.2NM); “Believed to be a Robin somewhere in your area operating similar level routing east to west”. [The pilot of the PA31] reported having traffic on their TAS.

At 0948:20, with the aircraft 2.8NM apart (and 200ft vertically), the pilot of [the DR400] reported visual; “in my 2 o’clock” (Figure 2).

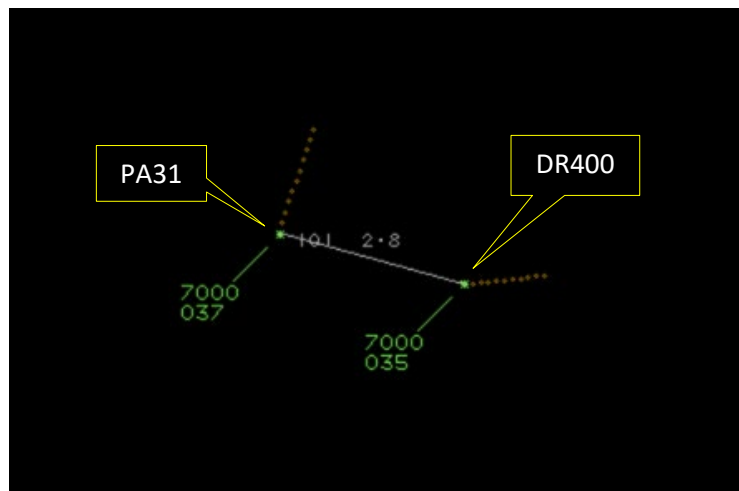


Figure 2 - 0948:20

At 0948:47, the pilot of [the PA31] reported “traffic in sight”. Separation was 0ft V/1.5NM H (Figure 3).

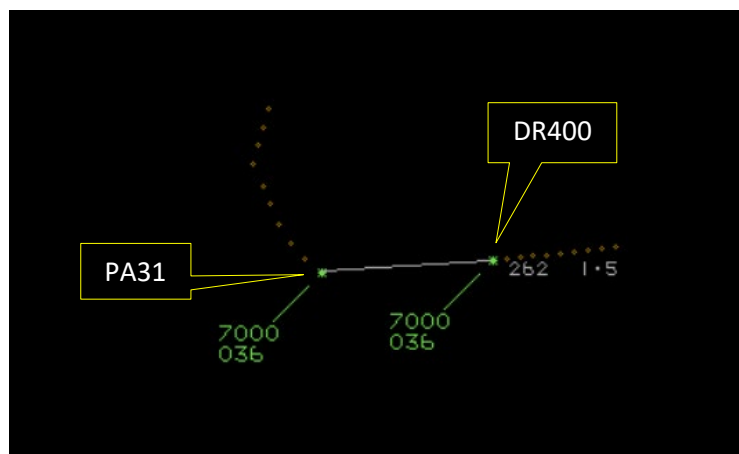


Figure 3 – 0948:47

However, the [pilot of the PA31] continued to turn towards [the DR400], with CPA at 0949:07 (Figure 4). Separation was 200ft V/0.4NM H. The manoeuvres reported by the [pilot of the PA31] were not observed on radar, and their [earlier] comment that “*I was aware that the SE aircraft was in our 7-8 o'clock position*” is incongruent unless the RT time injection was wrong. [This seemed not to be the case though] as the ‘visual’ call made by [the pilot of the DR400] at 0948:20, with [the PA31] in their 2 o'clock, matched the radar replay.

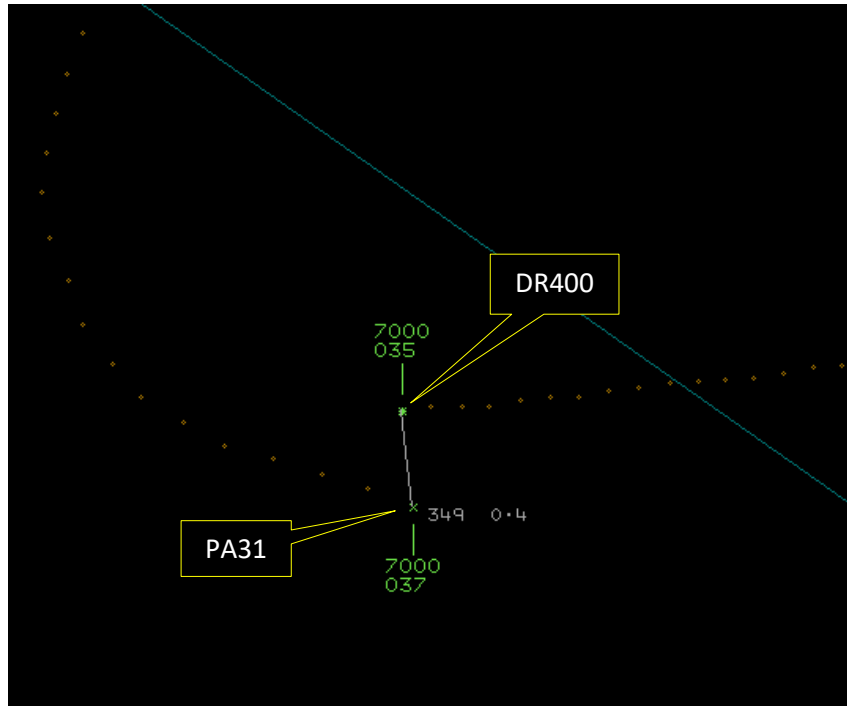


Figure 4 – CPA at 0949:07

Good and timely Traffic Information by the controller enabled the [DR400] pilot to acquire visual contact and, subsequently, [the pilot of the PA31] to sight the DR400.

UKAB Secretariat

An analysis of the NATS radar replay was undertaken and both aircraft could be positively identified from Mode S data.

The PA31 and DR400 pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard.² If the incident geometry is considered as converging then the DR400 pilot was required to give way to the PA31.³

Summary

An Airprox was reported when a PA31 and a DR400 flew into proximity 26NM east-southeast of Isle of Man Airport at 0949Z on Thursday 18th May 2023. Both pilots were operating under VFR in VMC, the PA31 pilot in receipt of a Basic Service from Ronaldsway Approach and the DR400 pilot establishing contact with Ronaldsway Approach.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings, a report from the air traffic controller involved and a report from the appropriate operating authority. Relevant

² (UK) SERA.3205 Proximity.

³ (UK) SERA.3210 Right-of-way (c)(2) Converging.

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 pilot of the PA31 and noted that it had not been possible for the Ronaldsway controller to have fulfilled their request for a Traffic Service. Nevertheless, members agreed that the timely Traffic Information that had been passed on the DR400 had provided the pilot of the PA31 with generic situational awareness of the presence of the DR400.

Members pondered the PA31 pilot's turn to the left, conducted under the control of an automated system, that had commenced after the pilot of the PA31 had been advised that the DR400 had been travelling from east-to-west in the area. The pilot of the PA31 reported that they had been aware that the DR400 had been in their "7-8 o'clock position". Whilst the reported 'clock codes' of the relative positions of the aircraft did not match precisely with what had been observed on the radar replay, members concluded that to have proceeded with a left turn, towards the anticipated position of the DR400, but with which they had not been in visual contact, had decreased the separation between the aircraft unnecessarily. Consequently, it was surmised by members that there had been a reluctance on the part of the PA31 pilot to have deviated from their automated route, and that their dynamic plan had not been adapted adequately to meet the needs of the situation.

Members noted that the EC equipment fitted to the PA31 had provided an alert to the pilot and that that had occurred at approximately the same time that the pilot of the PA31 had visually acquired the DR400. It was appreciated that the pilot of the PA31 had been concerned by the proximity of the DR400 once visually acquired, and members acknowledged that they had reported that they had subsequently turned to the right, away from the track of the DR400, but noted that that turn was not observed on the radar replay.

Turning their attention to the actions of the pilot of the DR400, members noted that their narrative report had not mentioned the encounter with the PA31 specifically. Given that the pilot of the DR400 had acknowledged the Traffic Information passed to them by the Ronaldsway controller regarding the PA31, and that they had subsequently reported that they had acquired it visually, it was inferred that the proximity of the encounter had not presented them any cause for concern.

Members commended the Ronaldsway controller for having passed Traffic Information to both pilots and appreciated that the generic nature of the information had been all that had been possible, given the failure of the secondary radar system that day.

Concluding their discussions, members were in agreement that timely Traffic Information passed by the Ronaldsway controller had enabled both pilots to have visually acquired the other aircraft in plenty of time to have assessed that the separation between them had been adequate. Members were satisfied that normal safety standards had pertained and that there had been no risk of collision. As such, the Board assigned Risk Category E to this event. Members agreed on the following contributory factors:

- CF1.** The Ronaldsway secondary radar had been non-functional.
- CF2.** The pilot of the PA31, once aware of the presence of the DR400 in the area, had not adapted their dynamic plan sufficiently.
- CF3.** Both pilots had generic situational awareness of the other aircraft before it had been visually acquired.
- CF4.** The pilot of the PA31 had received a TAS alert to the presence of the DR400.
- CF5.** The pilot of the PA31 had been concerned by the proximity of the DR400.

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

2023088				
CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
Ground Elements				
• Manning and Equipment				
1	Technical	• Radar Coverage	Radar Coverage	Non-functional or unavailable
Flight Elements				
• Tactical Planning and Execution				
2	Human Factors	• Insufficient Decision/Plan	Events involving flight crew not making a sufficiently detailed decision or plan to meet the needs of the situation	Inadequate plan adaption
• Situational Awareness of the Conflicting Aircraft and Action				
3	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				
4	Contextual	• Other warning system operation	An event involving a genuine warning from an airborne system other than TCAS.	
• See and Avoid				
5	Human Factors	• Perception of Visual Information	Events involving flight crew incorrectly perceiving a situation visually and then taking the wrong course of action or path of movement	Pilot was concerned by the proximity of the other aircraft

Degree of Risk: E.

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 Elements:

Tactical Planning and Execution was assessed as **partially effective** because the pilot of the PA31 had not adapted their dynamic plan adequately to meet the needs of the situation.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **partially effective** because both pilots had only generic situational awareness of the presence of the other aircraft.

⁴ 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: 2023088		Outside Controlled Airspace		Effectiveness				
Barrier		Provision	Application	0%	5%	10%	15%	20%
Ground Element	Regulations, Processes, Procedures and Compliance	✓	✓					
	Manning & Equipment	!	✓					
	Situational Awareness of the Conflicition & 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:		<u>Full</u>	<u>Partial</u>	<u>None</u>	<u>Not Present/Not Assessable</u>	<u>Not Used</u>		
Provision	✓	!	✗	○				
Application	✓	!	✗	○	○			
Effectiveness	■	■	■	■	□			