

SERIOUS INCIDENT

Aircraft Type and Registration:	Avro 652A Anson T21, G-VROE	
No & Type of Engines:	2 Armstrong Siddeley Cheetah 17 piston engines	
Year of Manufacture:	1950 (Serial no: 3634)	
Date & Time (UTC):	4 July 2020 at 1252 hrs	
Location:	Shobdon Aerodrome, Leominster, Herefordshire	
Type of Flight:	Private	
Persons on Board:	Crew - 1	Passengers - 1
Injuries:	Crew - None	Passengers - N/A
Nature of Damage:	No damage	
Commander's Licence:	Private Pilot's Licence	
Commander's Age:	76 years	
Commander's Flying Experience:	7,642 hours (of which 69 were on type) Last 90 days - 18 hours Last 28 days - 9 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot and further enquiries by the AAIB	

Synopsis

After encountering a gust of wind which displaced its final approach, the aircraft landed on unprepared ground beside the runway and completed its landing roll on an adjacent taxiway, without reported damage or injury. In deciding to continue the landing the pilot had applied what he considered to be a cautious interpretation of information regarding the conduct of go-arounds in this aircraft.

History of the flight

The aircraft had flown from Coventry Airport to Shobdon Aerodrome. At 1250 hrs, during the latter stage of its final approach to the grass Runway 26, the Aerodrome Flight Information Service Officer (AFISO) transmitted landing information to the aircraft, including an 'instant wind' of 20 kt from 250°.

The pilot stated that shortly before the aircraft reached the aerodrome boundary, a gust of wind displaced it to the right. It subsequently landed on unprepared grass adjacent to the runway¹. The aircraft completed its landing roll on grass Taxiway A (Figure 1).

¹ The pilot reported the aircraft touched down '*partially*' off the runway.

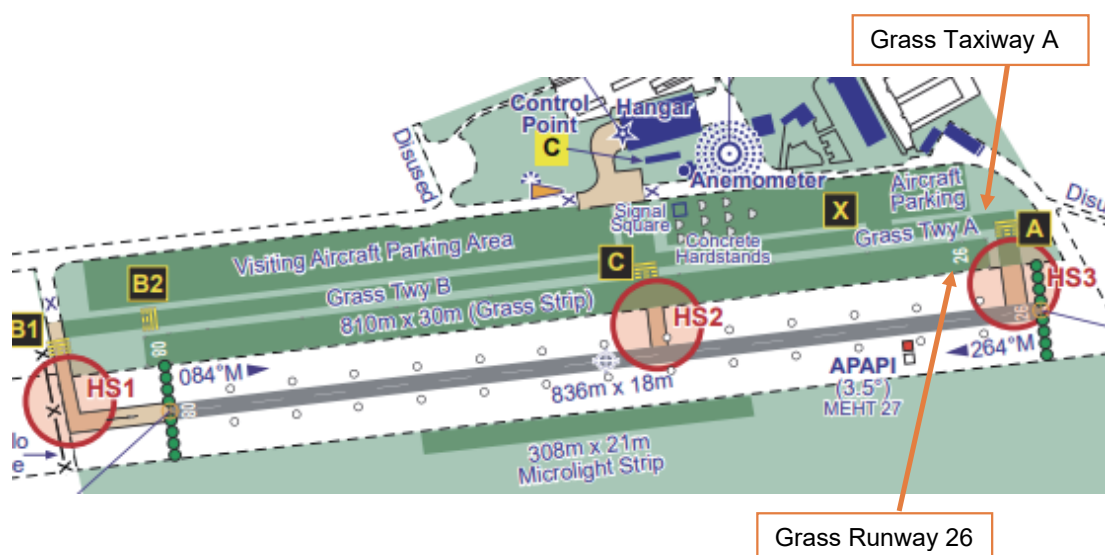


Figure 1

Extract from Shobdon's Aerodrome Chart²

Aerodrome information

Shobdon's Runway 26 is 810 m long and 30 m wide. The relevant entry in the Aeronautical Information Publication (AIP) stated '*Departure from the marked movement area can be hazardous*'.

Aircraft information

The Avro Anson T21 is a low-wing monoplane powered by two Cheetah Mk 17 engines, with tail wheel landing gear. It is operated by a single pilot.

Weight and balance

The '*Pilot's Notes Anson 19 & 21*' document, originally published by the Air Ministry, stated the aircraft's maximum weight for takeoff and gentle manoeuvres is 4,717 kg, and for landing (except in an emergency) is 4,581 kg³.

The operator's Organizational Control Manual (OCM)⁴ specified the aircraft's centre of gravity limits as 56.4 inches to 68 inches aft of datum.

The pilot reported G-VROE's basic weight for the incident flight was 3,413 kg and its calculated landing weight was 3,792 kg. Its calculated centre of gravity (C of G) was 57.7 inches aft.

Footnote

² From its Aerodrome Information Publication, published by NATS.

³ The Pilots Notes specified these weights in lb.

⁴ Operation of Permit-to-Fly Ex-Military aircraft on the UK register must occur in accordance with an approved OCM (CAP 632 Edition 7 May 2018).

Information from the aircraft's Pilot's Notes document

The Air Ministry's *'Pilot's Notes Anson 19 & 21'* document contained guidance on *'Going round again'*, including:

'At normal loads and C.G. positions, and trimmed for an engine-assisted approach, the aircraft will climb away easily, with the undercarriage and flaps down, at 80 to 90 knots...

Going round again from a glide approach, especially when loaded to a forward C.G. position, will prove difficult if the airspeed is allowed to fall below 70 knots before the decision to go round again is made, since the strong nose-up change of trim, induced by opening the throttles fully, may prove excessive. It is recommended, therefore, that the aircraft be trimmed progressively nose-down as power is increased...

With the C.G. at the aft limit, it may be impossible to overcome the nose-up change of trim...'

Regarding *'Going round again on one engine'* the Pilot's Notes stated:

'The decision to overshoot must be made at a minimum of 600 feet above the ground and before flap has been selected...'

Additional information from the pilot

The pilot stated that he interpreted the Pilot's Notes document as cautioning against "late" go-arounds *'because the application of full power may produce an uncontrollable change in elevator force'*, and that a decision to "commit" to landing is required when final flap and trim settings are selected.

He stated that a lateral adjustment in G-VROE to compensate for the gust would have resulted in a crabbed touchdown and possible ground loop⁵. Consequently, he opted to land on the grass beside the runway. He felt confident that the landing surface was safe, and there was no other traffic nearby.

Additional information from the aerodrome operator

The AFISO reported that during the time G-VROE made its approach to Shobdon there were no other aircraft in the air or manoeuvring on the ground, but that some aircraft were parked in both of the aircraft parking areas (Figure 1). He had flown himself that day and recalled the wind being "a bit gusty".

He reported that, because of his viewing angle, it was only in the "last few seconds" that he noticed the aircraft appeared aligned with Taxiway A, rather than grass Runway 26;

Footnote

⁵ Ground loop – significant (usually unintended) yawing of an aircraft on the ground when the yaw is not opposed by effective control inputs or other stabilising forces.

and that he did not have time to alert the pilot. He recalled the aircraft touched down on Taxiway A and turned right onto Taxiway C.

The AFISO recalled previous occasions where aircraft inadvertently approached grass Taxiway A, rather than the adjacent grass runway surface, and went around. As a result of such an approach to grass Runway 08 he had submitted a 'Local hazard report'⁶. The runway numbers were subsequently re-painted.

Information from the operator

The OCM stated:

'The Anson should not be operated from airfields with less than 750 metres of take-off and landing distance available. The aircraft can easily be operated from grass runways, and in those cases the minimum runway length will be 900 metres. Operations of the Anson into airfields with less than that stated must be briefed and approved by the Chief Pilot.'

Analysis

The pilot reported that while approaching the aerodrome boundary a gust of wind caused the aircraft to drift to the right. He believed he was "committed" to landing the aircraft after selecting final flap and trim, and that making a lateral adjustment to its flight path would cause handling difficulties after touchdown. Therefore, he landed the aircraft partially on the grass beside the runway, and completed the landing roll on the adjacent taxiway.

The Anson Pilot's Notes described circumstances in which a go-around should not be attempted. Although the pilot applied what he considered a cautious interpretation of that guidance, the Pilot's Notes indicated that G-VROE's configuration, weight and balance on this occasion would not have precluded a go-around from an engine-assisted final approach.

The investigation did not determine why the aircraft completed its landing roll further right on Taxiway A, rather than returning to the runway. It also did not determine the nature of the operator's briefing and approval process for operating G-VROE on Shobdon's grass Runway 26, which was 90 m shorter than the relevant minimum runway length specified by its OCM.

Shobdon's AIP stated that manoeuvring outside the '*marked movement area can be hazardous*'. The pilot believed that continuing with the landing was the safest course of action, and that the landing surface was safe, with no obvious obstacles or traffic nearby.

Footnote

⁶ 'Local Hazard Report' – the aerodrome operator's internal safety report, which is part of its safety management system.

Conclusion

The runway excursion occurred because the aircraft was not aligned with the runway on landing. The conditions in which the aircraft's operating manual cautioned against going around were not present during the incident approach, but the pilot applied what he considered to be a cautious interpretation of the guidance, believing that adjusting the aircraft's flight path would cause handling difficulties after touchdown.