SERIOUS INCIDENT

Aircraft Type and Registration:	Reims Cessna F172N, G-BGIY	
No & Type of Engines:	1 Lycoming O-320-H2AD piston engine	
Year of Manufacture:	1979 (Serial no: 1824)	
Date & Time (UTC):	28 August 2021 at 1120 hrs	
Location:	Glasgow Airport	
Type of Flight:	Private	
Persons on Board:	Crew - 1	Passengers - 2
Injuries:	Crew - None	Passengers - None
Nature of Damage:	None	
Commander's Licence:	Private Pilot's Licence	
Commander's Age:	53 years	
Commander's Flying Experience:	564 hours (of which 451 were on type) Last 90 days - 26 hours Last 28 days - 8 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot and further AAIB enquiries	

Synopsis

The pilot inadvertently departed with a towbar attached to the aircraft's nosewheel, having been distracted by a passenger during the pre-flight inspection.

This report considers threat and error management techniques in relation to ground procedures and passenger management. The operator has informed its members about this incident and has taken action to enhance the handling and conspicuity of its towbars.

History of the flight

The pilot was performing an introductory flight[1] from Glasgow Airport with two passengers. On arrival at the aircraft, he expressed surprise to the passengers that a towbar used for manoeuvring the aircraft on the apron had been left attached. He completed the walk around, intending to remove the towbar last. However, he became engaged in answering a question from a passenger and did not remove the towbar.

The aircraft departed from Runway 23 for a short flight in the local area, during which the pilot did not perceive anything abnormal. While returning to Runway 23, ATC relayed a message to the aircraft from an airport operations vehicle that something was attached to G-BGIY's nosewheel. The pilot immediately realised it was the towbar. He landed

Footnote

[1] Introductory flights are designed to allow people to be taken on air experience tours in aircraft.

the aircraft "slowly" and vacated the runway before stopping to remove it. There was no damage to the aircraft or the towbar.

Previous event

On 7 August 2019, a Cessna P210N departed from Southend Airport with a towbar attached[2]. The AAIB investigation of that incident revealed the pilot had been distracted by a stressful event he had experienced earlier that day. As a result of that incident, the CAA took action to promote the importance of increasing the visibility of ground equipment in the General Aviation environment[3] (Figure 1).

Figure 1

Excerpt from the CAA's 'Clued up' article about Towbars

Passengers

The pilot reported that he "discussed the importance of the walk around and ground checks" with the passengers.

The CAA's Safety Sense Leaflet 02 - *Care of passengers in general aviation aircraft*[4] states:

> *'Consider leaving the passengers in a safe and comfortable place, such as the aerodrome club house, while performing the preflight inspection or refuelling. This will allow you to concentrate on making sure the aircraft is ready for the flight'.*

Footnote

2 EMB-145EP, G-SAJK (publishing.service.gov.uk) [accessed 16 December 2021].
3 Clued Up: Towbars - SkyWise (caa.co.uk) [accessed 25 January 2022].
4 Safety Sense Leaflet 02: Care of Passengers in General Aviation Aircraft (caa.co.uk) [accessed 16 December 2021].

Sterile procedures

The EASA describes *'Sterile flight deck'*[5] operations as *'any period of time when the flight crew members shall not be disturbed… except for matters critical to the safe operation of the aircraft and/or the safety of the occupants.'*

'Notice, Understand and Think Ahead'

'Notice, Understand and Think Ahead' (NUTA) is an industry tool that defines different levels of situation awareness (SA). 'Noticing' something is a basic level of SA, progressing to 'understanding' any threat posed by it. 'Thinking ahead', representing a high level of SA, involves specifying relevant actions to avoid or deal with any error associated with the threat.

Information from the operator

The operator reported that towbars were routinely used to manually manoeuvre aircraft on the apron. As a result of this incident, it intends to improve the process of monitoring and using towbars. It will include a requirement that anyone using a towbar must keep their hand placed on it continuously while it is attached to the aircraft, only letting go once the towbar has been removed clear of the aircraft.

The operator stated its towbars were already painted "bright red", and it has attached reflective tape to them for additional conspicuity.

The operator required its members to attend an in-house safety seminar to learn from this incident.

Analysis

Using NUTA terms, the pilot indicated that he had 'noticed' the towbar, and 'understood' the threat it posed, expressing surprise that it was attached to the aircraft and intending to remove it during the walk around. Indications of 'thinking ahead' might include removing the towbar first or creating a conspicuous reminder to remove it later. Prioritising actions relating to unexpected or novel circumstances can be beneficial because those are less likely to be trapped by existing checklists and procedures.

The pilot also indicated that he 'noticed' and 'understood' the threat of distraction by the passengers by explaining to them the importance of the walk around. 'Thinking ahead' could include designating the walk around as a 'sterile' phase of flight or performing it without passengers present. Such management of the threat of distraction may be particularly significant for passengers unfamiliar with the aviation environment.

With distraction a factor, the conspicuity of the towbar may not have been significant to this incident. However, consistent with the CAA's guidance following the incident involving G-CDMH, the operator took the precaution of attaching reflective tape to its towbars.

Footnote

[5] What are 'Sterile Flight Deck Procedures'? | EASA (europa.eu) [accessed 16 December 2021].

Conclusion

The pilot did not remove the towbar before departure after becoming engaged in helping a passenger during the aircraft walk around. While there was no damage to the aircraft, this incident highlights the value of threat and error management techniques in relation to ground procedures and passengers.