

Accident

Aircraft Type and Registration:	1) Piper J3C-65, G-BBLH 2) Bombardier Global 6000, M-SFPL
No & Type of Engines:	1) 1 Continental Motors Corp A65-8F piston engine 2) 2 Rolls Royce BR700-710A2-20 turbofan engines
Year of Manufacture:	1) 1943 (Serial no: 10,549) 2) 1991 (Serial no: 9,692)
Date & Time (UTC):	26 June 2024 at 1230 hrs
Location:	London Biggin Hill Airport
Type of Flight:	1) Private 2) Private
Persons on Board:	1) Crew - 1 Passengers - 1 2) Crew - 2 Passengers - None
Injuries:	1) Crew - None Passengers - None 2) Crew - None Passengers - N/A
Nature of Damage:	1) Damage to left wingtip 2) None
Commander's Licence:	1) Airline Transport Pilot's Licence 2) Airline Transport Pilot's Licence
Commander's Age:	1) 40 years 2) 48 years
Commander's Flying Experience:	1) 11,000 hours (of which 100 were on type) Last 90 days - 240 hours Last 28 days - 80 hours 2) 8,500 hours (of which 4,000 were on type) Last 90 days - 75 hours Last 28 days - 25 hours
Information Source:	Aircraft Accident Report Forms submitted by the pilots and further investigations by the AAIB

Synopsis

G-BBLH, a Piper J3C-65 'Cub'¹, was being taxied behind M-SFPL, a Bombardier Global 6000 (G6000) that was parked on an adjacent apron with engines running. G-BBLH was caught in the G6000's jet efflux and "aggressively" spun round resulting in damage to the Cub's left wingtip. The G6000 had not been positioned in accordance with apron ground markings that had been aligned to direct engine efflux from parked aircraft away from Taxiway L, which ran south of the apron.

Footnote

1 Sometimes referred to as an L4 Grasshopper.

The maintenance organisation responsible for movements on the apron undertook safety action to remind their operations team of the requirement to align aircraft with the apron ground markings prior to engine start.

History of the flight

G-BBLH was proceeding along Taxiway L at London Biggin Hill Airport (Biggin Hill) when it got caught in the jet efflux from M-SFPL, a G6000 parked on a northerly heading with its engines running on an adjacent apron (Figure 1). The pilot of G-BBLH was not aware that the G6000 had started its engines before he taxied behind it.

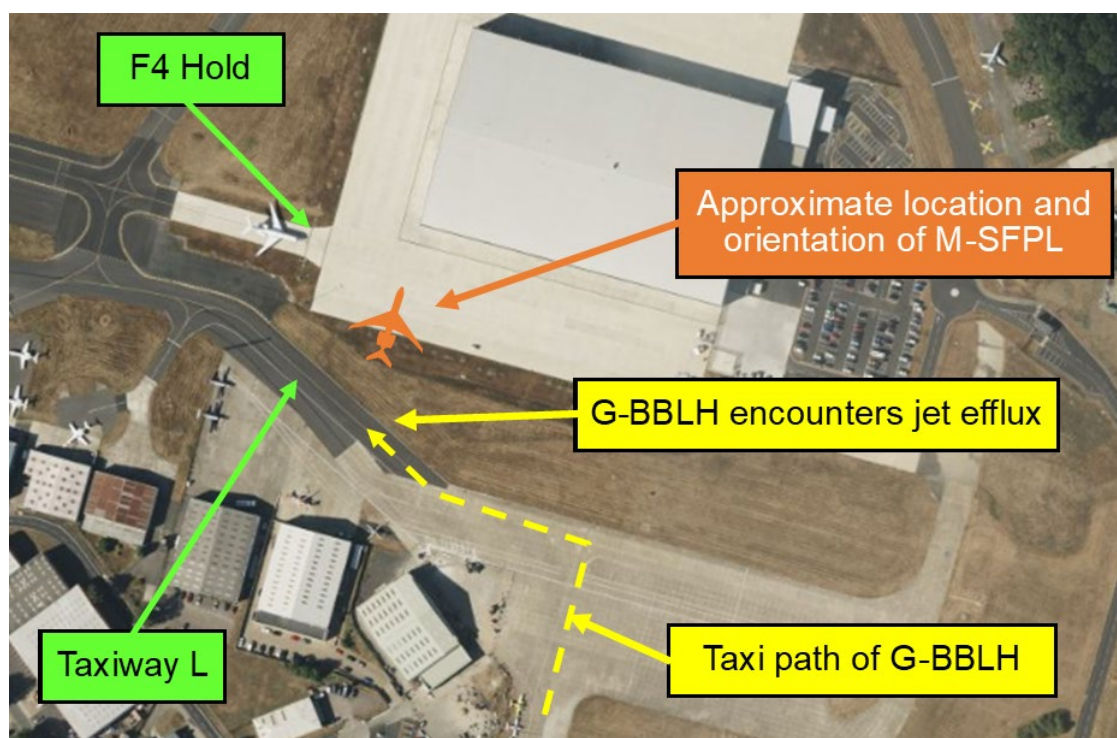


Figure 1

Incident location and respective positions of G-BBLH and M-SFPL
(image ©Vexcel Imaging ©2024 Microsoft)

G-BBLH's pilot reported that, when it got caught in the efflux, their aircraft "aggressively" ground looped and weather cocked "clockwise into the jet blast." For several seconds they experienced "total uncontrollability" which resulted in the aircraft's left wingtip striking the ground on at least two occasions. After declaring an emergency to ATC, they shut down their engine and vacated the aircraft so they could attempt to hold it down to prevent further damage. Onlookers from a nearby hangar assisted the pilot in manoeuvring G-BBLH away from the efflux zone.

At the time of the accident, the pilots of M-SFPL were not aware that G-BBLH was about to taxi behind them and had initiated a test of the wing anti-ice (WAI) system. On the G6000, activating WAI results in an increased engine idle thrust setting.

Aerodrome information

Control of aircraft on the apron east of the F4 Holding Point (F4 Hold), where M-SFPL was parked, is delegated to the maintenance organisation who operate from it.

The distance between the newly established apron and Taxiway L was limited so jet efflux attenuation barriers were not installed when it was constructed. Instead, the airport and maintenance organisation came to an agreement that apron line markings would be installed for the movement of aircraft. These lines were designed by the airport and subsequently installed by the maintenance organisation. The ground markings in the area close to Taxiway L are aligned on an approximate north-westerly heading rather than perpendicular to the apron edge (Figure 2). The airport operator explained these ground markings were positioned so efflux from aircraft parked there “would be diagonal to the L taxiway and towards the rising ground (grass) between the [maintenance apron] and the airport’s South-East apron.”

An internal investigation by the maintenance organisation found “a level of normative practise in the positioning of aircraft” where aircraft were parked “along the apron resulting in reduced area to park aircraft in what would be the appropriate positioning in line with the taxi markings” (Figure 2).

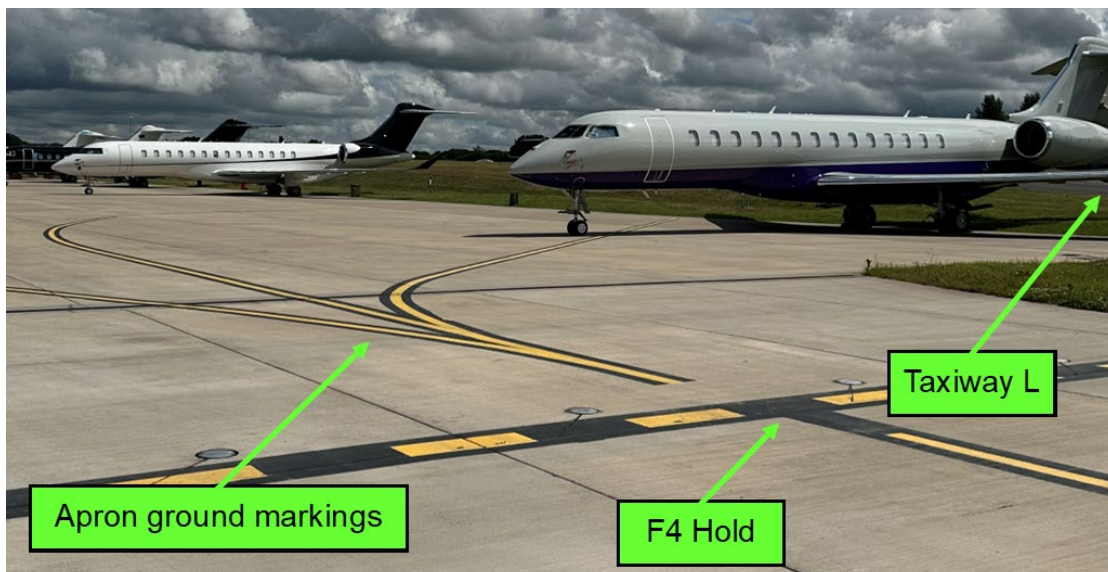


Figure 2

F4 Hold and aircraft parked on maintenance organisation’s apron

Conclusion

The conditions for this accident were created when M-SFPL was parked perpendicular to the apron edge for engine start rather than in alignment with yellow ground markings. Had any of the pilots involved been aware of the risk posed at that time to G-BBLH by M-SFPL’s jet efflux the conflict could likely have been avoided by mutual coordination over the radio.

The investigation did not have sufficient evidence to determine whether the increased engine idle thrust setting during M-SFPL's WAI test sequence was a significant contributory factor.

Safety action

The maintenance organisation publicised this event within its operations team to raise awareness of the circumstances and to highlight the importance of aligning parked aircraft with the apron ground markings before engine start.