Piper PA-34-200T Seneca II, G-BOUL

AAIB Bulletin No: 8/2004	Ref: EW/G2004/05/17	Category: 1.3
Aircraft Type and Registration:	Piper PA-34-200T Seneca II, G-BOUL	
No & Type of Engines:	2 Continetal LTSIO-360-E piston engines	
Year of Manufacture:	1976	
Date & Time (UTC):	25 May 2004 at 0720 hrs	
Location:	Oxford (Kidlington) Airport, Oxfordshire	
Type of Flight:	Training	
Persons on Board:	Crew - 2	Passengers - None
Injuries:	Crew - None	Passengers - N/A
Nature of Damage:	PA-34: substantial damage to outer leading edge of port wing	
	PA-28: damage to fin and supporting structure	
Commander's Licence:	Airline Transport Pilot's Licence	
Commander's Age:	72 years	
Commander's Flying Experience:	21,677 hours (of which 317 were on type)	
	Last 90 days - 81 hours	
	Last 28 days - 35 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot	

History of the flight

The commander had briefed the student pilot, who had approximately 20 hours on type, for a local training sortie. After completing the technical log the commander arrived at the aircraft by which time the student, who was occupying the left hand seat, had completed the pre-start checks and had started the engines. This was in accordance with local procedures. The weather was fine and dry with light winds and forecast to remain so.

The PA-34 was parked in a line of similar types, with the taxiway immediately ahead and at 90 degrees to the aircraft. Beyond the taxiway was a line of parked PA-28 aircraft, facing in the same direction. Although space on the apron was limited, all aircraft were parked in their normal positions, indicated by yellow markings on the apron. The apron surface itself was free from contamination. From this position local taxi procedures required the pilot of the PA-34 to initiate a right turn onto the uni-directional taxiway centreline.

Owing to a misunderstanding between the crew taxiing was commenced without ATC clearance. The student released the parking brake and satisfactorily checked his toe brakes as the aircraft moved forward, but the commander decided to delay his own brake check until after the turn, due to the confined space. As the student pilot commenced the right turn, the commander's note pad and pen fell to the floor and he leaned forward to retrieve them. Whilst doing so he was unable to monitor his student's actions, though he considered at the time that the turn felt and sounded normal. Almost immediately he heard a loud bang and looked up to discover that the student had failed to negotiate the turn and that the port wing of the PA-34 had struck the fin of one of the PA-28s parked on the far side of the taxiway centreline. The collision rotated the PA-28 anti-clockwise though 90 degrees and caused damage to the PA-34's left outer fuel tank leading edge, the left outer wing skin and the wing rear spar fuselage attachment bracket.

After completing the shut down checks the crew vacated the aircraft by the right hand door, by which time the airfield fire service was in attendance.

Turn technique

Having checked his brakes the student pilot applied right rudder and reduced power on the right engine whilst increasing power on the left engine. He felt that the aircraft was reluctant to turn with full right rudder and so increased power on the left engine. He initially thought that the aircraft would clear the PA-28, but when it became apparent that it would not, there was insufficient time to bring it to a halt. He recalled that the whole incident had happened very quickly.

The correct turn technique for a confined space entails an initial application of full rudder. The nose wheel steering angle is limited and in order to assist the turn a considerable amount of asymmetric brake is then required to achieve the required radius of turn, combined with an increase of power on the outer engine to maintain taxi speed. Although the commander thought the turn had felt normal at the time, he later considered that the student pilot had used little or no wheel braking, which would account for the modest amount of turn achieved prior to the collision as well as the speed of events. The commander ruled out any possibility that he may have fouled the rudder or brakes as he leaned forward to retrieve his notepad.

Conclusion

The commander considered that he was distracted at a critical stage and was unable to monitor his student's handling of the turn.