Airbus A320, 5B-DBC

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Aircraft Type and Registration:	Airbus A320, 5B-DBC
No & Type of Engines:	Not known
Year of Manufacture:	Not known
Date & Time (UTC):	19 June 1999 at 1050 hrs
Location:	London Gatwick Airport
Type of Flight:	Public Transport
Persons on Board:	Crew - 7 - Passengers - 174
Injuries:	Crew - None - Passengers - None
Nature of Damage:	Right elevator and stabiliser
Commander's Licence:	Airline Transport Pilot's Licence
Commander's Age:	30 years
Commander's Flying Experience:	5,700 hours (of which 4,500 were on type)
	Last 90 days - Not known
	Last 28 days - Not known
Information Source:	Airport operator and company reports

Collision with obstacle on pushback

The aircraft, with all the passengers on board, was ready to leave Stand 12 at London Gatwick Airport. Pushback was requested on the ground frequency and clearance was given, with the added instruction that the aircraft should be pushed "right back to the blast fence." This instruction was passed on to the headset man on the ground, who indicated that he was familiar with the requirement, and the pushback began. The headset man, who was responsible for ensuring the area was clear, was monitoring the pushback but his attention was also on another aircraft positioning onto Stand 12 behind him. The tug driver had recently completed training and, a few days prior to the incident, had been released to operate without supervision.

At the end of the pushback the flight crew felt a slight jolt and asked the headset man the reason for this. He replied "that's nothing" and so they instructed him to disconnect the tug from the aircraft. Neither the driver nor the headset man was aware of any contact with the blast fence. Meanwhile another airport staff member had seen the tail of the aircraft hit the blast fence and went over and alerted the headset man. He called the flight crew back and informed them that the aircraft had hit the blast fence and that the engines should be shut down. This was done and the flight crew

requested assistance from the emergency services. On arrival they advised that the damage was confined to the right elevator and stabiliser and there was no risk of fire.

The right elevator and stabiliser had impacted the angled end of the blast fence causing substantial damage to the aircraft. The aircraft had come to a halt with the nosewheel and fuselage displaced 5.5 metres to the north of the taxiway centreline. If the marked taxiway centreline had been maintained during or on completion of the push back, the aircraft would have remained clear of the blast fence.

Stand 12 characteristics and procedures

Stand 12 at Gatwick is the last but one stand in a cul-de-sac at the end of which there is an angled (approximately 80°) blast fence (see Figure 1 below). This blast fence was relocated at the end of 1998; one effect of the change was to restrict the area available for pushback, making it essential that the taxiway centreline be maintained. A second phase of work began on 29 March 1999 and information regarding this work was distributed to the ground handling company by Managing Director's Notice (MDN) 32/99. An assessment conducted by the airport operator in March 1999 indicated that no change to their published pushback procedures would be required. The angle of the blast fence is such that the end can be difficult to see from the pushback area. There were no ground markings available to indicate to the ground crew an appropriate point at which to stop the pushback.

The ground handling company's instructions to their crews indicated that an aircraft should be pushed back into a 'safe area' and be left on or parallel to the taxiway centreline. The ground handling crews had developed a practice of using three red end of taxiway stop lights as the reference for a safe limit for the mainwheels.

Conclusions and subsequent revision of procedures

The tug driver was recently trained and had limited experience. To correct the pushback direction he would have needed to reverse a short distance, before continuing forward. This manoeuvre would have caused a delay to the aircraft positioning onto Stand 12 behind him. In view of the busy nature of operations at the airport this may have been a matter of concern to the pushback team.

The headset man responded to the inquiry from the flight crew about a jolt without physically checking that the aircraft was indeed clear of any obstacles. From his chosen position at the front of the aircraft he would have been unable to see all the area behind. He believed that the aircraft had been pushed back into a safe area and did not feel it was necessary to go and check.

The ground handling company's procedures had not been changed when the blast fence was relocated. Following the incident the company has amended pushback training and instructions to pushback crews; emphasising the importance of maintaining the taxiway centreline. The supervision period for qualification of tug drivers has also been extended. The airport operator has revised the taxiway markings in the area to include appropriate stop indication at the nosewheel position.