ACCIDENT

Aircraft Type and Registration:	Airbus A320-214, HB-IJB
No & Type of Engines:	2 CFM56-5B turbofan engines
Year of Manufacture:	1995 (Serial no: 0545)
Date & Time (UTC):	3 December 2013 at 1228 hrs
Location:	Runway 27R, London Heathrow Airport
Type of Flight:	Commercial Air Transport (Passenger)
Persons on Board:	Crew - 7 Passengers - 57
Injuries:	Crew - None Passengers - None
Nature of Damage:	Damaged drain masts, lower pressure bulkhead, skin abrasion and a 190 mm crack on the lower fuselage
Commander's Licence:	Airline Transport Pilot's Licence
Commander's Age:	50 years
Commander's Flying Experience:	10,341 hours (of which 6,749 were on type) Last 90 days - 105 hours Last 28 days - 28 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot

Synopsis

During the landing, on a line training flight in benign weather, the tail of the aircraft struck the runway surface, causing airframe damage.

History of the flight

The aircraft was operating a routine passenger schedule from Zurich to London Heathrow. The weather was good with light and variable winds and no low cloud. The pilot flying, in the right seat, was completing line training, having recently converted to the A320 series. The commander, an experienced Type Rating Examiner, was the pilot monitoring.

The commander reported that the aircraft was on a stable approach, with full flap. The co-pilot smoothly commenced the flare at the correct height; however, at about 10 ft radio altitude he made an additional nose-up sidestick input. This resulted in an unusually high pitch attitude and, as the airspeed washed off, the aircraft started to sink. The co-pilot countered with an additional nose-up input as the main landing gear touched down. The ground spoilers automatically deployed and the pitch attitude continued to rise to a maximum of 12.3°, causing the tail to strike the runway.

As the ground spoilers deployed the commander attempted to counter the increasing pitch with a large forward sidestick input. However, he did not press the 'take over' button and

the flight control software summed the inputs of the two sidesticks. As the co-pilot reduced his sidestick pitch input, the aircraft pitched down to 0° in three seconds.

The aircraft taxied clear of the runway and the right engine was shut down to allow a safe path for inspection of the aircraft by the RFFS. They identified paint damage and scratching of the aft fuselage and the commander decided not to start the APU. The aircraft was then positioned to its normal gate for passenger disembarkation, before being withdrawn from service for minor repairs.

Co-pilot experience

The co-pilot had a total of 292 hrs of flying experience, with 138 hrs on type. He was towards the latter stages of the operator's training programme. A review of his training records, in relation to approaches and landings, showed normal progress and at least "acceptable" standards throughout. There were minor comments regarding the touchdown aiming point in October 2013. However, nothing in his records was considered unusual for a trainee of his experience.

Aircraft damage

A detailed survey of the rear fuselage damage was conducted by the operator. The lower fuselage skin, frames and butt splice between frames 67 and 72 were abraded by contact with the runway. At frame 70, deformation of the lower pressure bulkhead was noted 250 mm either side of the centreline and a 190 mm long crack was found on the lower ring frame assembly.

Operator safety action

The operator evaluated the pilot actions and provided additional simulator and supervised line flying for the co-pilot. Intervention and coaching strategies were reviewed after considering the commander's performance, and "take home" messages were disseminated to other training pilots. Additionally, information on the incident was provided to all of the operator's Airbus flight crew.

Discussion

The co-pilot had joined the operator with no previous commercial experience and was making acceptable progress towards the conclusion of the training programme. The use of experienced training captains provides a safety net to prevent or at least mitigate the consequences of errors. A relatively small error of skill, which the commander was unable to capture, resulted in a tail strike. The crew and airfield staff actions following the incident removed any residual risk to the aircraft and its occupants from undetected damage.