

ACCIDENT

Aircraft Type and Registration:	Sky 260-24 hot air balloon, G-KTKT	
No & Type of Engines:	Triple burner	
Year of Manufacture:	1998	
Date & Time (UTC):	13 August 2009 at 1950 hrs	
Location:	Near Brodsworth Hall, Doncaster, South Yorkshire	
Type of Flight:	Commercial Air Transport (Passenger)	
Persons on Board:	Crew - 1	Passengers - 10
Injuries:	Crew - None	Passengers - 1 (Serious)
Nature of Damage:	None	
Commander's Licence:	Commercial Pilot's Licence	
Commander's Age:	65 years	
Commander's Flying Experience:	More than 2,000 hours (of which 1,000+ were on type) Last 90 days - 10 hours Last 28 days - 10 hours	
Information Source:	AAIB Field Investigation	

Synopsis

The pilot was landing the balloon in a field of stubble in which there were a number of large rectangular straw bales. The balloon basket bounced and dragged on landing before coming to a stop against one of the bales. During the landing a female passenger sustained serious injuries.

History of the flight

The pilot had arranged for the flight to depart from The Dome Leisure Centre, a site within the town of Doncaster. The weather conditions at the site were fine and calm and the passengers were briefed on procedures for the flight.

At 1900 hrs, the balloon took off with ten passengers and the pilot on board. The wind strength was estimated to be 4 kt and, as the flight progressed, it increased to 10 kt. After an uneventful 45 minutes, in the course of which the balloon travelled about 5 nm, the pilot initiated a descent in preparation for a landing. During the flight, the passengers were briefed on the procedures and the position to adopt for landing.

The pilot commented that there was some turbulence in the valley during the approach before the landing was carried out into a field of stubble in which there were a number of large rectangular straw bales. The balloon basket bounced about 15 ft into the air, touched down again and then dragged, at walking pace, for a distance

of some 50 m before coming to a stop against a bale. The passengers all disembarked from the balloon with the exception of one female passenger, aged 67 years, who had been injured. She was assisted out of the basket by other passengers and helped into a sitting position, leaning against the basket. While the pilot was engaged in a discussion with the farmer in whose field the balloon had landed, fellow passengers assisted the injured lady. At their request, the pilot telephoned for an ambulance and the injured passenger was taken to a local hospital where she was diagnosed with fractures to both legs.

Discussion

The passengers were required to complete forms before the flight, declaring that they were fit for the flight and advising the pilot of their weight so that a payload calculation could be completed. The basket was partitioned and each compartment, which could hold up to three people, had rope handles fitted around its sides.

According to the company's operations manual, all passengers should be briefed before a flight on normal and emergency procedures and should also be shown, and rehearse, adopting the required landing position. The manual contains the note:

'in a partitioned basket passengers should be told that they will be coming in to land backwards and will not be able to see where they are landing, knees should be bent but not so much that it ends in them sitting on the floor of the basket.'

The wind strength had increased to around 10 kt for the landing, within the flight manual limit of 15 kt. In the harvest season, a number of possible landing fields

will have bales left out in them. It is not unusual for a pilot to choose to use such a field, provided he is able to plan a touchdown path clear of any obstructions.

The passengers remarked that the flight had, overall, been smooth and the pilot considered that the landing was not excessively rough by ballooning standards. However, he also commented that "the injured lady was probably unfortunately positioned and unlucky to sustain such serious injury".

A review was carried out of records held by the AAIB of accidents to balloons engaged on Commercial Air Transport flights in the UK since 1990. This showed that there have been at least 20 balloon accidents during the period where one or more passengers has suffered a 'serious injury' as a result of what would be considered a 'normal' or 'firm' landing. A 'serious injury' is one where a fracture of a bone has occurred or a person was hospitalised. It was also noted that in a significant proportion of these reports the injured passenger was described as 'elderly'.

It is considered that, when deciding to embark on a balloon flight, a number of passengers may not be sufficiently aware of the nature of some balloon landings. Balloon landings can take place at unprepared sites and may occasionally be bumpy for the occupants, especially in higher wind conditions if the basket tips over and drags along the ground. At present, not all commercial balloon operators make passengers aware of this, either at the booking stage or prior to a flight. Also, the severity of the impact experienced by an occupant may vary according to their position in the basket.

Safety Recommendation 2010-052

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of this, either at the booking stage or prior to a flight. Therefore, it is recommended that the Civil Aviation Authority require all commercial balloon operators to make prospective passengers aware of the varied nature of balloon landings so that they can make an informed decision as to whether or not to undertake a flight.