

## INCIDENT

<b>Aircraft Type and Registration:</b>	ATR 72-212A, EI-REM	
<b>No &amp; Type of Engines:</b>	2 Pratt & Whitney PW127F turboprop engines	
<b>Year of Manufacture:</b>	2007 (Serial no: 760)	
<b>Date &amp; Time (UTC):</b>	18 December 2017 at 1543 hrs	
<b>Location:</b>	Isle of Man Airport	
<b>Type of Flight:</b>	Commercial Air Transport (Passenger)	
<b>Persons on Board:</b>	Crew - 4	Passengers - 70
<b>Injuries:</b>	Crew - None	Passengers - None
<b>Nature of Damage:</b>	Light abrasion damage to tail bumper	
<b>Commander's Licence:</b>	Airline Transport Pilot's Licence	
<b>Commander's Age:</b>	52 years	
<b>Commander's Flying Experience:</b>	9,564 hours (of which 2,578 were on type) Last 90 days - 123 hours Last 28 days - 18 hours	
<b>Information Source:</b>	Aircraft Accident Report Form submitted by the pilot and subsequent AAIB enquiries	

## Synopsis

During the landing flare the tail bumper on the underside of the rear fuselage made contact with the runway. The aircraft was inspected by engineers and no maintenance action was necessary for it to continue in service.

## History of the flight

The aircraft was operating a scheduled passenger flight from Birmingham International Airport to the Isle of Man Airport, with the co-pilot as the handling pilot. The commander reported that during the final flare the aircraft pitch increased to around 6° and the speed reduced below the calculated approach speed. This resulted in a firm landing, during which the tail bumper contacted the ground. The aircraft flight management system recorded the vertical acceleration at touchdown as 1.31 g.

As the aircraft touched down, an air traffic controller observed sparks from under the rear fuselage. The controller reported that the subsequent rollout appeared normal. He requested a runway inspection to be carried out and for the flight crew to be informed. The flight crew were not aware that the aircraft tail had contacted the ground until advised by ATC.

The aircraft was inspected by engineers and the tail bumper on the lower rear fuselage was found to have suffered light abrasion damage. The damage was limited in its extent, such that no maintenance action was required for the aircraft to continue in service.

The operator reviewed the Flight Data Monitoring (FDM) data for the event, which identified that the aircraft pitch at touchdown was 6.94°. Guidance published by the aircraft manufacturer defines low, medium and high risk FDM event thresholds for '*High pitch at Touchdown*' on the ATR 72 as 6°, 7° and 8° respectively. These thresholds are reflected in the operator's FDM software, and the event was therefore determined to be in the low risk category.

The commander assessed that the tail strike occurred due to a combination of the downwards slope at the runway touch down zone, the slightly high pitch angle at touchdown, reducing airspeed and the high landing weight of the aircraft.