

# **CASE STUDY 3**

## **LANDING IN SNOW**

### **EVENT**

FDS analysed one incident – for a new customer - where an aircraft skidded off a snow covered taxiway.

This event served to emphasise the importance of two simple, yet fundamental, flight safety events. The first is ‘long flare’, which measures the time taken to get from 20ft to touchdown; the second is a test for high lateral acceleration when taxiing.

Some pilots like to make a very smooth landing; easing the aircraft onto the runway. Great in theory; the disadvantage of this technique is that the ‘long flare’ reduces the length of tarmac and subsequently the stopping distance available to the aircraft. On a good day this manoeuvre causes few problems, however if this becomes the pilot’s standard landing technique, then on a wet, contaminated or slippery runway they may experience serious problems stopping the aircraft.

As passengers don't like being thrown around in the cabin, pilots should avoid excessive lateral acceleration during taxiing. Gentle turns not only make for happy customers but also reduce wear and tear on the undercarriage. In general, pilots who make gentle manoeuvres will find it easier to cope on a slippery ramp or taxiway.

### **INVESTIGATION**

This particular instance centred on a pilot who was landing at an airfield in falling snow. He made a textbook ILS approach and started a gentle flare. 11 seconds later and 2,300 feet beyond the runway touchdown zone, the aircraft kissed the ground. In the snowy conditions he applied reverse thrust and brakes to reduce speed.

He had planned to turn onto the taxiway at the end of the runway, but as he started the turn the aircraft was still travelling at over 30 knots. The turn would have been tight on a good day, but in these conditions the aircraft skidded off the slippery taxiway and onto the grass, where it came to rest.

No-one was hurt but the airport had to be closed for several hours whilst the aircraft was recovered.

### **SOLUTION/CONCLUSION**

Flight Data Monitoring (FDM) is all about routinely doing the basic things right, so that when conditions are difficult the aircraft can still be operated safely.

In this instance the flare duration was in excess of the standard parameters set for this event, and the turn at the end of the runway would have been over twice the limit of the lateral ‘g’ event if the aircraft had made the turn at that speed.

This incident demonstrates perfectly the benefits of flight data monitoring. The airline was just starting their FDM program and this was the very first data to be analysed. Had FDM been in place earlier these issues would have been brought to the attention of the pilots and this embarrassing incident could have been avoided.