

FOQA/FDM Case Study 4

Landing in Snow

The Flight Safety Events

A recent incident where an aircraft skidded off a snow covered taxiway served to underline the importance of two simple, yet fundamental, flight safety events. The first safety event is "Long Flare" which measures the time taken to get from 20ft to touchdown, and the second is a test for high lateral acceleration when taxiing.

Some pilots like to make a very smooth landing, and ease the aircraft onto the runway. The disadvantage is that this long flare reduces the length of tarmac available for stopping the aircraft. This may be alright on a good day, but if this becomes a normal landing technique then on a wet, contaminated or slippery runway you may have real problems stopping.

As passengers, we don't like to be thrown around in the cabin, and this is what the lateral acceleration during taxiing is all about. Gentle turns make for happy customers and they also reduce wear on the undercarriage. In general, a pilot who makes gentle manoeuvres will be better able to cope on a slippery ramp or taxiway.

The Incident

In this incident the pilot was landing at an airfield in falling snow. He made a textbook ILS approach and started a gentle flare. Some 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.

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

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



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 case the flare duration was almost twice the limit of the Long Flare 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.

Why did the pilot exceed the FDM limits and suffer this incident? The airline was just starting their FDM program and this happened to be the first data to be analysed. If FDM had been in place sooner, and these issues had been brought to the attention of the pilots, this embarrassing incident might have been avoided.

FDS helps customers to identify safety issues in their operation and then achieve measurable reductions in event rate.

How will you improve flight safety in your operation?

Find out more

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