

## Loss of grip by tractor during pushback, collision with aircraft

<sup>(1)</sup>Unless otherwise specified, the times in this report are expressed in Universal Time Coordinated (UTC).

<b>Aircraft</b>	Airbus A330-200 registered OD-MEA
<b>Date and time</b>	17 December 2010 at 10 h 17 <sup>(1)</sup>
<b>Operator</b>	Middle East Airlines
<b>Place</b>	Paris Charles de Gaulle Airport (France)
<b>Type of flight</b>	Scheduled international public transport of passengers
<b>Persons on board</b>	Captain, co-pilot
<b>Consequences and damage:</b>	Lower fuselage badly damaged

*This is a courtesy translation by the BEA of the Final report on the Safety Investigation. As accurate as the translation may be, the original text in French is the work of reference.*

### HISTORY OF FLIGHT

The flight crew was about to leave stand H12 of Paris Charles de Gaulle airport. A tractor and a tow bar were coupled to the aircraft for the pushback.

During the manoeuvre, the tractor driver tried to align the aircraft on the centre line of the movement area. The aircraft overshot the centre line and stopped in an off-centre position, with the nose gear misaligned.

The crew started engine n° 1, which then stabilized at ground idle RPM. After about a minute, the tractor driver tried to pull the aircraft forward in order to align the nose gear wheels with the centre line. Almost simultaneously, the crew started engine n° 2.

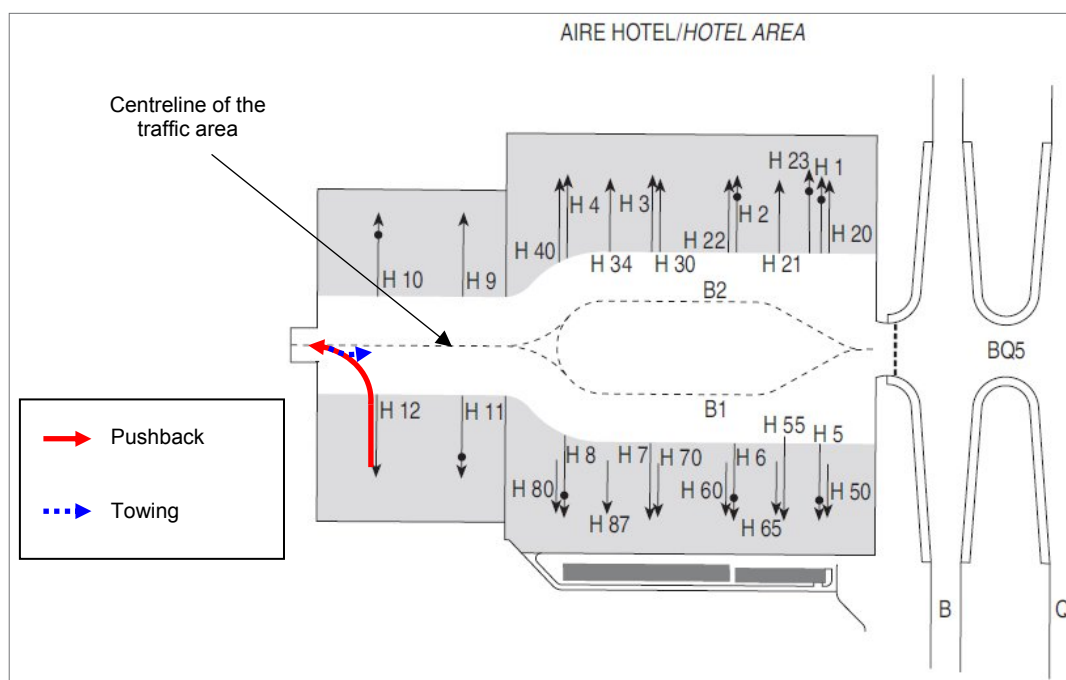
As the tractor driver pulled the aircraft forward, the tractor lost grip when driving over ice. The aircraft continued to move forward, pushing the tractor.

Via his wired connection to the crew, the ground agent requested that they put on the parking brake. The aircraft continued to move forward. The tractor skidded to the left. The pins on the tow bar broke and the tractor hit the side of the fuselage. The crew braked and the aircraft slowed to a stop.



## ADDITIONAL INFORMATION

The parking area where the aircraft was located is a cul-de-sac. During a pushback from stand H12, the tractor driver has little room in which to align the aircraft on the centreline on the traffic area.



On the day of the accident, the ground was icy in places. The driver stated that the airplane was improperly aligned after pushback because of the slippery ground and that he had tried to re-align the aircraft by pulling it forward.

When the investigators arrived, ice was still present in the area where the tractor skidded. The METAR at 10 h 00 stated:

METAR LFPG 171000Z 31008KT 9999 FEW016 M01/M03 Q1000 764///71 264///70 774///75 274///73 NOSIG

Readout of the recorders indicated that a misunderstanding had occurred between the parties involved: when the tractor started to skid and the ground personnel asked the flight crew to put on the parking brake, the crew confirmed that the parking brake was off but did not put it on.

The crew only braked after the collision with the tractor, and at the same time shut down both engines. The parking brake was only put on approximately one minute after the aircraft had stopped.

## LESSONS LEARNED AND CONCLUSION

The RPM on engine n° 2 stabilized while the tractor was pulling the aircraft forward. The momentum of the aircraft and the thrust on both engines at idle power exerted a force forward while the tractor, which was off-centred to the left, had lost all grip.

The accident was caused by a pushback manoeuvre on icy ground.

The following contributed to the accident:

- ☐ Insufficient prevention measures and/or treatment of ground ice;
- ☐ The particular configuration of aircraft stand H12 which leaves little room for pushback;
- ☐ Difficulties in understanding between the ground personnel and the flight crew.

A similar accident occurred on 10 April 2011 at Paris Charles de Gaulle, involving a Boeing 777-333ER, registration number C-FIVM operated by Air Canada, during a pushback followed by towing to align the wheels of the nose gear with the centre line.