

**DATA SUMMARY**

**LOCATION**

Date and time	<b>Tuesday, 16 January 2007; 15:30 local time<sup>1</sup></b>
Site	<b>Tenerife South Airport</b>

**AIRCRAFT**

Registration	<b>G-VCED</b>
Type and model	<b>AIRBUS 320</b>
Operator	<b>My Travel Airways</b>

**Engines**

Type and model	
Number	<b>2</b>

**CREW**

**Pilot in command**

Age	<b>52 years old</b>
Licence	<b>Airline transport pilot (ATPL(A))</b>
Total flight hours	<b>14,000 h</b>
Flight hours on the type	

**INJURIES**

	Fatal	Serious	Minor/None
Crew			<b>6</b>
Passengers		<b>2</b>	<b>176</b>
Third persons			

**DAMAGE**

Aircraft	<b>None</b>
Third parties	<b>Collapse of the platform on the boarding vehicle</b>

**FLIGHT DATA**

Operation	<b>Commercial air transport – Non-scheduled</b>
Phase of flight	<b>Passenger boarding</b>

**REPORT**

Date of approval	<b>1 October 2009</b>
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<sup>1</sup> The reference time used in this report is local time. To obtain UTC, subtract 1 hour to local time.

## 1. FACTUAL INFORMATION

### 1.1. Event description

The aircraft, an Airbus A-320, with registration G-VCED and owned by My Travel Airways, was parked at stand E22 on the aircraft parking apron at Tenerife South airport, in preparation for a non-scheduled passenger flight that was to depart at 16:05 en route to Newcastle Airport (United Kingdom).

The airport's ground service company, INEUROPA HANDLING, was requested to send a special vehicle to embark passengers with reduced mobility. At 15:30, with some 30 passengers already aboard the aircraft, three female passengers were atop the vehicle's front platform, along with the driver, who was responsible for raising and lowering the platform, and an assistant who was helping the passengers board the airplane. At that moment the frame that held the platform to the truck broke loose from its upper horizontal and lateral braces (Figure 1), leaving a gap between the platform and the aircraft through which the three passengers fell, resulting in serious injuries to two and slight injuries to the third. The operators were able to hold on to the side rails, and one of them was even able to briefly hold on to the passenger who ended up being slightly injured.

The aircraft eventually departed at 17:56, after the injured passengers were taken to a hospital, where two of them had to remain until 25 January.



Figure 1. Condition of the vehicle after the accident

## 1.2. Information on the vehicle used and the sequence of the boarding operation

Behind the truck's cabin there was a closed passenger compartment measuring 8.2 m long by 2.5 m wide by 3.4 m high that could be lifted by means of a scissor mechanism. At the rear of this compartment was a platform that could be lowered to the ground, and in the front another platform (the one that collapsed) which could be lifted 1.2 m above the roof of the driver's cabin. The platform rested against the aircraft via a roller located underneath. There was no safety mechanism to anchor the platform.

The vehicle's data plate did not list the total load rating of the platform that detached, though it did list the truck's maximum weight limit as 9,400 kg.

The ground service company had three other vehicles at the airport in use for loading passengers, all of them different from the vehicle involved in this accident. As it happens, said truck had originally been used by the catering service and adapted for the transport of reduced mobility passengers after undergoing a series of modifications to its aft end and bodywork in 1994 and 1995.

The truck had had extensive corrective maintenance performed on it since the year 2000 which affected a variety of components, but not the front platform's wooden panels or rivets.

Since the truck was only driven on the airport grounds and never on public roads, it was not required to be registered and thus lacked an official registration (Article 2 of the Traffic Law, Motor Vehicle Circulation and Road Safety). As a result, it was not required to pass a vehicle inspection (Article 10.1 of the Vehicular Code).

The vehicle had been inspected yearly from 2001 to 2005 by a company accredited by ENAC (National Accreditation Company) to perform safety inspections on machinery. During those inspections, called "Airport Equipment Technical Inspection," visual checks were done on the bodywork, front and rear axles and the chassis, including its supports and mounts. No anomalies were noted in the pertinent inspection records.

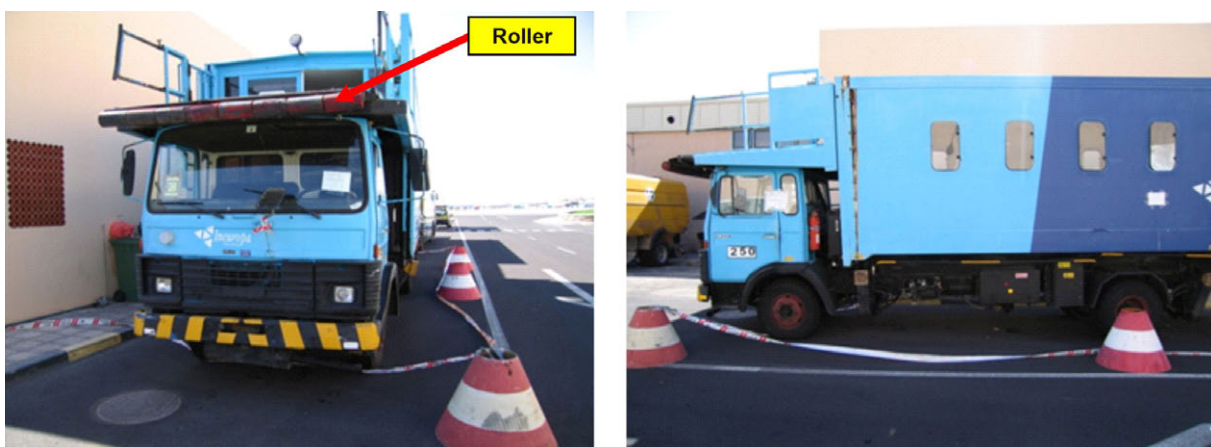


Figure 2. Front and side views of the vehicle

### 1.3. Post-accident inspection

The platform that detached was fixed to the cabin of the passenger truck by a frame that was fastened by twelve rivets along the top horizontal part and another twelve on the sides, eleven of which were aligned vertically, with the twelfth forming a triangle with the two rivets at the top and in front of them. All were so corroded that some had completely worn away, while only the head remained of others. The rivets were nailed to the passenger cabin's wooden beams, which had completely rotted.

The vehicle's overall condition was one of advanced deterioration, as evidenced by the corrosion on the metal components and the rotted wood. Corrosion was clearly visible along a solder line on a bar used as a handrail on the side of the rear platform. The truck's passenger cabin was mounted atop a trestle that had four crossbeams along its length. A significant amount of material was missing from several of the crossbeam-trestle unions due to corrosion, such that some of the supports were exposed to the air, as shown in Figure 5. The vehicle's undercarriage, both in the driver's and passenger cabins, exhibited corrosion and a shortage of material.



Figure 3. Close-ups of the cabin's top frame

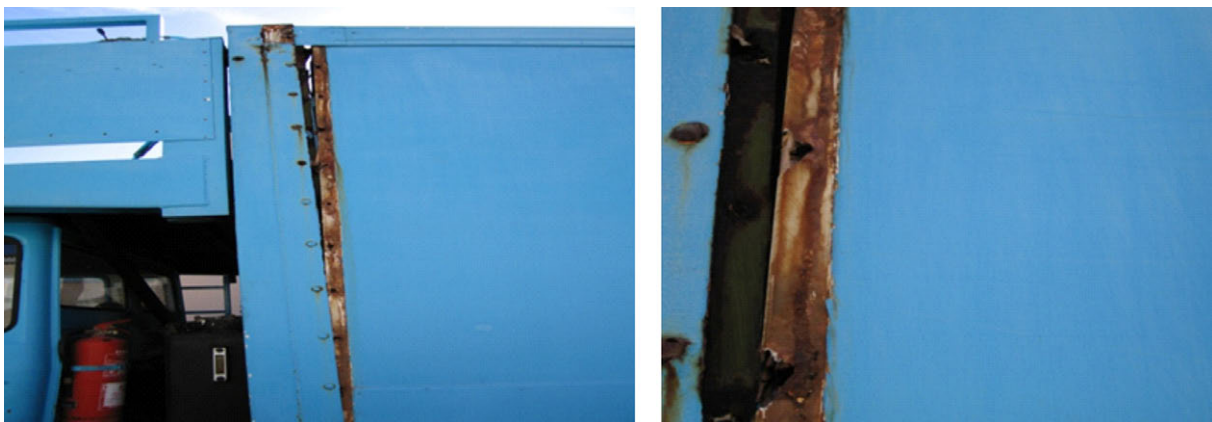


Figure 4. Close-ups of the cabin's left frame



Figure 5. Close-ups of the crossbeam-trestle union

#### 1.4. Ground service organizational and management information

The provision of ground services at public airports is regulated by Royal Decree 1161/1999, dated 2 July.

According to Article 9 of said decree, the ground service provider must be in possession of a permit issued by the DGAC. Such a permit is valid for seven years and may be renewed if certain conditions are maintained throughout the permit's validity period.

Article 10 of the royal decree lists a series of financial and administrative conditions which must be satisfied in order to obtain the permit, and also specifies that ground services "must be carried out in compliance with regulations on airport safety, on the protection of personnel, facilities, equipment and aircraft, and with air transport technical safety rules."

INEUROPA HANDLING had been an authorized ground service company since June of 2000. The DGAC has not provided proof of the specific technical rules and regulations governing ground service companies, as required by the royal decree.

Article 14 states that ground service companies are to be selected by AENA, which must accept tenders from interested ground service companies properly certified by the DGAC. The tender process is to be based on a set of clauses that specify the conditions of the contract.

In the case of Tenerife South airport, AENA published the "clauses for the provision of ground services to aircraft and passengers as the second concessionaire at Tenerife's airports" in May of 1994. The contract with INEUROPA HANDLING was signed on 3 October 1994, with an annex signed on 20 October 1997, such that in all, the service was provided from 7 November 1994 until 28 January 2007.

Clause 10 of the conditions states that "The equipment and facilities must be in perfect working order, such that their functionality and safety are not compromised..." adding that "the concessionaire must inform airport management, preferably immediately and in any event within seven days, whenever any facility or piece of equipment is rendered inoperable, or has its functionality or safety compromised."

Among the documentation supplied by the company in adjudicating the bid, in Volume III - Technical Documentation, specifically in Section B - Work Methods, it states that "specialized personnel and material resources or equipment shall be available to guarantee the quality of the service" (Special Services), and that "specialized personnel with appropriate equipment shall accompany individuals with reduced mobility" (Work Processes - 3.8 and 3.9).

Clause 21 of the contract also states that the services shall be overseen and inspected by AENA through the airport management.

The airport stated that the ground service company had not reported any deficiencies concerning the condition of the vehicle that caused the accident. The commission has not obtained any evidence that INEUROPA HANDLING had been subjected to any AENA inspections or evaluations.

AENOR regulation EN-12312-14, dated 4 October 2006, entitled "Aircraft ground equipment. Specific requirements. Part 14. Vehicles for boarding disabled/handicapped passengers" (approved by AENOR in March of 2007), and which governs the design and manufacturing conditions for said equipment, does not specify instructions for the maintenance and permanent compliance with operativity conditions beyond those required for their design and manufacture.

## **2. ANALYSIS**

As revealed by the post-accident inspection, the condition of the vehicle used for boarding reduced mobility passengers at Tenerife South Airport was one of advanced deterioration, a condition that had obviously existed for some time and which posed serious questions about whether the inspections to which it had been subjected had been routine, superficial and lacking in technical soundness. As concerns this vehicle specifically, it may be asserted that it was not in working order, to the extent that its functionality and safety were compromised.

Among the vehicle's shortcomings was the lack of a clearly visible indication of the maximum weight that could be supported by the passenger boarding platform, or in its place an indication of the estimated maximum number of people it could hold at any one time. At any rate, and in light of the available data, it appears that the weight on

the platform was within its load limit under normal circumstances, and that the collapse was due to the advanced deterioration of the anchor and support points.

During the course of the investigation, it was not possible to determine what technical criteria are used by the DGAC in granting permits to ground service companies. It was also impossible to determine what control mechanisms are in place to ensure that ground service companies provide adequate services when the applicable technical rules and regulations are not specified, nor was there any evidence that AENA carries out inspections of the services provided by ground service companies at airports.

Given the documentation provided by the company concerning the vehicle's inspections and maintenance, it may be stated that from a strictly formal standpoint, there was a preventive maintenance and tracking system in place as far as the documentation generated was concerned, though that system did not guarantee that the vehicle was kept in ideal working order.

### **3. CONCLUSIONS**

It has been determined that the collapse of the platform on the ground service vehicle resulted from corroded anchor rivets attached to a rotted wooden structure. Both conditions resulted from the high degree of deterioration evident in the vehicle, resulting from generalized corrosion and rotting.

Contributing to this condition were faulty vehicle maintenance on the part of INEUROPA HANDLING and a lack of oversight on the part of AENA.

### **4. SAFETY RECOMMENDATIONS**

**REC 19/09.** It is recommended that the DGAC & AESA, so as to complement Royal Decree 1161/1999, dated 2 July and which governs the provision of ground services, clearly define regulations for the specific technical requirements to be met by ground service companies that intend to be certified as such.

**REC 20/09.** It is recommended that the DGAC & AESA define the technical specifications to be met by ground service equipment (handling) concerning its manufacture and maintenance.

**REC 21/09.** It is recommended that AENA develop procedures to ensure compliance with the technical specifications supplied in calls for tender by ground service companies, through proper oversight of both human resources and the condition of the equipment, vehicles and materials designated for said services at every airport.

AENA has accepted this recommendation and has informed that in the specifications of the new contracts for ground service companies it has been included a procedure so as to ensure the compliance by the contracted agents with the regulations of the contracts, adding examples that show the implementation of this measure.

AENA also informed that a revision process of the Aeronautical Technical Inspections (ITA) that were carried out by the vehicles of the ground service agents had been initiated and also that they were working on a renewed document.