

AAIU Report No:- 1999/006
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| Aircraft Type and Registration: | BAe 146, G- TNTL |
| No. and Type of Engines: | Four Avco Lycoming ALF 502 Turbofan engines |
| Aircraft Serial Number: | E3168 |
| Year of Manufacture: | 1990 |
| Date and Time (UTC): | 12 January 1999, 21:12 hrs |
| Location: | Stand 67, South Apron, Dublin Airport |
| Type of Flight: | Cargo |
| Persons on Board: | Crew 2 |
| Injuries: | Nil |
| Nature of Damage: | Undercarriage door, squat switch, strut lower body, all slightly damaged. |
| Commanders Licence: | N/A |
| Commanders Age: | N/A |
| Commanders Flying Experience: | N/A |
| Information Source: | Duty Officer at Dublin Airport. AAIU inspector arrived at Dublin Airport 13 January 1999 |

Synopsis

The aircraft was on a cargo flight from Cork Airport, and had been positioned at Stand 67 at Dublin Airport in order to take on further cargo and to continue to Liverpool Airport. The aircraft had been pushed back from the stand but was re-positioned on the stand in order to take on further cargo which had arrived from Shannon on another aircraft.

At 21:12 hours, a tow truck with two cargo dollies, being driven by an employee of a handling agency, turned on to the South apron at Stand 66. As the truck turned, one of the two dollies being towed came loose and moved to the wrong side of the declared roadway. It narrowly missed another aircraft on Stand 66 and careered on to Stand 67, heading for aircraft G-TNTL, which was stationary at the time.

The dolly struck the left hand undercarriage door and some damage was also evident to the lower part of the LH undercarriage body housing. The force of the impact was felt by the captain who was in the cockpit at the time of impact. He declared the aircraft unserviceable.

The cargo dollies at Dublin Airport are owned by several companies, e.g. Aer Lingus, DHL and Servisair. It was not possible to positively determine the ownership of the dollies involved in this particular incident. However, the DHL dollies are different to the dolly involved in this incident in that they have a spring loaded locking device, so as when a tow-bar is connected to a tow-hitch, the locking pin is automatically released downwards to secure contact. If a company has insufficient dollies of its own to carry out a job it is customary to borrow dollies belonging to another company.

Photographs of the dollies involved in the incident taken by the airport police, show that the locking mechanism of the first dolly into which the tow-bar of the second dolly fits was defective. The vertical locking bolt was bent, such that it could not protrude fully home into the hole of the securing lug. The bolt was then in a position to hop up on transit, thereby inadvertently releasing the towed dolly.

A witness at the scene said that the second dolly came off as the dollies passed over a gully at the entrance to the South stand, and the runaway dolly then careered towards the aircraft. This distance was about 90 metres. All ground transport trucks are restricted to a speed of 15 mph, by the airport operator.

Subsequent to the incident other dollies were examined at Dublin Airport and at least one other dolly connecting mechanism was found to be defective. The vertical locking bolt was found bent such that it could not be assured that the bolt protruded into the lower lug.

It was not possible to identify either of the dollies on the day following the incident, as they had been put back into service.

Analysis

The fixing mechanism of the first dolly was defective, such that it was not capable of ensuring that the vertical locking bolt was fully home. The vertical bolt was bent prior to the incident and therefore the bolt was not driven home fully, allowing it to pop up during transit, thus releasing the following dolly which careered into the stationary aircraft.

Safety Recommendations (SR)

1. Where this type of locking mechanism is installed on a dolly, a telltale red mark or paint mark should be affixed to the upper part of the bolt, such that if it were visible would indicate that the bolt is not locked home. **(SR 1 of 1999)**
This Safety Recommendation was issued as an immediate safety recommendation on 8 January 1999.
2. All dollies should be identifiable and numbered by the owners, and inspected on a regular basis. **(SR 2 of 1999)**
This Safety Recommendation was issued as an immediate safety recommendation on 8 January 1999.

3. The airline/ground handling agency involved should inspect all of its dollies at the airport and ensure that those with defective towing bolts are withdrawn from service immediately. **(SR 14 of 1999)**
4. Ground handling agreements should provide for regular monitoring by handling agencies of apron equipment, condition and suitability. Agreements should also include confirmation to the airport operator, by handling agencies, of the results of such inspections. **(SR 15 of 1999)**
5. Airport operators should institute a separate audit of the effectiveness of SR 15 of 1999 (above) procedures. **(SR 16 of 1999)**