Aviation Safety Investigation Report 199601632

Airbus A330-300

23 May 1996

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NOTE: All air safety occurrences reported to the ATSB are categorised and recorded. For a detailed explanation on Category definitions please refer to the ATSB website at www.atsb.gov.au.

Occurrence Number:	199601632	Occurrence Type:	Incident	
Location:	Perth, Aerodrome			
State:	WA	Inv Category:	4	
Date:	Thursday 23 May 1996			
Time:	1700 hours	Time Zone	WST	
Highest Injury Level:	None			
Aircraft	Airbus			
Manufacturer:				
Aircraft Model:	A330-300			
Aircraft Registration:	9M-MKH			Serial
				Number:
Type of Operation:	Air Transport High C Scheduled	Capacity Internationa	al Passenger	
Damage to Aircraft:	Nil			
Departure Point:	Kuala Lumpur Malay	sia		
Departure Time:				
Destination:	Perth WA			

Approved for Release: Thursday, September 5, 1996

Cargo handlers unloading an A330 aircraft in Perth reported a burning smell coming from part of the cargo. When the load was disassembled, evidence of a possible cargo fire was found. Three wooden load spreaders from two different pallets showed signs of scorching, and one aluminium pallet had a 100 mm X 120 mm hole worn through its base, with fused metal around the edges of the hole. Another pallet showed signs of scorching. The affected areas were still hot to touch.

The 16,000-kg load, comprising 16 wooden (pine) crates measuring 1500 mm X 1000 mm X 300 mm and several smaller items, and was divided evenly between four 3000 mm X 2000 mm X 10 mm aluminium pallets. Each of the crates was fitted with three 100 mm X 50 mm X 1000 mm wooden runners which were oriented longitudinally when loaded on the pallets. Each pallet load was positioned on load spreaders which were located transversely. Two pallets were loaded in the rear and two in the forward cargo hold of the A330. The load was prepared in the United Kingdom and transhipped in Kuala Lumpur. Nothing abnormal was reported during transhipment.

The size of the spreaders used and the damage sustained on the four pallets differed significantly. The load spreaders on all four pallets exhibited evidence of movement between the spreaders and the pallets. Only the two rear pallets exhibited scorching with the rearmost pallet being the most damaged. Four 100 mm X 50 mm spreaders were used on the rearmost pallet. The spreader located closest to the rear of the pallet was worn down to half its original thickness in the vicinity of the hole. A 300-mm length centred on the hole exhibited signs of significant scorching. No scorching was evident on the other three spreaders. On the next pallet four 130 mm X 20 mm spreaders were used. The front and rear spreaders and their corresponding positions on the pallet exhibited signs of scorching, but only on the starboard side. No scorching was evident on the other two spreaders. Four spreaders, each measuring 130 mm X 50 mm, were used on each of the two forward pallets. No scorching was evident. Witness marks on the pallets indicate that most of the movement between the spreaders and the pallets was longitudinal rather than lateral.

The cargo handlers reported that the load was secured to the pallets by nets and the pallets were secured in the aircraft by tie-down straps. They also reported that the straps appeared to be adequately tensioned. Actual tie-down arrangements could not be checked as the straps were removed prior to discovery of the scorching and their position was not noted. There was no evidence of damage from the aircraft's roller conveyor wheels.

An analysis of the timber used in the damaged spreaders indicated it was European Silver Fir. The samples contained no resin, which was considered unusual. The absence of resin reduced the flammability of the timber.

It is evident that the damage and scorching were the result of friction-generated heat caused by movement between the spreaders and the pallet. The movement apparently did not result in fire as any flame would have spread rapidly to the pine crates resting on the pallets. There was no evidence of this. The cargo hold overheat warning system did not activate and the cargo hold fire suppression system was not used.

No additional evidence is available to determine why the load was able to move in the way that it did and cause the scorching.

The Bureau of Air Safety Investigation is not aware of any other similar occurrences.

Safety Action

When the timber had been identified, the Bureau of Air Safety Investigation issued a safety advisory notice, SAN960053, informing the Civil Aviation Safety Authority and operators of high capacity regular public transport aircraft of the circumstances of the occurrence.