Aviation Safety Investigation Report 199502611

Boeing Co
B747-238B

14 August 1995

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Aviation Safety Investigation Report

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Occurrence Number:	199502611	**Occurrence Type:**	Incident
Location:	Cairns, Aerodrome		
State:	QLD	**Inv Category:**	4
Date:	Monday 14 August 1995		
Time:	1300 hours	**Time Zone**	EST
Highest Injury Level:	None		

Aircraft Manufacturer:	Boeing Co		
Aircraft Model:	747-238B		
Aircraft Registration:	VH-EBR	**Serial Number:**	22614
Type of Operation:	Air Transport High Capacity International Passenger Scheduled		
Damage to Aircraft:	Nil		
Departure Point:	Cairns		
Departure Time:	1300 EST		
Destination:	Narita		

Approved for Release: Tuesday, February 6, 1996

1. FACTUAL INFORMATION.

1.1 Sequence of Events. The aircraft was on a scheduled international service QF69 from Cairns to Narita. During loading of the rear cargo hold the sill locks were not placed in the down (locked) position before the cargo hold door was closed. The sill locks restrain the container vertically on the door sill side when they are down. The driver of the pallet loader was instructed by the leading hand to leave his position on the loader and to prepare for pushback to save time. The aircraft had arrived late and loading had been delayed due to the international baggage belt breaking down. The bridge of the pallet loader was in the lowered position which caused the leading hand to assume that the locks were down, as he normally lowers the bridge after placing the locks down. The aircraft was subsequently pushed back, and taxied to the runway before the mistake was realised. The pilot commenced takeoff and was close to the maximum speed from which takeoff could be rejected (V1) when he was instructed by the tower to discontinue the takeoff. The takeoff was rejected and the aircraft was taxied back to a parking bay. Investigation revealed that the sill locks at position 44R were found unlocked. The aircraft was then further delayed due to brake cooling requirements and refuelling.

1.2 The ramp coordinator said he first became aware of the situation when the leading hand, who was then operating on bay five, contacted him some time after QF69 had been pushed back. The leading hand reported that after discussion with his loader/driver, they were unsure that the container locks at the doorway of the rear hold in position 44R had not been secured before the hold was closed up. The ramp coordinator then contacted engineering section and movement control section and requested that the aircraft be stopped. The ramp coordinator said at this time the aircraft was completing the turn to line up on the runway. By the time the message to stop the aircraft reached the control tower, the aircraft was well into the takeoff and almost ready to become airborne. The Aerodrome Controller (ADC) then instructed the pilot to cancel the takeoff due to a company safety requirement.

1.3 The rejected takeoff was accomplished at a speed reported by the captain to be approaching V one (V1), however the Flight Data Recorder information could not be retrieved and the actual speed is unknown. V1 is the maximum speed from which the aircraft can be safely stopped when takeoff is discontinued. The aircraft was stopped at taxyway Bravo 4 (B4) which is approximately 2200 metres from the threshold of runway 15.

1.4 Examination of procedures in the Qantas Airport Services Manual revealed that there was no standard procedure for loading and unloading a container compartment. The manual states that many variations of loading and unloading can be accomplished with proper selection of control switches and restraint hardware. The design of the sill locks is such that although they are painted red, there is no visual indicator to warn that they are not locked down before the compartment door is closed. There is no reason to believe that had the loader not been interrupted in his task that he would not have put the sill locks down. The leading hand who asked the loader to man the tug for pushback, omitted to check that the locks were engaged before he closed the door. He stated that this was due to a variance of procedure, because he deploys the locks before lowering the bridge, and the loader deploys the locks after lowering the bridge. The interruption to the procedure, at the point where the locks would have otherwise been engaged was thus unfortunate, and led to the omission.

1.5 The sill locks provide vertical and lateral restraint on one side of the container only. The container was restrained vertically and longitudinally by the remainder of the locking devices, and could not have moved if the aircraft had become airborne.

3. CONCLUSIONS

Findings.

1. A container in the rear cargo hold at position R44 was not fully restrained by the aircraft locking system.

2. The persons responsible were aware of their responsibility, but due to task interruption, and variance in procedures, a final check to ensure the sill locks were activated was omitted.

3. There was no warning device or mechanical means to prevent the door from being closed when the sill locks were not activated.

4. There was no specific procedure laid down for loading or unloading, however the Load Instruction Report certifies that the aircraft has been loaded in accordance with the Aircraft Load and Balance Manual, and that the load is secured by the aircraft locking system.

Significant factors

1. The aircraft departure was late.

2. The loading team changed positions to save time.

3. Loading procedures were not standardised.

[redacted]