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The Gazette of the Democratic Socialist Republic of Sri Lanka

EXTRAORDINARY

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**PART I : SECTION (I) — GENERAL**

**Government Notifications**

**AIRCRAFT ACCIDENT REPORT**

The Final Report of the accident of Sri Lanka Airlines Flight UL 316, A 330-243, bearing Registration Number 4R-ALA, on 16th October 2005 at Bandaranaike International Airport, Katunayake, published by virtue of the powers vested with the Director General of Civil Aviation in terms of Section 270 (1) of the Air Navigation Regulations 1955 as amended.

PARAKRAMA DISSANAYAKE,  
*Actg. Director General of Civil Aviation and  
Chief Executive Officer.*

Colombo,  
30th May 2007.

**Final Report**

Accident of Sri Lankan Airlines Flight UL 316, Airbus A 330-243, 4R-ALA, on 16th October 2005 at Bandaranaike International Airport, Colombo, Katunayake, Sri Lanka.

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### List of Abbreviations

AASL	–	Airport and Aviation Services (Sri Lanka) Limited
AHM	–	Airport Handling Manual
APU	–	Auxiliary Power Unit
ATC	–	Air Traffic Controller
ATPL	–	Airline Transport Pilot Licence
CAASL	–	Civil Aviation Authority of Sri Lanka
CPL	–	Commercial Pilot Licence
DGCA	–	Director General of Civil Aviation – Sri Lanka
IATA	–	International Airtransport Association
ICAO	–	International Civil Aviation Organization
L1	–	Left hand side number one door
L4	–	Left hand side number four door
MPV	–	Maintenance Platform Vehicle (Hi-Lifter)
SOP	–	Standard Operating Procedures
SLA	–	Sri Lankan Airlines
UTC	–	Universal Time Constant

### Aircraft Accident Report

#### Synopsis :

Operator	:	Sri Lankan Airlines Ltd., Level 22, East Tower, World Trade Centre, Echelon Square, Colombo 1.
Registered Owner	:	Taprobane Ltd., P. O. Box 309, George Town, Grand Cayman, Cayman Island.
Aircraft Make and Model	:	Airbus, A 330 – 243
Aircraft Nationality	:	4R (Sri Lanka)
Aircraft Registration	:	ALA
Place of Accident	:	Parking Bay A 18, Bandaranaike International Airport-Colombo, Katunayake, Sri Lanka.
Date and Time	:	16th October 2005 at 0450 UTC (1050 hrs. local time)

The incident was notified to the Director General of Civil Aviation by the operator through a telephone call. Accordingly, an investigation was initiated by a team comprised of Mr. W. P. M. Fernando – Director Flight Safety as the team leader, Mr. V. J. Pamaratne, Deputy Director-Airworthiness, Mr. N. L. De Silva – Air Navigation Services Inspector and Ms Bimba Manamperi – Ground Operations Inspector as team members appointed by the Director General of Civil Aviation. Immediate notifications were sent to the DGAC France being the State of Design and the State of Manufacturer with copy to ICAO.

The accident occurred at 0450 UTC on 16th October 2005 at Bandaranaike International Airport-Colombo, Sri Lanka. The Sri Lankan Airlines flight UL 316 (4R-ALA) which arrived from Kuala Lumpur, Malaysia was parked at Parking Bay A 18 and the disembarkation of passengers had been in progress. A ground vehicle which was approaching the aircraft for maintenance collided with the stepladder positioned at L4 door shifting the ladder away from the aircraft. Consequently one passenger who was disembarking the aircraft fell between the displaced ladder and the aircraft ,who later succumbed to injuries. A few other who were on the stepladder were also injured due to this accident.

#### 1. Factual Information :

1.1 *History of Flight* : On 16<sup>th</sup> October 2005, Sri Lankan Airlines flight UL 316 arrived from Kuala Lumpur landed at Bandaranaike International Airport-Colombo, Katunayake, Sri Lanka at 0450 UTC (1050 hrs. local time) and parked at Apron A, Bay 18. The chocks were positioned and ground operations commenced.

The stepladders were positioned at L1 and L4 doors for passenger disembarkation. All business class passengers disembarked through the L1 door stepladder and economy-class passengers started disembarking subsequently. While the passengers were disembarking through L4 door stepladder, the maintenance platform vehicle (i.e. MPV/Hi-Lifter), which approached the aircraft to position under the APU for maintenance collided with the L4 door stepladder displacing it and causing a passenger to fall through the gap thus created.

#### 1.2 *Injuries to Persons* :

<i>Injuries</i>	<i>Crew</i>	<i>Passengers</i>	<i>Others</i>	<i>Total</i>
Fatal	Nil	One	Nil	One
Serious	Nil	Nil	Nil	Nil
Minor	Nil	Seven	One	Eight

1.3 *Damage to Aircraft* : There was no damage to the aircraft, systems or its components.

1.4 *Other Damages* : The subjective MPV and the stepladder, which was positioned at L4 door, were damaged.

#### 1.5 *Personnel Information* :

##### **Flight Crew**

Pilot-In-Command	:	Capt. N. R. Wagiswara, Male, 44 years.
Licence	:	Valid Airline Transport Pilot Licence (ATPL No. 271) issued by the DGCA Sri Lanka.
Aircraft Ratings	:	A330/A340
Flying Experience	:	Total : P1 4236.41 hrs. Total on type : 5508.65 hrs as at 16.10.2005.
First Officer	:	D. J. Vethavanam, Male, 23 years.
Licence	:	Valid Commercial Pilot Licence (CPL No. 386) issued by the DGCA Sri Lanka.
Aircraft Ratings	:	A320/A330

Flying Experience	:	Total : 1040 hrs ; Total on type : 99hrs 20 min.
Ground Engineer	:	S. S. S. Silva
Licence	:	Valid Aircraft Maintenance Engineer Licence (No. 619) issued by the DGCA Sri Lanka.
Type Ratings	:	'A' and 'C' on A340 airframe/CFM 56 engine, GTCP 331-350 C APU, A330 airframe/RR Trent 772 engine
Experience	:	A330 rating endorsed on 21st June 2002

**Ground Staff (Maintenance Platform Vehicle Operator)**

Name	:	S. H. Ariyasena
Age	:	48 years
Staff Number	:	1668
Driving Licence Number	:	A007705359
Experience as a MPV Operator	:	10 yrs.
Validity of the authorization to operate MPV	:	Till 26.09.2009

**1.6 Aircraft Information :**

Type and Model	:	Airbus A 330-243
Manufacture's Serial Number	:	303
Date of Manufacture	:	26 <sup>th</sup> October 1999
Certificate of Registration	:	No. 167, Registered in Sri Lanka Civil Aircraft Register.
Certificate of Airworthiness	:	Valid till 25th October 2006
Total Airframe Hours	:	26,399 hrs
Total Cycles	:	7,766
Engines	:	02 numbers, RR Trent 772 Turbo Fan Engines

1.7 *Meteorological Information* : Light and variable wind and natural light condition (good visibility with no weather)

1.8 *Aids to navigation* : Not applicable

1.9 *Communication* : Not applicable

1.10 *Aerodrome Information* : Aerodrome meets the relevant standards to support the operation of the A 330 aircraft and the parking bay was marked properly.

1.11 *Flight Recorders* : Not applicable

1.12 *Wreckage and Impact Information* : Not applicable

1.13 *Medical and Pathological Information* : Postmortem was carried out on the deceased and the cause of the death was declared to be due to injuries sustained from the fall. Breathalyzer test was carried out on the Equipment Operator and found to be not under the influence of alcohol.

1.14. *Fire* : There was no fire.

1.15. *Survival Aspect* : Not applicable.

1.16. *Test and Research* : Refer to paragraph 2.5.

1.17. *Additional Information* : The MPV Operator (designated as Equipment Operator) held an Apron Vehicle Driving Licence issued by the Employer, Sri Lankan Airlines as well as the Aerodrome Operator.

## 2. Analysis

2.1. *General* : The MPV approached the aircraft from astern, to be positioned under the aircraft aft for APU maintenance checks. The Lavatory Service Vehicle had already been positioned under the Lavatory Service Panel of the aircraft. The MPV operator stated that he realized that full brakes of the MPV applied with the foot was malfunctioning whilst trying to stop the MPV and took an evasive action by turning the MPV away from the aircraft to avoid the collision with the aircraft. The MPV operator had not applied the hand (parking) brakes to stop the MPV. Consequently, the MPV collided with the stepladder positioned at the L4 door and shifted it causing the fall of the disembarking passenger. The distance between the place where the Stepladder was positioned and the place where the MPV should have been positioned for its intended operation is approximately 28 feet. There was no depleted tyres in the MPV.

2.2. *Handling of vehicle at the aircraft* : The MPV operator stated in his statement that he turned the equipment to the left side to avoid the collision with lavatory service vehicle, which was parked right under the aircraft tail section under the lavatory service panel (refer to Appendix - 2). Positioning of service vehicles and equipment are specified by Airbus Industries in one of its documents entitled "Airplane Service Arrangement" which recommends *inter alia* positioning the lavatory vehicle at right side of the airplane tail section. According to this document, the parking of the lavatory vehicle under its lavatory service panel was not in conformity with the recommendations in the aforementioned document. There were no written procedures relating to safe operation of vehicles or equipment in the vicinity of aircraft for the guidance of vehicle/equipment operators.

2.3. *Specifications for stepladders* : The passenger stepladder positioned at L4 door was introduced to service in the year 1992. This equipment meets IATA Airport Handling Ground Support Equipment Specifications - AHM 913. Airbus Industries has issued a Service Information Letter (SIL number 00-031 dated 30th March 1990, 4th revision 16th August 2001) making recommendations for the selection of stepladders for airbus aircraft. There was no evidence to confirm that the stepladders used by Sri Lankan Airlines are in conformity with the recommendations specified in the aforementioned document or concurrence of Airbus Industries has been obtained for the use of the stepladders referred to herein.

2.4. *Status of the Maintenance platform Vehicle and its operation* : The Maintenance Platform Vehicle called Hi-lifter was a brand-new vehicle introduced to service in the year 1992. The maintenance records of the MPV does not show history of any defects or service difficulties other than routine maintenance which was in conformity with the manufacture's recommendations. The maintenance records have been maintained properly.

2.5. *Serviceability tests of the Maintenance Platform Vehicle* : Subsequent to the accident, serviceability tests were carried out on the operation of the Maintenance Platform Vehicle in question by an authorised technical officer from the Department of Motor Traffic. Test results confirmed that the foot-brakes and the hand-brakes were in order.

A test carried out by the accident investigation team revealed that the MPV could be stopped within a maximum horizontal distance of two (02) feet on application of the full foot brakes when moving at a speed of 5 km/hour, which is the recommended speed in the vicinity of an aircraft. In case of non application of brakes at the speed of 5 km/hour, the MPV could move hundred 100 feet freely before coming to a stop.

### 3. Conclusion

#### 3.1. Findings :

- (a) There was no contribution by the aircraft or its operating crew for this accident.
- (b) The MPV operator was authorized to drive the subjective vehicle on the apron.
- (c) The apron driving licence was issued five years ago and it was renewed every year without any driving test neither by Sri Lankan Airlines nor by AASL.
- (d) The MPV operator did not apply the parking brakes to prevent the vehicle colliding with the stepladder.
- (e) MPV operator had not been given recurrent training for the safe operation of the MPV.
- (f) The MPV driver and other operators operating vehicles/equipment in the vicinity of aircraft were not guided by written procedures for safe operation of such vehicles/equipment when approaching the aircraft.
- (g) The MPV operator is not guided by a third party for the operation/positioning of equipment under the aircraft APU.
- (h) There were not written procedures/guidance to the vehicle/equipment operators giving instructions in regard to the positioning/parking and manoeuvring of such vehicle/equipment in the vicinity of aircraft in conformity with manufactures recommendation (Airline Servicing Arrangements).
- (i) Ground Handling Agent has not followed the guidance given by the aircraft manufacturer in selecting the stepladders.

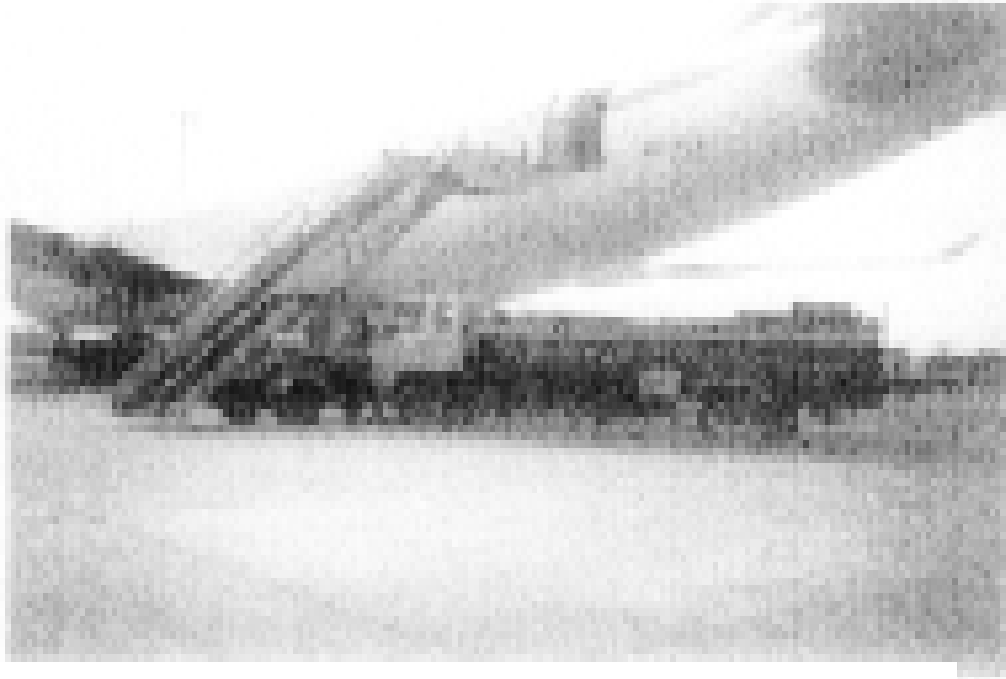
3.2. *Probable Cause* : The subjective MPV which was driven at a speed above the recommended speed of 5kmph, colliding with the stepladder used for passenger disembarkation, causing a sudden shift.

Lack of proper SOPs for ground vehicle operations on the apron was a contributory factor.

### 4. Safety Recommendations

- 1. Every airport ramp user shall ensure that vehicles/equipment operated by them comply with the applicable safety speeds limitations and the airport operator shall have the overall supervision and effective enforcement mechanism for strict implementation.
- 2. Aerodrome Operator shall display speed limit signage prominently on the apron and service roads and implement effective enforcement mechanism.
- 3. All ramp users shall adhere to the aircraft manufacture's recommendations in respect of handling and positioning of service vehicles at or in the vicinity of the aircraft and it shall be the onus of the respective airline to inform the respective parties of these requirements.
- 4. The respective airline in liaison with the Ground Handler and other parties involved shall engage additional personnel to supervise and coordinate the vehicle/equipment movements proximity to the aircraft.
- 5. The respective airline in liaison with the Ground Handler shall control the number of passengers on stepladders when embarkation/disembarkation of passengers is in progress.
- 6. Each airline/ground handler shall maintain a database concerning ramp incident/accidents for trend monitoring. Such data shall be made available to the CAA periodically.
- 7. Each airline/ground handler shall include ramp operations in their respective Safety Management Systems.

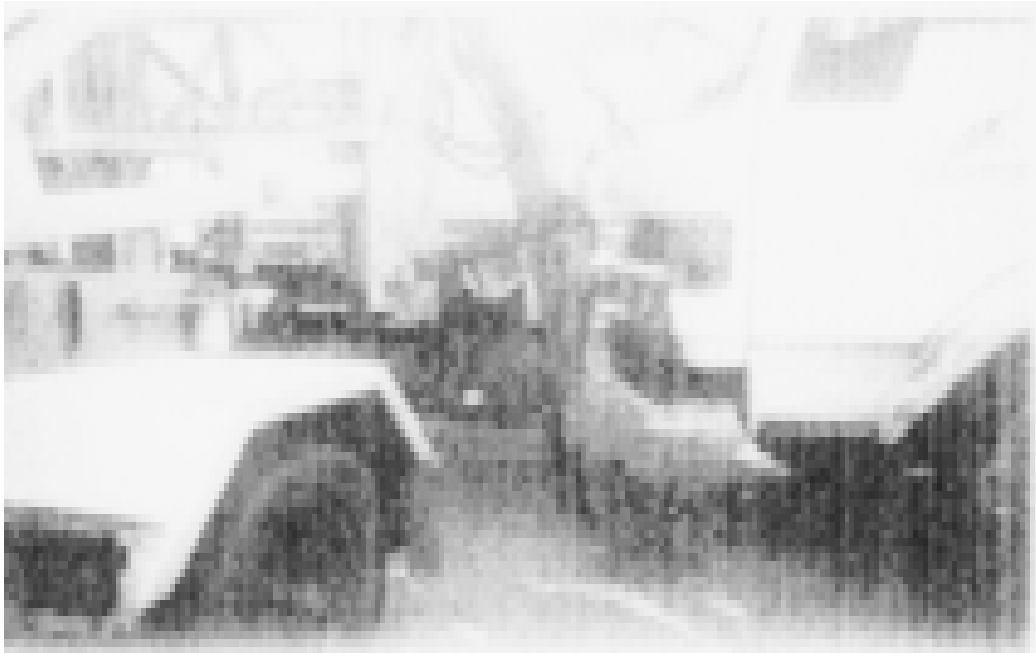
### **Appendix - 1 - Photo Expression of the Accident**



The Maintenance step vehicle after colliding with the stepladder



The Maintenance step vehicle stopped after colliding with the stepladder



The damaged equipment after collision



The gap created between the aircraft and the displaced stepladder



## Appendix - 2 - Sketch of the Accident Site



## Appendices 3 and 4

Publication of the Appendices 3 and 4 withheld in compliance with Chapter 5 Paragraph 5.12 of ICAO Annex 13 to the convention.

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