



FINAL REPORT

Incident of SriLankan Airlines

**Flight UL134, Airbus Industrie A320-200, bearing registration 4R-ABL
at Tiruchirappalli International Airport, India on 08th Oct 2014**

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**List of Abbreviations**

| | | |
|----------|---|--|
| AAIB | - | Aircraft Accident Investigation Board, Sri Lanka |
| ATC | - | Air Traffic Control |
| AP | - | Auto Pilot |
| ATPL | - | Airline Transport Pilot Licence |
| BIA | - | Bandaranaike International Airport |
| CAASL | - | Civil Aviation Authority of Sri Lanka |
| CMB | - | Colombo |
| CPL | - | Commercial Pilot Licence |
| CVR | - | Cockpit Voice Recorder |
| DGCA | - | Director General of Civil Aviation |
| DFDR | - | Digital Flight Data Recorder |
| ECAM | - | Electronic Centralized Aircraft Monitor |
| ECAM ADV | - | Electronic Centralized Aircraft Monitor Advisory |
| EPR | - | Engine Pressure Ratio |
| FC | - | Flight Cycle |
| FCC | - | Flight Control Centre |
| FCOM | - | Flight Crew Operating Manual |
| FDA | - | Flight Data Analysis |
| FDM | - | Flight Data Monitoring |
| FH | - | Flight Hours |
| F/O | - | First Officer |
| FOM | - | Flight Operation Manual |
| FMGS | - | Flight Monitoring and Guidance System |
| FMS | - | Flight Management System |
| Ft | - | Feet |
| hrs | - | hours |
| IAS | - | Indicated Air Speed |
| ISO | - | International Organization for Standardization |
| Kts | - | Knots |
| MCT | - | Max Continues Thrust |
| MET | - | Meteorological / meteorology |
| MOR | - | Mandatory Occurrence Report |
| MSN | - | Manufacturer serial number |
| OPF | - | Operational Flight Plan |
| P1 | - | Captain or Commander |
| PF | - | Pilot Flying |
| PIC | - | Pilot in Command |
| P/N | - | Part Number |
| PNF | - | Pilot Not Flying |
| QRH | - | Quick Reference Hand Book |
| RA | - | Radio Altimeter/ Radio Altitude |
| SLA | - | SriLankan Airlines |
| SMS | - | Safety Management System |
| SOP | - | Standard Operating Procedures |
| SSFDR | - | Solid State Flight Data Recorder |
| TRZ | - | Tiruchirappalli International Airport, India |
| UTC | - | Coordinated Universal Time |
| VOTR | - | Tiruchirappalli International Airport |



Incident of SriLankan Airlines Flight UL134, Airbus A320, 4R-ABL at Tiruchirappalli, India 08th Oct 2014

1. Introduction

The incident was notified to Civil Aviation Authority of Sri Lanka through a Mandatory Occurrence Report (MOR) on 10th Oct 2014, which was circulated amongst the inspectors to investigate and report. After the evaluation it was revealed that the content of the Mandatory Occurrence Report (MOR) is more towards the airworthiness and there is no apparent flight operations involvement required. The Airworthiness Inspector found that the functional checks conducted in relation to the reported malfunctions highlighted were satisfactory and no further action was required at that time.

The Airline had conducted an internal investigation on this matter as the content of the MOR was not matching with the DFDR Report sent by the Manufacturer.

Further, anonymous information has been received by CAASL indicated that there had been an attempt of concealing information with regard to the subject incident and hence the Authority, as per the Section 56(1) of Civil Aviation Act No 14 of 2010 appointed an Aircraft Accident Investigation Board (AAIB) to investigate and identify any willful violations from promulgated Regulations by CAASL, which comprised of;

- Mr Susantha De Silva - Chief Investigator,
- Captain T.N Deen - Team Member,
- Captain Lucian Ratnayake - Team Member,
- Captain N.A. Keil - Team Member,
- Mr. Umega Seneviratne - Team Member,
- Capt. Duleep Vethavanam - Team Member,
- Capt. Nihal Jayawickrama - Team Member,
- Capt. Prasanna Karunathilaka - Team Member and
- Capt. Themiya Abeywickrama - Team Member

1.1 Synopsis

SLA Flight UL 133/134 is a scheduled flight conducted by the airline between CMB – TRZ – CMB. The flight is scheduled to depart at 0805 hrs UTC and scheduled to arrive at CMB on the same day at 1145hrs UTC as per the published schedules.

Flight UL 134 departed from TRZ, India to its destination Bandaranaike International Airport (BIA), Colombo, Sri Lanka at 1045hrs UTC (1615 hrs Local time) on 08th Oct 2014. Take off from TRZ, runway 09 with good visibility conditions and weather.

The flight returned to TRZ due to a technical reason declared by the flight crew and landed without any incident. The post flight technical assessments to the recorded technical defects on SLAT/FLAP retraction was found to be functioning normally after the functional test conducted by Ground Engineers.



The flight recommenced to CMB on the same day and landed at around 1340 hrs UTC (1910hrs Local time). The flight crew recorded a technical defect in the aircraft with regard to low climb performance prevailed in the flight.

Subsequently an MOR was filled with CAASL through the safety department of the Airline with details related to the incident in the flight which refers to an EPR fluctuation, vibration and an unusual noise during the take-off climb phase. Further, it refers to a fuel imbalance ECAM warning and carrying out of fuel loss procedure prior to land at TRZ.

However, the DFDR analysis conducted by the Manufacturer confirms that such indications did not exist during the flight and a manual adjustment of engine thrust levers are indicated with the landing gear extended during the complete climb phase.

1.2 Objective

The objective of this investigation and the final report is to prevent recurrence of similar incidents and not to apportion blame or liability. Therefore unless otherwise indicated, recommendations in this report are addressed to the regulatory authority of the State having responsibility for the matters with which the recommendation is concerned. It is for the authority to decide regarding what action is required to be taken.



2. Factual Information

| | | |
|-------------------------|---|---|
| Operator | : | SriLankan Airlines Ltd Airline Centre Bandaranaike International Airport Katunayake Sri Lanka |
| Registered Owner | : | First Star Bermuda Aviation 1 Ltd Clarendon House No 2, Church Street Hamilton HM 11 Bermuda |
| Aircraft Make and Model | : | Airbus, A320 -232 (MSN 2345) |
| Aircraft Nationality | : | Sri Lanka (4R) |
| Aircraft Registration | : | 4R-ABL |
| Place of Incident | : | During initial climb from Tiruchirappalli International Airport, India |
| Date and Time | : | 08 th October 2014, approximately 1110hrs (UTC); 1640hrs (Local time) |
| Local time zone | : | + 0530hrs |

2.1 History of Flight

SriLankan Airlines aircraft, Airbus A320 with the registration 4R-ABL was scheduled for a flight on 08th Oct 2014 for the Colombo (CMB) - Tiruchirappalli (TRZ) - Colombo (CMB). The flight UL133 was scheduled to depart on 08th Oct 2014 at 0805hrs UTC (1335hrs Local time) and the flight to TRZ was uneventful.

On same day, return flight UL134 from TRZ to CMB was scheduled to depart at 1045hrs UTC (1615hrs Local time). The Flight departed runway 09 from Tiruchirappalli International Airport. First Officer was the Pilot Flying on both Sectors.

During the take off phase the PIC who was the PNF had adjusted the No 1 Engine Thrust levers, before 300ft, without any abnormal cockpit indication due to an unusual noise from the engine, as he claims, to avert any possible damage to the engines without informing or confirmation from PF. In this process POSITIVE CLIMB call by PNF (PIC) was missed out, and PF (F/O) did not call for the after take-off Climb checklist. The landing gears were extended throughout the climb phase and a low climb rate was significant.

In this configuration the fuel burn was more than what was planned for the flight TRZ- CMB and at FL 190 it was indicating that the flight cannot be continued to CMB. As a result the crew decided to return to TRZ and informed TRZ Control that they are returning due to technical.



During the descent the landing gear was retracted and with that the unusual noise ceased to exist. Subsequent landing was uneventful.

2.2 Injuries to Persons: Nil

2.3 Damage to Aircraft: Nil

2.4 Other Damages: Nil

2.5 Personnel Information:

2.5.1 Flight Crew - Pilot-In-Command

Licence : Valid ATPL (ATPL /A/565) issued by the DGCA Sri Lanka; valid till 15th July 2015

Age : 37 years, Male

Aircraft Ratings : A320 issued on 14th Nov 2012; A330 issued on 01st Sept 2010

Flying Experience : Total: P1 1279:5
Total hours on A320/A321 as captain 944:05

2.5.2 Flight Crew - First Officer

Licence : Valid CPL (CPL/A/409) issued by the DGCA Sri Lanka; valid till 25th Oct 2015

Age : 42 years, Male

Aircraft Ratings : A320 issued on 23rd Dec. 2010

Flying Experience : Total: 2031.28 hours

Total F/O hours on A320/A321: 1249:18

2.6 Aircraft Information

Type and Model : Airbus A320 -200

Manufacture's Serial Number: 2345

Certificate of Registration : No 226, Registered in Sri Lanka Civil Aircraft Register

Certificate of Airworthiness : No. 186 Valid till 06th April 2015

Total Airframe Hours : 30334.94 FH/ 18113 FC (as at 08th Oct 2014)

Engines : 02 numbers, IAE V2500 engines



Total Cycles

:

| Engine | Serial Number | Total Cycles | Total Hours |
|--------|---------------|--------------|-------------|
| No. 1 | V11733 | 16976 | 29101.16 |
| No. 2 | V11810 | 15981 | 27116.23 |

Weight and Balance

:

The aircraft was properly loaded.

2.7 Meteorological Information: The prevailed weather conditions at the time of the incident were as follows;

At UTC 11:10 METAR VOTR 081110z 06008KT 6000 SCT016 FEW025CB SCT100 35/23 Q1005 NOS1G=

At UTC 10:40 METAR VOTR 081040z 03008KT 6000 SCT016 FEW025CB SCT100 35/23 Q1005 TEMPO 5000 DZ=

At UTC 10:10 METAR VOTR 081010z 29007KT 6000 SCT016 FEW025CB 36/23 Q1005 NOS1G=

The MET forecast were available to the crew through the weather reports (Area Forecast and Route forecast).

2.8 Aids to Navigation: Not applicable

2.9 Communication: ATC transcript was not available. Flight crew had not mention the reason for coming back to TRZ, instead they stated that it was due to technical. Communication in relation to a flight disruption between the flight crew and FCC, Colombo is attached as Appendix 04.

2.10 Aerodrome Information:

- Name of the Aerodrome – Tiruchirappalli International Airport;
- Location Indicator - VOTR;
- Reference point (latitude/longitude) – 10°45' 56" N / 78°42' 54" E
- Elevation – 290 Ft
- Runway identification – 09
- Runway markings – standard

2.11 Flight Recorders: The aircraft was fitted with a Digital Flight Data Recorder, Honeywell International Inc. product (part number: 980-4700-042 and Serial number: SSFDR14305) with all Mandatory Mods complied, Current & valid P/N IAW Aircraft IPC. The Cockpit Voice Recording was not available for the investigation.

DFDR raw data was sent to the Air Accident Investigation Bureau of Singapore to obtain decoded data readouts for further analysis.

Video recorders, non-volatile memory chips and other on-board or ground base recorders are not available.



2.12 Wreckage and Impact Information: Not applicable

2.13 Medical and Pathological Information: Not applicable

2.14 Fire: Not applicable

2.15 Survival Aspect: Not applicable

2.16 Test and Research: Report on FDA programme inspected by the Investigation team is at Appendix 03 to this Report.

2.17 Organizational and Management Information:

2.17.1 The Operator, SriLankan Airlines Ltd

2.17.1.1 SriLankan Airlines Flight Operation Department is responsible for safe and efficient operation of flights in compliance with applicable regulations. The Department maintains qualified technical crew and ground staff to carry out the duties and responsibilities of Flight Operations.

2.17.1.2 Aircraft in SriLankan Airlines fleet are maintained by SriLankan Airlines Ltd in accordance with the scope of the approval granted in its MOE (Maintenance Organization Exposition) by CAASL. Engineering and Maintenance Division of SriLankan Airlines Ltd is a holder of EASA (European Aviation Safety Agency) Part 145 maintenance organization approval.

2.17.2 The Regulator, Civil Aviation Authority of Sri Lanka

2.17.2.1 CAASL is responsible for the registration and issue of certificate of airworthiness to aircraft licencing of personnel and certification of air operators and continued post certification surveillance. It is also responsible for the certification and surveillance of aeronautical service providers.

2.18 Additional Information: Nil.

2.19 Useful or Effective Investigation Techniques: The Investigation team examined the evidence to determine the causes of the incident through the factual data available on the flight to ascertain;

2.19.1.1 Whether the information given in the records of the flight crew is interpreted in the recorded data of the aircraft.

2.19.1.2 The reasons for any discrepancy of the data provided by the flight crew and the aircraft if there is any.



3. Analysis

3.1 DFDR data

3.1.1 It was revealed through the Report submitted by the Manufacturer after the analysis of DFDR data which was later verified with the report received through AAIB Singapore, that the aircraft took-off at 10:46:13 UTC. Thereafter within 7 Seconds, No 1 Engine Thrust lever retarded to IDLE detent in a progressive manner. As per DFDR records there were no EPR fluctuation observed before 10:46:13 UTC nor was it observed at any time after that. During this 7 Seconds the aircraft indicated a rate of climb increase up to 2270ft/min. At time frame 10:46:20 UTC the aircraft reaches a Radio Altimeter (RA) height of 236ft.

3.1.2 Records from DFDR Data shows that the Landing gear was kept extended until 11:20:37 UTC throughout the take-off, climb out, up to decision point to return and descent until FL 065, where it was retracted finally.

3.1.3 During the climb out from 236ft RA to 520 ft RA a considerable reduction of rate of climb from 2270ft/min to 160ft/min was observed with several nose down inputs. Further, with the No. 1 Engine Thrust lever at IDLE Detent and with landing gear extended, the aircraft experienced a low rate of climb between 30ft/min to 400ft/min and reached a height of 750ft RA at 10:47:25 UTC.

3.1.4 At 750ft RA the No 1 Engine Thrust lever was pushed forward and the rate of climb increased to 1170ft/min before it decreased again to 400ft/min. (as per DFDR)

3.1.5 The aircraft was subject to power adjustments from Maximum Continues Thrust (MCT) to Take Off Go Around (TOGA) and back to Maximum Continues Thrust (MCT) on various occasions during the climb phase to FL 190 with landing gear extended resulting in a very low rate of climb.

3.1.6 Further the DFDR analysis reveals that the maximum fuel imbalance that took place was 170kg which is far below the maximum imbalance allowed. In addition, during the whole flight the Boolean parameter "ECAM ADV" remained at zero meaning that no ECAM advisory came up, contrary to what is mentioned in the MOR. However, at 10:57:00 UTC (FL 115) the ECAM fuel page has been manually selected.

3.2 Flight Crew Interviews

3.2.1 It was revealed during the crew interviews that PIC heard a noise during the take-off followed by vibration. In addition the PIC admitted that the EPR and EGT were normal without any fluctuations, contradicting what is stated in the MOR, and still took action to reduce the No 1 Engine Thrust Lever to Idle in view of protecting the engine. Further, the F/O states that he did not hear any noise nor did he smell fuel in the flight deck. The F/O confirms in his statement that he didn't see the PIC bringing the Engine Thrust Lever back. He realized it upon the LVR ASYM (Lever Asymmetry) indication on the Primary Flight Display (PFD) and when checked with the PIC, he has responded saying that he will handle the Engine Thrust Levers. Moreover he was never informed by the PIC with regard to any Engine abnormality.

3.2.2 During climb with a low climb rate PIC readjusted the power setting to normal to get the required climb performance. Failing to get the climb performance as required, he further increased the power which had little or no effect.



3.2.3 As the PIC claims that there was a fuel smell reported by the cabin crew and due to warning on available fuel to continue the journey, he opted to return to TRZ after recycling of FLAPS couple of times.

3.3 Standard Operating Procedures

3.3.1 It was revealed that the PIC was acting as the PNF and the First Officer was carrying out the duties of PF.

3.3.2 “FCOM PRO-NOR-SOP AFTER TAKE-OFF” states the PNF is required to call “Positive Climb” on observing a climb indication on the VSI (vertical speed indication) is positive, and the RA has increased. PF should call “gear up”. Further, the Manufacturer recommends no ECAM action in case of a malfunction, until the aircraft is established in a climb and above 400ft, AGL (above ground level).

3.3.3 Deviation from Standard Operating Procedures during take-off - PNF not calling “Positive Climb” and PF not calling for the after take-off climb checklist and unwarranted movement of a Thrust Lever to idle by the PNF immediately after takeoff (below 400 Ft. AGL), thus demonstrating poor situational awareness by both crew are significant factors in this incident which indicate a difference of Airline’s expected culture and the applied culture.

3.3.4 The Airline is expected to provide training for all flight crew in normal and abnormal operations on initial and recurrent basis to ensure SOPs are followed properly. The flight crew is required to demonstrate to the Operator the competency to handle the aircraft in normal and abnormal situations as per the prescribed SOPs, through the bi annual training and proficiency checks conducted in a simulator.

3.3.5 Deviation of SOPs indicates either insufficient training provided or bad practices developed by individuals without due regard to flight safety.

3.4 Reporting of Defects

3.4.1 The PIC is required to report all known and suspected defects to the operator at the termination of flights and in this instance the reporting of defects in the Technical Log differs from the Mandatory Occurrence Report (MOR) submitted to CAASL. The suspected and known defects need to be recorded in the Technical Log (for rectification by the ground, engineering staff and for certification, which also gives as information to the other crew taking this aircraft) to avert re occurrence on the continuation of flights as such suspicions which could lead in to incidents or serious safety issues.

3.4.2 The PICs reporting of the incident did not facilitate that and the aircraft was deployed in flights in between the times of Recording of Technical Log and Reporting of MOR where the aircraft was deployed to operate flights under the suspected defects reported in the MOR since they were not properly recorded in the Technical Log.



3.5 Cabin Crew Interviews

3.5.1 The Cabin Crew also interviewed and most of them were unable to recollect the incident properly and hence contained different views of the same incident. However the Purser stated that there was an inquiry from the Flight Deck whether there was a Fuel Smell and that the Purser confirmed. Other Crew members cannot recollect the fuel smell except speculations that there had been a fuel smell.

3.5.2 During the Flight Crew Interview it was disclosed by the PIC that the Purser was inside the Flight Deck for a considerable time whereas the Purser's recollection is restricted only to a brief period that he had been called to check whether there was a fuel smell. Further the Purser stated that he never felt an abnormal vibration in the aircraft throughout.



4. Conclusion

4.1 Findings

4.1.1 Flight crew

4.1.1.1 Retarding the Engine Thrust Levers just after liftoff without adhering to the SOPs (FCOM Reference – QRH emergency handling GEN 01A)

4.1.1.1.1 - ineffective biannual training

4.1.1.1.2 - Ineffective FDM system

4.1.1.1.3 - Ineffective SMS

4.1.1.1.4 - Lack of disciplined culture (regards for the regulator)

4.1.1.2 Not adhering to the duties of PNF by the PIC during the take-off phase, by handling Engine Thrust Levers after V1 (PIC will handle up to V1 rejected T/O)

4.1.1.3 PNF, in this instance PIC, has failed to call “positive climb” as per the SOPs. (reference: FCOM PRO-NOR-SOP After Takeoff)

4.1.1.4 PF not calling for the after take-off climb check list.

4.1.1.5 Not executing after take-off check list as per the SOPs by the Flight Crew (FOM reference: FCOM-PRO- NOR SOP – after Takeoff) (due to this action the crew has continued the flight with landing gear extended for a considerable period of time).

4.1.1.6 Flight crew has failed to notice and to take action accordingly on the indication (three green lights) on extended landing gear.

4.1.1.7 Flight crew failed to engage the AP, as it is a recommended practice by the Manufacturer, Airbus.

4.1.1.8 Not recording following data in the tech log as per his MOR (FOM reference: SLA FOM reference Part A, Chapter 2, Paragraph 2.3.3 D and E);

4.1.1.8.1 FMGS “data loss”

4.1.1.8.2 EPR Fluctuation

4.1.1.8.3 Aircraft vibration and unusual noise

4.1.1.8.4 Fuel smell in the aft Cabin

4.1.1.8.5 The procedure that carried out for fuel imbalance and fuel leak

4.1.1.9 PIC reported incorrect or non-existent defects in the Tech log after landing in TRZ. (Annex 6 – Part I, Chapter 4.5.4; IS 13 paragraph 5.4; SLA FOM reference Part A, Chapter 2, Paragraph 2.3.3 D and E).

4.1.1.10 Execution of non-standard procedure by reducing the Engine Thrust lever below 400ft RA by PNF for suspected engine stalls, noise and EPR fluctuation instead of carrying out QRH procedures.

4.1.1.11 Not declaring the correct reason to CMB FCC for returning back to TRZ.

4.1.1.12 Poor/loss of situational awareness demonstrated by crew and crew resource management.

4.1.1.13 According to available evidence in DFDR data, when compared against his own reports PIC had not been able to establish his integrity in the following instances;

4.1.1.13.1 As per Mandatory Occurrence Report (MOR) submitted by him there has been engine EPR fluctuations. But DFDR data and his own statements during the interview he didn't confirmed this fact.



4.1.1.13.2 As per MOR PIC reported a very low rate of climb without revealing the fact that the real cause was the landing gear down position which he was aware at the time of submission of MOR.

4.1.1.13.3 As per MOR PIC reported that there had been a data loss of FMS which was not found on DFDR and also not reported by PIC in tech log.

4.1.1.13.4 As per the MOR “around FL 120 ECAM warning fuel imbalance and fuel leak procedure came up”, which was not evident in the DFDR data.

4.1.1.13.5 Further there is no provision in the aircraft to generate the ECAM warning on fuel imbalance (except an ADV message).

4.1.1.13.6 As per MOR PIC has “recycled the gear and FLAPS”, later admitted the fact that landing gear was not recycled.

4.1.1.13.7 As per MOR PIC has reported “soon as decent started unusual noise went off and EFOB increased”. Keeping the “Landing gear down” was the cause of the unusual noise, which was probably known to PIC but deliberately concealed (as per Airbus Report based on DFDR).

4.1.1.13.8 As per MOR PIC has reported “Fuel loss procedure carried out”. DFDR data does not indicate in any stage that the “fuel loss procedure/fuel imbalance” was carried out. Further there is no such “fuel loss procedure” as per Airbus procedures.

4.1.2 Airline

4.1.2.1 Submission of the incorrect and incomplete OFP (Operational Flight Plan) to include with the Flight Documents as PIC was not given the requested Flight Plan by the airline.

4.1.2.2 Inadequate flight records maintained by the Operator in the said flight.

4.1.2.3 PIC has not done simulator training on engine stall

4.1.2.4 Ineffective FDM system in the Airline

4.1.2.5 Removal of DFDR by the airline without the approval or notifying to CAASL as per paragraph 6.3.4.2.2, Note -1, Part 1, Chapter 6 of Annex 6 and Paragraph 3.2 of Chapter 3 of Annex 13).

4.1.2.6 Safety Section has failed to get data in FDA.

4.2 Probable cause(s)

4.2.1 The main cause of this incident is failure of flight crew adhering to approved Standard Operating Procedures (SOPs) during take-off and subsequent phases of flight.

Further Airlines failure to train crew on all emergencies including engine stalls during initial and recurrent training is also identified as a probable cause.



5. Safety Recommendations

5.1 Airline

- 5.1.1** Airline needs to ensure that the Pilots adhere to the SOPs. Further, Company needs to ascertain its prevailing culture whether or not training is being conducted in passenger flight. In case, if it is the Company culture to practice emergency training during passenger flights;
- 5.1.1.1 Review company policy on biannual training for crew.
 - 5.1.1.2 Review Company FDM system for effectiveness of parameters exceedances capturing.
 - 5.1.1.3 Expand the FDA programme to include CVR.
 - 5.1.1.4 Development of proper SMS for flight operations.
 - 5.1.1.5 Development of schemes for monitoring of unacceptable behaviors of all technical staff.
 - 5.1.1.6 Strict Regulatory enforcement actions for deviations from compliance.
 - 5.1.1.7 Introduction of video recording capabilities inside the cockpit.
- 5.1.2** As per above 5.1.1, in case if it is an isolated incident;
- 5.1.2.1 PIC shall be subjected to a psychometric test tailor-made for PIC and take appropriated action.
 - 5.1.2.2 Reinforcement of filters during the recruitment process.
- 5.1.3** Airline should ensure that every PIC to write all tech data / information.
- 5.1.4** Airline should ensure that every PIC to report very factual and accurate data on MOR & Technical log books. In addition, Airline shall establish a proper Safety Management System with an acceptable level of maturity through a reporting culture.
- 5.1.5** Airline shall make arrangements to close monitoring of Company safety documentations and reconciliation (Tech log against the reporting forms etc).
- 5.1.6** Focusing more attention on FDA programme to detect parameter deviations & to enhance effectivity of the programe to an acceptable level.
- 5.1.7** Airline shall take disciplinary action to perpetrators on various false declaration on safety critical matters.
- 5.1.8** Airline shall take steps to improve the delivery of Operational Flight Plan (OFP) in a more efficient manner.
- 5.1.9** Airline shall entrust an employee to reconcile flight bag.
- 5.1.10** Airline should improve flight operations quality audits and quality assurance.
- 5.1.11** Airline shall improve training on situational awareness and improve training on CRM.
- 5.1.12** Airline shall take steps to encourage crew to use automation if available at all times.
- 5.1.13** Airline shall take necessary steps to practice engine stalls especially during critical phases of flight such as take-off and approach.
- 5.1.14** FDA data need to be immediately evaluated.
- 5.1.15** Airline shall adopt procedures requiring PIC to be more consistent & accurate in writing company documents & reports submitted to the regulator.

**Members of Aircraft Accident Investigation Board, Sri Lanka**

Mr. Susantha De Silva

- Chief Investigator

Capt. T.N Deen

- Team Member

Capt. Lucian Ratnayake

- Team Member

Mr. Umega Seneviratne

- Team Member

Capt. N.A. Keil

- Team Member

Capt. Duleep Vethavanam

- Team Member

Capt. Nihal Jayawickrama

- Team Member

Capt. Prasanna Karunatillaka

- Team Member

Capt. Themiya Abeywickrama

- Team Member



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Publication of the Appendices 06, 07 and 08 withheld in compliance with Section 61 of Civil Aviation Act No 14 of 2010.

.....END of the Report.....