

NATIONAL TRANSPORTATION SAFETY BOARD
Office of Aviation Safety
Washington, DC 20594

SURVIVAL FACTORS GROUP SLIDE TEARDOWN REPORT

May 3, 2018

I. ACCIDENT

Operator	:	Caribbean Sun Airlines dba World Atlantic Airlines
Aircraft	:	MD-83 [N807WA]
Location	:	Alexandria, LA
Date	:	April 20, 2018
Time	:	1420 (CDT) ¹
NTSB #	:	DCA18FA144

II. SURVIVAL FACTORS GROUP

Group Chairman	:	Peter Wentz National Transportation Safety Board Washington, DC
Member	:	Mike Kret Air Cruisers Company Wall Township, NJ
Member	:	Paul Lacy Air Cruisers Company Wall Township, NJ
Member	:	Bob Huff Boeing Company Seal Beach, CA
Member	:	Joseph Macay FAA Saddle Brook, NJ

¹ All times in this report are central daylight time, based on a 24-hour clock.

III. SUMMARY

On April 20, 2018, at about 1420 central daylight time (CDT), an MD-83, registration N807WA, operating as Caribbean Sun Airlines dba World Atlantic Airlines flight RPM708, right main landing gear collapsed during landing roll at Alexandria Airport (AEX), Alexandria, Louisiana, causing fuel and hydraulic fluid to leak and the right wing to contact the runway. The 94 passengers and 7 crew were evacuated and no injuries were reported. The forward left door slide failed to inflate. The flight was contracted by ICE but operated under Part 121 regulations. Aircraft received substantial damage.

IV. DETAILS OF THE SLIDE TEARDOWN

This report describes the teardown and examination of the forward left door (1L) slide assembly conducted by the Survival Factors Group at Air Cruisers Company in Wall Township, NJ on May 3, 2018. The complete 1L slide remained in its shipping box, in a quarantine area, prior to the activity.

The 1L slide was manufactured by Air Cruisers:

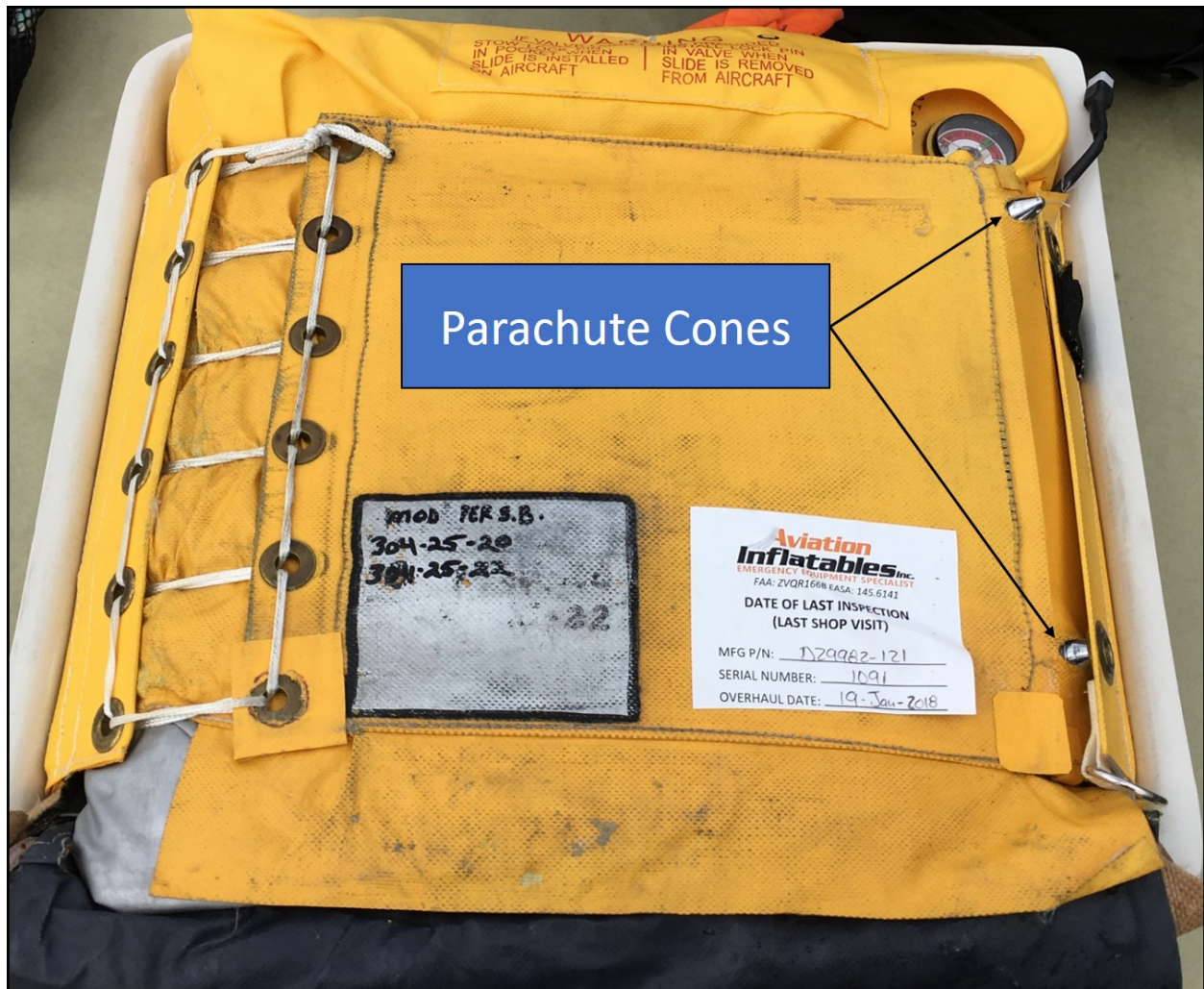
- P/N: D29982-121
- S/N: 1091
- Date of manufacture: Sep 1988
- Service bulletins indicated: 304-25-18 / 21 / 26 / 33 / 34 / 42 / 43

Reservoir and valve assembly details:

- Reservoir and valve assembly (RVA):
P/N: D37013-121
- Reservoir:
P/N: N23D-64535-1
S/N: ALT946-3365
Date of manufacturer: Jan 2016
- Valve assembly:
P/N: D18294-107
S/N: 490-6100

The slide was still in its packed condition with no evidence of gas flow (un-inflated) from the RVA (photograph 1). The inflation cable was found loose in the shipping box. It was in good condition and identified as part number 62957-103 consistent with the the CMM. The parachute cones on the lacing cover were found disengaged (the parachute pins had been withdrawn and the grommets from the associated lacing cover flap had released as expected after manual deployment). The slide was still folded tightly within the packboard. The lacing cover was in good

condition with no unexpected findings. The girt was inspected with no unexpected findings, other than wear consistent with its age.



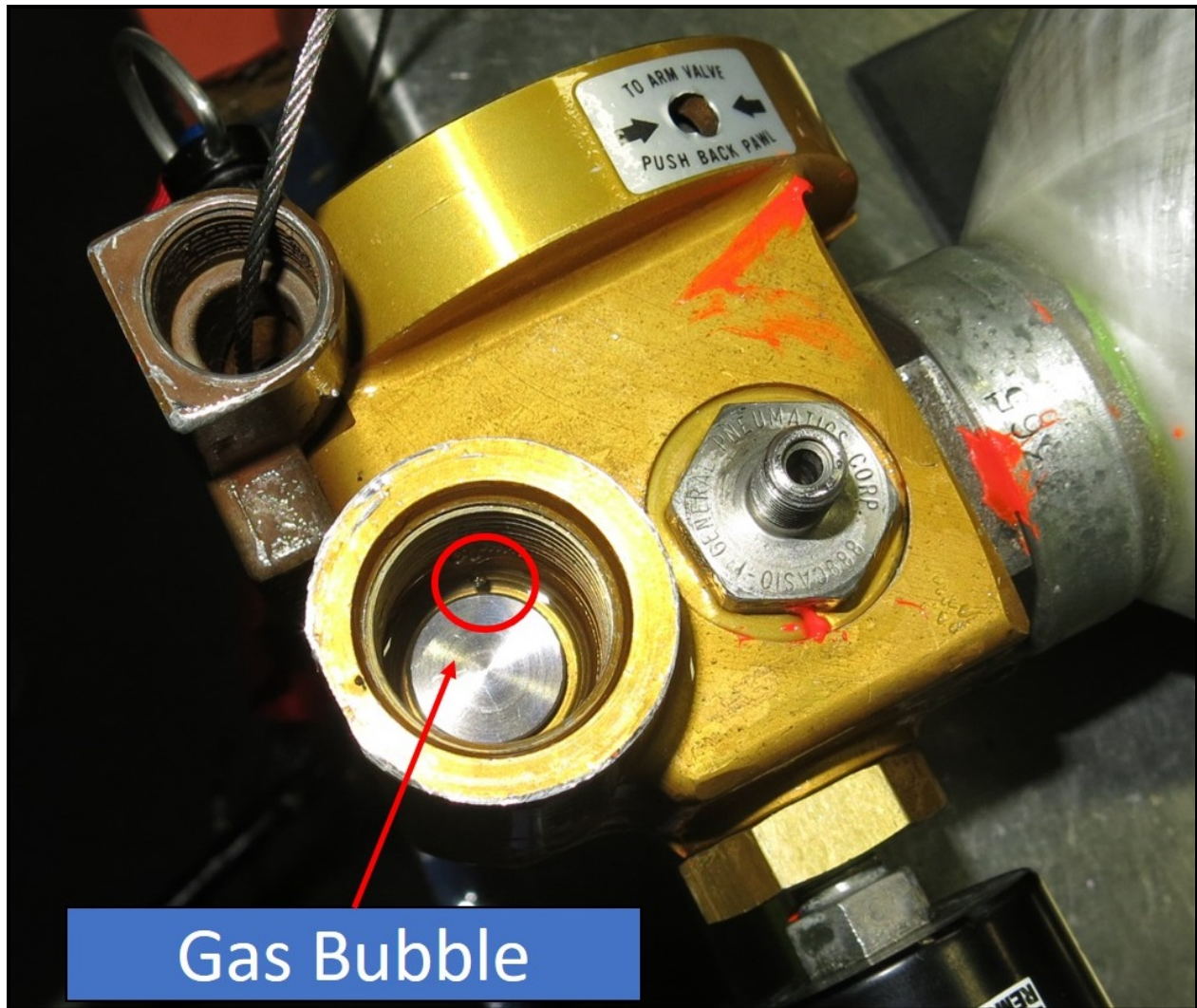
Photograph 1 – Packed slide as received.

The RVA was removed from the packboard and disconnected from the inflation hose (photograph 2). No obvious defects or damage were noted on the inflation valve or the reservoir. The part number on the inflation hose C17734-105 was consistent with the CMM. The hose was identified as having been hydrotested in January 2018 and appeared to be in good condition. The RVA was confirmed to be fully discharged.



Photograph 2 – Reservoir and valve assembly (RVA) in packboard.

Using a special fitting in the discharge port of the inflation valve, the RVA was charged to approximately 200 psig. All threaded connections between the components of the RVA were inspected using leak detection fluid and no leakage was observed. The inflation valve was rotated to the closed position with the inflation cable installed. The RVA was then charged to CMM specifications using carbon dioxide and nitrogen. Leak detection fluid on the outlet port of the inflation valve identified a small leak next to the regulator piston (photograph 3).



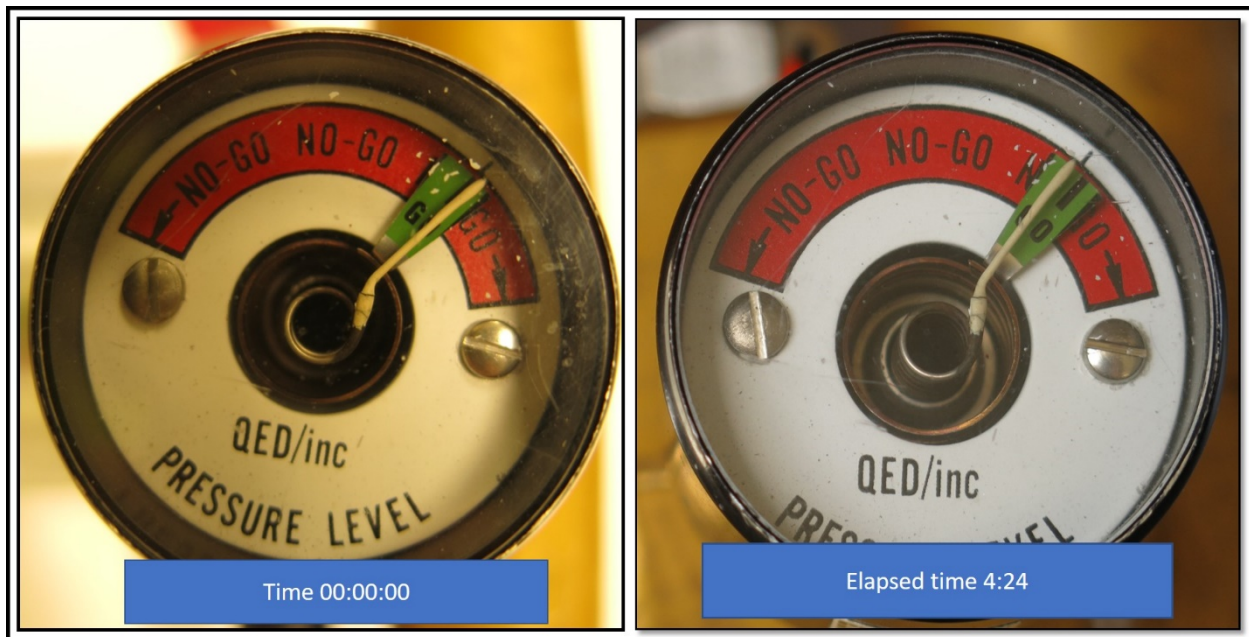
Photograph 3 – Leak observed in valve outlet port.

The charged RVA was then installed into the packboard and the inflation hose connected to the inflation valve. The slide was unfolded to conduct a floor run inflation test. The pull force to initiate inflation was within CMM specification at 11.5 lbs. The slide inflated with no issues noted (photograph 4).



Photograph 4 – Successful floor run slide inflation.

The inflation valve was removed from the reservoir and installed on a pressure chuck p/n 65712-5 for testing purposes. The valve was pressurized to a point within the green “GO” band as indicated on the pressure gauge shown (left-hand side of photograph 5). When observed about 4 hours and 24 minutes later the gauge showed evidence of a pressure loss (right-hand side of photograph 5). The needle position was observed below the green band about 12-18 hours after the test.



Photograph 5 – Pressure gauge needle position before and after test.