

APPENDIX C

Emergency Battery Pack Test Results

The following is a list of battery packs that were removed from N668SW and their condition when tested by the repair station.

<u>Part Number</u>	<u>Serial Number</u>	<u>Position</u>	<u>Test Results (1)</u>
2013-1A	16926	LH Overhead Wing	Good
2013-1A	20188	Center Aft Cabin	Good
2013-1A	16490	Right Forward Entry	Good
2013-1A	35003	RH Overhead Window Exit	Good
2013-1A	XXX	Aft Galley Overhead	Good
2013-1A	21134	(2)	(3)
2013-1A	36612	(2)	(3)
61-0478-1	No s/n	Aft Entry Overhead	50% (Drained Rapidly)
61-0478-1	No s/n	Fwd Overhead Entry	0% (Could not hold charge)

- NOTES: (1) Results as determined by the Burbank, California, repair station. Procedures not in accordance with the applicable Component Maintenance Manual.
 (2) One removed from the forward entryway and one from the aft entryway.
 (3) Not tested by the repair station.

Report
Emergency Exit Lights Battery Test

1. A functional test of the Emergency Exit Light Batteries from N668SW, Southwest Flight 1455, was conducted on March 30, 2000. These functional tests were accomplished at Southwest's Maintenance Facility in Phoenix.
2. All charging and test equipment was calibrated and functional.
3. Nine battery packs were charged in accordance with the manufactures manual for a period of twenty-four hours.
4. None of the batteries tested had cycled through Southwest's battery shop and therefore, did not have company assigned serial numbers.
5. The first batteries inspected and tested were manufactured by Grimes Aerospace, P/N 61-0478-1.
 - a. The aft entry overhead battery was fully charged and registered 7.34 VDC under a 6 AMP load. **Passed.**
 - b. The fwd entry overhead battery was fully charged and registered 4.65 VDC under a 6 AMP load. **Failed.**
 - c. The battery packs were inspected for corrosion. The batteries in both packs had a small amount of white power on the batteries. In accordance with the manufactures manual, accumulation of this residue is considered normal and requires cleaning.

Note: The load bank consist of six lamps, each drawing one AMP each. The fwd entry battery pack did not illuminate the lamps on the load bank.



Note: Grimes battery packs contain nickel-cadmium batteries and do not incorporate a low voltage protection system. With the emergency exit light switch left in the "ON" position for three days, it is possible that one or more batteries in the battery pack swapped polarity resulting in a failed test.

6. The next set of batteries tested were manufactured by Radiant Illumination, Inc.
7. The test procedures requires that each battery pack be tested under a 7 AMP load and each pack must maintain a minimum of 6.10 VDC for fifteen minutes. The test equipment generates a computer report on the performance of each battery pack. Each battery pack contains an internal low voltage protection system. This system incorporates a low battery cutoff and will disconnect the battery pack from the system when the voltage drops to 4.50 VDC.

Note: One battery pack failed the test. However, this battery pack did illuminate the load bank for approximately seven minutes.

**Report
Emergency Exit Lights Battery Test**

8. The computer test report and manufactures maintenance manuals are included with this report.



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Aviation Safety Inspector

SI/N	1330122	36612	16926	20188	35003	XXX	2113A	16490	
	A	VOLTS	VOLTS	VOLTS	VOLTS	VOLTS	VOLTS	VOLTS	
		6.30	6.30	6.30	6.30	6.30	6.30	6.30	
03/30/00	15:30:10	5.32	6.32	6.35	6.29	6.29	6.33	6.31	0.00
03/30/00	15:35:40	4.91	6.24	6.26	6.19	6.10	6.23	6.20	5.30
03/30/00	15:36:59	4.88	6.22	6.24	6.17	6.05	6.20	6.18	
03/30/00	15:37:14		6.22	6.24	6.17	6.04	6.19	6.18	7.04
03/30/00	15:43:37	0.00	6.13	6.17	6.11	5.93	6.10	6.14	13.27
03/30/00	15:45:14	0.00	6.11	6.15	6.10	5.91	6.08	6.13	15.04
03/30/00	15:46:17	0.00	6.10	6.14	6.09	5.90	6.07	6.12	16.07
03/30/00	15:50:16	0.00	6.02	6.10	6.04	5.81	6.02	6.10	20.06
03/30/00	15:51:36	0.00	5.99	6.08	6.02	5.81	6.00	6.10	21.26
03/30/00	16:01:11	0.00	4.91	5.84	5.70	5.55	5.75	5.93	
03/30/00	16:01:27	0.00		5.83	5.69	5.54	5.73	5.92	31.17
03/30/00	16:04:23	0.00	0.00	5.57	4.99	5.19	5.41	5.71	
03/30/00	16:04:39	0.00	0.00	5.51		5.12	5.34	5.66	34.29
03/30/00	16:05:10	0.00	0.00	5.36	0.00	4.92	5.10	5.24	
03/30/00	16:05:26	0.00	0.00	5.25	0.00	4.75	4.88		35.16
03/30/00	16:05:42	0.00	0.00	5.11	0.00			0.00	35.32
03/30/00	16:05:58	0.00	0.00	4.92	0.00	0.00	0.00	0.00	
03/30/00	16:06:14	0.00	0.00		0.00	0.00	0.00	0.00	36.04

battery capacity tests

