SHOCK TEST REPORT

FOR THE

AVIATION LANTERNS A704-5

PART NUMBER A704R-0005

MANUFACTURED BY

CARMANAH TECHNOLOGIES, INC.
BUILDING 4 – 203 HARBOUR ROAD
VICTORIA, B.C., CANADA V9A 3S2

PREPARED BY

ENVIRONMENT ASSOCIATES, INC.
2300 WEST CAPE COD WAY
SANTA ANA, CALIFORNIA 92703

A P P R O V A L S H E E T

Environment Associates hereby certifies that the information presented in this report is, to the best of our knowledge, true and correct in all respects.

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ENVIRONMENT ASSOCIATES, INC.
Martin J. Povall Jr., Laboratory Manager

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Date

Report Written by Gerald Flippen on March 31, 2006

R E V I S I O N S H E E T

REVISION LETTER	DESCRIPTION OF REVISION	DATE	APPROVAL
None	Original Issue	03/31/06	

A D M I N I S T R A T I V E D A T A

PURPOSE OF TEST:	**To demonstrate compliance to the applicable requirements of the specifications cited below.**
ITEM SUBJECTED TO TEST:	**Aviation Lanterns A704-5 Part Number A704R-0005**
TEST SPECIFICATIONS:	**A704-5 Test Plan**
SUBMITTED BY:	**Carmanah Technologies, Inc. Building 4-203 Harbour Road Victoria, B.C., Canada V9A 3S2**
TESTING AGENCY:	**Environment Associates, Inc. 2300 West Cape Cod Way Santa Ana, California 92703**
DATES TESTING CONDUCTED:	**March 15, 2006**
AUTHORIZATION TO TEST:	**Carmanah Technologies Purchase Order Number 240266**

T A B L E O F C O N T E N T S

S U M M A R Y O F T E S T R E S U L T S

TEST	SAMPLE NO.	SERIAL NO.	PASS/FAIL
2.0 Shock	**JC08250002**		**X**
	JC08250012		**X**
	JC08250035		**X**
	JC08250037		**X**

Note:

"Pass" in the column above indicates completion of the test.

G E N E R A L I N F O R M A T I O N

1.0 GENERAL

1.1 TEST ITEM DESCRIPTION

Aviation Lanterns A704-5
Part Number A704R-0005
Serial Number JC08250002, JC082500012, JC08250035& JC08250037

1.2 REFERENCE DOCUMENTS

Military

MIL-STD-831	**Preparation of Test Reports**

Carmanah Technologies

Doc. No. 43912, Rev. A	**A-704 Test Plan for Aviation Lanterns A704-5**

1.3 TOLERANCES

Test Equipment

Test equipment utilized was calibrated to International Organization for Standards (ISO) 10012-1, "Quality Assurance Requirements for Measuring Equipment", Part 1: "Meteorological (sic) Confirmation System for Measuring Equipment"; American National Standards Institute (ANSI)/National conference of Standards Laboratories (NCSL) Z540-1, "General Requirements for Calibration Laboratories and Measuring and Test Equipment, latest revision and traceable to the National Institute for Standards and Technology.

1.3 TOLERANCES (Continued)

Unless otherwise described in this report, the environmental test equipment was capable of controlling the test equipment within the following tolerances:

Shock Amplitude:	**±15%**
Shock Frequency:	**±10%**
Time:	**±5%**

Laboratory Ambient Conditions

All laboratory ambient conditions was maintained as follows:

Temperature:	**25 ±10 degrees C**
Pressure:	**30 ±2 inches Hg**
Relative Humidity:	**90% maximum**

2.0 SHOCK

2.1 REFERENCE

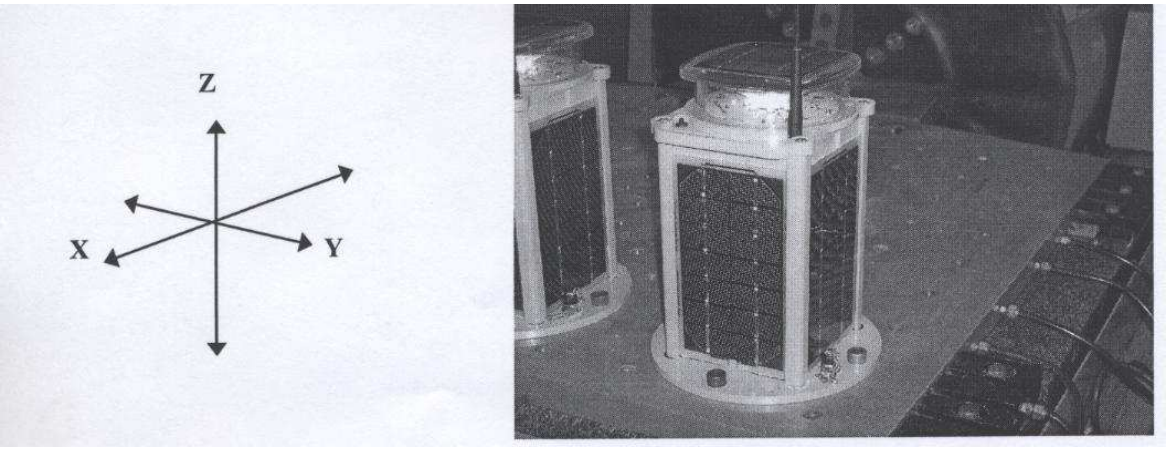
A704-5 Test Plan, Revision A, Paragraph 6.3

2.2 PROCEDURES

2.2.1 Test Parameters

The computer shock system was programmed for 50 g Peak, 6 millisecond duration, sawtooth shock pulse.

2.2.2 Axis Definition



2.2.3

The Aviation Lanterns A704-5 listed below were placed in a temperature chamber and stabilized at -10ºF for a period of one (1) hour.

Sample Number

JC08250002
JC08250012
JC08250035
JC08250037

2.2.4

The Aviation Lanterns A704-5 listed below were removed from the temperature chamber and mounted on the vibration exciter in the X axis. The test fixture was instrumented with one (1) control accelerometer. The test samples were operational and monitored by Environment Associates personnel during the shock test.

Sample Number
JC08250002
JC08250012
JC08250035
JC08250037

2.2.5

The test samples were subjected to three (3) shocks in the positive direction at the conditions specified in paragraph 2.2.1. Plot #1A shows the input shock level. No anomalies were noted.

2.2.6

The test samples were subjected to three (3) shocks in the negative direction at the conditions specified in paragraph 2.2.1. Plot #1B shows the input shock level. No anomalies were noted.

2.2.7

The test samples were reoriented on the vibration exciter in the Y axis. The test fixture was instrumented with one (1) control accelerometer. The test samples were operational and monitored by Environment Associates personnel during the shock test.

2.2.8

The test samples were subjected to three (3) shocks in the positive direction at the conditions specified in paragraph 2.2.1. Plot #2A shows the input shock level. No anomalies were noted.

2.2.9

The test samples were subjected to three (3) shocks in the negative direction at the conditions specified in paragraph 2.2.1. Plot #2B shows the input shock level. No anomalies were noted.

2.2.10

The test samples were removed from the vibration exciter.

2.2.11

The Aviation Lantern A704-5 listed below was removed from the temperature chamber and mounted on the vibration exciter in the Z axis. The test fixture was instrumented with one (1) control accelerometer. The test sample was operational and monitored by Environment Associates personnel during the shock test.

Sample Number
JC08250002

2.2.12

The test sample was subjected to three (3) shocks in the positive direction at the conditions specified in paragraph 2.2.1. Plot #3A shows the input shock level. No anomalies were noted.

2.2.13

The test sample was subjected to three (3) shocks in the negative direction at the conditions specified in paragraph 2.2.1. Plot #3B shows the input shock level. No anomalies were noted.

2.2.14

The test sample was removed from the vibration exciter.

2.2.15

The Aviation Lantern A704-5 listed below was removed from the temperature chamber and mounted on the vibration exciter in the Z axis. The test fixture was instrumented with one (1) control accelerometer. The test sample was operational and monitored by Environment Associates personnel during the shock test.

Sample Number
JC08250012

2.2.16

The test sample was subjected to three (3) shocks in the positive direction at the conditions specified in paragraph 2.2.1. Plot #4A shows the input shock level. No anomalies were noted.

2.2.17

The test sample was subjected to three (3) shocks in the negative direction at the conditions specified in paragraph 2.2.1. Plot #4B shows the input shock level. No anomalies were noted.

2.2.18

The test sample was removed from the vibration exciter.

2.2.19

The Aviation Lantern A704-5 listed below was removed from the temperature chamber and mounted on the vibration exciter in the Z axis. The test fixture was instrumented with one (1) control accelerometer. The test sample was operational and monitored by Environment Associates personnel during the shock test.

Sample Number
JC08250035

2.2.20

The test sample was subjected to three (3) shocks in the positive direction at the conditions specified in paragraph 2.2.1. Plot #5A shows the input shock level. No anomalies were noted.

2.2.21

The test sample was subjected to three (3) shocks in the negative direction at the conditions specified in paragraph 2.2.1. Plot #5B shows the input shock level. No anomalies were noted.

2.2.22

The test sample was removed from the vibration exciter.

2.2.23

The Aviation Lantern A704-5 listed below was removed from the temperature chamber and mounted on the vibration exciter in the Z axis. The test fixture was instrumented with one (1) control accelerometer. The test sample was operational and monitored by Environment Associates personnel during the shock test.

Sample Number
JC08250037

2.2.24

The test sample was subjected to three (3) shocks in the positive direction at the conditions specified in paragraph 2.2.1. Plot #6A shows the input shock level. No anomalies were noted.

2.2.25

The test sample was subjected to three (3) shocks in the negative direction at the conditions specified in paragraph 2.2.1. Plot #6B shows the input shock level. No anomalies were noted.

2.2.26

The test sample was removed from the vibration exciter.

2.2.27

The test samples were returned to Carmanah personnel for functional evaluation and visual examination.

2.3 RESULTS

2.3.1

The shock test was performed at the facility of Environment Associates, Inc., Chatsworth, California on March 15, 2006.

2.3.2

All inspection and operation of the test samples were by Environment Associates personnel at the direction of Carmanah Technologies personnel.

2.3.3

The test log may be found in Appendix I. The list of equipment used during the test and test photographs may be found in Appendix II.

A P P E N D I X I

T E S T D A T A

2.0 SHOCK

The total number of pages in this subsection is 16

APPENDIX II

TEST EQUIPMENT LISTS

AND

TYPICAL TEST SETUP PHOTOS

The total number of pages in this Appendix is 3