

FACTUAL REPORT - ATTACHMENT 9

Hose Test Report

AIRWORTHINESS

ERA21FA233



403 Kraft St
San Antonio, TX 78220

RKG5074

Revision Level: IR 12/30/2019

Hose Test for Project ST7314DE-R

A handwritten signature in black ink, appearing to read "Robert Gersch", is written over a solid black rectangular redaction box.

PREPARED BY:

Robert Gersch

Date: 12/30/2019

For: Firehawk

NAME Robert Gersch	DATE 12-30-2019		REPORT NO. RKG5074
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Revision Log

Revision	Date	Description of Changes	Pages Affected
IR	12-30-2019	Initial Release	All

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Proprietary Statement

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LIST OF REFERENCES

- 1) Federal Aviation Administration, FAR Part 25.
- 2) Project no. ST7314DE-R Test Plan for Snorkel Hose Pull Test

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List of Symbols, Acronyms, Definitions

<u>Symbol</u>	<u>Description</u>
D	Sensor Type Code, Displacement or Deflection
DER	Designated Engineering Representative
DLL	Design Limit Load
DUL	Design Ultimate Load
E_c	Compression modulus of elasticity (lb/in ²)
FAA	Federal Aviation Administration
FAR	Federal Aviation Regulations
in	Engineering Units, Inch
L	Sensor Type Code, Load Transducer, Force
lb	Engineering Units, Pound Force
NA	The information is not applicable to this item or the data is not available.
NIST	National Institute of Standards and Technology
P	Applied load, pounds LB
psi	Engineering Units, Stress, Pound per square Inch
SA	Sensor Type Code, Axial Strain
TF	Sensor Location Code, Test Fixture
TRR	Test Readiness Review. The review held prior to testing with all groups represented to verify and confirm that the objective of the test will be met by the intended test.
ue	Engineering Units, Microstrain in/in E-6

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1. PURPOSE

The purpose of this report is to determine the force required to fail the hose in tension.

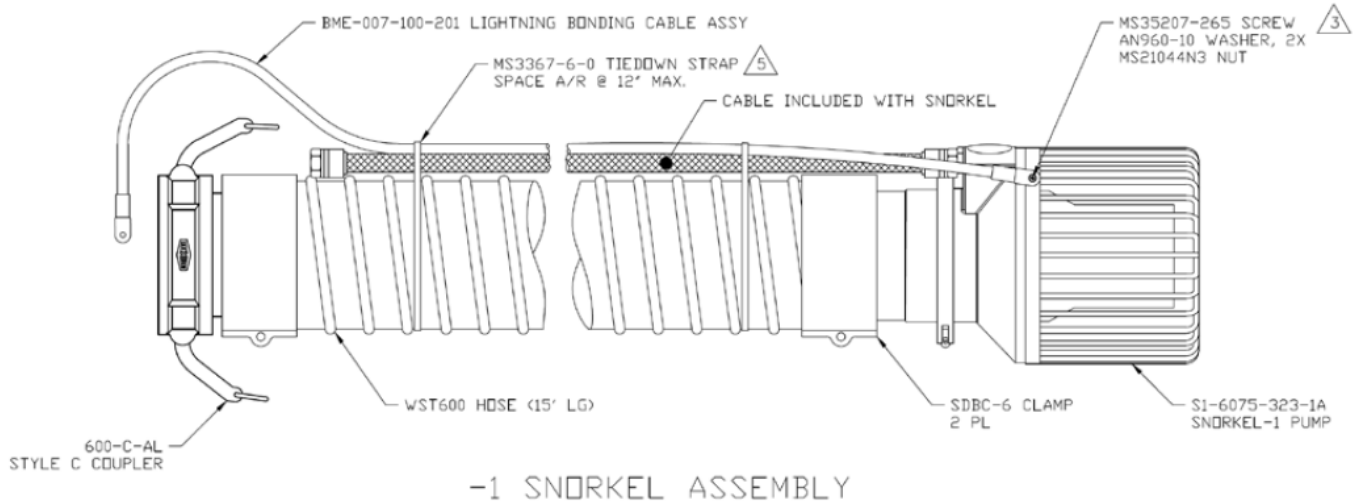
All instruments used to measure data in this test shall have a calibration date of less than one year (365 days) prior to the date of the test. All calibrations shall be traceable to a NIST standard.

The failure load from testing is reported in the test results section of this report and was 2.500 lb.

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2.0 TEST ARTICLE



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3.0 Test Setup

2 aluminum plates were fabricated and added to the lower nozzle. The two threaded rods extending from the plates will allow the assembly to be attached to a fixed support on the ground.



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3.0 Test Setup

An upper support was fabricated with an adapter to allow the upper end of the hose assembly to attach to the adapter.



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3.0 Test Setup

The upper assembly was attached to the forks of a forklift:



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3.0 Test Setup



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3.0 Test Setup

The two threaded rods were attached to a beam. In the center of the beam is a clevis. The clevis is attached to the upper end of the dynamometer. The lower end of the dynamometer is attached to two angles that are attached to the concrete slab.



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4.0 Test Results

The test was conducted December 11, 2019 at RKG's San Antonio facility. At an applied load of 2,500 lb, the hose slipped off the lower nozzle assembly.



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4.0 Test Results



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APPENDIX A

CALIBRATION RECORDS

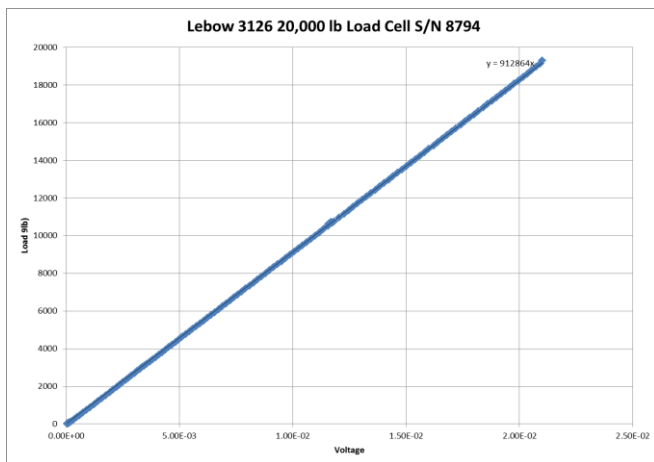


CALIBRATION RECORD

RKG Enterprises, Inc.
403 Kraft St
San Antonio, TX 78220

Calibration Date : **6/3/2019**
Due Date: **6/3/2020**

Instrument: **Lebow 20,000 lb Load Cell** $y=912864x$
Model No. **3124**
S/N **8794**



Standards

Lebow 50 kip load cell
Model No. 3166-50K
S/N 8434
Cal Date 5/4/2019
Due Date 5/4/2020

Agilent DVM
Model No. 34970A
S/N MY40010565
Cal Date 4/28/2019
Due Date 4/28/2020

This unit was calibrated with secondary calibration standards traceable to N.I.S.T.

By:



Robert Gersch

Date: 6/3/2019