



**FINDING AID TO
THE RICHARD C. ROBERTS PAPERS ON
SATURN V COMPONENT TESTING, 1964-1981**

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Processed by: Mary A. Segó, October 15, 2014

Descriptive Summary

Creator Information	Roberts, Richard C, 1940-
Title	Richard C. Roberts papers on Saturn V Component Testing
Collection Identifier	MSA 299
Date Span	1964-1981
Abstract	Two engineering test reports with related 8" x 10" photographs and one NASA publication; Saturn Illustrated Chronology, documenting Richard C. Roberts' component testing on Saturn V.
Extent	0.20 cubic feet (1 mss box)
Finding Aid Author	Mary A. Sego
Languages	English
Repository	Virginia Kelly Karnes Archives and Special Collections Research Center, Purdue University Libraries

Administrative Information

Location Information:	ASC
Access Restrictions:	Collection is open for research.
Acquisition Information:	Donated by Richard C. Roberts, October 10, 2014.
Accession Number:	20141010
Preferred Citation:	MSA 299, Richard C. Roberts papers on Saturn V Component Testing, Karnes Archives and Special Collections, Purdue University Libraries
Copyright Notice:	NASA, Marshall Space Flight Center
Related	Paul Roscoe collection of astronaut photographs:

**Materials
Information:**

<http://www4.lib.purdue.edu/archon/index.php?p=collections/controlcard&id=1531>

Subjects and Genres

Persons

Roberts, Richard C., 1940-

Organizations

Brown Engineering Company
George C. Marshall Space Flight Center
National Aeronautics and Space Administration
Flight Archives at Purdue University

Topics

Saturn V Rocket
Project Apollo (U.S.)
Rockets (Aeronautics)
Purdue University--Alumni and alumnae

Form and Genre Types

Photographs
Publications
Reports

Occupations

Engineer

Biography of Richard C. Roberts and His Role in Saturn V Component Testing

Richard C. Roberts graduated from Purdue University in 1964 with a Bachelor of Science degree in Civil Engineering. Following graduation, he was employed by Brown Engineering Company at George C. Marshall Space Flight Center in Huntsville, Alabama. His position entailed component testing for Saturn V.

Source:

Correspondence received from Richard C. Roberts, September 29, 2014

Collection Description

Scope

The Richard C. Roberts papers on Saturn V Component Testing (1964-1981, 0.20 cubic feet) document Roberts' work on the Saturn V vehicle. The collection includes two test reports on components of the Saturn V vehicle. The reports were written by Richard C. Roberts, while he worked for the Brown Engineering Company at the George C. Marshall Space Flight Center in Huntsville, Alabama.

In an e-mail to the Archives' staff, Richard Roberts noted, "*Flex Hose Cycle Test*, was a qualification test for 6" and 8" diameter flexible hoses that delivered the oxidizer propellants, liquid oxygen and liquid hydrogen, to the Saturn V fuel tanks while on the launch pad. During the test, liquid nitrogen was used to provide the -300 degree temperatures."

"*Plan for Conducting Structural Qualification Test on the S-II-1 Thrust Structure Configuration Test 404*, was also a qualification test that applied actual calculated loads by hydraulic cylinders to the thrust structure, or engine mounts, and measured the displacements and strains to the structure." This test program was very extensive and took seven months to design and build the test fixture and complete the tests. Roberts spent two months compiling and writing this test report. He had a lot of help from other NASA departments during the test project. "The test was considered a total success, as nothing failed at 140% limit loads."

Roberts also states in the e-mail, "During the launch of Apollo 13, after the S-IC first stage had burned out and separated normally, the center J-2 engine of the S-II second stage shut down two minutes early, causing the remaining four engines to automatically vector and continue the launch. This problem had nothing to do with the subsequent explosion in the Service Module that aborted the moon landing."

Included with the reports are detailed 8" x 10" photographs (color and black and white) of the two test projects. Also included is a NASA publication, *Saturn Illustrated Chronology: April 1957-June 1964*, published by the Marshall Space Flight Center, August 10, 1964. Types of materials include: reports, photographs and publications.

Descriptive Rules

Describing Archives: A Content Standard

Processing Information

All materials have been housed in polyester sleeves, acid-free folders, and acid-free boxes. Items have been placed in chronological order.

DETAILED DESCRIPTION OF THE COLLECTION

1 Box *Reports, Photographs and NASA Publication, 1964-1981*

Folder

1. NASA publication, "Saturn Illustrated Chronology, April 1957 - June 1964." Huntsville, Alabama: George C. Marshall Space Flight Center. August 10, 1964 (MHR-3)
2. Report, "Plan for Conducting Structural Qualification Test on the S-II-1 Thrust Structure Configuration Test 404," prepared by R. C. Roberts, includes 16 photographs associated with the test, August 21, 1967
3. Report, "Flex Hose Cycle Test," prepared by Richard C. Roberts, includes 1 photograph associated with the test, November 20, 1967
4. NASA photograph, Apollo 15 launch (Apollo/Saturn V space vehicle), July 26, 1971