

## Guide to the Howard Seifert Papers

Daniel Hartwig

Stanford University. Libraries. Department of Special Collections and University Archives

Stanford, California

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**Overview**

**Call Number:** SC0173

**Creator:** Seifert, Howard, 1911-1977

**Creator:** Seifert,, 1911-1977.

**Title:** Howard Seifert papers

**Dates:** 1960-1977

**Physical Description:** 39.5 Linear feet

**Language(s):** The materials are in English.

**Repository:** Department of Special Collections and University Archives

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**Custodial History**

Gift of Mrs. Howard Seifert, 1977, and administrative transfer, Department of Aeronautics and Astronautics, 1979.

**Information about Access**

None.

**Ownership & Copyright**

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**Cite As**

[Identification of item], Howard Seifert Papers, SC 173, Stanford University Archives, Stanford, Calif.

**Biography**

Howard Seifert, an authority on rocket propulsion of space vehicles, was professor of aeronautics and astronautics at Stanford from 1960 to 1976. He also directed the Physical Sciences Laboratory at the United Aircraft Corporation (1960-65) and was president of the American Rocket Society (1960). Before joining the Stanford faculty, he was on the staff at the Jet Propulsion Laboratory and Space Technology Laboratories and a visiting professor at UCLA.

**Scope and Content**

Papers include correspondence, photographs, newsclippings, notes, memoranda, reports, reprints, proposals, and class materials (notes, problems, exams, and reference sources). Some materials pertain to his work with the Jet Propulsion Laboratory and NASA.

**Access Terms**

Jet Propulsion Laboratory (U.S.).

Seifert, Howard,, 1911-1977.

Stanford University. Department of Aeronautics and Astronautics. -- General subdivision--Faculty.;

United States.. National Aeronautics and Space Administration..

Aeronautics--Research.

Clippings.

Photoprints.

Rocketry.

Solar energy--Research.

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**General Files, Part 1**

Box 1

**Miscellaneous unfolded materials**

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	<b>Journal - Trip to Arabia and technical notes for trip (University of Petroleum and Minerals, Dhammam, Saudi Arabia) (2/21/77)</b>
	<b>Brochures: University of Petroleum and Minerals and assorted energy topics</b>
	<b>Photos: Luna Colloquim at STL (1959)</b>
	<b>Clippings: Desalination (2/20/77)</b>
	<b>Arabia trip itinerary and consulting agreements (University of Petroleum and Minerals), visa applications, local information, etc.</b>
	<b>University of Petroleum and Minerals planning handbook, map, memos, history, project proposals</b>
	<b>Notes (1/2/77)</b>
	<b>Assorted photos</b>
	<b>Research report <i>Electrical Breakdown Between Cylinders in Vacuum</i> by Seifert</b>
Box 1, Folder 1	<b>KLS: doc., moving, wedding</b>
Box 1, Folder 2	<b>Personal Stanford history</b>
Box 1, Folder 3	<b>News clippings</b>
Box 1, Folder 4	<b>Notes, clippings, brochures</b>
Box 1, Folder 5	<b>Microprojector</b>
Box 1, Folder 6	<b>Research plans</b>
Box 1, Folder 7	<b>Clippings</b>
Box 1, Folder 8	<b>Letters</b>
Box 1, Folder 9	<b>Photos</b>
Box 1, Folder 10	<b>Letters (to and from children)</b>
Box 1, Folder 11	<b>Cyl. lens theory</b>
Box 1, Folder 12	<b>Property</b>
Box 1, Folder 13	<b>Misc. notes, recital announcement</b>
Box 1, Folder 14	<b>Eyes - double vision, musical activities</b>
Box 1, Folder 15	<b>Clippings about Prof. Seifert and Wyld Propulsion award</b>
Box 1, Folder 16	<b>Insurance policies</b>
Box 1, Folder 17	<b>Memo - disposal of property after death</b>
Box 2, Folder 1	<b>"Hopping Transporters for Lunar Exploration." (8/69)</b>
Box 2, Folder 2	<b>"Laser Doppler Technique for the Measurement of Particle Velocity." (1967)</b>
Box 2, Folder 3	<b>"Laser-Doppler Particle Sensor for Rocket Exhausts." (3/69)</b>
Box 2, Folder 4	<b>"Laser-Doppler Technique for Measurement of Particle Velocity in Gas-Particle Two-Phase Flow." (6/66)</b>
Box 2, Folder 5	<b>Rocket Propulsion (7/68)</b>
Box 2, Folder 6	<b>Non-Chemical Propulsion (1968)</b>
Box 2, Folder 7	<b>State of Propulsion Art (7/68)</b>
Box 2, Folder 8	<b>AGARD Combustion and Propulsion Panel (1962)</b>
Box 2, Folder 9	<b>"A Miniature Kundt Tube." (12/39)</b>
Box 2, Folder 10	<b>"Shocks Induced by Secondary Fluid Injection." (1/64)</b>
Box 2, Folder 11	<b>"Lunar Pogo Stick." (6/67)</b>
Box 2, Folder 12	<b>La Scuola in Azione (1962-63)</b>
Box 2, Folder 13	<b>Student receipts</b>
Box 2, Folder 14	<b>Bibliography on Space Travel and Rockets</b>
Box 2, Folder 15	<b>Sohn Orbit Computer</b>
Box 2, Folder 16	<b>Book and UCLA: brochures and covers</b>
Box 2, Folder 17	<b>"Propulsion for Space Vehicles." (1962)</b>
Box 2, Folder 18	<b>Student receipts (1962)</b>
Box 2, Folder 19	<b>"Stop-Light Dilemma" (3/62)</b>
Box 2, Folder 20	<b>"Studies of Unstable Combustion in Solid Propellant Rocket Engines" (3/62)</b>
Box 2, Folder 21	<b>"Can We Decrease Our Entropy?" (6/61)</b>
Box 2, Folder 22	<b>Book of Knowledge Article (1960)</b>
Box 2, Folder 23	<b>Turbopumps for Small Rocket Engines (9/57)</b>
Box 2, Folder 24	<b>Thrust Coefficient and Expansion Ratio Tables (2/56)</b>
Box 2, Folder 25	<b>Notification of Acceptance of Paper for Symposium on Ballistic Missiles (6/56)</b>
Box 2, Folder 26	<b>Modern Physics for the Engineer (8/55)</b>
Box 2, Folder 27	<b>Development of the Guided Missile (9/55)</b>
Box 2, Folder 28	<b>Twenty-Five Years of Rocket Development (10/55)</b>

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Box 2, Folder 29	<b>Semantics Bibliography (1953)</b>
Box 2, Folder 30	<b>Variable Propellant Density (6/53)</b>
Box 2, Folder 31	<b>Review Conquest of the Moon (12/53)</b>
Box 2, Folder 32	<b>Inventions of Importance to Aviation (8/53)</b>
Box 2, Folder 33	<b>Compressible Flow (1953)</b>
Box 2, Folder 34	<b>Listing of Reports Pre-1953</b>
Box 2, Folder 35	<b>Comparison of Adiabatic and Isothermal Expansion Processes in Rocket Nozzles (6/52)</b>
Box 2, Folder 36	<b>The Effect of Variable Propellant Density on Rocket Performance (8/52)</b>
Box 2, Folder 37	<b>Friction Tape Produces Glow Discharge (9/52)</b>
Box 2, Folder 38	<b>Letter to the Editor - American Journal of Physics (9/52)</b>
Box 2, Folder 39	<b>The Jet Propulsion Laboratory (10/52)</b>
Box 2, Folder 40	<b>Corporal Missile School (1951)</b>
Box 2, Folder 41	<b>Heat-Transfer Studies Relating to Rocket Power-Plant Development (1951)</b>
Box 2, Folder 42	<b>Make Your Own Microprojector (1/51)</b>
Box 2, Folder 43	<b>The Scientific Monthly</b>
Box 2, Folder 44	<b>Central Data-Recording System for A Jet-Propulsion Laboratory (10/51)</b>
Box 2, Folder 45	<b>Aircraft Instrumentation and Control Course (1950)</b>
Box 2, Folder 46	<b>Rocket Propulsion Elements and Rocket Guns and Targets (2/49)</b>
Box 2, Folder 47	<b>Is the Nuclear-Powered Rocket Feasible? (5/49)</b>
Box 2, Folder 48	<b>Compressibility Effects in Two Phase Flow (7/49)</b>
Box 2, Folder 49	<b>Stream Paths from Rotating Liquid Propellant Injectors (9/48)</b>
Box 2, Folder 50	<b>Problems in the Application of Nuclear Energy to Rocket Propulsion (1/47)</b>
Box 2, Folder 51	<b>The Physics of Rockets (1/47)</b>
Box 2, Folder 52	<b>Physics of Rockets: Liquid Propellant Rockets (4/47)</b>
Box 2, Folder 53	<b>Physics of Rockets: Dynamics of Long-Range Rockets (6/47)</b>
Box 2, Folder 54	<b>Cal Tech Research Topics for Thesis and Assorted Memos (1947)</b>
Box 2, Folder 55	<b>Jet Propulsion - Its Effect Upon Engineering Education (10/46)</b>
Box 2, Folder 56	<b>Program for Pasadena Meeting of the American Physical Society (12/44)</b>
Box 2, Folder 57	<b>JPL Report - Development of Regeneratively-Cooled Liquid Propellant Jet Motors (7/43)</b>
Box 2A, Folder 58	<b>Electrical Breakdown in Vacuum Between Electrodes of Large Area (6/42)</b>
Box 2A, Folder 59	<b>Detection of Flaws in Metal Coatings (6/42)</b>
Box 2A, Folder 60	<b>The Induction Inverter (9/42)</b>
Box 2A, Folder 61	<b>Editorial for 1/12/60 issue of <i>Astronautics</i></b>
Box 2A, Folder 62	<b>List of Publications:</b>
	<b>Scope and Content Note</b>
	1. Shocks Induced by Secondary Fluid Injection (1/64)
	2. Use of Preformed Solid Particles in Colloidal Propulsion (9/67)
Box 2A, Folder 63	<b>Propulsion Dynamics of Lunar Hoppers (12/74)</b>
Box 3, Folder 1	<b>Space Mission Slide Chart; Pocket Planetarium; Rocket Thrust Computer; Scientific Catalog; and Portable Flight Path Model Photos</b>
Box 3, Folder 2	<b>Space Vehicle Designer; Pocket Planetarium; and Rocket Thrust Computers</b>
Box 3, Folder 3	<b>Pocket Planetarium Design</b>
Box 3, Folder 4	<b>The Induction Inverter and "Vapor Discharge Cavity Oscilloscope" (9/42); (8/42)</b>
Box 3, Folder 5	<b>Student Projects in Physics at Kalamazoo College (6/40)</b>
Box 3, Folder 6	<b>Electrical Breakdown Between Cylinders in Vacuum plus Notes (1942)</b>
Box 3, Folder 7	<b>Transmission and Reflection of Plastics and Metal Blocks in the Far Infra-Red (11/40)</b>
Box 3, Folder 8	<b>A Miniature Kundt Tube (12/39)</b>
Box 3, Folder 9	<b>Miscellaneous Correspondence (1964)</b>
Box 3, Folder 10	<b>The Induction Inverter (9/42)</b>
Box 3, Folder 11	<b>BS, MS, PhD Theses</b>
Box 3, Folder 12	<b>Survey of Electrically-Powered Rockets (1963)</b>
Box 3, Folder 13	<b>Stop-Light Dilemma and Correspondence (3/62)</b>
Box 3, Folder 14	<b>Notes on Talk about Lunar Hopper</b>

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Box 3, Folder 15	<b>TV Script for Show about JPL; Notes: The Scientist's Code of Ethics Notes: Application of Electrical Analog Computers to Rocket Propulsion and Index of Visits to British Establishments (4/52); (10/51); (1945)</b>
Box 3, Folder 16	<b>(Binder) Talks 1960-70</b>
Box 3, Folder 17	<b>(Binder) Talks 8/55-6/60</b>
Box 3, Folder 18	<b>(Binder) FORTRAN IV Notes</b>
Box 3, Folder 19	<b>(Loose) FORTRAN Class Notes</b>
Box 3, Folder 20	<b>FORTRAN IV Book</b>
Box 3, Folder 21	<b>WATFIV Compiler Guide (8/70)</b>
Box 3, Folder 22	<b>Introduction to Programming Concepts</b>
Box 3, Folder 23	<b>BASIC User's Manual (7/70)</b>
Box 3, Folder 24	<b>BASIC User's Guide to Remote Terminals (10/69)</b>
Box 3, Folder 25	<b>Guide to the BALLOTS Files</b>
Box 3, Folder 26	<b>Lectures, Handouts, Etc. for EE 231</b>
Box 3, Folder 28	<b>Inactive Documents</b>
Box 3, Folder 29	<b>Journal of Spacecraft and Rockets article by HSS (8/69)</b> <b>Physical Description: 2 copies,</b>
Box 3, Folder 30	<b>Space Technology covers (book edited by HSS) 1959</b>
Box 3, Folder 31	<b>A Central Data-Recording System for a Jet Propulsion Laboratory (1959)</b>
Box 3, Folder 32	<b>Book Review by HSS: Rocket Power and Space Flight (1/58)</b>
Box 3, Folder 33	<b>UCLA Space Technology Brochure (1/58)</b>
Box 3, Folder 34	<b>Correspondence regarding Thrust Coefficient and Expansion Ratio Tables (1/59)</b>
Box 3, Folder 35	<b>The Performance of a Rocket with Tapered Exhaust velocity (12/57)</b>
Box 3, Folder 36	<b>The Effect of Propellant Energy and Mass Distribution on Rocket Propulsion Efficiency (1/57)</b>
Box 3, Folder 37	<b>Turbopumps for Small Rocket Engines (9/57)</b> <b>AA 280A Class Files</b>
Box 4, Folder 1	<b>Ballistic Problems/Solutions</b>
Box 4, Folder 2	<b>Ballistics Solutions (1/68)</b>
Box 4, Folder 3	<b>Ballistics Solutions</b>
Box 4, Folder 4	<b>Nozzle Flow Problems</b>
Box 4, Folder 5	<b>Nozzle Flow Solutions</b>
Box 4, Folder 6	<b>Engine Design Problems (1967)</b>
Box 4, Folder 7	<b>Engine Design Solutions</b>
Box 4, Folder 8	<b>Thermochemistry 1-8 Problems</b>
Box 4, Folder 9	<b>Thermochemistry Solutions</b>
Box 4, Folder 10	<b>Heat Transfer Problems</b>
Box 4, Folder 11	<b>Heat Transfer Solutions</b>
Box 4, Folder 12	<b>Problems and Solutions 67-27, 28, 21, 22, 23, 24, 25, 26</b>
Box 4, Folder 13	<b>Problems and Solutions 67-12 through 67-16</b>
Box 4, Folder 14	<b>Solutions to Problem Set 69-3</b>
Box 4, Folder 15	<b>Problem 67-8 through 16 (1967)</b>
Box 4, Folder 16	<b>Problem 67-7 (6/30/67)</b>
Box 4, Folder 17	<b>67-1 Tullig Solution</b>
Box 4, Folder 18	<b>Midterm Exam (2/69)</b>
Box 4, Folder 19	<b>1969 Winter Final</b>
Box 4, Folder 20	<b>Thermochemistry Quiz (2/20/70)</b>
Box 4, Folder 21	<b>Hybrid Problem (1969)</b>
Box 4, Folder 22	<b>Hybrid Rocket Design (4/11/68)</b>
Box 4, Folder 23	<b>Midterm Solutions (2/69)</b>
Box 4, Folder 24	<b>Thermochemistry A Quiz and Thermochemistry B Quiz (2/24/69);</b>
Box 4, Folder 25	<b>Thermochemistry A/B Quiz and Solutions (2/26/69)</b>
Box 4, Folder 26	<b>Thermochemistry Quiz and Solution (2/23/68)</b>
Box 4, Folder 27	<b>Summer 1968 Midterm</b>
Box 4, Folder 28	<b>Final Exam (3/68)</b>
Box 4, Folder 29	<b>Midterm Solutions (2/68)</b>
Box 4, Folder 30	<b>Midterm Exam (2/7/68)</b>

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Box 4, Folder 31	<b>Handout Stage Mass Ratio Vs. Stage Velocity Increase (1967)</b>
Box 4, Folder 32	<b>Propulsion Final (8/18/67)</b>
Box 4, Folder 33	<b>Quiz Solutions (1967)</b>
Box 4, Folder 34	<b>Thermochemistry Quiz (2/27/67)</b>
Box 4, Folder 35	<b>Thermochemistry Quiz Solution (2/27/67)</b>
Box 4, Folder 36	<b>Final Exam (3/24/67)</b>
Box 4, Folder 37	<b>Assorted Problems</b>
Box 4, Folder 38	<b>Course Notes</b>
Box 4, Folder 39	<b>Stage Optimization Procedure</b>
Box 4, Folder 40	<b>Periodic Table of the Elements</b>
Box 4, Folder 41	<b>Gamma Curves</b>
Box 4, Folder 42	<b>Theoretical Performance of Rocket Propellant Combinations</b>
Box 4, Folder 43	<b>Background Data Form</b>
Box 4, Folder 44	<b>Winter Quarter Schedule `69/'70 and `71/'72</b>
Box 4, Folder 45	<b>Summer Quarter Schedule 1970</b>
Box 4, Folder 46	<b>Set I Rocket Fundamentals</b>
Box 4, Folder 47	<b>Set II Ballistics and Staging</b>
Box 4, Folder 48	<b>Set III Multi-Stage Rockets</b>
Box 4, Folder 49	<b>Set IV Satellite Motion</b>
Box 4, Folder 50	<b>Set V Rocket Thrust</b>
Box 4, Folder 51	<b>Set VI Design Parameters</b>
Box 4, Folder 52	<b>Set VII Simplified Liquid Rocket Design</b>
Box 4, Folder 53	<b>Set VIII Solid Propellant Rockets</b>
Box 4, Folder 54	<b>Set IX Solid Propellant Rocket Design</b>
Box 4, Folder 55	<b>Set X Thermochemistry of Rocket Propellants</b>
Box 5, Folder 1	<b>Set XI Heat Transfers in Chemical Rockets</b>
Box 5, Folder 2	<b>Set XII Ablation</b>
Box 5, Folder 3	<b>Set XIII Hybrid Rockets</b>
Box 5, Folder 4	<b>Class Grades and Schedules, Tau Beta Pi Survey Results</b>
Box 5, Folder 5	<b>Space Suttle Bulletins</b>
Box 5, Folder 6	<b>Combustion Processes in a Bipropellant Liquid Rocket Engine</b>
Box 5, Folder 7	<b>Reference and Source Material</b>
Box 5, Folder 8	<b>Reference: Satellite Auxiliary-Propulsion Selection Techniques</b>
Box 5, Folder 9	<b>Reference Materials</b>
Box 5, Folder 10	<b>Reference and Source Materials - 1963</b>
Box 5, Folder 11	<b>Reference Material: Propulsion for Space Flight</b>
Box 5, Folder 12	<b>Reference Material: Nozzle Performance, One-Dimensional Theory</b>
Box 5, Folder 13	<b>Reference Material: Flow Equations, Impulse Expressions</b>
Box 5, Folder 14	<b>Reference Material: ME 237A Notes and Problems</b>
Box 5, Folder 15	<b>Reference Material: Mechanisms of Thermochemical Erosion</b>
Box 5, Folder 16	<b>Reference Material: General Ablation Data</b>
Box 5, Folder 17	<b>Reference Material: Effect of Chamber Pressure on Ablation Rate of a Packaged Liquid Thrust Chamber</b>
Box 5, Folder 18	<b>Reference Material: Methods to Determine Step Weights of Rockets to Minimize Initial Gross Weight</b>
Box 5, Folder 19	<b>Reference Material: Estimating Performance Capabilities of Boost Rockets</b>
Box 5, Folder 20	<b>Reference Material: Liquid Rocket Heat Transfer</b>
Box 5, Folder 21	<b>Reference Materials: Course Outlines</b>
Box 5, Folder 22	<b>Reference Materials: Status Report on Large Solid Booster Nozzle Inserts</b>
Box 5, Folder 23	<b>Reference Materials: Stage Optimization Curves</b>
Box 5, Folder 24	<b>Reference Materials: Bartz Heat Transfer Theory</b>
Box 5, Folder 25	<b>Reference Material: On Incremental Rockets</b>
Box 5, Folder 26	<b>Reference Material: Estimating Performance Capabilities of Boost Rockets</b>
Box 5, Folder 27	<b>Reference Material: Assorted Hybrids Reference</b>
Box 5, Folder 28	<b>Reference Material: Space Systems Propulsion Studies</b>
Box 5, Folder 29	<b>Reference Material: Ultra-High Temperature Chambers</b>
Box 5, Folder 30	<b>Reference Material: Rocket Power Concept</b>
Box 5, Folder 31	<b>Reference Material: The Problem of Escape from the Earth by Rocket</b>

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Box 5, Folder 32	<b>Reference Material: Fundamental Principles of Reaction Propulsion</b>
Box 5, Folder 33	<b>Reference Material: Altman Enthalpy Tables</b>
Box 5, Folder 34	<b>Reference Material: Energy Limitations on Space Navigation</b>
Box 5, Folder 35	<b>Reference Notes: Liquid Propellant Rockets</b>
Box 5, Folder 36	<b>Reference Notes: Space Slide Rules</b>
	<b>AA 280B Class Files</b>
Box 5, Folder 37	<b>Ramjet Problem Set</b>
Box 5, Folder 38	<b>Air Augmented Rocket Problems</b>
Box 5, Folder 39	<b>Solutions to Air Augmented Rocket Problems (5/10/71)</b>
Box 5, Folder 40	<b>Problem AAR-1</b>
Box 5, Folder 41	<b>Solutions: Two-Phase Flow</b>
Box 5, Folder 42	<b>Two-Phase Flow Problems (4/70, 4/71)</b>
Box 5, Folder 43	<b>Thrust Vector Control Problems (1969-71)</b>
Box 5, Folder 44	<b>TVC Problem 1 Solutions</b>
Box 5, Folder 45	<b>Hybrid Rocket Problem H-1</b>
Box 5, Folder 46	<b>Solution to Hybrid Problem H-1 (4/71)</b>
Box 5, Folder 47	<b>Characteristics of a Good Solution</b>
Box 5, Folder 48	<b>Turbojet Problems</b>
Box 5, Folder 49	<b>Kaplan Problem</b>
Box 5, Folder 50	<b>Ramjet Problem</b>
Box 5, Folder 51	<b>Problem 67-10 Solution (5/25/67)</b>
Box 5, Folder 52	<b>Hybrid Rocket Design, Problem 67-1 (4/13/67)</b>
Box 5, Folder 53	<b>Problem 69-5 Ramjet</b>
Box 5, Folder 54	<b>Solution 67-2</b>
Box 5, Folder 55	<b>Solution 67-2 (4/25/67)</b>
Box 5, Folder 56	<b>Solutions - Ramjet (5/16/67)</b>
Box 5, Folder 57	<b>Ramjet Design Solutions (5/16/68)</b>
Box 5, Folder 58	<b>Units Problem 69-3 (4/22/69)</b>
Box 5, Folder 59	<b>Ramjet Problem (5/16/56)</b>
Box 5, Folder 60	<b>Problem 67-2</b>
Box 5, Folder 61	<b>Advanced Chemical Propulsion Spring 1972</b>
Box 5, Folder 62	<b>Advanced Propulsion</b>
Box 5, Folder 63	<b>Liquid-Solid Rockets</b>
Box 6, Folder 1	<b>Charts and Text Thrust Vector Control by Secondary Injection into Rocket Exhaust</b>
Box 6, Folder 2	<b>Charts and Text Liquid Rockets (1969)</b>
Box 6, Folder 3	<b>Charts and Text Liquid Rocket Charts (1969)</b>
Box 6, Folder 4	<b>Charts and Text Gasdynamic Structure of Jets from Plug Nozzles</b>
Box 6, Folder 5	<b>Charts and Graphs Typical Throttling/Performance Tradeoffs Without Aft-End Injection</b>
Box 6, Folder 6	<b>Charts and Text The Ramjet</b>
Box 6, Folder 7	<b>Charts and Text The Thermodynamics of Aircrafts Jet Engines</b>
Box 6, Folder 8	<b>Charts and Text Aft-End Injection</b>
Box 6, Folder 9	<b>Notes: Dynamics of Two-Phase Flow in Rocket Nozzles (1968)</b>
Box 6, Folder 10	<b>Lecture Notes: Liquid Rockets (1969)</b>
Box 6, Folder 11	<b>Lecture Notes: Selected Bibliography on Transverse Jets to 1966</b>
Box 6, Folder 12	<b>Lecture Notes Hybrid Throttling (6/12/67)</b>
Box 6, Folder 13	<b>Financial: EMPTY</b>
Box 6, Folder 14	<b>Lecture Notes Dynamics of Two-Phase Flow in Rocket Nozzles Spring (1967)</b>
Box 6, Folder 15	<b>Lecture Notes Index to Two-Phase Flow Notes Based on UTC 2102FR</b>
Box 6, Folder 16	<b>Lecture Notes - Hybrid Figure Originals</b>
Box 6, Folder 17	<b>Class Grades and Schedules</b>
Box 6, Folder 18	<b>Advanced Chemical Propulsion Schedule for Spring 1969</b>
Box 6, Folder 19	<b>Advanced Chemical Propulsion Schedules and Grades (Spring 1968)</b>
Box 6, Folder 20	<b>Advanced Chemical Propulsion Schedules and Grades (Spring 1967)</b>
Box 6, Folder 21	<b>Reusable Launch and Reentry Vehicles for Space Flight Short Course (August 1969)</b>
Box 6, Folder 22	<b>Hybrid Experiment UTC</b>

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Box 6, Folder 23	<b>Briefing to the Advanced Propulsion Comparison Steering Committee (March 1, 1972)</b>
Box 6, Folder 24	<b>Reference and Source Materials: Miscellaneous Articles</b>
Box 6, Folder 25	<b>Reference Material: Internal Rocket Dynamics</b>
Box 6, Folder 26	<b>Reference Material: Hybrid Second Copy and Miscellaneous Notes (EMPTY)</b>
Box 6, Folder 27	<b>Study Calculations and Report "Air Breathers"</b>
Box 6, Folder 28	<b>Reference Material "Combustion - Eustis 1961"</b>
Box 6, Folder 29	<b>Reference Material: Misc. Articles from Various Companies Concerning Rockets, Engines and Thrust</b>
Box 6, Folder 30	<b>Reference Material: Development of the Post Injection Propulsion System for the Mariner C Spacecraft</b>
Box 6, Folder 31	<b>Reference Material: Rains - Feed System Notes 1958 and 1962</b>
Box 6, Folder 32	<b>Reference Material: J. Grey - Feed System 1961 (and Dupe)</b>
Box 6, Folder 33	<b>Reference Material: Hoffman Liquid Rocket Survey 1961</b>
Box 6, Folder 34	<b>Reference Material: Gas Storage in Tanks (French: 1962</b>
Box 6, Folder 35	<b>Reference Material: Rocketdyne Propellant Charts (1963)</b>
Box 6, Folder 36	<b>Reference Material: Rains TVC Charts 1963-64</b>
Box 6, Folder 37	<b>Reference Material: Student Design (Frewing 1964</b>
Box 6, Folder 38	<b>Reference Material: Ross on Combustion Chambers Scaling (1965)</b>
Box 6, Folder 39	<b>Reference Material: Glassman Liquid Notes</b>
Box 6, Folder 40	<b>Reference Material: Osborn, Matheson and Kruger: System Problems</b>
Box 6, Folder 41	<b>Reference Material: Miscellaneous Boosts, Instability and Premix</b>
Box 6, Folder 42	<b>Reference and Source Material: Feed Systems 1960-61</b>
Box 6, Folder 43	<b>Two-Phase Flow</b>
Box 6, Folder 44	<b>AA 283: Problem Sets, Quizzes, Notes</b>
Box 6, Folder 45	<b>AA 283: Student Reports</b>
Box 6, Folder 46	<b>AA 283: Things to File</b>
Box 6, Folder 47	<b>Hoffman: Calculation of the Lifting Force</b>
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Box 11, Folder 3	<b>Pogo Demonstrator Publicity</b>
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Box 11, Folder 5	<b>Manned Propulsion Devices and Their Application On Earth and In Space, Seale and Emerson</b>
Box 11, Folder 6	<b>Reference/Source Material, Experimental Investigation of Ultrahigh Vacuum Adhesion as Related to the Lunar Surface, January 1 to December 31, 1968</b>
Box 11, Folder 7	<b>Synoptic Paper and Kaplan Plane-Change</b>
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Box 12, Folder 44	<b>Fluid Dynamics - Miscellaneous Articles by H. G. Heinrich</b>
Box 12, Folder 45	<b>Fluid Dynamics - The Expansion of a Rarefied Gas into a Vacuum by P. Molme July 27, 1959</b>
Box 12, Folder 46	<b>Dynamics - Some Basic Response Relations for Reaction-Wheel Attitude Control, W. H. Cannon Jr.</b>
Box 12, Folder 47	<b>Dynamics - Basic Response Relations for Satellite Attitude Control Using Gyros, R. H. Cannon, Jr.</b>
Box 12, Folder 48	<b>Structures - Paper # 219, Introduction to Instability: A Pictorial Survey of Stability, etc., W. H. Horton, S. C. Bailey, B. H. Mcwilkin</b>
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## **C.5 Reference/Source and Material**

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#### **D.2 Quizzes and Solutions, (Elec. Prop.) 1963**

#### **D.3 Charts and Text**

#### **D.4 Notes**

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**Lecturer Notes - 1963**

**Lecturer Notes - (Electrical and Nuclear Class Notes) 1962**

**Lecturer Notes - Electrical Propulsion**

**Lecturer Notes**

#### **D.5 Records and Schedules**

**Class Grades and Schedules - 1963**

**Class Grades and Schedules - 1965**

#### **D.6 References and Sources**

**Rocket Propulsion - 1961**

**Plasma Characteristics of the Electron... Engine**

**Electrothermal, Ion, Magnetohydrodynamic Propulsion System**

**German Arcjet Work - 1963**

**French Ion Engine Work - 1963**

**French Ion System Study - 1963**

**High Specific Impulse Thermo-ionic Acceleration**

**JPL Technical Report: Plasma non-Uniform and Grid Erosion in an Electron Bombardment Ion Engine**

### **E. Nuclear Rocket Propulsion Course**

**Nuclear Rockets and Fundamentals**

#### **E.1 Nuclear Rockets: Problems**

#### **E.2 Nuclear Rockets: Quizzes**

#### **E.3 Nuclear Rockets: Charts and Text**

#### **E.4 Notes**

**Nuclear Rockets: Speaker/Lecturer Note**

**Charts and Text: Yasui Notes 1964**

**Electric Propulsion Student Notes: Magnetohydrodynamics 1963**

**Speakers/Lecturers: Nuclear Propulsion**

**Nuclear Rocket Propulsion: Bussard and DeLauer (Text)**

#### **E.5 Nuclear Rocket Technology Course**

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**Class Schedules**

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**Grades: Yasui**

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**Course Reference: Fundamental Materials in Heat Exchange**

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## **Course Information Collection II**

### **C.6 Chemical Rocket Design and Technology Course**

**A Preliminary Design Method for Turbopumps**

**Propellant Feed Systems for Liquid Rocket Engines**

**SPS Engine Apollo Contractor Technical Review Meeting**

**AIAA Second Propulsion Joint Specialist Conference**

**Papers: Ignition Systems, Solid Propellant Rocket Motors**

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Box 17, Folder 16	<b>Engineering Problems of Power Sources; Thrusters for Low Acceleration</b>
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Box 17, Folder 17	<b>Air Force Report: Prototype Cesium Bombardment System</b>
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Box 17, Folder 29	<b>Heat Transfer Characteristics of Cryogenic Hydrogen at High Fluxes and Pressures- Aerojet Corporation</b>
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Box 17, Folder 44	<b>Correspondence and Articles Regarding Rocket Nozzle Technology; Paper: Mechanisms of Thermochemical Erosion (April 1966)</b>
	<b>Visiting Lecturer Notes</b>
Box 17, Folder 45	<b>J. P. Layton, Princeton University: Propulsion Technology for Manned Planetary Missions 1967</b>
Box 17, Folder 46	<b>D. A. Rains, United Technology Corporation: Lectures on System Analysis 1961</b>
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Box 17, Folder 65	<b>C. E. Woolridge, United Technology Corporation: The Hybrid Combustion Mechanism</b>
	<b>General Files, Part 2</b>
Box 18, Folder 1	<b>UCLA Short Course, Electro-Thermal Propulsion: Part One of Plasma Propulsion Systems (R. D. Buhler, Electro-Optical Systems, Inc.) 1965:</b>
Box 18, Folder 2	<b>UCLA Short Course, Electro-Thermal Propulsion (R. D. Buhler) 1962:</b>
Box 18, Folder 3	<b>Current Status and Prospects of Electrothermal Propulsion (R. J. Page, Plasmadyne Corporation, 1962)</b>
Box 18, Folder 4	<b>AIAA Short Lecture Series: Electric Propulsion (E. L. Katz, Electro-Optical Systems, Inc., 1965)</b>
Box 18, Folder 5	<b>Survey of Electrically Powered Rockets (H. S. Seifert, 1963)</b>

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Box 18, Folder 6	<b>Ion Rocket Systems (G. R. Brewer, Hughes Research Labs, 1966)</b>
Box 18, Folder 7	<b>Papers Presented at AIAA National Meetings:</b>
	<b>Electric Propulsion in 1964 - A Status Review (E. Stuhlinger, NASA, 1964)</b>
	<b>A 100-KV, 10-W Heavy Particle Thrustor (E. Cohen, C. J. Somol, D. A. Gordon, TRW Space Technology Labs, 1965)</b>
	<b>A Review of the Role of Electric Propulsion (J. Lazar, J. P. Mullin, NASA, 1966)</b>
Box 18, Folder 8	<b>Advances in Space Propulsion: Magnetohydrodynamic Propulsion (R. W. Ziemer, Electro-Optical Systems, Inc., 1962)</b>
Box 18, Folder 9	<b>NASA Technical Report: Hollow Cathode Restartable 15 Cm. Ion Thruster (1973)</b>
	<b>AA 100: Introduction to Aeronautics and Astronautics</b>
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Box 18, Folder 18	<b>A Brief Outline of the History of Aeronautics (E. G. Reid, 1960)</b>
Box 18, Folder 19	<b>AA 100 Lecture Notes on Rocket Propulsion 1967</b>
Box 18, Folder 20	<b>Manuscript Entitled Aeronautics and Astronautics in Six Chapters by N. J. Hoff, Copyright 1968-69</b>
	<b>Engineering 121: Solar Energy Utilization</b>
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Box 18, Folder 26	<b>Lecture Notes</b>
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Box 18, Folder 28	<b>Article: Revere Solar Energy Collector</b>
	<b>AA 101 Summer Course: Solar Energy Utilization</b>
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	<b>Solar Energy for Earth Task Force Material</b>
	<b>Material on Metal Hydrides as a Hydrogen Fuel Source</b>
Box 19, Folder 18	<b>International Astronautical Federation (IAF) Meeting 1976: Agenda and Selected Papers</b>
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Box 19, Folder 20	<b>Manuscript: Advanced Solid-Propellant Rocket Engineering by R. D. Geckler</b>
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<p>Box 19, Folder 23 Box 20, Folder 1</p>	<p><b>Manuscript: Liquid Propellant Rockets, by I. Glassman</b> <b>AIAA Subject and Author Indexes 1968-74</b> <b>AA 280 Course: Rocket Propulsion</b> <b>Class Roster and Lecture Notes on Hybrid Rocket (1962)</b> <b>Quizzes and Exams Fall 1960</b> <b>Problems and Handouts</b> <b>Article on Space Shuttle Design</b> <b>Course Notes and Lecture Schedule 1972-73</b></p>
<p>Box 20, Folder 2 Box 20, Folder 3 Box 20, Folder 4 Box 20, Folder 5 Box 20, Folder 6 Box 20, Folder 7 Box 20, Folder 8</p>	<p><b>AE 281 B,C Thermal Jets - Class Notes and Exams 1947-48:</b> <b>JPL Technical Reports:</b> <b>An Exploratory Investigation of a 1979 Mars Roving Vehicle Mission December, 1970</b> <b>Semiannual Progress Report: Advanced Teleoperator Systems Requirements January 1972</b> <b>Analytical/Experimental Definition of Man-Machine Interface Characteristics in Remotely Manned Systems July 1972</b> <b>Summary Report-Advanced Teleoperator/Robot Studies for Planetary Surface Roving Vehicles July 1972</b> <b>Science Aspects of a Remotely Contolled Mars Surface Roving Vehicle July 1972</b> <b>Remote Manipulator Systems, Technology Review nd Planetary Operation Requirements July 1972</b> <b>Problems of Previous Projects on Scientists/Machine/Operations Interfaces July 1972</b> <b>Remotely Manned Systems for Exploration and Operation in Space - An Overview July 1972</b> <b>Advanced Automation Systems for Manipulator Control Technology Survey December 1972</b></p>
<p>Box 20, Folder 9</p>	<p><b>Correspondence Regarding Sabbatical plans from Stanford University to JPL Advanced Technical Studies Office Spring 1971</b></p>
<p>Box 20, Folder 10</p>	<p><b>Manuscript by P. T. Carroll, JPL: A Horse for Sergeant: The Rise of Case-Bonded Internal-Burning Solid Propellant Rocket Motors December 1971</b> <b>Diary of Meetings and Appointments While With JPL: 8/71 to 8/72 1971;</b></p>
<p>Box 20, Folder 11 Box 20, Folder 12 Box 20, Folder 13 Box 20, Folder 14 Box 20, Folder 15 Box 20, Folder 16 Box 20, Folder 17 Box 20, Folder 18 Box 20, Folder 19 Box 20A, Folder 20 Box 20A, Folder 21 Box 20A, Folder 22</p>	<p><b>General Brochures about JPL</b> <b>Notes from JPL Service 7/71-8/72</b> <b>Review of JPL Teleoperator/Robot Work June 20, 1972</b> <b>Other Teleoperator/Robot Work</b> <b>Soviet Papers on AI</b> <b>SRI Papers on AI and Teleoperator Systems</b> <b>Summaries of JPL Projects Related to Robot Research, Manipulator Systems, AI, etc.</b> <b>Third International Conference on AI 1973</b></p>
<p>Box 20A, Folder 20 Box 20A, Folder 21 Box 20A, Folder 22</p>	<p><b>JPL Robot Research Program</b> <b>Miscellaneous Correspondence while at JPL</b></p>
<p>Box 21, Folder 1 Box 21, Folder 2 Box 21, Folder 3 Box 21, Folder 4 Box 21, Folder 5 Box 21, Folder 6 Box 21, Folder 7 Box 21, Folder 8 Box 21, Folder 9 Box 21, Folder 10 Box 22</p>	<p><b>Remotely Manned Systems Symposia</b> <b>Survey of Remotely Manned Teleoperator Systems</b> <b>Teleoperators and Remote Manipulators</b> <b>JPL Robot Research</b> <b>JPL Manipulator Control Research</b> <b>AIAA Electric Propulsion Technical Committee</b> <b>Solar Electric Propulsion</b> <b>Electric Propulsion Technology - Rockwell Stage</b> <b>Solar Electric Multimission Spacecraft</b> <b>JPL Chemical Propulsion Systems</b> <b>Clippings, correspondence, notes, memoranda, proposals and other items pertaining to Solar Energy Research Institute 1976</b></p>

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Box 22	<b>Notebook of clippings, correspondence, notes, photographs, and press releases, re lunar pogo 1968,</b>
Box 22	<b>Notebooks of class notes and quizzes 1960-75</b>
Box 23	<b>Notebooks of class notes, problems, and exams 1947 and 1967-73</b>
Box 24	<b>Notebooks of class notes and problems 1960-70</b>
Box 24	<b>Clippings, correspondence, reprints, proposals, reports, and brochures on classes and conferences, largely on solar energy 1974-76,</b>
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Box 25	<b>Miscellaneous clippings, articles, and printed matter</b>
Box 26	<b>Notebooks of class notes and problems 1973-75</b>
Box 26	<b>GE and Westinghouse reports on solar heating and cooling of buildings 1974</b>
Box 27	<b>Reports on solar heating and cooling of buildings 1973-74</b>
Box 28	<b>Miscellaneous professional and personal papers, 1959-75:</b>
	<b>Scope and Content Note</b>
	clippings, articles, memoranda, correspondence, biographical materials, audio tapes, memo books, and photographs; includes small reel of 16mm film of chain reaction demonstration, 1947
Box 29 OS	<b>Scrapbook (possibly kept by Bucky Seifert) of clippings, and photographs from Jet Propulsion Lab 1954,</b>
Box 29 OS	<b>Two award certificates to Howard Seifert 1976</b>