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CHARLES H. “CHUCK” LAUBACH COLLECTION

by

Lindsay Gratzfeld, B.A.

MASTER’S PROJECT

Presented to the Faculty of

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CHARLES H. "CHUCK" LAUBACH COLLECTION

by

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ABSTRACT

CHARLES H. “CHUCK” LAUBACH COLLECTION

Lindsay Gratzfeld
University of Houston-Clear Lake, 2017

Master’s Project Chair: Adam Hodges, Ph.D.

This project details the organization, preservation and digitization of the Charles H. “Chuck” Laubach collection, which includes a process narrative, a detailed finding aid, and a sample selection of digitized sources that were uploaded to the University of Houston-Clear Lake institutional repository. As an employee of the National Aeronautics and Space Administration (NASA) for 25 years and a Boeing employee for 19 years, Laubach’s contributions to the space program ranged from work with Atlas booster rockets to the International Space Station and Space Shuttle Program. The goal of this project was to contribute a portion to a workable NASA archive that will be beneficial to the historical community, especially for those interested in logistics engineering. This collection explores the importance of logistical engineering in tandem with international contributors to the International Space Station.

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CHAPTER I: PROCESS NARRATIVE OF THE CHARLES H. "CHUCK" LAUBACH COLLECTION

The Charles H. "Chuck" Laubach collection is now a permanent part of the University of Houston-Clear Lake (UHCL) archives within the Alfred R. Neumann Library and is the property of the Johnson Space Center (JSC) and National Aeronautics and Space Administration (NASA). The previously large, unsorted collection was generously donated in a large bulk by his surviving family members following his death in 2013. Laubach worked for NASA for twenty-five years and then for both NASA and the Boeing Company for an additional nineteen years. The collection spans papers from his nascent career with Atlas booster rockets in the early 1960s to his time at the Boeing Company assisting with the Space Shuttle Program and the International Space Station Program until 2006. Toward completing my MA project, I organized the entire collection according to the professional standards of the UHCL Archives, which are in accordance with Library of Congress procedural methods. Though the College of Human Sciences and Humanities (HSH) gave me ample time to research in archival facilities, I was unfamiliar with the archival methods that this project demanded, but I was willing to undertake the challenge. My degree program prepared me to make decisions regarding the analysis, preservation, organization, inclusion, exclusion and digitalization of primary source material within the Laubach Papers. Processing the collection allowed me to use the historical thinking skills I acquired during my course work.

I visited the UHCL archives on June 5, 2017 to meet with the UHCL Archivist, Ms. Lauren Myers. I was given a list of potential project collections as well as an

extensive orientation that allowed me to explore several options to choose from to experience the archival process. After considering the list of possible donation candidates, I investigated the papers of Charles H. “Chuck” Laubach that awaited processing within the environmentally controlled archival vault located within the Alfred R. Neumann Library. After choosing my archival project, Lauren Myers allowed me to examine thirteen file boxes of the Laubach collection. The boxes contained a variety of primary source materials, including loose-leaf papers, presentations, manuals, blueprints, email correspondence, photographs, video tapes, floppy disks, and CD-ROMs. The majority of the items were placed in bound and labeled binders or preexisting envelopes and folders that allowed for the preservation of the collection while other boxes seemed haphazardly packed without any clear sign of organization by the subject or his family members. Under the guidance of Ms. Myers, when handling these organized, bound, and preserved portions of the collection that were created by the subject it was decided it would be best for future researchers to view the collection in its original form. Much of the collection was in good condition for Laubach’s more recent work. However, the task was made arduous by the fact that part of the collection was stored in extremely hot and humid temperatures in an attic forgotten except by pests, such as roaches and rodents, for several years and was in desperate need of preservation.

As a public high school teacher, I possessed the flexibility to work in the UHCL archives during the work week while on summer break every day during the archive’s business hours from 8:00am to 4:30pm. I began working full time in the archives during the week of June 5th, 2017. Amid my first week I received instruction on how to handle

and process the collection under the instruction of Ms. Myers. She made sure that she was present to answer any questions that arose while I tackled this project and gave me the correct archival tools to do so. As I gained confidence in the archival process, she allowed me to work more independently. My goal was to work on the project in a series of phases. I began a very broad process of selecting individual boxes, processing them, and web mapping general topics to begin the categorization process of the collection. I focused on place of employment such as General Dynamics, NASA and the Boeing Company while also subcategorizing projects such as the Space Shuttle Program and the International Space Station Program. I also had to create general subjects that focused on various aspects of logistics engineering that required further research outside of my archive work hours.

In the beginning days of the first week I brought out a single filing box and set up my work station in the commons of the archive and systematically removed all of the documents, folders and binders from the boxes in which they were stored. My work station consisted of a single large table and a wheeled filing cart, as well as the shelves within the archival vault used to store the collection to replace processed boxes. I took each item from the box and began removing extraneous objects such as three-ring binders, metal and plastic paper clips, staples and rubber bands. Once I finished removing these items, I placed the uncluttered material into manila folders. Each manila folder followed a similar labeling process: the left hand corner contained the subject's full name, Charles H. "Chuck" Laubach, and the center contained the item's previously existing title or a generic title to be sorted into larger categories later. Any unnecessary

materials such as duplicates, generic Boeing Company and NASA mail, or confidential personal information of the subject was documented and removed for shredding. This process was repeated for every item present within the initial filing box. Once all items were processed, given a preliminary file label and stacked upon the table, each file was then placed back into the original filing box and replaced upon the archival shelf for later organization once all twelve remaining boxes were processed. Depending upon the contents of each filing box, I was able to get through a box every other day for the next six weeks. Some boxes took considerably more time due to the massive amounts of items found within, while other boxes filled with mixed media could be processed quickly. Only after all thirteen boxes were stripped of superfluous materials, placed in manila filing folder and were individually labeled, did I begin the second wave of scrutiny and organization.

In the seventh week, I began a second wave of sorting and organization, which was done thematically by place of employment and project title, which took me about a week. I started by carting all thirteen boxes out to my work station in the commons of the archive and began shifting folders to different boxes based on their theme. The filing boxes had no chronological or thematic organization before the secondary sort. Some themes in the collection required more than one filing box to fit a category while some boxes shared up to two themes. I pulled files and began stacking themes around my work table and cart. Once the folders were sorted by theme they were then sorted within those categories in chronological order with undated materials placed in the back of the filing box for later examination. If the date could not be determined upon further scrutiny, the

file was then housed in the back of the box and labeled “undated,” so future researchers would know that more material existed about that particular subject. Any miscellaneous folders that could not be placed in a clear category were set aside for further examination and consideration with Ms. Myers. Since information about Charles H. “Chuck” Laubach was limited, extra research was performed at home as well as at the archives in order to properly categorize and place each folder.

During the following week, the categorized folders were then placed in special acid-free boxes that enhance the longevity of the materials stored within where they were given a theme label, box number and manila file number that finalized the labeling of the collection. Thirteen unorganized file boxes were filtered, organized and preserved into thirty-eight archival boxes. These thirty-eight boxes were then removed from the general archival vault, which contained collections that were waiting for processing, and placed into its sister archival vault for general research access.

The creation of a working timeline and organization of primary source materials into themes and chronology was a skill that I developed throughout my undergraduate and graduate course work in History at UHCL. The program taught me how to analyze primary source materials in order to understand their source, time period, and content, which proved to be indispensable skills toward the comprehension and organization of the Laubach papers. Primary sources are the driving force of the study of history. The archival process allowed me the opportunity to add to that force. Though I have very little personal experience with logistical engineering and the jargon that accompanied the field

within the pages of the Laubach collection, I was able to put those materials through the same analytical process to determine purpose and theme.

Throughout the initial process of stripping the Laubach collection of unnecessary materials, the secondary process of organizing the material into thematic categories and the tertiary process of reorganizing those categories chronologically, I worked on preserving the documents of the collection for future researchers. As a history student, the process of interacting with primary sources was not new; however, the experience of preserving primary sources for future researchers was. I had never had the pleasure of working in or visiting an archive before organizing the Laubach collection. I was eager to learn about the archival process and gain valuable experience in preserving the past for future generations of researchers.

Beginning the preservation process required the removal of bulk-producing items that caused damage to the collection. The majority of these items were mundane office supplies such as metal staples, binder clips, paperclips, brads and velo binding. Many of these binding items were in varying degrees of rust, the dusty flakes of which stained attached materials. Rusted items had to be carefully removed without damaging the paper to reduce bulk during storage in the archival vault. Some of the Laubach papers needed to retain paperclips. Plastic-covered paper clips were used in an extremely limited capacity to reduce further damage to the collection while binding certain materials together to maintain the integrity of the subject's preferred grouping. Other binding materials such as binders, plastic velo binding and plastic spiral binding were removed to reduce bulk. Adhesives of all kinds were also removed from documents, including tabs and post-its,

due to their tendency to leave behind residue that caused papers to stick together, accumulate dirt or remove ink from the paper's surface. The acidic nature of these adhesives, which had already been stored in hot and humid temperatures in the Laubach attic, carried the potential to further degrade the integrity of the materials. Under the guidance and recommendation of the archivist, the materials were removed with a flat scraper or left in place if their removal would have caused more damage to the document.

A challenging part of the preservation of the collection was separating papers and transparency material produced by a laser printer. Due to the technology of the era, transparencies were printed from a laser printer with the ink on top, creating a rough surface that can bind to and stain surrounding documentation. Some documents had particularly dark ink that caused folded documents to become hermetically sealed due to age and heat and printed documents in a series to become stuck together. Upon very carefully separating these documents carefully with a thin metal spatula and the use of latex gloves, many documents still suffered damage. These documents needed to be photocopied for preservation because the originals had to be removed from the collection. Any other documents that were prone to sticking together, but were not transparencies, were either placed in special acid-free white folders or discarded under the guidance of the archivist.

Several boxes within the Laubach collection suffered excessive damage from their prolonged exposure to Texas summers and visiting vermin. These filing boxes contained older documents that dated back to the late 1950s through the 1970s. Because of the improper storage of the collection, rubber bands melted to binders, files and papers and

metal staples, binders and paper clips had rusted and adhered to the surface of the papers, making removal difficult. The removal of these usually benign office supplies was necessary to prevent further damage to the collection. For these situations, I asked for assistance from the archivist to mitigate the damage incurred from the removal process.

I also had to make decisions on what items were to be included in the final form of the collection and what items would be excluded or were in need of more critical review. One of the first issues I confronted was determining the fate of the performance evaluation forms that Laubach had collected throughout his Boeing career. While these documents illuminated the stellar quality of Laubach's tenure within the company, they were overall unnecessary to his body of work because they constituted private information. These items were removed and shredded. Other personal documents were also removed that revealed the details of Laubach's financial state while at the Boeing Company and incurred medical expenses from various illnesses, including the cancer that ultimately took his life. Personal information such as contact information of other employees was also removed from the collection as they included physical addresses, names of spouses and children, birthdays, anniversaries and telephone numbers, which could still be relevant today. Such items were handled with care to be shredded later. Another portion of the collection that was removed was any generic mail that Laubach received while working at NASA and the Boeing Company that every employee would have received. This also included screen shots and printed pages from the NASA and Boeing Company websites. The collection contained several binders of printed portions

of websites on a variety of subjects, which were gratuitous to the overall body of Laubach's work.

Also removed for later examination were books that the subject had collected. The International Standard Book Number (ISBN) on all books found within the collection was checked against the Alfred R Neumann Library catalog. If the book was not part of the existing library collection it had the potential to be added, so long as the book was in good condition. If the publication was a duplicate, then it would be considered for donation. Damaged books were recycled.

Electronic media was separated from the standard-sized archival boxes and placed into an elongated, oversized box marked thirty-eight. The electronic media included CD-ROMs, VHS tapes, Zip Disks and floppy disks of varying size. Many of these items could not be investigated or played without the proper machinery to do so, which the UHCL archive lacked. The VHS tapes stayed in their original packaging and protective casing and were placed into the oversized, acid-free box where they shared space with oversized presentations and diagrams. CD-ROMs and Zip Disks were placed in new, acid-free plastic casings to reduce bulk.

The historical thinking skills I acquired during my undergraduate and graduate career when crafting research papers guided me through the decision making archival process. When writing a research paper, I researched primary sources that would later be analyzed to decide if the document in question would strengthen my thesis. I used a similar procedure when determining whether or not a piece within the Laubach Papers added overall value or would create a distraction within the final collection.

Another segment of my project was to create a finding aid for future researchers to use in order to quickly move through the collection to assess the materials for their own projects and to digitize some of the documents for online use. These aspects of the project were the most unfamiliar to me as I had done neither during my BA or MA course work. However, as a student I had interacted with digitized primary sources and could understand the importance of digitizing a portion of the Laubach collection.

Creation of the finding aid required me to finalize the citation of each of the thirty-eight boxes and their associated folders inside, which took about three days. Afterwards, I used a Microsoft Word template to begin the writing process of the finding aid by citing the box and folder number, the title of the folder content, and the number of the folder within that series. This took me two days.

Having digital access to primary sources allows the researcher to virtually visit archives around the country and the world. Choosing, scanning and uploading a portion of the Laubach collection was vital for providing accessibility to researchers. I was asked by the archivist to pick out certain documents to digitize and upload into the institutional repository, called D-Space, to be available to researchers. Materials were selected for their brevity, ability to make readers understand the complexity of Laubach's profession, and general interest. Since the collection spans from the 1950s through the mid-2000s, the entire collection could not be uploaded into the institutional repository.

Beginning the digitizing process required a careful selection of sources to scan using the archive's Epson Expression 10000XL scanner. From this machine, the text and image documents were scanned into 400 Dots per Inch (DPI), to ensure the highest

quality for images. These images were automatically uploaded as a Tagged Image File Format (TIFF). Once scanned, all TIFF files were then converted into a Joint Photographic Experts Group (JPEG) due to the limited data space of the institutional repository as TIFF files are too large. The documents were then saved on a flash drive to be manipulated on a computer. I would rotate the JPEG files into the appropriate landscape or portrait format and ensured the visibility of all images before they were uploaded into D-Space.

After converting the selected documents into digital scans, the archivist gave me a Microsoft Excel template to complete prior to uploading the collection onto D-Space. The template included a variety of metadata fields that were specific to each document, such as: contributor, abstract, publisher, source collection, subject matter, title of the document and genre. These metadata fields are required for the D-Space institutional repository. Once the template was completed, I uploaded each image file and included all the metadata fields that identified each exhibit uploaded. I uploaded a total of nine different documents and images of varying length.

This processed collection will entice scholars from the aerospace community, both domestic and international, to UHCL. Since UHCL is geographically close to the JSC, the university has the unique ability to house NASA primary source material on campus and allow students to physically engage with artifacts of history as well as expose researchers to one of the most technologically innovative institutions within the United States. Many primary sources could not continue to exist without the painstaking steps archivists perform to preserve history, upon which historians rely. To be granted the

opportunity to physically document and preserve primary source material, which was a process that was interesting and valuable to me, furthered my understanding of the historic perspective in the present. It also shed light on the important work that the UHCL Archives performs.

CHAPTER II: INVENTORY OF THE CHARLES H. "CHUCK" LAUBACH
COLLECTION

**FINDING AID FOR THE CHARLES LAUBACH PAPERS,
1958 – 2006 (#2017 – 0009)**

Contact Information

University of Houston-Clear Lake Archives
Neumann Library
2700 Bay Area Blvd.
Houston TX 77058
Phone: 281-283-3936
Email: archives@uhcl.edu
URL: www.uhcl.edu/library

Descriptive Summary

Repository (049): University Archives

Collection # (099): 2017 - 0009

Title (245): Charles Laubach Papers

Creator (100/110): Laubach, Charles

Inclusive Dates: 1958 – 2006

Extent (300): 11.5 linear feet (38 boxes)

Language (546): English (US)

Administrative Information

Restrictions on Access (506): none

Restrictions on Use (540): none

Acquisition Information (541): Donated by his wife, Carole Laubach, in September 2014.

Processed by (583): Lindsay Gratzfeld

Preferred Citation (524): Charles Laubach Papers (2017 – 0009), University of Houston-Clear Lake Archives.

Biographical/Historical Note (545)

Charles H. "Chuck" Laubach was born in the city of San Antonio, Texas on November 11, 1932 and died in Friendswood, Texas on February 19, 2013 at the age of 81 due to complications from cancer. Laubach began his aerospace industrial career in San Diego, California under General Dynamics – Convair Astronautics after graduation from Texas A&M University in 1958 with a Bachelor's Degree in Mechanical Engineering. In 1962, Laubach moved back to Texas to begin his 25 year service with the National Aeronautics and Space Administration (NASA) where he dedicated his life as a design and logistics engineer for landmark projects such as the Atlas – Centauri, Project Orbiter, and Apollo Missions. While with NASA, Laubach worked on environmental acceptance testing (EAT), integrated logistics Support (ILS), logistics support analysis (LSA), and logistics support analysis records (LSAR).

In 1987, Laubach left NASA and began a career working alongside McDonnell – Douglas and for the Boeing Company where he continued to act as a logistics engineer for the Space Shuttle Program (SSP) and his tireless work with the International Space Station Program (ISSP). While at Boeing, Laubach stood out amongst his peers and lead several projects in designing from start to finish various logistics efforts. He designed manuals and drafted presentations on the importance of logistical engineering and applied ground maintenance of grounded space shuttles and ISSP technology. While working with the ISSP, Laubach was able to travel to foreign nation-states, such as Italy and the Netherlands, in an effort to collaborate with nations around the world to maintain the vision of a united humanity undergoing space exploration. The majority of the Laubach collection spans over his years with Boeing while working in collaboration with NASA and the Johnson Space Center (JSC).

Throughout his lengthy career with NASA and Boeing, Laubach maintained a sterling reputation and incredible work ethic and was recognized as a valuable employee when he retired after 19 years of service with Boeing in 2006 at the age of 73.

Scope and Content (520)

Collection contains the work papers of Charles H. "Chuck" Laubach, Johnson Space Center (JSC) logistics and maintenance engineer from 1958 until 2006. Content includes documentation from General Dynamics, Convair Astronautics, Apollo Environmental Acceptance Testing (EAT), McDonnell – Douglas, United Space Alliance (USA), Space Shuttle Program (SSP), International Space Station Program (ISSP), Logistics Support Analysis (LSA), Logistics Support Analysis Record (LSAR), Logistics and Maintenance (LM), and Integrated Logistic Support (ILS), Department of Defense (DOD) and Military Standard contracts.

Arrangement

The papers of Charles H. "Chuck" Laubach have been arranged in series that correlate to subject matter and each series is organized chronologically.

Index Terms (6xx):

Personal Names: Charles H. "Chuck" Laubach.

Corporate Names: Boeing, NASA – Johnson Space Center, Alenia, McDonnell Douglas, Convair Astronautics, General Dynamics, Barrios Technologies, Martin Marietta, Johnson Space Center (JSC), Rockwell, Marshal Space Flight Center, Fisher – Price, GOLD Western Pacific Data Systems (WPDS), Vision Analytics, Inc.

Subjects: Apollo, McDonnell – Douglas, Convair Astronautics, General Dynamics, United Space Alliance (USA), Space Shuttle Program (SSP), International Space Program (ISP), Integrated Logistics Support (ILS), Logistics and Maintenance (LM), Logistics Support Analysis (LSA), Logistics Support Analysis Record (LSAR), Department of Defense (DOD), Atlas – Centaur Project, Apollo Project, Orbiter Project, Space Station Freedom.

Places: California, Texas, Florida, Netherlands, Italy.

Document Types: paper, CD – Rom, 5 ¼ Floppy Disk, Zip Disk, VHS Tape, U – MATIC Tape, Photographs, Transparencies.

Items Separated

Contact UHCL Archives Staff for a full list of items removed from the collection.

Inventory

<u>Box</u>	<u>Folder</u>	<u>Title</u>	<u>Date</u>
		Series I: General Dynamics/Convair Astronautics	
1	1	Convair/Astronautics: "D" Series Pod Cooling Duct, Disconnect Test	Nov. 3, 1958
	2	Convair/Astronautics: Functional Test, M 92, Separation Cartridges	Apr. 29, 1959
	3	Convair/Astronautics: Instructions for Preparation of Test Estimate and Schedule	Oct. 29, 1959
	4	Convair Astronautics Division/General Dynamics Corp.: Base Activation Booklet	1960
	5	General Dynamics/Astronautics: Test Procedure "E" and "F" Series Booster Staging Draft Test	Mar. 13, 1962
	6	General Dynamics/Astronautics: Standard Instrumentation Procedures for Point Loma Test Site	Aug. 17, 1962
	7	General Dynamics/Astronautics: "E" and "F" Series Booster Staging Test	Aug. 31, 1962
2	1	General Dynamics/Astronautics: Test Procedure, Spare Power Chamber Separation Test	Jul. 1963
	2 – 4	General Dynamics/Astronautics: Centaur Space Power Chamber at Lewis Research Chamber	Feb. 24, 1964
	5	General Dynamics/Astronautics: Photograph Series	Apr. – May 1964
		Series II: General NASA Materials	
3	1	NASA/Lewis Research Center: Good Comments on C. Laubach's Performance	Dec. 23, 1963
	2	NASA/JSC Announcement 73 – 59	Mar. 29, 1973
	3	Aerial Photos from NASA/JSC	Sept. 1973
	4	NASA and Space News	1974
	5	NASA: Hearings before Subcommittee on Space Science and Applications of the Committee of Science and	1977

		Technology to the United States House of Representatives	
	6	NASA Activities	1972 – 1979
	7	NASA/JSC: Memorandum Series	1983 – 1986
	8	NASA/JSC: Reassignments and Position Memos	c. 1987
	9	NASA: Spare Parts Acquisition Policy	Dec. 10, 1989
	10	Organizing for Effective NASA Space Operations Support in an MIS Environment	1991
	11	NASA: Vision Presentation	Apr. 2002
	12	NASA/Boeing: Draft, Generation a NASA DD1149	Sept. 1, 2004
	13	Fact Sheet on NASA Design for Safety	Undated
	14	NASA/JSC: Educational Programs, Public Affairs, Office Booklets and Briefs for Classrooms	Undated
	15 – 16	NASA Policy Directive (NPD 7500.1A)	Undated
		Series III: Environmental Acceptance Testing (EAT) and Military Documents	
4	1	Apollo Space Craft Program and Environmental Acceptance Testing (EAT)	1971 – 1973
	2	NASA/JSC: Environmental Acceptance Test Summary for Flight Readiness Review	1973
	3	Military Standard – 499A (USAF) Engineering Management, Dept. of Defense	May 1, 1974
	4	Proceedings of 2 nd Aerospace Testing Seminar, Institute of Environmental Sciences, The Aerospace Corps; Los Angeles, CA	Mar. 17 – 18, 1975
	5	NASA/JSC: Specification Environmental Acceptance Testing	Sept. 1975
	6	Military Standard (MIL – STD) – 154F (USAF): Optional Spare Parts, Maintenance and Inventory Support of Space and Missile Systems	Jun. 15, 1977
	7	U.S. Dept. of the Air Force: Acquisition Management, Integrated Logistic Support (ILS) Program	Feb. 7, 1980
	8	Dept. of Defense: Directive, Acquisition and Management of Integrated Logistics Support (ILS) for Systems and Equipment	Nov. 17, 1983
	9	Military Standard: Dept. of Defense (DOD) Requirements for a Logistics Support Analysis Record (LSAR)	Jul. 20, 1984
	10	Naval Aviation Systems Team, Aircraft Wiring Support Equipment Commodity (AWSEC) Program Summary	Undated
		Series IV: Rockwell & Space Shuttle Program	
5	1	Rockwell/Space Shuttle: System Summary	Sept. 1974
	2	Rockwell International: Internal Letter: Hydrogen Concentration Detected During MPTA Testing at NSTL	Dec. 12, 1978
	3	Marshall Space Flight Center Configuration Control Board Directive: Baseline ISS Integrated Logistic Support (ILS) LVL B Program Definition and Requirements Documents	May 29, 1985
	4	Boeing: Reusable Space Systems, Florida Operations Critical Skills Guide	1998

	5	Boeing: Reusable Space Systems, Palmdale AIT Presentation	Oct. 7, 1999
	6	Space Shuttle Program News	Apr. 2001
	7	NASA: Space Shuttle Specification Environmental Acceptance Testing, Revision C	May 17, 2001
	8	NASA: Marshall Space Flight Center Presentation, "Transforming Marshall: A New Vision, A Bright Future," Center Director's Update	Jun. 30, 2004
	9	C. Laubach to M. May Email Series	2004
	10	Rockwell: Leadership in Space Logistics	Undated
	11	Shuttle Program Orientation, Course No. 174AB	Undated
		Series V: Atlas – Centaur, Constellation, Orbiter, Apollo, Columbia and Cox Report	
6	1	NASA: Atlas – Centaur Separation System and Surveyor Staging	Mar. 27, 1963
	2	Apollo Checkout Criteria, Apollo Space Craft Program, NASA Houston, TX	Oct. 22, 1964
	3	NASA/JSC: Thermal Life Certification of Orbiter Avionics	Mar. 9, 1976
	4	Apollo – Soyuz Pamphlet No. 6: "Cosmic Ray Dosage"	Oct. 1977
	5	NASA: Orbiter Project Miscellaneous Information	1978
	6	NASA/JSC: Orbiter Project, Main Propulsion Test	Apr. 26, 1979
	7	NASA/JSC: Orbiter Project, Personnel Location Assignments for Static Firing #5	May 12, 1979
	8	NASA/JSC: Orbiter Project, Main Propulsion TRSD Test Program, Data Tables	1979
	9	Operations Shuttle Orbiter Spare/Repair Parts, Provisioning Procedure, Revision I	May 7, 1982
	10	NASA/JSC: Orbiter Repair Agency Design, Activation and Operations Requirements Document, Space Shuttle Office	1985 – 1988
	11	Cox Report: Summary and Action with Boeing	Feb. 2001
	12	Columbia Accident Investigation (CAIB)/NASA, Accident Investigation Team (AIT) Working Scenario, Final Version	Jun. 8, 2003
	13	NASA: Renewed Commitment to Excellence: Assessment of the NASA-Agency-Wide Applicability of the Columbia Accident Investigation Report	Jan. 30, 2004
	14	NASA: Office of Exploration Systems, Code T, Project Constellation Work Breakdown Structure (WBS) Basic Frame Work	Jun. 21, 2004
	15	Boeing/NASA: Bilateral Meeting with Columbus Orbital Faculty and ISS Logistics	Feb. – Mar. 2001
	16	Development and Operations of the Shuttle Orbiter Repair Depot	Undated
		Series VI: Logistics Support Analysis (LSA) and Logistics Support Analysis Records (LSAR)	
7	1	Guide for Logistics Support Analysis (LSA) and Logistics Support Analysis Record (LSAR)	Dec. 1984
	2	Space Station: Logistics Support Analysis (LSA) Presentation/Pitch	Oct. 8, 1985

	3	Martin Marietta: For Space Station Logistics Support Analysis (LSA) Integration Process Overview (Foldable)	Oct. 8, 1985
	4	Logistics Support Analysis (LSA) Article	Jan. 1986
	5	Boeing: Logistics Support Analysis (LSA) Planning Team, Meetings and Demonstration	1986
	6	Handwritten Logistics Support Analysis (LSA)	Aug. 23, 1990
	7	Getting Organized for a Logistics Support Analysis (LSA) Proposal	1991
	8	Boeing: Unpressurized Logistics Resupply Analysis Report by Boeing Prime Cargo Integration Team	Sept. 22, 1997
	9	Introducing Logistics Support Analysis (LSA) and Logistics Support Analysis Record (LSAR) Information Packet (Missing Cover Page)	Undated
	10	Logistics Support Analysis (LSA) Presentation/Explanation	Undated
	11	Logistics Support Analysis (LSA): Training Exercise	Undated
	12	Cost Estimating Methodology for Logistics Support Analysis (LSA), Material Readiness Support Activity	Undated
	13	Boeing: presentation on LSARS and Interchangeability Code Assignment	Undated
	14	LSAR Review Report and Recommended Action	Undated
	15	Logistics Support Analysis (LSA) Written Notes	Undated
		Series VII: Human Space Flight & Human Robotic Technology	
8	1	Space Station Human Productivity Maintenance Study, Final Report for NASA/JSC	Jul. 1986
	2	NASA: Human Space Flight Schedule, Boeing	Feb. 2002
	3	NASA: Human and Robotic Technology (H&RT) Formulation Plan, Version 5	Jul. 29, 2004
	4	NASA: Space Exploration Systems, Human Robotic Technology Proposal and Overview	2004
	5	Boeing: Human Space Flight and Exploration (ISS) "Supercam Export Representative Export Compliance Desk Reference Manual," Training	Undated
	6	Boeing, Space and Communications: Human Space Flight and Exploration, ISS Mission Operations and Product Support	Undated
		Series VIII: Logistics & Maintenance	
9	1 – 2	ISS Program: Station Program Implementation Plans, Vol. 5, Logistics and Maintenance, Revision A; Plan Edit Series	1996 – 2002
	3 – 4	Boeing, NASA/ISSP: Logistics and Maintenance Operational Support	Feb. – Dec. 2002
	5	Boeing: Maintainability and Maintenance Planning	Undated
	6	ISS Program: RMAT History Presentation, Logistics and Maintenance	Undated
	7	New Contract for Logistics and Maintenance, Statement of Work (SOW) ISS Program	Undated

		Series IX: International Space Station (ISS)/ International Space Station Program (ISSP)	
10	1	NASA/JSC: Space Station Program Definitions and Requirements, Sec. 3, Part 4.1: Master Verification Requirements	Apr. 17, 1986
	2	NASA/JSC: Level B Change Request, Baseline PDRD Sec. 3., Space Station Ground Systems "Design-To" Requirements	Jul. 11, 1986
	3	Space Station Program: Request for Baseline for Ground Systems "Design-To" Requirements	c. 1986
	4	Space Station Approach: Lessons from Trident Submarine Program	Jan. 1987
	5	NASA/JSC: Preliminary Integrated Operations for Phase I Space Station: Mission Support Directorate, Mission Planning and Analysis Division	Feb. 1988
	6	NASA/JSC: Space Station Projects Office MIR Special Topic: Space Station Freedom Inventory Management	May 31, 1990
	7	NASA/JSC: Space Station Projects Office, Acquisitions Logistics Support Requirements, Revision A	Jun. 4, 1991
	8	NASA: Operations Phase Assessment Team II (OPAT) Reference Data, Space Station Redesign, Basic Report	Apr. 23, 1993
	9	NASA: ISS Program, Depot/Manufacturing Facility Certification Plan	Apr. 21, 1997
	10	ISSP, NASA/JSC: Increment Definitions and Requirements, Annex 1 & 2 Reference Data	Apr. 1998
	11	ISS Program: Acronyms/Abbreviations List, Revised	Jan. 7, 1999
	12	Boeing/ISS: Mission Evaluation Room (MER) Handbooks and System Problem Resolution Team (SPRT) Reference Data	Jun. 1, 1999
	13	Boeing: Roles and Responsibilities with the ISS Program, Costs	Aug. 4, 1999
	14	ISS Program: Baseline, Operations and Utilizations (OU) Work Breakdown Structure (WBS)	c. 1999
	15	ISS Program: ISS Organization Presentation	Jan. 24, 2000
	16	NASA: ISS Program, Depot/Manufacturing Facility Certification Plan, Revision A	Mar. 3, 2000
11	1	NASA: ISS Program, Depot/Manufacturing Facility Certification Plan, Revision A	May 24, 2000
	2	Boeing/ISS: Economic Development of the Space Station	May 25, 2000
	3	ISS: Operations Architecture Study, Final Report	Aug. 2000
	4	ISS Program: Research Program Plan and Accompanying Articles	Sept. 20, 2000
	5	Boeing: ISS Field Services HOU – OPM – 007	Oct. 13, 2000
	6	NASA and ISS Program: Depot/Manufacturing Facility Certification Plan, Revision A (Emails Included)	Nov. 13, 2000
	7	Boeing/ISSP: CR2605 Status, ISS Electrical Power System Components	Jun. 12, 2001
	8	Boeing/ISSP: Product Support Overview	Jul. 23, 2002
	9	Boeing/ISS: Preliminary Level I and II Integrated Master Phasing Schedules, Presentation, and Emails	Nov. 2003

	10	Boeing/ISS: IPIC and 10K Sustaining (Post – Production Support) Tasks; MO SA11D1, C. Laubach, M. Harris Presentation	Feb. 20, 2004
	11	ISS and Boeing Sustaining Tasks and Logistics Flow Charts	Feb. 20, 2004
	12	Boeing/ISSP: Obsolescence Management Program IPL Update	Jul. 29, 2004
	13	ISSP: Program Instruction Draft Edit Series with Comments	Nov. 2004
	14	NASA/JSC/ISS: Launch Site Integration Office (LSIO), Informal Briefing	Dec. 2, 2004
	15	ISSP: ACA Steering Committee Meeting	Mar. 17, 2005
	16	Boeing/ISS: Summary of NASA ESAs Roadmap, Guidance, Navigation, and Control Team	Oct. 13, 2005
	17	ISSP: Enhanced ORU Temporary Platform, Logistics, Sustaining and Other OSE Efforts	Nov. 2005
	18	Boeing/NASA/JSC/ISSP: Return Manifest Disposition Plan Blank Book Review Copy	Jan. 2006
	19	NASA/JSC/ISSP: Safety Review Process Draft, Revision D	Feb. 2006
12	1	NASA/ISS: Model for Estimating Space Station Operation Costs (MESSOC)	Undated
	2 – 3	ISSP: Station Program Implementation Plan (SPIP)	Undated
	4	ISS Hardware Flows and Drafts	Undated
	5	ISS/Boeing: Fleet Resource Management Process Overview and Floppy Disk	Undated
	6	Boeing/ISSP: Fleet Resource Management Program Review	Undated
	7	Emails from C. Laubach to J. Acevedo, CR, and LSG Sparing Draft, Notes, and Miscellaneous Pages	Undated
		Series X: Integrated Logistic Support (ILS)	
13	1	Integrated Logistics Support Plan (ILSP) and Logistic Background Data, (NASA/ISS)	Feb. 1986
	2	Integrated Logistics Support – Interface	Jun. 1986
	3	Integrated Logistics Support Plan (ISLP) Contract: S – 901401 – 57 (DR MU – 02)	May 1991
	4	Boeing: V – 22 Integrated Logistic Support Database Study	Aug. 27, 1999
	5	Integrated Logistics Support: Opportunity For Improvement, Operations and Utilizations (OU) Trade Study Reference Data, Boeing	Aug. 30, 1999
	6 – 7	Boeing: Integrated Logistics Support (ILS), FADs, Functional Basis of Estimates (BOEs) for IP/Ps Visit Support Data, Reference Data	c. 1999 – 2001
	8	Integrated Logistics Support (ILS)	1999
	9	Integrated Logistics Support (ILS), Boeing Functional Basis of Estimates (BOEs)	c. 1999
	10	Boeing: Edit Series of Space Station Integrated Logistics Support – An Approach Manual	Undated

	11	NASA/JCS: C. Laubach Presentation, Integrated Logistics, with Diagrams, Interfaces, and System Requirement Analysis	Undated
	12	Boeing: Integrated Logistics Support (ILS) Functional Tree (Master), Work Breakdown Structure (WBS) Subjects, FADs, Attached Transparencies	Undated
	13	Boeing: Integrated Logistics Support Information	Undated
		Series XI: Work Package #2	
14	1 – 4	LEHR – Goldman, Vol. II, Section 2.7 – Option Edit Article Series by Team Red Review, McDonnell Douglas/Space Station Program Work Package	1987
		Series XII: McDonnell Douglas & Space Station Freedom	
15	1 – 15	McDonnell Douglas: Space and Defense Imagery Log	c. 1995 - 1997
16	1 – 7	McDonnell Douglas: Space and Defense Imagery Log	c. 1995 - 1997
	8	McDonnell Douglas Corp.: A Collection of Technical Papers; AIAA/SOLE 1 st Space Logistics Symposium	Mar. 24 – 26, 1987
	9	Space Station/ McDonnell Douglas: Logistics Space Station Work Package 2, Integrated Logistics Support (ILS) by C. Laubach	Jun. 23, 1988
	10	McDonnell Douglas: Space Station Logistics, Space Station Freedom Work Package 2, Integrated Logistics Support (ILS) by C. Laubach	Nov. 29, 1988
	11	McDonnell Douglas: Integrated Logistics Support (ILS), Logistics Support Analysis (LSA), Logistics Support Analysis Record (LSAR)	1989
	12	NASA/JSC: Space Station Freedom, Onboard Inventory Management Concepts Doc., Draft	Dec. 1989
	13	McDonnell Douglas: Space Station Freedom Exhibit “C”, Integrated Logistics Support (ILS) Technical Review by C. Laubach	Apr. 19, 1990
	14	McDonnell Douglas/Space Station Freedom: Logistics Definitions, ILS, LSA, LSAR Presentation	May 13, 1991
	15	McDonnell Douglas: Space Station Freedom Logistics Support Overview by C. Laubach	Aug. 29, 1991
	16	McDonnell Douglas: Space Station Freedom Logistics Support Overview	Sept. 24, 1991
	17	U. S. Govt.: Space Station Freedom Operations Phase Assessment Team Final Report Briefing	Sept. 3, 1992
	18	Space Station Freedom: Operations Phase Assessment Team, Final Report “Archive”	Sept. 1992
	19	McDonnell Douglas/ISS: Technical Data and Documentation Flight 2A	Sept. 16, 1992
	20	Space Station Freedom Program and Operations Draft, Integrated Logistics	2007
	21	McDonnell Douglas/Space Station Freedom: Presentation and Diagrams, Logistics and Maintenance	Undated
	22	McDonnell Douglas: Logistics Considerations for the Design Engineer (LSA,LSAR)	Undated

	23	Space Station Freedom, Acquisition, Operations, LMRT Files	Undated
	24	ELV's Role in the Space Station Program, McDonnell Douglas	Undated
	25	Space Station Freedom: Work Package – 02, Integrated Logistics Support (ILS), McDonnell Douglas (Missing Cover, 1 – 2 Pages)	Undated
		Series XIII: Other Company Projects	
17	1	Martin Marietta: Logistics Simulation and Database Development Presentation by R. Ketchum	1987
	2	Martin Marietta: Integrated Logistics Program Approach Presentation by N. J. Oliva	1987
	3	NASA: External Maintenance Task Team, Fisher – Price Status Report to J. Aaron	Feb. 17, 1990
	4	Boeing and GOLD Western Pacific Data Systems (WPDS), Working Together to Manage Software with ISS	1996
	5	Boeing/Mitsubishi: Heavy Industries Bi-Lateral Meeting	Feb. 19 – 23, 2001
	6	Barrios Technology: Orbital Replaceable Unit Data Directory (ORUDD) User's Guide; Information Systems Analysis and Integration Team Contract (ISAC)	Nov. 2001
	7	International Partners/Participants with Email Attachments	Jul. 2002
	8	GOLD/Eagle User Guides and Support	2002
	9	Vision Analytics, Inc. Email Correspondence	Aug. 15, 2003
	10	Boeing/ISS: GOLD Job Order Handbook	Sept. 10, 2003
	11	TD & D Validation Plan No. E1D – 01779; Sent to R. Angelini, Alenia	2003
	12	ISS: Barrios Technology, Mission Integrated Database Application System (MIDAS) Barcode Inventory Tracking System (BITS) User Guide	Jun. 2004
	13	Eagle/GOLD: Logistics Information System Databases, Draft	Undated
	14	Alenia Projects	Undated
		Series XIV: Logistics, Logistics & Maintenance	
18	1	NASA/JSC: Rise of Logistical Engineering Importance and Challenger Disaster	1980s
	2	ISS: Logistics and Maintenance Overview	Feb. 24, 2000
	3	Boeing/ISSP: Logistics and Maintenance MER Console Handbook	Oct. 29, 2001
	4	Boeing: Request for New Logistics Information Systems Capability Process, HOU – OPD – 122	Oct. 20, 2001
	5	NASA/JSC/ISS: Logistics and Maintenance Operational Support, Revision B	Nov. 2003
	6	Boeing: Logistics and Maintenance Support Source Selection Recommendation	Jul. 9, 2004
	7	NASA/JSC/ISSP: External Maintenance Operational Concepts and Requirements, Revision A	Oct. 2004
	8	Boeing/NASA/ISS: Logistics and Maintenance, Warehouse Environmental and Hardware Inspection Plan	Feb. 10, 2005

	9	ISSP: Logistics and Maintenance, Maintenance Prioritization Guidelines	Apr. 2005
	10	NASA/JSC: ISS, Logistics and Maintenance/OB5	Mar. 10, 2006
	11 – 12	Boeing/ISS Program: Logistics, MARs, and Maintenance	c. 2000 – 2006
	13	Boeing/ISSP: Logistics and Maintenance	Undated
	14	Activities for Logistics and Maintenance	Undated
	15	Logistic Engineering and ISSP	Undated
	16	Ch. 1: Introduction to Logistics Rough and Clean Copy (For Possible Book) Edit Series	Undated
	17	“The Logistics of Having a Baby” Article by N. L. Orndorff, on the Importance and Value of Logistic Engineering	Undated
	18	Consolidated Maintenance and Inventory Logistics Planning Tool Overview Presentation	Undated
		Series XV: Various Manuals	
19	1	ISO 9000: “The Standard for World Class Quality Executive Overview”	c. 1980s
	2	Global Business Acquisition Program 21, Boeing	c. 1980s
	3	Dept. of the Navy: Best Practicals; “How to Avoid Surprises in the World’s Complicated Technical Process, Transition from Development to Production”	Mar. 1986
	4	Boeing: Leadership 2000, State of Business	Apr. 2000
	5 – 6	Boeing: Leadership Manual for 2000 Space and Communications Group	Undated
		Series XVI: Project D683 Work Package Series, Nodes 2 & 3, Utilization, Operations, and Training Assessment Team (UOTAT)	
20	1	Boeing: Space Station Work Package 1 (WP01), Vol. II Technical, Part 3, Node and Airlock Systems	Jul. 21, 1987
	2	Boeing: Space Station Work Package 1 (WP01), Vol. VI, Phased Program Proposal (Included Blueprint)	Dec. 2, 1987
	3	Utilization, Operations, and Training Assessment Team (UOTAT) Findings, Data, Emails	Jan – May 1995
	4	Utilization, Operations, and Training Assessment Team (UOTAT) NASA/JSC	Mar. 31, 1995
	5	Utilization, Operations, and Training Assessment Team (UOTAT)	1995
	6	Utilization, Operations, and Training Assessment Team (UOTAT) NASA/JSC	1995
	7	Utilization, Operations, and Training Assessment Team (UOTAT) Findings: Cost Savings	1995
	8	Boeing: Logistics and Maintenance Nodes 2 & 3 Transition Operational Post – Production Support (PPS) Plan, Draft	Jun. 2, 2000
	9	NASA/Alenia: Node 2 & 3 ASI/Alenia Logistics and Maintenance Deliverable Products	Jul. 10, 2000
	10	Alenia/Spazio: Node 2 & 3 Flight OPS TIM, Logistics and Maintenance Deliverable Products	Oct. 23 – 27, 2000
	11	Boeing/ISS Program: Logistics and Maintenance, Nodes 2 & 3, Post – Production Support (PPS) Plan Draft	c. 2000

	12	Boeing/ISSP: Logistics and Maintenance (L&M) Nodes 2 & 3 Transition Operational Post – Production Support (PPS) Plan Edit Series	2000s
	13	Boeing/ISSP: Science and Utilization Segment, D683 – 35584 – 1, Consolidated Standard Payload Rack, Logistics and Maintenance Plan	Dec. 19, 2001
	14	Boeing/Alenia/NASA: Nodes 2 & 3 Tasks and Responsibilities Presentation	Undated
	15	Boeing: Contract “F”, Work Package Development Process and Miscellaneous Support Data	Undated
	16	Modification Kit Elements Draft Handout with Comments	Undated
		Series XVII: On-Orbit and Payloads	
21	1	NASA/ISSP: Payload Analytical Control Doc. (Manned Base)	Jan. 10, 1990
	2	NASA Space Logistics Depot and NASA Payloads Logistics Depot in Tandem with Boeing, Data, Capabilities	c. 1998
	3	ISSP: On-Orbit Inventory Stowage Implementation Plan, Revision B	Nov. 10, 1998
	4	ISS: Logistics and Maintenance Operational Support, Integrated Maintenance Planning On-Orbit Maintenance; Maintenance and Resupply Team Reference Data	Dec. 1999
	5	Actions on Payload Report with Emails	c. 1999
	6	Payloads support system and Hardware and Action Plan	May 2001
	7	ESA – Payload Support/Equipment, NASA’s POCs – ESA Action/Team ESA – 3	Jun. 18, 2001
	8	NASA/JSC/ISSP: On-Orbit MOD Kit Process – ISS MER, Roles and Responsibilities	Jun. 6, 2003
	9	ISS/NASA/JSC: Increment Definition and Requirements Doc. For Increment 9, Annex 2: On-Orbit Maintenance Plan	Dec. 2003
	10	ISS: Payload Accommodations Presentation	Undated
	11	Foldable Payload Support Worksheet	Undated
	12	Boeing: Payload Services Booklet Presentation (Missing Cover, 1 – 2 Pages)	Undated
		Series XVIII: Project D684 Series	
22	1 – 3	Boeing/ISS Program: D684 – 10041 – 1, Integrated Logistics Support Plan (ILSP) Vol. I	Jan. 17, 1996
	4	Boeing/ISS Program: D684 – 10XXX – X Post – Production Logistics and Maintenance Approach Summary: Vol. I Technical Approach, Book II, Revision Draft	Feb. 9, 1998
	5	Boeing/ISS Program: D684 – 10440 -1 Boeing Logistics and Maintenance Post – Production Support (PPS) Plan, Type 3	Sept. 11, 1998
23	1	Boeing/ISSP: D684 – 10440 -1 Boeing Logistics and Maintenance Post – Production Support (PPS) Plan, Revision A	Feb. 22, 2000
	2	Boeing/ISSP: D684 – 10162 – 1 – 2, Logistics Supportability Assessment Report (LSAR), Revision H	Jul. 11, 2000

	3	Boeing/NASA/JSC/ISSP: D684 – 27522 – 1, Revision A, Draft, Payloads Systems Support, Development Hardware Support Plan for Payload Rack, Checkout Unit	Jun. 18, 2001
	4 – 5	Boeing/ISSP/NASA/JSC: D684 – 10041 – 01 – 11 Draft I, Integrated Logistics Support (ILS) Plan, Vol I, Book 11, Operations Plan	Sept. 26, 2002
	6 – 9	Boeing/ISS Program: D684 – 10041 – 1, Integrated Logistics Support Plan (ILSP)	Feb. 6, 2002
	10	Boeing Product Support, Post – Production Support (PPS) Annual Operating Plan; D684 – 10440 – 1	Dec. 20, 2002
	11	Boeing/ISSP: D684 – 10162 – 1 – 2 – 11A On-Orbit Logistics Supportability Assessment, Flight 11A Addendum	Feb. 24, 2003
	12	Boeing/ISSP: D684 – 11676 – 01; Ground Based Maintenance and Repair Process	Sept. 24, 2003
		Series XIX: Boeing Imagery Log	
24	1 – 28	Boeing: Space Flight Imagery Log	c. 1997
25	1 – 19	Boeing: Space Flight Imagery Log	c. 1997
		Series XX: United Space Alliance (USA)	
26	1	United Space Alliance (USA): Supportability Issues	Dec. 5, 1997
	2	United Space Alliance (USA): Notification of Loss of Repair, Failure Analysis and Production Facilities and Corrective Action	Aug. 3, 1998
	3	United Space Alliance (USA): Notification of Loss of Repair, Failure Analysis and Production Facilities and Corrective Action	Sept. 1998
	4	Boeing/ISS Program: Memorandum of Understanding (MOU) Between Boeing Logistics and USA Logistics	Sept. 1 1998
	5	United Space Alliance (USA): Notification of Loss of Repair, Failure Analysis and Production Facilities and Corrective Action	Oct. 1998
	6 – 7	United Space Alliance (USA): Request for Technical Evaluation from D. Stelling to C. Laubach on USOS Acceptance and ISS Vehicle Sustaining Engineering	Jul. 2, 2003
		Series XXI: Post – Production Support	
27	1	Post – Production Support (PPS), Vol. 1, 2, and 3	May – Aug. 1998
	2	Boeing/ISSP: Post – Production Support (PPS) Plan Summary	Jun. 30, 1998
	3	Post – Production Support (PPS) Proposal Fiscal Year (FY) “99” Master Backup – Boeing: Post – Production Support (PPS) Ground Rule and Budget Review	Sept. 25, 1998
	4	Post – Production Support (PPS) DM & R Basis of Estimates (BOEs) Reference Data	Oct. 23, 1998
	5	Post – Production Support (PPS) Overview	May 21, 1999
	6	ISS: Post – Production Support (PPS) Overview	May 21, 1999
	7	ISS: Post – Production Support (PPS) Overview – D. Morgan	May 21, 1999

	8	Boeing/Houston: Post – Production Support (PPS), 2000 – 2016 Budget Review/Submittal	Oct. 8, 1999
	9	Post – Production Support (PPS), Worksheet, Fiscal Year, Define and Repair Capability	1999
28	1	Product Support – All Hands on Deck Meeting and Presentation	Apr. 28, 2000
	2	Expanded Post – Production Support (PPS), New Business Approach, Draft Presentation by C. Laubach	May 2, 2000
	3	Production Support Program: Level Processes and Procedures and Post – Production Support (PPS), Reference Data, Boeing	c. Jul. 1998 – Oct. 2000
	4	ISS: Post – Production Support (PPS)	2001
	5	Houston Procedures Documentation System (PDS), Product and Post – Production Support (PPS)	2001
	6	Boeing/ISSP: Boeing Product Support, Post – Production Support (PPS) Annual Operating Plan; D684 – 10440 – 1 Provided Payload Hardware Repair Capability, Retention Diagrams, Equipment Descriptions	Jul. 2004
	7	NASA Program and Project Logistics Policy (Acquisition and Post – Production Support (PPS)) Reference Data	c. 2004
	8	Post – Production Support (PPS) Total Budget Exercise Fiscal Year (FY) 2005 – 2016	2005 – 2016
	9	Post – Production Support (PPS) Budget for the Fiscal Year	Undated
	10	Boeing/ISS: Production Support and Charts	Undated
		Series XXII: Operations and Utilizations (OU)	
29	1	Boeing: Functional Description for the Operations and Utilizations (OU) Integrated Logistics Support (ILS)	May 1999
	2	Boeing/ISS: Operations and Utilizations (OU) Commercial Operations Survey Summary of Findings	Mar. 8, 2000
	3	Operations Concept Operations and Utilizations (OU), Logistics and Maintenance (LM), Reference Data, Boeing/ISSP: D684 – XXXX – X Hardware Supportability Management Plan	Mar. 15, 2000
	4	Boeing: Operations and Utilizations (OU) Logistics Planning Team, Draft, Depot Consolidation	Apr. 21, 2000
	5	Boeing/ISS Program: Operations and Utilizations (OU) Budget, Baseline ISS OU Work Breakdown Structure (WBS), SPIP Doc., Tree and Management Plan	2000
	6	Boeing: Operations and Utilizations (OU), Integrated Logistics Support (ILS)	Feb. 14, 2001
	7	Boeing: Operations and Utilizations (OU) Logistics Support, Functional Description for OU Integrated Logistics Support (ILS)	Feb. 14, 2001
	8	ISS: Operations and Utilizations (OU) Breakdown Structure for Product Support (As Is) Boeing Baseline	Undated
	9	ISS Flows and ISS Operations and Utilizations (OU)	Undated
	10	Boeing: ISS and Operations and Utilizations (OU) Presentation	Undated
		Series XXIII: Boeing Materials	

30	1	Boeing: History Overview Presentation	1910 – 2016
	2	Carrier/Cargo Processes Presentations	Mar. 24, 1999
	3	Boeing: Baseline Processes Presentation	Apr. 14, 1999
	4	Target Areas for Improvement, Maintenance Presentation	Apr. 29, 1999
	5	Boeing: SFOC Contract Attachments and Statement of Work (SOW)	c. 1996 – 2000
	6	Boeing: SSP 50110, Revision F to Assembly and Service of DNC – 04	1999 – 2000
	7	Boeing: Houston Host Tenant Roles and Responsibilities Presentation	Jan. 28, 2000
	8	Boeing: All Employee Meeting on ISS Presentation	Dec. 13, 2000
	9	Boeing/ISSP: Utilization Research and Cost Findings	1999 – 2001
	10	Boeing: Trade Study List	Feb. 5, 2001
	11	Boeing/ Space and Communications: Agreement Contract	Oct. 2001
	12	Draft Coordination copy with Appendix Attachment	Dec. 24, 2003
	13	Statement of Work (SOW) Responsibility Matrix and Task Descriptions	2003
	14	C. Laubach Emailing K. Mihalik series on MCN OM 3010, Boeing Deployed Assembly	Jan 9, 2004
	15	Boeing: Life Cycle Customer Support Workshop, Professional Development	Sept 26 – Oct. 1, 2004
31	1	Boeing: Flight 14A, Element: ESP – 2, Technical Data and Documentation, MBSU Flight Support Equipment Kit	Feb. 2, 2005
	2	Meeting Request Email and Accompanied Drafts and Revisions of Proposed Agenda	Arp. 19, 2005
	3	Boeing: Edit of Job Description for Product Support Engineer and Responsibility Guide	Apr. 20, 2005
	4	Boeing: Pre/Return Mission processing Presentation	Oct. 12, 2005
	5	Data Requirements Description	Oct. 18, 2005
	6	Boeing: 2016 Vision Presentation for New Building Site, Plant 42, Site 1	Undated
	7	Boeing: Supportability, Reliability, Maintainability, Sustainability, Obsolescence, Reference Data	Undated
	8	NASA/JSC/Boeing: Shipping and Cargo	Undated
	9	Boeing Pictures of Various Air Crafts	Undated
	10	Boeing: ISS Facility Consolidation for Lower Cost/Improved Integration and Operations	Undated
	11	Focus Team Staffing and Notes, Boeing	Undated
	12	Collection of Acronyms	Undated
		Series XXIV: Checkout, Assembly and Payload Processing Services (CAPPS) & Projects	
32	1	Statement of Work (SOW): Checkout, Assembly and Payload Processing Services (CAPPS) Contracts	Apr. 24, 2002
	2	Checkout, Assembly and Payload Processing Services (CAPPS): Cargo Mission, Attachment J – 1, Statement of Work (SOW), Checkout, Assembly and Payload Processing Services (CAPPS) Contract	Apr. 24, 2002
	3	MPLM – Hardware Responsibilities, Checkout, Assembly and Payload Processing Services (CAPPS)/USOS	2004

		Operations Agreement (OA) 10K Ext.; Boeing/NASA/Red Point	
	4	Boeing/ISS: CMC/USOS/ Checkout, Assembly and Payload Processing Services (CAPPS) Associate Contractor, CoTR Briefing	Oct. 27, 2005
	5	Binder Presentation: USOS/ Checkout, Assembly and Payload Processing Services (CAPPS)/ CMC Operational Agreement (OA), Flows, Emails	2005
	6	Assorted Checkout, Assembly and Payload Processing Services (CAPPS) and USOS Operation Agreement (OA)	Undated
		Series XXV: Vehicle Sustaining Engineering	
33	1	Boeing/NASA Systems – Houston: ISO 9000/AS9100 Vehicle Internal Audit	Jul. 14 – 18, 2003
	2	ISSP: Preparing for Vehicle Internal ISO Audit	Dec. 13 – 17, 2003
	3	Boeing: USOS Acceptance and Vehicle Sustaining Engineering, USA Phase-In Plan	c. 2003
	4	USOS Acceptance and Vehicle Sustaining Engineering Contract Statement of Work (SOW) with Emails	c. Jan. 2005
	5	Boeing: Vehicle Project Review (VPR) Agenda	Jun. 21, 2005
	6	USOS Acceptance and Vehicle Sustaining Engineering Contract, Statement of Work (SOW)	Undated
	7	USOS Acceptance and ISS Vehicle Sustaining Engineering Proposal; Statement of Work (SOW); Responsibility Matrix	Undated
	8	NASA: USOS Acceptance and Vehicle Sustaining Engineering Contract, Statement of Work (SOW), Updated	Undated
		Series XXVI: Flight Support Equipment (FSE) & Hardware	
34	1	Flight Support Equipment (FSE) Associate Contractor Agreement (ACA), Operation Agreement (OA)	Oct. 2004
	2	Boeing/NASA/ISSP: Flight Support Equipment (FSE) Logistics Support Analysis Record (LSAR) Roles and Responsibilities Strawman	Dec. 15, 2004
	3	Product Support Flight Support Equipment (FSE) Roles and Responsibilities, Draft Series	Feb. 21, 2005
	4	Boeing/ISSP: ISS Returned Integration Flight Hardware and Diagrams	Mar. 22, 2005
	5	Boeing/ISSP: D684 – 12214 – 01, Logistic Support Documentation Illustrated Parts Breakdown – Integrated Main BUS Switching Unit Flight Support Equipment (FSE)	May 5, 2005
	6	C. Laubach Emails to M. Guseman, Hardware, Data Exchange and Attachments	May 2005
	7	Cargo Mission Contract, Contractor Sustained Hardware/Software Attachment J – 1, Appendix 6	Aug. 2005
	8	Boeing: Manifest, Hardware Tracking and Bench Review Procedures Update, Edits/Comments	Oct. 7, 2005
	9	ISSP: Post – DD250'd Flight Support Equipment (FSE) Hardware Changes Cargo Mission vs. 10K Extension	Undated

		Contract Post – Production Support (PPS), Responsibilities	
	10	Pressurized Hardware Processing to Orbit, Presentation/Diagram	Undated
	11	Boeing: Logistics Support Chart with Hardware Data	Undated
	12	ISS: Hardware Repair Recommendations	Undated
	13	Hardware and Non-hardware Responsibility Matrix Edit Series	Undated
		Series XXVII: Travel	
35	1	Trip to Amsterdam, Netherlands for Pitch and Presentation for Bilateral Logistics and Maintenance	Feb. 2001)
	2	Italy Trip	Nov. 11 – 17, 2001
	3	Boeing/NASA/ISS: C. Laubach Trip to Florida for ISS Hardware Disposition Presentation of Joint Directive	Oct. 11 – 13, 2005
	4	Travel Authorization and Expenses	2005
	5	Travel Outside the Country	Undated
	6	Boeing: Travel Documents and Email Information	Undated
	7	Travel Manager System for Boeing	Undated
		Series XXVIII: Budgets, Statements of Work (SOW), & Expenses	
36	1	Boeing: Basis of Estimates (BOEs)	Undated
	2	Boeing: Basis of Estimates (BOEs) Training	Undated
	3	Operations Agreements (OA), Statement of Work (SOW), Appendix, Email Correspondence	Undated
	4	Statement of Work (SOW) Trace Remap	Undated
	5	Sealed Envelope: Expense Reports (Handle with Care, Lots of Small Papers)	Undated
		Series XXIX: Other Materials and Media	
37	1	Texas A&M College: Gear Design Project for Mechanical Engineering	May 16, 1958
	2	C. Laubach Notes from Various Projects from 1963 – 1970s	c. 1963 – 1970s
	3	Term Paper, Proposal and Outline, Spring Semester	Spring 1973
	4	Term Paper: “Motivation of Professional and Technical Personnel during a Reduction in Force and Redefinition of Organizational Goals”	Apr. 28, 1973
	5	Modular Space Lab	Oct. 10, 1974
	6	Various Blueprint Plans	Aug. 1988
	7	Preliminary Results Draft	May 28, 1998
	8	Boeing: Functional Basis of Estimates (BOEs) Edit Series with Transparencies	Jul. 1999
	9	Kennedy Space Center, Florida, Presentation	2000
	10	Collected Body of Work of Assorted Projects	c. 2000
	11	Supportability Metrics	Aug. 8, 2001
	12	EP Baseline, All Years Tables	Nov. 1, 2003
	13	Boeing, Various	`2004

	14	Systems Engineering Life Cycle, Support Requirements for Spare ORUs; Ground Processing, Storage/Stowage and Launch Prep/Down Manifesting Presentation	2005
	15	C. Laubach Notebook and Loose Leaf Paper of Hand Written Items	Undated
	17	Handwritten Notes with Contact Information	Undated
	18	Implementation of Concurrent Engineering at MDSSC Presentation	Undated
	19	Collection of Flow Charts (FADs) Function Trees	Undated
	20	Colored Flow Trees	Undated
	21	C. Laubach Personal Information, Photographs, and other Work Information	Undated
38		Boeing: STS Spares Analyses and Depot Requirements, Vol. III, Oversized Presentation Booklet	Sept. 1984
		Edit Series on Tasks, Profiles and Hardwares; NASA/Boeing – 10K Contracts, Oversized File	Oct. 2003
		Boeing: Post-Production Definition Oversized Presentation Sheet	Undated
		CD: Military Standard Contract (MIL – STD) 1388 – 2B; Dept. of Defense Requirements for Logistics Support Analysis Record (LSAR) for L – 18	Jan. 21, 1993
		CD: Node 2, Logistics Support Analysis Record (LSAR)	Oct. 3, 2002
		Video Tape: McDonnell Douglas, Canopy Removal, Part III Operations (7 mins.)	Jul. 15, 1980
		Video Tape: “A New Dimension in Weapon System Design	Apr. 26, 1985
		Video Tape: Space Station Lecture Series: Logistics, Bob Dellacamera, #12	Jun. 7, 1987
		Video Tape: PR Program; Delta Launch; Titan Launch; THAAD (Animated); Space Station (15 mins.)	Jun. 12
		Video Tape: Tony Butina, MDSSC – SSD, A95/J835/17B; Huntington Beach, CA	Undated
		Video Tape: DAC “Harnessing the Future” and McAir “Cals Video (19 mins. 30 secs.); MDAC – HB “Space Station Concept” and “UWTF” (9 mins. 35 secs.)	Undated
		Video Tape: Neutral Buoyancy Testing at MDAC – HB; EVA Assembly of Large Deployable Reflector (LDR) (~4 mins.); EVA Assembly of Two SS Truss Bags (~6 mins.)	Undated
		Blue Zip Disk: UF – 1 Updated Drawings	Jan. 2001
		Gray Zip Disk: E. I. W. Estate & Miscellaneous; Eagle & Gold	Undated
		Red Zip Disk: MeLFI	Undated
		Gray Zip Disk: Backup Data; Personal Information	Undated
		Blue Zip Disk: Logistics and Maintenance (L&M) Files; Backup	Undated
		Gray Zip Disk: Logistics and Maintenance (L&M) Working Files	Undated
		Green Zip Disk: Data Backup	Undated
		5 ¼ in. Floppy Disk (2): “U.S. Space History”	Oct. 15, 1987

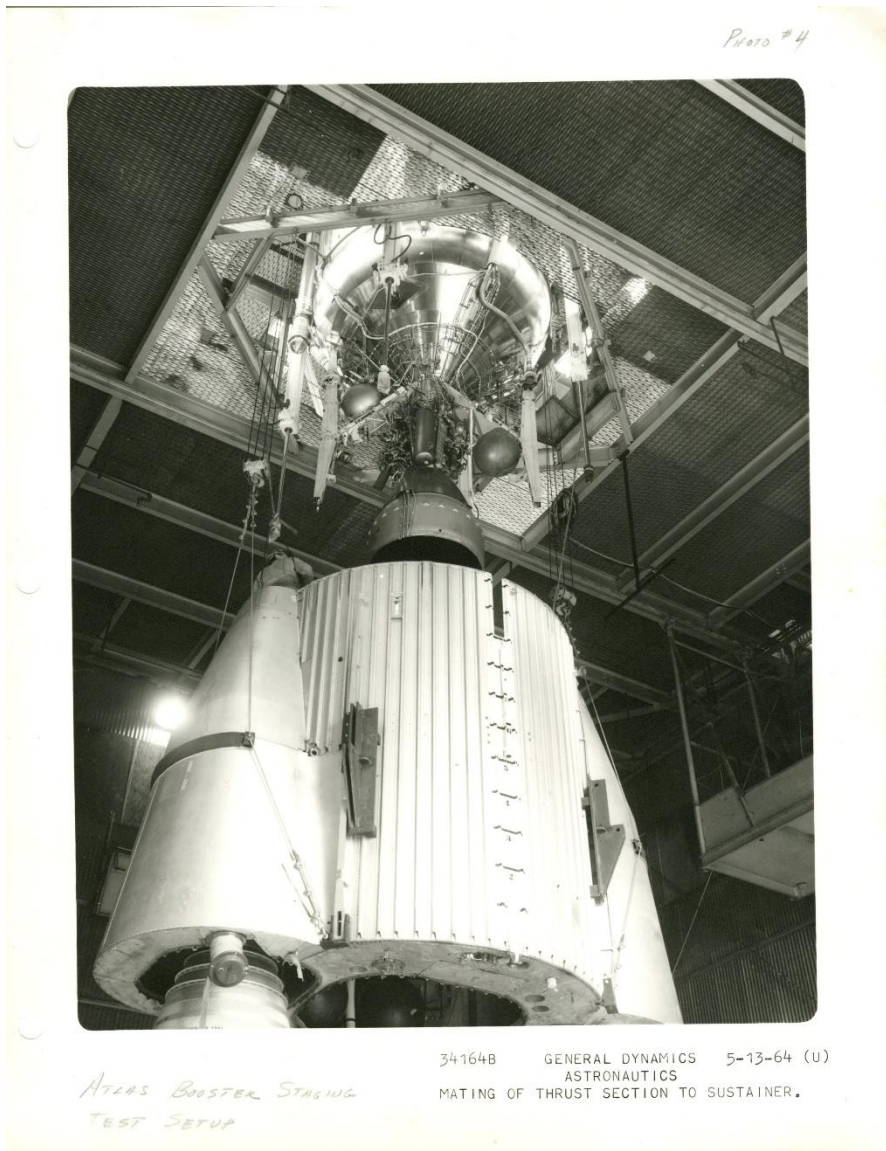
CHAPTER III: SELECTED DIGITAL REPOSITORY DOCUMENTATION



*CENTAUR/SURVEYOR STAGING TEST SETUP. WHEN THE
SURVEYOR IS RELEASED FROM THE CENTAUR/SURVEYOR ADAPTER,
IT FLOATS FORWARD ON AN AIR BEARING SCOOTER.*

General Dynamics Centaur/Surveyor Stage Testing, 1964.

Centaur/Surveyor with Atlas Booster and staging photograph one in a series of nine. This document was from Laubach's early career with General Dynamics.



General Dynamics Centaur/Surveyor Stage Testing, 1964.

Centaur/Surveyor with Atlas Booster and staging photograph five in a series of nine. This photograph depicts the staging of the Atlas Booster test.



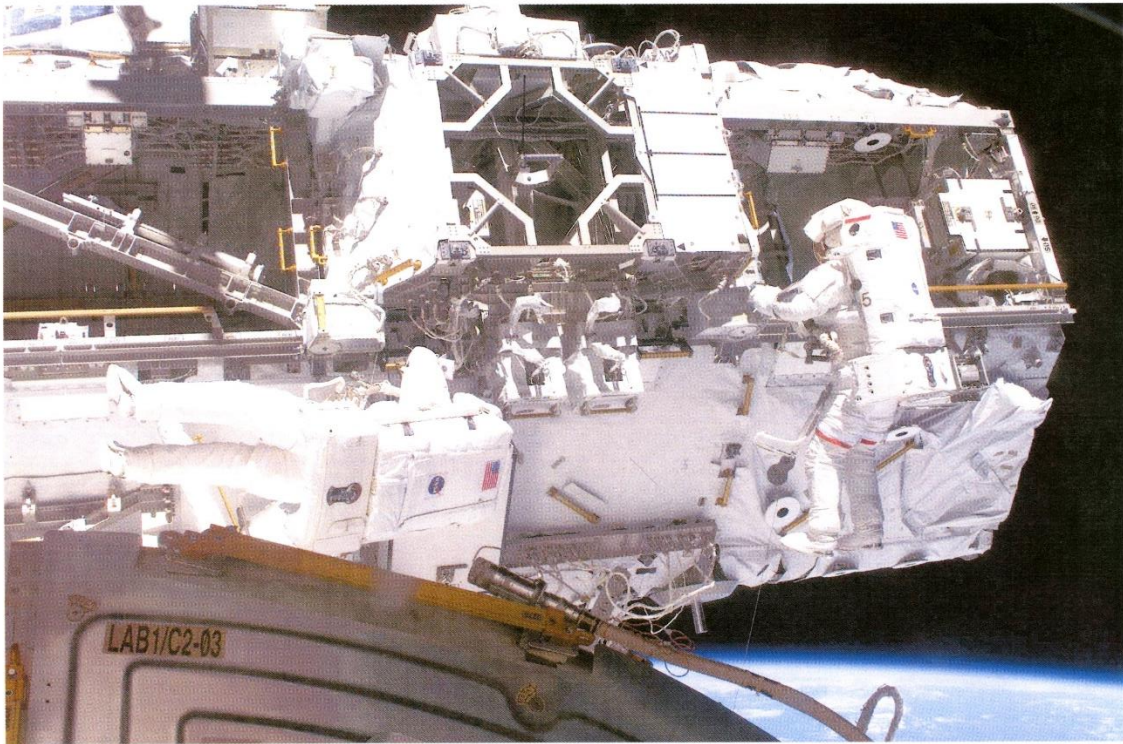
Integrated Logistics Support in the Space Station Program, undated.

Political cartoon on the importance of integrated logistics support (ILS) in tandem with the International Space Station Program, hand drawn by Laubach in preparation for an ILS presentation.



Space Shuttle Ground Maintenance, 2002.

Routine ground maintenance performed upon Space Shuttle Columbia in 2002, preparation for launch.



ISS Astronaut Walk, undated.

Photograph of International Space Station and two American astronauts while on spacewalk performing routine maintenance. Photographer unknown.

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