University of Houston Clear Lake

Archives and Special Collections

HSF-56
Robert Heselmeyer Papers

[Human Space Flight Collection]

Collection Number: **HSF-56**

Title: Robert Heselmeyer Papers

Dates: 1962-2004 (with gaps); bulk: 1967-1989

Creator: Robert Heselmeyer

Abstract

The Robert Heselmeyer Papers contains reports, memos, notebooks, technical manuals and handbooks, dictionaries, checklists, guides, flight schedules, technical requirements records, meeting logs, activity reports, plans, charts, and other materials, documenting the entire career of Robert Heselmeyer at NASA's Johnson Space Center (JSC) from 1966 to 2004. He worked as an engineer on the Project Apollo missions as a Lunar Module Flight Controller, specifically as the Vehicle Systems Engineer for the Telemetry, Electrical, and (EVA) Mobility Unit (or TELMU). Heselmeyer served as a Biomedical Experiments Flight Controller for the medical experiments on the Skylab Program. He worked from the mid-1970s through the 1980s in Space Shuttle flight support positions within the National Space Transportation System (NSTS) Program Office.

The largest and most significant set of materials in the collection are original manuals, handbooks, and schedules from Heselmeyer's role with the Apollo 11 and Apollo 13 missions. All of the materials in the collection pertaining to specific mission or projects to which Heselmeyer was assigned were actually used during his work on those various assignments at Johnson Space Center.

Extent: 4.8 linear feet

Language(s): English

Repository

University of Houston-Clear Lake Archives and Special Collections, Alfred R. Neumann Library, 2700 Bay Area Blvd., Houston, TX 77058-1002

Restrictions on Access: There are no restrictions on accessing this collection.

Restrictions on Use

There are no known restrictions on using this collection. Some of the materials in this collection containing engineering and technical data may restricted by United States' International Traffic in Arms Regulations (ITAR), and cannot be made available online by researchers or the University of Houston-Clear Lake. Researchers are encouraged to contact NASA or the appropriate U.S. federal agency responsible for reviewing ITAR compliance, before considering projects involving digitization or sharing online copies of any of the materials in this collection—as these actions may be a major violation of federal law.

Preferred Citation

[Item name or title], [Box Numbers], [Folder Numbers], Robert Heselmeyer Papers, HSF-56, University of Houston-Clear Lake Archives and Special Collections, Alfred R. Neumann Library, 2700 Bay Area Blvd., Houston, TX 77058-1002

Acquisition

The collection was donated to the University of Houston-Clear Lake Archives and Special Collections by Robert Heselmeyer in August 2016. A larger addition to the collection was donated to the Archives by Heselmeyer in April 2022.

Accruals

Accrual A, which was the largest set of archival materials in this collection, was donated as an addition to the collection by Robert Heselmeyer in April 2022.

Related Material

Robert H. Heselmeyer Interview, conducted on November 12, 2004, in Houston, Texas, interviewed by Sandra Johnson, NASA Johnson Space Center Oral History Project, viewable online at https://go.nasa.gov/3xPS3EC.

Processing Information

The materials in the first four boxes of this collection were originally processed in 2017 by a volunteer with the NASA Alumni League, Johnson Space Center, chapter. The original collection was numbered according to a pre-2022 numbering system, which was the accession number for the collection. This was composed of the year in which the collection was accessioned into the UHCL Archives' holdings, and the number of the collection in the order it was accessioned. For example, the collection number "2017-0011" should be interpreted as "Year 2017, 11th collection accessioned that year." Folders in the collection were numbered using a number for the box number, followed by a short dash, followed by the folder number, placed on the far-right side of the folder tab. For example, Box 2, Folder 3, would be written as "2-3."

Starting in 2022, the UHCL Archives began implementing a new collection numbering system to better reflect the various collecting area categories of the Archives, and to make locating and identifying which collections belonged to which collecting areas within the Archives' storages areas and shelves. With the addition of Accrual A, the Robert Heselmeyer Papers' collection number was changed from "2017-0011" to HSF-56, which represents "Human Space Flight Collection, collection number 56 within this category." Accrual A was processed as an addition to the collection, not reprocessed to intermingle the new materials with the existing collection arrangement.

Boxes 5-11 contain Accrual A, and the materials were initially arranged by Heselmeyer in partner with the UHCL Archives into series based on the NASA programs represented. Accrual A's folders were numbered with an ink stamp with the words "Box" and "Folder" placed at the more archival-standard left side of the folder tab, with the individual box and folder numbers written in the appropriate spaces above the ink stamp lines provided. The processing archivist also reprocessed Box 1 due to storage and spacing issues in the box, and used the new collection number to label the box's folders.

Many of the very thick NASA manuals and handbooks were removed from their bindings or three-ring binders, and divided between two folders since the manuals or handbooks were too wide to fit if stored in a single archival folder. The folders were labeled in the folder titles as "Part 1" and "Part 2" in parentheses after the manual or handbook title. The order of materials in the manuals or handbooks were not changed when they were divided to fit in two separate folders for long-term storage. Post-It or sticky notes with information or context notes handwritten by Heselmeyer were photocopied and placed loose in the front of the folder of the corresponding manual or handbook to which it was originally attached. This was done as the sticky note's adhesive is acidic and can damage or discolor the archival materials over time. The adhesive will also lose its stickiness in time and fall off the item to which it is stuck, making a preservation photocopy of the original note necessary and keep the information together with the historic item in the archival folder.

In the original collection, the collection processor followed the then preservation practice of using large archival paper sheets folded in half to create a paper sleeve, used to separate individual pages or sets of materials from acidic, sticky, or other damaging nature of other archival materials or items. This was also done to keep pages for documents for which staples were removed together. For example, 1970s fax paper which is turning brown due to acidic developing chemicals from the faxing process, is giving off brown coloring from the acids to non-fax paper documents that the fax is touching. The paper sleeve was used as a divider for preservation purposes, and is not the original way in which the archival materials were stored. A number of duplicate documents or programs were removed from the collection, in keeping with UHCL Archives archival processing protocols.

Processed by:

Initial donation processed by Greg Blackburn, around 2017-2018; addition and updated finding aid processed by Robert Heselmeyer and Matthew M. Peek, April-June 2022

Arrangement

The collection is arranged in two separate groups based on donation date, with the original collection housed in Boxes 1-4, and the addition organized in Accrual A housed in Boxes 5-11. Within each of the two groups, the materials are arranged according to the purpose of the items or NASA mission/project name in series and subseries. Items were organized within the series in chronological groupings where applicable.

The collection is arranged in the following series and subseries: Series I: Meeting and Work Activity Records; Series II: Space Shuttle Operations Requirements; Series III: Space Shuttle—Mir Operations Requirements; Series IV: Space Shuttle Program Organization; Series V: JSC Organization Announcements; Series VI: NASA Correspondence and Publications; Series VII: Apollo Missions Operational Materials and Records; Subseries VIIA: Apollo Missions Operational Manuals and Records; Subseries VIIB: Post Mission Reports and Specialty Handbooks; Series VIII: Skylab Operational Manuals and Reports; and Series IX: Miscellaneous Materials.

Biographical Note

Robert Heselmeyer (who goes by "Bob") was born on November 1, 1943, in St. Louis, Missouri. He would attend college at the Georgia Institute of Technology (commonly known as Georgia Tech) in Atlanta, Georgia. Heselmeyer graduated from Georgia Tech in 1966 with a bachelor's degree in electrical engineering. After graduation, he interviewed with the Raytheon Company and Monsanto Company, as well as some other companies. NASA's Kennedy Space Center and the Manned Spacecraft Center (MSC) were coming to hold job interviews on campus at Georgia Tech. After holding an interview with the NASA personnel in a local hotel room, Heselmeyer was excited and pleased to received two offers for positions at the Manned Spacecraft Center: one of them was in the Facilities Directorate Division, and the other one was for Flight Control Division. He accepted the Flight Control Division position, with a grade rank of GS-7 making $7,700 a year. He reported for his first day of work on October 3, 1966.

After arriving at the Manned Spacecraft Center, Heselmeyer was assigned to the Lunar Module (LM) Systems Branch of the Flight Control Division in Building 45 at MSC. Specifically, his job was assigned to the electrical power system, and also working with the system's pyrotechnics. As the Lunar Module was being designed and constructed, Heselmeyer and his team worked to learn about the operations of the new vehicle.

With the Apollo Project missions underway at NASA, Robert Heselmeyer would serve as a Lunar Module Flight Controller for all of the Apollo flights, except Apollo 17. Specifically—and most notably for the Apollo 13 mission—he worked as the Vehicle Systems Engineer for the Telemetry, Electrical, and (EVA) Mobility Unit (or TELMU), which was responsible for monitoring and troubleshooting the Lunar Module environmental (ECS), electrical (EPS), and the astronauts' Space Suit Portable Life Support System (PLSS) while on the lunar surface of the Moon. Heselmeyer's job involved developing real-time flight control procedures, and providing technical support documentation for nominal and contingency operations. During the Apollo 13 crisis, Heselmeyer was part of the group of engineers asked to figure out the minimum power-up required of the Lunar Module needed to sustain life for the crew members.

After the Apollo Project missions, Heselmeyer went to work as a Biomedical Experiments Flight Controller for the medical experiments on Skylab Program, the first United States space station, working in the Space Science and Technology Branch. He worked in the Mission Control Center (MCC) at the now renamed Johnson Space Center. He subsequently led the effort to define the MCC requirements for supporting the upcoming Space Shuttle program. Heselmeyer became the lead Flight Operations Directorate (FOD) representative in the development of Mission Control Center and Johnson Space Center Payload Operations Control Center requirements for Space Shuttle flight support.

In 1981, Heselmeyer transferred from the Flight Operations Directorate to the Flight Production Office in the Space Transportation System Operations Program Office. In that office, Heselmeyer addressed Space Shuttle planning and operations with the Kennedy Space Center (KSC) and the Marshal Space Flight Center (MSFC) through an intercenter working group, which coordinated Kennedy Space Center's Space Shuttle orbiter processing schedules, as well as the delivery of solid rocket motors and external tanks to KSC for each flight. As Space Shuttle preparation activities matured, his responsibilities shifted to long-term flight rate capabilities analyses. He worked in this office until 1986.

In 1986, Robert Heselmeyer became the Technical Manager for the Management Systems of the Management Integration Office in the National Space Transportation System Program Office (the official name for the overall Shuttle program). His responsibilities included the following: managing the development and implementation of required changes to the Program Baseline Accounting and Reporting System (BARS) in support of Program Requirement Change Board (PRCB) activities; chairing the Change Review Group (CRG); serving as the PRCB Secretary as required; approving proposed closures to formally assigned PRCB actions, as well as accounting and determining the status of both open and closed PRCB actions; managing the National Space Transportation System (NSTS) modifications and non-standard work configuration accounting activities; assuring that the NSTS baseline was being properly maintained; and determining policy with respect to related configuration accounting issues. Heselmeyer also provided direction to and coordinating activities with configuration management personnel at Kennedy Space Center, Marshall Space Flight Center, and the Rockwell-Downey company; working with all hardware and software supplying projects and program elements to assure complete and accurate updates to the program baseline; and defining and ensuring adherence to program configuration management requirements in the above listed areas of responsibility.

Heselmeyer's previous position was reclassified and renamed. He would become in 1990 the Manager for the Configuration Management Office of the Management Integration Office in the Space Shuttle Program Office. In 1994, Heselmeyer became the Deputy Manager of the Management Integration Office. The Configuration Management (CM) and Information Management (IM) Offices were combined within the existing Management Integration Office. In addition to the previous CM responsibilities, his Information Management responsibilities included: office automation requirements and information systems development and operation; program wide information systems coordination and security; Shuttle Drawing System management; Space Shuttle Program (SSP) Information Technology property accounting; SSP Chief Information Officer; and management of the Integrated Management Information Center (IMIC) computing.

In 1997, Heselmeyer became the Manager of the Management Integration Office, a position he held until his retirement from NASA and Johnson Space Center in 2004. Over the course of his career he received numerous Superior Achievement and Performance awards, including the Presidential Medal of Freedom, as well as the following: Group Achievement Award, First Lunar Landing, July 1969; Superior Achievement, Apollo 13 MCC Flight Controller, 1970; and many others.

Robert Heselmeyer married Melba Tipton of Beaumont, Texas, and the couple lived in the Clear Lake area of Houston, Texas, during his time working at Johnson Space Center. At the time of this writing, Heselmeyer lives in the greater Houston, Texas, area.

Scope and Content

The collection contains reports, memos, notebooks, technical manuals and handbooks, dictionaries, checklists, guides, flight schedules, technical requirements records, meeting logs, activity reports, plans, charts, and other materials, documenting the entire career of Robert Heselmeyer at NASA's Johnson Space Center (JSC) from 1966 to 2004. He worked as an engineer on the Project Apollo missions as a Lunar Module Flight Controller, specifically as the Vehicle Systems Engineer for the Telemetry, Electrical, and (EVA) Mobility Unit (or TELMU). Heselmeyer served as a Biomedical Experiments Flight Controller for the medical experiments on the Skylab Program. He worked first in the Flight Production Office, then as a Technical Manager for the Management Systems of the Management Integration Office, in the National Space Transportation System (NSTS) Program Office through the 1980s.

The largest and most significant set of materials in the collection are original manuals, handbooks, and schedules from Heselmeyer's role with the Apollo 11 and Apollo 13 missions. The collection is organized into the following series and subseries: Series I: Meeting and Work Activity Records; Series II: Space Shuttle Operations Requirements; Series III: Space Shuttle—Mir Operations Requirements; Series IV: Space Shuttle Program Organization; Series V: JSC Organization Announcements; Series VI: NASA Correspondence and Publications; Series VII: Apollo Missions Operational Materials and Records; Subseries VIIA: Apollo Missions Operational Manuals and Records; Subseries VIIB: Post Mission Reports and Specialty Handbooks; Series VIII: Skylab Operational Manuals and Reports; and Series IX: Miscellaneous Materials.

Subject Terms

Personal/Family Name

Heselmeyer, Robert, 1943-
Kranz, Eugene F. (Eugene Francis), 1933-

Corporate Names

Lockheed Martin
Lyndon B. Johnson Space Center
Lyndon B. Johnson Space Center. Office of Public Affairs
Rockwell International. Space Division
United States. National Aeronautics and Space Administration

Geographic Name

Houston (Tex.)

Topical Term

Apollo 9 (Spacecraft)
Apollo 10 (Spacecraft)
Apollo 11 (Spacecraft)
Apollo 12 (Spacecraft)
Apollo 13 (Spacecraft)
Apollo 14 (Spacecraft)
Apollo 15 (Spacecraft)
Apollo 16 (Spacecraft)
Manned space flight--History
Mir (Space station)
Project Apollo (U.S.)
Skylab Program
Space shuttles--United States--History
Space--Social aspects--History
United States. National Aeronautics and Space Administration--History

Genre/Physical Characteristic

Checklists
Handbooks
Memorandums
Operating manuals
Publications
Schedules
Technical manuals
Technical reports

Collection Inventory

Series I: Meeting and Work Activity Records

Series I is composed correspondence, meeting logs, activity reports, guidelines, and other materials, used or created by Robert Heselmeyer while working for the Flight Control Division and Space Transportation System Operations Program Office between 1975 and 1986. Such records as the activity reports may not be complete, uninterrupted runs of these records. Rather, they are the surviving copies retained by Heselmeyer over the years from his working days at Johnson Space Center. The most unique records in this series are Heselmeyer's personal spiral notebooks, in which he took monthly meeting notes from September 1980 to June 1984 while working in the Flight Production Office in the Space Transportation System Operations Program Office, where he addressed Space Shuttle planning and operations with the Kennedy Space Center (KSC) and the Marshal Space Flight Center (MSFC) through an intercenter working group (see Box 1, Folders 3-5).

Box/Folder	Description	Date
1/1	Flight Control Division Correspondence	1975-1977
1/2	Flight Control Division Correspondence	1977-1980
1/3	Personal Meeting Notebooks	September 1980-October 1981
1/4	Personal Meeting Notebooks	October 1981-May 1983
1/5	Personal Meeting Notebook	May 1983-June 1984
1/6	Shuttle Flight Production Office Weekly Activity Reports	July 1981-August 1984
1/7	Shuttle Flight Production Office Weekly Activity Reports	August 1984-August 1985
1/8	Shuttle Flight Production Office Weekly Activity Reports	September 1985-September 1986
1/9	Shuttle Flight Production Office Weekly Activity Reports (Heselmeyer Inputs)	August 1981-January 1986
2/1	Various Memos on Comments to Kranz Apollo History Book	2001
2/2	"System Briefs" Preparation Guidelines	Undated

Series II: Space Shuttle Operations Requirements

Series II is composed of guides, system operations records and plans, memos, project implementation and Space Shuttle flight schedules, technical requirements records, and other materials, kept and used by Robert Heselmeyer from 1976 to 1989 while working with different Johnson Space Center divisions in the development and operation of the Space Shuttle program from its inception. A small but important set of records are those from the mid to late 1980s while he worked in different offices of the Space Transportation System Operations Program Office.

Box/Folder	Description	Date
2/3	Shuttle Ground Systems Requirements Preparation Guide	March 1, 1976
2/4	STS Flight Operator Operations Phase Concepts	January, 1977
2/5	Baseline Operations Plan for Space Shuttle Transportation Systems Operations	March 1, 1977
2/6	STS Operations Transition Baseline Operations Plan	April 15, 1977
2/7	Orbiter Flight Test (OFT) Flight Operations Baseline Operations Plan—Rev A	July 15, 1977
2/8	Space Transportation System (STS) Flight Operations Baseline Operations Plan—Rev A	November 20, 1978
2/9	Various Memos and Notes on Level A Requirements for the Shuttle Mission Control Center	1977-1979
2/10	STS Mission Control Center (MCC) and JSC Payload Operations Control Center (POCC) Mature OPS Timeframe Level A Requirements—Rev A	May 22, 1979
2/11	25 Years in Space—Planning and Analysis Office	August 27, 1980
2/12	STS-17 Flight Implementation Schedule	September 22, 1983; November 17, 1983
2/13	Various Memos on Achieving "Realistic Flight Schedules" for Flight Production Planning	1984-1986
2/14	National Space Transportation System (NSTS) Program Approval Document (Draft)	June 7, 1989

2/15	NSTS Level 1 Program Requirements Document	June 30, 1988
2/16	NSTS Level I and Level II Baseline Documentation Tree	Undated
2/17	NSTS Configuration Management Requirements —NSTS 7000 Appendix 4	Undated
2/18	Training of Space Shuttle Flight Controllers (Shelley)	Undated

Series III: Space Shuttle—Mir Operations Requirements

Series III is composed of plans, memos, charts, technical and safety requirements, agreements, and other records, documenting the requirements needed by NASA to have the Space Shuttle orbiter ready and able to dock with the Russian Mir space station in the 1990s. According to NASA's mission history website, "In 1992, the U.S. and the new Russian Federation renewed the 1987 space cooperation agreement and issued a 'Joint Statement on Cooperation in Space.' Subsequent additions to the agreement outline the development of the NASA-Mir program." From February 1994 to June 1998, NASA Space Shuttle orbiters made 11 flights to Mir, and American astronauts spent seven residencies onboard Mir. The records in this series are Robert Heselmeyer's personal copies from his time serving as the Deputy Manager of the Management Integration Office at Johnson Space Center in the mid-late 1990s.

Box/Folder	**Description**	**Date**
2/19	Program Management Plan for Shuttle Flights to Russian Space Station MIR	December 30, 1993
2/20	Organization Plan for the Implementation of Human Space Flight Cooperation Programs (MIR/Shuttle)	February 11, 1994
2/21	NASA/RSA Joint Space Mission Requirements Agreement	February 11, 1994
3/1	Network and Facilities Document for Joint NASA-Russian Manned Space Flight Operations	September 13, 1994
3/2	Phase 1 Program Management Memo and Charts	October 6, 1994
3/3	Joint Safety, Reliability and Quality Assurance Policies for the Shuttle/MIR and NASA/MIR Programs (3-1)	1994
3/4	MIR Safety Requirements (3-2M)	1994
3/5	Requirements for Space Shuttle Safety (3-2S)	1994
3/6	NASA/RSA Joint Space Mission Requirements Agreement	December 14, 1995

3/7	Phase 1 Program Documentation Plan (MP1P 60001)	August 10, 1995
3/8	Phase 1 Joint Mission Information	July 7, 1998

Series IV: Space Shuttle Program Organization

Series IV contains organizational records and charts, memos, and other records, documenting Robert Heselmeyer's role in working with the development and operation of NASA's Space Shuttle Program. Most of the records are from the 1980s, when Heselmeyer worked first in the Flight Production Office, then as a Technical Manager for the Management Systems of the Management Integration Office, in the National Space Transportation System (NSTS) Program Office (the office responsible for the Space Shuttle Program). The unique items in this series are the organizational charts for the NSTS during this period. Some of the records are from the early-mid 1990s.

Box/Folder	**Description**	**Date**
3/9	JSC Memo: Reorganization of the Space Shuttle Program Management Organization	August 19, 1974
3/10	NASA Memos: Realignment of Space Transportation System Functions at JSC	October 28, 1981; January 11, 1982
3/11	Kennedy Organization Chart	June 1, 1981
3/12	JSC Announcements of the Space Shuttle Projects Office	June 6, 1983; April 26, 1985
3/13	National Space Transportation System (NSTS) Program Office Organization (JSC)	June 27, 1983; August 15, 1984; August 7, 1985; August 12, 1985
3/14	NSTS Office Organization (JSC)	August 23, 1985; September 27, 1985
3/15	NASA Memo: Organization and Operation of the NSTS Program	November 5, 1985
3/16	NSTS Program Management Integration Office Organization Charts	December 11, 1986
3/17	NSTS Organization (HQ)	November 2, 1987
3/18	NASA HQ Office of Space Flight Organization Chart	December 18, 1987

3/19	Space Shuttle Program Organization	September 24, 1992; August 15, 1994
3/20	Marshall Space Flight Center Space Shuttle Projects Office Organization Chart	Undated

Series V: JSC Organization Announcements

Series V contains organizational charts, announcements, memos, and other organizational records, received or used by Robert Heselmeyer related to the organizational structure of the various divisions in which he worked at NASA's Johnson Space Center. Most of the records date from 1970 to 1987. Some of these organizational records are unique and hard to find for the given time periods, as these are the copies Heselmeyer used as a manager within various JSC divisions in more specialized sections.

Box/Folder	Description	Date
3/21	JSC Flight Operations Division Organization	December 10, 1962
3/22	JSC LM/Shuttle Systems Branch Organization	December 18, 1970; October 7, 1971
3/23	JSC Flight Control Division Organization	1972, 1974, 1976, 1978-1980
3/24	JSC Astronaut – Shuttle Organization Chart	January 21, 1974
3/25	JSC Flight Operations Directorate Organization	April 17, 1974; June 26, 1981; Undated
3/26	JSC Announcements: Apollo Spacecraft Program	June 7, 1974; July 25, 1974
3/27	JSC Ground Data Systems Division Organization	July 30, 1974; October 1, 1979; July 7, 1983
3/28	JSC Payload Operations Division Organization	February 9, 1977
3/29	JSC Center Organization	March 28, 1983; June 15, 1994; undated
3/30	NASA JSC Key Personnel Assignment Announcements	February 1983-November 2002

3/31	JSC Spacecraft Software Division Organization	August 16, 1983
3/32	JSC Mission Operations Directorate Organization	February 29, 1984; December 5, 1984; January 16, 1985; November 10, 1986
3/33	Roles and Responsibilities—Associate Administrator for Space Flight	May 20, 1987
3/34	NASA Memo: Space Station Host Center and Prime Contractor Announced	August 17, 1993
3/35	NASA Space Station Management Changes Announcement	October 20, 1993
3/36	NASA Memo: Reinventing NASA	July 13, 1993

Series VI: NASA Correspondence and Publications

Series VI contains official NASA memos and publications on various topics and for normal procedures during Robert Heselmeyer's tenure at Johnson Space Center. This includes official annual reports on the Space Shuttle Program from 1999 to 2002. There are also memos from NASA's Public Affairs Office responding to various media articles on NASA. Other interesting items include Heselmeyer's marked personal copy of the NASA report on the Search for Extraterrestrial Intelligence (or SETI) from 1977 (see Box 3, Folder 37).

Box/Folder	**Description**	**Date**
3/37	The Search for Extraterrestrial Intelligence (NASA SP-419)	1977
3/38	Senator Jim Wright Memo to President Supporting Solar Power Satellite Project	March 29, 1977
3/39	Rockwell International Space Shuttle	1989
4/1	NASA Public Affairs Office (PAO) Memo to LA Times Memo in Response to NASA Article	July 26, 1990
4/2	NASA Memos in response to New Yorker Magazine Cooper Article	September 10-16, 1991
4/3	Richard Truly Letter of Resignation	February 10, 1992
4/4	Space Shuttle Annual Report (1999)	1999

4/5	Space Shuttle Annual Report (2000)	2000
4/6	Space Shuttle Annual Report (2001)	2001
4/7	Space Shuttle Annual Report (2002)	2002

<u>Accrual A</u>

Accrual A contains a set of additional NASA reports, manuals, and records, created or used by Robert Heselmeyer while he worked as an engineer on the Project Apollo missions and Skylab Program (1967-1973). The addition was donated in April 2022, and initially organized and described by Robert Heselmeyer himself in preparation for adding it to the original collection. Accrual A's materials are stored in Boxes 5-11.

Series VII: Apollo Missions Operational Materials and Records

Series VII is composed of checklists, dictionaries, logs, memos, notebooks, handbooks, mission rules, period copies of post mission reports, and Johnson Space Center Mission Control Center rosters, owned and used by Robert Heselmeyer while he worked as a Lunar Module Flight Controller for all of the Apollo Program missions, apart from Apollo 17. Specifically, Heselmeyer served as the Vehicle Systems Engineer for the Telemetry, Electrical, and (EVA) Mobility Unit (or TELMU). Series VII is organized into two subseries based on the type of record: Subseries VIIA: Apollo Missions Operational Manuals and Records, and Subseries VIIB: Post Mission Reports.

Subseries VIIA: Apollo Missions Operational Manuals and Records

Subseries VIIA is composed of the checklists, dictionaries, logs, memos, notebooks, handbooks, mission rules, and Johnson Space Center Mission Control Center rosters, owned and used by Robert Heselmeyer for the Apollo 5, and Apollo 9-14 missions between 1967 and 1970. There are also some general manuals covering content used for multiple Apollo missions up to 1972. Most of these checklists, handbooks, and manuals are the actual ones Heselmeyer used while working on and off of shifts in the Johnson Space Center Mission Control Center for the Apollo Program missions' flights.

The subseries contains three of the rarest and most significant items in the entire collection. Robert Heselmeyer was assigned to the coastal sentry ship *Quebec* in the Indian Ocean in January 1968, for the observation and possible recovery of the returned test vehicle of Apollo 5 (known as LM-1 or AS-204, reusing the original mission number for the Apollo 1 mission that ended in tragedy and never successfully launched), the uncrewed first flight of the Apollo Lunar Module. Heselmeyer stayed in touch with NASA for three weeks while aboard the ship, keeping notes and pasting printouts of NASA radio/cable messages in his "Coastal Sentry Quebec" tracking ship log book. Apollo 5 was launched from Cape Kennedy, Florida, on January 22, 1968. This log book is the only version of his notes and time aboard the tracking ship in existence (**see Box 5, Folder 1**).

There are two manuals and checklists in this subseries that Robert Heselmeyer actually used as a Lunar Module Flight Controller for the TELMU unit of the Apollo 13 mission while stationed in the Mission Control Center at Johnson Space Center. The two records are the Apollo 13 LM-7 Crew Activation Checklist (see Box 6, Folders 2-3) and the Final Flight Mission Rules: Apollo 13 (see Box 6, Folders 6-7). The Final Flight Mission Rules manual was what Heselmeyer used as his group solved the problem of how much powering up the Lunar Module could do or handle to support the Apollo 13 crew members after a malfunction was caused by an explosion and rupture of Oxygen Tank No. 2 in the Service Module. Although other copies of these manuals and checklists exist in the National Archives, these are the personal copies used by one of the key NASA engineers in the Apollo 13 crew rescue effort.

The subseries also includes two Apollo 13 flight control shift schedule sheets that Heselmeyer kept, showing the planned manning in shifts of the Mission Control Center for two of the proposed Apollo 13 mission launch dates. One of the schedule sheets is a copy print from the period, while the other has hand-made notes and corrections (see Box 8, Folder 3).

Box/Folder	**Description**	**Date**
5/1	"Coastal Sentry Quebec" LM-1 (AS-204) Tracking Ship Log Book	January 1968
5/2	LM-1 Data Book: Revision A [Mission-Used]	December 15, 1967
5/3	Apollo LM-4 Flight G&N Dictionary	February 3, 1969
5/4	Apollo LM-4 Flight Crew Systems Activation Checklist	March 12, 1969
5/5	Final Apollo 10 Flight Plan	April 17, 1967
5/6	Lunar Module Communications Activation Memo	April 8, 1970
5/7	Changes to Lunar Surface Checklist (Apollo 13)	April 9, 1970
5/8	Flight Control Division Advanced Technology Notebook	July 17, 1970
5/9	Apollo 14 Lunar Module Activation Checklist (Part 1)	November 2, 1970
6/1	Apollo 14 Lunar Module Activation Checklist (Part 2)	November 2, 1970
6/2	Apollo 13 LM-7 Crew Activation Checklist (Part 1)	February 6, 1970
6/3	Apollo 13 LM-7 Crew Activation Checklist (Part 2)	January-April 1970
6/4	LM-3 Electrical Power-down Modes Memo	February [?]

6/5	Apollo LM-4 Contingency Docked DPS Burn Checklist	March 13, 1969
6/6	Final Flight Mission Rules: Apollo 13 (Part 1)	February 12, 1970
6/7	Final Flight Mission Rules: Apollo 13 (Part 2)	February 12, 1970
7/1	Flight Mission Rules Rationale Document: Apollo 13	February 12, 1970
7/2	LM Console Handbook, LM-3 REV A (Part 1)	October 31, 1968
7/3	LM Console Handbook, LM-3 REV A (Part 2)	October 31, 1968
7/4	LM Systems Handbook: Vehicle LM-3 REV B (Part 1)	November 25, 1968
7/5	LM Systems Handbook: Vehicle LM-3 REV B (Part 2)	November 25, 1968
8/1	Space Systems Operational Design Criteria Manual	August 1, 1972
8/2	Flight Control Manning Roster for Apollo 9	February 6, 1969
8/3	Apollo 13 Flight Control Shift Schedule [With Notes]	February 25-March 5, 1970
8/4	TELCOM Console Log for Apollo 11 [Period Copy]	June 3, 1969

Subseries VIIB: Post Mission Reports and Specialty Handbooks

Subseries VIIB is composed of period copies of post mission reports for all of the Apollo Program missions from Apollo 9 through Apollo 16, which were owned and used by Robert Heselmeyer in his position within Mission Control Center for the Lunar Module engineer team. There are also a console handbook and a systems handbook for the Apollo 10 Lunar Module in this grouping (separated from the other handbooks and manuals due to purpose and storage in the boxes), which Heselmeyer used for that mission as the Lunar Module Flight Controller. The handbooks are originals, and Heselmeyer's personal copies.

Box/Folder	Description	Date
8/5	Apollo 9 (LM-3) Post Mission Report	March 19, 1969
8/6	Apollo 10 (LM-4) Post Mission Report	May 29, 1969
8/7	Apollo 11 (LM-5) Post Mission Report	August 5, 1969
8/8	Apollo 11—LM-5 vs. EPS Electrical Power Data	Undated
8/9	Apollo 12 Post Mission Report	November 24, 1969

8/10	Apollo 13 Post Mission Reports and Data	April-May 1970
8/11	Apollo 14 SPAN Post Mission Report	February 17, 1971
8/12	Apollo 14 TELMU Post Mission Report	February 18, 1971
8/13	Apollo 15 Detailed Post Mission Report	September 9, 1971
8/14	Apollo 16 TELMU Post Mission Report	May 8, 1972
9/1	Lunar Module Systems Handbook: LM-10 and Subsequent Vehicles, REV A (Part 1)	September 30, 1971
9/2	Lunar Module Systems Handbook: LM-10 and Subsequent Vehicles, REV A (Part 2)	September 30, 1971
9/3	Lunar Module Console Handbook: LM-10 and Subsequent Vehicles (Part 1)	November 1, 1971
9/4	Lunar Module Console Handbook: LM-10 and Subsequent Vehicles (Part 2)	November 1, 1971

Series VIII: Skylab Operational Manuals and Reports

Series VIII is composed of original memos, handbooks, reports, and checklists, owned and used by Robert Heselmeyer for the various Skylab Program missions that were conducted by NASA between May 1973 and February 1974. This includes the three crewed Skylab missions: Skylab 2 (SL-2), Skylab 3 (SL-3), and Skylab 4 (SL-4). Heselmeyer used these records while serving as the Biomedical Experiments Flight Controller for the medical experiments on the Skylab Program.

Box/Folder	**Description**	**Date**
10/1	Mission Manning for Skylab 1/2 Memo	April 27, 1973
10/2	Skylab Biotechnology Console Handbook, REV A (Part 1)	May 7, 1973
10/3	Skylab Biotechnology Console Handbook, REV A (Part 1)	May 7, 1973
10/4	Mission Control Center Access List: Skylab 3	July 20, 1973
10/5	Third Skylab Mission (SL-4): Student Project Experiment Checklist, Final Revision A	October 11, 1973

11/1	Third Skylab Mission (SL-4): Biomed Experiments Checklist and Log, Final Change C	October 24, 1973
11/2	Skylab Inflight Medical Support System (IMSS) Checklist (Part 1)	November 1, 1973
11/3	Skylab Inflight Medical Support System (IMSS) Checklist (Part 2)	November 1, 1973

Series IX: Miscellaneous Materials

Series IX contains Apollo 11 lunar landing anniversary programs produced and distributed to the NASA personnel who worked on the lunar landing. These programs commemorate the 20th, 30th, and 35th anniversaries of Apollo 11, and were produced by NASA. There is also a folder of memos from Heselmeyer's time working in the Flight Control Division of Johnson Space Center from between 1967 and 1980 (relocated from its original storage in Box 1 of this collection due to the fullness of that box).

Box/Folder	Description	Date
11/4	Program: Flight Operations Reunion for the 20th Anniversary of the First Manned Lunar Landing	1989
11/5	Program: Flight Operations Reunion for the 30th Anniversary of the First Manned Lunar Landing	1999
11/6	Program: Apollo Program Flights Operations 35th Anniversary Reunion	2004
11/7	Flight Control Division Memos	1967-1980