

CENTER SERIES**GROUND AND NAVIGATION CONTROL (GNC) FLIGHT LOGS - GEMINI THROUGH APOLLO**

This collection contains the flight logs of the Gemini and Apollo missions, written by the flight controllers at Mission Control Center during the actual spaceflights. Ground and Navigation Control (GNC) provided the flight controllers who were directly responsible for the real time activities of each mission. By the time of Gemini IV, three flight controller shifts with specialized duties had developed (see p. 250 in *On the Shoulders of Titans: A History of Project Gemini*). The duties were: 1) to execute the flight plan, 2) to analyze the supply of consumables and systems performance, and 3) to keep up with what had been done and plan the next segment of activities. By the time of the Apollo flights the complexity of each succeeding mission necessitated a greater expansion of GNC, creating two or more flight logs for each mission. The collection as a whole has been arranged chronologically, starting with Gemini II and ending with Apollo 17. The materials in this collection, however, have not been separated in any way. Rubber-banded material was left together, as everything contained within tended to relate to real-time events and/or the persons involved with each mission. In this way, the thought processes and paper trails of the flight controllers can be followed through the normal and the unexpected of each mission. A number of the flight logs can be traced to certain individuals through names on the log books or different handwriting changes as a result of shift changes. Personalities sometimes stand out, especially those who do more than record the mission in progress by providing insights through written comments of their own feelings and the feelings of Mission Control personnel at the time. In order to provide a roadmap to some of these comments, an introductory file has been inserted in front of the Gemini and Apollo sections of this collection. Interesting notes and observations gleaned from the flight logs during the initial processing phase can be found here, as well as detailed contents of rubber-banded material. Other reference materials such as flight dates and mission accomplishments are also provided to assist in browsing the log books. These have been taken from *On the Shoulders of Titans* for Gemini and *Chariots for Apollo* and *Where No Man Has Gone Before* for Apollo. Gemini flight logs - The logs for Gemini 2 - 12, as well as mission and post mission reports, are found here. Even aborted and failed mission logs are included, with some early simulation logs (see Gemini 6, 9, and 11 logs). The "lingo" of the flight controllers, found on the left side of each page, comprises the hours and minutes before or after launch (T- or +) along with a three-letter code that refers to the tracking station from which information is being received (see intro. file for list of these codes and their locations). Occasionally some EECOM material is found for these missions (see Gemini 5, 8, 11, and 12). Tracking of flight controllers' shift changes and the colors used to refer to each shift can be found throughout the logs. One attempt was made to document the number of hours of each shift, with some success (see intro. material, Gemini 12). Also of interest is the arrangement of log books for the Gemini 6/7 mission. All papers, notes, charts, and figures have been left in their original locations in the log books. Suggested supplementary materials to be consulted in the History Office can be found in the Gemini Series under Mission Documents (boxes 260-314), Quarterly Status Reports (boxes 315-16), Oral History Tapes (boxes 418-19), and Mission Documents-Addenda (boxes 439-43). Apollo flight logs - The logs for Apollo 9-11, 14-15, and 17 are found here. Various Command Service Module (CSM) checklists and procedures manuals are included with the log books, and were probably used as reference materials by the flight controllers during missions. Procedure changes in the log books since Gemini include: Shift Change Briefing forms, CSM Consumables/Weight forms (propulsion team), Shift Status Summaries forms, and the dropping of the tracking stations codes. These forms are interspersed and inserted throughout the log books and were left intact. The log books of the Propulsion team, which may have been part of GNC at this time, are available for Apollo 10, 11, and 15, as well as their mission reports for Apollo 10 and 14. The material for Apollo 15 is of interest because of its completeness. There is a Console Log for the Propulsion team, a Flight Log for GNC, and a Flight Log for G & N. The GNC flight log is a very detailed, well organized log divided by blue tabs for each of the various mission sections (LOI, DOI, CIRC, LOPC, etc.). The quotes from Apollo 11 and 15 logs record some of the milestones of the Apollo program. Of interest for JSC history are a number of reports by Aaron Cohen (see Apollo 11 material). The flight directors report for Apollo 10 describes the shift changes and personnel for this mission. Suggested supplementary materials to be consulted in the History Office can be found by searching the Apollo database under the keywords GN and FOP.

Inventory**SubHeading:****Box Number: 1**

Gemini 2 - GNC Console Flight Log Mission Control Center A. Aldrich	September-December 1964
Gemini 2 - Mission Report GNC Systems Console	January 22, 1965
Gemini 2 - Mission Report GNC Systems Console, corrected copy	January 22, 1965
Gemini 2 - Mission Report EECOM (MCC-Cape Kennedy)	January 22, 1965
Gemini 3 - GNC Flight Log G.D. Griffin	March 5-23, 1965
Gemini 3 - GNC Flight Log A. Aldrich	March 13-23, 1965

Gemini 4 - Mission Report GNC Systems Console	June 15, 1965
Gemini 4 - GNC Console Flight Log	June 3-7, 1965
Gemini 5 - EECOM Systems Log Prelaunch tests	July 19-August 20, 1965
Gemini 5 - EECOM Flight Log	August 19-29, 1965
Gemini 5 - Mission Report EECOM MCC-H	September 3, 1965
Gemini 6 - GNC Console Log	October 24, 1965
Gemini 6(a) - GNC Flight Log	December 12-16, 1965
Gemini 7/6 - GNC Mission Log	December 1-18, 1965
Gemini 7 - GNC Flight Log Book I (Precount-Rev. 63)	December 1-18, 1965
Gemini 7 - GNC Flight Log Book II (Rev. 63-Rev. 134)	December 1-18, 1965
Gemini 7 - GNC Flight Log Book III (Rev. 135-Rev. 207.1)	December 1-18, 1965
Gemini 7/6 - Mission Report FC/Gemini Systems Section	January 13, 1966
Gemini 7 - Mission Support Performance Flight Control	January 13, 1966
Observations, notes, and reference materials for Gemini flight logs	n/d

SubHeading:

Box Number: 2

Gemini 8 - GNC Mission Log	March 16-23, 1966
Gemini 8 - Mission Report GNC MCC- H Mission Performance-Flight Control	March 25, 1966
Gemini 8 - Mission Report EECOM MCC-H	March 24, 1966
Gemini 9 - GNC Flight Log	March 15-May 17, 1966
Gemini 9(a) - GNC Flight Log	June 1-6, 1966
Gemini 9 - Mission Report FC/CSM/Gemini Systems Branch- Remote sites	June 27, 1966
Gemini 9 - Mission Report FC/CSM, Gemini Systems Branch	June 10, 1966
Gemini 10 - GNC Flight Log	July 13-21, 1966
Gemini 10 - Mission Report FC/CSM, Gemini Systems Branch (GNC)	July 28, 1966
Gemini 10 - Mission Report FC/CSM/Gemini Systems Branch Propellants?	August 2, 1966
Gemini 11 - GNC Flight Log	August 8 - September 22,
Gemini 11 - Mission Report EECOM	September 29, 1966
Gemini 11 - Mission Report FC/CSM (GNC)	September 23, 1966
Gemini 11 - Mission Report Remote sites	September 30, 1966
Gemini 12 - GNC Flight Log	October 10 - November 15,
Gemini 12 - Mission Report EECOM	November 29, 1966
Gemini 12 - Mission Report FC/CSM/Gemini Systems Branch (GNC)	November 23, 1966
Gemini 12 - Mission Report FC/CSM/Gemini Systems Branch	November 30, 1966
Gemini 12 - Experiments Systems Report	December 2, 1966
Gemini 12 - Experiments report	December 7, 1966

SubHeading:	Box Number: 3	
	Observations, notes, and reference materials for Apollo flight logs	n/d
	Apollo 9 - GNC Flight Log	March 1969
	Apollo 9 - Mission Reports	March 1969
	Apollo 10 - Flight Directors' Report	May 1969
	Apollo 10 - Mission Reports	June 2-4, 1969
	Apollo 10 - Various propulsion, fuel charts	n/d
	Apollo 10 - Preliminary analysis of Apollo 10 consumables usage	June 9, 1969
	Apollo 10 - Summary of Mission problems	June 1969
	Apollo 10 - CSM Systems Mission Log	May 1969
	Apollo 10 - Propulsion Mission Log	May 1969
	Apollo 10 - Mission Report, propulsion charts, Flight Log	May 1969
	Apollo 11 - IRIG BIAS, PIPA Log SPS Burn Summaries, Mission Log	July 1969
	Apollo 11 - Flight Log	July 1969
SubHeading:	Box Number: 4	
	Apollo 14 - Final Crew Charts, CSM System Checklist, CSM G&C Checklist, CSM Cue Cards CSM Systems Data	June-December 1970
	Apollo 14 - Post Mission Reports (GNC, Propulsion, G&N)	February 1971
	Apollo 14 - Emergency Power Down Rationale, CSM Contingency Checklist, CSM Rescue Book, Orbital EVA Procedures, CSM Malfunction Procedures	January 1971
	Apollo 15 - CSM G&C Checklist; CSM Systems Checklist; Basic Crew Charts for July 26, 1971 Launch; CSM Systems Data; CSM Cue Cards	May-July 1971
SubHeading:	Apollo 15 - Console Log (Propulsion?, consumables status sheets, consumables/weight predictions, MCC requests, SPAN requests	July-August 1971
	Box Number: 5	
	Apollo 15 - CSM Contingency Checklist, CSM Malfunction Procedures, CSM Rescue Book	June-July 1971
SubHeading:	Apollo 17 - GNC Log, Various reports and notes	December 1972
	Box Number: 5 *	
	Apollo 15 - Manuever pad calibrations, Flight Log, SPAN action requests * This 377 page document has been scanned	July-August 1971
	Apollo 15 - Burn constants charts, G&N Flight Log, various reports * This 213 page document has been scanned	July-August 1971