

CENTER SERIES SIMULATORS

NASA - JSC has used a variety of simulators since its inception to train flight and ground crews, to develop nominal and contingency procedures, and for the test and checkout of manned spacecraft. This subseries consists mainly of maintenance manuals, operations manuals or specifications for a variety of these simulators. Of particular interest, primarily due to their relative rarity, are operations manuals for the Gemini Mission Simulator and a technical proposal for a Mercury space flight simulator. Well described in the subseries are the Skylab Ground Support Simulation Computer and the Orbiter Aeroflight Simulator. The former generated math models of the Saturn Launch Vehicle, CSM, and Saturn Workshop. It also interfaced with the Flight Crew Trainer and the onboard computers. The OAS "consists of a faithful, look alike cockpit of the orbiter vehicle, mounted on a specially designed motion system and having a wide angle, high resolution visual system." Its primary functions are to familiarize astronauts with orbiter controls and displays, to train astronauts in contingency and emergency procedures, and to form one of the links in integrated simulations conducted between the simulator, mission controllers and flight crews. It is still in use at this writing. The materials in this subseries had been stored in a closet in Building 5 for many years, so their provenance is lost. As a result, documents were arranged chronologically. However, multi-volume manuals are filed together even when they are not dated sequentially. The documents are dated between 1959 and 1983 (bulk 1963 - 1976).

Inventory

SubHeading:	Box Number: 01	
	KC-135 "Zero G" Training	September 16, 1959
	Propulsion Test Facilities, Preliminary Technical Proposal for Space Flight Simulator for Project Mercury	July 21, 1960
	SEDR 280, McDonnell Aircraft, Operation Manual for Gemini Mission Simulator	December 18, 1963
	MSC Flight Acceleration Facility	1963 - 1964
	Simulators (assorted fact sheets)	1963 - 1964, 1967, n.d.
	Technical Provisions of a Request for Technical Proposals for a Dynamic Crew Procedures Simulator	March - April 1964
	Operation Manual for Gemini Mission Simulator, McDonnell Aircraft	July 31, 1964
SubHeading:	Box Number: 02	
	PHO-SM503, Philco Corporation, Maintenance Manual, Countdown and Status Transmitting Subsystem Equipment	September 1, 1965
	Operation and Maintenance Manual, Apollo Spacecraft Lunar Excursion Module Mission Simulator, Closed Circuit Television System	April 1, 1966
	AMRL-TR-66-5B, Virtual Image Display for Space Flight Simulator	April 1966
	PTR #2033-551, Farrand Optical, LEM - EVDE Support Data, Operation and Maintenance, Star Display Electronics 5A23 for Overhead Window	April 1966
SubHeading:	Box Number: 03	
	PTR-2006-545, Farrand Optical Co., LEM-EVDE Operation and Maintenance Data, Rendezvous and Docking	May 3, 1966
	Technical Facilities Resume, Flight Crew Operations Directorate	July 15, 1966
	PTR#2010-549, Farrand Optical, Co., LEM-EVDE Support Data, General System Introduction and Trouble Analysis, Interface Junction Section Maintenance	c. 1966
	PTR2011-551, Farrand Optical Co.,	January 1967

	LEM-EVDE Support Data, Operation and Maintenance, Window Star Display, Celestial Spheres, 5A2, 5A21, 5A27, Revision A	
	LMA790-2-LMS, Lunar Module Mission Simulator, Instructor's Handbook, Volume II: Simulator Operation, Section 5: Instructor Material, Section 6: Scripting Data Sheets	April 1, 1967
SubHeading:	Box Number: 04	
	PTR-2072-553, Farrand Optical Inc., Operation and Maintenance Data Package, Mission Effects Projector (MEP) and Electronics Subsection, LM Mission Simulator, External Visual Display Equipment	May 1968
	TM-571, Maintenance Manual, LM Simulator, External Visual Display Equipment	June 18, 1968
SubHeading:	Box Number: 05	
	PHO-EM626, Philco Corporation, Maintenance Manual, Simulation countdown and Status Transmitting Equipment, PHO-OA1653, Vol. I of II	July 15, 1969
	SSB-600, Skylab Ground Support Simulation Computer Program Specifications, General Requirements (GSSC General)	August 5, 1970
	GSSC-600, Volume 1, Skylab Ground Support Simulation Computer Program Specifications, General Requirements	May 1973
SubHeading:	Box Number: 06	
	GSSC-600, Volume II, Skylab Ground Support Simulation Computer Program Specifications, General Requirements	November 22, 1972
	GSSC-601, Volume 1, Skylab Ground Support Simulation Computer Program Specifications, SLV Model	August 15, 1973
SubHeading:	Box Number: 07	
	GSSC-601, Volume II, Skylab Ground Support Simulation Computer Program Specifications, SLV Model	August 28, 1974
	SSB-602, Volume 1, Skylab Ground Support Simulation Computer Program Specifications, SWS Model	July 16, 1971
SubHeading:	Box Number: 08	
	SSB-602, Volume II, Skylab Ground Support Simulation Computer Program Specifications, SWS Model	April 30, 1971
	SSB-602, Volume III, Skylab Ground Support Simulation Computer Program Specifications, SWS Model	April 30, 1971
	GSSC-604, Skylab Ground Support Simulation Computer Program Specifications, FCT Interfaces (Flight Crew Trainer)	August 17, 1973
	SSB-401, Rev. B, Ground Support Simulation Computer Program Specifications, Volume 1: SLV Model (Saturn Launch Vehicle)	September 9, 1970
SubHeading:	Box Number: 10	
	PHO-SM601, Maintenance Manual, Apollo Simulation, Checkout, and Training System, Volume II of III	March 30, 1972
	Orbiter Aeroflight Simulator Maintenance Manual, Singer Simulation Products	August 15, 1976

	OAS (Orbiter Aeroflight Simulator) (related correspondence)	August - September 1976
SubHeading:	Box Number: 11	
	Shuttle Mission Simulator, Occlusion Processor Operation and Maintenance Manual, Contract NAS9-14910, JSC- 11002/11003-02 (preliminary)	August 1980
	Martikan, Fred O., "Mission Simulator Design in Support of Space Programs"	n.d.
SubHeading:	Box Number: 11 *	
	Introduction to Shuttle Mission Simulation // All 42 pages have been scanned.	August 12, 1983
	Space Shuttle Training Facilities // All 74 pages have been scanned	December 9, 1983