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OMSF

OFFICE OF MANNED SPACE FLIGHT

Program Requirement Document

(NASA-TM-X-66731) PRELIMINARY APOLLO FLIGHT MISSION ASSIGNMENTS (National Aeronautics and Space Administration) 16 p

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PRELIMINARY
APOLLO FLIGHT MISSION ASSIGNMENTS

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Effective Date: FEBRUARY 14, 1963

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GROUP 4

NASA

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
WASHINGTON, D.C.

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APOLLO FLIGHT MISSION ASSIGNMENTS

Date Effective: [redacted]

February 14, 1963

Office of Manned Space Flight
National Aeronautics & Space Administration
Washington 25, D. C.

[redacted]

Office of Manned Space Flight

DIRECTIVE

M-D E 8000.005

PROGRAM REQUIREMENT DOCUMENT

This document is an official release of the Office of Manned Space Flight, and its requirements shall be implemented by all cognizant elements of the Manned Space Flight Program.

The effective date of this document is February 14, 1963.

LIMIT ACCESS TO:

COGNIZANT NASA AND
NASA CONTRACTOR ACTIVITIES

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INTRODUCTION

This document contains Preliminary Flight Mission Assignment Summary and Preliminary Configuration and Flight Data Summary Charts for Apollo/Saturn and Apollo/Little Joe II.

On April 1, 1963, a subsequent issue will be made which reflects resolution of many areas presently in question. The word "preliminary" will be deleted from the charts at that time.

Periodic revisions to this document will be made as changes are approved and as flight missions are better defined.

UNITED STATES GOVERNMENT

Memorandum

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Washington 25, D. C.

TO : Distribution List [redacted] DATE: February 14, 1963

M-M M 1410.002

FROM : Director, Office of Manned Space Flight

SUBJECT: Apollo Flight Mission Assignments

Attached are approved Preliminary Flight Mission Assignment Summary and Preliminary Configuration and Flight Data Summary for:

a. Apollo/Little Joe II
b. Apollo/Saturn I
c. Apollo/Saturn I-B
d. Apollo/Saturn V

The charts are essentially the same as those presented and discussed at the January 29, 1963 Management Council Meeting. Revisions to the charts have been made to depict the decisions of the Council.

The charts are for use by the Centers and OMSF Directorates for planning and implementing the flight test programs and other related activities.

Proposed changes shall be submitted to OMSF for review and coordination. Changes will be discussed in Systems Review Meetings, and subject to final approval by the Management Council.

2.14.63

D. Brainerd Holmes
Director of Manned Space Flight

Enclosures

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[redacted] PRELIMINARY

APOLLO/SATURN I FLIGHT MISSION ASSIGNMENT SUMMARY

1. LAUNCH DATE	OCT 61	APR 62	NOV 62	MAR 63	AUG '63	DEC '63	MAR '64	JUN '64	OCT '64	DEC '64	MAR '65	JUN 65	SEP 65	DEC 65	MAR 66	JUN 66
PROPOSED CHANGES	(LAUNCHED)						APR '64									
	← RESEARCH & DEVELOPMENT →										← OPERATIONAL →					
2. LAUNCH VEH.	SA 1	SA 2	SA 3	SA 4	SA-5	SA-6	SA-7	SA-9	SA-8	SA-10	SA-111	SA 112	SA 113	SA 114	SA 115	SA 116
3. MISSION OBJECTIVES (P-PRIMARY, S-SECONDARY)	← UNMANNED →										← MANNED →					
a. LAUNCH VEHICLE (LV) (MSFC Responsibility)	P 1. Structures 2. Propulsion (165K Engines)				P 1. Structures 2. Propulsion (1st 188K Engine) 3. Guidance (Passengers) 4. S-I/S-IV Stg. Separation	P 1. Structures 2. Propulsion 3. Guidance (1st Active Sys) 4. S-I/S-IV Stg. Separation ←FLIGHT RESTRICTIONS→ in Angle of Attack and Probability of Launch	P 1. Structures 2. Propulsion 3. Guidance (Active) 4. S-I/S-IV Stg. Separation	P 1. Structures 2. Propulsion 3. Guid. (Active) 4. EDS Full Capability 5. S-I/S-IV Stg. Separation	P 1. Structures 2. Propulsion 3. Guid. (Active) 4. EDS Full Capability 5. S-I/S-IV Stg. Separation	P LV QUALIFICATION 1. Structures (1st to Accommodate 22,500 lb. Payload) 2. Propulsion 3. Guidance (Active) 4. S-I/S-IV Stage Separation 5. EDS Full Capab.	S ←Without R&D Instrumentation→	S	S	S		
b. SPACE CRAFT (SC) (MSC Responsibility)	NONE				NONE	S 1. Launch & Exit Environmental Parameters 2. LES Struct. Character. 3. LES Jettison Character.	S Back-up to SA-6 (if SA-7 Launched in April or Later)	S Study to be Conducted by MSC & MSFC to Determine Possible Additional Mission for Spacecraft	S MSC to Define Alternate Mission in Event SA-8 is not Required for Back-up to Micrometeoroid Experiment	P SC QUALIFICATION 1. Structures 2. SC Systems Opn'l Characteristics 3. SM Prop. (off-load) Includ. Restart 4. CM Re-entry 5. LES Jettison 6. SM-CM Separat. 7. Crew Safety 8. Recovery Sys. 9. Guid. & Navig.	P 1. Manned Orbital Flight 2. Opn. CSM Sys. w/Man. Control 3. Evaluation of Guid. System 4. Evaluate Multiman Inflight Crew Performance 5. Maneuvering Capability of CM RCS During Reentry 6. Complete Recovery Operation	P	P	P		
c. SPACE VEHICLE (SV)	NONE				NONE	S 1. Physical & Flt. Compatibility of LV & SC 2. Compatibility of R&D Communications & Instrumentation Between SV and Ground	S Back-up to SA-6 (if SA-7 Launched in April or Later)	S See Note Under SC Above	S See Note Under SC Above	P SV QUALIFICATION 1. EDS Full Capab. 2. Physical & Flight Compatibility of LV & SC 3. LV-SC Separation 4. Instrumentation, Communications, Tracking	P	P	P	P	SPARE	SPARE
d. OTHER								S Micrometeoroid Experiment	S Back-up to SA-9 Micromet. Exp.							

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[redacted] PRELIMINARY [redacted]

APOLLO/SATURN I CONFIGURATION AND FLIGHT DATA SUMMARY

1. LAUNCH DATE	OCT 61	APR 62	NOV 62	MAR 63	AUG 63	DEC 63	MAR 64	JUN 64	OCT 64	DEC 64	MAR 65	JUN 65	SEP 65	DEC 65	MAR 66	JUN 66
PROPOSED CHANGES	LAUNCHED						APR' 64									
2. LAUNCH VEHICLE	← RESEARCH & DEVELOPMENT →										← OPERATIONAL →					
	SA 1	SA 2	SA 3	SA 4	SA-5	SA-6	SA-7	SA-9	SA-8	SA-10	SA-111	SA-112	SA-113	SA-114	SA-115	SA-116
3. SPACE VEH. CONFIG.															SPARE	SPARE
A. LAUNCH VEH. (LV)																
(1) FIRST STAGE (S-I)	LIVE				LIVE	LIVE	LIVE	LIVE	LIVE	LIVE	OPN'L	OPN'L	OPN'L	OPN'L		
(2) SECOND STAGE (S-IV)	INERT				LIVE (1st)	LIVE	LIVE	LIVE	LIVE	LIVE	OPN'L	OPN'L	OPN'L	OPN'L		
(3) THIRD STAGE (S-IVB)	INERT				NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE		
(4) INSTRUMENTATION UNIT (IU)	R & D				R & D	R & D	R & D	PROTOTYPE	PROTOTYPE	PROTOTYPE	OPN'L	OPN'L	OPN'L	OPN'L		
B. SPACE CRAFT (SC)																
(1) LUNAR EXCUR. MODULE (LEM)	NONE				NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE		
(2) SERVICE MODULE (SM)	—				—	← BOILERPLATE AFRM External Configuration →				AFRM (First Compl)	AFRM	AFRM	AFRM	AFRM		
(3) COMMAND MODULE (CM)	← INERT JUPITER NOSE CONE →					← BOILERPLATE AFRM External Configuration →				AFRM (First Compl)	AFRM	AFRM	AFRM	AFRM		
(4) LAUNCH ESCAPE SYS. (LES)	NONE				NONE	← PROD Tower Jettison Motor Active Only →				PROD (First Compl)	PROD	PROD	PROD	PROD		
4. LV PAYLOAD CAP. (LBS)	—				18,500	18,500	18,500	16,600	16,600	22,000+	22,500	22,500	22,500	22,500		
5. SC WEIGHT (LBS)	—				—	12,360 (BALLAST)	12,360 TO 18,500)	12,360	12,360	22,000	22,500	22,500	22,500	22,500		
6. FLIGHT DATA																
A. PROFILE	BALLISTIC				ORBITAL	ORBITAL	ORBITAL	ORBITAL	ORBITAL	ORB. OR SUB. ORB.	ORBITAL	ORBITAL	ORBITAL	ORBITAL		
B. APOGEE (NM)					100	100	100	675	675	100	100	100	100	100		
C. PERIGEE (NM)					100	100	100	255	255	100~~/255~~	100	100	100	100	BHS	
D. FLIGHT AZIMUTH					105°	105°	105°	105°	105°	72°/105°	72°	72°	72°	72°		
7. RECOVERY	NO				NO	NO	NO	NO	NO	YES (WATER)	YES (WATER)	YES (WATER)	YES (LAND)	YES (LAND)		
8. LAUNCH COMPLEX	34				37B	37B	37B	34	37B	34	34	34	34	34		

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APOLLO/SATURN I-B FLIGHT MISSION ASSIGNMENT SUMMARY

1. LAUNCH DATE	AUG '65	NOV '65	JAN '66	MAR '66	MAY '66	AUG 66	NOV 66	FEB 67	MAY 67	AUG 67	NOV 67	FEB 68
PROPOSED CHANGES												
	← RESEARCH & DEVELOPMENT →				← OPERATIONAL →							
2. LAUNCH VEH.	SA-201	SA-202	SA-203	SA-204	SA-205	SA 206	SA 207	SA 208	SA 209	SA 210	SA 211	SA 212
3. MISSION OBJECTIVES (P-PRIMARY, S-SECONDARY)	← UNMANNED →			Manning of SA-204 to be Considered	← MANNED →							
a. LAUNCH VEHICLE (LV) (MSFC Responsibility)	P 1. Structures 2. Propulsion 3. Guid. (Sat. I Guid. Sys. Active) 4. S-I/S-IV B Stg. Separation 5. EDS Full Capab.	P 1. Structures 2. Propulsion (Study Inclusion of S-IV B Re-start) 3. Guid. (Sat. I Guid. Sys. Active) 4. S-I/S-IV B Stage Separation 5. EDS Full Capab.	P 1. Structures 2. Propulsion (Study Inclusion of S-IV B Re-start) 3. Guid. (Saturn V Guid. Sys. Active) 4. S-I/S-IV B Stage Separation 5. EDS Full Capab.	P LV QUALIFICATION 1. Structures 2. Propulsion 3. Guid. (Sat. V Guid. Sys. Active) 4. S-I/S-IV B Stg. Separation 5. EDS Full Capab.	S ← Without R & D Instrumentation →	S	S	S	S			
b. SPACE CRAFT (SC) (MSC Responsibility)	S ←	S 1. Launch & Exit. Environmental Parameters 2. LES Structural Characteristics 3. Structural Evaluation 4. LES Jettison	S →	P SC QUALIFICATION 1. Structures 2. SC Systems Opn'l Characteristics 3. SM Prop. (Off-Load) Includ. Re-start 4. CSM/LV Separat'n 5. LEM/LV Separat'n 6. LEM Propulsion 7. Recovery System 8. LES Jettison	P ←	P	P 1. Manned Orbital Flights 2. Operation of SC Systems 3. Operational Techniques 4. Crew Training 5. Recovery Systems, Complete → 6. CM & LEM Rendezvous and Docking 7. LEM Short Excursions, Rendezvous, and Docking 8. LEM Propulsion	P	P			
c. SPACE VEHICLE (SV)	S ←	S 1. Physical & Flight Compatibility of LV and SC 2. Compatibity of R & D Communications, Instrumentation and Tracking Between SV and Ground	S →	P SV QUALIFICATION 1. Physical & Flt. Compatibility of LV and SC. 2. Communications, Instrumentation and Tracking Between SV & Gnd. 3. EDS, Full Capab. 4. LV & SC Separat.	P	P	P	P	P	SPARE	SPARE	SPARE
d. OTHER												

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PART 1 OF 2

[redacted] PRELIMINARY [redacted]

APOLLO/SATURN I-B CONFIGURATION AND FLIGHT DATA SUMMARY

1. LAUNCH DATE	AUG'65	NOV'65	JAN'66	MAR'66	MAY'66	AUG'66	NOV'66	FEB'67	MAY'67	AUG'67	NOV'67	FEB'68
PROPOSED CHANGES												
	← RESEARCH & DEVELOPMENT →			← OPERATIONAL →								
2. LAUNCH VEHICLE	SA-201	SA-202	SA-203	SA-204	SA-205	SA-206	SA-207	SA-208	SA-209	SA-210	SA-211	SA-212
3. SPACE VEH. CONFIG.										SPARE	SPARE	SPARE
A LAUNCH VEH. (LV)												
(1) FIRST STAGE (S-I)	LIVE (Thirteenth)	LIVE	LIVE	LIVE	OPN'L	OPN'L	OPN'L	OPN'L	OPN'L			
(2) SECOND STAGE (S-IVB)	LIVE (First)	LIVE	LIVE	LIVE	OPN'L	OPN'L	OPN'L	OPN'L	OPN'L			
(3) THIRD STAGE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE			
(4) INSTRUMENTATION UNIT (IU)	R & D	R & D	R & D	PROTOTYPE	OPN'L	OPN'L	OPN'L	OPN'L	OPN'L			
B SPACECRAFT (SC)												
(1) LUNAR EXCUR. MODULE (LEM)	← BOILERPLATE (AFRM LEM Adapter) →			← AFRM (Ascent Stage Only) →								
(2) SERVICE MODULE (SM)	← BOILERPLATE Or (AFRM Structure) →			AFRM	AFRM	AFRM	AFRM	AFRM	AFRM			
(3) COMMAND MODULE (CM)	← BOILERPLATE Or (AFRM Structure) →			AFRM	AFRM	AFRM	AFRM	AFRM	AFRM			
(4) LAUNCH ESCAPE SYS. (LES)	← PROD (Tower Jettison Motor Active Only) →			PROD (1st Compl)	PROD	PROD	PROD	PROD	PROD			
4. LV PAYLOAD CAP. (LBS)	30,000	30,000	30,000	32,000	32,500	32,500	32,500	32,500	32,500			
5. SC WEIGHT (LBS)												
6. FLIGHT DATA												
A PROFILE	ORBITAL	ORBITAL	ORBITAL	ORBITAL	ORBITAL	ORBITAL	ORBITAL	ORBITAL	ORBITAL			
B APOGEE (NM)	105	105	105	105	105	105	105	105	105			
C PERIGEE (NM)	105	105	105	105	105	105	105	105	105			
D FLIGHT AZIMUTH	105°	105°	105°	105°	72°	72°	72°	72°	72°			
7. RECOVERY	NO	NO	NO	YES LAND	YES LAND	YES LAND	YES LAND	YES LAND	YES LAND			
8. LAUNCH COMPLEX	37A	37B	37A	37B	37A	37B	37A	37B	37A			

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PRELIMINARY
APOLLO/SATURN V FLIGHT MISSION ASSIGNMENT SUMMARY

1 LAUNCH DATE	MAR '66	JUL '66	OCT '66	DEC '66	FEB '67	APR '67	JUN '67	AUG 67	OCT 67	DEC 67	FEB 68	APR 68	JUN 68	AUG 68	OCT 68
PROPOSED CHANGES															
	← RESEARCH & DEVELOPMENT →							← OPERATIONAL →							
2 LAUNCH VEH.	SA-501	SA-502	SA-503	SA-504	SA-505	SA-506	SA-507	SA 508	SA 509	SA 510	SA 511	SA 512	SA 513	SA 514	SA 515
3. MISSION OBJECTIVES (P-PRIMARY S-SECONDARY)	← UNMANNED →					Manning To Be Considered	← MANNED →								
a. LAUNCH VEHICLE (LV) (MSFC Responsibility)	P 1. Structures 2. Propulsion 3. Guidance (Active) 4. EDS (Partial Capability)	P 1. Structures 2. Propulsion 3. Guidance (Active) 4. S-IC/S-II Stage Separ. 5. EDS (Partial Capability)	P 1. Structures 2. Propulsion 3. Guidance (Active) 4. S-IC/S-II/S-IVB Stage Separ's 5. EDS (Full Capability) 6. S-IVB Re-start	P 1. Structures 2 Propulsion (S-IVB Prop. Mission to be Defined so as to Satisfy CM Re-entry Requirements 3. Guidance (Active) 4. S-IC/S-II/S-IVB Stage Separations 5. EDS Full Capability	P	P LV QUALIFICATION 1. Struct. (Full Prop. Loading) 2. Propulsion 3. S-IVB Re-start 4. Guidance (Active) 5. S-IC/S-II/S-IVB Stage Separ's 6. EDS Full Capab.	S								
b. SPACE CRAFT (SC) (MSC Responsibility)	1. Launch & Exit Environmental Parameters 2. LES Jettison	S 1. Launch & Exit Environmental Parameters 2. LES Jettison	S 1. Launch & Exit Environmental Parameters 2. LES Jettison 3. CM & SM Structures	S 1. CM Re-entry at 36,000 fps (Max Heat Rate) (Max Total Heat Load) 2. LES Jettison 3. CM & SM Structures 4. CM/SM Separation 5. Recovery Systems 6. SM Propulsion (to be Defined so as to Satisfy CM Re-entry Requirements)	S	P SC QUALIFICATION 1. Struct. (Compl. SC, Full Prop. Load) 2. LES Jettison 3. CM/SM Separ. 4. LEM/SM Separ. 5. LEM Prop. 6. SM Prop. (Long Duration - and Multiple Re-start) 7. CM Re-entry 8. Recovery Systems	P 1. Manned Flight 2. SC Operation 3. Opn'l Techniques 4. Potential Lunar Mission							
c. SPACE VEHICLE (SV)	1. Physical and Flight Compatibility of LV & SC and SV & Gnd.	S 1. Physical and Flight Compatibility of LV & SC and SV & Gnd.	S 1. Physical and Flight Compatibility of LV & SC and SV & Gnd. 2. LV/SC Separ.	S 1. Physical and Flight Compatibility of LV & SC and SV & Gnd. 2. LV/SC Separ.	S 1. Physical and Flight Compatibility of LV & SC and SV & Gnd. 2. LV/SC Separ.	P SV QUALIFICATION 1. Physical and Flight Compatibility of LV & SC and SV & Gnd. 2. LV/SC Separ. 3. EDS (Full Capability)	P								
d. OTHER															

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NO. G-29 REV. A
DATE JAN. 10, '63 REV. DATE FEB. 14 '63
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APPROVED:

PRELIMINARY

APOLLO/SATURN V CONFIGURATION AND FLIGHT DATA SUMMARY

1. LAUNCH DATE	MAR'66	JUL'66	OCT'66	DEC'66	FEB'67	APR'67	JUN'67	AUG'67	OCT'67	DEC'67	FEB'68	APR'68	JUN'68	AUG'68	OCT'68
PROPOSED CHANGES															
2. LAUNCH VEHICLE	← R & D →										← OPERATIONAL →				
	SA-501	SA-502	SA-503	SA-504	SA-505	SA-506	SA-507	SA-508	SA-509	SA-510	SA-511	SA-512	SA-513	SA-514	SA-515
3. SPACE VEH. CONFIG.															
A. LAUNCH VEH. (LV)															
(1) FIRST STAGE (S-IC)	LIVE (FIRST)	LIVE	LIVE	LIVE	LIVE	LIVE	LIVE	LIVE	LIVE	LIVE	OPN'L	OPN'L	OPN'L	OPN'L	OPN'L
(2) SECOND STAGE (S-II)	INERT (Opn'l Struct.)	LIVE (FIRST)	LIVE	LIVE	LIVE	LIVE	LIVE	LIVE	LIVE	LIVE	OPN'L	OPN'L	OPN'L	OPN'L	OPN'L
(3) THIRD STAGE (S-IVB)	INERT (Opn'l Struct.)		LIVE (Seventh)	LIVE	LIVE	LIVE	LIVE	LIVE	LIVE	LIVE	OPN'L	OPN'L	OPN'L	OPN'L	OPN'L
(4) INSTRUMENTATION UNIT (IU)	R & D	R & D	R & D	PROTOTYPE	PROTOTYPE	OPN'L	OPN'L	OPN'L	OPN'L	OPN'L	OPN'L	OPN'L	OPN'L	OPN'L	OPN'L
B. SPACECRAFT (SC)															
(1) LUNAR EXCUR. MODULE (LEM)	← BOILERPLATE (AFRM LEM Adapter) →					AFRM	AFRM	AFRM	AFRM	AFRM	AFRM	AFRM	AFRM	AFRM	AFRM
(2) SERVICE MODULE (SM)	← BOILERPLATE AFRM Struct. External Config.) →			AFRM (Config. Depends on Re-entry Req.)		AFRM	AFRM	AFRM	AFRM	AFRM	AFRM	AFRM	AFRM	AFRM	AFRM
(3) COMMAND MODULE (CM)	← BOILERPLATE AFRM Struct. External Config.) →			AFRM	AFRM	AFRM	AFRM	AFRM	AFRM	AFRM	AFRM	AFRM	AFRM	AFRM	AFRM
(4) LAUNCH ESCAPE SYS. (LES)	← PROD (Tower Jettison Motor Active Only) →			PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD
4. LV PAYLOAD CAP. (LBS) ESCAPE	—	—	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000
5. SC WEIGHT (LBS)															
6. FLIGHT DATA															
A. PROFILE	BALLISTIC	BALLISTIC	ORBITAL	ORB. OR SUB-ORB	ORB. OR SUB-ORB	ORBITAL									
B. APOGEE (NM)					105	105									
C. PERIGEE (NM)					105	105									
D. FLIGHT AZIMUTH					72°	72°									
7. RECOVERY	NO	NO	NO	YES WATER	YES WATER	YES LAND	YES LAND	YES LAND	YES LAND	YES LAND	YES LAND	YES LAND	YES LAND	YES LAND	YES LAND
8. LAUNCH COMPLEX	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39

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OMSF NO. G-29 REV. A DATE JAN 10, 68 DATE FEB 14, 68 PREPARED BY: BOEING ENGINEERING HUNTSVILLE OFFICE M-HME APPROVED

PRELIMINARY

APOLLO/LITTLE JOE II FLIGHT MISSION ASSIGNMENT SUMMARY

1. LAUNCH DATE	MAY 63	JUL 63	AUG 63	JUN 64	SEP 64	NOV 64
2. MISSION NO.	PA-1	NONE	A-001	A-002	PA-2	A-003
a. LAUNCH VEH. NO.	NONE	LJ II-1	LJ II-2	LJ II-3	NONE	LJ II-4
b. SPACECRAFT NO.	BP-6	NONE	BP-12	BP-22	AFRM 010	AFRM 002
3. MISSION OBJECTIVES	PRIMARY 1. Det. aerodyn. stability char. of Apollo escape config. during pad abort. 2. Dem. cap. of escape syst. to propel the CM safe dist. from the LV during pad abort. 3. Det. escape tower vib. during pad abort. 4. Dem. launch escape tower release mech. 5. Dem. oper. of tower jettison motor. 6. Dem. parachute recovery system. SECONDARY 1. Dem. abort & recovery timing sequence. 2. Det. dyn. of CM during jettison of escape tower. 3. Dem. op. of R&D instrm. & comm. equipt. used on subs. flts. 4. Dem, compat. of prot. GSE with CM. 5. Det. init. sep. traj. of the escape tower. 6. Dem. str. integ. of esc. tower during pad abort.	PRIMARY Launch vehicle qual. only.	PRIMARY 1. Dem. cap. of escape system to propel CM to a predetermined distance from Saturn LV. 2. Aerodynamic stability char. of escape config. for Max"Q" abort condition 3. Dem. struct. integrity of escape tower. 4. Dem. opn. of abort & recovery sequence. 5. Dem. of parachute recovery system. SECONDARY 1. Dem. LJ II spacecraft compatibility 2. Det. aerodynamic loads due to fluctuating pressures on the CM during LJ II launch.	PRIMARY 1. Det. aerodyn. stability of CM during an abort, Simulating a Sat.-I Trajectory Prior to tower Jettison 2. Dem. cap. of LES to propel CM to safe distance from LV Prior to tower jettison. 3. Det. cap. of RCS to rate stabilize the CM for reentry. SECONDARY 1. Dem. parachute recovery system.	PRIMARY 1. Dem. structural integrity of the production CM during pad abort. 2. Det. operational characteristics of subsystems during pad abort. 3. Dem. abort sequence. 4. Dem. recovery sequence. 5. Dem. parachute recovery system.	PRIMARY 1. Dem. struct. integ. of the prod. CSM under an abort at high dyn. pressures in transonic speed ranges. 2. Opn'l. char. of subsystems at high dyn. pressure incurred by escape config. during an abort. SECONDARY 1. Det. dyn. of CM during an abort resulting in high dynamic pressure on escape config. 2. Abort and recovery sequences. 3. Parachute Recovery System.

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PREPARED BY: SYSTEMS ENGINEERING HUNTSVILLE OFFICE MSFC
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PRELIMINARY

APOLLO/LITTLE JOE II CONFIGURATION AND FLIGHT DATA SUMMARY

1. LAUNCH DATE	MAY 63	JUL 63	AUG 63	JUN 64	SEP 64	NOV 64
2. MISSION NO.	PA-1	NONE	A-001	A-002	PA-2	A-003
A. LAUNCH VEH NO.	NONE	LJII-1	LJII-2	LJII-3	NONE	LJII-4
B. SPACE CRAFT NO.	BP-6	NONE	BP-12	BP-22	AFRM 010	AFRM 002
3. SPACE CRAFT CONFIGURATION						
A. COMMAND MODULE (CM)	BOILERPLATE	—	BOILERPLATE	BOILERPLATE	AFRM	AFRM
B. SERVICE MODULE (SM)	BOILERPLATE	—	BOILERPLATE	BOILERPLATE	AFRM	AFRM
C. LAUNCH ESCAPE SYSTEM (LES)	PRODUCTION	—	PRODUCTION	PRODUCTION	PRODUCTION	PRODUCTION
4. LAUNCH COMPLEX	WSMR	WSMR	WSMR	WSMR	WSMR	WSMR

PART 2 OF 2

OMSF
NO. G-33 | REV.
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PREPARED BY: SYSTEMS ENGINEERING HUNTSVILLE OFFICE MSFC
APPROVED:

GLOSSARY OF TERMS

The purpose of this glossary is to explain the various terms used in describing launch vehicle and spacecraft configurations on the Configuration and Flight Data Summary Charts contained herein. The terms reflect the present nomenclature in use today. In future revisions of these charts, an attempt will be made to standardize on these terms.

I. Launch Vehicle:

A. Inert stage is defined as one that is inactive, essentially non-functioning, such as structural shells or dummies for simulation of weight, center of gravity and aerodynamic configuration.

B. Live stage is defined as one that is functioning to the extent that the systems perform to accomplish flight mission objectives. Such a stage is not necessarily representative of the finalized systems.

C. Operational stage is defined as one wherein all systems are completely functioning and is, therefore, representative of the final design. R & D systems (e. g. instrumentation) are removed.

D. R & D guidance system is defined as a model of a system that is suitable for flight evaluation of form, design, and performance (implying requirements for further refinements).

E. Prototype guidance system is defined as one that is representative of the operational configuration, but containing R & D sub-systems.

F. Operational guidance system is same as that for an operational stage (see I. C. above).

II. Spacecraft:

A. Boilerplate is a simulated module with an interim structure, and is a heavy-weight system for use in pre-developmental and developmental tests leading to the design of a spacecraft module. It is manufactured using soft tooling and will carry such spacecraft systems as necessary to carry out the particular mission involved.

Glossary of Terms Continued

B. Airframe (AFRM) is a module manufactured with hard tooling for use in developmental tests or operational flights. It is a flight-weight system and will carry such spacecraft systems as necessary to accomplish the mission involved.

C. Production implies that a module has been produced with assembly line techniques, utilizing hard tooling. Such items are normally utilized in operational flights.