SAFSIP Coord. Col Randall

SAFSS Coord. Gen Stewart

SAFSL Approval Dr. Yarymovych

SAFSL Sign Gen Evans

Feb 9, 67

Capt Goolsby SAFSLT 50945 jdk

Flight Objectives for MOL Jan 27, 1967

PROBLEM

1. Action needs to be taken to establish general flight objectives to be accomplished by the end of the MOL Development Program.

DISCUSSION

2. A proposed MOL Program Directive on the subject has been prepared and is attached as Attachment 1 to Tab A. Included also, as Tab A, is a letter of transmittal to the Deputy Director, MOL.

3. The intent of MOL Program Directive 67-1 is to:

a. Guide the implementation of the entire flight test program.
b. Orient the detailed flight test plan as to content, relationships, test philosophy, and contingency planning.

4. The letter of transmittal:

a. Forwards the MOL Program Directive to the Deputy Director, MOL.
b. Requests the MOL Systems Office to prepare and submit for approval specific detailed objectives for each of the seven flights.
c. Provides a suggested format which illustrates the level of detail required for each flight.

RECOMMENDATION

5. That the attached proposed Flight Objectives Directive be signed and transmitted to the Deputy Director, MOL for implementation.

SIGNED

1 Atch
Tab A- Proposed ltr to Deputy Director, MOL
atchs.

LEE D. GOOLSBY, CAPT, USN
Chief, Test Operations Division
MOL Program Office, SAF-SL

FEB 9 1967

MEMORANDUM FOR THE DEPUTY DIRECTOR, MOL

SUBJECT: Flight Objectives for MOL

MOL Program Directive 67-2, which is attached, contains the general flight objectives to be accomplished by the end of the MOL development program. It is directive in nature and will be used to guide the implementation of the entire flight test program. It is intended to orient the detailed flight test program as to content, relationships, and test philosophy.

The stated general flight objectives need to be expanded in specific detail. Attachment 2 provides a suggested format which illustrates the level of detail required for each flight, and differences in content between flights, using flights 3 and 4 as examples. It is to be emphasized that the examples are illustrative in nature and are not intended to constrain the Systems Office from establishing the actual content of the two flights, in context with the overall flight program.

It is requested that the Deputy Director, MOL prepare and forward to the Director, MOL, for review and approval, specific detailed objectives for each flight, in a format similar to that furnished. It is recognized that revisions to the detailed flight objectives will be required during the development program, as additional knowledge is gained by flight testing. Any such changes will require approval of the Director, MOL prior to publication.

SIGNED

HARRY L. EVANS
Major General, USAF
Vice Director, MOL Program

2 Atchs
1. MOL Program Directive No. 67-2
2. Detailed Flight Objectives, Flights 3 and 4

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Capt Goolsby/SAF-SLT/50945/26 Jan 67/jdk

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MANNED ORBITING LABORATORY PROGRAM DIRECTIVE

NO. 67-2

FLIGHT OBJECTIVES

FOR THE

MANNED ORBITING LABORATORY PROGRAM

8 FEBRUARY 1967

APPROVED:

Director, MOL

DORIAN

TABLE OF CONTENTS

I. PURPOSE

The purpose of this directive is to specify the General Test Objectives (GTO) of the flight test phase of the MOL Program and to define an orderly approach for achieving these objectives on a flight-by-flight basis. The document is directive in nature and is to serve as the basis for program planning and actions during the development phase of the program as well as in the formulation of Detailed Test Objectives (DTO) for each individual flight.

The baseline plan for the flight test program contained herein assumes a fully successful program. Provision for contingencies which may be occasioned by gross failure of one or more flights is contained in Section V, Contingency Planning.

II. INTRODUCTION

The objectives of the MOL Program are planned to be accomplished in a seven-flight program, the individual flights allocated as follows:

Flight 1- Unmanned/Gemini B Qualification/TIIIM Development

Flight 2- Unmanned/TIIIM Development/Laboratory Structure Qualification

Flight 3- Manned/Automatic

Flight 4- Manned/Automatic

Flight 5- Manned/Automatic

Flight 6- Automatic*

Flight 7- Automatic*

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*The option is to be preserved for flights 6 and 7 to be flown in the manned mode. See Section V, Contingency Planning.

The MOL Program centers around an Orbiting Vehicle, in which men will carry out reconnaissance operations for durations of 30 days. The Orbiting Vehicle consists of a Laboratory Module, Mission Module, Mission Payload and a Modified Gemini Spacecraft (Gemini B). The Orbiting Vehicle will be launched by a Titan IIIM from Vandenberg Air Force Base. During the ascent to orbit, the flight crew will be in the Gemini B. After achieving orbit, the crew will transfer to the Laboratory Module to perform the on-orbit tasks as programmed. At the end of the mission, the crew will return to the Gemini B, separate the Laboratory Module from the Gemini B, de-orbit and re-enter, and be recovered from a water landing. Provisions will be made for disposal of the Laboratory and Mission Modules in a preselected open sea area upon completion of the mission.

An alternate, automatic (unmanned) configuration will be provided in which the Orbiting Vehicle will consist of a Laboratory Module, a Mission Module, Mission Payload, and a Mission Support Module.

The objective of the High Resolution Photographic Reconnaissance System in MOL is to acquire photographs of high intelligence value of denied areas in both manned and automatic modes, achieving at least [redacted] ground resolution in the manned mode with resolutions as close to [redacted] as possible in the automatic mode.

III. GENERAL FLIGHT TEST OBJECTIVES

The objectives of the seven-flight program, listed in order of priority are:

A. Primary Objectives: Accomplishment of these objectives is mandatory.

1. To demonstrate the ability of the MOL High Resolution Photographic Reconnaissance System to acquire photographs of high intelligence value in both manned and automatic modes, achieving the highest possible ground resolution in all modes and operating conditions.

2. To obtain quantitative data which will permit assessment of the nature and value of critical contributions of man in increasing the quantity and quality of intelligence data obtained by use of the MOL intelligence collection system. Sufficient data will be obtained to permit an unequivocal comparison between optimized manned and optimized unmanned modes of operation.

3. To demonstrate a 30-day capability to perform the mission cited in 1., above.

B. Secondary Objectives: Accomplishment of objectives 4 through 6 will result in substantive information to validate decisions related to the future of the military space program, e.g., the nature of the follow-on MOL program, manned/unmanned considerations, new missions, etc. These objectives are secondary only from the point of view that their accomplishment is not to interfere with accomplishment of the primary objectives. Unless subsequently added to the baseline configuration, provision for weight and space to provide for equipments, devices, etc., which will aid in accomplishment of secondary objectives will be incorporated into the vehicle on a space available basis. In any event, these objectives will be accomplished within the capability of the baseline system to do so.

4. To obtain data which will permit valid assessment of the military worth of other possible missions in space, manned or unmanned, e.g., [redacted] Crisis Surveillance, etc.

5. To obtain quantitative data concerning optical technology and design for advanced systems which, if manned, can give ground resolution [redacted]

6. To collect bioastronautic data for longer duration missions.

C. Tertiary Objectives: Accomplishment of objectives 7 and 8 will provide valuable information of general nature pertaining to general military and scientific space technology. These objectives are to be accomplished on a non-interference basis with primary and secondary objectives.

7. To conduct experiments which will contribute to improvement of military space technology.

8. To conduct experiments of scientific nature.

IV. FLIGHT TEST PROGRAM PHILOSOPHY

The individual flights of the seven-flight program are to be conducted in a logical sequence which insures that:

A. By the end of the flight program, all flight objectives will be successfully achieved, including tertiary objectives to the extent possible.

B. The individual tasks assigned for accomplishment within each flight, and from flight to flight, are conducted in a progressive sequence of tasks and flights, first in establishing space worthiness qualification of the basic MOL system, and thence through progressive accomplishment of program objectives in accordance with their respective priorities.

C. Loss of a flight or flights, e.g., through gross failure, will have minimum adverse impact on accomplishment of the three top priority program objectives.

Ground rules applicable to the sequential ordering of sub-tasks, tasks, and flights, and to the flight test program in general, are as follows:

A. Safety of the crew is paramount. Therefore, establishment of the space worthiness of the MOL System from a human safety viewpoint will take precedence over conduct of mission, tasks, in the following order of priority:

1. The capability of MOL Systems, subsystems, and components critical to the ability of the crew to successfully achieve orbit, and to return safely, shall be demonstrated prior to conduct of manned flight.

2. The capability of the Orbiting Vehicle to safely maintain the crew in orbit and to permit their safe return to earth in the Gemini B will be assured prior to and during crew engagement in mission activity.

3. In-orbit failures of systems, subsystems and equipments to the point where failure of an additional subsystem would preclude safe return of the crew will be cause for mission abort.

B. The seven-flight program will be considered primarily as a research and development program, although the third and subsequent flights are intended to produce valuable target intelligence. Conflicts during

flight between the requirement to take photographs of actual targets and R&D efforts (e.g., troubleshooting) to perfect manned or unmanned mission equipment, which cannot be otherwise accommodated, will be resolved by the Program Director, with due consideration to guidance provided by the DNRO.

C. During initial mission flights, after the manned mode has been successfully demonstrated, priority will be given to successful demonstration of the automatic mode rather than to acquisition of real target photographs, unless both objectives can be accommodated concurrently.

D. The mission plan for each manned flight will include contingency provisions which will insure maximum beneficial utilization of crew duty time in furtherance of program objectives, by priority, in the event that in-flight failure precludes adherence to the nominal mission plan.

E. Failure of man-related components during orbital test or inability of the crew to perform assigned tasks (where such failures do not involve crew safety) will not be cause for abort, as long as useful intelligence is being produced by the photographic reconnaissance payload.

F. At least one 30-day manned mission will be completed prior to an unmanned mission unless the limiting factor turns out to be the inability of man to perform effectively for 30 days on orbit.

V. CONTINGENCY PLANNING

Accomplishment of MOL flight test objectives in the seven-flight program is predicated on all flights being successfully accomplished. Since there is a possibility that one or more flights may be unsuccessful, a contingency plan must be devised which insures maximum accomplishment of program objectives, in order of priority, in the event that flight failures are

experienced. Contingency action must be based on broad consideration of the impact of any single flight failure or combination of several flight failures which would perturb the conduct and composition of the flights following the flight(s) that fail. A first order analysis of major flight failures which may occur will provide the basis for reconstituting the content of the subsequent flights and their timing, and assist in defining whatever additional resources must be planned for procurement so as to minimize the impact of such major failures on accomplishment of the flight test objectives. The additional resources for contingency actions will be identified as a part of the MOL follow-on program resources assuming the decision to proceed with a follow-on program of manned and unmanned flights is made by mid-CY-68 or earlier.

General ground rules applicable to contingency planning are as follows:

A. The capability of the Titan IIIM to safely place the all-up manned MOL System into a nominal MOL orbit will be demonstrated by two successful unmanned flights prior to conducting a manned MOL flight. Minor anomalies during a flight performance demonstration will not necessarily preclude the flight from being considered successful, under this ground rule.

B. One launch, re-entry, and recovery of a full-mission-configured Gemini B will be successfully demonstrated prior to conduct of a manned MOL flight.

C. One successful flight demonstration of structural integrity of the Laboratory Vehicle will be accomplished prior to manned flight.

D. In any case, the option to fly the last two flights manned shall be protected, the decision will be based on flight results and the National Policy existing at the time. With respect to preserving this option, there are at least three eventualities to be considered (which, if they materialize, could have a severe retarding effect on the accomplishment of flight test objectives unless prior planning has been done to neutralize or minimize the impact of their occurrence):

1. Failure of the initial unmanned Gemini B Qualification (GBQ) flight.

2. Any malfunction or series of malfunctions on manned flights 3, 4 and 5 which would result in not having completed at least one 30-day manned mission prior to Flight 6. Conversely, something could occur to the automatic devices which would make it injudicious to fly Flight 6 in the automatic/unmanned mode.

3. Manned flights may provide sufficient enhancement of intelligence content that the decision to go automatic/unmanned on Flights 6 and 7 might be inappropriate from the standpoint of intelligence collection.

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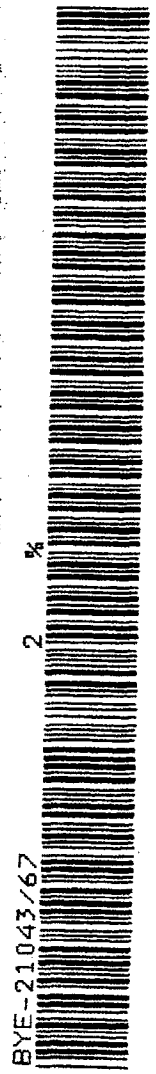
OBJECTIVES, CONFIGURATION, AND IN-FLIGHT ACTIVITIES FOR MOL MISSIONS



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Page 1 of 11 pages
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FLIGHT #3

I. MISSION TYPE:

Demonstration of the attainment of an effective combination of man and machine for collection of useful reconnaissance of denied areas. During this flight the system will be exercised in its normal operating mode.

II. OBJECTIVES:

A. LAUNCH VEHICLE:

1. Demonstrate the launch preparation procedures and AGE adequacy for handling interfaces with a manned Gemini B and complete Laboratory Module and Mission Module.

2. Reconfirm existence of acceptable levels of vibration, noise, and related environment within the orbiting vehicle as generated by the launch vehicle.

3. Demonstrate the capability to safely inject the all-up manned orbiting vehicle into a normal MOL orbit.

B. GEMINI B:

1. Demonstrate the capability to provide protection for the crew from the environments of ascent, on-orbit, re-entry, landing, and post-landing.

2. Demonstrate the capability of Gemini B controls to bring the Laboratory Module up to a habitable state and display verification of habitability to crew prior to transfer.

3. Validate crew transfer procedures.

4. Demonstrate the capability to survive in a quiescent mode for a mission duration of 30 days and be brought back to a readiness for manned re-entry and landing.

C. LABORATORY AND MISSION MODULES:

1. Demonstrate the adequacy of crew accommodations and protection for a 30 day mission.

2. Verification of satisfactory work and crew accommodation environments which fosters effective procedures, work patterns and personnel safety and which minimize discomfort, distraction, and any other factors which degrade human performance.

3. Verification of performance of subsystems within acceptable tolerances.

4. Determine maintainability of subsystems as occasions arise (no simulated failures):

(a) Malfunction indication, detection, and isolation.

(b) Adequacy of redundant systems and switch over mechanism.

(c) Adequacy of spares.

(d) Capability to adjust, replace, and/or repair.

5. Demonstrate adequacy of provisions to permit return to earth of data packages.

6. Verification of programming and ability to cause the Laboratory/Mission Modules to reenter for impact in a suitable pre-selected ocean area.

7. Demonstrate the capabilities for maintaining proper attitude and ephemeris.

8. Demonstrate the capability of complete automatic operation, including fault isolation and corrective action.

D. MISSION PAYLOAD: DEMONSTRATE:

1. The structural integrity of the camera optical assembly, its mounts and launch locks, the tracking mirror mounts and its launch locks during the launch vibration environment.

2. The capability of the launch locks to release on orbit.

3. Both manual and automatic initial and continuing alignment of the optical train elements.

4. Proper payload operation in the thermal environment on-orbit and the ability of the thermal control system to maintain temperatures within required limits for all operational modes.

5. Manual and automatic camera focus and exposure control through ranges required for all operational modes.

6. Proper format, content, and imaging of the auxiliary data on the film edge.

7. That the total image smear contributed by the payload operation is at or below acceptable values.

8. Exchange of the primary cameras with the secondary (and reverse) and photographic objectives in minimum time.

9. The capability to adequately perform on-board processing of the several types of film exposed in the secondary camera.

10. The use of the primary optics with variable magnification for visual observation of targets and verification of photographic success.

11. The proper operation of facilities provided for film handling including storage, loading and unloading the cameras, loading the RV, cutting and inspecting the film.

E. CREW:

1. Verification of the adequacy of man's interface with the MOL System in the conduct of the reconnaissance mission in both manual and automatic modes.

2. Demonstrate man's ability to perform transfer, work in shirt-sleeve environment in conducting missions for 30 days, retransfer to Gemini B, and effect safe reentry and recovery of crew and mission data.

3. Demonstrate achievement of highest possible resolution photography in manned and automatic modes.

4. Verify man's ability to enhance the value of target intelligence through:

(a) Operation of secondary camera using various kinds of film.

(b) Performing adjustments so as to insure peak performance of MOL system equipments.

(c) Demonstrating ability to develop and process secondary camera film, to select portions of film of high intelligence value, and to transmit the vital data to the groundin near real time using the wide-band readout system.

(d) Demonstrating the ability to load and eject from the orbiting vehicle the data recovery vehicle containing photographic film, etc.

(e) Demonstration of the ability to reprogram the mission based on mission progress and updated data and commands furnished from the ground.

(f) Taking high resolution photographs of unpreprogrammed targets of opportunity acquired through visual observation during target passes.

(g) Taking corrective action to compensate for malfunctions of laboratory vehicle or mission module equipment.

(h) Voice recording of significant intelligence information obtained through visual observation during target passes.

5. Verify adequacy of target cueing material and method of display in facilitating target acquisition and pointing.

6. Assessment of the effectiveness of man in increasing the quantity of quality information by conservation of sensor output recording media through judicious target selection.

7. Measurement of man's well being, effectiveness, and operational techniques involving the man-machine interface including:

(a) Man's well being (adaptation and crew conditioning provisions for 30 day weightless operations).

(1) Biomedical and behavioral trends.

(2) Zero "g" effects.

(3) Adequacy of crew conditioning.

(b) Man-machine-task operating techniques.

(1) Complex task accomplishment and assignment.

(2) Verification of adequacy of time-line assignment.

(3) Adequacy of tethers and restraints in assisting performance.

(c) Environment.

(1) Radiation received by crew.

(2) Adequacy of laboratory environment.

(d) Man-pressure suit assembly adequacy.

F. PRESSURE SUIT ASSEMBLY:

1. Verify adequacy of the pressure suit (routine intravehicular operation) (pressurized and unpressurized).

(a) Thermal, pressure, partial gaseous flow, communications, telemetry data.

(b) Don-doff and checkout for emergency operation.

(c) Maintainability for 30 days operation.

(d) Mobility for routine and emergency use.

(e) Storage accessibility.

(f) Suit/Laboratory Module interfaces.

(g) Suit tethers and attachments interfaces.

G. LAUNCH OPERATIONS:

1. Verification of quantities and types of personnel to support assembly, checkout, and launch.

2. Verification of Laboratory Module and Mission Module AGE.

3. Verification of assembly and modification facilities at the launch site to provide support of the Laboratory and Mission Modules for unscheduled mechanical and electrical modifications and the availability of appropriate parts and technical data.

4. Validate that factory acceptance tests will provide the necessary confidence factor without considerable retest at the launch site.

5. Demonstrate adequacy of training of the ground crews in handling procedures and verify countdown procedures for the operation.

6. Demonstrate the adequacy of the Launch Control Center to exercise control of launch countdown of an all-up manned MOL System.

7. Demonstrate the adequacy of MCC to exercise overall control of countdown.

H. FLIGHT SUPPORT:

1. Demonstrate the adequacy of the TTC&V network to control the flight for 30 days on orbit.

2. Demonstrate the adequacy of the Mission Control Center equipment and personnel to support the MOL mission including:

(a) Development of an optimum method of commanding, controlling, and monitoring the mission payload.

(b) Change schedule and procedures to record/observe unforseen phenomena and targets.

(c) Inform crew on new and alternate procedures and targets to be used.

(d) Ability to modify flight plan and schedules as needed.

(e) Update documents containing plans and procedures of each orbit, schedules and flight plans and events related to mission plans.

I. RECOVERY:

1. Demonstrate the capability of the recovery forces to meet the specified times for access to and safe recovery of the crew, sensor recording media, and Gemini B.

2. Verification of adequacy of medical facilities and procedures for end of mission assessment of flight crews.

3. Validate procedures for handling DORIAN mission data recovered from Gemini B and RV and for debriefing flight crews in regards to intelligence information.

J. MISCELLANEOUS:

1. Measurement of contractors' achievements against established goals especially in fixed price/incentive contracts.

III. CONFIGURATION:

A. LAUNCH VEHICLE- MOL Operational Configuration

1. Additions: R&D instrumentation package to obtain aero-mechanical and thermal environment data.

2. Exceptions: None

B. GEMINI B- Operational Configuration

1. Additions: None

2. Exceptions: None

C. LABORATORY AND MISSION MODULES- Manned Operation Configuration

1. Additions: R&D instrumentation to obtain aeromechanical and thermal environment data.

2. Exceptions: No experiments of scientific nature.

D. MISSION PAYLOAD- Operational Configuration

E. CREW- Two, fully trained

F. PRESSURE SUIT ASSEMBLY- MOL Operational Configuration

1. Additions: None

2. Exceptions: None

G. LAUNCH SUPPORT- Operational Configuration

1. Additions: T2 (Apollo) instrumented ship vice "Range Tracker".

2. Exceptions: None

H. FLIGHT SUPPORT- Operational Configuration

1. Additions: None

2. Exceptions: None

I. RECOVERY- Forces for Manned Mol Recovery

1. Additions: None

2. Exceptions: None

IV. LAUNCH DATE - DECEMBER 1969

V. FLIGHT PROFILE:

Flight #3, the first manned mission, will be launched into a polar orbit from Space Launch Complex 6 at Vandenberg Air Force Base. The orbit will be elliptical with an apogee of 180 n.mi. and a perigee of 80 n.mi. and an inclination of degrees. The perigee will occur in the northern latitudes and for initial planning shall be at approximately 50°N latitude. The orbit will be a noon type orbit at midmission and the perigee shall occur on a south bound pass. The Gemini B will be separated at the end of mission for retro, reentry, and recovery in the primary recovery area in the Pacific Ocean. Provisions will be made for Gemini B separation and emergency recovery of the flight crew in daylight in the event of an abort. Disposal of the Laboratory/Mission Modules will be initiated by command from Mission Control at the Satellite Test Center, Sunnyvale, upon completion of the mission.

VI. FLIGHT DURATION: Thirty days

FLIGHT #4

I. MISSION TYPE:

Manned/automatic mission mode with emphasis on use of man to avoid early mission aborts by replacement, repair, or manually working around malfunctions or degraded subsystems. This would include EVA.

II. OBJECTIVES:

A. GENERAL:

All uncompleted objectives of Flight 3 will be completed, then proceed onto the specific new segment objectives below:

B. LAUNCH VEHICLE:

Demonstrations of capability of any hardware differences from the previous flight.

C. GEMINI B:

Demonstration of capability of any hardware differences from the previous flight.

D. LABORATORY AND MISSION MODULES:

1. Demonstration of capability of any hardware differences from the previous flight.

2. Validate flight control software changes from previous flight.

3. Determine the ability to be oriented for observation of other space vehicles and heavenly bodies.

E. CREW:

1. Determine the ability of man to avoid early mission aborts by replacement, repair or manually working around malfunctions or degraded subsystem performance. This will involve in-flight simulation of a variety of subsystems malfunctions such as:

(a) V/H sensor, across format IMC, star tracker.

(b) DRV launches, wideband data readout.

(c) 1 SGLS command and track link, 2 fuel cells, 1 cryogenic tank, 25% of thrusters, automode V, 1 computer, 1 ATS, laboratory attitude reference.

(d) All communications except single up/down voice link, auxiliary memory storage.

(e) Loss of all propellant or loss of all power, or loss of all cryogenics, or loss of all stabilization and control, or loss of optics.

2. Demonstrate the ability of the flight crew by EVA to correct such mission payload malfunctions as failure of the launch locks to release on orbit or failure of the tracking mirror door or shutters to operate.

3. Determine the capability [redacted]

E, MISSION PAYLOAD:

1. Demonstrate the adequacy of hardware and software changes from previous flight.

2. Determine the capability [redacted]

F. PRESSURE SUIT ASSEMBLY:

1. Verification of EVA adequacy:

(a) Thermal, pressure, partial gaseous flow, communications.

(b) Don-doff and checkout for emergency operation.

(c) Maintainability for 30 days operation.

(d) Mobility for routine and emergency use.

(e) Storage accessibility.

(f) Umbilical storage and distribution system/pressure suit assembly interface.

(g) Suitability of tethers and attachments.

G. LAUNCH OPERATIONS:

Demonstrate adequacy in launch control center organization, facilities, and personnel changes since previous flight.

H. FLIGHT SUPPORT:

1. Validation of flight control software changes from previous flight.

2. Confirm adequacy of network configuration and instrumentation changes found necessary, if any, from previous flight.

I. RECOVERY:

1. Determine effectiveness of any change in recovery forces and procedures made since last flight.

III. CONFIGURATION:

A. LAUNCH VEHICLE- Mol Operational Configuration

1. Additions:

2. Exceptions:

B. GEMINI B- Operational Configuration

1. Additions:

2. Exceptions:

C. LABORATORY AND MISSION MODULES- Manned Operational Configuration

1. Additions:

2. Exceptions:

D. MISSION PAYLOAD- Operational Configuration

E. CREW- Two, fully trained

F. PRESSURE SUIT ASSEMBLY- Operational Configuration

1. Additions: None

2. Exceptions: None

G. LAUNCH SUPPORT- Operational Configuration

1. Additions: T2 (Apollo) Insertion Ship vice "Range Tracker".

2. Exceptions:

H. FLIGHT SUPPORT- Operational Configuration

1. Additions:

2. Exceptions:

I. RECOVERY- Forces for Manned MOL Recovery

1. Additions:

2. Exceptions:

IV. LAUNCH DATE - APRIL 1970

V. FLIGHT PROFILE - Same as Flight #3

VI. FLIGHT DURATION - Thirty days.

[redacted]
Control System
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