

File

110-71

MAR 9 1962

From Lewis
To Manned Spacecraft Center
Attention: Mr. Robert R. Gilruth, Director

Subject: Lewis Research Center Tasks Relative to the Lunar Landing Module

Reference: MSC letter to Lewis February 9, 1962, CWF:jrw

1. The listing of the tasks and responsibilities of this Center relative to the lunar landing module that was enclosed with your letter of February 9 has now been reviewed by our staff. In general, the content of this listing is quite satisfactory; we suggest, however, the following three modifications:

- (1) Referring to your item No. 2, Lewis should be responsible for any attitude torquing equipment within the landing module rather than installing this equipment as provided by NAA. The torquing requirements of this equipment would, of course, be specified by MSC.
- (2) Referring to your item No. 6, we believe it would be desirable to have the lunar surface model characteristics associated with the touchdown maneuver established by agreement between LeRC and MSC.
- (3) Ground support equipment for the lunar landing module is not mentioned in your listing. This item should be added as Lewis responsibility.

2. It also appeared desirable to rewrite several of the tasks to improve the general organization of the material and to avoid a repetition among the various items. This, as well as incorporation of the above three modifications, has been done in the attached.

ABE SILVERSTEIN

Abe Silverstein
Director

WVIF & MEC SEC
WV2V

Enc. 1205 WV6 @ 411 7 211
Subj. Tasks

BTL:bhc

Copies to: NASA Hdq. - Mr. G. M. Low (MS)
✓ Files
Director
Assoc. Dir., Development

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Apollo Spacecraft Project
Lewis Research Center Tasks
Lunar Landing Module

1. LeRC will be responsible for the detailed analysis, design, and development of the Lunar Landing Module, including engines and controls, propellant feed systems, temperature control systems, propellant tankage, module structure, landing gear, and meteoroid protection. The over-all configuration, performance, and operational requirements of the Module to be in accordance with objectives and requirements specified by MSC.

2. LeRC will be responsible for mounting any navigation and guidance equipment which requires installation on the Lunar Landing Module.

3. LeRC will be responsible for any torquing equipment located within the Landing Module such as nozzle gimbal actuators or attitude control jets. If a separate stabilization control system is required for the Landing Module LeRC will provide it.

4. The Lunar surface model characteristics associated with the lunar touchdown maneuver will be established by agreement between LeRC and MSC.

5. The attachment requirements of the physical interfaces of connecting modules will be the joint responsibility of those responsible for adjacent modules. Responsibilities for the stage separation mechanism will be established at a later date.

6. LeRC will be responsible for frequency and mode shape analysis of the Lunar Landing Module structure and shall provide these data and other module characteristics to MSC for use in over-all space vehicle analysis.

7. LeRC will apportion the reliability goals for systems within the Lunar Landing Module and accomplish the necessary analysis and tests to demonstrate the over-all module reliability goal apportioned by MSC and submit such data to MSC for inclusion in the continuing over-all spacecraft reliability review.

8. LeRC will be responsible for the ground support equipment required for the Lunar Landing Module. The design of this equipment shall be coordinated with the GSE provided by the contractor for the booster and spacecraft stages.

9. LeRC will be responsible for the qualification testing of the Lunar Landing Module (including ground static tests, simulated landing tests, and flight tests) and will support the over-all spacecraft flight test program by providing continued support as related to the Lunar Landing Module.