



NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
WASHINGTON, D.C. 20546

IN REPLY REFER TO:

Brigadier General Harry L. Evans
Deputy Commander for Space
Headquarters, Air Force Systems Command
Andrews Air Force Base
Washington, D. C. 20331

Dear Harry:

Reference is made to your letter of March 25, 1966, in which you suggest that, in the light of Gemini VIII experience, we consider an EVA safety disconnect device, and request maintenance of an untethered EVA option by undertaking appropriate studies at MSC in coordination with your Houston Field Office.

There is no argument over the point that Dave Scott would have been in a very tense situation had he been outside the Gemini VIII spacecraft when the #8 thruster began firing. Nevertheless, he felt that he would have been able to get back inside. It is important to note in this connection that spacecraft motion did not start with swift movement.

You are aware of Gemini and Agena spacecraft changes resulting from our review of Gemini VIII; these will be effective starting with Gemini IX and are designed to assure that thruster malfunction cannot escalate into the type of problem that occurred on Gemini VIII. In addition, some EVA procedures will be revised and we are currently reviewing all systems and related emergency procedures with respect to the EVA situation. From the spectrum of changes that might have been adopted, we believe these represent the most prudent selections to provide a satisfactory array of EVA safeguards.

Turning to the second matter of concern in your letter, I believe we are in substantial agreement that EVA astronauts should remain tethered to their spacecraft in the absence of compelling reasons not to do so. I am sympathetic to your desire to obtain a maximum amount of information concerning untethered EVA from the ANU experiment in the Gemini program. It was my intention to go as far as I could to meet your objectives by stating in my March 17 position paper that we would simulate untethered EVA. Properly planned and conducted, such a simulation will take all

essential considerations into account short of actually severing the connection. Our workload and schedules are such that it is not possible for us to go any further in maintaining the option you desire; we cannot carry two flight plans into training. Gemini IX experience with the NU will provide us with an assessment of the reality of problems pertaining to encumbrance with the tether, and should also provide data to quantify the EVA plans for Gemini XII. In general, I believe we are mapping out a sound step-by-step EVA development program that will support more advanced EVA operations in whatever direction NASA or the AF decide to proceed.

I have made my position known to Dr. Gilruth and copies of the March 17 position paper have been distributed within CMSF and at MSC/Houston. To minimize opportunity for misunderstanding, I am sending a clarifying communication regarding this matter to Dr. Gilruth. As a matter of course, coordination with your Field Office at Houston will be effected.

Sincerely,

Original signed by
George E. Mueller
George E. Mueller
Associate Administrator
for Manned Space Flight

cc: MSC/AA/Dr. Gilruth
MSC/GA/Mr. Mathews
HQS/MG/Mr. Day
MO-2/Mr. Schneider
MC/Capt. Freitag
EM/Col. Dollerud
M-N/Mr. Alibrando

bcc: MG-1/Mr. Hubbard
MGO/Mr. Edwards
MGP/Mr. Summerfelt
MGR/Mr. Cain
MGS/Mr. Hall
MGT/Mr. Gay
MF/Col. Fry
MSC/GS-2/Mr. Machell