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June 26, 1963

TO: [redacted]

FROM: [redacted]

SUBJECT: DI/AN Timer Retro-Ignition Delay: Sequence of Events

Attached are the sequence of thrust cone events involving the DI/AN timer with and without Lifeboat Mode of operation.

Events 5 and 6 delay times of the DI/AN timer Delay Mode are LMSC inputs and can be varied depending on flight parameters.

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SECRET

SEQUENCE WITH III/AN TIMER (DELAY MODE)

| EVENT | TIME | NOMENCLATURE | DESCRIPTION |
|---|---|---|---|
| 1. | $T_o$ | Transfer Signal | - Signal received from Agena<br>- Thrust cone batteries activated |
| 2. | $T_o$+0.9± .5 .4 seconds = $T_1$ | Electrical Disconnect | - Electrical interface [illegible] Agena and thrust cone blow<br>- Ejection programmer sequence started. |
| 3. | $T_o$+2.5± seconds | Agena Separation | - Physical separation from Agena |
| 4. | $T_1$+3.4± .3 seconds = $T_2$ | Spin | - Fire spin event<br>- Start new timer |
| 5. | $T_2$+830± 0.9 seconds | Delayed Arm | - Arm recovery system<br>- Turn on recovery beacon<br>- Activate T/M battery<br>- T/M on |
| 6. | $T_2$+867± 0.9 seconds = $T_3$ | Retro Initiate | - Initiate 1.25 sec. delay in ejection programmer |
| 7. | $T_3$+1.25± .1 seconds = $T_4$ | Retro Fire | - Fire retro-rocket<br>- Initiate 10.75 second delay in ejection programmer |
| 8. | $T_4$+10.75± .54 seconds = $T_5$ | Despin | - Fire Despin event.<br>- Initiate 1.5 sec. delay in ejection programmer |
| 9. | $T_5$+1.5±.15 | Separate | - Blow capsule electrical disconnect.<br>- Separate thrust cone. |

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## LIFEBOAT - DELAY - BYPASS - SEQUENCE

| EVENT | TIME | NOMENCLATURE | DESCRIPTION |
|---|---|---|---|
| 1. | $T_o$ -102 sec. or earlier | Lifeboat; Delay Bypass | - Actuate Relay K102 in DI/AN Timer |
| 2. | $T_o$-77 sec. | Arm Signal | - Arm Recovery Subsystem<br>- Activate T/M Battery<br>- Arm T/C<br>- T/M on |
| 3. | $T_o$ | Transfer | - Same as Event #1 of Delay Mode |
| 4. | $T_o$+0.9+.5 -.4 sec. = $T_1$ | Electrical Disconnect | - Same as Event #2 of Delay Mode |
| 5. | T +2.5± seconds | Agena Separation | - Same as Event #3 of Delay Mode |
| 6. | $T_1$+3.4± .3 sec. = $T_2$ | Spin | - Same as Event #4 of Delay Mode |
| 7. | $T_2$+7.55 ± .45 sec. = $T_3$ | Retro | - Same as Event #7 of Delay Mode |
| 8. | $T_3$ + 10.75± .54 sec. = $T_4$ | Despin | - Same as Event #8 of Delay Mode |
| 9. | $T_4$ + 1.5 ± .15 sec. = $T_5$ | Thurst Cone Separate | - Same as Event #9 of Delay Mode |

AGENDA FOR J-1 [illegible] REVIEW

I. Review of Mission Philosophy and Design Concept - SE

II. Qualification Requirements - SE

a) Launch Environment Imposed by TAT

b) Long Term Storage on Orbit

III. Review of Recovery System Qualification Tests - SE

IV. Review of Instrument Qualification Tests - Boston

V. Review of Payload System Design & Flight Confidence Testing - A/P

a) Structure design and qual status

b) Internal system design and qual status

c) Thermal Design

d) System Qual Test Requirements and Status

VI. Results of Vehicle Activate - Deactivate Experiments

VII. Payload Command, Control, and Programming Concepts - A/P / S.V.

VIII. Retro-Rocket Plume Studies and Separation Dynamics - SE and A/P

IX. Weight Status & Mission Capability - A/P / S.V.

X. Schedule and Status for First Flight - A/P