NA

MIT/IL SOFTWARE ANOMALY REPORT

1.1 ORIGINATOR: J.M. REBER	1.2 ORGANIZATION: MIT/IL	1.3 DATE: 3/27/69	1.4 ORIGINATOR CONTROL NO.	SER REPORT NO.: LNY 55 PROGRAM: LUMINARY 1A PROGRAM REVISION: ALL

1.5 DESCRIPTION OF ANOMALY:

Errors in LUMINARY 1A and C LOSSUS 2A fixed constants, viz ω_E, $\dot{B}$, Ω_{IO}, $\dot{\Omega}_{IO}$ $\dot{F}_0$, F_0.

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1.6 DESCRIPTION OF RUN:

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- MIT ANALYSIS -

2.1 CAUSE:

Error in MAC generation program.

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2.2 RECOGNITION:

Difficult to assess.

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MISSION EFFECT:

See attached table (negligible for G)

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2.4 AVOIDANCE PROCEDURE:

Absorb errors in lunar constants in libration vector.

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2.5 RECOVERY PROCEDURE:

None

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2.6 PROGRAM CORRECTION:

Use attached values.

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2.7 RECOMMENDED DISPOSITION (Fix, Work-around, etc):

None for G, fix for subsequent missions.

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2.8 RECOMMENDED RE-TESTING:

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2.9 MIT/IL SIGNATURE:	2.10 DATE:
Hamilton Cherry	

3.1 NASA DIRECTION:	4.1 CLOSING ACTION TAKEN:
CONTINUED ON PAGE	Fix in LUMINARY 1B CONTINUED ON PAGE

3.2 NASA/MSC SIGNATURE:	3.3 ORGANIZATION	3.4 DATE:	4.2 SIGNATURE:	4.3 ORGANIZATION:	4.4 DATE:

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2.3 Mission Effect, cont'd.

		@ July 1969	@ July 1970
ω_E	Error on Earth Surface	0	430 m
ω_B	Error on Moon Surface	0	$22(10)^{-8}$ m
Ω_{IO}	Error on Moon Surface	0.02 m	0.02 m
$\dot{\Omega}_{IO}$	Error on Moon Surface	0	0.03 m
F_O	Error on Moon Surface	4.1 m	4.1 m
$\dot{F}_O$	Error on Moon Surface	0	8.2 m

2.6 Program Correction, cont'd.

ω_E = 7.292 115 147 $(10)^{-5}$ RAD/SEC

ω_B = -7.197 573 418 $(10)^{-14}$ RAD/SEC

Ω_{IO} = 6.196 536 640 RAD

$\dot{\Omega}_{IO}$ = -1.070 470 170 $(10)^{-8}$ RAD/SEC

F_O = 5.209 327 056 RAD

$\dot{F}_O$ = 2.672 404 256 $(10)^{-6}$ RAD/SEC