

MIT/IL (CHARLES J. GREENE)

# MIT/IL SOFTWARE ANOMALY REPORT

MIT REPORT NO.	LNy 61
PROGRAM	LUMINARY
PROGRAM REVISION	69-97

1.1 ORIGINATOR: P. VOLANTE	1.2 ORGANIZATION: MIT/IL	1.3 DATE: 4/24/69	1.4 ORIGINATOR CONTROL NO.
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1.5 DESCRIPTION OF ANOMALY:  
If a Restart (Hardware or Software) occurs during the Trunnion or Shaft incorporations of P20 Rendezvous Navigation (or P22), an incorrect State Vector Update can occur.

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1.6 DESCRIPTION OF RUN:  
Luminary 69 Level 6 test of a stable orbit rendezvous - V37 selection of P39 while P20 running resulted in a Noun 49 excessive State Vector Update display.

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### - MIT ANALYSIS -

2.1 CAUSE:  
An Index Register is not properly Restart protected.

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2.2 RECOGNITION:  
Noun 49 Display occurred when it shouldn't have (this may or may not happen).

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2.3 MISSION EFFECT:  
Possible incorrect State Vector Update or else incorrect Noun 49 Display.

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2.4 AVOIDANCE PROCEDURE:  
Do not select another program via Verb 37 while P20 is incorporating a mark (i.e., wait until mark counter is incremented in the V16N45...

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2.5 RECOVERY PROCEDURE:  
If a Noun 49 Display occurs following a Restart, key in Recycle to reject the mark.

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2.6 PROGRAM CORRECTION:  
Fix Restart protection for the Trunnion and Shaft Angle incorporations.

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2.7 RECOMMENDED DISPOSITION (Fix, Work-around, etc):  
Work-around for LUMINARY 1 and 1A; fix subsequently.

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2.8 RECOMMENDED RE-TESTING:  
*Restart test with P20 + P22 running when fixed*

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2.9 MIT/IL SIGNATURE: <i>James T. Korman</i>	2.10 DATE: <i>4-25-69</i>
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3.1 NASA DIRECTION:

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3.1 CLOSING ACTION TAKEN:  
*Note for 1 + 1A.  
FIXED in 1B  
(MEMO 91)*

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3.2 NASA/MS SIGNATURE:	3.3 ORGANIZATION:	3.4 DATE:	4.2 SIGNATURE:	4.3 ORGANIZATION:	4.4 DATE:
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## 2.4 Avoidance Procedure, cont'd.

... Display before executing a V37 request for another program); or use V95 to stop updating then wait at least 15 seconds before requesting a new program (a V80 or V81 must be done to start state vector updating again).