MEMO

Notes on Self Test Failure at KSC - Apollo 12

SUMMARY: Self Test was initiated on Apollo 12, 5/9. 4 Restarts occurred with 237 failures of S/T. 99 Recorder Tapes recorded in ERCOUNT. LUMINARY 99 Recorder Tapes.

Procedure: V36E WAIT 31 seconds
- O $ MODE (V21N27E?)
- RESTART AT 70 seconds
- 3 More Restarts within 9 seconds

Results

First Restart:
RSBBQ 66/02
   3627
   FAIL REG +1 = 1102, 4/1102

Second Restart:
RSBBQ 52/001
   00001
   FAIL REG +1 = 1102, 4/1102, 1107
   1107 should have terminated Self Test. It did not. With control in Bank 25 the computer activity light should have gone on. It did not.

Third Restart - Data lost due to

Fourth Restart occurring immediately after the third
Fourth Restart
RSBBQ 66102
0.3333
SFAIL = 0.3411
ERCCOUNT = 5.33 (= 347 Decimal)

Suggestions

Horano: Use V91 E, rather than options so that self-check will terminate at failure.

If restart occurs:
1374 (SKEEP4) contains: Bank number
1373 (SKEEP3) " Dispacement

B. McCoy: A failure in sense amplifier
or G-register logic.

R. Sheridan: The luminary ropes being used were known defective (bad weld) and since repaired

Estabrook Run Marvin, T. at lowered bus voltage to see if problem reappears. This was done. No failure
AC/Florida has an oetal Dump which shows:

<table>
<thead>
<tr>
<th>Times Turn on Time</th>
<th>16 h 13 mins.</th>
<th>21.59 sec</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restart 1</td>
<td>16 h 15 m</td>
<td>23.636 sec</td>
</tr>
<tr>
<td>Restart 2</td>
<td>16 h 15 m</td>
<td>29.436 sec</td>
</tr>
<tr>
<td>Restart 3</td>
<td>16 h 15 m</td>
<td>29.75 sec</td>
</tr>
<tr>
<td>Restart 4</td>
<td>16 h 15 m</td>
<td>29.75 sec</td>
</tr>
</tbody>
</table>

2. Downlink. Downlink produced 20 words (two double precision words) of garbage before the second restart. Also, the downlink list did not terminate properly, it overflowed the end of the list by 2 words (1 DP word). Restart then occurred.

Turn on Temperature 62.0 which was lower than usual but well within spec.

There have been no failures since this time.

D. Estabrook
X580