SIMULATION REPORT Test # E5

NAME: S. Albert

DATE: 12/20/70

PROGRAM/REV: LUM/202 PCR/ACB/ANOMALY: 334 Rev 1

PURPOSE: Verify correct change to landing & ascent displays.

MISSION PHASE: Landing & Ascent

PROGRAMS USED: P63 / P63, P70

DURATION: ~~1 hr. abort from landing (P70) and landing test used for other PCR's.~~

TEST DESCRIPTION:

1) Landing: Do V51 on N63 display when R1 ≠ 99999.
Wait 10 and do V58, then V57 again.
Call up N68 via V16.

2) Ascent: Observe N94 display.
Call up N77 via V16.

RESULTS: 1) V51 stopped the N63 display from flashing. V58 caused it to flash again, and the 2nd V51 again stopped the flashing. After 36K' a data good signal was rec'd and R1 changed from 99999.

COMMENTS: Due to Astronaut Deck error, V51 was done too early (he saw "N63" with the R1 from N62 at ignition). However, a live astronaut would know better so it was not necessary to ~~return~~ the test for this)

2) After the Abort button is pushed & P70 begins, N94 appears on the DSKY, the alt-rate and alt. in R2 & R3 are consistent with the previous N63 display & with the ensuing ENVSUM printouts:
Both N85 and N77 are called via V16 and it is seen that ΔVGx in R1 of N85 is of the same magnitude as R1 of N94, and, similarly, for ΔVGy (R2 of N85 & N77). At cutoff in P70, a flashing V16 N94 came up, as expected.

DISPOSITION:

SIMULATION REPORT

Test # E6

NAME: S. Albert

DATE: 12/18/70

PROGRAM/REV: LUM / 202 PCR/ACB/ANOMALY: PCR 335

~~L-28~~

~~L-43~~

PURPOSE: see below

MISSION PHASE: Landing

PROGRAMS USED: P63, P64

DURATION: ~~1/2 hr~~

TEST DESCRIPTION:

PCR: 335 - Remove alignment option from P63: Trace to see that program does not go to R51 P63; eyeball test to see that V50 N25 does not come up on DSKY.

L-28: Remove ~~LRPOS~~ init. from P63: Trace from P63SPOT4 to see that coding has been deleted.

L-43 Delay enabling of redesignator INHINT until PROCEED on V06 N64; Trace at START P64 and P64CCED to insure that INHINT coding has been moved.

RESULTS:

~~All deletions and changes were coded correctly. Accordingly~~ the V50 N25 did not come up on the DSKY in P63.

COMMENTS:

DISPOSITION:

SIMULATION REPORT Test # E7

NAME: SUMNER ROSENBERG

DATE: 12/15/70

PROGRAM/REV: LUM 195/207/208 PCR/ACB/ANOMALY: 336

PURPOSE: ALLOW EXT VERBS DURING P20 MANEUVERS

MISSION PHASE:

PROGRAMS USED: P20, P40

DURATION: ~~HYBRID~~ 21 min

TEST DESCRIPTION:

GO THRU R60 IN P20 (ALSO KEYBOARD ACTIVE DURING V50 N18 FLASH). SEE THAT V06 N18 DOES NOT COME UP. CAUSE RESTART DURING AUTOMANEUVER, V37 DURING MANEUVER; EXT. VERBS, KEYBOARD MONITORS. ETC. ALSO RUN P40 R60 W/ SAME ACTIVITY. Rerun on 207 with patches, and then on 208.

RESULTS: OK AS TESTED

COMMENTS:

Restart caused the maneuver to termate and V50 N18 returned to DSKY

DISPOSITION:

SIMULATION REPORT. Test # E8

NAME: S. Albert

DATE: 12/18/70

PROGRAM/REV: LUM/202 PCR/ACB/ANOMALY: PCR 338

PURPOSE: See below

MISSION PHASE: Landing

PROGRAMS USED: P63, P64

DURATION: ~~1/2 hr (same run as other Rev 200 landing~~

TEST DESCRIPTION:

PCR 338: Change LPD scaling to 1° in all directions; Trace 1 line at +AZ and -EL to verify magnitude of AZEACH and ELEACH.

RESULTS:

At +AZ a "CA 00436_8" was done. At -EL, 77341 was brought into A.

$00436_8 = -(77341_8) = .01746_{10} = 1°$. ∴ Scaling changed correctly.

COMMENTS:

DISPOSITION:

SIMULATION REPORT Test # E9

NAME: Sumner Rosenberg

DATE: 12/15/70

PROGRAM/REV: Lum 195 (PCR)/ACB/ANOMALY: 339

PURPOSE: FLASHING V50 N72 MONITOR IN R21

MISSION PHASE:

PROGRAMS USED: P20

DURATION: ~~#FOR 19 LIMIT~~

TEST DESCRIPTION: SEE THAT FLASHING V50 N72 MONITOR NOW COMES UP IN R21. Tested on Hybrid

RESULTS: OK AS TESTED. R1 and R2 of N72 were changing as vehicle moved in the attitude deadband.

COMMENTS:

DISPOSITION:

SIMULATION REPORT. Test # E10

NAME: P. VOCANTE

DATE: 1-17-71

PROGRAM/REV: LUM/200 PCR/ACB/ANOMALY: 339

PURPOSE: VERIFY UPDATING OF FL V50 N72 IN P20

MISSION PHASE: RENDEZVOUS

PROGRAMS USED: P20

DURATION: 10 MINUTES

TEST DESCRIPTION:

SELECT P20 - AFTER RR LOCK-ON, ~~MONITOR~~ OBSERVE V50 N72 TO SEE THAT TRUNNION AND SHAFT ANGLES ARE CHANGING -

RESULTS: TEST PERFORMED AS EXPECTED

COMMENTS:

DISPOSITION:

P. Volante

SIMULATION REPORT

Test # E1F

NAME: S. Albert

DATE: 12/18/70

PROGRAM/REV: LUM/202 PCR/ACB/ANOMALY: 340/343

PURPOSE: see below

MISSION PHASE: Landing

PROGRAMS USED: P63, P64

DURATION: ~~1½ (some test as other Rev 202 landing)~~

TEST DESCRIPTION:

PCR 319: True ΔH on downlist: Dump DELTAH and TRUDELH after terrain model and compare with words 2 & 3 of Desc/Asc downlist. Observe DELTAH and TRUDELH after terrain model is turned off by entry to P66.

PCR 340/343: See that LATVEL polarity has been restored to old value. Trace LAD coding to see that coding has been changed from "CS's" back to "CA's".

~~L-35: Trace after RE-IN66 to see that~~ coding stores triple precision in OLDPIPAX.

RESULTS:

319: The values in words 3 & 4 of the downlist compared exactly to those for the same time periods in the AGC edit. When the terrain model is discontinued at P66 entry, DELTAH and TRUDELH are identical.

COMMENTS:

340/343: Trace showed that coding has been restored to previous version

~~L-35: Trace showed that~~ a TLOAD was being done into OLDPIPAX.

DISPOSITION:

SIMULATION REPORT Test # E12

NAME: Dave Moore

DATE: 18Dec1970.

PROGRAM/REV: Luminary 208 (PCR)/ACB/ANOMALY: 341

PURPOSE: Change slope in LR Reasonability Test to $\frac{1}{4}$ (from $\frac{1}{8}$)

MISSION PHASE: Lunar Landing

PROGRAMS USED: P63-P64 (R12-Servicer)

DURATION: ~~60 sec~~

TEST DESCRIPTION: Trace interpretive coding where the sys stops to find if DH too large is

DMRAC = (ABS(DELTAH) - (DQFIX + HCALC/4.)) @ 2(22)

~~Spike~~ HCALC/4 = [(HCALC) 2(24)] 2(22) The slope number is $\frac{1}{4}$ now.

RESULTS: The values observed ~~looked at~~ showed the equation to be true and faithful to the coding.

COMMENTS:

This PCR Test is complete

DISPOSITION:

Daniel H. Moore

SIMULATION REPORT

Test # ~~P27~~ E13

NAME: White Pat

DATE: 15 Dec 1970

PROGRAM/REV: Luminary 199/208 PCR/~~ACB/ANOMALY~~: 348

PURPOSE: Level 3 test

MISSION PHASE: Luminary 1E

PROGRAMS USED: P00, P30, P41, V96, P77

DURATION: ~~2 minutes~~

TEST DESCRIPTION: Use P30 to set up TIG and ΔV for P41. Do maneuver in P41, then stop integration (V96) after first V16 N85 display (not flashing). Perform burn manually, then use P77 to update LEM state vectors. Used P77 edit to verify update of LEM state vectors. Reran on 208 (level 4 test)

RESULTS: Very good

COMMENTS: Substitute word LM for CSM in edit. It will eventually be updated to take care of this discrepancy

DISPOSITION: ~~Houston~~

Pat White

EIF

LEVEL 3 TEST REPORT
1/19/71
LUMINARY REV 208
PCR: 1044

PURPOSE:

Verify that X and Y sighting marks can be performed in any sequence during inflight alignments.

TEST DESCRIPTION:

A digital simulation of the following program sequence was performed using different X and Y marking sequences.

P51
P52 OPTION 4
P52 OPTION 3

TEST RESULTS:

The number of star vectors computed and averaged was consistent with the number of completed mark pairs. The alignment accuracy resulting from each program was less than .01 degrees on each axis.

615

LEVEL 3 TEST REPORT
1/19/71
LUMINARY REV 202
PCR: 1044, ~~333~~

PURPOSE:

Verify backup sighting mark capability during inflight IMU alignments (P52).

TEST DESCRIPTION:

A digital simulation of the inflight alignment program P52 was made using the REFSMMAT option. The lunar surface sighting technique was selected to perform the fine align star sightings and the ROD switch was activated to perform the cursor and spiral marks.

TEST RESULTS:

The sighting data test NOUN 05 = .00
The final alignment accuracy was less than .01 degrees on each axis.

DMillard

E16

LEVEL 3 TEST REPORT
1/19/71
LUMINARY REV 202
PCR: 1044

PURPOSE:

Show that the cursor and spiral measurements taken during lunar surface alignments can be taken in the order spiral and cursor.

TEST DESCRIPTION:

A digital simulation of the lunar surface alignment program P57 was made when the star sighting measurements were taken in the order Spiral and Cursor. A time delay of 20 minutes was allowed between Spiral and Cursor marks.

TEST RESULT:

The sighting data test NOUN 05 = 00
The final alignment accuracy was within .02 degrees on each axis.

DMillard

B. McCoy

SIMULATION REPORT. Test # E17

NAME: CRAIG WORK

DATE: 5 JAN 71 with change cards (TEST15)

PROGRAM/REV: LUM 178 ~~rev 1~~ PCR/ACB/ANOMALY: PCN 1059, ~~[illegible]~~

PURPOSE: Verify that V 37 no longer deletes executions of 1/A

MISSION PHASE: LM PGNCS

PROGRAMS USED: P00, R03, P63

DURATION: ~~45 min~~

TEST DESCRIPTION: Astronaut does P00, R03, enters P63. When V 99 flashes prior to IGNITION, Descent Engine Arm is turned off. Response to flashing V 97 is V 34 E, response to V 37 is 00 E. This ends part A.

In part B, R03 specifies CSM-docked configuration. Another R03 immediately re-specifies LM-alone, but the response to V 06 N 47 is V 37 E 00 E.

~~Jobs B104887 and B105621~~

RESULTS: In each case, LUM 178 deleted the 1/ACCS execution which would update the DAP, TEST15 retained the 1/ACCS execution.

COMMENTS:

In part A, LUM 178 retained the powered flight deadband after the failed ignition ~~attempt~~, but TEST15 returned to the pre-burn deadband, (0.3°). In part B, LUM 178 retained 1/ACC values for docked case, but TEST15 re-computed them for LM-alone

DISPOSITION:

Craig Work

SIMULATION REPORT

Test # E18

NAME: PAT WHITE

DATE: 16 NOV 1970

PROGRAM/REV: Luminary 185 PCR/ACB/~~ANOMALY~~: 1066

PURPOSE: Display N81 during all passes of P34, P35, P74 and P75
Eliminate N59 display in above programs but leave calculations for N59 call

MISSION PHASE: Level 3 Luminary 1E

PROGRAMS USED: P34

DURATION: ~~1.7 minutes~~

TEST DESCRIPTION:

P34 test with maneuver at least Noun 15, proceed at second Noun 45. Noun 59 avail to prove that calculations are still performed.

Tests of P35, P74 and P75 since the changes made were all within a subroutine used by these programs as well as P34

RESULTS: N81 displays at both passes.
N59 not displayed on either pass - but was available upon call.

COMMENTS:

DISPOSITION: Test sent to Houston

Pat White

SIMULATION REPORT Test # E19

NAME: CRAIG WORK

DATE: 1 Dec 70

PROGRAM/REV: LUMINARY 178 + change (TEST 15) with 3 cards PCR/ACB/ANOMALY: PCN 1070, ~~L 18 04~~

PURPOSE: Verify correct re-initialization of FDAI needles after DAP "off".

MISSION PHASE: LM active, any phase

PROGRAMS USED: ~~TEST15, REV 001~~ N/A.

DURATION: ~~40 sec.~~

TEST DESCRIPTION: DAP is turned on and initialized. Mode Select Switch is turned to "off" for 5 sec., then back to "Auto". The FDAI Attitude Error computation initialization is "CLOCK"ed, to verify that the initialization is triggered by this sequence of events. In particular, the IMU error counter is re-initialized.

RESULTS: Completely satisfactory, 16 October 1970

COMMENTS:

TEST15 exactly duplicates LUM 178 (LUM 10) in this coding. A single patch exactly represent the code change, now implemented in LUM 185.

DISPOSITION:

SIMULATION REPORT

Test # E20

NAME: Sharon Albert

DATE: 12/15/70

PROGRAM/REV: Luminary/197 PCR/ACB/ANOMALY: 1079, ~~#21, #27~~

PURPOSE:

MISSION PHASE: NA

PROGRAMS USED: All callable via V37

DURATION: ~~10 min~~

TEST DESCRIPTION: This is a standard downlink test which runs thru the sequence of V37-callable programs so that a complete downlist is sent for each one. An ELOAD is done to give arbitrary values ~~to CHANBLUP (PCR #147)~~, ALMCADR, +1 (PCR 1079) ~~and CH5MASK, CH6 MASK (PCR #121)~~. Successive downlists were checked to see that the proper locations were loaded.

RESULTS:

COMMENTS: All values appeared correctly on the downlists to which they had been assigned.

DISPOSITION:

SIMULATION REPORT

Test # E2T

NAME: VIRGINIA DUNBAR

DATE: JAN. 19, 1971

PROGRAM/REV: LUM 195 PCR/~~ACB/ANOMALY:~~ 1082

PURPOSE: TO TEST EPHEMERIS CONSTANTS FOR 1971-1972

MISSION PHASE: RENDEZVOUS

PROGRAMS USED: P20 - R05

DURATION: ~~TIMED~~

TEST DESCRIPTION: Ran R05 to test alignment

RESULTS: Run and edit indicate good results

COMMENTS:

DISPOSITION:

SIMULATION REPORT Test # E22

NAME: Sunnia Rosenberg

DATE: 12-15-70

PROGRAM/REV: Luminary 195 PCR/ACB/ANOMALY: 1091

PURPOSE: Priority display light on DSKY

MISSION PHASE:

PROGRAMS USED: P20, P34

DURATION: ~~Hybrid 1 min~~

TEST DESCRIPTION: Turn on P20, then P34, make DSKY busy and have a PRIO. display come up. See if PRIO light is lit.
Also do extended verbs during P20, restart when light is on, should turn it off (momentarily).

RESULTS: OK as tested

COMMENTS:

DISPOSITION:

SIMULATION REPORT Test # 205

NAME: VIRGINIA DUNBAR

DATE: JAN. 19, 1971

PROGRAM/REV: LUM. 195/208 PCR/~~ACB~~/~~ANOMALY~~: 1091

PURPOSE: TO TEST TURNING ON OF DSKY LIGHT FOR PRIORITY DISPLAY - P20 RUNNING

MISSION PHASE: RENDEZVOUS

PROGRAMS USED: P20, R05

DURATION: ~~12 MIN.~~

TEST DESCRIPTION: (195) Ran P20 and selected R05 - Trace setting of key release light in connection with priority displays.

(205) V21 N01E 1035E 40001 ; sets priority lamp
ERROR RESET : stays on
V36E : goes out

RESULTS: DSKY light performs in accordance with PCR 1091

COMMENTS:

DISPOSITION:

SIMULATION REPORT. Test # E24

NAME: C. WORK

DATE: 1 Dec 1970

PROGRAM/REV: LUM 178 + 4 change cards (TEST15) PCR/ACB/ANOMALY: PCN 1095, ~~L-1D-07~~

PURPOSE:

MISSION PHASE: Powered flight, LM

PROGRAMS USED: ~~LUM 178, TEST15 [illegible]~~ P63

DURATION: ~~45 min~~ In P63

TEST DESCRIPTION: a manual yaw is performed with X-axis override inhibited, then a manual roll is executed (pitch would show the same result). The ACA is returned to detent, and the Mode Select switch is moved from ATTITUDE HOLD to AUTO before the DAP manual mode is closed out (0.5 sec). Auto guidance maneuvers back, but a large, rapid spurious yaw occurs when X-axis override is re-enabled (P66).

RESULTS: The spurious yaw appears in LUM 178, but not in TEST15 001

COMMENTS:

The correction was coded into TEST15 001 and works satisfactorily. Plots and simulation printouts, edits were sent to R. Nobles.

DISPOSITION:

SIMULATION REPORT

Test # E25

NAME: SUMNER ROSENBERG

DATE: 12-15-70

PROGRAM/REV: LUM 195 PCR/ACB/ANOMALY: 1097.2

PURPOSE: N26/PRI W/ 0 DOES NOT ALLOW V30, V31

MISSION PHASE:

PROGRAMS USED:

DURATION: ~~4 HOURS~~

TEST DESCRIPTION: LOAD N26/PRI W/ 00000,
TAKEN DO V30 N26, SEE THAT OP ERROR
COMES UP THEN LOAD N26/PRI W/ MEANINGFUL
VALUES, SEE THAT V30 N26 IS ALLOWED,

RESULTS: OK AS TESTED

COMMENTS:

DISPOSITION:

SIMULATION REPORT. Test # E26

NAME: Sumner Rosenberg

DATE: 12-15-70

PROGRAM/REV: Lum 195 PCR/ACB/ANOMALY: 1100

PURPOSE: Delete setting of NODOFLAG in R47

MISSION PHASE:

PROGRAMS USED:

DURATION: ~~Hybrid ~ 1hr~~

TEST DESCRIPTION: Do V47 - cause restart.
Try V37E XXE, see that no alarms
come up. Also do V37 w/o restart,
see that no alarms come up

RESULTS: OK as tested

COMMENTS:

DISPOSITION:

SIMULATION REPORT Test # E27

NAME: CRAIG WORK

DATE: 15 JAN 1971

PROGRAM/REV: LUM 1E PCR/ACB/ANOMALY: PCR 1134, 111

PURPOSE: Backup GUID CTRL switch; provide "NO control" DSKY lig

MISSION PHASE: LGC active.

PROGRAMS USED: LUMINARY 202

DURATION: ~~13½ min; Mission 35522302~~

TEST DESCRIPTION: This test was described and evaluated as a level 3 test in a simulation report which was dated 7 JAN 1971. A flaw in the environment simulation prevented the run from testing the DAP control after the AGS-to-PGNCS control transfer during a P40 burn. With a successful rollback, that aspect has been simulated and the test qualifies for level 4.

RESULTS:

COMMENTS: One simulation exerts no control at all during th AGS period, but the DAP recovered control immediately on return to PGNCS, and the burn terminated with V 16 N 85 residuals of (0, .4, 0) fps.

Craig Work

DISPOSITION:

SIMULATION REPORT

Test # ~~P71E4~~ E28

NAME: BERNIKOWICH, W.

DATE: 12/23/70

PROGRAM/REV: Luminary/202 (PCR) ACB/ANOMALY: 1107

PURPOSE: LEV.3 TEST

MISSION PHASE: APS ABORT STAGE from DESCENT

PROGRAMS USED: P00, R03, R05, P63, P71, P00

DURATION: ~~33 minutes digital~~

TEST DESCRIPTION:

1. Use V11N1 to show CHANBKUP is zero.
2. Change CHANBKUP to 11_8 via V21N1.
3. Monitor CHANBKUP via V11N1 to show the update was inserted into the proper location.
4. Run Basic Traces on P71 NOW? thru P71A+1, and P71 thru P71A+1. Dump CHANBKUP in P63 and P71.
5. Turn ON Ch. 30 Bit 4 (Φ) at T=391482.144. Observe Ch. 30 Bit 4 ignored — no abort, still in P63
6. Request APS Abort via V37E71E and perform manually DPS ENGINE shutdown, DPS Staging, and APS ignition. Observe P71 program. Monitor descent to orbit injecti

RESULTS:

All parts of test completed satisfactorily.

COMMENTS: Ran ITRACE on INJTARG thru STORPARM and DUMPed FLAGWRD9 at UPTHROT — thereby verified J1, K1 abort target selection.

DISPOSITION:

SIMULATION REPORT

Test # ~~P5701~~ E29

NAME: BERNIKOWICH, W.

DATE: 12/24/70

PROGRAM/REV: Luminary/202 (PCR) ACB/ANOMALY: 1107

PURPOSE: LEVEL 3 TEST

MISSION PHASE: DPS ABORTS FROM DESCENT

PROGRAMS USED: P00, R03, R05, P63, P70, P00

DURATION: ~~45 minutes digital~~

TEST DESCRIPTION:

1. Use V11 N1 to show CHANBKUP is zero.
2. Change CHANBKUP to 11_8 via V21 N1.
3. Monitor CHANBKUP via V11 N1 to show the update was inserted into the proper location.
4. Run Basic Traces on P71NOW? thru P71A +1, and P70 thru P71A +1. Dump CHANBKUP in P63 and P7
5. Turn on Ch. 30 Bit 1 (Ø) at T=391479.00. Observe Ch. 30 Bit 1 ignored — no abort occurs.
6. Push the ABORT button — action ignored; no abort
7. Request abort via V37E70E. Observe DPS Abort and monitor the ascent to orbit insertion.

RESULTS:

All parts of test completed satisfactorily.

COMMENTS:

Ran ITRACE on INJTARG thru STORPARM;
DUMPed FLAGWRD9 at UPTHROT —
verified J1, K1 abort target selection.

DISPOSITION:

SIMULATION REPORT

Test # E30
E31

NAME: S. Albert

DATE: 12/20/70

PROGRAM/REV: LUM 202 PCR/ACB/ANOMALY: 1107
1109

PURPOSE: Test CHANBKUP Logic

MISSION PHASE: Landing, Ascent

PROGRAMS USED: P63, 64, 66, P70

DURATION: (Same tests as used for other 1E PCR's)

TEST DESCRIPTION:

1107 V61 was patched so that it wrote into Chan 30, setting it to 36321: Auto Throttle Failure (Bit 5) and P71 Abort Stage Signal received (Bit 4).

V62 was patched to write 36310 into Chan 30: P70 Abort Signal has been produced (Bit 1). Immediately after doing V62 E the Astronaut pushes ABORT STG. The Downlink edit was taken for the interval when the Astronaut keyed in V61 and V62 to see that Chan 30 did change.

RESULTS:

Setting of BITS in Chan 30 did not produce Auto Throttle Failure.
Setting of BITS 1, 4 did not trigger their respective aborts. An abort with ascent stage was done when the Astronaut pushed ABORT STG, instead of the descent stage abort - whose bit has conveniently been set thru V62.

COMMENTS:

1. CHANBKUP is working as expected in executing the consequences of a bit failure in CHAN 30.

DISPOSITION:

SIMULATION REPORT

Test #32

NAME: S. Albert

DATE: 12/28/70

PROGRAM/REV: LUM 202 PCR/ACB/ANOMALY: 1110

PURPOSE: Test CHANBKUP logic

MISSION PHASE: Landing

PROGRAMS USED: PG3, P64, P66

DURATION: 2 hrs (same test as used for other 1E PCR's)

TEST DESCRIPTION:

Astronaut does DISPLAY INERTIAL DATA OFF (to set Chan 30 Bit 6), and then ON again 10 seconds later.

RESULTS: R10 edit showed no effects from inhibit setting & resetting.

COMMENTS:

DISPOSITION:

SIMULATION REPORT **Test #** 833

NAME: VIRGINIA DUNBAR

DATE: JAN 19, 1971

PROGRAM/REV: LUM 203 **PCR/ACB/ANOMALY:** 1117.2 ~~L-1D-15~~ ~~1124~~

PURPOSE: To show POODOO performs BAILOUT logic when extended verb active, POODOO logic when no extended verb.

MISSION PHASE: RENDEZVOUS

PROGRAMS USED: P20, R31

DURATION: 14 ~~MINS~~.

TEST DESCRIPTION: Select P20, select R31. Transfer control to POODOO, P20 still running, R31 lost no flashing V37. ~~Enter V40. and~~ Transfer control to POODOO. At this point flashing V37, answer by reselecting P20.

RESULTS: Results are consistent with desired change.

COMMENTS:

DISPOSITION:

SIMULATION REPORT

Test # E34

NAME: Sharon Albert

DATE: 12/15/70

PROGRAM/REV: Luminary/197 PCR/ACB/ANOMALY: ~~1079~~, (1121), ~~1127~~

PURPOSE:

MISSION PHASE: NA

PROGRAMS USED: All calleable via V37

DURATION: 10 min

TEST DESCRIPTION: This is a standard downlink test which runs thru the sequence of V37-calleable programs so that a complete downlist is sent for each one. An ELOAD is done to give arbitrary values to ~~CHANBKUP (PCR 1127)~~, ~~ALARMBR, +1 (PCR 1079)~~ and CH5MASK, CH6 MASK ~~(PCR 1121)~~. Successive downlists were checked to see that the proper locations were loaded.

RESULTS:

COMMENTS: Values appeared correctly on the downlists to which ~~they~~ it has been assigned.

DISPOSITION:

SIMULATION REPORT

Test # E3f

NAME: McCoy

DATE: 12/70

PROGRAM/REV: Luminary 208 PCR/ACB/ANOMALY: 1122

PURPOSE: Verify operation of "No Control" lite

MISSION PHASE: all

PROGRAMS USED: POO

DURATION: ~~1 Orbit~~

TEST DESCRIPTION:

Verify: ACTION	Lamp (initially OFF)
Attitude Hold	OFF
V76E	ON
ERROR RESET	ON
AUTO	OFF
MODE CONT: OFF	ON
MODE CONT: Attitude Hold	ON
V36E	OFF/ON - 15sec/OFF
V70E	ON
V69E	OFF/ON
V37E00E	ON
RESULTS: V77E	OFF
V35E	ON/OFF
V69E	ON/OFF

COMMENTS:

all lamp conditions verified

DISPOSITION:

ORIGINAL

SIMULATION REPORT Test # E36

NAME: VIRGINIA DUNBAR

DATE: JAN. 19, 1971

~~LUN 202~~, 1124

PROGRAM/REV: LUN 202 PCR/~~ACB~~/~~ANOMALY:~~

PURPOSE: Show P20 reselectable after P00D00.

MISSION PHASE: RENDEZVOUS

PROGRAMS USED: P20, P30

DURATION: ~~9 HRS~~

TEST DESCRIPTION: Select P20, select P30 after V06 N81, transfer control to P00D00. When V37 flashed, P20 is reselected. P20 continues to run, P30 is lost.

RESULTS: The results are consistent with change requested by PCR.

COMMENTS:

DISPOSITION:

SIMULATION REPORT Test # E-32

NAME: Mroy

DATE: 1/25/71

PROGRAM/REV: Lum 208 PCR/ACB/ANOMALY: 1127

PURPOSE: Test CHANBKUP implementation in R03

MISSION PHASE: all

PROGRAMS USED: N/A

DURATION: ~~1 min~~

TEST DESCRIPTION: prc.load CHANBKUP = 37^{46} 77777

V48E

V06N46 DISPLAY

R2 = 77777

V22E ~~E~~

V1N1E 374E

R1 = 00000

V21E 52525E Key Release

R06N46

R2 = 52525E

RESULTS:

consistant with PCR requirements

COMMENTS:

DISPOSITION:

ORIGINAL

SIMULATION REPORT. Test # E38

NAME: Sharon Albert

DATE: 12/15/70

PROGRAM/REV: Luminary/197 PCR/ACB/ANOMALY: ~~1079, 1121~~ 1121

PURPOSE:

MISSION PHASE: NA

PROGRAMS USED: All callable via V37

DURATION: ~~10 min~~

TEST DESCRIPTION: This is a standard downlink test which runs thru the sequence of V37-callable programs so that a complete downlist is sent for each one. An ELOAD is done to give arbitrary values to CHANBKUP ~~ILMCADR, +1 (PCR 1079) and CH5MASK, CH6 MASK (PCR 1121)~~. Successive downlists were checked to see that the proper locations ~~were~~ was loaded.

RESULTS:

COMMENTS: Values appeared correctly on the downlists to which ~~the~~ it has been assigned.

DISPOSITION:

SIMULATION REPORT Test # E39

NAME: CRAIG WORK

DATE: 17 DEC 70

PROGRAM/REV: LUMINARY 202 PCR/ACB/ANOMALY: PCR 1129

PURPOSE: Verify correctness of new 1/ACCS constants for APOLLO 15.

MISSION PHASE: Descent LM.

PROGRAMS USED: 1/ACCS

DURATION: ~~0.25 minutes~~

TEST DESCRIPTION:

The new constants proposed in PCR 1129 were patched into LUM 202. 1/ACCS was exercised for masses going from 36694 lbm to 14762 lbm, at about 4 steps per 1000 lbm. The hinge-pin to c.g. outputs and the IJACCS from 1/ACCS were dumped and listed. Then the actual X coordinates for the c.g. and the actual principal inertias implied by the 1/ACCS outputs were calculated and printed for comparison with the SODB APOLLO 15 data.

RESULTS:

Largest disagreement between implicit values and SODB was 1.4%

COMMENTS:

The SODB inertia values are guaranteed only to a 10% accuracy, so the fit is excellent.

Craig Work

DISPOSITION:

~~B. M Coy~~

SIMULATION REPORT Test # 840

NAME: CRAIG WORK

DATE: 5 JAN 1971

PROGRAM/REV: LUM 205, 205 PCR/ACB/ANOMALY: PCR 1129
PCN 1133

PURPOSE: Verify proper utilization of new mass limits

MISSION PHASE: LM PGNCS

PROGRAMS USED: N/A

DURATION: ~~2½ minutes~~

TEST DESCRIPTION: 1/ACCS was exercised on LUM 203, producing the same values generated when new constants were patched into LUM 202, verifying the constants assembled into 203. Then new mass limits were patched into 203, and same run was executed. Then 1/ACCS was again exercised, this time on LUM 205, generating the same values seen in the preceding run. Digital Simulation Job #s B104886, B105624, B102839

RESULTS: 1/ACCS constants and the new mass limits are correctly used in LUM 205.

COMMENTS:

Proper use of lower limit on LM descent mass in R03 was verified by Peter Weissman, in a hybrid run on LUM 205.

Craig Work

DISPOSITION:

~~B. McCoy~~

SIMULATION REPORT Test # E41

NAME: CRAIG WORK

DATE: 7 JAN 1971

PROGRAM/REV: LUM 203,205 PCR/ACB/ANOMALY: PCR 1129, 1133

PURPOSE: Verify new mass limits and 1/ACCS constants for LUM.

MISSION PHASE: Descent LM

PROGRAMS USED: LUMA

DURATION: 2½ minutes

TEST DESCRIPTION: Run on LUM 203 generated L,PVT-CG and 1JACC values. The C.G. x-coordinates and the inertias implied by those 1JACC and L,PVT-CG values agreed excellently with the SODB data over the nominal range of masses (max disagreement less than 1.4%). Run on LUM 205, combined with Peter Weissman's hybrid run on LUM 205, showed the new mass limits to be used properly in R03 and in 1/ACCS.

RESULTS: The PCRs are correctly implemented.

COMMENTS: This simulation report combines, supercedes, and obsoletes the report of 17DEC70 on PCR 1129 and the report of 5 JAN 71 on PCR's 1129 and 1133.

Craig Work

DISPOSITION:

SIMULATION REPORT   Test # E42

NAME: CRAIG WORK

DATE: 7 JAN 1971

PROGRAM/REV: LUM 252   PCR/ACB/ANOMALY: PCR 1134

PURPOSE: Backup GUID CNTRL switch; provide "No Control" DSKY lig

MISSION PHASE: LGC active,

PROGRAMS USED: N/A

DURATION: ~~13½ min Massrat 35522302~~

TEST DESCRIPTION: Full descent LM P40 burn. P-axis minimum impulse activity, then switch GUID CNTRL from PGNCS to AGS then switch back. P30, P40, ignition, throttle-up to full thrust. Switch GUID CNTR from PGNCS to AGS, then switch back. The DSKY "No Control" light was requested on by the DAP when the Mode Select Switch was "OFF" and also when the minimum impulse mode prevailed. The "No Control" light was requested off during the rest of the run, including the

RESULTS: AGS periods. The DAP continued to run during the AGS periods and re-initialized immediately after the transfers from AGS to PGNCS. FIND CDUW continued

COMMENTS: to issue guidance commands during the powered fligh AGS period.

All aspects of PCR 1134 were successfully tested.

Craig C. Work

DISPOSITION:

SIMULATION REPORT

Test # E43

NAME: Work

DATE: 12/1/70

PROGRAM/REV: Luminar 178 with change cards (TEST 15) PCR/ACB/ANOMALY: L-12-01

PURPOSE:

MISSION PHASE:

PROGRAMS USED: See Test # E19

DURATION:

TEST DESCRIPTION:

RESULTS:

COMMENTS:

DISPOSITION:

ORIGINAL

SIMULATION REPORT Test # 844

NAME: VIRGINIA DUNBAR

DATE: 11/30/70

PROGRAM/REV: 184 ~~PCR/ACB/~~ANOMALY: L-1D-04

PURPOSE: To demonstrate correction in range check during P25 operation.

MISSION PHASE: Rendezvous

PROGRAMS USED: P25

DURATION: ~~10 mins~~

TEST DESCRIPTION: Ran P25 with a trace of the area which checks setting of rendezvous flag during range check in LPS20.1.

RESULTS: Range check in P25 is performed as specified.

COMMENTS:

DISPOSITION:

SIMULATION REPORT Test # E45

NAME: David Moore

DATE: 18 Dec 70

PROGRAM/REV: luminary 200 PCR/ACB (ANOMALY:) C-1D-06

PURPOSE: DVTOTAL incremented twice in 1 Servicer cycle.

MISSION PHASE: Lunar Landing

PROGRAMS USED: P63-P64 (Servicer-R12)

DURATION: 90 min

TEST DESCRIPTION: Trace coding where DVTEMP is kept for DVTOTAL incases of restarts. Cause restarts both before restart location (TC QUICKTAGS) and after the restart location. Note whether DVTOTAL incremented after restarts.

RESULTS: DVTEMP put back into DVTOTAL after restarts; both before and after restart location

COMMENTS:

This anomaly Test complete.

DISPOSITION:

David H. Moore

SIMULATION REPORT Test # E46

NAME: Work

DATE: 12/1/70

PROGRAM/REV: Luminar with changes (TEST 15) PCR/ACB ANOMALY: L-10-07

PURPOSE:

MISSION PHASE: See Test # E24

PROGRAMS USED:

DURATION:

TEST DESCRIPTION:

RESULTS:

COMMENTS:

DISPOSITION:

E47

Work
1/5/71

Lunn 138 with change cards anomaly E-10-10
(TEST 15)

See Test # E17

SIMULATION REPORT.

Test # 648

~~Level 3 Te~~

NAME: David H. Moore

DATE: 15 Dec. 70

PROGRAM/REV: Luminary 200 PCR/ACB/ANOMALY: L-1D-14

PURPOSE: Set Flagword 5 Bit 12 for impulsive burn.

MISSION PHASE: APS Impulse burn

PROGRAMS USED: P30-P42

DURATION: 6.3 min (IBM/360 Time)

TEST DESCRIPTION:

Use APS impulse burn targets as for SPECAPS (Level 6 I

Trace NOTHRBIT (Flag 5 Bit 12) to see if set for

this impulsive burn

Digital test run for above description

RESULTS: Flag 5 Bit 12 seem to be set for this impulse burn thru direct LGC coding trace.

COMMENTS:

The Level 3 Test for L-1D-14 is completed.

DISPOSITION:

David H. Moore

E49

Dunbar
1/19/21

Lum 202 Anomaly L-10-15

see Test # E36

SIMULATION REPORT

Test # E50

NAME: McCoy

DATE: 1/12/71

PROGRAM/REV: 207 LUMINARY PCR/ACB/(ANOMALY) L-10-16

PURPOSE: check proper loading of "VININOM"

MISSION PHASE: ASCENT targetting

PROGRAMS USED: P12

DURATION: NA

TEST DESCRIPTION:

observe RI of N76 to be +5509.5 fps

RESULTS:

~~Test no. 1.5~~

RI was +5509.5 fps

COMMENTS:

DISPOSITION:

SIMULATION REPORT Test # 851

NAME: P. VOLANTE

DATE: ~~LID-17~~ 1-17-71

PROGRAM/REV: LUM. /208 PCR/ACB/ANOMALY: LID-17

PURPOSE: VERIFY ANOMALY REPAIR

MISSION PHASE: LUNAR SURFACE

PROGRAMS USED: P22

DURATION: ~~2 HRS.~~

TEST DESCRIPTION: SELECT P22 WITH RANGE > 400 N.M. - OBSERVE VIGNSY DISPLAY, RR PREDESIGNATE, LOCK-ON AND TRACKING, AND LOOK FOR FLASHING V37 AFTER S/C LEAVES MODE II LIMITS —

RESULTS: ALL PHASES OF TEST WORKED PROPERLY EXCEPT V37 FLASH DOES NOT OCCUR - DUE TO INCORRECT ANOMALY REPAIR

COMMENTS: ~~IT WAS BETTER BEFORE I "FIXED" IT.~~

DISPOSITION: OK

P. Volante

SIMULATION REPORT · Test # E52

NAME: P. VOLANTE

DATE: 1-17-71

PROGRAM/REV: LUMINARY 208 PCR/ACB/ANOMALY: L-1D-18

PURPOSE: VERIFY REPAIR OF ANOMALY L-1D-18

MISSION PHASE: LUNAR SURFACE

PROGRAMS USED: P22

DURATION: ~~10 MINUTES~~

TEST DESCRIPTION: SELECT P22 AND BYPASS CHECK FOR DATA GOOD DURING R21 SO THAT R21 COMMANDS RR ANTENNA INTO MODE II LIMITS AS CSM MOVES AWAY FROM LANDING SITE. VERIFY THAT NO RR ANTENNA OSCILLATION OCCURS AFTER ANTENNA IS REPOSITIONED.

RESULTS:

TEST PERFORMED AS EXPECTED

COMMENTS:

DISPOSITION:

P. Volante

SIMULATION REPORT Test # E53

NAME: P. VOLANTE

DATE: 1-17-71

PROGRAM/REV: LUM. 207 PCR/ACB/ANOMALY: L-1D-A

PURPOSE: VERIFY ANOMALY REPAIR

MISSION PHASE: RENDEZVOUS

PROGRAMS USED: P20

DURATION: ~~10 MIN.~~

TEST DESCRIPTION:

NOMINAL P20 RUN WITH RESTARTS AT VARIOUS POINTS IN R22 AND R65 - WATCH FOR SPURIOUS CALLS TO R60.

RESULTS: 9 RESTARTS OCCURED WITH NO CALLS TO R60 -

COMMENTS: ANOMALY REPAIR VERIFIED -

DISPOSITION:

P. Volante

SIMULATION REPORT Test # E61

NAME: McCoy

DATE: 1/26/71

PROGRAM/REV: Lum 209 PCR/ACB/ANOMALY: L-1D-25

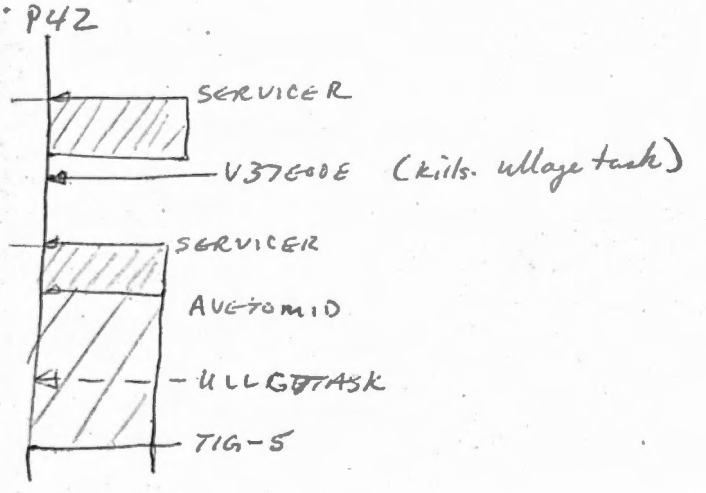
PURPOSE: test that V37 kills ullage task if average G on

MISSION PHASE: P40, 42, 63 ↑ powered flight

PROGRAMS USED: ↓

DURATION: 10 min

TEST DESCRIPTION:



RESULTS:

ullage task did not occur even though TIG-5 task did

COMMENTS:

consider this test verifies anomaly fix

DISPOSITION:

ORIGINAL

SIMULATION REPORT. Test # E55

NAME: S. Albert

DATE: 12/18/70

PROGRAM/REV: LUM/202 PCR/ACB/ANOMALY: ~~PCR 335~~ L-28 ~~L-43~~

PURPOSE: see below

MISSION PHASE: Landing

PROGRAMS USED: P63, P64

DURATION: 1½ hr

TEST DESCRIPTION:

PCR: 335 - Remove alignment option from P63: Trace to see that program does not go to R51 P63; eyeball test to see that V50 N25 does not come up on DSKY.

L-28: Remove LRPOS init. from P63: Trace from P63SPOT4 to see that coding has been deleted.

L-43 Delay enabling of redesignator INHINT until PROCEED on V06 N64: Trace at STARTP64 and P64CGED to insure that INHINT coding has been moved.

RESULTS:

~~All deletions and changes were~~ coded correctly. ~~According to V50 N25 did not come up on the DSKY in P63.~~

COMMENTS:

DISPOSITION:

SIMULATION REPORT

Test # 55b

NAME: Dave Moore

DATE: 18 Dec 1970

PROGRAM/REV: Luminary 200 PCR/(ACB)/ANOMALY: L29

PURPOSE: Change 2 lines code @ Moonpot & Moonpot +1; TC DMP.

MISSION PHASE: Lunar Landing

PROGRAMS USED: P63-P64 (R12-Servicer)

DURATION: ~~10 min~~.

TEST DESCRIPTION: Trace coding where TC DMP, ADRES KPIP1 coding is. Make sure KPIP1 gets both low & high order words in to make precision good. KPIP1 is a ~~[illegible]~~ double-precision word, constant, to get final value of DVTOTAL for DISPLAYS. The error encountered is .3% relative if only high order word is used.

RESULTS: ~~[illegible]~~

COMMENTS: The Luminary memo # 166 discussed precision problem and recommended action described in L29. Coding implemented and tested.

This ACB test is complete.

DISPOSITION:

David H. Moore

SIMULATION REPORT Test # E57

NAME: Dave Moore

DATE: 18 Dec 70

PROGRAM/REV: Luminary 200 PCR/(ACB) ANOMALY: L30

PURPOSE: Move MOONSPOT to TC TMPTOSPT position

MISSION PHASE: Lunar Landing

PROGRAMS USED: P63-P64 (Servicer-R12)

DURATION: ~~10 min~~

TEST DESCRIPTION: Put trace on MOONSPOT location in listing; see that instruction is implemented as desired. Look at listing and see MOONSPOT tag in right place

RESULTS: The trace showed a TC TMPTOSPT instruction implemented as desired

COMMENTS:

This ACB test is completed

DISPOSITION:

David H. Moore

SIMULATION REPORT Test # E58

NAME: SUMNER ROSENBERG

DATE: 12-18-70

PROGRAM/REV: COM 190 PCR/ACB/ANOMALY: L 31

PURPOSE: DOWNLINK = LIST TO REFERENCE DOWNLINK ERASABLES NOT REFERENCED DIRECTLY

MISSION PHASE: —

PROGRAMS USED: —

DURATION: ~~15 MN OF NORMAL REFERENCE (LGC)~~

TEST DESCRIPTION: EYEBALL LISTS (THEY HAVE ABSOLUTELY NO EFFECT ON AGC CODE)

RESULTS: OK

COMMENTS:

DISPOSITION:

SIMULATION REPORT

Test # 557

NAME: SUMNER ROSENBERG

DATE: 12-15-70

PROGRAM/REV: LUM 190 PCR/ACB/ANOMALY: L 37

PURPOSE: CHECK = LIST TO KEEP ERASABLES IN SPECIFIC RELATIVE LOCATIONS.

MISSION PHASE:

PROGRAMS USED: –

DURATION: ~~25 MIN NUMAN E...~~

TEST DESCRIPTION: EYEBALL LISTS

RESULTS: OK

COMMENTS: THIS HAS NO EFFECT ON AGC CODE

DISPOSITION:

SIMULATION REPORT. Test # E60

NAME: CRAIG WORK

DATE: 8 JAN 1971

PROGRAM/REV: LUM 202 PCR/ACB/ANOMALY: ACB L-33

PURPOSE: Verify new TRAP values loaded in FRESH START

MISSION PHASE: LM active.

PROGRAMS USED: NA

DURATION: ~~13½ minutes, Marsat 355 22 302~~

TEST DESCRIPTION: After completing test on PCR 1134, the terminal dump of LGC memory was examined to verify that the new value of the TRAP was being used, not the old value.

RESULTS: Satisfactory.

COMMENTS: None.

DISPOSITION:

Craig Work

_____

_____

SIMULATION REPORT.

Test # ABT1.
E-61

NAME: BERNIKOWICH, WALTER

DATE: 9/30/70.

PROGRAM/REV: Luminary/181 PCR/ACB/ANOMALY: ~~NEW~~ L-34

PURPOSE: LEVEL 4 TEST in checking erasable movement

MISSION PHASE: Abort/Abort Stage from Descent (J2K2 Target

PROGRAMS USED: P00, P63, P64, P70, P71, P00, P20, P34

DURATION: ~~1 hour 43 min. digital~~

TEST DESCRIPTION:

1. Descent to 7000 feet altitude with V57 used.
2. Lem Abort button pushed.
3. Display N76, N77, N85 in ascent.
4. Abort Stage button pushed upon DPS depletion (V97,
5. Display N76, N77, N85 at various times in the ascent
6. Monitor N63 and N85 after APS engine cut off.
7. Select P00, then P20, and P34.
8. At UPTHROT dump FLAGWRD9, and ITRACE on INJTA.
   — verify J2K2 target parameter selectio.

RESULTS:

All parts of test completed satisfactorily.

COMMENTS:

Ran with 10% TLOSS, 22 downrupts were lost.
Obtained and Analyzed edits, plots, and the downlink edit.

DISPOSITION:

SIMULATION REPORT

Test # ~~ABT-12~~ L62

NAME: BERNIKOWICH, W.

DATE: 10/17/70.

PROGRAM/REV: Luminary/163 PCR/ACB/ANOMALY: ~~NB~~ L-34

PURPOSE: LEVEL 4 TEST in checking erasable movement

MISSION PHASE: ABORT/ABORT STAGE FROM DESCENT (J2K2)

PROGRAMS USED: P00, P63, P64, P70, P71, P00, P20, P34

DURATION: ~~1 hour 40 min. digital~~

TEST DESCRIPTION:

1. At 7000 feet altitude, Abort (P70)
2. Request DSKY display of N76, N77, N85.
3. Anticipate V97, then Abort Stage (P71)
4. Monitor N76, N77, N85 values.
5. Check injection conditions: N63, N85.
6. Request P00, then select P20, and P34.
7. Dump FLAGWRD9 at UPTHROT and ITRACE on INJTAR — verify that J2K2 parameters were chosen.

RESULTS:

All parts of test completed satisfactorily

COMMENTS:

Ran with 10% TLOSS, 13 downrupts were lost
Analyzed edits, plots, and the downlink edit.

DISPOSITION:

SIMULATION REPORT Test # E62

NAME: SUMNER ROSENBERG

DATE: 12-15-70

PROGRAM/REV: LUM 178, 185 PCR/ACR/ANOMALY: L34 ~~PART 2~~

PURPOSE: REDEFINE IN ERAS LOC SECTION THOSE TAGS DEFINED IN OTHER LOC SECTIONS

MISSION PHASE: —

PROGRAMS USED: —

DURATION: ~~ONE HOUR SUPERMAN EFFORT~~

TEST DESCRIPTION: EYEBALL TO SEE THAT THESE TAGS ARE STILL OCCUPYING SAME ERASABLE ADDRESSES.

RESULTS: OK

COMMENTS:

DISPOSITION:

SIMULATION REPORT Test # E64

NAME: Pat White

DATE: 23 Nov 1970

PROGRAM/REV: Luminary 181 PCR/ACB/ANOMALY: L-34

PURPOSE: ~~P76 test~~ Level 4 test to check of erasable movement

MISSION PHASE: Luminary 1E

PROGRAMS USED: P00, P25, P52, P20, P72, P76, P75, P73

DURATION: 142 min

TEST DESCRIPTION: Start of Level 4 CSM active rendezvous test to prove that P76 still operates successfully after erasables were moved

also check P25

RESULTS: OK. The Rendez edit (as well as the simulation) shows that P76 is operating Correctly.

COMMENTS:

DISPOSITION: ~~Test to Bmoc~~

Pat White

SIMULATION REPORT. Test # ~~P66~~ E65

NAME: White, Pat

DATE: 16 Dec 1970

PROGRAM/REV: Luminary 202 ~~PCR~~/ACB/~~ANOMALY~~: L34

PURPOSE: ~~Level 3 test~~ Test erasable movement

MISSION PHASE: Luminary 1E

PROGRAMS USED: P00, P20, R05, R30, R31, R36, R47, V85

DURATION: 4 minutes

TEST DESCRIPTION: Use extended verb 85 and routines R05, R30, R31, R36 and R47 during P20 (range greater than 400 n.m). Call V16 N54 at beginning and end of test to determine that it is correctly calculated.

RESULTS: Reasonable results based upon ENVSUM and R05 edit

COMMENTS:

DISPOSITION: Houston

Pat White

E66
P22

SIMULATION REPORT Test #

NAME: WHITE, Pat

DATE: 14 DEC 1970

PROGRAM/REV: Luminary 195 PER/ACB/~~ANOMALY~~: L34

PURPOSE: ~~Level 3 test~~ test erasable movement

MISSION PHASE: Luminary 1E

PROGRAMS USED: P68, P22, R05, R30, R31, R36, R47, V85

DURATION: 3 minutes

TEST DESCRIPTION: P22 with range greater than 400 n.m use extended verb 85 and routines R05, R30, R31, R36 and R47 to prove that erasable changes have not caused errors. Call V16N54 at beginning and end of test to determine that it is correctly calculated.

RESULTS: Reasonable results based upon ENDSUM and R05 edit.

COMMENTS:

DISPOSITION: Houston

Pat White.

Millard
9/30/70
Lunn 181
Level 4 test to check Ensemble movement
Lunar Surface Align (057)

Result
test Satisfactory

Dunbar
7/30/70
Lum 181 ACB L-34
Level 4 test to check Erasable movement
Lunar Surface Nav & Ascent (P22, P12)

Result: Test Satisfactory

E69

Albert

9/30/70

Lunar 181 ACB L-34

Level 4 test to check erasable movement

Landing (P63, P64, P66)

Result Test Satisfactory

SIMULATION REPORT. Test # E70

NAME: S. Albert

DATE: 12/18/70

PROGRAM/REV: LUM/202 PCR/ACB/ANOMALY: ~~340/343~~ ~~319~~ L-35

PURPOSE: see below.

MISSION PHASE: Landing

PROGRAMS USED: P63, P64

DURATION: 1½ ~~(same test as other Rev 202 landings)~~

TEST DESCRIPTION:

PCR 319: True ΔH on downlist: Dump ~~DELTAH and~~ TRUDELH after terrain model and compare with words 2 & 3 of Desc/Asc downlist. Observe DELTAH and TRUDELH after terrain model is turned off by entry to P66.

PCR 340/343: See that LATVEL polarity has been restored to old value. Trace LAD coding to see that coding has been changed from "CS's" back to "CA's"

L-35: ITrace after RE-IN66 to see that coding stores triple precision in OLDPIPAX.

RESULTS:

319: The values in words 3 & 4 of the downlist compared exactly to those for the same time periods in the AGC edit.

COMMENTS:

When the terrain model is discontinued at P66 entry, DELTAH and TRUDELH are identical.

340/343: Trace showed that coding has been restored to previous version

L-35: Itrace showed that a TLOAD was being done into OLDPIPA

DISPOSITION:

SIMULATION REPORT

Test # E71

NAME: PAT WHITE

DATE: 18 NOV 1970

PROGRAM/REV: LUMINARY 185 ~~PCR~~/ACB/~~ANOMALY:~~ L36

PURPOSE: Compare TMPDV & DELVLVC

MISSION PHASE: Lum 1E

PROGRAMS USED: P34

DURATION: ~~1 sec~~.

TEST DESCRIPTION:

P34 Level 3 test to compare coastal dump for location TMPDV and DELVLVC

RESULTS: identical

COMMENTS:

DISPOSITION: ~~Test to Houston~~

Pat White

_____

_____

SIMULATION REPORT Test # E-72

NAME: VIRGINIA DUNBAR

DATE: JAN. 19, 1971

PROGRAM/REV: LUM 195 PCR/ACB/ANOMALY: L-38

PURPOSE: FLAG CHEAN IN V56

MISSION PHASE: RENDEZVOUS

PROGRAMS USED: P20

DURATION: ~~9.45 MINS~~.

TEST DESCRIPTION:
Entered V56, when flashing V37 appeared reselected P20. Allowed P20 to run until lock-on and radar read complete, re-entered V56 and terminated P20.

RESULTS: Flag settings at both occurance of V56 are in accordance with desired change.

COMMENTS:

DISPOSITION:

SIMULATION REPORT. Test # E73

NAME: Sumner Rosenberg

DATE: 12-15-70

PROGRAM/REV: Luminary 185 PCR/ACB/ANOMALY: L 39

PURPOSE: CHANGE A CADR TO AN ADRES FOLLOWING A TC TWIDDLE IN RNDSAMP

MISSION PHASE: —

PROGRAMS USED: —

DURATION: ~~5 seconds (only one eye)~~

TEST DESCRIPTION: EYE BALL

RESULTS: OK

COMMENTS:

DISPOSITION:

~~B. McCoy~~

SIMULATION REPORT Test # E74

NAME: CRAIG WORK

DATE: 6 JAN 71

PROGRAM/REV: LUM 202 PCR/ACB/ANOMALY: L-41

PURPOSE: Verify 1/ACCS coding change

MISSION PHASE: LM active

PROGRAMS USED: LUMINARY 202

DURATION: ~~13½ minutes~~

TEST DESCRIPTION: Although the run was primarily used to check out PCR 1134, clocks in the SPSCONT coding show that QACCDOT and RACCDOT values have sign agreement with previous values, as far as this coding is concerned. This works for positive, negative and zero previous values. No reference to the gimbal drive channel is made.

RESULTS:

Completely satisfactory and correct.

COMMENTS:

~~Tape B104792, Massnet 35522302 was used for several tests as well as this test, and will be referred to in later reports.~~

Craig Work

DISPOSITION:

SIMULATION REPORT

Test # E7.2

NAME: S. Albert

DATE: 12/18/70

PROGRAM/REV: LUM / 202 PCR/ACB/ANOMALY: ~~PCR 335~~ ~~L-28~~ L-43

PURPOSE: see below

MISSION PHASE: Landing

PROGRAMS USED: P63, P64

DURATION: ~~1½ hr~~

TEST DESCRIPTION:

PCR: 335 - Remove alignment option from P63: Trace to see that program does not go to R51 P63; eyeball test to see that V50 N25 does not come up on DSKY.

~~L-28 Remove LRPOS init. from P63: Trace from P63SPOT4 to see that coding has been deleted.~~

L-43 Delay enabling of redesignator INHINT until PROCCED on V06 N64; Trace at STARTP64 and P64CEED6 to insure that INHINT coding has been moved.

RESULTS:

~~PCR deletions and~~ changes were coded correctly. ~~Accordingly the V50 N25 did not come up on the DSKY in P63.~~

COMMENTS:

DISPOSITION:

SIMULATION REPORT

Test # E76

NAME: SUMNER ROSENBERG

DATE: 12-15-70

PROGRAM/REV: LUA 202 PCR/ACB/ANOMALY: L-45

PURPOSE: CLEAR INTYPFLG PRIOR TO INTEGRVS CALL IN P21 RECYCLE OPTION

MISSION PHASE: —

PROGRAMS USED: P21

DURATION: HYBRID - 2MIN

TEST DESCRIPTION: DO V37 E 21 E, AT N43 DO V83 E, AT N54, PROCEED GET N43, DO V32 E. SEE THAT THIS PROCEDURE HAS NO PROBLEMS

RESULTS: OK - COMPLETED W/ NO ALARMS, ETC.

COMMENTS:

DISPOSITION:

SIMULATION REPORT Test # E72

NAME: McCoy

DATE: 1/20/71

PROGRAM/REV: Luminary 208 PCR/(ACB)/ANOMALY: L-46

PURPOSE: Verify INHINT instruction removed

MISSION PHASE: Alignments

PROGRAMS USED: P52, 57

DURATION: N/A

TEST DESCRIPTION:

1. Visual inspection of coding in AOTMARK
2. Any Aligment (test of PCR 1044-rev 202)

RESULTS:

verified INHINT was removed correctly.

COMMENTS:

DISPOSITION:

ORIGINAL

B. McCoy

SIMULATION REPORT Test # 878

NAME: CRAIG WORK

DATE: 6 JAN 1971

PROGRAM/REV: LUM 20.2 PCR/ACB/ANOMALY: ACB L-47

PURPOSE: Verify new P-axis minimum impulse coding.

MISSION PHASE: LM PGNCS

PROGRAMS USED: N A

DURATION: ~~13½ min~~

TEST DESCRIPTION: ~~JOB B104772, Marcot 35522302~~
P-axis minimum impulse control was exercised by the astronaut. Response was satisfactory and correct for positive and for negative pulses.

RESULTS: Excellent.

COMMENTS: ~~None.~~

Craig Work

DISPOSITION:

E3

LEVEL 3 TEST REPORT
1/19/71
LUMINARY REV 202
PCR: ~~1044~~, 333

PURPOSE:

Verify backup sighting mark capability during inflight IMU alignments (P52).

TEST DESCRIPTION:

A digital simulation of the inflight alignment program P52 was made using the REFSMMAT option. The lunar surface sighting technique was selected to perform the fine align star sightings and the ROD switch was activated to perform the cursor and spiral marks.

TEST RESULTS:

The sighting data test NOUN 05 = .00
The final alignment accuracy was less than .01 degrees on each axis.

D Mitchell

SIMULATION REPORT

Test # E4

NAME: McCoy

DATE: 12/28/71

PROGRAM/REV: ~~P66~~ LUM209 (PCR)/ACB/ANOMALY: 533

PURPOSE: test ROD function

MISSION PHASE: landing

PROGRAMS USED: P66

DURATION:

TEST DESCRIPTION:

ROD activity during P66

a. + 5 ROD Clicks

b. − 5 ROD Clicks

RESULTS: performance as expected

a. $\Delta \dot{H}$ 5 fps upward

b. $\Delta \dot{H}$ 5 fps downward

COMMENTS:

DISPOSITION:

SIMULATION REPORT

Test # E1

NAME: VIRGINIA DUNBAR

DATE: JAN. 19, 1971

PROGRAM/REV: LUM. 195 PCR/~~ACB/ANOMALY~~: 317.2

PURPOSE: Rescaling N78 containing range and range rate and N49

MISSION PHASE: RENDEZVOUS

PROGRAMS USED: P20

~~DURATION: 9:45? mins.~~

TEST DESCRIPTION: Entered N16 N78 shortly after beginning P20. Received N49 in this run

RESULTS: Scaling of range and range rate is correct for N78 and N49

~~COMMENTS:~~

~~DISPOSITION:~~

SIMULATION REPORT

Test # ~~E-2~~

NAME: S. Albert

DATE: 12/18/70

PROGRAM/REV: LUM/202 PCR/ACB/ANOMALY: ~~340/343~~ 319 ~~L-35~~

PURPOSE: see below

MISSION PHASE: Landing

PROGRAMS USED: P63, P64

DURATION: ~~1½ (some test as abv. Rev 202 landing)~~

TEST DESCRIPTION:

PCR 319: True ΔH on downlist: Dump DELTAH and TRUDELH after terrain model and compare with words 2 & 3 of Desc/Asc downlist. Observe DELTAH and TRUDELH after terrain model is turned off by entry to P66.

PCR 340/343: See that LATVEL polarity has been restored to old value. Trace LAD coding to see that coding has been changed from "CS's" back to "CA's."

L-35: ITrace after RE-IN66 to see that coding stores triple precision in OLD PIPAX.

RESULTS:

319: The values in words 3 & 4 of the downlist compared exactly to those for the same time periods in the AGC edit. When the terrain model is discontinued at P66 entry, DELTAH and TRUDELH are identical.

COMMENTS:

340/343: Trace showed that coding has been restored to previous version.

L-35: Trace showed that a TLOAD was being done into OLD PIPAX.

DISPOSITION: