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LUMINARY Memo #188

To: Distribution
From: D. Densmore
Date: 20 December 1970
Subject: Luminary Revision 193

The following changes were incorporated into Revision 193: PCR 334 rev. 1, PCR 1124 (fix to L-1D-15), further implementation of PCR 324, PCR 336, PCR 1091, and Anomaly L-1D-12.

1) PCR 334 Rev. 1 (Change DSKY Descent/Ascent Nouns).

- a) N63 R1 was changed to display LR Altitude minus computed Altitude (DELTAH) instead of Absolute Value of Velocity (ABVEL).
- b) N68 R1 and R2 were changed. R1 now: SM z-axis range to landing site (RANGEDSP). R1 before: Slant Range to Landing Site (same tag). R2 now: Absolute value of Velocity (ABVEL). R2 before: Time to go in braking phase (TTEDISP).
- c) N77 R2 and R3 were changed. R2 now: VGY in body coordinates (VGBODY +2). R2 before: Velocity normal to CSM Plane (YDOT). R3 now: Absolute value of velocity (ABVEL). R3 before: Spare component.
- d) N94 was a spare noun. It was defined as follows.
R1: VGX in body coordinates (VGBODY).
R2: Altitude rate (HDOTDISP).
R3: Computed Altitude (HCALC).

These nouns were entered into the appropriate Pinball Noun Tables (NNADTAB for Mixed Nouns, NNTYPTAB for Mixed Nouns, IDADDTAB, and RUTMXTAB) and the appropriate Assembly and Operations Noun Tables (Mixed Noun table with number of components, scaling, and restrictions; and Registers and Scaling table for Mixed Nouns).

2) PCR 334 Rev. 1 (cont.).

LLGE was changed as follows.

- a) The new display value for R1 of N68 is stored in RANGEDSP (see item 1. b).
- b) A test is made on LRINH flag to see if LR updates are permitted. If so a static V06 N63 display is put up. If not a flashing V06 N63 is set up for which the only correct response is V57E (Keeps flashing on any other response).

3) PCN 1124 (fix to L-1D-15).

- a) Coding in FLÄGS routine called by POODOO was changed to reset TRACKFLG, RNDVZFLG, and P25FLAG on a POODOO abort. (POODOO is the only routine that calls FLAGS.) Formerly a POODOO abort while P20 was running in the background would have killed P20 by clearing its restart groups -- but because RNDVZFLG was still set P20 wouldn't have been reestablished and no computation, tracking or mark processing would have been performed.
- b) The routine FLAGS (called via BANKCALL) was moved from Bank 13 to Bank 21 where there would be room to add the 6 words necessary to implement this PCN. The routine was 10 words long originally.

4) PCR 324 (PGNCS to AGS data transfer).

Comments on RANGRDOT and RANGRDOT +1 on the Rendezvous list sublist #7 were incorrect. They were changed to reflect the new values put on the list by this PCR.

5) PCR 336 (Remove V06N18 display from R60).

R60 was changed to reference "FLAGWRD5" when using PDSPFLAG. The flag was moved from flagword 4 to flagword 5 (See Luminary Memo #185, item #2(b)).

6) PCR 1091 (Priority display light on DSKY).

A keypunch error in DIR ("DSTAB") was corrected.

7) Anomaly L-1D-12 (V41 doesn't work).

A "TCF GOPIN" was erroneously deleted when the fix to this anomaly was put in. It was put back in at the end of NOREMODE in V44.

GSOP Impact:

The following items should be examined for impact on the various GSOP sections:

Section 2 Items 3, 5.

Section 4 Items 1, 2, 3.

Section 5 Item 2.