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MEMO

TO: Russ Larson
FROM: Peter Weissman
DATE: 11 November 1970
SUBJECT: Proposed Refinements for P99

*Russ,
Please review Dave's
LUM. Memo #199 in
light of this note.
W*

I would like to propose two minor revisions to P99, the erasable memory program for a guided RCS burn described in Covelli's LUMINARY Memo #168. These changes are superfluous if the program is used in Apollo 14 for guiding the almost-empty staged LM, but are rather desirable under other circumstances.

The first change is the clearing of DRIFTBFL (DAPBOOLS/bit 8) at "ignition" in order to allow the autopilot to estimate angular acceleration. This is done by all the burn programs and was inadvertently omitted from P99IGN by Covelli. The bit is reset in the "engine-off" sequence. The clearing of the bit is not important for the light-ascent configuration because the center of gravity is very near the vehicle centerline, so that the bias acceleration is very small (provided there are no failures among the +X jets).

The second change is the selection of the Orbital Maneuvers downlist by P99. There are no DAP parameters that do not appear on the Coast and Align list in LUMINARY 1D, but PCR 1121 removes the angular acceleration estimates from this list in LUMINARY 1E. Since the acceleration estimates may be required for real-time or post-flight analysis, P99 should be modified to select the proper list,