R. Larson

Mission Techniques Memo #28D

TO: Distribution
FROM: Malcolm W. Johnston
DATE: July 9, 1969
SUBJECT: "G" Descent

1. On page 4.2 of this Mission Techniques document (the June 23rd revision) the pre-PDI Suncheck is described along with the rationale behind the selection of 0.25° as the misalignment indication threshold necessary to no-go PDI. MIT agrees with the rationale and the threshold, (though it, perhaps, is a bit conservative).

2. On page 4.11 and figures 4.1 and 4.2, maximum allowable PGNCS/LR ΔH data is presented. MIT has not verified this data, though it appears reasonable.

3. Paragraphs 4.2.8 and 4.2.9 on pages 4.16 and 4.20 mention abort cues based on "commanded thrust reversals prior to TG+1 min 20 sec in P63" and "no throttle down by P63 to P64 program change plus 15 secs". In both cases, A. Klump (MIT) has observed successful runs that have failed these tests and unsuccessful runs that have passed the tests. His suggestion is that later flights utilize his RTCC "impact predictor" scheme, which will eliminate the problem.

4. On page 5.9, the Note calls for aborts during descent if att. errors or rates $> 5^{\circ}$ or 5°/sec. LR updates, visibility phase pitch up maneuvers, etc. could greatly exceed these values (maybe as much as 20° and/or 20°/sec).

5. The logic and abort criteria (such as velocity residuals) shown on page 5.10 and in appendix A has been under review by R. White (MIT), and his written conclusions will be sent ASAP. Verbal dialogue has been maintained with R. Nobles and C. Graves (MSC) and general agreement on proper techniques has been reached.

6. On page 5.16, "initial P64 TG equals 2 min 50 secs ± 20 secs" is O.K.! (Though successful landings have been run outside this limit).

7. On page 5.19, the LR Data Good verification procedure is O.K., except that it is "not applicable to altitude data in P63." Note 1 at the bottom of the page should be changed accordingly.

8. MTM #28C, item #3 mentioned that R47 (AGS Initialization) may be called during Descent. It may be called, but it will improperly initialize the AGS!! (This is true whenever average G is on).

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