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LUMINARY Memo #133

To: Distribution
From: P. Volante, V. Dunbar
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Subject: Implementation of PCR 287

PCR 287 calls for eliminating the 526 alarm (range to CSM greater than 400 N.M.) from P20 and P22, and replacing it with a display of range and range-rate (Noun 54) until the range is less than 400 N.M. Since P20 runs in the background with other programs (e.g. P32) any display from P20 must be priority to avoid conflicts in accessing the DSKY. But a priority display of range and range rate which stays up as long as the CSM is out of range effectively prevents anything else (like P32) from being done. To resolve this problem, the PCR was implemented as follows:

In P22, if the range is greater than 400 N.M., a normal (non-priority) non-flashing display of range and range rate (V16N54) is made, with new values computed every 5 seconds. When the range is less than 400 N.M., the display is taken down and normal processing continues in P22.

In P20, if the range is greater than 400 N.M., the alarm light is turned on and code 526 stored for display. Then range and range-rate are computed every 5 seconds; they can be called up by keying in V16 N54. When the range is less than 400 N.M., the computation of range and range rate ceases and normal processing continues in P20.

See attached flow chart for details.

Notes: A. In P22 range can always be greater than 400 N.M., but in P20 it never is for a nominal rendezvous situation (it could possibly be greater in abort cases).

B. R3 of Noun 54 (Theta angle in R31) is always set to zero.

C. In case of a restart the display or alarm is re-established, depending on whether it is P22 or P20.

D. The alarm light is only turned on the first time through; it will not recur unless a restart recurs.

PCR 287
P20 AND P22