NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

APOLLO 17

ALL LAUNCH DATES

CHANGE A

FLIGHT CREW G&N DICTIONARY

PREPARED BY

FLIGHT PLANNING BRANCH
CREW PROCEDURES DIVISION

MANNED SPACECRAFT CENTER
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PREPARED BY: Thomas H. Kaiser
T. H. KAISER
BOOK MANAGER

APPROVED BY: John W. O'Neill
for T. W. HOLLOWAY, CHIEF
MISSION OPERATION SECTION
CREW PROCEDURES DIVISION

It is requested that any organization having comments, questions, or suggestions concerning this document contact T. H. Kaiser, Flight Planning Branch, CG5, Building 4, room 231, telephone 483-4271.

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EMP'S GENERAL

START: V31E (TLM PCM-HI Required For All EMPS)

STOP: V74E
V37EXXE

103A - See EMP 103A Step 5

EMP 103A Permits PGNS Operation With Static CDUY (Pitch) and/or CDUZ (Roll) Failure

EMPS
CDU FAIL P52

Control Modes: Coasting flight - V76 OK, DAP unstable at some attitudes. Powered flight - see below

XPTRS: PGNS, LR Normal

Error Needles: Invalid

For PDI:

1. Fly AGS-ATT HOLD with PGNS MODE CONT-OFF
2. Manual ullage, manual start required
3. After throttle up, fly N87 and maintain YAW = 0 ± 5°

   V16N87 R1 Desired Pitch (.01°)
   R2 Desired Roll

4. Do not PRO on P64 (no redesignation)
5. If ABORT required because AGS control lost, do following:

   V36E (No DAP for 12 sec)
   Select PGNS - ATT HOLD
   Failed axis - DIR
   Maintain YAW = 0 ± 5°
   After staging V48 (11002)

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EMP 103B Permits PGNS Operation With Static or Dynamic CDUX (Yaw) Failure

Control Modes: YAW must be DIRECT. PGNS-ATT HOLD or AUTO OK if YAW maintained = 0 ± 5°

XPTRS: PGNS - DNRNG, XRNG
LR - Body

Error Needles: Pitch, Roll valid, Yaw invalid

For PDI:

1. Fly PGNS AUTO or ATT HOLD, YAW DIRECT
2. Maintain YAW = 0 ± 5°
3. Redesignation possible
   Downrange - Normal
   Crossrange - Window Pointing Lost

EMPS
CDU FAIL P52

EMP 107 Provides Display Of Raw LR H & HDOT On DSKY For Tape Meter Failure

1 V16N99 R1 SLANT LR ALT (ft)
(Good If ALT Lt-Off)
R2 SLANT LR HDOT (.1fps)
(Good If VEL Lt-Off,
Updated Once/6 sec)
R3 PGNS HDOT (.1fps)

2 EMP Must Be Activated After AVE G On

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EMP 109 Allows P20 To Operate In Update Mode Under The Following Conditions

1 Static Or Runaway RR CDU (Maintain Boresight ± 0.5° During MARKS; V41N72 Won't Work)

Or 2 Presence Of RR CDU FAIL Discrete

Or 3 RR MODE-LGC Discrete Failure

NOTE: Manual Acquisition Required In P20

EMP 111 Detects CDU Transient and Stores Last Valid CDU Value

1 PROG Lt-On
V5 N9E, 15XXX CDUX
16XXX CDUY
17XXX CDUZ

2 V15N1E, 1373E
R1 15CDE (CDE=No. Of Failed
R2 16CDE Passes)
R3 17CDE

3 V40N20 & V41N20 Useable

NOTE: Max CDU Error Induced By Each Transient = ± 2.5°

CDU FAIL P52

1 CB(11) AC BUS A: AOT LAMP - Close
V37E52E
F 04 06 R1 00001
R2 00003
PRO

2 F 50 25 R1 00015
V32E

3 F 01 70 R1 00CDE, Load Star Code DE
PRO

4 F 06 79 CUR, SPIR (.01°)
PRO

If Adjacent Detent Desired:
V21N01E, 373E, 32533E
PRO To 4

5 F 01 71 R1 00CDE Verify Detent & Star Code
PRO

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6 F 52/3 71 NOTES: 1. INFLIGHT, Maintain FDAI=0 In Failed CDU Axis At Time Of Mark
2. SURFACE, CAGE IMU
3. Take 3 CUR & 3 SPIR Marks On Each Star

(V52) Position CUR, MARK
(V53) Position SPIR, MARK
F 21/2 79 Load CUR or SPIR (.01°)
F 06 79 CUR, SPIR
PRO To 6

NOTE: After Last MARK On Each Star, DO NOT PRO On F 52/3 Until The Following Has Been Performed:

V1 N1E, 1307E, Verify R1 _____(MARK VAC ADR)
(455)
V24 N1E, XXXE, E, E
V24 N1E, YYYE, E, E
V24 N1E, ZZZE, E, E

NOTE: XXX, YYY, & ZZZ Are Defined As:
MARK VAC ADR + ΔADR For Failed CDU
(OCTAL ADDITION)

	ΔADR & (XXX)	ΔADR & (YYY)	ΔADR & (ZZZ)
CDUY	0 (455)	10 (465)	20 (475)
CDUZ	2 (457)	12 (467)	22 (477)
CDUX	4 (461)	14 (471)	24 (501)

(After 1st Star) PRO To 3
(After 2nd Star) PRO To 7

7 F 06 05 Angle Difference (.01°)
PRO

DATE _____

8 F 06 93 Gyro Torquing Angles (.001°)
PRO
NOTE: PROG Alarm 00217 May Occur, RSET & Ignore

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9 F 50 25 R1 00014
ENTR

10 F 37