P20 - Opt 2 (PTC/Orb rate)

1  F 04 06 V37E 20E
   R1 00024 TRACKING OPTION
   R2 00000
   Load 2 in R2
   PRO

2  F 06 78 AXIS YAW, AXIS PITCH, OMICRON
   (0.01°)
   Load values (OMICRON ignored)
   PRO

3  F 06 79 RATE, DEADBAND, Blank
   (0.0001°/sec, 0.01°)
   Load desired values
   PRO

4  F 06 34 START TIME
   (hrs,min,.01 sec)
   Load desired GET
   (all 0's for present time)
   PRO

5  Maneuver starts at requested GET

Selection of the following programs will
not stop rotation:
   P21, P22, P24, P27, P29,
   P30
   P52, P54
   P72-P75
PASSIVE THERMAL CONTROL (G&N)

RHC - Locked
FDAI SCALE - 5/1
RCS DAP - Activated

1 V48E (Select 0.5° DB)
    V37E 00E
    V49E

2 F 06 22 Load PTC Attitude
    R - Present
    P - 90° (TLC) or 270°
    Y - 0° (TEC)
    PRO

3 F 50 18 BMAG MODE (3) - RATE 2
    SC CONT - CMC
    CMC MODE - AUTO
    PRO

4 06 18 AUTO MANEUVER
    F 50 18

5 Damp vehicle rates:
    ENTR
    Disable all jets on two adjacent quads

    Wait 20 minutes for rates to damp
    AUTO RCS SEL (2) - MNA or MNB as follows:
    +ROLL -ROLL
    A1,C1 A2,C2
    or B1,D1 or B2,D2
    Remaining AUTO RCS SEL (14) - OFF
    MAN ATT (ROLL) - RATE CMD

6 Perform P20, opt-2 (p. G/8-1)
    Use 0,0,0 in N78
    Use .42/sec and .5° in N79
    Prior to final PRO: cycle CMC
    MODE - FREE/AUTO
    After one jet firing:
    MAN ATT (ROLL) - ACCEL CMD
Disable RCS and Term. P20
AUTO RCS SEL (16) - OFF
ROT CONTR PWR DIR (2) - OFF (verify)
V56E

To exit G&N PTC to new att:
1. CMC MODE - FREE
2. AUTO RCS SELECT (12) - MNA/B
3. Verify PQQ
4. MAN ATT (3) - RATE CMD
5. CMC MODE - AUTO
   (PTC rates will stop)
6. V49E to new att.

PASSIVE THERMAL CONTROL (SCS)

SCS - operating
S/C CONT - SCS
ROT CONTR PWR NORMAL #2 - AC/DC

MAN ATT (3) - RATE CMD
LIMIT CYCLE - on(up)
DEADBAND - MIN
RATE - LOW
BMAG MODE (3) - ATT 1/RATE 2

AUTO RCS SEL -
  Configure for single jet operation
(Wait 20 min to allow rates to damp)

FDAI SCALE - 5/1
MAN ATT (ROLL) - ACCEL CMD or MIN IMP
DEADBAND - MAX
RATE - HIGH

Enable jet couple in roll
Initiate Desired Roll Rate

AUTO RCS SEL (16) - OFF
ROT CONTR PWR DIR (2) - OFF (verify)
BMAG MODE (3) - RATE 2
TERMINATE PTC

AUTO RCS SEL (12) - MNA/B Null Rates

PITCH ORBIT RATE MANEUVER (G&N)

Note: P20, opt 1 or 5 (p. G/3-1) may also be used to achieve orb rate.

1. Establish initial attitude

2. Perform P20 Opt. 2 (p. G/8-1)

3. To terminate: V56E

PITCH ORBIT RATE MANEUVER (SCS)

ORDEAL - initialized (p G/7-5)
SCS - Operating

1. FDAI SCALE - 5/1

2. Maneuver to desired LCL Vert Att (Roll = 7.25° or 187.25°)

3. BMAG MODE (3) - ATT 1/ RATE 2
DEADBAND - MAX
RATE - LOW
MAN ATT (ROLL, YAW) - RATE CMD
MAN ATT (PITCH) - MIN IMP

4. Establish desired Pitch Rate using MIN IMP & ORDEAL FDAI

5. To terminate:
   MAN ATT (PITCH) - RATE CMD
With active P20 opt. 2, the following MODES of suspension or termination have the effect shown:

<table>
<thead>
<tr>
<th>MODE</th>
<th>DB Centered</th>
<th>DB Source</th>
<th>Rates Nullled</th>
</tr>
</thead>
<tbody>
<tr>
<td>V56E</td>
<td></td>
<td>DAP (RO3)</td>
<td>X</td>
</tr>
<tr>
<td>V37E00E</td>
<td></td>
<td>DAP (RO3)</td>
<td>X</td>
</tr>
<tr>
<td>SC CONT-SCS</td>
<td>X</td>
<td>SCS</td>
<td>(Return to CMC re-establishes N79 db) X (Return to CMC re-establishes N79 rate)</td>
</tr>
<tr>
<td>CMC MODE-HOLD</td>
<td>Not proper HOLD func. RHC deflection recommened for HOLD</td>
<td>N79</td>
<td>(Jet firings possible)</td>
</tr>
<tr>
<td>CMC MODE-FREE/AUTO</td>
<td>X</td>
<td>N79</td>
<td></td>
</tr>
<tr>
<td>RHC deflection</td>
<td>X</td>
<td>N79</td>
<td>X</td>
</tr>
<tr>
<td>V46E</td>
<td>X</td>
<td>N79</td>
<td></td>
</tr>
<tr>
<td>V48E, PRO</td>
<td></td>
<td>DAP (RO3)</td>
<td>(Jet firings possible)</td>
</tr>
</tbody>
</table>