

08 JAN 10

Sheet 1 of 1

List of Implemented CR(s):

Assy_Ops-01934

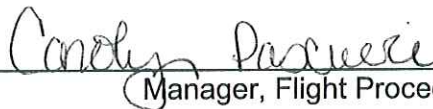
Uplinked Messages (or Approved Flight Notes) replaced by this PCN, remove from Book:

None


Incorporates the following:

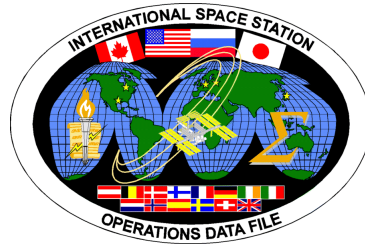
1. Replace cover
2. Replace iii thru viii
3. Replace 215 thru 260, 325 thru 336

APPROVED BY:

Courtney A. Graham
Book ManagerCandy Pasquere
Manager, Flight ProceduresK. Huse
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ACCEPTED BY:

Michael T. Hurt
SODF Manager**File this PCN immediately behind the front cover as a permanent record**



International Space Station Assembly Operations

ISS-19A

Mission Operations Directorate
Operations Division

08 JAN 10

*These procedures are available
electronically on the SODF Homepage
at <http://mod.jsc.nasa.gov/do3>*

National Aeronautics and
Space Administration

Lyndon B. Johnson Space Center
Houston, Texas



United Space Alliance

PST CODE: ASSY OPS 19A FIN 2

**INTERNATIONAL SPACE STATION
ASSEMBLY OPERATIONS
ISS-19A**

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198.....	11 NOV 09	248.....	15 DEC 09
199.....	10 NOV 09	249.....	15 DEC 09
200.....	10 NOV 09	250.....	15 DEC 09
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203.....	10 NOV 09	253.....	15 DEC 09
204.....	10 NOV 09	254.....	15 DEC 09
205.....	10 NOV 09	255.....	15 DEC 09
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207.....	22 NOV 09	257.....	15 DEC 09
208.....	TPIB	258.....	15 DEC 09
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211.....	11 NOV 09	261.....	11 NOV 09
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215.....	15 DEC 09	265.....	11 NOV 09
216.....	15 DEC 09	266.....	11 NOV 09
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**INTERNATIONAL SPACE STATION
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CUE CARD LIST OF EFFECTIVE PAGES

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GLACIER Status Check				
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OBJECTIVE:

The following steps will reconfigure various control modes within MERLIN System.

```
*****  
*  
* If Display - ***Error Pending***:  
* | Perform MERLIN ERROR MESSAGE, all (SODF: ASSY OPS:  
* | PAYLOADS), then:  
*  
*****
```

RECORDING DATA

1. ✓Display – 'HOME DISPLAY'

*
* If 'HOME DISPLAY' not shown:
* | pb Right (EXIT) → Press until 'HOME DISPLAY' appears
*

2. Record start 'CURR TEMP', start 'GPS', and any callup data in Table 5-I of [MERLIN TABLES](#) (SODF: ASSY OPS: PAYLOADS).
3. SETTING TEMPERATURE CONTROL MODE
 - 3.1 pb Left (MENU) → Press (one time), the following appears:
'MAIN MENU'
'Quick Status 1/8'
 - 3.2 pb Left (NEXT) → Press (three times), the following appears:
'MAIN MENU'
'Temp Control 4/8'
 - 3.3 pb Center (SELECT) → Press (one time), the following appears:
'MAIN: TEMP CONTROL'
'Mode 1/3'
 - 3.4 pb Left (NEXT) → Press (one time), the following appears:
'MAIN: TEMP CONTROL'
'SP Mode Options 2/3'
 - 3.5 pb Center (SELECT) → Press (two times), the following appears:
'SET PT TEMPERATURE'
'Old SP Temp: ±xx.xC'
'New SP Temp: ±xx.xC'

NOTE

1. The left pushbutton (CURSOR) moves cursor between NEW SP TEMP fields. The default cursor position will be blinking.
2. The center pushbutton (PLUS) increases NEW SP TEMP selected digit field value by 1.
3. NEW SP TEMP Range (-20.0 to +48.5° C).

3.6 Enter desired Set Point temperature per **MCC-H**.

3.7 pb Right (DONE) → Press

If Display - '**ARE YOU SURE?**'

| pb Left (APPLY) → Press (one time)

3.8 ✓Display – desired Set Point temperature per **MCC-H**

3.9 pb Right (EXIT) → press until '**HOME DISPLAY**' appears

4. CHANGING RAMP RATE

4.1 pb Left (MENU) → Press (one time), the following appears:
'MAIN MENU'
'Quick Status 1/8'

4.2 pb Left (NEXT) → Press (three times), the following appears:
'MAIN MENU'
'Temp Control 4/8'

4.3 pb Center (SELECT) → Press (one time), the following appears:
'MAIN: TEMP CONTROL'
'Mode 1/3'

4.4 pb Left (NEXT) → Press (one time), the following appears:
'MAIN: TEMP CONTROL'
'SP Mode Options 2/3'

4.5 pb Center (SELECT) → Press (one time), the following appears:
'TEMP CONTROL: SP'
'Set Point Temp 1/4'

4.6 pb Left (+PARAM) → Press (one time), the following appears:
'TEMP CONTROL: SP'
'Ramp Rate 2/4'

4.7 pb Center (SELECT) → Press (one time), the following appears:
'SET PT RAMP RATE'
'Old Ramp: xx.xC/hr'
'New Ramp: xx.xC/hr'

NOTE

1. The left pushbutton (CURSOR) moves cursor between New Ramp Rate digit fields. The default cursor position will be blinking.
2. The center pushbutton (PLUS) increases New selected digit field value by 1.
3. New Ramp Rate must be greater than zero.

4.8 Enter desired Ramp Rate per **MCC-H**.

4.9 pb Right (DONE) → Press (one time)

If Display - '**ARE YOU SURE?**'

| pb Left (APPLY) → Press (one time)

4.10 ✓Display – desired Ramp Rate per **MCC-H**

4.11 pb Right (EXIT) → Press until '**HOME DISPLAY**' appears

5. CHANGING SYSTEM STORAGE INTERVAL

5.1 pb Left (MENU) → Press (one time), the following appears:
'**MAIN MENU**'
'**Quick Status 1/8**'

5.2 pb Left (NEXT) → Press (three times), the following appears:
'**MAIN MENU**'
'**Temp Control 4/8**'

5.3 pb Center (SELECT) → Press (one time), the following appears:
'**MAIN: TEMP CONTROL**'
'**Mode 1/3**'

5.4 pb Left (NEXT) → Press (one time), the following appears:
'**MAIN: TEMP CONTROL**'
'**SP Mode Options 2/3**'

5.5 pb Center (SELECT) → Press (one time), the following appears:
'**TEMP CONTROL: SP**'
'**Set Point Temp 1/4**'

5.6 pb Left (+PARAM) → Press (two times), the following appears:
'**TEMP CONTROL: SP**'
'**Sys Sto Interval 3/4**'

5.7 pb Center (SELECT) → Press (one time), the following appears:
'**SP SYS STO INTERVAL**'
'**Old: xx:xx:xx**'
'**New: xx:xx:xx**'

NOTE

1. The left pushbutton (CURSOR) moves the cursor between New digit fields. The default cursor position will be blinking.
2. The center pushbutton (PLUS) increases New selected digit field value by 1.
3. New System Storage Interval must be greater than zero.

5.8 Enter desired System Storage Interval per **MCC-H**

5.9 pb Right (DONE) → Press (one time)

If Display - '**ARE YOU SURE?**'

| pb Left (APPLY) → Press (one time)

5.10 ✓Display – desired System Storage Interval per **MCC-H**

5.11 pb Right (EXIT) → Press until '**HOME DISPLAY**' appears

6. CHANGING EXPERIMENT STORAGE INTERVAL

6.1 pb Left (MENU) → Press (one time), the following appears:
'MAIN MENU'
'Quick Status 1/8'

6.2 pb Left (NEXT) → Press (three times), the following appears:
'MAIN MENU'
'Temp Control 4/8'

6.3 pb Center (SELECT) → Press (one time), the following appears:
'MAIN: TEMP CONTROL'
'Mode 1/3'

6.4 pb Left (NEXT) → Press (one time), the following appears:
'MAIN: TEMP CONTROL'
'SP Mode Options 2/3'

6.5 pb Center (SELECT) → Press (one time), the following appears:
'TEMP CONTROL: SP'
'Set Point Temp 1/4'

6.6 pb Left (+PARAM) → Press (three times), the following appears:
'TEMP CONTROL: SP'
'Exp Sto Interval 4/4'

6.7 pb Center (SELECT) → Press (one time), the following appears:
'SP EXP STO INTERVAL'
'Old: xx:xx:xx'
'New: xx:xx:xx'

NOTE

1. The left pushbutton (CURSOR) moves the cursor between New digit fields. The default cursor position will be blinking.
2. The center pushbutton (PLUS) increases New selected digit field value by 1.
3. New Experiment Storage Interval must be greater than zero.

6.8 Enter desired Experiment Storage Interval per **MCC-H**

6.9 pb Right (DONE) → Press (one time)

If Display - '**ARE YOU SURE?**'

| pb Left (APPLY) → Press (one time)

6.10 ✓Display – desired Experiment Storage Interval per **MCC-H**

6.11 pb Right (EXIT) → Press until '**HOME DISPLAY**' appears.

7. SELECTING HEAT REMOVAL MODE

7.1 pb Left (MENU) → Press (one time), the following appears:
'MAIN MENU'
'Quick Status 1/8'

7.2 pb Left (NEXT) → Press (six times), the following appears:
'MAIN MENU'
'Setup 7/8'

7.3 pb Center (SELECT) → Press (two times), the following appears:
'SETUP: GENERAL'
'HeatRemoval Mode 1/8'

7.4 pb Center (SELECT) → Press (one time), the following appears:
'HEAT REMOVAL MODE'
'Select Mode x of 2'

NOTE

The left pushbutton (NEXT) toggles between AIR and WATER.

7.5 Select desired Heat Removal Mode per **MCC-H**.

7.6 pb Center (APPLY) → Press (one time)

7.7 pb Right (EXIT) → Press until '**HOME DISPLAY**' appears.

8. SELECTING MEMORY FULL MODE

8.1 pb Left (MENU) → Press (one time), the following appears:
'MAIN MENU'
'Quick Status 1/8'

8.2 pb Left (NEXT) → Press (six times), the following appears:
'MAIN MENU'

'Setup 7/8'

- 8.3 pb Center (SELECT) → Press (two times), the following appears:
'SETUP: GENERAL'
'HeatRemoval Mode 1/8'
- 8.4 pb Left (NEXT) → Press (one time), the following appears:
'SETUP: GENERAL'
'Memory Full Mode 2/8'
- 8.5 pb Center (SELECT) → Press (one time), the following appears:
'MEMORY FULL MODE'
'Select Mode x of 2'

NOTE

The left pushbutton (NEXT) toggles between OVERWRITE OLD DATA and STOP DATA RECORDING.

- 8.6 Select desired Memory Full Mode per **MCC-H**
- 8.7 pb Center (APPLY) → Press (one time)
- 8.8 pb Right (EXIT) → Press until '**HOME DISPLAY**' appears.

9. SELECTING EXTERNAL FAN MODE

- 9.1 pb Left (MENU) → Press (one time), the following appears:
'MAIN MENU'
'Quick Status 1/8'
- 9.2 pb Left (NEXT) → Press (six times), the following appears:
'MAIN MENU'
'Setup 7/8'
- 9.3 pb Center (SELECT) → Press (two times), the following appears:
'SETUP: GENERAL'
'HeatRemoval Mode 1/8'
- 9.4 pb Left (NEXT) → Press (two times), the following appears:
'SETUP: GENERAL'
'ExternalFan Mode 3/8'
- 9.5 pb Center (SELECT) → Press (one time), the following appears:
'EXTERNAL FAN MODE'
'Select Mode x of 3'

NOTE

The left pushbutton (NEXT) toggles between OFF, ON and AUTOMATIC

- 9.6 Select desired External Fan Mode per **MCC-H**
- 9.7 pb Center (APPLY) → Press (one time)
- 9.8 pb Right (EXIT) → Press until '**HOME DISPLAY**' appears.

10. SELECTING POWER RECOVERY MODE

- 10.1 pb Left (MENU) → Press (one time), the following appears:
'MAIN MENU'
'Quick Status 1/8'
- 10.2 pb Left (NEXT) → Press (six times), the following appears:
'MAIN MENU'
'Setup 7/8'
- 10.3 pb Center (SELECT) → Press (two times), the following appears:
'SETUP: GENERAL'
'HeatRemoval Mode 1/8'
- 10.4 pb Left (NEXT) → Press (three times), the following appears:
'SETUP: GENERAL'
'PwrRecovery Mode 4/8'
- 10.5 pb Center (SELECT) → Press (one time), the following appears:
'POWER RECOVERY MODE'
'Select Mode x of 4'

NOTE

The left pushbutton (NEXT) toggles between RETURN TO SP TEMP, HOLD PRESENT TEMP, CONT RAMP LAST SP, or CONT RAMP PRES TEMP

- 10.6 Select desired Power Recovery Mode per **MCC-H**
- 10.7 pb Center (APPLY) → Press (one time)
- 10.8 pb Right (EXIT) → Press until '**HOME DISPLAY**' appears.

11. SELECTING DOOR DETECTION MODE

- 11.1 pb Left (MENU) → Press (one time), the following appears:
'MAIN MENU'
'Quick Status 1/8'
- 11.2 pb Left (NEXT) → Press (six times), the following appears:
'MAIN MENU'
'Setup 7/8'
- 11.3 pb Center (SELECT) → Press (two times), the following appears:
'SETUP: GENERAL'
'HeatRemoval Mode 1/8'
- 11.4 pb Left (NEXT) → Press (four times), the following appears:
'SETUP: GENERAL'
'Door Detection 5/8'
- 11.5 pb Center (SELECT) → Press (one time), the following appears:
'DOOR DETECTION MODE'
'Select Mode x of 2'

NOTE

The left pushbutton (NEXT) toggles between DISABLE and ENABLE.

- 11.6 Select desired Door Detection Mode per **MCC-H**.
- 11.7 pb Center (APPLY) → Press (one time)
- 11.8 pb Right (EXIT) → Press until '**HOME DISPLAY**' appears.

12. SELECTING EXPERIMENT VOLUME FAN MODE

- 12.1 pb Left (MENU) → Press (one time), the following appears:
'MAIN MENU'
'Quick Status 1/8'
- 12.2 pb Left (NEXT) → Press (six times), the following appears:
'MAIN MENU'
'Setup 7/8'
- 12.3 pb Center (SELECT) → Press (two times), the following appears:
'SETUP: GENERAL'
'HeatRemoval Mode 1/8'
- 12.4 pb Left (NEXT) → Press (five times), the following appears:
'SETUP: GENERAL'
'Expt Vol Fan Mode 6/8'
- 12.5 pb Center (SELECT) → Press (one time), the following appears:
'EXP VOLUME FAN MODE'
'Select Mode x of 2'

NOTE

The left pushbutton (NEXT) toggles between DISABLE and ENABLE.

- 12.6 Select desired Experiment Volume Fan Mode per **MCC-H**.
- 12.7 pb Center (APPLY) → Press (one time)
- 12.8 pb Right (EXIT) → Press until '**HOME DISPLAY**' appears.

13. CHANGING TEMPERATURE BANDWIDTH

- 13.1 pb Left (MENU) → Press (one time), the following appears:
'MAIN MENU'
'Quick Status 1/8'
- 13.2 pb Left (NEXT) → Press (six times), the following appears:
'MAIN MENU'
'Setup 7/8'
- 13.3 pb Center (SELECT) → Press (two times), the following appears:
'SETUP: GENERAL'
'HeatRemoval Mode 1/8'

13.4 pb Left (NEXT) → Press (six times), the following appears:
 'SETUP: GENERAL'
 'Temp Bandwidth 7/8'

13.5 pb Center (SELECT) → Press (one time), the following appears:
 'TEMP BANDWIDTH'
 'Bandwidth xx.xC'

NOTE

1. The left pushbutton (CURSOR) moves the cursor between Bandwidth digit fields. The default cursor position will be blinking.

2. The center pushbutton (PLUS) increases Bandwidth selected digit field value by 1.

13.6 Enter desired Temp Bandwidth per **MCC-H**.

13.7 pb Right (DONE) → Press (one time)
 If Display - 'ARE YOU SURE?'
 | pb Left (APPLY) → Press

13.8 ✓Display – desired Temperature Bandwidth per **MCC-H**.

13.9 pb Right (EXIT) → Press until '**HOME DISPLAY**' appears.

14. SELECTING PID SENSORS FOR THERMAL CARRIER CONTROL

14.1 pb Left (MENU) → Press (one time), the following appears:
 'MAIN MENU'
 'Quick Status 1/8'

14.2 pb Left (NEXT) → Press (six times), the following appears:
 'MAIN MENU'
 'Setup 7/8'

14.3 pb Center (SELECT) → Press (one time), the following appears:
 'MAIN: SETUP'
 'General 1/4'

14.4 pb Left (NEXT) → Press (one time), the following appears:
 'MAIN: SETUP'
 'PID 2/4'

14.5 pb Center (SELECT) → Press (one time), the following appears:
 'SETUP: PID'
 'PID Sensors 1/2'

14.6 pb Center (SELECT) → Press (one time), the following appears:
 'PID SENSORS'
 'S: LRE: E: 123456789AB'

NOTE

1. The left pushbutton (CURSOR) moves the cursor between PID SENSORS fields.
2. The center pushbutton (TOGGLE) toggles the '*' on/off indicator on row 3.
3. If a '*' character is under any of the PID SENSORS fields then this sensor is selected for use in the control of the thermal carrier.

14.7 Select desired active PID Sensors per **MCC-H**.

14.8 pb Right (DONE) → Press (one time)

If Display 'SET LRE123456789AB', 'Old:', and 'New':

| pb Left (APPLY) → Press (one time)

14.9 pb Right (EXIT) → Press until '**HOME DISPLAY**' appears.

15. RESETTING POWER LOSS FLAG

15.1 pb Left (MENU) → Press (one time), the following appears:
 'MAIN MENU'
 'Quick Status 1/8'

15.2 pb Left (NEXT) → Press (six times), the following appears:
 'MAIN MENU'
 'Setup 7/8'

15.3 pb Center (SELECT) → Press (one time), the following appears:
 'MAIN: SETUP'
 'General 1/4'

15.4 pb Left (NEXT) → Press (three times), the following appears:
 'MAIN: SETUP'
 'Alternate 4/4'

15.5 pb Center (SELECT) → Press (one time), the following appears:
 'SETUP: ALTERNATE'
 'TE Power 1/8'

15.6 pb Left (NEXT) → Press (four times), the following appears:
 'SETUP: ALTERNATE'
 'Power Loss Reset 5/8'

15.7 pb Center (SELECT) → Press (one time), the following appears:
 'POWER LOSS RESET'
 'RESET PWR LOSS FLAG'

15.8 pb Left (RESET) → Press one time

15.9 pb Right (EXIT) → Press until '**HOME DISPLAY**' appears.

16. CHANGING PAYLOAD FUNCTION CODE

- 16.1 pb Left (MENU) → Press (one time), the following appears:
'MAIN MENU'
'Quick Status 1/8'
- 16.2 pb Left (NEXT) → Press (six times), the following appears:
'MAIN MENU'
'Setup 7/8'
- 16.3 pb Center (SELECT) → Press (one time), the following appears:
'MAIN: SETUP'
'General 1/4'
- 16.4 pb Left (NEXT) → Press (three times), the following appears:
'MAIN: SETUP'
'Alternate 4/4'
- 16.5 pb Center (SELECT) → Press (one time), the following appears:
'SETUP: ALTERNATE'
'TE Power 1/8'
- 16.6 pb Left (NEXT) → Press (six times), the following appears:
'SETUP: ALTERNATE'
'Function Code 7/8'
- 16.7 pb Center (SELECT) → Press (one time), the following appears:
'FUNCTION CODE'
'Old: XxXXXX'
'New: XxXXXX'

NOTE

1. The left pushbutton (CURSOR) moves the cursor between FUNCTION CODE digits.
2. The center pushbutton (PLUS) increases FUNCTION CODE selected digit field value by 1.
3. The values are in hexadecimal.

- 16.8 Enter desired Function Code per **MCC-H**
- 16.9 pb Right (DONE) → Press (one time)
If Display - '**ARE YOU SURE?**'
| pb Left (APPLY) → Press (one time)
- 16.10 ✓Display – desired Function Code per **MCC-H**
- 16.11 pb Right (EXIT) → Press until '**HOME DISPLAY**' appears
- 17. SELECTING TEMPERATURE CONTROL MODE FOR THERMAL CARRIER
 - 17.1 pb Left (MENU) → Press (one time), the following appears:
'MAIN MENU'
'Quick Status 1/8'

17.2 pb Left (NEXT) → Press (three times), the following appears:
 'MAIN MENU'
 'Temp Control 4/8'

17.3 pb Center (SELECT) → Press (two times), the following appears:
 'TEMP CONTROL: MODE'
 'Select Mode x of 5:'

NOTE

The left pushbutton (NEXT) toggles between SET POINT, PROG TEMP PROFILE, SET POINT TO PROFILE, OFF, and OVERRIDE.

17.4 pb Left (NEXT) → Press until reaching desired Temp Control Mode per **MCC-H**

17.5 pb Center (APPLY) → Press (one time)

17.6 pb Right (EXIT) → Press until '**HOME DISPLAY**' appears

18. CHECKING STATUS OF THERMAL CARRIER FROM HOME DISPLAY

18.1 pb Left (MENU) → Press (one time), the following appears:
 'MAIN MENU'
 'Quick Status 1/8'

18.2 pb Center (SELECT) → Press (one time), the following appears:
 'MAIN: QUICK STATUS'
 'ECW 01/19'

18.3 ✓Display (Line 3) – '**NOMINAL**'

NOTE

The MERLIN may take several minutes to achieve its command temperature once parameters have been reconfigured.

18.4 pb Right (EXIT) → press until '**HOME DISPLAY**' appears

19. CHECKING CONTROL TEMPERATURE AT HOME DISPLAY

19.1 ✓Display – '**CURR TEMP:**' expected current temperature ± bandwidth in °C per **MCC-H**

19.2 ✓Display – '**SP TEMP:**' expected Set Point temperature in °C per **MCC-H**

19.3 ✓Display – '**GPS**' incrementing

NOTE

The STATUS LED is on for approximately 2/3 of a sec and then is turned off for approximately 1/3 of a sec when an off-nominal situation is present, and continues until off-nominal situation is acknowledged.

19.4 ✓STATUS LED – Nominal (It off)

19.5 ✓Display – continuously reads 'HOME DISPLAY'

*
* If Display, STATUS LED, ECW, CURR TEMP or SP TEMP are not in
* nominal state
* | ✓MCC-H
*

20. RECORDING END DATA

- 20.1 Record End 'CURR TEMP' and End 'GPS' in Table 5-I of [MERLIN TABLES](#) (SODF: ASSY OPS: PAYLOADS).
- 20.2 Notify MCC-H and report log values for log file Table 5-I of [MERLIN TABLES](#) (SODF: ASSY OPS: PAYLOADS).

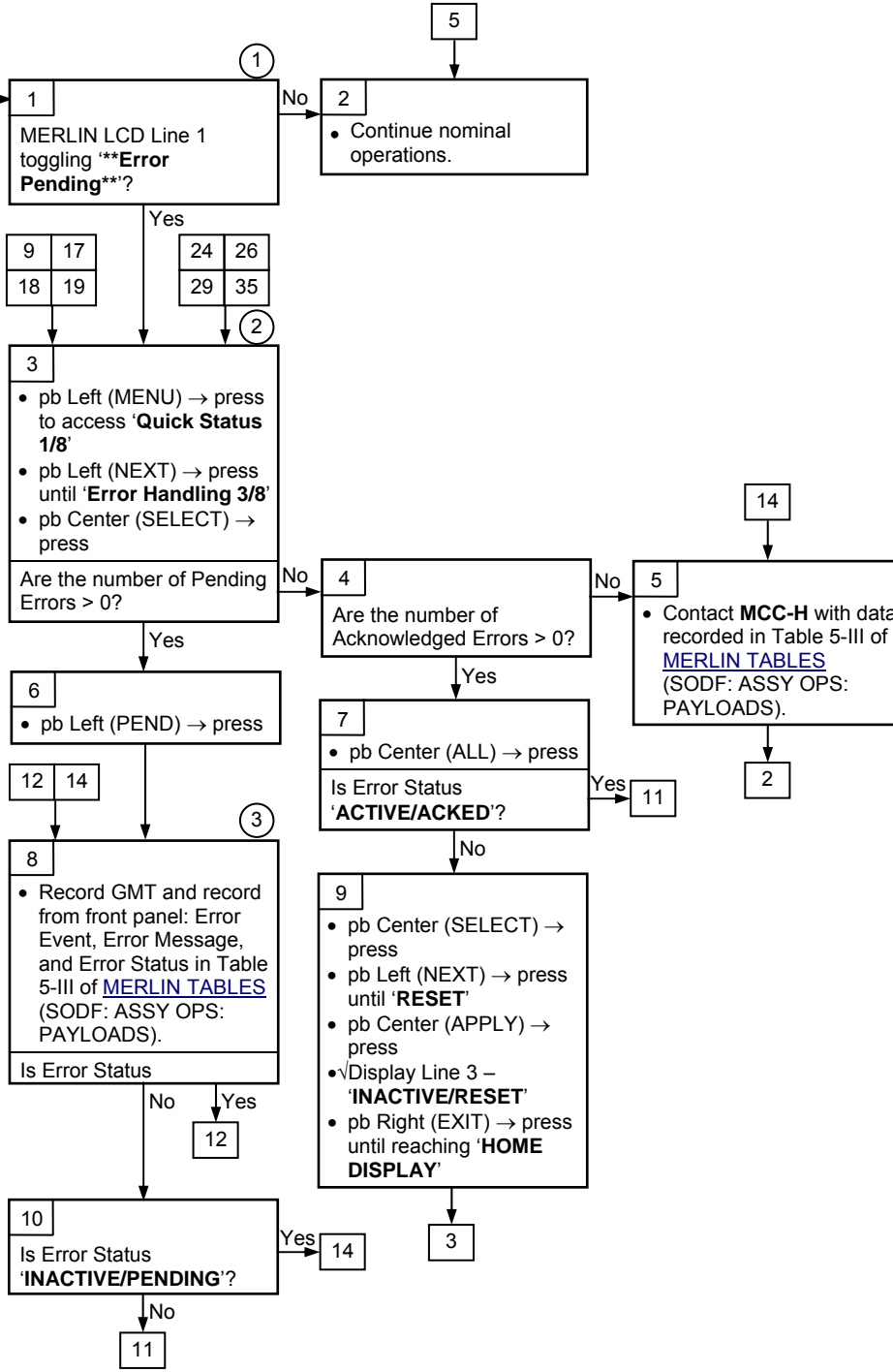
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MERLIN

MERLIN ERROR MESSAGE
(ASSY OPS/19A/FIN 1) Page 1 of 8 pages

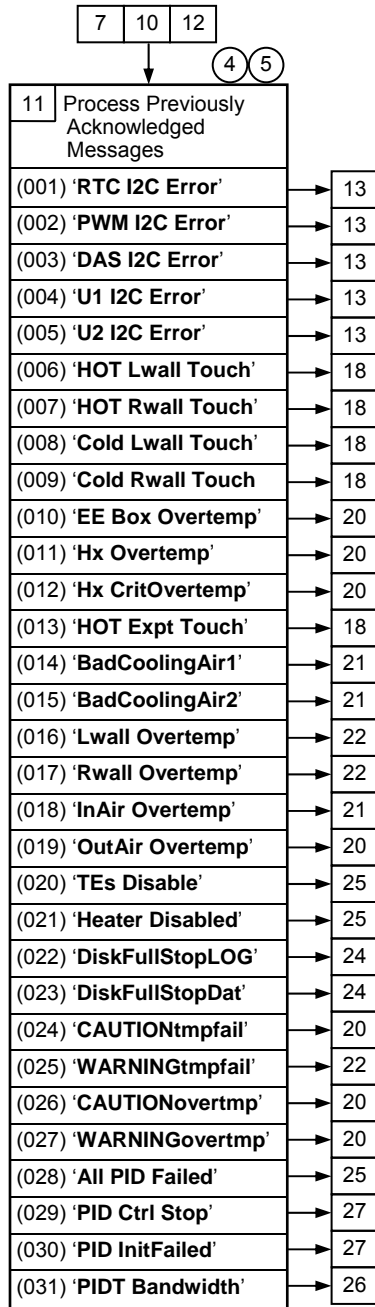
MERLIN System Error

Nominal Config:
(MF71E)
cb MAIN - cl (lt on)
cb PAYLOAD - op
(lt off)
(MO63P)
cb CB4/J4 - cl
10A J4 - ON



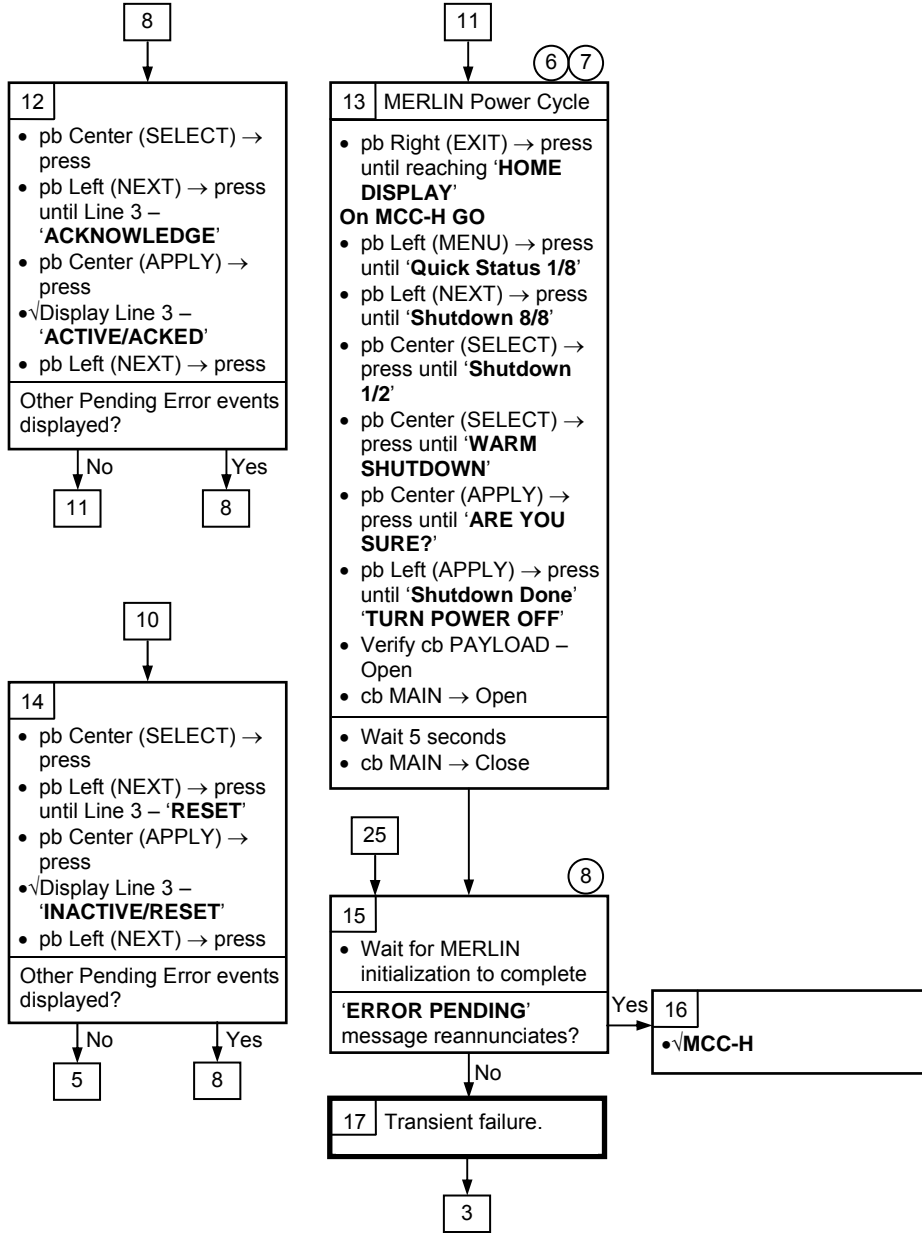
- ① Contact **MCC-H** before proceeding.
- ② Operator can always exit sub menus by pressing pb Right until '**HOME DISPLAY**' is reached.
- ③ '**ERR HANDLING PEND**' display will identify the Event on Display (Line 2) and the Status on Display (Line 3). '**ACTIVE/PENDING**' indicates that error is still occurring and should be acknowledged. '**INACTIVE/PENDING**' indicates the Error is no longer occurring and can be Reset.

MERLIN ERROR MESSAGE



④ The following sequence of steps list all possible MERLIN error messages.

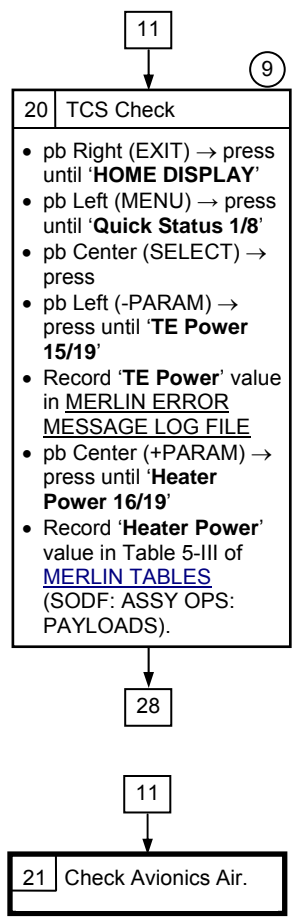
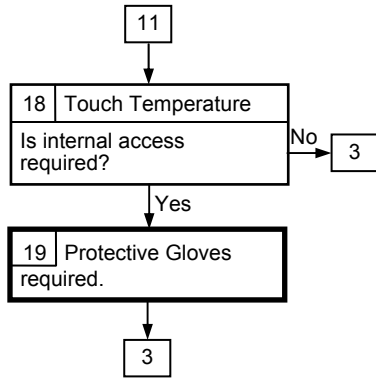
⑤ The MERLIN Manual Record Diagnostic Data procedure may be performed to capture the state of key data elements per **MCC-H** direction.



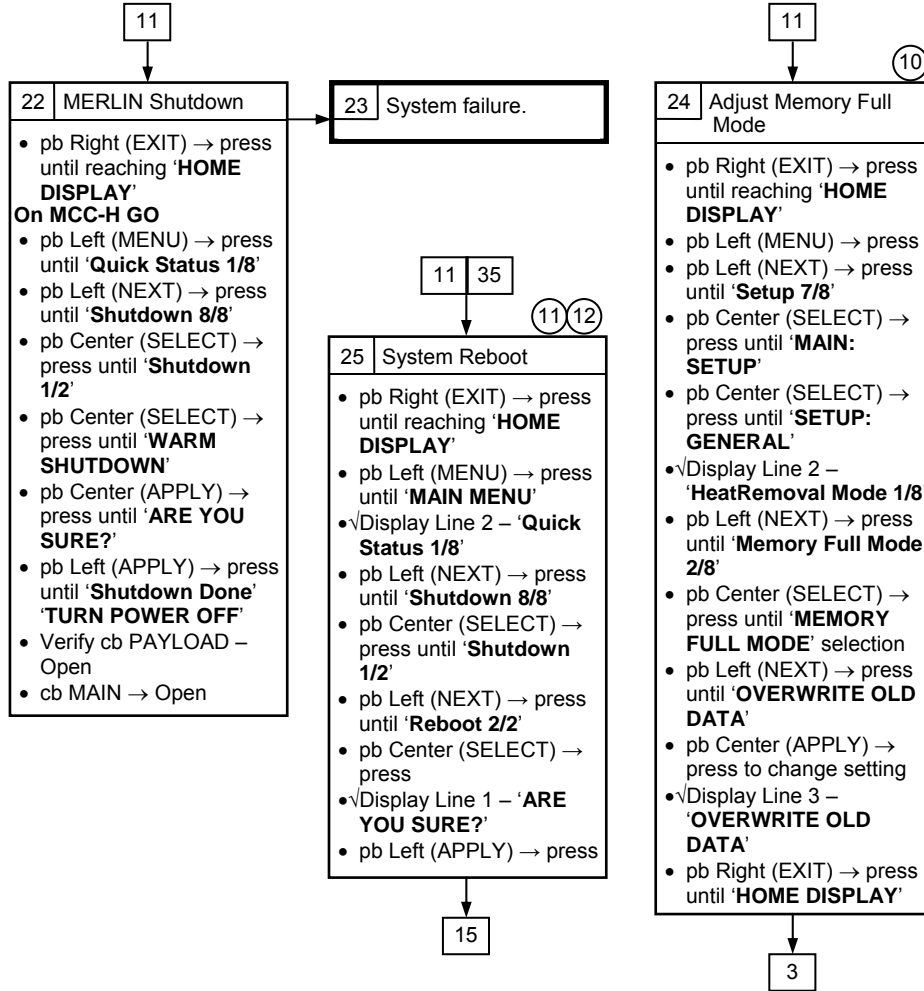
⑥ Power cycle requires **MCC-H** approval.

⑦ Some Possible causes of Software Errors not resetting: Frequent intermittent power failure, Single Event Upset, Watchdog Timer failure.

⑧ Initialization takes approximately 1 minute. Initialization is complete when Display (Line 1) reads **HOME DISPLAY**.



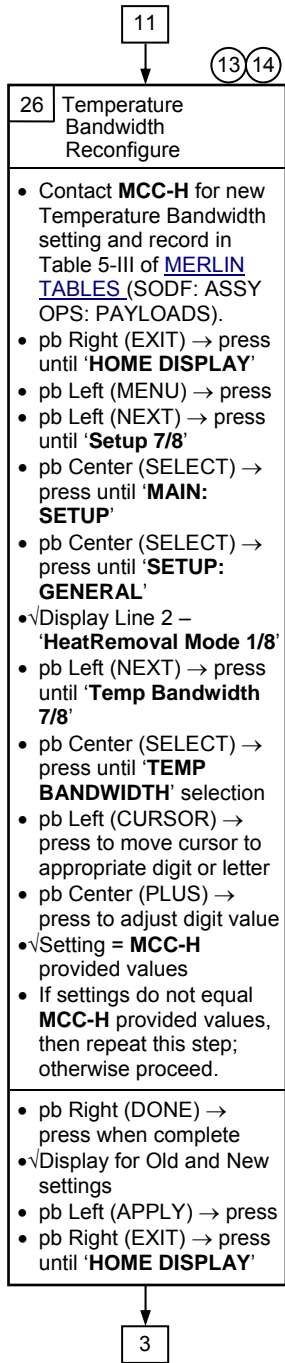
⑨ Thermal Control System (TCS) consists of Thermal Electric Devices and Heater strips.



10 Memory Full Mode Errors occur when the system is programmed to stop recording certain data files when memory is 95% full. Changing the system to over-write the oldest data will eliminate this error.

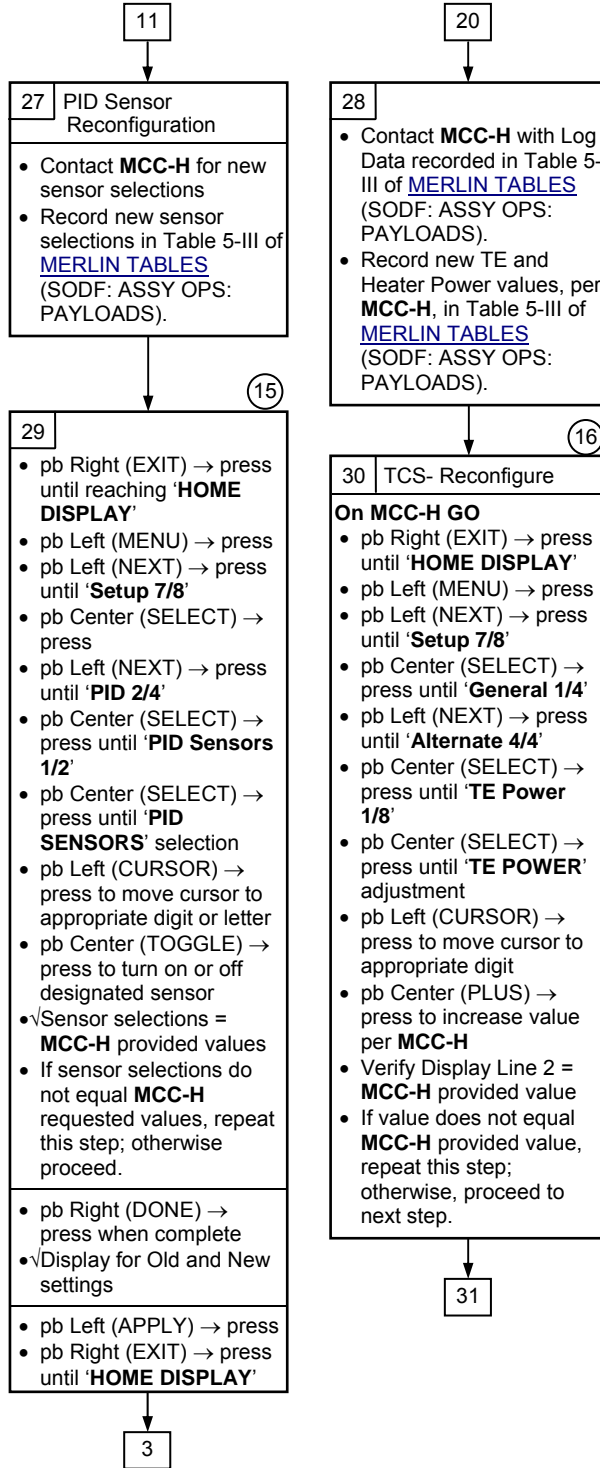
11 Errors 012,016, 017, 019, 020, 021 will automatically disable the TED devices; the system must be rebooted in order to re-enable them.

12 System reboot takes approximately 1 minute. System will initiate to 'HOME DISPLAY'



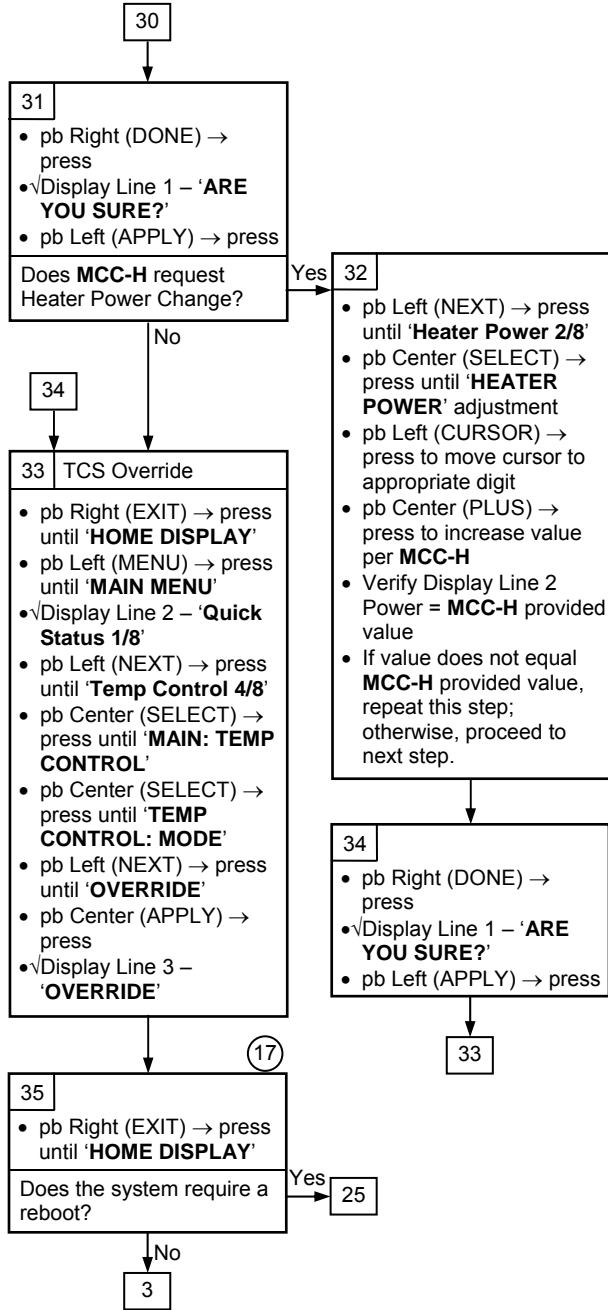
13 The thermal control bandwidth setting is used to annunciate an error when feedback experiment temperature reading exceeds desired values. Changing this setting should only be performed with PI concurrence.

14 Bandwidth setting can be adjusted from 00.1 C to 25.0 C.



(15) Sensor selection is displayed in the following order. An * symbol under the designated letter or numeral indicates selected sensor. (Example) M:LRE E:123456789AB.

(16) TCS and Heater Reconfigurations will set fixed power values to these devices. Setting system to Override will inhibit responsive thermal control.



①7
 Errors 012,016, 017, 019, 020, 021 will automatically disable the TED devices; the system must be rebooted in order to re-enable them.

MERLIN FAIL TO HOLD SETPOINT

(ASSY OPS/19A/FIN 1)

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OBJECTIVE:

The following steps allow reconfiguration of Temperature Control Mode, Ramp Rate, Heat Removal Mode and Fan Modes.

```
*****
*
*
* If Display - ***Error Pending***
* | Perform MERLIN ERROR MESSAGE, all (SODF: ASSY OPS:
* | PAYLOADS), then:
*
*****
```

RECORDING DATA

1. ✓Display – 'HOME DISPLAY'

*
* If 'HOME DISPLAY' not shown
* | pb Right (EXIT) → Press until 'HOME DISPLAY' appears
*

2. Record start 'CURR TEMP', start 'GPS', and any callup data in Table 5-I of [MERLIN TABLES](#) (SODF: ASSY OPS: PAYLOADS).

SETTING TEMPERATURE CONTROL MODE

3. pb Left (MENU) → Press (one time), the following appears:
'MAIN MENU'
'Quick Status 1/8'
4. pb Left (NEXT) → Press (three times), the following appears:
'MAIN MENU'
'Temp Control 4/8'
5. pb Center (SELECT) → Press (one time), the following appears:
'MAIN: TEMP CONTROL'
'Mode 1/3'
6. pb Left (NEXT) → Press (one time), the following appears:
'MAIN: TEMP CONTROL'
'SP Mode Options 2/3'
7. pb Center (SELECT) → Press (two times), the following appears:
'SET PT TEMPERATURE'
'Old SP Temp: ±xx.xC'

MERLIN FAIL TO HOLD SETPOINT

(ASSY OPS/19A/FIN 1)

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'New SP Temp: $\pm xx.xC$ '

NOTE

1. The left pushbutton (CURSOR) moves the cursor between NEW SP Temp fields (default cursor position will be blinking).
2. The center pushbutton (PLUS) increases New SP Temp selected digit field value by 1.
3. SP Temp Range (-20.0 to +48.5° C).

8. Input desired Set Point temperature per **MCC-H**
9. pb Right (DONE) → Press (one time)
If Display - '**ARE YOU SURE?**'
| pb Left (APPLY) → Press (one time)
10. ✓Display – desired Set Point temperature per **MCC-H**

SETTING RAMP RATE

11. pb Left (+PARAM) → Press (one time), the following appears:
'TEMP CONTROL: SP'
'Ramp Rate 2/4'
12. pb Center (SELECT) → Press (one time), the following appears:
'SET PT RAMP RATE'
'Old Ramp: xx.xC/hr'
'New Ramp: xx.xC/hr'

NOTE

1. The left pushbutton (CURSOR) moves the cursor between New Ramp fields (default cursor position will be blinking).
2. The center pushbutton (PLUS) increases New Ramp selected digit field value by 1.
3. Ramp Range (+0.1 to +20.0° C/hr)
New value must be greater than zero.

13. Input desired Set Point Ramp Rate per **MCC-H**
14. pb Right (DONE) → Press (one time)
If Display - '**ARE YOU SURE?**'
| pb Left (APPLY) → Press (one time)
15. ✓Display – desired Ramp Rate per **MCC-H**
16. pb Right (EXIT) → Press (two times), the following appears:
'MAIN MENU'

'Temp Control 4/8'

SELECTING HEAT REMOVAL MODE

- 17. pb Left (NEXT) → Press (three times), the following appears:

'MAIN MENU'

'Setup 7/8'

- 18. pb Center (SELECT) → Press (three times)

'HEAT REMOVAL MODE'

'Select Mode x of 2:'

NOTE

The left pushbutton (NEXT) toggles between AIR and WATER.

- 19. pb Left (NEXT) → Press until desired Heat Removal Mode per **MCC-H**

- 20. pb Center (APPLY) → Press (one time), the following appears:

'SETUP: GENERAL'

'HeatRemoval Mode 1/8'

SELECTING EXTERNAL FAN MODE

- 21. pb Left (NEXT) → Press (two times), the following appears:

'SETUP: GENERAL'

'ExternalFan Mode 3/8'

- 22. pb Center (SELECT) → Press (one time), the following appears:

'EXTERNAL FAN MODE'

'Select Mode x of 3:'

NOTE

The left pushbutton (NEXT) toggles between OFF, ON and AUTOMATIC.

- 23. pb Left (NEXT) → Press until desired External Fan Mode per **MCC-H**

- 24. pb Center (APPLY) → Press (one time), the following appears:

'SETUP: GENERAL'

'ExternalFan Mode 3/8'

SELECTING EXPERIMENT VOLUME FAN MODE

- 25. pb Left (NEXT) → Press (three times), the following appears:

'SETUP: GENERAL'

'Exp Vol Fan Mode 6/8'

MERLIN FAIL TO HOLD SETPOINT

(ASSY OPS/19A/FIN 1)

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26. pb Center (SELECT) → Press (one time), the following appears:
'EXP VOLUME FAN MODE'
'Select Mode x of 2:'

NOTE

The left pushbutton (NEXT) toggles between DISABLE and ENABLE.

27. pb Left (NEXT) → Press until desired Exp Vol Fan Mode per **MCC-H**
28. pb Center (APPLY) → Press (one time), the following appears:
'SETUP: GENERAL'
'Exp Vol Fan Mode 6/8'

SETTING TEMPERATURE BANDWIDTH

29. pb Left (NEXT) → Press (one time), the following appears:
'SETUP: GENERAL'
'Temp Bandwidth 7/8'
30. pb Center (SELECT) → Press (one time), the following appears:
'TEMP BANDWIDTH'
'Bandwidth: xx.xC'
'(00.1C-25.0C)'

NOTE

1. The left pushbutton (CURSOR) moves cursor between Bandwidth digit fields.
2. The center pushbutton (PLUS) increases Bandwidth selected digit field value by 1.

31. Input desired Temp Bandwidth per **MCC-H**
32. pb Right (DONE) → Press (one time)
If Display - '**ARE YOU SURE?**', then:
| pb Left (APPLY) → Press (one time)
33. ✓Display – desired Temp Bandwidth per **MCC-H**
34. pb Right (EXIT) → Press until reaching '**HOME DISPLAY**'
SELECTING PID SENSORS FOR THERMAL CARRIER CONTROL
35. pb Left (MENU) → Press (one time), the following appears:
'MAIN MENU'
'Quick Status 1/8'

MERLIN FAIL TO HOLD SETPOINT

(ASSY OPS/19A/FIN 1)

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36. pb Left (NEXT) → Press (six times), the following appears:
'MAIN MENU'
'Setup 7/8'
37. pb Center (SELECT) → Press (one time), the following appears:
'MAIN: SETUP'
'General 1/4'
38. pb Left (NEXT) → Press (one time), the following appears:
'MAIN: SETUP'
'PID 2/4'
39. pb Center (SELECT) → Press (two times), the following appears:
'PID SENSORS'
'S:LRE E:123456789AB'

NOTE

1. The left pushbutton (CURSOR) moves the cursor between PID SENSORS fields.
2. The center pushbutton (TOGGLE) toggles the '*' on/off indicator on row 3.
3. If a '*' character is under any of the PID SENSORS fields then this sensor is selected for use in the control of the thermal carrier.

40. Select desired active PID Sensors per **MCC-H**.
41. pb Right (DONE) → Press (one time)
42. ✓New PID Sensors = desired active PID sensors
43. pb Left (APPLY) → Press (one time), the following appears
'SETUP: PID'
'PID Sensors 1/2'
44. pb Right (EXIT) → Press (two times), the following appears:
'MAIN MENU'
'Setup 7/8'

SELECTING TEMPERATURE CONTROL MODE FOR THERMAL CARRIER

45. pb Left (NEXT) → Press (five times), the following appears:
'MAIN MENU'
'Temp Control 4/8'
46. pb Center (SELECT) → Press (two times), the following appears:
'TEMP CONTROL: MODE'
'Select Mode x of 5:'

NOTE

The left pushbutton (NEXT) toggles between SET POINT, PROG TEMP PROFILE, SET POINT TO PROFILE, OFF, and OVERRIDE.

- 47. pb Left (NEXT) → Press until desired TEMP CONTROL:MODE per **MCC-H**
- 48. pb Center (APPLY) → Press (one time)
- 49. pb Right (EXIT) → Press until reaching '**HOME DISPLAY**'

CHECKING STATUS OF THERMAL CARRIER

- 50. pb Left (MENU) → Press (one time), the following appears:

'MAIN MENU'
'Quick Status 1/8'

- 51. pb Center (SELECT) → Press (one time), the following appears:

'MAIN: QUICK STATUS'
'ECW 01/19'

- 52. ✓Display line 3 – '**NOMINAL**'

- 53. pb Right (EXIT) → Press until reaching '**HOME DISPLAY**'

CHECKING CONTROL TEMPERATURE

- 54. ✓Display – '**CURR TEMP:**' expected Set Point temperature ± bandwidth in degrees C per **MCC-H**
- 55. ✓Display – '**SP TEMP:**' expected Set Point temperature in degrees C per **MCC-H**
- 56. ✓Display – '**GPS**' incrementing

NOTE

The STATUS LED is on for approximately 2/3 of a second then is turned off for approximately 1/3 of a second when an off-nominal situation is present, and will toggle until off-nominal situation is acknowledged.

- 57. ✓STATUS LED – Nominal (It off)

- 58. ✓Display – continuously reads '**HOME DISPLAY**'

```

*****
*
* If Display, STATUS LED, ECW, CURR TEMP or SP TEMP are not in the
* nominal configuration,
* | ✓MCC-H
*
*****

```

MERLIN FAIL TO HOLD SETPOINT

(ASSY OPS/19A/FIN 1)

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RECORDING END DATA

59. Record End '**CURR TEMP**' and End '**GPS**' in Table 5-I of [MERLIN TABLES](#) (SODF: ASSY OPS: PAYLOADS).
60. Notify **MCC-H** Fail to Hold Setpoint complete and report log values for log file Table 5-I of [MERLIN TABLES](#) (SODF: ASSY OPS: PAYLOADS).

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MERLIN

MERLIN FAIL TO REPOWER

(ASSY OPS/19A/FIN 1) Page 1 of 4 pages

MERLIN initialization not successfully completed when power applied during **MERLIN POWER UP** (SODF: ASSY OPS: PAYLOADS) procedure

Nominal Config:
 (MF71E)
 cb MAIN-cl (It on)
 cb PAYLOAD-op (It off)
 (MO63P)
 cb CB4/J4-cl
 10A J4-ON

① ② ③

1	Switch to Alternate Power Source
<ul style="list-style-type: none"> Contact MCC-H for alternate power source (fill in data below). _____ 	
(MERLIN)	
<ul style="list-style-type: none"> ✓cb PAYLOAD op (It off) cb MAIN → op (It off) 	
(MO63P)	
<ul style="list-style-type: none"> 10A J4-OFF cb CB4/J4 → op A/E PAYLOAD DC PWR (20') ← J4 	
(Alternate Power Source J__)	
<ul style="list-style-type: none"> ✓cb _____ - op ✓sw _____ - OFF 	
<ul style="list-style-type: none"> A/E PAYLOAD DC PWR (20') → ← Alternate Power Source J__ 	

Next

① ④ ⑥

2	Repower from Alternate Power Source
<ul style="list-style-type: none"> (_____) cb _____ -cl sw _____ -ON 	
(MERLIN)	
<ul style="list-style-type: none"> cb MAIN → cl (It on) 	
After Initialization does display read 'HOME DISPLAY'?	

Yes

3	PRIMARY OUTLET FAILURE
---	------------------------

Next

4	<ul style="list-style-type: none"> Record power-on time (GPS): _____ Record power-on CURR TEMP: _____ Notify MCC-H of resolution and data
---	---

No

5	POSSIBLE DOWNSTREAM FAILURE
---	-----------------------------

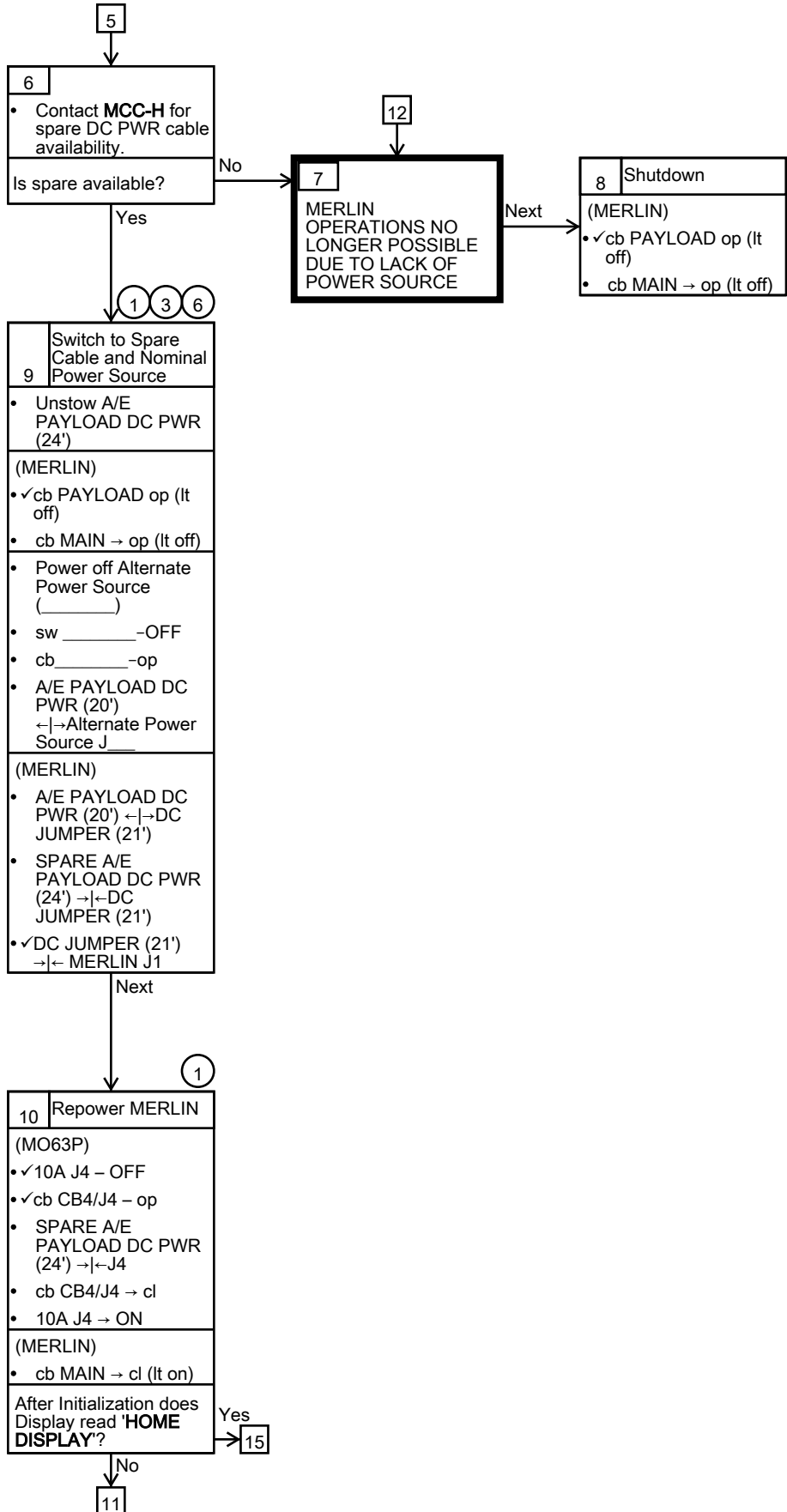
Next

6

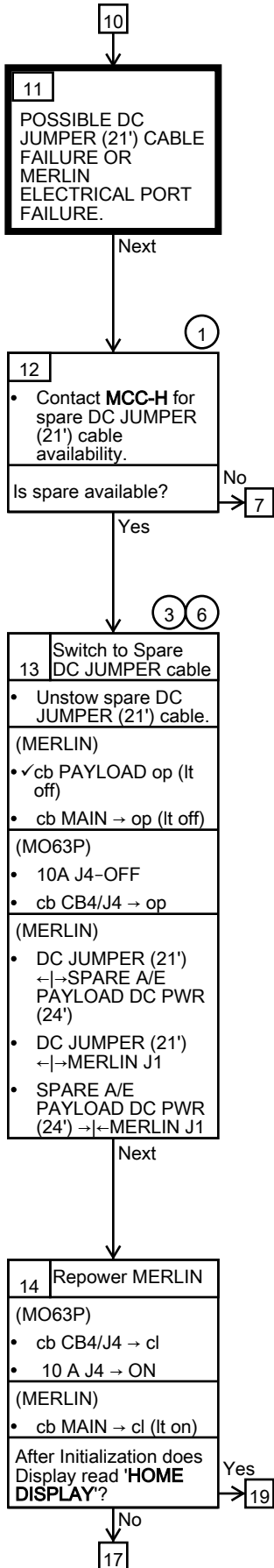
- ① **MCC-H** may instruct crew to an alternate power source that is not 10 AMP service. The ISS DC JUMPER cable is only reqd if the Orbiter power source is 10 amps. MO63P is 10 amp service.
- ② Always deadface DC power source when disconnecting/connecting power cable
- ③ Verify connectors are properly mated and seated securely when switching to alternate power source
- ④ MERLIN will take approximately 2 min to initialize after power on; after initialization is successfully completed, LCD Line 1 will read 'HOME DISPLAY'
- ⑥ Alternate power source is detailed in block 1.

MERLIN FAIL TO REPOWER

(ASSY OPS/19A/FIN 1) Page 2 of 4 pages



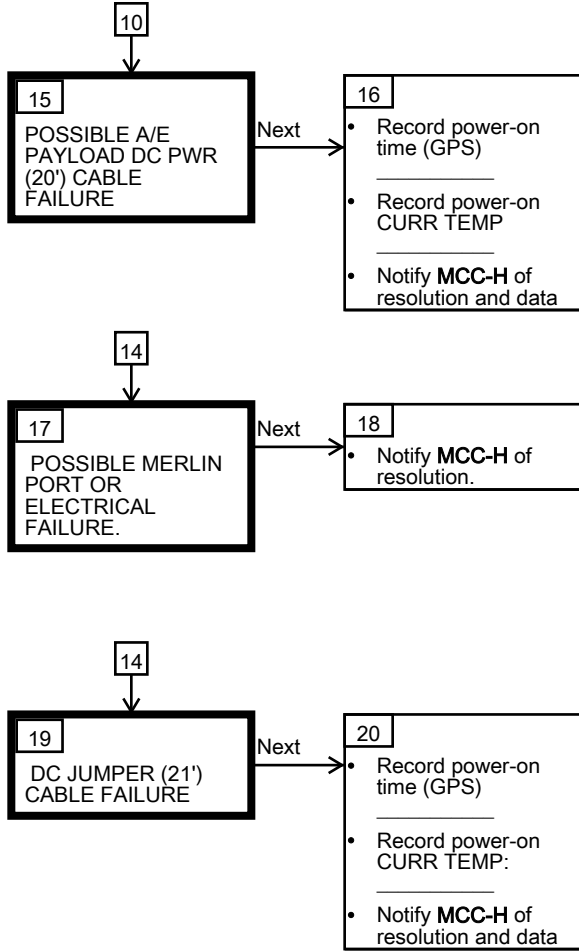
- ① **MCC-H** may instruct crew to an alternate power source that is not 10 AMP service. The ISS DC JUMPER cable is only reqd if the Orbiter power source is 10 amps. MO63P is 10 amp service.
- ③ Verify connectors are properly mated and seated securely when switching to alternate power source
- ⑥ Alternate power source is detailed in block 1.



1 MCC-H may instruct crew to an alternate power source that is not 10 AMP service. The ISS DC JUMPER cable is only reqd if the Orbiter power source is 10 amps. MO63P is 10 amp service.

3 Verify connectors are properly mated and seated securely when switching to alternate power source

6 Alternate power source is detailed in block 1.



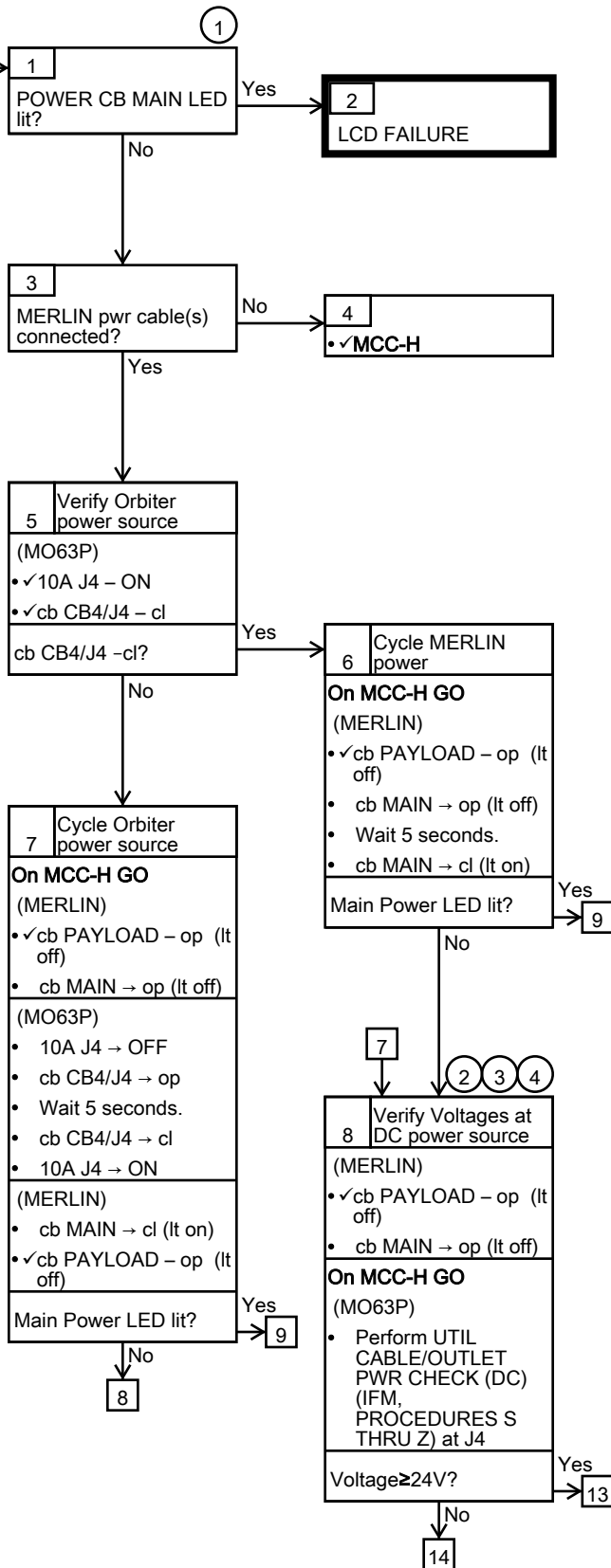
MERLIN

MERLIN LCD BLANK
(ASSY OPS/19A/FIN 1)

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LCD Blank

Nominal Config:
(MF71E)
cb MAIN – cl (It on)
cb PAYLOAD – op (It off)
(MO63P)
cb CB4/J4 – cl
10A J4 – ON

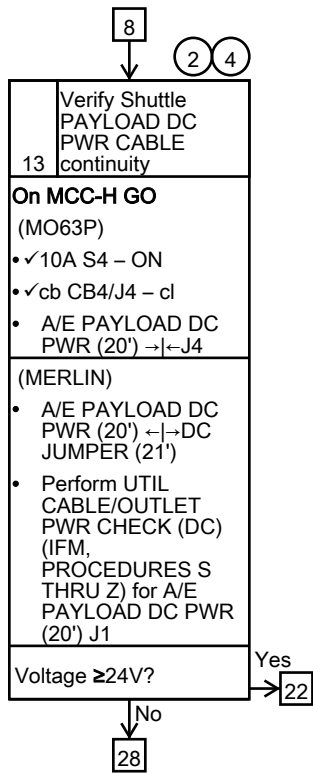
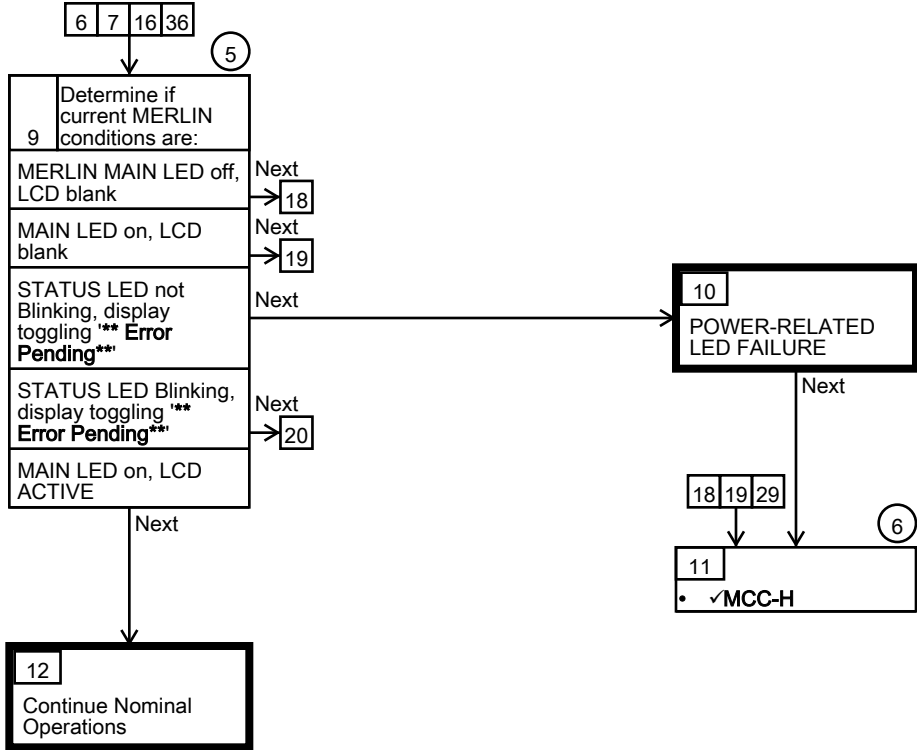


① Fan running indicates MERLIN on STS or EXPRESS power.

② Always deadface DC Power source when disconnecting or connecting power cable.

③ Path from block 6 checks MO63P outlet, from block 7 checks MERLIN cb. Internal voltages require approximately 2 min to dissipate upon cb open. Dissipation complete when Power LED extinguishes.

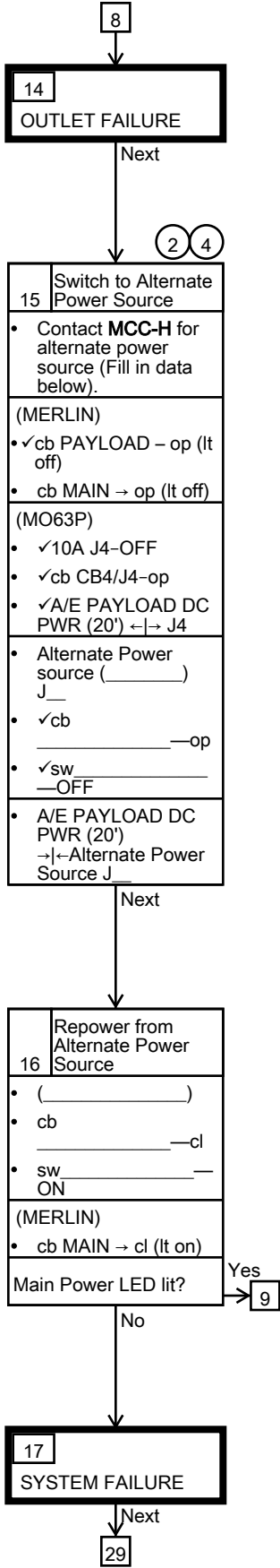
④ Verify connectors are properly mated and seated securely when reconnecting.

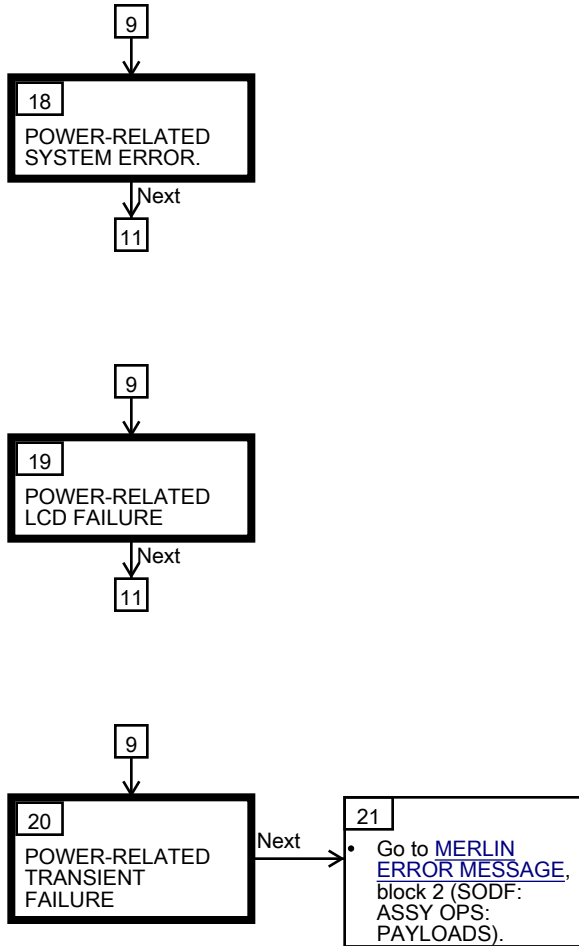


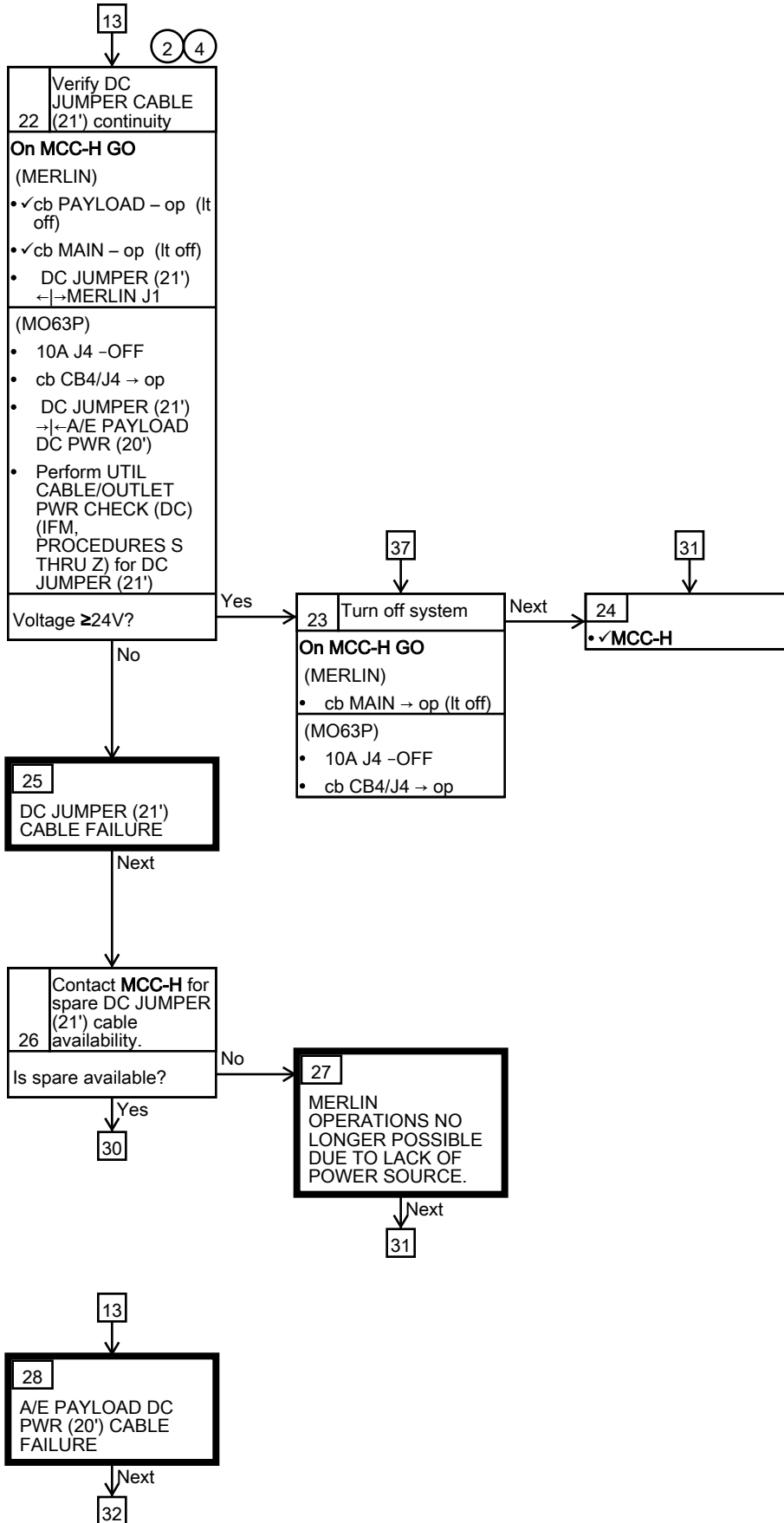
- ② Always deadface DC Power source when disconnecting or connecting power cable.
- ④ Verify connectors are properly mated and seated securely when reconnecting.
- ⑤ Initialization takes approximately 2 minutes. Initialization is complete when LCD Line 1 reads 'HOME DISPLAY'.
- ⑥ The MERLIN payload may continue to function if LCD fails.

② Always deadface DC Power source when disconnecting or connecting power cable.

④ Verify connectors are properly mated and seated securely when reconnecting.







2 Always deadface DC Power source when disconnecting or connecting power cable.

4 Verify connectors are properly mated and seated securely when reconnecting.

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29	Turn off system
On MCC-H GO	
(MERLIN)	
<ul style="list-style-type: none"> • cb POWER → op (lt off) 	
<ul style="list-style-type: none"> • Alternate Power source (_____) <li style="padding-left: 20px;">J__ 	
<ul style="list-style-type: none"> • ✓cb _____—op 	
<ul style="list-style-type: none"> • ✓sw _____ <li style="padding-left: 20px;">—OFF 	

Next

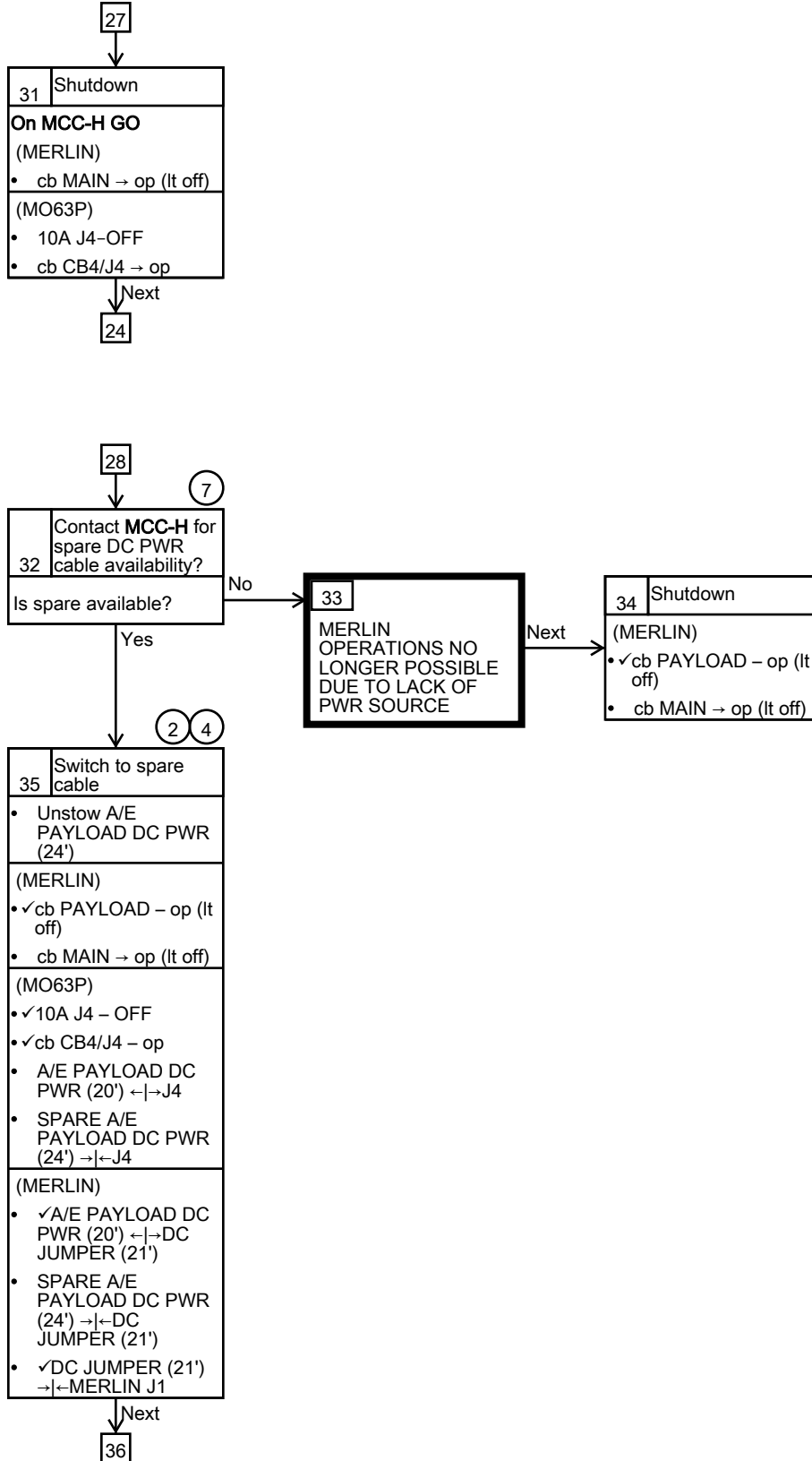
11

26

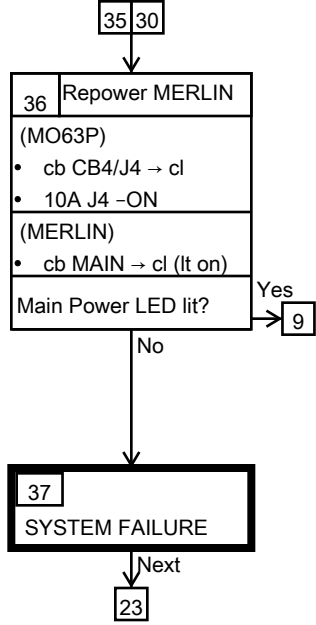
30	Switch to spare DC JUMPER (21') cable
<ul style="list-style-type: none"> • Unstow Spare DC JUMPER (21') Cable 	
(MERLIN)	
<ul style="list-style-type: none"> • ✓cb PAYLOAD – op (lt off) • cb MAIN → op (lt off) 	
(MO63P)	
<ul style="list-style-type: none"> • ✓10A J4 – OFF • ✓cb CB4/J4 – op 	
(MERLIN)	
<ul style="list-style-type: none"> • DC JUMPER (21') - ->A/E PAYLOAD DC POWER (20') • ✓DC JUMPER (21') - ->MERLIN J1 • A/E PAYLOAD DC PWR (20') - ->Spare DC JUMPER (21') • Spare DC JUMPER (21') - ->MERLIN J1 	

Next

36



- ② Always deadface DC Power source when disconnecting or connecting power cable.
- ④ Verify connectors are properly mated and seated securely when reconnecting.
- ⑦ Spare Cable stowed in IFM Contingency Hose and Cable Kit (CHCK).



MERLIN RECORD DIAGNOSTIC DATA

(ASSY OPS/19A/FIN 1)

Page 1 of 3 pages

OBJECTIVE:

The following steps allow the recording of some MERLIN data for diagnostic purposes.

```
*****
*
* If Display - ***Error Pending***:
* | Perform MERLIN ERROR MESSAGE, all (SODF: ASSY OPS:
* | PAYLOADS), then:
*
*****
```

RECORDING HOME DISPLAY DATA

1. ✓ **MCC-H** for parameters to record in Table 5-II of [MERLIN TABLES](#) (SODF: ASSY OPS: PAYLOADS).
2. ✓ Display – **'HOME DISPLAY'**

*
* If **'HOME DISPLAY'** not shown
* | pb Right (EXIT) → Press until **'HOME DISPLAY'** appears
*

3. Record **'CURR TEMP'**, **'GPS'** in Table 5-II of [MERLIN TABLES](#) (SODF: ASSY OPS: PAYLOADS).

RECORDING QUICK STATUS

4. pb Left (MENU) → Press (one time), the following appears:
'MAIN MENU'
'Quick Status 1/8'
5. pb Center (SELECT) → Press (one time), the following appears:
'MAIN: QUICK STATUS'
'ECW 01/19'

NOTE

1. The left pushbutton (-PARAM) moves to previous parameter display.
2. The center pushbutton (+PARAM) moves to next parameter display.

6. Record Quick Status data per **MCC-H** in Table 5-II of [MERLIN TABLES](#) (SODF: ASSY OPS: PAYLOADS).
7. pb Center (+PARAM) → Press until all Quick Status data has been recorded per **MCC-H**
8. pb Right (EXIT) → Press until **'HOME DISPLAY'** appears

9. Contact **MCC-H** to report log values from log file

RECORDING THERMAL GENERAL

10. pb Left (MENU) → Press (one time), the following appears:
'MAIN MENU'
'Quick Status 1/8'
11. pb Left (NEXT) → Press (one time), the following appears:
'MAIN MENU'
'Status 2/8'
12. pb Center (SELECT) → Press (one time), the following appears:
'MAIN: STATUS'
'Thermal 1/6'
13. pb Center (SELECT) → Press (one time), the following appears:
'STATUS:THERMAL'
'General 1/4'
14. pb Center (SELECT) → Press (one time), the following appears:
'THERMAL: GENERAL'
'Temp Control 01/12'

NOTE

1. The left pushbutton (-PARAM) moves to previous parameter display.
2. The center pushbutton (+PARAM) moves to the next parameter display.

15. Record Thermal General data per **MCC-H** in Table 5-II of [MERLIN TABLES](#) (SODF: ASSY OPS: PAYLOADS).
16. pb Center (+PARAM) → Press until all Thermal General data has been recorded per **MCC-H**
17. pb Right (EXIT) → Press until '**HOME DISPLAY**' appears
18. Contact **MCC-H** to report log values from log file

RECORDING ANCILLARY GENERAL

19. pb Left (MENU) → Press (one time), the following appears:
'MAIN MENU'
'Quick Status 1/8'
20. pb Left (NEXT) → Press (one time), the following appears:
'MAIN MENU'
'Status 2/8'
21. pb Center (SELECT) → Press (one time), the following appears:

MERLIN RECORD DIAGNOSTIC DATA

(ASSY OPS/19A/FIN 1)

Page 3 of 3 pages

'MAIN: STATUS'

'Thermal 1/6'

22. pb Left (NEXT) → Press (two times), the following appears:
'MAIN: STATUS'
'Ancillary 3/6'
23. pb Center (SELECT) → Press (one time), the following appears:
'STATUS: ANCILLARY'
'General 1/4'
24. pb Center (SELECT) → Press (one time), the following appears:
'ANCILLARY: GENERAL'
'Boot Count 01/06'

NOTE

1. The left pushbutton (-PARAM) moves to previous parameter display.
2. The center pushbutton (+PARAM) moves to next parameter display.

25. Record Ancillary General data per **MCC-H** in Table 5-II of [MERLIN TABLES](#) (SODF: ASSY OPS: PAYLOADS).
26. pb Center (+PARAM) → Press until all Ancillary General data has been recorded per **MCC-H**
27. pb Right (EXIT) → Press until '**HOME DISPLAY**' appears.
28. Contact **MCC-H** to report log values from log file

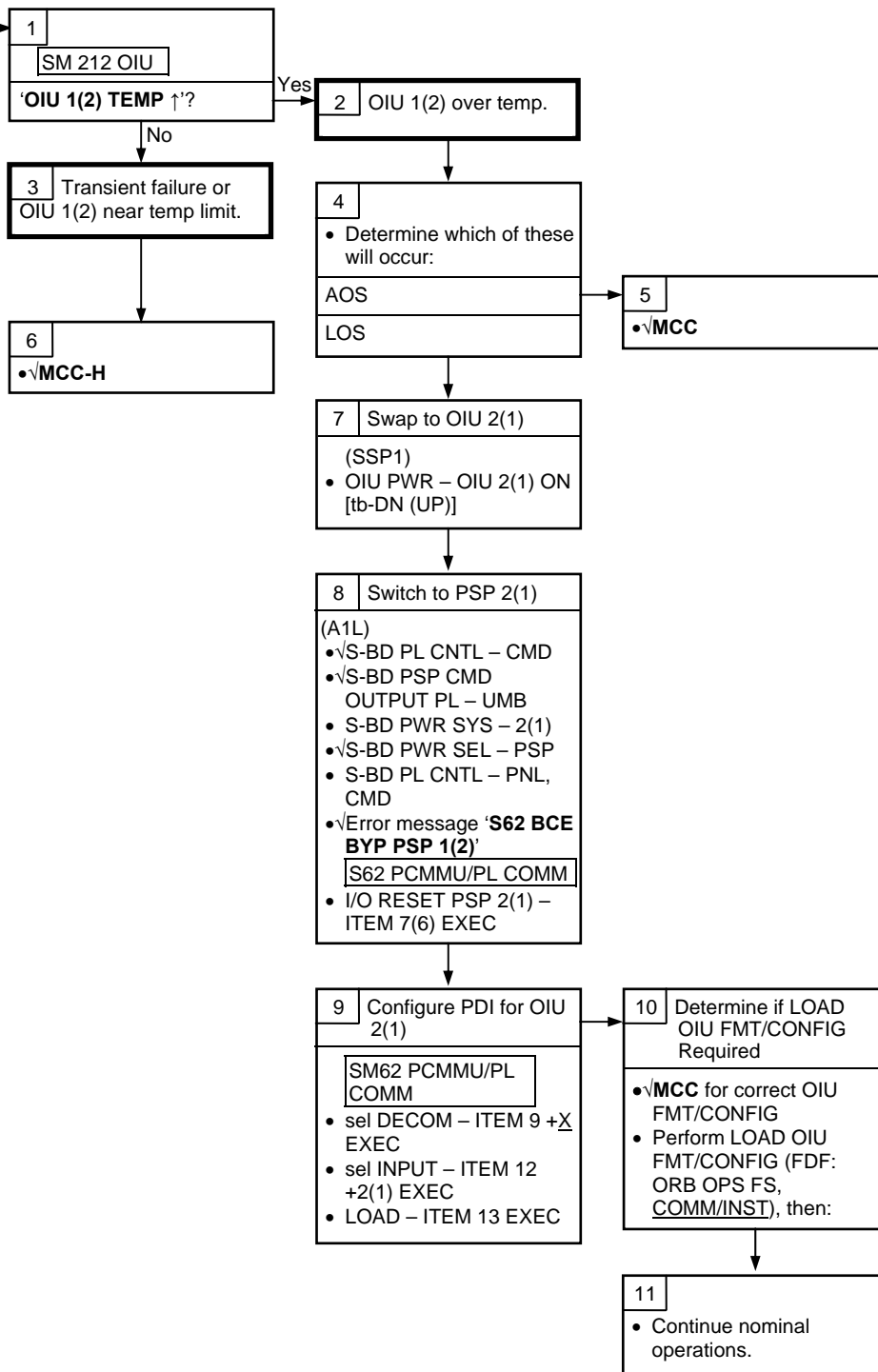
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SM 212 OIU
TEMP

OIU message: OIU
TEMP > 212

Nominal Config:

(R1)
PL CAB –
MNA(MNB)
PL AUX – ON
(SSP1)
OIU PWR – OIU 1(2)
ON
tb OIU – UP(DN)



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COMM

S212 OIU AD 1 NOLK/LOSS OF ISS OR SSOR TELEMETRY

(ASSY OPS/19A/FIN 1) Page 1 of 3 pages

SM ALERT

S212 OIU AD1 NOLK

Loss of Data On SPEC 205 During Undocking

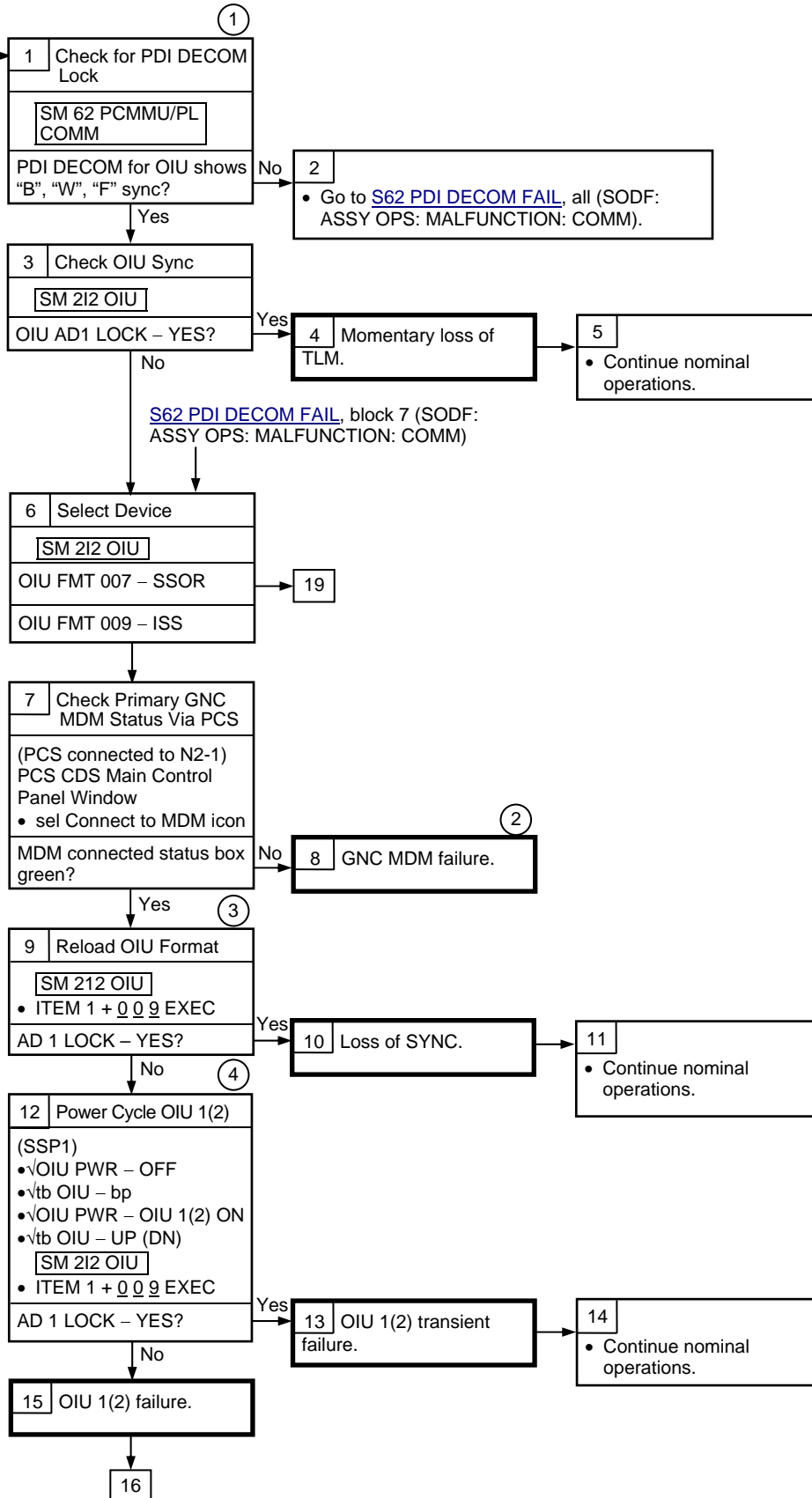
MCC-H Reports Loss of ISS Data To Ground Via OIU

Nominal Config:

(R1)
 PL CAB
 - MNB(MNA)
 PL AUX - ON (SSP1)
 OIU PWR
 - OIU 1(2) ON
 tb OIU - UP(DN)

For ISS:
 One PCS connected to Primary GNC MDM
 SM 212 OIU
 OIU FMT: 009

For SSOR:
 (R14)
 cb MNA UHF EVA - cl
 cb MNC UHF EVA - cl
 (O6)
 EVA STRING: 1(2)
 UHF MODE - EVA
 SM 212 OIU
 OIU FMT - 007

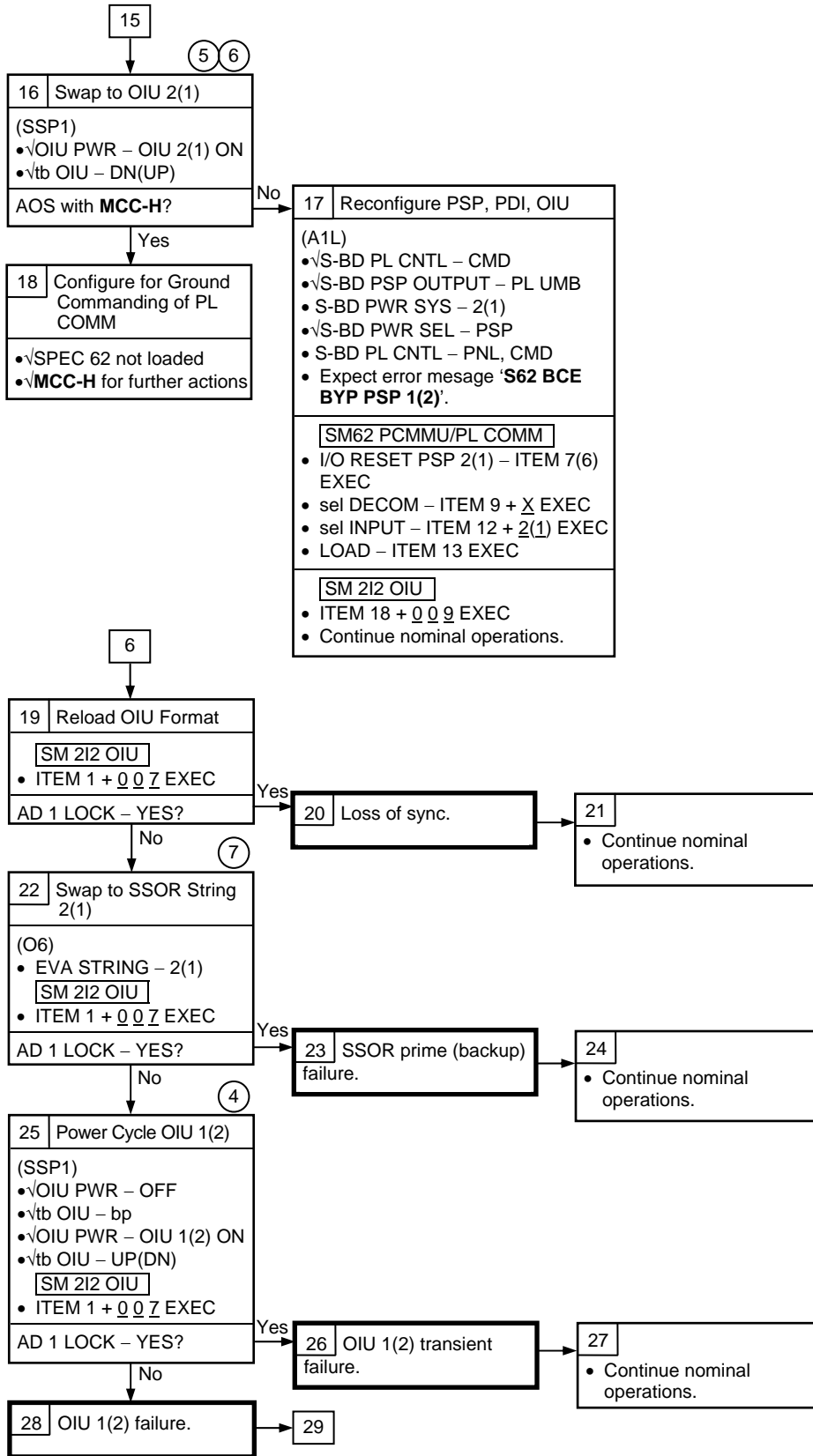


① OIU to PDI problems would announce a 'S62 PDI DECOM FAIL' message if FDA enabled.

② MCC-H will likely direct STS or ISS crew to perform 3.301 LOSS OF PCS TELEMETRY (SODF: POC: MALFUNCTION).

③ Reloading the OIU format forces a resync with the GNC MDM or SSOR.

④ OIU active device mapping occurs with format load.

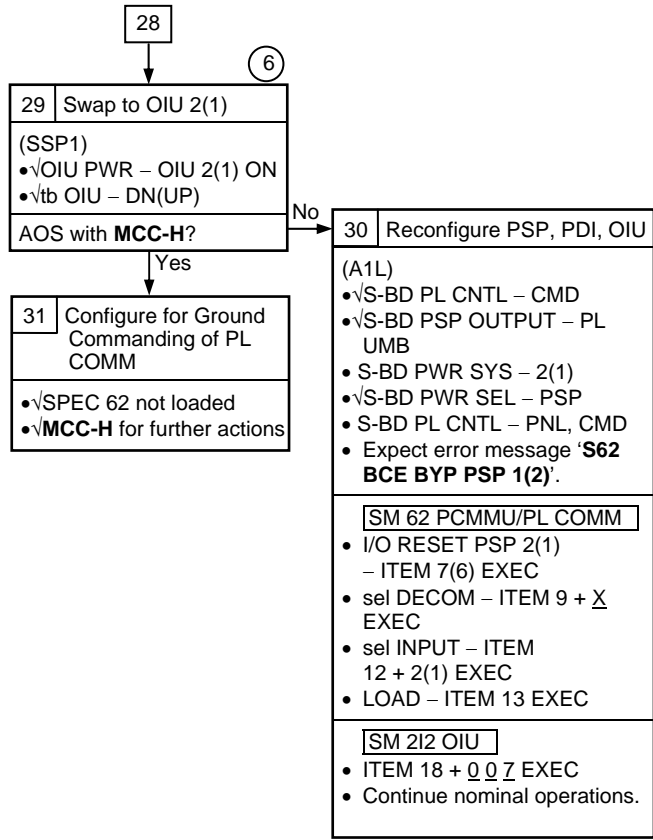


④ OIU active device mapping occurs with format load.

⑤ Malfunction restores operational capability; additional troubleshooting to determine BIA failure may be performed later.

⑥ OIU powerup config on OIU BUS 3 is RT on ch A.

⑦ Reloading the OIU format forces a resync with the SSOR.



⑥
OIU powerup config
on OIU BUS 3 is RT
on ch A.

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S62 PDI DECOM FAIL

(ASSY OPS/19A/FIN 1)

Page 1 of 3 pages

S212 OIU AD 1 NOLK/LOSS OF ISS OR SSOR TELEMETRY,
block 2 (SODF: ASSY OPS: MALFUNCTION: COMM)

SM
ALERT

S62 PDI
DECOM FAIL

Nominal Config:

(A1L)
PL DATA INTLVR
PWR – ON

(R1)
PL CAB MNA(MNB)
PL AUX – ON

(SSP1)
OIU PWR – OIU 1(2)
ON
tb OIU – UP(DN)

SM 62 PCMMU/
PLCOMM

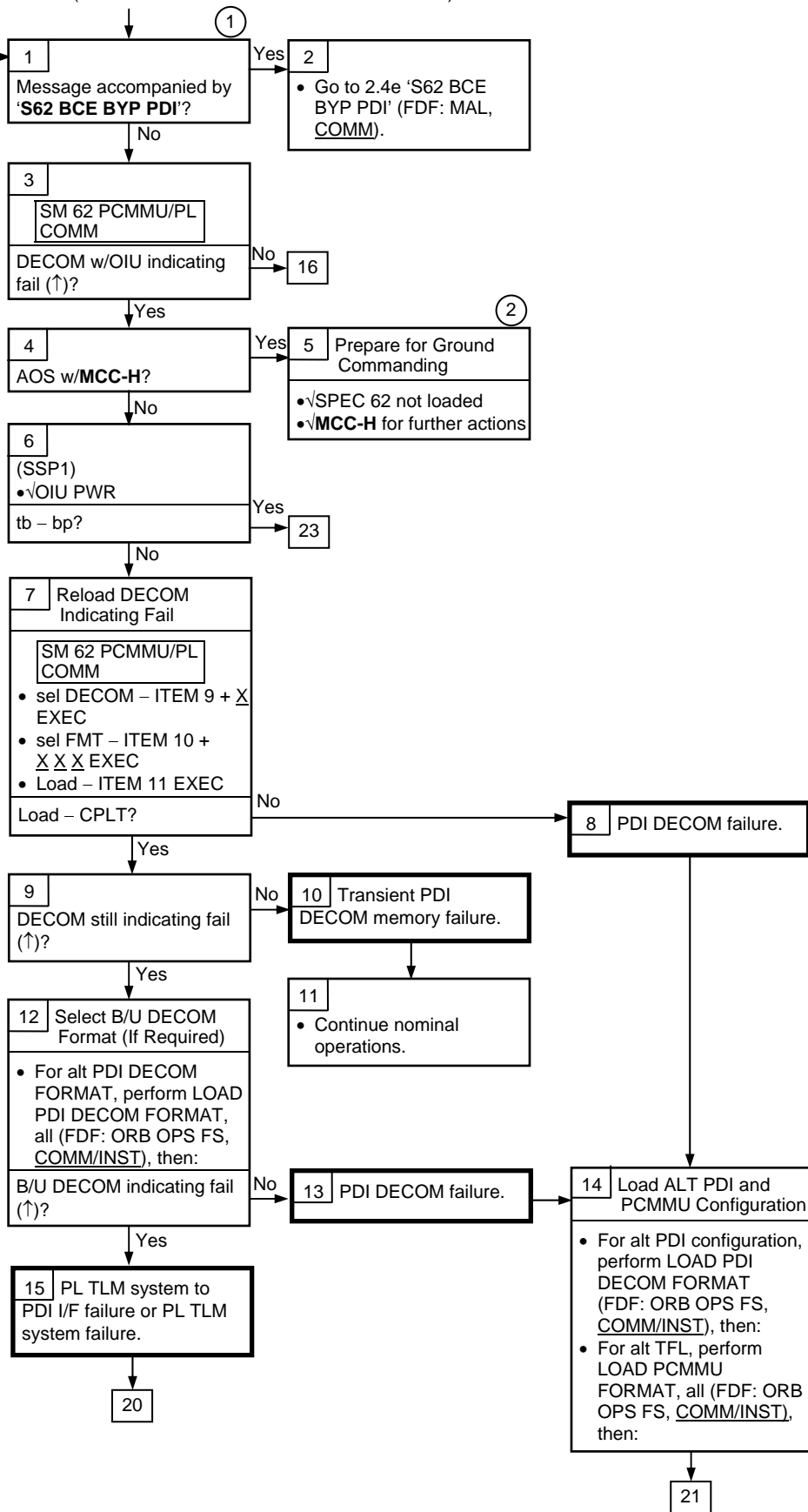
DECOM FDA ENA
ITEM 14 (15, 16,
17) = ENA (*)

SM212 OIU

OIU FMT 5 = MPLM
OIU FMT 7 = RNDZ
OIU FMT 9 = ISS

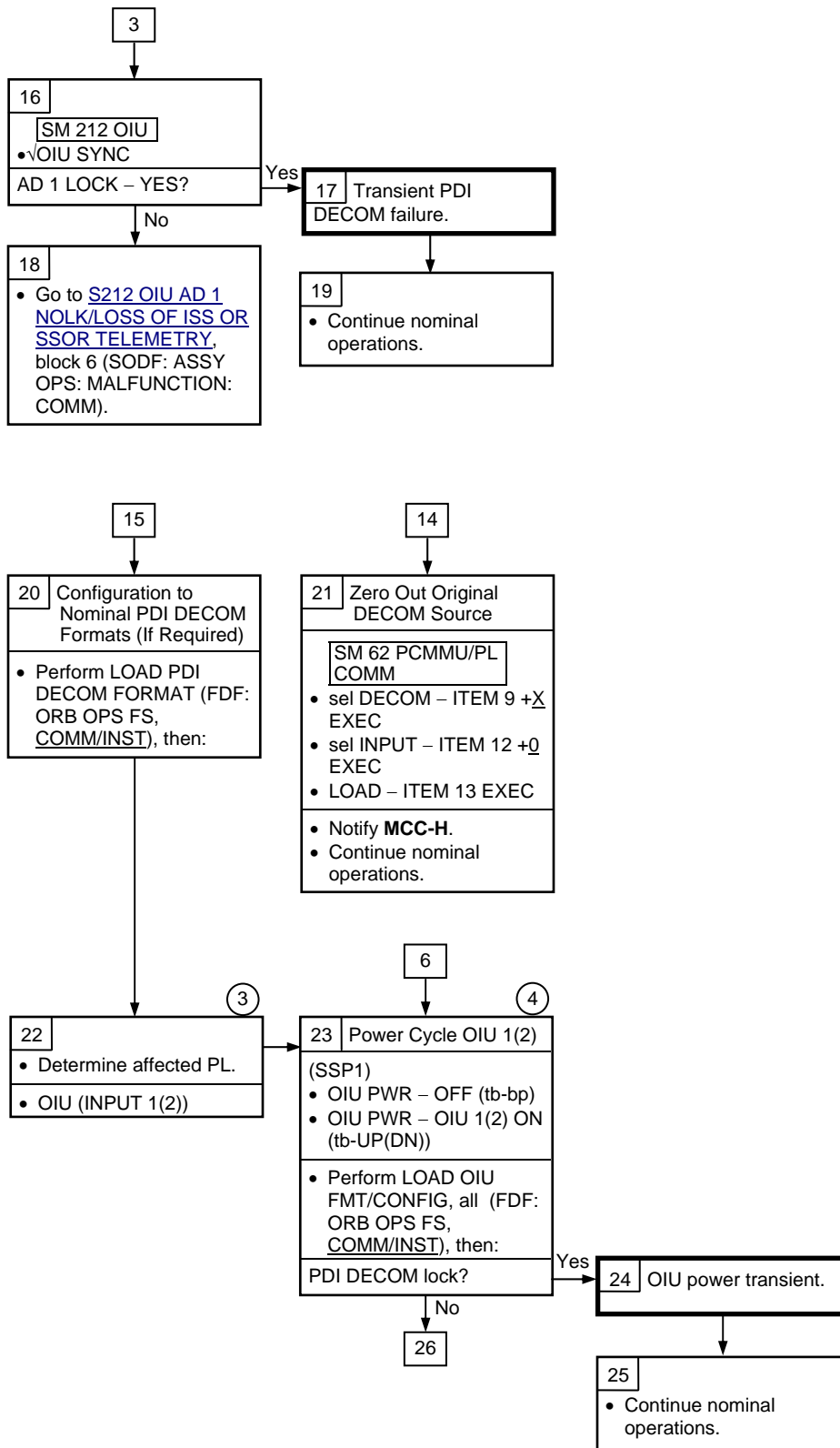
ISS Config:
GNC – 1 prime on
LB ORB N2-1.

OIU FMT 255 = H&S



①
'S212 OIU AD 1 NOLK' indicates OIU active device lock = NO.

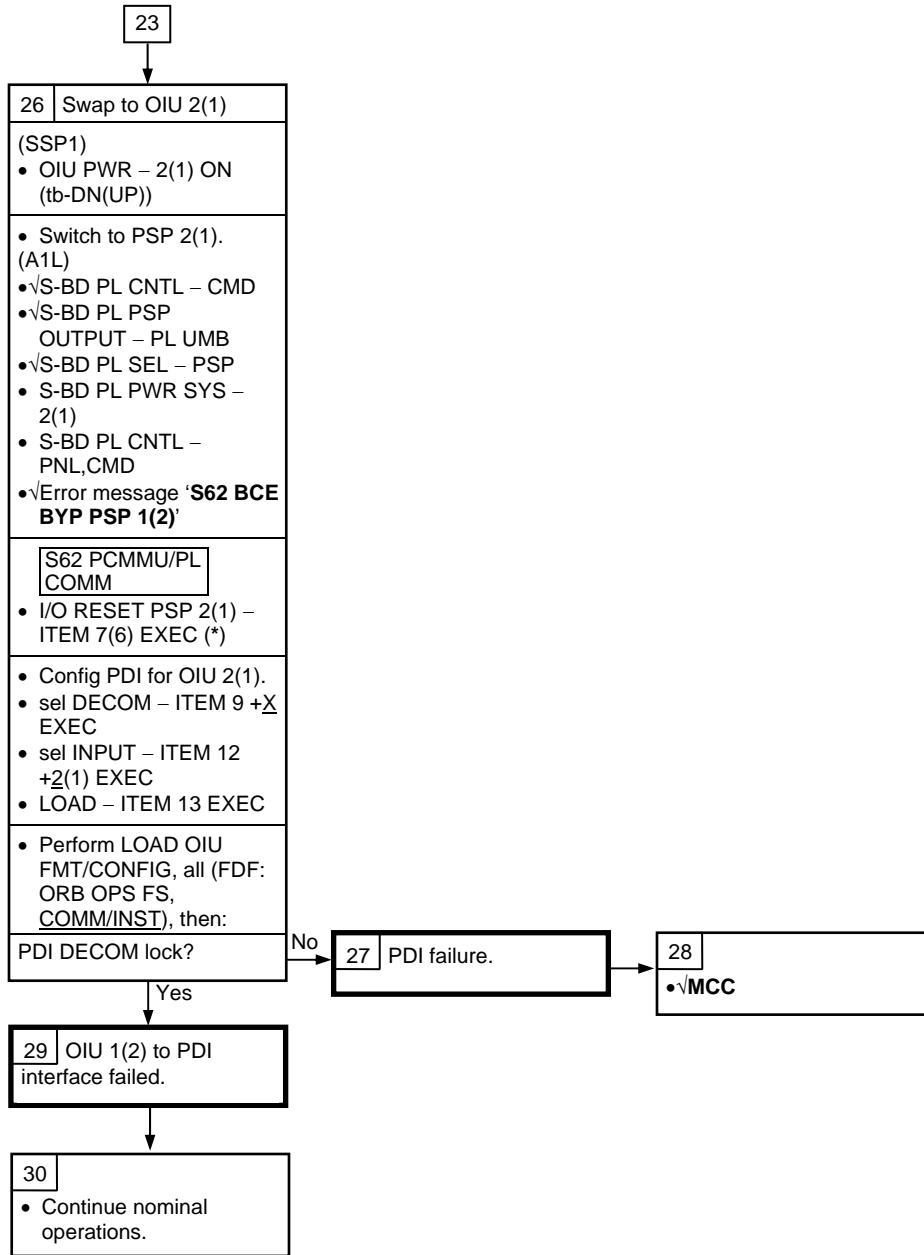
②
MCC-H can perform all PL COMM reconfig, except OIU PWR cycle and swap steps.



③ TCS/SSV is not addressed in malfunction; FDA is not enabled.

④ If a config other than GNC-1 prime on N2-1 is active, √MCC.

S62 PDI DECOM FAIL
(ASSY OPS/19A/FIN 1)



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PL/DPS RECONFIG

(ASSY OPS/19A/FIN 1)

Page 1 of 2 pages

Procedure	Secure Action	Recovery Action	Info
PL1(2) MDM I/O ERROR; PL1(2) MDM OUTPUT (FDF: ORB PKT, <u>DPS</u>)	N/A	N/A	A
5.3c I/O ERROR PL1(2); MDM OUTPUT PL1(2) (FDF: MAL, <u>DPS</u>)	N/A*	N/A	A
PASS SM GPC FAIL (FDF: ORB PKT, <u>DPS</u>)	N/A	D	B
5.1a CS SPLIT (FDF: MAL, <u>DPS</u>)	N/A*	C,D,E**	B
GNC RECOVERY VIA G2FD (FDF: ORB PKT, <u>DPS</u>)	N/A*	C,D	B
5.3e I/O ERROR FLEX (FDF: MAL, <u>DPS</u>)	N/A	N/A	N/A
5.3f BCE BYP FLEX (FDF: MAL, <u>DPS</u>)	N/A	N/A	N/A
5.3g BCE BYP PL1(2) (FDF: MAL, <u>DPS</u>)	N/A*	N/A	A
GPC FRP-4 PASS RECOVERY AFTER BFS ENGAGE (FDF: MAL, <u>DPS</u>)	N/A*	C,D	B
GPC FRP-7 DPS RECONFIG FOR LOSS OF AV BAY COOLING (FDF: MAL, <u>DPS</u>)	N/A*	C,D	B
DPS SSR-3 GNC REASSIGNMENT (FDF: MAL, <u>DPS</u>)	N/A	N/A	B
DPS SSR-4 SM REASSIGNMENT (FDF: MAL, <u>DPS</u>)	N/A	C,D	B
ECLSS SSR-10 H2O PUMP OPS VIA GPC (FDF: MAL, ECLS)	N/A	C,D,E**	B

* Procedure does not call out PL/DPS RECONFIG, Secure.

** Procedure does not call out PL/DPS RECONFIG, Recovery.

INFO A

If '**I/O ERROR PL1**' message

Loss of ground and orbiter MEDS command interface to ISS via PSP 1/OIU 1.

For additional impacts, refer to [ORBITER MDM LOSS IMPACTS](#) (SODF: ASSY OPS: MALFUNCTION: CRITICAL EQUIPMENT LOST).

If '**I/O ERROR PL2**' message

Loss of ground and orbiter MEDS command interface to ISS via PSP 2/OIU 2.

For additional impacts, refer to [ORBITER MDM LOSS IMPACTS](#) (SODF: ASSY OPS: MALFUNCTION: CRITICAL EQUIPMENT LOST).

INFO B

If SM GPC affected

Note PL commanding via SM GPC (ground and/or orbiter MEDS) not possible until SM machine is restored and PL 1(2) MDM I/F is restored.

If GNC GPC affected

Ground commanding not possible until GNC machine is restored.

PL/DPS RECONFIG

(ASSY OPS/19A/FIN 1)

Page 2 of 2 pages

ACTION C

If PSP I/O reset not previously performed

SM 62 PCMMU/PL COMM

I/O RESET PSP 1(2) – ITEM 6(7) EXEC

Notify **MCC-H** when completed.

Resume SPEC 62.

ACTION D

Reload PDI DECOM FORMAT (FDF: ORB OPS FS, COMM/INST).

As required, reenable PDI DECOM FDA.

Resume SPEC 62.

ACTION E

Reload PCMMU TFLs, LOAD PCMMU FORMAT (FDF: ORB OPS FS,

COMM/INST).