EVA PREP

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EVA PREP ........................................................................................................ TEMP FS 4-2
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WARNING
Payload bay floods exceed EMU thermal limits during operation. If EVA crew will be operating in vicinity of PLB floods, floods must be turned off now. Cooldown time may be as long as 6 hr

MIDDECK PREP (30 min)

AW18A
1. LTG FLOOD (four) – ON
2. EVA Bag installed in airlock
3. REBA sw – OFF
If EMU TV:
   4. Demate EMU TV power cable; connect ground plug
5. Disconnect helmets; Velcro to lockers
HUT
6. Remove Drink Bag restraint bag
7. Fill Drink Bag from galley, remove gas and insert Drink Bag in restraint bag
8. Install Drink Bag restraint bag in HUT and dispose of fill tool in wet trash
9. Apply anti-fog (EMU Servicing Kit), wipe off:
   Helmets (not Fresnel lens)
   EV glasses, attach to comm cap
10. Stow EMU Servicing Kit
11. Install Helmets; lock
12. Attach Cuff C/L to EMUs

EVA PREP (90 min)

PREP FOR DONNING (30 min)

If internal airlock:
ML31C
1. VAC VENT ISOL VLV CNTL tb – OP
   NOZ HTR – ON

If external airlock:
BOTH DCM
2. Retrieve, position SCU; remove DCM cover
3. Connect SCU to DCM, locked

AW82B
4. EV-1, EV-2 O2 vlv (two) – op

MO13Q
5. ARLK H2O S/O VLV – OP (tb-OP)

MD(flr)
6. EMU O2 ISOL VLV – OP

ML86B:C
7. cb MNC EXT ARLK HTR ZN 1,2 (two) – op

L2
8. O2 XOVR SYS 1,2 (two) – OP

BOTH DCM
9. PWR – BATT

CAUTION
EMU must be on BATT pwr when airlock power supply turned on

AW18H
10. PWR/BATT CHGR EMU 1,2 MODE (two) – PWR

DCM
11. PWR – SCU
12. Verify panels as shown next page
EVA PREBREATHE CUE CARD

EVA PREBREATHE EVENTS

Mask Prebreathe (90 minutes)

A. P/B PET = 0:00
   (Start Clock)
   Inform MCC-H
   EVA 1) GMT = __________
   2) GMT = __________
   3) GMT = __________
   4) GMT = __________

B. EV2 EXERCISE END
   Inform MCC-H
   EVA 1) P/B PET = __________
   2) P/B PET = __________
   3) P/B PET = __________
   4) P/B PET = __________

C. INITIATING 10.2 DEPRESS
   BREAK DURING 10.2 PSI O2
   EVA 1) P/B PET = 0:35
   Depress at P/B PET = 0:50
   BLOCK B P/B PET = 0:35
   Depress 15 minutes after BLOCK B
   Actual depress start, inform MCC-H:
   EVA 1) P/B PET = __________
   2) P/B PET = __________
   3) P/B PET = __________
   4) P/B PET = __________

D. MASK PREBREATHE TERM
   Inform MCC-H
   EVA 1) P/B PET = __________
   2) P/B PET = __________
   3) P/B PET = __________
   4) P/B PET = __________

WARNING
Duration of interruption in protocol must be recorded. Interruptions other than during exercise will use PHA or EMU for O2 buy-back. Contact MCC-H for buy-back duration and location.

WARNING
Do not terminate mask prebreathe until airlock pressure at 10.2 psi (527 mbar) and P/B PET > 1.20 and 45 minutes since block B and airlock O2 concentration between 23.8 to 28.8% (27 to 28% target).

NOTE
Will hold at 12.5 to 11.0 psi until depress start P/B PET plus 15 minutes.

E. EMU/PURGE START
   Inform MCC-H
   EVA 1) GMT = __________
   2) GMT = __________
   3) GMT = __________
   4) GMT = __________

F. EMU PREBREATHE START
   Inform MCC-H
   EVA 1) GMT = __________
   2) GMT = __________
   3) GMT = __________
   4) GMT = __________

G. CREWLOCK DEPRESS START
   Start depress when:
   EMU Purge/Prebreath time ≥ 1:12
   EVA 1) GMT = __________
   2) GMT = __________
   3) GMT = __________
   4) GMT = __________

(reduced copy)
**EVA PREBREATHE CUE CARD**

**EVA EXERCISE PRESCRIPTION**

<table>
<thead>
<tr>
<th>EXERCISE PRESCRIPTION</th>
<th>EV 1</th>
<th>EV 2</th>
<th>EV 3</th>
<th>EV 4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Start Exercise Protocol</strong></td>
<td><strong>EVAR1</strong></td>
<td><strong>EVAR2</strong></td>
<td><strong>EVAR3</strong></td>
<td><strong>EVAR4</strong></td>
</tr>
<tr>
<td><strong>Heart Rate (bpm)</strong></td>
<td>(Not to exceed = _____)</td>
<td>(Not to exceed = _____)</td>
<td>(Not to exceed = _____)</td>
<td>(Not to exceed = _____)</td>
</tr>
<tr>
<td><strong>Workload (watts)</strong></td>
<td>_____</td>
<td>_____</td>
<td>_____</td>
<td>_____</td>
</tr>
<tr>
<td><strong>Time</strong></td>
<td>1 min</td>
<td>1 min</td>
<td>7 min</td>
<td>1 min</td>
</tr>
<tr>
<td><strong>Max VO2</strong></td>
<td>37.5 %</td>
<td>50 %</td>
<td>75 %</td>
<td>Cool Down</td>
</tr>
<tr>
<td><strong>End PET</strong></td>
<td>:</td>
<td>:</td>
<td>:</td>
<td>:</td>
</tr>
</tbody>
</table>

**TERMINATE EXERCISE**

- Press STOP on CEVIS display and stop heart rate watch.
- Record Exercise End PET (For EV2 record in Block B of Prebreath Events).
- Momentarily pull mask away from face to verify positive O2 flow.
- If no O2 flow, contact MCC-H.
- If all EV crew have completed exercise:
  - Cycle ergometer Power Switch to OFF
  - Remove PCMCIA card from CEVIS
  - Temporarily stow PCMCIA card.

**DOFF EXERCISE EQUIPMENT**

- Doff Heart Rate Monitor chest strap.
- Clean with alcohol wipes (EMU Servicing Kit) avoiding electrodes.
- Doff Ergometer/CEVIS shoes

<table>
<thead>
<tr>
<th><strong>IF USING Shuttle O2, RECONFIGURE PHA TO 90 FT HOSE</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 90-ft hose from shuttle LEH Port → Special Tee Assembly</td>
</tr>
<tr>
<td>2. 60-ft hose from PBA port ↔ Special Tee Assembly</td>
</tr>
<tr>
<td>3. Temporarily stow 60-ft hose for use after CEVIS ops</td>
</tr>
</tbody>
</table>

**NOTE**

1. Maintain > 60 rpm and match armleg cadence (pedaling effort at < 60 rpm becomes noticeably more difficult). Use table values for workload and record heart rate. If heart rate exceeds the maximum indicated at the top of the table, decrease workload by 25-watt increments until heart rate falls below the maximum.
2. CEVIS timer will not increase while arrows remain displayed. Workload will change as soon as arrows are pressed.
3. If an interruption of either exercise or mask prebreath < 2 minutes occurs during the 10-minute exercise, extend the 75 % max VO2 portion of the table for a duration equal to the interruption.