

03.124 Electrolysis Auxiliary Canister Swapout (03. ECLSS)

OBJECTIVE:

To perform a swap out of the Auxiliary Electrolysis Canister for the Solid Polymer Electrolysis (SPE) system in the event of a failure

EQUIPMENT:

Qty 1 Auxiliary electrolysis canister
PPE safety glasses
PPE static wrist tether
Flathead screwdriver
Water containment bucket

L2C

1. POWER DOWN SPE SYSTEM

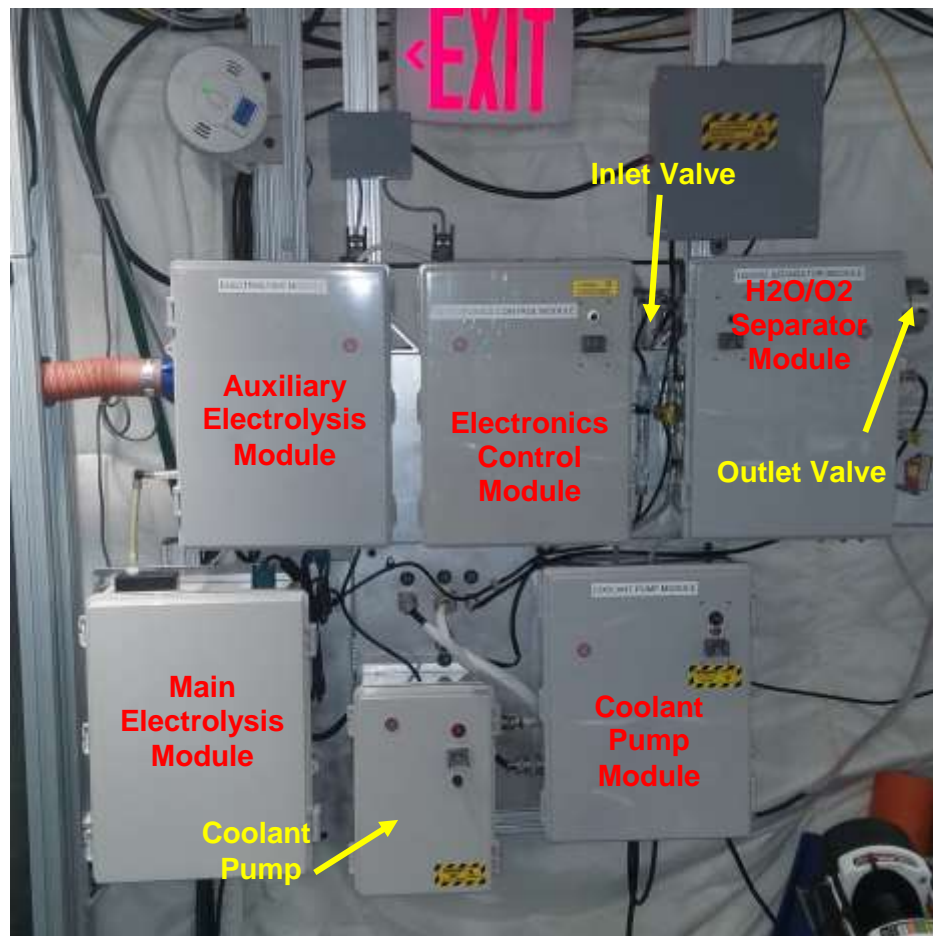


Figure 1: Electrolysis System

- 1.1 Perform all steps of procedure "Electrolysis System Deactivation"
(Procedure 03.111)

**03.124 Electrolysis Auxiliary Canister Swapout
(03. ECLSS)**

- L2C 2. DRAIN DEFECTIVE AUXILIARY ELECTROLYSIS CANISTER



Figure 2: Auxiliary Electrolysis Canister within the Auxiliary Electrolysis Module

03.124 Electrolysis Auxiliary Canister Swapout

(03. ECLSS)

- 2.1 Disconnect coolant pump hose at the elbow connector from the black hose connected to the top of the Auxiliary Electrolysis Canister
- 2.2 Disconnect black and red power plugs by pulling from the top of the Auxiliary Electrolysis Canister
- 2.3 Remove beige hose from the top of the Auxiliary Electrolysis Canister
- 2.4 Hold canister and use flathead screwdriver to remove lug nuts from the top of the Auxiliary Electrolysis Canister. Temp stow lug nuts and screwdriver
- 2.5 Pull Auxiliary Electrolysis Canister down to disengage from Auxiliary Electrolysis Module Box
- 2.6 Retrieve water containment bucket from ECLSS kit and temp stow on top of the Auxiliary Electrolysis Module
- 2.7 Invert canister into water containment bucket and allow electrolyte to fully drain into water containment bucket
- 2.8 Temp stow water containment bucket away from the SPE system or any other electronics

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3. INSTALL SPARE AUX ELECTROLYTE CANISTER

- 3.1 Retrieve Spare Auxiliary Electrolysis Canister
- 3.2 Stow defective auxiliary electrolysis canister in a Ziploc bag labeled "Used Auxiliary Electrolysis Canister" in the ECLSS kit

03.124 Electrolysis Auxiliary Canister Swapout (03. ECLSS)



Figure 3: Side view of Auxiliary Electrolysis Canister Top

- 3.3 Push H2 Accumulator down while pushing Spare Auxiliary Electrolysis Canister up into Auxiliary Electrolysis Module Box and pull up until Cathode/Anode rods slide into slider joints (see Figure 3). Visually ensure tight seal with H2 Accumulator and clear plastic hose in back of Electrolysis Module
- 3.4 Use flathead screwdriver to tighten lug nuts to Cathode/Anode slider joints.
- 3.5 Temp stow screwdriver
- 3.6 Call MCC to report new Auxiliary Electrolysis Canister S/N
- 3.7 Reinstall black and red power plugs to Module Top
- 3.8 Reinstall beige hose to Module Top. Visually ensure tight seal with clear plastic hose. Push as far as possible

03.124 Electrolysis Auxiliary Canister Swapout
(03. ECLSS)

- 3.9 Reinstall black hose to elbow joint of the Coolant water valve.
- 3.10 Dispose of waste water in the water containment bucket. Do not pour into galley waste water drain.
- 3.11 Perform all steps of procedure "Electrolysis System Activation" (Procedure 03.108)
- 3.12 Perform all steps of procedure "Electrolysis System Checkout" (03.110)
- 3.13 Stow all tools