

03.113 Fuel Cell Injector Purge (03. HSS Procedure)

OBJECTIVE:

To periodically clear out solidified carbon that may build up in the injector lines for the carbon fuel cells.

EQUIPMENT:

PPE safety glasses
Orange caution cone

1. SAFE FUEL CELLS (IF ACTIVATED)

- 1.1 Remove floor panel 1C and temp stow. Place orange caution cone to the side of opening.
- 1.2 Don PPE safety glasses.
- 1.3 Check 15 amp circuit breaker is not tripped by verifying there is no white ring visible on the circuit breaker (see Figure 1).
 - 1.3.1 If tripped, reset and inform MCC through text or call down.

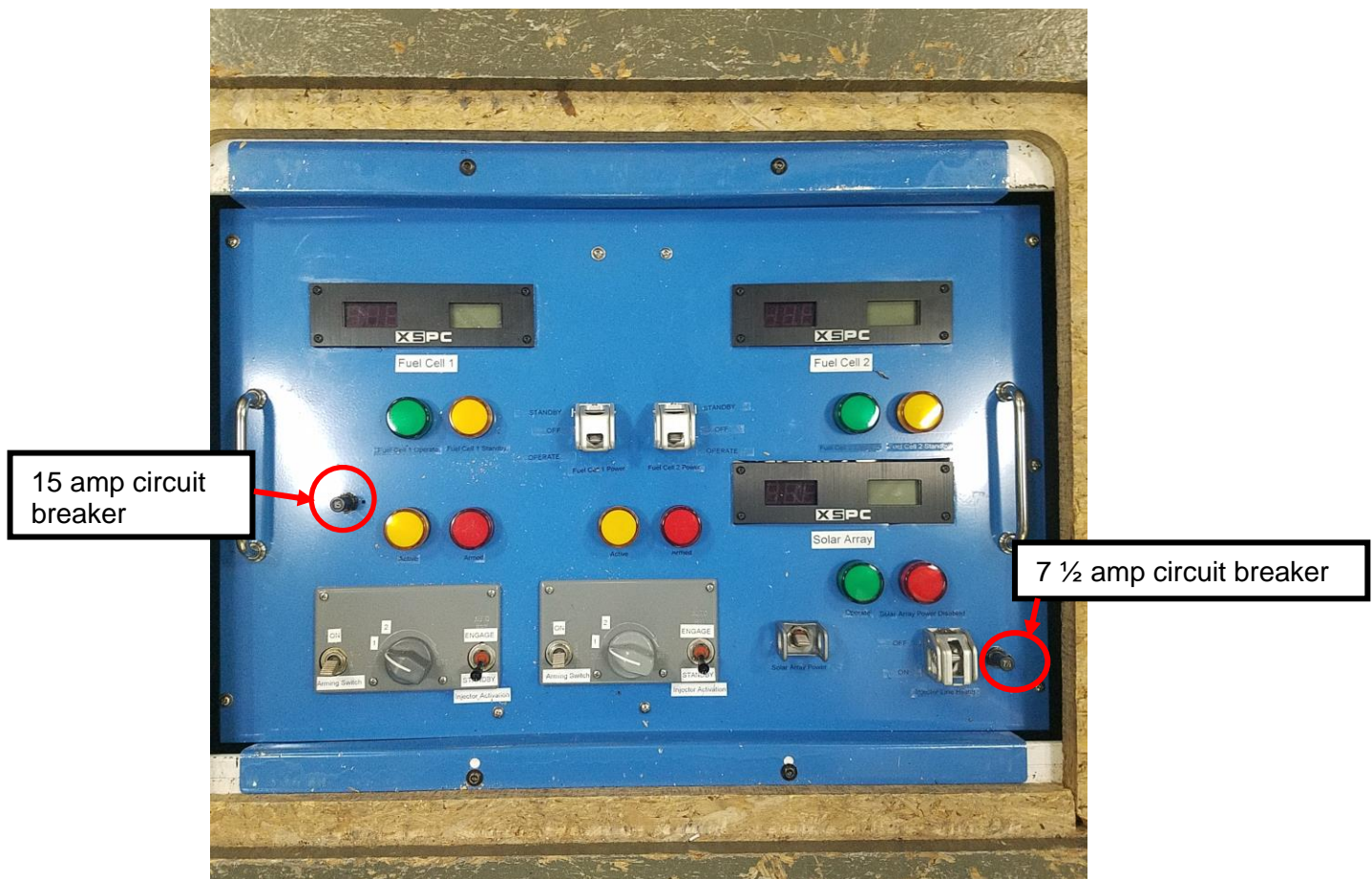


Figure 1: Fuel Cell Control Panel

03.113 Fuel Cell Injector Purge (03. HSS Procedure)

- 1.4 Check fuel cell 1 and 2 green operate lights are illuminated (see Figure 2).



Figure 2: Fuel Cell Operate Light

NOTE

Fuel cell power switch has three positions:

Down = Operate Mode

Neutral (Center) = Power Removed

Up = Standby Mode

- 1.5 Lift switch guards for fuel cell 1 and 2 power and flip power to Standby Mode.
- 1.6 Check fuel cell 1 and 2 yellow standby lights are illuminated and green operate lights are off (see Figure 3).



Figure 3: Fuel Cell Standby Light

03.113 Fuel Cell Injector Purge
(03. HSS Procedure)

NOTE

Heater is required to loosen the carbon buildup on the injector lines before manual purge.

L1C Subf 2. ACTIVATE INJECTOR LINE HEATER



Figure 4: Injector Line Heater Switch

- 2.1 Check 7 ½ amp circuit breaker is not tripped by verifying there is no white ring visible on the circuit breaker (see Figures 1 and 4).

If tripped, reset and inform MCC through text or call down.

- 2.2 Lift Injector Line Heater switch guard.
2.3 Flip Injector Line Heater switch to “ON” (down).



Figure 5: Fuel Cell Temperature Sensor (on right)

- 2.4 Monitor temperature of both fuel cells until they both reach 29 C or greater (see Figure 5).

03.113 Fuel Cell Injector Purge (03. HSS Procedure)

This typically takes ~2-3 minutes. After 3 minutes move on even if the temperature does not change.

3. ARM INJECTOR SWITCHES



Figure 6: Injector Panel

3.1 Move Arming Switch to “ON” for both fuel cells 1 and 2 (see Figure 6).



Figure 7: Injector Active Light

3.2 Confirm yellow active light illuminates for both fuel cells 1 and 2 (see Figure 7).

03.113 Fuel Cell Injector Purge (03. HSS Procedure)

3.3 Turn Arming Dial from position 1 to 2 for both fuel cells 1 and 2 (see Figure 6).



Figure 8: Injector Armed Light

3.4 Confirm red armed light illuminates and blinks for both fuel cells 1 and 2 and the yellow active lights are off for both fuel cells 1 and 2 (see Figure 8).

L1C Subf 4. PURGE INJECTOR LINES

4.1 Flip Injector Activation switch for fuel cell 1 from “STANDBY” to “ENGAGE” and hold for 3 seconds (see Figure 6).

4.2 Confirm audible hiss of injector line as it is cleaned.

4.3 Release switch to return it to “STANDBY”.

4.4 Flip Injector Activation switch for fuel cell 2 from ‘STANDBY’ to ‘ENGAGE’ and hold for 3 seconds (see Figure 6).

4.5 Confirm audible hiss of injector line as it is cleaned.

4.6 Release switch to return it to ‘STANDBY’.

L1C Subf 5. REACTIVATE FUEL CELLS

5.1 Turn Arming Dial from position 2 to 1 for both fuel cells 1 and 2 (see Figure 6).

5.2 Confirm red armed light is off for both fuel cells 1 and 2 and the yellow active light illuminates for both fuel cells 1 and 2 (see Figure 8).

5.3 Move Arming Switch to “OFF” for both fuel cells 1 and 2.

03.113 Fuel Cell Injector Purge

(03. HSS Procedure)

- 5.4 Confirm yellow active light for both fuel cells 1 and 2 is off.
- 5.5 Flip Injector Line Heater switch to "OFF" (up).
- 5.6 Close Injector Line Heater switch guard.
- 5.7 Flip power switch for fuel cells 1 and 2 power to Operate Mode.
- 5.8 Check fuel cell 1 and 2 green operate lights are illuminated.
- 5.9 Flip switch guard to closed for fuel cells 1 and 2.
- 5.10 Doff PPE safety glasses.
- 5.11 Retrieve and reinstall floor panel 1C.
- 5.12 Stow all equipment including orange cone.