

### 03.116 Sabatier Reverse Water Gas Shift Reactor Replacement (03. ECLSS)

#### OBJECTIVE:

The Sabatier's Reverse Water Gas Shift Reactor (RWGSR) is an operational replacement unit and can be swapped out in the event of a failure.

#### EQUIPMENT:

RWGSR

7/16" combo wrench

7/64" Allen wrench

PPE safety glasses

PPE static wrist tether

PPE Kobalt work gloves

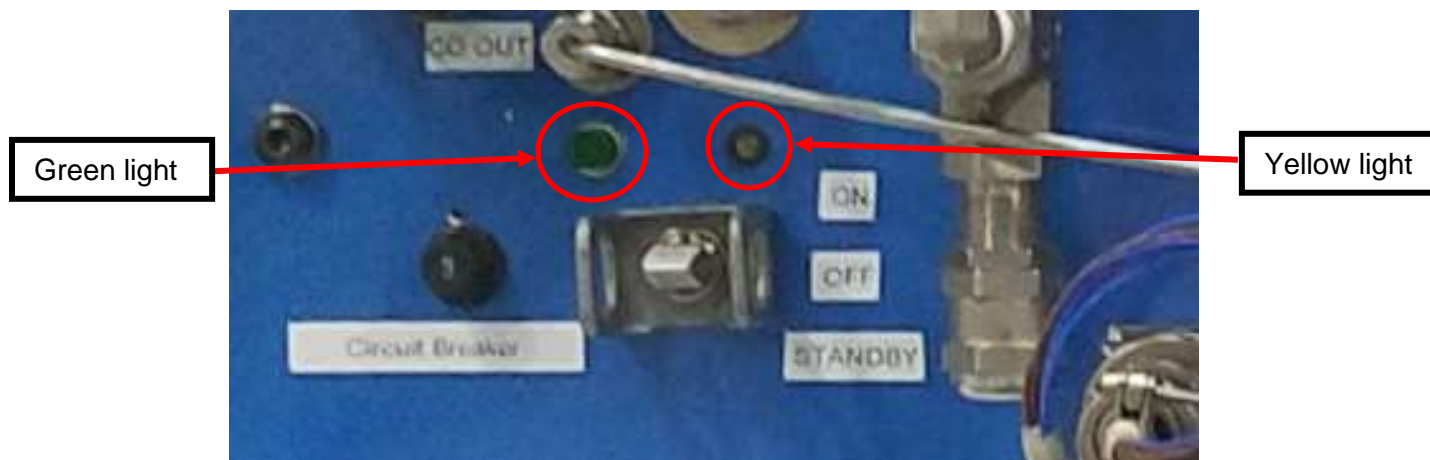
#### NOTE

The Reverse Water Gas Shift Reactor (RWGSR) is a gas separator. It takes excess CO<sub>2</sub> and reroutes it back to the Carbon Dioxide Removal Assembly (CDRA). It also takes excess water and reroutes it back to the Electrolysis System.

#### MGWS 1. PUT SABATIER IN STANDBY MODE

1.1 Don PPE safety glasses.

1.2 Don PPE Kobalt gloves.



**Figure 1: Sabatier Panel**

1.3 On the Sabatier Panel, move the power switch to "STANDBY" (see Figure 1).

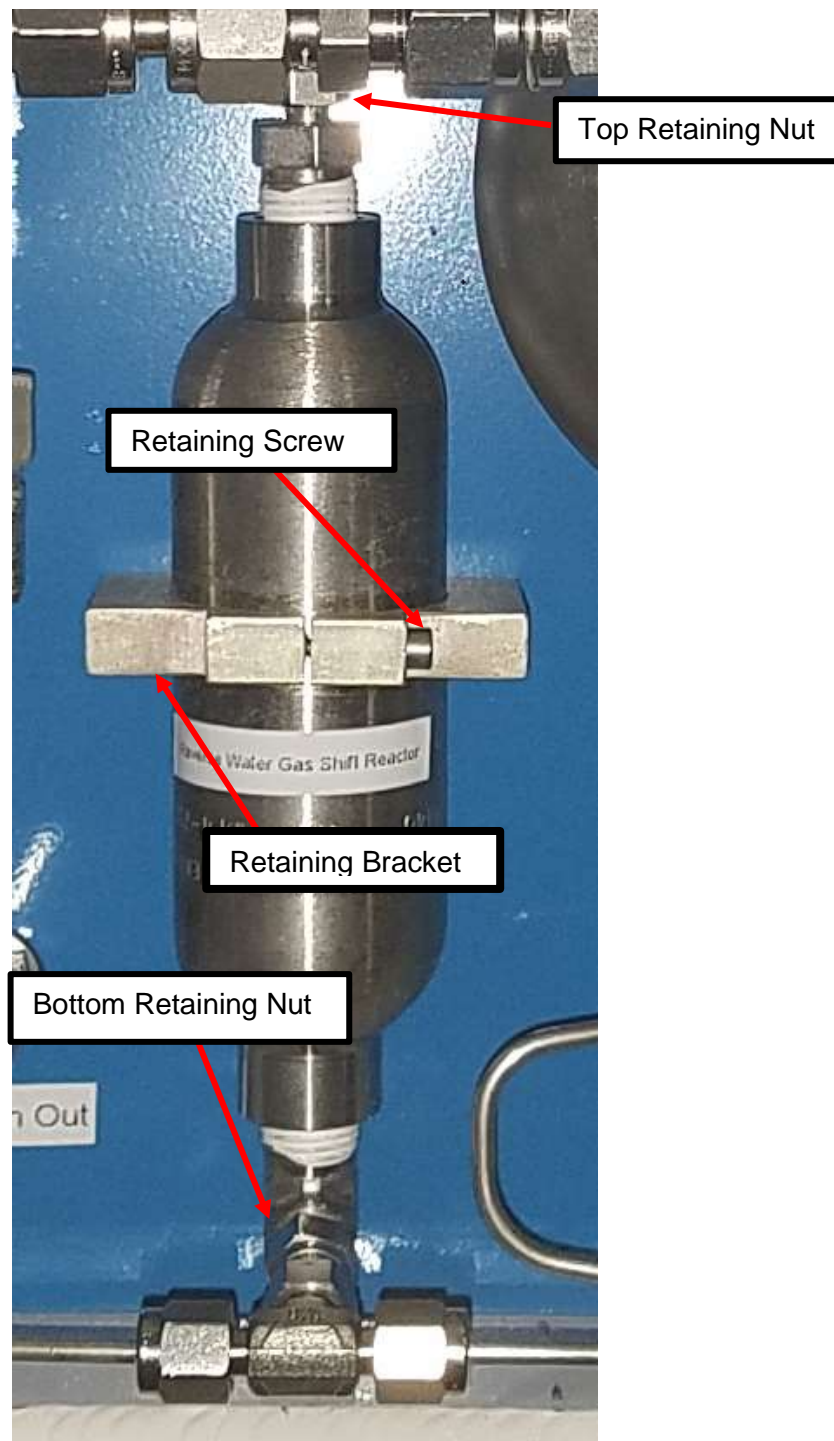
1.4 Confirm yellow light blinks indicating Sabatier is in Standby mode (see Figure 1).

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#### 2. REMOVE FAILED RWGSR

2.1 Don static wrist tether and attach to any unpainted metallic surface.

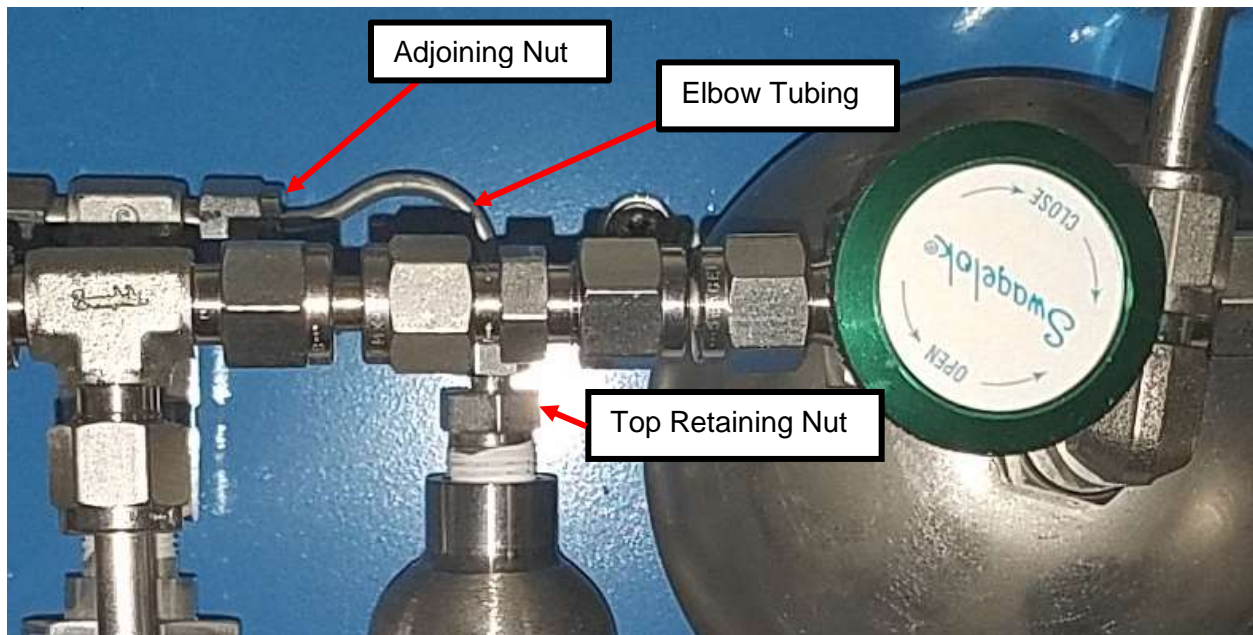


**Figure 2:** Installed RWGSR

2.2 Use combo wrench to loosen top retaining nut (see Figure 2).

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2.3 Use combo wrench to loosen bottom retaining nut (see Figure 2).



**Figure 3:** Installed RWGSR

2.4 Use combo wrench to loosen adjoining nut (see Figure 3).

2.5 Remove and temp stow elbow tubing (see Figure 3).

2.6 Use Allen wrench to loosen retaining screw on bracket (see Figure 2). RWGSR should be able to move freely within the retaining bracket.

2.7 Removed failed RWGSR from Sabatier by sliding upward.

2.8 Detach static wrist tether.

2.9 Notify MCC of used RWGSR S/N.

2.10 Temp stow failed RWGSR.

### 3. INSTALL NEW RWGSR

3.1 Notify MCC of new RWGSR S/N.

3.2 Attach static wrist tether to any unpainted metallic surface.

3.3 Insert new RWGSR into Sabatier.

3.4 Tighten bracket retaining screw with Allen wrench (see Figure 2).

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- 3.5 Attach elbow tubing. Hand tighten both adjoining nut and top retaining nut (see Figure 3).
- 3.6 Use wrench to tighten adjoining nut ( $\frac{1}{4}$  turn past snug).
- 3.7 Use wrench to tighten bottom retaining nut ( $\frac{1}{4}$  turn past snug).
- 3.8 Use wrench to tighten top retaining nut ( $\frac{1}{4}$  turn past snug).

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#### **4. RETURN SABATIER TO "ON" CONFIGURATION**

- 4.1 On Sabatier Panel, move power switch to "ON" (see Figure 1).
- 4.2 Confirm green light illuminates indicating Sabatier is in On mode (see Figure 1).
- 4.3 Doff static wrist tether, safety glasses and work gloves.
- 4.4 Stow all PPE.
- 4.5 Stow failed RWSGR.