

03.116 Sabatier Reverse Water Gas Shift Reactor Replacement

(03. HSS)

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 kit
7/16" combo wrench
7/64" Allen wrench
PPE safety glasses
PPE static wrist tether
PPE Kobalt work gloves
Magnetic dish

REFERENCE

Serial Tracking Number Spreadsheet

NOTE

The Reverse Water Gas Shift Reactor (RWGSR) is a gas separator. It takes excess CO₂ and reroutes it back to the Carbon Dioxide Removal Assembly (CDRA). It also takes excess water and reroutes it back to the Electrolysis System.

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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.

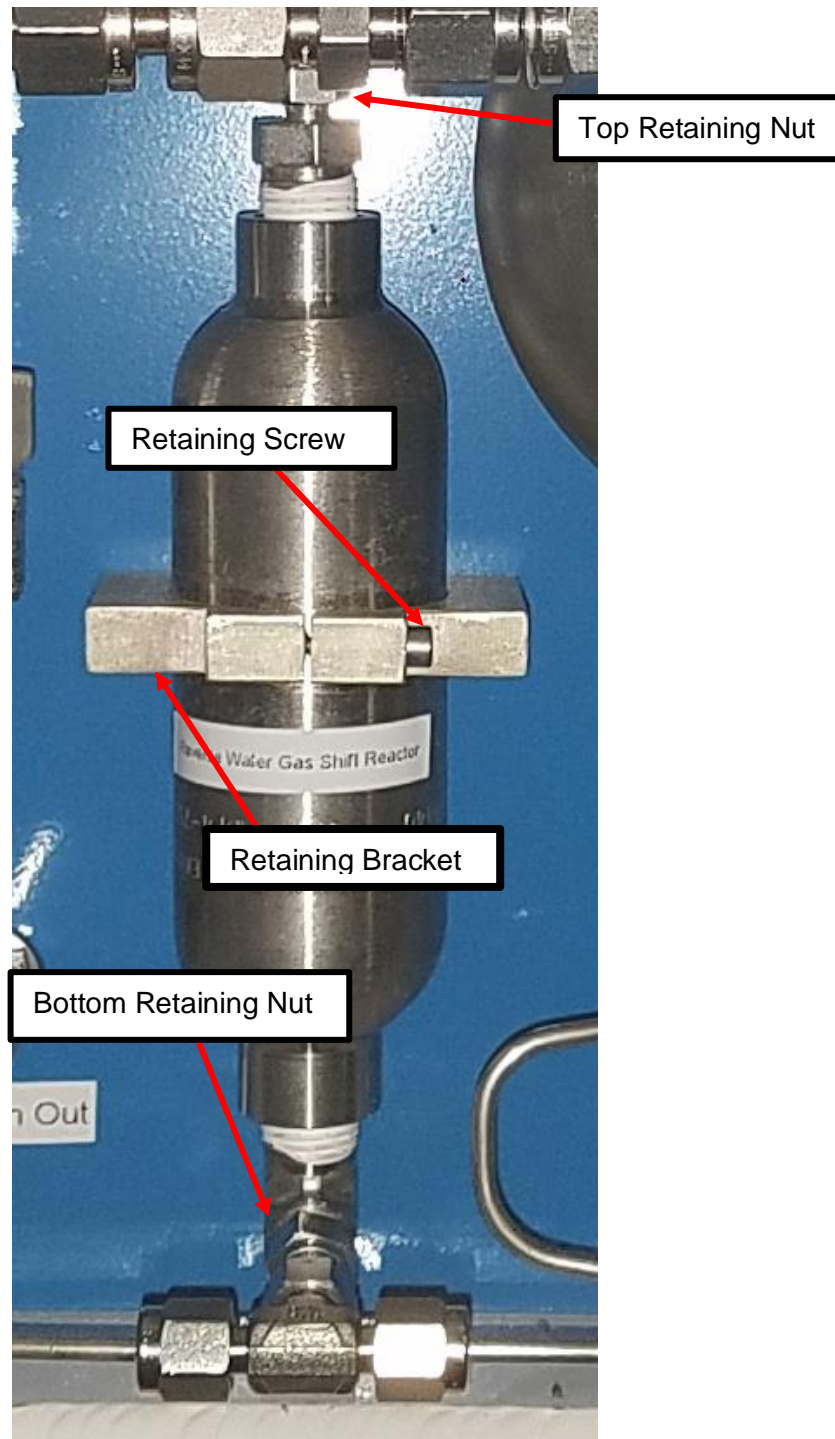


Figure 2: Installed RWGSR

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).

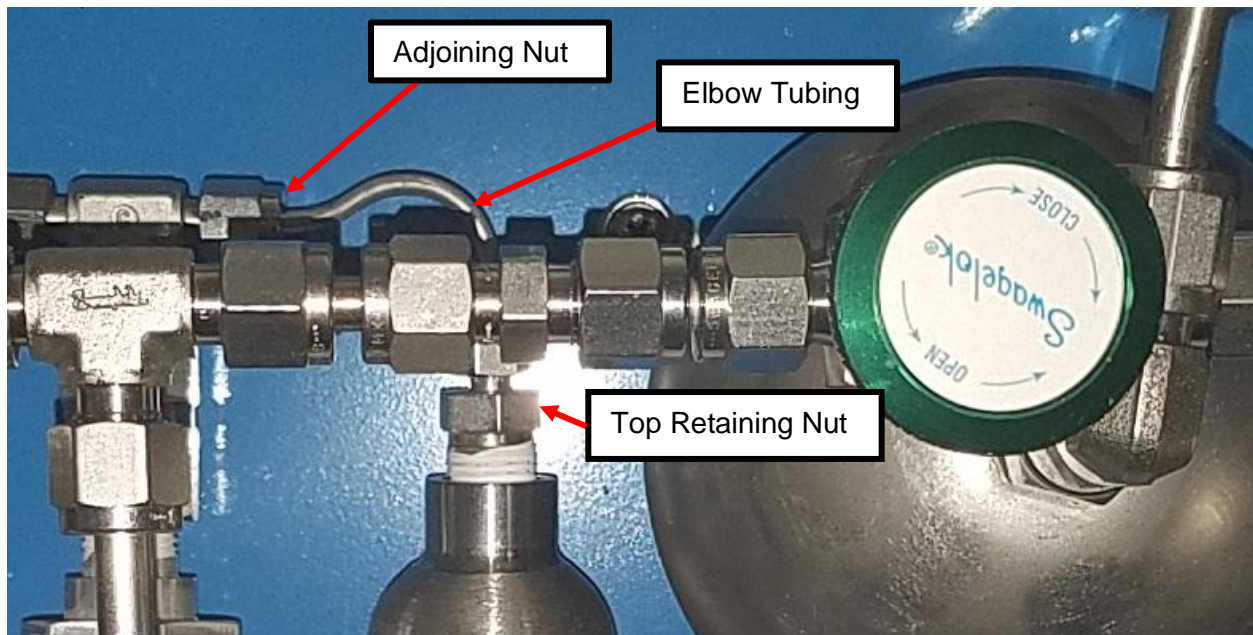


Figure 3: Installed RWGSR

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

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



Figure 4: 7/64 Allen Wrench

2.6 Use 7/64 Allen wrench (see Figure 4) to loosen retaining screw on bracket until it moves freely within the retaining bracket (see Figure 2). RWGSR should be able to move freely within the retaining bracket.

2.7 Remove failed RWGSR from Sabatier by sliding upward.

2.8 Detach static wrist tether.

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2.9 Record used RWGSR S/N in the Serial Number Tracking spreadsheet.

2.10 Temp stow failed RWGSR in kit.

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3. INSTALL NEW RWGSR

3.1 Retrieve spare RWGSR from the RWGSR kit.

3.2 Record new RWGSR S/N in the Serial Number Tracking spreadsheet.

3.3 Attach static wrist tether to any unpainted metallic surface.

3.4 Insert new RWGSR into Sabatier.

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

3.6 Attach elbow tubing. Hand tighten both adjoining nut and top retaining nut (see Figure 3).

3.7 Use wrench to tighten adjoining nut ($\frac{1}{4}$ turn past snug).

3.8 Use wrench to tighten bottom retaining nut ($\frac{1}{4}$ turn past snug).

3.9 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 Detach and doff static wrist tether, safety glasses and work gloves.

4.4 Stow all equipment and PPE.