AU480 Every Other Week or Every 3,000 Samples (ISE) Maintenance

Step	Action
1	Perform the **Manually Clean the Mix Bar, Liquid Level Sensors, Sample Pot and Sample Pot Tubing** procedure

AU480 Weekly (Analyzer and ISE) Maintenance

Step	Action
1	Perform the **W2, Photocal, and Enhanced Cleaning of the ISE Electrode Line** (optional module) procedure
2	Check **Photocal** results
3	Perform the **Check the Selectivity of the Na/K Electrodes** procedure
4	Perform the **Clean the Sample Probe and Mix Bars** procedure
5	Perform the **Clean the Pre-dilution Bottle** procedure

For Training Purposes Only

These job aids are shortened versions of the procedures found in the source below. The procedures are listed in the order to perform in the most efficient manner. Where it is possible, procedures have been combined for efficiency. Information in the job aid is correct as of the date published. Verify you have the correct information.

Source: AU480 Chemistry Analyzer User's Guide PN B28624AA (December 2013)

AU480 Chemistry Analyzer

WARNINGS AND PRECAUTIONS

Read all product manuals and consult with Beckman Coulter-trained personnel before attempting to operate the instrument.

Beckman Coulter, Inc. urges its customers and employees to comply with all national health and safety standards such as the use of barrier protection. This may include, but is not limited to, protective eyewear, gloves, suitable laboratory attire when operating or maintaining this or any other automated laboratory equipment.

INTENTION FOR USE

This document is not intended to replace the information in your User's Guide or Quick Response Guide. Information in the User's Guide and Quick Response Guide supersedes information in any other manual.

REVISION STATUS

Version 1.0 (June 2016)

Based on:

- AU480 Chemistry Analyzer Software version 1.81
- AU480 Chemistry Analyzer User's Guide B28624AA

TRADEMARKS

AU480 Chemistry Analyzer

Every Other Week or Every 3,000 Samples (ISE) Maintenance

Manually Clean the ISE Mix Bar, Liquid Level Sensors, Sample Pot and Sample Pot Tubing

Supplies Required:

- Alcohol prep (70% isopropyl alcohol)
- 1% wash solution (1 part wash solution added to 99 parts DI water)
- Beaker
- Disposable pipette tip
- Sonicator
- Squeeze bottle or syringe
- Clean, dry lint-free cloth

Ensure the system is in ***Standby*** or ***Warmup*** Mode

From the Home screen, select **Analyzer Maintenance** jump button

Select the **ISE Maintenance** tab, place a ✓ in the **ISE Maintenance** check box

Select the **Drain-Flowcell** button, select **OK**

Press the green **TABLE ROTATION/DIAG** button to drain the flowcell

Open the main cover, then open the ISE cover

Disconnect the mixing unit liquid level sensor connector 714 and mixing motor connector 706

Loosen the knob securing the mixing unit and gently lift to unseat it

Use an alcohol prep to wipe the two nozzles, two liquid level sensors, and the mix bar

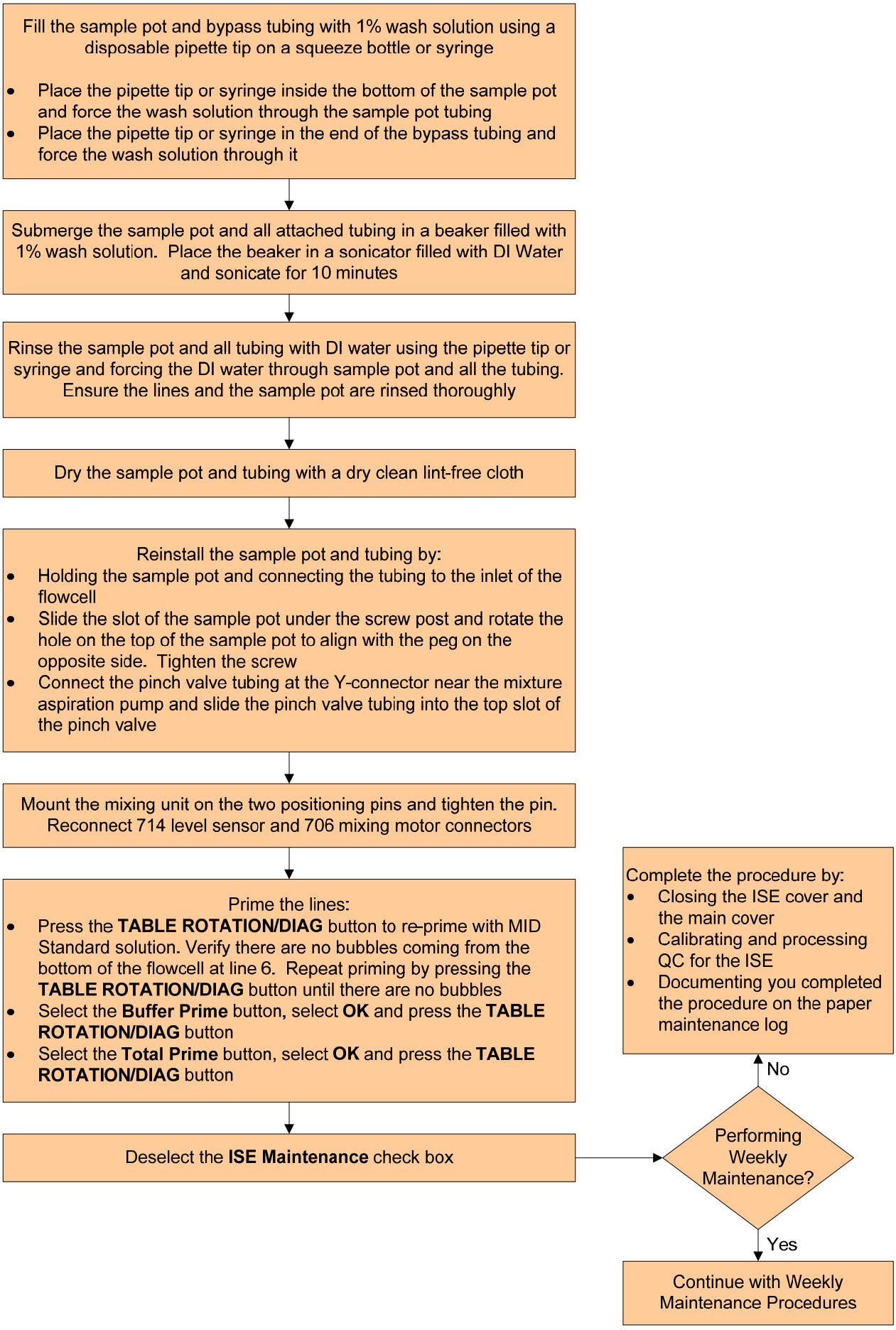
Place the mixing unit on the mixing unit holder

Loosen the retaining knob securing the sample pot and lift the pot off the peg

Hold the sample pot in one hand and remove:

- Sample pot tubing from the inlet of the flow cell
- Bypass tubing labeled 5 from the pinch valve
- Bypass tubing labeled 5 at the Y-connector near the mixture aspiration roller pump

Continue on the next page


Fill the sample pot and bypass tubing with 1% wash solution using a disposable pipette tip on a squeeze bottle or syringe
• Place the pipette tip or syringe inside the bottom of the sample pot and force the wash solution through the sample pot tubing
• Place the pipette tip or syringe in the end of the bypass tubing and force the wash solution through it
Submerge the sample pot and all attached tubing in a beaker filled with 1% wash solution. Place the beaker in a sonicator filled with DI Water and sonicate for 10 minutes
Rinse the sample pot and all tubing with DI water using the pipette tip or syringe and forcing the DI water through sample pot and all the tubing. Ensure the lines and the sample pot are rinsed thoroughly
Dry the sample pot and tubing with a dry clean lint-free cloth
Reinstall the sample pot and tubing by:
• Holding the sample pot and connecting the tubing to the inlet of the flowcell
• Slide the slot of the sample pot under the screw post and rotate the hole on the top of the sample pot to align with the peg on the opposite side. Tighten the screw
• Connect the pinch valve tubing at the Y-connector near the mixture aspiration pump and slide the pinch valve tubing into the top slot of the pinch valve
Mount the mixing unit on the two positioning pins and tighten the pin. Reconnect 714 level sensor and 706 mixing motor connectors
Prime the lines:
• Press the TABLE ROTATION/DIAG button to re-prime with MID Standard solution. Verify there are no bubbles coming from the bottom of the flowcell at line 6. Repeat priming by pressing the TABLE ROTATION/DIAG button until there are no bubbles
• Select the Buffer Prime button, select OK and press the TABLE ROTATION/DIAG button
• Select the Total Prime button, select OK and press the TABLE ROTATION/DIAG button
Deselect the ISE Maintenance check box
Performing Weekly Maintenance?
No
Complete the procedure by:
• Closing the ISE cover and the main cover
• Calibrating and processing QC for the ISE
• Documenting you completed the procedure on the paper maintenance log
Yes
Continue with Weekly Maintenance Procedures

Weekly (Analyzer and ISE) Maintenance

W2, Photocal and
Enhanced Cleaning of the ISE Electrode Line (optional module)

Supplies Required:

- 1 tube (ZM006200 or ZM006300)
- 1 60 mL plastic reagent bottle
- Cleaning Solution: 1 N HCL or 10% Bleach (Sodium hypochlorite solution with 0.5% effective chlorine concent-ration. Prepare by adding 10 parts bleach to 90 parts DI Water)
- ISE Cleaning Solution (optional)
- 1 Hitachi cup (optional)

Ensure the system is in ***Standby*** Mode

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From the Home screen, select **Analyzer Maintenance** jump button

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Fill the tube (at least 5 mL) and 60 mL bottle (do not fill in the neck of the bottle) with cleaning solution (1 N HCL or 10% Bleach. Never combine cleaning solutions and alternate the cleaning solutions each week)

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Open the STAT table cover and place the tube in the **W2** position on the STAT table (use the green **TABLE ROTATION/DIAG** button as required to rotate the STAT table). Close the STAT table cover

↓

(Optional step for labs with an ISE module)
Fill the ISE sample cup with at least 1.5 mL of ISE Cleaning Solution. Open the STAT table cover and place the cup in the **Clean** position (use the green **TABLE ROTATION/DIAG** button as required to rotate the STAT table). Close the STAT table cover

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Open the main cover and place the bottle in the position normally occupied by the pre-dilution bottle (near the reagent refrigerator). Close the main cover

↓

Select **W2 F6,** select the check boxes for:

- After W2 ends, perform the photocal
- ISE Cleaning (if performing ISE enhanced cleaning)

↓

Select **Start.** The system will perform the W2 and the ISE Cleaning (if selected) simultaneously and immediately start the Photocal procedure at the completion of the W2. Allow approximately 30 minutes for each procedure (total of 60 minutes for all three selections). The mode display will countdown the maintenance time left

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When the system returns to the ***Standby*** mode, remove all maintenance materials and return routine materials as required

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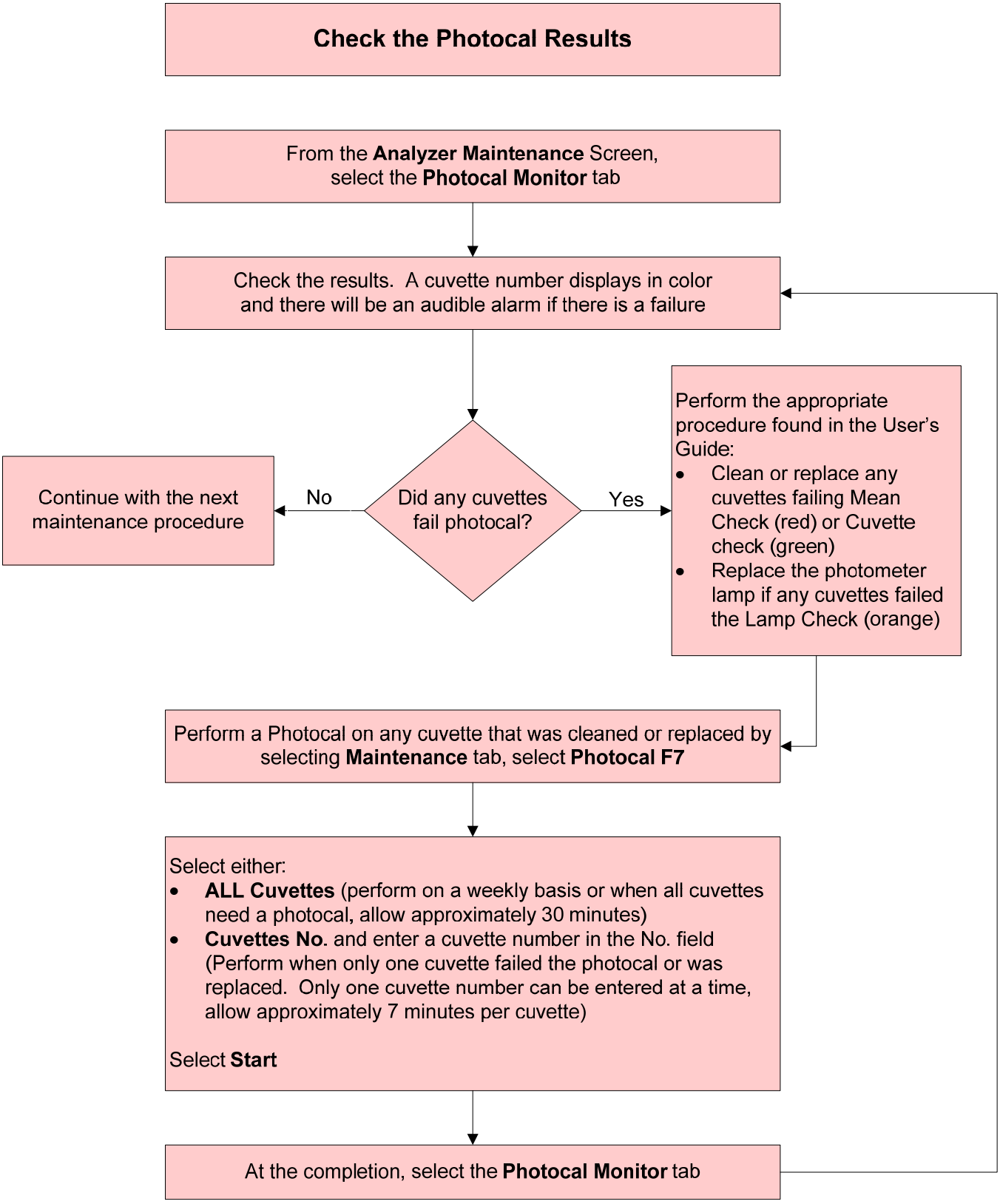
Proceed to the “Check the Photocal Results” flowchart


Check the Photocal Results
From the **Analyzer Maintenance** Screen, select the **Photocal Monitor** tab
Check the results. A cuvette number displays in color and there will be an audible alarm if there is a failure
Did any cuvettes fail photocal?
No
Continue with the next maintenance procedure
Yes
Perform the appropriate procedure found in the User's Guide:
• Clean or replace any cuvettes failing Mean Check (red) or Cuvette check (green)
• Replace the photometer lamp if any cuvettes failed the Lamp Check (orange)
Perform a Photocal on any cuvette that was cleaned or replaced by selecting **Maintenance** tab, select **Photocal F7**
Select either:
• **ALL Cuvettes** (perform on a weekly basis or when all cuvettes need a photocal, allow approximately 30 minutes)
• **Cuvettes No**. and enter a cuvette number in the No. field (Perform when only one cuvette failed the photocal or was replaced. Only one cuvette number can be entered at a time, allow approximately 7 minutes per cuvette)
Select **Start**
At the completion, select the **Photocal Monitor** tab

Check the Selectivity of the Na/K Electrodes
(ISE optional module)

Supplies Required:

- ISE Na and K Selectivity Check Solutions
- 2 Hitachi cups

Ensure the system is in ***Standby*** or ***Warmup*** Mode

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Fill the cups with at least 500 µL of Na and K Selectivity Check Solutions

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Open the STAT table cover and place the cups in the SEL-Na, and SEL-K positions (use the green **TABLE ROTATION/DIAG** button as required to rotate the STAT table). Close the STAT table cover

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From the Home screen, select **Analyzer Maintenance** jump button, select **ISE Maintenance** button

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Select **Selectivity Check** tab, select **Check Start,** select **OK**

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When the procedure completes, check the results

Failures will be displayed in yellow. Replace the electrode that failed

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Select the **Maintenance** tab, place a ✓ in the **ISE Maintenance** box, select the **MID/REF Prime** button, select **OK**

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Press the green **TABLE ROTATION/DIAG** button to prime. Repeat 3 times (a prime is complete when green light turns on)

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Deselect the **ISE Maintenance** check box

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Continue with the next maintenance procedure

Clean the Sample Probe and Mix Bars

Supplies Required:

- Alcohol Prep (70% Isopropyl alcohol)
- Clean lint free cloth
- Stylet (included in the start up kit)

Ensure the system is in ***Standby*** or ***Warmup*** Mode

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Open the main cover

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Unscrew the silver connector above the sample probe and allow the fluid to drip from the probe

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Lift the probe out from the arm and wipe the tip with an alcohol prep

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Insert the stylet into the probe to remove any blockage

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Return the probe to its arm and tighten the silver connector on the top

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Remove mix bars individually and wipe each with an alcohol prep. Return spiral-shaped mix bars to R1/S positions and L-shaped mix bars to R2 positions

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From the Home screen, select the **Analyzer Maintenance** jump button

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Place a ✓ in the check box at Analyzer Maintenance, select **Replacing Sample Probe,** enter **3** in the Start window, select **OK**

↓

Press the green **TABLE ROTATION/DIAG** button and verify the probe dispenses fluid in a straight stream

Replace the probe if it appears bent, damaged or does not dispense a straight stream of fluid

↓

Select **Replacing Mixing Bar,** enter **3** in the Start window, select **OK**

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Press the green **TABLE ROTATION/DIAG** button and watch the mix unit perform a sequence

Replace mix bars if they appear bent, scratched or make unusual noise during sequence

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Deselect the **Analyzer Maintenance** check box

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Continue with the next maintenance procedure

Clean the Pre-dilution Bottle

Supplies Required:

- 60 mL plastic reagent bottle (optional - alternate bottles weekly)
- 10% Bleach (Sodium hypochlorite solution with 0.5% effective chlorine concentration. Prepare by adding 10 parts bleach to 90 parts DI Water)

Ensure the system is in ***Standby*** or ***Warmup*** Mode

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Open the main cover

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Remove the pre-dilution bottle (located outside the reagent refrigerator)

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Wash the pre-dilution bottle by filling it with the 10% bleach solution

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Rinse the pre-dilution bottle with DI water until the scent of bleach is rinsed away

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Fill the pre-dilution bottle with DI water **or** allow to air dry and fill the alternate pre-dilution bottle with DI water

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Place the the pre-dilution bottle filled with DI water on the analyzer

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Close the main cover

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Document the completion of all procedures on the paper maintenance log