Description: RUSH logo for emails

Proc. # 4848-CO-0630

**TITLE:**

**Preventative Maintenance for the Sysmex CS-2500 Coagulation Analyzer**

**PRINCIPLE:**

Routine Maintenance is essential to ensuring optimal operating conditions for the CS-2500. The CS-2500 has manufacturer recommended daily, weekly, monthly and as needed maintenance.

*Utilize Standard Precautions while performing Maintenance Procedures*

**DAILY MAINTENANCE**

1. **Shut down**
2. Verify CA CLEAN I is on board (8 mL minimum)
3. Press [Shutdown] in the upper right of the screen
4. Select the option: Reagent Cooling is continued
5. Press OK
6. Press OK after shutdown process is complete
7. Turn analyzer power off
8. Press the [X] in the upper right of the screen
9. Press Windows Start icon. Press Shutdown.
10. Check Trap Chamber and remove any fluid if needed.
11. **Start up**
12. After shut down is complete wait 1 minute and press the power button on the IPU computer.
13. Log on to windows via CSAdministrator Icon and use password CS Admin+2304

* Make sure a space is left between the “S & A” in the password

1. Select the user Icon and use password Admin
2. Turn the analyzer ON.
3. Allow the CS-2500 to start up.
4. Select [Status] on the Toolbar
5. Check cuvettes, cuvette trash, deionized (DI) water & temperatures
6. Press [Maint] on the Toolbar
7. Empty the cuvette trash box and reset the counter.
8. Check/Replace DI water
9. Add cuvettes if under the red line
10. Select Manual Maintenance and click under Status for each task that was completed.
11. Select [Menu]
12. Select [Operations Log]

* Highlight the completed task
* Select the pencil icon
* The user will enter their “D0P” or initials in the comment field
* Select OK
* Press Close when completed

**WEEKLY MAINTENANCE**

1. **Instrument Cleaning**
2. Shut down the main unit and unplug the power cord.
3. Wipe the instrument with a water moistened paper towel

**B. Rinse Tank Cleaning**

1. Remove the cap of the rinse tank
2. Empty any remaining DI water
3. Use 70% Isopropyl Alcohol to wash the inside of the tank and float switch.

* Swish Alcohol around in the container to make sure the entire tank and float switch are disinfected.
* Pour out the Alcohol
* Swish DI water around in the container to rinse the tank and float switch.
* Let the rinse tank air dry

**C. Fill the Back-up Rinse Tank**

1. Add a sufficient amount of DI water to the rinse tank
2. Attach the float switch and tighten the cap

**MONTHLY MAINTENANCE**

1. **Clean Filters**
2. Remove filters #514 and #514 (found on the rear of the right side of the analyzer)
3. Use a Vacuum or Lint Roller to remove any dust or debris from the filters.
4. Install the clean filters.
5. Remove filter #16A (found on the left side on the bottom of the analyzer)
6. Use a Vacuum or Lint Roller to remove any dust or debris from the filter.
7. Install the clean filter.

**AS NEEDED MAINTENANCE**

1. **Pressure Adjustment**
2. 0.10 MPa Pressure (Range: 0.10 to 0.11)

* Press [Maint] on the Toolbar
* Press More
* Press Pressure Adjustment
* Open the cover door on the left side of the analyzer
* Pull the 0.10 MPa adjustment knob toward you to unlock
* Adjust very slowly
* Once pressure is within range press the adjustment knob in until it locks
* Close the cover door
* Press OK

2. 0.22 Mpa Pressure (Range: 0.22 to 0.24)

* Press [Maint] on the Toolbar
* Press More
* Press Pressure Adjustment
* The 0.22 MPa adjustment knob is located on the pneumatic unit
* Loosen the fixing screw on the adjustment knob by turning the screwdriver counterclockwise
* Adjust very slowly
* Once pressure is within range tighten the screw without rotating the adjustment knob
* Press OK

1. **Vacuum Adjustment**
2. Vacuum (Range: -0.071 to -0.067)

* Press [Maint] on the Toolbar
* Press More
* Press Pressure Adjustment
* Open the cover door on the left side of the analyzer
* Loosen the fixing nut of the bellows unit
* Turn the knob clockwise to increase & counterclockwise to decrease
* Once the vacuum pressure is in range tighten the fixing nut
* Close the cover door
* Press OK

1. **Lamp Replacement/Calibration**
2. Turn OFF the power to the main unit and unplug the power cord. Wait 30 minutes for lamp to cool down.
3. Open the lamp cover located on the right side of the analyzer
4. Disconnect the white connector
5. Loosen the thumb screw
6. Remove the lamp holder
7. Squeeze and lift the lamp retainer to remove the lamp
8. Install a new lamp in reverse order.
9. Reconnect the power cord and turn the power ON.
10. Allow the lamp to burn for 30 minutes before calibration
11. Press [Maint] on the Toolbar
12. Press Lamp Calibration
13. Press Execute
14. Select the correct option in the pop up box

* Reset Lamp Counter if calibrating a new lamp
* Do Not Reset Lamp Counter if calibrating the same lamp

14. Press OK

15. Enter “D0P” or initials in the Operations Log for calibrating the new lamp

16. Press [Maint] on the Toolbar

17. Find the field under “Remarks” that coincides with lamp calibration to enter

“D0P” or initials if the lamp is recalibrated.

18. Perform Quality Controls on all assays before patient testing.

1. **Rinse Probe**
2. Press [Maint] on the Toolbar
3. 8mL minimum of CA CLEAN I is on board
4. Press Rinse Probe
5. **Prime Hydraulic Line (complete if instrument has been off for more than 1 week)**
6. Press [Maint] on the Toolbar
7. Press Prime (make sure there is sufficient rinse water)
8. Press OK (takes about 3 minutes)
9. **Remove Jammed Cuvettes**
10. Press automatic Stop button
11. Press OK to interrupt analysis
12. Reset the rack to the right side and press OK
13. Open the reagent section lid
14. Loosen the cover fastening screw and open the cuvette hopper cover
15. Swing the cover open and insert the cuvette removal rod into the marked position
16. Push the cuvette removal rod in until it touches the cuvettes, then stir the cuvettes deeply and thoroughly by moving the rod forward, backward and side to side while observing inside the hopper.
17. Take out the cuvette removal rod
18. Swing the cover closed and tighten the screw
19. Close the reagent section lid
20. Press the Start button
21. **Wiping the Piercer Clean**
22. Make sure the light shield lid is closed
23. Press [Maint] on the Toolbar
24. Press Wipe off Piercer
25. Press OK
26. Turn OFF the Main Unit power
27. Open the light shield lid
28. Set the “E shaped” jig under the arm to lift up
29. Wipe the piercer clean with a gauze pad soaked with water
30. Remove the jig when completed
31. Close the light shield lid
32. Turn ON the Main Unit power

**REFERENCE**

Sysmex CS-2500 Operator’s Manual