BIOBASE®

Maintenance Manual

SPECTROPHOTOMETER

BK-SERIES NIR
BK-SERIES-UV

Preface

Thank you for purchasing this instrument.

This manual will show you how to perform preventive maintenance **the instrument and software.**

Please read this manual carefully before using Prolab.

Prolab is suitable for:

- **BK-SERIES NIR Spectrophotometer**
- **BK-SERIES UV Spectrophotometer**
- **The model "BK-SERIES-NIR, BK-SERIES UV" will be abbreviated as "S430"**

Instrument Maintenance

To keep the instrument work in good condition, constant maintain is needed.

1. Daily Maintain

(1) Check the Room

After measurement, the cuvettes with sample solutions should be taken out of the compartment in time. Or the volatilization of the solution would make the mirror go moldy. Users must pay more attention to the corrosive sample and liquid easy to volatilize. Any solution remains in the compartment should be wipe off immediately.

(2) Surface Clean

The cover of the instrument is with paint. Please use wet towel to wipe off the drips on the surface immediately. Organic solution is forbidden to be used to cleanthe cover. Please wipe off the dirt on the cover timely.

(3) Clean the Cuvettes

After every test or after a solution change, the cuvettes should be cleaned carefully, or the remains on the surface would cause measuring error.

2. Troubleshooting

(1) Dark Current Error when Self-check

Possible Cause	Solution
· Open the lid of the compartment during the course of self-test.	Close the lid of the compartment and switch on the power again.

(2) No Response After Power On

Possible Cause	Solution
· Bad contact in power supply	Improve the contact
· Fuse melt	Replace a new fuse

(3) Printer Not Work, Printer Error

Possible Cause	Solution
· No power supply	Switch on the power supply
· Bad contact in power supply	Improve the contact
· Bad contact of the data cable	Improve the contact

(4) No Stable Reading

Possible Cause	Solution
· No enough pre-warm	Increase the pre-warm time

- Quartz rectangular cuvettes used in IR Range
- No stable Sample — Improve the sample
- Much higher sample concentration — Dilute the sample
- Low voltage or unstable power supply — Improve the power condition
- Lights defect — Replace a new lamp
- Light used up — Replace a new lamp

(5) Worse Repeatability

Possible Reason	Solution
Unstable sample	Improve the sample
Cuvettes polluted	Clean the cuvettes

(6) Incorrect Reading

Possible Reason	Solution
Dark Current Error	Re-get the dark current
Worse matching of the cuvettes	Improve the matching of the cuvettes

3. Spare parts replacement

(1) Replace the Fuse

Danger! Be sure to switch off the power and unplug the socket before replacement!

Step 1, Tools Preparation

Prepare a 3×75 Flat Blade screwdriver**.**

Step, Switch Off the Power Supply

Switch off the power supply, and unplug the socket.

Step 3, Take Out the Fuse Seat

Take out the fuse seat by the screwdriver(Fig.5-1).

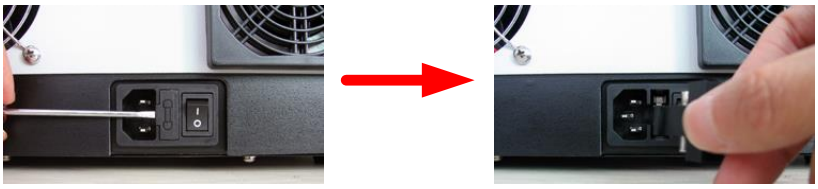

Fig. 5-1

Step 4, Replace a New Fuse

Pick out the spare fuse and replace it to the working position(Fig.5-2).

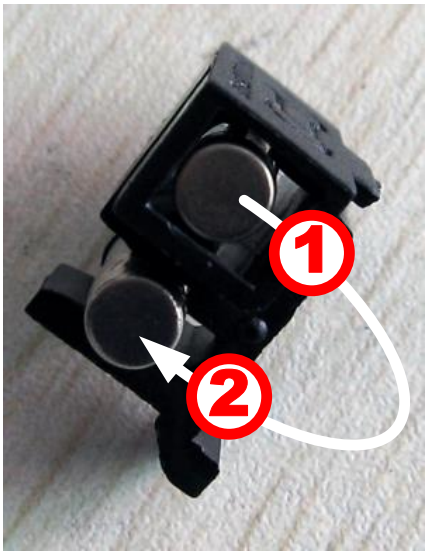

Fig. 5-2

Step 5, Reset the Fuse Seat

Replace the fuse seat in the power socket.

Step 6, Switch On the Power

Plug the socket and switch on the power.

(2) Replace Lamps

High temperature! Wait 20 minutes before open the lamp chamber after power off to avoid scald!

Step 1, Tools Preparation

Prepare a 6×150mm Cross Blade screwdriver and a pair of glove.

Step 2, Power Off

Switch off the power supply and unplug the socket.

Step 3, Open the Cover

Unscrew the 4 screws indicated in Fig.5-3(Each side with 2 screws)and remove the cover.

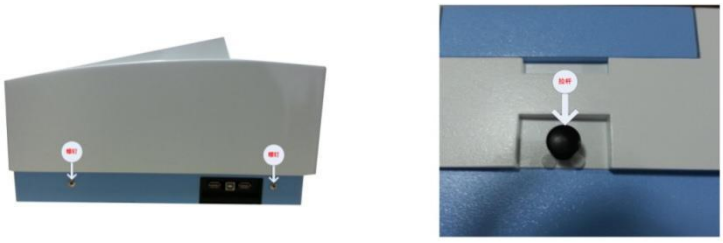

Fig. 5-3

Step 4, Open the Cover of the Light Chamber

Unscrew the 2 screws on the light chamber cover and remove it(Fig.5-4).

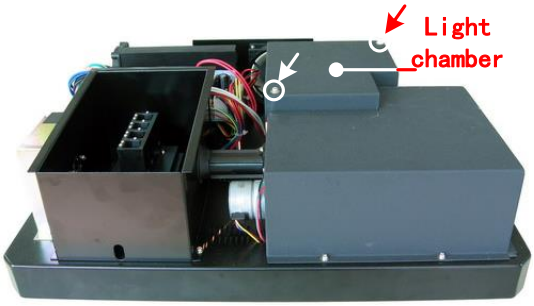

Fig. 5-4

Step 5, Replace the D2 Lamp

Unscrew the 2 screws on the D2 Flange (No.1 in Fig. 5-5), unplug the connector in the power board(No. 2)and remove the D2 lamp. Draw on the cotton glove and replace a new lamp. Fix the 2 screws and plug the connector again.

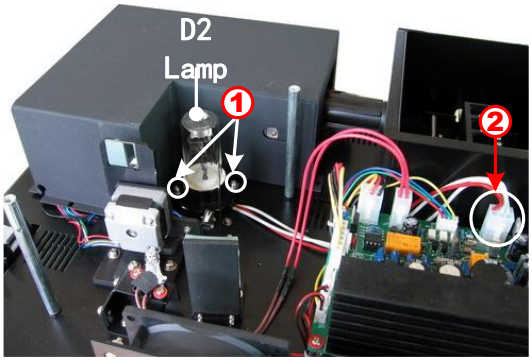

Fig. 5-5

Step 6, Replace W Lamp

Remember the direction of the filament before pull out the W lamp. Be sure that the new lamp's filament is in the same direction as before.

Pull out the defected W lamp and draw on the cotton glove. Insert the new W lamp as deep as possible on the lamp seat. Be sure to keep the filament in the same direction as the old one face.

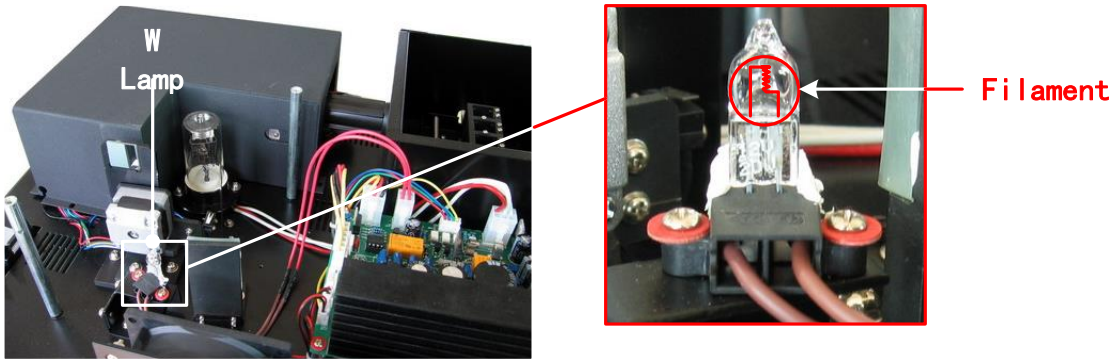

Fig. 5-6

Step 7, Adjust the Position of the W Lamp

Switch on the power,(the Switch Mirror should be placed to the position as Fig. 5-7 indicates). Observe the entrance facula,and it should in the center of the entrance hole(Fig.5-7). If the facula deviate to Left or Right, then loosen the No.1 screws in Fig. 5-8 and move the lamp seat to Left or

Right until it focus on the center of the slot. Then fix the screws. If the facula deviate to Up and Down, then loosen the No.2 screws in Fig. 5-8 andmove the lamp seat Up and Down until the facula focus on the center of the slot. Then fix the No. 2 screws again.

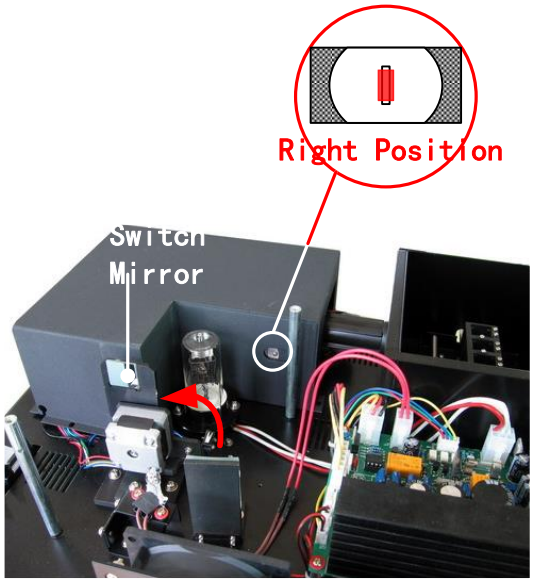

Fig. 5-7

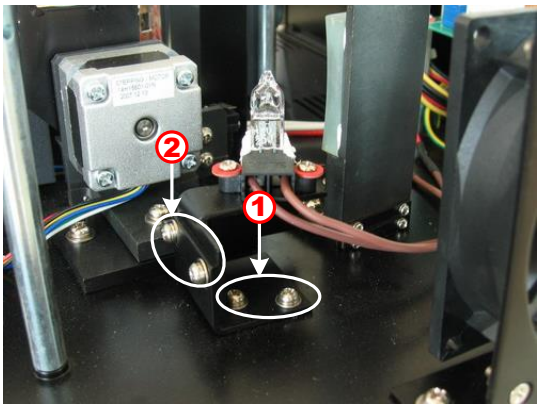

Fig. 5-8

Step 8, Finish

Reset the cover of the light chamber and fix the screws. Reset the cover of theinstrument and fix the screws. Recover the Pole in the compartment, then the course finished.

(3) Replace the Battery

Be sure to switch off the power supply and unplug the socket before open the Bottom Cover!

Step 1, Prepare the Tools

Prepare a 6×150mm Cross Blade Screwdriver.

Step 2, Switch Off the Power Supply

Switch off the power supply and unplug the socket.

Step 3, Open the Bottom Cover Plate

Unscrew the 13 screws indicated in Fig.5-9 then remove the bottom plate.

Fig. 5-9

Step 4, Replace the Battery

Pick out the old battery and replace a new one(Fig. 5-10).

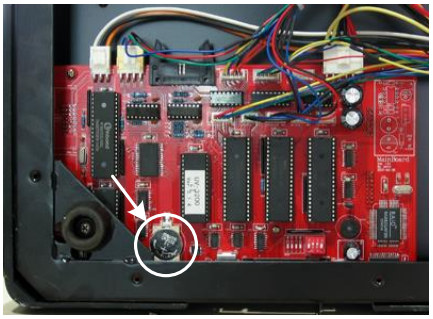

Fig. 5-10

Step 5, Finish

Recover the bottom plate and fix the 13 screws, then the course finish.