RBT IV Printer Battery Maintenance

There are two batteries in the Alco-Sensor IV/RBTIV instrument and printer that the user may need to perform Maintenance on.

There is a replaceable 9 volt battery in the Alco-Sensor IV which powers the handheld breath alcohol analyzer. That battery will need to be replaced when "Bat" appears on the handheld instrument display. See manual on the handheld instrument for more information about this battery.
There is a separate 12 volt rechargeable, sealed lead acid (SLA) battery in the RBTIV case that powers the printer. Below is information about this battery.

RBTIV Printer Battery Capacity and Service Life
Lead acid batteries are proven technology used in harsh environments, like vehicles for many decades. Unlike lithium-ion batteries, lead acid batteries' service life is longer when kept close to fully charged. Deep discharge is not good for them. **Try not to discharge the battery below 80% of capacity.** The capacity has many factors (temperature, age of battery, etc.). On a new battery with three copy printing and assuming room temperature, a 30% discharge equates to between 12 to 15 standard printouts. The capacity of the battery may diminish over time. The expected battery life is over 5 years if the battery rarely goes under 70%. If the battery is consistently discharged to 50%, the expected battery life drops to around 2.5 years. If you fully discharge the battery it is possible that the battery's life could be diminished further.

To ensure long battery life:
- Do not discharge completely—the SLA battery must always be stored in a charged state.
- The Sealed Lead Acid battery does not lend itself to fast charging—typical charge times are 8 to 10 hours.
- The Sealed Lead Acid battery can be stored for up to two years but must be charged from time to time.
- A periodic topping charge, also referred to as 'refreshing charge', is required to prevent the open cell voltage from dropping below usable levels.

Safety tips for the RBTIV Printer Sealed Lead Acid (SLA) Battery:
- Never charge or use a leaking or swollen battery.
- Use Intoximeters approved chargers to charge the battery***
- Never charge or discharge the battery in an airtight enclosed area.
- Disconnect charger immediately if the battery or charger becomes hot.
- Do not incinerate the battery
- Do not directly connect the negative and positive terminals
- Do not discharge the battery when the temperature is below –20ºC (-4ºF) or above +60ºC (140ºF)

*** The chargers listed below are **approved by Intoximeters**:

FW7118M/12US (27-6910-00)
- Orange LED = High charge;
- Green LED = trickle mode / charge complete

PSC-12500A-C (no longer sold)
- Red LED = High charge;
- Green LED = trickle mode / charge complete

The sealed lead acid battery is protected by a bimetal circuit breaker. If the current discharge temperature rises above the design limits the breaker is designed to activate which can reduce the likelihood of runaway temperatures. Even with this feature and even with the use of a trickle/float charger, it is safest to disconnect the charger once the battery is fully charged.

RBTIV Printer Storage
The Intoximeters Alco-Sensor IV/RBTIV has a low self-discharge rate, which can allow storage for a fully charged battery for up to a year; depending upon storage temperatures. *However, it is strongly recommended that these batteries be fully charged within six months of their last full charge or before the battery has fallen below 80% of its full charge.*

⚠ CAUTION

If the battery is allowed to discharge completely it may not recover. Even if it does recover, it is likely that its charging capacity will be reduced. Connecting the charger after every test or as frequently as possible during use is a good practice to follow. If use away from a power source is heavy, charging for even for a short amount of time is better than not charging at all.

⚠ CAUTION

The battery charger is not an alternate power supply and it is not recommended that you leave the charger plugged in all the time. Check to make sure the charger used with the Intoximeters RBTIV has one of the model numbers on it listed above. These float chargers will prevent overcharging batteries if the battery and charger are functioning properly. It is always a good practice to unplug the charger from the wall outlet and the battery when charging is complete.

RBTIV Printer Charging/ Re-charging the SLA
- Charging temperature range is between -15°C to 50°C (-5°F to 122°F) with the ideal charging temp of 20°C (68°F).
- Use one of the approved float chargers listed above. This charger should be plugged into the wall and into the battery charging port located in the foam in the RBTIV carrying case.

For charging from mains:
- Connect the float charging unit to the mains (120 V AC).
- Insert the jack plug into the "Battery Charger" socket on the face of the foam in the RBTIV case as shown above.

⚠ CAUTION

DO NOT PLUG THE BATTERY CHARGER INTO THE PORT ON THE LEFT SIDE OF THE RBTIV PRINTER, the jack on the side of the Printer is designed to interface with an optional Power Adapter (part number 27-6710-00) or a cigarette lighter power cord (part number 12-6730-00). PLUGGING THE BATTERY CHARGER INTO THIS PORT CAN DAMAGE THE RBTIV PRINTER.

During the charging process on the mains:

The charger LED on the charger will indicate that either the charger is in trickle/float mode. A red or orange LED indicates that the battery is accepting a high current charge. A green LED means that the charger is operating in the trickle/float charging mode. It does not automatically mean that charging is complete. When the charger is first connected, the green LED may come on right away. Sometimes the battery needs a trickle charge before charging with high current. Other times all the battery may need is a trickle charge. Trickle charging is less stressful to the battery.

A good rule is to connect the charger for up to four hours if the battery only has a few tests printed. If the battery had more tests, allow up to eight hours. If the charger and battery are functioning correctly; leaving the battery on an Intoximeters approved charger for longer than those times should not damage the battery, but should be supervised. Using a charger that does not have a trickle charge feature could permanently damage the battery and that damage will not be covered by Warranty. The Intoximeters approved chargers (listed above) have a trickle/float charge feature.

If you cannot charge the battery following guidelines above, short duration charging is better than no charging. Keeping the battery at full charge all of the time is a good practice and should extend battery life. The battery manufacturer suggests that properly maintained batteries should last five years.

While there is a “Battery Low” condition that will be indicated on the display of the RBTIV, you should not see this message if you are keeping your battery fully charged. If you do see this message, recharge the battery for 8 – 10 hours.

Replacing the Battery

If the battery will no longer take a charge you will need to replace it.

As your battery ages, it will become less and less able to store a charge – this is normal.

When you notice that your battery is not holding a charge, it is time to purchase a new battery. A replacement battery can be ordered in the Products section of www.intox.com, or through Customer Service at (314) 429-4000.

Gently pull the battery out of the foam. Do not be too forceful as the battery is connected to a wiring harness. Once out of the foam, disconnect the old battery from the clip on the wiring harness and reconnect the replacement battery to the same clip. Once connected, place the new battery back into the foam.

Disposing Old Batteries

Dispose of used sealed lead acid batteries only as hazardous waste, in accordance with local waste disposal regulations.

Sealed Lead Acid batteries can be recycled. Often there are local companies that will provide this service.

Further information can be obtained from the relevant local authority and from appropriate waste disposal companies.