Testing the Pump for 1730 / 2200 / 2400 Systems

1. Check to make sure there is no debris stuck in the impeller. Remove the strainer by pressing in on the two tabs on either side of the pump.

2. Using the connector assembly, wire the pump directly to the battery.

3. Set the clamp meter to 200A. Clamp the meter around one of the assembly's wires. Read the meter. A good pump 1730/2200 draws between 3 and 5 amps dry. If the amp draw is above 5 amps - replace the pump. A good pump 2400 draws between 1 and 3 amps dry. If the amp draw is above 3 amps - replace the pump.

1. You may also use a volt-meter to test the pump, assuming you have a good battery.

2. Put a Volt-meter on the battery set to VDC. **Note-** The marking on the meter for DC volts differs on all meters. The meter may read 20VDC, or Vdc, or it may be a dotted line over a solid line over a **V**.

3. Run the pump by lifting the float or, preferably, hooking the pump up directly to the battery.

4. If the voltage drops quickly with the pump running, it is pulling high amps and needs to be replaced.

5. If connected directly to the battery and the pump does not run. Replace the pump.

6. If the pump does not run by lifting the float, push the tesUreset button. If the pump still does not run, replace the pump. If the pump does run, the float is bad and needs to be replaced.

Testing the Pro-Series 82200 Battery

1. Make sure the battery terminals and wing nuts are free from corrosion. If there is corrosion, use the drill and wire brush to clean off.

2. Check the ring-lugs on the 2200 control box.

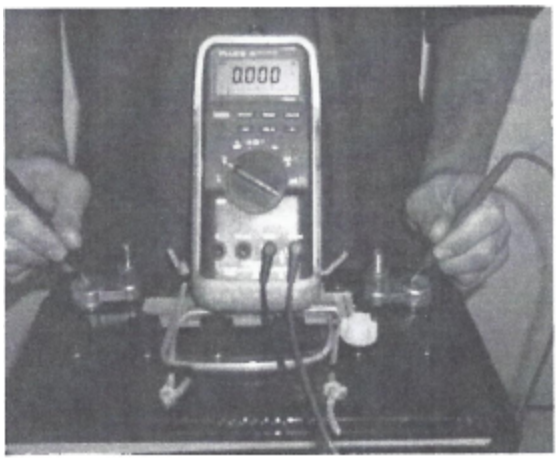
3. Check the surface voltage of the battery. A good battery's voltage will be between 12.60 and 16.00 V/DC. Using your voltmeter, set on DC, place the **red** lead on the **positive** post. Then, hold the **black** lead on the **negative** post. Read the meter. **Note-** The marking on the meter for DC volts differs on all meters. The meter may read 20VDC, or Vdc, or it may be a dotted line over a solid line over a **V**.

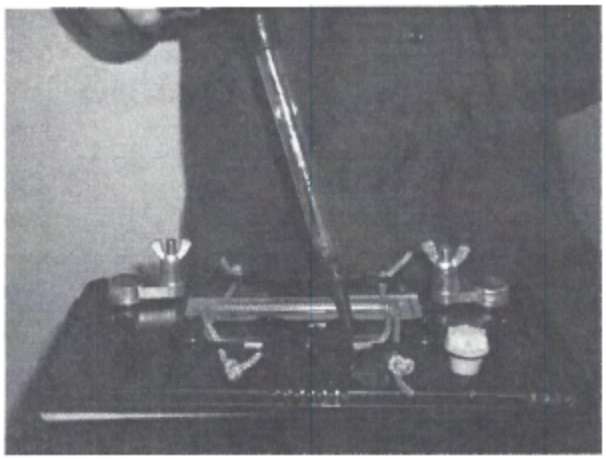
4. If the voltage is 12.5 or above you can perform a load test on the battery.

5. At a 100 amp draw the battery should be able to hold 11 VDC for 10 seconds.

6. You may also use the pump do simulate a load test. Using the connector assembly, wire the pump directly to the battery. With your volt-meter on DC
Watch the voltage. If it drops to 11 VDC the battery is most likely bad.

7. Finally, using a hydrometer, check the specific gravity of each cell. It should read 1.2 or greater in each cell and all of the cells should be similar in reading.





Testing the Pro-Series 812-90 Maintenance Free Battery

1. Make sure the battery terminals and wing nuts are free from corrosion. If there is corrosion, use the drill and wire brush to clean off.

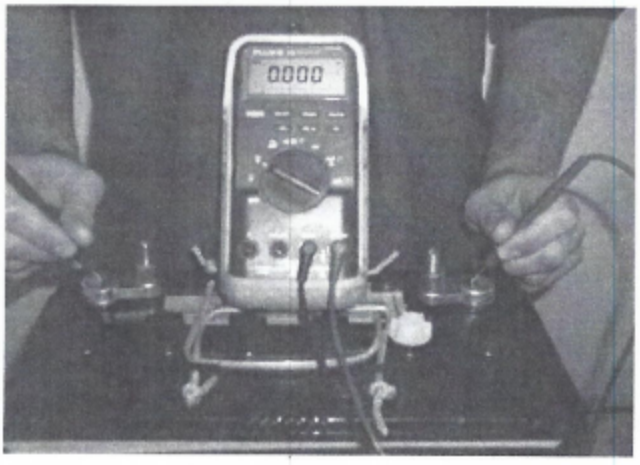
2. Check the ring-lugs on the 2400 control box.

3. Check the surface voltage of the battery. A good battery's voltage will be between 12.80 and 13.60 V/DC. Using your voltmeter, set on DC, place the **red** lead on the **positive** post. Then, hold the **black** lead on the **negative** post. Read the meter. **Note-** The marking on the meter for DC volts differs on all meters. The meter may read 20VDC, or Vdc, or it may be a dotted line over a solid line over a **V.**

4. If the voltage is 128 or above you can perform a load test on the battery.

5. At a 200 amp draw the battery should be able to hold 10 VDC for 10 seconds.

6. You may also use the pump do simulate a load test. Using the connector assembly, wire the pump directly to the battery. With your volt-meter on DC
Watch the voltage. If it drops to 11 VDC the battery is most likely bad.

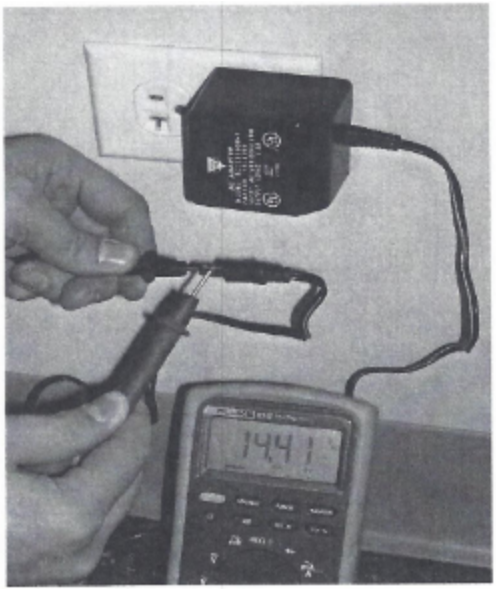


Testing the AC Adapter for the Pro-Series 1730

1. Check to make sure there is power from the outlet.
2. Plug the transformer into the outlet.
3. With your Voltmeter set on **AC.** Put one lead inside the output plug. Touch the other lead to the metal ring on the outside of the output plug. **Note-** The marking on the meter for AC volts differs on all meters. The meter may read 200VAC, or Vac, or it may be a wavy line(-) over a **V.**
4. The reading should be 14.00 - 16.00 V/AC. If not, the transformer is bad.

Testing the AC Adapterfor the Pro-Series 1000

1. Check to make sure there is power from the outlet.
2. Plug the transformer into the outlet.
3. With your Voltmeter set on **DC.** Put one lead inside the output plug. Touch the other lead to the metal ring on the outside of the output plug. **Note-** The marking on the meter for AC volts differs on all meters. The meter may read 200VAC, or Vac, or it may be a wavy line(-) over a **V.**
4. The reading should be 16.00 - 17.00 V/DC. If not, the transformer is bad.



Information on Carbon Monoxide Detectors

Occasionally we get calls from customers stating that their Carbon Monoxide detectors have been alarming and that the battery for their backup sump pump is causing the alarm. It is possible for a battery to set off a carbon monoxide detector but it is important to know that the battery is not actually emitting Carbon Monoxide gasses. The gasses that are released form a battery are Sulfur Dioxide and Hydrogen Sulfide, which do not pose the same health risk of Carbon Monoxide. These detectors can not tell the difference between these gasses so they will alarm in rare instances when there is an elevated level of Sulfur Dioxide and Hydrogen Sulfide.

We have contacted an engineer at Nighthawk (a manufacturer of carbon monoxide detectors) regarding these occurrences and his comments are listed below.

1. A battery can not emit carbon monoxide.

2. Batteries can and under normal charging conditions emit Hydrogen Sulfide and Sulfur Dioxide gasses. Unlike carbon dioxide, which is odorless, these gasses have an odor like rotten eggs. In extreme cases and in concentrated areas these gasses can be ignited and cause explosions. It is important to note that this is extremely rare and can be prevented. On the other hand Sulfur Dioxide and Hydrogen Sulfide do not pose the danger associated with carbon monoxide.

3. The Nighthawk, and other CO alarms, uses a sensor that is made out of Tin Dioxide. This sensor is called a Figero 203 sensor element. This material senses the presence of many gasses but does not differentiate between them. When the alarm senses Hydrogen Sulfide or paint fumes or propane or methane it sounds the alarm. The consumer does not know this and assumes that carbon monoxide is present and calls the fire department. When the fire department or utility arrives they have more sensitive testing equipment that measures the concentration of gas and declares an emergency. All of these testing meters use the same sensors but with more exacting readings. The point is that in either case there is no carbon monoxide present.

Overcharging of the battery is one of the reasons for the emission of Sulfur Dioxide and Hydrogen Sulfide gasses and can be caused by many reasons but the most common is a bad battery or corroded battery terminals. If the battery terminals are corroded, unplug the unit from AC power and then disconnect the battery from the control unit. Take a wire brush or sandpaper and remove the corrosion from the battery terminals and terminal lugs then reconnect the control unit to the battery and then plug the unit back to AC power. This should limit the amount of gasses emitted along with extending the life of your battery and control unit.

Please contact Glentronics, Inc. at (800) 991-0466 if you have any further questions.