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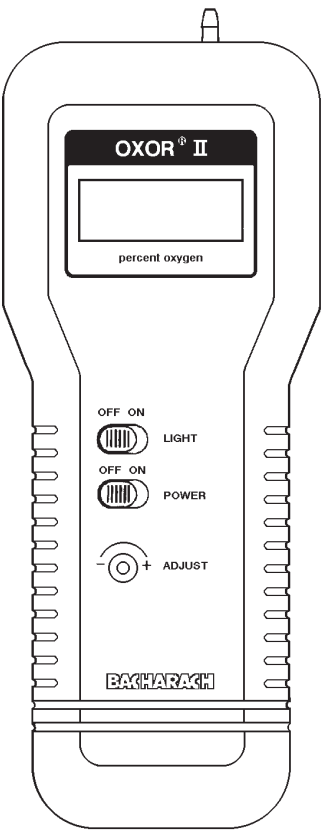
BACHARACH®

OXOR® II

INSTRUCTION 19-9126
Portable Oxygen Analyzer

CE

Part No. 19-7037
& 19-7044
Rev. 6 – October 1999



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Manufacturer's Name:	Bacharach, Inc.
Manufacturer's Address:	621 Hunt Valley Circle New Kensington, PA 15068
European Operations:	Bacharach Europe Sovereign House, Queensway Leaminton Spa Warwickshire CV31 3JR United Kingdom
Product Name:	OXOR II

Conforms to the following product specifications

EMC:	European Directive 89/336/EEC EN 500081-1 (Emissions) EN 500082-1 (Immunity)

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WARNING!

Because this instrument is used to detect and monitor materials and conditions which are listed by OSHA or others as potentially hazardous to personnel and property, the information in this manual must be fully understood and utilized to ensure that the instrument is operating properly and is both used and maintained in the proper manner by qualified personnel. An instrument that is not properly calibrated, operated and maintained by qualified personnel is likely to provide erroneous information, which could prevent user awareness of a potentially hazardous situation for the instrument user, other personnel and property.

If, after reading the information in this manual, the user has questions regarding the operation, application or maintenance of the instrument, supervisory or training assistance should be obtained before use. Assistance is available by calling your nearest Bacharach Service Center.

1 INTRODUCTION

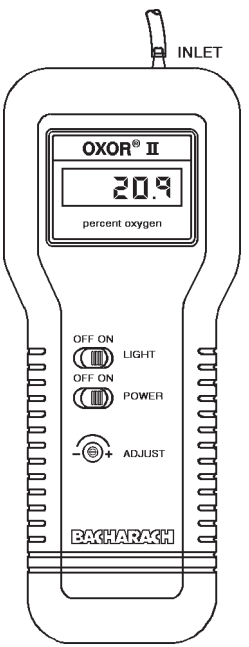


Figure 1. Oxor II

The Oxor® II is a commercial-grade portable instrument designed to display concentrations of oxygen (O_2) gas between 0 to 25%. This instrument shows the presence of O_2 in a gas sample by drawing the sample into its sensor chamber by a built-in motorized pump. Part #19-7037 comes with a probe. Part #19-7044 comes without a probe (All non-probe related functions remain the same in this instruction).

Other features and accessories of the Oxor II include: A large, back-lit Liquid Crystal Display (LCD), which allows the display to be read in any lighting condition from direct sun-light to total darkness; a semi-detachable elastic strap that permits the instrument to be either hand held, or hung on nearby objects; a rigid stainless steel probe with sample filter that allows gas samples to be taken from cramped and confined areas (alternate probes and condensate traps may be used).

2 TECHNICAL CHARACTERISTICS

O_2 Display Range ..... 0-25% O_2
Accuracy ..... ±0.8% O_2
Response Time ..... 90% of final value within 40 sec.
Battery Requirements ..... 1.5 V, "C" cells, Qty. 4
Operating Time* ..... 14-16 hours, alkaline cells
Operating Temp. Range ... 23 to 104°F (-5 to 40°C)
Relative Humidity ..... 10-85% non-condensing
Weight (w/o batteries) ..... 13.6 ozs. (385 grams)
Dimensions ..... 8.6 x 3.5 x 2.9 inches (218 x 89 x 74 mm)

* *Times are with the backlight turned off. Continuous use of the backlight will decrease battery life.*

3 PREPARING THE OXOR II FOR OPERATION

To prepare the instrument for operation, you must install four "C" size batteries, and (if desired) install the hose and probe as described in the following paragraphs.

For your convenience, and to ensure that the instrument will provide reliable O_2 indications, the O_2 sensor is installed and the instrument calibrated on a known O_2 concentration at the factory.

3.1 Battery Installation

Detach the elastic strap's metal clip at the bottom of the instrument, and slide off the battery cover as shown in Figure 2. Then while observing proper battery polarity, install four "C" size batteries into the instrument's battery compartment. (Recommended battery types: Duracell Alkaline or equivalent). After the batteries are installed, replace the battery cover and the elastic-strap clip.

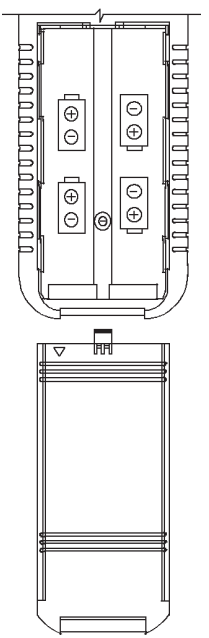


Figure 2. Battery Installation

If batteries are accidently installed in the wrong polarity, a positive temperature coefficient (PTC) thermistor will protect the instrument's electronic circuitry. The instrument will operate once batteries are properly installed and the PTC thermistor is allowed to cool.

3.2 Probe Installation

Install the probe by sliding the end of its hose over the gas inlet port on the top right side of the instrument as shown in Figure 3.

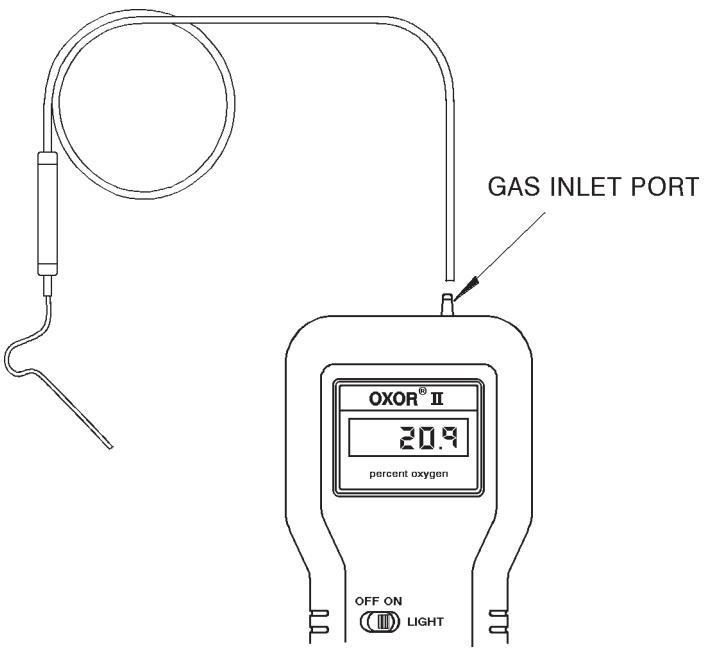


Figure 3. Probe Installation

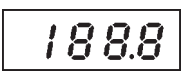
4 OPERATION

To operate the Oxor II, you simply . . .

- Set its POWER switch to ON,
- Wait for the instrument to warm up (approx. 1 minute),
- Span the display (if necessary),
- Take a gas sample.

Detailed operating procedures are presented below:

4.1 Power ON/OFF



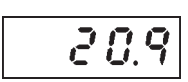
Turn on the instrument by sliding its POWER switch to ON. Observe that when power is first applied, all numerical LCD segments and the decimal point are tested for 5-15 seconds; after which, the LCD shows the detected O_2 level. (A minus sign may appear during power up as the sensor stabilizes.) Turn off the instrument by sliding the POWER switch to OFF.

4.2 Adjusting the Instrument

After being turned on and warmed up for at least 1 minute, the instrument should indicate 20.9% in fresh air. If the instrument needs to be zadjusted, proceed as follows:

1. Ensure that the instrument is sampling fresh air that is free of any oxygen displacing gases.

2. Using a 1/8" flat-blade screwdriver, turn the ADJUST potentiometer until the LCD shows 20.9%. *An instrument can be considered properly adjusted with a display bounce of up to ±0.2%.*



4.3 Backlight ON/OFF

The LCD can be read in low-light areas by setting the front panel LIGHT switch to ON. The backlight stays on until turned off, or until the POWER switch is set to OFF.

4.4 Using the Strap

The instrument's elastic strap allows the unit to be either hand-held, or hung on nearby objects.

By sliding your hand between the instrument and its elastic strap, you can hold onto the Oxor II with a minimum of effort. The instrument's front panel slide switches can then be actuated by your thumb for one-handed operation. Or, by releasing the metal clip at the bottom of the instrument's case, you can hang the instrument by its strap on nearby objects such as nails, sheet metal, or valve handles.

4.5 Using the Probe

The basic probe, or the optional rigid stainless steel probe with handle, connected to a flexible hose with sample filter can be used to draw a gas sample into the instrument from the room, grilles, diffusers, furnace flues, hot-water heater flues, and from inside furnaces heat exchangers.

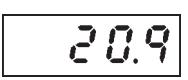
Both hose and probe are detachable from the instrument when sampling without the probe, or when sampling with a different probe is desired.

Important: *If condensation is observed within the hose, do not allow water level to build up to a point where it cuts off flow.*

4.6 Interpreting the Display

Gas Display

The LCD directly shows O_2 levels in the range from 0 to 25%. The display on the right indicates a O_2 level of 20.9%.

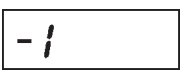


Low Battery Indications

When the battery voltage becomes low, the "LO BAT" indicator appears. Although the instrument will continue to operate and give percent O_2 readings under these conditions, the batteries should be replaced as soon as possible.



When the battery voltage becomes too low for the instrument to operate, a "-1" is displayed on the LCD. No O_2 readings are provided under these conditions.



4.7 Long-Term Storage

When storing the Oxor II for extended periods of time, set its POWER switch to OFF and remove the batteries. After long term storage follow Section 4.2 (Adjusting the Instrument) to make sure that the unit is ready for use.

5 MAINTENANCE

The Oxor II needs to be calibrated at regular intervals to ascertain that it still meets its accuracy specification. A regular calibration schedule should be established. Detailed calibration, maintenance procedures and parts lists are provided in the Service Manual (19-9133).

As a quick check of the instrument's operation, perform a response check by exposing the instrument to a gas source which is depleted of Oxygen (e.g., cigarette smoke, a breath held for 15 seconds or more, smoke from a recently snuffed -out match, or bottled nitrogen). If the instrument doesn't show a drop in the percentage of oxygen from that source, or if the reading is obviously in error, DO NOT use the instrument until it has been serviced by an authorized Bacharach Service Center.

> **NOTE:** ***DO NOT use this simple response check as a substitute for ensuring the instrument is properly calibrated.***

6 PARTS/SERVICE

6.1 Parts List

Item	Part No.
Battery Cover	19-3029
Basic Probe/Hose Assy.	19-3086
Optional Probe/hose Assy.	19-3076

6.2 Bacharach Sales/Service Centers

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Bacharach, Inc.
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