

### Table Layout for Bio-Pak 240-R Contest

<p>Test Apparatus With Upper Housing And Hose Connector Installed</p>	<p>Test Apparatus Mask</p> <hr/> <p>Test Kit</p>	<p>Upper Housing With Parts</p>	<p>Visual Apparatus</p>
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# **BIOPAK 240-R VISUAL APPARATUS (BREAK DOWN)**

**Upper Housing Assembly-Removed**  
**Hoses-Removed**  
**Coolant Lids and Ice Canisters - Removed**  
**Center Section Lid Assembly - Removed**  
**Moisture Pads - Removed**  
**Carbon Dioxide Scrubbers and Gasket - Removed**  
**PCM Canister - Removed**  
**Loosen (But do not remove) Flow Restrictor**  
**Center Section – Removed**  
**Diaphragm and worm gear-Removed**  
**Vent Valve Assembly - Removed as a unit**  
**Oxygen Cylinder-Removed**

## **BIOPAK 240-R TOOL KIT**

**Leak Check Adapter Fitting**  
**Flow Test Fixture**  
**Test Key**  
**Vent Valve Hand Wrench**  
**Center Section Pneumatic Plug**  
**Regulator Wash Cover**  
**Combination Pick Tool**  
**#00 Phillips Head Screwdriver**  
**#1 Phillips Head Screwdriver**  
**#2 Phillips Head Screwdriver**  
**1/4" Hex Driver**  
**3/16" Nut Driver**  
**5/16" Nut Driver**  
**9/32" Nut Driver**  
**3/8" x 5/16" Open End Wrench**  
**7/16" Combination Wrench**  
**1/2" Combination Wrench**  
**5/8" x 9/16" Open End Wrench**  
**Stop Watch**  
**Bypass Valve Tool**

## STATEMENT TO BENCH CONTESTANT

The bench participant will be provided with two Bio-Pak 240- R apparatus (one disassembled, one assembled), a stopwatch, leak detector fluid, test kit, and tool kit. Only the tools and fluid provided will be used for testing and assembly of the apparatus. The work at the bench will consist of:

1. A visual examination of a disassembled Bio-Pak 240-R and the proper assembly and preparation for use in rescue work. This will include correcting any predetermined problem(s) so that the apparatus is in proper working order. Simulating defogging of the facepiece lens will be done as a part of the visual examination. This visual examination, correcting predetermined problem(s), and proper assembly can be done at any time allowed for the working of the problem.
2. Test the assembled Bio-Pak 240-R apparatus with a tester, and correct the predetermined problem(s) so that the apparatus is in proper working condition. Except for removing the facepiece storage plug from the breathing hoses, the assembled Bio-Pak 240-R apparatus cannot be disassembled to look for problems, until the apparatus fails a test. When testing is completed on the assembled Bio-Pak 240-R apparatus, the hoses shall be removed from the tester, connected to the facepiece, and the upper housing installed. This shall be done before the clock is stopped.

When an unplanned deficiency is encountered in the apparatus, the participant will be notified by the judge(s) that the deficiency is not part of the problem. The judge will stop the clock and any time used to correct the deficiency will not be charged to the working time.

A maximum of 30 minutes will be allowed to complete the problem. The judge will tell you when 25 minutes has passed. At the completion of the problem, the judge(s) and the participant will note the working time of the problem with the official timekeeper. Work done after the clock is stopped will not be recognized.

10 R BENCH CONTESTANT \_\_\_\_\_ WORKING TIME \_\_\_\_\_ MIN. \_\_\_\_\_ SEC.

VISUAL APPARATUS CHECKS	TEST APPARATUS	
<i>Check if ok</i>	✓	<i>Check if ok</i>
UPPER HOUSING		WRITTEN RECORD
LOWER HOUSING		
CENTER SECTION ASSEMBLY		CONSTANT FLOW TEST
CARBON DIOXIDE SCRUBBER		State Reading per Rev.N p. 12
SIMULATE ADDING SCRUBBERS IF NOT PRESENT		DEMAND VALVE TEST Flow stops 1-3 Sec.
CENTER SECTION LID ASSEMBLY		EMERGENCY BYPASS TEST Flow no more 1-2 Sec.
SIMULATE ADDING ICE IF NOT PRESENT		VENT VALVE TEST
CYLINDER TEST		State Reading 2 inches of water or less
HOSES		LOW PRESSURE LEAK TEST No more than -.02" WC
FACEPIECE TEST		RMS GAUGE AND TRIM TEST
		State Reading Observe lights/gauges +/- 10%
		HIGH PRESSURE LEAK TEST
CONNECTIONS CONNECTED OR GOOD		LOW PRESSURE ALARM TEST
Vent Valve Assembly - Connected or good		State Reading Alarm 650-1000 psig
Diaphragm Worm Gear - Connected or good		READY FOR USE
Flow Restrictor - Connected or good		DATE
Breathing Hose Worm Gear - Connected or good		SERIAL NUMBER
Add / Constant Fittings - Connected or good		SIGNATURE
Center Section Lid - Connected or good		CYLINDER READING
Center Section Push Pins - Connected or good		
Cylinder Connection - Connected or good		
Adapter to Facepiece - Connected or good		
Test Fixture Connections - Connected or good		
		Zero Adjust the Mag. Gauge
	VI	VISUAL
	VI	TESTER