



The following are examples of performance checklists (scoresheets) with merit/penalty values (scoring points). This document is being provided to the teams in advance of the 2022 IMRC for training purposes. These rule interpretations were agreed upon by Simulation Lead Judges and Simulation Judges in advance of the event.

These provided interpretations of the rules and scoring examples are for Section 8, Technician, Benching of Breathing Apparatus Scenario/Simulation Rules

Not all scoring examples provided in this document will be used in the 2022 IMRC problem design.

2020 International Mines Rescue Competition  
Fire Fighting Scenario Scoresheets  
September 13<sup>th</sup> – 15<sup>th</sup> 2022

INTERNATIONAL  
MINES RESCUE COMPETITION  
2020

September 13-15, 2022

**BG 4 TECHNICIAN**  
**TOTAL SCORE and WORKING TIME**

TEAM NAME: \_\_\_\_\_

TECHNICIAN NAME: \_\_\_\_\_

DATE: \_\_\_\_\_

TOTAL MERITS: \_\_\_\_\_

TOTAL DEMERITS: \_\_\_\_\_

TOTAL POINTS: \_\_\_\_\_

WORKING TIME (IN Minutes and Seconds) \_\_\_\_\_





### Merit Point Scoring:

- 0 = not done
- +1 = poor attempt
- +2 = needs improvement
- +3 = excellent meets all requirements

1. Every line must be scored.
2. A score of 0, 1 or 2 **must be explained** by the judges.
3. When a score of 3 is applied, comments are encouraged
4. If the Technician runs out of time a score of 0 will apply to remaining actions

### Rough Handling or abuse of Equipment:

1. Rough handling demerits will be deducted from the total score
2. Judges can deduct 1 to 5 points per incident of rough handling of equipment
4. Rough handling demerits will have a maximum of 10 points
3. Rough handling deductions must be explained by the judges

### SCENARIO

When the Technician arrives, they will find;

- A fully assembled BG 4 Breathing Apparatus.
- A kit of tools
- An isolation test kit
- An RZ 7000
- Liquid for Detection of Leaks
- All spare parts that are necessary to carry out the task





## Visual Inspection

1. **TECHNICIAN MUST VISUALLY CHECK THE FOLLOWING:** 0 1 2 3  
FACEPIECE, HOSES AND REFILLABLE CANISTER.

### Judge's Comments:

---

---

2. **Insert O2 Cylinder**  
Cylinder Pressure **Must** be greater than **2,600** psi  
Check the Hydrostat check date 0 1 2 3

### Judge's Comments:

---

---

3. **Low Pressure Warning**  
Zero Adjust (Automatic)  
Connect Hose Coupler  
Set to Positive Pressure Pumping (Low Pressure Warning should  
Activate at less than 1.4 mbar 0 1 2 3

### Judge's Comments:

---

---

4. **Inhalation Valve**  
Set to Positive Pressure Pumping (Tightly pinch exhalation hose  
And pump slowly until 10 mbar is indicated 0 1 2 3

### Judge's Comments:

---

---





### 5. Exhalation Valve

Set to Negative Pressure Pumping (Tightly pinch inhalation hose  
And pump slowly until -10 mbar is indicated

0 1 2 3

**Judge's Comments:**

---

---

### 6. Drain Valve:

Set to Positive Pressure Pumping  
Fit sealing cap over relief valve & pump until the Drain Valve Opens  
The Drain Valve Should Open between 10 mbar and 18 mbar

0 1 2 3

**Judge's Comments:**

---

---

### 7. Leak Test w/Positive Pressure

**Set to Leak Test**

Press Button to Reduce Pressure to 7.5 mbar

Press OK Button to Activate Timer

Pressure Should **NOT** change by more than 1 mbar in 1 minute

**Vent Tester**

Remove Sealing Cap

0 1 2 3

**Judge's Comments:**

---

---





**8. Relief Valve**

**Set to Positive Pressure Pumping**

Pump until Relief Valve Opens. It should be between 2 & 5 mbar

0 1 2 3

**Judge's Comments:**

---

---

**9. High Pressure Leak Test**

**Set to Leak Test**

Open cylinder valve. (Cylinder pressure must be greater than 2,600 psi)

Sentinel Displays the **CLOSE CYLINDER ICON**: Close Cylinder Valve

Sentinel Displays the **OPEN CYLINDER ICON**: Open Cylinder Valve

**Vent Tester**

Breathing Bag will deflate

0 1 2 3

**Judge's Comments:**

---

---

**10. Constant Metering Valve**

**Set to Positive Pressure Pumping**

Fit Sealing Cap over Relief Valve & Pump until Breathing Bag is Inflated

**Dosage L/min**

Constant Dosage should lie between 1.5 and 1.9 L/min

0 1 2 3

**Judge's Comments:**

---

---





**11. Minimum Valve**

**Set to Negative Pressure Pumping**

Gently Pump & Remove Sealing Cap from Relief Valve

Pump slowly until hissing sound is heard

Minimum Valve should Open Between 0.1 % 2.5 mbar

0 1 2 3

**Judge's Comments:**

---

---

**12. Bypass Valve**

**Set to Leak Test**

Press red bypass button, oxygen must be heard flowing into the circuit

Breathing Bag Inflates

0 1 2 3

**Judge's Comments:**

---

---

**13. Residual Pressure Warning**

**Set to Leak Test**

Close Cylinder Valve. Watch Sentinel Display Unit

Warning should be generated at approximately 700 psi

Unplug coupling from RZ 7000 & Replace Sealing Cap on Plug In

Coupling when Pressure reaches 0 psi

0 1 2 3

**Judge's Comments:**

---

---





**14. Battery Test**

- On Activation & Deactivation the Sentinel automatically checks & Displays Battery Capacity
- Battery Warning 1: When Benching REPLACE BATTERY
- Battery Warning 2: REPLACE BATTERY BEFORE ANY NEW OPERATION
- Turn off Unit by simultaneously pressing right & left buttons

0 1 2 3

Judge's Comments: \_\_\_\_\_

**15. BG 4 Fully Assembled and Ready for Use:**

- Facepiece Defogged
- Facepiece Connected

0 1 2 3

Judge's Comments: \_\_\_\_\_

Total Merits \_\_\_\_\_

less Total Demerits \_\_\_\_\_

Total Score \_\_\_\_\_

Working Time: \_\_\_\_\_

Judge's Name: \_\_\_\_\_

Judge's Name: \_\_\_\_\_

