

## 2014 Tri State Ohio Valley Mine Rescue

### NMRA Post # 6

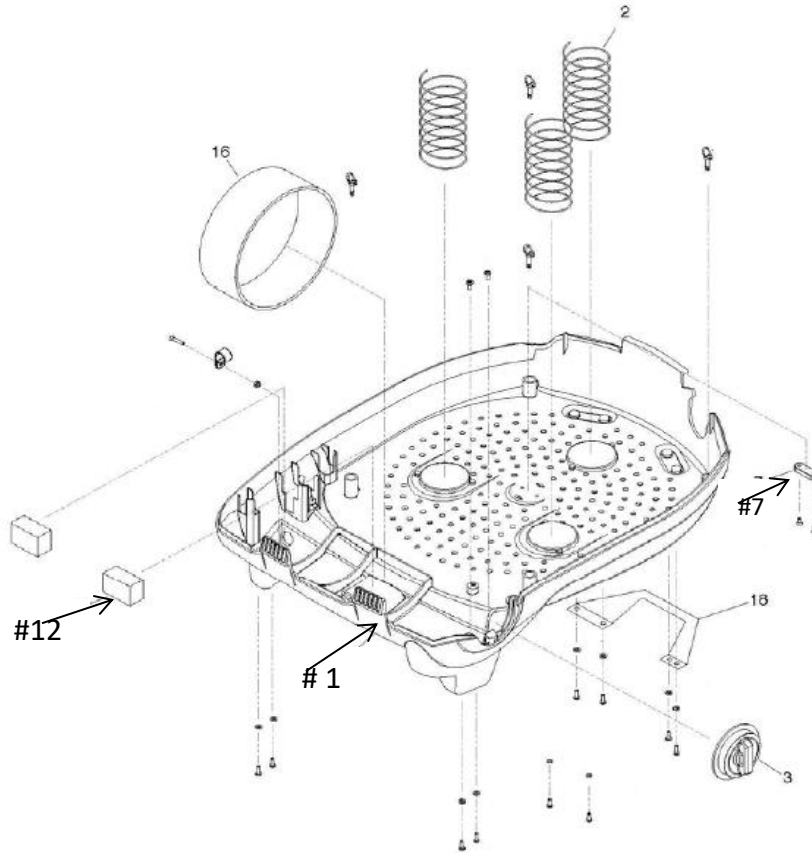
#### Bio-Pak 240 R Written Examination

- Oxygen will \_\_\_\_ cause materials to \_\_\_\_\_ without the presence of an ignition source.  
always, ignite                  not, ignite                  sometimes, burn
- The BioPak 240 Revolution is approved when the oxygen cylinder is fully charged with compressed \_\_\_\_\_ or aviation grade oxygen at \_\_\_\_ psi.  
construction, 3010    medical, 2660                  medical, 3000
- Always \_\_\_\_ for a current \_\_\_\_\_ test date.  
look, manufacturers    check, hydrostatic    check, manufacturers
- Replace the battery when the low battery alarm has activated, after \_\_\_\_ \_\_\_\_ of use or every 6 months whichever comes first.  
100, hours                  200, days                  200, hours
- The usual scrubber consists of \_\_\_\_\_ and a \_\_\_\_ core. Do not reuse previously used CO<sub>2</sub> absorbent cartridges or the rubber gaskets.  
pumice, paper                  limestone, paper                  limestone, plastic
- Allow all components to remain \_\_\_\_ by the cleaning solution a minimum of 10 minutes.  
wetted                  moist                  soaked
- Apply anti-fog solution or \_\_\_\_ to both halves of the \_\_\_\_\_ before every use to ensure mask lens do not scratch.  
water, felt                  water, chamois                  soap, chamois
- Do not expose opened CO<sub>2</sub> scrubber cartridges to \_\_\_\_\_ air for more than 20 minutes.  
outside                  dry                  ambient
- Install each CO<sub>2</sub> canister into the SCBA so that the \_\_\_\_ end cap is \_\_\_\_\_ on the top side of the canister.  
red, looking                  blue, visible                  red, visible
- A low battery alarm is indicated by a Red, Green, Blue light sequence followed by a \_\_\_\_ alarm \_\_\_\_ any time the battery will not complete a four-hour mission.  
momentary, beep    short, beep                  short, chirp
- If a quick Turn-Around \_\_\_\_\_ has been performed, the SCBA will function and is designed to work wet.

- |  | Cleaning                            | Maintenance            | Testing                |
|--|-------------------------------------|------------------------|------------------------|
| 12. The RMS will automatically _____ once the system pressure has dropped below 25 psig.                                   | power, down                         | turn, off              | power, up              |
| 13. _____-_____ and Dow-111 are the only o-ring lubricants that shall be utilized on the SCBA components.                  | Cristo-Grease                       | Silicone-Lube          | Cristo-Lube            |
| 14. _____ Use Dow 111 on any o-ring seal that comes in contact with high-pressure oxygen.                                  | ALWAYS                              | NEVER                  | SOMETIMES              |
| 15. High breathing _____ during _____ could be caused by the facepiece exhalation valve sticking closed.                   | rates, inhalation                   | rates, exhalation      | resistance, exhalation |
| 16. High breathing resistance during inhalation could be caused by the facepiece _____ check valve sticking closed.        | inhalation                          | exhalation             | breathing              |
| 17. High breathing _____ during _____ could be caused by the demand valve in breathing chamber has failed.                 | resistance, exhalation<br>breathing | resistance, inhalation | rates,                 |
| 18. BioPak weight, ready to use is 34 pounds.  | 43                                  | 34                     | 36                     |
| 19. BioPak Carbon Dioxide Scrubber is Dual, single use _____ _____ cartridges, non-dusting, non-channeling, non-hazardous. | Limestone Pellets                   | Calcium Hydroxide      | Calcium Pellets        |
| 20. The CO <sub>2</sub> Scrubber should be replaced after _____ use.   | every                               | multiple               | 1                      |

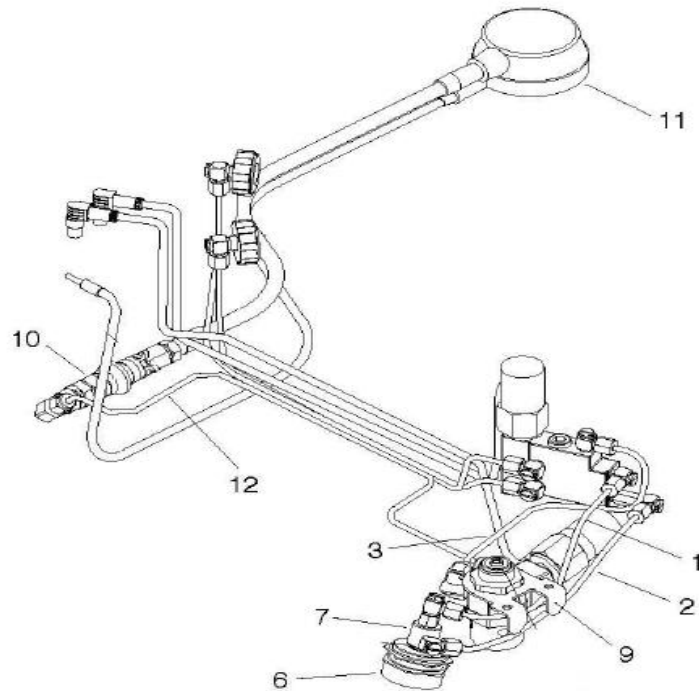
**Tri State Ohio Valley Mine Rescue Contest**  
**Bio-Pak 240 R**  
**Identification of Parts Test of the Written Exam**

Lower Housing Assembly



- |                   |  |
|-------------------|--|
| 21. Identify # 1  | A. Upper Housing Shell<br>B. Lower Hosing Shell<br>C. Lower Case Shell |
| 22. Identify # 7  | A. Shell Spacer<br>B. Aluminum Spacer<br>C. Vent Spacer                |
| 23. Identify # 12 | A. Shell Foam Spacer<br>B. Latch Foam Pad<br>C. Moisture Pads          |

## Pneumatic Assembly



24. Identify # 1

- A. Bypass Supply Line
- B. Bypass Feed Tube
- C. Bypass Oxygen Line

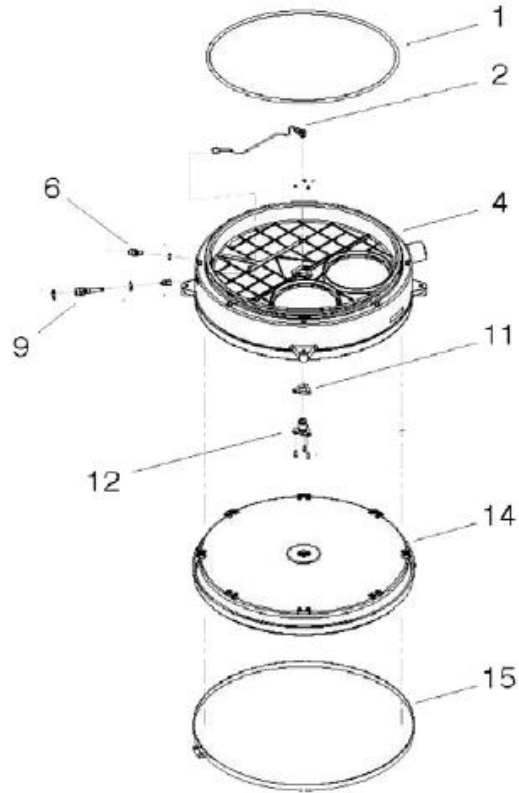
25. Identify # 3

- A. Oxygen Feed Tube
- B. Oxygen Feed Line
- C. Oxygen Feed Branch

26. Identify # 9

- A. Oxygen Regulator Gage
- B. Air Regulator Monitor
- C. Oxygen Regulator Assembly

### Center Section Assembly



27. Identify # 2

- A. Oxygen Supply Line
- B. Demand Feed Tube
- C. Oxygen Feed Tube

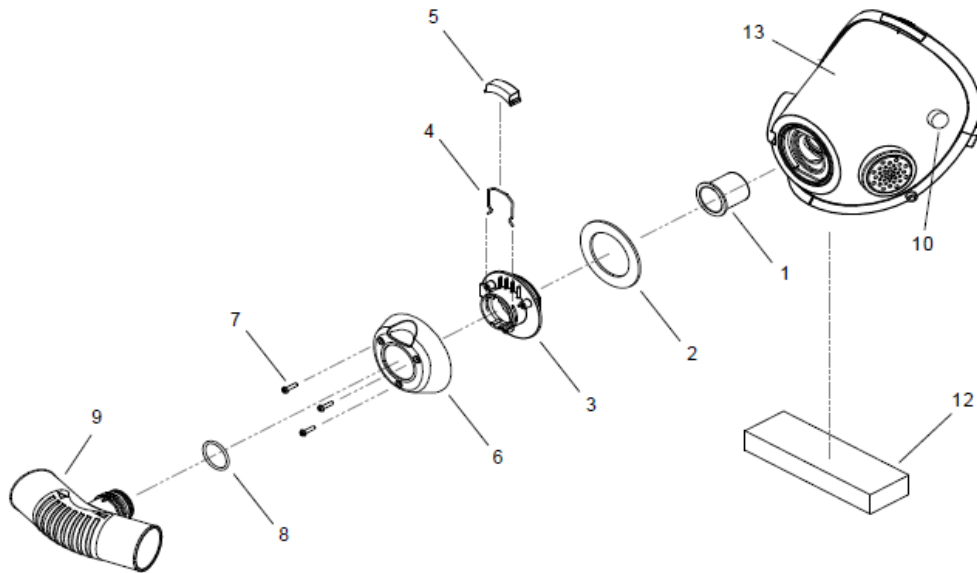
28. Identify # 9

- A. Demand Add Line
- B. Demand Add Fitting
- C. Demand Add Fixture

29. Identify # 14

- A. Breathing Diaphragm
- B. Flexible Shell
- C. Flexible Diaphragm

**AV3500 Facemask-Complete**



30. Identify # 9

- A. AV 3500 Facepiece Adapter
- B. AV 3500 Facepiece Connector
- C. AV 3500 Hose Adapter

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### Bio-Pak 240 R Written Examination

#### ANSWERS

- Oxygen will \_\_\_\_ cause materials to \_\_\_\_ without the presence of an ignition source.  
always, ignite      **not, ignite**      sometimes, burn      (SF #9)
- The BioPak 240 Revolution is approved when the oxygen cylinder is fully charged with compressed \_\_\_\_ or aviation grade oxygen at \_\_\_\_ psi.  
construction, 3010      medical, 2660      **medical, 3000**      (SF # 12)
- Always \_\_\_\_ for a current \_\_\_\_ test date.  
look, manufacturers      **check, hydrostatic**      check, manufacturers      (SF # 15)
- Replace the battery when the low battery alarm has activated, after \_\_\_\_ of use or every 6 months whichever comes first.  
100, hours      200, days      **200, hours**      (SF # 20)
- The usual scrubber consists of \_\_\_\_ and a \_\_\_\_ core. Do not reuse previously used CO<sub>2</sub> absorbent cartridges or the rubber gaskets.  
pumice, paper      limestone, paper      **limestone, plastic**      (SF # 25)
- Allow all components to remain \_\_\_\_ by the cleaning solution a minimum of 10 minutes.  
**wetted**      moist      soaked      (SF # 31)
- Apply anti-fog solution or \_\_\_\_ to both halves of the \_\_\_\_ before every use to ensure mask lens do not scratch.  
water, felt      **water, chamois**      soap, chamois      (SF # 35)
- Do not expose opened CO<sub>2</sub> scrubber cartridges to \_\_\_\_ air for more than 20 minutes.  
outside      dry      **ambient**      (SF # 39)
- Install each CO<sub>2</sub> canister into the SCBA so that the \_\_\_\_ end cap is \_\_\_\_ on the top side of the canister.  
red, looking      blue, visible      **red, visible**      (SF # 41)
- A low battery alarm is indicated by a Red, Green, Blue light sequence followed by a \_\_\_\_ alarm \_\_\_\_ any time the battery will not complete a four-hour mission.

momentary, beep    short, beep    **short, chirp**    (SF # 47)

11. If a quick Turn-Around \_\_\_\_\_ has been performed, the SCBA will function and is designed to work wet.

Cleaning    **Maintenance**    Testing    (SF # 51)

12. The RMS will automatically \_\_\_\_ \_\_\_\_ once the system pressure has dropped below 25 psig.

**power, down**    turn, off    power, up    (SF # 54)

13. \_\_\_\_ - \_\_\_\_ and Dow-111 are the only o-ring lubricants that shall be utilized on the SCBA components.

Cristo-Grease    Silicone-Lube    **Cristo-Lube**    (SF # 56)

14. \_\_\_\_ Use Dow 111 on any o-ring seal that comes in contact with high-pressure oxygen.

ALWAYS    **NEVER**    SOMETIMES    (SF # 57)

15. High breathing \_\_\_\_\_ during \_\_\_\_\_ could be caused by the facepiece exhalation valve sticking closed.

rates, inhalation    rates, exhalation    **resistance, exhalation**(SF 68)

16. High breathing resistance during inhalation could be caused by the facepiece \_\_\_\_\_ check valve sticking closed.

**inhalation**    exhalation    breathing    (SF # 71)

17. High breathing \_\_\_\_\_ during \_\_\_\_\_ could be caused by the demand valve in breathing chamber has failed.

resistance, exhalation    **resistance, inhalation**    rates, breathing(SF73)

18. BioPak weight, ready to use is 34 pounds.

43    **34**    36    (SF # 76)

19. BioPak Carbon Dioxide Scrubber is Dual, single use \_\_\_\_\_ \_\_\_\_\_ cartridges, non-dusting, non-channeling, non-hazardous.

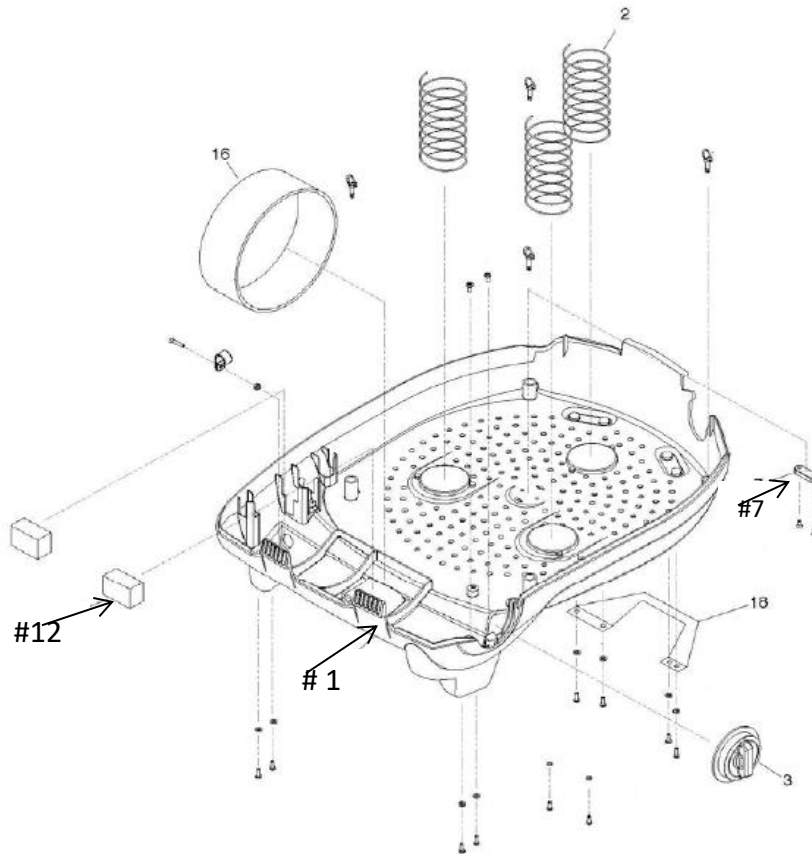
Limestone Pellets    **Calcium Hydroxide**    Calcium Pellets    (SF # 78)

20. The CO<sub>2</sub> Scrubber should be replaced after \_\_\_\_ use.

every    multiple    **1**    (SF # 85)

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- C. Lower Case Shell

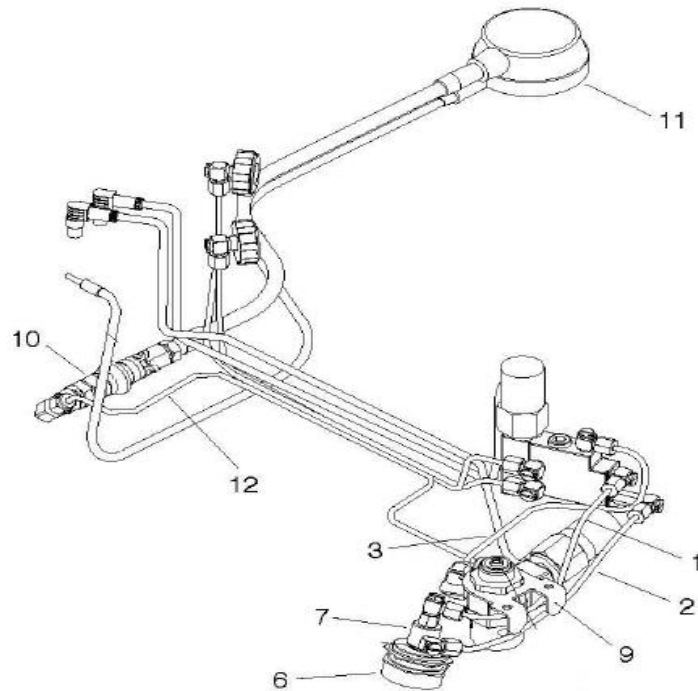
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- B. Aluminum Spacer
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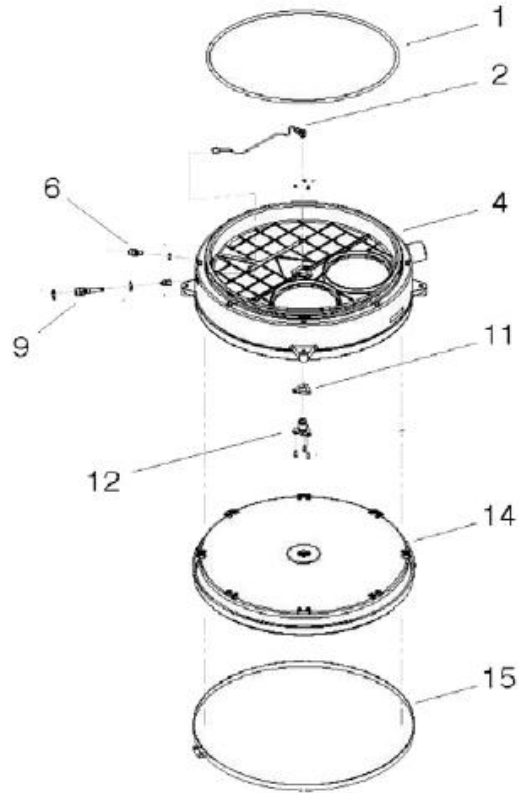
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### Center Section Assembly



27. Identify # 2

- A. Oxygen Supply Line
- B. Demand Feed Tube
- C. Oxygen Feed Tube

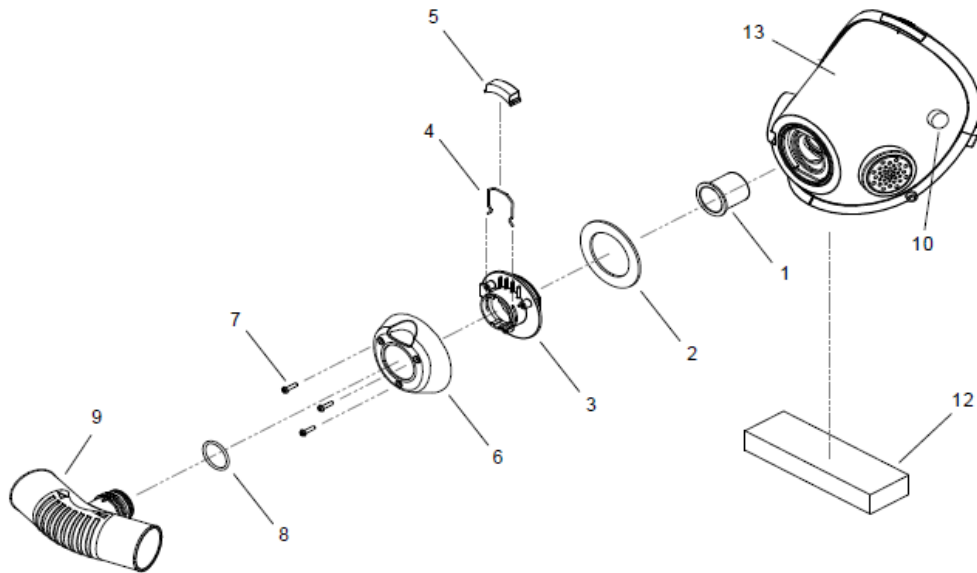
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