



Ohio Valley Tri-State Post
#6
Mine Rescue, Bench, Pre-
Shift, & First Aid Contest



BG-4
Contest

2015

STATEMENT TO BENCH CONTESTANT

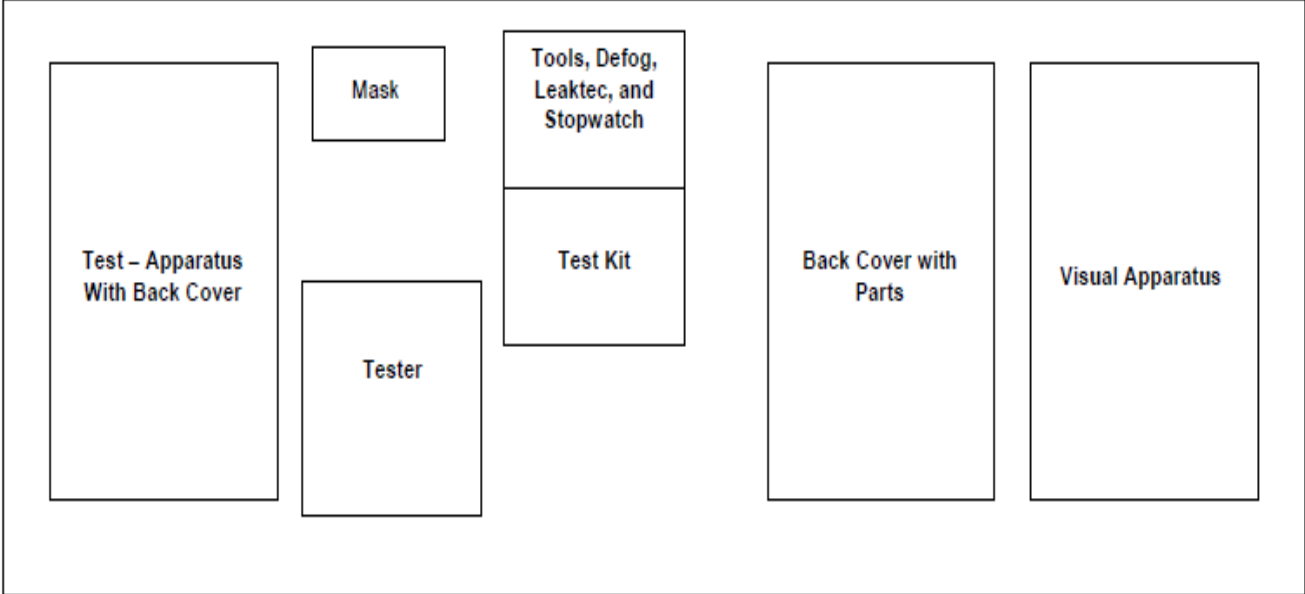
The bench participant will be provided with two BG-4 apparatus (one disassembled, one assembled), an RZ-25 or Test-It 6100 tester, a stopwatch, defogging solution, leak detector fluid, test kit, and tool kit. Only the tools and fluid provided will be used for testing and assembly of the apparatus. The work at the bench will consist of:

1. A visual examination of a disassembled BG-4 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 BG-4 apparatus with a tester, and correct the predetermined problem(s) so that the apparatus is in proper working condition. Except for removing the plug from the coupling on the breathing hoses, the assembled BG-4 apparatus cannot be disassembled to look for problems, until the hoses are attached to the tester, and testing has begun. When testing is completed on the assembled BG-4 apparatus, the hoses shall be removed from the tester, connected to the facepiece, and the back cover 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 29 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.

Table Layout for BG-4 Contest



BG-4 VISUAL APPARATUS (BREAKDOWN)

Back Cover Removed
Hoses – Disassembled
Connector Removed
Inhalation – Exhalation Valves Removed
Cooler and Cooler Cap Removed
Relief Valve (Intact)
Lever Arm
Canister
Springs
Breathing Bag
O2 Bottle
Retainer Clip for Minimum Valve
Minimum Valve
Drain Valve (Intact)
Switchbox (Unlatched but still attached to lines)

BG-4 TOOL KIT

7mm – Open End/Box End
8mm – 10mm Combination
10mm – Open End
12mm – 14mm Combination
17mm – 19mm Combination
10mm – 11mm Offset Box
Flat Screwdriver
Phillips Screwdriver
Spanner Wrench
2mm – Allen Wrench
15mm – Open End
Dow-Corning 111
TORX – T-20
Reaction Ring Tool

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BG-4 Contest

Visuals

1. Tally Key in backwards with magnets up

- Once the contestant has identified the incorrect he must correct by re-installing it correctly into the Sentinel

2. Drain Valve missing spring

- When the contestant identifies the spring missing give them a spring

3. Cooler cover missing O-Ring

- When the contestant identifies the missing O-Ring give them the O-Ring

4. Blue reaction ring on supply line from switch box to relief valve line at the tee connection of the relief valve

- When the contestant identifies the reaction ring is missing give the blue ring to him

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BG-4 Contest
R/Z-25 TESTER or Test-it 6100

1. Drain valve housing not secured in yellow breathing bag

- Once the contestant identifies the problem he/she must correctly set drain valve

2. Valve disc missing from inhalation valve of hose connector

- Once the contestant identifies the problem give he/she the valve disc

3. O-Ring missing from the 90 degree connector of the relief valve line that goes into the top of the regenerative canister

- Once identified by the contestant the missing o-ring supply him/her with the o-ring

4. Minimum valve installed in yellow breathing bag upside down with solid protective stem up instead of down

Once the problem has been identified the contestant must remove and reinstall valve correctly

VISUAL APPARATUS CHECKS		HAND TIGHT CONNECTIONS	
✓	Check if ok		- Cap on Drain Valve
	FRAME/HARNESS ASSEMBLY		- Drain Valve to Breathing Bag
	- Switchbox/Sentinel/Sealing Rings/O2 Reg		- Minimum Valve to Breathing Bag
	- Backcover		- Minimum Valve to O2 Supply Line
	BREATHING BAG		- Cylinder Connection
	- Sealing Surfaces		- Regenerative Canister Connections
	- Manipulate or Massage (pliability)		- Relief Valve to Regenerative Canister
	- Minimum Valve & Drain Valve		- Cooler to Breathing Bag
	- Lever		- Distribution Hose
	- Springs		- Breathing Hoses (Once Testing)
	CYLINDER TEST		- Hose Adapter on RZ-25 or Test-It 6100
	- Hydrostatic Test Date		TEST APPARATUS
	- Cylinder Pressure on Gauge	✓	Check if ok
	- Pressure Rating on Cylinder		ZERO ADJUSTMENT ON TESTER
	REGENERATIVE CANISTER		LOW PRESSURE WARNING TEST
	- Check for Defects		INHALATION VALVE TEST
	- Sealing Surfaces		EXHALATION VALVE TEST
	- Expiration Date or Screens/Filler Mats/Seal		DRAIN VALVE TEST
	- Seal Strap with Tension Spring Hook		LEAK TEST with POSITIVE PRESSURE
	RELIEF VALVE		RELIEF VALVE TEST
	- Check for Defects		- State Opening Pressure
	- Valve/O-Ring		HIGH PRESSURE LEAK TEST
	COOLER		CONSTANT METERING VALVE TEST
	- Check for Defects		- State Final Reading
	- Sealing Surfaces		MINIMUM VALVE TEST
	HOSES		- State Opening Pressure
	- Sealing Edges		BYPASS VALVE TEST
	- Stretching of Hose for Pliability		LOW PRESSURE WARNING TEST
	COUPLING		- State Warning Reading
	- Sealing Surfaces		BATTERY TEST
	- Valve Discs	VI	C
	FACE PIECE TEST		VISUAL APPARATUS
	- Head Strap Assembly		Tally Key in backwards with magnets up
	- Mask Body		Drain Valve missing spring
	- Sealing Edges		Cooler cover missing O-Ring
	- Speaking Diaphragm		Blue reaction Ring missing on supply line to relief
	- Lens		Test Apparatus
	- Wiper		Drain valve not secured in yellow breathing bag
	- Defog Mask (Simulate)		Valve disc missing from inhalation valve of hose connector
			O-Ring missing in connector of relief valve line
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