BG-PROAIR BENCH STATEMENTS OF FACT

- 1. A positive pressure leak could be caused by a leakage in or at device components.
- 2. The batteries in the electronics assembly should be replaced as necessary.
- 3. Dow Corning 111 is to be used to lubricate O-rings.
- 4. The pressure relief valve is designed to open when the pressure within the breathing circuit is between +40 and +80 millimeters (+4 mbar and +8 mbar) of pressure measured on the water gage.
- 5. To prepare for testing adjust zero point of the RZ-25 tester.
- 6. Test adapter is used to connect the BG-ProAir apparatus to the RZ-25 tester.
- 7. A leaky exhalation or inhalation valve could be caused by a defective valve seat or valve disc.
- 8. During the exhalation valve test, if valve is operating properly, -10 mbar is indicated on the pressure gauge.
- 9. The EPDM breathing hoses use Bayonet Rings.
- 10. During testing of the inhalation valve, if valve is operating properly, +10 mbar is indicated on the pressure gauge.
- 11. During the positive pressure leak test, the pressure change within 1 minute must be lower than 1 mbar.
- 12. Only DRAGERSORB 400 is to be used to fill the refillable absorber.
- 13. The factory packed cartridge is good for 2.5 years from the manufacture date.
- 14. A positive pressure in the breathing circuit prevents ambient air from entering the system.
- 15. The BG-ProAir is approved with a factory/refillable absorber.
- 16. The Connect ECU monitoring system comprises a sensor unit, electronics assembly, and Connect ECU.
- 17. The drain valve should not open at less than 10 mbar or more than 25 mbar.
- 18. A fully filled oxygen cylinder holds 414 liters of medical oxygen.
- 19. The accuracy of the Connect ECU pressure measurement is +or- 150 psi of the final value at 3000 psi.

- 20. The accuracy of the Connect ECU pressure measurement is +0 or- 72 psi of the final value at 580 psi.
- 21. Never replace the battery in potentially explosive areas.
- 22. The weight of a fully charged BG-ProAir apparatus is 16.9kg (37.3 lbs.).
- 23. Check the supply of oxygen gas on the Connect ECU at intervals of approximately 15 minutes.
- 24. The minimum valve provides greater than 80 L/min flow.
- 25. The breathing bag has a 6-liter volume.
- 26. Insert speech diaphragm, install retainer ring and tighten with spanner.
- 27. The belt and harness must be dried prior to storage, to prevent growth of mold and fungus.
- 28. The pressure reducer, minimum valve, and oxygen hoses must be replaced every 10 years.
- 29. The Connect ECU pressure sensor converts pressure into digital signal.
- 30. The cylinder connector and cylinder valve must not be contaminated with oil or grease.
- 31. Two TX10 screws are used in the battery cover of the electronics assembly.
- 32. Rubber parts must be particularly protected from direct exposure to radiation.
- 33. Do not use any solvents, such as acetone, alcohol, benzene, white spirit, trichloroethylene, etc. for cleaning rubber and silicone parts.
- 34. The first low pressure warning occurs when the pressure drops to approximately 650 psi.
- 35. At the first low pressure warning approximately 75% of the oxygen has been used up.
- 36. The last low-pressure warning occurs when the pressure drops to approximately 150 psi.
- 37. During the low-pressure warning test, the alarm should activate at approximately 650 psi for a 4-hour apparatus.
- 38. At the last low-pressure warning approximately 95% of the oxygen has been used up.
- 39. To start the main alarm, press the Yellow panic button in center of the Connect ECU.

- 40. When the first low pressure warning occurs, the alarm sounds intermittently, the red LED flashes, and the screen of the Connect ECU turns red.
- 41. When the last low-pressure warning occurs, the alarm sounds intermittently without stopping and the red LED flashes constantly.
- 42. Medium pressure is delivered to the minimum valve.
- 43. The drain valve opens at between 10 and 25 mbar.
- 44. The BG-ProAir breathing circuit is designed with an air cooler that can be filled with ice packs or phase change material to reduce the temperature of the inhaled breath.
- 45. Remove the Tally Key to activate the motion sensor.
- 46. All parts which come in contact with the exhaled air must be thoroughly cleaned and disinfected after use.
- 47. Disinfect parts by immersing them in a disinfectant bath using an approved disinfectant.
- 48. Slide the minimum valve into the slot in the breathing bag.
- 49. All parts which have been disinfected should be rinsed thoroughly under running water.
- 50. CO₂ absorber is not approved for use after indicated expiration date.
- 51. The maximum temperature of the air used to dry parts should not go above 60 degree C (140-degree F).
- 52. U.S. Department of Transportation requires hydro tests on composite cylinders every 5 years.
- 53. The O-ring under the speech diaphragm should be lubricated with Dow Corning 111.
- 54. The BG-ProAir is approved for use at temperatures above -6 degree C (21-degree F)
- 55. A defective pressure reducer should be replaced as needed.
- 56. Only oxygen (medical grade or better) with > 99.5% purity is to be used to fill the BG-ProAir oxygen cylinders.
- 57. Ice packs in the cooling system should only be used at ambient temperature above 0 degree C (32-degree F).
- 58. Pressurized oxygen in contact with oil, grease, or other contamination can result in fire or explosion.

- 59. It is safe to use the BG-ProAir for up to 4 hours with a yellow battery indicator with 1 bar.
- 60. The battery must be replaced if a red battery warning is indicated.
- 61. A defective bypass is the probable cause if the manual by-pass valve does not blow-off.
- 62. The blue LED pulses to indicate that the Connect ECU is operating normally.
- 63. Bypass output is > 80 L/min.
- 64. Relief valve activation is 4-8 bar or (58-116 psi).
- 65. The oxygen cylinder burst disc ruptures at 4,450 psi (307 bar).
- 66. Refillable absorber concerns are over packing and under packing.
- 67. The FPS 7000 masks allow 90% peripheral vision.
- 68. Polycarbonate or Plexiglas lenses can be used in the mask.
- 69. A minimum of 2175 psi is needed for a Connect ECU to perform a proper high pressure leak test.
- 70. The drain valve opens between 10 and 25 mbar and is therefore out of the RZ reading range.
- 71. To prepare the ice pack:

Insert ice packs into freezing aid Freeze at least 24 hours @ -16 degree C (3-degree F) Remove from freezing aid Stack on top of each other

- 72. If the speech diaphragm is deformed or shows signs of damage, it must be replaced.
- 73. The BG-ProAir Connect ECU lights up when the button is briefly pressed.
- 74. Press then release the right-hand button to display temperature.
- 75. Do not re-use Factory absorbers.
- 76. When conducting component checks use a test pressure between +7 mbar and +7.5 mbar with a max pressure loss of 1 mbar/min.
- 77. The only battery approved for use with the Connect ECU is the Energizer L91.

BG-ProAir



1 Cons. N	2 No. Designation	1 Cons. N	2 Io. Designation
1	Spring Bridge	11	Breathing Connection
2	Breathing Bag	12	Waist Belt
3	Refill Absorber	13	Shoulder Harness
4	Breathing Air Cooler, PCM	14	Connect ECU
5	Ice Cooler	15+16	BG ProAir Skids Set
6	Cylinder Holder	16	Screw
7	Pneumatics	17	Spare Part Set Handwheel
8	Housing - Lower Shell		BG ProAir
9	Housing - Upper Shell		-
10	Electronics		

Refill Absorber



1 2	1 2
Cons. No. Designation	Cons. No. Designation
 Refill Absorber Lid Cooler/Absorber Lock Retaining Washer Cylinder Pin Snap-Fit Cooler, Absorber Sealing 	 7 Frame 8 Top Sieve 9 Filter Pad 10 Bottom Sieve 11-13 Refill Absorber Housing 12 Type Label 13 Absorber RFID

Ice Cooler, Complete



1 2	1 2
Cons. No. Designation	Cons. No. Designation
 Snap-Fit Ice Cooler Lid Ice Cooler Cartridge 	



1 2	1 2
Cons. No. Designation	Cons. No. Designation
 Strain Relief Plate, Inside Strain Relief Plate, Outside Flat Head Screw Snap-In Plate Lock Hinge Bottom 	 6 Flat Head Screw 7 Waist Belt Bracket 8 Leaf Spring Harness Mount 9 Approval Label 10 Flat Head Screw 11 Valve Handle

Breathing Connection



1 2	1 2
Cons. No. Designation	Cons. No. Designation
 Valve Disc Directional Valve Housing Connector Piece O-Ring 	5 Bayonet Ring6 Breathing Hose7 Sealing Cap8 Split Ring

Breathing air Cooler, PCM, Compl.



1	2	1	2
Cons. No	o. Designation	Cons. No	o. Designation
1 2 3 4 5 6 7 8 9	PCM Cooler Lid, Compl. Lock, Compl. Retaining Washer Snap-Fit Cylinder Pin Sealing Absorber Frame Stack Bracket PCM Container, Filled	10	PCM Cooler Case

Breathing Bag



1 2	1 2
Cons. No. Designation	Cons. No. Designation
 Breathing Bag Breathing Bag Lock Relief Valve Relief Valve Disc Relief Valve Seal Valve Disc 	 7 Spring 8 Valve Cap 9 Drain Valve 10 Drain Valve Cap 11 Connector Seal

Cylinder Holder



1 2	1 2
Cons. No. Designation	Cons. No. Designation
1 Cylinder Strap 2 Flat Head Screw	

Spring Bridge



1 Cons. No.	2 Designation	1 Cons. No	2 D. Designation
1	Pressure Plate	7	Assembly Clip
2	Breathing Bag Spring	8	Spring Bridge
3	Pressure Relief Valve Limit Stop	9	Locking Lever
4	Wire Bow		
5	Snap-In Hook, Left		
6	Snap-In Hook, Right		

Waist Belt



1 Cons. No.	2 Designation	1 2 Cons. No. Designation
1	Buckle	
2	Waist Belt Plate	
3	Splint	

Shoulder Harness



1 Cons. No.	2 Designation	1 2 Cons. No. Designation
1	Chest Strap	
2	Webbing With Loop Head	
3	Harness Anchor	
4	Hose Loop (100 mm)	
5	Hose Loop (210 mm)	
1-5	Shoulder Harness, Comfort	

Electronics



1 Cons. No.	2 Designation	1 2 Cons. No. Designation
1-4	Electronics Assembly	
2+3	Battery Carrier, Complete	
3	O-Ring	
4	Ventilation Diaphragm	

Housing - Upper Shell



1 Cons. No.	2 Designation	1 2 Cons. No. Designation
1	Lock	
2	Flat Head Screw	
3	Buddy Light Window	
4	Hinge Top	
1-4	Upper Shell Compl.	

Minimum Valve



1 Cons. No.	2 Designation	1 2 Cons. No. Designation
1	Dust Cover	
2	Valve Lever	
3	Valve Lever Cover	
1-3	Minimum Valve, Compl.	

Pressure Reducer



1 Cons. No.	2 Designation	1 Cons. N	2 o. Designation
4 5 6 7 8 9	Pressure Reducer, CGA 540 PSP 5 Pressure Sensor Screw O-Ring Clamp Bracket	10 11 12 13 14	Sealing Ring Angle Connection Hand Wheel O-Ring Sinter Filter

Pneumatics



1 Cons. No.	2 Designation	1 2 Cons. No. Designation
2 3	Pre-Flush Bypass	

Tubes/Air Lines



Connect ECU (Electronic Control Unit)



1 Cons. No.	2 Designation	1 2 Cons. No. Designation
1	ECU Connect Aftersales	
2	Connect UI Module Rubber	
	Cover	
3	Sacrificial Screen Display	
4	Tally Key	
4a	Split Ring	
5	Sacrificial Screen LED	



1 2	1 2
Cons. No. Designation	Cons. No. Designation
 Mask Body FPS 7000 Upper Visor Frame Visor Lower Visor Frame Clamp Connector Piece Cover Turning Knob Disc 	 13 Inner Mask 14 Button 15A Head Strap 15B Hairnet 16 Sliding Buckle 17 Double Button 18 Neck Strap

Oxygen Cylinder Valve



R360392



1 Cons. No.	2 Designation	1 2 Cons. No. Designation
7	Cylinder Valve O2 207 bar CGA	
8	Locking Nut .903-14 NGO-RH	
12	Spare Part Set Gauge, PSI	

Oxygen Cylinder



1	2	1	2
Cons. No.	Designation	Cons.	No. Designation
1,2.4, 3, 4.2	Cylinder 2/200 O2 CGA540 NGO	4.2	O-Ring 18.72x3.53 FKM 80 Shore A
2.4	Cylinder Valve O2 207 bar CGA	5	Spare part set handwheel
3	Label		



1 2 Cons. No. Designation		1 2 Cons. No. Designation	
1	Case, BG ProAir Test Set	13	Torque TORX Blade T20
2	Adapter RZ 7000	14	Torque TORX Blade T25
3	Plug, Male Coupling	15	Torque Change Blade 6Kt 2.5
4	Blind Plug	16	Torque Screwdriver
5	O-Ring Removal Tool	17	Torque Screwdriver 0.8 – 5.0 Nm
6	Adapter, Quick Coupling	18	Face Spanner
7	Breathing Hose Sealing Plug	19	Test Hose
8	Breathing Bag Lock Plug	20	Bypass Adapter
9	Test Connection, Breathing Hose	21	Breathing Bag Adapter
10	Test Adapter, Hose Connection	22	Breathing Bag Plug
11	Plug c/a Breathing Bag Side	23	Plug
12	Torque TORX Blade T10	24	Drain Valve Plug