PRODUCT OPERATING MANUAL

Manual No. ZVP-PC-0005-02

SPARTAN SUPPLIED AIR RESPIRATOR HELMET

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SECTION

PRODUCT OPERATING MANUAL

1.0 GENERAL INFORMATION

1.1 The PanBlast™ Spartan Supplied Air Respirator Helmet is a non-certified continuous flow compressed airline breathing apparatus with helmet for abrasive blasting applications.

1.2 All products and equipment designed and manufactured by Pan Abrasives are intended for use by experienced users of abrasive blasting equipment, and its' associated operations with abrasive blasting media.

1.3 It is the responsibility of the user to:-

1.3.1 Determine if the equipment and abrasive media is suitable for the users intended process and application.

1.3.2 Familiarize themselves with any appropriate laws, regulations, and safe working practices, which may apply within the users working environment.

1.3.3 Provide appropriate operator training and a safe working environment, including operator protective equipment such as, but not limited to, blasting suits, safety footwear, protective eyewear and hearing protection.

1.4 Pan Abrasives Standard Terms and Conditions of Sale apply. Contact your local Pan Abrasives office or distributor should you require any further information or assistance.

2.0 RECOMMENDED OPERATING AIR VOLUME GUIDELINE

⚠ ! WARNING ! – READ THIS SECTION CAREFULLY BEFORE USING THIS EQUIPMENT/ APPARATUS.

2.1 The recommended guideline for minimum supply air volume (L/min) to the Spartan Supplied Air Respirator Helmet is 170L/min and up to maximum of 425L/min.

⚠ ! WARNING ! – ENSURE THAT THE COMPRESSED AIR SUPPLY VOLUME AND PRESSURE IS ADEQUATE FOR THE REQUIRED NUMBER OF OPERATORS CONNECTED TO THE SUPPLY, IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDED GUIDELINE AS PER 2.1

2.2 The Supplied Air Respirator Helmet is a non-certified design specifically for abrasive blasting applications. It must not be used for any other purpose, including but not limited to painting and welding.

NOTE: IF THE MINIMUM RECOMMENDED AIR VOLUME GUIDELINE OF 170L/MIN IS FOUND TO BE INADEQUATE OPERATION MUST CEASE UNTIL THE AIR SUPPLY VOLUME HAS BEEN ADDRESSED.

3.0 RESPIRATOR COMPRESSED AIRLINE HOSE AIR SUPPLY REQUIREMENTS.

3.1 The PanBlast™ 20m Respirator Compressed Airline Hose with Quick Disconnect Couplings BAC-AF-PB-0123 will couple directly to the recommended point of attachment such as the PanBlast™ respirator airline filter series including, but not limited to the following models: VisiFlo, PBF-II and PBF Junior, by utilizing the Quick Disconnect BSP/NPT Fittings Kit BAC-BH-0137-00, sold separately.

⚠ ! WARNING ! – DO NOT ATTEMPT TO USE OTHER RESPIRATOR COMPRESSED AIRLINE HOSES WITH THE SPARTAN SUPPLIED AIR RESPIRATOR HELMET SYSTEM AS THIS WILL VOID WARRANTY AND RENDER INFORMATION SUPPLIED IN SECTION 2.1 INVALID.

3.2 BREATHING AIR QUALITY

⚠ ! WARNING ! – READ THIS SECTION CAREFULLY BEFORE USING THIS EQUIPMENT/ APPARATUS.

3.3 The quality of compressed air supplied to the Spartan Supplied Air Respirator Helmet must be filtered quality breathing air.

3.4 Heavy metal paint, asbestos, and other toxic material dusts will cause serious lung disease or death without the use of properly designed air supplied air respiratory equipment by blast operators and all personnel within the work site area.

3.5 Never connect a Respirator Compressed Airline Hose to an air source that has not been tested for gas or particulate contamination. The presence of unacceptable levels of carbon monoxide (CO) in the breathing air will cause death to the operator.

3.6 It is not recommended to use piston type or oil bath compressors for breathing air. Use of these types of compressors poses an extreme danger of producing unacceptable levels of carbon monoxide in breathing air which could cause death to the operator.

3.7 The compressor must have adequate output and the plumbing between the compressor and the point of attaching the air supply hose must have sufficient capacity to supply the volume of air at the pressure required.

3.8 Do not use any caustic chemicals or solvents that may be irritating or harmful to the user, or which change the properties of the materials used in any part of the Spartan Supplied Air Respirator Helmet system.

3.9 The warranties applicable to the Spartan Supplied Air Respirator Helmet and components, applies only when used as a complete system as supplied, without any modification, deletion or substitution of any components.

3.10 The quality of air supplied to the Spartan Supplied Air Respirator Helmet is critical to the safety and comfort of the operator. Special care must also be taken to avoid accidental connection to any other gas lines; such as, oxygen, acetylene or nitrogen etc..

⚠ ! WARNING ! – DO NOT CONNECT OXYGEN OR OXYGEN ENRICHED AIR SUPPLY TO THE SPARTAN SUPPLIED AIR RESPIRATOR HELMET.

3.11 Air supply by oil lubricated air compressors must be equipped with a high temperature alarm or a carbon monoxide (CO) alarm such as PanBlast™ AirScan CO Monitor, or both. If only a high temperature alarm is used, the air from the compressor must be tested frequently for the presence of carbon monoxide (CO). It is the operators' responsibility to check the air supply. This includes the compressor, carbon monoxide (CO) alarm, respirator airline filters and shut down devices. An overheated compressor, or one that is in poor mechanical condition may produce carbon monoxide (CO) and objectionable odors. A carbon monoxide (CO) removal system may also be used to ensure breathing air quality.

⚠ ! WARNING ! NEVER ALLOW ANY VEHICLE OR INTERNAL COMBUSTION ENGINE TO OPERATE NEAR OR AROUND THE AIR COMPRESSOR INTAKE.

3.12 When breathing air is supplied by oil lubricated and oil less air compressors, certain precautions must be taken. The compressor inlet must be located away from all sources of toxic contaminants including carbon monoxide which is found in the engine exhaust and in any combustion of oil products. Other contaminants that may be harmful to the operator can enter the Supplied Air Respirator Helmet through the compressor air inlet. This inlet must not be located in proximity to any exhaust system outlet, ventilation flue or source of fumes or particles of any kind.

3.13 The precautions described above also apply to portable compressors. In addition, in the case of engine driven compressors, precautions must be taken to prevent engine exhaust gases from entering the air intake of the compressor. Compressor engine exhaust should be piped to a location safely downwind from the compressor air intake. Compressors vary in design and operation; therefore, it is important that users carefully read the manufacturers operation and maintenance instructions.

3.14 An appropriate respirator airline filter such as the PanBlast™ VisiFlo, PBF-II or PBF Junior must be installed and regularly maintain to remove objectionable odors, oil mist, oil vapors, water condensation, water pipe scale and any other particulate matter.

3.15 BREATHING AIR SUPPLY FROM CYLINDERS

⚠ ! WARNING ! NEVER USE OR OPERATE BREATHING AIR CYLINDERS WITHOUT THE PROPER TRAINING AND USE OF PRESSURE REDUCING DEVICES.

3.16 The user or user's employer must ensure that all cylinders used to supply breathing air meet all the requirements including, but not limited to, testing, maintenance, certificate of analysis for air quality, and moisture content.

3.17 All cylinders must be equipped with a properly maintained pressure reducing valve to ensure that the recommended air volume supplied to the Spartan Supplied Air Respirator Helmet is as specified in Section 2.1

4.0 PREPARATION FOR OPERATION

⚠ ! WARNING ! – READ SECTION 1.0 OF THIS MANUAL CAREFULLY BEFORE USING THIS EQUIPMENT / APPARATUS.

4.1 Check that the Inner Lens is in place and correctly seated within the Inner Window Gasket.

4.2 Ensure that the protective removable covers are removed from each side of both Inner and Outer Lenses before using the Spartan Supplied Air Respirator Helmet.

NOTE: THE PROTECTIVE COVERS ON THE OUTER & INNER LENSES MAY BE TRANSPARENT.

⚠ ! WARNING ! – THE LENSES HAVE NOT BEEN COATED WITH ANY ANTI-FOGGING COMPOUNDS. DO NOT USE THE SPARTAN SUPPLIED AIR RESPIRATOR HELMET IF OPERATOR VISION IS IMPAIRED IN ANY WAY DUE TO MISTING OR FOGGING.

4.3 Check that the Outer Lens is in place and correctly located in the Window Frame assembly, and that the Window Frame is securely latched in the closed position against the Inner Window Gasket.

⚠ ! WARNING ! – ALTHOUGH THE SUPPLIED AIR RESPIRATOR HELMET BAC-BH-PB-0014 INNER LENSES (STANDARD SUPPLIED) ARE DESIGNED FOR GENERAL OPERATOR PROTECTION AGAINST REBOUNDING ABRASIVE PARTICLES, IT IS ADVISABLE FOR THE OPERATORS TO BE EQUIPPED WITH APPROVED SAFETY GOGGLES, WHILST USING

THE SPARTAN SUPPLIED AIR RESPIRATOR HELMET.

4.4 Check that both the Inner Collar and Outer Cape are in place, and the Cable tie is in position to provide a seal around the full circumference of the bottom of the Supplied Air Respirator Helmet shell.

4.5 Connect your Respirator Compressed Airline Hose to the Pet Cock valve located on the rear of the Spartan Supplied Air Respirator.

4.6 If the optional Breathing Tube (BAC-BH-PB-0049) is being utilized, remove the Pet Cock valve (YAC-PF-PB-0098) and Adaptor (YAC-BH-PB-0068), and carefully fit the sealing washer to one end of the Breathing Tube and attach it to the air entry fitting on the rear of the Spartan Supplied Air Respirator by screwing the Breathing Tube end fitting in a clockwise direction. Ensure that the Breathing Tube end fitting is secured and hand tight.

NOTE: NEVER LIFT AND/OR CARRY THE SPARTAN SUPPLIED AIR RESPIRATOR HELMET BY THE BREATHING TUBE (OPTIONAL) AS DAMAGE TO THE SUPPLIED AIR RESPIRATOR OR BREATHING TUBE MAY OCCUR.

4.7 The Spartan Supplied Air Respirator Helmet is now ready for operation.

5.0 OPERATING INSTRUCTIONS

5.1 Ensure that the Spartan Supplied Air Respirator Helmet has been set up and checked as detailed in Section 4.0 of this manual, and the breathing air is supplied as detailed in Section 3.0 of this manual.

5.2 Connect the air hose on to the Pet Cock valve and tighten using an appropriate hose clamp (not supplied).

NOTE: IF THE SPARTAN SUPPLIED AIR RESPIRATOR HELMET IS BEING UTILIZED WITH A BREATHING TUBE ASSEMBLY DISREGARD SECTION 5.2

5.3 Carefully fit the second sealing washer to the opposite end of the Breathing Tube (if supplied), and attach it to either one of the optional controllers, Air Flow, Air Cooling or Climate Controller, by screwing the hose end Breathing Tube end fitting in a clockwise direction. Ensure that the hose end Breathing Tube end fitting is secured and hand tight.

5.4 Attach the Respirator Compressed Airline Hose to either the optional Air Flow Controller/Air Cooling Controller or the Climate Controller.

5.5 Supply volume should be set in accordance to Section 2.1 for the alternate air controller being utilized.

⚠ ! WARNING ! – IF THE MINIMUM RECOMMENDED AIR VOLUME GUIDELINE OF 170L/MIN IS FOUND TO BE INADEQUATE OPERATION MUST CEASE UNTIL THE AIR SUPPLY VOLUME HAS BEEN ADDRESSED.

5.6 The Spartan Supplied Air Respirator Helmet is suitable for use with the PanBlast™ 20m Respirator Compressed Airline Hose with Quick Disconnect Couplings (BAC-AF-PB-0123) by utilizing the Quick Disconnect BSP/NPT Fittings Kit (BAC-BH-0137-00), sold separately.

⚠ ! WARNING ! – DUE TO THE NOISE LEVELS GENERATED BY ABRASIVE BLASTING EQUIPMENT, THE USE OF HEARING PROTECTION PLUGS IS RECOMMENDED WHEN USING THIS SUPPLIED AIR RESPIRATOR HELMET. NOTE THAT SOME REDUCTION IN THE AUDIBILITY OF ANY WARNING/ALARMS MAY RESULT.

5.7 Invert the Spartan Supplied Air Respirator Helmet downwards and open the Inner Collar and lift the Supplied Air Respirator Helmet onto your head. Ensure that the Inner Collar fits snugly and comfortably. Pull the Outer Cape to its full extent, and connect the retaining clips located on either side of the cape.

5.8 Fit the optional Air Flow Controller/Air Cooling Controller/Climate Controller belt around the waist and adjust for a firm fit as required. It may be necessary for another person to assist the operator with fitting of the Spartan Supplied Air Respirator Helmet, alternate controller and Belt assembly

6.0 OPERATING ADJUSTMENTS

6.1 The use of the optional Air Flow Controller (BAC-AF-PB-0036) allows the operator to increase or decrease the volume of air entering the Spartan Supplied Air Respirator Helmet by turning the regulator adjusting ring.

6.2 Refer to Operating Manual ZVP-PC-0039-01 for further details on the operation of the Air Flow Controller.

6.3 The use of the optional Air Cooling Controller (BAC-AF-PB-0032) allows the operator to adjust the temperature of the incoming air supply to the Spartan Supplied Air Respirator Helmet. This is done by rotating the adjusting knob until the desired air temperature is achieved.

6.4 It is recommended that the Air Cooling Controller be used when the incoming air supply to the Supplied Air Respirator Helmet becomes too warm for the operator to work comfortably.

6.5 It is normal for warm air to be discharged from the vent hole in the lower adjusting knob of the Air Cooling Controller while in operation.

6.6 Refer to Operating Manual ZVP-PC-0042-01 for further details on the operation of the Air Cooling Controller.

6.7 The use of optional Climate Controller (BAC-AF-PB-0175) operates in a similar manner to the Air Cooling Controller, but may be used to supply either heated or cooled air to the Spartan Supplied Air Respirator Helmet. The Climate Controller can be switched from heating to cooling by way of the control switch located on the top of the unit.

6.8 It is recommended that the Climate Controller be used when the incoming air supply to the Supplied Air Respirator Helmet becomes too warm or too cool for the operator to work comfortably.

6.9 Refer to Operating Manual ZVP-PC-0043-01 for further details on the operation of the Climate Controller.

7.0 REMOVAL AND STORAGE INSTRUCTIONS

7.1 Prior to removing the Spartan Supplied Air Respirator Helmet, disconnect the Outer Cape retaining clips, and then carefully lift the Spartan Supplied Air Respirator Helmet off. Disconnect the Respirator Compressed Airline supply Hose from the Supplied Air Respirator Helmet alternate controller when not in use. It is also recommended to turn off the compressed air supply to the respirator airline filter.

7.2 It is not recommended to tuck the Outer Cape into the Spartan Supplied Air Respirator Helmet shell interior when it is not in use.

7.3 The Supplied Air Respirator Helmet should be stored in a clean and dry area, with an ambient temperature between -10ºC and +60ºC.

8.0 MAINTENANCE INSTRUCTIONS

NOTE: ALL REPAIRS AND ADJUSTMENTS MUST BE CARRIED OUT BY SUITABLY QUALIFIED PERSONS, AND ONLY GENUINE PANBLAST™ MANUFACTURED PARTS SHOULD BE USED.

8.1 The PanBlast™ Spartan Supplied Air Respirator Helmet has a limited service life, and it requires regular inspection and servicing with PanBlast™ replacement parts. If the Supplied Air Respirator helmet shell shows any signs of significant wear, cracks or holes etc., the Spartan Supplied Air Respirator Helmet assembly should be discarded and replaced.

8.2 Prior to use of the Supplied Air Respirator Helmet, all Respirator Compressed Airline Hose, Quick Disconnect couplings and the Breathing Tube (optional) should be checked for dust and debris, and cleaned or replaced if necessary.

8.3 Carefully inspect the Breathing Tube (optional) assembly daily, checking for any signs of wear, splits or tears in the outer casing of the tube assembly.

⚠ ! WARNING ! – ANY AIR LEAKS IN THE BREATHING TUBE WILL RESULT IN A REDUCTION OF AIR FLOW TO THE SPARTAN SUPPLIED AIR RESPIRATOR HELMET.

8.4 Check the condition of both Inner Collar and Outer Cape on a daily basis. The Inner Collar should provide a snug fit around the operators' neck to prevent the entry of dust and abrasive into the Supplied Air Respirator Helmet. Replace the Inner Collar and Outer Cape if necessary. The Inner Collar is attached to the Outer Cape by way of a zipper arrangement. Simply unzip the Inner Collar to remove it from the Outer Cape. The Inner Collar may be washed in a mild detergent and air dried.

8.5 To replace the Inner Collar and Outer Cape, carefully remove the Cable Tie, then detach the Inner Collar and Outer Cape from the Spartan Supplied Air Respirator Helmet shell and discard the old Inner Collar and Outer Cape.

8.6 Position the join/seam in the neck of the new Inner Collar and Outer Cape at the rear of the Supplied Air Respirator Helmet shell, and attach the Inner Collar and Outer Cape to the Supplied Air Respirator Helmet shell, ensuring the full circumference of the shell is fully covered. Position the internal cape wire band in the groove of the shell. Once fully attached in position, utilize the Cable Tie to seal the Inner Collar and Outer Cape to the circumference groove on the Supplier Air Respirator Helmet shell.

8.7 During operation, the Outer Lens will become frosted over from rebounding abrasive media. This Outer Lens is a disposable lens designed to be discarded and is easily replaced by unlatching the Window Frame Latch and swinging open the Window Frame. Simply insert the new replacement Outer Lens within the Window Frame retaining notches, and re-latch the Window Frame ensuring an air tight fit against the Inner Window Gasket.

8.8 The Spartan Supplied Air Respirator Helmet and Inner Lens require periodic changing, this should be done as soon as the operator's vision becomes impaired. When changing the Inner Lens, check the condition of the Inner Window Gasket. The Inner Window Gasket should provide an airtight seal between the Supplied Air Respirator Helmet shell and Inner Lens. Replace the Inner Window Gasket if necessary.

NOTE: THE INNER LENS PROTECTIVE COVER MUST BE PEELED OFF THE LENS BEFORE FITTING IT INTO THE INNER WINDOW GASKET.

⚠! WARNING ! – ALTHOUGH THE SUPPLIED AIR RESPIRATOR HELMET (BAC-BH-PB-0014) INNER LENSES (STANDARD SUPPLIED) ARE DESIGNED FOR GENERAL OPERATOR PROTECTION AGAINST REBOUNDING ABRASIVE PARTICLES, IT IS ADVISABLE FOR THE OPERATORS TO BE EQUIPPED WITH APPROVED SAFETY GOGGLES, WHILST USING THE SPARTAN SUPPLIED AIR RESPIRATOR HELMET.

8.9 The inner cheek padding positioned within the Supplied Air Respirator Helmet can be removed and washed in a mild detergent and warm water then air dried. Replacement padding assemblies are also available.

NOTE: CAUSTIC CHEMICALS AND/OR SOLVENTS MUST NOT BE USED TO CLEAN ANY PART OF THE SUPPLIED AIR RESPIRATOR HELMET ASSEMBLY AS IT MAY CAUSE DETERIORATION OF THE OUTER PROTECTIVE SHELL AS WELL AS CAUSING IRRITATION OR BE HARMFUL TO THE BLASTING OPERATOR.

9.0 PRODUCT PARTS LISTING

9.1 Spartan Supplied Air Respirator Helmet Assemblies

Stock Code	Description	Weight
BAC-BH-PB-0037	Spartan SAR With Complete Cape	4.0 kg (8.8 lbs)
BAC-BH-PB-0076	Spartan SAR With Air Flow Controller	4.2 kg (9.30 lbs)

9.2 Spartan Supplied Air Respirator Helmet Parts Listing

Item	Stock Code	Description	Qty
1	BAC-BH-PB-0014	Spartan Inner Lens - 20pcs	1
2	BAC-BH-PB-0015	SAR Outer Lens - 100pcs	1
3	BAC-BH-PB-0013	SAR Inner Lens Gasket	1
4	BAC-BH-PB-0071	SAR Window Frame Kit	1
5	BAC-BH-PB-0026	Spartan Inner Collar-Outer Cape	1
6	BAC-BH-PB-0030	SAR Sponge Insert	1
7	YAC-BH-PB-0038	Spartan SAR Helmet Shell	1
8	YAC-BH-PB-0067	SAR 1/2" Silencer	1
9	YAC-BH-PB-0005	SAR Reducing Bush	1
10	YAC-BH-PB-0019	SAR Tapered Spacer	1
11	YAC-PF-PB-0098	Pet Cock	1
12	YAC-FN-PB-0090	Cable Tie	2
13	YAC-BH-PB-0035	SAR Latch Sub Assembly	1
14	BAC-BH-PB-0006	SAR Standard Inner Padding Kit	1
15	YAC-BH-PB-0050	SAR 3/4" Lock Nut	1
16	YAC-BH-PB-0068	SAR Adapter Nut	1
17	YAC-BH-PB-0053	Sealing Washer	1
18	YAC-BH-PB-0016	SAR Rear Inner Padding	1
19	YAC-FN-PB-0163	Flat Washer	8
20	BAC-BH-PB-0049	SAR Breathing Tube Assembly	1
21	BAC-AF-PB-0036	Air Flow Controller With Belt	1
22	BAC-AF-PB-0032	Air Cooling Controller With Belt	1
23	BAC-BH-PB-0075	SAR PVC Window Frame Kit	1
24	BAC-AF-PB-0175	Climate Controller With Belt	1
25	BAC-AF-PB-0123	20m Respirator Airline Hose - Std	1
26	BAC-BH-0137-00	Quick Disconnect BSP/NPT Fittings Kit	1

9.3 Spartan Supplied Air Respirator Helmet Exploded View