PRODUCT OPERATING MANUAL

Manual No. ZVP-PC-0079-00

GALAXY SUPPLIED AIR RESPIRATOR HELMET

Panblast Pte Ltd
2 Woodlands Sector 1
#05-20 Woodlands Spectrum I
Singapore 738068
Tel: 65-6586-1583
Fax: 65-6586-1563
Email: inquiries@panblast.com

Website: www.panblast.com

An ISO 9001:2008 Quality Management System Certified Company

SECTION

PRODUCT OPERATING MANUAL

1.0 GENERAL INFORMATION

1.1 The PanBlast™ Galaxy 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 OPERATING AIR VOLUME RECOMMENDED 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 Galaxy 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 used 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 recommended point of attachment such as the PanBlast™ respirator airline filter series including, but not limited to the following models: VisiFlo, PBF and PBF Junior.

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

3.2 The PanBlast™ 20m Respirator Compressed Airline Hose with Quick Disconnect couplings BAC-AF-PB-0123 may also be coupled to alternative respirator airline filters by utilizing the Quick Disconnect BSP/NPT Fittings Kit BAC-BH-0137-00 which is sold separately.

3.3 It is recommended that the airflow to the Supplied Air Respirator Helmet must remain between a minimum of 170L/min and a maximum of 425L/min at all times.

3.4 **Breathing Air Quality**

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

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

3.6 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.

3.7 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.

3.8 It is recommended not 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 (CO) in breathing air which could cause death to the operator.

3.9 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.

3.10 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 Supplied Air Respirator Helmet system.

3.11 The warranties applicable to the 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.

3.12 The quality of air supplied to the 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 AIR SUPPLIED RESPIRATOR HELMET.

3.13 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 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 odours. 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.

3.14 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.

3.15 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.

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

3.17 Breathing Air Supply from Cylinders

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

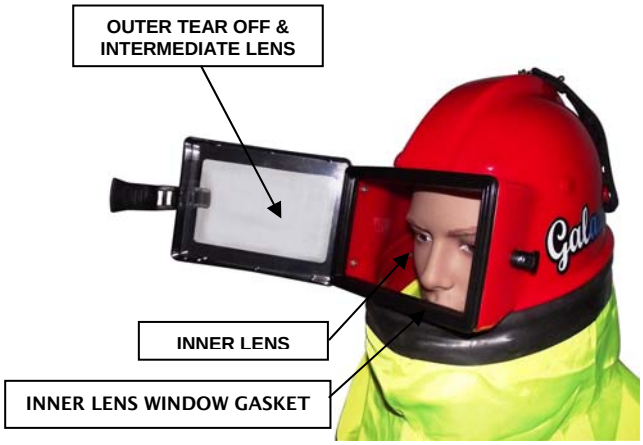
3.18 The user or user's employer must ensure that all cylinders used to supply breathing air meet all the requirements including, but not limited to, testing, maintenance, certificate of analysis for air quality, and moisture content.

3.19 All cylinders must be equipped with a properly maintained pressure reducing valve to ensure that the recommended air volume supplied to the 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.

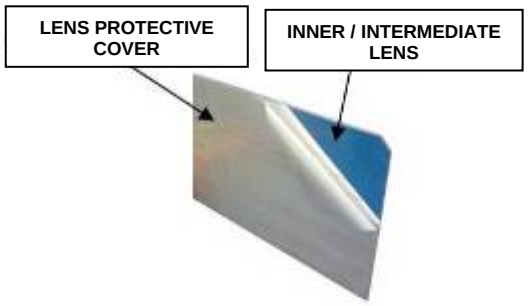
4.1 Check that the Inner Lens is in place and correctly seated within the Inner Window Gasket.



4.2 Ensure that the protective removable layers are removed from each side of both the Inner and

Intermediate Lenses before using the Supplied Air Respirator Helmet.

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



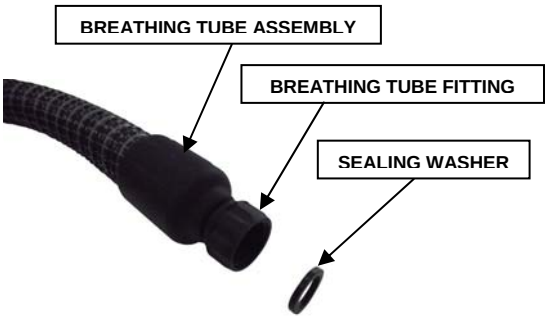
⚠ ! WARNING ! – THE LENSES HAVE NOT BEEN COATED WITH ANY ANTI-FOGGING COMPOUNDS. DO NOT USE THE SUPPLIED AIR RESPIRATOR HELMET IF OPERATOR VISION IS IMPAIRED IN ANY WAY DUE TO MISTING OR FOGGING.

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

⚠ ! WARNING ! – ALTHOUGH THE SUPPLIED AIR RESPIRATOR HELMET BAC-BH-0219-00 INNER LENSES (STANDARD SUPPLIED) ARE DESIGNED FOR GENERAL OPERATOR PROTECTION AGAINST REBOUNDING ABRASIVE PARTICLES, IT IS ADVISABLE FOR THE OPERATORS TO BE EQUIPPED WITH PROPER SAFETY GOGGLES, WHILE USING THE SUPPLIED AIR RESPIRATOR HELMET. OPTIONAL IMPACT RESISTANCE BAC-BH-0193-00 COSMO INNER LENSES WHICH CONFORM TO AS/NZS 1337.1 - V GRADE IMPACT RESISTANCE AND EN166-B ARE AVAILABLE AS REPLACEMENT SUBSTITUTE.

4.4 Check that both the Inner Collar and Outer Cape are in place, and that the rubber Sealing Band is correctly positioned to provide a seal around the full circumference of the bottom of the Supplied Air Respirator Helmet. Ensure that the Sealing Band is tucked under the molded rim of the Supplied Air Respirator Helmet shell and over the top of the Outer Cape press studs. Ensure the Sealing O-ring is correctly located in the groove above the press studs.

4.5 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 Supplied Air Respirator Helmet by screwing the hose end fitting in the clockwise direction. Ensure that the hose end fitting is secured and hand tight.



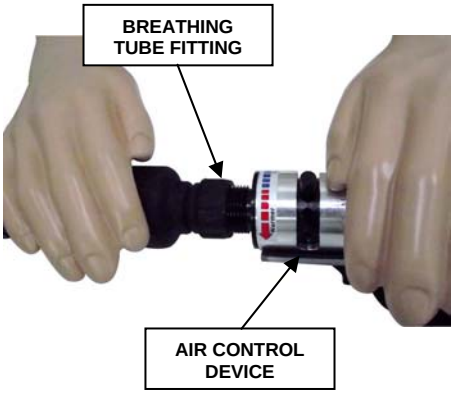
NOTE: NEVER LIFT AND/OR CARRY THE SUPPLIED AIR RESPIRATOR HELMET ASSEMBLY BY THE BREATHING TUBE, AS DAMAGE TO THE SUPPLIED AIR RESPIRATOR HELMET OR BREATHING TUBE MAY OCCUR. ONLY USE THE STRAP HANDLE ASSEMBLY PROVIDED TO CARRY/LIFT/STORE THE SUPPLIED AIR RESPIRATOR HELMET.

4.6 The Supplied Air Respirator Helmet is now ready for operation.

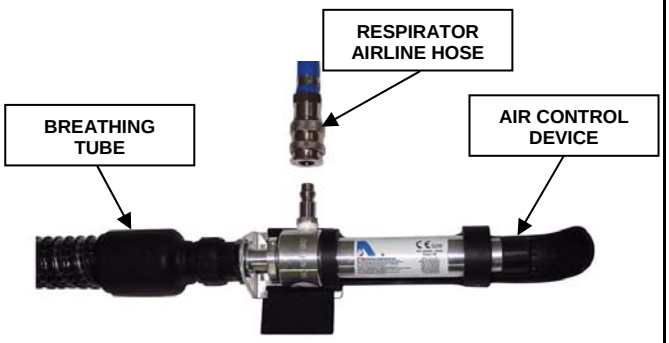
5.0 OPERATING INSTRUCTIONS

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

5.2 Carefully fit the second sealing washer to the opposite end of the Breathing Tube, and attach it to either, the Air Flow Controller, Air Cooling Controller or Climate Controller, by screwing the hose end fitting in the clockwise direction. Ensure that the hose end fitting is secured and hand tight.



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



5.4 Connect the male end Quick Disconnect coupling on the Respirator Compressed Airline Hose to the respirator airline filter assembly, ensuring that the breathing air quality is as specified in section 3.4 of this manual.

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 Galaxy Supplied Air Respirator Helmet is suitable for use with the PanBlast™ 20m Respirator Compressed Airline Hose with Quick Disconnect Couplings: - BAC-AF-PB-0123.

⚠ ! 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 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.

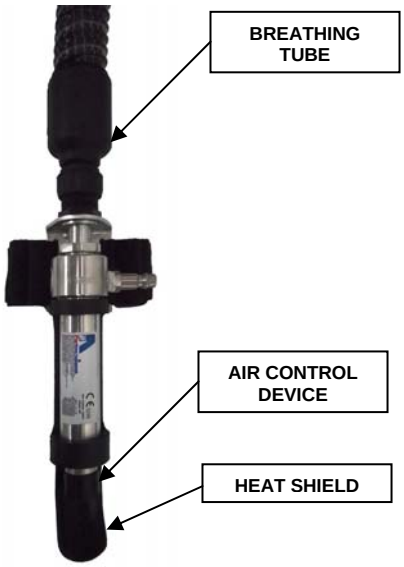
5.8 Fit the Air Flow Controller/Air Cooling Controller/Climate Controller belt around the waist and adjust for a firm fit as required. It may be necessary for another person to assist the operator with fitting of the Supplied Air Respirator Helmet and belt assembly.

6.0 OPERATING ADJUSTMENTS

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

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

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

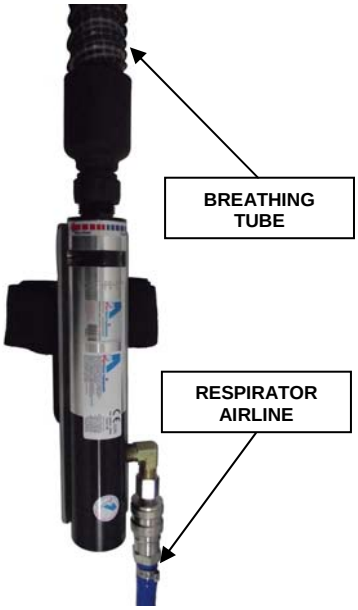


6.3 It is recommended that the Air Cooling Controller be used when the incoming air supply to the Supplied Air Respirator Helmet becomes too warm for the operator to work comfortably.

6.4 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.

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

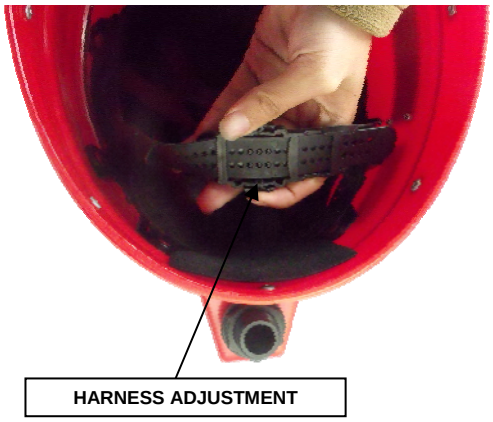
6.6 The alternate Climate Controller (BAC-AF-PB-0175) operates in a similar manner to the Air Cooling Controller, but may be used to supply either heated or cooled air to the Supplied Air Respirator Helmet. The Climate Controller can be switched from heating to cooling by way of the control switch located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



6.7 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.

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

To adjust the fitting of the internal suspension harness, depress the two tabs on rear band of the harness, then slide the holed strap in or out for the required fit. It should be a comfortable firm fit, ensuring the Supplied Air Respirator Helmet moves with the operator's head movements.



7.0 REMOVAL AND STORAGE INSTRUCTIONS

7.1 Prior to removing the Supplied Air Respirator Helmet, disconnect the Outer Cape retaining clips, and then carefully lift the 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 When not in use, it is recommended that the Supplied Air Respirator Helmet be suspended from the eyelet in the Strap Handle provided in a clean and dry area, in order to prevent dust and abrasive from entering the inner section of the Supplied Air Respirator Helmet. Do not tuck the Outer Cape into the Supplied Air Respirator Helmet shell interior.

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

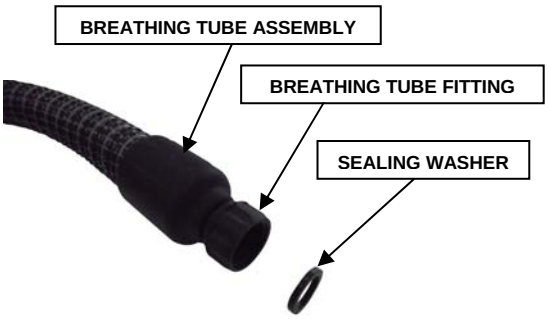
NOTE : ALL REPAIRS AND ADJUSTMENTS MUST BE CARRIED OUT BY SUITABLY QUALIFIED PERSONS, AND ONLY GENUINE PANBLAST™ MANUFACTURED PARTS MAY BE USED.

8.1 The PanBlast™ Galaxy Supplied Air Respirator Helmet has a limited service life, and 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 Supplied Air Respirator Helmet assembly should be discarded and replaced.

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

8.3 Carefully inspect the Breathing Tube 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 SUPPLIED AIR RESPIRATOR HELMET.



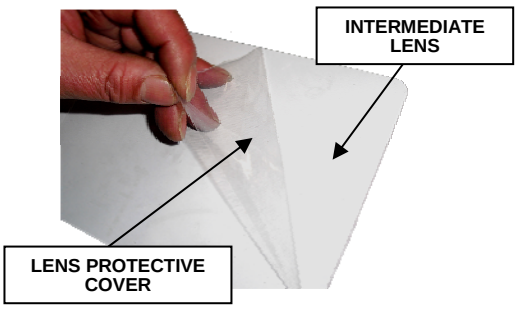
8.4 On a daily basis, check the condition of both the Inner Collar and Outer Cape. The Inner Collar should provide a snug fit around the operators' neck to prevent the entry of dust and abrasive into the Supplied Air Respirator Helmet. Replace the Inner Collar and Outer Cape as necessary. The Inner Collar 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 roll the rubber Sealing Band upwards, exposing the press studs which retain the cape on to the Supplied Air Respirator Helmet shell. If the rubber Sealing Band is damaged or has become stretched from its original size, it should also be replaced. Carefully remove and detach from the Inner Collar and Outer Cape via the press studs from the Supplied Air Respirator Helmet shell, and discard the old Inner Collar and Outer Cape. 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 commence attaching the press studs to the Supplied Air Respirator Helmet shell, starting from this point. Once fully attached, pull the Sealing Band down over the Inner Collar and Outer Cape press studs, taking care to ensure that the rubber Sealing Band creates a positive seal around the full circumference of the Supplied Air Respirator Helmet shell and is tucked under the molded protective rim of the shell. Ensure the Sealing O-ring is correctly located in the groove above the press studs.

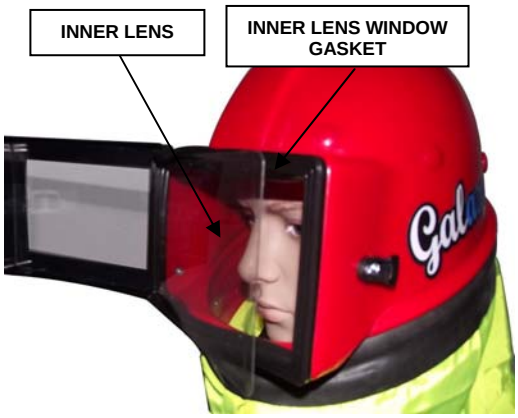
8.6 During operation, the Tear Off Outer Lenses will become frosted over from rebounding abrasive media, these lenses are a disposable lens designed to be discarded during operation by grasping the exposed tab and peeling the used lens off away from the Window Frame. It is recommended that the Tear Off Outer Lenses be fitted in a quantity of 3 pieces and be replaced as soon as depleted as they prolong the life of the Intermediate and Inner Lenses. The Tear Off Outer Lenses are replaced by unlatching the Window Frame Clasp, which allows the Window Frame to swing open for Tear Off Lens replacement. The Tear Off Outer Lenses are simply inserted within the Window Frame in front of the Intermediate Lens.

8.7 The Intermediate Lenses should be replaced as soon as the operators' visibility is impaired. The Intermediate Lenses are replaced by unlatching the Window Frame Clasp, and swinging open the Window Frame on the hinge. The lenses are simply inserted within the Window Frame behind the Tear Off Outer Lenses and in front of the Inner Lens. Once fitted into the Window Frame, close the Window Frame and firmly latch, ensuring that the Window Frame and lenses are fully sealed against the Supplied Air Respirator Helmet inner Window Gasket.

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



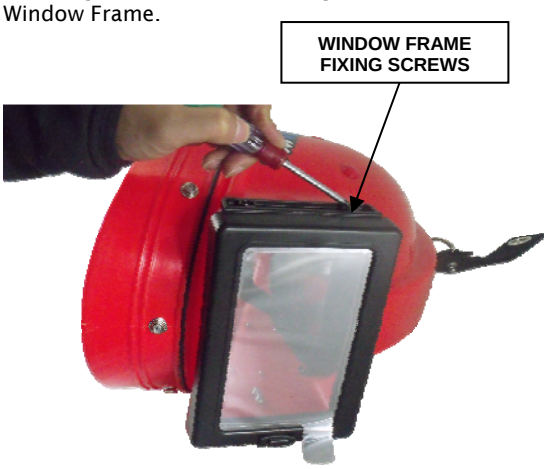
8.8 The Supplied Air Respirator Helmet Inner Lens will also require periodic changing, and this should be done as soon as the operator's vision becomes impaired. When changing the Inner Lens, check the condition of the inner Window Gasket. The inner Window Gasket should provide an airtight seal between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



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

⚠ ! WARNING ! – ALTHOUGH THE SUPPLIED AIR RESPIRATOR HELMET BAC-BH-0219-00 INNER LENSES (STANDARD SUPPLIED) ARE DESIGNED FOR GENERAL OPERATOR PROTECTION AGAINST REBOUNDING ABRASIVE PARTICLES, IT IS ADVISABLE FOR THE OPERATORS TO BE EQUIPPED WITH PROPER SAFETY GOGGLES, WHILE USING THE SUPPLIED AIR RESPIRATOR HELMET. OPTIONAL IMPACT RESISTANCE BAC-BH-0193-00 COSMO INNER LENSES WHICH CONFORM TO AS/NZS 1337.1 – V GRADE IMPACT RESISTANCE AND EN166-B ARE AVAILABLE AS A REPLACEMENT SUBSTITUTE.

8.9 The Supplied Air Respirator Helmet Window Frame will also be subjected to wear from rebounding abrasive media, and should be replaced as required by unscrewing the two retaining screws on the hinged side of the Window Frame.



8.10 The Supplied Air Respirator Helmet Suspension Harness sweat band can be removed and washed in a mild detergent and warm water, and then air dried.

8.11 The inner surface of the Supplied Air Respirator Helmet shell may be wiped clean with a clean soft cloth and mild commercial disinfectant, and then air dried.

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

9.0 ASSEMBLIES, PARTS LISTING & EXPLODED VIEW

9.1 Galaxy Supplied Air Respirator Helmet Assemblies

Stock Code	Description	Weight
BAC-BH-0183-00	Galaxy SAR With Cape & Breathing Tube	3.2Kg(7.00lbs)
BAC-BH-0180-00	Galaxy SAR & Air Flow Controller	3.5Kg(7.71lbs)
BAC-BH-0181-00	Galaxy SAR & Air Cooling Controller	3.7Kg(8.15lbs)
BAC-BH-0182-00	Galaxy SAR & Climate Controller	4.1Kg(9.03lbs)

9.2 Galaxy Supplied Air Respirator Helmet Parts Listing

Item	Stock Code	Description	Qty
1	BAC-AF-PB-0036	Air Flow Controller With Belt	1
2	BAC-AF-PB-0032	Air Cooling Controller With Belt	1
3	BAC-AF-PB-0175	Climate Controller With Belt	1
4	BAC-BH-PB-0049	SAR Breathing Tube Assembly	1
5	BAC-BH-0161-03	SAR Acousticflex Breathing Tube (Optional)	1
6	BAC-BH-PB-0009	SAR Carry Strap Kit	1
7	YAC-BH-0229-00	Galaxy SAR Helmet Shell Assembly	1
8	YAC-BH-0230-00	SAR Frame Strap Clasp	1
9	YAC-BH-0189-00	SAR Frame Strap	1
10	YAC-BH-0233-00	SAR Window Frame	1
11	BAC-BH-0191-00	SAR Tear Off Outer Lens - 100pcs	3
12	BAC-BH-0192-00	SAR Intermediate Lens - 50pcs	1
13	BAC-BH-0219-00	Galaxy Inner Lens - 20pcs	1
14	BAC-BH-0193-00	Cosmo Inner Lens - 20pcs (Optional)	1
15	BAC-BH-0194-00	SAR Inner Lens Gasket	1
16	YAC-BH-0195-00	SAR 0-Ring	1
17	YAC-BH-0231-00	SAR Harness Kit	1
18	YAC-BH-PB-0012	SAR Sealing Band	1
19	BAC-BH-PB-0065	Galaxy HI-VIS Inner Collar-Outer Cape	1
20	BAC-BH-PB-0004	SAR Inner Collar-Outer Cape (Optional)	1
21	BAC-AF-PB-0123	20m Respirator Airline Hose-Std	1
22	BAC-AF-PB-0071	20m Airline Hose With Quick Disconnect	1
23	BAC-BH-0137-00	Quick Disconnect BSP/NPT Fittings Kit	1

9.3 Galaxy Supplied Air Respirator Helmet Exploded View