# GVS | rpb

*Protecting you for life's best moments.*

# Instruction Manual
# Z4® Welding Respirator

**Employers:** Read this manual and the flow control device instruction manual and carry out the employer responsibilities (page 10).

**Product users:** Read this manual and the flow control device instruction manual and follow the product user safety instructions (page 11).

Manuals are regularly updated. Make sure this manual is available to all users for reference.

**Current version of manual and other languages:** gvs-rpb.com/industrial/resources

**NIOSH** APPROVED

**GVS | rpb**  **Z4®**

*Protecting you for life's best moments.*

# CONTENTS

# EXPLANATION OF SIGNAL WORDS AND SYMBOLS

The following signal word and safety symbols are used in this manual and product labeling:

**⚠ WARNING**  **WARNING** indicates a hazardous situation that, if not avoided, could result in death or serious injury.

**⚠ DANGER**  **DANGER** Indicates a hazardous situation that, if not avoided, will result in death or serious injury.

**Read the Instruction Manual**.
Additional copies of RPB® manuals can be found at gvs-rpb.com.

## RPB® Safety LLC is an ISO9001 certified company.

# INTRODUCTION

The Z4® Weld Visor is a respirator for applications where there is a need for protection from airborne contaminants, and eye/face protection; such as welding and grinding. Additionally, the Vision-Link™ light attachment is available to provide light to the work area and the Comms-Link™ in-helmet communication system allows for hands free radio communication. Low profile, behind-the-neck style earmuffs may also be worn along with the Z4 Weld Visor.

This product must be inspected and maintained in accordance with this instruction manual at all times.

See PROTECTION PROVIDED AND LIMITATIONS (page 4) for details.

**RPB® SAFETY - GLOBAL HEADQUARTERS**
2807 Samoset Rd, Royal Oak, MI 48073, USA
T: 1-866-494-4599  F: 1-866-494-4509  E: sales@gvs.com

**RPB® SAFETY - APAC**
3 Robin Mann Place, Christchurch Airport, Christchurch 8053, New Zealand
T: +64-3-357-1761  F: +64-3-357-1763  E: sales@gvs.com

**GVS S.p.A. - EMEA**
Via Roma 50, 40069 Zona Industriale BO, Italy
T: +39 0516176391 E: sales@gvs.com

gvs-rpb.com

For technical assistance contact our Customer Service Department at 1-866-494-4599 or email: sales@gvs.com

Form #: 7.20.553
Rev: 6

# GVS | rpb | Z4®

*Protecting you for life's best moments.*

## IMPORTANT SAFETY INFORMATION

**⚠ WARNING**   Improper selection, fit, use, or maintenance of this product can result in injury; life threatening delayed lung, skin or eye disease; or death.

This product is intended for occupational use in accordance with applicable standards or regulations for your location, industry, and activity (see Employer Responsibilities, page 10). Familiarity with standards and regulations related to the use of this protective equipment is recommended, even if they do not directly apply to you. If self-employed or if used in a non-occupational setting, refer to Employer Responsibilities and Product User Safety Instructions. Go to gvs-rpb.com/industrial/important-safety-information for helpful links to OSHA and other content.

**Employers:** Read this manual and the air supply device Instruction Manual and carry out the Employer Responsibilities (page 10).

**Product users:**   Read this manual and the air supply device Instruction Manual and follow the Product User Safety Instructions (page 11).

**Check website for updates.** Product manuals are regularly updated. Visit gvs-rpb.com/industrial/resources for the most recent version of this manual before using the product.

## PROTECTION PROVIDED AND LIMITATIONS

### RESPIRATION

The RPB Z4 is approved by NIOSH as a Type C respirator in the categories as follows:

#### Powered Air
Powered AIr Purifying Respirator, referred to as "PAPR" in this instruction manual. The RPB Z4 Respirator, when properly fitted and used with all required components, including the Breathing Tube Assembly and the RPB PX5® or the RPB PX4 AIR® Powered Air Purifying Respirator, is a NIOSH approved powered air purifying respirator with an assigned protection factor of 1000. As such, it significantly reduces, but does not completely eliminate, the breathing of contaminates by the respirator wearer. Specific protection depends on the filter selected for use in the RPB PX5 or the RPB PX4 AIR PAPR (see the PX5 or the PX4 AIR Instruction Manual).

#### Supplied Air
Supplied Air Respirator, referred to as "SAR" in this instruction manual. The RPB Z4 Respirator, when properly fitted and used with all required components, including the Breathing Tube Assembly, Flow Control Device, and RPB Breathing Air Line is a NIOSH approved respirator with an assigned protection factor of 1000. As such, it significantly reduces, but does not completely eliminate, the breathing of contaminates by the respirator wearer. Use with an airline filter, such as the 04-900 RPB RADEX® Airline Filter, Specific protection depends on the setup of the airline filter (see the RPB RADEX Instruction Manual). This respirator is approved with the 03-101 Constant Flow Valve or the 03-500 C40™ Climate Control Device.

## HAZARD LIMITATIONS

The RPB Z4 Respirator is **NOT FOR USE IF:**
- In atmospheres immediately dangerous to life or health (IDLH)
- Wearer cannot escape without the aid of the respirator.
- Atmosphere contains less than 19.5% oxygen.
- In abrasive blasting applications.
- For protection against hazardous gases (e.g., carbon monoxide).
- Contaminants are in excess of regulations or recommendations.
- Contaminants or contaminant concentrations are unknown.
- Work area is poorly ventilated.
- The temperature is outside the range of 14°F to 140°F (-10°C to +60°C).
- A flammable or explosive atmosphere is present when used with systems including electrical parts that are not intrinsically safe - PX5, PX4 AIR, Vision-Link, 16-922 Comms-Link and 09-913 PTT

## FACE AND EYES:

- The Z4 **Face Shield** with **Safety Lens** meets ANSI/ISEA Z87.1 requirements and is designed for grinding, and other industrial applications.

- The Z4 **Welding Visor** with **Impact Lens** and Auto-Darkening Welding Protection Filter (ADF) meets ANSI/ISEA Z87.1 requirements and is designed to protect the operator's face and head against sparks and hazardous ultraviolet and infrared rays emitted during the welding process. See "Auto-Darkening Welding Protection Filter" (page 31) for information about ADF capabilities and use. Use an approved RPB welding face seal or cape for adequate protection from sparks, debris, and light flashes.

- The Z4 is not designed or tested to provide protection against molten metals or corrosive liquids.

- **Note:** Safety glasses may be required to be worn depending on the job hazard analysis. The Z4 does not completely protect against the potential transfer of impact to glasses worn underneath the Visor.  It does not provide complete eye and face protection against severe impact and penetration and is not a substitute for good safety practices and engineering controls.

## HEAD:

- The Z4 does not meet the ANSI/ISEA Z89.1 requirements for physical head protection as a hard hat. Ensure the helmet is adjusted to properly fit the user by adjusting the head harness and sidepads, if installed.

- The Z4 optional bump cap does provide some head protection when installed.

## HEARING:

- The Z4 does not provide sufficient hearing protection, even when used with the optional sidepads.
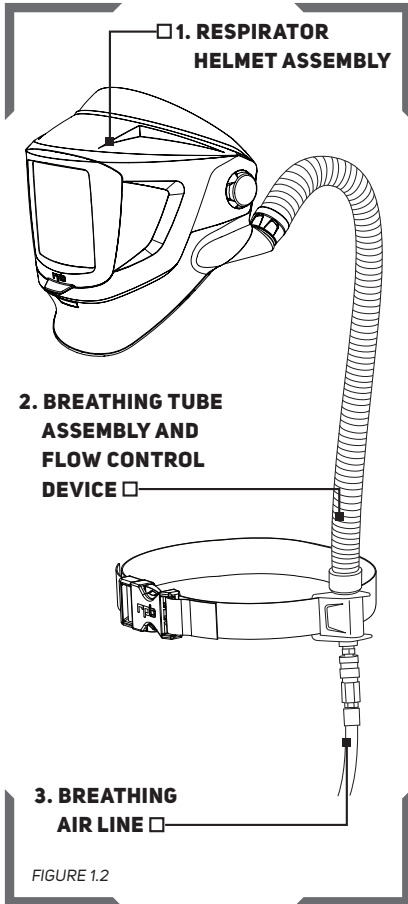
## **PROTECTION PROVIDED AND LIMITATIONS** CONTINUED

■ Hearing protection, such as earplugs, may be worn and must be properly fitted and worn where noise levels exceed the OSHA permissible exposure levels.

■ When used with the Z4, low profile behind-the-neck earmuffs may provide some hearing protection depending on the model that is being used. Refer to the earmuff's instruction manual to ensure proper wear, fit, and protection level .

## RESPIRATOR COMPONENT DIAGRAM  - SAR

The RPB Z4 Supplied Air Respirator consists of 3 main components.  All 3 components must be present and properly assembled to constitute a complete NIOSH approved respirator.



☐ **1. RESPIRATOR HELMET ASSEMBLY**

**2. BREATHING TUBE ASSEMBLY AND FLOW CONTROL DEVICE** ☐

**3. BREATHING AIR LINE** ☐

*FIGURE 1.2*

## NIOSH - CAUTIONS AND LIMITATIONS

### SUPPLIED AIR

A.    Not for use in atmospheres containing less than 19.5 percent oxygen.

B.    Not for use in atmospheres immediately dangerous to life or health.

C.    Do not exceed maximum use concentrations established by regulatory standards.

D.    Air-line respirators can be used only when the respirators are supplied with respirable air meeting the requirements of CGA G-7.1 Grade D or higher quality.

E.    Use only the pressure ranges and hose lengths specified in the user's instructions.

J.    Failure to properly use and maintain this product could result in injury or death.

M.    All approved respirators shall be selected, fitted, used and maintained in accordance with MSHA, OSHA, and other applicable regulations.

N.    Never substitute, modify, add or omit parts. Use only exact replacement parts in the configuration as specified by the manufacturer.

O.    Refer to user's instructions, and/or maintenance manuals for information on use and maintenance of these respirators.

S.    Special or critical user's instructions and/ or specific limitations apply. Refer to user's Instruction page 15 before donning.

# RESPIRATOR COMPONENT DIAGRAM - PAPR

The RPB Z4 Powered Air Purifying Respirator consists of 3 main components. All 3 components must be present and properly assembled to constitute a complete NIOSH approved respirator.

☐ **1. RESPIRATOR HELMET ASSEMBLY**

**2. BREATHING TUBE ASSEMBLY** ☐

**3. AIR SUPPLY PAPR** ☐

*FIGURE 1.1*
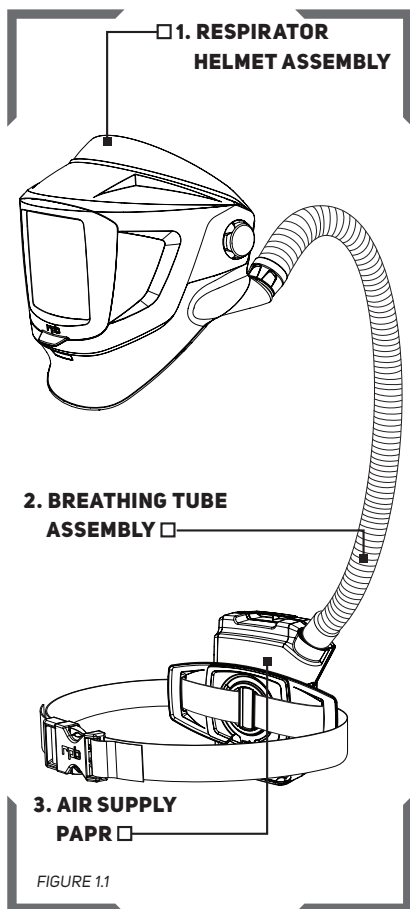
## NIOSH - CAUTIONS AND LIMITATIONS

### POWERED AIR

A. Not for use in atmospheres containing less than 19.5 percent oxygen.

B. Not for use in atmospheres immediately dangerous to life or health.

C. Do not exceed maximum use concentrations established by regulatory standards.

F. Do not use powered air-purifying respirators if airflow is less than 4CFM (115lpm) for tight fitting face pieces or 6CFM (170lpm) for hoods and/or helmets.

I. Contains electrical parts that may cause an ignition in flammable or explosive atmospheres.

J. Failure to properly use and maintain this product could result in injury or death.

L. Follow the manufacturer's User's Instructions for changing cartridges, canister and/or filters.

M. All approved respirators shall be selected, fitted, used and maintained in accordance with MSHA, OSHA, and other applicable regulations.

N. Never substitute, modify, add or omit parts. Use only exact replacement parts in the configuration as specified by the manufacturer.

O. Refer to user's instructions, and/or maintenance manuals for information on use and maintenance of these respirators.

P. NIOSH does not evaluate respirators for use as surgical masks.

S. Special or Critical User Instructions and/or specific limitations apply. Refer to "S" - Special or Critical User Instructions" in the PX4 AIR Instruction Manual before donning.

# AIR SOURCE, FITTINGS, AND PRESSURE

## AIR SOURCE

### Powered Air

Check that the contaminated area is within the limits of use for a Powered Air Purifying Respirator and determine the type of contamination. Once the contamination level has been confirmed you can then determine the filter cartridge to be used for the application, to make sure that you are sufficiently protected. Make sure that the area is well ventilated and that regular air samples are taken to confirm the atmosphere stays within the levels recommended by OSHA and other governing bodies. Follow the PX5 or the PX4 AIR PAPR Instruction Manual for more details.

### Supplied Air

Locate the air source in a clean air environment, always use a filter on the inlet of your air source. Make sure the air source is somewhere that vehicles, forklifts, and other machinery are not running near the air inlet, as this will cause carbon monoxide to be drawn into your air supply. Always use suitable after coolers/dryers with filters and carbon monoxide alarms to ensure clean breathable air is supplied at all times. A Radex® Airline Filter (04-900) and a GX4® Gas Monitor (08-400) are recommended.  The air should be regularly sampled to ensure that it meets Grade D requirements.

## AIR QUALITY

This respirator must be supplied with clean breathable air at all times. Breathable air must at least meet the requirements for Type 1 gaseous air described in the Compressed Gas Association Commodity Specifications G.7.1 (Grade D or higher) and as specified by Federal Law 42 CFR 84, subpart J.84.141(b) and 29 CFR 1910.134 (i). The RPB Z4 does not purify air or filter contaminants. A carbon monoxide monitor must be used at all times.

**⚠ DANGER** Do not connect the respirator's air supply hose to nitrogen, toxic gases, inert gases or other non-breathable air sources. Check the air source before using the respirator. This apparatus is not designed for use with mobile air supply systems i.e. cylinders. Connecting the supply hose to a non-breathable air source will result in serious injury or death.

## BREATHING AIR SUPPLY HOSES AND FITTINGS

RPB air supply hoses and fittings must be used between the point of attachment and the respirator breathing air connection at the wearer's belt. The hose sections must be within the correct length and the amount of sections must be within the number specified in the breathing air pressure table on page 15.

## BREATHING AIR PRESSURE

The air pressure must be continually monitored at the point of attachment. Air pressure must be read from a reliable pressure gauge whilst the respirator has air flowing through it.

# EMPLOYER RESPONSIBILITIES

Your specific responsibilities may vary by location and industry, but in general RPB expects that employers will:

■ **Follow all applicable standards and regulations for your location, industry, and activity.**
Depending on your location and industry, a number of standards and regulations may apply to your selection and use of respirators and other personal protective equipment. These may include such things as federal (e.g., OSHA, MSHA, Canadian Occupational Health and Safety), local (e.g., state, provincial), or military standards and regulations and consensus standards such as ANSI and CSA. There are also requirements specific to particular contaminants, e.g. silica (see gvs-rpb.com/important-safety-information for more information), asbestos, organic pathogens, etc. Know which requirements apply to your location and industry.

■ **Have appropriate safety programs in place.**
Have and follow:
  ☐ A workplace safety program.
  ☐ A written respiratory protection program in accordance with applicable standards and regulations (e.g., OSHA 29 CFR 1910.134; ANSI Z88.2; CSA Z94.4, etc.).

■ **In accordance with the above**,
  ☐ **Perform a hazard analysis and select appropriate equipment for each activity.** A hazard analysis should be performed by a qualified person. Controls should be in place as appropriate and a qualified person should determine what kind of respiratory, face and eye, head, and hearing protection is appropriate for the intended activities and environments of use. (For example, select a respirator appropriate to the specific airborne hazards, with consideration of workplace and user factors and with an Assigned Protection Factor (APF) that meets or exceeds the required level for employee protection, select welding face and eye protection appropriate to the type of welding to be done, etc.)

  As applicable, check your workplace safety program, respiratory protection program, and standards and regulations for your activity or industry for related protection requirements, and see this manual *(Protection Provided and Limitations, page 4)* and the PX5, PX4 AIR or the flow control device Instruction Manual for product specifications.

  ☐ **Be sure employees are medically qualified to use a respirator.**
  Have a qualified physician or other licensed health care professional (PLHCP) perform medical evaluations using a medical questionnaire or an initial medical examination per OSHA 29 CFR 1910.134.

  ☐ **Train employees in the Z4's use, maintenance, and limitations.**
  Appoint a qualified individual who is knowledgable about the RPB Z4 per ANSI/ASSE Z88.2 guidelines to provide training:

  Section 8.1 Qualifications of the Respirator Trainer. Anyone providing respirator training shall:
      a) be knowledgable in the application and use of the respirator(s);
      b) have practical knowledge in the selection and use of respirator(s) and work practices at the site;

c) have an understanding of the site's respirator program; and

d) be knowledgable of applicable regulations.

Train each Z4 user in the product's use, application, inspection, maintenance, storage, fitting, and limitations in accordance with the content of this Instruction Manual and the approved air supply device Instruction Manual and standards or regulatory requirements. Ensure that each intended user reads both of these manuals.

☐ **Ensure that equipment is properly set up, used, and maintained.**
Make sure that equipment is properly set up, inspected, fitted, used, and maintained, including selection of the appropriate air filter cartridge and, when applicable, welding filter shade adjustments, for the application.

☐ **Measure and monitor airborne contaminants in the work area.**
Measure and monitor airborne contaminant levels in the work area in accordance with applicable requirements. Make sure work area is well ventilated.

☐ **If you have any questions, contact RPB.**
■ Call Customer Service Department at:
Tel.: 1-866-494-4599
Email: sales@gvs.com
Web: gvs-rpb.com

# PRODUCT USER SAFETY INSTRUCTIONS

**BEFORE INITIAL USE - BE TRAINED AND MEDICALLY QUALIFIED**

Do not use this respirator until you have read this manual and the PX5, PX4 AIR PAPR  or the flow control device Instruction Manual (additional copies available at gvs-rpb.com/industrial/resources) and have been trained in the respirator's use, maintenance, and limitations by a qualified individual (appointed by your employer) who is knowledgable about the RPB Z4 Respirator.

Do not wear this respirator until you have passed a medical evaluation using a medical questionnaire or an initial medical examination by a qualified physician or other licensed health care professional (PLHCP).

**Allergens:** No known common allergens are used in this product.

Some materials could cause an allergic reaction in susceptible individuals. If you have a known allergy or develop irritation, inform your employer. Irritation may occur from lack of cleaning. Following all cleaning and care instructions provided in the instruction manuals for this and any other RPB products you are using.

**MAKE SURE THE SYSTEM IS READY FOR USE**

**Make sure you have a complete system.** Verify that you have all required components for the Z4 to serve as a complete NIOSH-approved respirator:

## PRODUCT USER SAFETY INSTRUCTIONS CONTINUED

- Respirator Helmet Assembly (Z4)
- Breathing Tube Assembly
- PX5, PX4 AIR PAPR or Flow Control Device with RPB Breathing Air Line

*See Respirator Component Diagram (page 6).* The RPB Z4 is only approved to be used with the RPB PX5, RPB PX4 AIR PAPR, RPB C40 Climate Control Device, and the RPB Constant Flow Valve. Use only authentic RPB brand parts and components that are part of the NIOSH approved respirator assembly. Using incomplete or inappropriate equipment, including the use of counterfeit or non-RPB parts, can result in inadequate protection and will void the NIOSH approval of the entire respirator. Do not modify or alter any part of this product.

**Inspect** all components daily for signs of damage or wear and tear that may reduce the level of protection originally provided. Remove any damaged component or product, including any visor that has been subject to impact, from service until repaired or replaced.  Scratched or damaged safety lenses or other components should be replaced with genuine RPB® brand replacement parts. When safety and impact lenses are replaced, make sure to remove any additional protective film from both sides of the lens. If the film is left in place, it could affect the optical clarity of the lens and cause eye strain. Inspect the inside of the respirator for respirable dust or other foreign objects. Keep the inside of the respirator clean at all times. Keep the air supply hose or PAPR assembly away from equipment, vehicles, and other physical and chemical hazards.

**Make sure that the helmet is correctly assembled** in the configuration that suits your application. Never use the respirator without all lenses in place. This includes the Safety Lens, Impact Lens, the ADF, and the rear ADF Lens. These lenses, when installed properly, are part of the respiratory seal to prevent toxic or hazardous gases, liquids or dust from entering the helmet. An incomplete or improperly installed lens system could provide inadequate impact and respiratory protection. *See Respirator Setup and Care (page 17). See Donning (page 35) for fit information.*

### VERIFY THAT YOU HAVE THE APPROPRIATE EQUIPMENT FOR YOUR ACTIVITY

Verify that the Z4 provides appropriate protection for your activity. As applicable, check your workplace safety program, respiratory protection program, and standards and regulations for your activity or industry. (See PROTECTION PROVIDED AND LIMITATIONS, page 4.)

### BEFORE DONNING THE Z4:

**Verify airborne contaminants are within recommended limits for respirator use:**

- Determine the type and level of contamination. Verify that airborne contaminant concentrations do not exceed those allowed by applicable OSHA, EPA, or NIOSH regulations and recommendations for powered air purifying respirators.

**Filtering the breathing air:**

- **PAPR:** Once the contamination level has been confirmed, determine the correct filter cartridge to be used for the application, to make sure that you are sufficiently protected. Follow the PX5 or the PX4 AIR PAPR Instruction Manual.

- ■ **SAR:** Once the contamination levels have been confirmed, check to make sure the airline filter is working correctly. Follow the instruction manual for the filter that is used, such as the Radex Airline Filter.

**Make sure the area is ventilated and monitored:**

- ■ Make sure that the area is well ventilated and that regular air samples are taken to confirm the atmosphere stays within the levels recommended by OSHA and other governing bodies.

If you have any questions, ask your employer.

**DO NOT ENTER THE WORK AREA** if any of the following conditions exist:

- ■ Atmosphere is immediately dangerous to life or health.
- ■ You cannot escape without the aid of the respirator.
- ■ Atmosphere contains less than 19.5% oxygen.
- ■ A flammable or explosive atmosphere is present when used with systems including electrical parts that are not intrinsically safe,- PX5, PX4 AIR, Vision-Link, 16-922 Comms-Link and 09-913 PTT
- ■ Contaminants are in excess of regulations or recommendations.
- ■ Contaminants or contaminant concentrations are unknown.
- ■ Work area is poorly ventilated.
- ■ The temperature is outside the range of 14°F to 140°F (-10°C to +60°C).
- ■ The work area is a confined space (unless proper measures are taken for confined space welding).
- ■ You taste, smell, or see contaminants inside the helmet
- ■ You have any other reason to suspect that the respirator is not providing adequate protection

**LEAVE THE WORK AREA IMMEDIATELY IF:**

- ■ Any product component becomes damaged
- ■ Vision is impaired
- ■ Airflow stops or slows down, or alarm sounds. Do not use Powered Air Purifying Respirators if airflow is less than 6 cfm (170 lpm).
- ■ Breathing becomes difficult
- ■ You become dizzy, nauseous, too hot, too cold, or ill
- ■ Your eyes, nose, or skin become irritated

**PRODUCT CARE**

Never place the helmet on hot surfaces. Do not apply paints, solvents, adhesives or self-adhesive labels except as instructed by RPB. This product may be adversely affected by certain chemicals.

See the "Respirator Setup and Care" section for cleaning instructions.

# PRODUCT USER SAFETY INSTRUCTIONS CONTINUED

### INSTRUCTIONS FOR SPECIFIC USES OR ENVIRONMENTS

#### Welding

See Respirator Setup and Care (page 17) and ADF Operation (page 31) for important safety-related use and care information. Check the prescribed shade level for your welding application and adjust your auto-darkening filter accordingly (see table with recommended shade levels, page 33). Never place the auto-darkening welding filter (ADF) on hot surfaces. Do not expose the ADF to liquids and protect it from dirt. See ADF storage, maintenance, and cleaning information (page 32).

Make sure the helmet completely blocks any accidental light. Make sure light can only enter the front of the helmet through the viewing area of the auto-darkening welding filter.

#### Confined Spaces

Follow all procedures for confined space entry, operation, and exit as defined in applicable regulations and standards.

#### Welding in Confined Spaces

Welding in a confined space can present an atmospheric hazard due to the generation of contaminants and displacement of oxygen. Do not use the Z4 in confined spaces if the oxygen concentration will be reduced below 19.5%.

A pressure-demand SCBA or a multifunctional pressure-demand supplied-air respirator with self-contained air supply shall be used during welding in confined spaces when welding can reduce the ambient oxygen level and supplemental ventilation and atmospheric monitoring are not provided according to 29 CFR 1910.146 and ANSI/ASSE Z117.1. For more information on respirator types refer to annex A.2 of ANSI/ASSE Z88.2.

> ⚠ **WARNING**   Do not use the Z4® for welding without the Auto Darkening Protection Filter in place. Do not weld with only the grinding lens. Improper use may cause blindness or other permanent eye damage.

# BREATHING AIR PRESSURE TABLE

**S - SPECIAL OR CRITICAL USERS INSTRUCTIONS - SAR** *TABLE 1.1*

This table lists air pressure ranges needed to provide the RPB Z4 with the volume of air that falls within the required range of 6-15cfm or 170-425 lts/min according to U.S government regulations. Maximum hose pressure is 300 psi.

| 1. AIR SOURCE | 2. AIR SUPPLY HOSE | 3. 04-833 BREATHING TUBE ASSEMBLY AND FLOW CONTROL DEVICES | 4. SUPPLY HOSE LENGTH (FT) | 5. MAX NUMBER OF SECTIONS | 6. PRESSURE RANGE (PSIG) |
|---|---|---|---|---|---|
| Portable or Stationary Compressor | NV2028 (25ft) NV2029 (50ft) NV2027 (100ft) 04-352-25-RZ (25ft) 04-352-50-RZ (50ft) 04-352-100-RZ (100ft) | 03-101 Constant Flow Valve Assembly (High Pressure) | 25 | 1 | 10 - 14 |
| | | | 50 | 1 | 12 - 14 |
| | | | 100 | 2 | 17 - 19 |
| | | | 150 | 3 | 21 - 23 |
| | | | 200 | 4 | 25 - 27 |
| | | | 250 | 5 | 28 - 31 |
| | | | 300 | 6 | 31 - 34 |
| | | 03-500 Climate Control Assembly | 25 | 1 | 55-80 |
| | | | 50 | 1 | 60-85 |
| | | | 100 | 2 | 65-95 |
| | | | 150 | 3 | 70-95 |
| | | | 200 | 4 | 75-100 |
| | | | 250 | 5 | 80-100 |
| | | | 300 | 6 | 90-100 |
| | 04-342-25 (25ft) 04-342-50 (50ft) 04-342-100 (100ft) | 03-101 Constant Flow Valve Assembly (High Pressure) with Schrader Fitting | 25 | 1 | 20-22 |
| | | | 50 | 1 | 24-26 |
| | | | 100 | 2 | 28-30 |
| | | | 150 | 3 | 32-34 |
| | | | 200 | 4 | 36-38 |
| | | | 250 | 5 | 38-40 |
| | | | 300 | 6 | 44-46 |
| | | 03-500 C40 Climate Control Assembly with Schrader Fitting | 25 | 1 | 65-80 |
| | | | 50 | 1 | 70-85 |
| | | | 100 | 2 | 75-95 |
| | | | 150 | 3 | 80-95 |
| | | | 200 | 4 | 85-100 |
| | | | 250 | 5 | 90-100 |
| | | | 300 | 6 | 95-100 |

# BREATHING AIR PRESSURE TABLE CONTINUED

| 1. AIR SOURCE | 2. AIR SUPPLY HOSE | 3. 04-833 BREATHING TUBE ASSEMBLY AND FLOW CONTROL DEVICES | 4. SUPPLY HOSE LENGTH (FT) | 5. MAX NUMBER OF SECTIONS | 6. PRESSURE RANGE (PSIG AIR) |
|---|---|---|---|---|---|
| Portable or Stationary Compressor | 04-412-15 (15ft) 04-412-25 (25ft) | 03-101 Constant Flow Valve Assembly (High Pressure) | 15 25 | 1 1 | 9-14 11-15 |
| | | 03-500 Climate Control Assembly | 15 25 | 1 1 | 55-80 55-80 |
| | 04-442-15 (15ft) 04-442-25 (25ft) Schrader Fittings | 03-101 Constant Flow Valve Assembly (High Pressure) | 15 25 | 1 1 | 21-30 23-33 |
| | | 03-500 Climate Control Assembly | 15 25 | 1 1 | 65-80 65-80 |

**⚠ WARNING** Make sure you understand the Breathing Air Pressure table before using this respirator.

1. Determine your air source (column 1). OR Use the correct air source. Do not use an ambient air pump, as it does not supply enough pressure (column 1).
2. Confirm the part number of the air supply hose you are using (column 2) and the flow control device (column 3) you are using.
3. Check your RPB® Safety Air Supply Hose is within the correct length (column 4) and the correct number of hose sections (column 5).
4. Set the air pressure at the point of attachment within the range specified (column 6).

Make sure air is flowing through your respirator when setting the air pressure.

Failure to supply the minimum required air pressure at the point of attachment for the length of air supply hose could result in contaminants being inhaled as the pressure in the helmet may become negative due to peak inhalation flow when working at very high work rates.

If the Breathing Air Lines and Flow Control Device have RZ™ fittings, they will only attach to other RZ fittings. They will not work with Universal Couplers. Do not modify air line fittings. RZ fittings prevent connection to unsafe air sources.

# RESPIRATOR SETUP AND CARE

## BREATHING TUBE



*FIGURE 2.1*

## POWERED AIR



*FIGURE 2.2*
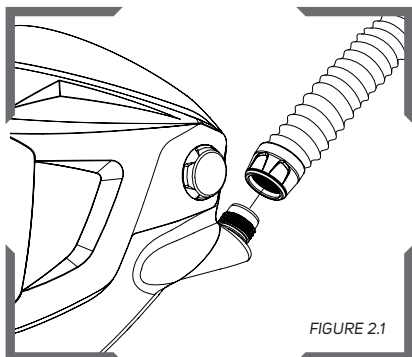
Screw the breathing tube (04-837) onto the threaded air intake on the side of the Z4 Weld Visor and screw the breathing tube in completely without over tightening.
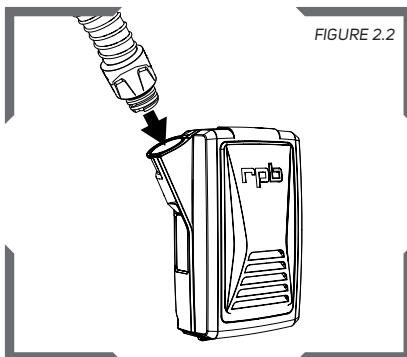
Insert the bayonet end of the breathing tube into the outlet of the PX5 or the PX4 AIR PAPR and twist it in until it is secure.

### FOR USE WITH RPB PX5 OR THE PX4 AIR PAPR - SEE THE PX5 OR THE PX4 AIR INSTRUCTION MANUAL

When the Z4 Respirator is being used in conjunction with the RPB PX5 or the PX4 AIR PAPR, please refer to the RPB PX5 or the PX4 AIR PAPR Instruction Manual for set up and use of the assembly.

Note: The RPB PX5 and the PX4 AIR are Powered Air Purifying Respirators, therefore care must be taken when selecting the correct filter for the application the respirator will be used in.

# RESPIRATOR SETUP AND CARE CONTINUED

## SUPPLIED AIR

FIGURE 2.3
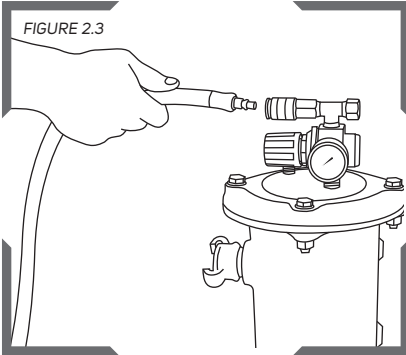
Connect the Breathing Air Supply Hose to the point of attachment (04-900 Radex Airline Filter) shown.

FIGURE 2.4
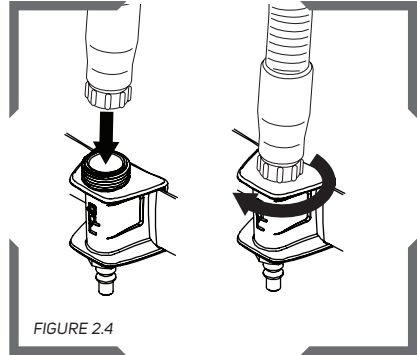
Connect the Air Supply Hose to the flow control device. Screw the breathing tube one without over tightening.

## NOTE:

Check the hose connections for any air leaks and tighten if necessary – replace any worn parts.

FIGURE 2.5
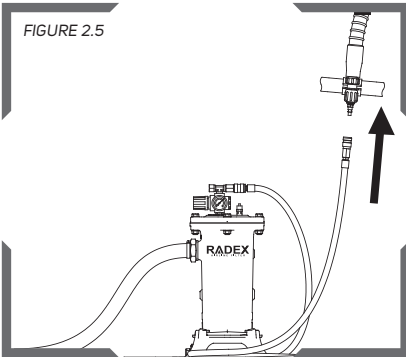
Now connect the Breathing Air Supply Hose to the Flow Control Device. Air should be now flowing through the Respirator.

FIGURE 2.6
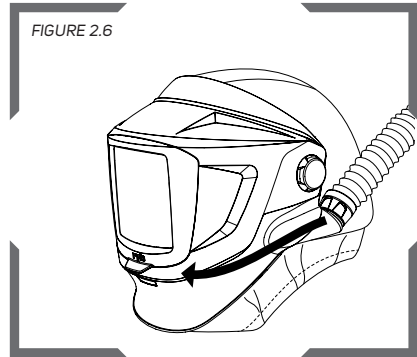
With air flowing through the respirator, adjust the air pressure at the point of attachment to the recommended pressure as specified in the Breathing Air Pressure Table (page 15).

⚠ **WARNING**   **The Z4 Supplied Air Respirator must be supplied with respirable air meeting the requirements of CGA G-7.1 Grade D or higher quality and meets OSHA or other governing body requirements.**

## IMPACT LENS REPLACEMENT



*FIGURE 3.1*
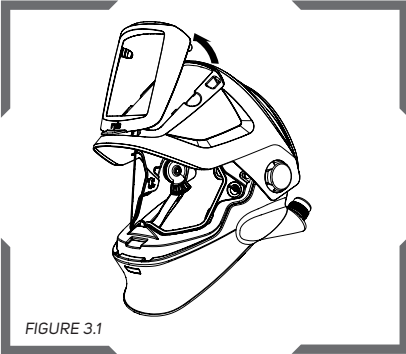
To replace the Impact Lens, lift up the Weld Visor, unlatch the green ADF Retainer from the Face Shield by pushing the tabs apart and pushing forward.



*FIGURE 3.2*
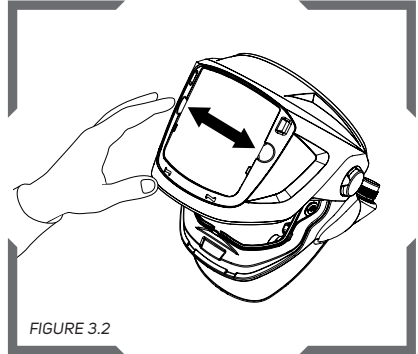
Remove the Impact Lens by squeezing the lens to remove it from the tabs on the sides.



*FIGURE 3.3*
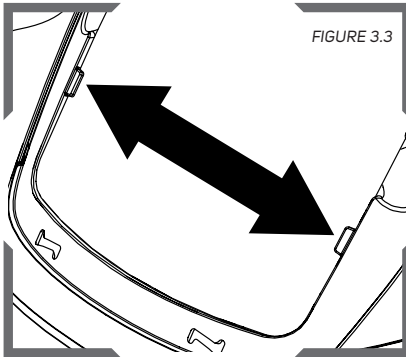
Insert a new Impact Lens by removing the protective film on both sides and then squeezing it from the sides to insert it under the side tabs on the Weld Visor.
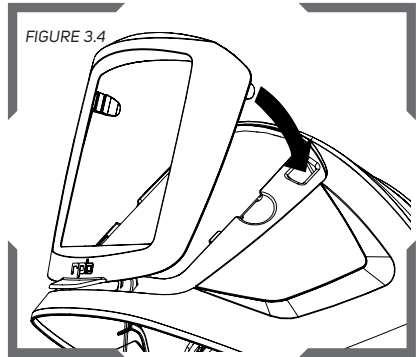


*FIGURE 3.4*

Place the green ADF Retainer back over the Impacts Lens by inserting the bottom guides and rotating in until the clips are securely snapped in place.

# RESPIRATOR SETUP AND CARE CONTINUED

## ADF LENS REPLACEMENT AND CLEANING



*FIGURE 4.1*
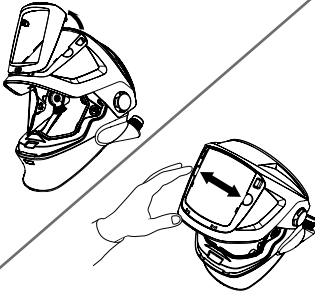
Follow steps 3.1 and 3.2 remove the ADF Retainer and the Impact Lens.



*FIGURE 4.2*
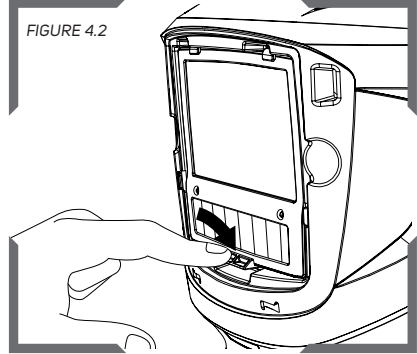
Press the down on the clip at the bottom of the ADF so that the ADF can slide out.



*FIGURE 4.3*
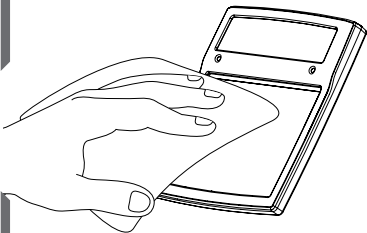
Once removed, the ADF can be cleaned with a soft tissue or a cloth soaked in mild detergent (or alcohol).



*FIGURE 4.4*
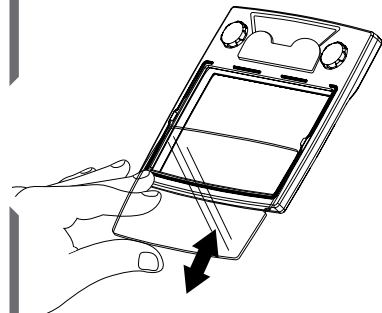
To replace the Rear ADF Lens, slide the lens out and replace it with a new one.
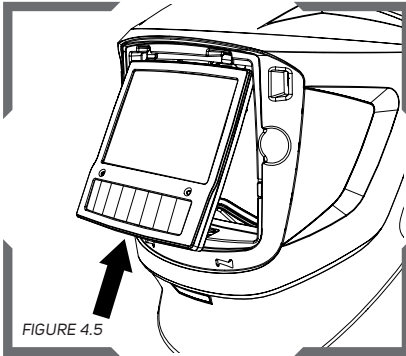
*FIGURE 4.5*


*FIGURE 4.6*

Place the cleaned or new ADF Lens into the Weld Visor with the solar panel towards the bottom and clip it in. Then replace the Impact Lens and reattach the green ADF Retainer.
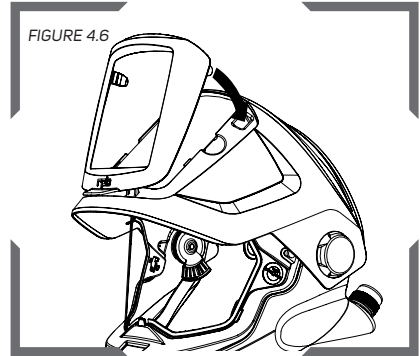
Place the green ADF Retainer back over the Impacts Lens by inserting the bottom guides and rotating in until the clips are securely snapped in place.

## MAGNIFYING LENS
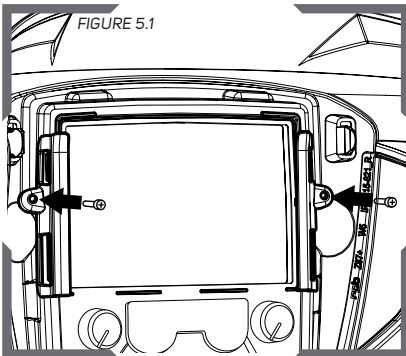

*FIGURE 5.1*


*FIGURE 5.2*

With the screws supplied, screw the left lens bracket into place by tightening the screws firmly without over tightening. Then screw in the right bracket.
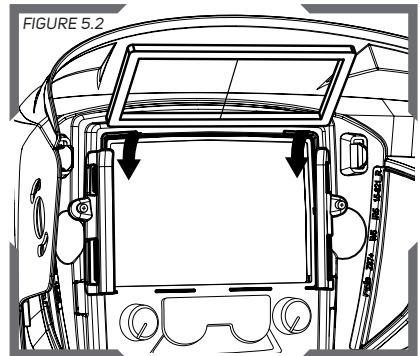
To install the magnifying lens for welding, slide the lens up into the brackets at an angle until it is securely in the brackets.

# RESPIRATOR SETUP AND CARE CONTINUED

### INSTALL/REPLACE FIXED SHADE WELDING LENS

The fixed shade lens and frame can be used in place of the ADF for welding and other applications requiring light filtering. Choose an appropriate shade lens depending on the application. Install the lens frame with a lens installed into the Z4 the same way as installing an ADF. Do not use the Z4 without and ADF or a fixed shade lens in place.



FIGURE 5.3
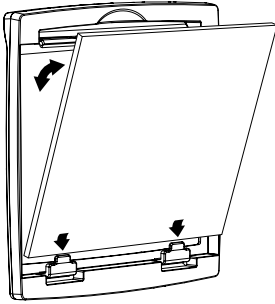


FIGURE 5.4

To install a fixed shade lens into the frame, slide the lens into the long tab at an angle from the back. Then rotate the lens down until it securely clips into the frame. To remove the lens, un-clip the bottom edge and slide out.
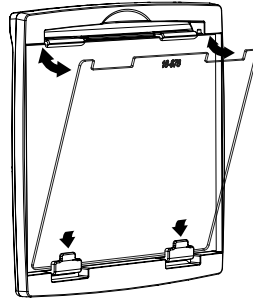
The inner protective lens can be placed into the frame after the fixed shade lens to help protect the inner surface when the weld visor is lifted up to grind welds, etc.

### SIDE WINDOW REPLACEMENT



FIGURE 6.1
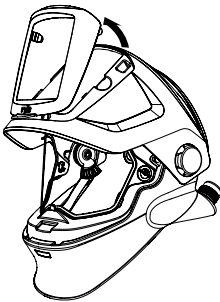


FIGURE 6.2

To replace the side windows, lift up the weld visor, unlatch the green ADF Retainer from the Face Shield by pushing the tabs apart and pushing forward.
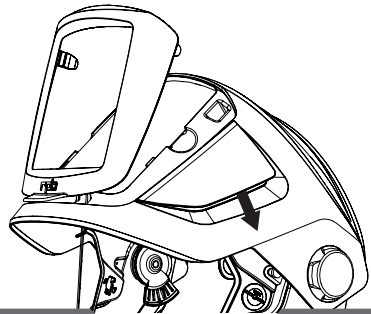
From the inside of the Weld Visor, unclip and rotate the side windows to the outside.

*FIGURE 6.3*
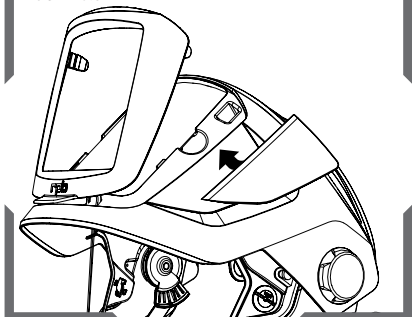

*FIGURE 6.4*

From the outside of the Weld Visor, rotate in the replacement side windows, making sure they are fully pressed in with no light showing around the edges.
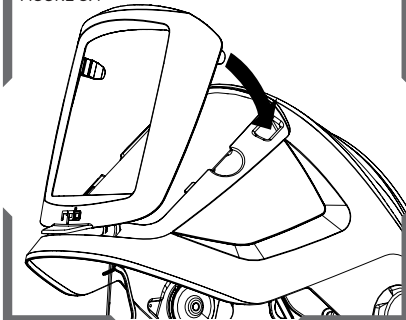
Place the green ADF Retainer back over the Impacts Lens by inserting the bottom guides and rotating in until the clips are securely snapped in place.

## WELD VISOR REPLACEMENT


*FIGURE 7.1*
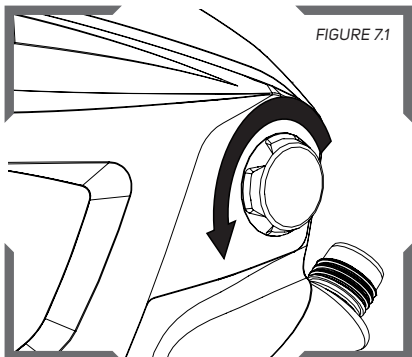

*FIGURE 7.2*

Turn the green adjustment knobs counter-clockwise to loosen until they are able to be removed.
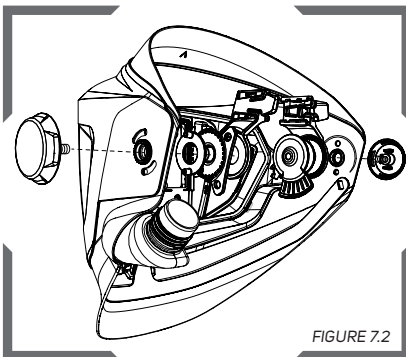
When the adjustment knobs are removed, the head harness, brackets, and components can be removed.

## RESPIRATOR SETUP AND CARE CONTINUED



*FIGURE 7.3*

Place the new Weld Visor onto the Face Shield. Screw in the screws to attach the springs on the Weld Visor onto the Face Visor. Then place the Adjustment Washer, Mounting Bracket, and the Pivot Nut on the inside of the Face Shield. Secure them by tightening the Adjustment Knob onto the outside of the Weld Visor. Be sure to use the Adjustable Pivot Nut on the right side.
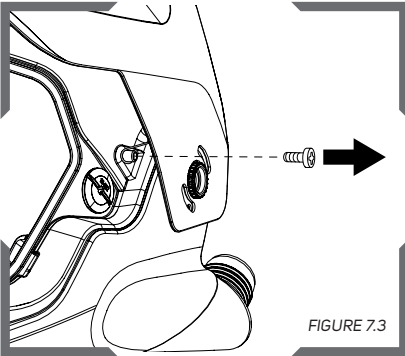
Remove the screw that attaches the spring to the grinding visor on each side. Remove the Weld Visor by sliding each side off of the Face Shield.

### SAFETY LENS REPLACEMENT
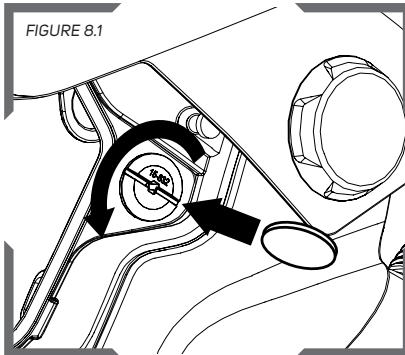


*FIGURE 8.1*



*FIGURE 8.2*

Lift up the Weld Visor. Using a coin or an allen key, twist the green knobs that secure the Safety Lens to remove them and then remove the lens.
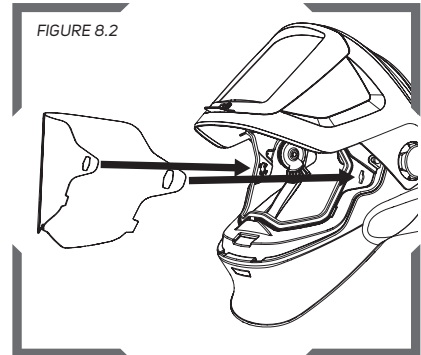
Remove the protective film from the inside of the lens. Place the lens against the seal and insert the knobs into the slots and twist them to lock into place, securing the Safety Lens. Remove the protective film from the outside of the Safety Lens.
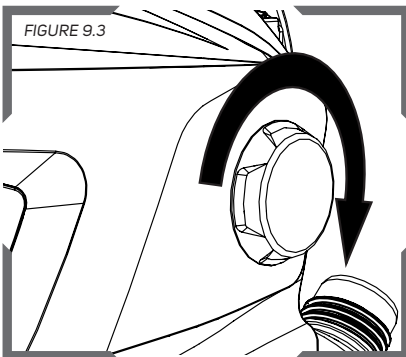
## WELD VISOR ANGLE ADJUSTMENT



*FIGURE 9.1*
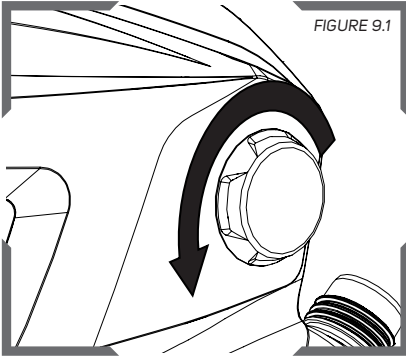
To adjust the angle of the Weld Visor to the wearers face, loosen the adjustment knobs, without removing them, on the outside of the Weld Visor.



*FIGURE 9.2*
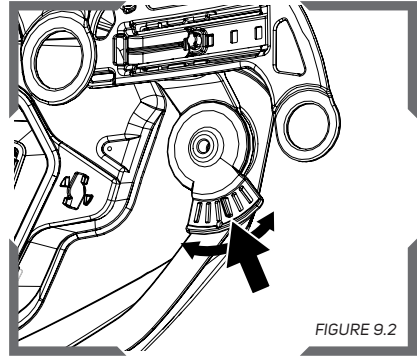
Rotate the visor to the desired angle using the notches on the right side adjustment bracket from the inside of the Z4.



*FIGURE 9.3*

Once the angle is adjusted, tighten the adjustment knobs back up to secure the visor in place.
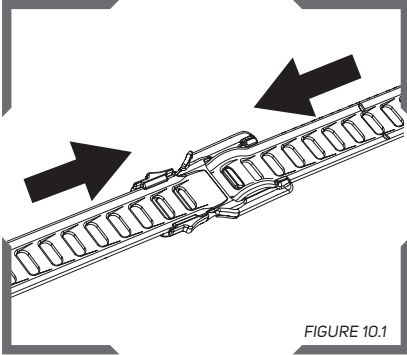
# RESPIRATOR SETUP AND CARE CONTINUED

**HEAD HARNESS ADJUSTMENT**



*FIGURE 10.1*

To adjust the top straps on the head harness, push the two straps together to tighten.
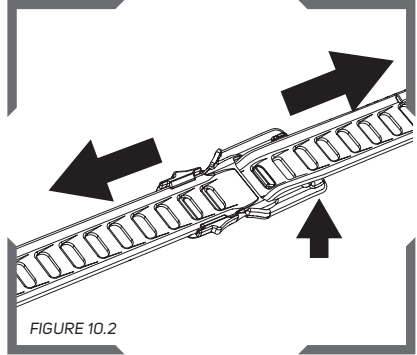


*FIGURE 10.2*

To loosen the top straps, unclip the end tabs from over the strap. Then pull the straps apart to the desired notch. Then clip the tabs back over the strap to hold it securely.
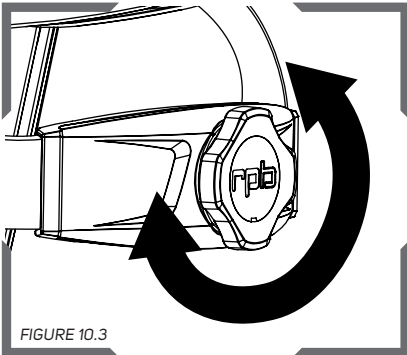


*FIGURE 10.3*

The head harness can also be adjusted with the ratchet adjuster on the back of the headband. Turn the knob to tighten and loosen the headband.
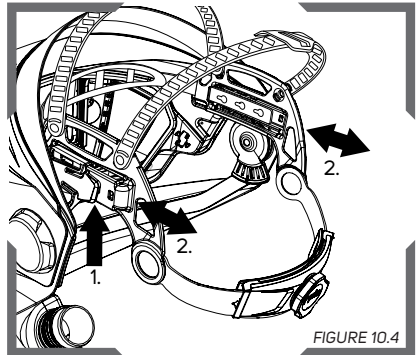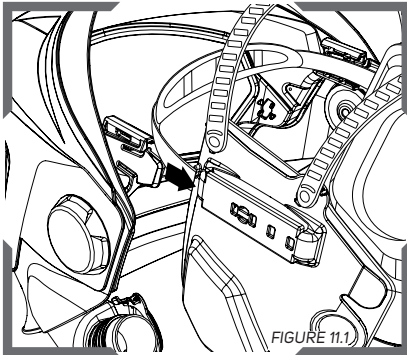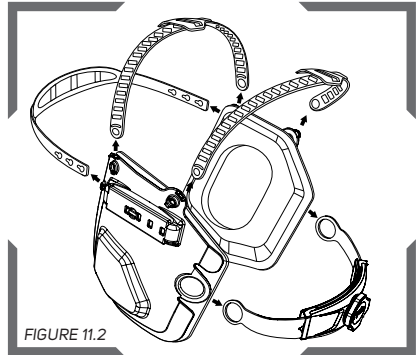


*FIGURE 10.4*

The head harness can also be move forwards and backwards within the Weld Visor. 1. Pull the tab on sides out. 2. Slide the head harness forward or backward to find the most comfortable position.
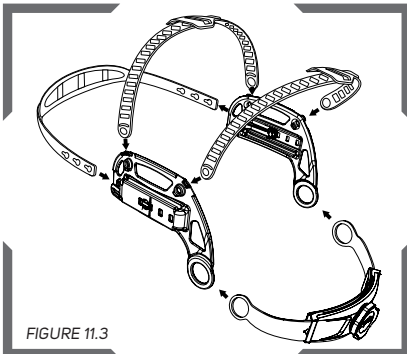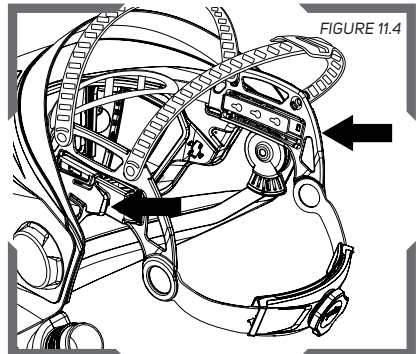
## SETUP FOR USE WITH EARMUFFS



*FIGURE 11.1*

To remove the side pads on the Z4, pull side tabs out and slide the head harness out of the Weld Visor.



*FIGURE 11.2*

Remove the top straps, front band and the ratchet assembly.



*FIGURE 11.3*

Attach the top straps, front band and ratchet band to the Head Harness Brackets.



*FIGURE 11.4*

Slide the Head Harness with the Head Harness Brackets into the mounting brackets to the notch that is the most comfortable position.

Never use the Head Harness with the Head Harness Brackets in place of the side pads unless using the Quiet-Slim earmuffs.

![GVS | rpb Z4 logo — Protecting you for life's best moments.]
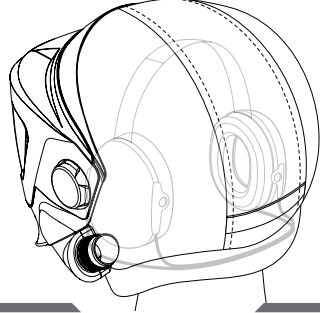
# RESPIRATOR SETUP AND CARE CONTINUED


FIGURE 11.5
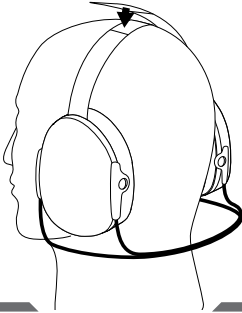
Put on the 18-524 RPB Quiet-Slim earmuffs with the neckband going around the back of the neck and making sure the pads seal all of the way around the ears. Secure the over-head band with the hook and loop strap.

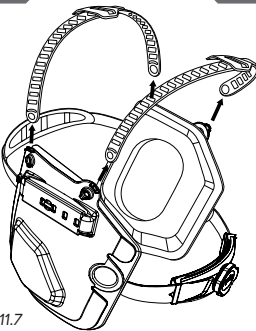Refer to the Quiet-Slim earmuff Instruction Manual for more details.


FIGURE 11.6

After checking inside the helmet for dust and debris, pull the Z4 on over the earmuffs. Make sure the earmuffs and neckband are completely within the sealed area of the face seal or cape.
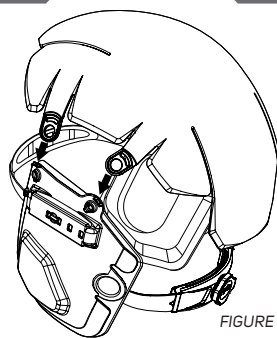
## BUMP CAP INSTALL


FIGURE 11.7

Remove the top straps from the sidepads.


FIGURE 11.8

Attach the Bump Cap to the side pads on the connection points that were used for the top straps.

Install the Bump Cap Head Harness Assembly into the Z4 making sure it is completely inside of the face seal or shoulder cape so that the positive pressure zone is not interrupted. The Bump Cap can also be used with the Head Harness Brackets and the Quiet-Slim earmuffs.

## FACE SEAL AND SHOULDER CAPE INSTALLATION



FIGURE 12.1
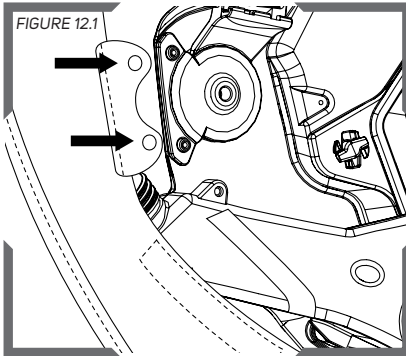
Loosen the left side adjustment knob and attach the two holes in the face seal over the bosses under the bracket. Tighten the adjustment knob back up.



FIGURE 12.2
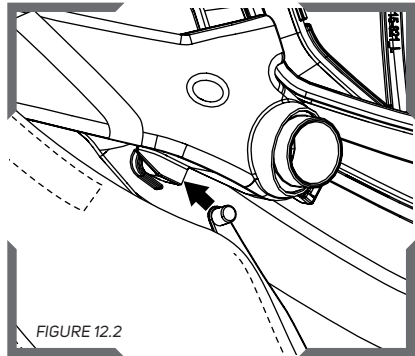
Insert the tab on the left side of the face seal band into the slot underneath the air intake. Press together the hook and loop over the air intake to seal them together.



FIGURE 12.3
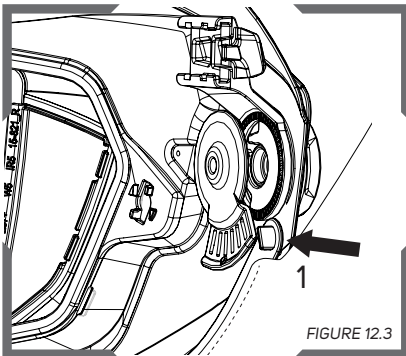
Loosen the right side adjustment knob. 1. Pull the adjustment nut on the inside off of the adjustment notch and slide the face seal band onto the notch. Push the adjustment nut back onto the desired angle notch and retighten the adjustment knob on the outside.



FIGURE 12.4
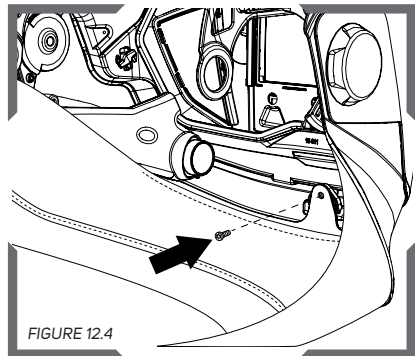
In the center of the visor, insert the screw through the hole in the face seal band, the front clip, and into the screw hole in the visor. Press together the hook and loop on the band and on the inside of the face shield to insure a good seal.

# RESPIRATOR SETUP AND CARE CONTINUED



*FIGURE 12.5*
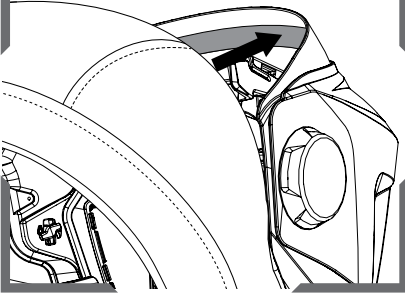
Line up the center of the top part of the face seal and the face shield and attach the hook and loop along the edge. Press together firmly to insure a good seal.

## SIDE PADDING SYSTEM CLEANING



*FIGURE 13.1*
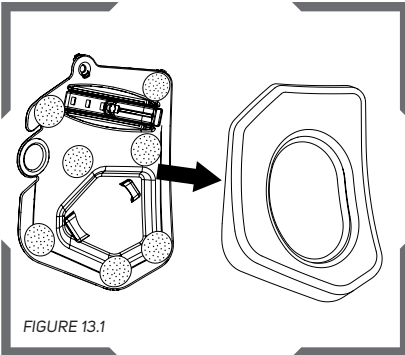


*FIGURE 13.2*

Remove the side pads from the mounts that are attached with hook and loop fasteners.
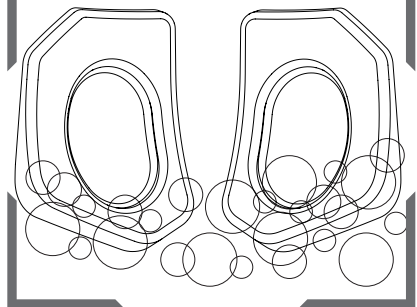
Wash the pads with mild detergent and rinse well. Once dry, reattach them to the side pad mounts. Lay flat to dry, do not tumble dry.

## BROW PAD REPLACEMENT



*FIGURE 14.1*

Place the brow pad onto the inside of the front strap of the head harness. Fold the top and bottom over and secure the hook and loop tabs.

## WELD VISOR CLEANING



*FIGURE 15.1*

Clean the shell of the weld visor with a disinfecting wipe or mild house hold cleaner and a soft cloth. Be sure not to get the ADF Lens wet.

# AUTO-DARKENING WELDING PROTECTION FILTER

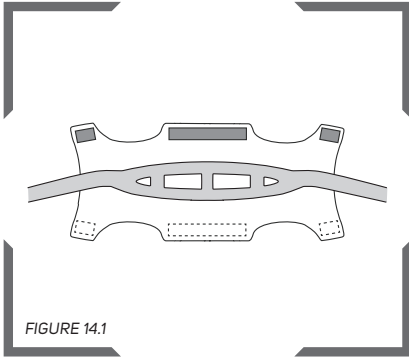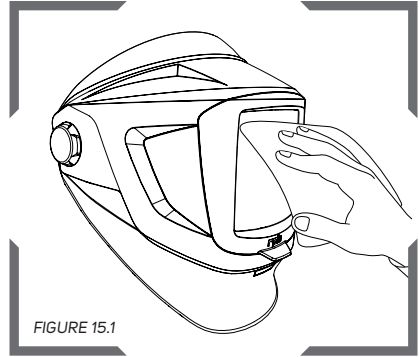## OPERATION

RPB auto-darkening welding filters operate on the basis of a liquid crystal light shutter that protects the welder's eyes against intense visible light emitted during the welding process. In combination with the permanent passive IR/UV filter, it protects against hazardous infrared (IR) and ultraviolet (UV) light. The protection against harmful radiation is present regardless of the shade level or potential malfunction of the filter, beyond the darkest shade number marked on each specific model.

RPB auto-darkening welding filters are manufactured according to ANSI/ISEA Z87.1, EN 379 requirements and are CE certified. They are not intended to be used as a protection against impacts, flying particles, molten metals, corrosive liquids or hazardous gases.

Replace potentially malfunctioned or damaged auto-darkening welding filters (check that the auto-darkening filter turns dark if you strike the welding arc).

## USAGE

An auto-darkening welding filter built into a Respirator is considered to be Personal Protection Equipment (PPE) protecting the eyes, face, ears and neck against direct and indirect hazardous light of the welding arc. There should be no tension on the ADF Lens caused by the Z4 visor, as it could cause severe damage to the filter. Make sure that solar cells and photo-sensors are not covered by any part of the helmet, as this could prevent the proper operation of the filter.

## FIELD OF APPLICATION

RPB Auto darkening filters are suitable for all types of electro-welding: covered electrodes, MIG/MAG, TIG/WIG, plasma welding, and cutting, except for gas welding and laser welding.

## FUNCTIONS

RPB filters are supplied ready for use. Check the degree of required protection for specific welding procedure and select the recommended shade, light sensitivity as well as opening time delay.

## SHADE ADJUSTMENT

Our model enables shade adjustment range from 9 to 13. It can be adjusted by the knob »Shade« which is located on the filter.

## ADJUSTMENT OF SENSITIVITY

Most welding applications can be performed with welding light sensitivity set to maximum. The maximum sensitivity level is appropriate for low welding current work, TIG, or special applications. The welding light sensitivity has to be reduced only in some specific surrounding lighting conditions in order to avoid unwanted triggering. As a simple rule for optimum performance, it is recommended to set sensitivity to the maximum at the beginning and then gradually reduce it, until the filter reacts only to the welding light flashes and without annoying spurious triggering due to ambient light conditions (direct sun, intensive artificial light, neighboring welder's arcs etc.)

## OPENING TIME DELAY ADJUSTMENT:

The opening time delay can be adjusted from 0.15 to 1.0 seconds. It is recommended to use a shorter delay with spot welding

applications and a longer delay with applications using higher currents and longer welding intervals. Longer delay can also be used for low current TIG welding in order to prevent the filter opening when the light path to the sensors is temporarily obstructed by a hand, torch, etc.

## STORAGE

When not in use the Auto-Darkening Filter should be stored in a dry place within the temperature range of -4°F (-20°C) to +157°F (70°C). Prolonged exposure to temperatures above 113°F (45°C) may decrease the battery lifetime of the auto-darkening welding filter.

It is recommended to keep the solar cells of the auto-darkening welding filter in the dark or not exposed to light during storage in order to maintain power down mode. This can be achieved by simply placing the filter face down on a  storage shelf.

## MAINTENANCE AND CLEANING

It is always necessary to keep the solar cells and the light sensors of the auto-darkening welding filter free of dust and spatters: cleaning can be done with a soft tissue or a cloth soaked in mild detergent (or alcohol).

Never use aggressive solvents such as acetone. RPB filters should always be protected from both sides by protection screens, which should also be only cleaned with a soft tissue or cloth. If protection screens are in any way damaged, they must be immediately replaced.

## PRODUCT CARE

Never place the ADF Lens or helmet on hot surfaces. Do not apply paints, solvents, adhesives or self-adhesive labels except as instructed by RPB. This product may be adversely affected by certain chemicals. Do not expose the ADF to liquids and protect it from dirt. Make sure the helmet completely blocks any accidental light. Make sure light can only enter the front of the helmet through the viewing area of the auto-darkening welding filter.

See the "Setup and Care" section for more specific cleaning instructions.

## WARRANTY

*The warranty period of RPB Z4 Weld Visor ADF is three years. Failure to follow these instructions may invalidate the warranty. RPB does not accept responsibility for any issues, which may arise from applications other than welding.*

## MARKINGS

The marking on the ADF indicates:

**3 / 9-13     RPB 1 / 1 / 1 / 2 / EN379**

| Light Shade
| Dark Shade Range
| Manufacturer
| Optical Class
| Diffusion of light class
| Homogeneity
| Angular dependence
| Number of the Standard

# AUTO-DARKENING WELDING PROTECTION FILTER CONT'D

## SETTINGS

- Shade level: The shade level can be selected between 9 and 13 by rotating the shade level knob.
- Sensitivity: With the sensitivity knob the light sensitivity is adjusted according to the welding arc and the ambient light. The middle position corresponds to the recommended sensitivity setting in a standard situation.
- Opening delay. The opening delay switch, behind the battery cover, allows the opening delay to be set from dark to light. It is adjustable between 0.15 or 1.0 second. The Twilight position corresponds to the recommended delay in a standard situation.

## CHANGE THE BATTERIES

The automatic welding filter has replaceable lithium button cell batteries, type CR2032. The batteries must be replaced when the LED on the cartridge f lashes.

1. Carefully remove battery cover.
2. Remove batteries and dispose of in accordance with the national regulations for special waste.
3. Use type CR2032 batteries as depicted.
4. Carefully remount battery cover.

If the automatic welding filter does not darken when the welding arc is ignited, please check battery polarity. To check whether the batteries still have sufficient power, hold the shade cartridge against a bright lamp. If the LED flashes, the batteries are empty and must be replaced immediately. If the shade cartridge does not operate correctly in spite of correct battery replacement, it must be declared unusable and must be replaced.

## SLEEP MODE

The automatic welding filter has an automatic switch-off function, which increases the service life. If no light falls on the solar cells for a period of approx. 15 minutes, the cartridge automatically switches off. To reactivate the automatic welding filter, the solar cells must be briefly exposed to daylight. If the cartridge cannot be reactivated or does not darken when the welding arc is ignited, it must be regarded as non-functional and replaced.

## EXPECTED LIFETIME

The automatic welding filter has no expiration date. The product can be used as long as no visible or invisible damage or functional problems occur.

## TROUBLESHOOTING

Shade automatic welding filter does not darken:
- Adjust sensitivity
- Clean sensors and clean or change the impact lens of the helmet shell
- Check flow of light to the sensors
- Replace batteries

ADF flickers:
- Adjust sensitivity
- Replace batteries

Poor vision:
- Clean or change the impact lens of the helmet shell and automatic welding filter
- Adapt shade level to welding procedure
- Increase amount of ambient light

# RECOMMENDED SHADE LEVELS FOR VARIOUS WELDING APPLICATIONS

*Figure 16.1*

| Welding Process | Current Amperes | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1.5 | 6 | 10 | 15 | 30 | 40 | 60 | 70 | 100 | 125 | 150 | 175 | 200 | 225 | 250 | 300 | 350 | 400 | 450 | 500 | 600 |
| MMA | | | | | 8 | | | 9 | | 10 | | 11 | | 12 | | | | 13 | | 14* | |
| MAG | | | | | 8 | | | 9 | | 10 | | 11 | | | 12 | | | | | 13 | |
| TIG | | | | 8 | | 9 | | | | 10 | | 11 | | 12 | | | 13 | | | | |
| MIG heavy metals | | | | | | | | | 9 | | 10 | | 11 | | | 12 | | 13 | | 14* | |
| MIG light metals Stainless, Alum. | | | | | | | | | | | 10 | | 11 | | 12 | | 13 | | 14* | | |
| Plasma Cutting | | | | | | | | | 9 | 10 | 11 | | 12 | | | 13 | | | | | |
| Micro Plasma Welding | | 4 | | 5 | 6 | | 7 | | 8 | 9 | | 10 | 11 | | | 12 | | | | | |

*\*Shade 14 not achieved with this ADF.*

■ According to the perception of the welder it is possible to use the next higher or lower shade-number.

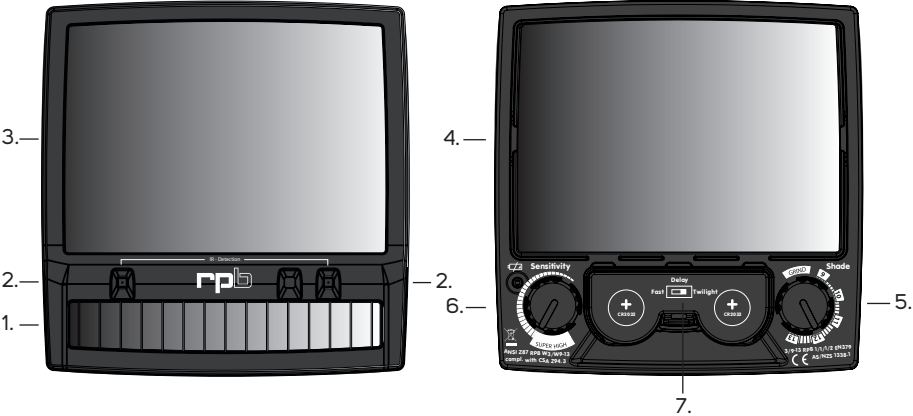# DESCRIPTION OF RPB® FILTER FEATURES

*Figure 16.2*

1. Solar Cells
2. Photo-sensors (Photo diodes)
3. Filter housing
4. Liquid crystal shutter viewing area
5. Shade adjustment
6. Sensitivity adjustment
7. Opening time delay adjustment

# TECHNICAL DATA   *Figure 16.4*

| Model | RPB® ADF |
|---|---|
| Viewing Area | 2.66 x 3.89 in. (67.6 x 98.8 mm) |
| ADF overall dimensions | 4.49 x 4.57 x 0.47 in. (114 x 116.2 x 11.9 mm) |
| Weight | 4.59oz (130g) |
| Open state shade | 3 (Bright Mode) |
| Closed state shade | 9-13 (Dark Mode) |
| Switching time from light to dark | 0.1 ms (23°C / 73°F) 0.1 ms (55°C / 131°F) |
| Switching time from dark to light | 0.15s / 1.0s |
| UV / IR protection | Maximum protection in light and dark modes |
| Operating temperature | 23 °F – 131 °F (-5 °C – 55 °C) |
| Storage temperature | -4°F – 157°F (-20°C – 70°C) |
| Power Supply | Solar cells, 2 pcs. replaceable 3V LI batteries (CR2032) |
| Classification in accordance with EN379 | Optical class = 1 Scattered light = 1 Homogeneity = 1 Viewing angle dependence = 2 |
| Standard | EN379:2003+A1:2009 |
| Certifications | CE, ANSI, compliance with CSA |

# DONNING AND DOFFING

> ⚠️ **WARNING**  **Always check the interior of the respirator for contaminants before donning. Always don and doff the helmet while outside the work area, keeping the interior of the helmet clean and free of contaminants. Not doing these steps could expose you to hazardous materials and contaminants that could impair the function of the respirator. Determine if your company should establish a pre-doffing cleaning program if contaminants on the outside may be dangerous.**

### DONNING YOUR HELMET

Once you have completed the set up, you are ready to fit your RPB Z4 Respirator. Firstly check inside the helmet to ensure that it is free of dust, dirt or contaminants. Then open the bottom of the cape or face seal, with the air flowing from the air source, put the respirator onto your head. Pull the cape down or make sure the face seal is sealing around your face/neck, then tighten the head harness ratchet to fit. Make sure the visor is securely latched.

### DOFFING YOUR HELMET

When you have finished working, keep the respirator on with air flowing into the helmet until you have left the contaminated area.

## STORAGE

Before storing the respirator, clean the unit following the cleaning instructions in this instruction manual. Be sure it is clean, both inside and out. After use, store the respirator by hanging it up in a clean, dry place, away from the work area. If the Z4 isn't going to be used for a longer period of time, store in a container or a bag. Store in a cool dry place between -10°C to +45°C (14°F to 113°F) <90%rh.
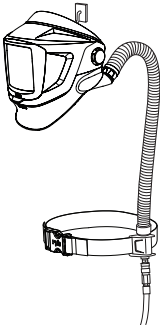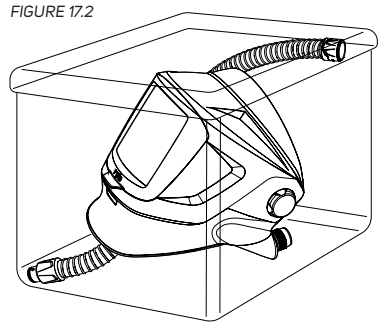
After use:                                          After cleaning:



*FIGURE 17.1*

*FIGURE 17.2*

PX5 and the PX4 AIR may need to be stored separately, refer to the PX5 or the PX4 AIR Instruction manual for specific storage instructions.

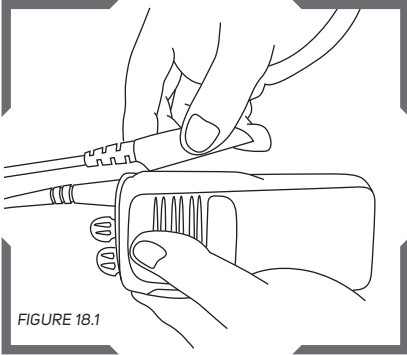# COMMS-LINK™ INSTRUCTIONS

## SET UP

FIGURE 18.1

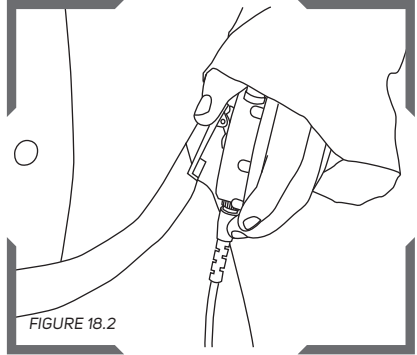Connect the PTT Cable to the Hand Set depending on the type used.

FIGURE 18.2

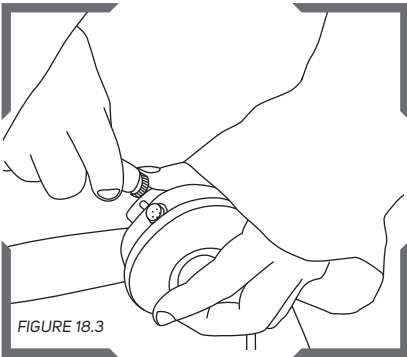Attach the PTT to your belt so your elbow can activate the Button.

FIGURE 18.3

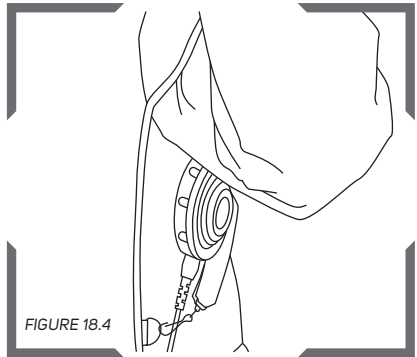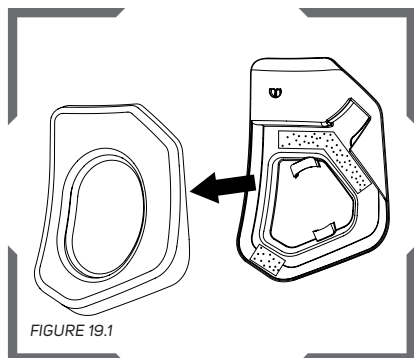Connect the PTT cable to the head set cable and place the cable underneath the cape.

FIGURE 18.4

To operate the device, press your elbow onto the PTT Button, and then speak.

**INSTALLATION**



*FIGURE 19.1*

Remove the side pad from the mount that is attached with hook and loop on the side of the helmet that the Comms-Link is to be installed. The Comms-Link can be installed on either side of the helmet.



*FIGURE 19.2*
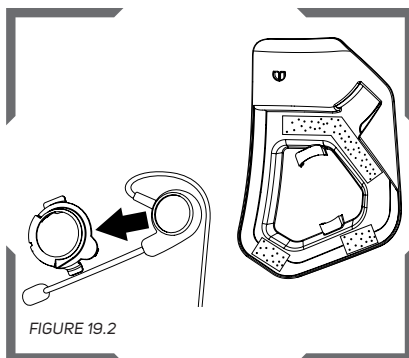
Place the Comms-Link ear piece into the attachment clip. Then attach the Comms-Link Clip into the slots on the inside of the cover.



*FIGURE 19.3*
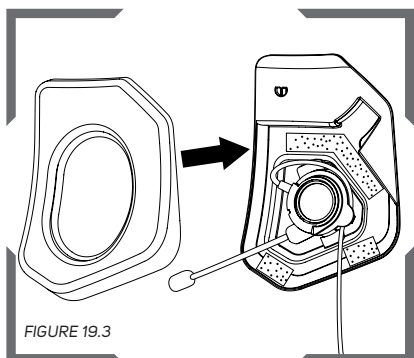
Attach the side pad back onto the cover over the Comms-Link.

# RADIO CONNECTORS COMPATIBILITY

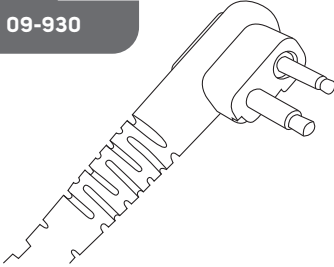<table>
<tr>
<td>

**09-930**

*FIGURE 20.1*

</td>
<td>

**MOTOROLA**
AXU4100, AXV5100, BPR40, CLS1110, CLS1410, CLS1413, CLS1450C, CLS1453C, CP100, CP150, CP185, CP200, CP88, CT125, CT150, CT250, CT450, CT450LS, DTR, DTR410, DTR550, DTR650, GP200, GP2000, GP300, GP308, GP68, GP88, GTI, GTX, LTS2000, P040, P080, P110, P1225, P1225LS, P200, P2000, PR400, RDK, RDU, RDU2020, RDU2080D, RDU4100, RDU4160D, RDV, RDV2020, RDV2080D, RDV5100, SP10, SP21, SP50, VL50, XTN, XTN446, XTN500, XTN600, XU1100, XU2100, XU2600, XV1100, XV2100, XV2600

**RELM**
RPU6500, RPV6500
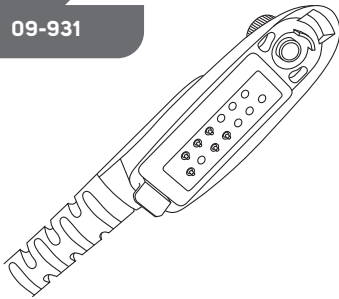
</td>
</tr>
</table>

<table>
<tr>
<td>

**09-931**

*FIGURE 20.2*

</td>
<td>

**HYT**
TC-980

**MOTOROLA**
CBPRO, GP1280, GP140, GP320, GP328, GP329, GP338, GP339, GP340, GP360, GP380, GP640, GP650, GP680, GP960, HT1250, HT1250LS, HT1550, HT1550XLS, HT750, JT1000, MTX8250, MTX8250LS, MTX850, MTX850LS, MTX9250, MTX950, PR860, PRO5150, PRO5350, PRO5450, PRO5550, PRO5750, PRO7150, PRO7350, PRO7450, PRO7550, PRO7750, PRO9150, PTX700, PTX760, PTX780
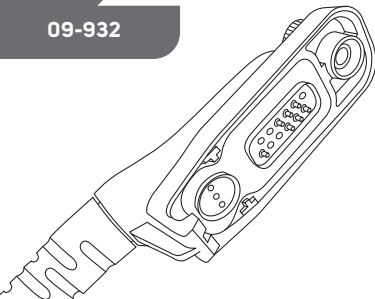
</td>
</tr>
</table>

<table>
<tr>
<td>

**09-932**

*FIGURE 20.3*

</td>
<td>

**MOTOROLA**
Turbo
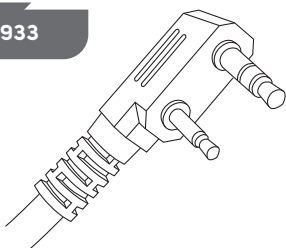APX 7000, XPR6300, XPR6500, XPR6550, APX 7500, XPR6100, XPR6350, XPR6580

</td>
</tr>
</table>

**09-933**

FIGURE 20.4

**HYT**
TC-268, TC-268S, TC-270, TC-368, TC-368S, TC-370

**KENWOOD**
TH-22AT, TH-235A, TH-28A, TH-42AT, TH-48A, TH-77A, TH-78A, TH-D7A(G), TH-F6, TH-F6A, TH-G71A, TH-K2AT, TK-208, TK-2100, TK-2102, TK-2130, TK-2160, TK-2170, TK-220, TK-2200, TK-2200LP, TK-2212L, TK-2302VK, TK-240, TK-240D, TK-248, TK-250, TK-260, TK-260D, TK-260G, TK-270, TK-270G, TK-272G, TK-308, TK-3100, TK-3101, TK-3102, TK-3130, TK-3131, TK-3160, TK-3170, TK-3173, TK-320, TK, 3200, TK-3200LP, TK-3212L, TK-3230, TK-3230XLS, TK-3302UK, TK-340, TK-340D, TK-348, TK-350, TK-353, TK-360, TK-360G, TK-370, TK-370G, TK-372G, TK-373, TK-430, TK-431, TK-2312, TK-3312

**RELM**
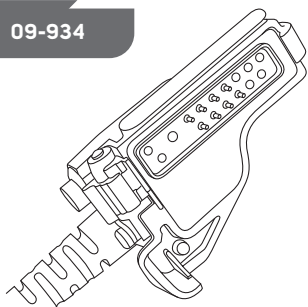RPU416, RPU4200, RPU499, RPV4200, RPV516, RPV599X

**09-934**

FIGURE 20.5

**EF JOHNSON**
51 SLES Series, 5100 Series, 511X, 512X, 514X, 518X, Ascend ES Series

**MOTOROLA**
GP900, GP9000, HT1000, MT1500, MT2000, MTS2000, MTX8000, MTX838, MTX900, MTX9000, MTX960, MTXLS, PRI500, X1500, XTS1500, XTS2000, XTS2500, XTS3000, XTS3500, XTS5000, GP1200
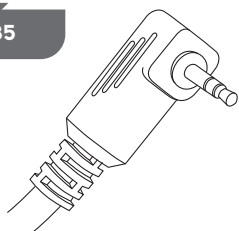
**09-935**

FIGURE 20.6

**COBRA**
CXR700, CXR800, CXR900, CXR920, CXT400, LI Series, LI3900, LI5600, LI6000, LI6500, LI6700, LI7000, LI7020, MRHH100, MRHH200, PR Series, PR190, PR240, PR245, PR3000, PR3100, PR3175, PR350, PR4000, PR4100, PR4250, PR4300, PR5000, PR560

**HYT**
TC-320

**MOTOROLA**
EM1000, FR50, FR60, FV300, FV300R, FV700R, FV750R, MH230R, MJ270R, MR350R, MR355R, SPIRITGT, SPIRITGT Plus, SX600R, SX900R, T270, T280, T289, T5100, T5200, T5300, T5320, T5400, T5410, T5420, T5500, T5600, T5620, T5700, T5710, T5720, T5800, T5820, T5920, T5950, T6200, T6210, T6220, T6250, T6300, T6320, T6400, T6500, T7200, T7400, T8500, T8550, T9500XLR, T9550XLR, T9580R, T9680R, T9750R, TalkAbout
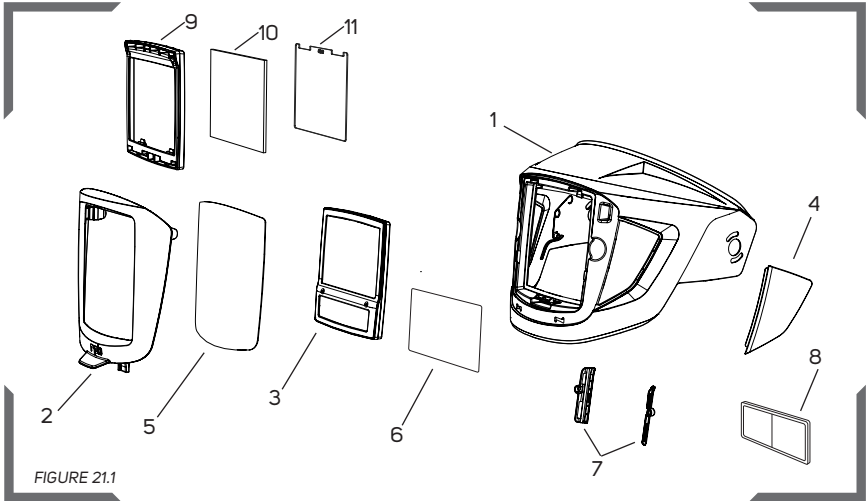
41

# PARTS AND ACCESSORIES

## WELD VISOR



FIGURE 21.1

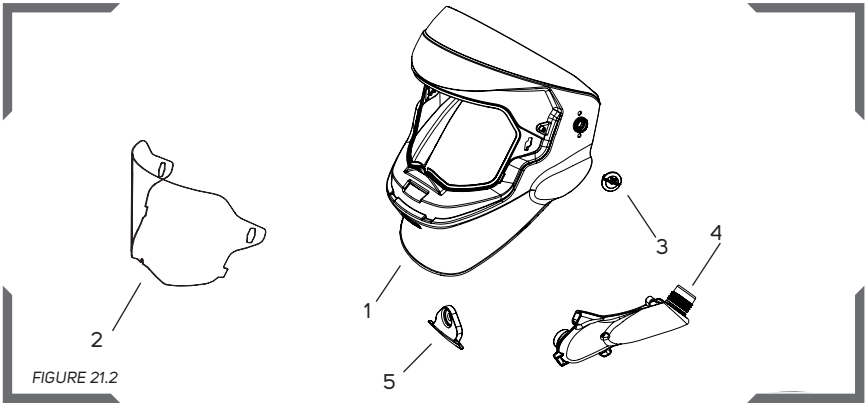| Item No. | Description | Part No. |
|---|---|---|
| 1 | Weld Visor Assembly - includes 16-672 and 15-821 | 15-812 |
| 2 | ADF Retainer | 16-672 |
| 3 | ADF Filter | 16-871 |
| 4 | Side Window Blockers - Solid Gray (Pair) | 15-821 |
|  | Side Window Shade 5 (Pair) | 15-821-5 |
| 5 | Impact Lens (10 pack) | 16-872 |
| 6 | ADF Rear Lens (10 pack) | 16-873 |
| 7 | Magnifying Lens Holders (Pair) | 16-875 |
| 8 | Magnifying lens - x 1 | 13-072-1 |
|  | Magnifying lens - x 1.5 | 13-072-1.5 |
|  | Magnifying lens - x 2 | 13-072-2 |
|  | Magnifying lens - x 2.5 | 13-072-2.5 |
| 9 | Fixed Shade Lens Frame | 16-877 |
| 10 | Fixed Shade 5 Welding Lens | 16-877-5 |
|  | Fixed Shade 8 Welding Lens | 16-877-8 |
|  | Fixed Shade 9 Welding Lens | 16-877-9 |
|  | Fixed Shade 10 Welding Lens | 16-877-10 |
|  | Fixed Shade 11 Welding Lens | 16-877-11 |
|  | Fixed Shade 12 Welding Lens | 16-877-12 |
| 11 | Fixed Shade Rear Protective Lens | 16-878 |

## FACE SHIELD

FIGURE 21.2

| Item No. | Description | Part No. |
|---|---|---|
| 1 | Face Shield | 15-811 |
| 2 | Safety Lens (10 Pack) | 15-878 |
| 3 | Safety Lens Bayonet (Pair) | 15-832 |
| 4 | Air Intake Assembly with Screws | 15-851-1 |
| 5 | Front Cape Clip Cover | 15-831 |

## ACCESSORIES
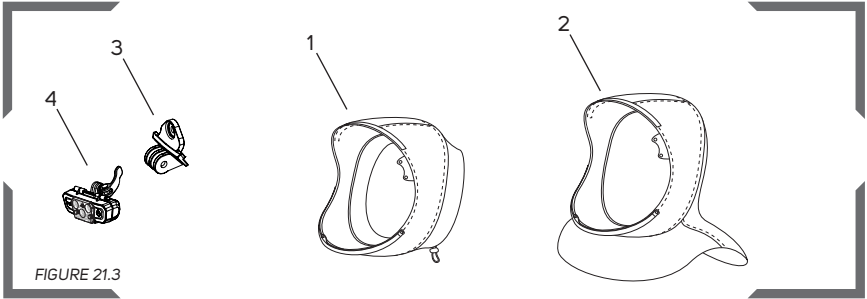
FIGURE 21.3

| Item No. | Description | Part No. |
|---|---|---|
| 1 | FR Face Seal | 15-711 |
| 2 | FR Shoulder Cape | 15-721 |
| 3 | Front Cap Clip - Vision-Link™ Mount | 15-839 |
| 4 | Vision-Link™ Light | 16-901 |

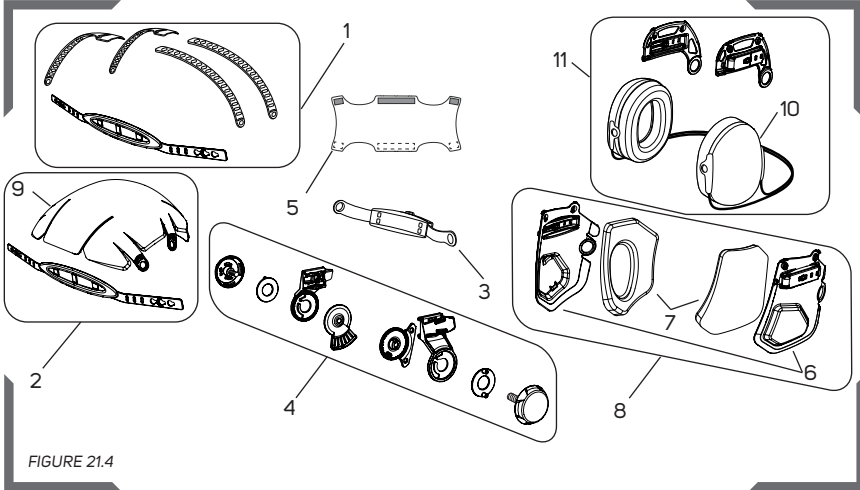## PARTS AND ACCESSORIES CONTINUED

### HEAD HARNESS AND PADS



FIGURE 21.4

| Item No. | Description | Part No. |
| --- | --- | --- |
| 1 | Head Harness Assembly with Brow Pad | 15-841 |
| 2 | Bump Cap Harness Assembly with Comfort Pad and Brow Pad | 15-850 |
| 3 | Head Harness Ratchet Assembly | 16-530 |
| 4 | Head Harness Bracket and Adjustment System | 15-830 |
| 5 | Brow Pad | 16-526 |
| 6 | Side Pad Mounts (Pair) | 15-148 |
| 7 | Foam Side Pads (Pair) | 16-528 |
| 8 | Comfort Side Padding System (Mounts and Pads) | 15-848 |
| 9 | Bump Cap Replacement with Comfort Pad | 15-855 |
| 10 | Quiet-Slim earmuffs | 18-524 |
| 11 | Quiet-Slim earmuffs with side brackets | 18-525 |

## PAPR PARTS AND ACCESSORIES
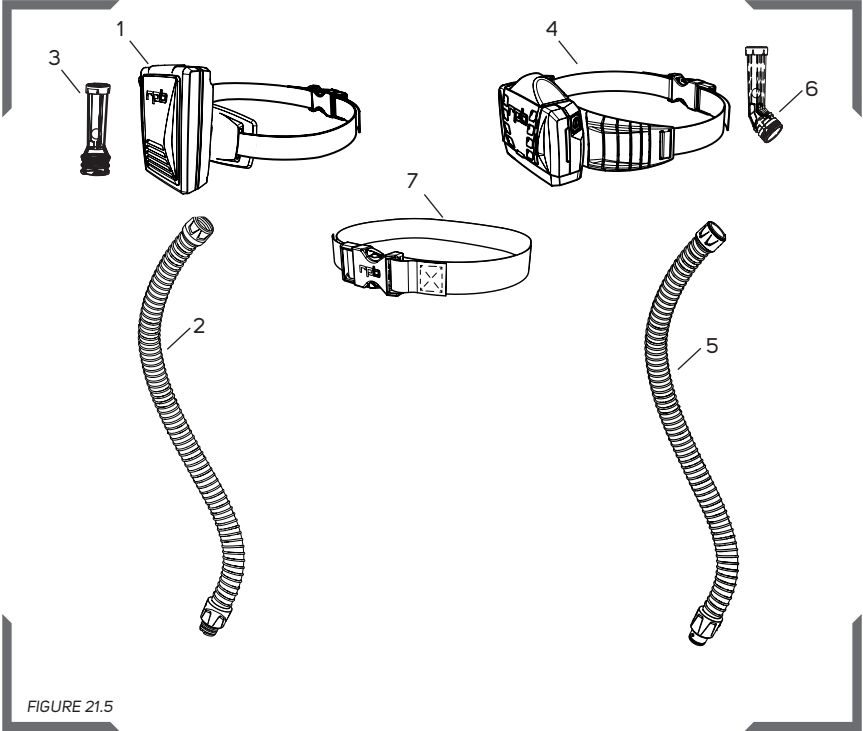


FIGURE 21.5

| Item Number | Description | Part Number |
|---|---|---|
| 1 | PX5 PAPR and Belt | 03-801 |
| 2 | PAPR Breathing Tube | 04-831 |
| 3 | PAPR Flow Meter | 03-819 |
| 4 | PX4 AIR PAPR and Belt | 03-901 |
| 5 | Breathing Tube for PX4 AIR PAPR | 04-837 |
| 6 | Flow Meter PX4 AIR | 04-091 |
| 7 | 2" Betl for PX4 and PX5 | 07-765 |
|  | FR 2" Betl for PX4 and PX5 | 07-765-FR |

# PARTS AND ACCESSORIES CONTINUED
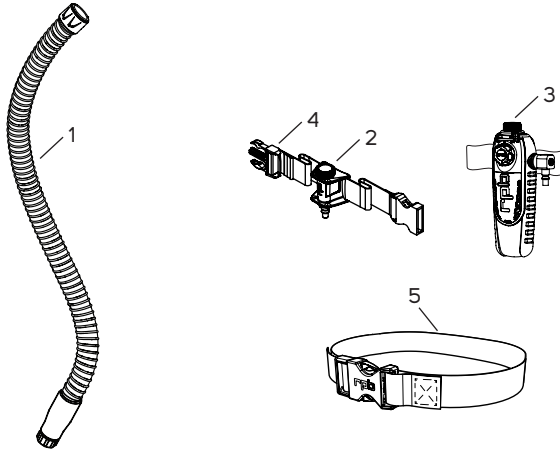
## FLOW CONTROL DEVICES



FIGURE 21.6

| Item Number | Description | Part Number |
|---|---|---|
| 1 | SAR Breathing Tube | 04-833 |
| 2 | Constant Flow Valve Assembly and Belt | 03-101 |
| 3 | C40 Climate Control Assembly and Belt | 03-500 |
| 4 | Belt for Constant Flow Vlave | NV2022 |
| 5 | 2" Betl for C40 | 07-765 |
|  | FR 2" Betl for C40 | 07-765-FR |

## AIR SUPPLY HOSES AND FITTINGS

| SERIES | 1. COUPLERS | 2. PLUGS | 3. SUPPLIED-AIR HOSE ASSEMBLIES |
|---|---|---|---|
| RPB Quick Disconnect | NV2025 1/4" FM NPT | 03-013-PM 3/8" M NPT<br>03-012-PMS 1/4" M NPT | NV2028 RPB 25ft 3/8"<br>NV2029 RPB 50ft 3/8"<br>NV2027 RPB 100ft 3/8"<br>04-412-15 RPB 15ft<br>04-412-25 RPB 25ft |
| RPB RZ Quick Connect | | 03-052-PM-RZ RZ Plug 1/4" Male Thread<br>03-052-PMS-RZ RZ Swivel Plug | 04-352-25-RZ 25ft<br>04-352-50-RZ 50ft<br>04-352-100-RZ 100ft |
| Schrader Twist Lock | 03-042-CF 1/4" FM NPT | 03-042-PM 1/4" M NPT<br>03-043-PM 3/8" M NPT<br>03-042-PMS 1/4" M NPT Swivel | 04-342-25 Schrader 25ft<br>04-342-50 Schrader 50ft<br>04-342-100 Schrader 100ft<br>04-442-15 Schrader 15ft<br>04-442-25 Schrader 25ft |



25ft   50ft   100ft

15ft

25ft
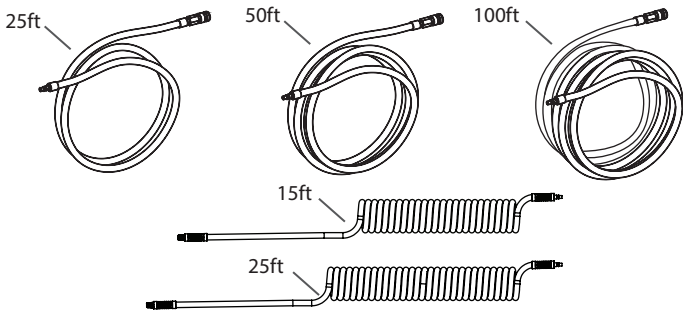
*FIGURE 21.7*

## PARTS AND ACCESSORIES CONTINUED

**COMMS-LINK™ PARTS AND ACCESSORIES**
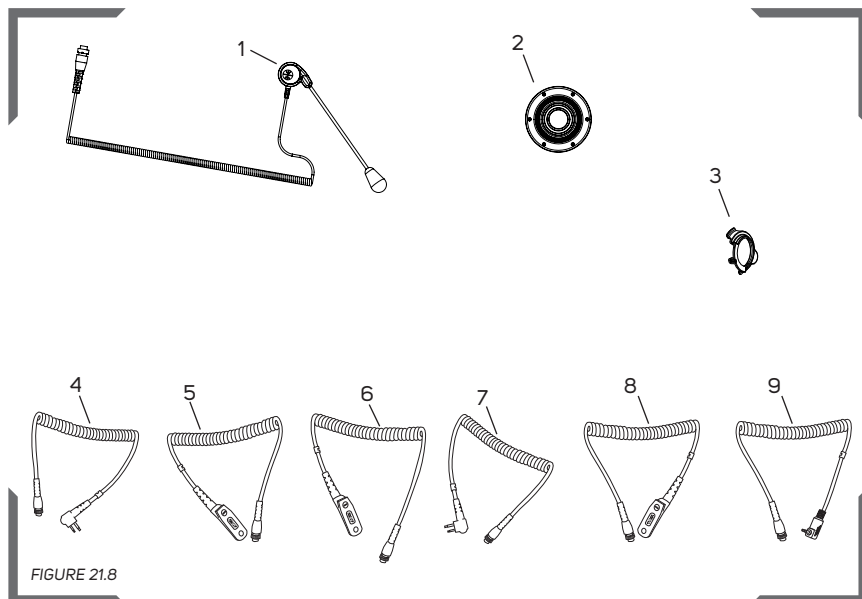
*FIGURE 21.8*

| Item Number | Description | Part Number |
|---|---|---|
| 1 | COMMS-LINK Communication System - w/09-913 | 16-922 |
| 2 | PTT | 09-913 |
| 3 | COMMS-LINK Clip | 16-529 |
| 4 | Two Pin | 09-930 |
| 5 | Multi Pin | 09-931 |
| 6 | Multi Pin | 09-932 |
| 7 | Two Pin | 09-933 |
| 8 | Multi Pin | 09-934 |
| 9 | One Pin | 09-935 |

Other Radio Connectors may be available.

⚠ **WARNING** Use only exact, authentic RPB® replacement parts (marked with the RPB® logo and part number), and only in the specified configuration. Using incomplete or inappropriate equipment, including the use of counterfeit or non-RPB® parts, can result in inadequate protection and will void the NIOSH approval of the entire respirator assembly.

# LIMITED WARRANTY

RPB® warrants that its Products will be free from defects in materials and workmanship for one (1) year, subject to the terms of this limited warranty. The Products are sold only for commercial use, and no consumer warranties apply to the Products. This limited warranty is for the benefit of the original Product purchaser, and cannot be transferred or assigned. This is the sole and exclusive warranty provided by RPB®, and ALL CONDITIONS AND IMPLIED WARRANTIES (INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE) ARE EXCLUDED AND DISCLAIMED FROM WARRANTY COVERAGE. RPB's® limited warranty coverage does not apply to damage resulting from accident, improper use or misuse of the Products, wear and tear resulting from the normal use of the Products, or the failure to properly maintain the Products.

RPB's® limited warranty coverage runs from the original date of purchase of the Products, and applies only to warranted defects which first manifest themselves and are reported to RPB® within the warranty period. RPB® retains the right to determine to its reasonable satisfaction whether any claimed defect is covered by this limited warranty.

If a warranted defect occurs, RPB® will repair or replace the defective Product (or a component of the Product), in its sole discretion. This "repair or replacement" remedy is the sole and exclusive remedy under this limited warranty, and under no circumstances shall RPB's® liability under this limited warranty exceed the original purchase price for the Products (or the applicable component). RPB® has no responsibility for incidental or consequential damages, including loss of use, maintenance and other costs, and ALL INCIDENTAL AND CONSEQUENTIAL DAMAGES ARE EXCLUDED AND DISCLAIMED from this limited warranty. Contact RPB® to obtain warranty service. Proof of purchase must be provided to obtain warranty service. All costs of returning the Products to RPB® for warranty service must be paid by the purchaser.

RPB® reserves the right to improve its Products through changes in design or materials without being obligated to purchasers of previously manufactured Products.

# LIABILITY

RPB® Safety cannot accept any liability of whatsoever nature arising directly or indirectly from the use or misuse of RPB® Safety products, including purposes that the products are not designed for. RPB® Safety is not liable for damage, loss or expense resulting from the failure to give advice or information or the giving of incorrect advice or information, whether or not due to RPB® Safety's negligence or that of its employees, agents or subcontractors.
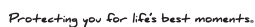
# NOTES

# NOTES

# OTHER PRODUCTS

## VISION

The RPB® Vision-Link™ is an intuitive and unobtrusive helmet lighting system for the Z4®, Z-Link® and T-Link®. It easily attaches to the helmet, providing bright light wherever you look, advancing your safety, and increasing your productivity.

## COMMUNICATION

The world's most advance in-helmet communication system for Z-Link® and T-Link®. The RPB® Comms-Link™ system allows you to communicate without interrupting your work. The in-helmet headset and microphone connect to most professional radios.

## RPB® PX5® PAPR

The RPB PX5 is a compact and versatile PAPR that changes the way people experience clean filtered air across multiple industries – from medical and chemical settings, to the profoundly harsh environments of foundries. Boasting a sleek lightweight design, the PX5 contours to the users back, evenly distributing weight through its vertical mounting. With simple considered edges, curves and sealed housing unit, the PX5 is certified to meet IP65 in use for ease of decontamination.

MAN-51

**gvs-rpb.com | 1-866-494-4599**

GVS | rpb®

*Protecting you for life's best moments.*