

3M
VANON

INSTRUCTION
MANUAL



NIOSH
Type CE Supplied Air Respirator

ppb[®]
ADVANCING
YOUR SAFETY

INDEX

Read all instructions & warnings before using this product. Keep this manual for future reference.

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RPB 155 /1

INTRODUCTION

The **NOVA 3** Supplied Air Respirators are designed to provide protection from airborne contaminants in atmospheres **NOT IMMEDIATELY DANGEROUS TO LIFE OR HEALTH**, and from which a user can escape without the aid of the respirator, or that do not exceed concentrations allowed by OSHA, EPA, NIOSH or ACGIH regulations and recommendations.

The **NOVA 3** is NIOSH approved (TC-19C-456 Type CE Supplied Air Respirator) to provide respiratory protection in general applications including abrasive blasting. The helmet meets ANSI Z89.1 Type 1C Head Protection and the Inner Lens meets ANSI Z87.1 for Eye Protection. The cape is designed to protect the wearer's upper body from rebounding abrasive.

NOVA 3 Respirators are NIOSH Approved for use with the NV2016 Flow Control Valve, 4000-01 Cold Air Tube and the 4000-20 Hot Air Tube.

All RPB Safety products are covered by a manufacturer's warranty of 3 months. The manufacturer's warranty covers defects in material, workmanship and does not cover damage caused by misuse or abuse. RPB Safety's only obligation and your exclusive remedy shall be to repair, replace or refund the purchase price of such parts or products upon the presentation of proof of purchase. Maximum liability is in no case to exceed the value of the RPB Safety product involved.

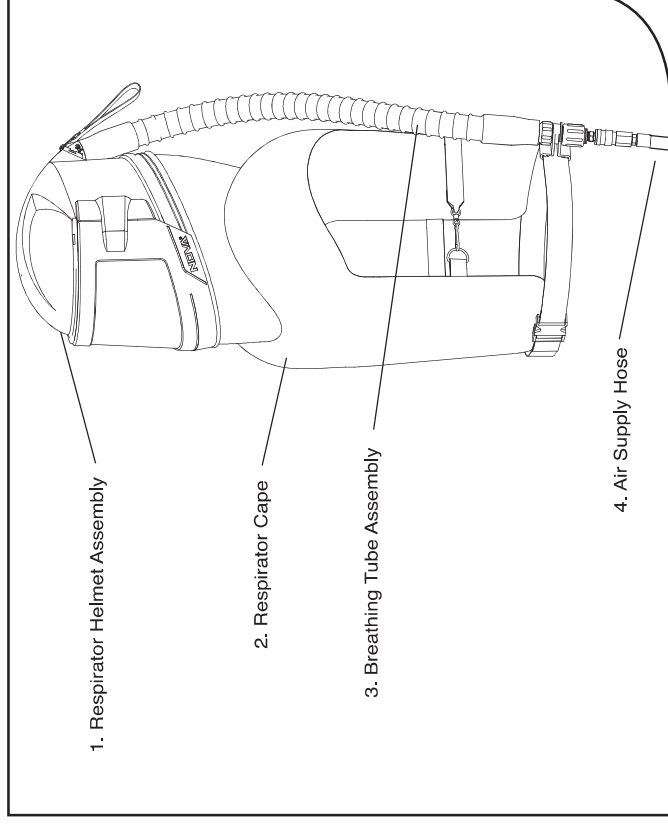
RESPIRATOR COMPONENT CONCEPT

The NOVA 3 Supplied Air Respirator consists of 4 main components:

- Respirator Helmet Assembly
- Respirator Cape
- Breathing Tube Assembly
- Air Supply Hose

All 4 components must be present and properly assembled to constitute a complete NIOSH Approved Respirator.

Fig: 1.1




!WARNING!

Failure to use genuine RPB Safety NIOSH approved parts and components voids the approval of the entire respirator assembly.

!WARNINGS!

1. Do not use this respirator until you have been trained in the respirators use, maintenance and limitations by a qualified individual (appointed by your employer) who has extensive knowledge on the **NOVA 3** Respirator. All training must be in accordance with this Users Instruction Manual.
2. Before using this respirator ensure your employer has determined that airborne contaminant concentrations do not exceed those allowed by applicable OSHA, EPA, NIOSH or ACGIH regulations and recommendations for continuous flow supplied air respirators. Federal law requires that the employer measures and monitors airborne contaminant levels in the work area.
3. Do **not wear** this respirator if any of the following conditions exist
 - Atmosphere is immediately dangerous to your life or health
 - You **CAN NOT** escape without the aid of the respirator
 - Atmosphere contains less than 19.5% oxygen
 - Work area is poorly ventilated
 - Contaminants are in excess of regulations or recommendations
4. Do not modify or alter this respirator. Use only **NIOSH** approved **NOVA 3** components and replacement parts. The use of non approved parts voids the **NIOSH** approval of the entire respirator assembly.

5. Inspect all components of the respirator daily for signs of damage or wear and tear that may reduce the level of protection originally provided.
6. Do not use silica sand or abrasives containing silica, lead, arsenic or sharp glass particles - use of abrasive containing these elements could result in serious injury or death.
7. Do not wear this respirator until you have passed a complete physical exam including a lung X-ray conducted by qualified medical personnel.
8. Improper use of this respirator or use not in accordance with this User Instruction Manual may cause injury or death. Improper use may also cause life threatening delayed lung diseases such as silicosis, pneumoconiosis or asbestosis.
9. This respirator, when properly fitted and used, significantly reduces but does not completely eliminate the breathing of contaminants by the respirator wearer.
10. Be certain your employer has determined that the breathing air source provides at least a Grade D breathable air as specified in the compressed gas association commodity specification G-7.1. The respirator must be supplied with clean breathable air at all times. A carbon monoxide monitor must be used at all times. Contact your RPB distributor for a Radex 08-200 CO Monitor.
11. 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 sub-contractors.

12 Do not connect the respirator's air supply hose to nitrogen, toxic gases, inert gases or other unbreathable non Grade D 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. Failure to connect the supply hose to the proper air source could result in serious injury or death.

13 If this respirator is used in confined spaces ensure the area is well ventilated and that all contaminate concentrations are below those recommended for this respirator. Follow all procedures for confined space entry, operation and exit as defined in applicable regulations and standards.

14 **Leave work immediately if:**

- Any respirator component becomes damaged.
- Airflow stops or slows down
- Breathing becomes difficult
- You become dizzy, nauseous, too hot, too cold or ill.
- Vision is impaired.

15 **NOVA 3** Respirators do not provide hearing protection. Earplugs or earmuffs must be properly fitted when exposed to noise levels that exceed the OSHA permissible exposure levels.

Recommendation:

When using a **NOVA 3** Supplied Air Respirator. It is recommended to use a Radex Airline Filter (p/n: 04-900) and a carbon monoxide monitor (p/n: 08-200)

NIOSH - CAUTIONS AND LIMITATIONS

- 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 11 (breathing air pressure table) before donning.

RESPIRATOR OPERATION

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 **NOVA 3** does not purify air or filter contaminants.

AIR SOURCE

Locate the air source in a clean air environment, always use a filter on the inlet of your air source. Do not park vehicles beside your 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. The air should be regularly sampled to ensure that it meets Grade D requirements.

BREATHING AIR SUPPLY HOSES AND FITTINGS

NIOSH approved RPB Safety 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 approved length and the amount of sections must be within the number specified in the breathing air pressure table on page 11.

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.

WARNING: 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.

The **NOVA 3** Breathing Air Pressure table on page 11 defines the air pressure ranges needed to provide the respirator with a volume of air which falls in the required range of 6-15cfm or 170-425 lts/min.

!WARNING!

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

1. Determine your air source (column 1)
2. Identify your breathing tube assembly (column 2)
3. Confirm the part number of the air supply hose you are using (column 3)
4. Check your RPB Safety Air Supply Hose is within the NIOSH approved length (column 4)
5. Set the air pressure at the point of attachment within the range specified (column 6) for your breathing tube assembly, hose length and number of hose sections. (column 5)

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

BREATHING AIR PRESSURE TABLE

This table lists air pressure ranges needed to provide the **NOVA 3** 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.

Fig. 2.1

1. Air Source	2. Breathing Tube Assembly	3. Air Supply Hose	4. Supply Hose Length (ft)	5. Max number of sections	6. Pressure Range (PSIG/Air)
Portable or Stationary Compressor	NV2021B/NV2016 Flow Control Valve assembly	NV2028 NV2029	25	1	27-28
			50	1	28-29
			100	2	30-31
			150	3	33-34
			200	4	36-37
			250	5	38-39
300	6	41-43			
Portable or Stationary Compressor	NV2021B/4000-01 Cold Air Tube Assembly	NV2028 NV2029	25	1	55-56
			50	1	56-57
			100	2	60-62
			150	3	65-67
			200	4	70-72
			250	5	77-78
300	6	80-82			
Portable or Stationary Compressor	NV2021B/4000-20 Hot Air Tube Assembly	NV2028 NV2029	25	1	67-68
			50	1	69-70
			100	2	73-74
			150	3	77-78
			200	4	81-82
			250	5	86-87
300	6	91-92			

!WARNING!

The **NOVA 3** Supplied Air Respirator must be supplied with respirable air meeting the requirements of CGA G-7.1 Grade D or higher quality.

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RESPIRATOR SETUP & USE

INNER LENS

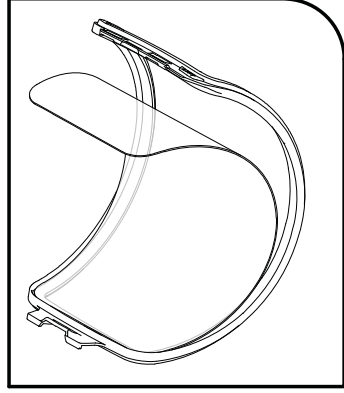


Fig. 3.1

Place RPB Inner lens (NV3-722) into the left of the Inner lens frame (NV3-723) and work it round locating it into the frame and finally clipping it into place on the right.

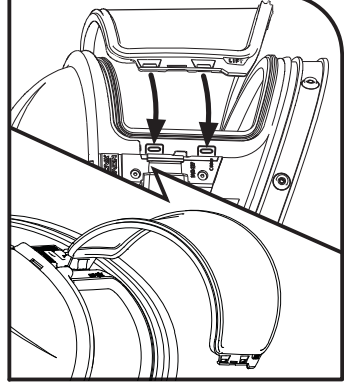


Fig. 3.2

Secure locating Inner lens frame pins into visor latch mount rolling the frame round the inner lens seal and securing it onto the clips at the visor hinge mount.

TEAR OFF AND OUTER LENSES

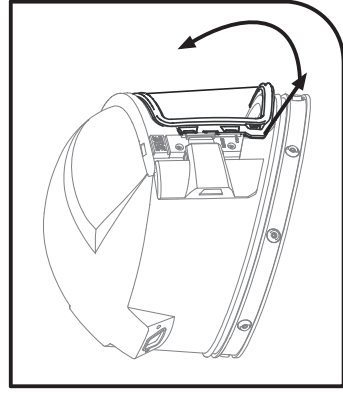


Fig. 3.3

To remove the Inner lens frame pull frame from the visor hinge mount rolling it round and then dislocate the locating pins from the Visor latch mount.

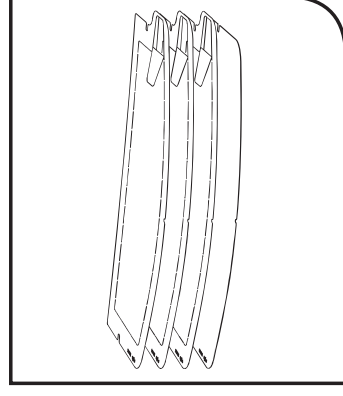


Fig. 3.4

Place 3 Tear Off Lenses p/n: N3-725 and 1 Outer Lens p/n: N3-724 on top of each other, make sure the tabs are folded the same way.

TEAR OFF AND OUTER LENSES (cont.)

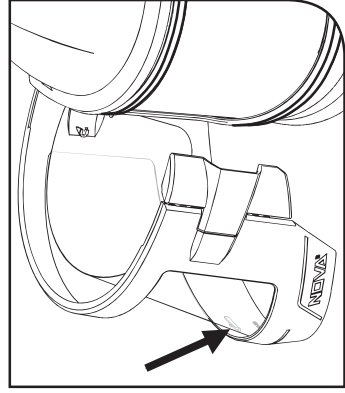


Fig. 3.4

Place the lenses onto the Lens Locator at the centre of the visor p/n: N3-726.

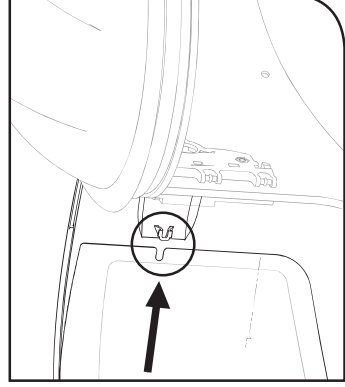


Fig. 3.5

Slide the lenses under the lens locators that are positioned at the sides of the visor.

CONNECTING THE AIR SUPPLY

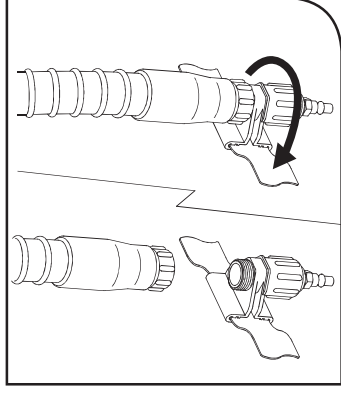


Fig. 3.6

Thread on the loose running nut of the NV2021B Breathing Tube on to the Flow Control Device (NV2016, 4000-01 or 4000-20). Screw the running nut in a clockwise direction until tight.

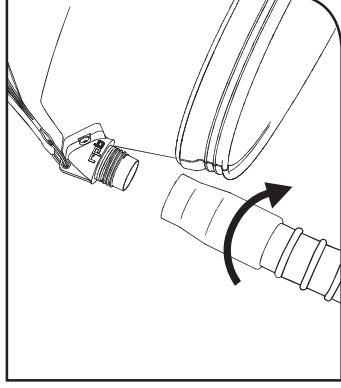


Fig. 3.7

Connect the NV2021B Breathing Tube to the Helmet. This end is labelled ("Attach this end to helmet"). Turn anti clockwise until tight.

CONNECTING THE AIR SUPPLY (cont.)

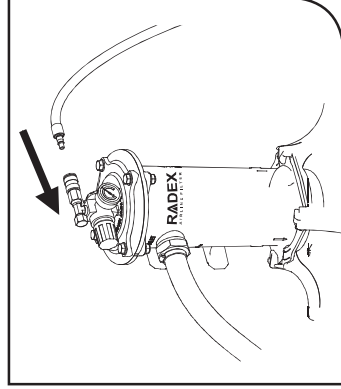


Fig. 3.8

Connect the Breathing Air Supply Hose (NV/2028 / NV/2029) to the point of attachment (04-900 Radex Airline Filter) shown.

!WARNING!

Make sure that the air from the point of attachment is Grade D or higher quality and meets OSHA requirements.

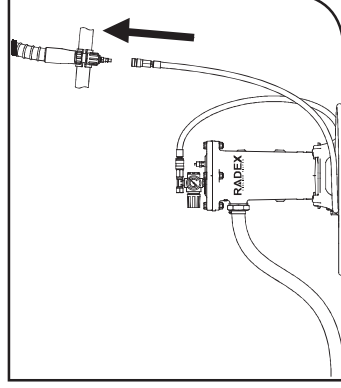


Fig. 3.9

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

!WARNING!

Check the air pressure at the point of attachment is within the range specified in column 6 of the Breathing Air Pressure Table for the hose length and amount of hose sections.

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

DONNING YOUR HELMET

Once you have set up, you are ready to fit your **NOVA 3** Supplied Air Respirator. Firstly check inside the helmet to ensure that it is free of dust, dirt or contaminants.

DONNING YOUR HELMET (cont.)

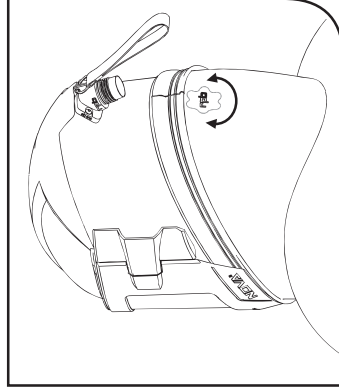


Fig. 4.0

Adjust the Respirator padding size by turning the ratchet knob located under the cape collar at the back of the respirator padding.



Fig. 4.1

Fold back cape, open the Inner Bib and place your fingers on the Inner Bib and the side of helmet at approximately ear position. Lift the helmet and place onto your head. Make sure air is flowing into the respirator prior to fitting.

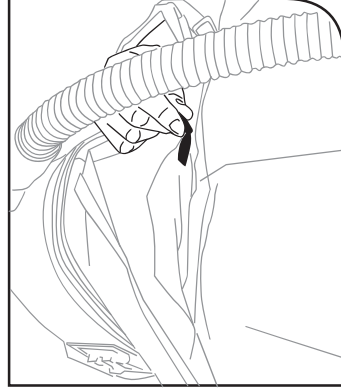


Fig. 4.2

Pull the Inner Bib around your neck and adjust the elastic cord to ensure a snug fit. This helps provide a barrier to airborne contaminants.

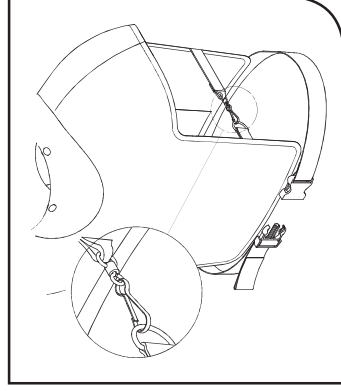


FIG. 4.3

Adjust the Respirator Cape around your body and fasten the snap hooks on each side of the cape.

DONNING YOUR HELMET (cont.)

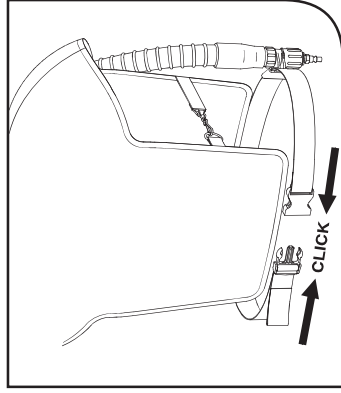


Fig. 4.4

Fasten the NV2022 belt at waist or hip level and adjust for comfort. Move the Flow Control Device away from spine.

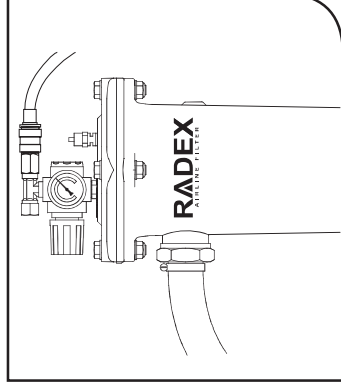


Fig. 4.5

Re check the air pressure and adjust if necessary. With air flow into your respirator you are now ready to enter the work area.

DOFFING YOUR HELMET

When you have finished working, leave the work area wearing the respirator with air flowing into the helmet. Once outside the contaminated area remove the respirator and disconnect the air supply hose.

!WARNING!

NEVER remove your Respirator while you are in the work areas as this may result in serious injury or death.

INSPECTION – MAINTENANCE CLEANING-STORAGE

As the **NOVA 3** Supplied Air Respirator has a limited service life, a regular inspection and replacement programme must be conducted. Before using the Respirator all parts should be inspected for damage or wear and tear. Replace all worn or damaged parts immediately. **Use only NIOSH approved RPB Safety parts.** Refer to Parts and Accessories section on pages 22-25 part numbers.

WARNING

Do not clean this respirator with volatile chemicals.

HELMET AND LININGS

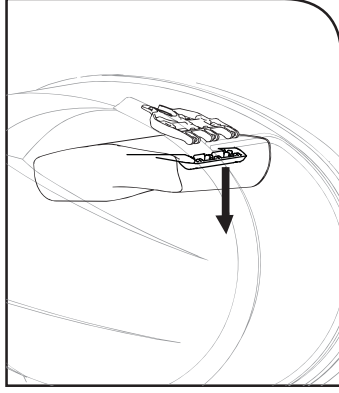


Fig. 5.1

The side padding is mounted on a hinge and can be removed by pulling away from the helmet.

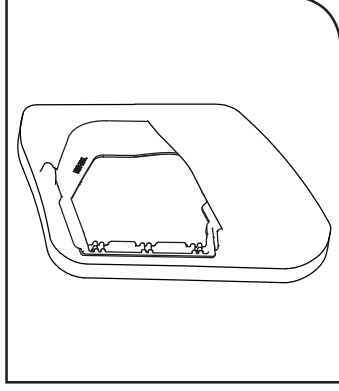


Fig. 5.2

The covers can be removed from the padding and washed in a conventional washing machine or with light detergent and water.

HELMET AND LININGS (cont.)

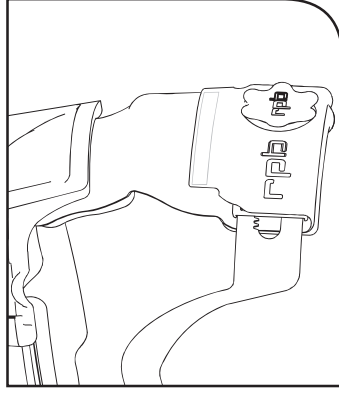


Fig. 5.3

Remove rear pad.

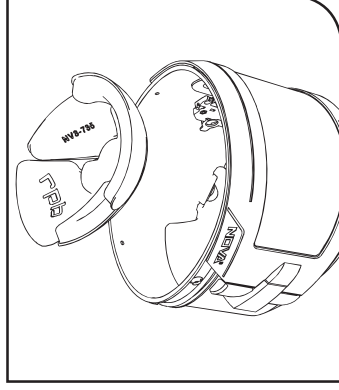


Fig. 5.4

Remove Head Liner padding from the head liner, the padding can be washed or disposed. The padding is secured with hook fasteners.

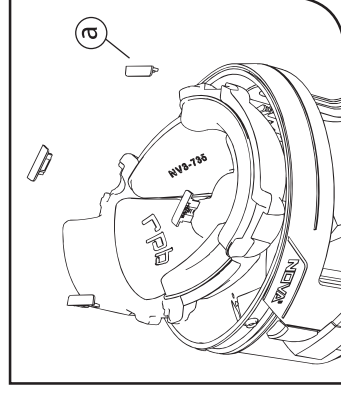


Fig. 5.5

Or if you need to remove the complete Head Liner, first remove the 4 clips (a) then lift out. To clean, rinse in a light detergent and water, or place in a conventional washing machine. Do not clean with volatile chemicals.

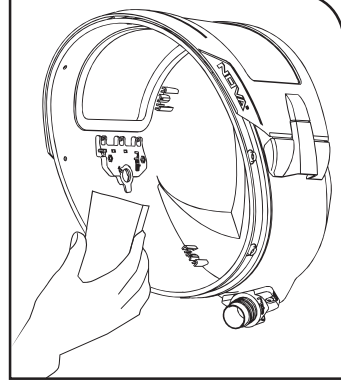


Fig. 5.6

The inside of the helmet can be wiped clean with a liquid detergent.

LENSES AND LENS GASKETS

Check Inner Lens Gasket p/n NV3-721 and the Inner Lens Frame p/n NV3-723 for splits, cracks or wear and tear. Replace any damaged or worn parts immediately with RPB Safety genuine parts. The Inner Gasket and Inner Lens frame can be sponged with warm water and a gentle detergent, rinsed and air dried.

BREATHING TUBE ASSEMBLY

Inspect the Breathing Tube NV2021B for splits or excessive wear. Check that the fittings are secured into the tube and are not allowing any air to escape.

Replace the tube as soon as signs of damage or excessive wear become evident. Do not remove the foam that is inside the Breathing Tube as it reduces the noise level of the incoming air.

VISOR ASSEMBLY

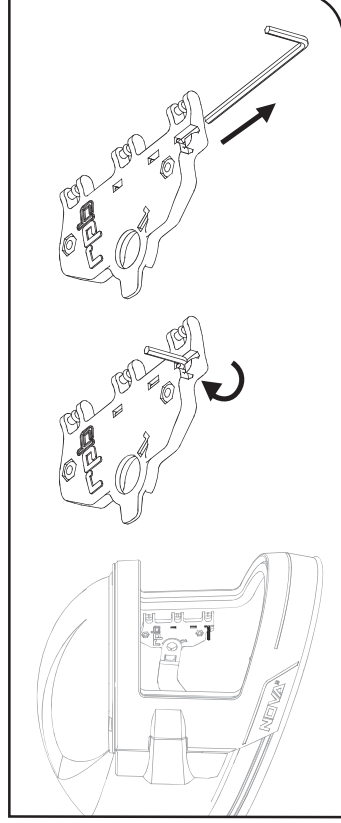


Fig. 5.7

There is an Allen Key mounted in the padding connector. Rotate the Allen Key out of the holder then pull down to remove.

VISOR ASSEMBLY (cont.)

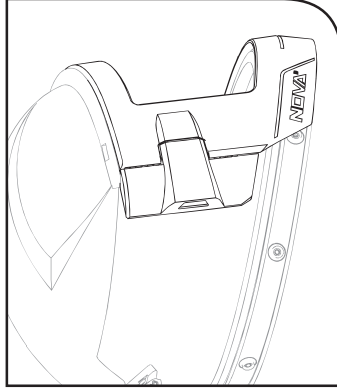


Fig. 5.8

To remove the Visor, Pull the Hinge lock (NV3-727-2) towards you and slide back, this will expose the hinge pin to remove the visor.

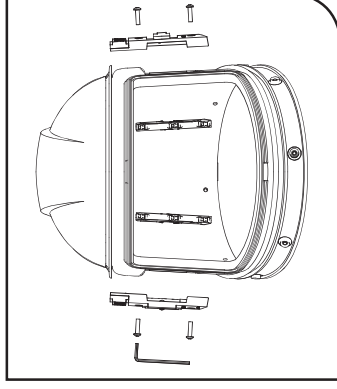


Fig. 5.9

The Hinge Mount p/n NV3-727 and Latch Mount p/n NV3-728 can be removed using the Allen Key.

AIR SUPPLY HOSE

The air supply hose should be inspected for cuts, cracks, blisters and signs of abrasion. Make sure the fittings are firmly crimped to the hose and air cannot escape. Make sure the hose has not been crushed or kinked. Replace the hose immediately if there are any signs of damage. Do not run water through the inside of the hose. Clean the Quick Disconnect Couplings with an air blow down gun to remove any sand or dirt that may jam the coupler.

!WARNING!

USE ONLY NIOSH APPROVED RPB SAFETY AIR SUPPLY HOSES.

STORAGE

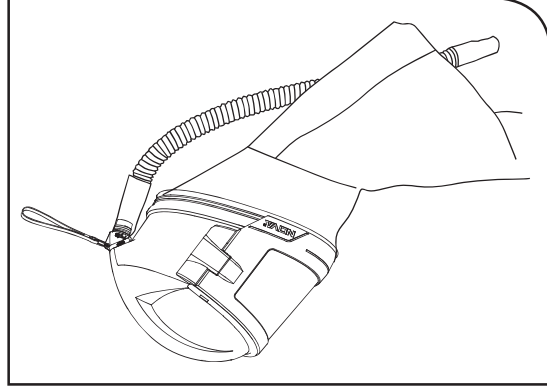


Fig. 6.0

After you have used the respirator, hang it up by the hand strap in a clean environment, this will help keep the inside free of contaminants.

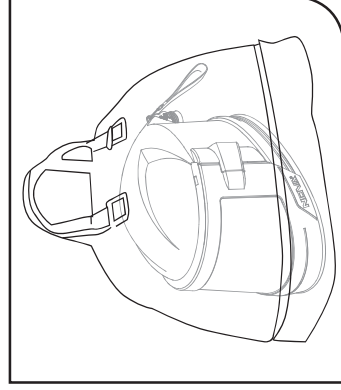


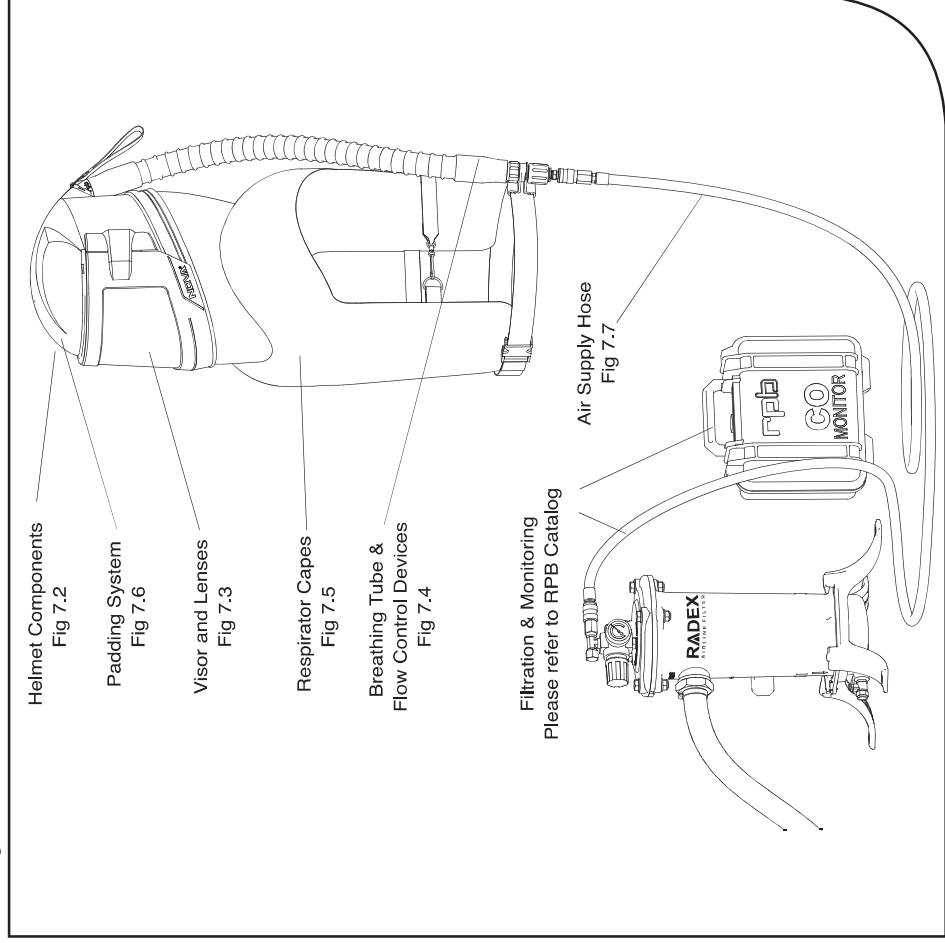
Fig. 6.1

After the respirator components have been cleaned and inspected, place them in a plastic bag or an airtight container. Store respirator parts away from excessive heat, dust, cold, moisture and harmful chemicals.

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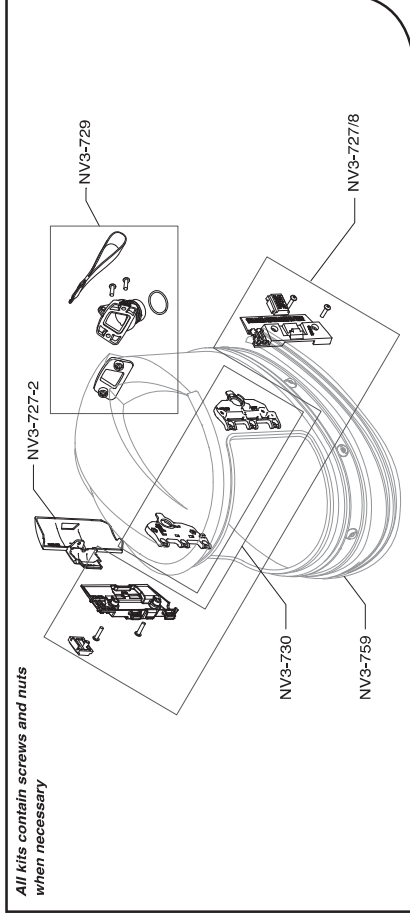
**PARTS AND
ACCESSORIES**

Fig 7.1



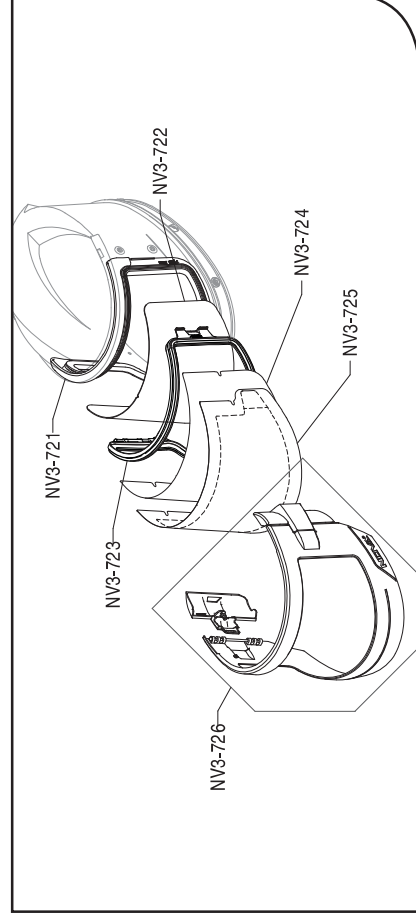
!WARNING! The use of unapproved replacement parts voids the approval of the entire respirator.

HELMET COMPONENTS - Fig 7.2



- NV3-727-2 - Visor Hinge Lock
- NV3-727/8 - Visor Latche Mount Kit - *Includes:* Latch Mount, Hinge Mount, Covers
- NV3-729 - Air Inlet Kit - *Includes:* Air Inlet, C-Ring, Back Plate, Hanging Strap
- NV3-730 - Padding Connectors (left & right)
- NV3-759 - Cape Coverband

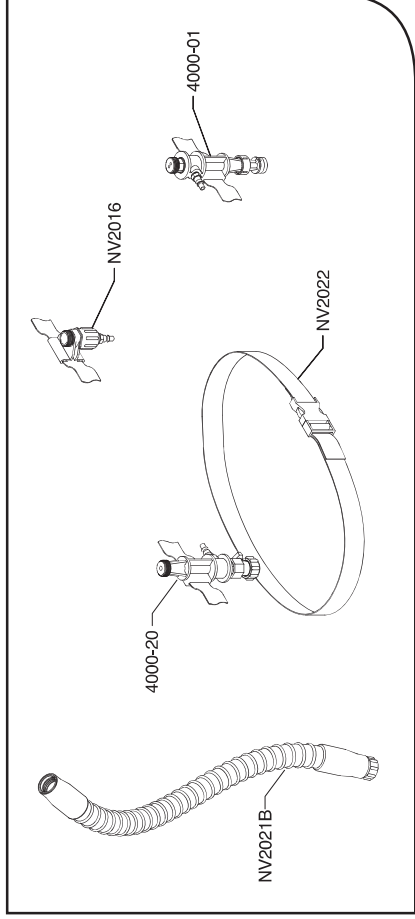
VISOR AND LENSES - Fig 7.3



- NV3-721 - Inner Gasket
- NV3-722 - Inner Lens pk 10
- NV3-723 - Inner Lens Frame
- NV3-724 - Outer Lens pk 50
- NV3-725 - Tear Off Lens pk 50
- NV3-726 - Visor Kit - *Includes:* Visor with Hinge Pin and Latch, Hinge Lock

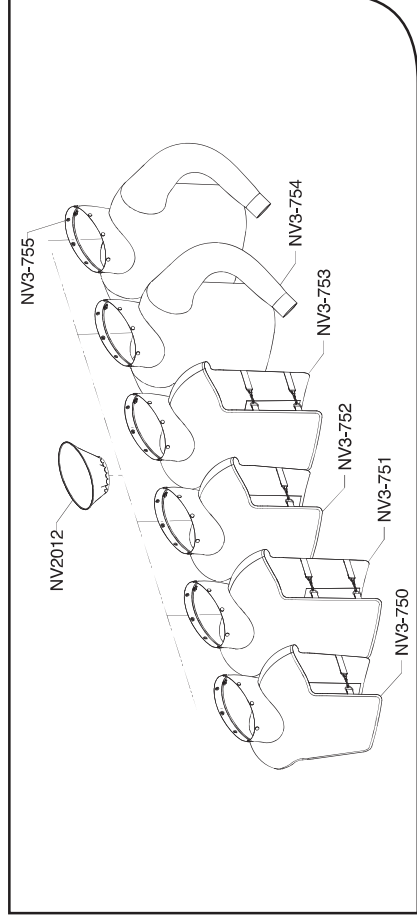


BREATHING TUBE & FLOW CONTROL DEVICE - Fig 7.4



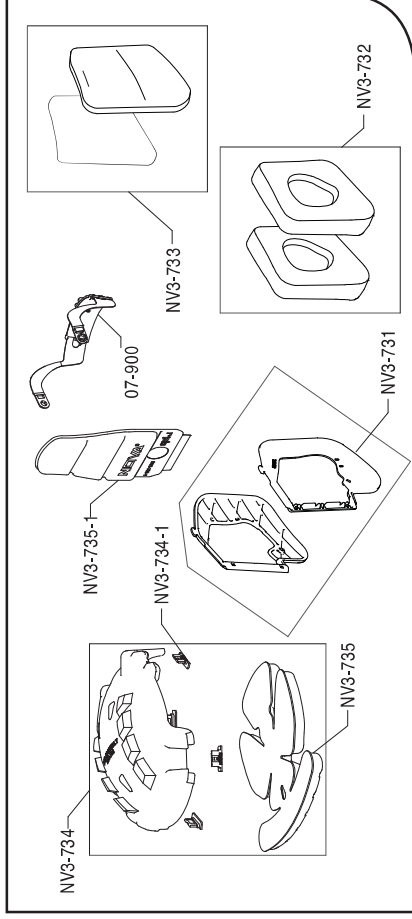
- NV2021B - Breathing Tube (dark grey)
- NV2022 - Belt
- NV2016 - Flow Control Valve Assembly - *Includes: Flow Control Valve, Belt*
- 4000-01 - Cool Air Tube Assembly - *Includes: Cool Air Tube, Belt*
- 4000-20 - Hot Air Tube Assembly - *Includes: Hot Air Tube, Belt*

RESPIRATOR CAPES - Fig 7.5



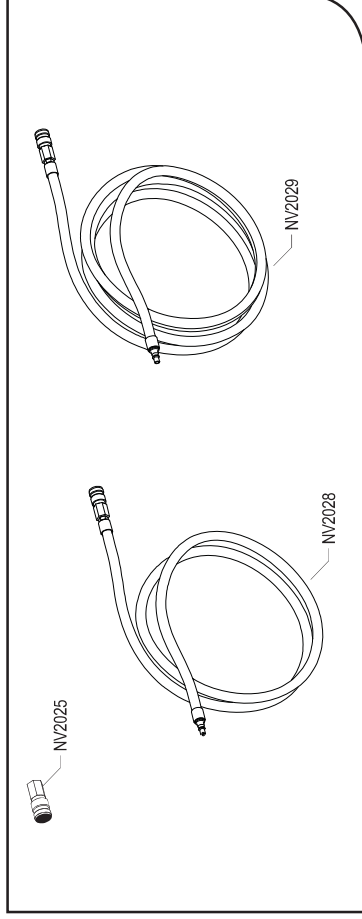
- NV3-750 - 28" Nylon Cape
- NV3-751 - 38" Nylon Cape
- NV3-752 - 28" Leather Cape
- NV3-753 - 38" Leather Cape
- NV3-754 - Blast Jacket Size XL
- NV3-755 - Blast Jacket Size XXL
- NV2012 - Inner Bib

PADDING SYSTEMS - Fig 7.6



- NV3-731 - Side Padding Frames (left & right)
- NV3-732-XXX - Side Padding, where XXX indicates size and style.
Contact your distributor for options
- NV3-733 - Side Padding Covers (left & right)
- NV3-734 - Head Liner Kit - *Includes: Head Liner, Head Liner Foam Padding, Head Liner Clips x4*
- NV3-734-1 - Head Liner Clips, pack of 4
- NV3-735 - Head Liner Padding
- NV3-735-1 - Neck Pad
- 07-900 - Adjustable Head Support

AIR SUPPLY HOSES - Fig 7.7



- NV2028 - 25ft Air Supply Hose
- NV2029 - 50ft Air Supply Hose
- NV2025 - Quick Release Coupler

OTHER PRODUCTS



NOVA 2000 BLASTING HELMET

The **NOVA 2000** has been designed for blasting professionals. The **NOVA 2000** is the most advanced abrasive blasting helmet available, with fully padded pillow foam liner for extra comfort and noise attenuation, wide angle vision, even air distribution assures a pleasant working environment, optional climate control devices. Things cannot get much better.



ASTRO BLASTING HELMET

ASTRO is your number one choice economic Abrasive Blasting Helmet which meets safety standards worldwide. This is the lightweight, robust helmet you have been waiting for. It helps to reduce fatigue, reduce down time and increase productivity.



FILTER CARTRIDGE

These large capacity six stage Filter Cartridges remove moisture and particulates to 0.5 micron & odor from the compressed air stream, providing you with clean breathable air.



RADEX AIRLINE FILTER

The **RADEX Airline Filter** offers you more capacity, versatility & filtration. You can combine the versatility of either floor or wall mounting with increased filtration capacity. Our range of optional equipment means you can customize your filter to meet your requirements.

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