

# Instruction Manual



# NOVA 2000

## SUPPLIED AIR RESPIRATOR INSTRUCTION MANUAL

*Read all instructions and warnings before using this product.  
Save this manual for future reference.*



RPB

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**RPB LTD**  
**10 Holt Place, Harewood**  
**Christchurch, New Zealand**

Tel: 1 866 494 4599  
 Fax: 1 866 494 4509  
 Email: info@rpbresp.com



**TYPE C and CE, CONTINUOUS FLOW, SUPPLIED-AIR RESPIRATOR**  
**THESE RESPIRATORS ARE APPROVED ONLY IN THE FOLLOWING CONFIGURATIONS**

<b>RESPIRATOR COMPONENTS</b>																													
TC No.	Protection <sup>1</sup>	M O D E L	Alternate Helmets		Alternate Flow Regulator and Belt				Alternate Capes			Alternate Quick Disconnect				Alternate Hoses				Breath ing Air Tube	Alternate Visor		Alternate Lenses				Cautions and Limitations <sup>2</sup>		
			NV2001	02-803	NV2016	4000-01	NV2015	4000-20	NV2002	NV2002L	NV2002XL	02-813	NV2025	NV2024	NV2032	NV2034	NV2037	NV2028	NV2029	NV2035	NV2036	NV2021	NV2004	02-804	NV2018	NV2031		NV2017	02-810
19C-363	SA / CF/ SB	NOVA 2000	X		X	X		X	X	X		X	X	X		X	X				X	X		X	X	X			ABCDEJMNOS
19C-417	SA / CF/ SB	ASTRO		X	X						X	X	X	X		X	X				X		X				X	X	ABCDEJMNOS
19C-422	SA / CF/ SB	NOVA 2000	X				X	X	X					X	X			X	X		X	X		X	X	X			ABCDEJMNOS
19C-423	SA / CF/ SB	ASTRO		X			X				X			X	X			X	X		X		X			X	X	ABCDEJMNOS	

**1. PROTECTION**

CF - Continuous flow                      SA - Supplied Air                      SB - Supplied-Air Abrasive Blast

**2. 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 and 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 Instructions.

## **INTRODUCTION**

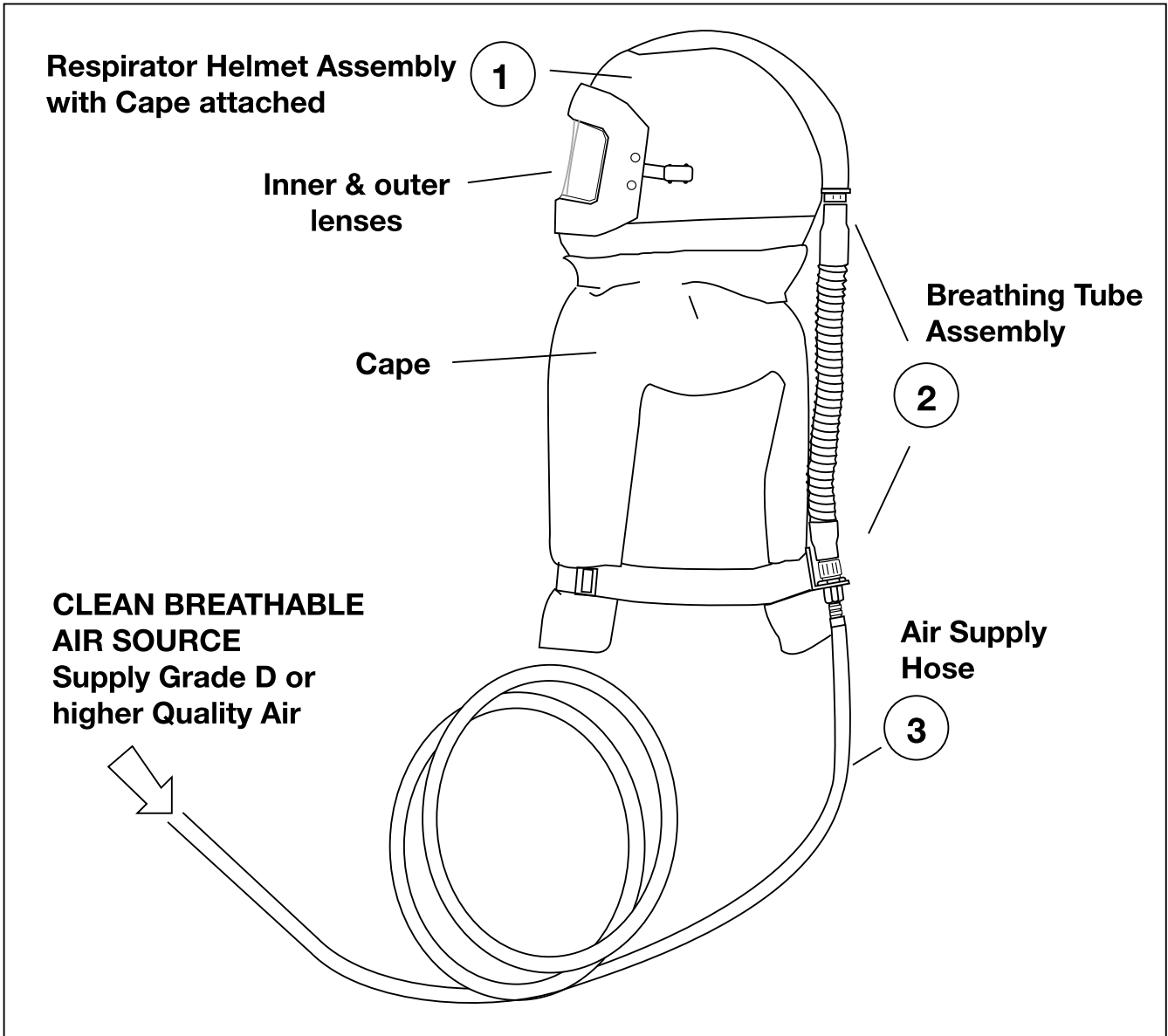
The NOVA 2000 SUPPLIED AIR RESPIRATOR TYPE C and CE is specifically designed for use during Abrasive Blasting. The NOVA 2000 has been designed for use in atmospheres NOT IMMEDIATELY DANGEROUS TO LIFE OR HEALTH, and from which a user can escape without the aid of the respirator, or that do not exceed concentrations allowed by OSHA, EPA, NIOSH, or ACGIH regulations and recommendations.

The NOVA 2000 is Approved by NIOSH (TC-19C-363, 19C-422 TYPE C and CE) to provide respiratory protection in abrasive blasting and type C and CE painting applications. The cape is designed to protect the wearer's upper body from rebounding abrasive.

The NOVA 2000 is NIOSH Approved for use with the 4000-01 Cold Air Tube and the 4000-20 Hot Air Tube.

**RESPIRATOR COMPONENT CONCEPT**

The NOVA 2000 SUPPLIED AIR RESPIRATOR consists of three main components: RESPIRATOR HELMET ASSEMBLY, BREATHING TUBE ASSEMBLY, and AIR SUPPLY HOSE. All three components must be present and properly assembled to constitute a complete NIOSH approved Respirator.



**! WARNING !**

FAILURE TO USE NIOSH APPROVED NOVA 2000 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 of the Nova 2000 Respirator.
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 2000 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 abrasives containing silica, lead, arsenic or sharp glass particles - use of abrasives containing these elements could result in serious injury or death.

## **! WARNINGS !**

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 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 Grade D breathable air. The respirator must be supplied with clean breathable air at all times.
11. 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.
12. DO NOT use this respirator in poorly ventilated areas or confined spaces. Ensure the area is well ventilated and that the contaminant 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.
13. LEAVE WORK AREA 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.

## **NIOSH - CAUTIONS AND LIMITATIONS**

- 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 Instructions page 9 (Breathing Air Pressure Table) before donning.



## **RESPIRATOR OPERATION**

### **AIR QUALITY**

This respirator must be supplied with clean breathable air, Grade D or better, at all times. The NOVA 2000 does not purify air or filter contaminants.

Breathable air must be supplied to the point of attachment of the NIOSH approved NOVA 2000 air supply hose.

Supplied breathing 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)

### **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.

Use suitable aftercoolers / dryers with filters and carbon monoxide alarms to assure clean breathable air is supplied at all times.

The air should be regularly sampled to ensure that it meets Grade D requirements.

### **BREATHING AIR PRESSURE**

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

**!WARNING!** Failure to supply the respirator with the minimum required pressure at the point of attachment for the length of air supply hose used 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.

## **RESPIRATOR OPERATION**

### **BREATHING AIR PRESSURE (Cont.)**

The NOVA 2000 BREATHING AIR PRESSURE TABLE on Page 9 defines the air pressure ranges needed to provide the respirator with a volume of air which falls in the required range of 6-15 cfm or 170-425 lpm.

**!WARNING!** Make sure you understand the breathing Air Pressure table before using this respirator.

1. Determine your air source (column 1).
2. Find your breathing tube assembly (column 2).
3. Be sure your air supply hose is NIOSH approved NOVA 2000 breathing air hose.
4. Check your NOVA 2000 Air supply hose is within the NIOSH approved length in column 4.
5. Set the air pressure at the point of attachment within the range specified in column 6 for your breathing tube assembly, hose length and amount of hose sections. Make sure air is flowing through your respirator when setting the pressure.

### **BREATHING AIR SUPPLY HOSE AND FITTINGS**

NIOSH approved NOVA 2000 air supply hoses must be used between the point of attachment and the respirator breathing air connection at the wearer's belt. NIOSH approved NOVA 2000 quick disconnect fittings must be used to connect the hose lengths together. 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.

## BREATHING AIR PRESSURE TABLE

This table lists Air pressure ranges needed to provide the NOVA 2000 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.

1. Air Source	2. Breathing Tube Assembly	3. Air Supply Hose	4. Supply Hose Length	5. Max Number of Sections	6. Pressure Range (PSIG Air)
Portable or Stationary Compressor	NV 2021/ NV 2016 Flow Control Valve Assembly	NV 2028/ NV 2029	25	1	28 - 30
			50	2	28 - 30
			100	2	30 - 33
			150	3	33 - 36
			200	4	36 - 38
			250	5	38 - 39
			300	6	39 - 43
Low Pressure Compressor or Air Pump	NV 2021/ NV 2015 Constant Flow Valve Assembly	NV 2035/ NV 2036	50	1	7 - 8
			100	1	8 - 9
			150	2	10 - 11
			200	2	11 - 12
			250	3	12 - 13
			300	3	14 - 15

REFER TO 4000-01 OR 4000-20 CLIMATE CONTROL TUBE INSTRUCTIONS FOR PRESSURE RANGES SPECIFIED FOR USE WITH THE NOVA 2000.

### **!WARNING!**

RESPIRATORS MUST BE SUPPLIED WITH RESPIRABLE AIR MEETING THE REQUIREMENTS OF CGA G-7.1 GRADE D OR HIGHER QUALITY.

## **RESPIRATOR USE**

### **LENSES**

Make sure you have a NIOSH approved inner lens securely fitted into the window frame gasket. Fit an outer lens onto the tabs on the visor, fold the visor onto the helmet and secure it with the latch, making sure there are no gaps between the visor and the window frame gasket.

Optional tear-off lenses can be also be used with the outer lens. It is recommended to use 2-3 tear off lenses and an outer lens for extra protection.

**!WARNING!** DO NOT use this respirator without an inner lens in place.

### **SETTING UP**

1. Check your helmet lenses are in place.
2. Connect the NIOSH approved NOVA 2000 Air supply hose to a breathing air source supplying Grade D or better quality air. Connect the respirator quick disconnect fitting on to the air supply hose.
3. 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 9).
4. Check the hose connections for any air leaks and tighten if necessary- replace any worn parts.

### **DONNING YOUR HELMET**

Before using your NOVA 2000 supplied Air Respirator check inside the helmet to make sure there is no dust, dirt or contaminants inside it.

## **RESPIRATOR OPERATION (Cont.)**

### **DONNING YOUR HELMET (Cont.)**

1. With air flowing into your Respirator fold back the cape, open the inner bib and place your fingers on the inner bib and the side of the helmet at approximately ear position, lift the helmet and place onto your head.
2. Pull the inner bib around your neck and adjust the elastic cord to ensure a snug fit around your neck - this helps provide a barrier to airborne contaminants.
3. Pull the respirator cape around your body and fasten the snap hooks on each side of the cape.
4. When attaching the breathing tube to the helmet, attach the fixed end of the breathing tube hose to the helmet fitting and the loose running nut to the flow control valve. Fasten the belt at waist or hip level and adjust for comfort. Rotate the belt holder until it is in the hip pocket area.
5. Re check the air pressure and adjust if necessary.
6. With air flowing 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 still flowing into the helmet. Once outside the contaminated area remove the respirator and disconnect the air supply hose.

#### **!WARNING!**

NEVER remove your helmet whilst in a contaminated area or where blasting is still being performed, as this may result in serious injury or death.

## **INSPECTION, CLEANING AND STORAGE**

The NOVA 2000 Supplied Air Respirator has a limited service life, therefore a regular inspection and replacement programme must be conducted. Certain parts such as lenses must be replaced frequently.

All components of the respirator assembly should be inspected for damage or wear and tear before use. Replace worn or damaged parts immediately. USE ONLY NIOSH APPROVED NOVA 2000 PARTS. Refer to the parts list for the correct part numbers.

**!WARNING!** DO NOT CLEAN RESPIRATOR WITH VOLATILE CHEMICALS.

## **HELMET AND LININGS**

The helmet linings can be removed and sponged with warm water and a gentle detergent, then air dried before refitting into the helmet. The helmet shell and window frame gasket can be sponged with warm water and a gentle detergent, rinsed and air dried. Before re-assembly inspect your respirator once again for any signs of damage.

**\*NOTE:** The leather cape must be cleaned with an approved leather cleaner.

## **LENSES AND WINDOW FRAME GASKET:**

Make sure the inner lens fits securely into the rubber window frame gasket, fit the outer lens onto the visor, check the window frame gasket for splits, check the visor hinge for cracks. Replace any damaged or worn parts.

## **BREATHING TUBE ASSEMBLY:**

Inspect the breathing tube for cracks or excessive wear. Check that the fittings are secured into the hose tightly and are not allowing any air to escape.

## **INSPECTION, CLEANING AND STORAGE**

### **BREATHING TUBE ASSEMBLY (Cont.)**

Replace the hose as soon as signs of damage or excessive wear become evident. Do not remove the foam that is inside the breathing tube as this helps reduce the noise levels of the incoming air.

**!WARNING!** Air leaks will cause a drop in air flow through the respirator helmet resulting in less protection from contaminants.

### **AIR SUPPLY HOSE**

The air supply hoses should be inspected for cuts, cracks, blisters and signs of abrasion. Make sure the fittings are tightly crimped to the hose so that 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. Check the Quick Disconnect Couplings and blow down with a duster gun to remove any sand or dirt that may jam the coupler.

#### **!WARNING!**

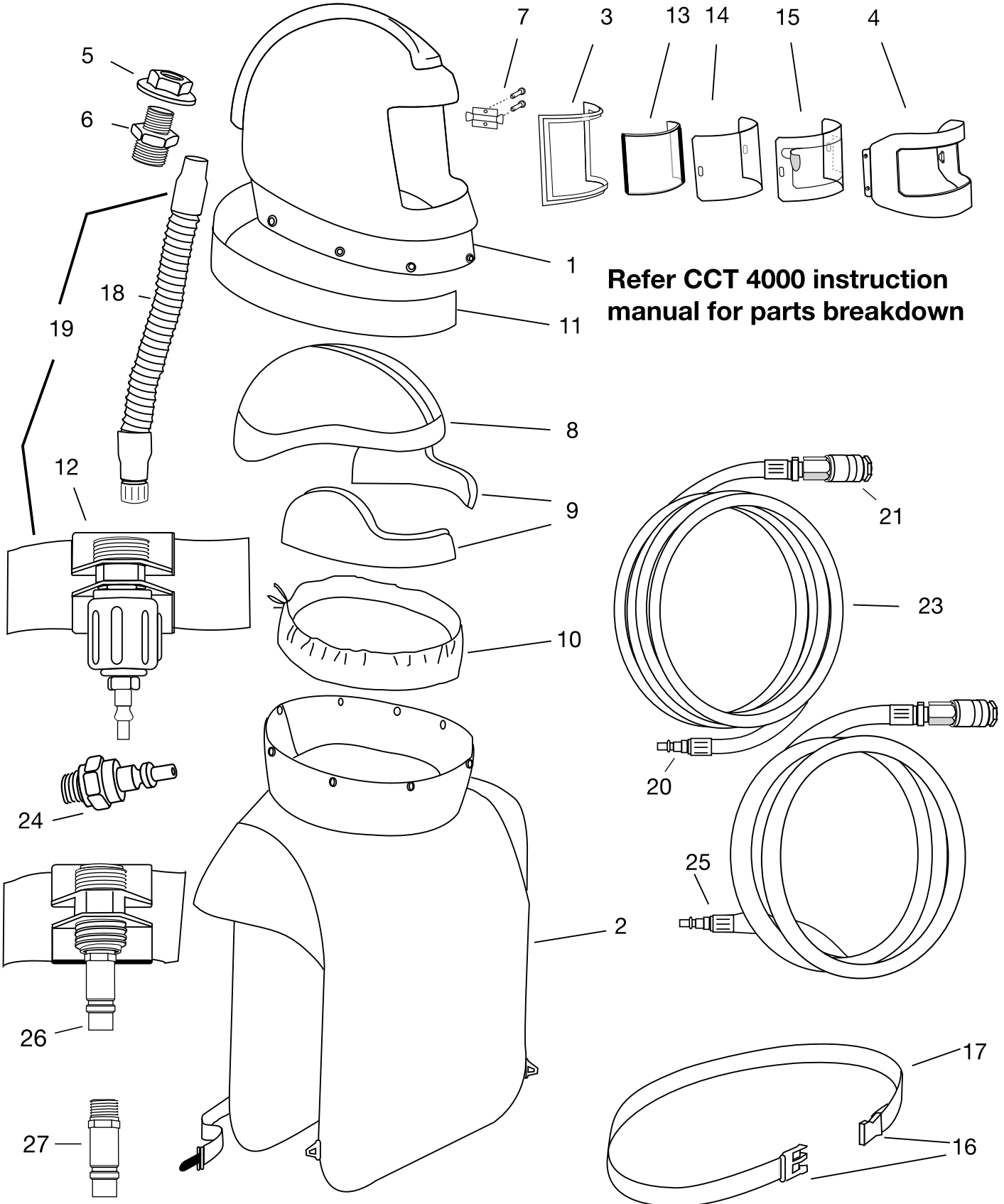
**USE ONLY HOSES APPROVED BY NIOSH FOR USE WITH THIS RESPIRATOR**

### **STORAGE**

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 or harmful chemicals.

After use hang the respirator up by the hand strap, this will help keep the inside of the helmet free of contaminants.

## PARTS LIST



**Refer CCT 4000 instruction manual for parts breakdown**



## PARTS LIST

The NOVA 2000 supplied Air Respirator consists of three components: Respirator Hood Assembly, Breathing Tube Assembly, Air Supply Hose. All three components must be present and correctly assembled to constitute the NIOSH approved respirator. (Approval No: TC-19C-363, 19C-422 Type C and CE)

Item	Description	Part Number
1	Helmet shell	NV 2001
2	Nylon cape complete with inner bib	NV 2002
	Leather cape complete with inner bib	NV 2002L
	Nylon cape extra length	NV 2002XL
3	Window frame gasket	NV 2003
4	Visor with hinge and screws	NV 2004
5	Lock nut 1/2"	NV 2006
6	Reducing nipple 1/2" x 3/4"	
7	Visor latch and screws	NV 2008
8	Polystyrene helmet liner	NV 2009
9	Sidewings	NV 2010
10	Inner bib for cape	NV 2012
11	Cape cover band	NV 2013
12	Flow control valve and belt	NV 2016
13	Inner lens pkt 10	NV 2018
14	Outer lens pkt 50	NV 2031
15	Tear off lens pkt 50	NV 2017
16	Buckles	NV 2020
17	Belt with buckles	NV 2022
18	Breathing air tube	NV 2021
19	Breathing tube & flow control assembly	NV 2023
20	Quick Disconnect tail	NV 2024
21	Quick Disconnect coupler	NV 2025
23	Air supply hose 25ft	NV 2028
	Air supply hose 50ft	NV 2029
24	Quick disconnect tail	NV 2032
25	Air supply hose 1/2' 50ft	NV 2035
	Air supply hose 1/2' 100ft	NV 2036
26	Constant flow valve assembly	NV 2015
27	Quick disconnect tail 1/2' thread	NV 2034



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