RPB RESPIRATORY

ASTRO™

SUPPLIED AIR RESPIRATOR INSTRUCTION MANUAL

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

Instruction Manual

NIOSH

Type C&CE Supplied Air Respirator

INDEX

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

RESPIRATOR COMPONENTS

TC No.	Protection[1]	MODEL	Alternate Helmets		Alternate Flow Regulator and Belt				Alternate Capes				Alternate Quick Disconnect					Alternate Hoses				Breathing Air Tube	Alternate Visor		Alternate Lenses					Cautions and Limitations[2]
			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	02-811	
19C-363	SA / CF/ SB	NOVA 2000	X		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	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

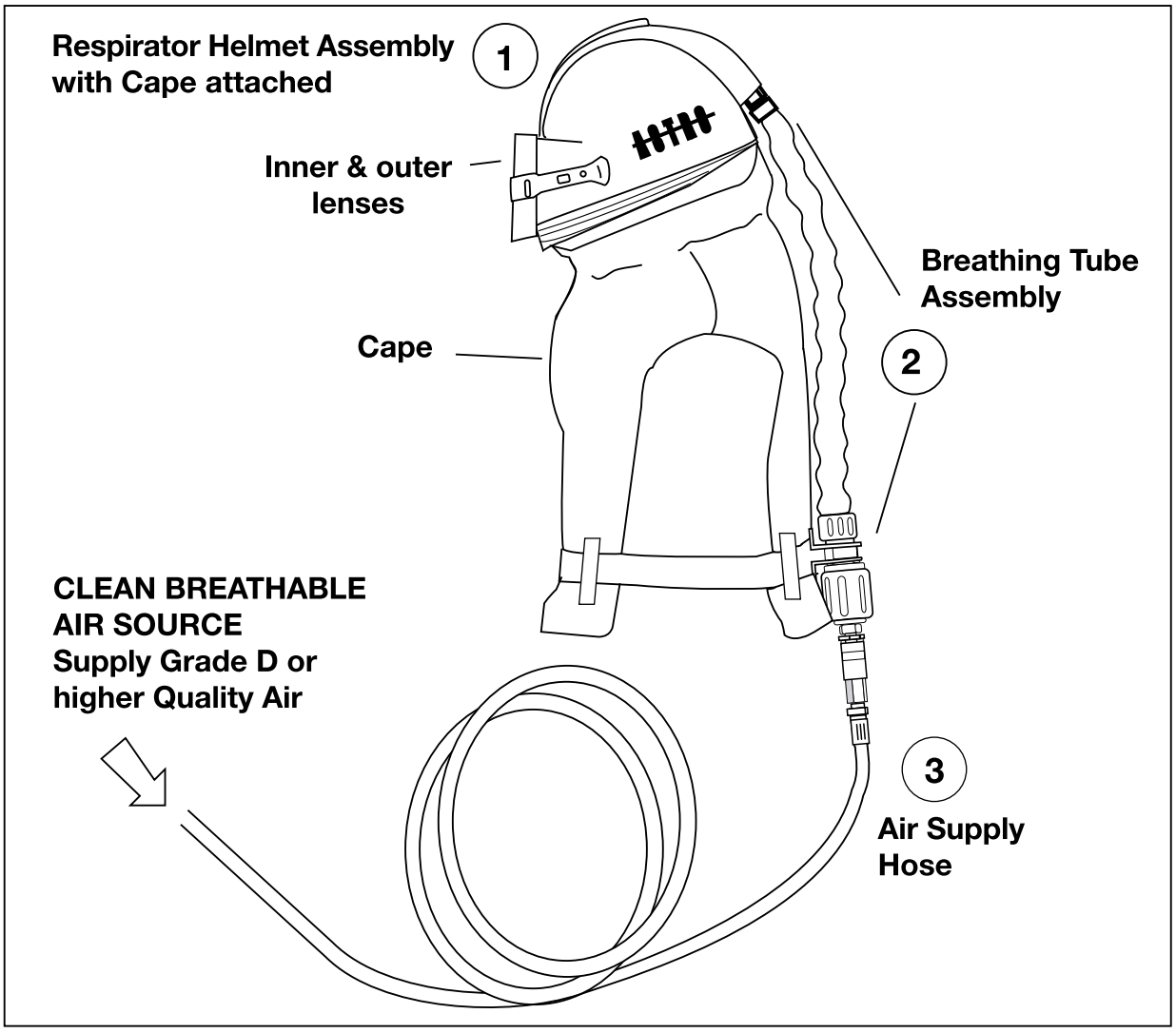
The ASTRO SUPPLIED-AIR RESPIRATOR TYPE C and CE is specifically designed for use during Abrasive Blasting. The ASTRO has been designed for use in atmospheres NOT IMMEDIATELY DANGEROUS TO LIFE OR HEALTH, and from which a user can escape without the aid of the respirator, or that do not exceed concentrations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

The ASTRO is Approved by NIOSH (TC-19C-417, 19C-423 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.

RESPIRATOR COMPONENT CONCEPT

The ASTRO SUPPLIED AIR RESPIRATOR consists of three main components: RESPIRATOR HELMET ASSEMBLY, BREATHING TUBE ASSEMBLY, and AIR SUPPLY HOSE illustrated in Fig1.1. All three components must be present and properly assembled to constitute a complete NIOSH approved Respirator.

Fig1.1



! WARNING !

FAILURE TO USE NIOSH APPROVED ASTRO 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 ASTRO 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.
   - Radiation exists in the work area, or materials are Radioactive.

4. Do not modify or alter this respirator. Use only NIOSH approved ASTRO 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 contaminates 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 filtered breathing 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. 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.

14. DO NOT wear this respirator if the ambient usage temperature is below -10ºC or above +60ºC.

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 8 (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 ASTRO does not purify air or filter contaminants.

Breathable air must be supplied to the point of attachment of the NIOSH approved ASTRO 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.

AIR SUPPLY HOSE AND FITTINGS

NIOSH Approved ASTRO air supply hoses must be used between the point of attachment and the respirator breathing air connection at the wearer's belt. NIOSH Approved ASTRO 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 on page 8.

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 TABLE

This table lists Air pressure ranges needed to provide the ASTRO 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.

BEFORE USING THIS RESPIRATOR MAKE SURE YOU UNDERSTAND THE TABLE BELOW .

Table 1.1

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	2021/2016 Flow Control Valve Assembly	2028/ 2029	25 50 100 150 200 250 300	1 1 2 3 4 5 6	26 - 27 27 - 28 30 - 31 33 - 34 36 - 37 38 - 39 41 - 43
Low Pressure Compressor or Air Pump	2021/2015 Constant Flow Valve Assembly	2035/ 2036	50 100 150 200 250 300	1 1 2 2 3 3	7 - 8 8 - 9 10 - 11 11 - 12 12 - 13 14 - 15

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.

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

RESPIRATOR USE

AIR FLOW REGULATOR

Air flowing into the helmet is controlled using the regulator as shown in Fig 2.1 and 2.2.

Fig 2.1

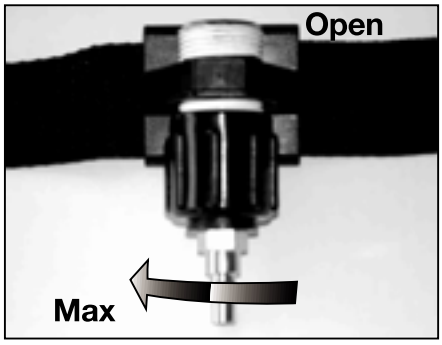
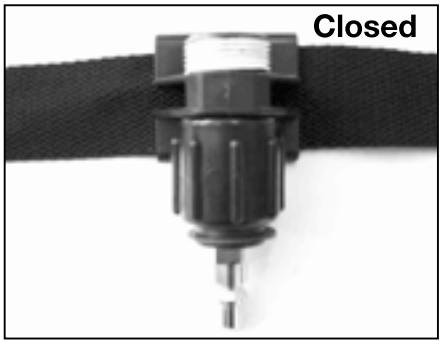


Fig 2.2



Note: The minimum of 170l/min should be flowing through the helmet when the regulator is in the closed position as in Fig 2.2 and the pressure set in accordance with the table on page 8.

LENSES

Always make sure that a NIOSH approved ASTRO inner lens is securely fitted into the window frame gasket. Proceed fitting lenses as Fig 3.1, Fig 3.2, Fig 3.3.

Fig 3.1

Inner Lens

Place one end into the gasket first, then slowly roll the gasket over the sides of the lens, working towards the other end.

Fig 3.2

Outer Lens

Place the lens into the face frame and push past the locating ribs.

Fig 3.3

Closing Face Frame

Fold the visor across the front of the helmet and lock the strap tightly over the side cleat.

!**WARNING!** DO NOT use this respirator without THE INNER LENS IN PLACE.

RESPIRATOR USE

SETTING UP

Fig 4.1

First screw on the breathing hose in a clockwise direction onto the helmet.

Fig 4.2

Screw the loose running nut in a clockwise direction onto the flow control device (2016)

Fig 4.3

Take the quick disconnect fitting on the Air Supply Hose and push onto the tail of the 2016.

Fig 4.4

Connect the Air Supply Hose Tail to the point of attachment supplying Grade D air.

HEAD HARNESS

To adjust the head harness first unclip the locating pegs, then slide the band in or out to the desired size. Note: slide inwards to reduce the size (more suitable for smaller heads) as shown in Fig 6.1. Once the desired size is obtained, clip the locating pegs back together

Fig 5.1

PUTTING THE HELMET IN PLACE

Hold the helmet in front of you, holding the inner bib collar open. Lift the helmet and place it on your head making sure the head harness fits securely.

Fig 6.1

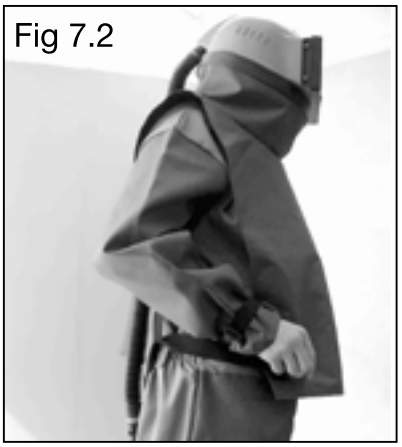
RESPIRATOR USE

FITTING THE CAPE AND BELT

Fig 7.1

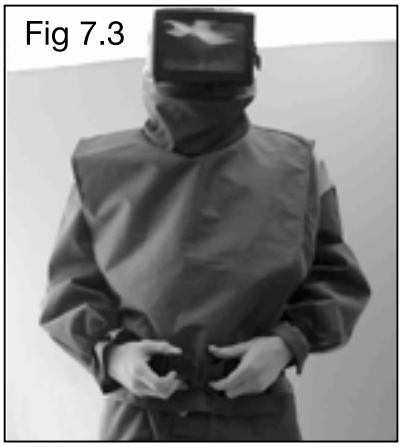
Once the helmet is fitting comfortably on your head, straighten the cape down at the front and back.

Fig 7.2



Place the 2016 to your desired hip pocket.

Fig 7.3



Now bring both buckles together at the front and push them until you hear a click. Pull the tab to tension the belt to your requirement.

ADJUSTING AIRFLOW

Now the helmet is fully fitted and the belt tightened, adjust the airflow into the helmet with the 2016 adjustment barrel see Fig 2.1 on Page 8. Again check the air pressure at the source to make sure it is still in accordance with Table 1.1 on page 8.

You are now ready to proceed to the work area.

Fig 8.1

DOFFING YOUR HELMET

To remove the helmet, first exit the working area and reverse the above procedures.

!WARNING! NEVER remove your helmet when in the working area.

INSPECTION, CLEANING AND STORAGE

The ASTRO 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 ASTRO PARTS. Refer to the parts list for the correct part numbers.

!WARNING! DO NOT CLEAN RESPIRATOR WITH VOLATILE CHEMICALS.

REMOVING THE CAPE

First remove the cape cover band to reveal the four press studs. The cape can then easily be removed by undoing the four press studs.

Fig 9.1

INSPECTING THE HELMET

Having removed the cape, wipe out the inside of the helmet with a soft cloth and mild detergent.

Check the inside for cracks in the shell and damage to the air inlet.

Fig 9.2

INSPECTION, CLEANING AND STORAGE (Cont.)

INNER LENS AND GASKET

Fig 10.1

Make sure the window frame gasket is securely fitted in the helmet with no cracks or tears in the seal. Check that the inner lens is correctly fitted into the gasket. When necessary replace lenses as in Figs 3.1 and 3.2.

BREATHING TUBE ASSEMBLY

Inspect the breathing tube for cracks, tears or excessive wear. Check that the fittings are secured into the cuffs tightly, not allowing any air leaks.

Replace the hose as soon as any signs of damage or excessive wear become evident.

Do not remove the foam that is inside the breathing tube as this is a critical component.

!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 :

1. Cuts or tears
2. Cracks or signs of perishing
3. Blisters or weak points
4. Abrasive wear
5. Ferrules firmly crimped in place
6. Quick disconnect couplers do not move in the hose or are not worn, remove any dirt inside couplings with a duster gun.

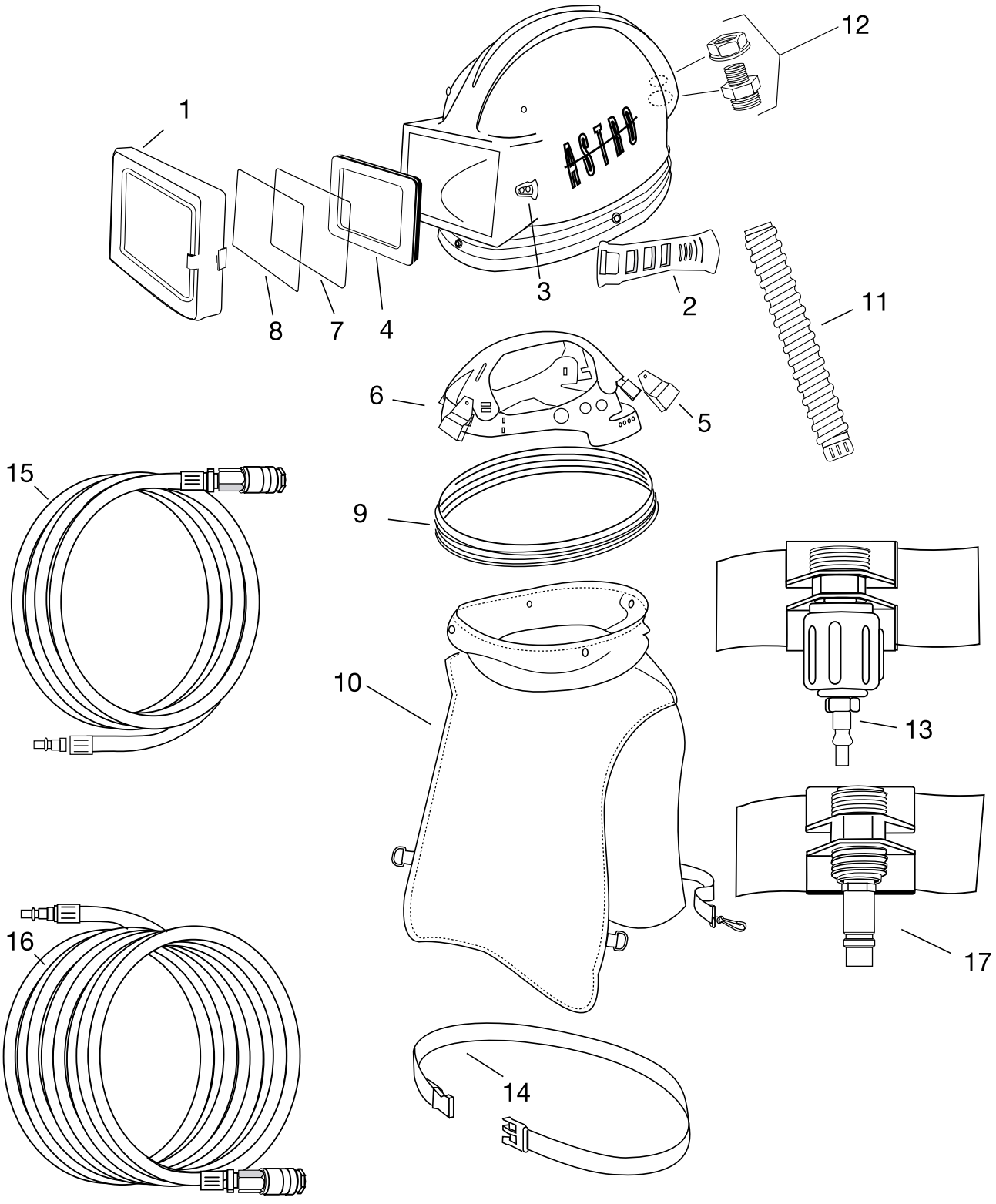
USE ONLY HOSES NIOSH APPROVED FOR USE WITH THIS RESPIRATOR.

STORAGE

After the respirator components have been cleaned and inspected, place them in a plastic bag or an airtight container. Store the 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



PARTS LIST

The ASTRO 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-417, 19C-423 Type C and CE)

Item	Description	Part Number
1	Visor	02-804
2	Visor Strap	02-805
3	Cleat	02-806
4	Gasket Seal	02-807
5	Suspension Clips (pkt 4)	02-808
6	Head Suspension	02-809
7	Inner Lens (pkt 10)	02-810
8	Outer Lens (pkt 50)	02-811
9	Cape Coverband	02-812
10	Nylon Cape	02-813
11	Breathing Tube	NV2021
12	Air Inlet Assembly	NV2006/7
13	Flow Control Valve	NV2016
14	Belt & Buckle	NV2022
15	Air Supply Hose 25ft, (3/8" ⌀)	NV2028
	Air Supply Hose 50ft, (3/8" ⌀)	NV2029
16	Air Supply Hose 50ft, (1/2" ⌀)	NV2035
	Air Supply Hose 100ft, (1/2"⌀)	NV2036
17	Constant Flow Valve (1/2")	NV2015

RPB™ RESPIRATORY

Did you know...
We can also supply you with the following!

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 ensures a pleasant working environment, optional climate control devices. Things cannot get much better!

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.

Stay cleaner with **Head Socks** and **Spray Hoods.** One size fits all. The cool comfortable Spray Hood protects from over spray and sanding dust. The Head Sock can be worn as a hygienic helmet liner.

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.

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