



MULTIBLAST

PERFORMANCE BLASTING



MultiBlast Auto Exhaust Blast Pot Operating Manual: M201417 Rev 0

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WARNING – Do not operate this equipment without reading and understanding the contents of this manual.



**IMPORTANT – READ THIS INFORMATION CAREFULLY
PRIOR TO OPERATING THE EQUIPMENT.**

**ALL ABRASIVE BLASTING OPERATIONS ARE
DANGEROUS AND CREATE A HAZARDOUS
ENVIRONMENT.**

**FAILURE TO COMPLY WITH THIS INFORMATION MAY
CAUSE SERIOUS INJURY OR DEATH.**

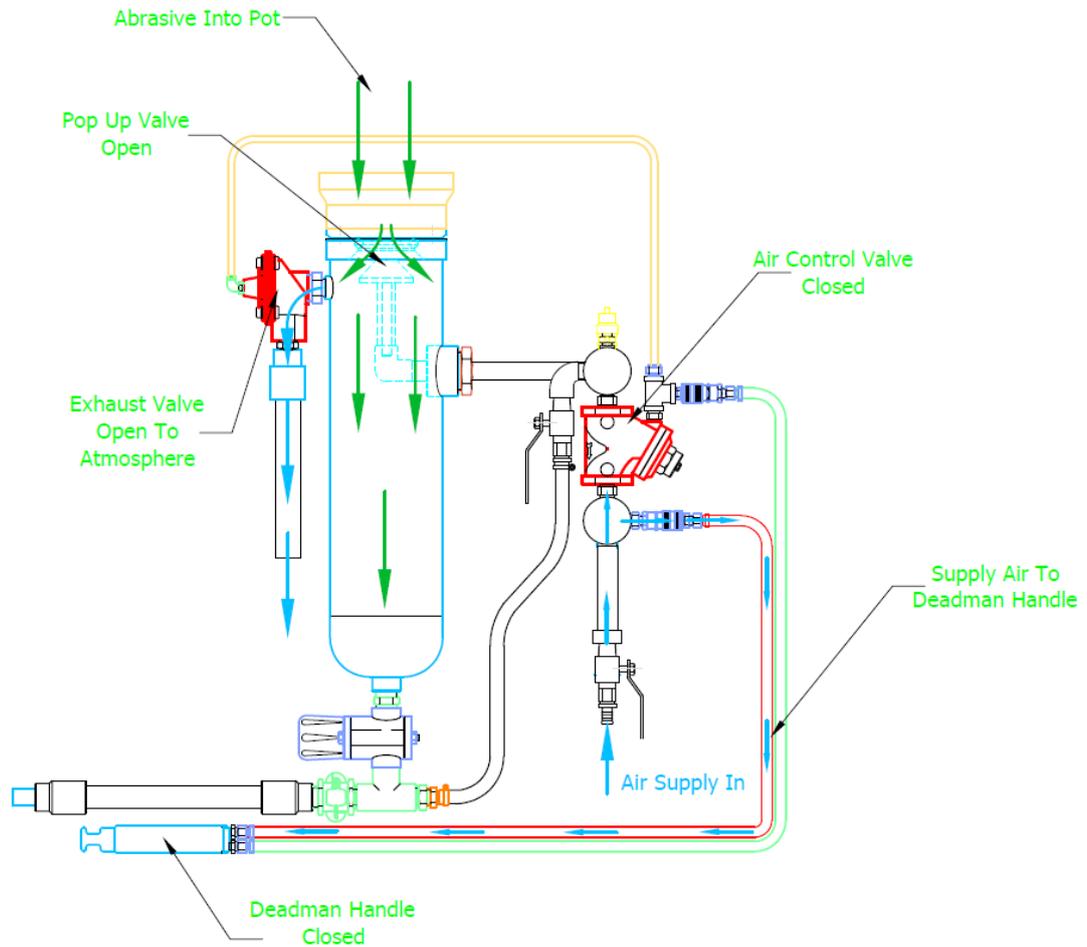
1.0 Important Information

- 1.1 All products and equipment intended for use by experienced users of abrasive blasting equipment, and its' associated operations and abrasive blasting media.
- 1.2 It is the responsibility of the user/purchaser/distributor to:
 - 1.2.1 Determine if the equipment and abrasive media is suitable for the users intended use and application.
 - 1.2.2 Familiarize themselves with any appropriate laws, regulations and safe working practices which may apply within the users working area/environment.
 - 1.2.3 Provide appropriate operator training and a safe working environment, including operator protective equipment such as, but not limited to, safety footwear, protective eyewear, hearing protection, and respiratory protection where applicable.
- 1.3 No representations are made or intended as to the useful life, maintenance cycles, efficiency or performance of the reference products or any combination of products.
- 1.4 Information contained herein must not be used for estimating purposes. Production rates, labour performance and surface finishes are the sole responsibility of the user.
- 1.5 Read all instructions carefully prior to operating this equipment, and do not allow it to be operated by inexperienced, untrained or unauthorised personnel.
- 1.6 Ensure that the equipment is correctly serviced and maintained as specified in this manual, and that only genuine replacement parts are utilised. Failure to use genuine replacement parts may void your warranty.

- 1.7 All pressure vessels (where supplied) are designed, manufactured and certified in accordance with Australian Standard AS1210. A copy of this certification will be supplied with this manual if applicable. Do not weld, grind or drill any pressure vessel, as this will void the certification and warranty, and may weaken the vessel causing a catastrophic failure.
- 1.8 This equipment is not designed for use in areas designated as hazardous. Contact your local office/representative prior to operating this equipment in a hazardous area.
- 1.9 All compressed air fittings, connections and hoses must be in good condition, fit for purpose, correctly sized and fitted, and carefully inspected prior to use.
- 1.10 Breathing airborne dust from any abrasive media may cause lung disease or other serious injury. Always wear suitably designed respiratory protection when handling any abrasive media, and when in the immediate area during any abrasive blasting operation.
- 1.11 Static electricity may be generated during any abrasive blasting operation. All equipment should be well grounded/earthed to prevent electric shock and reduce the risk of spark generation.
- 1.12 All Supplied Air Respirators (i.e.: blasting helmets) where used must comply with the requirements of AS/NZS 1716:2003, and must be supplied with breathing air as specified in AS/NZS 1715:2009 or higher, at a flow rate between 170l per minute (6cfm) and 425l per minute (15cfm) at all times.

Section 2.0 How The Auto Exhaust System Works

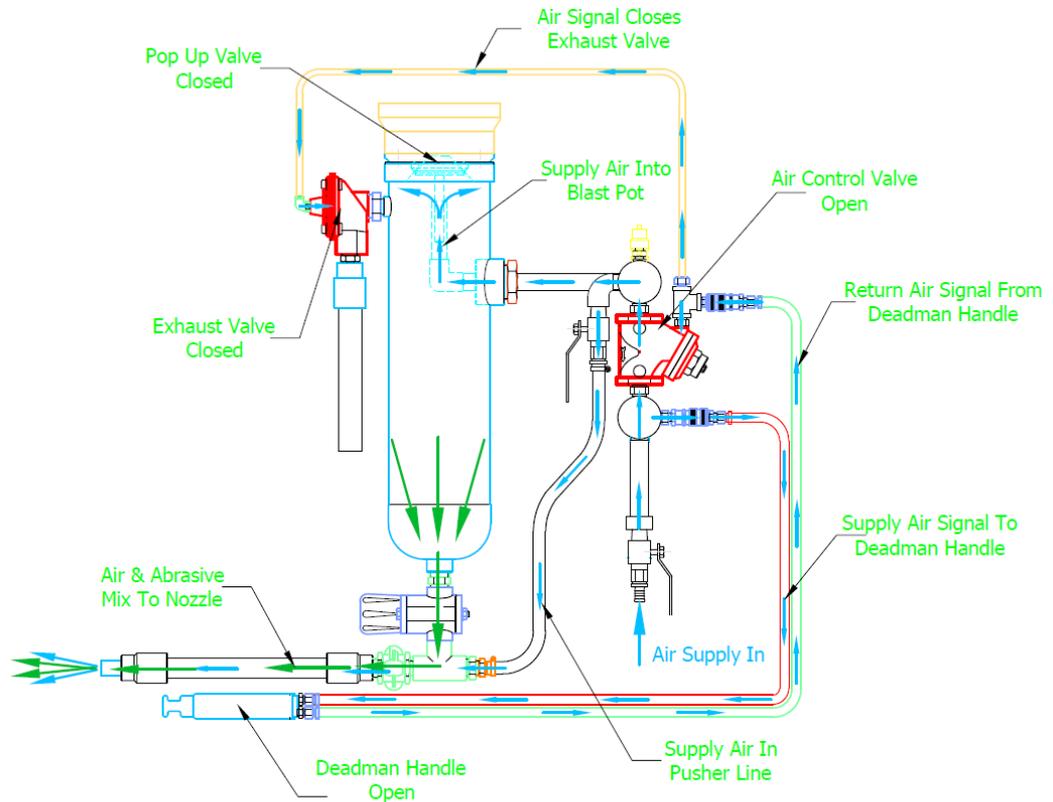
- 2.1 When the compressed air supply is connected to the blast pot, and the supply ball valve is opened, the air supply stops at the air control valve which is closed. The air will also travel down the input side of the twinline hose, as far as the deadman handle, which is also closed.



System Idle With Supply Air On

- 2.2 When the operator depresses the deadman handle, the signal air in the twinline passes through the deadman handle, and down the return side of the twinline hose, simultaneously sending signal air to both the Air Control Valve, which then opens, and the Exhaust Valve, which then closes.
- 2.3 The air supply then enters the blast pot, which lifts the pop up valve, and allows the pot to pressurise. At the same time, compressed air also enters the pusher line, mixing with the abrasive media which has now commenced

flowing from the pot, within the Micro Abrasive Valve. The system is now in blasting mode.



System Pressurized & Operating

- 2.4 When the operator releases the deadman handle to stop blasting, the signal air to both the Air Control Valve and the Exhaust Valve is stopped, closing the Air Control Valve and opening the Exhaust Valve. This depressurises the pot, allowing the pop up valve to open, which in turn allows the pot to be refilled with abrasive media.

Section 3.0 Initial Set Up

- 3.1 Ensure the blast pot is in a stable position on a flat level surface, directly adjacent to the work area.
- 3.2 Uncoil the twinline hose (Item 32) and deadman handle assembly, (Item 33) and lay it out on a flat surface for its' full length.
- 3.3 Uncoil the blast hose assembly, (Item 30) and lay it out for its' full length directly adjacent to the uncoiled twinline assembly.
- 3.4 Position the deadman handle (Item 33) on the blast hose directly behind the nozzle holder, and attached the deadman handle to the blast hose using the two (2) cable ties provided. Ensure the handle is firmly attached, and trim the ends of the cable ties as short as possible.
- 3.5 Attach the twinline hose (Item 32) to the blast hose using cable ties/tape or similar, locating the ties/tape at approximately 1m to 1.5m intervals along the hose length, and as close to the hose coupling as possible. The twinline hose should extend slightly longer than the blast hose length at the coupling end.
- 3.7 Connect the blast hose coupling to the Mini Micro Valve coupling (Item 27), first checking that the coupling gaskets are correctly seated and are not worn. Check that the safety clip holes in the couplings align correctly, and that the safety clip itself is correctly fitted and prevents the coupling from inadvertently disconnecting.
- 3.8 Connect the two (2) loose ends of the twinline assembly to the blast control system by pushing the fittings directly together. The male end of the twinline connects to the female fitting (Item 6) located on the manifold block, and the female end connects to the male fitting (Item 14) located in the tee fitting directly adjacent to the Air Control Valve (Item 10).

(Note: The twinline hose fittings use a dual action connection to prevent accidental disconnection. To disconnect the twinline fittings, first push the fittings inwards together, then pull back the outer sleeve on the female fitting. This will then allow the fittings to disconnect.)
- 3.9 Connect a suitably sized compressed air hose to the blast pot inlet ball valve using correctly fitted and sized compressed air fittings which feature a safety pin locking system. Recommend the compressed air supply line be one size larger than the blast pot piping. For example, a pot with 1 ¼" piping should be connected to a 1 ½" supply line.
- 3.10 At this point, ensure that the pot air supply ball valve is in the closed position.
- 3.12 The blast pot is now ready for operation.

Section 4.0 Operation



WARNING: THE INITIAL OPERATION AND ADJUSTMENT OF THE BLAST POT REQUIRES TWO (2) PERSONS, THE BLASTING OPERATOR AND AN ASSISTANT. UNDER NO CIRCUMSTANCES SHOULD THE BLASTING OPERATOR ATTEMPT TO CARRY OUT ANY ADJUSTMENTS WHILE CONTROLLING THE BLASTING NOZZLE.

- 4.1 The flowing items must be carefully checked prior to commencing operation of the blast pot –
 - 4.1.1 The pot has been correctly set up as specified in Section 2.0 of this manual.
 - 4.1.2 The compressed air supply hose is securely attached to the blast pot inlet, and that the safety pins/clips are correctly fitted.
 - 4.2.3 The air compressor outlet valve must be closed.
 - 4.1.4 The blast pot inlet valve must be closed.
 - 4.1.6 Turn the control knob on the Mini Micro Abrasive Valve (Item 27) clockwise until fully closed.
 - 4.1.8 Check that the deadman control handle's (Item 33) safety latch moves freely and prevents the handle from accidental activation.
 - 4.1.9 Carefully inspect the blast hose, hose fittings and blast nozzle for excessive wear and or damage. Replace worn/damaged components as necessary.
 - 4.1.10 Carefully inspect the blast operators' blast helmet, breathing air filters and breathing airlines to ensure that they are in good working order, and comply with the requirements as specified in Section 1.12 of this manual. Replace worn/damaged components as necessary.

- 4.2 Inspect the abrasive to be used, and ensure that it is clean, dry and flows easily. Damp abrasive will tend to clog the blasting system, and prevent it from operating correctly.
- 4.3 Fill the blast pot with the abrasive through the pop up valve opening located in the top of the pot, being careful not to over fill. The entire domed area of the pop up valve must be clearly visible after filling the blast pot.
- 4.4 Turn on the air compressor, and bring it up to operating pressure and temperature in accordance with the manufacturer's instructions. The minimum compressed air pressure for the blast pot to activate correctly is 3.4Bar (50psi).



WARNING: NEVER EXCEED THE PRESSURE VESSELS MAXIMUM PRESSURE RATING OF 10.3Bar (150psi).

- 4.5 Slowly fully open the compressor outlet valve, and check the air supply line to the pot for leaks. If any leaks are apparent, shut down the compressor, bleed the pressure from the system, and repair any leaks.
- 4.6 Slowly fully open the blast pot inlet valve. The pot piping is now under pressure up to the Air Control Valve (Item 10), as well as the out-going signal line (green) of the twinline to the deadman handle. Check the pressurised part of the control system for air leaks, and repair as necessary.
- 4.7 Open the breathing air supply valve to provide airflow to the operators blasting helmet, via the breathing air filters. (Refer Section 1.12 for further information).
- 4.8 The operator should now don the appropriate protective equipment, such as a blast suit, hearing protection, blasting helmet and leather gloves.
- 4.9 It is also strongly recommended that the assistant also wear hearing and eye protection.
- 4.9 Ensure that the areas' directly around the blast pot and the blast pot operator are clear of all personnel.
- 4.10 The operator now depresses the deadman control handle, which will send the return signal to open the Air Control Valve (Item10) and close the Exhaust Valve (Item 17). This allows high pressure air to enter the pressure vessel, lifting the pop up valve and pressurising the vessel.



WARNING: HIGH PRESSURE COMPRESSED AIR EXITING THE BLAST NOZZLE WILL GENERATE EXTREMELY HIGH LEVELS OF NOISE. IT IS STRONGLY RECOMMENDED THAT THE BLASTING OPERATOR, ASSISTANT, AND ANY OTHER PERSONNEL WITHIN THE IMMEDIATE VICINITY SHOULD WEAR APPROPRIATE HEARING PROTECTION.

- 4.11 After a slight delay, high pressure air will commence flowing from the blast nozzle. The assistant slowly open the Mini Micro Abrasive Valve (Item 27) by turning the control knob anti-clockwise, until the operator signals that the desired abrasive media flow has been achieved.
- 4.12 Optimum abrasive flow is dependent upon abrasive type and size and blasting pressure, and can best be determined by operator experience. As a general rule, the operator should attempt to use the minimum amount of abrasive flow to achieve the fastest cleaning rate. It is normal for the airstream exiting the blast nozzle to be only slightly discoloured by the abrasive within the airstream.
- 4.13 To cease blasting, the operator simply releases the deadman control handle lever, which will de-energise the Air Control Valve (Item 10) and the Exhaust Valve (Item 17), which in turn allows the pot vessel to de-pressurise and vent the internal compressed air out through the exhaust pipe.

Section 5.0 Shutdown & Storage

- 5.1 When operating in environments subject to varying temperature changes, or in high humidity, it is possible for condensation to form inside the pressure vessel. This condensation will dampen the abrasive, causing problems with the blast pot operation. It is recommended that the blast pot be emptied of abrasive at the end of each day to minimise this problem.
- 5.2 With the blast pot turned off, reduce the blast pressure down to approximately 275 – 350 Kpa (40-50psi), close the choke valve in the pusher line, and fully open the Micro Abrasive Valve.
- 5.3 Direct the blast nozzle into a drum/container, or towards the location where the abrasive is to be disposed of.
- 5.4 Hold the hose securely, and activate the blast system by closing the deadman handle. The blast hose will surge and recoil quite abruptly as the abrasive is forced out of the blast pot.
- 5.5 Once the blast pot has emptied, release the deadman handle to depressurise the blast pot. Open the choke valve, and note that the abrasive valve will need to be re-adjusted for blasting operations.
- 5.6 Close the air inlet valve on the blast pot, close the compressor air supply valve, and shutdown the air compressor.
- 5.7 Drain all compressor receivers, filters and water traps in accordance with the compressor manufacturer's instructions, and bleed all air from the airlines.
- 5.8 Cover the blast pot when not in use.

Section 6.0 Preventative Maintenance

6.1 Daily Inspections.

With the compressed air turn off, carry out the following daily inspections:

- 6.1.1 Drain any moisture from any water traps and inspect the internal element. Clean or replace as necessary.
- 6.1.2 Inspect the blast hose for wear. Look for visual damage, and squeeze along the full length of the hose feeling for soft spots. A soft spot indicates wear, and the hose should be replaced.
- 6.1.3 Check the hose coupling and nozzle holder, ensuring there is no sign of air leakage, and that the lock pins are correctly fitted and securely in place. Ensure that all retaining screws are securely in place.
- 6.1.4 Remove the blast nozzle from the nozzle holder and check the condition of the nozzle washer. The washer should be replaced if it shows any sign of wear or damage.
- 6.1.5 Carefully inspect the condition of the deadman handle, and ensure that the lever lock operates smoothly, and prevents the handle from accidental operation. The lever must not touch the valve plunger unless the lever lock is down and the handle fully depressed. The handle lever must fully return to the up position when released.

During blasting, have the blasting assistant do the following on a daily basis.

- 6.1.6 Check the control handle and twinline for leaks.
- 6.1.7 Check all couplings and coupling gaskets for leaks.
- 6.1.8 Check the nozzle holder and nozzle washer for leaks.
- 6.1.9 Carefully inspect the blast pot for leaks. If leaks are found around the pop up valve, top flange or fitting on the bottom of the pot cone, stop blasting immediately and carry out the necessary repairs. Failure to do so may cause irreparable damage to the blast machine.

6.2 Weekly Inspections.

With the compressed air turned off, carry out the following on a weekly basis:

- 6.2.1 Remove the blast nozzle from the nozzle holder, and inspect the nozzle for wear/damage. Replace the nozzle if it is worn more than 1.5mm from its' original size, or if the liner is grooved or cracked.
- 6.2.2 Carefully inspect the nozzle and nozzle holder threads for wear/damage. It is vital that the blast nozzle screws fully into place

and seals firmly against the nozzle washer to prevent leaks and damage to the nozzle and nozzle holder.

- 6.2.3 Visually inspect the Mini Micro Abrasive Valve (Item 27) for any signs of wear, paying particular attention to the threaded section of the steel pipe nipple. Replace the pipe nipple at the first sign of wear and/or leakage.

During blasting, note the following:

- 6.2.4 Monitor the time taken for the blast pot to fully depressurise after deactivation. If the time has increased noticeably, check the exhaust pipe/muffler for damage and/or restrictions.

6.3 **Monthly Inspections.**

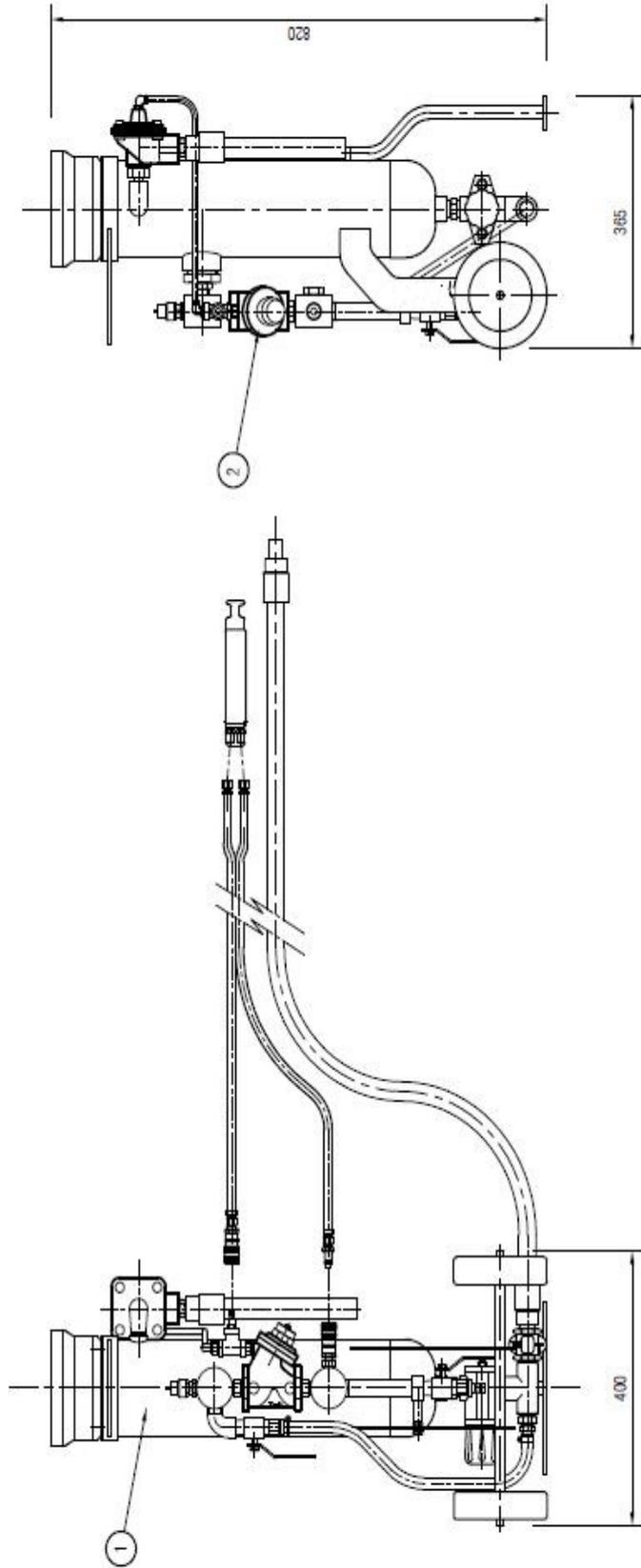
With the compressed air turned off, carry out the following:

- 6.3.1 Check the condition of the pop up valves' mushroom head, and ensure that it is not worn or grooved. The pop up valve should be replaced at the first sign of significant wear.
- 6.3.2 Inspect the rubber pop up valve seal located in the top flange. Check that the seal is not dried out, cracked or worn, and that the seal is seated correctly within the flange. Replace the seal at the first sign of significant wear.
- 6.3.3 Remove the Mini Micro Abrasive Valve (Item 27). Dismantle the Mini Micro Valve, and carefully inspect the hardened steel plunger and urethane sleeve for damage or wear. Replace items as necessary.
- 6.3.4 Carefully inspect the internal section of the pipe nipple for wear, paying particular attention to the threaded ends. Replace the nipple if it appears worn or grooved.

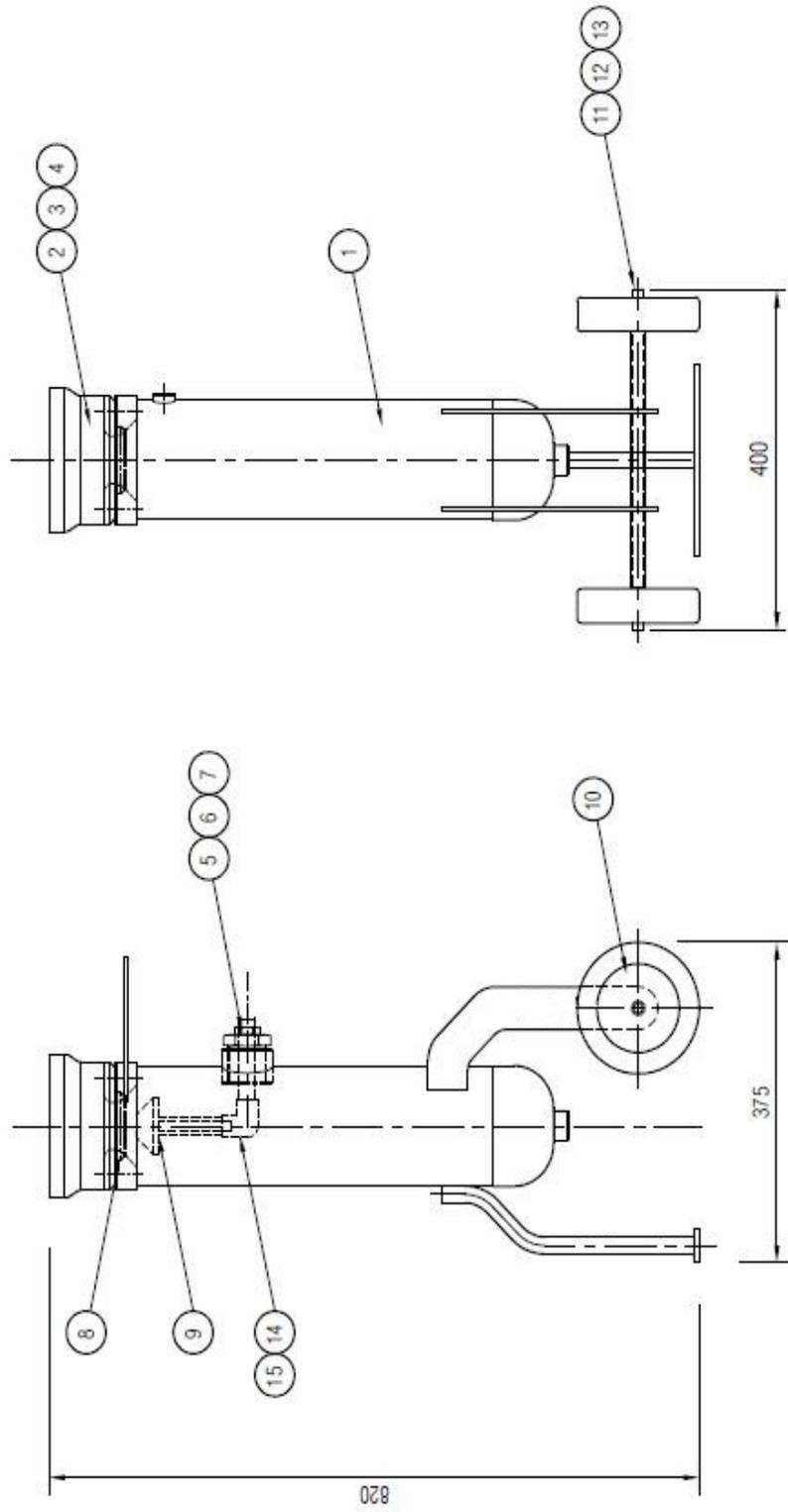
Section 7.0 Troubleshooting

Problem	Possible Cause/Remedy
No abrasive or air from the blast nozzle while the blast pot is pressurised.	Depressurise the blast pot, and after the pop up valve has dropped, remove the blast nozzle and check for any obstruction.
	Check that both the Micro Abrasive Valve and the pusher line choke valve are open.
Compressed air but no abrasive from the blast nozzle while the blast pot is pressurised	Mini Micro Abrasive Valve may be closed, and require adjustment. Refer Section 3.11
	No abrasive in the blast pot
	Abrasive may be damp, preventing proper flow. Clean pot out and refill with dry abrasive. Drain all moisture from moisture traps.
Heavy abrasive flow	Check Mini Micro Abrasive Valve for obstructions.
	Mini Micro Abrasive Valve may be fully open, and require adjustment. Refer Section 3.11
Abrasive surging	Check that the pusher line chock valve is open.
	Note: Some surging is normal upon start up. Should the surging continue, adjust the Micro Abrasive Valve as per Section 3.11.
Blast Pot will not pressurise	Check that the air compressor is operating, and all air supply lines are open.
	Check that the deadman handle lever is correctly depressing the handle plunger
	Inspect the twinline hose for leaks, and repair as necessary. Check that the twinline is securely connected at the blast pot.
	Check the deadman handle for air leaks with the lever depressed. No air should leak from the handle with the lever depressed.
	Inspect the exhaust control line (Item 4) for leaks between the Air Control Valve (Item 1) and the Exhaust Valve (Item 2)
	Dismantle the Exhaust Valve (Item 2) and check the diaphragm for wear/holes/tears, and replace if necessary.
	Check that the pop up valve is not worn or out of alignment, and is seating correctly. Replace/adjust as necessary.
Blast pot will not depressurise, or depressurises slowly	Check the Exhaust Valve (item 17) and exhaust piping for obstructions.
	Check that the return air on the twinline is exhausting air from the deadman handle around the plunger when the lever is released.
Intermittent abrasive flow	Abrasive may be damp, preventing proper flow. Clean pot out and refill with dry abrasive. Drain all moisture from moisture traps.
	Excessive dust and fines in abrasive. Refill the blast pot with new abrasive.

REV	DESCRIPTION	DATE	APP'D
1	FIRST RELEASE	30/10/15	R.A.

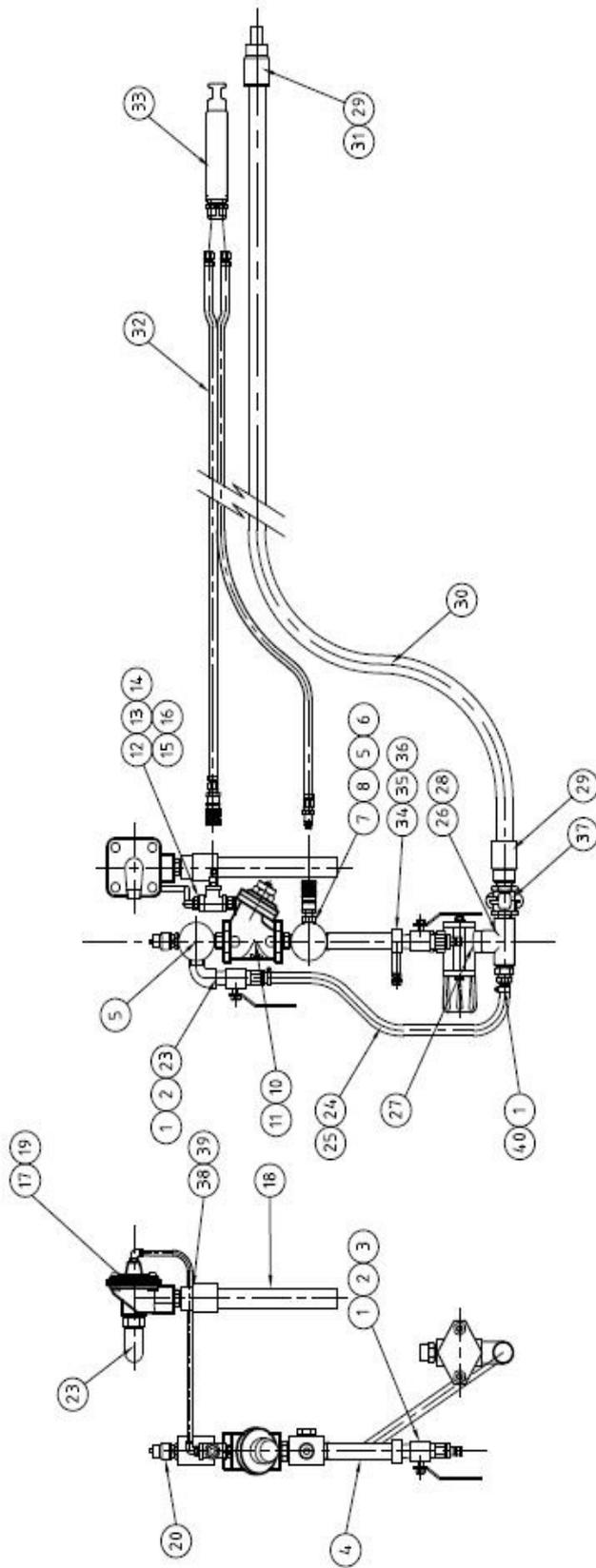


REV	DESCRIPTION	DATE	APPD
1	FIRST RELEASE	30/10/15	R.A.



ITEM	DRAWING No.	PART No.	DESCRIPTION	QTY PER ASSY	QTY REQD	SUPPLIER NAME OR CODE NUMBER	ORDER NUMBER	DUE DATE
1			HOSE BARB-1/2" BSP X 1/2" BARB-BRASS	3				
2			BALL VALVE-1/2" BSP-M & F	2				
3			SOCKET-1/2" BSP	1				
4			PIPE PIECE-1/2" BSP X 250MM LONG	1				
5	M950236		MANIFOLD-5 WAY	2				
6			QUICK CONNECT COUPLING-FEMALE X 1/4" BSP MALE	1				
7			MINI BALL VALVE-1/4" BSP-M & F	1				
8			PLUG-1/2" BSP	1				
9			NIPPLE-REDUCING-3/4" BSP X 1/2" BSP	2				
10	A201455		AUTO AIR VALVE-3/4"	1				
11			BREATHER-1/8"	1				
12			NIPPLE-1/4" BSP	1				
13			TEE-1/4" BSP	1				
14			QUICK CONNECT COUPLING-MALE X 1/4" BSP	1				
15			ELBOW-1/4" BSP X 8MM PUSH IN	2				
16			TUBING-8MM-GREEN	0.35M				
17	A201282		EXHAUST VALVE	1				
18			PIPE PIECE-1" BSP X 250MM LONG	1				
19			NIPPLE-REDUCING-1" BSP X 1/2" BSP	1				
20			RELIEF VALVE-1/2" BSP	1				
23			ELBOW-1/2" BSP-M & F	1				

REV	DESCRIPTION	DATE	APP'D
1	FIRST RELEASE	30/10/15	R.A.



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APPROVED: . SCALE: N.T.S. DRG. NO. 2210070

NOVA 2000™

INSTRUCTION
MANUAL



NIOSH

Type CE Supplied Air Respirator

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RESPIRATOR COMPONENTS

TC No.	Protection ¹	M O D E L	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	
19C-363	SA / CF/ SB	NOVA 2000	X		X	X		X	X	X		X	X	X		X	X			X	X		X	X	X			ABCDEJM NOS
19C-417	SA / CF/ SB	ASTRO		X	X						X	X	X			X	X			X		X				X	X	ABCDEJM NOS
19C-422	SA / CF/ SB	NOVA 2000	X				X		X	X	X			X	X			X	X	X	X		X	X	X			ABCDEJM NOS
19C-423	SA / CF/ SB	ASTRO		X			X				X			X	X			X	X	X		X				X	X	ABCDEJM NOS

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

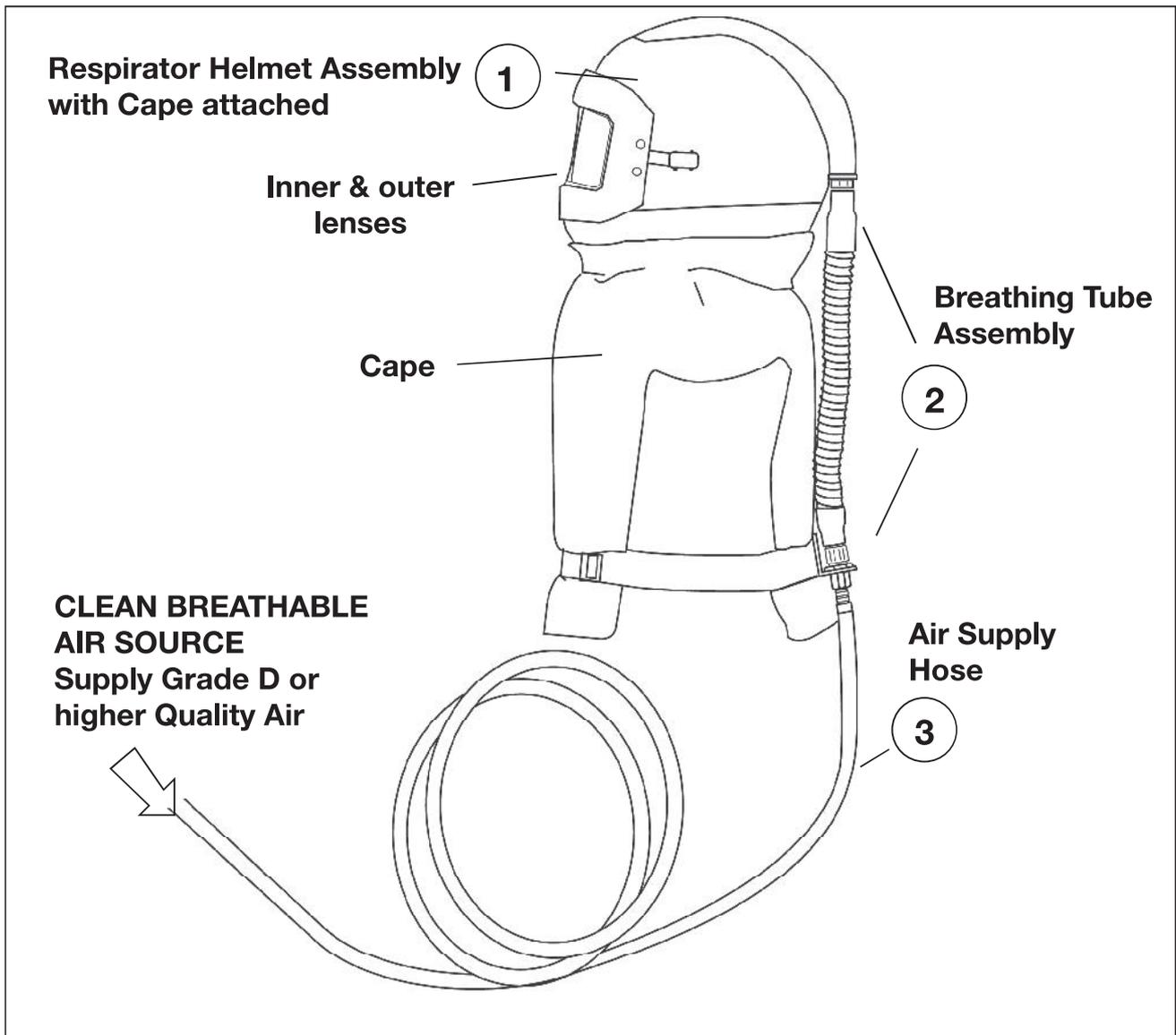
The NOVA 2000 SUPPLIED - AIR RESPIRATOR TYPE CE is specifically designed for use during Abrasive Blasting. The NOVA 2000 has been designed for use in atmospheres NOT IMMEDIATELY DANGEROUS TO LIFE OR HEALTH, and from which a user can escape without the aid of the respirator, or that do not exceed concentrations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

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

The NOVA 2000 is NOISH 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!

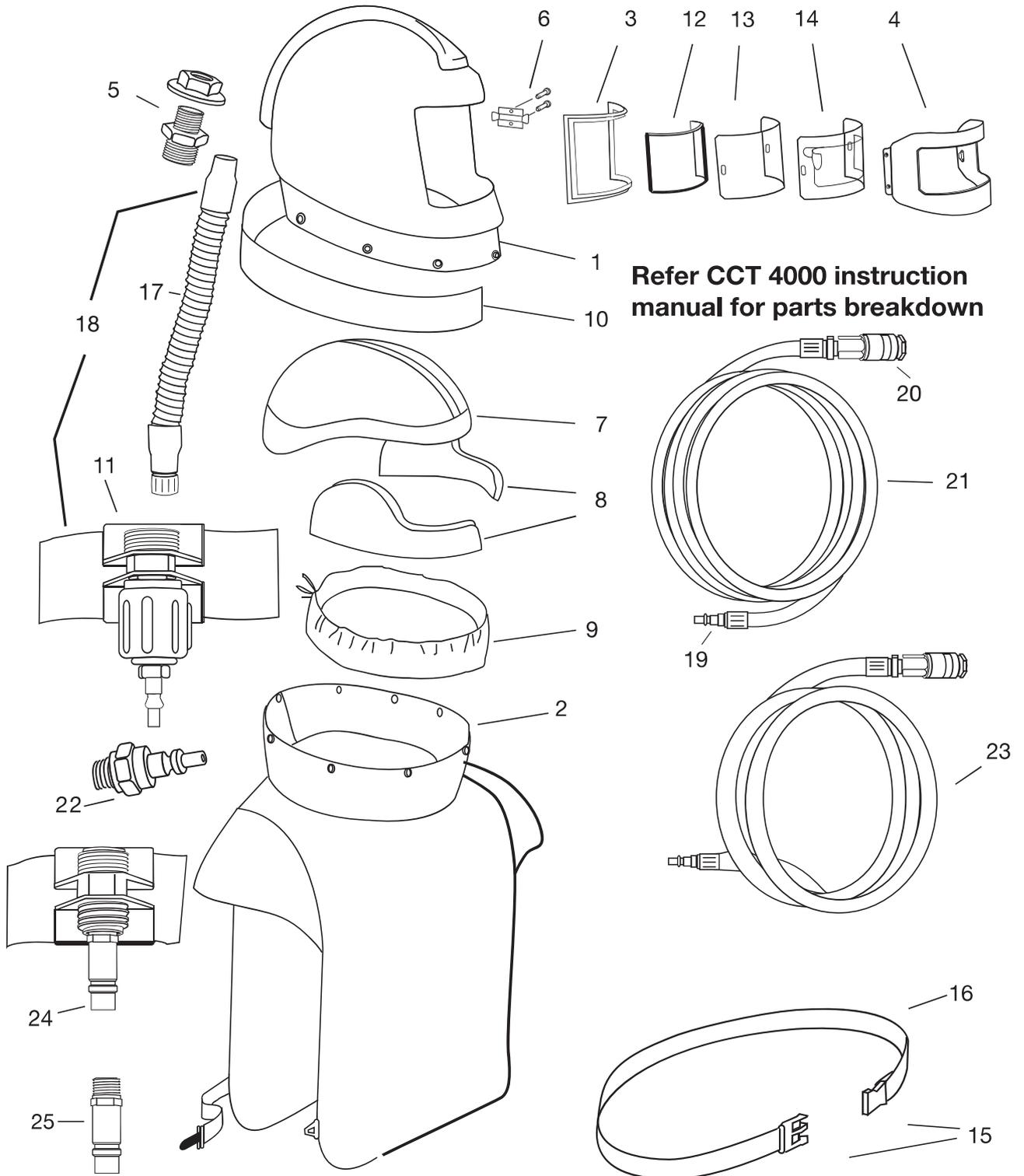
USE ONLY HOSES APPROVED BY NIOSH FOR USE WITH THIS RESPIRATOR

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 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	Air Inlet Assembly	NV 2006/7
6	Visor latch and screws	NV 2008
7	Polystyrene helmet liner <small>Sizes (S,M,L)</small>	NV 2009
8	{ Sidewings <small>Sizes (S,M,L)</small>	NV 2010
	{ Sidewings for wearers of glasses <small>Sizes (S,M,L)</small>	NV 2010G
9	Inner bib for cape	NV 2012
10	Cape cover band	NV 2013
11	Flow control valve and belt	NV 2016
12	Inner lens pkt 10	NV 2018
13	Outer lens pkt 50	NV 2031
14	Tear off lens pkt 50	NV 2017
15	Buckles	NV 2020
16	Belt with buckles	NV 2022
17	Breathing air tube	NV 2021
18	Breathing tube & flow control assembly	NV 2023
19	Quick Disconnect tail	NV 2024
20	Quick Disconnect coupler	NV 2025
21	{ Air supply hose 25ft	NV 2028
	{ Air supply hose 50ft	NV 2029
22	Quick disconnect tail	NV 2032
23	{ Air supply hose 1/2" 50ft	NV 2035
	{ Air supply hose 1/2" 100ft	NV 2036
24	Constant flow valve assembly	NV 2015
25	Quick disconnect tail 1/2" thread	NV 2034

OTHER PRODUCTS



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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 liner.

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