3M Air Control Devices: Air Regulating Kits

User Instructions for 3M™ Airline Adapter Kit W-3060 and Air Regulating Valve Kit W-3061 (with W-3062 Valve), and Air Regulating Kit W-3197 (with W-3195 Low Pressure Connector)

Important: Keep these *User Instructions* for reference

⚠WARNING

This product helps protect against certain airborne contaminants. **Misuse may result in sickness or death.** For proper use, see supervisor, *User Instructions*, or call 3M in U.S.A., 1-800-243-4630. In Canada, call Technical Service at 1-800-267-4414.

GENERAL SAFETY INFORMATION

Intended Use

These 3M™ Airline Adapter and Regulating Kits are to be used with 3M™ 6000DIN or 7000 Series Full Facepieces as specified in the NIOSH approval. When used as directed by the NIOSH approval, and in accordance with the use and maintenance instructions, these systems can provide positive pressure supplied air respiratory protection.

List of Warnings and Cautions within these *User Instructions*

⚠WARNING

This product helps protect against certain airborne contaminants. **Misuse may result in sickness or death.** For proper use, see supervisor, *User Instructions* or call 3M in U.S.A., 1-800-243-4630. In Canada, call Technical Service at 1-800-267-4414.

The length of compressed air hose W-3020 used depends on the specifications of the low-pressure air pump utilized. Some pumps specify a minimum of 50 or 100 feet of hose to allow adequate cooling of the air heated by the pump's mechanism. Read the pump's instructions thoroughly before selecting the compressed air hose W-3020 length that will be used. NO PUMP IS TO BE USED WHICH COULD CAUSE AIR HOTTER THAN 160º F (71º C) TO ENTER THE COMPRESSED AIR HOSE W-3020. Air hotter than 160º F (71º C) will cause the hose to degrade, which would adversely affect respirator performance and **may result in sickness or death.**

To meet the NIOSH requirement 42 CFR 84, subpart 84.150 for minimum and maximum airflow (4 to 15 cfm, 115 to 425 lpm), these air control devices approved for use with the 3M™ 7000 or 6000DIN Series Full Facepieces must be operated within the supply pressure ranges and hose lengths stated in the "Specifications" section. Failure to do so **may affect respirator performance and result in sickness or death.**

You must comply with OSHA standard 29 CFR 1910.134, which states that, "Airline couplings shall be incompatible with outlets for other gas systems to prevent inadvertent servicing of airline respirators with nonrespirable gases or oxygen." In Canada, refer to the requirements of CSA Standard Z180.1 or the authority having jurisdiction in your region. **Failure to do so may result in sickness or death.**

Your employer must provide breathing air that meets at least the requirements of the specification for Grade D breathing air, as described in the Compressed Gas Association Commodity Specification G-7.1 in the United States. In Canada, refer to CSA standard Z180.1, table for the quality of compressed breathing air. **Failure to do so may result in sickness or death.**

The line pressure must be kept within safe limits, 125 psig (8.75 kg/cm^2) maximum. Dirt, oil and water, unless trapped or filtered out, may continue downstream in concentrated form and adversely affect the performance of the respirator and **may result in sickness or death**.

Use of equipment described in these *User Instructions* must be in accordance with applicable health and safety standards, respirator selection tables contained in such publications as ANSI Z88.2, CSA Standard Z94.4, or pursuant to the recommendations of an industrial hygienist. Before occupational use of these

respirators, a written respiratory protection program must be implemented meeting all the requirements of OSHA 29 CFR 1910.134 such as training, fit testing, medical evaluation, and applicable OSHA substance specific standards. In Canada, CSA standard Z94.4 requirements must be met and/or requirements of the applicable jurisdiction, as appropriate.

Each person using this respirator must read and understand the information in these *User Instructions* before use. Use of this respirator by untrained or unqualified persons, or use not in accordance with these *User Instructions,* **may adversely affect product performance and result in sickness or death.**

Do not use if any parts are missing or damaged.

Do not use with parts or accessories other than those manufactured by 3M as described in these *User Instructions* or on the NIOSH approval label for the respirator that you are using. **Failure to do so may adversely affect respirator performance and result in sickness or death.**

Use of this respirator in atmospheres for which it was not NIOSH certified or designed **may result in sickness or death.** Do not wear this respirator where:

- Atmospheres are oxygen deficient
- Contaminant concentrations are unknown
- Contaminant concentrations are Immediately Dangerous to Life or Heath (IDLH)
- Contaminant concentrations exceed the assigned protection factor (APF) recommended for the applicable headpiece or the APF mandated by specific government standards, whichever is lower. Refer to the *User instructions* provided with the applicable headpiece.

Contaminants that are dangerous to your health include those that you may not be able to see or smell. Leave the contaminated area immediately if any of the following conditions occur. **Failure to do so may result in sickness or death.**

- Any part of the system becomes damaged
- Airflow into the respirator decreases or stops
- Breathing becomes difficult
- You feel dizzy or your vision is impaired
- You taste or smell contaminants
- Your face, eyes, nose or mouth become(s) irritated
- You suspect that the concentration of contaminants may have reached levels at which this respirator may no longer provide adequate protection.

Never alter or modify this assembly.

Air supply piping, fittings, and compressors must have the capacity to deliver sufficient air volume (4 to 15 cfm, 115 to 425 lpm) to operate the air regulating valve at the recommended pressure.

USE INSTRUCTIONS AND LIMITATIONS

Important

Before use, the wearer must read and understand these *User Instructions*. Keep these *User Instructions* for reference.

General Description

These 3M™ Airline Adapter and Regulating Kits, when used in conjunction with a 3M™ 6000DIN or 7000 Series Full Facepiece, create a slight positive pressure atmosphere. The slight positive pressure helps to prevent airborne contaminants from entering the headpiece. These kits when used in a complete system (supplied air hose, valve, breathing tube and headpiece) are classified as a Type C or CE supplied air respirator by NIOSH.

W-3061 Air Regulating Kit

This air regulating kit is designed to provide those 3M full facepiece respirators which are approved for use with it, a continuous airflow of 4 to 15 cfm (115 to 425 lpm). The control knob is set manually between upper and lower airflow limits to suit the comfort requirements of the user.

W-3060-25, W-3060-50, W-3060-100 Airline Adapter Kits

These adapter kits are designed to provide those 3M full facepiece respirators which are approved for use with it, a continuous airflow of 4 to 15 cfm (115 to 425 lpm). The control knob is set manually between upper and lower airflow limits to suit the comfort requirements of the user. The user may choose the kit that includes the hose length to best fit their application, either 25, 50 or 100ft.

W-3197 Air Regulating Kit-low pressure (7-12 psig)

The 3M™ Low Pressure Air Regulating Kit is designed to provide those 3M full facepiece respirators which are approved for use with it, a continuous airflow of 4 to 15 cfm (115 to 425 lpm). When used as part of an approved system with the 3M™ Supplied Air Hose W-3020, the W-3197 will provide airflow within the specified range when the air pressure at the point of connection for the hose is between 7 and 12 psig (0.5 to 0.8 kg/cm^2), dependent on the hose length.

NIOSH Approval

Any NIOSH approval appearing on these air control devices is strictly limited to its use in an approved system only in full accordance with the specifications and limitations under said approval.

These 3M™ Airline Adapter and Regulating Kits are to be used with 3M™ 6000DIN or 7000 Series Full Facepieces as specified in the NIOSH approval. When used as directed by the NIOSH approval, and in accordance with the use and maintenance instructions, these systems can provide positive pressure supplied air respiratory protection.

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 only be used 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 use limitations apply. Refer to User's Instructions before donning.

S-Special or Critical Use Instructions

These 3M™ Airline Adaptor and Regulating Kits are designed to provide those 3M™ Full Facepieces, which are approved for use with it, a minimum continuous airflow of 4 cfm (115 lpm).

3M™ Supplied Air Hose and Pressure Requirements

W-3061 Kit, W-3062 Valve, W-3253 Assembly
3M™ Compressed Air Hoses and Approved Lengths

W-9435 Hose Length	Supply Pressure (psig)	Supply Pressure (kg/cm^2)
25 ft (7.62 m)	15 – 25	1.05 – 1.76
50 ft (15.24 m)	18 – 25	1.27 – 1.76
100 ft (30.48 m)	19 – 30	1.34 – 2.11
200 ft (60.96 m)	25 – 40	1.76 – 2.81
300 ft (91.44 m)	25 – 55	1.76 – 3.87

W-3197 Kit, W-3195 Valve, W-3255 Assembly
3M™ Compressed Air Hoses and Approved Lengths

W-3020 Hose Length	Supply Pressure (psig)	Supply Pressure (kg/cm^2)
25 ft (7.62 m)	7 – 11	0.5 – 0.77
50 ft (15.24 m)	7 – 11	0.5 – 0.77
100 ft (30.48 m)	7 – 12	0.5 – 0.84

Compressor Volume

Requirements: Approx. 9 CFM (255 lpm) per valve.

Combining 3M™ Supplied Air Hoses

3M™ Supplied Air Respirator System approvals allow you to combine two or three 100-foot length W-9435, W-9435SS (stainless steel) , or W-9445 hoses for each positive pressure respirator. You may not combine 25 or 50-foot lengths of the W-9435, W-9435SS, or W-9445 hoses.

The W-3020 hose can only be used in single lengths of 25, 50, or 100 feet (7.62, 15.24, or 30.48 meters). No connections are allowed.

⚠WARNING

The length of compressed air hose W-3020 used depends on the specifications of the low-pressure air pump utilized. Some pumps specify a minimum of 50 or 100 feet of hose to allow adequate cooling of the air heated by the pump's mechanism. Read the pump's instructions thoroughly before selecting the supplied air hose W-3020 length that will be used. NO PUMP IS TO BE USED WHICH COULD CAUSE AIR HOTTER THAN 160º F (71º C) TO ENTER THE SUPPLIED AIR HOSE W-3020. Air hotter than 160º F (71º C) may cause the hose to degrade which would adversely affect respirator performance and **result in sickness or death.**

Discussion on Respirable Air

Many older compressed air systems may have air that is unfit for human use without secondary air treatment. This is due largely to the presence of objectionable oil vapors and odors. Rules and regulations governing air quality when using compressed air for respiration are quite specific.

Precautions must be observed when using compressed air for breathing purposes.

Oil mist from the compressor lubricating oil must not be present when the air reaches the air control device. Excessive amounts of water vapor and any particulate matter should also be removed as they may result in unpredictable behavior of the air control device. The schematic diagram of the air purifier and pressure regulator equipment shows what should be installed in the main airline ahead of the connection for breathing air hoses. (Fig. 1)

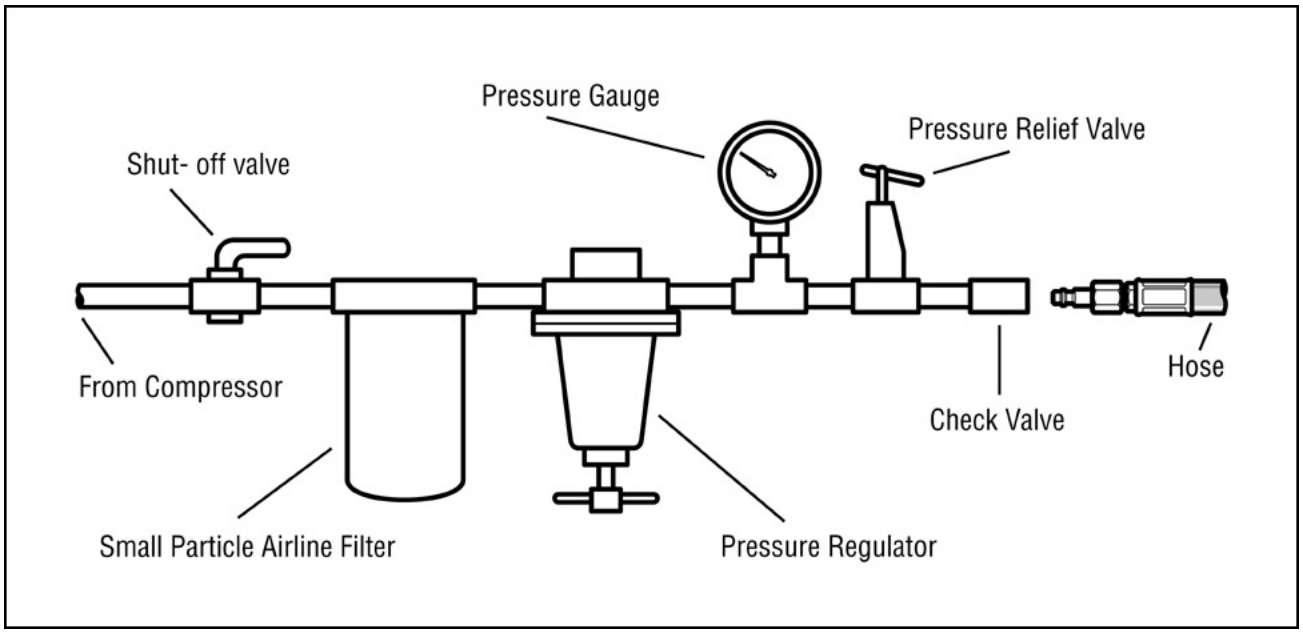

Fig. 1

If a pre-assembled air filtering and regulating device is desired, 3M offers several compressed air filter and regulator panel assemblies. These assemblies contain a specially designed filter cartridge to help remove oil mist and vapors, condensed moisture, particulates, odors and vapors. They come completely assembled and are ready for connection between the compressor and the supplied air respirator system.

Note: Carbon monoxide-
Although it is theoretically possible that oil lubricated compressors can create carbon monoxide (CO) if the compressor overheats, studies have shown that the location of the compressor's air intake is the most likely source of carbon monoxide contamination[1]. According to OSHA regulation (29 CFR [1910.134][d]), periodic CO monitoring, rather than continuous CO monitoring with an alarm, is acceptable if the oil lubricated

compressor is equipped with a high temperature alarm and automatic shut-down.

[1]Formation of carbon monoxide in air compressors, Am. Ind. Hyg. Assoc. J (40), June 1979, pp. 548-551.

⚠WARNING

To meet the NIOSH requirement 42 CFR 84, subpart 84.150 for minimum and maximum airflow (4 to 15 cfm, 115 to 425 lpm), these air control devices approved for use with the 3M™ 7000 or 6000DIN Series Full Facepieces must be operated within the supply pressure ranges and hose lengths stated in the "Specifications" section. Failure to do so **may affect respirator performance and result in sickness or death.**

You must comply with OSHA standard 29 CFR 1910.134, which states that, "Airline couplings shall be incompatible with outlets for other gas systems to prevent inadvertent servicing of airline respirators with nonrespirable gases or oxygen". In Canada, refer to the requirements of CSA standard Z180.1 or the authority having jurisdiction in your region. **Failure to do so may result in sickness or death.**

Your employer must provide breathing air that meets at least the requirements of the specification for Grade D breathing air, as described in the Compressed Gas Association Commodity Specification G-7.1-1997 in the United States. In Canada, refer to CSA standard Z180.1, table for the quality of compressed breathing air. **Failure to do so may result in sickness or death.**

The line pressure must be kept within safe limits, 125 psig (8.75 kg/cm^2) maximum. Dirt, oil and water, unless trapped or filtered out, may continue downstream in concentrated form and adversely affect the performance of the respirator and **may result in sickness or death**.

SYSTEM COMPONENTS AND REPLACEMENT PARTS

3M™ Continuous Flow Adapter Kits

W-3061 Air Regulating Kit Includes:
-W-3253 Air Regulating Assembly, which includes:
    -W-3062 Air Regulating Valve
    -W-3217 Waist Belt
-W-3187 Airline Adapter
-W-3188 Breathing Tube
-W-3229 Shoulder Strap
-7890 Full Face Plug

W-3060-25, Airline Adapter Kit Includes:
-W-3061 Air Regulating Kit
-W-9435-25 High Pressure Supplied Air Hose, 25 ft, 3/8" ID, Industrial Interchange Fittings

W-3060-50, Airline Adapter Kit Includes:
-W-3061 Air Regulating Kit
-W-9435-50 High Pressure Supplied Air Hose, 50 ft, 3/8" ID, Industrial Interchange Fittings

W-3060-100, Airline Adapter Kit Includes:
-W-3061 Air Regulating Kit
-W-9435-100 High Pressure Supplied Air Hose, 100 ft, 3/8" ID, Industrial Interchange Fittings

W-3197 Air Regulating Kit-low pressure (7-18 psig) Includes:
-W-3255 Connector Assembly, which includes:
    -W-3195 Low Pressure Connector
    -W-3217 Waist Belt
-W-3187 Airline Adapter
-W-3188 Breathing Tube
-W-3229 Shoulder Strap
-7890 Full Face Plug

Note: W-3253 and W-3255 are not sold separately. You must purchase the appropriate kit or components to obtain these products.

ASSEMBLY INSTRUCTIONS

These 3M™ Airline Adaptor and Regulating Kits and Breathing Tubes are only used with the 3M™ 7916 Breathing Room Assembly on 3M™ 7000 Series Full Facepiece, 3M™ 6884 DIN Port Adapter on 3M™ 6000DIN Series Full Facepiece.

See the 3M™ 6000DIN and 7000 Series Full Facepiece Respirator *User's Instructions* for information on installing filters and cartridges.

3M™ Breathing Tube, Belt and Shoulder Strap - Full Facepiece

1. Remove the 7890 plug from the center port of the full facepiece.
2. Install 7890 plugs (7000 Series full facepiece) in each side port, or install 6880 bayonet caps (6000DIN full facepiece) on each side port. See *6000DIN* and 7000 Series *User Instructions* for installation of filter or cartridge adapters for use with filters and cartridges.
3. Screw the W-3187 adapter into the center port. Tighten securely so that the threaded fitting points to the right side of the facepiece, as worn,.
4. Place the belt around the waist, with the female end of the buckle on the right hand side, and adjust for size and comfort. Slide the plastic belt keeper over any excess belt strap.
5. Unbuckle the belt, and place the sewn loop end of the shoulder strap over the female end of the buckle, and push the shoulder strap loop onto the belt. The three breathing tube holder loops should face towards the outside of the belt and the female end of the buckle should be on your right side, as worn.
6. Remove the belt from around the waist.
7. Snap the W-3188 breathing tube into the three breathing tube holder loops on the shoulder strap. (Fig.4)
8. Place the air regulating valve onto the belt just to the left (as pictured) of the shoulder strap sewn strap loop. (Fig. 4) This will limit the shoulder strap harness from sliding around towards the middle of the back. Connect the W-3188 breathing tube to the air regulating valve. Assure the connection is tight and secure.

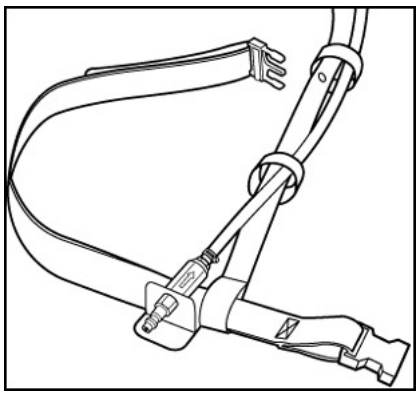
Fig. 4

9. Place the belt around your waist. With the female part of the buckle on your right, buckle it into place. Slide the air regulating valve over to the right hip. (Fig. 5)

10. Bring the free end of the shoulder strap across the back, over the left shoulder and down across your chest to the female end of the belt buckle. (Fig. 5)

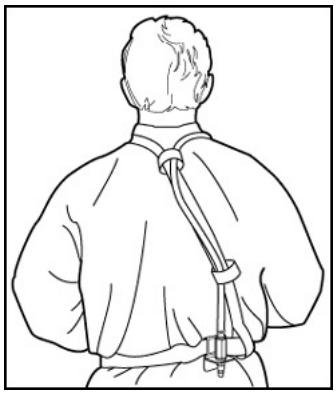
Fig. 5

11. Snap the loop end of the shoulder strap just to the right of the female end of the belt buckle. This limits the shoulder strap from sliding left past the buckle. Adjust the strap as required, tucking any extra strap under the belt keeper on the shoulder strap. (Fig. 6)

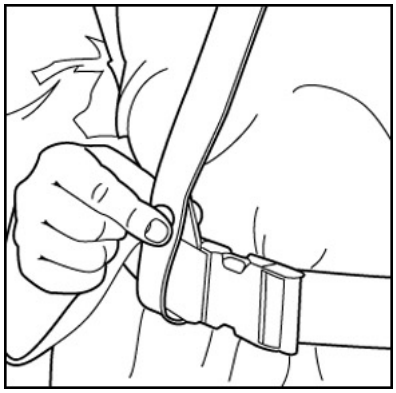
Fig. 6

12. Position the breathing tube across the back and over the right shoulder. If the top shoulder strap loop makes this difficult to do because the top snap loop ends up on the front, or on the top of the shoulder, unsnap it and tuck it under the shoulder strap next to your body. An unused top shoulder strap loop may also be removed, if you are careful not to damage the shoulder strap. After all adjustments are made, the highest loop that the breathing tube goes through should be positioned on your back approximately between the shoulder blades.

Note: Positioning the breathing tube and shoulder strap over opposite shoulders will keep the breathing tube close to the body, and helps to not restrict head movements. It is also beneficial for the breathing tube to go over the right shoulder, so any upward shoulder movements then tend to tighten the air supply connection to the facepiece, instead of loosening that connection.

13. The W-3188 breathing tube should then be connected to the W-3187 adapter. Assure the connection is tight and secure. The W-3187 connection to the facepiece should always be tight enough that a slight tug or push on the breathing tube will not loosen the connection of the air supply to the full facepiece.
14. Put on the facepiece. Make sure that the breathing tube does not tug or push on the facepiece. Normal head movement should not compromise the facepiece seal. If it does, the shoulder strap attachments should be readjusted, so that any tugging or pushing is minimized.

15. The entire system must meet the requirements of the Fitting Instructions before entering any hazardous environment.

FITTING INSTRUCTIONS

See the 3M™ Full Facepiece 6000DIN or 7000 Series *User Instructions* for details.

OPERATING INSTRUCTIONS

⚠WARNING

Use of equipment described in these *User Instructions* must be in accordance with applicable health and safety standards, respirator selection tables contained in such publications as ANSI Z88.2, CSA Standard Z94.4, or pursuant to the recommendations of an industrial hygienist. Before occupational use of these respirators, a written respiratory protection program must be implemented meeting all the requirements of OSHA 29 CFR 1910.134 such as training, fit testing, medical evaluation, and applicable OSHA substance specific standards. In Canada, CSA standard Z94.4 requirements must be met and/or requirements of the applicable jurisdiction, as appropriate.

Each person using this respirator must read and understand the information in these *User Instructions* before use. Use of this respirator by untrained or unqualified persons, or use not in accordance with these *User Instructions*, **may adversely affect product performance and result in sickness or death.**

Do not use if any parts are missing or damaged.

Do not use with parts or accessories other than those manufactured by 3M as described in these *User Instructions* or on the NIOSH approval label for the respirator that you are using. **Failure to do so may adversely affect respirator performance and result in sickness or death.**

Use of this respirator in atmospheres for which it was not NIOSH certified or designed **may result in sickness or death.** Do not wear this respirator where:

- Atmospheres are oxygen deficient
- Contaminant concentrations are unknown
- Contaminant concentrations are Immediately Dangerous to Life or Heath (IDLH)
- Contaminant concentrations exceed the assigned protection factor (APF) recommended for the applicable headpiece or the APF mandated by specific government standards, whichever is lower. Refer to the *User instructions* provided with the applicable headpiece.

Contaminants that are dangerous to your health include those that you may not be able to see or smell. Leave the contaminated area immediately if any of the following conditions occur. **Failure to do so may result in sickness or death.**

- Any part of the system becomes damaged
- Airflow into the respirator decreases or stops
- Breathing becomes difficult
- You feel dizzy or your vision is impaired
- You taste or smell contaminants
- Your face, eyes, nose or mouth become(s) irritated
- You suspect that the concentration of contaminants may have reached levels at which this respirator may no longer provide adequate protection.

Never alter or modify this assembly.

Air supply piping, fittings, and compressors must have the capacity to deliver sufficient air volume (4 to 15 cfm, 115 to 425 lpm) to operate the air regulating valve at the recommended pressure.

If you have any doubts about the applicability of the equipment to your job situation, consult an industrial hygienist or call 3M's Occupational Health and Environmental Safety Division Technical Service Department at 1-800-243-4630. In Canada, call Technical Service at 1-800-267-4414.

CLEANING AND STORAGE

CAUTION

Cleaning with solvents may degrade some respirator components and reduce respirator effectiveness. Inspect all respirator components before each use to ensure proper operating condition. Cleaning is recommended after each use.

---

1. Remove any cartridges and/or filters.
2. Clean facepiece (excluding filters and cartridges), with 3M™ 504 Respirator Wipes or by immersing in warm cleaning solution, water temperature not to exceed 120° F (49° C), and scrub with soft brush until clean. Add neutral detergent if necessary. Do not use cleaners containing lanolin or other oils.
3. Disinfect facepiece by soaking in a solution of quaternary ammonia disinfectant or sodium hypochloride (1 oz. [30 ML] household bleach in 2 gallons [7.5 L] of water), or other disinfectant.
4. Rinse in fresh, warm water and air dry in non-contaminated atmosphere.

The cleaned respirator should be stored away from contaminated areas when not in use.

Clean the air control devices on their exterior. Do not immerse in liquid.

TROUBLESHOOTING

Problem	**Possible Cause**	**Corrective Action**
Inadequate Airflow	1. Compressor filters plugged 2. Muffler plugged with oil 3. Air pressure too low 4. F&R Panel filer plugged 5. Kink in air hose	1. Change filters 2. Replace muffler discs 3. Increase air 4. Change filter 5. Straighten hose
Comfort Control Knob Won't Turn	Valve mechanism dirty	Clean with blast of air
No Airflow	1. Compressor off 2. Air supply line valve closed 3. F&R Panel regulator closed 4. Supplied air hose not connected	1. Turn compressor on 2. Open F&R Panel air supply line valve 3. Open F&R Panel regulator 4. Connect supplied air hose

IMPORTANT NOTICE

WARRANTY: In the event any 3M OH&ESD product is found to be defective in material, workmanship, or not in conformation with any express warranty for a specific purpose, 3M's only obligation and your exclusive remedy shall be, at 3M's option, to repair, replace or refund the purchase price of such parts or products upon timely notification thereof and substantiation that the product has been stored, maintained and used in accordance with 3M's written instructions.

EXCLUSIONS TO WARRANTY: THIS WARRANTY IS EXCLUSIVE AND IS IN LIEU OF ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OTHER WARRANTY OF QUALITY, EXCEPT OF TITLE AND AGAINST PATENT INFRINGEMENT.

LIMITATION OF LIABILITY: Except as provided above, 3M shall not be liable or responsible for any loss or damage, whether direct, indirect, incidental, special or consequential, arising out of sale, use or misuse of 3M OH&ESD products, or the user's inability to use such products. THE REMEDIES SET FORTH HEREIN ARE EXCLUSIVE.

FOR MORE INFORMATION

In United States, contact:

Internet: www.3M.com/occsafety

Technical Service: 1-800-243-4630

For other 3M products:

1-800-3M-HELPS or 1-651-737-6501

3M Occupational Health and Environmental Safety Division

3M Center, Building 235-2W-70
St. Paul, MN 55144-1000

Printed in USA

98-0060-0040-4/1