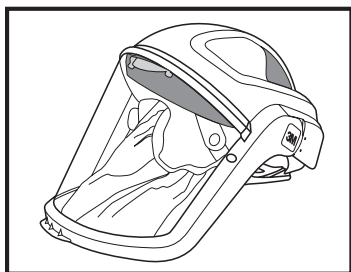


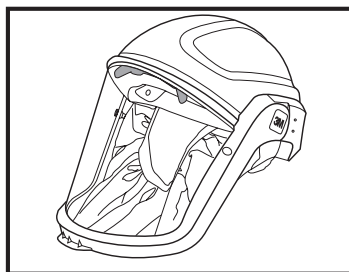
3M | Versaflo™/MC

M-Series Headgear

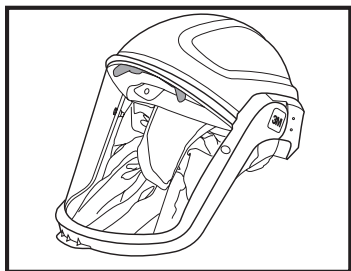
User Manual for:



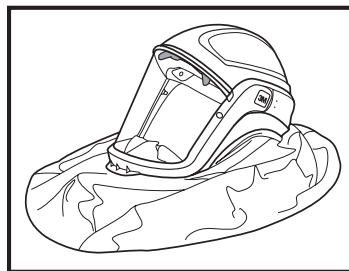
M-100 Series Respiratory Faceshields



M-200 Series Respiratory Faceshields



M-300 Series Respiratory Hard Hats



M-400 Series Respiratory Helmets

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

Table of Contents

FOREWORD 2

 Contact Information 2

 System Description 2

 List of Warnings within these *User Instructions* 3

 Limitations of Use 4

 Respirator Program Management 4

 NIOSH - Approval, Cautions, & Limitations 4

 Additional Certifications 4

OPERATING INSTRUCTIONS..... 5

 Unpacking..... 5

 Assembly 5

 Donning & Fitting 6

 Entering and Exiting the Contaminated Area 8

INSPECTION & MAINTENANCE..... 9

REPLACEMENT PARTS 9

 M-925 and M-927 Visors 10

 M-920 Visor Frame & M-960 Replacement Visor Pivot Kit..... 10

 M-919 Visor Frame Buttons..... 11

 M-921 Replacement Visor Gasket 12

 M-957 Forehead Comfort Pad/Sweat Pad 12

 M-953 Ratchet..... 12

 M-150 Head Suspension (M-100 & M-200 Series) 13

 M-350 Head suspension (M-300 & M-400 Series) 13

 M-935, M-936, & M-937 Faceseals (M-100, M-200 & M-300 Series) 14

 M-445, M-446, M-447, M-448 & M-449 Outer Shrouds (M-400 Series) 15

 M-444 Inner Shrouds (M-400 Series) 15

 M-116 and M-316 Airflow Deflectors 16

 M-154 Replacement Forehead Seal (M-100 and M-200 Series) 16

 M-354 Replacement Forehead Seal (M-300 Series) 16

 M-441 Replacement Jaw Gasket (M-400 Series) 16

ACCESSORIES..... 17

 M-926 and M-928 Peel-off Visor Covers 17

 M-929 Shaded Peel-Off Cover..... 17

 M-170 Faceshield Head Inserts..... 18

 M-958 Chin strap..... 18

 M-976 Head, Neck, and Shoulder Cover (for use with M-100/M-200/M-300) 19

 M-972 Flame Resistant Headgear Cover 19

 M-956 Size Reducing Ratchet Comfort Pad..... 20

 M-985 Headgear-Mounted Earmuff Assembly (for use with M-100/M-200/M-300) 20

CLEANING, STORAGE, AND DISPOSAL 22

SPECIFICATIONS 23

LISTING OF COMPONENTS, ACCESSORIES, AND REPLACEMENT PARTS..... 24

TROUBLESHOOTING..... 25

FOREWORD

Contact Information

Read all instructions and warnings before using. Keep these *User Instructions* for reference. If you have questions regarding these products contact 3M Technical service.

System Description

The 3M™ Versaflo™ M-Series Headgear is a family of respirators designed to help meet the changing needs of users through a modular design and convertibility of major components. The M-100, M-200 and M-300 Series loose fitting facepieces and the M-400 Series Helmets are designed to be used with certain 3M™ Breathing Tubes and Powered Air Purifying (PAPR) or Supplied Air (SA) units to form a respiratory system. In addition, all 3M™ M-Series Headgear meet the test requirements of certain eye and face protection standards, and the M-300 and M-400 Series Headgear meet test requirements of certain industrial head protection standards. See “Approvals” section of these *User Instructions* for additional information.

The M-100 Series Respiratory Faceshields have a wide-view flip-up visor, fully adjustable ratchet suspension, and a fabric face seal. An integral air deflector allows the user to position the airflow for wearing comfort. When used with the optional M-170 Faceshield Inserts, the M-100 Series Headgear offers lightweight head coverage from dirt, debris, and overspray as well as minimal head protection from contact with stationary objects (i.e. “bump” protection).

The M-200 Series Respiratory Faceshields have similar features to the M-100 Respiratory Faceshields, including a liftable wide-view visor assembly and an integral air deflector to direct the airflow inside the headgear. Unlike the M-100 Series Headgear, the M-200 Series Headgear comes with a solid headgear shell to provide lightweight head coverage from dirt, debris, and overspray as well as minimal head protection from contact with stationary objects (i.e. “bump” protection).

The M-300 Series Respiratory Hardhats have similar features to the M-100 and M-200 Respiratory Faceshields, including a liftable wide-view visor assembly and an integral air deflector to direct the airflow inside the headgear. Unlike the M-100 Series Headgear, the M-300 Series Headgear comes with a solid headgear shell, and unlike the M-100 or M-200 it has been tested to certain industrial head protection standards.

The M-400 Series Helmets are designed to offer the highest level of respiratory protection of the M-Series range. This “jawed” product provides coverage for the neck and shoulders through a versatile two piece inner and outer neck shroud design. The M-400 Series Headgear uses the same fully adjustable head suspension and headgear shell as the M-300 Series Headgear.

Optional accessories and a variety of face seal, shroud, and visor materials are available for the M-Series Headgear, giving the user a choice of configurations for specific applications.

WARNING

Properly selected, used, and maintained respirators help protect against certain airborne contaminants by reducing airborne concentrations in the wearer’s breathing zone below the Occupational Exposure Limit (OEL). It is essential to follow all instructions and government regulations on the use of this product, which includes wearing the complete respirator system during all times of exposure, in order for the product to help protect the wearer. **Misuse of respirators may result in overexposure to contaminants and lead to sickness or death.** For proper use, see supervisor, refer to the product *User Instructions* or contact 3M Technical Service.

List of Warnings within these *User Instructions*

▲ WARNING

1. This product, when used as part of an approved respiratory protection system, helps protect against certain airborne contaminants. **Misuse may result in sickness or death.**
2. These products meet the requirements of certain industrial eyewear standards and with some models, certain industrial head protection standards. They do not provide complete head, eye, and face protection from severe impact and penetration and are not a substitute for good safety practices and engineering controls. **Misuse may result in serious injury or death.** For proper use, see supervisor, refer to the product *User Instructions* or contact 3M Technical Service.
3. When exposed to eye and face hazards, wear additional eye and/or face protectors appropriate to the hazard. ANSI Z87.1-2010, incorporated by reference in the OSHA Eye and Face Standard 29 CFR 1910.133, suggests safety spectacles or goggles should be worn in conjunction with loose fitting respirators if the visor can be raised from the normal position during use. **Failure to do so may result in serious injury or death.**
4. **Failure to follow these instructions** may reduce the capability of the M-300 and M-400 Series Headgear Shell to withstand impact and penetration and **may result in serious injury or death:**
 - a. Use only the cleaning processes and agents described in these *User Instructions* to clean the shell.
 - b. Do not store in direct sunlight.
 - c. Do not use beyond the maximum life of the product.
 - d. Do not use in high heat environments above the recommended maximum temperature.
5. The M-100 Series Headgear, when fitted with the M-170 Faceshield Head Inserts, and the M-200 Series Headgear, do not meet the test requirements for hard hat protection under ANSI Z89.1-2009. When head protection is required by OSHA or other safety regulations, hardhats or helmets, such as the M-300 and M-400 Series, must be used instead of the M-100 or M-200 Series Headgear. **Failure to do so may result in serious injury or death.**
6. **Failure to follow these instructions** may reduce the capability of the M-Series visors to withstand impact and penetration and **may result in serious injury or death:**
 - a. Use only the cleaning processes and agents described in these *User Instructions* to clean the visor.
 - b. Ensure visor buttons are firmly secured and flush to the visor frame. Replace worn or damaged parts.
7. **Failure to follow these instructions** may reduce respirator performance, overexpose you to contaminants, and **may result in sickness or death:**
 - a. Always properly assemble and wear both the inner and outer shroud (M-400 Series).
 - b. Ensure visor frame firmly latches in the closed position. Replace worn or damaged parts (M-400 Series).
 - c. Users must be clean-shaven where the respirator's face seal comes into contact with their face (M-100, M-200 and M-300 Series).
 - d. The M-Series Headgear is one component of an approved respiratory protection system. Always read and follow all *User Instructions* supplied with your 3M™ M-Series Headgear, PAPR Blower Unit or Supplied Air Device in order to ensure correct system operation.
 - e. 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 this respirator.
8. Use of the Head, Neck, and Shoulder Cover (M-976) does not increase the Assigned Protection Factor (APF) of the M-100, M-200 and M-300 Series Headgear. The M-976 is designed to help keep the wearer and headgear clean and does not increase the level of respiratory protection provided. Improper use may overexpose you to contaminants, and **may result in sickness or death.**
9. Do not use the Head, Neck, and Shoulder Cover (M-976) or non-flame resistant face seals and shrouds around high heat, sparks or flames. **Misuse may result in serious injury or death.**
10. Do not use the Shaded Peel-Off Cover (M-929) for welding. The Shaded Peel-Off Cover (M-929) will not protect the wearer's eyes from the harmful level of visible light, ultra-violet radiation (UV), and infrared radiation (IR) resulting from gas and arc welding processes. **Misuse may result in permanent eye injury and vision loss.** For welding use an ANSI Z87.1 compliant welding helmet with an appropriate filter lens for the specific welding process.
11. Only use the Shaded Peel-Off Cover (M-929) on the 3M™ Versaflo™ M-Series Headgear. Do not use on any other headgear including faceshields and eyewear. **Misuse may result in permanent eye injury and vision loss.**

Limitations of Use

1. Do not wear this respirator to enter areas where:
 - a. Atmospheres are oxygen deficient.
 - b. Contaminant concentrations are unknown.
 - c. Contaminant concentrations are Immediately Dangerous to Life or Health (IDLH).
 - d. Contaminant concentrations exceed the maximum use concentration (MUC) as determined using the Assigned Protection Factor (APF) for the specific respirator system or the APF mandated by specific government standards, whichever is lower. See "APF" section of these *User Instructions*.

Respirator Program Management

Occupational use of respirators must be in compliance with applicable health and safety standards. By law, US employers must establish a written respiratory protection program meeting the requirements of the OSHA Respiratory Protection Standard 29 CFR 1910.134 and any applicable OSHA substance specific standards. In Canada, CSA standard Z94.4 requirements must be met and/or requirements of the applicable jurisdiction, as appropriate. The major sections of 1910.134 are listed here for reference. Consult an industrial hygienist or call 3M Technical Service with questions concerning applicability of these products to your job requirements.

Major Sections of OSHA 29 CFR 1910.134

Section	Description
A	Permissible Practice
B	Definitions
C	Respiratory Protection Program
D	Selection of Respirators
E	Medical Evaluation
F	Fit Testing
G	Use of Respirators
H	Maintenance and Care of Respirators
I	Breathing Air Quality and Use
J	Identification of Cartridges, Filters, and Canisters
K	Training and Information
L	Program Evaluation
M	Recordkeeping

NIOSH - Approval, Cautions, & Limitations

These products are one component of a NIOSH approved respiratory protection system. Refer to the *User Instructions* and/or the NIOSH Approval Label provided with the 3M™ Supplied Air (SA) or Powered Air Purifying (PAPR) Blower Unit for approved configurations and applicable NIOSH Cautions and Limitations.

Additional Certifications

WARNING

1. These products meet the requirements of certain industrial eyewear standards and with some models, certain industrial head protection standards. They do not provide complete head, eye, and face protection from severe impact and penetration and are not a substitute for good safety practices and engineering controls. **Misuse may result in serious injury or death.** For proper use, see supervisor, refer to the product *User Instructions* or contact 3M Technical Service.
2. When exposed to eye and face hazards, wear additional eye and/or face protectors appropriate to the hazard. ANSI Z87.1-2010, incorporated by reference in the OSHA Eye and Face Standard 29 CFR 1910.133, suggests safety spectacles or goggles should be worn in conjunction with loose fitting respirators if the visor can be raised from the normal position during use. **Failure to do so may result in serious injury.**

When assembled according to these *User Instructions*, 3M™ Headgear Assemblies Series M-100, M-200, M-300, and M-400 meet the requirements of the ANSI Z87.1-2010 standard for eye and face protection devices. In addition, M-300 and M-400 Series Headgear Assemblies meet the requirements of the ANSI Z89.1-2009 (Type I, Class G) standard for industrial head protection.

Occupational use of these products for eye and face and/or head protection must be in compliance with applicable health and safety standards. In the US, employers must comply with the OSHA personal protective equipment (PPE) standard (29 CFR 1910.132) and, as applicable, the eye and face standard (29 CFR 1910.133) and the head protection standard (29 CFR 1910.135). In Canada consult the applicable standard(s) for your jurisdiction.

OPERATING INSTRUCTIONS

Unpacking

Inspect the package contents for shipping damage and ensure all components are present. The product should be inspected before each use following the procedures in the “Inspection” section of these *User Instructions*.

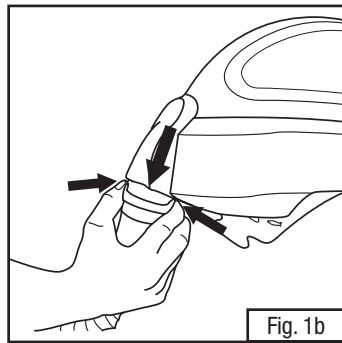
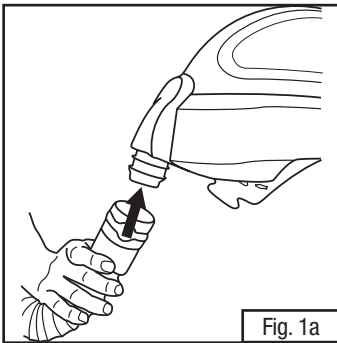
Assembly

M-Series Headgear

M-Series M-105, M-107, M-206, M-207, M-305, M-307, M-405, and M-407 are provided fully assembled. Prior to use, ensure any protective covering or film that may have been placed over the visor to protect it during manufacturing or shipping is removed. When using the M-101, M-301, or M-401 install a visor and faceseal (M-101/301) or inner and outer shroud (M-401) prior to use following the procedures in the “Replacement Parts and Accessories” section of these *User Instructions*.

Connecting & Disconnecting Breathing Tubes

- Connect approved breathing tubes by pushing the QRS (Quick Release Swivel) end of the breathing tube (i.e. end with the blue pinch clip) onto the air inlet of the headgear (Fig. 1a). The breathing tube should make an audible click when attached. Verify breathing tube is secured to the headgear by pulling on the connection. If it is not securely connected, detach and reconnect.
- To disconnect the breathing tube, compress the tabs on the end of the QRS to release and pull back to remove (Fig. 1b).



PAPR/SA Components

Read completely and follow the assembly instructions in the *User Instructions* provided with your 3M™ PAPR or Supplied Air Unit.

Donning & Fitting

⚠ WARNING

Failure to follow these instructions may reduce respirator performance, overexpose you to contaminants, and **may result in sickness or death:**

- a. Users must be clean-shaven where the respirator's face seal comes into contact with their face (M-100, M-200 and M-300 Series).
- b. Always properly assemble and wear both the inner and outer shroud (M-400 Series).
- c. Ensure visor frame firmly latches in the closed position. Replace worn or damaged parts if required (M-400 Series).
- d. The M-Series Headgear is one component of an approved respiratory protection system. Always read and follow all *User Instructions* supplied with your M-Series Headgear, 3M™ PAPR Blower Unit or Supplied Air Device in order to ensure correct system operation.
- e. 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 this respirator.

The following instructions cover donning and fitting your 3M™ Headgear. Follow the *User Instructions* for your 3M™ PAPR or Supplied Air Unit to properly assemble, don, and fit your specific air source. Complete all necessary performance checks as described in those *User Instructions* and verify that the airflow is adequate before donning your headgear and entering a contaminated environment.

NOTE: You may want to have a colleague help check for proper donning.

1. Connect an approved breathing tube to the headgear. See “Connecting & Disconnecting Breathing Tubes” section for additional information.
2. With the visor (lens) in the up position, place the headgear on your head.
3. Turn the ratchet knob at the back of the suspension clockwise until the suspension feels snug but comfortable. Turn counterclockwise to loosen, if needed. The suspension fits head sizes from 51-64 cm (US hat sizes 6 3/8 to 8). An optional size reducing ratchet comfort pad (M-956) is available to provide additional comfort. This comfort pad also can be used to improve fit and stability for smaller head sizes. See “Replacement Parts and Accessories” section of these *User Instructions* for additional information.
4. If the height on your head or the balance of the headgear is not comfortable, remove the headgear, turn upside down, and adjust the suspension.
 - a. The suspension headband can be adjusted at four locations. There are two adjustment locations in the rear of the headgear and two in the front. To change the position of the headband, pull the height adjustment slot off the peg and re-position to another slot on the “ladder” (Fig. 2). Each location can be adjusted independently for a custom fit.
 - i. M-100 and M-200: With the headgear upside down, moving up the “ladder” will **lower** the position of the headband. Moving down the “ladder” will **raise** it.
 - ii. M-300 and M-400: With the headgear upside down, moving up the “ladder” will **raise** the position of the headband. Moving down the “ladder” will **lower** it.

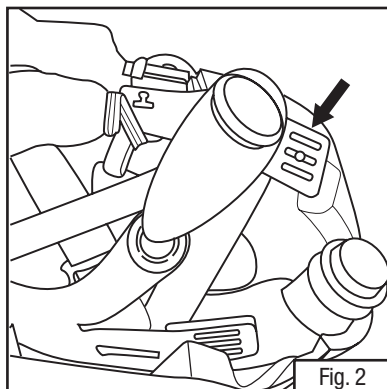
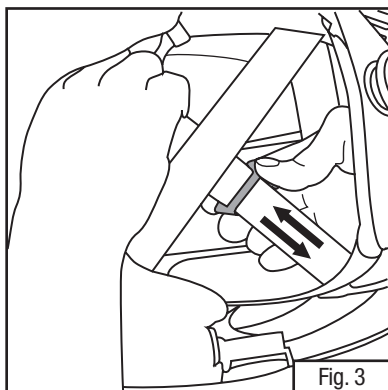


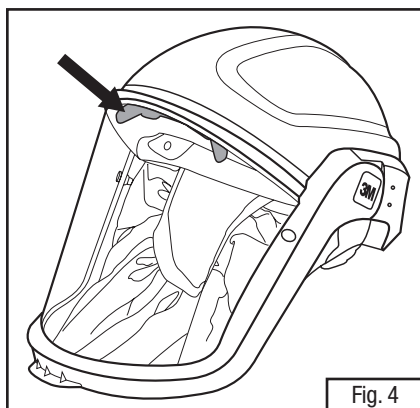
Fig. 2

- b. M-100 and M-200 Series Headgear Only: The fabric straps of the M-150 Head Suspension can be adjusted by sliding the blue strap lock located on the center strap (Fig. 3). Sliding the buckle towards the rear of the headgear tightens the straps and will raise the height of the headgear on the head. Sliding the buckle towards the front of the headgear loosens the straps and will lower the height of the headgear on the head.



5. Lower the visor into the down position.
- M-100, M-200 and M-300: Pull down on the loop located on the faceseal. Ensure the visor is fully down and covering your face. The headgear should sit level on your head with the faceseal gently hugging your face. If using the M-985 Earmuff Assembly or M-976 Head, Neck, and Shoulder Cover, ensure it does not interfere with the faceseal. The elasticized edge of the faceseal should come into contact with the skin under the chin and around the jaw.
 - M-400: Ensure visor is firmly closed (completely latched) in the down position. You should hear an audible “click” when it is fully closed. Tighten the adjustable cord on the inner shroud until there is less than a two finger gap between your skin and the inner shroud. Leave the outer shroud draped over your shoulders.
6. If needed, adjust the airflow inside the headgear for wearing comfort. To adjust, raise the visor into the up (open) position. Locate the blue air deflector in the front of the headgear and rotate. Fig. 4 shows where the air deflector is located. There are two positions. Adjust fully open for more airflow across the face or partially closed to re-direct a portion of the air towards the visor. After adjusting the air deflector, lower the visor back into the down position.

NOTE: Do not adjust the air deflector while in a contaminated area.



7. Complete any final performance checks required according to the *User Instructions* for your PAPR or Supplied Air Unit before entering a contaminated area.

Entering and Exiting the Contaminated Area

WARNING

1. These products meet the requirements of certain industrial eyewear standards and with some models, certain industrial head protection standards. They do not provide complete head, eye, and face protection from severe impact and penetration and are not a substitute for good safety practices and engineering controls. **Misuse may result in serious injury or death.** For proper use, see supervisor, refer to the product *User Instructions* or contact 3M Technical Service.
2. When exposed to eye and face hazards, wear additional eye and/or face protectors appropriate to the hazard. ANSI Z87.1-2010, incorporated by reference in the OSHA Eye and Face Standard 29 CFR 1910.133, suggests safety spectacles or goggles should be worn in conjunction with loose fitting respirators if the visor can be raised from the normal position during use. **Failure to do so may result in serious injury.**
3. **Failure to follow these instructions** may reduce respirator performance, overexpose you to contaminants, and **may result in sickness or death.**
 - a. The M-Series Headgear is one component of an approved respiratory protection system. Always read and follow all *User Instructions* supplied with your 3M™ M-Series Headgear, PAPR Blower Unit or Supplied Air Device in order to ensure correct system operation.
4. Do not use the head, neck, and shoulder cover or non-flame resistant faceseals and shrouds around high heat, sparks or flames. **Misuse use may result in serious injury or death.**
5. **Failure to follow these instructions** may reduce the capability of the M-300 and M-400 Series Headgear Shell to withstand impact and penetration and **may result in serious injury or death:**
 - a. Do not use in high heat environments above the recommended maximum temperature.

With the respirator in operation, enter the contaminated area, breathing normally. Keep the air supply hose or PAPR assembly away from equipment, vehicles, and other physical and chemical hazards.

1. Airborne contaminants which can be dangerous to your health include those that are so small you may not be able to see or smell them.
2. **Do not** wear this respirator to enter areas where:
 - a. Atmospheres are oxygen deficient.
 - b. Contaminant concentrations are unknown.
 - c. Contaminant concentrations are Immediately Dangerous to Life or Health (IDLH).
 - d. Contaminant concentrations exceed the maximum use concentration (MUC) determined using the Assigned Protection Factor (APF) for the specific respirator system or the APF mandated by specific government standards, whichever is lower.
3. Leave the contaminated area *before* reaching inside or removing the headgear. Do not remove the respirator or reach your hand into the headgear in areas where the air is contaminated. Do not adjust the airflow deflector while in a contaminated area.
4. Leave the contaminated area immediately if any of the following conditions occur:
 - a. Any part of the system becomes damaged.
 - b. Airflow into the respirator decreases or stops.
 - c. Breathing becomes difficult.
 - d. You feel dizzy or your vision is impaired.
 - e. You taste or smell contaminants.
 - f. Your face, eyes, nose or mouth become(s) irritated.
 - g. You suspect that the concentration of contaminants may have reached levels at which this respirator may no longer provide adequate protection.

Refer to the "Inspection & Maintenance" section of these *User Instructions* for guidance on how to properly care for your M-Series Headgear.

INSPECTION & MAINTENANCE

⚠ WARNING

1. **Failure to follow these instructions** may reduce respirator performance, overexpose you to contaminants, and **may result in sickness or death.**
 - a. 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 this respirator.
2. **Failure to follow these instructions** may reduce the capability of the M-300 and M-400 Series Headgear Shell to withstand impact and penetration and **may result in serious injury or death:**
 - a. Do not use beyond the maximum life of the product.

Before and after each use, inspect entire headgear for signs of damage or wear including dents, rips, cracks, color changes, chalking, fading, flaking and penetration. Carefully inspect all headgear components including the following:

- **Visor and visor frame:** Look for scratches or other visual distortions that could make it difficult to see through the visor. Look for signs that the visor has warped or cracked. A warped visor may not fit properly into the headgear and on the M-400 Series may not seal against the jaw. Ensure the visor stays firmly in the up (open) and down (closed) positions. Ensure visor buttons are present, firmly secured, and flush to the visor frame. Examine the visor gasket for tears or other damage. Gasket should be pliable and not brittle.
- **Head suspension:** Look for cracks, rips, fading, or other damage. Ensure head suspension ratchet operates properly. Inspect the web straps for rips, tears, fraying, or fading. Look for worn stitching. Ensure straps are properly attached.
- **Faceseal or inner and outer shroud:** Look for tears, holes, stretched elastic, gaps in seams, damage to stitching or other damage. Examine the gasket for tears or other damage. The gasket should be pliable and not brittle. Ensure faceseal or inner and outer shroud is securely and properly attached. Inspect the zipper of the inner shroud and ensure shroud is completely attached to outer shroud.
- **Headgear shell:** Look for visible damage including dents, cracks, color change, chalking or fading. Any M-300/M-400 Headgear subjected to impact should be removed from service and replaced even if damage is not readily apparent.
- **Forehead seals:** Ensure they are properly and securely attached and are free from damage.
- **Breathing tube:** Look for tears, holes or cracks. Bend the tube to verify that it is flexible. Ensure the gasket located in the QRS is present and not damaged. Inspect the gasket located on the bayonet end of the breathing tube (i.e. end that connects to the air source) for signs of damage. The breathing tube should fit firmly into the air source connection.
- **PAPR blower assembly:** Inspect according to the *User Instructions* for your specific air source.

Inspect date codes on visors, shells, and other plastic components and ensure parts have not exceeded their maximum life. See “Expected Life” section of these *User Instructions* for additional information.

If you discover any signs of wear and/or damage, remove headgear from use and service or replace as appropriate. Failure to do so may affect respirator performance and reduce the degree of protection provided.

REPLACEMENT PARTS AND ACCESSORIES

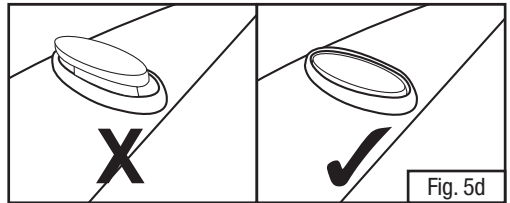
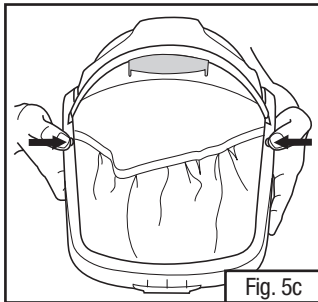
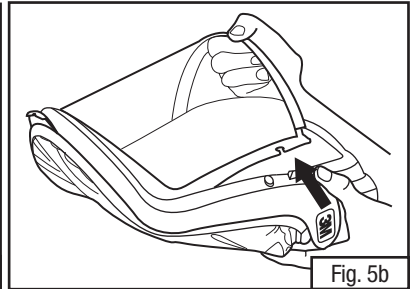
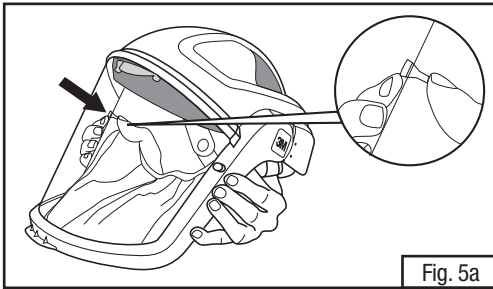
Replacement Parts

⚠ WARNING

1. **Failure to follow these instructions** may reduce the capability of the M-Series visors to withstand impact and penetration and **may result in serious injury or death:**
 - a. Ensure visor buttons are firmly secured and flush to the visor frame. Replace worn or damaged parts if required.
2. **Failure to follow these instructions** may reduce respirator performance, overexpose you to contaminants, and **may result in sickness or death.**
 - a. Always properly assemble and wear both the inner and outer shroud (M-400 Series).
 - b. 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 this respirator.
3. Do not use the head, neck, and shoulder cover or non-flame resistant faceseals and shrouds around high heat, sparks or flames. **Misuse may result in serious injury or death.**

M-925 and M-927 Visors

- With the visor frame in the down position (M-100, M-200 & M-300), release the visor frame buttons by pushing the buttons outward from inside the visor frame, one “click” (Fig. 5a). Move the visor frame to the up (open) position and pull on visor to remove from frame (Fig. 5b). If using the M-400, it may be easier if the visor frame is in the up (open) position to release the buttons and remove the visor.
- With the visor in the up (open) position, install a new visor by inserting visor into the groove in the frame, lining up the notches in the visor with the visor frame buttons. Ensure visor is fully seated in the groove (Fig. 5b).
- Push visor frame buttons closed to lock visor in place. The buttons should make an audible “click” when fully seated in the frame (Fig. 5c). Ensure visor buttons are firmly secured and **flush** to the visor frame (Fig. 5d). If the buttons do not seat flush to frame, remove and reinsert.
- Ensure the visor gasket is present and securely inserted into the groove in the top of the visor frame (See “M-921” in this section).

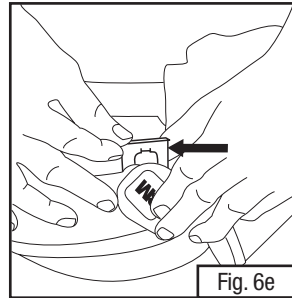
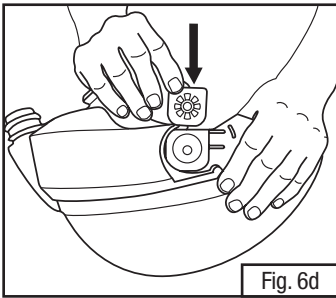
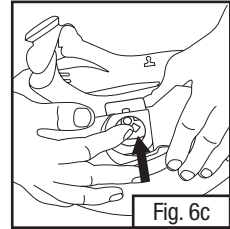
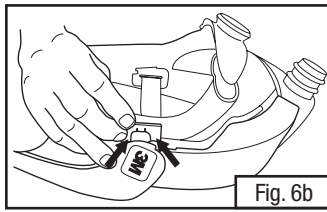
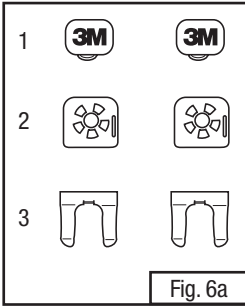


M-920 Visor Frame & M-960 Replacement Visor Pivot Kit

NOTE for M-100, M-200 & M-300 Series users: You must first detach the faceseal from the suspension headband. Re-attach faceseal before use. See “M-935, M-936, & M-937 Faceseals” in this section for additional information.

- Fig. 6a shows the pivot kit. From the top down, the part marked “3M” is the post (1), the next part is the “back plate” (2), and the bottom part in the Fig. 6a is the “metal spring clip” (3).
- With the headgear upside down and the visor frame in the up (open) position, pull down on metal spring clips (towards inside of headgear) until they touch the back plate. Pull out to remove. Gently use a tool if necessary (e.g. flat-blade screwdriver). Remove frame from M-Series Headgear (Fig. 6b).
 - If replacing frame or pivot kit, remove post with red “3M” from visor frame by placing the frame on the edge of a table, resting on the post (i.e. 3M is facing toward you), and press down forcefully on the visor frame with heel of hand.
 - If replacing pivot kit, push back plate out from shell slightly (towards outside of headgear) and slide out from slot on headgear shell to remove. Gently use a tool if necessary (e.g. flat-blade screwdriver) (Fig. 6c).
- To re-install the visor frame and pivot kit, insert “3M” post into visor frame. Ensure “3M” is positioned such that it is right side up when worn and not upside down.
- Install back plate into the headgear shell. When installing the “wind mill” pattern should be facing outwards and the “M-960” marking will be located on the bottom of the plate. Install rounded edge first and slide completely into the slot (Fig. 6d). Gently push down on back plate to ensure it is flush to bottom of slot.

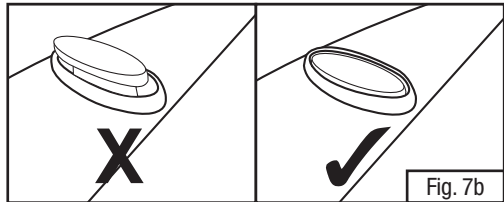
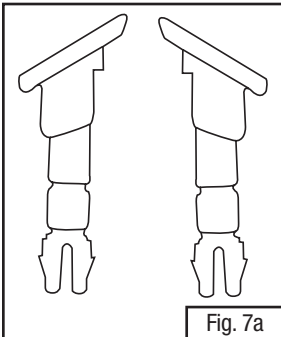
- Line up visor frame over attachment slots and slide spring into place. With the post and back plate engaged, the visor frame should be in the fully open or fully closed position before the spring is installed (Fig. 6e).
- Verify the visor frame and pivot kit is correctly installed by raising and lowering the visor several times. Ensure the visor stays firmly in the up (open) and down (closed) positions.



M-919 Visor Frame Buttons

The visor frame buttons are designed to stay slotted in the visor frame until broken, worn or damaged. To replace broken or worn buttons, move the visor frame to the up (open) position. Remove visor from frame as described in the previous section. Remove worn or broken button(s). Gently use a tool if necessary (e.g. pliers) to assist in removal. Install new buttons one at a time, ensuring they are correctly aligned on each side of the frame. Fig. 7a shows how the buttons should be positioned (i.e. sloped flat tops are both pointed in towards each other and not outwards on the frame). Re-install visor and ensure visor buttons are firmly secured and **flush** to the visor frame (Fig. 7b). If the buttons do not seat flush to frame, check that they were correctly installed.

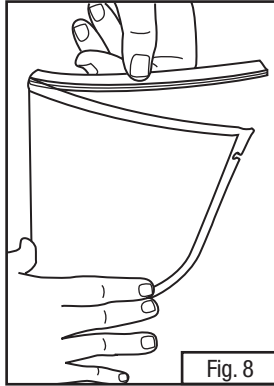
Reinstall if necessary.



M-921 Replacement Visor Gasket

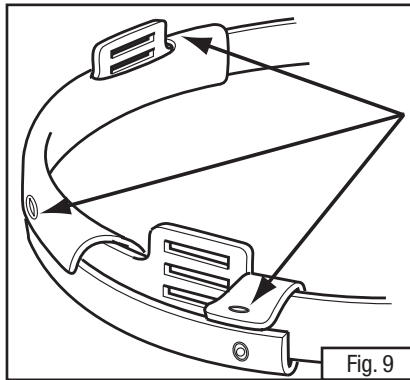
To remove gasket (Fig. 8), with the visor frame in the up (open) position, grasp the black gasket and slowly pull straight out in small sections. To install a new gasket, align end with the edge of the groove in the top of the visor. Press the gasket firmly into the groove in small sections. Both gasket ribs should be fully inserted into the groove.

NOTE: When properly installed, the visor gasket should make contact with the headgear shell. If it does not, remove and re-install.



M-957 Forehead Comfort Pad/Sweat Pad

To replace comfort pad, unsnap pad and remove from headband. Wrap new comfort pad around the headband in the area that comes into contact with your forehead and secure by closing the three snaps (Fig. 9).



M-953 Ratchet

To remove the ratchet, locate ratchet attachment points on suspension (Fig. 10a). Remove by pressing down on each of the four circular sections to release the ratchet at the attachment points as shown (Fig. 10b). To install ratchet, first turn the knob counterclockwise as far as it will go. Hold ratchet so that the attachment holes are curved in the up position (Fig. 10c). Snap attachment points on each side onto the suspension.

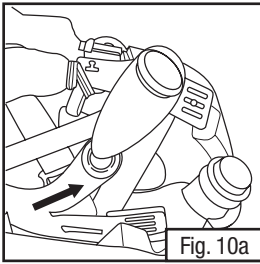


Fig. 10a

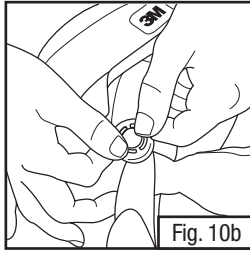


Fig. 10b

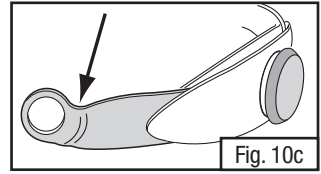


Fig. 10c

M-150 Head Suspension (M-100 & M-200 Series)

To replace head suspension:

- Detach the face seal and forehead seal button from the suspension headband. See “M-935, M-936, & M-937 Face seals & M-154 Forehead Seal” in this section for additional information.
- Release the suspension from the headgear by pulling the height adjustment slot off the peg at each of the four attachment points. Fig. 11 points to one of the attachment slots. There are 2 in the rear and 2 in the front.
- Install new suspension by snapping each of the four height adjustment slots onto the four pegs on the headgear shell. **NOTE:** See “Donning and Fitting” section of these *User Instructions* for information on adjusting the suspension for a comfortable fit (Fig. 11).
- Attach face seal and forehead seal button to suspension.
- Adjust suspension for fit and comfort according to the “Donning & Fitting” section of these *User Instructions*.

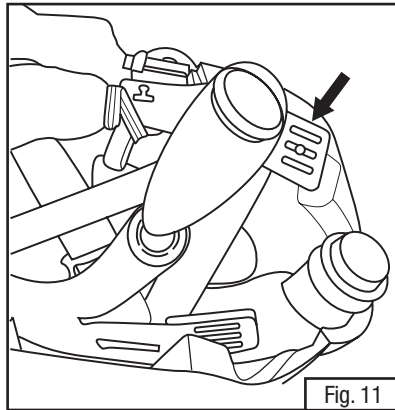


Fig. 11

M-350 Head suspension (M-300 & M-400 Series)

NOTE for M-300 Series users: You must first detach the face seal from the suspension headband. See “M-935, M-936, & M-937 Face seals” in this section for additional information.

To replace head suspension:

- With the headgear upside down, release the head suspension from the headgear shell by pushing upwards on the plastic hangers of the web straps. The hangers are shown in Fig. 12.
- Remove the remaining center web strap by pushing upwards on the plastic hangers.
- To install new suspension, attach the single web strap that is not attached to the headband into the headgear shell by inserting the hangers into the slots. The center strap attaches in the slots next to the 3M™ Pivots.
- Align the head suspension over the shell with the ratchet towards the air inlet and the comfort pad end of the suspension towards the visor. Attach the plastic hangers of the suspension into the remaining slots to complete installation of the suspension. All hangers must be attached. Ensure hangers are fully seated and flush to shell slot.

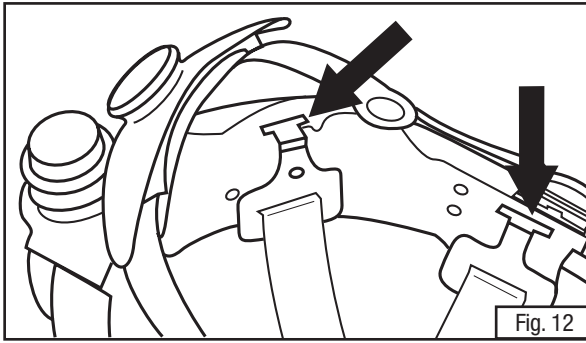


Fig. 12

M-935, M-936, & M-937 Faceseals (M-100, M-200 & M-300 Series)

To remove faceseal:

- With the visor frame in the down (closed) position, remove plastic faceseal tab from “T” attachment points on headband (Figs. 13a & b).
- Grasp the black faceseal gasket and slowly pull straight out in small sections, working your way around the faceseal (Fig. 13c).

NOTE: Do not bend gasket over and ‘peel’ off as this may damage the gasket ribs. Do not start in the middle of the gasket. Pull out in small sections starting at one end.

To install faceseal:

- On the faceseal, locate the side with the fabric “loop” which is sewn into the elastic. Holding the faceseal with this side facing up, grasp the black gasket on the faceseal and align with the edge of the groove in the visor frame. Starting with one edge, press the gasket firmly into the groove in small sections, working your way around the faceseal (Fig. 13c). Both gasket ribs should be fully inserted into the groove.
- Locate the “T” hooks on the suspension (Fig. 13d). The plastic tab of the faceseal attaches to this hook on the suspension. To attach, slide the tabs in **between the suspension and the headgear shell**. Attach notch in faceseal tabs onto the “T” hooks located on the suspension headband (Fig. 13b).
- Grasp elastic loop on faceseal and pull up over suspension headband and attach to the plastic tab (Fig. 13a).

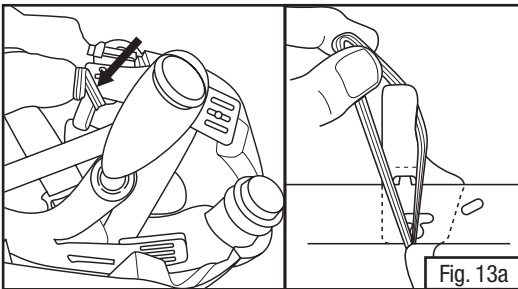


Fig. 13a

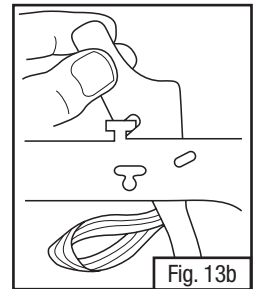


Fig. 13b

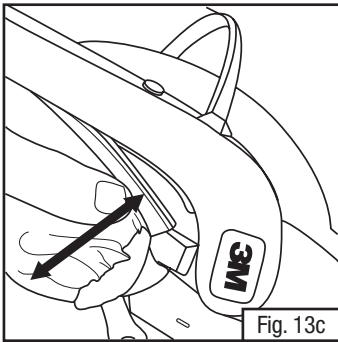


Fig. 13c

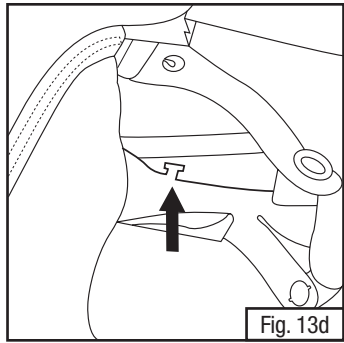


Fig. 13d

M-445, M-446, M-447, M-448 & M-449 Outer Shrouds (M-400 Series)

To remove the outer shroud:

- Pull the large plastic tab off the air inlet of the headgear and release the suspension ratchet from the hole in the outer shroud (Fig. 14a).
- Grasp the black shroud gasket and slowly pull straight out in small sections, working your way around the shroud (Fig. 14b).

NOTE: Do not bend gasket over and 'peel' off as this may damage the gasket ribs. Do not start in the middle of the gasket. Pull out in small sections starting at one end.

To install the outer shroud:

- Insert air inlet of headgear through the hole in the large plastic tab on the outer shroud. Push tab fully onto the air inlet such that it is flush to the headgear shell. Push the ends of the plastic tab underneath shell lip. Insert head suspension ratchet through hole in shroud (Fig. 14a).
- Grasp the black shroud gasket and pull to expose the edge of the gasket where it meets the elastic (Fig. 14c). Align the edge of the gasket with the edge of the groove in the headgear. Press the gasket firmly into the groove in small sections, working your way around the shroud. Start at one end and work around in one direction. When you reach the end of the groove in the headgear on the other side from where you started, the gasket on the shroud may extend slightly beyond the edge of the groove - this is acceptable - but it is critical that both gasket ribs are completely inserted into the groove.

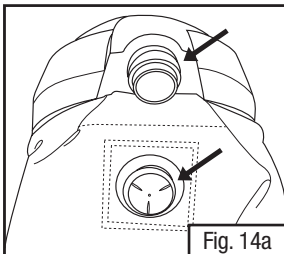


Fig. 14a

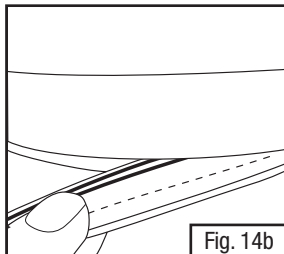


Fig. 14b

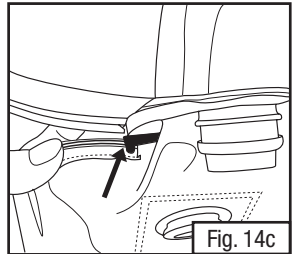


Fig. 14c

M-444 Inner Shrouds (M-400 Series)

To remove inner shroud, unzip inner shroud from outer shroud and remove. To install inner shroud, align the zipper parts on the inner and outer shroud and connect. Ensure inner shroud is completely zipped into the outer shroud (Fig. 15).

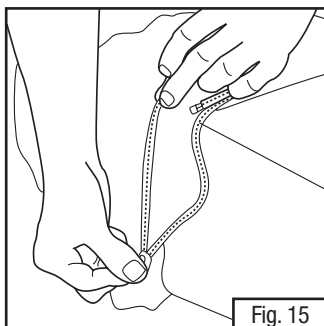


Fig. 15

M-116 and M-316 Airflow Deflectors

The M-116 (M-100 and M-200) and M-316 (M-300 and M-400) airflow deflectors are not intended to be removed on a regular basis. They are designed to stay in the headgear until broken or damaged. To replace broken parts, move the visor to the up (open) position. With the headgear upside down, remove damaged or broken airflow deflector. Gently use a tool if necessary (e.g. pliers). Install deflector by snapping into place.

M-154 Replacement Forehead Seal (M-100 and M-200 Series)

- To remove forehead seal, lift visor frame into the up (open) position and unbutton the seal from its attachment points on the suspension. Grasp the black gasket and slowly and gently pull straight out in small sections, starting at one end and working around the gasket. Do not start in the middle of the gasket as this may cause the gasket to rip or tear.
- To install forehead seal, grasp the black gasket and align with headgear according to Fig. 16a. **NOTE:** The “shiny” side of the seal should be facing towards you (i.e. outwards) as you install the seal. Press the gasket firmly into the groove in small sections. Both gasket ribs should be fully inserted into the groove. Grasp fabric tab with button and fold over to inside of suspension. Attach forehead seal button to head suspension (Fig. 16b).

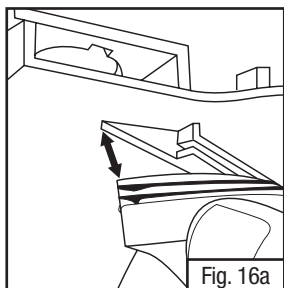


Fig. 16a

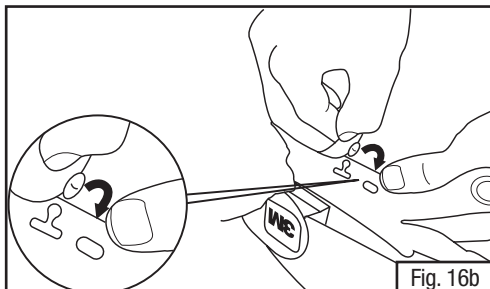


Fig. 16b

M-354 Replacement Forehead Seal (M-300 Series)

The forehead seals are designed to stay in the headgear and are not intended to be removed until they need replacement. Completely remove current seals before installing new ones. If needed, gently hand scrape off any residue. Clean the surfaces with a respirator wipe or damp cloth and wipe dry with towel. Ensure surfaces are completely clean and dry before installing new forehead seals. Install one seal at a time. Peel off backing from seal. Hold seal in place in appropriate location with hand pressure for at least 5-10 seconds to ensure adhesion.

M-441 Replacement Jaw Gasket (M-400 Series)

With the visor in the up (open) position grasp the black gasket and slowly and gently pull straight out in small sections, starting at one end and working around the gasket. Do not start in the middle of the gasket as this may cause the gasket to rip or tear.

To install new gasket, align end with the edge of the groove in the bottom of visor frame. Press the gasket firmly into the groove in small sections. Both gasket ribs should be fully inserted into the groove (Fig. 17).

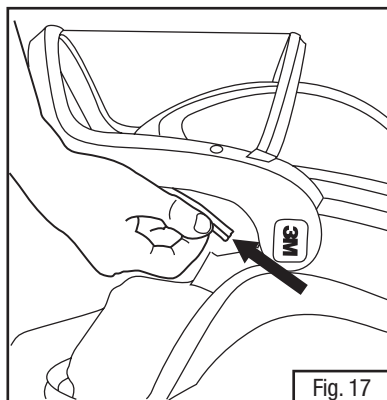


Fig. 17

ACCESSORIES

⚠ WARNING

1. The M-100 Series Headgear, when fitted with the M-170 Faceshield Head Inserts, and the M-200 Series Headgear do not meet the test requirements for hard hat protection under ANSI Z89.1-2009. When head protection is required by OSHA, or other safety regulations, hardhats or helmets, such as the M-300 and M-400 Series Headgear, must be used instead of the M-100 or M-200 Series Headgear. **Failure to do so may result in serious injury or death.**
2. Use of the Head, Neck, and Shoulder Cover (M-976) does not increase the Assigned Protection Factor (APF) of the M-100, M-200 or M-300 Series Headgear. The M-976 is designed to help keep the wearer and headgear clean and does not increase the level of respiratory protection provided. Improper use may overexpose you to contaminants, and **may result in sickness or death.**
3. Do not use the Head, Neck, and Shoulder Cover or non-flame resistant face seals and shrouds around high heat, sparks or flames. **Misuse use may result in serious injury or death.**
4. Do not use the Shaded Peel-Off Cover (M-929) for welding. The Shaded Peel-off Cover (M-929) will not protect the wearer's eyes from the harmful level of visible light, ultra-violet radiation (UV), and infrared radiation (IR) resulting from gas and arc welding processes. **Misuse may result in permanent eye injury and vision loss.** For welding use an ANSI Z87.1 complaint welding helmet with an appropriate filter lens for the specific welding process.
5. Only use the Shaded Peel-Off Cover (M-929) on the 3M™ Versaflto™ M-Series Headgear. Do not use on any other headgear including faceshields and eyewear. **Misuse may result in permanent eye injury and vision loss.**

M-926 and M-928 Peel-off Visor Covers

Ensure the visor is clean and dry before attaching any visor covers. To attach peel-off visor covers, peel off the paper backing from the adhesive on the edges of the cover. Center the cover over the visor and press the edges with the adhesive coating against the visor. You may stack up to 5 visor covers on top of one another. This allows you to quickly peel off covers as they become difficult to see through, reducing the number of times you must stop working to reapply covers.

NOTE: The M-926 covers are for use with the M-925 uncoated visor and the M-928 covers are for use with the M-927 coated visor. The M-926 covers have a notch in the tab for easy identification. Use of the M-928 covers on the uncoated M-925 visor may leave residue upon removal.

M-929 Shaded Peel-Off Cover

The 3M™ Versaflto™ Shaded Peel-off Visor Cover (M-929) is an optional accessory for the 3M™ Versaflto™ M-Series Headgear. The peel-off is optimized for the M-927 premium visor. Use of the M-929 cover on the uncoated M-925 visor may leave residue upon removal.

The shaded peel-off cover M-929 complies with the shade W3.0 transmission requirements listed in Table 6 of the American Standards Institute Eye and Face Protection standard ANSI Z87.1-2010. The peel-off cover is intended for use in torch brazing and soldering applications.

Assembly

To attach the peel-off cover to the outside of the M-927 visor:

1. Before installing the peel-off cover, ensure the visor is clean and dry.
2. Remove the paper backing from the adhesive on the edges of the cover.
3. Center the cover over the outside of the visor and press the edges with the adhesive coating against the visor.
4. If the peel-off is being attached to a visor not yet installed into the M-Series Headgear Assembly, insert the visor into the headgear following the procedures in the M-Series Headgear *User Instructions*.
5. Verify the peel-off is centered on the visor and there is minimal gap between the visor frame assembly and the peel-off cover.
6. If the peel-off is not centered on the visor, remove the peel-off and repeat steps 1-5 above with a new peel-off cover.
7. Read completely and follow the *User Instructions* for the M-Series Headgear and your 3M™ Supplied Air Device or powered air purifying respirator to complete system assembly and performance checks.

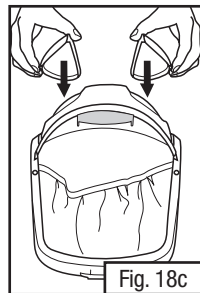
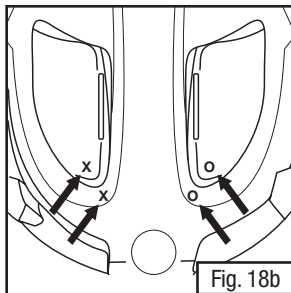
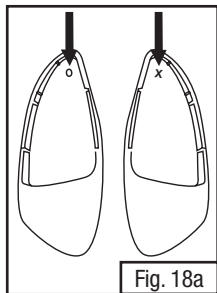
NOTE: Use only one peel-off cover at a time. Do not stack multiple M-929 shaded peel-off covers on the M-Series Visor. **Do not** use any other peel-off cover in combination with the M-929 including the clear peel-off visor covers M-926 and M-928.

Carefully inspect the peel-off for damage before each use including holes, tearing, ripping, peeling, discoloration, and hazing. **If you discover any signs of damage, remove headgear from use and replace the peel-off visor cover with a new one. Failure to do so may affect performance and reduce the degree of protection provided.**

Before use, store the M-929 shaded peel-off covers in original unopened packaging in a clean area that is protected from contamination, damage, dirt, debris, product distortion, and direct sunlight. Do not store next to furnaces, ovens, or other sources of high heat. When stored in accordance with the recommended storage conditions listed in these *User Instructions*, product may be used until “use by” date specified on packaging.

M-170 Faceshield Head Inserts

The head inserts can be snapped into the M-100 Series Headgear to create a closed shell that provides minimal head coverage against contact with stationary objects or hard surfaces. The inserts also help to protect the wearer’s head from overspray, dust, dirt and debris. The inserts can be installed and removed as required. The inserts are marked with an “X” and an “O” respectively (Fig. 18a). To install, match the marking on the insert with the corresponding marking on the M-100 shell (i.e. match “X” to “X”) as shown in Fig. 18b. Snap into place, starting with the snap on the outside of the shell on each side (i.e. side nearest wearer’s ears) (Fig. 18c).



M-958 Chin strap

An optional chin strap is available for all M-Series Headgear to increase stability and provide additional comfort. Locate the chin strap attachment points on the head suspension and attach the chin strap as shown in Fig. 19. Verify chin strap is secured to the suspension by pulling on the chin strap. See Chin Strap packaging for additional information on use and care.

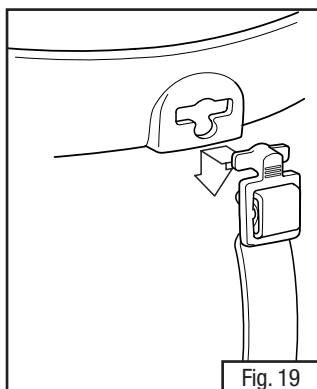


Fig. 19

M-976 Head, Neck, and Shoulder Cover (for use with M-100/M-200/M-300)

The head, neck, and shoulder cover can be used to help keep the headgear and the wearer clean. To install:

- Remove the black visor gasket by pulling straight out in small sections with the visor in the up (open) position. Retain visor gasket.
- Insert headgear into head, neck, and shoulder cover such that the black gasket on the cover is towards the visor of the headgear.
- Grasp the black gasket and align with the edge of the groove in the top of the visor. Starting on one side press the gasket firmly into the groove in small sections. Both gasket ribs should be fully inserted into the groove (Fig. 20).
- Pull air inlet in back of headgear completely through small hole in back of the cover.

NOTE: After using the head, neck, and shoulder cover ensure a visor gasket (M-921) is re-installed on M-Series Headgear prior to use.

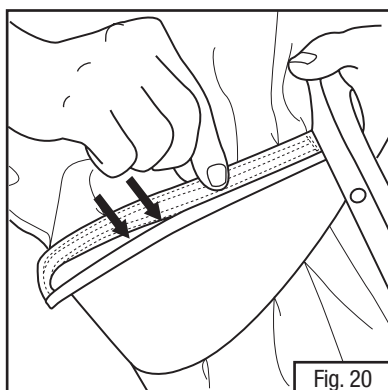


Fig. 20

M-972 Flame Resistant Headgear Cover

The headgear cover can be used to help keep dirt, debris, overspray, etc. off the headgear shell. The two slits in the headgear cover are to accommodate the optional M-985 Earmuff Kit on the M-100, M-200 and M-300 headgear. If you are using the earmuff kit, follow the procedures in this section for installing the headcover when using the M-985 kit.

To install the headgear cover on M-Series Headgear (when optional M-985 Earmuff Kit is not being used):

- Remove the black visor gasket by pulling straight out in small sections with the visor in the up (open) position. Retain visor gasket.
- To install the headgear cover, grasp the black gasket and align with the edge of the groove in the top of the visor. Starting on one side press the gasket firmly into the groove in small sections. Both gasket ribs should be fully inserted into the groove (Fig. 20).

- Pull headgear cover over product and loop over air inlet in back of headgear. The air inlet goes through the hole in the back of the cover.

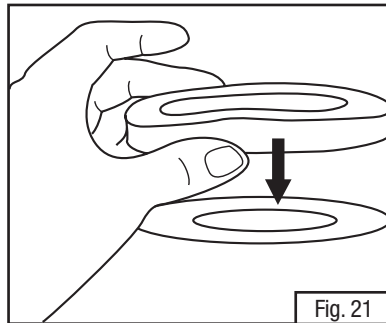
To install the headgear cover on M-100/M-200/M-300 when the optional M-985 Earmuff Kit is attached to the headgear shell:

- Start with the earmuffs in the “Parked” position. To move the cups to this position, ensure the wire bands are pulled outwards and then rotate cups to the top of the headgear. Care should be taken to ensure the earmuff cushions stay clean. Refer to the “M-985” section of these *User Instructions* for additional information on “Use”, “Standby”, and “Parked” positions.
- Remove the black visor gasket by pulling straight out in small sections with the visor in the up (open) position. Retain visor gasket.
- Hold the cover over headgear oriented with the bright orange panel and black gasket pointed towards the visor and the hole for the air inlet pointed towards the rear of the headgear.
- Push the earmuffs through the slits in the headgear cover one at a time.
- Pull headgear cover over product and loop over air inlet in back of headgear. The air inlet goes through the hole in the back of the cover.
- With the visor in the open position, grasp the black gasket on the headgear cover and align with the edge of the groove in the top of the visor. Starting on one side press the gasket firmly into the groove in small sections. Both gasket ribs should be fully inserted into the groove (Fig. 20).

NOTE: After using the headgear cover, ensure a visor gasket (M-921) is re-installed on M-Series Headgear prior to use.

M-956 Size Reducing Ratchet Comfort Pad

The size reducing ratchet comfort pad is available to provide additional comfort for wearers. This comfort pad also can be used to improve fit and stability for smaller head sizes. To install, peel off backing on comfort pad and attach to ratchet back plate. Ensure back plate is clean and dry prior to installation. Hold pad in place with hand pressure for at least 5-10 seconds to ensure adhesion (Fig. 21).



M-985 Headgear-Mounted Earmuff Assembly (for use with M-100/M-200/M-300)

The earmuff kit is an optional accessory for the M-100, M-200 and M-300 Series Headgear. The earmuff kit cannot be used with the M-400 Series Helmets. The earmuff kit is fully assembled. The orange cups are attached to wires and the wires are attached to black plastic attachment mounts. A set of screws is included to attach the mounts to the headgear shell.

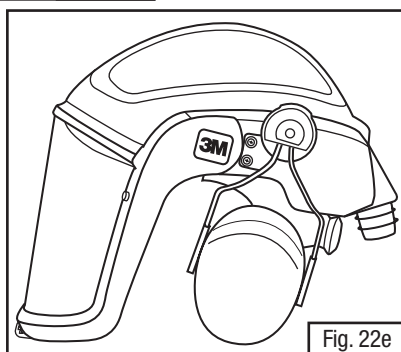
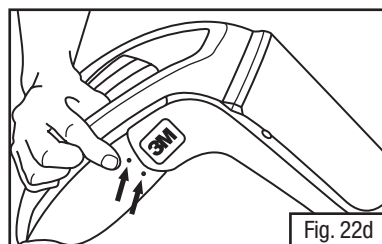
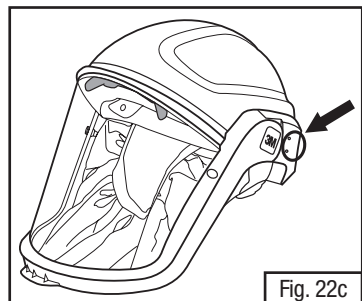
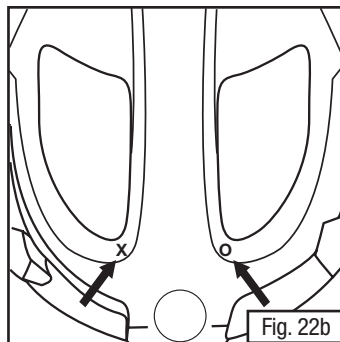
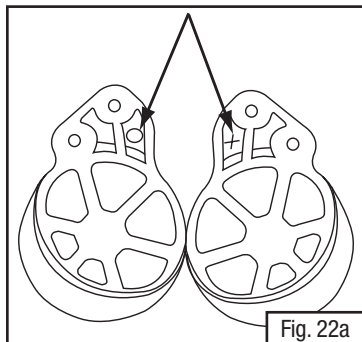
To attach the earmuffs to the M-100, M-200 or M-300 Headgear:

- Inspect the black plastic earmuff mounts and locate the “X” and “O” molded into the plastic. There is a left side and right side mount (earmuff). As worn, the mount with the “X” on it should be on the right side of the headgear and the mount marked with an “O” should be on the left side (i.e. “X” on the right, “O” on the left). Fig. 22a depicts the location of the “X” and “O” markings on the mount.

NOTE: On the M-100 and M-200 Series Headgear only, the “X” and “O” markings on the inside of the headgear shell used to assist with installing the faceshield head inserts can also be used as an indicator for earmuff attachment. Match the marking on the earmuff mount with the corresponding marking on the M-100/M-200 shell (i.e. match “X” to “X”). See Fig. 22b. There are no “X” and “O” markings on the inside of the M-300 Series Headgear.

- Locate the earmuff attachment points on the outside of the headgear shell (Figs. 22c & d). Note on the M-300 Series Headgear there are visible indents on the outside of the shell where the earmuffs attach. On the M-100 and M-200, the indents may not be as visible on the outside of the shell.

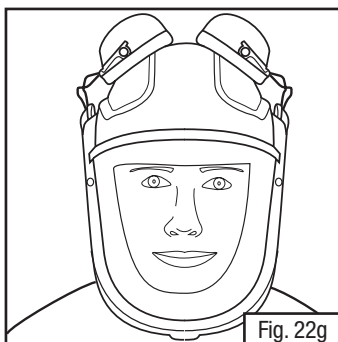
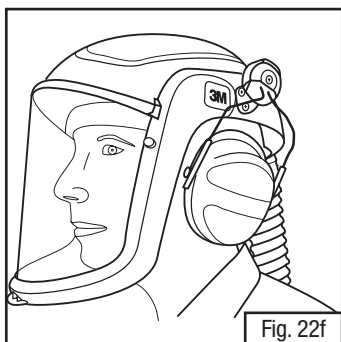
- Use a pen or a screwdriver to gently push on the screw attachment points to start the hole (i.e. make an indent). This will make it easier to thread the screws into the shell.
- Insert a screw into one of the holes in the mount and thread into the indentation on the headgear shell using a screwdriver. Tighten until screw is flush to the mount and threaded in tight. Repeat procedure with second screw.
- Test the mount connection to the shell by trying to wiggle the mount. If it moves or wobbles, further tighten screws. The mount should be snug to the headgear shell.
- Attach the second mount to the other side of the headgear following the same procedure.



The earmuffs can be placed in three positions:

- **Usage:** When in use, the wire bands must be pushed fully inward toward your head until you hear a “click” (Fig. 22f). The cup cushions must fully enclose the ears and seal tightly against the head. For best attenuation performance, pull hair back from under the ears so that the cups sit close on the head.
- **Standby:** Wire bands may be pulled outwards until you hear a “click” indicating a shift from usage to standby.
- **Parked:** Cups may be rotated out of the way onto the top of the headgear (Fig. 22g) if the headgear shell is clean and free of contamination. Care should be taken to ensure the ear cushions stay clean.

NOTE: When the headgear is not being used, store with muffs rotated to “Usage” position. Do not store on top of headgear in “Parked” position or “Standby” position. Keep muffs clean and dry.



Review product packaging prior to use for additional information including the noise reduction rating (NRR) attenuation data, warnings, and other important information.

CLEANING, STORAGE, AND DISPOSAL

⚠ WARNING

Failure to follow these instructions may reduce the capability of the M-300 and M-400 Series Headgear shell to withstand impact and penetration and **may result in serious injury or death:**

- Use only the cleaning processes and agents described in these *User Instructions* to clean the shell.
- Do not store in direct sunlight.
- Do not use beyond the maximum life of the product.
- Do not use in high heat environments above the recommended maximum temperature.

Failure to follow these instructions may reduce the capability of the M-Series visors to withstand impact and penetration and **may result in serious injury or death:**

- Use only the cleaning processes and agents described in these *User Instructions* to clean the visor.

Cleaning

The M-Series Headgear should be regularly cleaned. Follow the hygiene practices established by your employer for the specific contaminants to which the respirator assembly has been exposed. Contact 3M Technical Service for additional information on cleaning the M-Series Headgear.

- **Headgear Shell, Visors, Visor Frame, and other plastic parts:** A clean cloth, sponge or soft brush dampened with a mild solution of soapy water may be used to wipe down the M-Series visors, headgear shells, head suspensions (including the webbing), and all other plastic parts. Rinse with clean water. Washing temperature should not exceed 120°F (49°C). Rinse with clean water. Air dry all parts inside and out thoroughly before storage or reuse. If liquid enters the air channels ensure it is thoroughly dry before storage and reuse.

Do not use strong solvents for cleaning plastic parts including headgear shells, suspensions, and visors. To help prevent build-up of paint overspray or other contamination on visors, 3M recommends use of the visor peel offs (M-926 or M-928). To help keep the headgear shell clean, 3M recommends the headgear cover (M-972) or head, neck, and shoulder cover (M-976).

- **Comfort Pad:** The forehead comfort pad/sweat pad (M-957) may be hand washed or laundered with a solution of soapy water.
- **Faceseals, Headgear Cover, and Head, Neck, and Shoulder Cover:** The fabric faceseals, headgear cover, and head neck and shoulder cover are intended to be disposable. No cleaning is recommended. Cleaning the flame resistant faceseal (M-937) or Headgear Cover (M-972) may result in a loss of flame resistant properties.
- **Shrouds:**
 - **M-445 Standard Outer Shroud:** This shroud is generally considered to be disposable and should be replaced when worn, damaged or soiled. A clean cloth or sponge dampened with a mild solution of warm water and liquid household soap may be used to gently wipe down the outer surfaces and the shroud gasket. Thoroughly air dry before storage. If deciding not to treat the shroud as disposable, as suggested above, inspect closely before reuse.

- **M-446 Premium Outer Shroud:** A clean cloth or sponge dampened with a mild solution of water and liquid household soap may be used to gently wipe down the outer surface and the shroud gasket. Shroud may also be gently hand washed or laundered at low temperature with mild detergent. Do not use chlorine bleach or fabric conditioners. Washing temperature should not exceed 104°F (40°C). Thoroughly air dry before storage. Inspect closely before reuse. Dispose of when worn or damaged.
- **M-447 Flame Resistant Outer Shroud:** This shroud is made from Nomex® IIIA fabric which is inherently flame resistant. It may be hand washed or laundered in warm water with a mild detergent. Wash shroud separately from any other fabrics to prevent contamination with lint from flammable fibers. Do not use chlorine bleach or soaps. Soap scum may be flammable and could adversely affect the thermal protective performance of the material. Thoroughly air dry or dry on low setting before storage. Inspect closely before reuse. Dispose of when worn or damaged.
- **M-448 High Durability Outer Shroud:** This shroud is made from Cordura® Nylon. It may be hand washed or laundered at low temperature with mild detergent. Do not use chlorine bleach. Thoroughly air dry or dry on low setting before storage. Inspect closely before reuse. Dispose of when worn or damaged.
- **M-449 Leather Outer Shroud:** A soft bristled brush may be used to remove any debris on the outer surface. Shroud may also be wiped down with a damp cloth. Inspect closely before reuse. Dispose of when worn or damaged.
- **M-444 Inner Collar:** Hand wash or launder at low temperature with mild detergent. Washing temperature should not exceed 104°F (40°C). Do not use chlorine bleach or fabric conditioners. Thoroughly air dry before storage. Inspect closely before reuse. Dispose of when worn or damaged.
- **Breathing Tubes:** Breathing tubes may be wiped down with warm soapy water. If liquid enters the breathing tube, thoroughly dry the tube before storage or reuse by forcing air through the tube (approximate flow rate of 6 to 15 cfm) for several minutes with the tube hanging vertically.

Storage/Disposal

Store product in a clean area that is protected from contamination, damage, dirt, debris, product distortion, and direct sunlight. Do not store next to furnaces, ovens, or other sources of high heat. Do not store outside the recommended storage temperature conditions (see “Specifications” section) or above 90% humidity. Dispose of product according to local regulations.

SPECIFICATIONS

Contact 3M Technical Service for additional technical specifications (e.g. weight, materials of construction, etc.).

NOTE: The M-Series Headgear contains no components made from natural rubber latex.

Technical

Airflow range	6 to 15 cfm (170 to 425 lpm)
Noise level	Less than 80 dBA (excluding external noise)
Operating Temperature Range	-10°C to 55°C (14°F to 130°F)
Storage Temperature Range*	-30°C to 50°C (-22°F to 122°F)*

*4°C to 35°C (40°F to 95°F) suggested storage temperature range if product will be stored for an extended period of time before first use.

Assigned Protection Factors (APF)

Model Number	Classification	OSHA APF ¹
M-100, M-200 and M-300 Series (M-105, M-107, M-206, M-207, M-305, M-307)	Loose fitting facepiece	25
M-400 Series (M-405, M-407)	Helmet	1000 ²

¹ In Canada, follow CSA Z94.4 or the requirements of the authority having jurisdiction in your region.

² 3M supports an APF of 1,000 for these hoods, which is consistent with the OSHA APFs defined in 29 CFR 1910.134. Contact 3M for supporting test procedures and data.

Expected Life

Prior to first use the product should be stored unopened in its original package in accordance with the recommended storage conditions. Once the product is removed from its original packaging, the “in use” or operational life will vary with frequency and conditions of use. Headgear subjected to more wear and tear or use outdoors in direct sunlight may need to be replaced more frequently than headgear used indoors. Inspect M-Series Headgear prior to each use as directed in the “Inspection and Maintenance” section of these *User Instructions*. Any product showing signs of damage should be removed from use and serviced or replaced as appropriate. See the “Listing of Components, Accessories, and Replacement Parts” section of these *User Instructions* for more information on available spare parts. 3M recommends a maximum life (shelf life plus in use life) of 5 years from the date of manufacture. Most plastic components have a “molded in” date of manufacture and must be replaced as described above regardless of outward appearance.

Store the Shaded Peel-off Cover (M-929) in original unopened packaging in accordance with the recommended storage conditions listed in these *User Instructions*. Product may be used until “use by” date specified on packaging.

LISTING OF COMPONENTS, ACCESSORIES, AND REPLACEMENT PARTS

Part #	AAD cat. #	Description
Headgear Assemblies		
M-101		Respiratory Faceshield, without visor or face seal
M-105	37314	Respiratory Faceshield Assembly: includes standard visor (M-925), standard face seal (M-935), size reducing comfort pad (M-956), and peel off (M-926)
M-107		Respiratory Faceshield Assembly: includes premium visor (M-927), flame resistant face seal (M-937), size reducing comfort pad (M-956), and peel off (M-928)
M-206	37299	Respiratory Faceshield Assembly: includes standard visor (M-925), comfort face seal (M-936), size reducing comfort pad (M-956), and peel off (M-926)
M-207		Respiratory Faceshield Assembly: includes premium visor (M-927), flame resistant face seal (M-937), size reducing comfort pad (M-956), and peel off (M-928)
M-301		Respiratory Hardhat, without visor or face seal
M-305		Respiratory Hardhat Assembly: includes standard visor (M-925), standard face seal (M-935), size reducing comfort pad (M-956), and peel off (M-926)
M-307		Respiratory Hardhat Assembly: includes premium visor (M-927), flame resistant face seal (M-937), size reducing comfort pad (M-956), and peel off (M-928)
M-401		Respiratory Helmet, without visor or shrouds
M-405		Respiratory Helmet Assembly: includes standard visor (M-925), inner collar (M-444), outer shroud (M-445), size reducing comfort pad (M-956), and peel off (M-926)
M-407		Respiratory Helmet Assembly: includes premium visor (M-927), inner collar (M-444), flame resistant outer shroud (M-447), size reducing comfort pad (M-956), and peel off (M-928)
Replacement Parts		
M-116		Replacement Airflow Deflector, for use with M-100 and M-200 Faceshields
M-150	37316	Replacement Head Suspension, for use with M-100 and M-200 Faceshields
M-154		Replacement Forehead Seal, for use with M-100 and M-200 Series Faceshields
M-316		Replacement Airflow Deflector, for use with M-300 and M-400
M-350		Replacement Head Suspension, for use with M-300 and M-400
M-354		Replacement Forehead Seal, for use with M-300 and M-400

Part #	AAD cat. #	Description
M-441		Replacement Jaw Gasket, for use with M-400 Helmets
M-444		Inner Collar, for use with all M-400 Series Outer Shrouds
M-445		Standard Outer Shroud
M-446		Premium Outer Shroud
M-447		Flame Resistant Outer Shroud
M-448		High Durability Outer Shroud
M-449		Leather Outer Shroud
M-919		Replacement Visor Frame Buttons
M-920	37320	Replacement Visor Frame Assembly: includes 2 visor frame buttons (Visor not included)
M-921	37321	Replacement Visor Gasket
M-925	37323	Standard Visor
M-927	37324	Premium Visor
M-935	37325	Standard Faceseal
M-936	37326	Comfort Faceseal
M-937		Flame Resistant Faceseal
M-953	37189	Headband Ratchet
M-957	37010	Forehead Comfort Pad/Sweat Pad
M-960		Replacement Visor Pivot Kit: includes 2 pivots, 2 springs, and 2 back plates
Accessories		
M-928	37452	Peel-Off Visor Covers, for M-927 Premium Visor
M-926	37322	Peel-Off Visor Covers, for M-925 Standard Visor
M-929		Shaded Peel-off Visor Cover
M-958	37012	Chin Strap
M-956	37327	Size Reducing Ratchet Comfort Pad
M-170	37318	Faceshield Head Inserts, for use with M-100 Faceshields
M-972	37331	Flame Resistant Headgear Cover
M-976	37332	Head Neck and Shoulder Cover, for use with M-100, M-200 and M-300 Products
M-985	37333	Headgear-Mounted Earmuff Assembly, for use with M-100, M-200 and M-300 Products