

User Instructions

MSA Cairns® 1836 Fire Helmet



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⚠ WARNING!

These instructions must be provided to users before use of the product and retained for ready reference by the user. Read this manual carefully before using or maintaining the device. The device will perform as designed only if it is used and maintained in accordance with the manufacturer's instructions. Otherwise, it could fail to perform as designed, and persons who rely on this device could sustain serious injury or death.

The warranties made by MSA with respect to the product are voided if the product is not installed and used in accordance with the instructions in this manual. Please protect yourself and your employees by following the instructions.

Please read and observe the WARNINGS and CAUTIONS inside. For additional information relative to use or repair, call 1-800-MSA-FIRE during regular working hours.

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Thank you for purchasing your new MSA Cairns Fire Helmet. Welcome to the MSA Cairns Community of Fire Helmet owners! Congratulations: you've just joined the thousands of Cairns Fire Helmet owners who know why MSA Cairns is the market leading fire helmet in North America.

Take these three steps to become actively engaged with other helmet owners:

1. Go to www.MSAsafety.com/registration and register your helmet for its lifetime warranty.
2. Follow us on Facebook (www.facebook.com/MSAsafetyFire), Twitter (@MSAsafety, #lovelyCairns), Instagram (@MSAsafetyFire), and YouTube (www.youtube.com/MSAsafety).
3. Visit our active fire service community of MSA Cairns Fire Helmet owners at MSAFIRE.com Keyword: CairnsCommunity.

To access additional user manuals for Cairns products, installation instructions, helmet cleaning videos and more, visit <https://us.msasafety.com/cairnsproductinfo>.



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1 Safety Regulations

Failure to comply with the following warnings and cautions can result in injury, disease, illness, or death.



WARNING!

- Firefighting is an extremely dangerous activity. All personnel who have or will have the responsibility for using or maintaining this fire helmet must follow the instructions in this manual carefully. This fire helmet will perform as designed only if it is used and maintained according to the instructions. Otherwise, the fire helmet could fail to perform as designed, and personnel who rely on it for their safety can sustain serious personal injury or death.
- This fire helmet does NOT provide protection from all burns, injuries, diseases, conditions, or hazards. Do not perform firefighting activities without the proper training and equipment.
- Use extreme caution for all operations.
- Use MSA Cairns® Fire Helmets within the guidelines of NFPA 1500, Standard on Fire Department Occupational Safety and Health Program (current edition); CFR Title 29, Part 1910, Subpart I, Personal Protective Equipment; and NFPA 1971, Standard on Protective Ensembles for Structural and Proximity Fire Fighting (current edition) as applicable.
- MSA Cairns Fire Helmets are compliant with NFPA and/or OSHA standards according to the configuration chosen (see the fire helmet label).
- This fire helmet provides LIMITED protection to the head when worn during structural firefighting activities, as designated. Avoid exposure to flashovers, collapses, falls, and other conditions that may exceed the protective capacity of the fire helmet.
- If this fire helmet is exposed to heat, you may be BURNED with NO warning and NO sign of damage to the fire helmet.
- Use adequate eye protection. Removal of compliant eye protection voids the fire helmet's NFPA certification.
- The goggles, faceshield, NFPA Bourkes, and/or Defender® Visor provide LIMITED protection to the faceshield area they cover. MSA recommends wearing approved eye protection, such as safety glasses that comply with ANSI/ISEA Z87.1, and CSA Z94.3 (current editions), in conjunction with the faceshield and NFPA Bourkes.
- To provide maximum protection and reduce the risk of injury, adjust the fire helmet with all components in position to fit on the head properly and fasten the chinstrap securely.
- Follow the procedures in Section [4.3 Routine Inspection](#) to inspect the fire helmet after EACH use. Replace any part of the fire helmet that shows signs of wear or damage.
- Use only components and accessories that are included with the original fire helmet or approved by MSA. Using unauthorized components or accessories can adversely affect fire helmet performance.
- Do not alter, paint, or attach any item that is not recommended by MSA to the fire helmet.
- Do not use abrasive cleaners or solvents to clean the fire helmet.
- Use only fire helmet markings (front identification shields, title tapes, decals, retro reflective trim) and fire helmet accessories (flashlight brackets, communications headsets) that are supplied and/or approved by MSA.
- Refurbishment of the fire helmet is not permitted. Refurbishment can affect the performance of the helmet and void compliance with the standards to which it is approved. Refurbished helmets must not be used for firefighting activities.

Failure to follow these warnings can result in serious personal injury or death.

2 Donning

To don the fire helmet, follow the instructions, as applicable, for your fire helmet's components.

Area	Adjustment Procedure
Headband Assembly	<p>The headband assembly has three location settings. Do the following to adjust the headband assembly:</p> <ol style="list-style-type: none"> 1. Locate the headband adjustment tab on either the front or one of the two rear-side locations. 2. Pull the rounded end of the tab away from the impact cap while moving the tab in the direction of the arrow until the headband adjustment tab is released from the impact cap. 3. Pivot the headband adjustment tab to one of three adjustment slots, insert the headband adjustment into the slot, and slide opposite the direction of the arrow. An audible click sound will be heard upon re-engagement. 4. Release the rounded end of the tab and ensure that it does not pivot within the helmet shell. 5. Repeat for other desired locations (front or rear). <div style="background-color: black; color: white; padding: 5px; margin-top: 10px;">  WARNING! </div> <p>Headband adjustment tabs are used throughout the headband assembly; however, only three of these are required for headband assembly adjustment. If the headband adjustment tabs are not set to the same settings in the two rear adjustment points, the fire helmet may not sit on the head properly.</p> <p>Failure to follow this warning can result in serious personal injury or death.</p>
Self-Contained Breathing Apparatus (SCBA) Facepiece	<p>MSA Cairns 1836 fire helmets are equipped with an exclusive interface that allows firefighters to wear them comfortably and safely with most SCBA facepieces. The exclusive design allows the fire helmet to rest in the proper position for a secure fit of both the fire helmet and facepiece.</p> <p>Do the following to verify and make adjustments for the optimum fit of the SCBA:</p> <ol style="list-style-type: none"> 1. Check the fit of the fire helmet against the top of the SCBA facepiece. <ul style="list-style-type: none"> ○ If the SCBA facepiece fits without lifting the fire helmet or creating gaps, no adjustment is necessary. ○ If there is a gap between the fire helmet and the SCBA facepiece, continue with Step 2 to lower the front headband. ○ If the fire helmet is being pushed upward by the SCBA facepiece, continue with Step 2 to lift the front headband. 2. Turn the fire helmet upside down. 3. Slide the headband adjustment tab of the headband assembly onto one of the three mating features in the front of the helmet. Adjust as necessary to close any gap between the fire helmet and the SCBA facepiece. <div style="background-color: black; color: white; padding: 5px; margin-top: 10px;">  WARNING! </div> <p>In order to ensure proper SCBA fit and function, always consult the user Instructions from the original manufacturer for your respiratory protection equipment.</p> <p>Failure to follow this warning can result in serious personal injury or death.</p>

Area	Adjustment Procedure
Ratchet	<p>⚠ WARNING!</p> <p>To provide maximum protection, make sure to adjust the fire helmet properly. Tightening the ratchet beyond its limits can cause damage to internal gears and result in reduced protection.</p> <p>Failure to follow this warning can result in serious personal injury or death.</p> <ol style="list-style-type: none"> 1. Turn the ratchet knob counterclockwise (left) to open the headband. 2. Put the fire helmet on your head. While holding the fire helmet down on your head, turn the ratchet knob clockwise until the fire helmet is snug and comfortable. <ol style="list-style-type: none"> a. The ratchet adjusts in 1/8 inch (0.3 cm) increments, and the pivoting nape rotates 20 degrees to ensure a comfortable fit. 3. Lower the ear cover over your ears and the ratchet knob. <p>NOTE: The headband adjustment size for the Cairns 1836 helmet accommodates hat sizes 5 - 3/8 to 8 - 1/2.</p>
Chinstrap	<p>⚠ WARNING!</p> <p>Never wear the fire helmet without fastening and tightening the chinstrap.</p> <p>Failure to follow this warning can result in serious personal injury or death.</p> <ol style="list-style-type: none"> 1. Pull the chinstrap to a comfortable fit and connect the ends. 2. Use the hook-and-loop closure to make extra strap material secure.
Goggles (external)	<p>⚠ WARNING!</p> <p>Cairns Firefighter Goggles will interfere with glasses. Do not attempt to wear prescription eye or safety glasses under the Cairns Firefighter Goggles.</p> <p>Failure to follow this warning can result in serious personal injury or death.</p> <ol style="list-style-type: none"> 1. Remove the protective cover from the lens. 2. Don the fire helmet. 3. Adjust the headband, ratchet, and chinstrap according to the instructions in this table. 4. Use both hands to pull the goggles out in front of your face and then down toward your face. 5. The goggles are in the correct position when they fit comfortably with no gaps. To adjust the fit of the goggles, do the following: <ul style="list-style-type: none"> ○ To reduce gaps and tighten the fit, pull the straps backward through the slide buckle. ○ To relax the fit, loosen the straps through the slide buckle toward the front.

Area	Adjustment Procedure
Faceshield (external)	<p>⚠ WARNING!</p> <p>To maintain NFPA compliance, use ONLY MSA approved eye protection such as a Defender visor, faceshield, or goggles. Removing compliant eye protection voids the NFPA certification.</p> <p>MSA recommends wearing approved eye protection, such as safety glasses that comply with ANSI/ISEA Z87.1 and CSA Z94.3 (current editions), in conjunction with the faceshield.</p> <p>Failure to follow this warning can result in serious personal injury or death.</p> <hr/> <p>The faceshield material has been selected for its resistance to impact and penetration, as well as for premium optical clarity.</p> <ol style="list-style-type: none"> 1. Remove the protective cover from the lens. 2. To raise or lower the faceshield, loosen the knobs on both sides of the faceshield brackets. 3. Adjust the faceshield. 4. Tighten the knobs on both sides of the faceshield brackets.
Defender Visor (internal)	<p>⚠ WARNING!</p> <p>A Defender visor that is not stowed securely may interfere with the SCBA facepiece seal.</p> <p>Do not wear eye glasses under the Defender visor. Safety glasses that comply with ANSI/ISEA Z87.1 and CSA Z94.3 (current editions) may be worn under the Defender visor as long as there is no interference. If interference is anticipated, purchase a fire helmet with an MSA faceshield instead.</p> <p>Failure to follow this warning can result in serious personal injury or death.</p> <hr/> <p>The Defender visor stays locked inside the fire helmet until eye protection is necessary.</p> <ul style="list-style-type: none"> • To lower the Defender visor, grasp the handles on either side of the lens, then pull down and back. • To raise the Defender visor, grasp the handles on either side of the lens, then push up until the visor locks into position. • To articulate the lens, grasp the handles on either side of the lens and move the lens away or toward your face.
Traditional and NFPA-compliant Bourke Lenses	<p>⚠ WARNING!</p> <p>Traditional Bourke lenses are for cosmetic purposes only and do not provide eye or face protection. Traditional Bourke lenses are not certified to ANSI or NFPA standards.</p> <p>NFPA-compliant Bourke lenses are marked on the right lens with NFPA certification information, as well as the certifying body mark.</p> <p>MSA recommends wearing approved eye protection, such as safety glasses that comply with ANSI/ISEA Z87.1 and CSA Z94.3 (current editions), in conjunction with the NFPA Bourke lenses.</p> <p>Failure to follow this warning can result in serious personal injury or death.</p> <hr/> <ol style="list-style-type: none"> 1. Remove the protective cover from the lens. 2. To lower or raise the Bourke lens, grasp the edge of either lens and move it toward or away from the face, as applicable.
RFID Tap to Pairing	For RFID instructions, go to https://us.msasafety.com/cairnsproductinfo

3 Doffing

1. Loosen and release the chinstrap.
2. While holding the fire helmet, turn the ratchet knob counter-clockwise to loosen the headband.
3. Remove the fire helmet.

4 Maintenance

WARNING!

Component repair, alteration, or replacement of any MSA Cairns Fire Helmet must be performed by in by an MSA-authorized repair facility unless otherwise stated. Unauthorized component repair, alteration, or replacement of any MSA Cairns Helmet will void the factory warranty and may adversely affect the performance of the helmet. Carefully obey all of the procedures for cleaning, inspecting, repairing, and storing the fire helmet.

Failure to follow this warning can result in serious personal injury or death.

For additional guidance, refer to the current edition of NFPA 1851, which specifies the minimum selection, care, and maintenance requirements for structural firefighting protective ensembles and the individual ensemble elements, including fire helmets and interface components that are compliant with NFPA 1971, Standard on Protective Ensembles for Structural Fire Fighting Fire Fighting.

4.1 Routine Cleaning

WARNING!

Helmets that are dirty or soiled from any firefighting, rescue, or related activities may be contaminated with toxins that are poisonous, pathogenic, toxic or carcinogenic. Failure to properly clean the helmet after each use per the recommended cleaning procedures may result in injury, illness, disease and/or death. Helmets should be properly cleaned consistent with NFPA 1851 under the supervision of the authority having jurisdiction and standard operating procedures.

- Do not use cleaning solvents, oils, varnishes, or polishes other than those recommended in this manual to clean or decontaminate fire helmets or fire helmet components.
- Consult the Cairns Helmet Washing Instructions ([P/N 3600-118-MC](#)) for recommended cleaning procedures, including instances of approved tumbling or agitation methods for washing or drying complete fire helmets.
- Do not use forced hot air or put the fire helmet directly on a heat source to dry it.

Failure to follow these warnings can result in serious personal injury or death.

- To prevent contamination after firefighting activities, clean the fire helmet after each use, before inspection.
- Remove any fire helmet that has been exposed to chemical or biological contaminants from service and clean it using the procedures in [4.2 Advanced Cleaning](#).
- For routine cleaning, use a solution of water at a temperature no higher than 105°F (40°C) and a mild detergent with a pH range of not less than 6.0 pH and not greater than 10.5 pH undiluted as indicated on the product safety data sheet (SDS) or original product container.
- Do not use a fire helmet that is wet from use or cleaning. Allow all parts to dry completely before use.
- Do not dry helmet or components in direct or indirect sunlight, under fluorescent light, or under UV light.

4.1.1 General Instructions for Washing and Drying of Helmet and Helmet Components

Read, understand, and follow all manufacturer instructions, warnings, and cautions for the SCBA decontamination washer and detergent prior to use.

WARNING!

- During cleaning, wear adequate personal protective equipment (PPE) in accordance with the detergent and washing machine manufacturers' recommendations.
- Do not use cleaning solvents, oils, varnishes, or polishes other than those specifically recommended by MSA or the decontamination washer manufacturer to clean or decontaminate fire helmets or fire helmet components.
- Do not use equipment that produces mechanical action from tumbling or agitation to machine-dry complete fire helmets.
- Do not dry fire helmet in direct / indirect sunlight, under fluorescent light, or under UV light.
- Do not dry a fire helmet in a cabinet air dryer.
- Do not use a fire helmet that is wet from use or cleaning.
- Allow all parts to dry completely before use.

Helmet must be cleaned and decontaminated in accordance with these instructions after each use.

Failure to follow these warnings can result in serious personal injury or death.

MSA has evaluated the Solo Rescue SCBA DECON WASHER® and MEIKO DECON WASHER (FV 130.2) with Pro Blend SCBA detergent (P/N PB0010967AA) using the procedure outlined in this document. Based on this testing, MSA expects that, when washing is performed in accordance with this document and all washing machine manufacturer instructions, the fire helmet will continue to provide impact, flame, heat, and electrical protection after proper washing.

4.1.2 General DECON Washing

Characteristics of SCBA washing machines may vary depending on the type of machine and its design. These characteristics can influence the impact of the SCBA washing machine on the fire helmet and its performance after washing.

These characteristics include, but are not limited to:

- The mechanical load applied to the fire helmet and its component parts
- The temperature to which the fire helmet is exposed during washing
- The ability of the washing machine to maintain a constant concentration of cleaning agents

WARNING!

- Use only Pro-Blend SCBA detergent (P/N PB0010967AA). Use of other detergents or chemicals may cause degradation of the harness and other components.
- The washing machine must be calibrated to supply 0.6% concentration of detergent.
- A mild detergent with a pH range of not less than 6.0 pH and not greater than 10.5 pH as indicated on product MSDS, SDS, or original product container shall be used.
- Water temperature must not exceed 105°F (40.5°C).
- Remove all Soft Goods and goggles before washing, and wash as instructed in the User Manual
- Refer to the Cairns User Manual and this video for the proper way to remove soft goods.
- Reverse osmosis water and completely softened water must not be used.
- Follow the regulations of your local municipality or your facility permit requirements for the effluent discharge from the laundering process.

SCBA washing machine characteristics must be considered when selecting a washing machine.

Failure to follow these warnings can result in serious personal injury or death.

4.1.3 Step-By-Step Washing and Drying Instructions

1. Remove Soft Goods and Goggles; wash as instructed in their respective user manual. For Soft Goods, refer to section 4.3.

NOTE: Soft Goods are any components comprised partially or wholly of fabric or sewn materials.

2. Place components into the washing machine, positioning and arranging everything in a way that maximizes its exposure to the water.

NOTE: Avoid covering, concealing, or obscuring materials as much as possible.

3. Wash fire helmet(s) and helmet component(s) for an 8-minute cycle.

NOTE: Repeat washing if additional cleaning is necessary.

4. Air drip or air dry the fire-helmet and/or helmet components.
5. Perform all functional tests in MSA Cairns User's Manual.

NOTE: Helmet shell, plastic liner, foam liner and suspension components may not be dried in a cabinet gear dryer, they may only be air dried.

Do not use a fire helmet that is wet from use or cleaning. Allow all parts to dry completely before use.

WARNING!

- Do not put helmet or helmet components near a heater or in direct sunlight to dry.
- Before going into a hazardous environment, make sure there is no water, moisture, or dampness on or in any of the fire helmet components.
- Any moisture on or in the fire helmet components can freeze, accumulate biological / chemical contaminants, result in steam burns, and result in a malfunction of the fire helmet.
- Ensure that all helmet and helmet components operate correctly.

Failure to follow these warnings can result in serious personal injury or death.

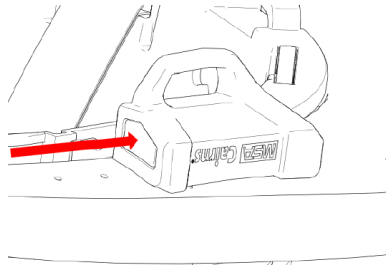
Dry times vary depending on factors that include, but are not limited to:

- Temperature
- Humidity
- Air circulation
- Elevation above sea level

WARNING!

- Do not dry a fire helmet in a cabinet air dryer.
- Functional tests must be completed after drying but before use.

Failure to follow these warnings can result in serious personal injury or death.

Component	Cleaning Procedure
Fire Helmet Shell	<p>⚠ WARNING!</p> <p>Do not use abrasives, solvents, paint removers, acetone, paint or lacquer thinner, or any chlorinated organic solvents to clean the fire helmet shell.</p> <p>Failure to follow this warning can result in serious personal injury or death.</p> <ol style="list-style-type: none"> 1. Before cleaning the fire helmet shell, remove the Defender visor. To remove the visor, deploy the visor to the "as worn" position, then squeeze each of the quick-connect locking arms together and pull up. 2. Use a soft sponge or cloth dampened with a solution of warm water and mild detergent, a mild solvent such as ethyl alcohol, or a tar or adhesive remover to wipe the shell. 3. To install the visor when cleaning is complete, slide each quick-connect locking arm into the slot from which it was removed. The quick-connect mechanisms will click into place when they are fully engaged.
Impact Cap	<ol style="list-style-type: none"> 1. Remove the impact cap from the assembly by disengaging the lock arms on both sides of the helmet: <ol style="list-style-type: none"> a. Using a small, flat tool, firmly push both Slide-Loks rearward approximately 1/4 inch (6mm) until they stop. b. Separate the helmet shell from the impact cap.  <ol style="list-style-type: none"> 2. To clean the inside of the impact cap (in position inside the fire helmet shell), wipe it with a soft sponge or cloth dampened with a solution of warm water and mild detergent. <p>NOTE: When re-attaching the Impact Cap to the Shell ensure the Anchor Base is flush against the shell, then use your thumb to push each Slide-Lok forward, to engage the Anchor Base, until it is flush in the pocket. Do not use excessive force or strike.</p>
Chin Straps	<ol style="list-style-type: none"> 1. Remove the chinstrap. (Follow the link for instructions on how to remove the chinstrap from the fire helmet: https://us.msasafety.com/cairnsproductinfo). 2. If available, put the components in the mesh bag from the applicable MSA Soft Good Replacement Kit. 3. Machine-wash the components with a mild liquid detergent with a pH range of 6.0 to 10.5 at the manufacturers recommended ratio of detergent to water, at a temperature no higher than 105°F (40°C). 4. Allow the components to air-dry completely. Do not use a heat source such as forced air to dry components more quickly. Do not tumble dry.

Component	Cleaning Procedure
Ear Cover, Ratchet Cover, and Liner (Soft Goods)	<ol style="list-style-type: none"> 1. Remove the headband, ratchet cover, liner, and ear cover. 2. If available, put the components in the mesh bag from the applicable MSA Soft Good Replacement Kit. 3. Machine-wash the components with a mild liquid detergent with a pH range of 6.0 to 10.5 at the manufacturers recommended ratio of detergent to water, at a temperature no higher than 105°F (40°C). 4. Allow the components to air-dry completely. Do not use a heat source such as forced air to dry components more quickly. Do not tumble dry.
Defender Visor	<ol style="list-style-type: none"> 1. Turn the fire helmet upside down. 2. Move the visor to the "as worn" position (pulled down completely). 3. To remove the visor, squeeze the quick locking arms together and pull up. <div data-bbox="764 611 1146 869" data-label="Image"> </div> 4. Use a soft sponge or a cloth dampened with Confidence Plus® 2 Germicidal Cleaner (P/N 10009971) to clean the visor. 5. To install the visor, slide each quick-connect locking arm into the slot from which it was removed. The quick-connect mechanisms will click onto place when they are fully engaged.

4.2 Advanced Cleaning

Where not subjected to prior advanced cleaning, ensembles and ensemble elements that are issued and used shall receive advanced cleaning at least every six months, resulting in a minimum of two advanced cleanings in a 12 month period, with one of these advanced cleanings occurring at the time of annual advanced inspection.

WARNING!

Only a manufacturer-trained organization, verified organization, or verified Independent Service Provider (ISP) can perform advanced cleaning.

- Do not use cleaning solvents, oils, varnishes, or polishes other than those recommended in this manual to clean or decontaminate fire helmets or fire helmet components.
- Do not use equipment that produces mechanical action from tumbling or agitation to wash or dry complete fire helmets.
- Do not use forced hot air or put the fire helmet directly on a heat source to dry it.

Failure to follow these warnings can result in serious personal injury or death.

- For advanced cleaning, do the procedures in [4.1 Routine Cleaning](#), then the procedure in this section.
- Remove all detachable components and accessories from the fire helmet. Wash and air-dry them separately.
- Do not use a fire helmet that is wet from use or cleaning. Allow all parts to dry completely before use.

Advanced Cleaning Procedure

1. Don protective gloves.
2. Remove all detachable components and accessories from the fire helmet.
NOTE: DO NOT remove the Foam Impact Cap from the Plastic Liner
3. Immerse the entire fire helmet and all accessories in a solution of water and a mild detergent with a pH range of not less than 6.0 pH and not greater than 10.5 pH undiluted as indicated on the product safety data sheet (SDS) or original product container. Water temperature shall be no higher than 105°F (40°C).
4. Use a soft brush to remove dirt and other debris from the fire helmet.
5. Rinse the fire helmet and accessories thoroughly with water.
6. Use a clean cloth dampened with water to wipe the fire helmet and accessories.
7. Put the fire helmet in a clean, safe place to air-dry.

4.3 Routine Inspection

WARNING!

Failure to follow the recommended inspection procedures can reduce fire helmet performance and result in serious personal injury, disease, illness, or death.

- Replace the helmet after it has withstood an impact, even if there is no visible damage.
- In case of visible damage identified during the routine inspection (before or after use), such as impacts, significant scratches, coating removal on the shell or visors, melted parts, broken parts, torn straps or padding, missing components, non-operational moving parts (such as visors or ratchet), etc., the fire helmet should be taken to the trained maintenance technician or an MSA approved maintenance center.
- Do not use a fire helmet that has damage.
- Do not attempt to test the fire helmet. The performance properties of the fire helmet and its components cannot be properly tested by a user in the field.

Failure to follow these warnings can result in serious personal injury or death.

Inspect the fire helmet after each use for the following signs of damage from impact and thermal exposure. If any of these conditions exist, remove the fire helmet from service immediately and repair or replace it as applicable.

Component	Inspection Procedure
Fire Helmet Shell	<p>If any of the following conditions exist, replace the entire fire helmet ensemble:</p> <ul style="list-style-type: none"> • Soiling, contamination, or physical damage to the shell, including: <ul style="list-style-type: none"> ○ any stress cracks, ○ any size cracks that goes completely through the shell, ○ any crack greater than 1 inch in length, ○ visual evidence of misaligned helmet surfaces and/or exposed fibers, ○ crazing, ○ dents, ○ abrasions, ○ exposed glass fibers. • Thermal damage to the shell, including: <ul style="list-style-type: none"> ○ bubbling, ○ soft spots, ○ warping, ○ discoloration. • Dull or chalky finish
Impact Cap	<p>If any of the following conditions exist, replace the impact cap:</p> <ul style="list-style-type: none"> • Cracks • Depressions or dents equal to or larger than a thumbnail • Punctures, blisters, or discoloration due to impact, excessive heat, or normal wear • Burnt/charred areas due to excessive heat

4 Maintenance

Component	Inspection Procedure
Suspension	<p>If any of the following conditions exist, replace the suspension:</p> <ul style="list-style-type: none"> • Straps have missing, cut, fraying, or broken stitching • Straps are torn or abraded • Straps are brittle or discolored • Suspension attachment clips are missing, broken, brittle, whited, or discolored
Ear Cover, Ratchet Cover, and Liner	<p>If any of the following conditions exist, replace the applicable part:</p> <ul style="list-style-type: none"> • Missing, cut, or broken stitching • Torn, discolored charred, perforated or seared
Headband	<p>If any of the following conditions exist, replace the headband:</p> <ul style="list-style-type: none"> • Brittle, torn, cracked, broken, or punctured • Holes • Able to open ratchet by tugging on nape arms (rather than turning the knob)
Chinstrap	<p>If any of the following conditions exist, replace the chinstrap:</p> <ul style="list-style-type: none"> • Frayed, missing, or broken parts • Missing, cut, frayed, or broken stitching • Clogged or worn-out hook-and-loop fastener • Brittle, broken, or missing quick-release button • Loose Postman's Slide • Broken or cracked attachment points • Loose snap fasteners
Goggles	<p>If any of the following conditions exist, replace the goggles or mounting hardware, as applicable:</p> <ul style="list-style-type: none"> • Damage to the ventilation and/or filtration areas • Damage to the lens, frame, straps, adjustment assembly, and/or mounting hardware
Faceshield and Hardware	<p>If any of the following conditions exist, replace the faceshield or mounting hardware:</p> <ul style="list-style-type: none"> • Blistered, bubbled, cracked, charred or otherwise damaged hardware or lens • Missing E-ring retainer on adjustment knob
NFPA-compliant Bourke Lenses	<p>If any of the following conditions exist, replace the Bourke Lenses or mounting hardware:</p> <ul style="list-style-type: none"> • Blistered, bubbled, cracked, charred or otherwise damaged hardware or lenses
Defender Visor	<p>If any of the following conditions exist, replace the visor or attachment clips, as applicable:</p> <ul style="list-style-type: none"> • Blistered, bubbled, cracked, or charred lens • Broken quick-connect attachment clips • Lens will not stay in the stowed position and/or cannot be adjusted/articulated.
Edge Trim	<p>If any of the following conditions exist, replace the edge trim:</p> <ul style="list-style-type: none"> • Broken or exposed aluminum core • Edge trim pulled away from helmet hanger
Reflective Trim	<p>If the reflective trim is charred, partially detached, non-reflective, and/or missing, replace it.</p>
Anchor Release and Accountability Brackets	<p>If there is any damage to the posts, replace them immediately..</p>

4.4 Advanced Inspection

⚠ WARNING!

Only a manufacturer-trained organization, verified organization, or verified Independent Service Provider (ISP) can perform advanced inspection.

Failure to follow this warning can result in serious personal injury or death.

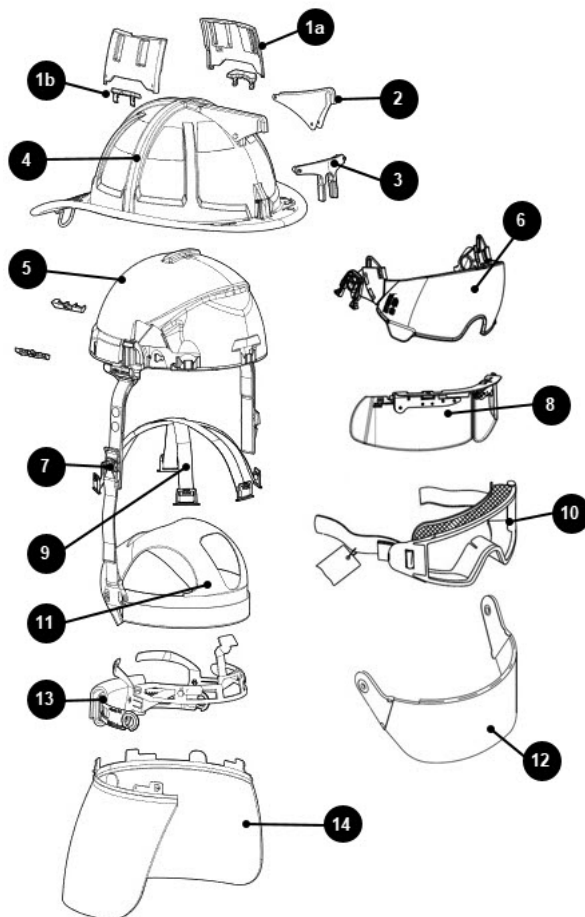
Advanced inspection includes all of the items listed for routine inspection and all of the following items.

After the fire helmet is put into service, do an advanced inspection of all protective ensemble elements at least every 12 months, or whenever a routine inspection removes the ensemble from service, whichever occurs first.

NOTICE

For the purposes of replacement (according to [NFPA 1851](#)) and warranty, the manufacturing date for the fire helmet ensemble is based on the oldest original part shipped as a component of the complete compliant fire helmet ensemble, irrespective of the manufacturing date of the replaced parts.


Complete the following steps to disassemble the fire helmet and inspect all components for the conditions listed in [4.3 Routine Inspection](#).



- | | | | |
|----|------------------------------------|----|---------------|
| 1a | Accountability Brackets (optional) | 8 | Bourkes |
| 1b | Standard Anchor Bases | 9 | Suspension |
| 2 | Front Holder (5.5" or 6" option) | 10 | Goggles |
| 3 | Front Bracket | 11 | Cushion Liner |

4 Maintenance

4	Shell	12	Faceshield
5	Impact Cap	13	Headband Assembly
6	Defender Visor	14	Earlaps
7	Chinstrap		

Soft Goods	<ol style="list-style-type: none"> 1. Remove the ratchet pad by unfastening the hook and loop surfaces. 2. Remove the rear of the cushion liner by unfastening the hook and loop strap and pulling it through the suspension strap loop. 3. Remove the sides of the cushion liner by disconnecting the tabs from the inside of headband assembly. 4. Remove the sides of the cushion liner by disconnecting the tabs from the outside of headband assembly. 5. Remove the front of the cushion liner by unfastening the hook and loop surfaces and disconnecting the tab from the inside of headband assembly. 6. Remove the Ear-laps by pulling the center of the ridge piece inside of the earlap, unfastening both headband adjustment tabs; repeat for the other side.
Headband Assembly	<ol style="list-style-type: none"> 1. Disconnect all five headband adjustment tabs on the front, side, and rear-side locations by removing in the direction of the arrow until the headband adjustment tabs release from the impact cap. 2. Do not disassemble the headband assembly further.
Goggles (optional)	<ol style="list-style-type: none"> 1. Use a Phillips-head screwdriver to remove the goggle clips, then remove the goggles.
Defender Visor Assembly	<ol style="list-style-type: none"> 1. Move the visor to the "as-worn" position (pulled down completely). 2. Squeeze the quick locking arms together and pull the visor assembly out of the helmet impact cap. Refer to 4 Maintenance.
Impact Cap	<ol style="list-style-type: none"> 1. Using a small, flat tool, firmly push both Slide-Loks rearward approximately 1/4 inch. (6mm) until they stop. NOTE: When re-attaching the Impact Cap to the Shell ensure the Anchor Base is flush against the shell, then use your thumb to push each Slide-Lok forward, to engage the Anchor Base, until it is flush in the pocket. Do not use excessive force or strike. 2. Separate the helmet shell from the impact cap. 3. DO NOT attempt to remove the foam cap from the plastic liner.
Suspension Assembly	<ol style="list-style-type: none"> 1. Unsnap all 6 suspension attachment points from the retaining tabs on the impact cap. NOTE: The front and rear center tabs of the suspension straps are identical and can be inserted in either location. <div style="background-color: black; color: white; padding: 5px; margin-top: 10px;">  WARNING! </div> <p>When reassembling the Suspension Assembly, Pull on the suspension straps to ensure the suspension attachment points are fully engaged and secure.</p> <p>Failure to follow this warning can result in serious personal injury or death.</p>

To reassemble, reverse the steps for each component.

5 Storage

Do not store equipment that is not explicitly authorized by MSA in or on the fire helmet. The storage of gloves, wedges, lights, and other equipment in or on the fire helmet can dramatically change the protective capacity of the fire helmet.

Store the fire helmet in a clean, dry area where it is not exposed to heat, cold, direct or indirect sunlight, under fluorescent light, or under UV light.

Keep leather products away from direct sunlight, open windows, hot ovens, and radiators.

Do not store the fire helmet with the lining ratchet face down on a flat surface. Storing the fire helmet with the ratchet fully extended can cause the lining band and ratchet band mechanism to bend or become distorted, which can affect comfort and fit.

When not in use, store the fire helmet with the ratchet suspension set to its smallest size.

6 Learn More

6.1 Accessories and Replacement Parts

See our catalog, visit MSAFIRE.com, or contact your authorized fire service distributor for a full line of genuine MSA accessories and replacement parts.

6.2 Warranty and Product Registration

Refer to ID 3600-72-MC ("MSA Cairns 10-Year Warranty and Terms of Sale") and ID 3600-115-MC ("Bulletin on Cairns Accessories Warranty").

Registering your new fire helmet is important! Registering your new fire helmet will help MSA provide quicker, more efficient service and support. Your product registration can help ensure you get the most out of your warranty.

Registering your product will solidify the start date on your warranty period if you ever have to take advantage of your warranty.

Finally, in the unlikely event a safety notification or warranty service is required, MSA will have the ability to contact you. Your completed registration also helps us to keep you updated on support, service, product information and promotions/special offers.

To register your new MSA Cairns Fire Helmet, go to <http://us.msasafety.com/productRegistration>.

6.3 Contacting MSA

Keep these instructions in a safe place so you can refer to them in the future. For questions or suggestions regarding the operation of this fire helmet, contact Customer Service at 1-877-MSA-FIRE.