

# NFPA 1851, 2014 Edition

MSA Compliance Guide for Cairns® Fire Helmets



*Because every life has a **purpose...***

## Introduction

The National Fire Protection Association released a revised edition of the NFPA 1851, “Standard for the Selection, Care, and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Firefighting” (the “Standard”). The 2014 edition of the Standard provides guidelines for record keeping, accessory use, cleaning, inspection, repair, and retirement of ensemble elements.

MSA has reviewed this NFPA standard carefully and noted which rules relate to Cairns Fire Helmets. This Guide will help you to meet the specifications of this standard. However, MSA strongly recommends that you obtain a copy of NFPA 1851, 2014 Edition from the NFPA to ensure complete compliance.

Much of the information regarding inspection criteria, cleaning criteria, repair, and retirement of your Cairns Fire Helmet is also available in the Cairns Fire Helmet Owner’s Guide, available at [www.MSAfire.com](http://www.MSAfire.com).

MSA has made available an optional online quiz and training certificate for those organizations requiring documentation of NFPA 1851 compliance training for Cairns Fire Helmets. To access Cairns Fire Helmets NFPA 1851 Compliance Training, visit <http://msau.msasafety.com>.

## Record Keeping

The first element of the standard to be considered is record keeping. The standard specifies that the following basic records be kept for each Cairns Fire Helmet:

- ❶ Person to whom the helmet is issued
- ❷ Date and condition when issued
- ❸ Manufacturer and model name or design
- ❹ Manufacturer’s identification number, lot number or serial number
- ❺ Month and year of manufacture
- ❻ Date(s) and findings of advanced inspection(s)
- ❼ Date(s) and findings of advanced cleaning or decontamination
- ❽ Reason for advanced cleaning or decontamination and who performed cleaning or decontamination
- ❾ Date(s) of repair(s), who performed repair(s) and brief description of repair(s)
- ❿ Date of retirement
- ⓫ Date and method of disposal

Organizations should have a system for keeping these minimal records for their Cairns Fire Helmets.

To aid with record keeping guidelines, MSA has created an easy-to-use Cairns Fire Helmet Tracking Form (ID 3600-46, or as located on pages 8–11 of this Guide). You may also download this form from [www.MSAfire.com](http://www.MSAfire.com).



# Routine Cleaning

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Cairns Fire Helmets must be cleaned after each use, but before routine inspection to limit exposure to possible contamination that may be present on the fire helmet after firefighting activities. This procedure is referred to in NFPA 1851 as “Routine Cleaning.” These instructions are also available in the Maintenance Section of the Cairns Fire Helmet Owner’s Guide (MSA P/N 10043529), available on [www.MSAfire.com](http://www.MSAfire.com). Specific instructions for proximity gear can be found separately (MSA P/N 10042222), also available on [www.MSAfire.com](http://www.MSAfire.com). Reference these instructions as a routine cleaning guide for fire helmets after each use.

## To clean faceshields, goggles or the Defender® Visor lens

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- Use mild cleaning agents such as ethyl alcohol or mild detergent and water, and a soft sponge or cloth.
- NEVER use abrasives, solvents, paint removers, acetone, paint or lacquer thinner, or any chlorinated organic solvents.

## To clean Bourke Eye Shields

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- Use a mild detergent and water and a soft sponge or cloth.
- NEVER use abrasives, solvents, paint removers, acetone, paint thinner, lacquer thinner, or any chlorinated organic solvents.

**NOTE: Before cleaning the helmet shell, remove the faceshield/goggles/Bourkes/Defender Visor lens and set aside. Helmets that are not thoroughly cleaned and dried should NOT be worn.**

## To clean leather shells (N6A® Houston & N5A® New Yorker Helmets)

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- Use only mild detergents and lukewarm water.
- To remove tar drips, industrial cleaners (such as DuPont Tar Remover) can be used. Use only on tar spots, not on the entire surface. Other spots can be cleaned with alcohol if an organic solvent is required.

## To clean fiberglass composite shells (Cairns 1010, Cairns 1044, 660C Metro®, Invader 664®, & Commando HP3® Helmets)

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- Use only mild solvents, such as ethyl alcohol, mild detergents and water, mild abrasives, industrial cleaners (such as DuPont Tar Remover), acetone, or paint remover.

## To clean thermoplastic shells (880 Traditional®, 360S® Structural, 360R-13, & 360R Rescue Helmets)

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- Use mild cleaning agents such as ethyl alcohol or mild detergent and water, and a soft sponge or cloth.
- NEVER use abrasives, solvents, paint removers, acetone, paint or lacquer thinner, or any chlorinated organic solvents.

## To clean flannel headband liners and the Defender Visor heat shield

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- Machine wash and dry on low settings. Refer to product instructions for laundering.

## To clean the proximity bonnet and shroud

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- Remove the bonnet and shroud from the helmet. Use mild soap or detergent to wash the shroud in warm soapy water.
- Rinse thoroughly with clean water.
- Air dry at room temperature.

## To clean the 6” gold-coated proximity faceshield

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- Clean the faceshield with mild detergent.
- Rinse with clean water and dry with a soft cloth.

## Routine Inspection

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After each use and after cleaning, inspect your Cairns Fire Helmet. This procedure is referred to in NFPA 1851 as “Routine Inspection.”

Inspect Cairns Fire Helmets and all helmet accessories after each use for impact, thermal and general damage. A damaged helmet must NEVER be used.

If your Cairns Fire Helmet has been exposed to excessive heat, taken an impact or sustained damage, the helmet must be disassembled and have an advanced inspection performed.

Use the following criteria to inspect your Cairns Fire Helmet after each use:

### Helmet Shell

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**Replace if any of these conditions exist:**

*Leather shell (Houston N6A® & New Yorker N5A® Helmets)*

- Shell is punctured.
- Rib stitching is cut or broken.
- Reinforcing wire is exposed.

*Fiberglass composite shells (Cairns 1010, Cairns 1044, 660C Metro®, Invader 664®, & Commando™ HP3 Helmets)*

- Cracks are longer than one inch.
- Any size crack goes completely through shell material.
- Soft spots are equal to or larger to than a thumb pad. Smaller soft spots require removal of the impact cap and advanced inspection.

*Thermoplastic shells (880 Traditional®, 360S, 360R-13, & Rescue 360R Helmets)*

- Shell has a crack of any size.
- Shell has a dull or chalky finish.
- Reinforcing wire is exposed (880 Traditional Helmet).

### Edge Trim

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- Reattach if trim is separated but intact.
- Replace if trim is broken or aluminum core is exposed.

### Reflective Trim

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*Replace if any of these conditions exist:*

- Trim is charred, partially detached, non-reflective, or missing.

### Faceshield & Hardware

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*Replace if any of these conditions exist:*

- Faceshield is blistered, bubbled, cracked, or charred.
- E-ring is missing.
- Shaft is not intact.

### Defender Visor Lens

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*Replace if any of these conditions exist:*

- Lens is blistered, bubbled, cracked, or charred.
- Quick-connect clips are broken.
- Lens will not stay in stowed position and cannot be adjusted.

### Goggle

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*Replace if damage exists on:*

- Ventilation and filtration areas.
- Lens, frame, straps, adjustment assembly, and mounting hardware.

### Breakaway Tabs

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*Replace if any of these conditions exist:*

- Any tabs are missing, bent or damaged.

### Chinstrap

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*Replace if any of these conditions exist:*

- Any parts are frayed, missing or broken.
- Any stitching is missing, cut, frayed, or broken.
- Velcro fastener is clogged or worn out.
- Quick-Release button is brittle, broken or missing.
- Postman's slide is loose.

### Suspension Straps

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*Ensure that straps lie flat and pass between alignment guides.*

*Replace if any of these conditions exist:*

- Any stitching is missing, cut or broken.
- Straps have any tears or abrasions.
- Straps show any brittleness.
- Straps show any discoloration.



## Earlap

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Replace if any of these conditions exist:

- Stitching is missing, cut or broken.
- Nomex layer is discolored, charred or perforated.
- Flannel liner is torn or seared.

## Headband

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Replace if any of these conditions exist:

- Headband is brittle, torn, cracked, or broken.
- Headband shows holes in material.
- Ratchet can be opened by tugging on legs.

## Proximity Firefighting Overcovers & Shrouds

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Replace if any of these conditions exist:

- Loss of reflectivity.
- Loss of reflective coatings.
- Damage or loss of functionality of overcover to helmet attachment.
- Damage or loss of functionality of shroud to helmet attachment.
- Distortion of face opening, resulting in gaps around faceshield.

The Cairns Fire Helmet Owner's Guide (MSA P/N 10043529) is available on [www.MSAfire.com](http://www.MSAfire.com).

For specific proximity gear instructions, see MSA P/N 10042222, available on [www.MSAfire.com](http://www.MSAfire.com).

## Advanced Cleaning

The only difference between routine cleaning and advanced cleaning of Cairns Fire Helmets in the NFPA 1851, 2014 specification is that all detachable items be removed from the helmet and cleaned separately. This requirement includes eye protection, headband liners and impact cap (if applicable).

Advanced cleaning must be performed yearly (or more often as needed). Instructions for disassembling each type of Cairns Fire Helmet model for advanced cleaning are found in the Cairns Fire Helmet Owner's Guide (MSA P/N 10043529), available on [www.MSAfire.com](http://www.MSAfire.com).

The following helmet models have impact caps that must be removed and cleaned: Cairns 1010, Cairns 1044, 660C Metro, Invader 664, Structural 360S, Rescue 360R, and Commando HP3 Helmets.

Houston N6A and New Yorker N5A Leather Helmets employ impact caps, but the caps are only factory-removable and are not considered to be detachable items.

NFPA 1851, 2014, "Advanced Cleaning and Decontamination" specifies that advanced cleaning be performed only by members of the organization who have been trained to a level required by the manufacturer.

Cairns Fire Helmets are designed to be simple to repair and maintain, and can be completely disassembled and reassembled by reading, understanding and following instructions in the Cairns Fire Helmet Owner's Guide. MSA does not require any additional training to complete advanced cleaning of Cairns Fire Helmets.

Records of advanced cleaning should be maintained on Cairns Fire Helmet Tracking Forms (ID 3600-46 or pages 8-11 of this Guide).

## Advanced Inspection

NFPA-1851:2014 states that advanced inspection should be performed at least every 12 months, or when routine inspection indicates that a problem may exist. Advanced inspection includes disassembly of helmet components in order for each "layer" to be thoroughly evaluated. Advanced inspection should focus upon soiling, contamination, physical damage (including cracks, dents, abrasions, thermal damage, rips, tears, cuts, etc.), loss of physical integrity (ultraviolet or chemical degradation), missing hardware or components, and impact cap damage, among other criteria. To perform advanced inspection, refer to the Cairns Fire Helmet Owner's Guide (MSA P/N 10043529), available on [www.MSAfire.com](http://www.MSAfire.com).

The following helmet models have impact caps that must be removed and inspected: Cairns 1010, Cairns 1044, 660C Metro, Invader 664, Structural 360S, Rescue 360R, and Commando HP3 Helmets.

Houston N6A and New Yorker N5A Leather Helmets employ impact caps; however, impact caps are factory-removable only and are not considered to be detachable items.

After removal of the impact cap, use the inspection guidelines shown at right.

NFPA 1851, 2014, "Advanced Inspection," specifies that advanced inspection be performed only by members of the organization who have been trained to a level required by the manufacturer.

Cairns Fire Helmets are designed to be simple to repair and maintain, and can be completely disassembled, inspected and reassembled by reading, understanding and following instructions in the Cairns Fire Helmet Owner's Guide. MSA does not require any additional training to complete advanced inspections.

Records of advanced inspection should be maintained on Cairns Fire Helmet Tracking Forms (ID 3600-46 or pages 8-11 of this Guide).

### Impact Inspection

*After removal of impact cap, replace if any of these conditions exist:*

- You see a *halo* effect (ring of discolored foam).
- You find cracking and/or brittleness.
- You see evidence of impact.
- TubeLock System is cracked, mishapen or shows any signs of damage.
- Defender Visor suspension tie is broken.
- Impact cap liner/ring shows holes or blistering.
- Earlaps are missing Velcro.
- Impact cap is cracked or deformed.

# Repair

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Your Cairns Fire Helmet is designed to be easy to maintain and repair. Repairs are necessary ONLY when inspection criteria are not met for your particular Cairns Fire Helmet type. Replacement parts can be ordered by calling your authorized MSA Cairns Dealer or MSA Customer Service at 1-800-MSA-FIRE.

NFPA 1851, 2014, "Repair," specifies that repairs be performed only by members of the organization who have been trained to a level required by the manufacturer.

Cairns Fire Helmets can be completely disassembled and reassembled by reading, understanding and following instructions in the Cairns Fire Helmet Owner's Guide. With the exception of MSA Cairns Leather Fire Helmets, MSA does not require any additional training to complete repairs on most Cairns Fire Helmets.

MSA Cairns Leather Helmet repairs can be made **only** by MSA at the Cairns Fire Helmet factory. If the following repairs are needed on a Cairns Leather Helmet, the helmet must be sent to the factory:

- *Repaint*
- *Replace chinstrap*
- *Replace suspension system*
- *Replace earlap*
- *Replace faceshield/hardware*
- *Replace front holder*
- *Replace impact cap*
- *Replace D-ring*
- *Replace ratchet*

Records of all helmet repairs should be maintained on Cairns Fire Helmet Tracking Forms. Please call MSA Customer Service at 1-877-MSA-FIRE to initiate the repair process.

# Retirement of Fire Helmets

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In most cases, Cairns Fire Helmets can be repaired and kept in service. However, if a Cairns Fire Helmet is damaged beyond repair, the helmet must be taken out of service and replaced.

In addition to fire helmet retirement due to damage, NFPA 1851 2014 Edition, specifies that the fire helmet be retired 10 years after date of manufacture. The Cairns Fire Helmet Tracking Form should be used to maintain your helmet's age and repair records. Your helmet must be retired when 10 years of age is reached. **If parts have been replaced throughout the the helmet's life, the helmet must be retired when its oldest component reaches 10 years.**

Records of all helmet retirements should be maintained on Cairns Fire Helmet Tracking Form (ID 3600-46 or pages 8-11 of this Guide) or on [www.MSAfire.com](http://www.MSAfire.com).

# Optional Online Certification

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Optional quiz and training certificate are available if your organization requires documented understanding of Cairns Fire Helmet NFPA 1851 compliance training. This certification can be obtained by successfully completing a short online quiz to demonstrate your knowledge of Cairns Fire Helmets and NFPA 1851.

Go to the Fire Helmets page on [www.MSAfire.com](http://www.MSAfire.com) and follow instructions to complete the quiz. Your certificate will be immediately available for printing or saving after successfully completing the quiz.

# Cairns® Fire Helmet Tracking Form



Helmet issued to: \_\_\_\_\_

Date issued: \_\_\_\_\_

Condition when issued: \_\_\_\_\_

## Helmet Model

- |   |  |  |
|---|--|--|
| <input type="checkbox"/> Houston N6A® Helmet    | <input type="checkbox"/> 660C Metro® Helmet      | <input type="checkbox"/> Structural 360S® Helmet |
| <input type="checkbox"/> New Yorker N5A® Helmet | <input type="checkbox"/> Invader 664® Helmet     | <input type="checkbox"/> Rescue 360R-13 Helmet   |
| <input type="checkbox"/> Cairns 1010 Helmet     | <input type="checkbox"/> Commando HP3® Helmet    | <input type="checkbox"/> Rescue 360R Helmet      |
| <input type="checkbox"/> Cairns 1044 Helmet     | <input type="checkbox"/> 880 Traditional® Helmet | Other _____                                      |

Helmet serial number: \_\_\_\_\_

Manufactured on: \_\_\_\_\_

Month: \_\_\_\_\_

Year: \_\_\_\_\_

Date retired: \_\_\_\_\_

Date disposed of: \_\_\_\_\_

Disposal method: \_\_\_\_\_

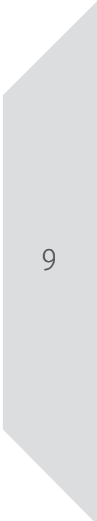


# Cairns® Fire Helmet Tracking Form

## Advanced Inspection



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Findings		
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# Cairns® Fire Helmet Tracking Form

Advanced Cleaning



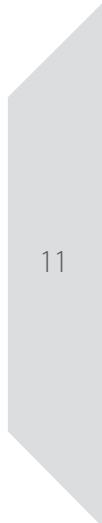
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# Cairns® Fire Helmet Tracking Form

## Repairs



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Note: This Bulletin contains only a general description of the products shown. While uses and performance capabilities are described, under no circumstances shall the products be used by untrained or unqualified individuals and not until the product instructions including any warnings or cautions provided have been thoroughly read and understood. Only they contain the complete and detailed information concerning proper use and care of these products.



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