

# NFPA 1971 GARMENTS

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## User Information Guide

### Protective Garments for Structural Fire Fighting and Proximity Fire Fighting (NFPA 1971)

ONLY THE END USER SHALL REMOVE THIS INFORMATION PRIOR  
TO USING THESE GARMENTS

#### **⚠ DANGER**

YOU MAY DIE OR SUSTAIN SERIOUS INJURY IF YOU DO NOT HAVE THE SPECIAL TRAINING AND KNOWLEDGE TO CORRECTLY USE YOUR GARMENT AND/OR HAVE NOT READ THIS USER GUIDE. IF YOU WERE NOT GIVEN A COMPLETE GUIDE OR LOSE YOUR USER GUIDE, ALERT YOUR ORGANIZATION OR CONTACT HONEYWELL FOR A REPLACEMENT.

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- DO NOT USE YOUR PROTECTIVE GARMENT IF YOU HAVE NOT READ AND UNDERSTOOD THIS GUIDE AND THE LABEL ON YOUR GARMENT, AND YOU HAVE NOT BEEN PROPERLY TRAINED AND SUPERVISED IN THEIR USE.
- THIS GARMENT AND ANY OTHER GARMENT WILL NOT PROTECT YOU DURING EMERGENCY OPERATIONS FROM ALL HAZARDS UNDER ALL CONDITIONS, ESPECIALLY FIRE FIGHTING.
- THIS GARMENT MUST BE WORN AS PART OF A COMPLETE PROTECTIVE ENSEMBLE; IT IS THE RESPONSIBILITY OF YOUR DEPARTMENT TO DETERMINE THE SUITABILITY OF THIS GARMENT FOR ITS INTENDED USE AND WHEN THIS GARMENT MUST BE WORN TOGETHER WITH OTHER ENSEMBLE ELEMENTS AND ENSURE THAT THE SELECTED ENSEMBLE ELEMENTS WORK TOGETHER TO PROVIDE THE INTENDED PROTECTION.
- YOU MUST ENSURE THAT YOUR GARMENT PROPERLY FITS AND IS PROPERLY WORN FOR EFFECTIVE PROTECTION.
- YOU MUST PROPERLY INSPECT, CARE FOR, AND MAINTAIN THIS GARMENT WITH THIS GUIDE IN ORDER FOR THE GARMENT TO PROVIDE EFFECTIVE PROTECTION.

# Honeywell

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# User Information Guide – Protective Garments for Structural and Proximity Fire Fighting (NFPA 1971)

## Introduction

This guide addresses Honeywell garments for both structural and proximity firefighting (NFPA 1971). It is important to check the label on your garment to determine the type of fire fighting operations to which your garment has been certified. Some garments may also be certified to other standards. If this is the case, you must check the label on your garment to determine what other standards apply to your garment and obtain the appropriate user guide for additional instructions for its care and maintenance. Where there are differences related to selection, care, and maintenance between structural and proximity fire fighting garments, this information is highlighted.

Your protective garment is intended to provide limited protection to your torso, arms, and legs as part of a properly selected and configured protective ensemble during structural fire fighting or proximity firefighting. While your protective garment is designed to provide protection against hazards encountered in either structural or proximity fire fighting, or other emergency operations, **your protective garment will not protect you against all exposures and under all conditions, even when worn properly.**

This user information guide provides information and instructions related to the selection, use, care, and maintenance of your protective garment. However, this guide does not tell you when and under what circumstances you should wear your protective garment. Rather, this guide tells you how to wear your protective garment and provides an understanding of the limitations of your garment and how this garment may or may not protect you. Determining the suitability of your protective garment for specific emergency operations rests with your department or employer, who has the legal responsibility to conduct a hazard assessment and decide if your protective garment provides appropriate protection against identified hazards.

**While this guide provides you basic information to adequately care for and maintain your protective garment, there are certain additional procedures – such as advanced inspection, advanced cleaning, decontamination, special incident procedures, and retirement – that should be performed only by trained and qualified personnel. Information and instructions for these additional procedures are provided on our website. Go to [www.HoneywellFirstResponder.com](http://www.HoneywellFirstResponder.com).**

## Pre-use Information

**General Construction and Features** – Your protective garment has been manufactured to comply with and is certified to either the requirements for structural fire fighting protective garments or the requirements for proximity fire fighting protective garments in NFPA 1971, Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting. Honeywell offers garments as a coat, pants or fullbody coverall. In each case, these garments are constructed of three layers that include the outer shell, moisture barrier, and thermal barrier:

- The outer shell is the exterior layer of your clothing. On this layer, a number of features are provided, which include but are not limited to, reflective trim, lettering, pockets, and closure hardware. The outer shell can be separated from the liner, which consists of the moisture barrier and thermal barrier sewn together.
- The moisture barrier layer is the next layer of your clothing that is next to the outer shell. This layer consists of a film and textile and is intended to keep liquid from penetrating your garment.
- The innermost layer is the thermal barrier, which provides the majority of your thermal insulation.

All three layers must be worn together to provide protection during structural or proximity firefighting.

Honeywell protective garments for structural and proximity fire fighting are available in, but not limited to, Morning Pride® TAILS™, VIPER, and RANGER™, EDGE and VE Gear. Features and options for your garments may include:

- A front closure for coats and a fly closure for pants, which may consist of different hardware such as a zipper, snaps, hooks and dees, combined with hook and loop closure tape.
- High visibility trim for daytime and nighttime visibility placed on the outer shell of your coat and pants; lettering and flag emblems may also be present on your coat.
- Pockets at various locations, some for specific purposes such as for carrying a radio or self-contained breathing apparatus (SCBA) facepiece.
- Reinforcements on the shoulders and elbows of coats and knees for pants. Coat sleeve cuffs and pants cuffs can also be reinforced with additional materials. Various options exist for the types of materials, areas of coverage, and placement for these reinforcements.
- In addition, coats provide different types of collars and chin straps, sleeve cuffs, and wristlets.
- Pants may include a built-in belts, escape belts, a harness system, side take-up straps, boot access side zippers, and different types of suspenders.

Coats are also provided with different types of a Drag Rescue Device (DRD), which is installed in the clothing such that the pull strap (hand loop) exits at the top back of the coat. The DRD consists of webbing or cordage which is positioned in a looped fashion underneath the arms between the outer shell and the liner. Coats and pants include an inspection port that permits the examination of the liner interior.

**Proximity firefighting garments share many of the same materials and features as structural firefighting garments, except that the outer shell is replaced with an aluminized material and trim is not used. The aluminized outer shell is intended to provide additional protection from exposure to high levels of radiant heat associated with proximity firefighting. Trim, lettering, and non-aluminized materials are not placed on the exterior of proximity fire fighting protective garments.**

Specific information about the materials and features of available garments is provided on the Honeywell website at [www.HoneywellFirstResponder.com](http://www.HoneywellFirstResponder.com).

## Safety Considerations and Limitations of Use

It is critically important that you do not use this protective garment until you have read and understood this entire guide and the labels provided on your protective garment. In order to reduce – but not eliminate – your risks, do not wear this protective garment unless:

- **You Understand Labels, This Guide, and Applicable Standards:** You have read, fully understood, and strictly follow this guide and all labels for this garment; the NFPA 1971 standard; and applicable national, state/provincial, and local regulations pertinent to emergency operations.
- **Your Use Is in Accordance with Applicable Standards and Regulations:** Your use of this protective garment is consistent with NFPA 1500, Standard on Fire Department Occupational Safety and Health Program, Title 29, Code of Federal Regulations Part 1910.132, General Requirements of Subpart I, "Personal Protective Equipment," and any specific regulations that pertain to your local area.
- **Need for Hazard/Risk Assessment:** Your department, organization, or employer has conducted a hazard/risk assessment and determined that this garment provides an acceptable level of protection for the particular emergency operations consistent with applicable national, state/provincial, and local regulations.
- **Your Garment Fits Properly:** Your garment must be appropriately sized to provide an adequate range of motion and permits you to complete required tasks without overexertion.
- **Limitations of Protection:** You have been trained and understand that not all garments provide protection from all hazards, and you have been trained and understand how to select and properly use the appropriate garment to meet the expected exposure.
- **Heat Stress:** Wearing your protective garment together with other ensemble elements may increase your risk of heat stress which may cause heart attack, stroke, dehydration, or other health-related conditions. At the first sign of heat stress, immediately seek medical help.
- **Burn Injury:** Your protective garment will not protect you from all burns and injuries. If your protective garment is exposed to radiant, convective, or conductive heat, or comes in contact with a hot environment or hot object, you may be burned underneath the protective garment with no warning and no sign of damage to the protective garment.
- **Heat Sensation:** Your protective garment will lower your ability to feel heat. Do not be misled by the absence of heat or discomfort underneath your protective garment. Even though you do not feel heat or discomfort, you can be burned or injured suddenly and without warning. If you feel heat or some slight discomfort or unusual sensation under your protective garment, you may already have been burned or are about to be burned. Be constantly alert to the possibility of exposure to heat and other hazards.

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- **Barrier Protection:** Your protective garment will provide limited liquid integrity only when worn correctly and in combination with other suitably chosen ensemble elements. Water and other liquids may still enter through the top, bottom, or closures of your protective garment and may result in exposure to liquid contaminants. The moisture barrier has not been evaluated for all chemicals that can be encountered during fire-fighting operations and information that the effects of chemical exposure on the moisture barrier are to be evaluated per the inspection procedures in NFPA 1851. Your protective garment may not protect you from all chemical, radiological, or biological hazards which can cause death, injuries, diseases, and/or illnesses. Furthermore, this garment does not offer any protection from hazardous vapors or gases, liquefied gases, or cryogenic liquids. Ensure that you have proper interfaces between your protective garment and the other elements in your ensemble, such as helmets, hoods, SCBA facepieces, and gloves with protective coats, and footwear with protective pants. There must also be sufficient overlap between your protective coat and pants (see Adjustment for Fit and Interface Issues under Wearing Instructions).
  - **Other Hazards:** Your protective garment – wet or dry – may not protect you from electrical shock. Your protective garment will not protect you from all physical hazards. Your protective garment may be penetrated, cut, or torn by sharp surfaces or objects. Your garment may also wear through when in repeated or prolonged contact with rough surfaces. Your garment will not offer any protection to ballistic hazards or objects propelled at high velocities. Your garment will hinder your movement and may not allow you full motion to perform all required fireground functions. The bulk of your garment together with other ensemble elements may not permit you to negotiate confined spaces or narrow passages without difficulty. If you fall into open water, your garment may prevent you from being able to swim. If you are operating in areas of vehicular traffic or moving machinery, your garment may not offer sufficient visibility to be seen and result in you being struck by moving vehicles or equipment. You must be constantly vigilant of the hazards to which you may be exposed and your garment limitations in protecting against these hazards. Do not use your protective garment if it is contaminated, cut, punctured, worn, abraded, or altered from its original condition.
  - **Need for Complete Ensemble:** This garment is effective only when properly worn, accounting for a proper interface with the other elements of your protective ensemble. A complete ensemble for structural fire fighting includes, as a minimum, protective garments, a protective helmet, protective gloves, protective footwear, protective hood, self-contained breathing apparatus (SCBA), and personal alert safety system (PASS) that have been certified to the appropriate NFPA standard.
- A proximity fire fighting protective ensemble includes the same elements, except that the hood is replaced by a protective shroud, which is attached to the protective helmet.**
- **Proper Care and Maintenance:** This garment must be properly inspected, maintained, and cared for by you and your department, organization, or employer consistent with these instructions

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and the applicable national, state/provincial, and local regulations. Your garment must be free of soiling, contamination, damage, and any alteration that would compromise the protection it provides in its original condition. Damage and contamination of this garment may warrant its disposal. **Do not use your garments unless they have been thoroughly cleaned and dried.**

- **Warranty:** This garment is NOT warranted to be fit for a particular purpose. Read carefully the “Warranty Information” at the end of this guide. If labels in the garment are missing or become unreadable, contact Honeywell for instructions for how to obtain a copy of the label information.

**Marking Recommendations** – Do not attempt to alter or modify your garment. For identification purposes, you may mark your protective garment on the interior using an indelible marker, if permitted by your department or organization. Do not write over or obscure information on the product label.

**Testing and Assessment of Performance** – Your protective garment and the materials and components used in its construction have been evaluated for a number of performance properties that are based on the respective requirements in NFPA 1971 for its certification. These properties include, but are not limited to, thermal protective performance, overall liquid integrity, flame resistance, heat and thermal shrinkage resistance, conductive and compressive heat resistance (for shoulder and knee reinforced areas), thread melting resistance, tear resistance, breaking strength, seam strength, water penetration resistance, liquid chemical and viral penetration resistance, cleaning shrinkage resistance, water absorption resistance, corrosion resistance, drag rescue device performance, light degradation resistance, and label legibility. Structural fire fighting protective garments are also evaluated for trim performance. **Proximity fire fighting protective garments are also evaluated for different outer shell properties related to its radiant protective performance and durability.** None of these performance properties can be evaluated in the field, so if you have questions, check with your department or organization, which in turn can contact Honeywell.

### Preparation for Use

**Sizing and Adjustment** – All Honeywell protective garments are offered in a full range of sizes. Protective coats are provided in chest sizes with at least 2 inch increments and sleeve lengths in 1 inch increments. Protective pants are offered in waist sizes with at least 2 inch increments and inseam length with at least 2 inch increments. The best practice is to have your garments custom fit for your specific dimensions. For many purchases, Honeywell provides services for fitting each individual firefighter for protective coats and pants. However, some garments are provided in standard sizes in the size increments described above.

It is important that you select the appropriate size of garment. Garments that are too tight will hinder your movement and reduce the layer of air between your body and the garment that contributes to your overall thermal insulation protection. Garments that are too loose will also negatively affect your ability to move. Choose a garment size that gives you the best functionality. Follow the donning instructions under Wearing Instructions provided in a following

section to ensure you are correctly wearing your protective garment. In addition, follow the procedures under “Adjustment for Fit and Interface Issues” to ensure a correct overlap of your coat and pants and that all additional ensemble elements properly interface with your garments. If you lose or gain weight, you may need to have the size of your garment adjusted to provide proper fit.

**Recommended Storage Practices** – Store your garment only when it is clean, dry, and free of contamination. Storing wet garments will promote growth of mildew, fungus, bacteria, or other harmful substances with the potential to cause skin irritation, rashes, and diseases and/or illnesses. Wet conditions can also lead to deterioration of some garment materials. Keep garment away from potential contaminants such as oils, greases, or other chemical substances. Store your garment in a clean, dry, ventilated area away from direct sunlight and away from tools or other sharp objects. Storage of your garments in an apparatus bay may subject those garments to contamination with diesel exhaust if an adequate diesel exhaust system is not used at the station. Do not store your garment with your personal belongings or in a personal living area.

### Inspection Details and Frequency

**Routine Inspections** – Inspect your protective garment prior to its first use and following every use. Prior to using the garment for the first time, ensure that the garment does not have any construction flaws and was not damaged when being put into service. Following every use, inspect your protective garment for:

- soiling
- contamination
- physical damage such as rips, tears, punctures, and cuts
- damaged or missing hardware and closure systems
- thermal damage such as charring, burn holes, melting, and discoloration of any layer
- damaged or missing reflective trim
- loss of seam integrity and broken or missing stitches
- correct assembly and size compatibility of the shell, liner, and drag rescue device (DRD)

**For proximity protective garments, carefully check the condition of the aluminized shell for cracks, flaking, or abrasion that has diminished the reflective properties of the materials.** If these conditions exist, alert the supervisor of your department or organization and request a determination on the continued serviceability of your protective garment.

**Advanced Inspections** – Your protective garment must be subjected to a more thorough inspection at least every 12 months, or whenever there is a concern about their condition for continued service found during routine inspection. This inspection must be carried out by Honeywell, an individual within your department or organization who has been trained in advanced inspections or by a qualified and accepted independent service provider. Garments that are older than 3 years from the date

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of manufacturer must also be subjected to a complete liner inspection as part of the advanced inspection.

### Wearing Instructions

**Donning** – The specific donning instructions will depend on how your coat and pants are configured and will be affected by the specific features provided on your garment. You should put on your pants before you put on your coat.

To properly put on your pants:

1. Ensure that your liner is properly installed. The liner should be attached to your pants outer shell at the waist with the legs attached at the bottom of each leg using a combination of snaps and hook and loop closure tape at the waist and snaps at the bottom of the pants cuffs.

- Ensure that the inspection port is closed if the opening has hook and loop closure tape or a zipper.



2. Install the suspenders or belt into your pants:

- For traditional metal hook attachments, secure each hook attachment onto the front and bottom suspender buttons of the pants ensuring the orientation of the cross on the suspenders is at the back of the pants. The hook is secured by putting the wide part of the hook over the button and pulling the hook so that the button slips into the narrow end of the hook.
- For non-button suspender snaps, thread the suspender ends through the loops provided on the interior of the pants waistband and close the snaps to secure the suspender ends to the pants.
- For Quick-Release buckle attachments, on the front of the pants, place the male end of the buckle on the suspender straps into the female part attached to the front of the pant until the buckle snaps into place, ensuring that the buckle is completely closed. On the back of the pant, thread both hook and loop straps of the suspender ends through the corresponding slider buckle and securely close the hook and loop.
- If a belt is provided in your pants, thread the belt through pant loops on the exterior waistline of your pants so that the buckle is open in the fly area.

3. Step into your pants as if you would for normal trousers and pull up your pants to your waist.
4. If suspenders are provided with your pants, pull the suspenders over your shoulders.
5. Close the fly of your pants using the provided hardware (either a zipper or hook and dee) and/or hook and loop tape. Hook tape on one side of the fly should be matched directly to the loop on the other side of the fly.
6. Adjust your suspenders so that the pants feel secure on your waist; however, do not over adjust your suspenders to cause pulling the crotch up of your pants too high.

7. If you have a belt, close your belt.
8. If your pants are provided with side take up straps, adjust the slide so that the pants waist is adjusted to provide the most comfortable and functional fit.

It is recommended that you set up your pants on your footwear prior to donning. This will assist your rapid donning of your ensemble. To set up your pants with your footwear, initially don your pants as described above. Put on your footwear and pull the pants cuff down on top of your footwear. Then, while standing, doff your pants (see instructions below) folding the pants on top of your footwear. The next time you don your pants, step through the pant openings with each foot directly into the footwear through each pants leg and don your pants as described above.

Some pants may be outfitted with boot access panels. If present, the zippers can be opened before donning your pants to permit you first putting on your footwear and slipping your footwear through each pants legs, and then securing the zipper after the donning of your pants is complete.

To properly put on your protective coat:

1. Ensure that the liner is properly installed in your coat. The liner is attached to the outer shell at the collar and along the sides of the front closure using a combination of snaps and hook and loop closure tape, or a zipper. Make sure that the liner is properly aligned before securing the liner to the outer shell. Similarly, the liner must be attached to the end of the sleeves but securing the snaps on the liner with the shell. Ensure that the liner arm is not twisted inside the shell when the snaps are matched up between the shell and the liner.
  - Ensure that the inspection port is closed if the opening has hook and loop closure tape, or a zipper.
2. Ensure that the DRD is properly installed in your coat. Refer to the instructions provided below for the respective DRD that is provided with your coat.
3. It is recommended that you have your protective hood donned over your head (with your head through the face opening) before donning your coat.
4. Put your coat on as you would a normal jacket.
5. When putting your arms and hands through the coat sleeves, extend your arms through the wristlet such that the long tab, if applicable, goes over your thumb or your thumb goes through the hole in the wristlet, if applicable, depending on the type of wristlet provided with your coat.
6. Make sure that your coat collar is in a raised position over its entire circumference around your neck.
7. Pull the coat front closure together.
  - If your coat is provided with a zipper closure, match up the zipper ends and correctly align the zipper slider before pulling the zipper up to your collar area.
  - If your coat is provided with an inner snap or hook and loop closure tape based front closure, align the snaps and secure the hook tape against the loop tape.

- If your coat has hooks and dees as part of its inner closure, secure the correct hook to each dee.
8. Secure the front closure flap over the inner closure by matching up the hook and loop closure tape or securing the hooks with the respective dees, depending on your coats configuration.
  9. Put on your SCBA and SCBA facepiece in accordance with the SCBA manufacturer's donning instructions.
  10. Pull up your hood so that the hood properly interfaces with your SCBA facepiece and covers all portions of your face that are not protected by either the SCBA facepiece or coat collar.
  11. Secure your collar by pulling your chinstrap across the collar opening and securing the hook portion of the closure tape onto the loop portion of the closure tape. When properly donned, the collar closure should abut against the bottom of your SCBA facepiece.
  12. Put on your protective gloves so that the glove body fits over your wristlets secured to your hand and the glove gauntlet or wristlet is over the coat sleeve wristlet but underneath the coat sleeve shell.
  13. Check the overlap between your coat and your pants and ensure that all ensemble elements have proper interfaces with your protective coat.

**Adjustment for Fit and Interface Issues** – Per the requirements in NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*, check the overlap between your coat and pants, using the following procedures:

1. Don your pants and coat as described in the procedures above (it is not necessary to don your protective hood, protective gloves, and SCBA for this determination).

2. Begin by standing and put your hands together after reaching overhead as high as possible.



3. Then, while still standing, keep your hands together, reach overhead, and then bend forward at the waist and move to each side and to the back as much as possible.



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4. Have an observer confirm that you have at least a 2-inch overlap of all layers of your protective garments so that there is not gap in the thermal protection when your coat and pants are worn in each of the positions.

Your protective garment must also fit properly and be worn in such a way that all interface areas between your garment(s) and other ensemble elements always protect the portions of your body that are covered in the interface areas. The interface areas must remain protected during all of your anticipated movements, including when you look upward or sideways, reach forward, raise your arms, bend over, turn your body sideways, kneel, duck walk or crawl. If your interface areas do not remain protected during your movements, alert your supervisor to determine if you have been provided the correct garment and other ensemble elements.

**Doffing** – If your protective garments are not contaminated:

- Use care when remove your garment since you will want to also avoid contact with ordinary fireground soiling.
- Remove your coat and other ensemble elements in the reverse order as instructed in the donning process.
- Remove your pants and footwear last.
- Inspect your garment as indicated in the instructions above.

If your protective garments have become contaminated with blood, body fluids, chemicals, or other hazardous substances, use extreme caution in removing your garment and do not contact the surface of your garment with your bare hands. Seek assistance in removing your garment and other parts of your ensemble to minimize your exposure to any contaminants. Any damage or change in condition must be corrected before you reuse your garment.

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### Care and Maintenance Instructions

**Importance of Clean and Maintained Garments** – It is important that you keep your protective garment clean, free of contamination, and properly maintained at all times. Protective garments that are dirty or contaminated pose significant hazards. The wearing of soiled or contaminated clothing can cause acute or long-term health hazards. Many contaminants can be absorbed by the skin, and some are carcinogenic. In addition, many types of contaminants are flammable and garments that are contaminated may absorb heat at a faster rate than clean garments. **Dulled or abraded aluminized shell material in proximity firefighting garments reflects heat less effectively and provides lower levels of protection.** Therefore, if your garment becomes soiled, you should clean your garment after use. It is also recommended that you take a shower following any structural fire.

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Refer to NFPA 1851, *Standard on Selection, Care, and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting* for additional guidance on the care and maintenance of structural or proximity fire fighting protective

garments. However, the following instructions provided by Honeywell First Responder Products take precedence over any requirements specified in NFPA 1851. Do not use your garments unless they have been thoroughly cleaned and dried.

**Cleaning Precautions** – In cleaning your protective garment:

- Use only mild detergents with a pH range of not less than 6.0 pH and not greater than 10.5 pH as indicated on the product's material safety data sheet (MSDS) or original container. Do not use detergents or cleaning agents that are not approved by Honeywell.
- Never use solvent or chlorine bleach or cleaning agents that contain chlorine bleach. These substances rapidly break down garment materials.
- Do not use wash water or drying temperatures above 105°F (40°C).
- Wear protective gloves and eye/face splash protection when cleaning soiled items.
- Do not wash your protective garment or other protective clothing with personal items, in your personal laundry, or at a laundromat.
- Do not dry clean your protective garment. Dry cleaning will destroy certain materials and components used in the construction of your garment.
- Remove any items placed in the pockets of your garment before washing.

**Routine Cleaning** – Only use these procedures to perform spot cleaning of your garment. Clean your protective garment after each use or whenever your garment becomes soiled. If more than spot cleaning is required, use the machine washing instructions provided in the next section. The routine cleaning procedures will not provide a full and complete cleaning of your garments. Use the following procedures only for routine cleaning by hand of your protective garment in a utility sink:

1. Choose a utility sink that is specifically used for cleaning protective clothing; do not use a kitchen sink or other sink that is employed for personal products.
2. Brush off any loose debris.
3. Fill the utility sink with warm water.
4. Use a mild detergent in a volume according to the detergent supplier's instructions.
5. Scrub the garment gently using a soft-bristle brush. **DO NOT USE A BRUSH ON THE ALUMINIZED SHELL OF PROXIMITY FIRE-FIGHTING GARMENTS.** Instead, use a sponge or soft cloth for cleaning soil from these surfaces.
6. Drain the sink and thoroughly rinse the garment. Conduct a second rinse if necessary.
7. Inspect the garment and, where necessary, rewash the protective garment or submit the garment for machine cleaning or advanced cleaning procedures.
8. Do not attempt to wring out the clothing as this action may cause damage to the garment.
9. Hang the garment for air drying, preferably on a non-corrosive hanger in a well-ventilated area, but not in direct sunlight. Do not force-dry the garment with a hair dryer, or place the garment over a heating duct or radiator.
10. Machine drying may be used following the specific procedures given below.

11. Rinse the utility sink using routine cleaning procedures.

### **Machine Cleaning – DO NOT MACHINE CLEAN THE ALUMINIZED OUTER SHELLS OF PROXIMITY FIRE FIGHTING PROTECTIVE GARMENTS.**

Washing machines and dryers may be used for routine cleaning of structural fire fighting protective garments and the liners of proximity fire fighting protective garments when soiling is not limited to specific areas on the garment. Use the following procedures if machine washing and drying your garments:

1. Choose a washing machine that is used for cleaning protective clothing. While toploading machines may be used, front-loading washers/extractors are preferred, as these machines are less likely to physically damage clothing and can be programmed for specific water levels, temperatures, and times.
  2. Brush off any loose debris from the exterior of the clothing.
  3. Separate the garment liner from the shell and, if removable, remove the Drag Rescue Device (DRD), if present. Remove the suspenders from pants and other specific removal items from the coat or pants, such as shingle cuffs for coat sleeves and belts on pants.
  4. Turn the liner inside out so that the moisture barrier side is inside the garment. **Ensure the inspection opening is closed before washing.**
  5. Pre-treat heavily soiled or spotted areas on the garment shell.
  6. Close up all hardware and hook and loop tape on your coat prior to washing by securing the front closure on coats and fly on pants and ensure that hook and loop closure tape where present on the front closure, collar closure, and pockets.
  7. Unless otherwise instructed, load machine to 80% of its rated capacity. Overloading will result in inefficient cleaning.
  8. Use mild wash settings, a mild detergent, and warm water temperatures.
  9. Following washing, remove the garment from the washing machine and air-dry it by hanging it on a non-corrosive hanger in a well-ventilated area but not in direct sunlight, or put it in a dryer on a no-heat or low-heat setting. As with washing, garment shells and liners must be dried separately.
  10. Inspect the garment and, where necessary, rewash the garment or submit it for advanced cleaning procedures.
- Advanced Cleaning** – Your protective garment must be subjected to an advanced cleaning at least every 12 months at the time of advanced inspection or whenever soiling requires additional cleaning. Advanced cleaning must be performed by Honeywell, persons qualified by your department or organization, or by verified Independent Service Provider (ISP) that has been accepted by Honeywell. When your garment is subjected to an advanced cleaning, Honeywell strongly recommends that you also have your garment subjected to an advanced inspection following the advanced cleaning (see above).

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**Decontamination** – Proper decontamination of your protective garment will depend on the type and extent of contamination. If your protective garment becomes contaminated with blood or body fluids, immediately isolate the garment and inform your supervisor, department, or organization. Your protective garment must be **sanitized and** subjected to an advanced cleaning using specialized procedures.

If your protective garment becomes contaminated with chemicals or other hazardous substances, immediately isolate your garment and remove them from service, taking care not to cross-contaminate other clothing items. Immediately inform your supervisor, department, or organization. Do not wear a protective garment that was contaminated until verification has been provided that your protective garment is free from contamination.

**Repairs** – Do not attempt to repair your garment. If damaged, report the damage to your supervisor, department, or organization and obtain a new garment as a replacement. Your protective garment must be repaired only by Honeywell or an organization that has been qualified by Honeywell First Responder Products.

### Retirement and Disposal

The decision for the continued service of your protective garment must be made by a qualified individual within your department or organization. If you have any doubts about your protective garment and its condition, immediately bring this matter to the attention of your supervisor, department, or organization. Protective garments that are no longer deemed serviceable for reasons of damage, contamination, or other unsafe condition must be disposed of in a fashion (such as cutting them in unusable pieces) whereby the garments cannot be reused. Contaminated garments must be disposed of by your department or organization in accordance with federal, state/provincial, or local regulations.

If any part of your body is burned or injured while you are wearing your protective garment, your protective garment must be removed from service and retained by your department or organization for an appropriate period as determined by your department or organization.

### Specific Instructions for Drag Rescue Device (DRD)

Different DRDs are available in Honeywell protective garments. Identify the type of DRD in your garment and use the following instructions for their proper use, inspection, maintenance, cleaning, installation, and removal.

**DRD Use and Limitations** – The DRD provides mechanical pull leverage for dragging a downed and incapacitated structural fire fighter from a life-threatening environment. The design of the Device enables a rescuer to drag the downed firefighter in line with the axis of the firefighter's skeletal frame and in a horizontal position. This product is integrated into the protective coat and can only be used in structural fire fighting rescue operations. This product is not an escape device for lifting or lowering a person on a lifeline.

The proper deployment and use of a DRD involves the following steps:

1. Assess victim status and route of escape.
2. Engage the DRD by pulling the DRD strap, or if applicable, the hand loop, until fully extended.
3. Obtain proper grip and commence pulling victim.
4. Obtain training that includes, but is not limited to proper medical assessment of victim condition and locating/engaging the DRD with gloved hands and obscured vision.

After donning turnout coat, ensure that the DRD is properly installed and does not bind or impede movement of arms or torso. Tightness in any way is indicative of improper alignment or twisting of loop. Remove the turnout coat and adjust the DRD webbing or cordage between shell and liner. Don again and recheck the fit to ensure that the problem has been resolved. If you are still unsure of fit, contact your supervisor, department or organization responsible for care and maintenance of personal protective equipment. Do not wear your garment if the DRD webbing or cordage is misaligned, twisted or damaged.

**DRD Inspection** – Check your garment DRD upon receipt to ensure that it is in good condition. Inspect your DRD after at least every three months, after any high heat exposure to your garment, and after each deployment for the following types of damage:

- correct installation in garment
- soiling
- contamination
- physical damage such as cuts, tear, cracking or splitting
- thermal damage such as charring, burn holes, melting or discoloration
- loss of seam integrity and broken or missing stitches

If your DRD is damaged in anyway, it must be removed from service, and repaired or disposed of it in accordance with the requirements in this guide.

**DRD Maintenance** – Reset the DRD into your coat after any deployment and inspect the DRD at least every three months as described above.

**DRD Installation** – Refer to the instructions pertaining to the type of DRD provided with your protective coat.

#### Rapid Rescue Strap and Articulating Rapid Rescue Strap (DRD) Installation Instructions

**Step 1** – Remove the coat liner from the shell of the protective coat (at both the sleeves and the front facings of coat at the front closure) and lay the coat chest side down. Raise the back outer shell and pull the sleeves from the coat outer shell. Lay the Rapid Rescue Strap on the liner with hook and loop tape on Hand Loop facing up. On the Articulating Rapid Rescue Strap, make sure the DRD cord seam on the (the stitched overlap) is inside the DRD handle.



**Step 2** – Insert the hand loop into tunnel opening and push through the tunnel. Put the liner sleeves through the larger "figure eight" loops of the Rapid Rescue Strap.



**Step 3** – Reinsert the liner sleeves into the shell and snap at wrists and completely reattach the liner to the shell of the protective coat.

**Step 4** – Follow the webbing around the shoulder and across the back with your hands to remove any twists. When done properly, the label and hook tape on the Rapid Rescue Strap will be facing you.



**Step 5** – Fold the hand loop protruding through the tunnel opening down so that it makes solid contact with the loop tape sewn into the back of the coat. Then, fold the tunnel flap down and press firmly into place.



Tunnel Flap



#### Positive Closure Articulating Metro Drag Rescue Device (DRD) Installation Instructions

The positive closure articulating DRD device has 4 parts:

1. DRD cord with danger label attached
2. DRD handle
3. Reverse hook
4. Bent dee

**Step 1** – Unattach the coat closure and the DRD reverse hook and bent dee and place the coat on a firm surface so you are looking at the inside of the coat.



**Step 2** – Unattach the moisture barrier on the leading edge of the coat.



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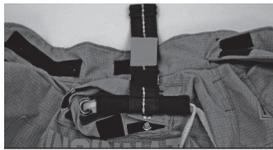
**Step 3** – Unsnap the snaps in the sleeve wristlet and remove the sleeve moisture barrier from the sleeve outer shell.



**Step 4** – Make sure the DRD cord seam (the stitched overlap) is inside the DRD handle. Center the DRD handle on the DRD cord making two equal arm loops. Remove the bent dee and reverse hook (see Steps 14, 15 and 16) if on the DRD.



**Step 5** – Lay the coat out with the back of the shell facing up. Lay the DRD handle at the collar with the trim visible and the DRD handle facing upward as shown. Start threading from the outside in and pass the DRD cord through the grommets on the opposite sides inside the handle garage.



**Step 6** – Place the DRD handle inside the handle garage pocket after the DRD cord has been fed through both grommets.



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**Step 7** – Fold the DRD handle down and snap the handle garage flap.



**Step 8** – Fold DRD handle up and attach to the collar.



**Step 9** – Once both sides are threaded through, turn the coat over. You should now have two arm loops, one on each side of the coat between the outer shell and moisture barrier.



**Step 10** – Take the liner sleeves and pass them through the DRD cord loops.



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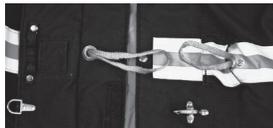
**Step 11** – Insert the liner sleeves back into the outer shell sleeve. Do not snap the sleeves in place just yet.



**Step 12** – There are two retaining loops with hook and loop. One is high and one is low under the arms on both left and right side attached to the outer shell. Move the danger label up toward the center of the coat and attach the DRD cord to the hook and loop stabilizing retaining loops (see arrows).



**Step 13** – For exterior hook and dee systems (please see 13A if your hooks and dees are covered by the storm shield): Once the left and right DRD cord loops have been stabilized under the arms pass the leading edge of the DRD cord through the grommets on both sides of the coat front.



**Step 13A** – The concept is the same for garments with internal hooks and dees (covered by the storm shield when closed) but looks a little different. Once the left and right DRD cord loops have been stabilized under the arms pass the leading edge of the DRD cord through the grommets on both sides of the coat front.



**Step 14** – For exterior hook and dee systems (please see 14A if your hooks and dees are covered by the storm shield). On the left, pass the DRD cord through the shell tunnel. Now secure the reverse hook and bent dee to the DRD cords by passing them through the horizontal opening at the foot of the reverse hook and bent dee, bringing the DRD cord back on itself. This will secure the reverse hook and bent dee to the DRD cord. The reverse hook must have the latch opening facing down. The slight angle on the bent dee must face down.



**Step 14A** – The concept is the same for garments with internal hooks and dees (covered by the storm shield when closed) but looks a little different. Now secure the reverse hook and bent dee to the DRD cords by passing them through the horizontal opening at the foot of the reverse hook and bent dee, bringing the DRD cord back on itself. This will secure the reverse hook and bent dee to the DRD cord. The reverse hook must



have the latch opening facing down. The slight angle on the bent dee must face down.

**Step 15** – For exterior hook and dee systems (please see 15A if your hooks and dees are covered by the storm shield). Bringing the DRD cord back onto itself. This will secure the reverse hook and bent dee to the DRD cord.



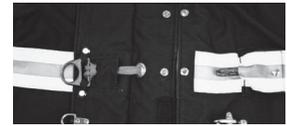
**Step 15A** – The concept is the same for garments with internal hooks and dees (covered by the storm shield when closed) but looks a little different. Bringing the DRD cord back onto itself. This will secure the reverse hook and bent dee to the DRD cord.



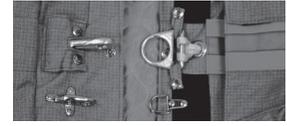
**Step 16** – Snug up the knots on both the reverse hook and bent dee.



**Step 17** – For exterior hook and dee systems (please see 17A if your hooks and dees are covered by the storm shield). Snug up the knots on both the reverse hook and bent dee. Secure the bent dee by passing the snap tabs through the horizontal opening in the bent dee and snapping the leading edges to the coat. To secure the reverse hook, pull the reverse hook into the tunnel and snap into position.



**Step 17A** – The concept is the same for garments with internal hooks and dees (covered by the storm shield when closed) but looks a little different. Secure the bent dee by passing the snap tabs through the horizontal opening in the bent dee and snapping the leading edges to the coat. To secure the reverse hook, place the DRD cord between the snaps and in the middle of the flap slot and snap into position.



**Step 18** – Once secure, take up the tension by gently pulling on the DRD cord from the interior of the coat.



**Step 19** – Attach the liner to the shell at the front and sleeves.



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**Step 20** – For exterior hook and dee systems (please see 20A if your hooks and dees are covered by the storm shield).



Attach the coat's hook and dees and connect the reverse hook to the bent dee.

**Step 20A** – The concept is the same for garments with internal hooks and dees (covered by the storm shield when closed) but looks a little different.



Attach the coat's hook and dees and connect the reverse hook to the bent dee.

**Step 21** – Don the coat and make any comfort adjustments to settle the DRD into place.

After you have installed the positive closure articulating metro DRD, you should don the coat and make any comfort adjustments to settle the DRD into place. You will note while donning and securing the front coat closure that the reverse hook and bent dee of the positive closure DRD must be connected, securely snapped together and in the center chest area in order to complete the DRD encirclement of the chest and affect positive closure. Doffing only requires unsnapping of this reverse hook from the bent dee.

**Exterior dees coat fully assembled**



**Dees covered by shield coat fully assembled.**



**DRD Removal** – If the DRD is removable, follow the instructions provided for the installation of the respective DRD, but perform the steps in the reverse order. Have your DRD inspected by a qualified person within your department or organization following its removal to ensure its continued serviceability.

**DRD Cleaning** – If removable, remove the DRD and place in an open mesh laundry bag. Launder DRD with garment outer shells. After drying, reinstall the DRD into coat per the instructions according to the specific type of DRD.

## Warranty

Honeywell warrants that all Morning Pride® TAILS™, VIPER, RANGER™, VE & EDGE and Honeywell first responder protective clothing is free from defects in material and workmanship for the useful life of the product. This warranty specifically excludes accidental damage (acid, tears on nails, etc.), intentional or unintentional abuse, natural disasters, damage caused by disregard of care instructions, and normal wear. THESE WARRANTIES ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, WHETHER WRITTEN, EXPRESS, IMPLIED, STATUTORY OR OTHERWISE. A full warranty statement can be found at [www.HoneywellFirstResponder.com](http://www.HoneywellFirstResponder.com).

## Contact Information

If you have questions or require more information, contact Honeywell First Responder Products.

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99-BK-S01

Rev. March 2018

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