

U.S. ARMY TM 10-8415-230-10 U.S. AIR FORCE T.O. 14P3-1-181

TECHNICAL MANUAL OPERATOR MANUAL FOR JOINT-FIREFIGHTER INTEGRATED RESPONSE ENSEMBLE (J-FIRE)



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HEADQUARTERS, DEPARTMENTS OF THE ARMY AND AIR FORCE

DECEMBER 1998

WARNING SUMMARY

GENERAL

NBC Contamination

When donning chemical protective gloves, hook and pile fastener tape on JSLIST coat sleeves must be pulled as tightly as possible around the forearm to prevent possible separation of glove and sleeve interface.

Do not perform after-operation Preventive Maintenance Checks and Services (PMCS) if you have been exposed to a contaminated NBC environment. For decontamination procedures, refer to FM 3-5 (Army) or AFMAN 32-4005 (Air Force).

Heat Stress

Wearing your J-FIRE may increase your risk of heat stress which may cause heart attack, stroke, dehydration or other conditions resulting in death, injury or illness. At the first sign of heat stress, immediately seek medical help.

Burns

If your proximity suit is exposed to radiant, convective or conductive heat, you may be burned underneath the proximity suit with no warning and no sign of damage to the garments.

Your J-FIRE will lower your ability to feel heat. Do not be misled by the absence of heat or discomfort underneath proximity suit. Even though you do not feel heat or discomfort, you can be burned or injured suddenly and without warning. Be constantly alert to the possibility of exposure to heat and other hazards. If you feel heat or some slight discomfort or unusual sensation under your proximity suit, remove yourself as soon as safely possible from the heated environment. If you cannot safely leave, change your body position, or cool your environment with water stream or ventilation.

Electric Shock

Your protective ensemble wet or dry may not protect you from electrical shock.

Other

Exercise extreme caution around bodies of water. J-FIRE will not float and will make swimming difficult.

JSLIST OVERGARMENT WARNINGS

Keep unopened original factory vacuum-sealed bags containing chemical protective clothing inside closed shipping container. Do not expose bag to prolonged sunlight. Keep open shipping containers in the shade.

Use wet weather gear or proximity suit to keep JSLIST overgarment dry. A wet overgarment will afford some protection; however, its protective capabilities are reduced.

The protection that is provided by the JSLIST overgarment is degraded in the areas that become saturated by petroleum products or exposed to direct moisture, smoke, fuel, or solvent vapors.

Repaired JSLIST overgarment is to be used for training only and is not to be issued to the individual for real Chemical/Biological (CB) scenarios. Repaired items could cause chemical exposure if worn in a CB environment, resulting in severe health problems or death!

WARNING SUMMARY – Continued

INTERSPIRO CHEMICAL WARFARE (CW) KIT WARNINGS

The Interspiro CW kit, without the Interspiro Self-Contained Breathing Apparatus (SCBA), will not protect the user from suffocation if used in an oxygen deficient atmosphere such as closed compartments.

Firefighting operations will not be performed wearing the Interspiro CW mask only. The modified structural ARFF helmet must be worn over the Interspiro CW mask and an Interspiro SCBA used. Failure to use modified structural ARFF helmet and an Interspiro SCBA may cause personal injury or death.

If the Interspiro CW mask is not properly fitted or maintained, the user is in danger of inhaling chemical agents which may incapacitate or kill. In addition, the Interspiro CW mask is designed to protect the user from inhaling chemical warfare agents.

Contact lenses shall not be worn with the Interspiro CW mask. Wearing of contact lenses could result in serious eye injury.

Ensure the Interspiro CW mask assembly, including drink tube assembly, has been cleaned prior to use. Failure to clean the Interspiro CW mask assembly and drink tube assembly is unsanitary and could pass germs. Failure to clean the Interspiro CW mask assembly and drink tube assembly could also lead to equipment malfunction from dirt/filth buildup resulting in bodily injury or death.

Do not overtighten head harness. Overtightened head harness may distort Interspiro CW mask or pull it back over hairline causing leaks of toxic chemical agents resulting in injury and/or death.

If a good mask seal cannot be achieved with the Interspiro CW mask, the user is prohibited from using mask. Use of Interspiro CW mask if not properly fitted may result in personal injury or death.

DO NOT DRINK if resistance is not felt. Chemical agents could be swallowed resulting in sickness and/or death.

In a contaminated environment, perform steps for putting on Interspiro CW mask quickly. Interspiro CW mask must be on before taking another breath. Toxic agents may be in surrounding air and can cause injury or death.

The C₂ CB canister does not protect against industrial chemical agents; it is only approved for chemical warfare agents. Use of C₂ CB canister for industrial agents may cause personal injury or death.

The C₂ CB canister does not provide oxygen; it cannot be used in an oxygen deficient atmosphere. Use of the C₂ CB canister in an oxygen deficient atmosphere may cause personal injury or death.

C₂ CB canister must be installed on the Interspiro CW mask prior to use in a toxic chemical or biological environment. If C₂ CB canister is not installed, it will result in personal injury or death.

INTERSPIRO SCBA WARNINGS

Except for cleaning, lubrication, inspection and test procedures according to the Operating Instruction Manual, only the holder of the manufacturer's Repair Certificate should service the Interspiro SCBA. Work by unauthorized or untrained persons and/or the use of other than approved parts may void the approval and safety of the unit.

WARNING SUMMARY – Continued

INTERSPIRO SCBA WARNINGS - Continued

Duration of the compressed air supply is dependent on the user's exertion, physical and emotional condition, as well as on environmental pressure and whether the cylinder was fully charged and whether the facepiece fits. Duration can vary 50% or more. If the cylinder has been charged very fast, the air is warm and volume available for breathing is reduced.

The PMCS procedures for the Interspiro SCBA are intended for normal use only. If the Interspiro SCBA has been exposed to extreme conditions such as extreme heat or cold, harsh liquids or chemicals, heavy-duty dust particles, or extreme shock or vibration, the Interspiro SCBA must undergo a test and inspection by a holder of an Interspiro Service Certificate. If the Interspiro SCBA does not meet the values in the PMCS or if it shows signs of wear, the Interspiro SCBA must be taken out of service and repaired according to the Service Manual.

PROXIMITY GEAR WARNINGS

Do not modify, change or alter your protective ensemble in any manner. Any changes to your protective ensemble may result in death, burns, injuries, diseases and illnesses.

Your proximity suit coat and trousers must fit properly and interface with your other safety equipment so that the protective layers overlap in all body positions. Any gaps in your protective layers may result in death, burns, injuries, diseases or illnesses.

Your proximity suit is designed to be used as a unit. All elements, layers and accessories must be used. Failure to do so may result in death, burns, injuries, diseases or illnesses.

All closures and components on your proximity suit (flaps, buttons, hooks, collars, etc.) must be fastened and in place when the proximity suit is in use. Failure to do so may result in death, burns, injuries, diseases and illnesses.

Do not use your proximity suit or fire protection gloves if they are soiled or contaminated. Such use may result in death, burns, injuries, diseases, or illnesses.

Do not use your proximity suit, fire protection gloves, or fire and chemical protection gloves if they are torn, worn, cracked, abraded or altered from their original condition. Such use may result in death, burns, injuries, diseases, or illnesses.

Avoid cryogenics or liquified gas exposure. Proximity gear may absorb hazardous and/or flammable vapors and/or liquids which may later ignite.

NOMEX HOOD WARNINGS

Do not use your nomex hood if it is soiled or contaminated. Such use may result in death, burns, injuries, diseases, or illnesses.

Do not use your nomex hood if it is torn, worn, abraded or altered from its original condition. Such use may result in death, burns, injuries, diseases, or illnesses.

FIRST AID INFORMATION

For information on first aid, Army users see FM 21-11 and STP 21-1-SMC. For information on treatment of chemical exposure, refer to *Treatment of Chemical Agent Casualties and Conventional Military Chemical Injuries*, (Army) FM 8-285, (Air Force) AFM 160-11.

INSERT LATEST UPDATED PAGES/WORK PACKAGES. DESTROY SUPERSEDED DATA.

LIST OF EFFECTIVE PAGES/WORK PACKAGES

NOTE: The portion of text affected by the updates is indicated by a vertical line in the outer margins of the page. Updates to illustrations are indicated by miniature pointing hands. Updates to wiring diagrams are indicated by shaded areas.

Dates of issue for original and updated pages/work packages are:

Original 0 31 Dec 98

TOTAL NUMBER OF PAGES FOR FRONT AND REAR MATTER IS 32 AND TOTAL NUMBER OF WORK PACKAGES IS 9 CONSISTING OF THE FOLLOWING:

Page/WP No.	*Revision No.	Page/WP No.	*Revision No.	Page/WP No.	*Revision No.
Title	0				
a - c/d blank	0				
A/B blank	0				
i - vi	0				
0001 - 0009	0				
Index.....	0				

*Zero in this column indicates an original page or work package.

TECHNICAL MANUAL**OPERATOR MANUAL
FOR
JOINT-FIREFIGHTER INTEGRATED RESPONSE ENSEMBLE
(J-FIRE)****REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS**

You can help improve this manual. If you find any mistakes, or if you know of a way to improve the procedures, please let us know. Mail your letter or DA Form 2028 (Recommended Changes to Publications and Blank Forms), located in the back of this manual, directly to: Chief, Soldier Biological Chemical Command (RI), ATTN: AMSSC-HB (RI), Rock Island, IL 61299-7390. You may also send in your recommended changes via electronic mail or by fax. Our fax number is DSN 793-1919, Commercial (309) 782-1919. Our e-mail address is AMSSC-HB@ria.army.mil. A reply will be furnished to you.

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HOW TO USE THIS MANUAL

GENERAL

This Joint-Firefighter Integrated Response Ensemble (J-FIRE) Operator Manual contains the information needed for the operator to don, doff, and perform authorized maintenance. The manual uses the work package concept and is divided into four chapters as follows:

CHAPTER 1. INTRODUCTORY INFORMATION WITH THEORY OF OPERATION provides general information about the system; identifies the major components of the system; and describes how the components work.

CHAPTER 2. OPERATOR INSTRUCTIONS explains how to don and doff the J-FIRE.

CHAPTER 3. OPERATOR MAINTENANCE INSTRUCTIONS explains what the operator can do to keep the J-FIRE in good working order. It contains the Preventive Maintenance Checks and Services instructions.

CHAPTER 4. SUPPORTING INFORMATION provides additional information needed to operate and maintain the J-FIRE. It contains Work Packages which list publication references, Components of End Item (COEI), Basic Issue Items (BII), and Expendable and Durable Items.

The table of contents at the beginning of this Technical Manual/Technical Order is the key to locating information. We recommend you become familiar with it in order to quickly locate the information you need.

WORK PACKAGES

This manual has been organized using the Work Packages concept. Each chapter contains a series of Work Packages rather than section and paragraphs. Each Work Package is designed to stand alone as a complete module of information; if you keep your section of this manual in a loose-leaf binder, you will be able to remove just the pages you need to do a specific task. Here are some of the features of Work Packages that you should be aware of in order to help you understand the organization of this manual:

- Each Work Package is numbered sequentially throughout the manual using a six-digit number. Go to the table of contents and you will see that the very first work package is numbered “0001 00”. The second work package is numbered 0002 00.
- The last two digits (00) allow insertion of new work packages if needed. For example, if it is necessary to add an instruction or maintenance task between Work Package 0001 00 and Work Package 0002 00 in this manual, the new Work Package would be numbered 0001 01.
- The Work Package number is located at the top of each page on the right side. It also is located at the bottom of each Work Package page as part of the Work Package page number. For example, the page number for the first page of the second Work Package of this manual is 0002 00-1.
- Each Work Package starts on a right hand page. This was done so you can remove a single Work Package from your paper manual if needed for a particular task. Each Work Package containing step-by-step procedures will end with “END OF TASK.” Think of each work package as a small stand-alone manual of its own.

HOW TO USE THIS MANUAL - Continued

WARNINGS, CAUTIONS, AND NOTES

Warnings are provided where injury may occur to personnel when using the J-FIRE. Warnings are preceded by the word **WARNING** as shown below. These warnings are located immediately before any operating or maintenance task that applies and they are also summarized at the front of this manual.

WARNING

While wearing Interspiro CW mask, **DO NOT DRINK** if resistance is not felt. Chemical agents could be swallowed resulting in sickness and/or death.

Cautions are provided where equipment may be damaged but no personal injury should result. Cautions are preceded by the work **CAUTION** as shown below:

CAUTION

Do not remove JSLIST overgarment from factory vacuum-sealed bag specifically for PMCS inspection.

Notes provide helpful information to operate or maintain the equipment but no equipment damage or personal injury is involved as shown below:

NOTE

JSLIST overgarment coat and trousers packaging includes resealable bags. Store bags in JSLIST overgarment trousers pockets and retain for reuse.

CHAPTER 1

INTRODUCTORY INFORMATION WITH THEORY OF OPERATION

SCOPE

This Technical Manual/Technical Order contains instructions for operation and preventive maintenance procedures of the Joint-Firefighter Integrated Response Ensemble (J-FIRE).

Type of Manual

Operator.

Equipment Name and Model Number

The official equipment nomenclature is: Joint-Firefighter Integrated Response Ensemble. The common name is J-FIRE.

Purpose of Equipment

To provide protection of Military Occupational Specialty (MOS) 51M, and AFSC 3E7XX Firefighter assigned to tactical firefighting units, from fire in accordance with the National Fire Protection Association (NFPA) standards and protection from Chemical/Biological (CB) contamination during firefighting operations.

MAINTENANCE FORMS, RECORDS, AND REPORTS

- Department of the Army forms and procedures used for J-FIRE maintenance will be those prescribed by DA PAM 738-750, *Functional Users Manual for the Army Maintenance Management System (TAMMS)*.
- Air Force users refer to AFMAN 23-110, Vol 2, Part 13, *Standard Base Supply Customer Procedures*.

REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR)

If your J-FIRE needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you don't like about your equipment. Let us know why you don't like the design or performance.

- Air Force users submit an SF 368, *Product Quality Deficiency Report*, according to Air Technical Order 00-35D-54.
- Army users submit SF 368, *Product Quality Deficiency Report*, to the address specified in DA PAM 738-750, *Functional Users Manual for the Army Maintenance Management System (TAMMS)*.

We'll send you a reply.

DESTRUCTION OF ARMY MATERIEL TO PREVENT ENEMY USE

Perform in accordance with TM 750-244-3, *Destruction of Army Materiel to Prevent Enemy Use*.

PREPARATION FOR STORAGE OR SHIPMENT**JSLIST Overgarment**

Prepare for storage or shipment according to TM 10-8415-220-10 (Army) or T.O. 14P3-1-141 (Air Force).

Interspiro Chemical Warfare (CW) Kit

Pack Interspiro CW Kit for shipment according to T.O. 14P4-17-3.

PREPARATION FOR STORAGE OR SHIPMENT - Continued**Proximity Gear**

Be sure that proximity suit, modified structural ARFF helmet, fire protection gloves or fire and chemical protection gloves, and firefighting protective boots are clean and dry before storage. The storage area should be clean, dry and well ventilated. Prepare for storage or shipment according to Unit SOP. Do not store accessories in or on your modified structural ARFF helmet. Storage of gloves, wedges, lights, or other equipment could reduce the modified structural ARFF helmet's protective capacity.

Interspiro Self-Contained Breathing Apparatus (SCBA)

1. Perform Preventive Maintenance Checks and Services according to WP 0005 00.
2. Store Interspiro SCBA in carrying case supplied with the unit or in the walk away bracket.
3. The cylinder must be fully charged and ready for use.

NOMENCLATURE CROSS-REFERENCE LIST

<u>Common Name</u>	<u>Official Nomenclature</u>
Flyers Kit Bag	Bag Flyers Kit
JSLIST Overgarment	JSLIST Chemical Protective Overgarment
Interspiro SCBA	Spirolite Self-Contained Breathing Apparatus, Model 9030

LIST OF ABBREVIATIONS/ACRONYMS

AFSC	Air Force Specialty Code
BII	Basic Issue Items
BSM	Basic Sustainment Material
CAGEC	Commercial and Government Entity Code
CB	Chemical/Biological
COEI	Components of End Item
CTA	Common Table of Allowances
CW	Chemical Warfare
DAS	Data Automated System
EIR	Equipment Improvement Recommendation
GVO	Green Vinyl Overboots
J-FIRE	Joint-Firefighter Integrated Response Ensemble
JSLIST	Joint Service Lightweight Integrated Suit Technology
MOPP	Mission Oriented Protective Posture
MOS	Military Occupational Specialty
MTOE	Modified Table of Equipment
NBC	Nuclear, Biological, and Chemical
NFPA	National Fire Protection Association
NSN	National Stock Number
PMCS	Preventive Maintenance Checks and Services
P/N	Part Number
POL	Petroleum, Oil, and Lubricants

LIST OF ABBREVIATIONS/ACRONYMS - Continued

QDR	Product Quality Deficiency Report
SCBA	Self-Contained Breathing Apparatus
TOE	Table of Equipment
U/M	Unit of Measure
WP	Work Package

SAFETY, CARE, AND HANDLING**JSLIST Overgarment****WARNING**

Keep unopened original factory vacuum-sealed bags containing chemical protective clothing inside closed shipping container. Do not expose bag to prolonged sunlight. Keep open shipping containers in the shade.

Use caution to prevent puncturing factory vacuum-sealed bag.

Proximity Gear**WARNING**

Do not modify, change or alter your protective ensemble in any manner. Any changes to your protective ensemble may result in death, burns, injuries, diseases and illnesses.

Modifying, changing, adding to, marking, painting or altering your protective element in any way may affect its protective qualities. Mounting, storing or affixing equipment or other items on your protective ensemble may affect its protective qualities.

Proximity suit, modified structural ARFF helmet, fire protection gloves or fire and chemical protection gloves, and firefighting protective boots should be clean and dry before storage. Keep proximity suit, modified structural ARFF helmet, fire protection gloves or fire and chemical protection gloves, and firefighting protective boots out of direct sunlight or other sources of ultraviolet radiation. Avoid exposing them to temperature extremes for extended periods, sharp objects, contact with chemicals, tools, and other equipment. Sunlight, ultraviolet light, chlorine bleach, ozone, and other gases will weaken the protective qualities of proximity gear.

SAFETY, CARE, AND HANDLING - Continued**Interspiro CW Kit****WARNING**

- If the Interspiro CW mask is not properly fitted or maintained, the user is in danger of inhaling chemical agents which may incapacitate or kill.
- The Interspiro CW kit, without the Interspiro SCBA, will not protect the user from suffocation if used in an oxygen deficient atmosphere such as closed compartments.

WARNING

- The C₂ CB canister does not protect against industrial chemical agents; it is only approved for chemical warfare agents. Use of C₂ CB canister for industrial agents may cause personal injury or death.
- The C₂ CB canister does not provide oxygen; it cannot be used in an oxygen deficient atmosphere. Use of the C₂ CB canister in an oxygen deficient atmosphere may cause personal injury or death.

Interspiro SCBA**WARNING**

Except for cleaning, lubrication, inspection and test procedures according to the Operating Instruction Manual, only the holder of the manufacturer's Service Certificate should service the Interspiro SCBA. Work by unauthorized or untrained persons and/or the use of other than approved parts may void the approval and safety of the unit.

Duration of the compressed air supply is dependent on the user's exertion, physical and emotional condition, as well as on environmental pressure and whether the cylinder was fully charged and whether the facepiece fits. Duration can vary 50% or more. If the cylinder has been charged very fast, the air is warm and volume available for breathing is reduced.

Breathing equipment used in hazardous environment should be given a complete functional test at least once a year, even if it has not been used. These tests are carried out on manufacturer's test equipment.

The cylinder must be fully charged with air meeting the requirements of the Compressed Gas Association Specifications G-7-1 for Type 1, Grade D air, or equivalent specifications.

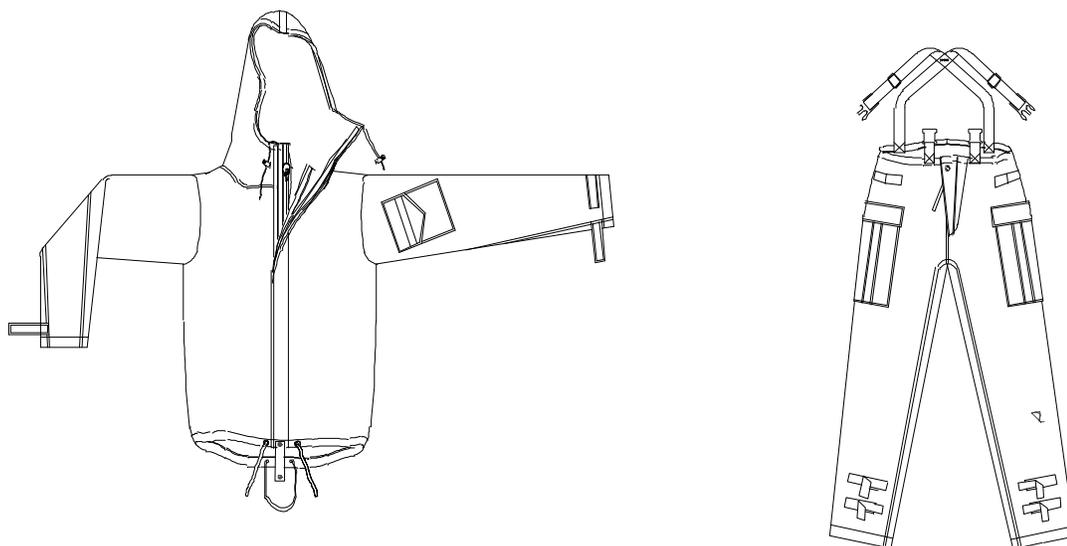
EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES

The J-FIRE configuration consists of the Joint-Service Lightweight Integrated Suit Technology (JSLIST) overgarment as the chemical protective component, firefighter proximity suit, Nomex hood, modified structural ARFF helmet, Chemical/Biological (CB) butyl rubber gloves with liners, fire protection gloves, firefighting protective boots, Interspiro Self Contained Breathing Apparatus (SCBA) with Chemical Warfare (CW) kit, and a carrying bag. The J-FIRE ensemble may contain a proximity glove with built-in chemical protective feature instead of the separate butyl rubber gloves and fire protection gloves.

LOCATION AND DESCRIPTION OF MAJOR COMPONENTS

JSLIST Overgarment

a. The JSLIST overgarment is a two piece outfit consisting of a jacket with integral hood and trousers with adjustable suspenders. Closures are designed to allow snug fit around wrists and ankles, and a jacket retention cord keeps the jacket down over the trousers during mission activities. The material is a two-layer permeable system, consisting of a liquid protective outer shell and a carbon-based absorptive inner liner. The overgarment provides chemical protection for up to 24 hours after exposure.



b. JSLIST overgarment coat and trousers labels are identical, except for item nomenclature. Coat labels are stitched on the inside, right lapel; trousers labels are stitched on the inside, back of the waist. Labels include important information, such as item nomenclature, National Stock Number (NSN), size, laundering instructions, and cautions. Labels are used to record the date the overgarment coat or trousers was removed from the factory vacuum-sealed bag and the number of times it has been laundered.

LOCATION AND DESCRIPTION OF MAJOR COMPONENTS - Continued

OVERGARMENT, CHEMICAL PROTECTIVE, NFR
 CLASS 2 DESERT CAMOUFLAGE PRINTED
 CONTRACT NO. M87854-87-3630
 FIBER CONTENT: OUTERSHELL: 90% NYLON / 90% COTTON
 LINER: SARATOGA
 CREATIVE APPAREL ASSOCIATES
 SIZE: MEDIUM/SHORT
 STOCK NO: 8415-01-444-5913
 SURVEILLANCE MARKING NO: CR

CARE INSTRUCTIONS

CAUTION: Close slide fasteners, hook and loop fasteners, etc. before laundering and turn garment inside out.

**DO NOT STARCH/CHLORINE BLEACH/CRYCLEAN/PRESS
 DO NOT REMOVE THIS LABEL**

Laundry record:
 Uniform may be washed up to 6 times.
 Cross off number in box with indelible marker after each laundering.

1	2	3	4	5	6				
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a. **Field/post laundry:** Launder using Formula II of FM 10-260. Tumble dry at temperature not to exceed 120 F (46 C). Remove immediately from the dryer.

b. **Machine (home)/hand laundering:** Use permanent press wash cycle, or hand wash using warm water 90-110 F (32-43 C), and mild non-phosphate laundry detergent. Tumble dry, at low temperature 110-120 F (43-49 C) and remove immediately from dryer. To drip dry, remove from water and place on rust proof hanger.

c. **Navy shipboard laundering:** Follow NAVEDTRA 10176 Formula III. Tumble dry at low temperature 110-120 F. Remove immediately from dryer.

1. **CAUTION** Protection provided by the garment is completely degraded in the areas where the garment is wet through with fuel, oil, or hydraulic fluid.
 2. **CAUTION** If the garment must be worn in water, (such as a river crossing) the slide fastener should be opened and the coat retention cord holder unfastened. This action will minimize accumulation of water between the suit and the body.

JSLIST 10

JSLIST Overgarment Coat Label

OVERGARMENT, CHEMICAL PROTECTIVE, NFR
 CLASS 2 DESERT CAMOUFLAGE PRINTED
 CONTRACT NO. M87854-87-3630
 FIBER CONTENT: OUTERSHELL: 90% NYLON / 90% COTTON
 LINER: SARATOGA
 CREATIVE APPAREL ASSOCIATES
 SIZE: MEDIUM/REGULAR
 STOCK NO: 8415-01-444-5888
 SURVEILLANCE MARKING NO: CR

CARE INSTRUCTIONS

CAUTION: Close slide fasteners, hook and loop fasteners, etc. before laundering and turn garment inside out.

**DO NOT STARCH/CHLORINE BLEACH/CRYCLEAN/PRESS
 DO NOT REMOVE THIS LABEL**

Laundry record:
 Uniform may be washed up to 6 times.
 Cross off number in box with indelible marker after each laundering.

1	2	3	4	5	6				
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a. **Field/post laundry:** Launder using Formula II of FM 10-260. Tumble dry at temperature not to exceed 120°F (46°C). Remove immediately from the dryer.

b. **Machine (home)/hand laundering:** Use permanent press wash cycle, or hand wash using warm water 90-110°F (32-43°C), and mild non-phosphate laundry detergent. Tumble dry, at low temperature 110-120°F (43-49°C) and remove immediately from dryer. To drip dry, remove from water and place on rust proof hanger.

c. **Navy shipboard laundering:** Follow NAVEDTRA 10176 Formula III. Tumble dry at low temperature 110-120°F. Remove immediately from dryer.

1. **CAUTION** Protection provided by the garment is completely degraded in the areas where the garment is wet through with fuel, oil, or hydraulic fluid.
 2. **CAUTION** If the garment must be worn in water, (such as a river crossing), the bottoms of the trouser legs should be opened. This action will minimize accumulation of water between the suit and the body.
 3. In most circumstances conditions will permit you to remove your footwear prior to donning or doffing these trousers. However, in some conditions of chemical warfare it will be necessary to don and doff your trousers without removal of this footwear. In the event, care must be taken.
 4. Inspect your leg closure system to ensure it is free from dirt and ice, and is firmly compressed to provide adequate closure.

JSLIST Overgarment Trousers Label

CB Glove System

a. The CB glove system may consist of 14-mil butyl rubber gloves with cotton liner, worn under fire protection gloves. When available, the fire protection gloves and butyl rubber gloves may be replaced by a combined chemical-protection and fire-protection glove.

b. The NSN, contract number, size and the statement, "DO NOT USE FOR ELECTRICAL WORK OR FIREFIGHTING," are printed on the gauntlet of each butyl rubber glove.

LOCATION AND DESCRIPTION OF MAJOR COMPONENTS - Continued**Nomex Hood**

The Nomex hood is a balaclava-style hood, of Nomex knit, worn over the head under the JSLIST overgarment coat to provide increased thermal protection to the head and neck area.

**Firefighter Proximity Suit**

a. The firefighter proximity suit consists of aluminized coat and trousers. The proximity suit provides increased thermal and liquid protection required to fight aircraft or chemical and Petroleum Oil and Lubricants (POL) fires. The proximity suit is worn over the JSLIST overgarment.



LOCATION AND DESCRIPTION OF MAJOR COMPONENTS - Continued

Firefighter Proximity Suit - Continued

b. The outer shell and each separable layer of the proximity suit coat and trousers has a product label attached which reads as follows:

THIS PROXIMITY PROTECTIVE GARMENT MEETS THE REQUIREMENTS OF NFPA 1976, *STANDARD ON PROTECTIVE CLOTHING FOR PROXIMITY FIRE FIGHTING*, 1992 EDITION.

WARNING

FOR PROXIMITY FIRE FIGHTING OPERATIONS, BOTH PROXIMITY PROTECTIVE COAT AND PROXIMITY PROTECTIVE TROUSERS MUST BE WORN FOR LIMB/TORSO PROTECTION. OUTER SHELL, MOISTURE BARRIER, AND THERMAL BARRIER MEETING ALL REQUIREMENTS OF NFPA 1976 MUST BE UTILIZED, AND ALL GARMENT CLOSURES MUST BE FASTENED WHEN IN USE. DO NOT USE PROXIMITY PROTECTIVE COAT AND PROXIMITY PROTECTIVE TROUSERS ALONE FOR PROXIMITY FIRE FIGHTING OPERATIONS; OTHER PROTECTIVE EQUIPMENT - HEAD PROTECTION, SCBA, GLOVES, FOOTWEAR, PASS - IS REQUIRED FOR PROTECTION. DO NOT KEEP THIS GARMENT IN DIRECT CONTACT WITH FLAMES. THIS GARMENT ALONE MAY NOT PROVIDE PROTECTION FOR FIRE ENTRY APPLICATIONS OR FOR PROTECTION FROM CHEMICAL, BIOLOGICAL, OR RADIOLOGICAL AGENTS. KEEP THIS GARMENT CLEAN AS SOILING WILL REDUCE PROTECTIVE QUALITIES.

-DO NOT USE CHLORINE BLEACH-

CHLORINE BLEACH WILL SIGNIFICANTLY COMPROMISE THE PROTECTION AFFORDED BY THE TEXTILE MATERIALS UTILIZED IN THE CONSTRUCTION OF THIS GARMENT. USERS MUST CLEAN, MAINTAIN, AND ALTER ONLY IN ACCORDANCE WITH MANUFACTUREER'S INSTRUCTIONS. DO NOT STORE IN DIRECT SUNLIGHT. NO PROTECTIVE CLOTHING CAN PROVIDE COMPLETE PROTECTION FROM ALL CONDITIONS. USE EXTREME CARE FOR ALL EMERGENCY OPERATIONS. FAILURE TO COMPLY WITH THESE WARNINGS MAY RESULT IN SERIOUS INJURY OR DEATH.

Manufacturer's name
 Manufacturer's address
 Country of manufacture
 Manufacturer's garment identification number
 Date of manufacture
 Size
 Cleaning and drying instructions
 Garment material(s)

DO NOT REMOVE THIS LABEL

LOCATION AND DESCRIPTION OF MAJOR COMPONENTS - Continued**Fire Protection Gloves**

The fire protection gloves are proximity firefighting gloves with reflective material on the back of the hand, in accordance with NFPA 1976, 1977 edition.

**Fire and Chemical Protection Gloves**

The fire and chemical protection gloves are proximity firefighting gloves which combine fire protection and protection from chemical agents. When available, they are intended to replace the firefighting gloves and butyl rubber CB gloves.

Modified Structural ARFF Helmet

a. The modified structural ARFF helmet is a standard firefighter helmet, one size, adjustable with ratchet. The modified structural ARFF helmet has a gold face shield and a modified aluminized shroud to protect neck area.



LOCATION AND DESCRIPTION OF MAJOR COMPONENTS - Continued**Modified Structural ARFF Helmet - Continued**

- b. The modified structural ARFF helmet has a permanently-attached label which reads as follows:

THIS HELMET MEETS THE REQUIREMENTS OF NFPA 1972, STANDARD ON HELMETS FOR STRUCTURAL FIRE FIGHTING, 1992 EDITION.

WARNING

THE HELMET MUST BE PROPERLY ADJUSTED AND SECURED TO THE HEAD, WITH ALL COMPONENTS IN PLACE, AND USED AS SPECIFIED IN MANUFACTURER'S INSTRUCTIONS. DO NOT MODIFY OR REPLACE ANY COMPONENTS ON THIS HELMET, INCLUDING THE SHELL, ENERGY ABSORBING SYSTEM, RETENTION SYSTEM, FLUORESCENT RETROREFLECTIVE MARKINGS, EAR COVERS, OR FACESHIELD WITH COMPONENTS OR ACCESSORIES OTHER THAN THOSE CERTIFIED. ANY SUCH MODIFICATION OR REPLACEMENT VOIDS COMPLIANCE WITH NFPA 1972. FAILURE TO COMPLY WITH THESE INSTRUCTIONS MAY RESULT IN SERIOUS INJURY OR DEATH.

Name or Designation of Manufacturer
Model Number or Design
Month and Year of Manufacture (uncoded)
Lot Number
Basic Weight of Helmet
Model Weight of Helmet
Recommended Cleaning Procedure
Helmet Size or Size Range

DO NOT REMOVE THIS LABEL

In addition, the modified structural ARFF helmet faceshield has a product label that warns the user that the faceshield may not provide sufficient primary eye protection and additional protection may be required. The label includes a reference to ANSI Z87.1, *Occupational and Educational Eye and Face Protection*.

Flyers Kit Bag

The flyers kit bag provides the means to carry and store all the J-FIRE equipment to ensure accountability during troop movements and when personnel are not required to respond to emergencies.

LOCATION AND DESCRIPTION OF MAJOR COMPONENTS - Continued**Firefighting Protective Boots**

a. The firefighting protective boot has a tractor tread outersole, a steel toe, a Kevlar/Nomex insulated lining. The firefighting protective boots are worn in place of Green Vinyl Overboots (GVOs), Black Vinyl Overboots (BVOs), or Multipurpose Overboots (MULO) for chemical protection.

b. Each firefighting protective boot has a label which reads as follows:

THIS FOOTWEAR MEETS THE REQUIREMENTS OF NFPA 1974, STANDARD ON PROTECTIVE FOOTWEAR FOR STRUCTURAL FIRE FIGHTING, 1992 EDITION.

WARNING

PROTECTIVE FOOTWEAR SHOULD NOT BE USED ALONE FOR STRUCTURAL FIRE FIGHTING OPERATIONS; OTHER PROTECTIVE EQUIPMENT - HELMET, COAT, TROUSERS, SCBA, GLOVES, PASS - IS REQUIRED FOR PROTECTION. THIS FOOTWEAR ALONE MAY NOT PROVIDE PROTECTION FOR PROXIMITY OR FIRE ENTRY SITUATIONS, OR FOR PROTECTION FROM CHEMICAL, RADIOLOGICAL, OR BIOLOGICAL AGENTS. USERS MUST CLEAN AND MAINTAIN THIS FOOTWEAR ONLY IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. DO NOT MODIFY OR REPLACE ANY COMPONENT OF THIS FOOTWEAR WITH COMPONENTS OR ACCESSORIES OTHER THAN THOSE THAT ARE CERTIFIED. ANY SUCH MODIFICATION OR REPLACEMENT VOIDS COMPLIANCE WITH NFPA 1974. NO PROTECTIVE FOOTWEAR CAN PROVIDE COMPLETE PROTECTION FROM ALL CONDITIONS - USE EXTREME CARE FOR ALL EMERGENCY OPERATIONS. FAILURE TO COMPLY WITH THESE WARNINGS MAY RESULT IN SERIOUS INJURY OR DEATH.

Manufacturer's name

Manufacturer's lot number or other method that identifies date of manufacture

Country of manufacture

Model designation or stock number

Size and width

DO NOT REMOVE THIS LABEL

LOCATION AND DESCRIPTION OF MAJOR COMPONENTS - Continued**Interspiro SCBA with CW Kit**

The Interspiro SCBA consists of a 60 minute air supply canister, a regulator unit, a backpack/harness assembly, and a face mask with breathing valve. In a chemical warfare environment, the face mask will be replaced by a CB protective mask which is included in a CW kit, also supplied by Interspiro. The Interspiro CW mask is readily switchable between bottled air and filtered air. The air is filtered through a chemical protective C₂ canister, attached to the mask by a hose. The canister is held in place at the back of the neck by a strap fastened around the neck by hook-and-pile fasteners. The Interspiro CW kit modification provides a hose cover and a "beard" fabricated from the JSLIST overgarment material. A strap on the hose cover is used to secure the canister. The "beard" fits snugly around the visor of the Interspiro CW mask and has a small shroud which covers the drinking tube, providing protection from gross liquid CW contamination for rubber components of the Interspiro CW kit.

**Basic Sustainment Materiel (BSM)**

The BSM for J-FIRE includes those items that may be consumed during training or system operation. The Interspiro SCBA canister will require compressed breathing air to be replenished. Air replenishment is accomplished by an air compressor capable of filling Interspiro SCBA canister to 4500 psi.

EQUIPMENT DATA

Table 1 lists available material patterns and sizes of J-FIRE ensemble clothing. Some of the components of the J-FIRE have either a shelf life or service-life that must be adhered to, as specified in Table 2.

Table 1. Material Specification Data.

ITEM	AVAILABLE CLOTHING MATERIAL PATTERNS	AVAILABLE SIZES:
JSLIST Overgarment Coat and Trousers	4-color Woodland or 3-color Desert Camouflage	SXS, SS, MS, MR, ML, LR, LL
Proximity Suit		SM, MED, LRG, X-LRG
Nomex Hood		One size
Fire and Chemical Protection Gloves		XSM, SM, MED, LARGE, XLARGE, XXLARGE, XXXLARGE
Butyl Rubber Gloves with Liners	Black	SM, MED, LRG, X-LRG
Fire Protection Gloves		XS, S, M, L, XL
Firefighting Protective Boots		Men's 5-13, including half sizes and a minimum of two widths Women's 5-10, including half sizes and a minimum of two widths
Modified Structural ARFF Helmet		One size

Table 2. Clothing Items Performance Specification Data.

DONNING TIME:

J-FIRE 8 minutes

WEAR USAGE LIMITATIONS (clothing only; numbers indicate maximum not to be exceeded, after which item must be replaced):

JSLIST overgarment wash/wear life for chemical protective readiness, uncontaminated environment (whichever comes first) 6 launderings/45 days of wear/120 calendar days after removal from factory vacuum-sealed bag

JSLIST overgarment wash/wear life for training purposes Unlimited

Butyl rubber gloves wear life once removed from factory bag 30 days

Interspiro CW mask wear life once removed from factory bag 5 years

Proximity suit/fire protection gloves or fire and chemical protection gloves/firefighting protective boots/modified structural ARFF helmet Usable service life depends on number, type, and degree of exposures, the work environment, frequency of use, and maintenance.

J-FIRE wear life for chemical protective readiness, once chemically contaminated 24 hours

ENVIRONMENTAL: Temperature limitations: Items covered in this manual may be worn in every climatic category (including hot, basic, cold, and extreme cold).

The J-FIRE is capable of providing firefighters protection when there is a threat of a chemical attack or contact with chemical agents. The ensemble has operational capability for basic, hot, and cold climatic environments.

Table 1 lists the J-FIRE components to be donned for firefighting during peacetime and in combat environments.

Table 1. Use of J-FIRE Components in Peacetime and Combat

PEACETIME	COMBAT
	JSLIST Coat and Trousers
	Fire and Chemical Protection Gloves or Butyl Rubber Gloves
Proximity Coat and Trousers	Proximity Coat and Trousers
Modified Structural ARFF Helmet	Modified Structural ARFF Helmet
Firefighting Protective Boots	Firefighting Protective Boots
Fire and Chemical Protection Gloves or Fire Protection Gloves	Fire Protection Gloves (if Fire and Chemical Protection Gloves are unavailable)
Nomex Hood	Nomex Hood
Interspiro CW Mask	Interspiro CW Mask
Interspiro Self-Contained Breathing Apparatus (SCBA)	Interspiro Self-Contained Breathing Apparatus (SCBA)

When tasked to perform firefighting operations, the firefighter will don the Interspiro SCBA apparatus and proximity suit, and connect the air cylinder to the Interspiro CW mask. When the firefighting operation is completed, the firefighter will switch back to the CW filter mode and may or may not remove the Interspiro SCBA.

The JSLIST is worn over personal underwear. The Nomex hood is worn under the JSLIST overgarment coat, with the firefighting protective boots worn over the JSLIST overgarment trouser legs. The Interspiro CW mask is fitted to the face and then the Nomex hood is pulled up and fitted around the faceblank. The JSLIST overgarment coat hood is secured over the Nomex hood. The Interspiro CW mask C₂ canister hose is routed across the back of the shoulders and secured in place with the hose cover strap around the neck. The fire and chemical protection gloves or CB protection butyl rubber gloves are donned at MOPP Level 4. If the fire and chemical protection gloves are unavailable, the fire protection gloves are donned to protect the hands and butyl rubber gloves during fire operations. The proximity suit trousers and coat are donned over the JSLIST overgarment and secured snugly to the body. The modified structural ARFF helmet is donned over the JSLIST overgarment coat hood and the protective shroud is draped over the C₂ canister and around the neck and shoulders to provide thermal protection.

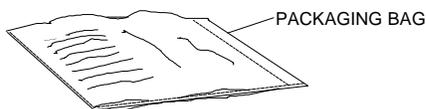
CHAPTER 2
OPERATOR INSTRUCTIONS

ASSEMBLY AND PREPARATION FOR USE**Preparation of JSLIST Overgarment (OG)****NOTE**

- JSLIST overgarment coat and trousers packaging includes resealable bags. Store bags in JSLIST overgarment trousers pockets and retain for reuse.
- To conserve Chemical Protective Overgarment assets, any JSLIST OG package, from a newly opened shipping container, found ripped, torn, or unsealed (lost vacuum), that individual item (coat or trouser) may be used as a Training Only item (the words TRAINING ONLY must be stenciled 2.5 inches high or larger on the outside of a sleeve or leg of the item, in a contrasting colored permanent ink).

1. New JSLIST overgarment, first use:

- a. Remove JSLIST overgarment coat or trousers from factory vacuum-sealed bag.



- b. Perform PMCS in accordance with WP 0006 00.
-
- c. Mark label with date that JSLIST overgarment was removed from package.

2. Used JSLIST overgarment:

- a. Remove JSLIST overgarment coat or trousers from clear plastic resealable bag.
-
- b. Check wear date marked on label.
-
- c. Perform PMCS in accordance with WP 0005 00.

Preparation of Proximity Gear**WARNING**

Your proximity suit is designed to be used as a unit. All elements, layers and accessories must be used. Failure to do so may result in death, burns, injuries, diseases or illnesses.

Your proximity suit may also have additional layers, patches, inserts or protective components at various points such as the toes, ears, elbows, knees, shoulders, etc. Never use your proximity suit without all layers and components being in place.

Preparation of Interspiro SCBA

Prepare Interspiro SCBA for use according to Interspiro SCBA Operator Manual.

ASSEMBLY AND PREPARATION FOR USE - Continued**Preparation of Interspiro CW Mask**

Unpack and assemble Interspiro CW mask according to T.O. 14P4-17-3. Before the Interspiro CW mask can be used, the breathing valve and external speech cone must be removed from the SCBA mask and installed onto the Interspiro CW mask.

Personnel Identification

You need to identify those wearing the J-FIRE. As a minimum, print your name and rank on tape. Olive drab cloth or duct tape is preferred. Do not place tape on the proximity suit. Use the command and control procedures for Incident Response during firefighting operations.

INITIAL ADJUSTMENTS, BEFORE USE AND SELF-TEST**Interspiro CW Mask**

Perform breathing leak test and drinking tube assembly leak test according to T.O. 14P4-17-3.

Interspiro SCBA

Perform leakage and function test according to Interspiro SCBA Operator Manual.

OPERATING PROCEDURES**General****WARNING**

Wearing your J-FIRE may increase your risk of heat stress which may cause heart attack, stroke, dehydration or other conditions resulting in death, injury or illness. At the first sign of heat stress, immediately seek medical help.

Exerting yourself while wearing your J-FIRE may increase your level of heat stress. Performing strenuous tasks in the heated environment of a fire scene or in warm and/or humid weather may also increase your heat stress. Recognize and be constantly alert for signs of heat stress such as rapid heart rate, labored breathing, weakness, excessive sweating.

WARNING

- If your proximity suit is exposed to radiant, convective or conductive heat, you may be burned underneath the proximity suit with no warning and no sign of damage to the garments.
- Your J-FIRE will lower your ability to feel heat. Do not be misled by the absence of heat or discomfort underneath proximity suit. Even though you do not feel heat or discomfort, you can be burned or injured suddenly and without warning. Be constantly alert to the possibility of exposure to heat and other hazards. If you feel heat or some slight discomfort or unusual sensation under your proximity suit, remove yourself as soon as safely possible from the heated environment. If you cannot safely leave, change your body position, or cool your environment with water stream or ventilation.

OPERATING PROCEDURES - Continued**General - Continued****WARNING**

- Use wet weather gear or proximity suit to keep JSLIST overgarment dry. A wet overgarment will afford some protection; however, its protective capabilities are reduced.
- The protection that is provided by the JSLIST overgarment is degraded in the areas that become saturated by petroleum products or exposed to direct moisture, smoke, fuel, or solvent vapors.

WARNING

While wearing Interspiro CW mask, DO NOT DRINK if resistance is not felt. Chemical agents could be swallowed resulting in sickness and/or death.

WARNING

Firefighting operations will not be performed wearing the Interspiro CW mask only. The modified structural ARFF helmet must be worn over the Interspiro CW mask and an Interspiro SCBA used. Failure to use modified structural ARFF helmet and an Interspiro SCBA may cause personal injury or death.

WARNING

Avoid cryogenics or liquified gas exposure. Proximity gear may absorb hazardous and/or flammable vapors and/or liquids which may later ignite.

WARNING

Exercise extreme caution around bodies of water. J-FIRE will not float and will make swimming difficult.

NOTE

You are responsible for keeping your JSLIST chemical protective overgarment in good, serviceable condition. It must be kept clean, well-maintained, and properly stored in clear plastic resealable bag included with coat and trousers when not in use.

OPERATING PROCEDURES - Continued

Donning or Doffing J-FIRE in a Contaminated Environment

WARNING

- Perform steps for putting on mask quickly. Mask must be on before taking another breath. Toxic agents may be in surrounding air and can cause injury or death.
- C₂ CB canister must be installed on the Interspiro CW mask prior to use in a toxic chemical or biological environment. If C₂ CB canister is not installed, it will result in personal injury or death.
- If you suspect the glove gauntlet has possibly separated from the jacket sleeve, do not remove the proximity coat until you are in an uncontaminated area.

After contact with contamination, the JSLIST overgarment must be changed and discarded within 24 hours. Once an attack occurs on an installation, all personnel must exchange their JSLIST overgarment within 24 hours of the attack. During donning and doffing, the JSLIST overgarment can be decontaminated using the M291 or M295 Decontamination Kits. Refer to FM 3-5 (Army) or AFMAN 32-4005 (Air Force) for don/doff decontamination procedures when operating in a contaminated environment.

MOPP Wear Criteria

Refer to Table 1, MOPP Wear Criteria, to correspond item donning with appropriate MOPP level. Army users refer to FM 3-4. Air Force users refer to AFMAN 32-4005.

Table 1. MOPP Wear Criteria.

NOTE

- Air Force personnel refer to AFMAN 32-4005 for MOPP level Alpha.
- For guidance on Mask-Only Posture, refer to FM 3-4.

	MOPP 0	MOPP 1	MOPP 2	MOPP 4	MOPP 4 (FIREFIGHTING MODE)
JSLIST	Carried	Worn	Worn	Worn	Worn
Nomex Hood	Carried	Worn	Worn	Worn	Worn
Proximity Trousers	Carried	Carried	Worn	Worn	Worn
Firefighting Protective Boots	Carried	Carried	Worn	Worn	Worn
Interspiro CW Mask	Carried	Carried	Carried	Worn	Worn
Fire and Chemical Protection Gloves	Carried	Carried	Carried	Worn	Worn
*Butyl Rubber Gloves	Carried	Carried	Carried	Worn	Worn
Proximity Coat	Carried	Carried	Carried	Carried	Worn
*Fire Protection Gloves	Carried	Carried	Carried	Carried	Worn
Modified Structural ARFF Helmet	Carried	Carried	Carried	Carried	Worn
Interspiro SCBA	Carried	Carried	Carried	Carried	Worn

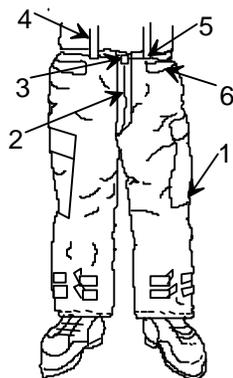
* Butyl rubber gloves with liners, combined with fire protection gloves may be substituted when fire and chemical protection gloves are not available.

OPERATING PROCEDURES - Continued**Donning Procedures at MOPP Level 0**

1. JSLIST overgarment and fire and chemical protection gloves or butyl rubber gloves with liners should be on hand and ready to proceed to MOPP Levels 1 through 4.

Donning Procedures at MOPP Level 1

1. Don JSLIST overgarment trousers (1).
 - a. With toes extended, put leg into trousers (1) and pull trousers up; repeat for other leg.
 - b. Close slide fastener (2) and fasten two fly opening snaps (3).
 - c. Pull the suspenders (4) over the shoulders; fasten the snap couplers (5) and adjust suspenders to ensure the trousers fit comfortably up into the inseam. Trouser length can be adjusted by raising or lowering the suspenders.
 - d. Adjust waistband hook-and-pile fastener tapes (6) for snug fit.

**NOTE**

The Nomex hood may be worn behind the head until needed and may then be pulled over the head and fitted around the face or mask.

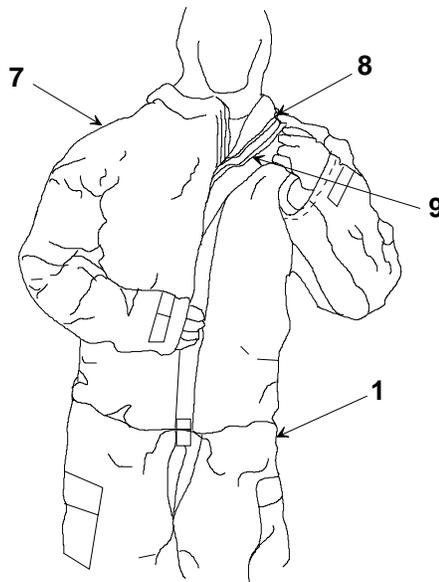
2. Don Nomex hood over head and smooth down over shoulders.



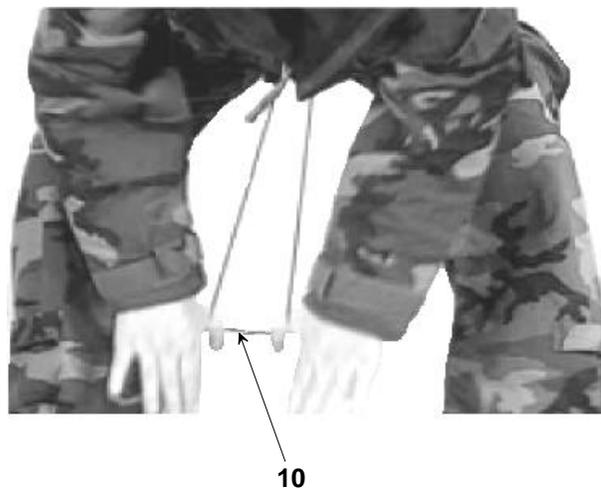
OPERATING PROCEDURES - Continued

Donning Procedures at MOPP Level 1 - Continued

3. Don JSLIST overgarment coat as follows:
 - a. Don coat (7); fasten and close slide fastener (8) up as far as chest.
 - b. Secure front closure flap hook-and-pile fastener tape (9) up as far as chest.
 - c. Pull bottom of coat (7) down over trousers (1).

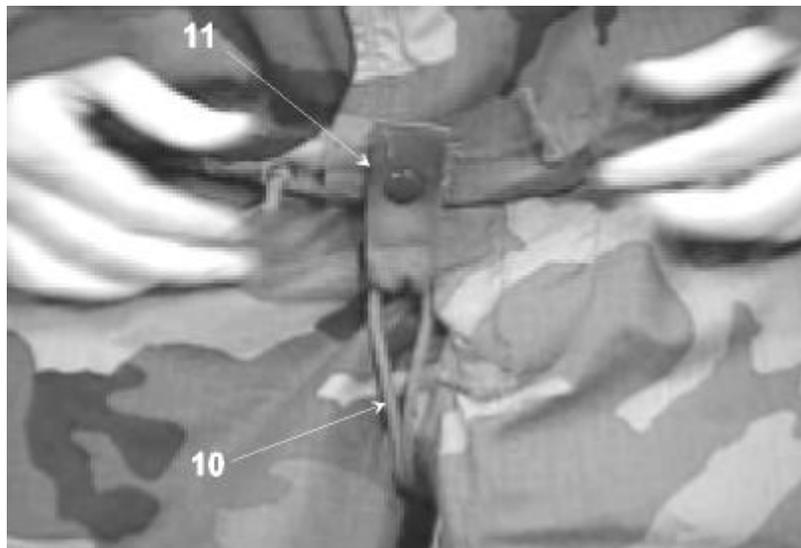


- d. Bend over and reach between legs and grasp waist elastic coat retention cord loop (10); bring cord loop forward through legs, pulling on it so coat bottom fits snugly over trousers.



OPERATING PROCEDURES - Continued**Donning Procedures at MOPP Level 1 - Continued**

- e. Place coat retention cord loop (10) over webbing strip (11) at bottom of coat; fasten webbing strip snap to keep coat retention cord loop in place.



4. Put on M9 paper in accordance with Unit procedures. Use care not to cover fasteners or openings with M9 paper.

Donning Procedures at MOPP Level 2

1. When directed to this level, additionally don proximity suit trousers and firefighting protective boots.

WARNING

All closures and components on your proximity suit (flaps, buttons, hooks, collars, etc.) must be fastened and in place when the proximity suit is in use. Failure to do so may result in death, burns, injuries, diseases and illnesses.

- a. Loosen the hook and pile fasteners at the legs and store. Remove combat boots.
- b. Neatly fold trousers material from the front to the outside of the leg. Do not fasten the hook and pile fasteners.

OPERATING PROCEDURES - Continued**Donning Procedures at MOPP Level 2 - Continued**

- c. While holding the trouser material, place each foot into the firefighting protective boot.



- d. Pull the proximity suit trousers up over the JSLIST OG trousers and coat. Ensure that the JSLIST coat is tucked neatly under the proximity trousers.
- e. Pull the proximity trouser suspenders up over the shoulders; adjust as necessary.
- f. Secure the trousers around the waist snugly.

Donning Procedures at MOPP Level 4**WARNING**

- Contact lenses shall not be worn with the Interspiro CW mask. Wearing of contact lenses could result in serious eye injury.
- Ensure the Interspiro CW mask assembly, including drink tube assembly, has been cleaned prior to use. Failure to clean the Interspiro CW mask assembly and drink tube assembly is unsanitary and could pass germs. Failure to clean the Interspiro CW mask assembly and drink tube assembly could also lead to equipment malfunction from dirt/filth buildup resulting in bodily injury or death.
- DO NOT connect quick disconnect coupling half to your canteen until all mating surfaces have been checked for contamination. Chemical agents could enter your mouth, resulting in injury or death.

OPERATING PROCEDURES - Continued**Donning Procedures at MOPP Level 4 - Continued**

1. When directed to this level, additionally don Interspiro CW mask.

**WARNING**

- Do not overtighten head harness. Overtightened head harness may distort mask or pull it back over hairline causing leaks of toxic chemical agents resulting in injury and/or death.
 - If a good mask seal cannot be achieved with the Interspiro CW mask, the user is prohibited from using mask. Use of mask if not properly fitted may result in personal injury or death.
2. Adjust mask head harness and check for good seal.
 3. Pull Nomex hood forward over Interspiro CW mask.



OPERATING PROCEDURES - Continued

Donning Procedures at MOPP Level 4 - Continued

4. Pull JSLIST overgarment coat hood over Nomex hood.
5. Close coat slide fastener completely and secure closure hook-and-pile fastener tape up as far as top of slide fastener.
6. Place edge of coat hood around edge of mask and secure hook-and-pile fastener tape.



7. Snap barrel locks together under chin. Squeeze barrel lock ends together. Pull both drawcords at the same time and slide barrel locks up to hood to maintain hood seal



OPERATING PROCEDURES - Continued**Donning Procedures at MOPP Level 4 - Continued**

8. Place C₂ canister hose around back of neck and attach hook-and-pile fastener in front of neck.



9. Have another person check hood seal around mask to ensure hood is positioned properly and skin is not exposed.
10. Don fire and chemical protection gloves or butyl rubber gloves with liners as follows:
 - a. Pull sleeves up arm; don gloves and pull cuffs over gloves.

WARNING

Hook and pile fastener tape must be pulled as tightly as possible around the forearm to prevent possible separation of glove and sleeve interface.

- b. Secure hook-and-pile fastener tape (12) on each wrist of JSLIST coat for snug fit around arm.



OPERATING PROCEDURES - Continued**Donning Procedures at MOPP Level 4 (Firefighting Mode)**

1. When called to fight a fire at MOPP Level 4, additionally don proximity suit coat.

WARNING

All closures and components on your proximity suit (flaps, buttons, hooks, collars, etc.) must be fastened and in place when the proximity suit is in use. Failure to do so may result in death, burns, injuries, diseases and illnesses.

- a. Slip on normally. Put hands through sleeves, extend hands through wristlets.
 - b. Line up inner flap with left side of coat and secure all snaps, hook-and-pile fasteners, and hooks and dees. Ensure that closure area is smooth and shows no openings.
 - c. Put collar in “up” position.
 - d. Pull collar closure across collar opening and secure with hook-and-pile fastener.
 - e. Ensure that front, back, and sides of coat adequately overlap the waistline of the proximity suit trousers.
2. Don modified structural ARFF helmet and adjust the aluminized shroud to cover the proximity suit coat neck opening and C₂ canister.
 3. If you are using the butyl rubber gloves instead of fire and chemical protection gloves, don fire protection gloves.
 - a. Slip on fire protection gloves, ensuring that fingertips extend to end of glove fingers.
 - b. Ensure that glove gauntlet is placed under the proximity coat sleeve.



OPERATING PROCEDURES - Continued**Donning the Interspiro SCBA**

If a fire emergency occurs at any MOPP level, don the Interspiro Self-Contained Breathing Apparatus (SCBA) as follows:

1. Address the Interspiro SCBA with the harness upward leaving the cylinder to the bottom (floor). Stand at the cylinder valve.
2. Grasp the right shoulder strap at the manifold block, lift and slide onto right shoulder.
3. Reach behind with left hand and locate the left buckle, slide hand upward on the left shoulder strap and position onto left shoulder.
4. With both hands, pull left and right waist belt straight outward and clip together.
5. With both hands, pull the waist straps to the side, securing the harness assembly.
6. Connect low-pressure hose from cylinder onto Interspiro CW mask and inhale.



OPERATING PROCEDURES - Continued**Doffing Procedures**

1. Doff the Interspiro SCBA as follows:
 - a. Disconnect Interspiro SCBA cylinder low-pressure hose from Interspiro CW mask.
 - b. Loosen the waist straps securing the harness assembly.
 - c. Unclip left and right waist belt.
 - d. Remove left shoulder strap from left shoulder.
 - e. Remove right shoulder strap from right shoulder.
 - f. Lower the Interspiro SCBA cylinder to the floor.
2. If you are using fire protection gloves over butyl rubber gloves, doff fire protection gloves.
3. Doff modified structural ARFF helmet.
4. Doff proximity suit coat as follows:
 - a. Separate hook-and-pile fastener at collar closure.
 - b. Unfasten all snaps, hook-and-pile fasteners, and hooks and dees at front closure.
 - c. Remove proximity suit coat.
5. Unfasten hook-and-pile fastener tape on wrists. Doff fire and chemical protection gloves or butyl rubber gloves with liners. Place butyl rubber gloves and liners in JSLIST overgarment trousers pockets.
6. Doff Interspiro CW mask as follows:
 - a. Unfasten hook-and-pile fastener holding C₂ canister hose at front of neck.
 - b. On JSLIST overgarment coat, unfasten barrel locks, loosen hood drawcord, unfasten hook-and-pile fastener, and pull hood from head.
 - c. Unfasten hook-and-pile fastener tape at front closure of coat; open slide fastener.
 - d. Pull Nomex hood back away from Interspiro CW mask.
 - e. Loosen mask head harness and doff Interspiro CW mask.
7. Pull proximity suit trousers down over firefighting protective boots; step out of firefighting protective boots into combat boots.

OPERATING PROCEDURES - Continued**Doffing Procedures - Continued**

8. Doff JSLIST overgarment coat as follows:
 - a. Untie bow in coat retention cord, if it was tied. Unfasten webbing strip snap and release waist elastic coat retention cord loop.
 - b. Unfasten front closure flap hook-and-pile fastener tape and front slide fastener; doff JSLIST overgarment coat.
9. Doff Nomex hood by pulling it over your head.
10. Unfasten suspender and waist hook-and-pile fastener tapes on JSLIST overgarment trousers; unfasten front closure snaps and open slide fastener; doff JSLIST overgarment trousers.
11. Perform After-use PMCS inspections in accordance with WP 0005 00.

NOTE

Be sure that JSLIST coat and trousers are clean and dry before packing.

12. Remove clear plastic resealable bags from JSLIST overgarment trousers pocket. Fold and repack JSLIST overgarment coat and trousers in individual clear plastic resealable bags.
13. Stow J-FIRE items in flyers kit bag.

PREPARATION FOR MOVEMENT

All Interspiro SCBA containers must be prepared according to applicable provisions of TM 38-250 prior to being transported by air.

END OF OPERATING PROCEDURE

CHAPTER 3
OPERATOR MAINTENANCE INSTRUCTIONS

THIS WORK PACKAGE COVERS:

Introduction, Preventive Maintenance Checks and Services

INITIAL SETUP:**Maintenance Level:**

Operator

References:

DA Form 2404, *Equipment Inspection and Maintenance Worksheet*.
DD Form 1574
FM 3-5 (Army)
AFMAN 32-4005 (Air Force)
T.O. 14P4-1-151
NFPA 1971
WP 0006 00

INTRODUCTION**General**

This work package contains the procedures and instructions necessary to perform operator PMCS. The columns in the PMCS table are explained below.

Item Number Column

Checks and services are numbered in chronological order regardless of interval. Use this column as the source of item number when recording PMCS results in the "TM Number" column on DA Form 2404, *Equipment Inspection and Maintenance Worksheet*.

Interval Column

The interval column tells you when to do a certain check or service.

Before - Perform required tasks before donning J-FIRE.

During - Perform required tasks while wearing J-FIRE.

After - Perform required tasks after doffing J-FIRE.

Weekly - Perform required maintenance once a week.

INTRODUCTION - Continued

Location/Item to Check/Service Column

The items listed in this column are identified by their common names.

Procedures Column

This column briefly describes the procedure to be checked. It contains all information required to accomplish the checks and services, including appropriate tolerances, adjustments and gauge readings.

Prior to Storage or Shipment

A complete PMCS will be performed prior to storage or shipment.

OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

Any time you inspect your J-FIRE, you should document the inspection. Documentation shall be recorded on DD Form 1574, or Data Automated System (DAS).

WARNING

Do not perform after-operation PMCS if you have been exposed to a contaminated NBC environment. For decontamination procedures, refer to FM 3-5 (Army) or AFMAN 32-4005 (Air Force).

WARNING

The PMCS procedures for the Interspiro SCBA are intended for normal use only. If the Interspiro SCBA has been exposed to extreme conditions such as extreme heat or cold, harsh liquids or chemicals, heavy-duty dust particles, or extreme shock or vibration, the Interspiro SCBA must undergo a test and inspection by a holder of an Interspiro Service Certificate. If the Interspiro SCBA does not meet the values in the PMCS or if it shows signs of wear, the Interspiro SCBA must be taken out of service and repaired according to the Interspiro Service Manual.

CAUTION

Do not remove JSLIST overgarment from factory vacuum-sealed bag specifically for PMCS inspection.

Table 1. Operator Preventive Maintenance Checks and Services for J-FIRE.

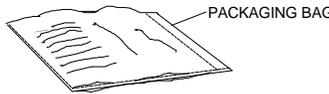
ITEM NO.	INTERVAL	MAN-HOUR	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
1	Before	AR	JSLIST Overgarment (Coat/Trousers)	 <p>Inspect factory vacuum-sealed bag for rips, tears, and loss of vacuum seal.</p>	Vacuum seal is broken.

Table 1. Operator Preventive Maintenance Checks and Services for J-FIRE – Continued.

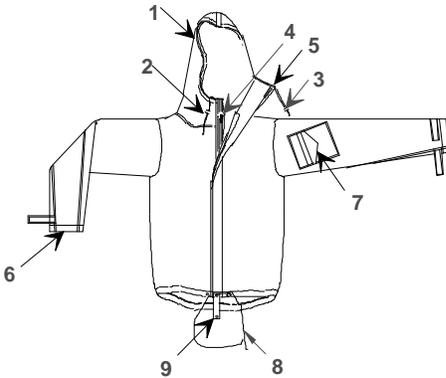
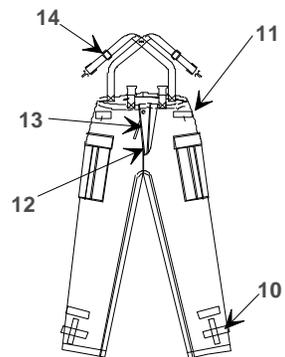
ITEM NO.	ITEM NO.	MAN-HOUR	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
2	Before	AR	JSLIST Overgarment (Coat/Trousers)	Inspect for POL or moisture contamination. If item is wet, air dry. Check for rips, tears, or holes.	Item is POL or moisture contaminated; or item has rips, tears, or holes.
3	Before	AR	JSLIST Overgarment (Coat)	 <p>Inspect for damaged hood (1), hood draw-cord (2) and/or barrel locks (3); slide fastener (4); hook-and-pile fastener tape at lapel (5), sleeve wrists (6), or pocket flaps (7); coat retention cord (8); and/or webbing strip (9) or webbing strip snap.</p>	Any items are damaged or missing.
4	Before	AR	JSLIST Overgarment (Trousers)	 <p>Inspect for damaged or missing hook-and-pile fastener tape at ankles (10) and waist (11); slide fasteners (12); snap at fly closure (13); and/or suspenders (14).</p>	Any items are damaged or missing.

Table 1. Operator Preventive Maintenance Checks and Services for J-FIRE – Continued.

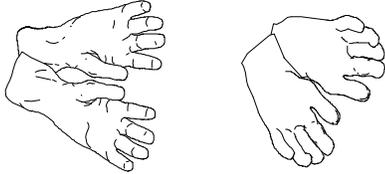
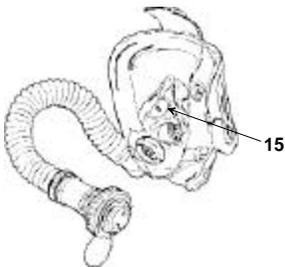
ITEM NO.	ITEM NO.	MAN-HOUR	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
5	Before	AR	Butyl Rubber Gloves with Liners	 <p>Inspect for holes, cuts, tears, cracking, or tackiness.</p>	Item has holes, cuts, tears, cracks or tacky material.
6	Before	AR	Interspiro CW Mask	Inspect for cracks, tears, or stiffness. Run finger over mask body edges to inspect for nicks or surface irregularities. Mask body must be soft, smooth, and pliable.	Mask body is cracked, torn, stiff, nicked; edges have surface irregularities or mask body is not soft, smooth, and pliable.
7	Before	AR	Interspiro CW Mask	Hold mask up in light and inspect visor for scratches, stains, or punctures.	Visor is scratched, stained, or punctured.
8	Before	AR	Interspiro CW Mask	Inspect inner mask for cracks, tears, or stiffness. Run finger over inner mask edges to inspect for nicks or surface irregularities. Inner mask must be soft, smooth, and pliable.	Inner mask is cracked, torn, stiff, nicked, edges have surface irregularities or inner mask is not soft, smooth, and pliable.
9	Before	AR	Interspiro CW Mask	 <p>Inspect inner mask valve disc (15) for proper installation. If improperly installed, remove and reinstall. Check that disc is not curled, torn, or cut. Valve disc must be soft, smooth, and pliable.</p>	Valve disc is curled, torn, cut, or is not soft, smooth, and pliable.

Table 1. Operator Preventive Maintenance Checks and Services for J-FIRE – Continued.

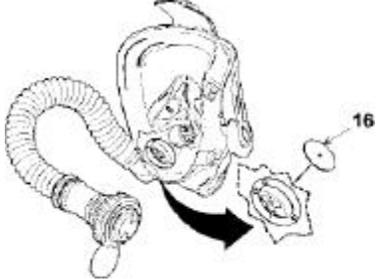
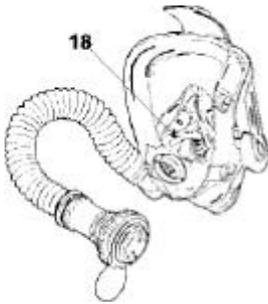
ITEM NO.	ITEM NO.	MAN-HOUR	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
10	Before	AR	Interspiro CW Mask	 <p>Inspect valve assembly valve disc (16) for proper installation. If improperly installed, remove and reinstall. Check that disc is not curled, torn, or cut. Valve disc must be soft, smooth, and pliable.</p>	Valve disc is curled, torn, cut, or is not soft, smooth, and pliable.
11	Before	AR	Interspiro CW Mask	 <p>Inspect external drinking tube assembly (17) for cracked or cut rubber and dented, cracked, or loose coupling.</p>	External drinking tube assembly is cracked or cut, or coupling is cracked, dented, or loose.
12	Before	AR	Interspiro CW Mask	 <p>Inspect inner mouthpiece drink tube (18) for cracks or cuts. Check that inner mouthpiece drink tube is securely fastened to feedthrough system.</p>	Any part is cracked, cut, or loose.

Table 1. Operator Preventive Maintenance Checks and Services for J-FIRE – Continued.

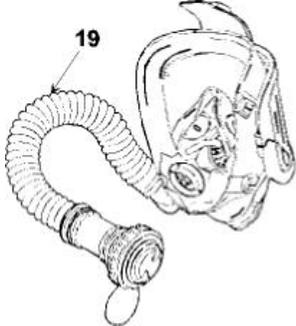
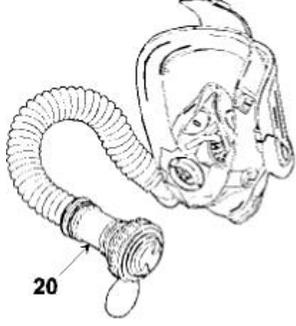
ITEM NO.	ITEM NO.	MAN-HOUR	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
13	Before	AR	Interspiro CW Mask	 <p>Inspect filter hose assembly (19) for cracks, cuts, tears, or abrasions. Check that filter hose assembly is fastened securely to elbow on mask.</p>	Filter hose assembly is cracked, cut, torn, or abraded, or not securely fastened to elbow on mask.
14	Before	AR	Interspiro CW Mask	 <p>Inspect for cracked or broken filter connector assembly (20). Check that it is securely fastened to filter hose assembly.</p>	Filter connector assembly is cracked or broken or not securely fastened to filter hose assembly.
15	Before	AR	Interspiro CW Mask	Inspect head harness for wear, rips, or tears. Ensure straps are not twisted. Reroute twisted straps.	Head harness is worn, ripped, or torn.
16	Before	AR	Interspiro CW Mask	Inspect for proper locking of head harness buckle.	Head harness buckle does not lock properly.

Table 1. Operator Preventive Maintenance Checks and Services for J-FIRE – Continued.

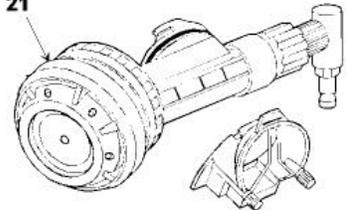
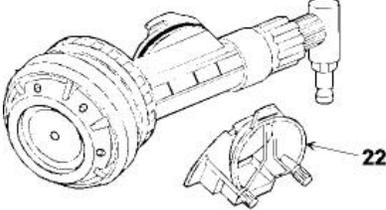
ITEM NO.	ITEM NO.	MAN-HOUR	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
17	Before	AR	Interspiro CW Mask	 <p>Inspect for cracked or broken breathing valve (21). Check that it is securely installed in mask connection piece. If loose, reinstall securely.</p>	Breathing valve is cracked or broken.
18	Before	AR	Interspiro CW Mask	 <p>Inspect for cracked or broken external speech cone (22). Check that it is securely fastened to mask connection piece. If loose, reinstall securely.</p>	External speech cone is cracked or broken.
19	Before	AR	Interspiro CW Mask	Inspect mask cover and filter hose cover for cuts, tears, or holes in any part of material. Ensure tight fit on mask.	Mask cover or filter hose cover is cut, torn, has holes, or any elastic does not provide a tight fit.
20	Before	AR	C ₂ CB Canister	Check service/shelf life in accordance with T.O. 14P4-1-151.	C ₂ CB canister shelf/service life has expired.
21	Before	AR	C ₂ CB Canister (Installed on Interspiro CW Mask)	Inspect for dents, breaks, or loose connection. Tighten loose C ₂ CB canister. Check service life of filter in accordance with T.O. 14P4-1-151.	C ₂ CB canister is dented or broken. Service life has expired.

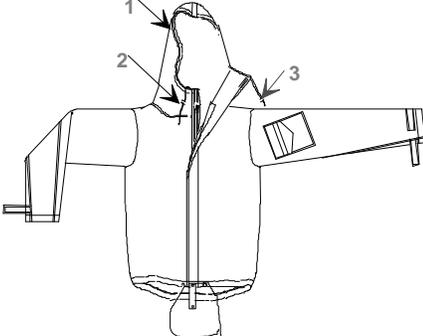
Table 1. Operator Preventive Maintenance Checks and Services for J-FIRE – Continued.

ITEM NO.	ITEM NO.	MAN-HOUR	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
22	Before	AR	Proximity Suit	<p style="text-align: center;">WARNING</p> <p>Do not use your proximity suit if it is soiled, contaminated, torn, worn, cracked, abraded or altered from its original condition. Such use may result in death, burns, injuries, diseases, or illnesses.</p> <p>a. Inspect for dirt, contamination, wear, heat damage, thread or seam damage, discoloration, dye loss, loss of reflectivity, tears, abraded spots, or cracks.</p> <p>b. Perform Water Integrity Test per NFPA 1971 using tap water.</p>	<p>a. Proximity suit is dirty, contaminated, shows wear, heat damage, thread or seam damage, discoloration, dye loss, loss of reflectivity, tears, abraded spots, or cracks.</p> <p>b. Proximity suit fails Water Integrity Test.</p>
23	Before	AR	Firefighting Protective Boots	<p>a. Inspect for dirt, contamination, wear and damage.</p> <p>b. Perform Water Integrity Test per NFPA 1971 using tap water.</p>	<p>a. Boots are dirty, contaminated, worn or damaged.</p> <p>b. Boots fail Water Integrity Test.</p>

Table 1. Operator Preventive Maintenance Checks and Services for J-FIRE – Continued.

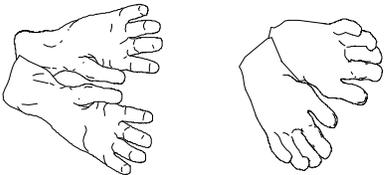
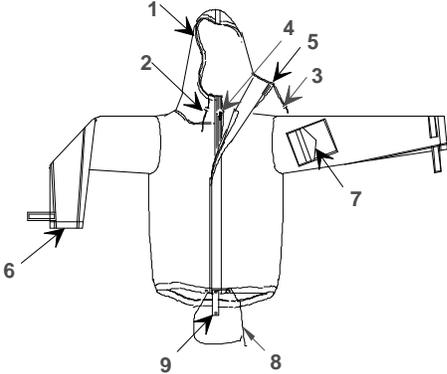
ITEM NO.	ITEM NO.	MAN-HOUR	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
24	Before	AR	Fire and Chemical Protection Gloves/Fire Protection Gloves	<p style="text-align: center;">WARNING</p> <p>Do not use your fire and chemical protection gloves/fire protection gloves if they are dirty, contaminated, torn, worn, cracked, abraded or altered from their original condition. Such use may result in death, burns, injuries, diseases, or illnesses.</p> <p>a. Inspect for dirt, contamination, wear, heat damage, thread or seam damage, discoloration, dye loss, loss of reflectivity, tears, abraded spots, or cracks.</p> <p>b. Perform Water Integrity Test per NFPA 1971 using tap water.</p>	<p>a. Gloves are dirty, contaminated, show wear, heat damage, thread or seam damage, discoloration, dye loss, loss of reflectivity, tears, abraded spots, or cracks.</p> <p>b. Gloves fail Water Integrity Test.</p>
25	Before	AR	Modified Structural ARFF Helmet	Check that chinstrap and suspension are properly and securely fastened and adjusted.	Chinstrap or suspension not properly fastened, not secure, or not properly adjusted.
26	Before	AR	Modified Structural ARFF Helmet	<p>a. Inspect for dirt and contamination. Inspect helmet shell for cracks, holes, leakage, soft spots, or other physical damage. Inspect shroud for wear or tears.</p> <p>b. Perform Water Integrity Test per NFPA 1971 using tap water.</p>	<p>a. Helmet is dirty, contaminated, or shows any physical damage.</p> <p>b. Helmet fails Water Integrity Test.</p>

Table 1. Operator Preventive Maintenance Checks and Services for J-FIRE – Continued.

ITEM NO.	ITEM NO.	MAN-HOUR	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
27	Before	AR	Nomex Hood	<p style="text-align: center;">WARNING</p> <p>Do not use your nomex hood if it is soiled, contaminated, torn, worn, abraded, or altered from its original condition. Such use may result in death, burns, injuries, diseases, or illnesses.</p> <p>Inspect for dirt, contamination, wear, heat damage, thread or seam damage, discoloration, dye loss, tears, or abraded spots.</p>	Nomex hood is dirty, contaminated, shows wear, heat damage, thread or seam damage, discoloration, dye loss, tears, or abraded spots.
28	Before	AR	Interspiro SCBA Air Cylinder	Check cylinder pressure.	Cylinder air pressure is less than 1100 psi or gauge shows less than ¼ full.
29	During	AR	JSLIST Overgarment (Coat)	 <p>Inspect for damaged hood (1), hood draw-cord (2) and/or barrel locks (3).</p>	Any items are damaged or missing.

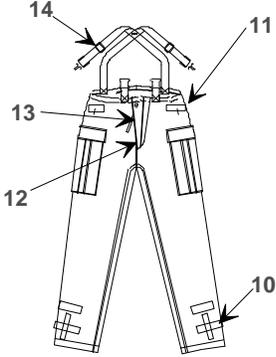
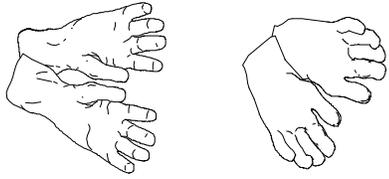
OPERATOR PMCS, INCLUDING LUBRICATION INSTRUCTIONS, WORK PACKAGE – Continued 0005 00

Table 1. Operator Preventive Maintenance Checks and Services for J-FIRE – Continued.

ITEM NO.	ITEM NO.	MAN-HOUR	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
30	During	AR	Butyl Rubber Gloves with Liners	 <p>Inspect for holes, cuts, tears, cracking, or tackiness.</p>	Item has holes, cuts, tears, cracks or tacky material.
31	After	AR	JSLIST Overgarment (Coat/Trousers)	Inspect for POL or moisture contamination. If item is wet, air dry. Check for rips, tears, or holes.	Item is POL or moisture contaminated; or item has rips, tears, or holes.
32	After	AR	JSLIST Overgarment (Coat)	 <p>Inspect for damaged hood (1), hood draw-cord (2) and/or barrel locks (3); slide fastener (4); hook-and-pile fastener tape at lapel (5), sleeve wrists (6), or pocket flaps (7); coat retention cord (8); and/or webbing strip (9) or webbing strip snap.</p>	Any items are damaged or missing.

OPERATOR PMCS, INCLUDING LUBRICATION INSTRUCTIONS, WORK PACKAGE – Continued 0005 00

Table 1. Operator Preventive Maintenance Checks and Services for J-FIRE – Continued.

ITEM NO.	ITEM NO.	MAN-HOUR	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
33	After	AR	JSLIST Overgarment (Trousers)	 <p>Inspect for damaged or missing hook-and-pile fastener tape at ankles (10) and waist (11); slide fasteners (12); snap at fly closure (13); and/or suspenders (14).</p>	Any items are damaged or missing.
34	After	AR	Butyl Rubber Gloves with Liners	 <p>Inspect for holes, cuts, tears, cracking, or tackiness.</p>	Item has holes, cuts, tears, cracks or tacky material.
35	After	AR	Interspiro CW Mask	Inspect for cracks, tears, or stiffness. run finger over mask body edges to inspect for nicks or surface irregularities. Mask body must be soft, smooth, and pliable.	Mask body is cracked, torn, stiff, nicked, edges have surface irregularities or mask body is not soft, smooth, and pliable.

OPERATOR PMCS, INCLUDING LUBRICATION INSTRUCTIONS, WORK PACKAGE – Continued 0005 00

Table 1. Operator Preventive Maintenance Checks and Services for J-FIRE – Continued.

ITEM NO.	ITEM NO.	MAN-HOUR	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
36	After	AR	Proximity Suit	<p>a. Inspect for dirt, contamination, wear, heat damage, thread or seam damage, discoloration, dye loss, loss of reflectivity, tears, abraded spots, or cracks. Launder proximity suit (WP 0006 00).</p> <p>b. Perform Water Integrity Test per NFPA 1971 using tap water.</p>	<p>a. Proximity suit is dirty, contaminated, shows wear, heat damage, thread or seam damage, discoloration, dye loss, loss of reflectivity, tears, abraded spots, or cracks.</p> <p>b. Proximity suit fails Water Integrity Test.</p>
37	After	AR	Firefighting Protective Boots	<p>a. Inspect for dirt, contamination, wear and damage. Clean firefighting protective boots (WP 0006 00).</p> <p>b. Perform Water Integrity Test per NFPA 1971 using tap water.</p>	<p>a. Boots are dirty, contaminated, worn or damaged.</p> <p>b. Boots fail Water Integrity Test.</p>
38	After	AR	Fire and Chemical Protection Gloves/Fire Protection Gloves	<p>a. Inspect for dirt, contamination, wear, heat damage, thread or seam damage, discoloration, dye loss, loss of reflectivity, tears, abraded spots, or cracks. Launder gloves (WP 0006 00).</p> <p>b. Perform Water Integrity Test per NFPA 1971 using tap water.</p>	<p>a. Gloves are dirty, contaminated, show wear, heat damage, thread or seam damage, discoloration, dye loss, loss of reflectivity, tears, abraded spots, or cracks.</p> <p>b. Gloves fail Water Integrity Test.</p>
39	After	AR	Modified Structural ARFF Helmet	<p>Check that chinstrap and suspension are properly and securely fastened and adjusted.</p>	<p>Chinstrap or suspension not properly fastened, not secure, or not properly adjusted.</p>

Table 1. Operator Preventive Maintenance Checks and Services for J-FIRE – Continued.

ITEM NO.	ITEM NO.	MAN-HOUR	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
40	After	AR	Modified Structural ARFF Helmet	<p>a. Inspect for dirt and contamination. Clean helmet (WP 0006 00). Inspect helmet shell for cracks, holes, leakage, soft spots, or other physical damage. Inspect shroud for wear or tears.</p> <p>b. Perform Water Integrity Test per NFPA 1971 using tap water.</p>	<p>a. Helmet is dirty, contaminated, or shows any physical damage.</p> <p>b. Helmet fails Water Integrity Test.</p>
41	After	AR	Nomex Hood	Inspect for dirt, contamination, wear, heat damage, thread or seam damage, discoloration, dye loss, tears, or abraded spots. Launder Nomex hood (WP 0006 00).	Nomex hood is dirty, contaminated, shows wear, heat damage, thread or seam damage, discoloration, dye loss, tears, or abraded spots.
42	After	AR	Interspiro SCBA Air Cylinder	Check cylinder air pressure. Recharge cylinder to 4500 psi.	Cylinder air pressure is less than 1100 psi or gauge shows less than ¼ full.
43	Weekly (If stored)	AR	Interspiro SCBA Air Cylinder	Check cylinder pressure.	Cylinder air pressure is less than 1100 psi or gauge shows less than ¼ full.
44	Every 3 Months or After Extremely Heavy Use	AR	Interspiro SCBA Breathing Valve	Clean according to Interspiro SCBA Operator Manual. Inspect Breathing Valve for dirt in the valve.	Dirt has penetrated Breathing Valve.
45	Every 6 months	AR	Proximity Suit	Launder proximity suit (WP 0006 00).	Proximity suit is dirty or contaminated.
46	Every 6 months	AR	Firefighting Protective Boots	Clean firefighting protective boots (WP 0006 00).	Boots are dirty or contaminated.

Table 1. Operator Preventive Maintenance Checks and Services for J-FIRE – Continued.

ITEM NO.	ITEM NO.	MAN-HOUR	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
47	Every 6 months	AR	Fire and Chemical Protection Gloves/Fire Protection Gloves	Laundry gloves (WP 0006 00).	Gloves are dirty or contaminated.
48	Every 6 months	AR	Nomex hood	Laundry Nomex hood (WP 0006 00).	Nomex hood is dirty or contaminated.
49	Annually	AR	Interspiro SCBA	Complete service and test.	SCBA cannot be repaired or fails test.
50	Every 3 Years	AR	Interspiro SCBA Air Cylinder	Cylinder reinspection.	Cylinder fails inspection.
51	Every 5 Years	AR	Interspiro SCBA	Change low-pressure hoses.	SCBA fails test.

END OF TASK

OPERATOR MAINTENANCE WORK PACKAGE**0006 00**

THIS WORK PACKAGE COVERS:

Cleaning, Inspection, and Repair/Replacement procedures

INITIAL SETUP:**Maintenance Level:**

Operator

Materials/Parts:

Brush, Cleaning (item 1, WP 0009 00)
Cheesecloth (item 2, WP 0009 00)
Detergent, Laundry (item 3, WP 0009 00)
Disinfectant, General Purpose (item 4, WP 0009 00)
Silicone Lubricant (item 5, WP 0009 00)
Sour, Laundry (item 6, WP 0009 00)
Tape, Duct (item 7, WP 0009 00)

References:

WP 0009 00
TM 10-8415-220-10 (Army)
T.O. 14P4-17-3
T.O. 14P3-1-141 (Air Force)
Interspiro SCBA Operator Manual

CLEANING**JSLIST Overgarment**

JSLIST chemical protective overgarments must be laundered during their service life, or premature deterioration will result. Dirty clothes wear out quickly, because dirt cuts textile fibers and retains moisture from perspiration. Follow laundering procedures in TM 10-8415-220-10 (Army) or T.O. 14P3-1-141 (Air Force).

Butyl Rubber Gloves with Liners

1. Clean dirt and debris from gloves and/or liners by lightly brushing them together.
2. Do not machine launder or use any cleaning agents (i.e., bleaches, stain removers) on the gloves.
3. Discard soiled glove liners and replace with new liners.

CLEANING – Continued**Nomex Hood****CAUTION**

- Do not use chlorine bleach or detergents containing chlorine to launder Nomex hood.
- Do not dry clean nomex hood.
- Do not store nomex hood in direct sunlight.

1. Machine wash nomex hood using regular detergent. Water temperature should not exceed 130° F (54.44° C).
2. Tumble dry.

Proximity Suit**CAUTION**

- Do not commercially dry clean your proximity suit. Some dry cleaning solvents can damage the proximity suit.
- Top loading agitating washing machines may reduce the service life of proximity suit due to damage caused by mechanical agitation. Either hand wash or machine wash in a front loading machine.

1. Hand wash proximity suit in a utility sink and rinse thoroughly with clean water. The water temperature should range between 105-110° F (40.5-43.3° C). Wear protective gloves during washing. Avoid inhaling vapors from the wash water. Avoid contact of the wash water with skin. Avoid the use of chlorine bleach, water temperatures greater than 110° F (43.3° C), heavy abrasion and/or scrubbing, water and/or cleaning solutions with a pH greater than 10.5, mixing flame resistant and non-flame resistant items in the utility sink. Dispose of waste water according to federal, state, and local law.
2. Machine wash in front loading machine or machine specially designed for cleaning protective garments. Avoid using chlorine bleach, water temperatures greater than 130° F (54.4° C), chlorinated solvents, heavy abrasion and/or scrubbing, water and/or cleaning solutions with a pH greater than 10.5, high velocity power washers, mixing flame resistant and non-flame resistant items. Dispose of waste water in accordance with federal, state, and local law.
3. Air dry proximity suit on a drying rack away from direct sunlight, or in a drying room with or without air circulation fans.

CAUTION

Machine drying is not recommended since machine drying can cause shrinkage and the dryer's mechanical action can damage the proximity suit.

4. If you machine dry your proximity suit, fasten all closures including pocket closures, hooks and loops, snaps, slide fasteners, hooks, and any other closures on the garment. Turn garment inside out and place it in a mesh laundry bag. Do not use heat in machine drying.

CLEANING - Continued**Fire and Chemical Protection Gloves/Fire Protection Gloves****CAUTION**

- Do not commercially dry clean your fire and chemical protection gloves/fire protection gloves. Some dry cleaning solvents can damage the gloves.
- Top loading agitating washing machines may reduce the service life of fire and chemical protection gloves/fire protection gloves due to damage caused by mechanical agitation. Either hand wash or machine wash in a front loading machine.

1. Wear protective gloves during washing. Hand wash fire and chemical protection gloves/fire protection gloves in a utility sink, scrub gently with medium-bristle brush, and rinse thoroughly with clean water. Do not wring gloves to dry; squeeze gloves to remove excess water. The water temperature should range between 105-110° F (40.5-43.3° C). Avoid inhaling vapors from the wash water. Avoid contact of the wash water with skin. Avoid the use of chlorine bleach, water temperatures greater than 110° F (43.3° C), heavy abrasion and/or scrubbing, water and/or cleaning solutions with a pH greater than 10.5, mixing flame resistant and non-flame resistant items in the utility sink. Dispose of waste water according to federal, state, and local law.

2. Machine wash (up to 20 gloves per standard washer size) in front loading machine or machine specially designed for cleaning protective garments. Water temperature should be 120-130° F (48.9-54.4° C). Double rinse. Avoid using chlorine bleach, water temperatures greater than 130° F (54.4° C), chlorinated solvents, heavy abrasion and/or scrubbing, water and/or cleaning solutions with a pH greater than 10.5, high velocity power washers, mixing flame resistant and non-flame resistant items. Dispose of waste water in accordance with federal, state, and local law.

3. Air dry fire and chemical protection gloves/fire protection gloves on a drying rack away from direct sunlight, or in a drying room with or without air circulation fans.

CAUTION

Machine drying is not recommended since machine drying can cause shrinkage and the dryer's mechanical action can damage the fire and chemical protection gloves/fire protection gloves.

4. If you machine dry your fire and chemical protection gloves/fire protection gloves, fasten all closures and place the gloves in a mesh laundry bag. Do not use heat in machine drying.

Firefighting Protective Boots**CAUTION**

- Do not machine wash your firefighting protective boots. The washer's mechanical action can degrade the boots.
- Do not commercially dry clean your firefighting protective boots.

1. Clean dirt and debris from boots by brushing them together or with a water-moistened cloth or sponge, if available.

CLEANING - Continued**Firefighting Protective Boots - Continued**

2. Hand wash firefighting protective boots in utility sink and rinse thoroughly with clean water. Water temperature should be 105-110° F (40.5-43.3° C). Avoid the use of chlorine bleach, water temperatures greater than 110° F (43.3° C), heavy abrasion and/or scrubbing, water and/or cleaning solutions with a pH greater than 10.5, missing flame resistant and non-flame resistant items in the utility sink. Wear protective gloves during washing and avoid inhaling vapors from the wash water. Dispose of waste water in accordance with federal, state, and local law.

CAUTION

Do not machine dry your firefighting protective boots. The dryer's mechanical action can degrade the boots.

3. Dry firefighting protective boots on a rack with maximum air exposure. Do not dry firefighting protective boots in direct sunlight.

Modified Structural ARFF Helmet**CAUTION**

Do not machine wash the helmet shell. Mechanical action of washer may damage helmet shell.

1. If possible, separate outer shell from other components of modified structural ARFF helmet.
2. Hand wash helmet shell and rinse thoroughly with clean water. Avoid using chlorine bleach, water temperatures greater than 130° F (54.4° C), chlorinated solvents, heavy abrasion and/or scrubbing, water and/or cleaning solutions with a pH greater than 10.5, high velocity power washers, mixing flame resistant and non-flame resistant items. Dispose of waste water in accordance with federal, state, and local law.

CAUTION

Do not machine dry the helmet shell. Mechanical action of dryer may damage helmet shell.

3. Dry modified structural ARFF helmet on drying rack with maximum air exposure. Do not dry helmet in direct sunlight.

Interspiro CW Mask

Follow cleaning procedures in T.O. 14P4-17-3.

Interspiro SCBA

Follow cleaning procedures in Interspiro SCBA Operator Manual.

REPAIR OR REPLACEMENT**JSLIST Overgarment****WARNING**

Repaired JSLIST overgarment is to be used for training only and is not to be issued to the individual for real CB scenarios. Repaired items could cause chemical exposure if worn in a CB environment, resulting in severe health problems or death!

Refer to TM 10-8415-220-10 (Army) or T.O. 14P3-1-141 (Air Force) for repairs that may be made to JSLIST overgarments used for training or as field-expedient repairs.

Butyl Rubber Gloves with Liners

Replace damaged butyl rubber gloves and liners.

Firefighting Protective Boots

Replace damaged firefighting protective boots.

Nomex Hood

Replace damaged Nomex hood.

Proximity Suit

1. Repair loose stitches, ripped areas, detached trim, or loose pockets.
2. Inspect moisture barriers at elbows, under the arms, seat areas, and knees. Replace garment if moisture proof coating is abraded or deteriorated.

Fire and Chemical Protection/Fire Protection Gloves

Replace worn or damaged fire and chemical protection gloves/fire protection gloves.

Modified Structural ARFF Helmet

Replace damaged modified structural ARFF helmet or visor.

Interspiro CW Mask

Refer to repair procedures in T.O. 14P4-17-3.

Interspiro SCBA

Refer to repair procedures in Interspiro SCBA Operator Manual.

END OF TASK

CHAPTER 4
SUPPORTING INFORMATION

SCOPE

This Work Package lists publications referenced in this TM/T.O., including forms, technical manuals, technical orders, Air Force manuals, and field manuals.

FORMS

Equipment Inspection and Maintenance Worksheet DA Form 2404

Product Quality Deficiency Report SF 368

Recommended Changes to Publications and Blank Forms DA Form 2028-2

Serviceable Tag-Materiel DD Form 1574

AIR FORCE PUBLICATIONS

Chemical-Biological Canisters and Filter Element Procedures T.O. 14P4-1-151

Ground Support Ensemble T.O. 14P3-1-141

Operation and Maintenance Instructions with Illustrated Parts Breakdown:
 Chemical Warfare Kit for the Interspiro Self-Contained Breathing Apparatus..... T.O. 14P4-17-3

Operation, Service, Test and Spare Parts List, Self-Contained Breathing Apparatus,
 Spiromatic 9030, 6630, 4530, and 4515 T.O. 14S5-32-1

Personnel Protection and Attack Actions..... AFMAN 32-4005

Standard Base Supply Customer Procedures..... AFMAN 23-110

Treatment of Chemical Agent Casualties and Conventional Military Chemical Injuries AFM 160-11

USAF Deficiency Reporting and Investigating System T.O. 00-35D-54

ARMY PUBLICATIONS

Destruction of Army Materiel to Prevent Enemy Use TM 750-244-3

First Aid for Soldiers FM 21-11

Functional Users Manual for the Army Maintenance Management System (TAMMS)..... DA PAM 738-750

NBC Decontamination..... FM 3-5

NBC Protection..... FM 3-4

Operator Manual for Joint Service Lightweight Integrated Suit Technology (JSLIST)
 Chemical Protective Ensemble TM 10-8415-220-10

ARMY PUBLICATIONS - Continued

Preparing Hazardous Materials for Military Air Shipments TM 38-250

Soldier Manual of Common Tasks..... STP 21-1-SMC

Treatment of Chemical Agent Casualties and Conventional Military Chemical Injuries..... FM 8-285

OTHER

Army Medical Department Expendable/Durable Items CTA 8-100

Expendable/Durable Items CTA 50-970

Spiromatic/Spirolite HPBA 9030, 6630, 4530, and 4515 Operating Instructions

Service Manual Spiromatic/Spirolite HPBA 9030, 6630, 4530, and 4515

Protective Clothing for Proximity Fire Fighting NFPA Standard 1976

Standard on Protective Clothing for Structural Fire Fighting NFPA Standard 1971

INTRODUCTION

Scope

This work package lists COEI and BII for the J-FIRE to help you inventory items for safe and efficient operation of the equipment.

General

The COEI and BII information is divided into the following lists:

The Components of End Item (COEI) list is for information purposes only and is not authority to requisition replacements. These items are part of the J-FIRE. As part of the end item, these items must be with the end item whenever it is issued or transferred between property accounts. Items of COEI are removed and separately packaged for transportation or shipment only when necessary. Illustrations are furnished to help you find and identify the items.

The Basic Issue Items (BII) list shows essential items required to place the J-FIRE in operation, to operate it, and to do emergency repairs. Although shipped separately packaged, BII must be with the J-FIRE during operation and when it is transferred between property accounts. Listing these items is your authority to request/requisition them for replacement based on authorization of the end item by the TOE/MTOE. Illustrations are furnished to help you find and identify the items.

Explanation of Columns in the COEI List and BII List

Column (1) - Illus Number gives you the number of the item illustrated.

Column (2) - National Stock Number (NSN) identifies the stock number of the item to be used for requisitioning purposes.

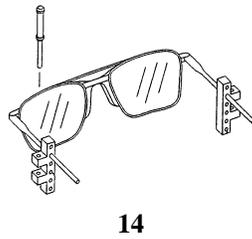
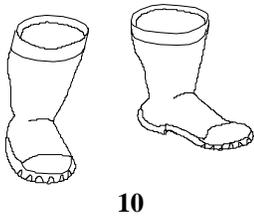
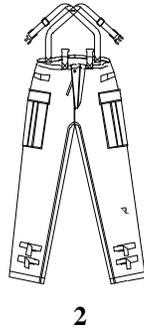
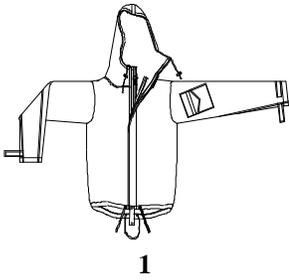
Column (3) - Description, CAGEC, and Part Number identifies the Federal item name (in all capital letters) followed by a minimum description when needed. The stowage location of COEI and BII is also included in this column. The last line below the description is the CAGEC (commercial and Government entity code) (in parentheses) and the part number.

Column (4) - Usable On Code, when applicable, gives you a code if the item you need is not the same for different models of equipment.

Column (5) - Unit of Measure (U/M) indicates the physical measurement or count of the item as issued per the National Stock Number shown in column (2).

Column (6) - Qty Rqr indicates the quantity required.

COMPONENTS OF END ITEM LIST



COMPONENTS OF END ITEM LIST - Continued

Table 1. Components of End Item List.

(1) ILLUS NUMBER	(2) NATIONAL STOCK NUMBER	(3) DESCRIPTION, CAGEC, AND PART NUMBER	(4) USABLE ON CODE	(5) U/M	(6) QTY RQR
1	8415-01-444-1163 8415-01-444-1169 8415-01-444-1200 8415-01-444-1238 8415-01-444-1249 8415-01-444-1265 8415-01-444-1270	COAT, OVERGARMENT, CHEMICAL PROTECTIVE (4-COLOR WOODLAND CAMOUFLAGE) (07779), PD 97-04 Size SXS Size SS Size MS Size MR Size ML Size LR Size LL		EA	3
1	8415-01-444-5902 8415-01-444-5905 8415-01-444-5913 8415-01-444-5926 8415-01-444-6116 8415-01-444-6138 8415-01-444-6131	COAT, OVERGARMENT, CHEMICAL PROTECTIVE (3-COLOR DESERT CAMOUFLAGE) (07779), PD 97-04 Size SXS Size SS Size MS Size MR Size ML Size LR Size LL		EA	3
2	8415-01-444-1435 8415-01-444-1439 8415-01-444-1613 8415-01-444-2310 8415-01-444-2308 8415-01-444-2325 8415-01-444-2338	TROUSERS, OVERGARMENT, CHEMICAL PROTECTIVE (4-COLOR WOODLAND CAMOUFLAGE) (07779), PD 97-04 Size SXS Size SS Size MS Size MR Size ML Size LR Size LL		EA	3
2	8415-01-444-5417 8415-01-444-5504 8415-01-444-5506 8415-01-444-5893 8415-01-444-5892 8415-01-444-5898 8415-01-444-5900	TROUSERS, OVERGARMENT, CHEMICAL PROTECTIVE (3-COLOR DESERT CAMOUFLAGE) (07779), PD 97-04 Size SXS Size SS Size MS Size MR Size ML Size LR Size LL		EA	3

COMPONENTS OF END ITEM LIST - Continued

Table 1. Components of End Item List – Continued.

(1) ILLUS NUMBER	(2) NATIONAL STOCK NUMBER	(3) DESCRIPTION, CAGEC, AND PART NUMBER	(4) USABLE ON CODE	(5) U/M	(6) QTY RQR
3		*GLOVES, FIRE AND CHEMICAL PROTECTION P/N GL-BPR-RGG-ML Size XSM Size SM Size MED Size LARGE Size XLARGE Size XXLARGE Size XXXLARGE		PR	3
4	8415-01-138-2497 8415-01-138-2498 8415-01-138-2499 8415-01-138-2500	*GLOVES, WITH LINERS, 14-MIL BUTYL RUBBER, (81349), MIL-G-43976 Size Small Size Medium Size Large Size X-Large		PR	3
5	8415-01-138-2494 8415-01-138-2495 8415-01-138-2496	*GLOVES, INSERTS, CHEMICAL PROTECTION, (1DBW0), PD412A-07878- 37001 Size Small Size Medium Size Large		PR	1
6		*GLOVES, FIRE PROTECTION Size Small Size Medium Size Large		PR	1
7	8415-01-286-3472	NOMEX HOOD, (62681), 3518266		EA	1
8		COAT, PROXIMITY Size Small/X-Short Size Small/Short Size Medium/Short Size Medium/Regular Size Medium/Long Size Large/Regular Size Large/Long		EA	1

* Butyl rubber gloves with liners, combined with fire protection gloves may be substituted when fire and chemical protection gloves are not available.

COMPONENTS OF END ITEM LIST - Continued

Table 1. Components of End Item List - Continued.

(1) ILLUS NUMBER	(2) NATIONAL STOCK NUMBER	(3) DESCRIPTION, CAGEC, AND PART NUMBER	(4) USABLE ON CODE	(5) U/M	(6) QTY RQR
9		TROUSERS, PROXIMITY Size Small/X-Short Size Small/Short Size Medium/Short Size Medium/Regular Size Medium/Long Size Large/Regular Size Large/Long		EA	1
10		FIREFIGHTING PROTECTIVE BOOT Size Small Size Medium Size Large		PR	1
11		MODIFIED STRUCTURAL ARFF HELMET		EA	1
12	4240-01-333-3495 4240-01-435-8337 4240-01-411-9809	SELF-CONTAINED BREATHING APPARATUS (SCBA), SPIROLITE 9030, (83421), 336-890-302, CONSISTING OF: Mask Assembly P/N 336-890-222 Regulator Assembly Harness Assembly Compressed Air Cylinder P/N 336-890-257 Carrying Case P/N 336-980-027		EA	1
13	4240-01-359-5641 4240-01-398-1437 4240-01-407-8276 4240-01-361-1319 4240-01-398-1083 4240-01-398-0198	CHEMICAL WARFARE KIT (CW KIT), P/N 93107121, CONSISTING OF: CW Mask Assembly P/N 93107143, 1 ea Protective Hood P/N 93107182, 3 ea C ₂ CB Filter P/N D5-3-1500, 3 ea Waterproof Bag P/N 93107184, 1 ea Carrier Bag P/N 93107183, 1 ea		EA	1
14		SPECTACLE KIT, P/N 334-190-040		EA	A/R
15	8415-00-606-8366	KIT, BAG, FLYERS, (83421), 8460-00-606-8366		EA	1

BASIC ISSUE ITEMS LIST

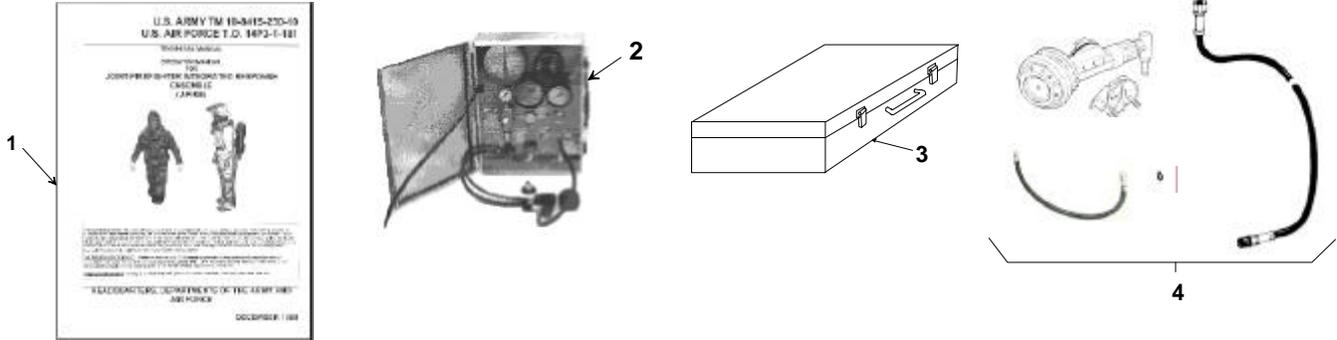


Table 2. Basic Issue Items List.

(1) ILLUS NUMBER	(2) NATIONAL STOCK NUMBER	(3) DESCRIPTION, CAGEC, AND PART NUMBER	(4) USABLE ON CODE	(5) U/M	(6) QTY RQR
1		TM 10-8415-230-10/T.O. 14P3-1-181, Operator Manual for Joint-Firefighter Integrated Response Ensemble (J-FIRE)			1
2	4240-01-393-1257	Test Equipment (47432) P/N 336-890-315			1 per Head- quarters team
3	5180-01-394-7703	Tool Kit (47432) P/N 336-890-210			1 per Head- quarters team
4		SCBA Part Kit (47432) P/N 336-890-110, Consisting of: Breathing Valve P/N 336-890-215, 2 ea O-Ring Regulator, 1 ea (pkg of 10) High Pressure Hose P/N 336-190-175, 1 ea Breathing Hose with Female Quick Coupling P/N 336-190-112, 1 ea			1 per Head- quarters team

INTRODUCTION**Scope**

This work package lists expendable and durable items that you will need to operate and maintain the J-FIRE. This list is for information only and is not authority to requisition the listed items. These items are authorized to you by CTA 50-970, Expendable/Durable Items (Except Medical, Class V Repair Parts, and Heraldic Items) or CTA 8-100, Army Medical Department Expendable/Durable Items.

Explanation of Columns in the Expendable/Durable Items List

Column (1) — Item Number. This number is assigned to the entry in the list and is referenced in the narrative instructions to identify the item (e.g., Use brake fluid (item 5, WP 0098 00)).

Column (2) — Level. This column identifies the lowest level of maintenance that requires the listed item:

C - Operator/Crew

Column (3) — National Stock Number (NSN). This is the NSN assigned to the item which you can use to requisition it.

Column (4) — Item Name, Description, Commercial and Government Entity Code (CAGEC), and Part Number (P/N). This column provides the other information you need to identify the item.

Column (5) — Unit of Measure (U/M). This code shows the physical measurement or count of an item, such as gallon, dozen, gross, etc.

EXPENDABLE AND DURABLE ITEMS LIST

Table 1. Expendable and Durable Items List.

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) ITEM NAME, DESCRIPTION, CAGE, PART NUMBER	(5) U/M
1	C	7920-00-205-2401	Brush, Cleaning, Tool and Parts (81349) MIL-B-43871	EA
2	C	8305-01-125-0725 8305-00-205-3496 8305-00-262-3321	Cloth, Cheesecloth (58536) A-A-1491 5-yd package 10-yd package 50-yd box	PG PG BO
3	C	7930-00-252-6797	Detergent, Laundry: Type II, 50-lb drum (053H7)	DR
4	C	6840-00-558-1593 6840-00-551-3698	Disinfectant, General Purpose, Quaternary Ammonium (58536) A-A-1441 5-lb can 25-lb drum	CN DR
5	C		Silicone Lubricant (47432) 331-900-269	
6	C	7930-00-291-8321	Sour, Laundry: 50-lb drum (58536) A-A-1374	DR
7	C	5640-00-103-2254	Tape, Duct (58536) A-A-2231	RO

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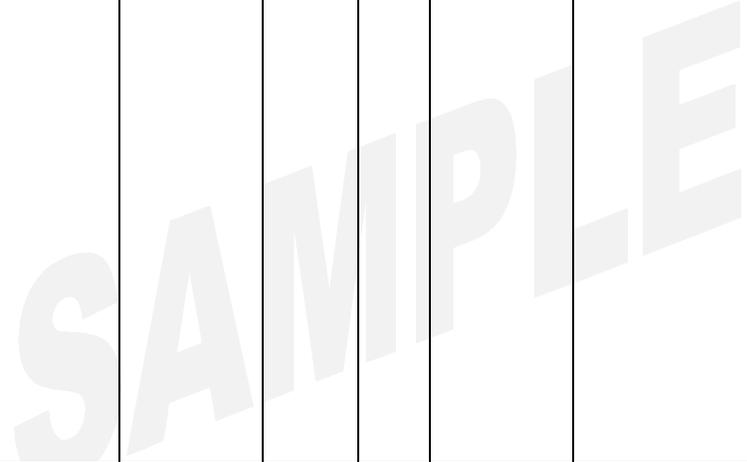
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RECOMMENDED CHANGES TO PUBLICATIONS AND BLANK FORMS For use of this form, see AR 25-30; the proponent agency is ODISC4.						Use Part II (reverse) for Repair Parts and Special Tool Lists (RPSTL) and Supply Catalogs/Supply Manuals (SC/SM).	DATE Today's Date
TO: (Forward to proponent of publication or form) (Include ZIP Code) Chief, Soldier and Biological Chemical Command (RI) AMSSC-HB (RI) Rock Island, IL 61299-7390						FROM: (Activity and location) (Include ZIP Code) Your Address	
PART I - ALL PUBLICATIONS (EXCEPT RPSTL AND SC/SM) AND BLANK FORMS							
PUBLICATION/FORM NUMBER U.S. Army TM 10-8415-230-10 U.S. Air Force T.O. 14P3-1-181					DATE December 1998	TITLE Operator Manual for Joint-Firefighter Integrated Response Ensemble (J-FIRE)	
ITEM NO.	PAGE NO.	PARA-GRAPH	LINE NO. *	FIGURE NO.	TABLE NO.	RECOMMENDED CHANGES AND REASON (Provide exact wording of recommended changes, if possible).	
1	0004 00-11			2		On the illustration following step 10.b., change the callout number to 12.	
2	0009 00-2				1	Item 7, column 4: Change "duck tape" to "duct tape."	
<i>*Reference to line numbers within the paragraph or subparagraph.</i>							
TYPED NAME, GRADE OR TITLE Your Name				TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION Your Phone Number		SIGNATURE Your Signature	

TO: <i>(Forward direct to addressee listed in publication)</i>				FROM: <i>(Activity and location) (Include ZIP Code)</i>				DATE	
PART II – REPAIR PARTS AND SPECIAL TOOL LISTS AND SUPPLY CATALOGS/SUPPLY MANUALS									
PUBLICATION NUMBER					DATE			TITLE	
PAGE NO.	COLM NO.	LINE NO.	NATIONAL STOCK NUMBER	REFERENCE NO.	FIGURE NO.	ITEM NO.	TOTAL NO. OF MAJOR ITEMS SUPPORTED	RECOMMENDED ACTION	
									
PART III – REMARKS <i>(Any general remarks or recommendations, or suggestions for improvement of publications and blank forms. Additional blank sheets may be used if more space is needed.)</i>									
TYPED NAME, GRADE OR TITLE				TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION			SIGNATURE		

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GEORGE T. BABBITT
General, USAF
Commander, AFMC

MICHAEL E. RYAN
General, USAF
Chief of Staff

By Order of the Secretary of the Army:

Official:


JOEL B. HUDSON
*Administrative Assistant to the
Secretary of the Army*
05474

DENNIS J. REIMER
*General, United States Army
Chief of Staff*

The Metric System and Equivalents

Linear Measure

1 centimeter = 10 millimeters = .39 inch
 1 decimeter = 10 centimeters = 3.94 inches
 1 meter = 10 decimeters = 39.37 inches
 1 dekameter = 10 meters = 32.8 feet
 1 hectometer = 10 dekameters = 328.08 feet
 1 kilometer = 10 hectometers = 3,280.8 feet

Liquid Measure

1 centiliter = 10 milliliters = .34 fl. ounce
 1 deciliter = 10 centiliters = 3.38 fl. ounces
 1 liter = 10 deciliters = 38.82 fl. ounces
 1 dekaliter = 10 liters = 2.64 gallons
 1 hectoliter = 10 dekaliters = 26.42 gallons
 1 kiloliter = 10 hectoliters = 264.18 gallons

Weights

1 centigram = 10 milligrams = .15 grain
 1 decigram = 10 centigrams = 1.54 grains
 1 gram = 10 decigrams = .035 ounce
 1 dekagram = 10 grams = .35 ounce
 1 hectogram = 10 dekagrams = 3.52 ounces
 1 kilogram = 10 hectograms = 2.2 pounds
 1 quintal = 100 kilograms = 220.46 pounds
 1 metric ton = 10 quintals = 1.1 short tons

Square Measure

1 sq. centimeter = 100 sq. millimeters = .155 sq. inch
 1 sq. decimeter = 100 sq. centimeters = 15.5 sq. inches
 1 sq. meter (centare) = 100 sq. decimeters = 10.76 sq. feet
 1 sq. dekameter (are) = 100 sq. meters = 1,076.4 sq. feet
 1 sq. hectometer (hectare) = 100 sq. dekameter = 2.47 acres
 1 sq. kilometer = 100 sq. hectometers = .386 sq. mile

Cubic Measure

1 cu. centimeter = 1000 cu. millimeters = .06 cu. inch
 1 cu. decimeter = 1000 cu. centimeters = 61.02 cu. inches
 1 cu. meter = 1000 cu. decimeters = 35.31 cu. feet

Approximate Conversion Factors

<i>To change</i>	<i>To</i>	<i>Multiply by</i>	<i>To change</i>	<i>To</i>	<i>Multiply by</i>
inches	centimeters	2.540	ounce-inches	newton-meters	.007062
feet	meters	.305	centimeters	inches	.394
yards	meters	.914	meters	feet	3.280
miles	kilometers	1.609	meters	yards	1.094
square inches	square centimeters	6.451	kilometers	miles	.621
square feet	square meters	.093	square centimeters	square inches	.155
square yards	square meters	.836	square meters	square feet	10.764
square miles	square kilometers	2.590	square meters	square yards	1.196
acres	square hectometers	.405	square kilometers	square miles	.386
cubic feet	cubic meters	.028	square hectometers	acres	2.471
cubic yards	cubic meters	.765	cubic meters	cubic feet	35.315
fluid ounces	milliliters	29.573	cubic meters	cubic yards	1.308
pints	liters	.473	milliliters	fluid ounces	.034
quarts	liters	.946	liters	pints	2.113
gallons	liters	3.785	liters	quarts	1.057
ounces	grams	28.349	liters	gallons	.264
pounds	kilograms	.454	grams	ounces	.035
short tons	metric tons	.907	kilograms	pounds	2.205
pound-feet	newton-meters	1.365	metric tons	short tons	1.102
pound-inches	newton-meters	.11375			

Temperature (Exact)

°F	Fahrenheit	5/9 (after	Celsius	°C
	temperature	subtracting 32)	temperature	

