

**TOMBALL FIRE DEPARTMENT  
OPERATIONS MANUAL  
VOLUME 2**

SUBJECT: <b>BUNKER GEAR</b>		EFFECTIVE DATE: <b>10-30-07</b>
NUMBER: <b>206.00</b>	REVISION: 1	SUPERSEDES: Original

**PURPOSE**

To insure the that members of the Tomball Fire Department understand the use of, care of and limitations of the Bunker Gear provided for the members of the Tomball Fire Department.

**POLICY**

To operate as safely and effectively as possible during an emergency incident while insuring the members understand the importance of the care and upkeep of this equipment. Tomball Fire Department has established the following guidelines, which shall be adhered to by all personnel

**DEFINITIONS**

**Accessories.**

Those items that are attached to an ensemble element but designed in such a manner to be removable from the ensemble or the element and that are not necessary to meet the requirements of the standard. Such accessories include, but are not limited to, utility belts, harness, backpacks, tools, tool packs, radios, radio packs, suspenders, lights, and heat sensing devises.

**Advanced Cleaning**

The thorough cleaning of ensemble or elements by washing with cleaning agents.

**Biological Agents.**

Biological materials that could be capable of causing a disease or long-term damage to the human body.

**Body Fluids.**

Fluids produced by the body including, but not limited to, blood, semen mucus, feces, urine, vaginal secretions, breast milk, amniotic fluids, cerebrospinal fluid, synovial fluids, and pericardial fluid.

**Care.**

Procedures for cleaning, decontamination, and storage of protective clothing and equipment.

**Cleaning.**

The act of removing soils and contaminants from ensembles and the elements by mechanical, chemical, thermal, or combined processes.

**Contamination**

The process by which ensembles and ensemble elements are exposed to hazardous materials or biological agents.

### **Decontamination**

The act of removing contaminants from the ensembles and ensemble elements by physical, chemical, or combined process.

### **Elements**

The parts or items that comprise the protective ensemble. The protective ensemble elements are the coats, trousers, coveralls, gloves, footwear, and interface components.

### **Emergency Incident**

A response to any event in which fire, smoke or chemical release are present or possible or in which electrical shock, thermal exposure or exposure to any other element could result in bodily injury, death or property damage.

### **Ensemble**

Multiple elements of clothing and equipment designed to provide a degree of protection for firefighters from adverse exposures to the inherent risks of structural firefighting operations and certain other emergency operations. The elements of the protective ensemble are coats, trousers, coveralls, helmets, gloves, footwear, and interface components.

### **Faceshield**

A helmet component intended to help protect a portion of the wearer's face. Not intended as primary protection of the eyes.

### **Fire Apparatus**

A motor vehicle designed for the specific use of fire suppression or rescue operations.

### **Flame Resistance/Resistant**

The property of a material whereby the application of a flaming or non-flaming source of ignition and the subsequent removal of the ignition source results in the termination of combustion. Flame resistance can be an inherent property of the material, or it can be imparted by specific treatment.

### **Gauntlet**

The circular, flared, or otherwise expanded part of the glove that extends beyond the opening of the glove body.

### **Gear**

Also called Bunker Gear and comprises a major part of what is considered PPE (Personal Protective Equipment) for structural firefighting. Generally, comprised of a coat, pants (trousers), boots, hood, helmet, and gloves which are designed and approved for structural firefighting.

### **Glove Wristlet**

The circular, close-fitting part of the glove, usually made of knitted material that extends beyond the opening of the glove body.

### **Goggles**

A helmet component intended to help protect the wearer's eyes.

### **Hazardous Materials**

Any solid, liquid, gas, or mixture thereof that can potentially cause harm to the human body through respiration, ingestion, skin absorption, injection, or contact.

**Interface Area**

An area of the body where the protective garments, helmets, gloves, footwear, or SCBA face piece meet.

**Moisture Barrier**

The portion of the composite designed to prevent the transfer of liquids.

**Outer Shell**

The outer most layer of the composite with the exception of trim, hardware, reinforcing material, and wristlet material.

**Protective Footwear**

An element of the protective ensemble designed to provide minimum protection to the foot, ankle, and the lower leg.

**Protective Hood**

The interface component element of the protective ensemble designed to provide limited protection to the coat/helmet/SCBA face piece interface area.

**Protective Trousers.**

A Protective garment. An element of the protective ensemble that is designed to provide minimum protection to the lower torso and legs, excluding the ankles and the feet.

**Routine Cleaning**

The light cleaning of an ensemble or elements performed by the end user without taking the elements out of service.

**Shall**

Indicates a mandatory requirement.

**Should**

Indicates a recommendation or that which is advised but not required.

**Specialized Cleaning.**

Cleaning, by a qualified person/company, to remove hazardous materials or biological agents.

**Thermal Barrier**

The portion of protective ensemble or element composite that is designed to provide thermal protection.

**Use**

Bunker Gear shall be donned prior to mounting the apparatus. Gear shall be worn to **ALL** emergency incidents. Only the bunker pants/boots portion of the ensemble are required to be donned while responding to medical incidents.

**USE**

Bunker Gear (Gear) shall be worn by all members responding to an Emergency Incident on a Tomball Fire Department Fire Apparatus. Only the bunker pants/boots portion of the ensemble are required to be donned while responding to medical incidents.

## ROUTINE INSPECTION

Each individual member shall conduct a routine inspection of his or her personal ensemble after each use. The use will be determined by the emergency exposed to, and/or if suspected of being exposed to, damage, or contamination.

All elements should be checked for the following:

- A. Soiling
- B. Contamination
- C. Physical damage, such as the following:
  - a. Rips, tears, and cuts
  - b. Thermal damage such as charring, burn holes, and milting.
  - c. Damage/missing hardware or closure system

Additionally:

- Coats and trousers should be inspected for damaged or missing reflective trim.
- Hoods for the loss of the face opening adjustment.
- Helmets for Cracks, dents and abrasions, thermal damage to the shell such as bubbling, soft spots, warping, or discoloration. Ear flaps for rips, tears, cuts, and thermal damage. Other components of the suspension and retention systems (within the inside of the helmet). The face shield/goggle system for scratches and discoloration that limit visibility.
- Gloves should be checked for shrinkage, loss of elasticity/flexibility, and liner damage
- Footwear should be checked for loss of water resistance and functionality.

## ADVANCED INSPECTION

Advanced inspections of all protective ensembles and ensemble elements should be conducted at a minimum of once every 12 months, or whenever routine inspections indicate that a problem may exist. Only members of the Tomball Fire Department, who have been trained, should perform the advanced inspection.

The findings of the advanced inspections should be documented on an inspection form and filed with the information sheet for that piece of the ensemble.

All layers and/or components shall be inspected for the following:

- A. Soiling
- B. Contamination from hazardous materials or biological agents.
- C. Physical damage to all layers, such as rips, tears, cuts, abrasions, discoloration, thermal damage.
- D. Reflective trim integrity, attachment to garment, reflectivity, damage.
- E. Label integrity, legibility.
- F. Hook and loop functionality.

**Additionally, these specific components shall be checked:**

- Coats and trousers should be inspected for loss of moisture barrier integrity (rips, tears, cuts, abrasions, discoloration, thermal damage); broken or missing stitches; shifting of liner material; wristlets (loss of elasticity, stretching, cuts, burn holes); closure system functionality.
- Hoods should be inspected for shrinkage; loss of elasticity; seam integrity; face opening adjustment.

- Helmets should be inspected for cracks dents and abrasions in the shell; bubbling, soft spots, warping or discoloration to the shell; ear flaps for rips tears, thermal damage; face shield/goggles system; impact cap; accessories for compliance with manufacture approval.
- Gloves should be inspected for thermal damage; inverted liner; broken or missing stitches; flexibility, shrinkage; elasticity and shape in wristlets.
- Footwear should be inspected for thermal damage; physical damage (cuts, tears, cracking, punctures, exposed/deformed steel toe, insole or shank, loss of seam integrity); water resistance; lining.

Any time any piece of the ensemble has had an Advanced Inspection, the date, place, person or company and the reason for the inspection will be documented. These files will have the garments vital information asked for by the State Commission, and will be kept on hand after the gear has been retired.

## **CLEANING AND DECONTAMINATION**

Spoiled or contaminated gear shall not be taken home, washed at home, or washed at public laundries, or taken to be dry-cleaned.

The following procedures will be used by the Tomball Fire Department for cleaning and decontamination of gear.

### **Routine Cleaning:**

After each use, if the gear is soiled, the member who has been assigned that gear, will be responsible for routine cleaning.

The following process will be used:

1. When possible, initiate cleaning at the incident scene.
2. Brush off any dry debris.
3. Gently rinse off debris with a hose line.
4. If necessary, scrub gently with a soft bristle brush and rinse again.
5. If necessary, spot clean using a utility sink (designated sink for such cleaning).
6. Inspect for soiling and contamination, and repeat process if necessary.

### **Advanced cleaning:**

Should the routine cleaning fail to clean sufficiently, and/or every six months, gear that has been issued and soiled, shall receive and advance cleaning.

Only persons/companies, who are qualified, will be responsible for advanced cleaning of bunker gear.

1. Brush off any debris.
2. Use only detergents/cleaners which are appropriate for these garments shall be used.
3. Washing shall be done as recommended by the manufacturer.
4. The handling of contaminated gear shall be done while donning appropriate PPE (Personal protective equipment) for the type of contamination.
5. Any piece of the ensemble which has had advanced cleaning, shall be documented as to the date, place, person, reason for cleaning and type of cleaning performed.

## **Repairs to Garments:**

All repairs and alterations to garments shall be done in a manner and using material that are approved by the manufacturer including, but not limited to, fabric, thread type, stitch construction, hardware, hardware backing.

All repairs to the outer liner, moisture barrier, trim, and hardware will be performed by an outside company, who is certified by the manufacturer.

All repairs will conform to manufacturer and NFPA recommendations.

Any piece of the ensemble which has been repaired, shall be documented as to the date, place, person, type of repair performed.

## **Storage of Gear:**

- Gear shall not be stored in direct sun light.
- Storage shall be in a well-ventilated area.
- Gear shall not be stored in an airtight container unless they are new and un-issued.
- Gear shall not be stored below -40 degrees and not above 180 degrees.
- Gear shall not be stored in such a way or place that could cause damage.
- Gear shall not be transported in the passenger compartment of a personal vehicle unless placed in a bag or case that will prevent cross contamination.