

SAN FRANCISCO FIRE DEPARTMENT

DIVISION OF TRAINING

TRAINING BULLETIN



TRAINING BULLETIN 96-5

OCCUPATIONAL SAFETY

DECEMBER 1996

FORWARD

Training Bulletins are an official publication of the San Francisco Fire Department Division of Training.

The intent of training bulletins is to enhance the knowledge of officers and members regarding SFFD operations and to help ensure operations are conducted as effectively, efficiently and safely as possible.

It is recommended the material presented in the training bulletin be used as subject matter for battalion, company drills and other training activities.

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Introduction

The San Francisco Fire Department recognizes safety and health as official objectives of the Department and to provide as safe and healthy a work environment as possible. Safety requires the cooperative effort of all officers and firefighters. Because of their leadership role, officers must provide a good example and adhere to all safety rules. If one person does not follow the safety rules others may follow the bad example.

The firefighting profession is one of the most hazardous and dangerous occupations in the world. Firefighters are subject to a variety of hazards that can cause injury or death responding to an incident, on the fireground, during training, at medical and hazardous material incidents.

The primary purpose of this Training Bulletin is to help ensure that officers at all levels are aware of their responsibility regarding safety issues and the use of protective equipment. The secondary purpose of this safety manual is to help prevent costly losses, through safety awareness, the lack of which could cause injury or the death of a member. Another important aspect of the safety manual is to help curtail economic losses that accrue from time away from work due to injuries and the damage or loss of equipment. In the fiscal year 1995-1996 there were over five hundred (500) injuries and over fifteen thousand four hundred (15400) work days lost due to injuries. Following safety procedures will help reduce the number and severity of accidents. Safety is an integral part of the San Francisco Fire Department

SECTION I: DEPARTMENT SAFETY POLICY

Full protective clothing and equipment specified in this Training Bulletin shall be used at all times as required. Full protective clothing includes an approved helmet, turnout coat, safety gloves, safety shoes or boots, self-contained breathing apparatus(SCBA), personal alert safety system(PASS), and hearing protection. Additional safety equipment includes the appropriate use of seat belts, and hose straps. All components of the full protective clothing and equipment must be in place, used, and functioning properly if the firefighter is to be fully protected. Full protective clothing and equipment that has become defective shall be immediately reported to the officer-in-charge.

SECTION II : LAWS AND STANDARDS

The laws and standards that apply to safety in the San Francisco Fire Department are:

- San Francisco Fire Department Rules-Regulations and Procedure Guide, General Orders, Manuals, and Training Bulletins
- American National Standards Institute (ANSI)
- American Society for Testing and Materials(ASTM)
- California Code of Regulations, Title 8(CCR)
- California Labor Code(CLC)
- California Vehicle Code(CVC)
- California Occupational Safety and Health Act(COSHA)
- National Fire Protection Association(NFPA)
- National Institute for Occupational Safety and Health(NIOSH)
- National Institute for Science and Technology(NIST)
- United States Department of Transportation(DOT)

SECTION III : REQUIRED CLOTHING

HELMETS

The S.F.F.D. firefighter wears a leather helmet consisting of a shell, energy absorption system, chin strap, and Burke eye shield. All protective parts of the helmet must be used and kept intact to provide protection to the head against the impact from flying or falling objects, electric shock, penetration, heat and flame, or any combination thereof.

The Burke eye shield is designed to prevent eye injuries such as punctures, abrasions, contusions, or burns as a result of contact with flying objects. The eye shield shall be used when using powertools, pulling ceilings, doing overhead work or at anytime when objects could cause eye injury. Specialized helmets are used in Wildland / Urban Interface and Water Rescue.

REFERENCE	ARTICLE / SECTION
Rules and Regulations	3207
Injury and Illness Prevention Program	6.1.1, 6.1.2, 9.1, 10.6.4, and 10.7.1
ANSI	Z87.1(1979)
CCR	3382, 3401, 3403, and 3404
CLC	142.3
NFPA	1972(1985)
Breathing Apparatus Manual	Pages 9, and 10
Fire Boat Manual	Page A 17
Hazardous Materials Manual	Pages 3.3, 5.5, 7.4, 8.3, 8.5, and 8.6
Truck and Ladder Manual	Page 6.1
Vehicle Operations Manual	Page 5.3
Water Rescue Operations Manual	Pages 4.2, 8.3, and A6

HELMETS

REFERENCE

ARTICLE / SECTION

Wildland / Urban Interface Manual

Pages 5.9, and 6.2

TURNOUT COAT/TURNOUT PANTS

Firefighter protective coat(turnout coat) is provided for each firefighter when exposed to the hazards of structural firefighting and other routine fire department activities. The liner shall not be removed. Failure of not wearing all protective lining and fully encapsulating the firefighter may result in serious injury or death. Reflective stripes are to be maintained.

Turnout Pants and Boots(see SAFETY SHOES AND BOOTS) are worn in place of uniform pants; during daytime hours while performing physical fitness exercise and after 2100 hours. The liner shall not be removed. Reflective stripes are to be maintained.

REFERENCE	ARTICLE / SECTION
Rules and Regulations	3207
Injury and Illness Prevention Program	6.1.1, 6.1.2, 6.2.1, 9.1, 10.6.4, and 10.7.1
CCR	3401, and 3406
CLC	142.3
NFPA	1971(1981)
Hazardous Material Manual	Pages 3.3, 5.5, 7.4, and 8.15
Radio Manual	Page 3.7
Training Bulletin	93-1 page 2
Truck and Ladder Manual	Page 5.9
Vehicle Operation Manual	Pages 1.10, and 5.3
Water Rescue Operations Manual	Page 9.3
Wildland / Urban Interface Manual	Pages 5.7, and 5.9

GLOVES

Protective gloves are provided to each firefighter and must be worn when exposed to structural fire fighting and related activities. Gloves provide protection against heat or cold penetration and a resistance to cuts and punctures. Structural fire fighting gloves do not provide protection against pathogens. Disposable gloves(single use) shall be worn at a medical response when treating a patient and contact with body fluid may occur. They shall be disposed of according to Department standards.

Specialized gloves are used for wildland urban interface and water rescue.

REFERENCE	ARTICLE / SECTION
Rules and Regulations	3207
Injury and Illness Prevention Program	6.1.1, 6.1.2, 6.2.1, 9.1, 10.6.4, and 10.7.1
General Orders	1995 A-84
CCR	3384, 3401, 3407, and 5193
CLC	142.3
Drill Manual "Materials Needed"	XL98 Multipurpose Saw Safety Considerations of the XL98 How to Start the Multipurpose Saw
Hazardous Material Manual	Pages 3.2, 3.3, 5.5, and 7.
Training Bulletin	93-I page 2, and 94-3 page 5
Vehicle Operations Manual	Page 6.3
Water Rescue Operations Manual	Pages 10.9, and 10.12
Water Supply Manual	Page 3.11
Wildland / Urban Interface Manual	Pages 5.14, and 6.2

SAFETY SHOES AND BOOTS

Foot protection is required during structural firefighting, inspections, emergency responses and other related duties. Appropriated foot protection minimizes injury that occurs from falling objects, hot, corrosive, poisonous substances, and crushing or penetrating actions. Firefighters will use two different types of foot protection: safety shoes for station wear and turnout boots, to be worn with turnout pants. The use of non-Department approved shoes shall be used only when participating in physical fitness exercise inside the fire station.

REFERENCE	ARTICLE / SECTION
Rules and Regulations	3207
Injury and Illness Prevention Program	6.1.1, 6.1.2, 6.2.1, 9.1, 10.6.4, and 10.7.1
ANSI	Z41, and Z41.1
CCR	3385, 3401, and 3408
CLC	142.3
Military Specifications for Firemen's Boots	MII B2885D
Drill Manual "Materials Needed"	XL98 Multipurpose Saw Safety Considerations of the XL98 How to Start the Multipurpose Saw
Fire Boat Manual	Page 1.8
Hazardous Material Manual	Pages 3.2, 3.3, 5.5, and 7.4
Training Bulletin	94-3 page 5
Wildland / Urban Interface Manual	Page 5.13

SECTION IV : SAFETY EQUIPMENT

SELF CONTAINED BREATHING APPARATUS(SCBA)

Firefighters shall use self contained breathing apparatus(SCBA) when entering into anyharmful environment where dust, fumes, gases, vapors or mist may be present, and at any full box or building alarm.

REFERENCE	ARTICLE / SECTION
Rules and Regulations	3207
General Orders	1995 A-128
Injury and Illness Prevention Program	6.1.1, 6.1.2, 6.2.1, 9.1, 10.6.4, and 10.7.1
ANSI	Z88.2, and Z88.5
CCR	3401, 3409, and 5144
CLC	142.3
NIOSH and DOT	Publications 76-145, and 77-195
BART Manual	Pages 5.2, and 6.3
Breathing Apparatus Manual	All
Drill Manual	How to Don the SCBA How to Doff the SCBA How to Perform SCBA Operational Check
Fire Boat Manual	Pages 1.8, 2.6, A10, and A17
Hazardous Material Manual	Pages 3.2, 8.3, 8.5, 8.8, 8.13, 8.15, 8.17, 8.19, and 8.21
High Rise Manual	Pages 2.6, and 2.9
Hose and Hose Appliance Manual	Page 6.64
Training Bulletins	93-1 page 2, 93-3 page 1, 94-3 page 5, 95-2 all, and 96-3 page

SELF CONTAINED BREATHING APPARATUS(SCBA)

REFERENCE

ARTICLE / SECTION

Vehicle Operations Manual

Page 5.5

Truck and Ladder Manual

Pages 4.12, 5.1, 5.2, 5.5, and 5.9

PERSONAL ALERT SAFETY SYSTEM(PASS)

Personal Alert Safety System(PASS) is required to be worn by any firefighter engaged in interior structural fire fighting activities requiring the use of self contained breathing apparatus. The alarm is activated if the firefighter is motionless for not less than twenty(20) seconds nor more than forty(40) seconds. Even in zero visibility conditions, a downed firefighter will be found by the loud tone that is emitted.

REFERENCE	ARTICLE / SECTION
Rules and Regulations	3207
Injury and Illness Prevention Program	6.1.1, 6.1.2, 6.2.1, 9.1, 10.6.4, and 10.7.1
CCR	3401
CLC	142.3
NFPA	1982(1983)
Breathing Apparatus Manual	Pages 7, and 10
Drill Manual	How to Don the SCBA, page 10
Training Bulletin	95-7 page 4, and 96-3 page 4

HEARING PROTECTION

Hearing protection is required of firefighters in a variety of situations. The most common reasons for using hearing protection are while responding on diesel apparatus to alarms and emergencies.

Gas operated power tools require an operational test. Wear hearing protection and eye protection if appropriate. Perform tests outside of station to minimize the effect of the noise and the fumes. Make necessary adjustments or replacements.

REFERENCES	ARTICLE / SECTION
Rules and Regulations	3207
General Orders	1994 A-80
Injury and Illness Prevention Program	6.1.1, 6.1.2, 6.2.1, 9.1, 10.6.4, and 10.7.1
ANSI	S14-1971(RI976)
CCR	3401, 5095, 5096, 5097, 5098, and 5099
Drill Manual "Materials Needed"	XL98 Multipurpose Saw Safety Considerations of the XL98 How to Start the Multipurpose Saw
Truck and Ladder Manual	Page 5.5
Vehicle Operations Manual	Pages 2.9, 4.2, 4.3, and 5.6

SEAT BELTS

Seat belts are required to be worn whenever a S.F.F.D. vehicle is used. Seat belts prevent injury or death by preventing firefighters from being thrown from a vehicle and by not being thrown against parts of the vehicle.

REFERENCE	ARTICLE / SECTION
Rules and Regulations	3207
Injury and Illness Prevention Program	6.1.1, 6.1.2, 6.2.1, 9.1, 10.6.4, and 10.7.1
CVC	27305, and 27315
Vehicle Operations Manual	Pages 1, 3.3, and 5.5

HOSE STRAPS

Hose straps consist of a leather strap approximately 6 feet in length, with a buckle and strap keeper riveted in place at one end. A large metal ring, a metal snap hook, and a sliding leather strap keeper completes the assemble. The primary use of this device is to secure pressurized hose when applying water. Other uses include securing hose to ladders, fire escapes balconies, and other fixed objects.

REFERENCES

ARTICLE / SECTION

Rules and Regulations

3207

Injury and Illness Prevention Program

6.1.1, 6.1.2, 9.1, 10.6.4, and 10.7.1

Hose and Hose Appliance Manual

Pages 5.3, 6.7, 6.20, 6.21, 6.38, 6.39, 6.40, 6.42, 6.45, 6.46, 6.50, 6.51, 6.53, 6.54, 6.55, and 6.66

Truck and Ladder Manual

Pages 2.3, 3. 1, and 6.8

REFERENCES

- San Francisco Fire Department Rules-Regulations and Procedure Guide, General Orders, Manuals, and Training Bulletins
- American National Standards Institute (ANSI)
- American Society for Testing and Materials (ASTM)
- California Code of Regulations, Title 8 (CCR)
- California Labor Code (CLC)
- California Vehicle Code (CVC)
- California Occupational Safety and Health Act (COSHA)
- Principles and Practice, Second Edition, William Clark, Pennwell Publishing Company
- Fire Department Occupational Safety, Second Edition, International Fire Service Training Association, Fire Protection Publications
- National Fire Protection Association (NFPA)
- National Institute for Occupational Safety and Health (NIOSH)
- National Institute for Science and Technology (NIST)