



U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

# Advisory Circular

---

**Subject:** Aircraft Rescue Fire Fighting  
Equipment, Tools and Personal  
Protective Equipment

---

**Date:** February 23, 2024  
**Initiated By:** AAS-300

**AC No:** 150/5210-14C  
**Change:**

1 **Purpose.**

This advisory circular (AC) contains references to the minimum standards for the selection and performance of aircraft rescue and firefighting personal protective equipment (PPE), self-contained breathing apparatus (SCBA), and powered rescue tools. Use of this AC will assist airport management in the development of local procurement specifications for aircraft rescue fire fighting (ARFF) equipment and PPE. Equipment meeting the standards in this advisory circular will qualify as meeting the intent of Title 14 Code of Federal Regulations (CFR) Part 139, *Certification of Airports*.

2 **Cancellation.**

This AC cancels AC 150/5210-14B, *Aircraft Rescue Fire Fighting Equipment, Tools and Clothing*, dated 9/30/2008.

3 **Application.**

The Federal Aviation Administration (FAA) recommends the standards and guidelines in this AC to establish uniform application for ARFF equipment, rescue tools and PPE. This AC does not constitute a regulation, is not mandatory and is not legally binding in its own right. It will not be relied upon as a separate basis by the FAA for affirmative enforcement action or other administrative penalty. Conformity with this AC is voluntary, and nonconformity will not affect rights and obligations under existing statutes and regulations; however, the following applies:

1. The standards and guidelines contained in this AC are practices the FAA recommends to establish an acceptable level of safety and performance for ARFF operations.
2. This AC provides one, but not the only, acceptable means of meeting the requirements of 14 CFR part 139, *Certification of Airports*.

3. Use of these standards and guidelines is mandatory for projects funded under Federal grant assistance programs, including the Airport Improvement Program (AIP). See Grant Assurance #34.
4. This AC is mandatory, as required by regulation, for projects funded by the Passenger Facility Charge (PFC) program. See PFC Assurance #9.

#### 4 **Principal Changes.**

The AC incorporates the following principal changes:

1. Updated the National Fire Protection Association (NFPA) documents that are referenced in this AC to the current version of these documents.
2. Added Appendix A which provides a list of tools and equipment the FAA has determined to be reasonable for supporting ARFF operations under 14 CFR Part 139.
3. Updated the format of the document in this version and made minor editorial changes throughout.

#### 5 **Use of Metrics.**

Throughout this AC, U.S. customary units are used followed with “soft” (rounded) conversion to metric units. The U.S. customary units govern.

#### 6 **Where to Find this AC.**

You can view a list of all ACs at:

[https://www.faa.gov/regulations\\_policies/advisory\\_circulars/](https://www.faa.gov/regulations_policies/advisory_circulars/).

You can view the Federal Aviation Regulations at:

[https://www.faa.gov/regulations\\_policies/faa\\_regulations/](https://www.faa.gov/regulations_policies/faa_regulations/).

You can view all ARFF-related FAA documents and training materials at:

[https://www.faa.gov/airports/airport\\_safety/aircraft\\_rescue\\_fire\\_fighting/](https://www.faa.gov/airports/airport_safety/aircraft_rescue_fire_fighting/).

#### 7 **Feedback on this AC.**

If you have suggestions for improving this AC, you may use the Advisory Circular Feedback form at the end of this AC.



John R. Dermody  
Director of Airport Safety and Standards

**CONTENTS**

<b>Paragraph</b>	<b>Page</b>
<b>CHAPTER 1. INTRODUCTION.....</b>	<b>1-1</b>
1.1 Overview.....	1-1
1.2 Adoption of NFPA Standards.....	1-1
1.3 Items Acquired with Federal Assistance Programs.....	1-1
1.4 How to Order NFPA Standards.....	1-2
<b>CHAPTER 2. PERFORMANCE STANDARDS.....</b>	<b>2-1</b>
2.1 Personal Protective Equipment (PPE).....	2-1
2.2 Self-Contained Breathing Apparatus (SCBA).....	2-1
2.3 Powered Rescue Tools.....	2-1
2.4 Additional Reference Documents.....	2-1
<b>APPENDIX A. ANCILLARY ITEMS LIST FOR ARFF VEHICLES.....</b>	<b>A-1</b>

**TABLES**

Table A-1. Ancillary Item Type and Quantity per Vehicle Class.....	A-1
Table A-2. Personal Protection Equipment (PPE).....	A-3
Table A-3. ARFF Vehicle Medical Kit – 1 Stocked Kit Per Vehicle – All Classes.....	A-4

## CHAPTER 1. INTRODUCTION

### 1.1 Overview.

This advisory circular (AC) provides the basic guidelines and standards for personal protective equipment (PPE), self-contained breathing apparatus (SCBA), and powered rescue tools. Appendix A provides a listing of ancillary equipment for aircraft rescue fire fighting (ARFF) vehicles that the Federal Aviation Administration (FAA) deems reasonable for supporting ARFF operations.

### 1.2 Adoption of NFPA Standards.

The FAA uses National Fire Protection Association (NFPA) standards as the minimum performance criteria. To properly use this document, refer to the appropriate NFPA standard that corresponds to items you intend to procure. Refer to the appropriate NFPA standard for the applicable performance criteria:

- NFPA 1981, 2019 Edition, *Standard on Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services*
- NFPA 1936, 2020 Edition, *Standard on Rescue Tools*
- NFPA 1971, 2018 Edition, *Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting*

### 1.3 Items Acquired with Federal Assistance Programs.

#### 1.3.1 Procurement.

Items (equipment and supplies) acquired under federal grant funding must comply with the procurement standards of 2 CFR §§ 200.317-200.326. It is not necessary for an owner to comply with 2 CFR part 200 when the procurement action does not include federal grant funding. Owner must conduct federal procurement transactions in a manner providing full and open competition per 2 CFR § 200.319.

In order to ensure objective contractor performance and eliminate unfair competitive advantage, contractors that develop or draft specifications, requirements, statements of work, or invitations for bids or requests for proposals must be excluded from competing for such procurements. Some of the situations considered to be restrictive of competition include but are not limited to:

1. Placing unreasonable requirements on firms in order for them to qualify to do business;
2. Requiring unnecessary experience and excessive bonding;
3. Noncompetitive pricing practices between firms or between affiliated companies;
4. Noncompetitive contracts to consultants that are on retainer contracts;
5. Organizational conflicts of interest;

6. Specifying only a “brand name” product instead of allowing “an equal” product to be offered and describing the performance or other relevant requirements of the procurement; and
7. Any arbitrary action in the procurement process.

#### 1.3.2 Equipment Use and Management.

Equipment acquired with federal assistance incurs conditions on use and property management per 2 CFR § 200.313. Title 2 CFR § 200.33 defines equipment as tangible property having a useful life of one year and an acquisition cost exceeding \$5,000. Items that do not meet the equipment definition are supplies as defined by 2 CFR § 200.94. The FAA provides the following selected details for the convenience of a grant recipient. For further information, refer to the relevant sections of 2 CFR Part 200.

1. Owner must use equipment in support of an ARFF vehicle.
2. Owner must maintain property records that include a description of the equipment, identifying number, acquisition date, and use of equipment (e.g. what ARFF truck).
3. Owner must conduct a physical inventory of equipment every two years.

#### 1.4 **How to Order NFPA Standards.**

NFPA Standards can be ordered online from [www.NFPA.org](http://www.NFPA.org).

## CHAPTER 2. PERFORMANCE STANDARDS

### 2.1 **Personal Protective Equipment (PPE).**

Comply with the standards of NFPA 1971, 2018 Edition, *Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting*.

### 2.2 **Self-Contained Breathing Apparatus (SCBA).**

Comply with the standards of NFPA 1981, 2019 Edition, *Standard on Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services*.

### 2.3 **Powered Rescue Tools.**

Comply with the standards of NFPA 1936, 2020 Edition, *Standard on Rescue Tools*.

### 2.4 **Additional Reference Documents.**

Listed below are additional reference documents applicable to equipment procured under this AC. These documents will provide guidance on operation, care and maintenance. This list of documents is for informational purposes only.

- NFPA 440, 2024 Edition, *Guide for Aircraft Rescue and Firefighting Operations and Airport/Community Emergency Planning*
- NFPA 1404, 2018 Edition, *Standard for Fire Service Respiratory Protection Training*
- NFPA 1500, 2021 Edition, *Standard on Fire Department Occupational Safety, Health, and Wellness Program*
- NFPA 1581, 2022 Edition, *Standard on Fire Department Infection Control Program*
- NFPA 1851, 2020 Edition, *Standard on Selection, Care, and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting*
- NFPA 1852, 2019 Edition, *Standard on Selection, Care and Maintenance of Open-Circuit Self Contained Breathing Apparatus (SCBA)*
- NFPA 1900, 2024 Edition, *Standard for Aircraft Rescue and Firefighting Vehicles, Automotive Fire Apparatus, Wildland Fire Apparatus, and Automotive Ambulances*
- NFPA 1975, 2019 Edition, *Standard on Emergency Services Work Apparel*
- NFPA 1982, 2018 Edition, *Standard on Personal Alert Safety Systems (PASS)*
- NFPA 1983, 2017 Edition, *Standard on Life Safety Rope and Equipment for Emergency Services*
- NFPA 1989, 2019 Edition, *Standard on Breathing Air Quality for Emergency Services Respiratory Protection*

- NFPA 1999, 2018 Edition, *Standard on Protective Clothing for Emergency Medical Operations*

### APPENDIX A. ANCILLARY ITEMS LIST FOR ARFF VEHICLES

ARFF vehicles that meet the FAA design standards and safety gear may be eligible for Airport Improvement Program (AIP) funding. The information in this Advisory Circular must be used in conjunction with FAA Order 5100.38, *Airport Improvement Program Handbook*, to make eligibility and justification determinations for funding ARFF safety equipment with AIP.

**Table A-1. Ancillary Item Type and Quantity per Vehicle Class**

Item #	Equipment Description	Class I, II & III	Class IV & V
1	Radio w/public address system w/ Ground to Ground, compatible with existing ARFF Radio System. Includes radio microphone, PA microphone, microphone mounting clips, speaker, antenna, wire harness and mounting	1	1
2	Axe, rescue, large, standard head with 36 in fiberglass handle; to include scabbard and pick head cover and mounting equipment	1	1
3	Halligan Bar – 36 in	1	1
4	Axe, flat head, fiberglass handle - 36 in with mounting bracket, (for married set w/Halligan Tool)	1	1
5	36 in crowbar	1	1
6	Cutter, cable, 24 or 36 in	1	1
7	Hacksaw, heavy duty, 12 in with pistol grip and six (6) assorted blades	1	1
8	Hammer, 1-1/4 lb. (Maul)	1	1
9	Hammer, 16 oz., non-sparking	1	1
10	Hammer, Sledge, 8 lb. with fiberglass handle	1	1
11	Knife, rescue, V-blade (harness cutting tool)	2	2
12	Pliers, side cutting, 7 in	1	1
13	Adjustable wrench, 8 in		
14	Vice grip pliers, 10 in	1	1
15	Plug, fuel line (tapered hardwood)	3	3
16	Plug, fuel line (tapered neoprene)	3	3
17	Screwdriver set—three (3) Phillips and three (3) straight blade	1	1
18	Shears, sheet metal, straight cut	1	1



Item #	Equipment Description	Class I, II & III	Class IV & V
19	Tool Bag (heavy duty) with organizer pouches/pockets and shoulder strap to carry items 6 - 18	1	1
20	Blanket, fire resistant with storage pouch	1	1
21	Wheel chocks – one set (2 chocks) with mounting brackets	1	1
22	Ladder, extension or “A-Frame”, up to 24 ft. overall length with mounting brackets.	1	1
23	Portable rechargeable, weatherproof, intrinsically safe hand-held lanterns having a minimum 25,000 beam candle power rating with straps. Chargers to be mounted in cab wired into vehicle electrical system for charging.	2	2
24	Pike pole, 8 ft. with fiberglass handle and mounting hardware	1	1
25	Pike Pole with 4 ft. “D” handle and mounting hardware	1	1
26	Rescue kit, pneumatic air hammer / chisel standard duty type), complete with spare air cylinder, carrying case and various tips.	1	1
27	Rescue saw, 14 in (Index A & B) or 16 in (Index C, D, E) complete with one (1) box of spare blades (composite masonry blades) or total 2 Diamond blades for metal. Including mounting hardware. **	1	1
28	Rope, 100 ft. - 5/8 in diameter	2	2
29	Fire extinguishers having a minimum 20 B/C UL rating of either dry chemical or clean streaming agent with mounting brackets.	2 or 1 Each	2 or 1 Each
30	Fire extinguisher Class D powder (30 lb.) with mounting bracket	1	1
31	Skin penetrator (piercing applicator) for water or foam application, manual type or Skin penetrator, water, foam or dry chemical application, pneumatic type including carry case, applicator and air cylinder (only if vehicle is not equipped with an HRET)	1	1
32	Powered firefighting hydraulic rescue tool with cutters, spreaders, (or combination tool), ram and power unit, hoses and mounting hardware (may be heavy duty battery operated) **	1	1
33	Heavy duty canvas hydrant bag with straps	1	1
34	Gate valve 2 ½ in	2	2
35	Female gated reducing wye. 2 ½ in Female × (2) 1 ½ in Male	1	1

Item #	Equipment Description	Class I, II & III	Class IV & V
36	Adjustable hydrant wrench capable of accommodating up to a 1.75 in. (4.4-cm) pentagon nut and up to a 1.25 in. (3.2-cm) square nut	1	1
37	2-1/2 in. spanner wrenches w/bracket	2	2
38	1 in. spanner wrenches w/ bracket	2	2
39	LDH spanner wrenches w/ mounting bracket	0	2
40	Reducer, non-swivel – 2 ½ in to 1 ½ in *	2	2
41	Double female couplings – 1 ½ in *	1	1
42	Double female couplings – 2 ½ in *	1	1
43	Double male couplings – 1 ½ in *	1	1
44	Double male couplings – 2 ½ in *	1	1
45	1 ¾ in × 50 ft. Rubber / Synthetic, with 1 ½ in NST couplings	6	6
47	Digital Refractometer or Conductivity Meter **	1	1
48	Automatic External Defibrillator **	1	1
49	Foam tank drum wrench tool **	1	1
50	5-gal pail wrench **	1	1
51	Full spine board, 6 ft. w/ 4 -9 straps	1	1
52	Positive pressure, variable speed, 18 in gasoline or battery powered fan **	1	1

**Note:** \* Provide information on large diameter adapter thread pipe as part of the bid documents.

**Note:** \*\* One per station.

**Table A-2. Personal Protection Equipment (PPE)**

Item #	Equipment Description ***	Class I, II & III	Class IV & V
53	Aluminized proximity reflective/radiant heat protection coats, with bellow and radio pockets with microphone tab - sizes to be provided to awarded vendor. Equivalent structural firefighting equipment may be substituted for aluminized proximity equipment.	3 pr	4 pr

Item #	Equipment Description ***	Class I, II & III	Class IV & V
54	Aluminized proximity reflective/radiant heat protection trousers with pockets and exchangeable knee re-enforcements - sizes to be provided to awarded vendor. Equivalent structural firefighting equipment may be substituted for aluminized proximity equipment.	3 pr	4 pr
55	ARFF aluminized proximity gloves which provides reflective/radiant heat protection w/ leather palms - sizes to be provided to awarded vendor. Equivalent structural firefighting equipment may be substituted for aluminized proximity equipment.	3 pr	4 pr
56	ARFF boots, rubber, with pull on loops, toe and cushioned shin guard, sizes to be provided to awarded vendor.	3 pr	4 pr
57	Complete SCBA including one 45-minute bottle, one face piece per shift. Must meet current NFPA 1981 Standard and match customer's standard fittings.	3	4
58	Nomex hoods	3	4
59	Structural style helmets w/ aluminized shrouds and gold-coated face shield. Equivalent structural firefighting equipment may be substituted for aluminized proximity equipment.	3	4

**Note:** \*\*\* All Personal Protection Equipment (PPE) to be part of a matching ensemble that meets current NFPA 1971 standards.

**Table A-3. ARFF Vehicle Medical Kit – 1 Stocked Kit Per Vehicle – All Classes**

Item #	Item ****	Details	Qty. per Jump Kit
60	Bag Valve Mask Resuscitator Adult Kit	To include – 1 Small – 1 Medium -1 Large Mask	1 kit
61	Bag Valve Mask Resuscitator Child / Infant Kit	Child / Infant Mask Assortment	1 kit
62	1 Disposable Airway Kit		1 Kit
63	1 Burn sheet		1
64	Adhesive Bandages	1" × 3"	25
65	ABD Pads	5" × 9"	2
66	Multi Trauma Dressing	12" × 30"	1
67	Sterile Gauze Pads	4" × 4"	25

Item #	Item ****	Details	Qty. per Jump Kit
68	Sterile Eye Pads		4
69	Petroleum Gauze	3" × 9"	2
70	Sterile Roller Bandage	4"	5
71	Sterile Roller Bandage	6"	5
72	Waterproof Tape	1"	2
73	Waterproof Tape	2"	1
74	Triangular Bandages		2
75	Elastic Bandage	3"	2
76	Elastic Bandage	4"	2
77	BP Cuff		1
78	Stethoscope	With Bell for Chest Sounds	1
79	Cold Packs	Instant	2
80	Instrument Pack	1 each, shears, forceps, bandage scissors, penlight flashlight	1
81	Space Blanket	Wrapped	4
82	Nitrile Gloves		5
83	Sterile Water	For irrigation	1 bottle

**Note:** \*\*\*\* Medical kit, first aid/first responder trauma kit, with shoulder strap – only one per truck. This table shows only the contents of the primary kit and is not intended to be used for additional kits.

### Advisory Circular Feedback

**Paperwork Reduction Act Burden Statement:** A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a currently valid OMB Control Number. The OMB Control Number for this information collection is 2120-0746. Public reporting for this collection of information is estimated to be approximately 20 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, completing and reviewing the collection of information. All responses to this collection of information are voluntary FAA Order 1320.46D Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to: Information Collection Clearance Officer, Barbara Hall, 800 Independence Ave, Washington, D.C. 20590

---

If you find an error in this AC, have recommendations for improving it, or have suggestions for new items/subjects to be added, you may let us know by (1) mailing this form to Manager, Airport Safety Policy Branch, Federal Aviation Administration ATTN: AAS-310, 800 Independence Avenue SW, Washington DC 20591 or (2) faxing it to the attention of the Office of Airport Safety and Standards at (202) 267-5383.

Subject: AC 150/5210-14C

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

*Please check all appropriate line items:*

- An error (procedural or typographical) has been noted in paragraph \_\_\_\_ on page \_\_\_\_.
- Recommend paragraph \_\_\_\_\_ on page \_\_\_\_\_ be changed as follows:

---

---

---

- In a future change to this AC, please cover the following subject:  
*(Briefly describe what you want added.)*

---

---

---

- Other comments:

---

---

---

- I would like to discuss the above. Please contact me at (phone number, email address).

---

---

---

Submitted by: \_\_\_\_\_

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