

Aircraft Crash Axes

1. SCOPE:

This SAE Aerospace Recommended Practice (ARP) recommends general criteria for availability, location, accessibility, stowage, use, and crew member training needed for aircraft crash axes.

2. REFERENCES:

2.1 Applicable Documents:

The following publications form a part of this specification to the extent specified herein. The latest issue of SAE publications shall apply. The applicable issue of other publications shall be the issue in effect on the date of the purchase order. In the event of conflict between the text of this document and references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

2.1.1 FAA Publications: Available from the United States Government Printing Office (GPO). Order online at [www.access.gpo.gov/su\\_docs](http://www.access.gpo.gov/su_docs).

14 CFR Part 25	Airworthiness Standards; Transport Category Airplanes (14 CFR 25.561(c))
14 CFR Part 91	General Operating and Flight Rules (14 CFR 91.513(e))
14 CFR Part 121	Operating Requirements: Domestic, Flag, and Supplemental Operations (14 CFR 121.309(e))
14 CFR Part 125	Certification and Operations: Airplanes having a seating capacity of 20 or more passengers or a maximum payload capacity of 6000 pounds or more
14 CFR Part 135	Operating Requirements: Commuter and On-Demand Operations

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### 2.2 Related Publications:

2.2.1 JAA Publications: Available from Printing & Publications Services Ltd., Greville House 37, Gratton Road, Cheltenham GL50 2BN, England, Telephone +44(0) 1242 235 151, Fax +44(0) 1242 584 139, Credit Card Hotline +44(0) 1242 263 993.

JAR - OPS 1.795 Crash Axes and Crowbars

2.2.2 SAE Publications: Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

ARP4101/6	Stowage of Flight Crews Survival Emergency and Miscellaneous Equipment
AIR5401	Aircraft Crash Axes
AS5402	Design and Performance Criteria, Aircraft Crash Axes
ARP577	Emergency Placarding - Internal and External

### 2.3 Definitions:

CRASH AX: A hand tool to aid aircraft crew members in emergencies. The hand tool is to assist crew members in penetrating aircraft materials and for prying, twisting and cutting jammed items that are impeding the crews' responding to an emergency.

## 3. GENERAL REQUIREMENTS:

### 3.1 Availability:

3.1.1 Crash axes referenced in AIR5401 and as required in Federal Aviation Regulations (FARs) shall be provided for emergency use by aircraft crew members.

### 3.2 Quantity:

3.2.1 In an airplane with a maximum passenger seating capacity exceeding 200, an additional crash ax should be located in the passenger cabin. For each additional 200 passenger seats over 200, an additional crash ax should be located in the passenger cabin (i.e., for 200 to 399 passengers, two axes recommended; for 400 to 599 passengers, three axes recommended, etc.).

3.2.2 Other Considerations for Quantity: The number of crash axes provided should be considered relative to the number of aircraft decks or levels. There should be a minimum of one crash ax located on each deck or level, in meeting the recommended quantities of 3.2.1.

### 3.3 Location:

3.3.1 A crash ax shall be located on the flight deck for emergency use by the flight crew.

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- 3.3.2 When one crash ax is located in the passenger cabin, its location should be near the cabin attendant activity station farthest away from the flight deck. Additional crash axes should be uniformly spaced; each located near cabin attendant activity stations. (Cabin attendant activity stations are those areas where cabin attendants/crew members perform their normal activities. These areas would include galleys.) Individual jumpseat locations surrounded by passenger seating are not acceptable as stowage locations for the crash ax.
- 3.3.3 If a crash ax is provided in the cabin, then its location shall be placarded per 14 CFR 25.1561(c). For security purposes, the placard should be designed in a manner easily understood by trained crew members but not the public at large. A suggested symbol is provided in Figure 1.

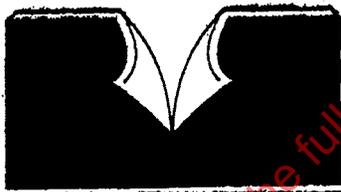


FIGURE 1

This symbol should be qualified in a manner consistent with ARP577.

- 3.3.4 If a supplemental pry bar (as specified in 3.7) is supplied in addition to the crash ax, then both the tools shall be stowed together.
- 3.4 Accessibility:
- 3.4.1 The stowage location on the flight deck shall provide easy access to the tool by a required crew member while he/she is at his/her duty station.
- 3.4.2 Crash axes located in the passenger cabin shall be inconspicuous to passengers but readily accessible to crew members.
- 3.5 Stowage:
- 3.5.1 The tool shall use a stowage bracket or other retaining feature to prevent inadvertent dislodging of the tool from mounting location under all possible loading conditions as identified in 14 CFR Part 25.561(c).
- 3.5.2 The stowage bracket/retaining feature shall allow for the release and removal of the crash ax using only one hand.

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3.5.3 While in the stowed position, all sharp or pointed edges/surfaces of the tool shall be covered/shielded to prevent inadvertent contact which could cause injury to crew members.

3.5.4 The stowage location should allow for easy verification by crew members of the presence of the crash ax.

### 3.6 Use:

The design of the crash ax should facilitate crew members' performance of the following functions:

- Prying open jammed flight deck/other emergency exits (e.g., sliding windows, plug hatches, flight deck entry doors, cabin doors, etc.).
- Prying open jammed or locked access panels.
- Penetrating bulkheads or panels to permit application of fire extinguishing agent.
- Penetrating aircraft skin, bulkheads or panels when the airplane is on the ground to permit ventilation of fire and for clean air to breathe.
- Chopping holes in side windows to permit or assist in extrication, to permit application of fire extinguishing agent, and/or to permit ventilation.
- Penetrating inadvertently inflated devices (e.g., life rafts, etc.).

### 3.7 Ax Supplementation:

It is preferred that one multifunction tool be provided to perform all necessary functions. However, where existing axes provided in aircraft perform all specified functions, with the exception of those associated with prying, a supplemental pry bar shall be included to augment the existing ax, so that the combination of tools meets the minimum standards of AS5402.

### 3.8 Crew Member Training:

Crew members who are expected to use the crash ax should receive training in its functional capabilities, limitations, and hazards. The training should describe possible emergency conditions in which a crash ax may be used. The training should identify the functions and features of the crash ax which are best suited to deal with each emergency condition. The training should set realistic expectations of what can be accomplished using the crash ax (i.e., chopping through forward windshields is not realistic).

The training should teach proper utilization techniques to those who will use the crash ax and shall allow those being trained to physically handle and exercise the functions of the tool to become familiar with its features. The training shall also point out possible hazards that may be encountered when using the tool.