



AEROSPACE STANDARD	AS8662™	REV. A
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	Superseding AS8662	
Knife, Hunting, Sheathed, Survival, Pilot's		FSC 7340

RATIONALE

This document has been reviewed by the S-9A committee and determined to contain basic and stable technology which is not dynamic in nature.

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NOTICE

This document has been taken directly from U.S. Military Specification MIL-K-8662E, Amendment 1 and contains only minor editorial and format changes required to bring it into conformance with the publishing requirements of SAE technical standards. The initial release of this document is intended to replace MIL-K-8662E, Amendment 1. Any part numbers established by the original specification remain unchanged.

The original Military Specification was adopted as an SAE standard under the provisions of the SAE Technical Standards Board (TSB) Rules and Regulations (TSB 001) pertaining to accelerated adoption of government specifications and standards. TSB rules provide for (a) the publication of portions of unrevised government specifications and standards without consensus voting at the SAE Committee level, and (b) the use of the existing government specification or standard format.

Under Department of Defense policies and procedures, any qualification requirements and associated qualified products lists are mandatory for DOD contracts. Any requirement relating to qualified products lists (QPL's) has not been adopted by SAE and is not part of this SAE technical document.

1. SCOPE:

- 1.1 This specification covers the requirements for one type of a pilot's survival, sheathed, hunting knife with a 5-inch blade and sharpening stone.

2. APPLICABLE DOCUMENTS:

- 2.1 The following documents of the issue in effect on date of invitation for bids or request for proposal, form a part of this specification to the extent specified herein:

SPECIFICATIONS

Federal

V-L-61	Laces, Nylon
V-T-295	Thread, Nylon
FF-R-556	Rivet, Solid, Small; Rivet, Split, Small; Rivet, Tubular, Small; Burr; and Cap, Rivet; General Purpose
KK-L-165	Leather, Cattlehide, Vegetable-Tanned and Chrome Retanned, Impregnated; and Soles
KK-L-271	Leather, Cattlehide, Strap, Vegetable-Tanned
QQ-A-250/4	Aluminum Alloy 2024, Plate and Sheet
TT-L-20	Lacquer, Camouflage
TT-P-1757	Primer Coating, Zinc Chromate, Low-Moisture-Sensitivity
PPP-B-636	Boxes, Shipping, Fiberboard
PPP-T-76	Tape, Pressure-Sensitive Adhesive Paper, Water Resistant (For Carton Sealing)

Military

MIL-H-6088	Heat Treatment of Aluminum Alloys
MIL-H-6875	Heat Treatment of Steels (Aerospace Practice), Process for
MIL-C-8514	Coating Compound, Metal Pretreatment, Resin-Acid
MIL-S-8559	Steel Bars, Carbon, AISI (1095), Aircraft Quality
MIL-A-8625	Anodic Coatings, for Aluminum and Aluminum Alloys
MIL-F-10884	Fasteners, Snap
MIL-P-16232	Phosphate Coatings, Heavy, Manganese or Zinc Base (For Ferrous Metals)

STANDARDS

Federal

FED-STD-66	Steel: Chemical Composition and Hardenability
FED-STD-151	Metals, Test Methods
FED-STD-595	Colors
FED-STD-751	Stitches, Seams, and Stitchings

2.1 (Continued):

Military

MIL-STD-105	Sampling Procedures and Tables for Inspection by Attributes
MIL-STD-129	Marking for Shipment and Storage
MIL-STD-130	Identification Marking of U.S. Military Property
MS 27981	Fasteners, Snap, Style 2A (Small Wire Spring Clamp Type)
MS27984	Fasteners, Snap, Style 5 (Scalloped Button Head Type)

(Copies of this specification and applicable documents required by contractors in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

2.2 Other publications:

The following documents form a part of this specification to the extent specified herein. Unless a specific issue is identified, the issue in effect on date of invitation for bids or request for proposal shall apply:

National Motor Freight Traffic Association, Incorporated, Agent

National Motor Freight Classification

(Application for copies should be addressed to the American Trucking Associations, Incorporated, Tariff Order Section, 1616 P Street, N.W., Washington, DC 20036.)

Uniform Classification Committee, Agent

Uniform Freight Classification

(Application for copies should be addressed to the Uniform Classification Committee, Room 1106, 222 South Riverside Plaza, Chicago, IL 60606.)

3. REQUIREMENTS:

3.1 First article:

Unless otherwise specified, the pilot's, survival, sheathed, hunting knife furnished under this specification shall be a product which has been inspected and has passed the first article inspection specified in 4.3 through 4.3.2.

3.2 Materials and components:

The materials and components shall conform to the applicable specifications and standards as listed or required herein.

- 3.2.1 Blade: The blade shall be of the through type blanked from AISI 1095 steel conforming to MIL-S-8559. The blade in the "as quenched condition" (untempered) shall have a fracture grain size of 8 minimum when compared with the Shepherd fracture grain size standard as specified in 4.5.1. The blade shall be heat treated to the specified hardness in accordance with MIL-H-6875. The blade shall be through-hardened and tempered from the tip to the heel and shall have a Rockwell hardness of C50 to C55 when inspected as specified in 4.5.2. For 3/4 inch, there shall be a hardness transition zone from the heel of the blade onto the tang. The center of the transition area, the distance of 3/8 inch above the heel of the blade, shall have a Rockwell hardness of C35 to C45. The remainder of the tang shall have a maximum Rockwell hardness of C30.
- 3.2.2 Leather:
- 3.2.2.1 Sheath and welt: The sheath and welt shall be fabricated from the leather conforming to KK-L-271, Type I, II, III, or IV, Class 1, color natural as produced by the tanning process. The sheath leather shall be 8/64 inch thick and the leather welt shall be 4/64 inch thick. The leather welt shall be 3/8 inch wide and 2-1/2 inches in length.
- 3.2.2.2 Grip: The grip shall be fabricated from the leather conforming to KK-L-165, Type I or II, Class 1, 2, 5, or 6, color natural as produced by the tanning process. The leather shall be treated with the paranitrophenol fungicide. The leather shall be cut into washers 1/8 inch thick (see Figure 1).
- 3.2.2.3 Strap and sharpening stone pocket and flap: The strap and sharpening stone pocket and flap shall be fabricated from the sheath and welt leather, 3.2.2.1.
- 3.2.3 Laces: The laces shall conform to V-L-61, Type II, Class 1, 36 inches long. The color of the laces shall be dull black and shall approximately match Color Number 37038 of FED-STD-595.
- 3.2.4 Thread: All the sewing operations shall be performed with the nylon thread conforming to V-T-295, Type II, Class 1 or 2, Size Number 4, Subclass A, colorfastness not applicable. The color of the thread shall approximately match the color of the sheath leather.
- 3.2.5 Snap fasteners: The snap fasteners shall conform to MIL-F-10884, Style 2A, Finish 2, MS27981-1B, -3B, -4B, and -5B for the strap and Style 5, Finish 2, MS27984-1B, -3B, -4B, and -6B for the sharpening stone pocket and flap.
- 3.2.6 Rivets:
- 3.2.6.1 Split: The split rivets for attaching the strap and the sharpening stone pocket flap to the sheath shall conform to FF-R-556, Type XI, Class 1, Grade F, nominal diameter 1/8 inch, black chemical finish. The length of the rivets shall be sufficient for proper and secure clinching without cutting or damaging the leather or the stitches.
- 3.2.6.2 Tubular oval head: The tubular oval head rivets for attaching the metal sheath protector and joining the sheath together shall conform to FF-R-556, Type XII, Class 3, Grade F, nominal size 1/8 inch, 5/16 inch long, black chemical finish.

- 3.2.7 Guard, guard plate, and end plate: The guard, guard plate, and end plate shall be fabricated from SAE 1018 or 1020 steel conforming to FED-STD-66.
- 3.2.8 Butt plate: The butt plate shall be fabricated from SAE 1113 steel conforming to FED-STD-66.
- 3.2.9 Sharpening stone: The sharpening stone shall be fabricated from silicon carbide, grain size 280, hardness P, vitrified bond, and shall be similar or equal to C280 P VUF as manufactured by the Carborundum Company, Niagara Falls, NY. The size of the sharpening stone shall be 3 by 7/8 by 1/4 inches.
- 3.2.10 Metal sheath protector: The metal sheath protector shall be fabricated from 0.020 inch thick aluminum sheeting conforming to QQ-A-250/4, Temper O. After forming, the metal sheath protector shall be heat treated in accordance with MIL-H-6088 to Temper T-4. The metal sheath protector shall be anodized and dyed in accordance with MIL-A-8625, Type II, Class 2. The color shall be dull black and shall approximately match Color Number 37038 of FED-STD-595 when inspected as specified in 4.5.3. The protector shall conform to Figure 4.

3.3 Design:

The pilot's, survival, sheathed, hunting knife shall consist of the metal blade with the leather grip, riveted butt plate, guard, guard and end plates, leather sheath with a pocket for containing the sharpening stone, nylon laces, and the metal sheath protector to prevent the tip of the knife from penetrating the bottom or underside of the sheath. The design of the hunting knife and sheath shall conform to Figures 1 and 3.

3.4 Construction:

The construction of the knife and sheath shall conform to Figures 1 through 4.

- 3.4.1 Sewing: The sewing together of the sheath and the attaching of the sharpening stone pocket shall be accomplished with Stitch Type 301 conforming to FED-STD-751 with 6 to 8 stitches per inch (see Figure 3). The rows of the stitching shall be straight and parallel to the leather edges. The ends of the stitching on the sharpening stone pocket shall be securely backstitched a minimum of 1/2 inch. The thread tension shall be maintained so that there shall not be any loose or tight stitching and the lock shall be embedded in the materials sewn together. The sheath shall not contain any thread breaks, skips, run-offs, or needle chews. The sharpening stone pocket stitching shall not interfere with the insertion of the blade into the blade pocket.
- 3.4.2 Riveting: The sheath and the metal sheath protector shall be securely and firmly riveted together as specified in Figures 3 and 4, as applicable. The head of the rivets shall be flush with the upper side of the sheath and the peened and split portion, as applicable, shall be flat against the underside of the sheath. All sharp edges shall be removed or turned under.

3.4.3 Knife: The design of the blade and tang shall conform to Figure 2. The guard shall be inserted on the tang as specified in Figure 1. The tang shall fit into the guard so that all the edges of the slot in the guard are flush on all the sides about the tang. The wide part at the top of the guard shall contain two drilled holes. The guard plate shall be inserted on the tang and shall be located next to the guard. Sufficient leather washers shall then be inserted on the tang to form the grip. The washers shall fit snugly on the tang and shall be grooved at intervals as specified in Figure 1 so that the handle shall be capable of being securely gripped. The end plate shall be inserted on the tang and shall be between the leather washers and the butt plate. The butt plate shall be located at the end of the handle. A 3/16 by 5/16 inch rectangle shall be punched through the butt plate. The top of the rectangle shall be chamfered 3/32 inch by 45 degrees. The end of the tang shall protrude through the butt plate. The top of tang shall be upset to fill the recess and shall form a flat or oval head on the butt plate (see Figure 2). All the unspecified sharp edges shall be removed. The upset portion of the tang shall not be ground flush with the surface of the butt plate. The upsetting of the tang shall also firmly compress together all the components forming the handle. The slot in all of the components of the handle shall be centered and shall follow the shape of the tang. All the edges of the metal components of the handle shall be deburred to eliminate any sharp edge. The blade shall contain a blood groove on each side and the back of the blade shall contain sharp cutting edge saw teeth as specified in Figure 2. The cutting edge of the blade shall be ground and sharpened to a keen edge. The cutting edge at the back of the blade near the tip shall be ground. The assembled knife shall conform to Figure 1.

3.4.4 Sheath: The leather sheath shall consist of a one piece back section and a one piece front section to form the pocket for the blade as specified in Figure 3. The fleshside of the leather shall be on the underside. The leather welt shall be inserted between the front and back sections on both sides of the sheath as specified in Figure 3. The end of each leather welt that terminates between the second and third rivets from the top of the sheath shall be tapered. The front, welt, and back sections shall be sewn together along the edges as specified in Figure 3. A pocket for the sharpening stone shall be sewn to the upper portion as specified in Figure 3. A flap for holding the sharpening stone in the pocket shall be riveted to the sheath as specified in Figure 3. The snap fasteners shall be centered and attached to the flap and the sharpening stone pocket as specified in Figure 3. The sharpening stone shall be inserted into the sharpening stone pocket. The pocket flap shall then be snapped closed. A strap for holding the handle shall be sewn and riveted to the top of the sheath as specified in Figures 3 and 4. The snap fasteners shall be centered and attached to the strip as specified in Figure 3. The strap when snapped closed shall firmly grip the handle, just below the butt plate, against the top of the sheath and shall prevent the movement of the knife when the sheath is inverted or jarred. The leather sheath and the metal sheath protector shall be riveted together along the edges as specified in Figures 3 and 4. The holes in the sheath for the nylon laces shall be punched out and not cut. The size of the holes shall conform to Figure 4. One lace shall be located at the top and one lace shall be located at the bottom. Four 1/8 inch diameter holes shall be punched out at the top of the sheath as specified in Figure 3. The punched holes shall be joined together by a slit in the length so as to permit the sheath to be attached to a belt. The sheath shall conform to Figures 3 and 4.

3.5 Performance:

3.5.1 Holding of the handle by the strap: When inspected as specified in 4.5.6, the knife shall not move out of position by more than 1/4 inch.