| INCH-POUND |

MIL-P-43951A
AMENDMENT 2
19 June 1992
SUPERSEDING
AMENDMENT 1
24 August 1989

MILITARY SPECIFICATION

PADLOCK, KEY OPERATED, MEDIUM SECURITY REGULAR SHACKLE

This amendment forms a part of Military Specification MIL-P-43951A, dated 18 February 1989, and is approved for use by all Departments and Agencies of the Department of Defense.

PAGE 1

* 1.2.1 Part or identifying number (PIN): Change paragraph heading to read:

"1.2.2 Part or identifying number (PIN)."

PAGE 4

* 3.2.1, line 12: Change "6.3" to read "6.5".

* 3.2.2, line 3: Change "6.4" to read "6.6".

PAGE 8

* 3.6.3.2, change to read:

"3.6.3.2 Key. The padlock shall be furnished with three keys: two operating keys and one control key. Terms for parts of keys used herein are defined below and shown on Figure 2. However, the design of the lock is not to be restricted to only that type of key.

Bow - The handle, or head, of a key. On a cylinder key, that part beyond the shoulder that does not enter the keyway and by which the key is held and turned.

Blade - Part that is inserted into the lock cylinder keyway.

* 3.6.3.2 Key. (continued):

Bit - The section of a key that enters a lock, which has the key cuts formed in it and which engages the bolt or tumblers of the lock. The bit is called a blade in the case of a cylinder lock.

Bit Key - A key with a blade, called a bit, which projects from the side of a round shank near the tip and on which are made key cuts to clear the wards on a warded lock.

Key Cut - A square, rounded or V-shaped depression, filed or machined into a key. In tumbler locks, the series of key cuts on a key causes the tumblers to line up at the shear line or gate so the lock will open. In warded locks, the key cuts bypass the wards so the key can push or pull the bolt.

Key Section - **The shape of a key blade in cross section, viewed in the plane perpendicular to the length of the blade. The key section is determined by the shape of the keyway it fits."**

* 3.6.3.2.1: Change to read:

"3.6.3.2.1 Key material hardness. All component parts of the key shall have a hardness not less than 75 on the Rockwell B scale (75 HRB) in accordance with ASTM E18 (see 4.6.3.12)."

* 3.6.3.2.2: Change to read:

"3.6.3.2.2 Key strength. Keys shall have sufficient strength to insure against premature failure in service. This strength shall be measured by the test in 4.6.3.13. That test requires the key to withstand 9 inch-pounds of torque applied to the key's deepest key cut (smallest cross-sectional area) for 30 seconds."

* 3.6.3.2.4: Change to read:

"3.6.3.2.4 Key cut limits. Test results will determine the safe key cut limits at any point on the blade to sustain the 9 inch-pounds torque required in 4.6.3.13."

* 3.6.3.2.5: Delete and substitute:

"3.6.3.2.5 Key marking. All keys shall be stamped with: "US MILITARY PROPERTY - DO NOT DUP." The control key shall also be stamped with the legend: "CONTROL KEY."

* 3.6.3.2.7.1: Delete and substitute:

"3.6.3.2.7.1 Key serial numbers. Serial numbers of keys shall be placed on a metal tag affixed to the key ring. The serial number shall not be stamped or appear anywhere on the key. The serial number shall be stamped on the tag with characters not less than 0.094 inch (2.381 mm) in height. The serial number shall not in any way disclose the key bitting either directly or by commercially available or published coding."

PAGE 11

* 4.4.1, 4.4.2, 4.4.3, line 2: Change the cross reference paragraph of 6.2.3.1 to read: "6.2.2.1".

* 4.5.1.1, line 2: Change "6.2.3.2" to read "6.2.2.2".

* 4.5.1.2, line 2: Change "6.2.3.2" to read "6.2.2.3".

PAGE 12

* Table I, classification 104: Change requirement paragraph 3.3.2 to read: "3.3".

PAGE 14

* Table II, column 5: Change test paragraph 4.6.3.7.5 to read "4.6.3.7.3".

PAGE 17

* 4.6.3.7, after line 22: Add the following warning:

"WARNING

This test is hazardous due to the powerful shearing devices and oxidizing characteristics of the chemicals involved. Proper personnel protection (clothing, eye protection, gloves, etc.), and containers and equipment are necessary.

The United States Government neither assumes nor accepts responsibility for any personal injury, equipment damage or environmental problems that may occur during or as a result of these tests."

* 4.6.3.7.3, line 6: Delete the warning statement.

PAGE 18

* 4.6.3.13, change to read:

"4.6.3.13 Key strength test. The manufacturer shall furnish 24 milled-to-shape but otherwise uncut key blanks and the depth code for each of the key cuts used by the lock. This test will establish the limit in depth of a key cut. The test facility will cut a key to the deepest bitting specified by the manufacturer in the bit location closest to the key bow. The bow key ring hole will be enlarged if necessary, and a 19 inch (.48 meter (m)) length of 1/4

inch (6.35 mm) diameter, all thread rod inserted. Affix two appropriate sized nuts and washers to the rod so the key is solidly fixed at the midpoint of the rod. Clamp the key horizontally in a vise, but not past the deepest bit cut. Mark the position at the end of the rod on a fixed, immovable surface. Apply a torque force of not less than 9 lbf-inch (0.9 Nm) to the end of the rod for not less than 30 seconds. Release the torque load and mark the position of the end of the rod. A difference of more than 0.125 inches (3.18 mm) shall constitute a failure. Should a key fail, another key, cut to the next shallower key cut will be tested. The test will be repeated twice after a successful test to insure a total of three successes. The key cut depth determined capable of passing this test for the particular key way design used, is the deepest cut the manufacturer is to be allowed to use. If this depth differs from that which the manufacturer intended to use, the requirement of para 3.4.1, the relative 100,000 unique key changes may be affected."

PAGE 22

* 6.2.b: Change "1.2.1" to read "1.2.2".

PAGE 23

* 6.2.2.1, line 7: Change "6.3" to read "6.5".

PAGE 24

* 6.4 Subject term (Keyword) listing: Add the following to the keyword list:

"Chemicals"

PAGE 25

* 6.8: Change to read:

"6.8 Changes from previous issue. The margins of this specification are marked with an asterisk to indicate where changes (additions, modifications, corrections, deletions) from the previous issue were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the last previous issue."

PAGE 26

* The attached insertable replacement page listed below is a replacement for the stipulated page. When the new page has been entered in the document, insert page 1 of the amendment as the cover sheet to the specification.

Replacement page	Page replaced
26	26

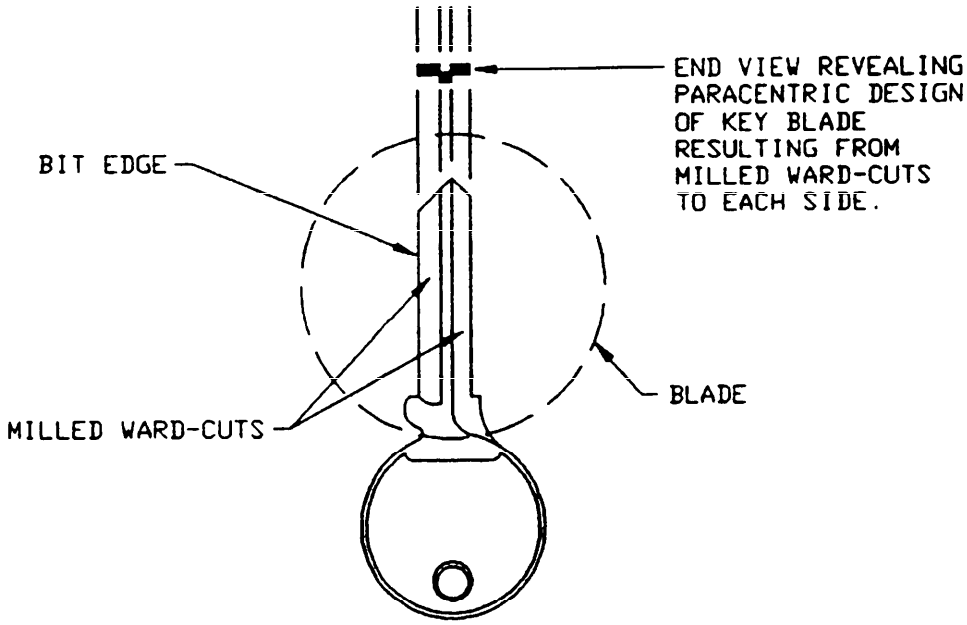
Custodians:
Army - ME
Navy - YD
Air Force - 99

Review Activities:
Army - AR, GL
Air Force - 82, SPCCE
DLA - IS

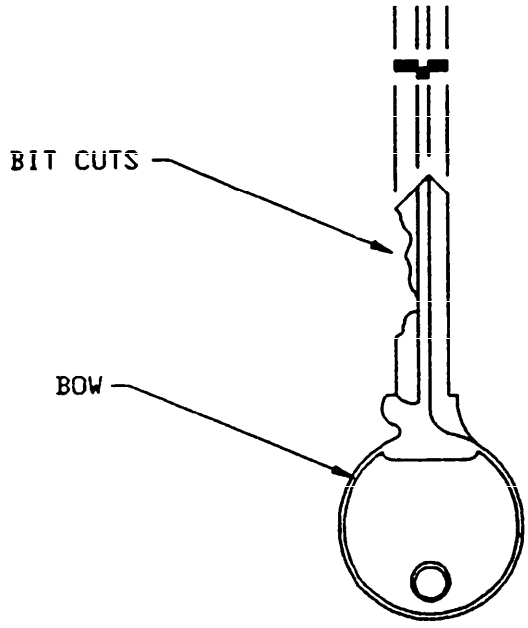
User Activities:
Army - AL, CE
Navy - AS, CG, MC, OS, SH

Preparing Activity:
Navy - YD

(Project 5340-2020)



MILLED KEY BLANK



BITTED KEY

Note:

1. This specification does not restrict the use of other types of keys.

Supersedes page 26 of Mil-P-43951A of 18 Feb 1989.

FIGURE 1. Key nomenclature.