

INCH-POUND

MIL-PRF-32368A (AR)

w/AMENDMENT 1

25 March 2014

SUPERSEDING

MIL-PRF-32368 (AR)

29 November 2012

PERFORMANCE SPECIFICATION

KIT, WEAPONS CLEANING, IMPROVED

This specification is approved for use by the U.S. Army Armaments Research, Development and Engineering Center (ARDEC) and is available for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification prescribes the performance requirements and identifies verification procedures for the Kit, Improved Weapons Cleaning Kit, hereafter referred to simply as the Weapons Cleaning Kit. The Weapons Cleaning Kit consists of items designed to support the efficient cleaning of weapon and optics in garrison, training, and in field operational environments. These items will be configured in two (2) distinct kits: an Individual Kit and a Team Kit. Each kit will consist of a different combination of items with its own unique carrying case.

1.2 Requirement levels. This specification lists two (2) values for certain performance parameters. The threshold (T) is the minimum acceptable level. The objective (O) is the desired level at which performance results in an operationally significant increase in capabilities. However, the addition of any item designated with an (O) should not cause a significant increase in the dimensions of the respective kit case. When only one requirement is stated, it is the threshold requirement.

Comments, suggestions, or questions on this document should be addressed to: Commander, U.S. Army ARDEC, ATTN: RDAR-QES-E, Picatinny Arsenal, New Jersey 07806-5000, or emailed to usarmy.picatinny.ardec.list.ardec-stdzn-brnach@mail.mil . Since contact information can change, you may want to verify the currency of this address information using the ASSIST online database at https://assist.dla.mil .

AMSC: N/A

FSC: 1005

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2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in sections 3 or 4 of this specification. This section does not include documents cited in other sections of this specification or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements of documents cited in sections 3 and 4 of this specification, whether or not they are listed.

2.2 Government Documents.

2.2.1 Specifications, standards, and handbooks. The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those cited in the solicitations or contract.

DEPARTMENT OF DEFENSE SPECIFICATIONS

MIL-PRF-372	Cleaning Compound, Solvent (For Bore of Small Arms and Automatic Aircraft Weapons)
MIL-PRF-14107	Lubricating Oil, Weapons, Low Temperature
MIL-G-21164	Grease, Molybdenum Disulfide, For Low and High Temperatures, NATO Code Number G-353
MIL-L-46000	Lubricant, Semi-Fluid (Automatic Weapons)
MIL-PRF-63460	Lubricant, Cleaner, and Preservative for Weapons and Weapons Systems

FEDERAL STANDARDS

FED-STD-595/20180	Brown, Semigloss
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DEPARTMENT OF DEFENSE STANDARDS

MIL-STD-810	Environmental Engineering Considerations and Laboratory Tests
MIL-STD-1916	DoD Preferred Methods for Acceptance of Product

(Copies of these documents are available online at <https://assist.dla.mil> or from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.)

2.2.2 Other Government documents, drawings and publication. The following other Government documents, drawings, and publications form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those cited in the solicitation or contract.

ARMY TECHNICAL MANUALS (TM)

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- TM 9-1005-319-10 Operator's manual for
RIFLE, 5.56 MM, M16A2 W/E (1005-01-128-9936) (EIC:4GM);
RIFLE, 5.56 MM, M16A3 (1005-01-367-5112);
RIFLE, 5.56 MM, M16A4 (1005-01-383-2872)(EIC:4F9);
CARBINE, 5.56 MM, M4 W/E (1005-01-231-0973) (EIC:4FJ);
CARBINE, 5.56 MM, M4A1 (1005-01-382-0953) (EIC:4GC)
- TM 9-1005-313-10 Operator's manual for
MACHINE GUN, 7.62MM, M240 (1005-01-025-8095);
M240B (1005-01-412-3129); M240C (1005-01-085-4758);
M240D (1005-01-418-6995); M240E1 (1005-01-252-4288);
M240H (1005-01-518-2410); M240L (1005-01-549-5837);
M240N (1005-01-493-1666)
- TM 9-1005-325-10 Operator's manual for
PISTOL, COMPACT, 9 MM, M11 (1005-01-336-8265);
PISTOL, COMPACT, 9 MM, M11 WITH TRITIUM SIGHTS
(1005-01-340-0096)

(These TMs may be viewed and printed at <https://www.logsa.army.mil/etms/online.cfm>.)

2.3 Non-Government publication. The following documents form a part of this document to the extent specified herein. Unless otherwise indicated, the issues of these documents are those cited in the solicitation or contract.

ASTM INTERNATIONAL

ASTM-B117 Standard Practice for Operation Salt Spray (Fog) Apparatus

(Copies of ASTM standards may be ordered online at <http://www.astm.org/> or from the ASTM International Engineers, 100 Barr Harbor Drive, PO Box C700, West Conshohocken PA 19428-2959.)

2.4 Order of Precedence. Unless otherwise noted herein or in the contract, in the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption is obtained.

3. REQUIREMENTS

3.1 Design verification. When specified (see 6.2), a sample of the Weapons Cleaning Kit shall be subjected to design verification in accordance with [TABLE II and 4.1].

3.2 First article inspection. When specified (see 6.2), a sample of the Weapons Cleaning Kit shall be subjected to first article inspection in accordance with [TABLE II and 4.2].

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3.3 Conformance inspection. When specified (see 6.2), a sample of the Weapons Cleaning Kit shall be subjected to conformance inspection in accordance with [TABLE II and 4.3].

3.4 Interface and interoperability requirements.

3.4.1 Individual Kit. The Individual Kit shall work with, and not cause damage to (see 6.4.1); the M4/M16 family of weapons.

3.4.2 Team Kit. The Team Kit components shall work with, and not cause damage to (see 6.4.1); all currently fielded 5.56mm, 9mm, 7.62mm, and .45 caliber weapons.

3.5 Common threading. All Weapons Cleaning Kit components necessary to clean the weapon and/or dislodge a jammed cartridge/projectile that use threaded connections shall use the same common threading. Either #8-32 Unified Fine Thread (UNF) (preferred) or #8-36 UNF may be selected, but when one size is selected, it shall be used for all threaded components. In the event that the common threading is #8-32, an adaptor shall be provided for compatibility with non-kit items (i.e. legacy military 5.56mm #8-36 UNF).

3.6 Closure systems. The Weapons Cleaning Kit shall not feature hook-and-loop (Velcro™) closure systems.

3.7 Kit configurations. Items shall be assigned to the Individual and Team Kits in accordance with TABLE I.

TABLE I. Kit configurations

Item	Quantity in Individual Kit	Quantity in Team Kit
Individual carrying case	1	
Team carrying case		1
Cotton swabs		2 packages
Lens cleaning/anti-fog solution		2 small bottles or 1 large bottle
Mohair lens cleaning brush		2
Re-usable micro fiber lens cloth		2
Swab patch holder, 5.56mm slotted tip	1	1
Swab patch holder, 7.62mm slotted tip		1
Scraper		2
Straight pick		2
Locking lug scraper		2
5.56mm bore brush	1	1
7.62mm bore brush		1
9mm bore brush		1

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TABLE I. Kit configurations - Continued

Item	Quantity in Individual Kit	Quantity in Team Kit
.45 caliber bore brush		1
Chamber brush	1	1
Pistol cleaning cable		1
Curved ended pick		2
Small cotton swab patches (5.56mm)	1 package	2 packages
Large cal cotton swab patches (7.62mm, 9mm, .45 caliber)		2 packages
Multi-purpose tool	1 w/carrying case	
Muzzle cap		2
Cleaning and lubrication bottle	1 small bottle	2 small bottles or 1 large bottle
Rifle/machine gun cleaning cable (indicate method to pull through)	1	1
Cleaning rod sections	1 set	1 set
Cleaning rod handle section	1	1
Double ended tooth brush	1	2
Large area application brush		2
Pipe cleaners		1 package
Instruction sheet (in English Language)	1	1

3.8 Cleaning kit components.

3.8.1 Modularity/interchangeability. The following components may be modular/interchangeable, at the discretion of the contractor, to allow the replacement of brushes.

3.8.1.1 Cleaning rod sections. The cleaning rod sections shall have the following characteristics:

- a. The rod shall break down into not less than three (3) and not more than six (6) sections in order to fit in the carrying case of the Weapons Cleaning Kit (3.8.13).
- b. The rod shall extend at least 29 inches in length when all sections (including the cleaning rod handle section) are assembled.
- c. Each rod section shall have one (1) male and one (1) female threaded end.
- d. Rod sections shall be capable of attaching to standard threading for bore brushes.
- e. For reference, cleaning rod sections conforming to National Stock Number (NSN): 1005-00-050-6357 have been successfully used in the past.

3.8.1.2 Cleaning rod handle section. The cleaning rod handle section shall have the following characteristics:

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- a. It shall have a swiveling handle for ease of storage.
- b. The swiveling handle shall be able to lock in place in the straight folded position.
- c. The cleaning rod handle section shall have one female threaded end to allow connection of other components of the Weapons Cleaning Kit.
- d. Rod handle section shall be capable of attaching to bore brush (3.8.1.10).
- e. For reference, cleaning rod handle sections conforming to NSN: 1005-01-113-0321 have been successfully used in the past.

3.8.1.3 Rifle/machine gun cleaning cable. The cleaning cable shall have the following characteristics:

- a. The cleaning cable shall provide for safe breech to muzzle cleaning.
- b. The cleaning cable shall be able to clean the chamber and bore.
- c. The cleaning cable shall be a minimum of 30” in length.
- d. The cleaning cable shall feature a means to grasp and pull the cable through the barrel.

3.8.1.4 Pistol cleaning cable. The cleaning cable shall have the following characteristics:

- a. The cleaning cable shall provide for safe breech to muzzle cleaning.
- b. The cleaning cable shall be able to clean the chamber and bore.
- c. The cleaning cable shall be a minimum of 8” in length.
- d. The cleaning cable shall be a maximum of 12” in length.

3.8.1.5 Swab patch holder, 5.56mm slotted tip. The swab patch holder, slotted tip, shall have the following characteristics:

- a. The swab patch holder, slotted tip shall be able to attach to a cotton patch to pull down the 5.56mm barrel with the flexible cleaning cable. Proper usage shall result in 360 degree coverage.
- b. The swab patch holder, slotted tip shall have a male threaded end.
- c. For reference, swab patch holder, slotted tip conforming to NSN: 1005-00-242-5687 has been successfully used in the past.

3.8.1.6 Small cotton swab patches (5.56mm). The cotton patches shall have the following characteristics:

- a. Clean cotton swab patches shall be provided to be used with the slotted tip to create a 360 degree swab to clean 5.56mm barrels.
- b. There shall be a minimum of ten (10) cotton patches, per package, inside a protective plastic bag.
- c. For reference, cotton patches conforming to NSN: 1005-00-912-4248 have been successfully used in the past.

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3.8.1.7 Swab patch holder, 7.62mm, 9mm, and .45 caliber slotted tip. The swab patch holder, slotted tip, shall have the following characteristics:

- a. The swab patch holder, slotted tip shall be able to attach to a cotton patch to pull down the 7.62mm, 9mm, and .45 caliber barrel with the flexible cleaning cable. Proper usage shall result in 360 degree coverage.
- b. The swab patch holder, slotted tip shall have a male threaded end.

3.8.1.8 Large cal cotton swab patches (7.62mm, 9mm, and .45 caliber). The cotton patches shall have the following characteristics:

- a. Clean cotton swab patches shall be provided to be used with the slotted tip to create a 360 degree swab to clean 7.62mm, 9mm, and .45 caliber barrels.
- b. There shall be a minimum of ten (10) cotton patches, per package, inside a protective plastic bag.
- c. For reference, cotton patches conforming to NSN: 1005-00-288-3565 have been successfully used in the past.

3.8.1.9 Chamber brush. The chamber brush shall have the following characteristics:

- a. The chamber brush shall be used with the cleaning rod handle section to clean the locking lugs and chamber area.
- b. The chamber brush shall have a male threaded end.
- c. For reference, chamber brush conforming to NSN: 1005-00-999-1435 has been successfully used in the past.

3.8.1.10 5.56mm bore brush. The bore brush shall have the following characteristics:

- a. The bore brush shall clean the neck and bore of the M4 and M16 and any other standard military 5.56mm weapon.
- b. The bore brush shall have a male threaded end.
- c. For reference, bore brush conforming to NSN: 1005-00-903-1296 has been successfully used in the past.

3.8.1.11 7.62mm bore brush. The bore brush shall have the following characteristics:

- a. The bore brush shall clean the neck and bore of any standard military 7.62mm weapon.
- b. The bore brush shall have a male threaded end.

3.8.1.12 9mm bore brush. The bore brush shall have the following characteristics:

- a. The bore brush shall clean the neck and bore of any standard military 9mm weapons.
- b. The bore brush shall have a male threaded end.

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3.8.1.13 .45 caliber bore brush. The bore brush shall have the following characteristics:

- a. The bore brush shall clean the neck and bore of any standard military .45 caliber weapon.
- b. The bore brush shall have a male threaded end.

3.8.1.14 Scraper. The scraper shall have the following characteristics:

- a. The scraper shall remove carbon from the critical bolt face to reduce weapon misfires.
- b. The scraper shall be able to scrape carbon from the slides, bolts, and bolt carrier without damaging the weapon.
- c. The scraper, if assembly is required, shall have a male threaded end.
- d. The scraper, with handle if necessary, shall be no less than 7" and no longer than 9" in length.
- e. The scraper shall not break when used IAW the Technical Manuals (TMs) referenced in 2.2.2.

3.8.1.15 Locking lug scraper. The locking lug scraper (right angle – 90 degree) shall have the following characteristics:

- a. The scraper shall remove carbon from the critical bolt face to reduce weapon misfires.
- b. The scraper shall be able to scrape carbon from the slides, bolts, bolt carrier, locking lugs, and barrel extension without damaging the weapon.
- c. The scraper, if assembly is required, shall have a male threaded end.
- d. The scraper, with handle if necessary, shall be no less than 7" and no longer than 9" in length.
- e. The scraper shall not break when used IAW the Technical Manuals (TMs) referenced in 2.2.2.

3.8.1.16 Straight pick. The straight pick shall have the following characteristics:

- a. The straight pick shall be used to remove carbon from hard to reach corners and gas port.
- b. The straight pick, if assembly is required, shall have a male threaded end.
- c. The straight pick, with handle if necessary, shall be no less than 6" and no longer than 9" in length.

3.8.1.17 Curved ended pick. The 90 degrees curved ended pick shall have the following characteristics:

- a. The curved ended pick shall be used to reach and clean behind the locking lugs to loosen carbon deposits.
- b. The curved ended pick, if assembly is required, shall have a male threaded end.

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- c. The curved ended pick, with handle if necessary, shall be no less than 6" and no longer than 9" in length.

3.8.2 Cotton swabs. The cotton swabs shall be clean cotton tipped swabs protected in a small plastic bag. There shall be a minimum of six (6) cotton swabs per package.

3.8.3 Pipe cleaners. The pipe cleaners shall have the following characteristics:

- a. The pipe cleaners shall be used to clean the gas tube and carrier key.
- b. There shall be a minimum of twelve (12) pipe cleaners per package.
- c. For reference, pipe cleaners conforming to NSN: 9920-00-292-9946 have been successfully used in the past.

3.8.4 Re-usable micro fiber lens cloth.

- a. The re-usable micro fiber lens cloth shall be able to remove finger prints and oils from optics without leaving lint.
- b. The size of the re-usable micro fiber lens cloth shall be no less than 4"x 4".
- c. The micro fibers lens cloth shall be inside a re-sealable protective plastic bag for cleanliness.

3.8.5 Lens cleaning/anti-fog solution. The lens cleaning/anti-fog solution shall have the following characteristics:

- a. The solution shall come in a pump spray for efficient lens cleaning application.
- b. For the Team Kit, the volume of the solution bottle shall be no less than 0.5 ounces and no more than 1.5 ounces if two bottles are provided. The bottle shall be no less than 1.0 ounces and no more than 3.0 ounces if one bottle is provided.

3.8.6 Cleaning and lubrication bottle. The cleaning and lubrication bottle shall have the following characteristics:

- a. The cleaning and lubrication bottle shall have a cap and be refillable.
- b. The cleaning and lubrication bottle shall be empty.
- c. The cleaning and lubrication bottle shall have a precision drip applicator and be leak proof.
- d. For the Individual Kit, the volume of the cleaning and lubrication bottle shall be no less than 0.5 ounces and no more than 1.5 ounces.
- e. For the Team Kit, the volume of the cleaning and lubrication bottle shall be no less than 0.5 ounces and no more than 1.5 ounces if two bottles are provided. The lubrication bottle shall be no less than 1.0 ounces and no more than 3.0 ounces if one bottle is provided.
- f. For reference, cleaning and lubrication bottle conforming to NSN: 1005-00-242-5687 has been successfully used in the past.

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3.8.7 Mohair lens cleaning brush. The Mohair lens cleaning brush shall allow scratch free cleaning of optic lenses.

3.8.8 Large area application brush. The large area application brush shall have the following characteristics:

- a. The large area application brush shall clean away light sand and debris from weapon.
- b. The large area application brush shall be compatible with standard Army cleaning lubricant such as but not limited to CLP, LSA, LAW.

3.8.9 Double ended tooth brush. The double ended tooth brush shall have the following characteristics:

- a. The double ended tooth brush shall be able to clean the receiver, the bolt and bolt carrier of the weapon.
- b. The double ended tooth brush shall be no less than 6.5" and no more than 7.5" in length.
- c. For reference, double ended tooth brushes conforming to NSN: 1005-01-578-9925 have been successfully used in the past.

3.8.10 Muzzle cap. The muzzle cap shall be able to cap and remain on the weapon (M4 and M16). The muzzle cap shall allow the weapon to fire through the muzzle even if it is installed onto the weapon. For reference, muzzle cap conforming to NSN: 5340-00-880-7666 has been successful in the past.

3.8.11 Multi-purpose tool. The multi-purpose tool shall have the following features:

- a. The multi-tool shall provide needle nose pliers, wire cutters, serrated knife blade, straight knife blade, cross-tip screwdriver size #2, two (2) different sized flat tip screwdrivers size small 3/32 and size medium 7/32, and file.
- b. The multi-tool shall provide the capability to deploy the tool and employ the pliers/wire cutters with one (1) hand.
- c. The multi-tool shall be non-reflective.
- d. The color of the multi-tool shall be black.
- e. The overall length shall not exceed seven and a half (7.5) inches with the needle-nose pliers jaws extended or exceed five and three-quarter (5.75) inches with the needle-nose pliers retracted.
- f. The weight of the multi-tool shall be no more than ten and a half (10.5) ounces by itself or twelve and a half (12.5) ounces with its individual carrying case.
- g. The multi-tool shall provide the ability to attach to a lanyard.
- h. Multi-tool shall be able to cut galvanized 0.080" #14 gage wire (standard ammo-box packaging wire, per ASTM A641).
- i. Multi-tool shall come equipped with a lock system that allows all of the tools to lock in the open (use) position and be released by the locking mechanism for safety.

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- j. Multi-tool shall come equipped with an individual Modular Lightweight Load-bearing Equipment (MOLLE) System compatible carrying case that can be attached to the Warfighter's belt, vest and load-carry system(s) webbing. A means of attaching the case to MOLLE webbing shall be provided.
- k. Multi-tool shall have a method for adjusting the tool folding tension (O).

3.8.12 Instruction sheet. The Weapons Cleaning Kit shall include an instruction sheet providing a listing of all kit components and details on how to use each component in the Weapons Cleaning Kit. Instructions shall not conflict with cleaning procedures listed in TM 9-1005-319-10 or cleaning procedures for currently fielded 7.62mm, 9mm, and .45 caliber weapons, for example, but not limited to: TM 9-1005-313-10 and TM 9-1005-325-10. The Individual Kit and Team Kit shall each have their own respective instruction sheet.

3.8.13 Individual carrying case. The carrying case shall have the following characteristics:

- a. The carrying case shall contain all items required by TABLE I.
- b. MOLLE webbing at the back of the carrying case enabling attachment to a Warfighter's belt, vest and load-carry system(s) webbing. A means of attaching the case to MOLLE webbing shall be provided.
- c. The carrying case shall be non-reflective on the outside of the carrying case.
- d. The color of the carrying case shall be Tan 499 (Brown, Semigloss) IAW FED-STD-595/20180.
- e. No dimensions of the carrying case shall be no greater than 9.25"x2"x5" with all cleaning kit components stored within it.
- f. All cleaning kit components shall be securely stored in a retentive position inside the carrying case.
- g. External compartment(s)/pocket(s) that shall securely store and allows for one-handed rapid access to the cleaning cable with attached slotted tip.

3.8.14 Team carrying case. The carrying case shall have the following characteristics:

- a. The carrying case shall contain all items required by TABLE I.
- b. MOLLE webbing at the back of the carrying case enabling attachment to a Warfighter's belt, vest and load-carry system(s) webbing. A means of attaching the case to MOLLE webbing shall be provided.
- c. The carrying case shall be non-reflective on the outside of the carrying case.
- d. The color of the carrying case shall be Tan 499 (Brown, Semigloss) IAW FED-STD-595/20180.
- e. The dimensions of the carrying case shall be no greater than 10"x3"x8" with all cleaning kit components stored within it.
- f. The volume of the carrying case shall be no greater than 240 cubic inches with all cleaning kit components stored within it.
- g. All cleaning kit components shall be securely stored in a retentive position inside the carrying case.

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3.9 Performance cleaning characteristics. All cleaning kit components shall demonstrate performance and durability characteristics equivalent or better than the existing components identified with kit (NSN: 1005-01-562-7393).

3.10 Environmental requirements.

3.10.1 Operating temperature. The Weapons Cleaning Kit shall function throughout a temperature range from -55 degrees Fahrenheit to +155 degrees Fahrenheit.

3.10.2 Salt spray. The Weapons Cleaning Kit shall be safe to handle and be fully operable after a minimum of forty-eight (48) hours of salt fog exposure IAW ASTM-B117.

3.10.3 Chemical compatibility testing. The Weapons Cleaning Kit shall be compatible with Army standard chemicals listed below:

NSN 6850-00-965-2332	Carbon Removing Compound
MIL-PRF-372	Cleaning Compound, Solvent (For Bore of Small Arms and Automatic Aircraft Weapons)
MIL-PRF-14107	Lubricating Oil, Weapons, Low Temperature
MIL-G-21164	Grease, Molybdenum Disulfide, For Low and High Temperatures, NATO Code Number G-353
MIL-L-46000	Lubricant, Semi-Fluid (Automatic Weapons)
MIL-PRF-63460	Lubricant, Cleaner, and Preservative for Weapons and Weapons Systems
None	Water, deionized or distilled

3.11 Support and ownership requirements.

3.11.1 Drop test. The Multi-purpose tool shall withstand a five (5) foot drop test in different orientations without breaking or becoming unserviceable.

3.11.2 Workmanship. Finished items and/or parts shall not exhibit poor material and processing such as seams, laps, laminations, cracks, visible steps, sharp edges, nicks, scratches, burrs, deformations, and missing operation which may affect serviceability, functioning, operations, appearance or safety. Fins and other extraneous metal shall be removed from cast or forged parts. Hammering to shape, salvage operations (including repair by welding) or other similar practices shall not be permitted.

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4. VERIFICATION

TABLE II. Requirement/verification cross reference matrix

METHOD OF VERIFICATION		CLASSES OF VERIFICATION						
1 - Analysis		A – Design verification						
2 - Demonstration		B – First article						
3 - Examination		C – Conformance verification						
4 - Test								
Section 3 Requirement	Section 4 Method	Verification Methods				Verification Class		
		1	2	3	4	A	B	C
3.1	Design verification	4.1	X	X	X	6-0-1		
3.2	First article inspection	4.2	X	X	X		6-0-1	
3.3	Conformance inspection	4.3	X	X	X			5-0-1
3.4.1	Individual Kit	4.4.1			X	5-0-1	5-0-1	2-0-1
3.4.2	Team Kit	4.4.2			X	5-0-1	5-0-1	2-0-1
3.5	Common threading	4.5			X	5-0-1	2-0-1	
3.6	Closure systems	4.6						
3.7	Kit configurations	4.7						
3.8.1	Modularity/interchangeability	4.8.1	X	X		5-0-1	5-0-1	2-0-1
3.8.1.1	Cleaning rod sections	4.8.1.1			X	5-0-1	5-0-1	2-0-1
3.8.1.2	Cleaning rod handle section	4.8.1.2			X	5-0-1	5-0-1	2-0-1
3.8.1.3	Rifle/machine gun cleaning cable	4.8.1.3	X			5-0-1	5-0-1	2-0-1
3.8.1.4	Pistol cleaning cable	4.8.1.4	X	X		5-0-1	5-0-1	2-0-1
3.8.1.5	Swab patch holder, 5.56mm slotted tip	4.8.1.5	X			5-0-1	5-0-1	2-0-1
3.8.1.6	Small cotton swab patches (5.56mm)	4.8.1.6			X	5-0-1	5-0-1	2-0-1
3.8.1.7	Swab patch holder, 7.62mm, 9mm, and .45 caliber slotted tip	4.8.1.7	X			5-0-1	5-0-1	2-0-1
3.8.1.8	Large cal cotton swab patches (7.62mm, 9mm, and .45 caliber)	4.8.1.8			X	5-0-1	5-0-1	2-0-1
3.8.1.9	Chamber brush	4.8.1.9	X			5-0-1	5-0-1	2-0-1
3.8.1.10	5.56mm bore brush	4.8.1.10	X			5-0-1	5-0-1	2-0-1
3.8.1.11	7.62mm bore brush	4.8.1.11	X			5-0-1	5-0-1	2-0-1
3.8.1.12	9mm bore brush	4.8.1.12	X			5-0-1	5-0-1	2-0-1
3.8.1.13	.45 caliber bore brush	4.8.1.13	X			5-0-1	5-0-1	2-0-1
3.8.1.14	Scraper	4.8.1.14	X			5-0-1	5-0-1	2-0-1
3.8.1.15	Locking lug scraper	4.8.1.15	X			5-0-1	5-0-1	2-0-1
3.8.1.16	Straight pick	4.8.1.16			X	5-0-1	5-0-1	2-0-1
3.8.1.17	Curved ended pick	4.8.1.17	X			5-0-1	5-0-1	2-0-1
3.8.2	Cotton swabs	4.8.2			X	5-0-1	5-0-1	2-0-1

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3.8.3	Pipe cleaners	4.8.3		X		5-0-1	5-0-1	2-0-1
3.8.4	Re-usable micro fiber lens cloth	4.8.4			X	5-0-1	5-0-1	2-0-1
3.8.5	Lens cleaning/anti-fog solution	4.8.5			X	5-0-1	5-0-1	2-0-1

Notes: Verification (5-0-1) Test 5, Accept with 0 Failures, and Reject with 1 Failure.

TABLE II. Requirement/verification cross reference matrix - Continued

METHOD OF VERIFICATION		CLASSES OF VERIFICATION						
1 - Analysis		A – Design verification						
2 - Demonstration		B – First article						
3 - Examination		C – Conformance verification						
4 - Test								
Section 3 Requirement		Section 4 Method	Verification Methods			Verification Class		
3.8.6	Cleaning and lubrication bottle	4.8.6			X	5-0-1	5-0-1	2-0-1
3.8.7	Mohair lens cleaning brush	4.8.7				X	5-0-1	5-0-1
3.8.8	Large area application brush	4.8.8		X		5-0-1	5-0-1	2-0-1
3.8.9	Double ended tooth brush	4.8.9		X		5-0-1	5-0-1	2-0-1
3.8.10	Muzzle cap	4.8.10				X	5-0-1	5-0-1
3.8.11	Multi-purpose tool	4.8.11				X	5-0-1	5-0-1
3.8.12	Instruction sheet	4.8.12			X	5-0-1	5-0-1	2-0-1
3.8.13	Individual carrying case	4.8.13				X	5-0-1	5-0-1
3.8.14	Team carrying case	4.8.14				X	5-0-1	5-0-1
3.9	Performance cleaning characteristics	4.9				X	5-0-1	5-0-1
3.10.1	Operating temperature	4.10.1				X	1-0-1	2-0-1
3.10.2	Salt spray	4.10.2				X	1-0-1	1-0-1
3.10.3	Chemical compatibility testing	4.10.3				X	6-0-1	6-0-1
3.11.1	Drop test	4.11.1				X	2-0-1	2-0-1
3.11.2	Workmanship	4.11.2				X	5-0-1	5-0-1

Notes: Verification (5-0-1) Test 5, Accept with 0 Failures, and Reject with 1 Failure.

4.1 Design verification. When specified (see 6.2), design verification shall be performed by analysis, demonstration, examination and tests of all performance requirements as specified in TABLE II.

4.1.1 Design verification test rejection. If a sample fails to meet any specified performance requirement, the design shall be rejected.

4.2 First article inspection. When specified (see 6.2), first article inspection of sample items shall be executed by analysis, demonstration, examination and tests of all performance requirements in accordance with TABLE II.

4.2.1 First article rejection. If any sample fails to comply with the specified performance requirements, the sample shall be rejected.

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4.3 Conformance inspection. When specified (see 6.2), conformance inspection of lot samples shall be accomplished by examinations, demonstrations and tests in accordance with Table II.

4.3.1 Lot formation. Lot formation shall be in accordance with the lot formation and identification requirement as specified in MIL-STD-1916.

4.3.2 Lot rejection. If any sample fails to comply with the specified performance requirements, the lot shall be rejected.

4.4 Interface and interoperability verifications.

4.4.1 Individual Kit. All Individual Kit verification processes shall be tested with M16 and M4 weapons.

4.4.2 Team Kit. All Team Kit verification processes shall be tested with currently fielded 5.56mm, 9mm, 7.62mm, and .45 caliber weapons.

4.5 Common threading. Verify by examination that all components with a UNF thread in the Weapons Cleaning Kit shall be of the same common thread (either #8-32 or #8-36). If the components threading is #8-32, then the adapter shall be verified to ensure it can convert all components to be compatible with #8-36 UNF items.

4.6 Closure systems. The Weapons Cleaning Kit shall be examined to ensure that hook-and-loop (Velcro™) closure systems are not present.

4.7 Kit configurations. The contents of the Weapons Cleaning Kit shall be examined to ensure all items required by TABLE I are contained.

4.8 Cleaning kit components.

4.8.1 Modularity/interchangeability. Physical and functional examination shall be performed on the following components which may modular/interchangeable, at the discretion of the contractor, to allow the replacement of brushes.

4.8.1.1 Cleaning rod sections. Physical and functional examination shall be performed to verify all required characteristics of the cleaning rod sections.

4.8.1.2 Cleaning rod handle section. Verify by demonstration that the rod handle section, with the attached chamber brush, is capable of cleaning the chamber area. Physical and functional examination shall be performed to verify all required characteristics of the cleaning rod handle section.

4.8.1.3 Rifle/machine gun cleaning cable. Verify by demonstration that the cleaning cable, with the attached slotted tip and patch, or bore brush, is capable of cleaning the area from the

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breech to the chamber and bore. The length of the cleaning cable shall be measured using Standard Measurement Equipment (SME).

4.8.1.4 Pistol cleaning cable. Verify by demonstration that the cleaning cable, with the attached slotted tip and patch or chamber brush or bore brush, shall be able to clean the area from the breech to the muzzle as well as the chamber and bore. The length of the cleaning cable shall be measured using SME.

4.8.1.5 Swab patch holder, 5.56mm slotted tip. The swab patch holder, slotted tip shall be attached to the end of the cleaning cable and to a cotton patch IAW the directions listed on the Instruction Sheet to provide 360 degree swab coverage in the 5.56mm barrel.

4.8.1.6 Small cotton swab patches (5.56mm). The cotton patches shall be visually inspected to ensure that there are ten (10) clean cotton patches contained in a plastic bag. The cotton patch shall be verified during 4.8.1.5.

4.8.1.7 Swab patch holder, 7.62mm, 9mm, and .45 caliber slotted tip. The swab patch holder, slotted tip shall be attached to the end of the cleaning cable and to a cotton patch IAW the directions listed on the Instruction Sheet to provide 360 degree swab coverage in a 7.62mm barrel.

4.8.1.8 Large cal cotton swab patches (7.62mm, 9mm, and .45 caliber). Large cal cotton swab patches (7.62mm, 9mm, and .45 caliber). The cotton patch shall be visually inspected to ensure that there are ten (10) clean cotton patches contained in a plastic bag. The large cotton patch shall be verified during 4.8.1.7.

4.8.1.9 Chamber brush. Verify by demonstration that the chamber brush is capable of cleaning the locking lugs and the chamber area.

4.8.1.10 5.56mm bore brush. Verify by demonstration that the bore brush is capable of cleaning the neck and bore of any standard military 5.56mm weapon.

4.8.1.11 7.62mm bore brush. Verify by demonstration that the bore brush is capable of cleaning the neck and bore of any standard military 7.62mm weapon.

4.8.1.12 9mm bore brush. Verify by demonstration that the bore brush is capable of cleaning the neck and bore of any standard military 9mm weapon.

4.8.1.13 .45 caliber bore brush. Verify by demonstration that the bore brush shall be able to clean the neck and bore of any standard military .45 cal weapon.

4.8.1.14 Scraper. Verify by demonstration that the scraper is capable of removing carbon from the critical bolt and bolt carrier without damaging the weapon. The length of the scraper shall be measured using SME.

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4.8.1.15 Locking lug scraper. Verify by demonstration that the locking lug scraper is capable of removing carbon from the bolt, bolt carrier, locking lugs, and barrel extension without damaging the weapon. The length of the scraper shall be measured using SME.

4.8.1.16 Straight pick. The straight pick shall be tested on a previously fired weapon to ensure it is able to remove carbon from hard to reach corners and the gas port.

4.8.1.17 Curved ended pick. Verify by demonstration that the curved ended pick shall be able to reach and clean behind the locking lugs to loosen carbon deposits.

4.8.2 Cotton swabs. The cotton swabs shall be visually inspected to ensure that there are six (6) clean, properly sealed cotton tipped swabs in a plastic bag.

4.8.3 Pipe cleaners. The pipe cleaners shall be visually inspected to ensure that there are twelve (12) clean pipe cleaners contained in each package. Verify by demonstration that the pipe cleaners shall be able to clean the gas tube and carrier key.

4.8.4 Re-usable micro fiber lens cloth. The re-usable micro fiber lens cloth shall be tested to ensure it can remove finger prints and oil from optics without leaving lint.

4.8.5 Lens cleaning/anti-fog solution. The lens cleaning/anti-fog solution shall be visually examined to determine the presence of a pump spray. The volume of the bottle shall be measured using SME.

4.8.6 Cleaning and lubrication bottle. The cleaning and lubrication bottle shall be inspected to ensure it has a cap with a precision drip applicator. The empty refillable bottle shall be filled with water and closed tightly with its cap and tipped upside down to test for leakage.

4.8.7 Mohair lens cleaning brush. The mohair lens cleaning brush shall be tested on any standard military optic lens to ensure it is capable of cleaning without scratching the optic lenses.

4.8.8 Large area application brush. Verify by demonstration that the large area application brush is capable of cleaning/brushing dust and apply cleaners and lubricants on large surface areas of the weapon system.

4.8.9 Double ended tooth brush. Verify by demonstration that the double ended tooth brush is capable of cleaning the receiver, slides and bolt carrier of the weapon. The length of the double ended tooth brush shall be measured using SME.

4.8.10 Muzzle cap. The muzzle cap shall demonstrate that it can attach and remain attached to an M4 or M16. The user shall run with an M4 or M16, with the muzzle cap attached, to demonstrate the muzzle cap does not fall off the weapon. The attached muzzle cap shall demonstrate that it can be fired off the M4 or M16.

4.8.11 Multi-purpose tool. Physical and functional examination shall be performed to verify all required characteristics of the multi-tool.

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4.8.12 Instruction sheet. The Weapons Cleaning Kit shall be examined to ensure an instruction sheet with a listing of all the kit items is included.

4.8.13 Individual carrying case. Individual carrying case. Verify by demonstration that the MOLLE attachment method attaches the case to MOLLE webbing. Physical and functional examination shall be performed to verify all required characteristics of the carrying case.

4.8.13.1 Item retention test. The carrying case with all its items stored in its appropriate compartments shall be dropped from a height of five (5) feet onto concrete. The carrying case shall be examined to verify that all items contained inside the case remained in their retentive position and/or do not fall out after opening the carrying case. The drop test shall be conducted with these orientations:

- a. Carrying case top face up
- b. Carrying case top face down
- c. Carrying case on long side
- d. Carrying case on short side

4.8.14 Team carrying case. Verify by demonstration that the MOLLE attachment method attaches the case to MOLLE webbing. Physical and functional examination shall be performed to verify all required characteristics of the carrying case.

4.8.14.1 Item retention test. The carrying case with all its items stored in its appropriate compartments shall be dropped from a height of five (5) feet onto concrete. The carrying case shall be examined to verify that all items contained inside the case remained in their retentive position and/or do not fall out after opening the carrying case. The drop test shall be conducted with these orientations:

- a. Carrying case top face up
- b. Carrying case top face down
- c. Carrying case on long side
- d. Carrying case on short side

4.9 Performance cleaning characteristics. All cleaning components shall demonstrate performance and durability characteristics through usage against cleaning components listed in NSN: 1005-01-541-7228. Used and dirty weapon shall be used during this verification process.

4.10 Environmental verifications.

4.10.1 Operating temperature.

4.10.1.1 Extreme hot. The Individual Kit, or Team Kit (see 6.6), shall be conditioned to a stable temperature of one hundred and fifty-five degrees Fahrenheit (155°F) for twelve (12) hours, in accordance with MIL-STD-810. The cleaning components of the weapon kit shall be

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used after the extreme hot test to clean an M16 and optics as per Army TM 9-1005-319-10, WP Sequence No. 0014 Cleaning Instructions.

4.10.1.2 Extreme cold. The Individual Kit, or Team Kit (see 6.6), shall be conditioned to a stable temperature of minus fifty-five degrees Fahrenheit (-55° F) for twelve (12) hours, in accordance with MIL-STD-810. The cleaning components of the weapon kit shall be used after the extreme cold test to clean an M16 and optics as per Army TM 9-1005-319-10, WP Sequence No. 0014 Cleaning Instructions.

4.10.2 Salt spray. The Individual Kit, or Team Kit (see 6.6), shall be exposed to a Five Percent (5%) salt solution for forty-eight (48) hours, in accordance with ASTM-B117. After exposure, the Weapons Cleaning Kit and all its components shall be inspected for signs of degradation that adversely impact performance.

4.10.3 Chemical compatibility testing. Six (6) Individual Kits, or Team Kits (see 6.6), shall be sprayed or brushed with each liquid with a spray bottle or paint brush respectively. After exposure for one (1) hour to each liquid, the Weapons Cleaning Kit and its components shall be inspected for any signs of degradation that adversely impact performance.

4.11 Support and ownership verifications.

4.11.1 Drop test. The multi-purpose tool shall be dropped from a height of five (5) feet onto concrete. The multi-purpose tool shall be examined to verify all tools can unfold, fold, and relock and the pliers can be opened or closed. The drop test shall be conducted with these orientations:

- a. Multi-purpose tool open, on tip of pliers
- b. Multi-purpose tool open and knife blade extended, on tip of thinnest knife blade
- c. Multi-purpose tool open and smallest flat-tip screwdriver extended, on tip of screwdriver
- d. Multi-purpose tool open and smallest cross-tip screwdriver extended, on tip of screwdriver
- e. Multi-purpose tool open and file extended, on end of file

4.11.2 Workmanship. An Individual Kit, or Team Kit (see 6.6), shall be visually inspected to ensure the workmanship.

5. PACKAGING

5.1 Packaging. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2). When packaging of material is to be performed by DoD or in-house contractor personnel, these personnel need to contact the responsible packaging activity to ascertain packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activity within the Military Service of Defense Agency, or within the military service's system commands. Packaging data retrieval is available from the managing

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Military Department's or Defense Agency's automated packaging files, CD-ROM products, or by contacting the responsible packaging activity.

6. NOTES

(This section contains information of a general or explanatory nature that may be helpful but is not mandatory.)

6.1 Intended use. The intent of Individual Kit is to provide the Warfighter with the basic capability to keep/maintain their weapon functioning in a field operational environment. This kit is intended to be carried with the Warfighter during field operations as well as used by the Warfighter during required maintenance in garrison and training environments. The intent of the Team Kit is to provide each squad, or team, with the additional capability to more thoroughly clean their weapons and optics. This kit is intended to be used by Warfighters (Team) during field operations as well as used by Warfighters during required maintenance in garrison and training environments. Based on mission, enemy, terrain and weather, troops and support available, time available, civilian considerations (METT-TC) assessment, this kit may be carried by a designated Warfighter and/or left in garrison, or other suitable secure area at the discretion of the Commander.

6.2 Acquisition requirements. Acquisition documents should specify the following:

- a) Title, number, and date of this specification, and of all reference documents cited in Section 2 and applicable documents from Section 6.
- b) Requirement for design verification.
- c) Requirement for first article inspection.
- d) Requirement for conformance inspection.
- e) Packaging requirements (see 5.0).
- f) Inspection requirements (see 6.6).

6.3 Additional information. Material described by this item specification document is for a commercial off the shelf (COTS) product. Supplier should have non-developmental production capability.

6.4 Definitions.

6.4.1 Damage. Damage is defined as removal of finish, cracks, chips, burrs, or any negative influence on weapon operation due to the Weapons Cleaning Kit.

6.4.2 Analysis. An element of verification that uses established technical or mathematical models or simulations, algorithms, charts, graphs, circuit diagrams, or other scientific principles and procedures to provide evidence that stated requirements were met.

6.4.3 Demonstration. An element of verification that involves the actual operation of an item to provide evidence that the required functions were accomplished under specific scenarios. The items may be instrumented and performance monitored.

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6.4.4 Examination. An element of verification that is generally nondestructive and typically includes the use of sight, hearing, smell, touch, and taste; simple physical manipulation; and mechanical and electrical gauging and measurement.

6.4.5 Test. An element of verification in which scientific principles and procedures are applied to determine the properties or functional capabilities of items.

6.5 Kits selected for verification testing. Where indicated (see Section 4), either an Individual Kit or a Team Kit will be selected, at the discretion of the Government, for verification testing.

6.6 Subject term (key word) listing.

Close quarter battle
Small arms

6.7 Amendment notations. The margins of this specification are marked with vertical lines to indicate modifications generated by this amendment. 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.

Preparing activity:
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