TECHNICAL MANUAL
No. 9-4933-208-34

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 28 June 1967

DS AND GS MAINTENANCE MANUAL
FOR
KITS, BARREL EROSION GAGE, M8 AND M6A1

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CHAPTER 1
INTRODUCTION

Section I. GENERAL

1-1. Scope

a. This manual supplements instructions to armament personnel in direct support, and genera1 support maintenance units for attaining maximum uniformity in the inspection of lined barrels.

b. These instructions are for use by maintenance personnel and apply to erosion and condemnation limits of barrels and to the use and care of barrel erosion gage kits M8 and M6A1.

1-2. Forms and Records

a. General. DA Forms and procedures used for equipment maintenance will be only those prescribed in TM 38-750, Army Equipment Record Procedures.

b. Recommendations for Maintenance Manual Improvements. Report of errors, omissions, and recommendations for improving this manual by the individual user is encouraged. Reports should be submitted on DA Form 2028 (Recommended Changes to DA Publications) and forwarded direct to:

*This manual supersedes TB 9-4933-202-30, 16 February 1966.

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Section II. DESCRIPTION

1-3. Description

a. The M8 Barrel Erosion Gage Kit (fig. 1-1) is used for caliber .30 and 7.62-mm machine gun barrels.

b. The M6A1 Barrel Erosion Gage Kit (fig. 1-2) is used for the following caliber .50 machine gun barrels.

(1) Machine Gun, Caliber .50: AN-M2, AN-M3 (Aircraft).

(2) Machine Gun, Caliber .50: M2, HB.

(3) Machine Gun, Caliber .50: M85.

c. The information and data in this manual applies to both barrel erosion gages unless defined for a specific barrel erosion gage or barrel.

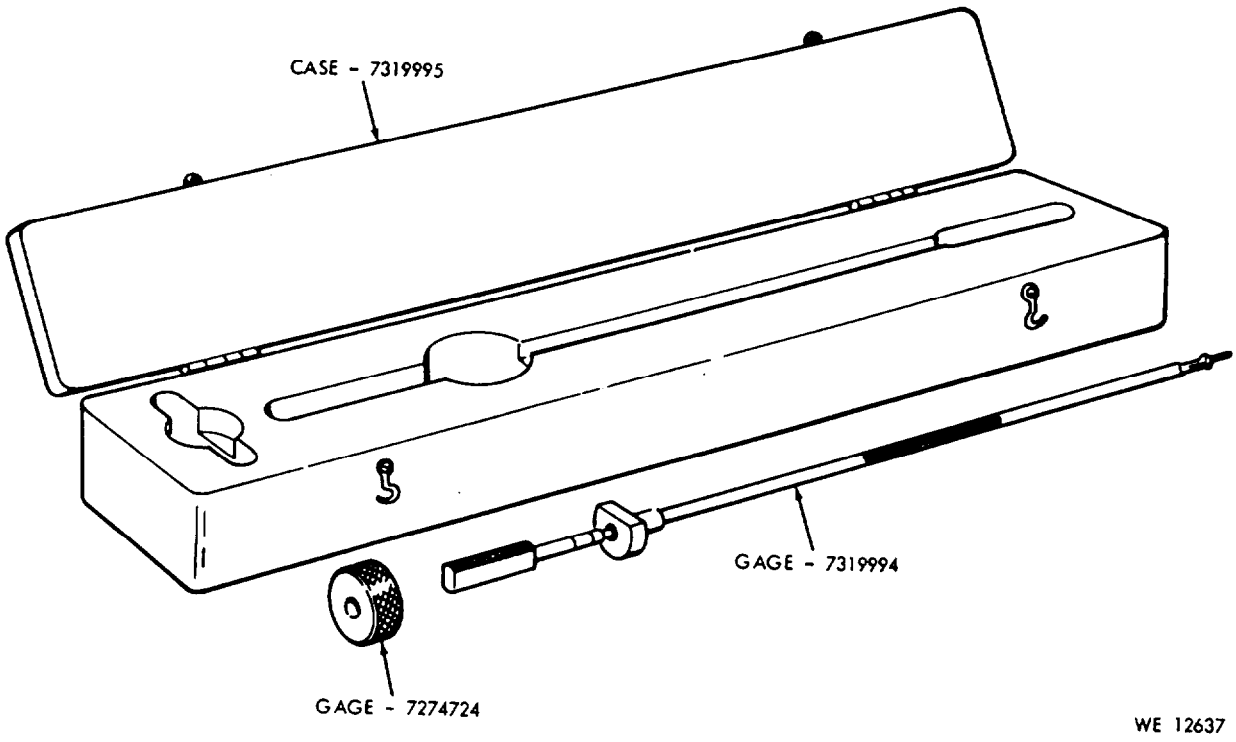

Figure 1-1. M8 Barrel Erosion Gage Kit.

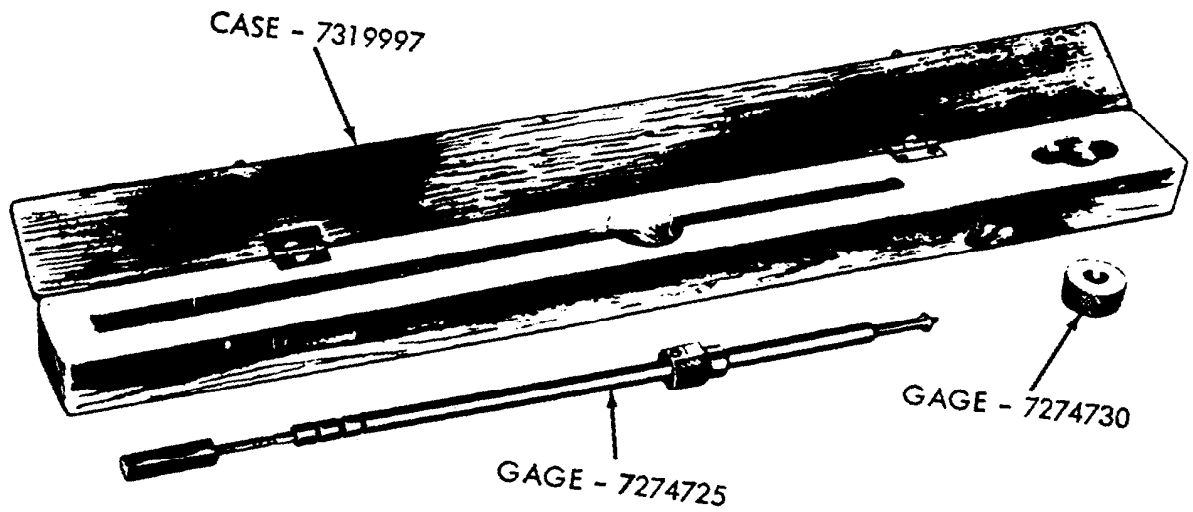

Figure 1-2. M6A1 Barrel Erosion Gage Kit.

CHAPTER 2

DIRECT AND GENERAL SUPPORT MAINTENANCE INSTRUCTIONS

Section I. INSPECTIONS

2-1. Area of Inspection

a. All caliber .30, 7.62-mm, and caliber .50 machine gun barrels are checked in front of the liner. Caliber .50, M2 heavy barrels and AN-M2 and M3 aircraft barrels are also checked forward of the bullet seat in the liner.

b. The Barrel Erosion Gage M8 is manufactured with a fixed stop and is used to inspect or gage one area or location.

c. The Barrel Erosion Gage M6A1 is manufactured with locating grooves for positioning stop to assure that caliber .50 barrels are inspected in the correct location.

Section II. SERVICEABILITY STANDARDS

2-2. Serviceability of Barrels

a. Barrels which gage within the "serviceable range" are usable in the hands of troops. The "preembarkation inspection mark" serves as a rejection point only for barrels destined to accompany troops oversea. The "rejection mark" indicates an unserviceable barrel.

b. Barrels should not be condemned solely on the basis of the number of rounds fired, as barrels fired under variable conditions (rate of fire, duration of fire, etc.) will differ in the amount of wear. Coppering of the liner and liner junction will not render the barrel unserviceable. The barrel erosion gage will be used to determine the serviceability of the barrel.

Section III. USE OF GAGE

2-3. Gage Usage

a. General.

(1) The gage employs a split collet measuring head which is expanded AFTER insertion into the barrel by the forward movement of the tapered portion of the rod.

(2) The gage is designed to check the barrel from the breech (chamber) end. The barrel must be removed from the weapon to use the gage. See applicable FM's and TM's for instructions on removal of the barrel.

Note. A false reading may be obtained if the chamber and the barrel are not thoroughly cleaned.

b. Prechecking Gage.

(1) Set the reject ring, of erosion gage, flush with the rear face of the gage tube, thus expanding the collet to indicate a reject condition.

(2) Insert the collet of the erosion gage into the wear check gage, collet should contact the inside diameter of the check gage and produce a slight drag.

Note. To avoid a false reading, care should be taken to prevent moving the gage rod from its setting.

(3) The erosion gage is worn when the collet fails to produce or make contact. Worn or damaged gages will be forwarded as specified in SB 9-75.

c. Precautions in Use of Gage.

(1) Do not expand collet prior to inserting gage in barrel.

(2) The gage rod must be retracted before inserting or removing the gage from

the barrel to avoid unnecessary wear and damage.

Caution: Do not gage a hot barrel. An incorrect reading will result and the collet may seize in the bore.

Section IV. CALIBER .30 AND 7.62-MM MACHINE GUN

2-4. Gaging Operation of Caliber .30 and 7.62-MM Machine Gun

(fig. 2-1).

a. To measure wear of the barrel, proceed as follows:

(1) Retract the tapered rod, and insert the gage into the barrel until the breech stop is seated flush against the breech end of barrel.

(2) The tapered rod is pushed gently, but firmly, into the gage tube until it is stopped by the collet engaging the bore.

(3) The reading is taken from the rod at the rear of the gage tube.

b. When reject ring is visible, barrel is serviceable.

c. Retract the tapered rod before removal of gage.

Section V. CALIBER .50 MACHINE GUN

2-5. Gaging Operations of Caliber .50 Machine Gun Barrels

(fig. 2-2).

Note. The liner of the M85 barrel is not to be gaged.

a. To measure wear in the liner, of caliber .50 barrels, proceed as follows:

(1) Engage the breech stop in one of the two forward grooves.

(2) The letters AC on the gage tube are revealed immediately to the FRONT of the stop, for checking aircraft barrels.

(3) The letters HB on the gage tube are revealed immediately to the FRONT of the stop, for checking M2 heavy barrels.

Note. The markings AC, HB, and M85 will not be visible during actual gaging operations. Check the breech stop setting prior to insertion of gage in all caliber .50 barrels.

(4) Retract the tapered rod, and insert the gage into the barrel until the breech stop is seated flush against the breech end of barrel.

(5) The tapered rod is pushed gently, but firmly, into the gage tube until it is stopped by the collet engaging the bore.

(6) The reading is taken from the rod at the rear of the gage tube. The recessed portion of the rod indicates that the barrel is new or no appreciable wear.

b. To measure wear ahead of the liner, move the breech stop to one of the rearward grooves. Use of the gage is the same as a above.

Section VI. MAINTENANCE

2-6. Maintenance of the Gages

Before using the gages, wipe with a clean, dry cloth to remove foreign particles, dirt, and oil. When not in use, wipe clean and oil and keep the gages in the case as a protection against possible damage.

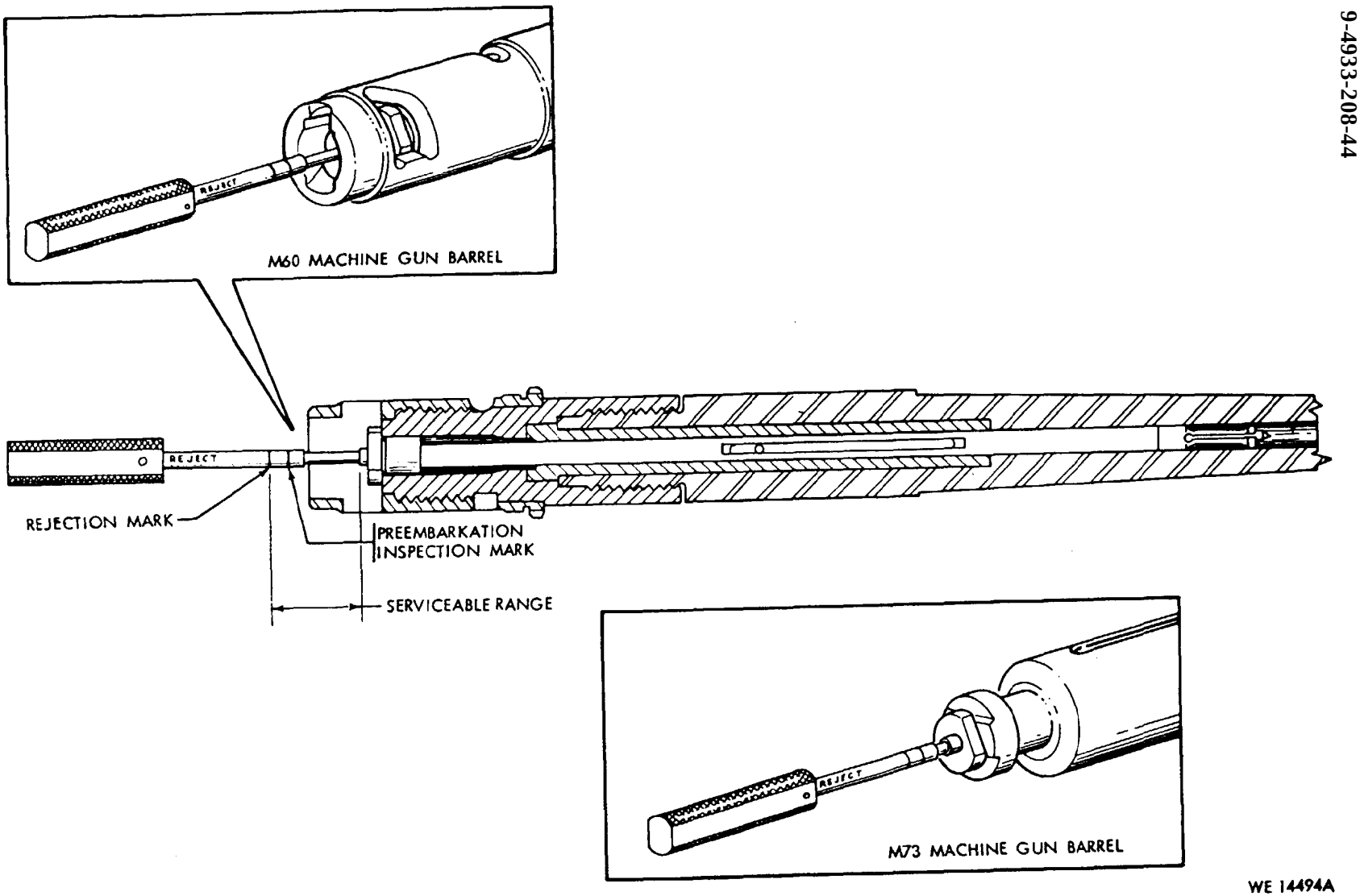

Figure 2–1. Gaging with M8 Barrel Erosion Gage.

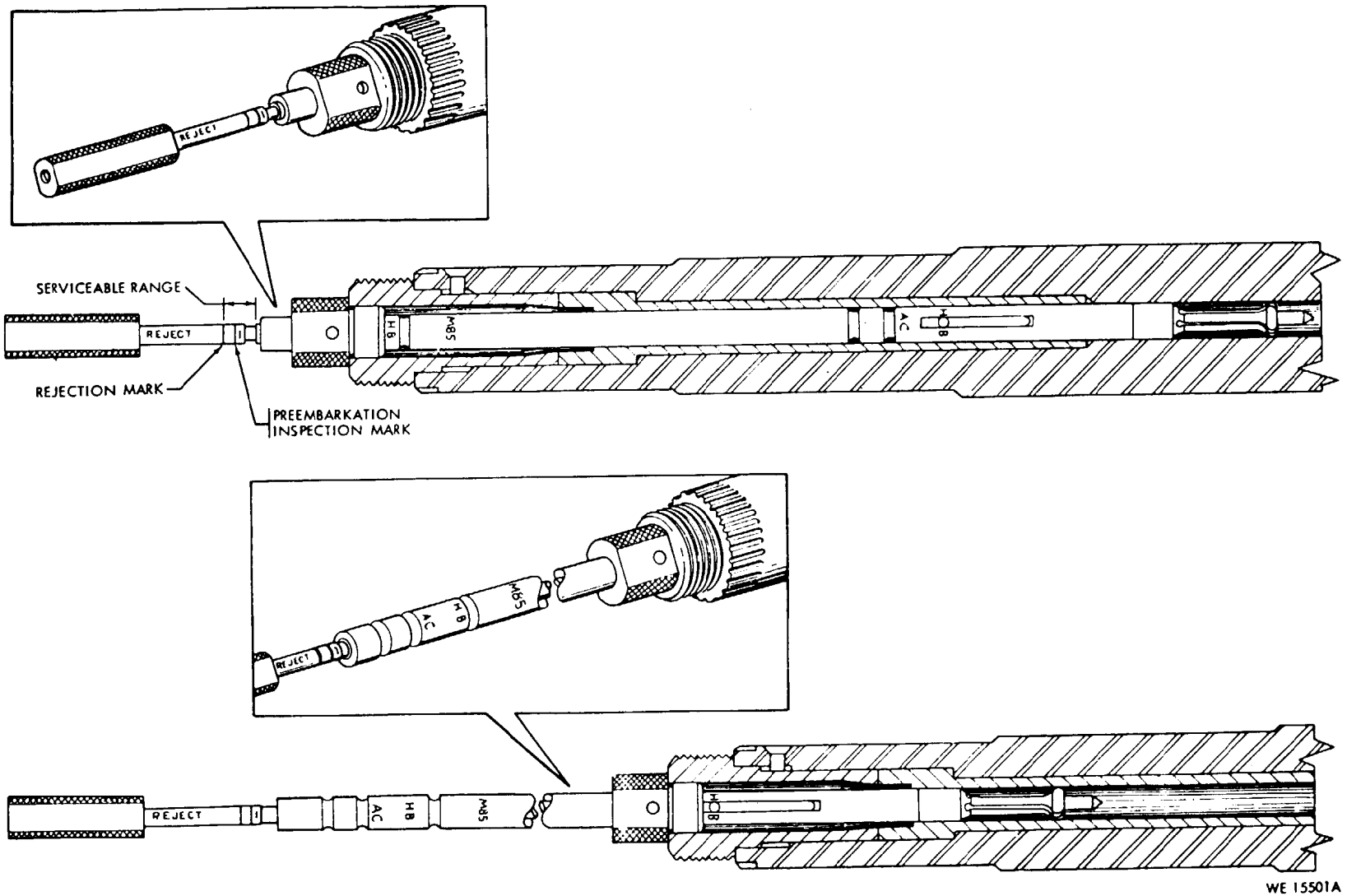

Figure 2-2. Gaging with M6A1 Barrel Erosion Gage.

By Order of the Secretary of the Army:

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Major General, United States Army,
The Adjutant General.

DISTRIBUTION:

To be distributed in accordance with DA Form 12-40, Direct and General Support Maintenance requirements for Machine Guns Caliber .30 and 7.62-MM and Machine Guns Caliber .50, M2 and M85.

U.S. GOVERNMENT PRINTING OFFICE: 1978-256-307/2194
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