

INCH-POUND

MIL-DTL-12109/13A

20 August 1998

SUPERSEDING

MIL-S-12109/13

22 November 1968

## PERFORMANCE SPECIFICATION SHEET

SOLENOID, ELECTRICAL; CLASS 2 (MACHINE GUN)  
CAL .50, 24 VOLT DC, 7.7 AMP MAX

This specification is approved for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification and the issue of MIL-DTL-12109 listed in that issue of the Department of Defense Index of Specifications and Standards (DoDISS) specified in the solicitation.

## APPLICABLE DOCUMENTS:

Government documents.

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 listed in the issue of the Department of Defense Index of Specifications and Standards (DoDISS) and supplement thereto, cited in the solicitation (see 6.2).

## SPECIFICATIONS

## DEPARTMENT OF DEFENSE

MIL-C-13486 - Cable, Special Purpose, Electrical: Low-Tension, Heavy-Duty, Single-Conductor and Multiconductor, Shielded and Unshielded, General Specification For.

AMSC N/A

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FSC 5945

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

## MIL-DTL-12109/13A

## STANDARDS

## DEPARTMENT OF DEFENSE

MS27142	- Connector, Plug, Electrical: Pin Contact, No. 12, 14 & 16 A.W.G., Waterproof.
MS27183	- Washer, Flat (Round, Steel, Cadmium Plated) General Purpose.
MS35265	- Screw, Machine-Drilled Fillister Head, Slotted, Carbon Steel, UNC-2A.

(Unless otherwise indicated, copies of the above specifications, standards, and handbooks are available from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.)

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

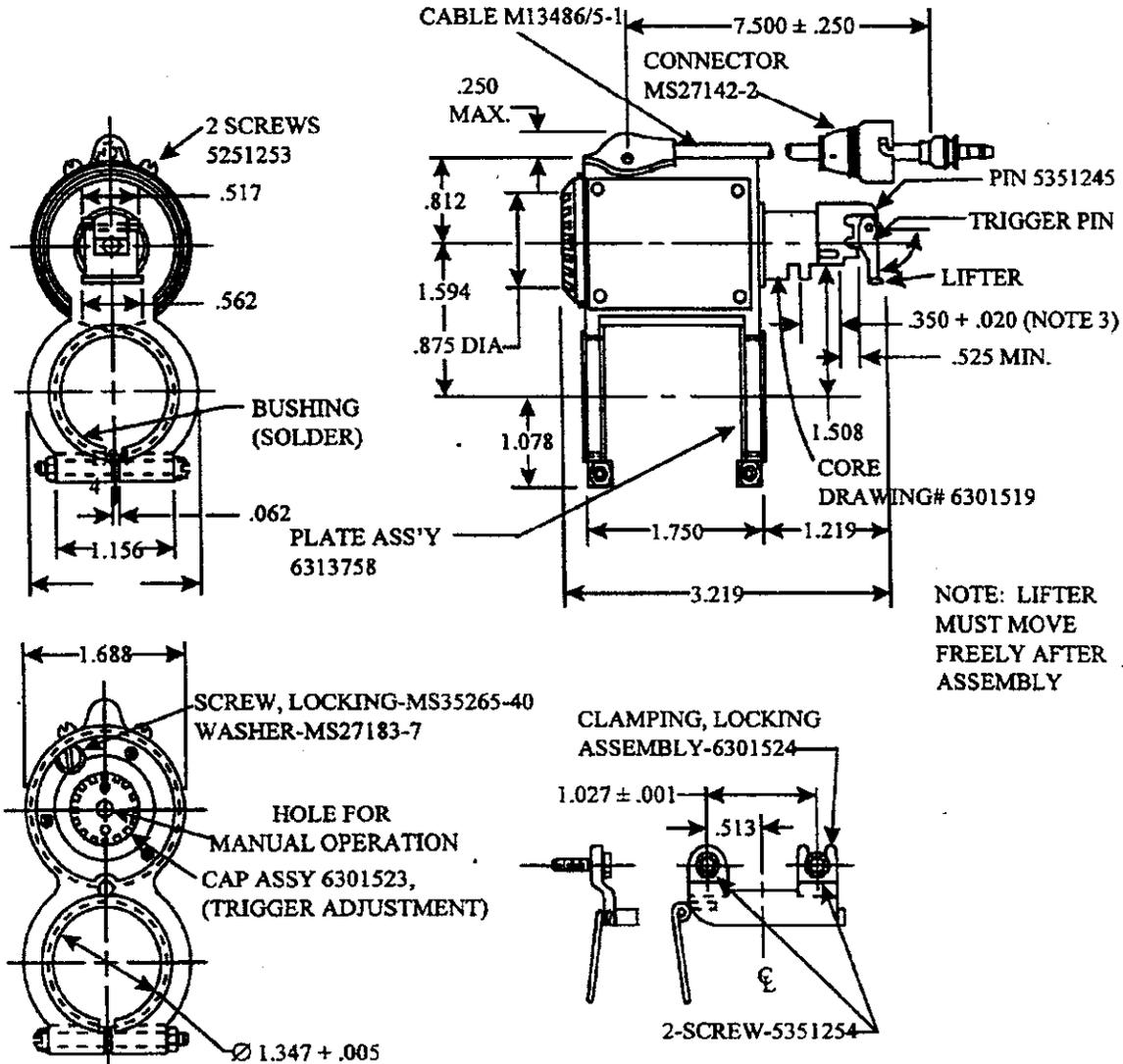
## DRAWING

5321245	-Pin.
5321253	-Screw.
5351232	-Bushing.
5351254	-Screw.
6301519	-Core.
6301523	-Cap Assembly.
6301524	-Clamp, Locking Assembly.

(Application for copies should be addressed to the U.S. Army Tank-automotive and Armaments Command, ATTN: AMSTA-TR-E/BLUE, Warren, MI 48397-5000.)

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REQUIREMENTS:



NOTES:

1. This drawing is for interface and envelope requirements and is not intended to limit design.
2. Dimensions are inches, Unless otherwise specified, tolerances are  $\pm .010$  on decimals,  $\pm 2^\circ$  on angular dimensions.

FIGURE 1. Solenoid characteristics.

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## NOTES:

3. The position of the trigger pin must be adjustable from a fully retracted position of  $0.350 + 0.020$  in. ( $0.89 \pm 0.05$  cm) from the locating notch to a fully extended position at least 0.525 in. (1.33 cm) from the locating notch. Adjustment shall be accomplished in steps not exceeding 0.003 in. (0.01 cm), indexing with detents by rotating the cap assembly over the full range of adjustment. In the fully retracted (min.) position, the adjusting cap must come to a stop. The travel of the trigger pin must be 0.160 in. (0.41 cm) when the solenoid is energized.
4. Clamp assembly used to locate and retain solenoids on buffer tube of gun, machine, cal .50, M2, fixed and turret type. Clamp assembly must be packaged with solenoid.

FIGURE 1. Solenoid characteristics - Continued.

The static force shall be a minimum of 25 pounds (lb) (11 kilograms (kg)) at 0.031 inches (in.) (0.08 centimeters (cm)) air gap over the specified operating voltage range.

The current shall not exceed 7.7 amperes maximum.

## NOTES:

PART OR IDENTIFYING NUMBER (PIN):

M12109/13 (Former part numbers M12109/13-1, 8724532, 7354150).

CHANGES FROM PREVIOUS ISSUE: Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

## Custodians:

Army - AT  
Navy - OS  
Air Force - 85

## Preparing Activity:

Army - AT  
(Project 5945-1025-05)

## Review Activities:

Army - AR, EA  
Navy - MC  
Air Force - 99  
DLA - CC

NOTICE  
OF VALIDATION

INCH-POUND

MIL-S-12109/13  
NOTICE 1  
25 JUNE 90

MILITARY SPECIFICATION

SOLENOID, ELECTRICAL; CLASS 2 (MACHINE GUN)  
CAL .50, 24 VOLT DC, 7.7 AMP MAX.

MIL-S-12109/13, dated 22 November 1968, has been reviewed and determined to be valid for use in acquisition.

Custodians:

Army - AT  
Navy - OS  
Air Force - 85

Preparing Activity:

Army - AT

Review Activities:

Army - MU, WC

User Activities:

Army - AV  
Navy - AS, MC

AMSC N/A

FSC 9510

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

MIL-S-12109/13  
22 November 1968

MILITARY SPECIFICATION SHEET  
Solenoid, Electrical; Class 2 (Machine Gun),  
Cal .50, 24 Volt DC, 7.7 AMP Max.

The complete requirements for procuring the Solenoid described herein shall consist of this document and the issue in effect of Specification MIL-S-12109.

This specification is mandatory for use by all Departments and Agencies of the Department of Defense.

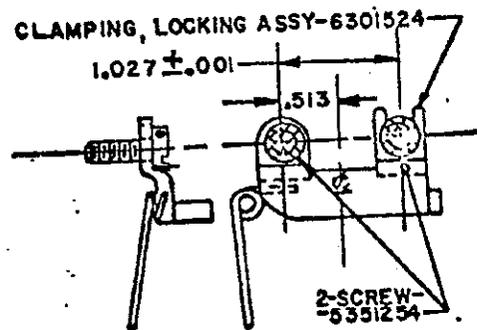
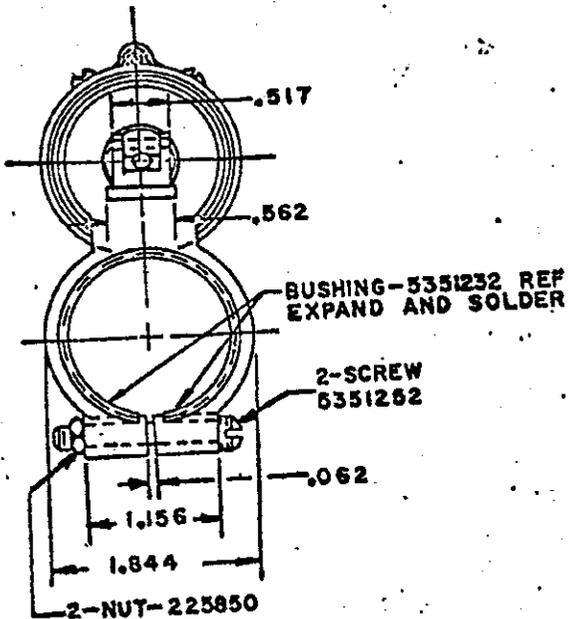
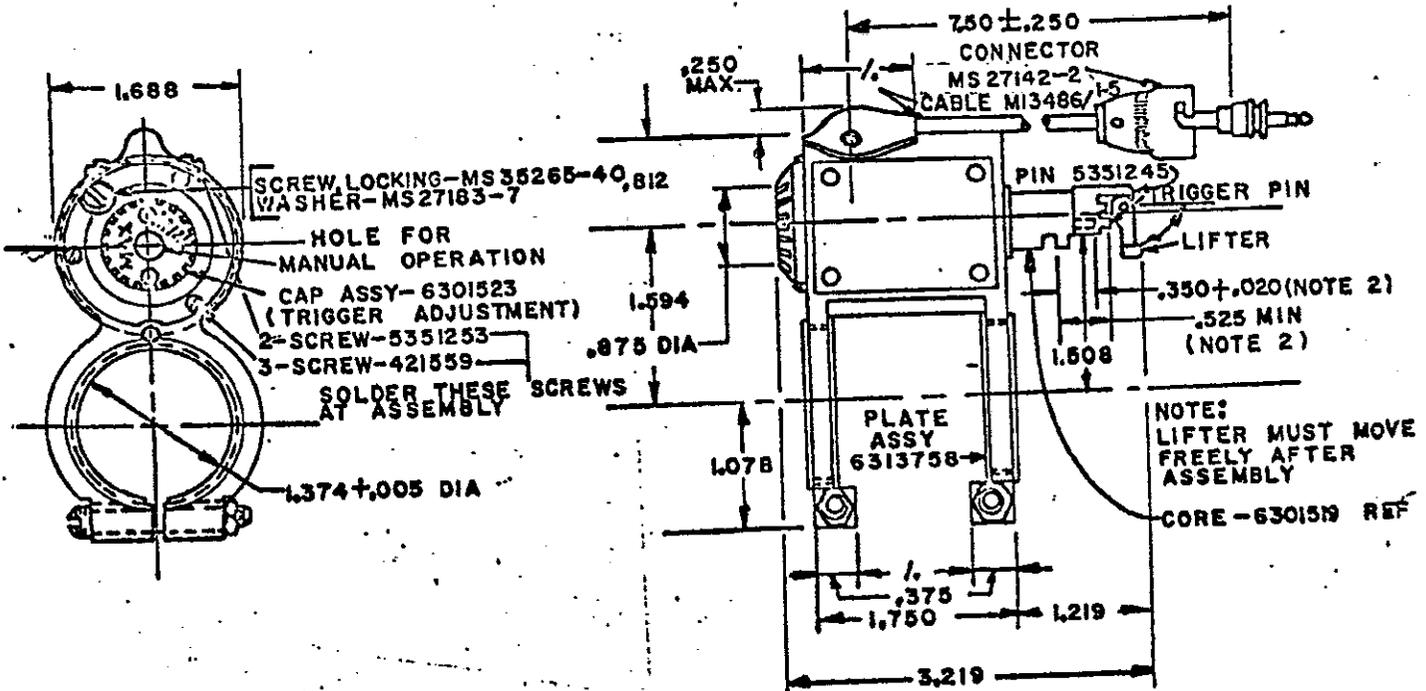
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MIL-S-12109/13



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## NOTES:

1. Dimensions are in inches. Unless otherwise specified, tolerances are  $\pm .010$  on decimals,  $\pm 2^\circ$  on angular dimensions.
2. The position of trigger pin must be adjustable from a fully retracted position of  $0.35 \pm 0.020$  inch from the locating notch to a fully extended position at least  $0.525$  inch from the locating notch. Adjustment shall be accomplished in steps not exceeding  $0.003$  inch, indexing with detents by rotating cap assembly 6301523 over the full range of adjustment. In the fully retracted (minimum) position, the adjusting cap must come to a stop. The travel of trigger pin must be  $0.160$  inch when the solenoid is energized.
3. Clamp assembly used to locate and retain solenoids on buffer tube of gun, machine, cal .50, M2, fixed and turret type. Clamp assembly, although not a part of solenoid, must be packaged with solenoid.

Requirement: 25 lbs Minimum static force at 0.031-inch air gap over specified operating voltage range.

Part Number: M12109/13-1

Former Army Part Numbers: 8724532  
7354150 For new design use Part No.  
M12109/13-1, For procurement use  
Part No. M12109/14-1

Custodians:  
Army - AT  
Navy - OS  
Air Force - 85

Preparing activity:  
Army - AT  
Project No. 5945-0144-13

Review activities:  
Army - MU, WC

User activities:  
Army - AV  
Navy - AS, MC