

INCH-POUND

MIL-STD-202-206

18 April 2015

SUPERSEDING

MIL-STD-202G

w/CHANGE 2 (IN PART)

28 June 2013

(see 6.1)

DEPARTMENT OF DEFENSE
TEST METHOD STANDARD
METHOD 206, LIFE (ROTATIONAL)



AMSC N/A

FSC 59GP



MIL-STD-202-206

FOREWORD

1. This standard is approved for use by all Departments and Agencies of the Department of Defense.
2. This entire standard has been revised. This revision has resulted in many changes to the format, but the most significant one is the splitting the document into test methods. See MIL-STD-202 for the change summary.
3. Comments, suggestions, or questions on this document should be emailed to std202@dla.mil or addressed to: Commander, Defense Logistics Agency, DLA Land and Maritime, ATTN: VAT, P.O. Box 3990, Columbus, OH 43218-3990. 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>.

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METHOD 206
LIFE (ROTATIONAL)

1. SCOPE

1.1 Purpose. This test is performed for the purpose of determining the effects of subjecting electronic and electrical parts, which are actuated by rotational motion, to a number of operations approximating the life of the part. Total resistance, contact resistance, and dielectric strength are samples of measurements which may be made prior to, during, or after test, and which would show the effects of rotational actuation. Measurements prior to and after test are generally made for comparison purposes and would indicate the amount of change that results from this test. Parts with sealed shafts and bushings might have the effectiveness of the seal disturbed by rotation; a sealing test performed after this test would disclose this inadequacy. A switch-life test may be performed in conjunction with this test method.

2. APPLICABLE DOCUMENTS

This section not applicable to this standard.

3. DEFINITIONS

This section not applicable to this standard.

4. GENERAL REQUIREMENTS

4.1 Mounting. Specimens shall be mounted in their normal operating position by the intended means. Normal care shall be taken in the mounting procedure to prevent the binding of shafts during rotation. Figure 1 shows a suggested means of preventing this condition, when applicable. Mechanisms such as slip clutches may be used to prevent damage from the application of excessive torque to the specimens. When this test is conducted at an elevated temperature (see 4.6), the spacing between a group of like specimens shall be as specified.

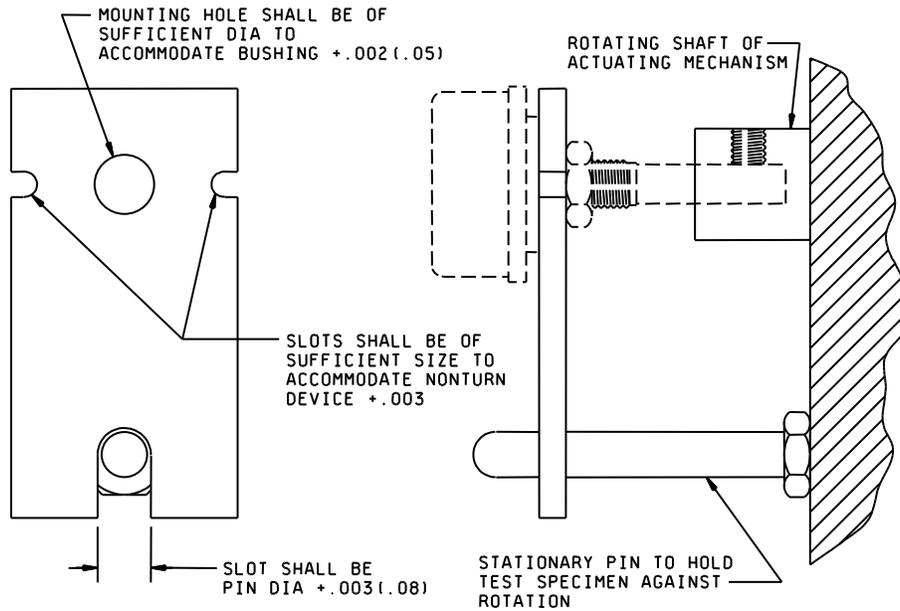
4.2 Test potential and load. The test potential and load applied to the specimens during rotation shall be as specified.

4.3 Cycle. A cycle shall consist of a rotation of the shaft from one stop position to the other stop position (passing through detent positions, if any), and return to the original position. For specimens not having stops, a cycle shall consist of a rotation of the shaft 360° and return, unless otherwise specified. Specimens with adjustable stops shall have the stops so placed as to permit maximum rotation. Specimens that are rotated by means other than a shaft shall meet the requirements of this paragraph by rotation 360° and return, unless otherwise specified, or from stop to stop.

4.4 Cycle rate. The cycle rate shall be expressed in cycles per minute (cpm), and shall be as specified.

4.5 Number of cycles. Specimens shall be subjected to one of the following test conditions, as specified:

Test condition	Number of cycles	Test condition	Number of cycles
A -----	500	H -----	100,000
B -----	2,000	J -----	200,000
C -----	5,000	K -----	300,000
D -----	10,000	L -----	500,000
E -----	15,000	M -----	1,000,000
F -----	25,000	N -----	2,000,000
G -----	50,000		



NOTES:

1. Dimensions are in inches.
2. Metric equivalents are in parentheses and are given for general information only.

FIGURE 1. Suggested mounting fixture for rotational-life test.

4.6 Temperature and atmospheric pressure. When specified, this test shall be performed at elevated or reduced temperature and at other than room ambient atmospheric pressure.

5. DETAILED REQUIREMENTS

5.1 Measurements. Specified measurements or tests shall be made prior to, during, or after rotations, as specified.

5.2. Summary. The following details are to be specified in the individual specification:

- a. Spacing of specimens for elevated-temperature testing, when applicable (see 4.1).
- b. Test potential and load (see 4.2).
- c. Cycle, if other than specified (see 4.3).
- d. Cycle rate in cpm (see 4.4).
- e. Test condition letter (see 4.5).
- f. Temperature and atmospheric conditions, when applicable (see 4.6).
- g. Measurements or tests prior to, during, or after rotations, as applicable (see 5.1).

6. NOTES

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

6.1 Supersession data. The main body and 38 parts of this revision of MIL-STD-202 replace superseded MIL-STD-202.

Custodians:

Army - CR
Navy - EC
Air Force - 85
DLA - CC

Preparing activity:
DLA – CC

(Project 59GP-2015-020)

Review activities:

Army - AR, AT, AV, CR4, MI, SM, TE
Navy - AS, OS, SH
Air Force - 19, 99
NSA - NS

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at <https://assist.dla.mil/>