NASM1312-27
29 August 1997

ADOPTION NOTICE

NASM1312-27, "Fastener Test Methods Method 27 Panel Fastener Sheet Pull Up" was adopted on 29 August 1997 for use by the Department of Defense (DoD). Proposed changes by DoD activities must be submitted to the DoD Adopting Activity: Commander, Naval Air Warfare Center Aircraft Division, Code 414100B120-3 Highway 547, Lakehurst, NJ 08733-5100. DoD activities may obtain copies of this standard from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094. The private sector and other Government agencies may purchase copies from the Aerospace Industries Association, 1250 Eye Street NW, Washington, DC 20005.

NASM1312-27 Should be used instead of MIL-STD-1312-27, which was cancelled on 29 August 1997.

Custodians:
Army - AV
Navy - AS
Air Force - 11

Review Activities:
Army - AV, AR
Navy - AS, SH
Air Force - 11
DLA - IS

Preparing activity:
Navy - AS
(Project No. 53GP-0285-27)

NATIONAL AEROSPACE STANDARD

NASM1312-27
STANDARD PRACTICE

FASTENER TEST METHODS

METHOD 27,

PANEL FASTENER SHEET PULL-UP

Aerospace Industries Association

THE INITIAL RELEASE OF THIS DOCUMENT SUPERSEDES MIL-STD-1312-27

DESIGNATION FOR THIS TEST METHOD REMAINS MIL-STD-1312-27

LIST OF CURRENT SHEETS									
NO.	1	2	3	4	5	6	7		
REV.	NEW	NEW	NEW	NEW	NEW	NEW	NEW		

FSC 53GP

APPROVAL DATE AUGUST 1997

NATIONAL AEROSPACE STANDARD

FOREWORD

This standard sets forth a standard test procedure to determine the sheet pull-up capability of quick-operating structural panel fasteners.

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FIGURE

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1. SCOPE

1.1 Applicability. This method covers the procedure for testing all types of quick-operating structural panel fasteners to determine sheet pull-up capability. The installed fastener shall be capable of initial engagement when a sheet separation exists. The fastener shall then be capable of drawing the sheets together at the fastener to the fully locked condition.

2. REFERENCED DOCUMENTS

2.1 Government documents.

2.1.1 Specifications, standards and handbooks. Unless otherwise specified, the following specifications, standards and handbooks of the issue listed in the current Department of Defense Index of Specifications and Standards (DoDISS) and the supplement thereto (if applicable), form a part of this standard to the extent specified herein.

SPECIFICATIONS

FEDERAL

QQ-A-250/4 Aluminum Alloy Plate and Sheet 2024

QQ-A-250/12 Aluminum Alloy Plate and Sheet 7075

GGG-W-686 Wrench, Torque

(Copies of specifications, standards, handbooks, drawings and publications required by contractors in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting officer.)

3. DEFINITIONS Not applicable

4. GENERAL REQUIREMENTS

4.1 Test apparatus.

4.1.1 Torque wrench. Torque applied for unlocking fastener or for locking into locked position shall be measured with a torque indicating wrench calibrated for accuracy within the limits specified by GGG-W-686.

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4.2 Test specimen. The fastener shall be installed in flat plates of aluminum alloy (2024-T4, 2024-T3, 2024-T6 or 7075-T6) in accordance with QQ-A-250/4 or QQ-A-250/12. The plate size shall be 3 inches (76.2 mm) by 5 inches (127 mm) by 0.125-inch (3.175 mm). Recommended holes in plates shall conform to fastener procurement specifications. The receptacle shall be mounted with centerline of attaching holes lengthwise in the plate. The manipulated member stud will engage in the receptacle when two 0.062-inch (1.57 mm) thick feeler gages are inserted between the inner and outer plates and 1.5 inches (38 mm) on each side of the manipulated member (or shear bushing if specified; see figure 1).

5. DETAIL REQUIREMENTS

5.1 Test procedures.

5.1.1 Before beginning the test, lower test panel shall be secured to prevent turning.

5.1.2 Torque shall be applied to the manipulated member stud with torque wrench and rotated until fastener and sheets are in fully locked position. Both sheets shall touch each other in immediate area of manipulated member or shear bushing such that a 0.0015-inch shim cannot be slid in to touch the fastener shank. The torque readings shall be recorded.

5.1.3 With test sample in full locked position, the torque shall be applied counterclockwise and rotated until unlock position has been achieved. These torque readings shall be recorded.

5.1.4 The minimum and maximum torque values for criteria in 5.1.2 and 5.1.3 shall be specified by the user.

6. NOTES

6.1 Test report. The test report shall contain the following data:

a. Fastener description

b. Part number

c. Job identification

d. Manufacturer

e. Torque (5.1.2)

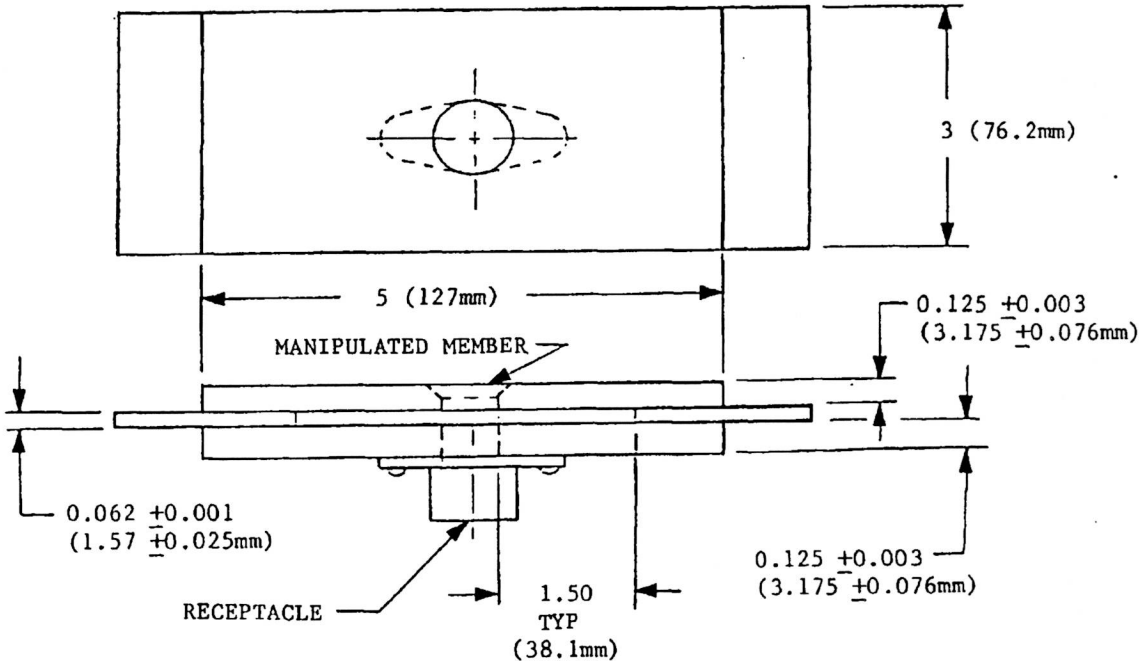
f. Torque (5.1.3)

g. Test date

h. Manipulated member grip length

i. Number of specimens tested

j. Test plate material and temper



1. DIMENSIONS ARE IN INCHES.

FIGURE 1. Test specimen.