

SCTE | **STANDARDS**

Interface Practices Subcommittee

AMERICAN NATIONAL STANDARD

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**Test Method for
Cantilever Force, Female “F” Port**

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Document Types and Tags

Document Type: Specification

Document Tags:

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| <input checked="" type="checkbox"/> Test or Measurement | <input type="checkbox"/> Checklist | <input type="checkbox"/> Facility |
| <input type="checkbox"/> Architecture or Framework | <input type="checkbox"/> Metric | <input type="checkbox"/> Access Network |
| <input type="checkbox"/> Procedure, Process or Method | <input type="checkbox"/> Cloud | <input type="checkbox"/> Customer Premises |

Document Release History

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Note: Standards that are released multiple times in the same year use: a, b, c, etc. to indicate normative balloted updates and/or r1, r2, r3, etc. to indicate editorial changes to a released document after the year.

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1. Introduction

1.1. Executive Summary

High cantilever forces on “F” ports can damage them. This test procedure specifies a way to apply a cantilever force on ports and inspect them for damage.

1.2. Scope

This test procedure is used to evaluate the mechanical strength of female “F” ports on passive or active devices when a cantilever force is applied to the port.

1.3. Benefits

This procedure is needed to determine whether a “F” port is strong enough to withstand high cantilever forces without damage.

1.4. Intended Audience

This is a laboratory test intended for engineers to evaluate product performance.

1.5. Areas for Further Investigation or to be Added in Future Versions

None

2. Normative References

The following documents contain provisions which, through reference in this text, constitute provisions of this document. The editions indicated were valid at the time of subcommittee approval. All documents are subject to revision and, while parties to any agreement based on this document are encouraged to investigate the possibility of applying the most recent editions of the documents listed below, they are reminded that newer editions of those documents might not be compatible with the referenced version.

2.1. SCTE References

No normative references are applicable.

2.2. Standards from Other Organizations

No normative references are applicable.

2.3. Other Published Materials

No normative references are applicable.

3. Informative References

The following documents might provide valuable information to the reader but are not required when complying with this document.

3.1. SCTE References

No informative references are applicable.

3.2. Standards from Other Organizations

No informative references are applicable.

3.3. Other Published Materials

No informative references are applicable.

4. Compliance Notation

<i>shall</i>	This word or the adjective “ <i>required</i> ” means that the item is an absolute requirement of this document.
<i>shall not</i>	This phrase means that the item is an absolute prohibition of this document.
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5. Abbreviations and Definitions

5.1. Abbreviations

SCTE	Society of Cable Telecommunications Engineers
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5.2. Definitions

Definitions of terms used in this document are provided in this section. Defined terms that have specific meanings are capitalized. When the capitalized term is used in this document, the term has the specific meaning as defined in this section.

Cantilever	A rigid beam (fixture) supported at one end and free at the other
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6. Equipment

Tensile force testing machine¹ with a recording device. It may be desirable to have an automatic cut off feature which can be activated by a maximum excursion limit setting and/or maximum force limit.

Mounting stand to secure the sample to the Instron base with the sample test port perpendicular to the axis of applied force. A possible configuration is shown in the accompanying drawing (Figure 1).

Cantilever test fixture (Figure 2) that goes over the port to be tested.

Mounting fixture to attach the test fixture to the Instron moving cross head. A pin through the test fixture 0.25 inch hole allows it to swivel as the cross head moves up.

7. Test Samples

A minimum of five samples of each device shall be used for testing.

8. Testing Method

1. Calibrate the tensile test fixture per the manufacturer's recommendations.
2. Secure the device with the female "F" port to be tested to the mounting base.
3. Install the cantilever test fixture onto the female "F" port to be tested and zero out the force gauge.
4. The female "F" port under test shall be pulled to the specified limit or until failure at a cross head speed of 2 inches per minute. Failure is defined as any part of the port breaking, cracking or bending when inspected with the naked eye.
5. Record the maximum measured tensile force on the attached Report Form.
6. Calculate cantilever failure force applied to the tip of the female "F" port using the following formula:

$$\text{Cantilever Force} = \text{Tensile Force} * 7.5$$

Note: The factor 7.5 is the ratio of the test fixture length, 2.25", to the port bore depth, 0.30".

¹ Device may be compliant with Instron Model 1122 or equivalent. This identification of products or services is not an endorsement of those products or services or their suppliers

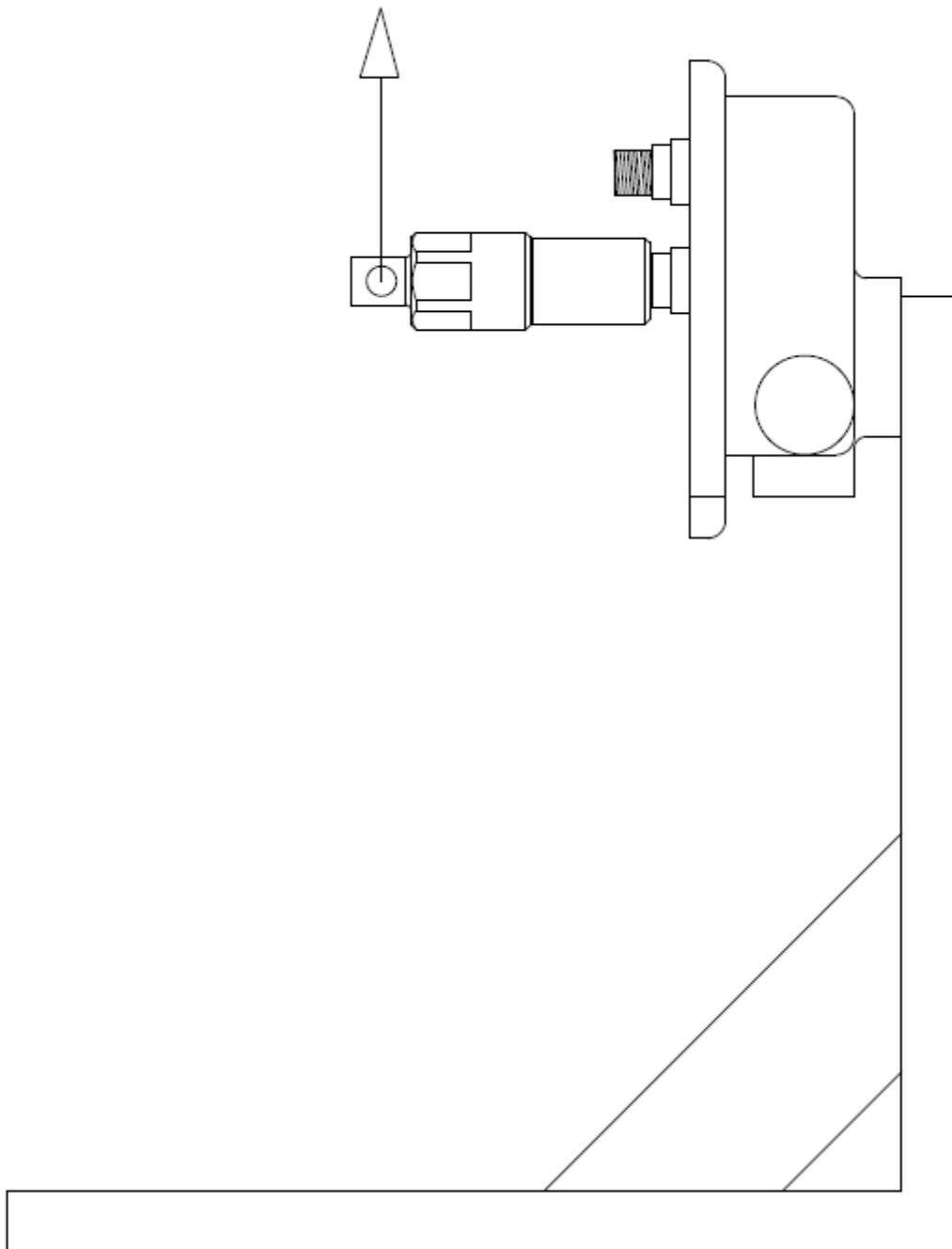


Figure 1 - Possible Mounting Stand With Device And Test Fixture Attached. Test Fixture To Be Pulled In The Direction Indicated By The Arrow.

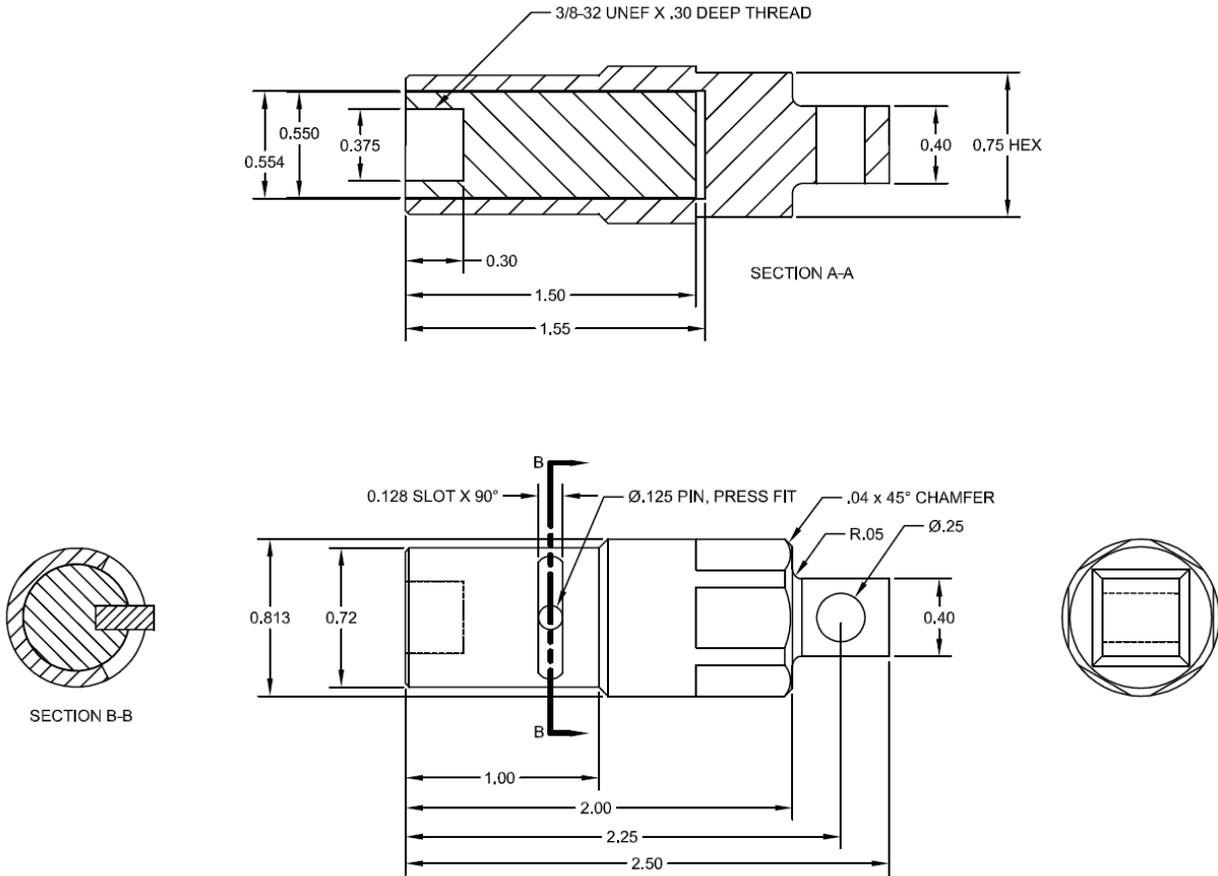


Figure 2 - Test Fixture Design

Appendix A Report Form

Device Type			
Manufacturer			
Test Sample Number	Force Measured on Tensile Tester (lbf)	Cantilever Failure Force at Port Tip (lbf)	Comments
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			