



Exterior Plastic Part Sonic Weld Retention Test

1 Introduction

Note: Nothing in this standard supercedes applicable laws and regulations.

Note: In the event of conflict between the English and domestic language, the English language shall take precedence.

1.1 Purpose. The purpose of this procedure is to determine if sonic welded exterior plastic parts meet the individual weld retention requirements of the Subsystem Technical Specifications (SSTS).

1.2 Applicability. This test procedure is to be used on sonic welded exterior plastic parts.

2 References

Note: Only the latest approved standards are applicable unless otherwise specified.

2.1 External Standards/Specifications.

None

2.2 GM Standards/Specifications.

None

2.3 Additional References.

- Subsystem Technical Specifications (SSTS)

3 Resources

3.1 Facilities.

3.1.1 Calibration. The test facilities and equipment shall be in good working order and shall have a valid calibration label.

3.1.2 Alternatives. Alternative test facilities and equipment may also be used. However, all measuring variables as specified in this standard shall be determined correctly with respect to their physical definition.

3.2 Equipment.

3.2.1 Clamps. Clamps are required to secure the sample to the tension tester.

3.2.2 Tension Tester Attachment. An attachment per Figure 1 is required for this test.

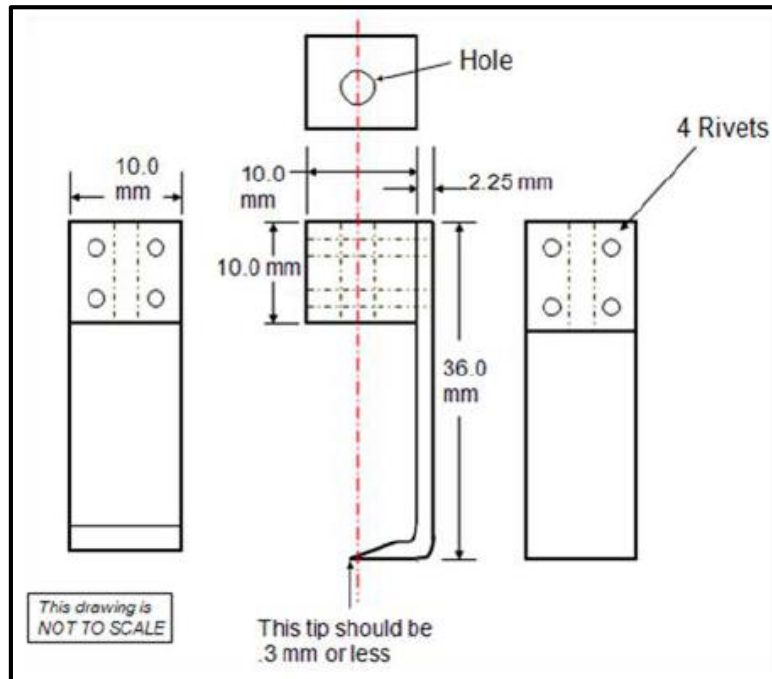


Figure 1: Diagram of Tip for Retention Gauge

3.2.3 Instrumentation.

3.2.3.1 Tension Tester. A tension tester with over a 500 N load capability.

3.2.3.2 Data Recorder. Force recording equipment with over a 500 N load capability.

3.3 Test Vehicle/Test Piece.

3.3.1 Validation Part Requirements. Each sonic weld shall be tested on six different parts, three tests in two different locations relative to the weld.

3.4 Test Time.

Calendar time: 1 d

Test hours: 4 h

Coordination hours: 4 h

3.5 Test Required Information. The peak force to separate the sonic welded exterior parts.

3.6 Personnel/Skills. Prior experience in setting up and running similar tests and experience in the use of the referenced equipment are critical to achieving the estimated times shown in 3.4.

4 Procedure

4.1 Preparation.

4.1.1 Mark Part. Mark an outline around each sonic weld to be tested on the part. The size of the outline must exceed the sonic weld as shown in Figure 2 for cross-sectional peels and Figure 3 longitudinal peels.