



Fuel Filler Door Assembly High Heat and Humidity 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 test procedure is to determine if a fuel filler or charge port door assembly meets the dimensional requirements defined in the Subsystem Technical Specifications (STS) when exposed to a high heat and high humidity environment.

1.2 Applicability. All fuel filler and charge port doors.

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.

- Production Tool Co.: <http://www.assemblytoolspecialists.com>

3 Resources

3.1 Facilities. An environmental chamber large enough to accommodate the fuel filler door assembly attached to a section of the body and capable of maintaining a constant temperature and humidity of 60 °C and 85% relative humidity (RH).

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.

Note: The following items are typically required to perform this test. Other equipment may be substituted at the discretion of the testing facility as long as it provides the same data with equivalent accuracy and is approved by the subsystem validation engineer (SVE) and design release engineer (DRE).

3.2.1 Paint Pen. A paint pen is required to mark the measurement locations on the fuel filler door and sheet metal.

3.2.2 Flushness Gauge. A flushness gauge is required to record pre-test, at temperature, and post-test fuel filler door to body flushness measurements. See Figure 1. One supplier of this product is Production Tool Co. The Production Tool Co. part number is 13131 and can be ordered on the internet at <http://www.assemblytoolspecialists.com>. See Figure 1.

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Figure 1: Flushness Gauge

3.2.3 Water Source. A water source such as a sink faucet or garden hose is required to apply water to the fuel filler door to body gap prior to test.

3.3 Test Vehicle/Test Piece.

3.3.1 Fuel Filler Door Assembly. The fuel filler door assembly includes the door, housing, spring, and push-push mechanism. See Figure 2.



Figure 2: Fuel Filler Door Assembly

3.3.1.1 Fuel Filler Door.

3.3.1.1.1 Design Validation Test Parts. The fuel filler doors used for design validation must be exposed to the assembly plant paint bake cycle prior to test.

3.3.1.2.2 Product Validation Test Parts. The fuel filler doors used for product validation must be painted at the assembly plant using the production paint process and paint fixtures.

3.3.2 Section of the Body. A section of the body which surrounds the fuel filler door assembly. See Figure 3.

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Figure 3: Section of the Body

3.3.3 Quantity. This test must be run on a minimum of three separate fuel filler door assemblies. The same section of the body can be used for all three tests.

3.4 Test Time.

Calendar time: 4 days

Test hours: 72 hours

Coordination hours: 4 hours

3.5 Test Required Information. Pre-test, at temperature, and post-test fuel filler door to body flushness measurements.

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

4 Procedure

4.1 Preparation.

4.1.1 Test Piece Attachment. Attach fuel filler door assembly to section of the body. Confirm engagement of all fuel filler door assembly attachments to the section of the body. See Figure 4.

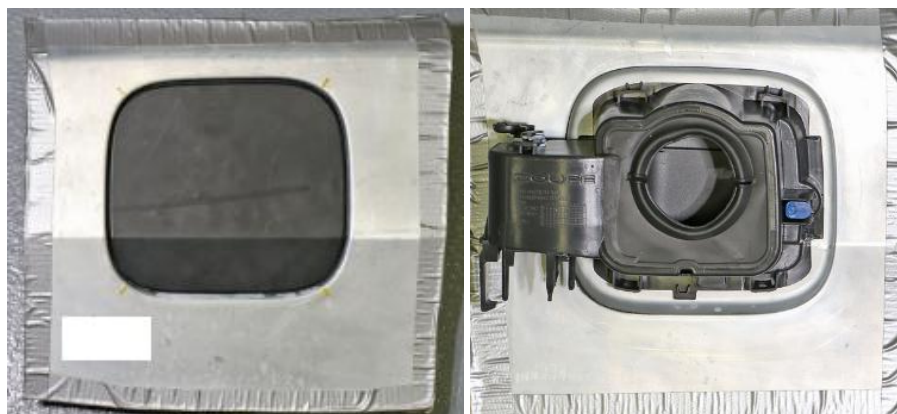


Figure 4: Attachment of Fuel Filler Door Assembly to Section of the Body

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