SURFACE VEHICLE RECOMMENDED PRACTICE

J1114™ APR2025

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Superseding J1114 APR2019

Fuel Tank Filler Cap and Cap Retainer Threaded

RATIONALE

Five-Year Review, and updated document to latest SAE formatting. Also updated 4.3 for clarity.

1. SCOPE

This SAE Recommended Practice was developed primarily for passenger car and truck applications, but it may be used in marine, industrial, and similar applications.

1.1 Purpose

The purpose of this document is to provide dimensions for two types of threaded fuel tank filler caps (pressure/vacuum and non-vented or vacuum only) and the corresponding cap retainers (see Figures 1 and 2). The use of these dimensions prevents the use of a non-vented or vacuum-only cap with a pressure/vacuum cap retainer. However, these dimensions will allow a pressure/vacuum cap to be used on a non-vented or vacuum-only cap retainer.

2. REFERENCES

2.1 Applicable Documents

The following publications form a part of this specification to the extent specified herein. Unless otherwise indicated, the latest issue of SAE publications shall apply.

2.1.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or +1 724-776-4970 (outside USA), www.sae.org.

SAE J285 Dispenser Nozzle Spouts for Liquid Fuels Intended for Use with Spark Ignition and Compression Ignition Engines

SAE J1140 Filler Pipes and Openings of Motor Vehicle Fuel Tanks

TO PLACE A DOCUMENT ORDER: **Tel: 877-606-7323 (inside USA and Canada)**
Tel: +1 724-776-4970 (outside USA)
Fax: 724-776-0790
Email: CustomerService@sae.org
SAE WEB ADDRESS: **http://www.sae.org**

For more information on this standard, visit
https://www.sae.org/standards/content/J1114_202504/

2.2 Related Publications

The following publications are provided for information purposes only and are not a required part of this SAE Technical Report.

2.2.1 ISO Publications

Copies of these documents are available online at https://webstore.ansi.org/.

ISO 13331 Road Vehicles - Filler Pipes and Openings of Motor Vehicle Fuel Tanks - Vapor Recovery Systems

3. DEFINITIONS

3.1 GASKET SEALING SURFACE

Sealing surface for cap seal/gasket, as well as for boot-style Stage 2/EVR nozzles, as called out in SAE J285. The sealing surface requires a relatively flat surface between 46.3 and 57.9 mm, within 0.25 mm TIR.

3.2 NOZZLE LATCHING LIP

Nozzle latching lip, also known as anchor lip or locking lip, is the location where the nozzle anchor interfaces the filler pipe for retention during a refueling event.

4. REQUIREMENTS

4.1 Pressure/Vacuum Cap

Cap design that provides both pressure and vacuum relief for the fuel system on either a primary or a secondary basis. See Figure 1 for dimensions. This design should not be used for an onboard vapor recovery fuel system.

4.2 Non-Vented Cap/Vacuum-Only Cap

Cap design that provides vacuum relief for the fuel system on either a primary or a secondary basis. See Figure 2 for dimensions.

4.3 Nozzle Latching Lip

Primary nozzle latching lip must be orientated in the filler pipe to be within 4.0 to 11.0 mm from the gasket sealing surface. The nozzle latching lip shall be at least 100 degrees of the inside circumference of the filler pipe. The latching lip shall be orientated such that it extends at least 35 degrees to either side of the reference plane in Figure 3

4.4 External Clearance to the Fuel Nozzle

Refer to SAE J1140 for filler pipe clearance and acceptance criteria.

4.5 Allowable Interface Leakage During Refueling with Vapor Recovery Systems

Refer to SAE J1140 for procedure and acceptance criteria.

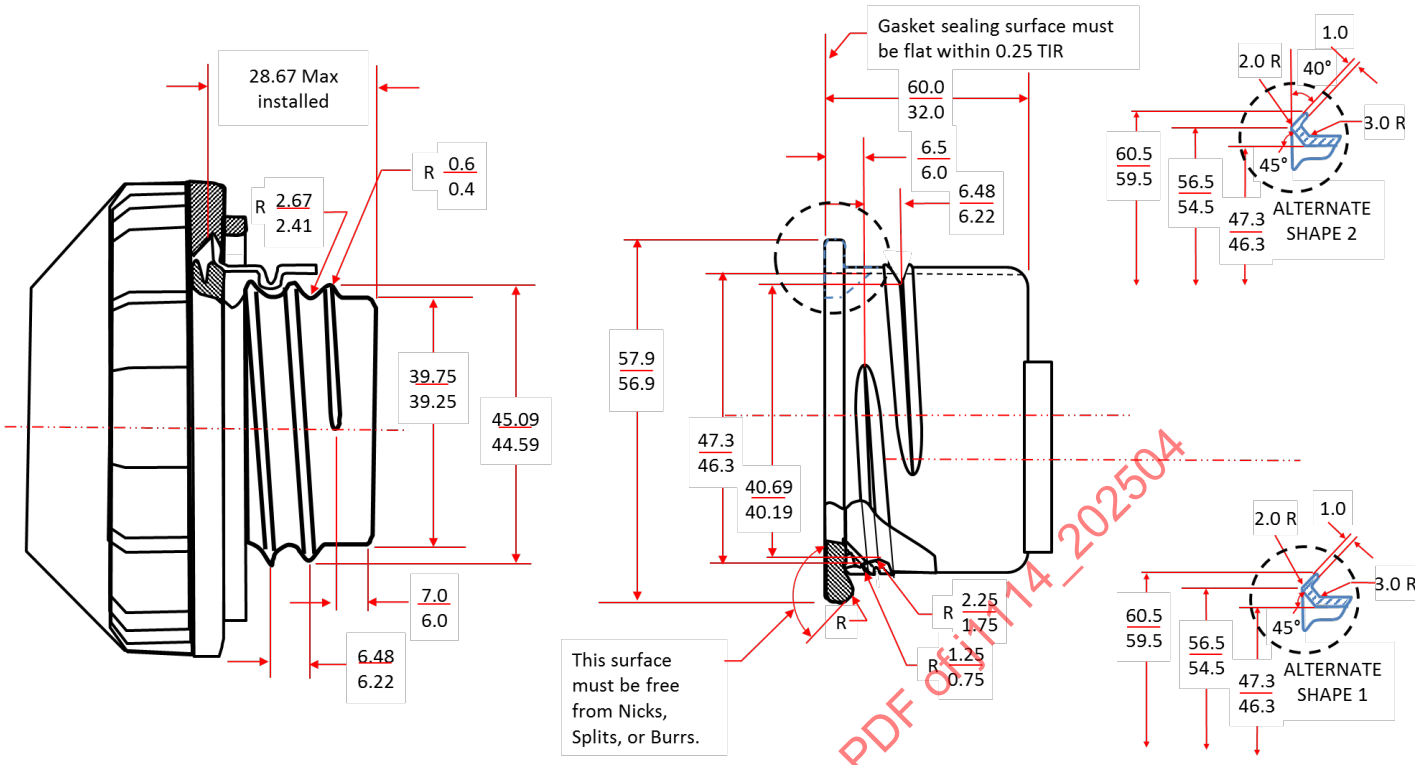

Figure 1 - Pressure/vacuum (clockwise rotation) cap can be interchangeable with Figure 2 filler neck

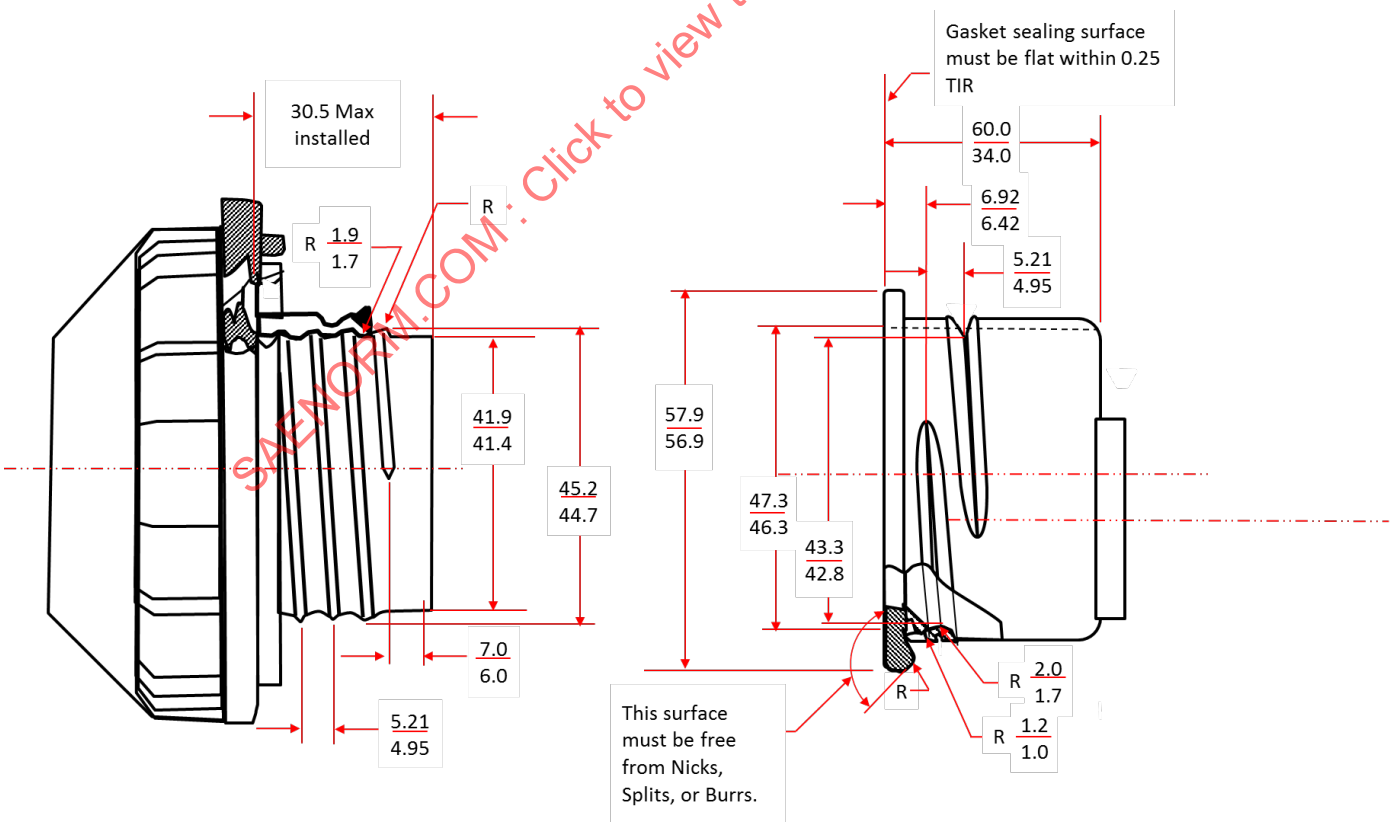

Figure 2 - Non-vented or vacuum-only (clockwise rotation) cap is not interchangeable with Figure 1 filler neck