

	SURFACE VEHICLE RECOMMENDED PRACTICE	SAE	J151 SEP2008
		Issued 1970-01 Revised 2008-09	
		Superseding J151 MAR1999	
Pressure Relief for Cooling System			

RATIONALE

To provide updated language for clarity and to include the latest technology and manufacturing methods as well as a pictorial showing typical cap functional elements.

1. SCOPE

This SAE Recommended Practice specifies requirements for pressure relief means and pressure relief rating identification for cooling systems of liquid-cooled engines to reduce the possibility of injuries during opening of the cooling system.

2. REFERENCES

2.1 Applicable Publication

The following publication forms a part of this specification to the extent specified herein. The latest issue of SAE publications shall apply.

2.1.1 SAE Publication

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

SAE J164 Radiator Caps and Filler Necks

3. DEFINITIONS

3.1 Cooling System Cap

Herein referred to as cap, means a device which closes the opening used to add coolant to the pressure section of the engine cooling system.

3.2 Pressure Release Mechanism

Means a device which, when activated, allows the pressure in a cooling system to be released.

3.3 Legible

Means readable under daylight lighting conditions by an observer having 20/20 vision (Snellen) whose eyepoint is located in proximity to the marked surface.

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4. APPLICATION

This document applies to passenger cars, multipurpose passenger vehicles, trucks, chassis cabs, buses, construction vehicles, and to equipment produced for motor vehicles manufactured after the effective date of this document.

5. REQUIREMENTS

- 5.1 Pressure relief which is actuated without operator action for the purpose of limiting peak pressures in the cooling system should be accomplished in a manner which limits, to the extent practicable, the risk of injury. Pressure relief which is actuated by the operator for the purpose of safe removal of the cap must conform to 5.2 or 5.3, except as provided in 5.4.
- 5.2 Pressure release mechanism incorporated in the cap and/or filler neck shall conform to one of the following:
 - 5.2.1 If pressure relief can be accomplished by cap rotation, one of the following mechanisms must be incorporated to prevent cap removal prior to pressure relief.
 - 5.2.1.1 Either mechanical stop that prevents cap removal by rotation only, requiring the cap to be moved axially and further rotated, for removal.
 - 5.2.1.2 Or a design which requires that the cap be rotated at least 1 and 1/2 turns after pressure relief before the cap can be removed.
 - 5.2.2 If pressure relief is accomplished through other than cap rotation, a means shall be provided to prevent removal of the cap before the pressure relief is actuated.
- 5.3 Pressure release mechanism not incorporated in the cap and/or filler neck shall have legibly and permanently marked on or adjacent to the cap instructions for relief of system pressure prior to cap removal.
- 5.4 "Sealed cooling system" which the manufacturer recommends servicing at stated intervals and which does not meet the requirements of 5.2 and 5.3 shall require use of a tool to accomplish cap removal. The words "Do Not Remove—See Manufacturer's Instructions" shall be legibly and durably marked on or immediately adjacent to the cap.
6. The cap or pressure relief valve assembly shall be legibly and durably marked with its normal pressure rating and notation "Warning Do Not Remove Hot." Manufacturers may also elect to use ISO symbols to replace the verbiage, thus avoiding issues with language.