



# SURFACE VEHICLE RECOMMENDED PRACTICE

J1658

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Superseding J1658 FEB1999

Alternate Refrigerant Consistency Criteria for Use in  
Mobile Air-Conditioning Systems

## RATIONALE

The original proposal to stabilize this document was balloted in March of 2013. Five voters recommended that instead the document be removed from circulation. The document applies to R12 refrigerant which was phased out of automotive use in 1995. The document should be cancelled to make it clear that future replacement refrigerants are not a replacement for R12, but replacements for R134a which is the current refrigerant used in most automotive applications today.

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## 1. **Scope**

- 1.1 This SAE Recommended Practice applies to refrigerant blends (multicomponent refrigerants) intended for use as retrofit refrigerants to replace CFC-12 (R-12) in mobile air-conditioning (A/C) systems. Since the composition of non-azeotropic refrigerant mixtures changes as refrigerant is lost, either through the vapor phase or the liquid phase, the method of charging A/C systems is important. The purpose of this document is to determine the proper refrigerant phase, liquid or vapor, for system charging by relating system performance changes to the charging method.

This document is complete only when combined with the requirements of SAE J1657.

## 2. **References**

- 2.1 **Applicable Publications**—The following publications form a part of the specification to the extent specified herein. Unless otherwise indicated, the latest revision of SAE publications shall apply.

- 2.1.1 SAE PUBLICATIONS—Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

SAE 1657—Selection Criteria for Retrofit Refrigerants to Replace CFC-12 (R-12) in Mobile Air-Conditioning Systems

SAE J1659—Vehicle Testing Requirements for Replacement Refrigerants for CFC-12 (R-12) Mobile Air-Conditioning Systems

## 3. **Sample Testing**

- 3.1 Two 13.5 kg containers which meet the appropriate safety requirements (e.g., DOT and/or UL requirements), identified as "A1 and A2," shall be filled, to 80% maximum capacity, containing the specified refrigerant mixture and shall be maintained at a 24 °C ambient  $\pm$  1 °C for 24 h.
- 3.2 Container A1 shall be used to transfer and sample refrigerant in the liquid state. Container A2 shall be used to transfer and sample refrigerant in the vapor state.