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SURFACE VEHICLE STANDARD

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Ultraviolet Leak Detection: Performance Requirements for Fluorescent Refrigerant Leak Detection Dye Injection Equipment for Aftermarket Service of Mobile Air-Conditioning Systems

RATIONALE

Technology is stable and no change is expected.

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Foreword—The purpose of this document is to establish performance requirements for aftermarket fluorescent refrigerant leak detection dye injection equipment for servicing mobile air-conditioning systems.

1. ***Scope***—This SAE Standard applies to fluorescent refrigerant leak detection dye injection equipment for use in ultraviolet leak detection when servicing mobile air-conditioning systems.

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, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

SAE J639—Safety and Containment of Refrigerant for Mechanical Vapor Compression Systems Used for Mobile Air-Conditioning Systems
SAE J2197—HFC-134a Service Hose Fittings for Automotive Air Conditioning Service Equipment

3. ***Fluorescent Refrigerant Leak Detection Dye Injection Equipment, Specification, and General Description***—The dye injection devices meeting the requirements of this document shall be labeled on the outside of their package "This Injection Device Certified to Meet SAE J2299 for R-XX and YY lubricants" on an exterior surface. The refrigerant designation and lubricant type with which it is to be used shall be substituted into the R-XX and the YY positions, respectively, for example, R-134a and PAG/POE or R-12 and Mineral oil.

4. ***Fluorescent Refrigerant Leak Detection Dye Injection Equipment, Testing***—Portions of dye injection equipment which are to be exposed to the pressures at which refrigerants typically used in mobile air-conditioning equipment operate shall be hydrostatically tested. Two samples shall be tested to assure that the design is capable of withstanding 10 MPa (1450 psi) internal pressure for a time period of 1 min without leakage or rupturing.

5. ***Fluorescent Refrigerant Leak Detection Dye Injection Equipment, Design Requirement***—Dye injection equipment shall be of a design which allows for the addition of the fluorescent dye into mobile air-conditioning equipment with minimized quantities of noncondensables.

Dye injection equipment shall be of a design which allows for the full purging of all connecting hoses, and allows for these connecting hoses to remain free from noncondensables while the entire filling and/or injection procedure is taking place.