

SURFACE VEHICLE RECOMMENDED PRACTICE

J2888™

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R-1234yf Service Hose, Fittings, and Couplers for
Mobile Refrigerant Systems Service Equipment

RATIONALE

Updated as part of Five-Year Review. Added clarity for service port connection and removed SAE J2911 requirements.

1. SCOPE

This SAE Standard covers fittings, couplers, and hoses intended for connecting service hoses from mobile air-conditioning systems to service equipment such as charging, recovery, and recycling equipment (see Figure 1). This specification covers service hose fittings and couplers for MAC service equipment service hoses, per SAE J2843 and SAE J2851, from mobile air-conditioning systems to service equipment such as manifold gauges, vacuum pumps, and air-conditioning charging, recovery, and recycling equipment.

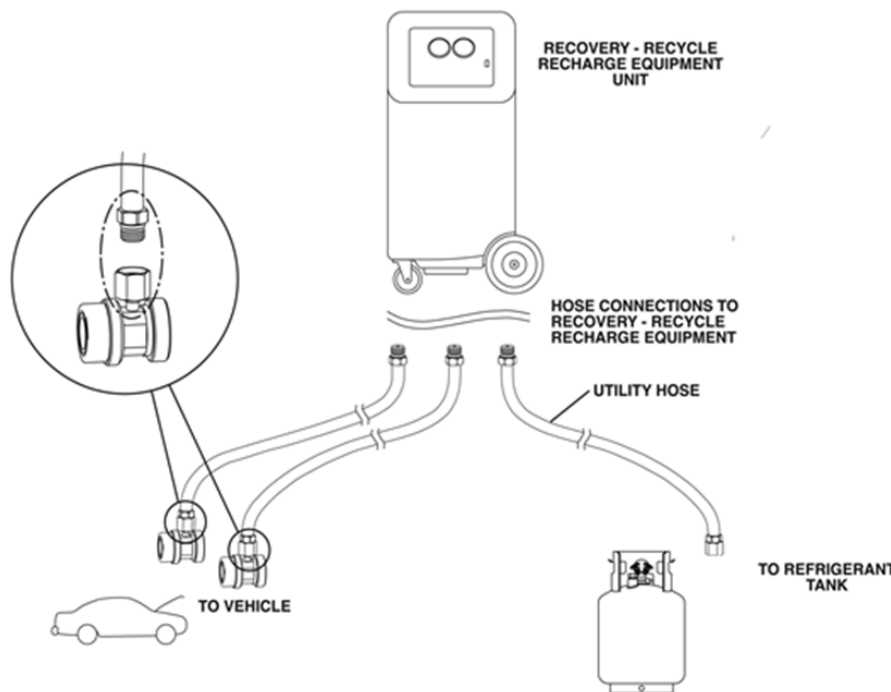


Figure 1 - R-1234yf service equipment

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1.1 Purpose

The purpose of this SAE Standard is to establish specific but unique fittings, couplers, and hoses for service equipment used in maintaining R-1234yf systems. This is necessary to avoid cross mixing of refrigerant and lubricants from other refrigerant systems. This standard applies only to systems specifically designed to use R-1234yf. Hermetically sealed appliances and refrigerated cargo systems are not covered by this document.

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.

2.1.1.1 System Design Guidelines

SAE J639 Safety and Design Standards for Motor Vehicle Refrigerant Vapor Compression Systems

2.1.1.2 Service Equipment

SAE J2843 R-1234yf (HFO-1234yf) Recovery/Recycling/Recharging Equipment for Flammable Refrigerants for Mobile Air-Conditioning Systems

SAE J2844 R-1234yf (HFO-1234yf) New Refrigerant Purity and Container Requirements for use in Mobile Air-Conditioning Systems

SAE J2851 Recovery Equipment for Contaminated R-134a or R-1234yf Refrigerant from Mobile Automotive Air Conditioning Systems

2.1.2 ASTM Publications

Available from ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959, Tel: 610-832-9585, www.astm.org.

ASTM D380 Standard Test Methods for Rubber Hose

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 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 J1739 Potential Failure Mode and Effects Analysis (FMEA) Including Design FMEA, Supplemental FMEA-MSR, and Process FMEA

SAE J2845 R-12 (CFC-12), R-134a (HFC-134a), R-1234yf (HFO-1234yf), R-744, and R-152a (HFC-152a) Technician Training for Service and Containment of Refrigerants Used in Mobile A/C Systems

2.2.2 ARI Publications

Available from Air Conditioning and Refrigeration Institute, 1501 Wilson Boulevard, Sixth Floor, Arlington, VA 22209.

ARI 720 Refrigerant Access Valves and Hose Connectors

3. DEFINITIONS

3.1 HIGH-SIDE SERVICE HOSE

A hose connected between the MAC high-side service fitting and the recovery equipment. It includes a high-side coupling, as defined in SAE J639, and at the shutoff device of the connection to the serviced system or equipment, an M12 x 1.5-6g male thread on both ends.

3.2 LOW-SIDE SERVICE HOSE

A hose connected between the MAC low-side service fitting and the recovery equipment. It includes a low-side coupling, as defined in SAE J639, and at shutoff device of the connection to the serviced system or equipment, an M12 x 1.5-6g male thread on both ends.

3.3 SUPPLY HOSE (UTILITY)

A hose connected between the R-1234yf supply cylinder and the service equipment (recovery/recycling recovery/recycle/charging unit). On one end, the supply hose shall have a compatible coupling per SAE J2844 to connect to the refrigerant supply cylinder. See Figure 2 and Table 1. The other end of the supply hose, if connected externally to the service equipment, shall contain an M12 x 1.5-6g male threaded connection.

3.3.1 The supply hose at the refrigerant cylinder connection shall have a left-hand female thread, 1/2 inch, 16 TPI ACME fitting.

3.3.2 The R-1234yf refrigerant cylinder has the following fitting.

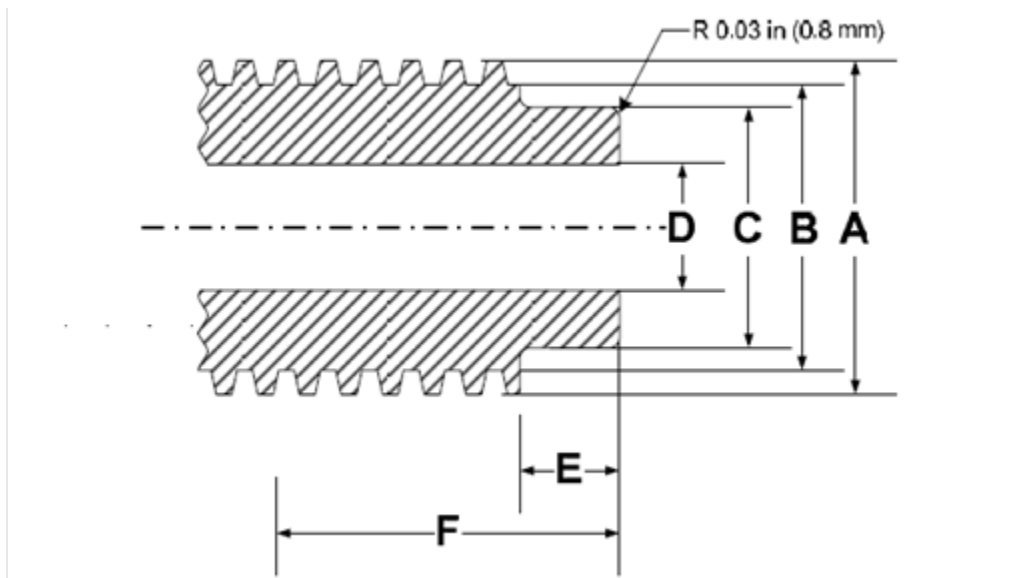


Figure 2 - R-1234yf refrigerant cylinder