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Tuesday  
May 2, 1995

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**Part III**

**Environmental  
Protection Agency**

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40 CFR Part 82  
Motor Vehicle Air Conditioners and  
Protection of Stratospheric Ozone; Final  
Rule

**ENVIRONMENTAL PROTECTION AGENCY****40 CFR Part 82**

[FRL-5199-4]

**Motor Vehicle Air Conditioners and Protection of Stratospheric Ozone**

AGENCY: Environmental Protection Agency.

ACTION: Supplemental final rule.

**SUMMARY:** On July 14, 1992, EPA published a final rule in the **Federal Register** establishing the standards and requirements regarding the servicing of motor vehicle air conditioners and restrictions on the sale of small containers of class I or class II substances pursuant to section 609 of the Clean Air Act as amended (Act). The rule requires that only approved refrigerant recovery/recycling equipment be used to perform service for consideration on motor vehicle air conditioners. Two types of equipment could be approved: Equipment that recovers refrigerant and recycles it on-site, and equipment that only recovers refrigerant. The refrigerant from recover-only equipment may be recycled on-site or sent off-site for reclamation. The Agency established a standard for recover/recycle equipment (appendix A), but reserved finalizing the standard for recover-only equipment.

Today's final rule establishes a standard for approval of recover-only equipment that extracts CFC-12 from motor vehicle air conditioners. This standard follows closely the Society of Automotive Engineers (SAE) Standards J1989: Recommended Service Procedure for the Containment of R-12, and J2209: CFC-12 (R-12) Extraction Equipment for Mobile Automotive Air-conditioning Systems. Because automotive technicians have previously been required to use only recover/recycle equipment for which an Agency standard had been established, today's rule permits these technicians additional flexibility in determining how to meet Section 609 requirements.

This final rule also updates the purity standard for off-site reclamation, by changing the standard from ARI 700-88 to ARI 700-93.

By promoting the reclamation of refrigerants from motor vehicle air conditioners, this final rule will help to lower the risk of depletion of the stratospheric ozone layer, thus diminishing potentially harmful effects to human health and the environment, including increased incidences of certain skin cancers and cataracts.

**DATES:** This final rule is effective June 1, 1995, except that the changes to § 82.32(e)(2) will become effective on July 3, 1995, unless EPA has received by June 1, 1995, adverse comment. Should EPA receive such notice, EPA will publish one subsequent action in the **Federal Register** to withdraw the changes to § 82.32(e)(2), and will publish another action proposing this action and requesting comments.

Judicial review of this action is available only by the filing of a petition for review in the United States Circuit Court of Appeals for the District of Columbia Circuit within 60 days of publication.

**ADDRESSES:** Comments and materials supporting this rulemaking are contained in Public Docket No. A-91-41 in room M-1500, Waterside Mall (Ground Floor), U.S. Environmental Protection Agency, 401 M Street, SW., Washington, DC 20460. The docket may be inspected from 8:30 a.m. until 5:30 p.m., Monday through Friday. A reasonable fee may be charged for copying docket materials. Those wishing to submit adverse comments on the portion of this action relating to the adoption of the ARI 700-1993 standard should contact Christine Dibble, Program Implementation Branch, Stratospheric Protection Division, Office of Atmospheric Programs, Office of Air and Radiation (6205-J), 401 M Street, SW., Washington, DC 20460 Docket #A-91-41 IV-D (202) 233-9147.

**FOR FURTHER INFORMATION CONTACT:** Christine Dibble, Stratospheric Protection Division, Office of Atmospheric Programs, Office of Air and Radiation (6205-J), 401 M Street SW., Washington, DC 20460. (202) 233-9147. The Ozone Information Hotline at 1-800-296-1996 can also be contacted for further information.

**SUPPLEMENTARY INFORMATION:** The contents of today's preamble are listed in the following outline:

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**I. Background**

Title VI of the Act is designed to protect the stratospheric ozone layer. Section 609 of the Act requires the Administrator to promulgate regulations establishing standards and requirements regarding the servicing of motor vehicle air conditioners. On July 14, 1992, the Agency published the final rule implementing this section. In that rule, the Agency defined "approved refrigerant recycling equipment" as equipment certified by the Administrator or by an independent standards testing organization approved by the Agency as meeting the standards set forth in appendix A in the rule. Refrigeration recycling equipment was also considered approved if it was purchased before September 4, 1991, and is substantially identical to the certified equipment. Only equipment certified as meeting the standards or meeting the criteria for substantially identical equipment are approved for use in the servicing of motor vehicle air conditioners under section 609 of the Act.

Underwriters Laboratories (UL) and ETL Testing Laboratories (ETL) are the approved independent standards testing organizations that currently certify equipment using the standards that appear in appendix A of the rule. These standards apply to recover/recycle equipment that extracts CFC-12 refrigerant from a motor vehicle air conditioner and cleans the refrigerant on-site (recover/recycle equipment). The regulatory standards, based on those developed by the SAE, cover service procedures for recovering CFC-12 (SAE J1989, issued in October 1989), test procedures to evaluate recover/recycle equipment (SAE J1990, issued in October 1989 and revised in March 1992) and a purity standard for recycled CFC-12 refrigerant (SAE J1991, issued in October 1989).

Although appendix A set forth the standards appropriate for recover/recycle equipment, EPA has until now not established a standard which would apply to certification of equipment that extracts but does not recycle refrigerant (recover-only equipment). Under the current regulation, the refrigerant from these recover-only machines would typically be sent off-site for purification, but it may be recycled on-site in a recover/recycle machine to the SAE J1991 standard of purity. In addition, refrigerant may be extracted using the recover-only equipment and subsequently recycled off-site by equipment owned by the person who owns both the recover-only equipment

and owns or operates the establishment at which the refrigerant was extracted.

Appendix B of the rule was reserved for the standards for recover-only equipment. EPA proposed appendix B in a supplemental notice published April 22, 1992 (57 FR 14763). The proposed standard closely resembled a proposed SAE standard, SAE J2209: CFC-12 Extraction Equipment for Mobile Automotive Air-conditioning Systems, with the Agency's editorial comments included in the standard in brackets. This final rule adopts the final version of this SAE standard, with minor changes. In addition, EPA is adopting for recover-only equipment the recommended service procedure for the containment of CFC-12 described in SAE J1989 and already set forth in appendix A. In today's rule, that portion of appendix A based on SAE J1989 has been incorporated into appendix B in order to make clear that those service procedures apply when operating recover-only equipment.

For both recover/recycle equipment and recover-only equipment, the definition of "properly using" set forth in 40 CFR 82.32(e) applies. This final rule revises the requirements for Agency approval of independent standards testing organizations to include certification of recover-only equipment in compliance with the standards in appendix B. The criteria for approval of technician training and certification programs are also revised to reflect the use of recover-only equipment. The discussion in this preamble clarifies how the inclusion of standards for recover-only equipment will affect the certification of technicians, the Agency's approval of technician certification programs, and the Agency's approval of independent standards testing organizations.

## II. Summary of Public Participation

A public hearing on the proposed supplemental rule was held on May 12, 1992. Only one person presented oral comments on the proposed requirements, also submitting written testimony to the Agency. A transcript of the hearing is contained in the public docket.

The Agency received a total of 10 letters on the supplemental proposed rule.

## III. Summary and Response to Major Public Comments

Comments to this rule were submitted between April 22, 1992 and May 22, 1992. The remarks of several commenters were addressed in the July 14, 1992 final rule (57 FR 31241). For example, several commenters urged the

Agency to state more explicitly the circumstances in which refrigerant may be recycled off-site (*i.e.*, if the recycle equipment is owned by the person who also owns both the recover-only equipment and the establishment at which the refrigerant was recovered). These circumstances were explicitly discussed when EPA adopted the definition of "properly using" in the July 14, 1992 final rule (57 FR 31241).

One commenter urged the Agency not to adopt a recover-only equipment standard. This commenter argued that recover-only equipment increases the risk of contamination of the entire recycled refrigerant pool because it could lead to intermixing of refrigerant types and failure to purify the recovered refrigerant prior to recycling. EPA believes the use of recover-only equipment will, in conjunction with recover/recycle equipment, afford more cost-effective compliance options for smaller service facilities that may choose not to purchase the more expensive recover/recycle equipment, but instead to send all recovered refrigerant to off-site reclaimers. In addition, larger service facilities and fleet owners may purchase the less expensive recover-only equipment for use in conjunction with their recover/recycle equipment during peak air conditioning service months. By adopting this standard, the Agency believes that facilities are likely to recover ozone-depleting chemicals that might have otherwise been improperly vented. Moreover, EPA believes that the adoption of the appendix B standards will effectively safeguard against contamination of the refrigerant supply. For example, the standard specifies that the equipment discharge or transfer fitting on recover-only equipment shall be unique in order to prevent the unintentional use of extracted CFC-12 used for recharging prior to recycling or reclamation.

The remainder of the comments remarked upon the adoption of SAE J2209 standard as the basis of appendix B, or upon specific provisions of appendix B. The adoption of the J2209 standard for recover-only equipment in appendix B parallels the adoption of the J1990 standard for recover/recycle equipment in appendix A. The J1991-based standard set forth in appendix A establishes a standard for recycled refrigerant and consequently would not apply to recover-only equipment. As discussed above, the J1989-based standard in appendix A has been incorporated by reference in appendix B.

The standard for recover-only equipment proposed by EPA differed

slightly from the then-current draft of J2209, with the Agency's editorial comments included in the appendix B proposed standard in brackets. These editorial comments clarified some terms, inserted missing words and corrected other typographical errors in the J2209 draft. The final version of SAE J2209, which eliminated these errors, has been almost wholly incorporated into today's rulemaking as appendix B.

The significant differences between the draft version of the J2209 standard as set forth in the proposed appendix B, and the final version of this standard as set forth in today's rule, are as follows. First, the proposed appendix B stated that portable refillable containers of recovered refrigerant must be marked with the words "Dirty Refrigerant—Do Not Use Without Recycling." In the final version of J2209, and in this final rule, the container marking must read "Dirty R-12—Do Not Use, Must Be Reprocessed." This change illuminates the fact that refrigerant may either be recycled on-site using recover/recycle equipment, or may be reclaimed off-site to the ARI 700 standard.

In addition, unlike the draft version of J2209, the final J2209 standard and today's final rule: (1) Require that recover-only equipment be preconditioned with standard contaminated CFC-12 before starting the test cycle; (2) designate the temperature of the preconditioning; and (3) specify the operation of the sample method fixture. These additions were incorporated into the final version of J2209 and into appendix B in order to remain consistent with, and as stringent as, SAE J1990. Section 609(b)(2)(a) of the Act states that standards developed by the Administrator shall, as a minimum, be as stringent as SAE J1990 in effect as of November 15, 1990.

The standard reproduced here is almost identical to the final SAE standard submitted to the Agency in June, 1992, except that references to ARI standard 700-88 have been changed to 700-93. SAE intends to make this change in J2209 shortly. In addition, updates or revisions to SAE publications referenced in the standard will not automatically be incorporated by reference.

One commenter urged that EPA adopt ARI standard 740 rather than SAE J2209 as the basis of appendix B because complying with the more stringent J2209 standard would increase the cost of recover-only equipment, so that small businesses would face greater difficulties meeting Section 609 requirements. The standard adopted today in appendix B is as stringent as SAE J1990 regarding the procedure for

extracting refrigerant and separating lubricant from refrigerant. Unlike SAE J2209, ARI standard 740 is not designed to address the servicing of mobile automotive air-conditioning systems, and does not meet the statutory requirement of being as rigorous in all respects as J1990. Unlike J1990 and J2209, ARI 740 does not establish an oil separation requirement or require that a contaminated CFC-12 sample be processed to verify oil separation.

One commenter remarked that sections 6.2 and 6.2.1 of J2209 should not be adopted into appendix B because these sections, which describe the preconditioning of the equipment with a standard contaminated CFC-12 sample, apply only to recycle equipment and not to recover-only equipment. These provisions not only apply to measuring the efficiency with which a unit cleans the refrigerant for recycling, but also to measuring how much lubricant has been removed from the air-conditioning system during the recovery process, so that technicians may determine how much lubricant to replace prior to the completion of servicing. This determination should be made whenever any refrigerant is recovered, whether from a recover-recycle unit or a recover-only unit.

In addition, the language contained in Sections 6.2 and 6.2.1 is almost identical to the language of J1990, Sections 8.3 and 8.4.1. Since today's standard must at a minimum be as stringent as SAE J1990, these provisions should be contained in appendix B. The Agency believes that the proper determination of how well a particular model of equipment extracts refrigerant depends in part on testing the model with a contaminated sample. Noncondensable gases in particular may affect extraction efficiency. In addition, the Agency desires to further consistency between industry standards such as J2209 and Agency regulations.

A commenter remarked that the reference in section 6.3.3 of appendix B to the use of overfill protection based on a tank's volume should be based on weight rather than volume, because many tank filling operations recognize that weight is a better control to prevent overfilling a tank. The Agency has decided to base its overfill protection method on volume since both the Department of Transportation specifications for shipments and packagings and the American Society of Mechanical Engineers do so.

One commenter argued that the Agency should consider a six-month grace period which would allow owners of uncertified equipment to use older recover-only equipment while ordering

and installing recover-only equipment that would comply with this rule. The Agency believes that the provisions set forth in today's rule governing substantially identical equipment, combined with the extended time frame between the publication of the proposal and the publication of this final rule, and the adoption of standard closely modeled on a consensus SAE standard, sufficiently address these lead time concerns. Equipment owners have had a significant time period to purchase equipment that should meet the standards to be adopted today.

Finally, two commenters objected to the provision set forth in section 6.7 of appendix B requiring that the equipment be able to separate the lubricant from recovered refrigerant and accurately indicate the amount removed from the system. These commenters claimed that this was a redundant requirement, and was not needed to determine the amount of oil to be replaced. EPA has included this provision in appendix B because it promotes consistency between the Agency requirements and the industry standard, as set forth in SAE J2209; because it promotes consistency in operating recover-only and recover/recycle equipment (*i.e.*, the technician will know that oil separation and measurement is a component in operating both types of machines); and because, by helping to prevent overcharging the vehicle system with lubricant, section 6.7 provides the technician with every opportunity to complete compressor lubrication properly.

#### IV. Summary of Today's Final Rule

##### A. Adoption of Standard Based on ARI 700-1993 in Definition of "Properly Using" and in Appendix B

Section 82.32(e) provides in the definition of "properly using" that "(r)efrigerant from reclamation facilities that is used for the purpose of recharging motor vehicle air conditioners must be at or above the standard of purity developed by the Air-conditioning and Refrigeration Institute (ARI 700-88) \* \* \* in effect as of November 15, 1990." Today's rulemaking changes the definition of "properly using" to refer to ARI 700-1993, which is an updated version of ARI 700-88. In addition, references to the ARI 700 standard in appendix B, the Standard for Recover Equipment, are to ARI 700-93 rather than ARI 700-88.

EPA believes that ARI 700-1993 should substitute for ARI 700-1988 in order for section 609 regulations to remain consistent with other provisions

of the Clean Air Act regulations and with industry standards. The direct final rule amending the Refrigerant Recycling Regulations published on August 19, 1994 (59 FR 42949) and effective on October 18, 1994 requires that persons reclaiming refrigerant for sale to a new owner must return refrigerant to a standard of purity based on ARI 700-1993. In addition, the Society of Automotive Engineers is in the process of revising all of its air-conditioning standards and recommended practices to reference current ARI specifications for fluorocarbon refrigerants. SAE will soon revise its J2209 standard, the basis for appendix B.

Whereas ARI 700-1988 allowed 0.5 as the maximum percentage by weight of "other refrigerants", ARI 700-1993 allows 0.50 as the maximum percentage by weight of "all other organic impurities, including other refrigerants," effectively tightening the standard. Changes in ARI 700-1993 that do not affect the automotive industry include adding purity standards for eleven additional refrigerants, and increasing liquid phase contaminant water levels for certain refrigerants not used in automobile air conditioners.

EPA is substituting the ARI 700-1993 standard for ARI 700-1988 as a direct final rule, recognizing that the Agency did not propose the substitution in the April 22, 1992 proposal of this rulemaking. This substitution predominantly affects the activities of refrigerant reclaimers, who were similarly affected by the substitution of ARI 700-93 for ARI 700-88 in the direct final rule amending the Refrigerant Recycling Regulations published on August 18, 1994 (59 FR 42949). Commenters to that rule overwhelmingly agreed that the changes to the ARI standard were both appropriate and necessary.

As discussed above, this portion of today's rule will become effective on July 3, 1995, unless EPA is has received by June 1, 1995 adverse comment. Should EPA receive such notice, EPA will publish one subsequent action in the **Federal Register** to withdraw the portion of this final action, and will publish another action proposing this action and requesting comments. In that event, following a public comment period and the opportunity for a public hearing, the Agency will draft the final regulation to be published in the **Federal Register**.

##### B. Standard for Recover-Only Equipment

Section 82.36(a) of the regulations specifies that equipment that recovers and recycles refrigerant must meet the

standards set forth in appendix A. Today's rulemaking adds a provision that equipment that extracts refrigerant for recycling on-site or for reclamation off-site must meet the SAE J2209 standards set forth in appendix B, the Standard for Recover Equipment.

The standard adopted today contains specifications for labeling recover equipment once it is certified; safety requirements; requirements that the equipment manufacturer must provide operating instructions; and a functional description of the equipment, including hose and fitting specifications, overflow protection requirements and additional storage tank requirements. The standard requires that the container for used refrigerant be gray with a yellow top and be marked in black print "DIRTY REFRIGERANT—DO NOT USE, MUST BE REPROCESSED." The standard states that the recovery equipment must be able to separate lubricant from recovered refrigerant and to indicate accurately the amount removed from the air-conditioning system in order to assure that the proper amount of lubricant can be returned to the system. It should be noted that EPA's labeling rule published on February 11, 1993 (58 FR 8136) requires that containers containing class I or II substances that enter into interstate commerce are required to bear a specific warning label. Such containers that are sent for off-site recycling or reclamation are entered into interstate commerce and thus require labeling.

The Act states that standards developed by the Administrator shall, as a minimum, be as stringent as SAE J1990 in effect as of the date of November 15, 1990. The standard proposed today is equally as stringent as SAE J1990 regarding the procedure for extracting refrigerant and separating lubricant from refrigerant. It offers a further specification on extraction efficiency (referring to 102 mm of mercury versus the more general statement regarding removal "to a vacuum"). Procedures and requirements regarding unintentional releases of refrigerant during the extraction process are equivalent to SAE J1990, and because recover-only equipment does not purge non-condensable gases from the refrigerant collected, no CFC-12 is released in the process.

Refrigerant removed from motor vehicle air conditioners with recover-only equipment must be either recycled on-site to the SAE J1991 standard of purity or sent off-site to a reclamation facility for purification to ARI 700-93, a higher standard of purity than SAE J1991. Under the provisions of the July 14, 1992 final rule, refrigerant may also

be sent off-site for recycling but only if the equipment used to recycle the refrigerant is owned by the person who owns both the recover-only equipment and owns or operates the establishment at which the refrigerant was extracted. Requirements concerning reclamation facilities and their ability to ensure that refrigerant meets the ARI 700-93 standard of purity were addressed in the direct final rule amending 40 CFR 82.164, published on August 19, 1994 (59 FR 42949).

The standard adopted today as appendix B represents a consensus of the Interior Climate Control Committee of SAE. This committee is made up of automotive industry experts, equipment and supply manufacturers, and chemical producers. SAE prepared the standards (SAE J1990, SAE J1991) later adopted by EPA in appendix A and the Agency believes that the standard set forth in today's rulemaking as appendix B is consistent with the specifications required in those standards for recovery. The Agency believes that the appendix B standard is appropriate for recovery because it achieves environmental protection through efficient recovery of refrigerant and protects automobile equipment through lubricant removal indication.

### C. Substantially Identical Equipment

Section 82.36(b) of the regulations states that equipment purchased before the proposal of the standards for refrigerant recycling equipment in appendix A (*i.e.*, before September 4, 1991) shall be considered certified if it is "substantially identical" to equipment approved under § 82.36(a). Until now, this provision has effectively applied only to recover/recycle equipment, because only recover/recycle equipment has been approved by the Agency.

Today's rulemaking applies the Act's "substantially identical" provision to recover-only equipment as well. Recover-only equipment shall be considered approved if it is substantially identical to recover-only equipment approved under § 82.36(a) and if it was purchased prior to the date of proposal of this rulemaking (*i.e.*, April 22, 1992). EPA's regulations do not define "substantially identical," but a manufacturer or owner may request a determination from EPA on this point.

The Agency's views on implementation of the "substantially identical" provision are discussed in some detail in the September 4, 1991 Notice. In general, EPA proposes to follow the same strict approach in implementing this provision for recover-only equipment as for recover/recycle

equipment. The Agency is aware that although some recover-only machines have been sold, until mid-1992, manufacturers of these machines did not have the opportunity to have machines certified because the proposed standard had not been developed. Recover-only equipment that is certified to meet the standard in appendix B will be considered "approved refrigerant recycling equipment." Where the models sold in the past are the same as models that are approved, this equipment will be considered substantially identical. In situations where the models sold were not the same as the approved model, EPA will consult with approved independent standards testing organizations to evaluate the previously sold equipment. EPA will use these organizations' test data and any additional information submitted by the manufacturer, such as process diagrams and lists of components, in the evaluation. EPA will maintain a list of equipment determined to be substantially identical. An essential criterion for evaluation is that equipment removes refrigerant as efficiently as the SAE J2209 standard and separates lubricant from refrigerant. The Agency is also interested in ensuring safety in operation of the equipment.

Should manufacturers consider the possibility of retrofit kits to bring the pre-certification models up to the performance standard of certified models, EPA would require that the retrofit kits be certified by an approved independent standards testing organization and that equipment owners indicate in their certification to the Agency (as discussed in the September 4, 1991 proposal) that they have retrofitted equipment.

EPA is aware of some cases in which equipment purchased before the publication of the proposal to today's rule was produced by manufacturers that have not yet received a certification on any model or by manufacturers that no longer make equipment. In situations where equipment was purchased without certification and no model by that manufacturer achieves certification, EPA will evaluate the equipment on a model-by-model basis before making a substantially identical determination. Owners of the equipment, if they cannot contact manufacturers to determine the status of equipment, must submit process flowsheets and lists of components, and EPA reserves the right to inspect the equipment and request samples of refrigerant if necessary. The address for submittal of information is: MVACs Recycling Program Manager, Stratospheric Protection Division,

(6205J), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460, Attention: Substantially Identical Equipment Review. EPA will maintain a strict interpretation of the substantially identical clause in order to protect the air-conditioning units and the integrity of the recycling program. As a result, the Agency does not anticipate that many types of recover-only machines will qualify as substantially identical through this evaluation procedure.

#### *D. Approved Independent Standards Testing Organizations*

Section 82.38 establishes the criteria for approval of testing laboratories or organizations to certify whether equipment governed by the regulations meets the standards set forth in the regulations. Under the original final rule, approved organizations would determine whether recover/recycle equipment met the standards set forth in appendix A to the rule, which was based on SAE J1990 and 1991. Today's rulemaking will expand that provision so that approved organizations will be able to determine whether recover-only equipment meets the standards set forth in appendix B to the rule.

Because the Agency received written requests from both UL and ETL requesting that they be approved to certify recover-only equipment, and because the application materials received by the Agency from UL on October 21, 1991, and from ETL on November 27, 1991 demonstrate that both organizations have met the criteria set forth in § 82.38(b) with respect to recover-only equipment, the Agency has approved UL and ETL to certify recover-only equipment, effective as of the effective date of this rulemaking.

EPA encourages applications from other facilities that are capable of testing equipment to the necessary standards. Organizations must demonstrate that they have the experience and the appropriate equipment to perform testing. The EPA will maintain a list of approved independent standards testing organizations available upon request at the address set forth in § 82.38. The Agency reserves the right to revoke approval if the testing organization violates any of the requirements contained in § 82.38.

#### *E. Technician Training and Certification*

Section 82.40 established the standards for programs approved to train and certify technicians. The standards cover training, the subject material that must be covered by each program, and minimum test administration procedures. Summaries

of reviews of programs must be submitted every two years and programs must offer technicians proof of certification upon successful completion of the test.

At this time, 23 organizations have been approved by EPA to train and certify technicians in the use of recover-recycle equipment. Ten of these organizations train and certify their employees, while the remaining train members of the general public. While EPA's approval of these organizations has been limited to recover-recycle equipment, the Agency believes that for purposes of training and certification conducted prior to June 1, 1995, these organizations should also be considered as approved for purposes of recover-only equipment. As discussed below, recover-only equipment and the recovery aspects of recover-recycle equipment are very similar, and the procedures for extracting refrigerant are very similar for both types of equipment. Retraining and recertifying of technicians already certified to use recover-recycle equipment would therefore produce only a limited environmental benefit. In addition, such retraining and recertification would impose a large burden on the technicians and the organizations that certify them. For these reasons, EPA intends at this time to approve the 23 organizations noted above for training and certification of technicians in the use of recover-only equipment conducted prior to June 1, 1995.

EPA will also approve organizations for future training and certification of technicians for the use of recover-only equipment on the condition that each organization certify in writing to the Agency that its training materials discuss the standard set forth in Appendix B, and that its testing materials include questions concerning that standard. Each organization that submits such a certification shall be approved upon the date which is the later of (i) the effective date of this rule (*i.e.*, June 1, 1995), or (ii) the receipt by the Agency of such a certification. Organizations that do not submit such a certification will not be approved to train and certify future technicians for the use of recovery-only equipment.

As noted above, the prior training and testing of previously approved technicians for recover-recycle equipment adequately and sufficiently covers the standards set forth in appendix B because of the large overlap between the text of the standard based on SAE J1990 contained in appendix A and the standard based on SAE J2209 contained in appendix B. In both appendix A and appendix B, the

following provisions are identical or nearly identical: safety requirements; requirement that the manufacturer must provide operating instructions; requirement that the equipment must ensure the refrigerant recovery by reducing system pressure below atmospheric to a minimum of 102 mm of mercury; the preconditioning of the equipment with a contaminated sample; the composition of that contaminated sample; the requirement that the equipment must be certified by UL or an equivalent certifying laboratory; the requirement that the label on the equipment must state that it has been design certified to meet applicable SAE standards; and the additional storage tank requirements.

Where the SAE J1990-based standards in appendix A differ from the SAE J2209-based standards in appendix B, they differ largely because appendix A contains many provisions which relate to the recycle portion of the equipment operation and which are thus not applicable to appendix B. For example, appendix A describes requirements for the recycling test cycle and for the quantitative determination of moisture, lubricant, and noncondensable gas in that cycle.

In addition, SAE J2209 contains one provision which applies to recover-only but not to recover/recycle equipment. Section 3.5 of J2209 states that the label on the equipment must be processed to ARI 700-88 specifications before reuse in a mobile air-conditioning system. The Agency recognizes that refrigerant may be transferred on-site to recover/recycle equipment and processed to the standards set forth in appendix A, rather than be transferred off-site to a reclamation facility for processing to the ARI 700 standard. However, since the final SAE J2209 standard, including the textual requirements for the equipment label, was issued over two years prior to the date of this rule, the Agency has determined not to require the inclusion of any language on the label which would be inconsistent with SAE requirements.

A review of SAE J2209 indicates it contains two provisions which relate to the recovery of refrigerant for which there are no equivalent provisions in SAE J1990. First, section 3.2 of SAE J2209 requires that the equipment discharge or transfer fitting shall be unique. SAE did not consider this requirement until after the publication of the final version of J1990. Second, section 6.1 of SAE J2209 requires that the unit must have a device that assures that refrigerant has been recovered so that outgassing is prevented. Although there is no equivalent to this provision

in SAE J1990, J1989 requires safeguards to prevent outgassing.

## VI. Summary of Supporting Analyses

### A. Executive Order 12866

Under Executive Order 12866 (58 FR 51735, October 4, 1993), the Agency must determine whether this regulatory action is "significant" and therefore subject to OMB review and the requirements of the Executive Order. The Order defines "significant" regulatory action as one that is likely to lead to a rule that may:

(1) Have an annual effect on the economy of \$100 million or more, or adversely and materially affect a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities;

(2) Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;

(3) Materially alter the budgetary impact of entitlement, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or

(4) Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.

It has been determined by OMB and EPA that this supplemental final rule is not a "significant regulatory action" under the terms of Executive Order 12866 and is therefore not subject to OMB review under the Executive Order. The Agency prepared an analysis to assess the impact of the proposed regulation (see Costs and Benefits of MACs Recycling, May 24, 1991) which covers both recover/recycle equipment and recover-only equipment, and is available for review in the public docket for this rulemaking.

### B. Regulatory Flexibility Analysis

The Regulatory Flexibility Act, 5 U.S.C. 601-612, requires that Federal agencies examine the impacts of their regulations on small entities. Under 5 U.S.C. 604(a), whenever an agency is required to publish a general notice of proposed rulemaking, it must prepare and make available for public comment an initial regulatory flexibility analysis (RFA). Such an analysis is not required if the head of an agency certifies that a rule will not have a significant economic impact on a substantial number of small entities, pursuant to 5 U.S.C. 605(b).

The Agency performed an initial regulatory flexibility analysis for the July 14, 1992 final rule that this rule supplements. No additional RFA need be prepared for this supplemental final

rule because the changes being made today to that final rule do not alter the original analysis.

### C. Paperwork Reduction Act

This supplemental final rule has no new information requirements subject to the Paperwork Reduction Act.

### List of Subjects for 40 CFR Part 82

Environmental protection, Chlorofluorocarbons, Motor vehicle air-conditioning, Recover-only equipment, Stratospheric ozone layer.

Dated: April 24, 1995.

**Carol M. Browner,**  
*Administrator.*

For the reasons set out in the preamble, EPA is hereby amending 40 CFR part 82 as follows:

## PART 82—PROTECTION OF STRATOSPHERIC OZONE

1. The authority citation for part 82 continues to read as follows:

**Authority:** 42 U.S.C. 7414, 7601, 7671, and 7671h.

2. Section 82.32 is amended by redesignating the first four sentences of paragraph (e) as paragraph (e)(1), and redesignating the last four sentences of paragraph (e) as paragraph (e)(2), and by revising the first sentences of newly redesignated paragraphs (e)(1) and (e)(2) to read as follows:

### § 82.32 Definitions.

\* \* \* \* \*

(e) (1) Properly using means using equipment in conformity with Recommended Service Procedures and Recommended Practices for the Containment of R-12 (CFC-12) set forth in appendix A or appendix B to this subpart, as applicable.

(2) Refrigerant from reclamation facilities that is used for the purpose of recharging motor vehicle air conditioners must be at or above the standard of purity developed by the Air-conditioning and Refrigeration Institute (ARI 700-93) (which is codified at 40 CFR part 82, subpart F, appendix A, and is available at 4301 North Fairfax Drive, Suite 425, Arlington, Virginia 22203).

\* \* \* \* \*

3. Section 82.36 is amended by revising paragraphs (a)(2) and (b) to read as follows:

### § 82.36 Approved refrigerant recycling equipment.

(a) (1) \* \* \*

(2) Equipment that recovers and recycles the refrigerant must meet the standards set forth in appendix A to this subpart (Recommended Service

Procedure for the Containment of R-12, Extraction and Recycle Equipment for Mobile Automotive Air-Conditioning Systems, and Standard of Purity for Use in Mobile Air-Conditioning Systems). Equipment that recovers refrigerant for recycling on-site or for reclamation off-site must meet the standards set forth in appendix B to this subpart (Recommended Service Procedure for the Containment of R-12, Extraction Equipment for Mobile Automotive Air-Conditioning Systems).

(b) Refrigerant recycling equipment purchased before September 4, 1991 that recovers and recycles refrigerant, and refrigerant recycling equipment purchased before April 22, 1992 that recovers refrigerant for recycling on-site or reclamation off-site, that has not been certified under paragraph (a) of this section, shall be considered approved if the equipment is substantially identical to equipment certified under paragraph (a) of this section. Equipment manufacturers or owners may request a determination by the Administrator by submitting an application and supporting documents that indicate that the equipment is substantially identical to approved equipment to: MVACs Recycling Program Manager, Stratospheric Protection Division (6205J), U.S. Environmental Protection Agency, 401 M Street, SW., Washington, DC 20460, Attn: Substantially Identical Equipment Review. Supporting documents must include process flow sheets, lists of components and any other information that would indicate that the equipment is capable of processing the refrigerant to the standards in appendix A or appendix B to this subpart, as applicable. Authorized representatives of the Administrator may inspect equipment for which approval is being sought and request samples of refrigerant that has been extracted and/or recycled using the equipment. Equipment that fails to meet appropriate standards will not be considered approved.

\* \* \* \* \*

4. Section 82.38 is amended by revising paragraphs (a) and (b)(1)(iii) to read as follows:

### § 82.38 Approved independent standards testing organizations.

(a) Any independent standards testing organization may apply for approval by the Administrator to certify equipment as meeting the standards in appendix A and appendix B to this subpart, as applicable. This application shall be sent to: MVACs Recycling Program Manager, Stratospheric Protection Division (6205J), U.S. Environmental

Protection Agency, 401 M Street, SW., Washington, DC 20460.

- (b) \* \* \*
- (1) \* \* \* (i) \* \* \*
- (ii) \* \* \*

(iii) Thorough knowledge of the standards as they appear in appendix A and appendix B of this subpart, as applicable; and

\* \* \* \* \*

5. Section 82.40 is amended by revising paragraph (a)(2)(i) to read as follows:

**§ 82.40 Technician training and certification.**

- (a) \* \* \*
- (2) \* \* \*

(i) The standards established for the service and repair of motor vehicle air conditioners as set forth in appendix A and appendix B to this subpart. These standards relate to the recommended service procedures for the containment of refrigerant, extraction equipment, extraction and recycle equipment, and the standard of purity for refrigerant in motor vehicle air conditioners.

\* \* \* \* \*

6. Section 82.42 is amended by revising the last sentence of paragraph (a)(1)(iii) to read as follows:

**§ 82.42 Certification, recordkeeping and public notification requirements.**

- (a) \* \* \*
- (1) \* \* \*

(iii) \* \* \* The certification should be sent to: MVACs Recycling Program Manager, Stratospheric Protection Division, (6205J), U.S. Environmental Protection Agency, 401 M Street, SW., Washington, DC 20460.

\* \* \* \* \*

7. Appendix B is added to subpart B to read as follows:

**Appendix B to Subpart B—Standard for Recover Equipment**

SAE J1989, Recommended Service Procedure for the Containment of R-12, as set forth under Appendix A, also applies to this Appendix B.

SAE J2209, issued June, 1992.

**SAE Recommended Practice: CFC-12 (R-12) Extraction Equipment for Mobile Automotive Air-Conditioning Systems**

*Foreword*

CFCs deplete the stratospheric ozone layer that protects the earth against harmful ultraviolet radiation. To reduce the emissions of CFCs, the 1990 Clean Air Act requires recycle of CFC-12 (R-12) used in mobile air-conditioning systems to eliminate system venting during service operations. SAE J1990 establishes equipment specifications for on-site recovery and reuse of CFCs in mobile air-conditioning systems. Establishing extraction equipment specifications for CFC-12 will

provide service facilities with equipment to assure that venting of refrigerant will not occur.

1. Scope

The purpose of this document is to provide equipment specifications for CFC-12 (R-12) recovery for recycling on-site or for transport off-site to a refrigerant reclamation facility that will process it to ARI (Air-Conditioning and Refrigeration Institute) standard 700-93 as a minimum. It is not acceptable that the refrigerant removed from a mobile air-conditioning system, with this equipment, be directly returned to a mobile air-conditioning system.

This information applies to equipment used to service automobiles, light trucks, and other vehicles with similar CFC-12 systems.

2. References

2. Applicable Documents—The following documents form a part of this specification to the extent specified herein.

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

SAE J639—Vehicle Service Coupling  
SAE J1990—Extraction and Recycle Equipment for Mobile Automotive Air-Conditioning Systems  
SAE J2196—Service Hose for Automotive Air-Conditioning

2.1.2 ARI Publications—Available from Air-Conditioning and Refrigeration Institute, 1501 Wilson Boulevard, Sixth Floor, Arlington, VA 22209.

ARI 700-93—Specifications for Fluorocarbon Refrigerants

2.1.3 CGA Publications—Available from CGA, Crystal Gateway #1, Suite 501, 1235 Jefferson Davis Highway, Arlington, VA 22202.

CGA S-1.1—Pressure Relief Device Standard Part 1—Cylinders for Compressed Gases

2.1.4 DOT Specifications—Available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

49 CFR, Section 173.304—Shippers—General Requirements for Shipments and Packagings

2.1.5 UL Publications—Available from Underwriters Laboratories, 333 Pfingsten Road, Northbrook, IL 60062-2096.

UL 1769—Cylinder Valves

3. Specifications and General Description

3.1 The equipment must be able to extract CFC-12 from a mobile air-conditioning system.

3.2 The equipment discharge or transfer fitting shall be unique to prevent the unintentional use of extracted CFC-12 to be used for recharging auto air conditioners.

3.3 The equipment shall be suitable for use in an automotive service garage environment as defined in 6.8.

3.4 Equipment Certification—The equipment must be certified by Underwriters Laboratories or an equivalent certifying laboratory to meet this standard.

3.5 Label Requirements—The equipment shall have a label "Design Certified by (company name) to meet SAE J2209 for use

with CFC-12. The refrigerant from this equipment must be processed to ARI 700-93 specifications before reuse in a mobile air-conditioning system." The minimum letter size shall be bold type 3mm in height.

4. Safety Requirements

4.1 The equipment must comply with applicable federal, state and local requirements on equipment related to the handling of R-12 material. Safety precautions or notices or labels related to the safe operation of the equipment shall also be prominently displayed on the equipment and should also state "CAUTION—SHOULD BE OPERATED BY CERTIFIED PERSONNEL." The safety identification shall be located on the front near the controls.

4.2 The equipment must comply with applicable safety standards for electrical and mechanical requirements.

5. Operating Instructions

5.1 The equipment manufacturer must provide operating instructions, necessary maintenance procedures and source information for replacement parts and repair.

5.2 The equipment must prominently display the manufacturer's name, address and any items that require maintenance or replacement that affect the proper operation of the equipment. Operation manuals must cover information for complete maintenance of the equipment to assure proper operation.

6. Functional Description

6.1 The equipment must be capable of ensuring recovery of the CFC-12 from the system being serviced, by reducing the system pressure to a minimum of 102 mm of mercury below atmospheric. To prevent system delayed outgassing, the unit must have a device that assures that the refrigerant has been recovered from the air-conditioning system.

6.1.1 Testing laboratory certification of the equipment capability is required which shall process contaminated refrigerant samples at specific temperatures.

6.2 The equipment must be preconditioned with 13.6 kg of the standard contaminated CFC-12 at an ambient of 21°C before starting the test cycle. Sample amounts are not to exceed 1.13 kg with sample amounts to be repeated every 5 minutes. The sample method fixture defined in Figure 1 of appendix A shall be operated at 24°C. Contaminated CFC-12 samples shall be processed at ambient temperatures of 10 and 49°C.

6.2.1 Contaminated CFC-12 sample.

6.2.2 Standard contaminated CFC-12 refrigerant, 13.6 Kg sample size, shall consist of liquid CFC-12 with 100 ppm (by weight) moisture at 21°C and 45,000 ppm (by weight) mineral oil 525 suspension nominal and 770 ppm (by weight) of noncondensable gases (air).

6.3 Portable refillable containers used in conjunction with this equipment must meet applicable DOT standards.

6.3.1 The container color must be gray with yellow top to identify that it contains used CFC-12 refrigerant. It must be permanently marked on the outside surface in black print at least 20 mm high "DIRTY R-12—DO NOT USE, MUST BE REPROCESSED".

6.3.2 The portable refillable container shall have a SAE 3/8 inch flare male thread connection as identified in SAE J639 CFC-12 High Pressure Charging Valve Figure 2.

6.3.3 During operation the equipment shall provide overflow protection to assure that the storage container liquid fill does not exceed 80% of the tank's rated volume at 21°C per DOT standard, CFR Title 49, section 173.304 and the American Society of Mechanical Engineers.

#### 6.4 Additional Storage Tank Requirements.

6.4.1 The cylinder valve shall comply with the standard for cylinder valves, UL 1769.

6.4.2 The pressure relief device shall comply with the pressure relief device standard part 1, CGA pamphlet S-1.1.

6.4.3 The container assembly shall be marked to indicate the first retest date, which shall be 5 years after date of manufacture. The marking shall indicate that retest must be performed every subsequent five years.

The marking shall be in letters at least 6 mm high.

6.5 All flexible hoses must meet SAE J2196 standard for service hoses.

6.6 Service hoses must have shutoff devices located within 30 cm of the connection point to the system being serviced to minimize introduction of noncondensable gases into the recovery equipment during connection and the release of the refrigerant during disconnection.

6.7 The equipment must be able to separate the lubricant from the recovered refrigerant and accurately indicate the amount removed from the system during processing in 30 ml units.

6.7.1 The purpose of indicating the amount of lubricant removed is to ensure that a proper amount is returned to the mobile air-conditioning system for compressor lubrication.

6.7.2 Refrigerant dissolved in this lubricant must be accounted for to prevent

system lubricant overcharge of the mobile air-conditioning system.

6.7.3 Only new lubricant, as identified by the system manufacturer, should be replaced in the mobile air-conditioning system.

6.7.4 Removed lubricant from the system and/or the equipment shall be disposed of in accordance with applicable federal, state and local procedures and regulations.

6.8 The equipment must be capable of continuous operation in ambient temperatures of 10°C to 49°C and comply with 6.1.

6.9 The equipment should be compatible with leak detection material that may be present in the mobile air-conditioning system.

7.0 For test validation, the equipment is to be operated according to the manufacturer's instructions.

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