



Care and Repair Tips for Your Customer's Air Conditioning and Engine Cooling Systems

A guide for professional service and repair for automotive technicians on mobile A/C and engine cooling systems.

LANSDALE, PA ([PRWEB](#)) March 6, 2004 --April is National Car Care Month and the beginning of the air conditioning season in many parts of the country. Are your customer's A/C and engine cooling systems up to the long hot summer challenge?

Air Conditioning System

The air conditioning in your customer's vehicles is a sealed, high-pressure system containing a refrigerant to provide cooling. As the refrigerant moves through the system, it absorbs heat and cools the air entering the passenger compartment. As long as the system has not developed a leak, and the related mechanical components are in good shape, the air conditioning should operate properly. There is no way to determine how much refrigerant is in a system unless the existing refrigerant is removed with proper recovery equipment and the proper amount is recharged into the system. The refrigerant removal must be done in accordance with federal law by a certified technician. If the system is providing cold air, there's no need to worry about it.

There's a simple test for any A/C system, says Paul DeGuseppi, manager of service training for the Mobile Air Conditioning Society (MACS) Worldwide. Set all the controls for maximum cooling, close all the doors and windows, start the engine and run it for about five minutes. It's important that you have the vehicle in the shade, or out of direct sun when performing this check. If the temperature from the panel outlets gets cold, there's a good chance the system is operating properly. If you have a thermometer, place it in a center outlet, and if it's a warm day and the temperature is below 50 degrees F, it's a good sign that the system is cooling.

A healthy system that operates properly shouldn't need additional maintenance, DeGuseppi continues. Consumers should be very careful to avoid purchasing unnecessary parts or services if their car's air conditioning is working well.

If the system is operating properly there is no need to have the system serviced. The refrigerant doesn't need to be cleaned or refreshed and vehicle and A/C system manufacturers do not recommend the addition of other chemicals or so-called performance enhancing additives to the system. When in doubt about using another type of refrigerant or chemical additive, consult the vehicle's service manual.

Anything other than the OEM recommended chemicals may void vehicle or parts warranties or cause a part to fail.

When repairs are needed, be well informed in advance. Every technician and mechanic performing A/C repairs is required by the U.S. Federal Clean Air Act of 1990 to have passed a certification test.

To reduce environmental damage from refrigerants, the U.S. Environmental Protection Agency has listed several refrigerants as acceptable for use in mobile air conditioning systems. However, only two are tested and approved by all vehicle manufacturers for use in their mobile A/C systems.



Vehicles made before 1994 most likely contain CFC-12 (R-12), a chemical that has been phased out of production because it depletes the stratospheric ozone layer that protects the earth against harmful ultraviolet radiation. Newer vehicles, after 1994, use HFC-134a (R-134a), which is less damaging to the atmosphere.

Older air conditioning systems can be switched over to retrofit to the newer chemical, but the change may be expensive and may require replacing components in addition to installing the new refrigerant. Although retrofitting is not required by law in the U.S. and the availability and use of R-12 is still permitted if the system is in good condition, a retrofit may prove worthwhile if expensive repairs are needed on an older vehicle.

All vehicle manufacturers and the Mobile Air Conditioning Society offer detailed technical information to service professionals on how to properly diagnose, repair and recycle refrigerants to minimize emissions and improve air conditioning performance.

Informed consumers can help reduce atmospheric pollution while keeping their cool during the hot summer months.

Engine Cooling System

When the A/C is operated, there is additional load placed upon the engine and engine cooling system. To prevent overheating the engine during operation of the A/C system, the engine cooling system fan(s) must be properly operating and coolant level must be correct.

If the coolant level is low it should be replenished. However, the days of just adding some green coolant are over. Today, the coolant is chemically different for many vehicles. Keeping a cooling system in chemical balance requires the proper coolant. The wrong coolant could result in costly coolant system and engine repairs.

Today there are many different colored coolants to help identify what's in the system. And not only is the proper coolant required, but also the proper mixture of coolant and water.

To achieve long-life engine coolant chemical stability, follow the vehicle manufacturer recommended service procedures.

Founded in 1981, the Mobile Air Conditioning Society (MACS) is the leading non-profit trade association for the mobile air conditioning, heating and engine cooling system segment of the automotive aftermarket. MACS represents 1600 members in North America and 47 countries around the world, and provides information and services to more than 60,000 industry shops, suppliers and technicians. The Society serves the industry through informational tools, self-paced educational materials, leader-led training clinics, advocacy and other member services. Since 1991, MACS has assisted more than 600,000 technicians to comply with 1990 Clean Air Act requirements for certification in refrigerant recovery and recycling to protect the environment. To learn more about MACS Worldwide and the upcoming 25th annual Convention and Trade Show, "Now is the Time" to be held February 1-3, 2005 at the Las Vegas Hilton, visit our website at www.macsw.org



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