



California Regulations Small Containers of Refrigerant R-134a Refrigerant Cans

Advice to Identify and Repair Leaks in the MVAC System

Refrigerant 134a is primarily used in automotive air conditioning/motor vehicle air conditioning (MVAC). As with any chemical, too much exposure can be dangerous to your health (Refer to Safety Data Sheet). MVAC system issues can vary from simple to complex. The following are some basic ways to help identify and potentially resolve your cooling issue.

Safety

Remember that your safety comes first, especially when working with refrigerant, oils and chemicals. Always wear safety glasses to protect your eyes and rubber gloves to protect your skin. Do not wear any loose clothing or jewelry. If at any point you're not comfortable continuing the job, then **STOP!** Contact a professional service technician for help or additional guidance.

Ways to Find Leaks in a MVAC System

The use of a sophisticated tool such as electronic leak detector (certified under the Society of Automotive Engineers J1627 standard) can help technicians identify most refrigerant leaks.

Do-It-Yourself (DIY)

1. Ultraviolet Dye Test

A way to look for constant and intermediate leaks is by performing an ultraviolet (UV) dye test. Lubricants are mixed with UV dye then added to the MVAC system. The system is then checked with a blue/black light to see if any of the UV dye leaks out.

2. The Bubble Test

The bubble testing is a technique used when mixing soap bubbles. The soap mixture is applied along the joint components of the refrigerant system; the presence of bubbles indicates a leak.

Locate the leak using one of the above techniques and tighten the joint. If you cannot stop the leak by tightening the joint, then **STOP** and contact a professional service technician for assistance. They will have more experience, better techniques and tools to identify and repair the leak.

Ways to Repair Leaks in a MVAC System

1. Wear protective safety gear, to protect against contact with skin, eye and clothing.

- Rubber gloves
- Safety goggles/glasses





2. All of the proper tools and safety gear **MUST** be accessible at all times
 - SDS available
3. Read the entire refrigerant product label and safety instructions before starting the job
 - Keep vehicle doors open at all times
 - R-134a is not flammable; however this material will become combustible when mixed with certain air pressures and ambient temperatures
 - Refrigerant should not be in contact **WITH** open flames or glowing surfaces
 - Avoid breathing refrigerant vapors or mist
4. Before recharging, check, diagnose and repair any leaks before adding refrigerant
 - Adding refrigerant to an already leaking system is not only unlawful in the state of California, but it is also harmful to the environment.
5. Attach the charging hose to the refrigerant can.
6. The system charge amount is listed on the nameplate (specification decal). Locate the nameplate in the engine compartment or MVAC system. For optimal cooling, **NEVER** exceed the amount presented on the nameplate.
7. Find the low side A/C port on the A/C system, then remove the protective cap. The quick connector on the charging hose will only fit on the low side port.
8. Start the engine, turn on air conditioner to the coolest possible temperature and make sure to set the fan on the maximum setting.
9. Add additional refrigerant by removing the protective cap then opening the valve.
10. Hold the refrigerant can upright while charging. Then rotate and shake the can from a 12 o'clock position to the 3 o'clock position. This whole process can take up to 15 minutes to dispense the small can of refrigerant.
11. The MVAC system will be charged properly when the same approximate cooled temperature exits all interior vents.
 - * **DO NOT OVERCHARGE or UNDERCHARGE** for optimal cooling
 - Overfilling will raise system pressures; which can result in compressor or component damage.
 - Under filling will result in poor cooling performance.
12. Remove quick connect from low-side port and replace low side port's protective cap.
13. Return all used cans/containers to origin of purchase (retailers, wholesaler or manufacturer).
 - Refund of the \$10.00 deposit
 - Can will be recycled or disposed of properly

