

DO-IT-YOURSELF California

A Guide to Proper A/C System Recharging

Brought to you by



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Do-It-Yourself! Do It Right!

The State of California has determined that R-134a, the refrigerant used in your car's A/C system, contributes to global warming.

Effective January 1, 2010, California law requires all purchasers of small containers of refrigerant marked for deposit and return to pay a \$10 per container deposit at time of purchase and return all purchased, used containers for recycling within 90 days to the retailer/distributor where purchased for a \$10 per container deposit refund with valid proof of purchase.

It is illegal to destroy or discard used or unused small refrigerant containers under Section 95360 et seq. of the California Code of Regulations. A new, self-sealing valve on cans of R-134a will help avoid accidental discharges of refrigerant.

Check out www.technicalchemical.com/techsupport.htm for additional information about A/C service practices and troubleshooting tips.

A/C RECHARGING IS FAST AND EASY!



Helpful tips while recharging:

- Check for and repair leaks before recharging.
- Using a gauge helps to ensure proper fill levels.
- Don't undercharge/overcharge the system. Too little or too much refrigerant will cause improper cooling and may damage your A/C system. In addition, too much refrigerant will result in high operating pressures which may damage the A/C compressor or other system components.
- Check vent temperatures while charging. Cooler air should result as you're adding refrigerant.
- If you have added a can of refrigerant and are not getting cooler air, **STOP** and see a professional. You may have leaks or other mechanical issues requiring repairs to the system.

Step-By-Step Guide For A/C Recharging

1. Always wear insulated gloves & safety glasses.
2. If a system requires recharging more than once per year, it has a leak. Diagnose and repair leaks before adding refrigerant.
3. Prepare for the job by reading these instructions completely before beginning.
4. To obtain the most accurate charge in your A/C system, you need the following optional tools: a dispensing valve (Johnsen's part #8939 R-134a Dispensing Valve) or charging hose assembly, pressure gauge, a pressure/temperature chart and a thermometer. Prepare your tools needed for the job. Lay out the proper tools and safety gear in an accessible place.
5. If not pre-assembled, attach charging hose to refrigerant can, following hose or can instructions.
6. Locate A/C system nameplate in the engine compartment. Note the system charge amount listed on the nameplate. For optimal cooling, never exceed this amount.
7. Locate the low side A/C service port on the A/C system. Remove the blue or black protective cap. Attach the quick connect fitting on the charging hose to the low side service port. Make sure the quick connect fitting on the charging hose is securely attached to the low side fitting. (Fig. 1)



(Fig. 1)

8. Start the engine, turn on the A/C to Maximum cooling, the fan switch to HIGH and the Temperature Dial to full blue.
9. Diagnose A/C system before adding refrigerant using a charging hose with a gauge or a manifold gauge set. Compare gauge reading with the following chart. If pressure reading is below chart range, add refrigerant.
10. **NOTE:** Pressure reading should be taken only when compressor is running. Determine if compressor is running by looking at the center of compressor pulley. If it's rotating, it's on (Fig. 2). If it will not engage, add can of R-134a. If compressor still won't cycle on, seek professional help.

Pressure/Temperature Chart

Ambient Temp (F°/ C°)	Low Side Gauge	High Side Gauge
65°F (18°C)	25-35 psi	135-155 psi
70°F (21°C)	35-40 psi	145-160 psi
75°F (24°C)	35-45 psi	150-170 psi
80°F (27°C)	40-50 psi	175-210 psi
85°F (29°C)	45-55 psi	225-250 psi
90°F (32°C)	45-55 psi	250-270 psi
95°F (35°C)	50-55 psi	275-300 psi
100°F (38°C)	50-55 psi	315-325 psi
105°F (41°C)	50-55 psi	330-335 psi
110°F (43°C)	50-55 psi	340-345 psi

Ambient temp is the outside atmospheric temperature.



(Fig. 2)

11. Add refrigerant by opening dispensing valve as shown in the charging device instructions.
12. While charging, hold can upright, agitating frequently while rotating from a 12 o'clock to 3 o'clock position. It takes 5 to 15 minutes to dispense a can of R-134a. Close dispensing valve every minute or so to check pressure gauge. Continue to agitate the can while charging.
13. Repeat Steps 11 & 12 as needed until correct pressure is reached or can is empty. When can feels empty, turn upside down for one minute to remove entire contents. The can is empty if you cannot detect any refrigerant movement in the container and can is no longer cold to the touch.
14. A properly charged A/C system will not only read the correct gauge pressure but air exiting all interior vents should be the same approximate temperature. For optimal A/C performance, **DO NOT UNDERCHARGE OR OVERCHARGE SYSTEM!**
15. Remove quick connect fitting from low side service port by pulling connector ring back and straight up from service port. Replace protective cap on low side port.
16. Remove empty can from charging hose.
17. Return all used containers to the place of purchase for recycling and refund of your deposit.