

# Refrigerant Charging Kit Instructions

Great Water Item #12-001 This kit includes a tapping valve for 14oz cans or R-134a and a hose for connection to the low side service port on the compressor. The can of R134a is NOT Included with the kit. Refrigerant is available from local auto parts stores.



## To connect Dispensing Valve to refrigerant R134a can

1. Open Valve stem to raise piercing pin.
2. Thread valve onto top of can in clockwise direction.
3. When ready, turn valve fully clockwise to pierce the top of the can.
4. Turning the valve clockwise after the can is pierced will close the valve.
5. When connecting hose to the service port open the valve slightly so that the line is purged with refrigerant from the can. This will insure that no air or moisture can enter the system. Connect only to the low side port on the top of the compressor - never to the high side port that is located on the discharge tube on some systems
6. Follow the charging instructions on the next page - proceed slowly - give the system time to respond to changes in the refrigerant charge
7. Keep the can upright at all times. Refrigerant should be added to the system as a gas only.
8. When finished turn can valve completely clockwise to close.
9. R-134a is not included with the kit - It is sold in auto parts stores. Make sure to buy pure R134a with no additives – dye – stop leak – or oil.

# Charging Procedure for R134a Systems

**These instructions are intended for minor adjustments of the refrigerant charge.**

For major repairs or if air and moisture have entered the system a vacuum pump must be used to remove them.

Always check that the condenser is clean and that the cooling fan or pump is operating normally. Never add charge to a system until the correct operation of fan or pump and the condenser are checked.

Set the thermostat at a cold setting so the compressor will stay running during the charge adjustment.

- ***When connecting the gauge to the service port make sure that the lines are purged with refrigerant so that no air or moisture can enter the system.***

The low side - suction - service port is located on the top of the compressor.

- ***Do not connect to the high side - discharge -port located on the tubing on a few systems.***

Remove the heat shrink tube (if present) and the cap from the service port. The service port is a standard 1/4" SAE male flare fitting with a Schrader valve (similar to the valve stem on a tire - depressing the center pin will open the valve). As the hose fitting is screwed on the the port the valve will open and you may hear the hiss of a small release until the fitting is tightened.

These systems have a relatively small charge of only 90 to 120 grams ( 3 to 4 oz ) total. Always add charge in small amounts - open the valve for 5 to 10 seconds and give the system time to respond to changes. Keep the can upright at all times. Refrigerant should be added to the system as a gas only.

An undercharged system will have no frost on the evaporator plate or frost on only a part of the evaporator plate. As refrigerant is gradually added the frost will cover more of the surface. Keep adding refrigerant in small amounts until the entire surface is evenly cold to the touch and is frosting evenly on the entire surface of the evaporator or plate.

An overcharged system will have frost on the tubing some distance from the evaporator. An extremely overcharged system can have frost on the tubing all the way back to the compressor.

If there is frost on the tubing the refrigerant charge can be reduced by slightly loosening the knurled hose fitting on the tapping valve. Release the charge slowly with the compressor stopped. Opening the fitting with the compressor running may introduce air into the system. Stop the compressor - wait a few moments - open the fitting and release refrigerant for 5 to 10 seconds. Wait a few moments before restarting.

Stopping and restarting the compressor too quickly may cause a starting error and shut the compressor down. If this occurs allow the system to rest for a few minutes before restarting.

Allow the system to run again and recheck the tubing for frost. It will help if you can melt the frost and dry the tube while the compressor is stopped

A properly charged system will have even frost on the entire surface of the evaporator plate with no, or very little, frost on the tubing. Once the charge is adjusted remove the charging hose and replace the cap on the service port.