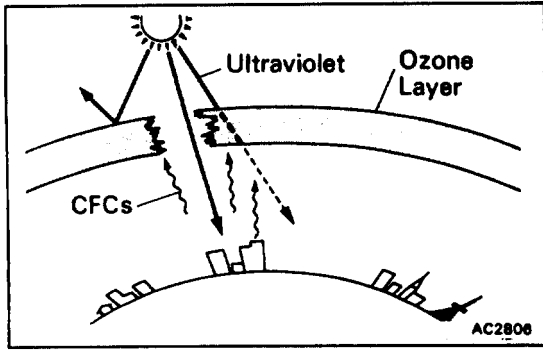

AIR CONDITIONING SYSTEM

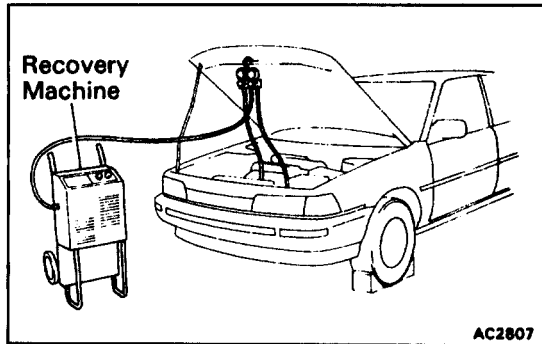


GENERAL INFORMATION

REFRIGERATION SYSTEM

Prevention of Refrigerant Release and Excessive Quantities

Refrigerant (CFCs) for automobile air conditioners is believed to cause harm by depleting the ozone layer which helps to protect us from the ultraviolet rays of the sun. Therefore, it is necessary to prevent release of refrigerant to the atmosphere and to use the minimum amount when servicing the air conditioner.



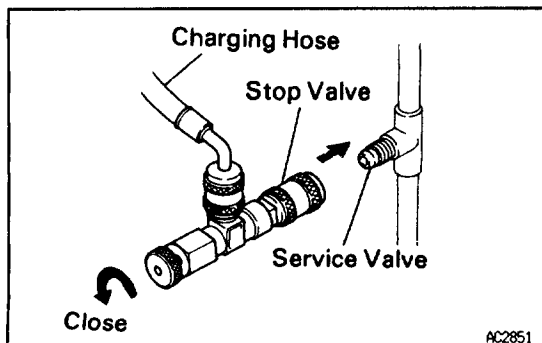
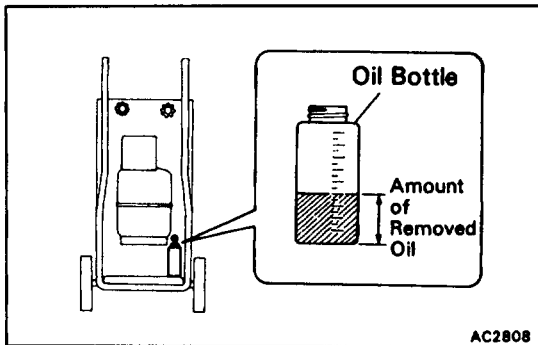
1. USE RECOVERY MACHINE TO RECOVER REFRIGERANT

When discharging refrigerant from the system as follows, use a recovery machine to recover the refrigerant.

- Before replacing parts on the refrigerant line.
- When moisture or air gets in the refrigerant line.
- When excess refrigerant is charged.

NOTICE:

- When handling the recovery machine, always follow the directions given in the instruction manual.
- After recovery, the amount of compressor oil removed must be measured and the same amount added to the system.



2. USE CHARGING HOSES WITH STOP VALVE WHEN INSTALLING MANIFOLD GAUGE SET

To prevent release of refrigerant, using charging hoses with a stop valve when installing the manifold gauge set to the service valves on the refrigerant line.

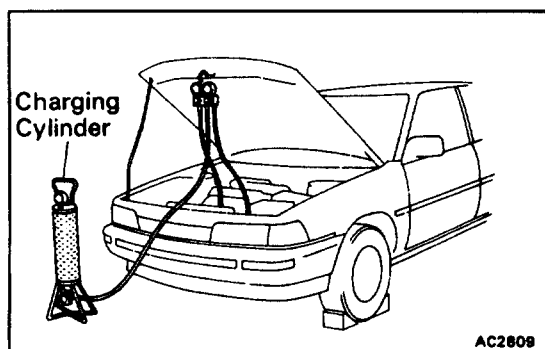
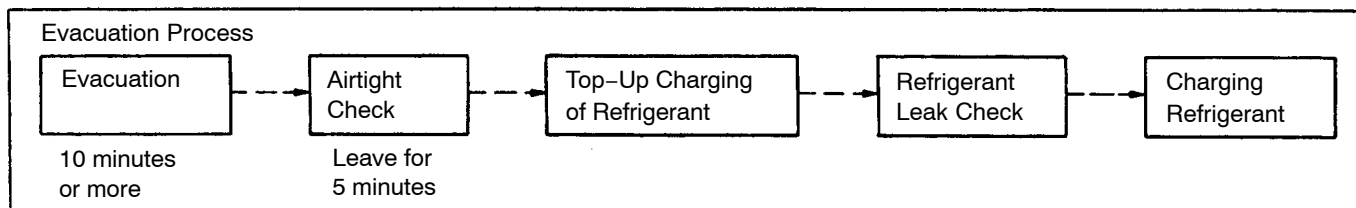
3. TIGHTEN CONNECTING PARTS SECURELY

Follow the notices about tightening connecting parts in step 6 on page [AC-5](#).

4. PROPERLY EVACUATE AIR FROM REFRIGERANT SYSTEM

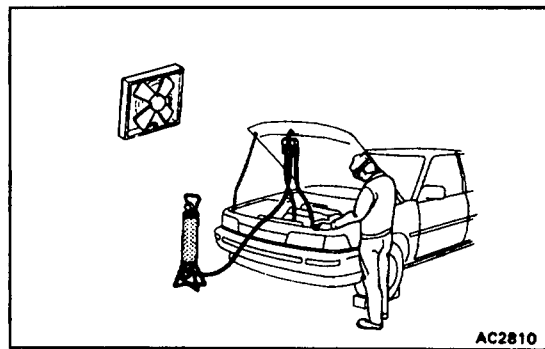
To prevent release and wasteful use of refrigerant, evacuate air with care from refrigeration system as follows;

- Do not evacuate before recovering refrigerant in system.
- Do not perform repeat evacuation of system.



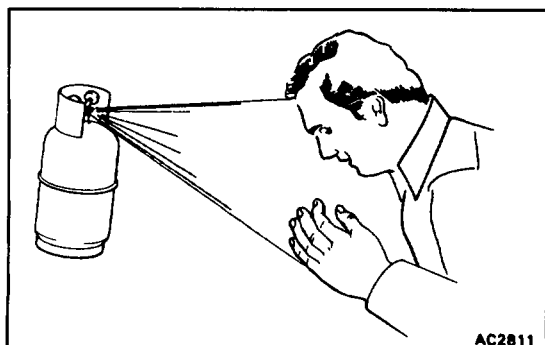
5. USE CHARGING CYLINDER TO CHARGE PROPER AMOUNT OF REFRIGERANT

To prevent excessive use of refrigerant due to over charging, use a charging cylinder to charge the proper amount of refrigerant.



Handling Precautions for Refrigerant

1. DO NOT HANDLE REFRIGERANT IN AN ENCLOSED AREA OF NEAR AN OPEN FLAME
2. ALWAYS WEAR EYE PROTECTION



3. BE CAREFUL THAT LIQUID REFRIGERANT DOES NOT GET IN YOUR EYES OR ON YOUR SKIN

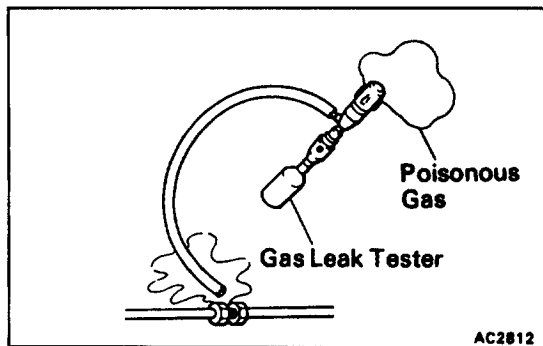
If liquid refrigerant gets in your eyes or on your skin;

- (a) Wash the area with lots of cool water.
- (b) Apply clean petroleum jelly to the skin.
- (c) Go immediately to a physician or hospital for professional treatment.

CAUTION: Do not attempt to treat yourself.

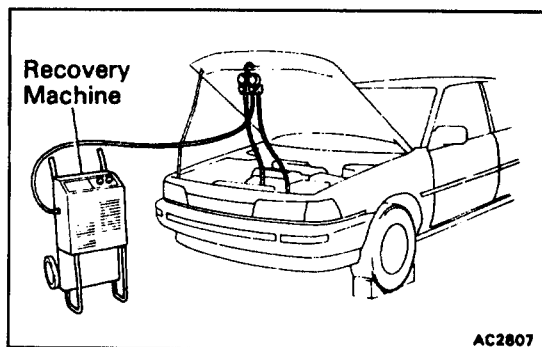
Handling Precautions for Refrigerant Container

1. NEVER HEAT CONTAINER OR EXPOSE IT TO NAKED FLAME
2. BE CAREFUL NOT TO DROP CONTAINER AND NOT TO APPLY PHYSICAL SHOCKS TO IT



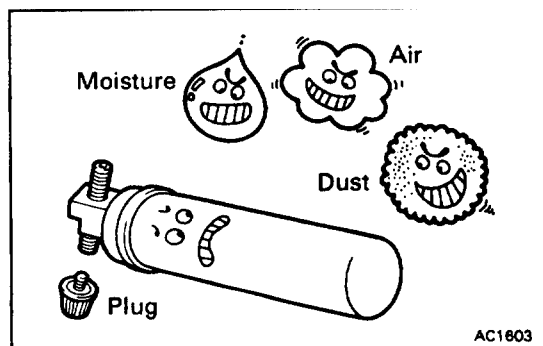
Handling Precautions for Gas-Cylinder Type Gas Leak Tester

1. BEFORE USING TESTER MAKE SURE THAT THERE ARE NO FLAMMABLE SUBSTANCES NEARBY
 2. BE CAREFUL NOT TO INHALE POISONOUS GAS
- If refrigerant gas comes in contact with flame, a poisonous gas is produced. During leak tests, do not inhale any gas.

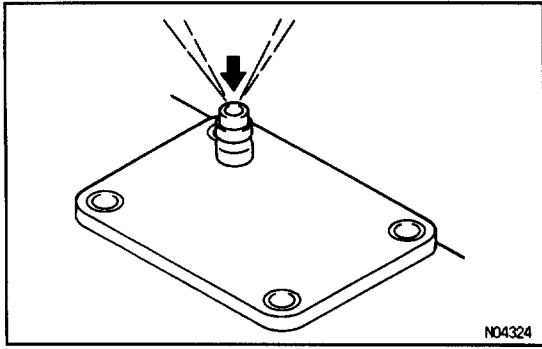


Precautions when Replacing Parts in Refrigerant Line

1. RECOVER REFRIGERANT IN SYSTEM BEFORE REMOVING PARTS
- Using a recovery machine, recover refrigerant in system before removing the parts.
- NOTICE:** Do not release refrigerant to atmosphere.

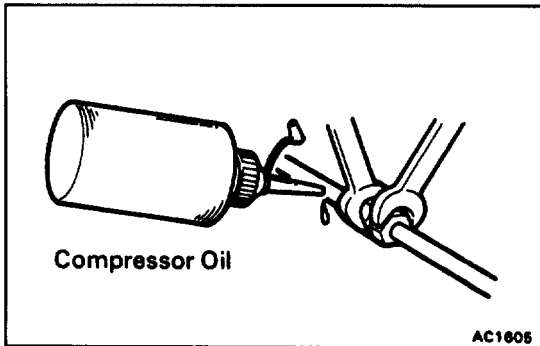


2. INSERT PLUG IMMEDIATELY IN DISCONNECTED PARTS
- Insert a plug immediately in the disconnected parts to prevent the entry of moisture and dust.
3. DO NOT REMOVE PLUG FROM NEW PARTS UNTIL IMMEDIATELY BEFORE INSTALLATION
 4. DO NOT USE BURNER FOR BENDING OR LENGTHENING OPERATIONS ON TUBE
- If the tubes are heated with a burner, a layer of oxidation forms inside the tube, causing the same kind of trouble as an accumulation of dust.



5. DISCHARGE GAS IN NEW COMPRESSOR FROM CHARGING VALVE BEFORE INSTALLING IT

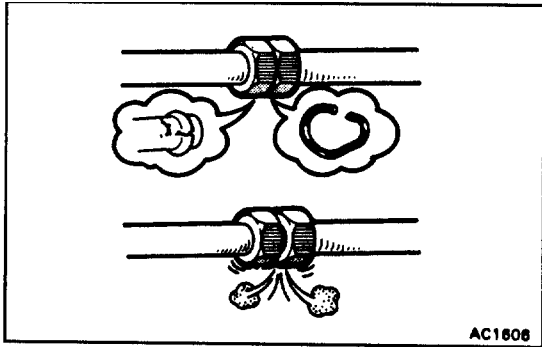
If the gas in new compressor is not discharged first, compressor oil will spray out with gas when the plug is removed.



6. TIGHTEN CONNECTING PARTS SECURELY

Securely tighten the connecting parts to prevent leaking of refrigerant gas.

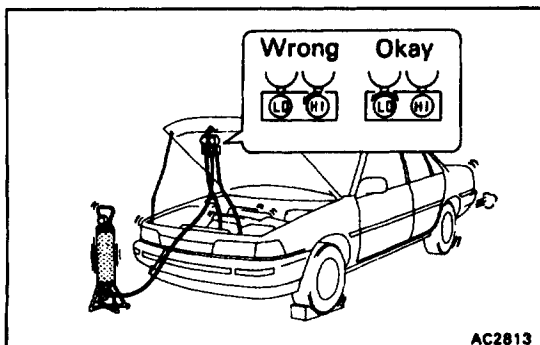
- Apply a few drops of compressor oil to O-ring fittings for easy tightening and to prevent leaking of refrigerant gas.
- Tighten the nuts using 2 wrenches to avoid twisting the tube.
- Tighten the O-ring fittings or the bolted type fittings to the specified torque.



Precautions when Charging Refrigerant

1. DO NOT OPERATE COMPRESSOR WITHOUT ENOUGH REFRIGERANT IN REFRIGERANT CYCLE

If there is not enough refrigerant in the refrigerant cycle, oil lubrication will be insufficient and compressor burnout may occur, so take care to avoid this.



2. DO NOT OPEN HIGH PRESSURE VALVE OF MANIFOLD WITH COMPRESSOR OPERATING

If the high pressure valve is opened, refrigerant flows in the reverse direction and could cause the charging cylinder to rupture, so open and close the low pressure valve only.

3. BE CAREFUL NOT TO OVERCHARGE WITH REFRIGERANT IN SYSTEM

If refrigerant is overcharged, it causes trouble such as insufficient cooling, poor fuel economy, engine overheating etc.

ELECTRICAL PARTS

Before removing and inspecting the electrical parts, set the ignition switch to the LOCK position and disconnect the negative (–) terminal cable from the battery.