

EVACUATING AIR IN REFRIGERATION SYSTEM AND CHARGING WITH REFRIGERANT

HINT: Before charging the system with refrigerant, be sure carry out a complete evacuation of the system.

1. INSTALL MANIFOLD GAUGE SET TO SERVICE VALVES

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2. EVACUATE AIR IN REFRIGERATION SYSTEM

- Connect the center hose of the manifold gauge set to the vacuum pump.
- Open both the high and low hand valves and run the vacuum pump.

HINT: If opening the low pressure hand valve pulls the high pressure gauge into the vacuum range, there is no blockage in the system.

- After ten minutes or more, check that the low pressure gauge indicates 99.99 kPa (750 mmHg, 29.53 in.Hg) or more of vacuum.

HINT: If the reading is not 99.99 kPa (750 mmHg, 29.53 in.Hg) or more of vacuum, close both the high and low hand valves of the manifold gauge set and stop vacuum pump. Then, check the system for leaks and repair as necessary.

- Close both the high and low hand valves and stop the vacuum pump.
- Leave the system in this condition for five minutes or longer and check that there is no change in the gauge indicator.

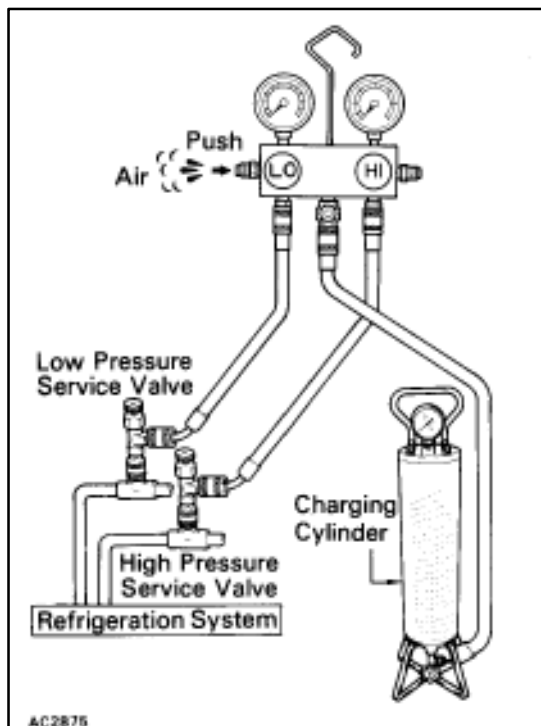
3. INSTALL CHARGING CYLINDER

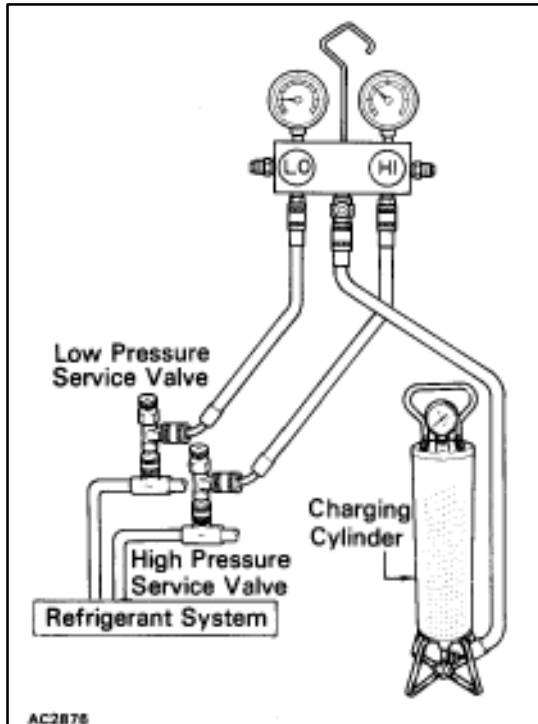
NOTICE: When handling the charging cylinder, always follow the directions given in the instruction manual.

- Charge the proper amount of refrigerant in charging cylinder.
- Connect the center hose to charging cylinder.

NOTICE: Do not open both high and low hand valves of manifold gauge set.

- Press on the schrader valve on the side of manifold gauge and expel the air inside of the center hose.

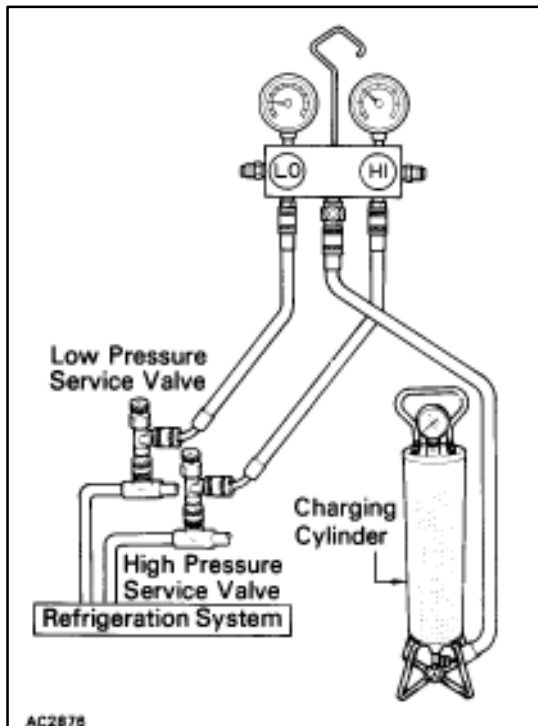




4. INSPECT REFRIGERATION SYSTEM FOR LEAKS

HINT: After evacuating the air in system, check the system for leakage.

- Open the high pressure hand valve to charge the system with refrigerant.
- When the low pressure gauge indicates 98 kPa (1 kgf/cm, 14 psi), close the high pressure hand valve.
- Using a gas leak tester, check the system for leakage. If leak is found, repair the faulty component or connection.



5. CHARGE EMPTY REFRIGERATION SYSTEM WITH REFRIGERANT (LIQUID)

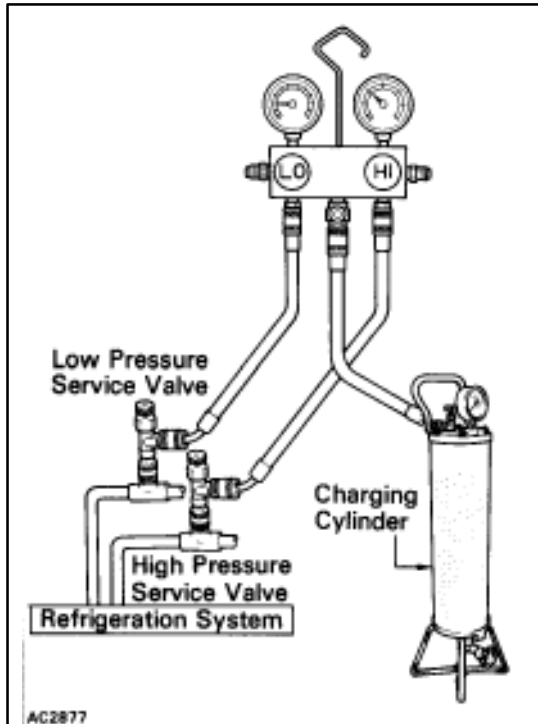
HINT: This step is used to charge an empty system through the high pressure side with refrigerant in a liquid state.

NOTICE:

- Never run the engine when charging the system through the high pressure side with refrigerant in a liquid state.
 - Do not open the low pressure hand valve when the system is being charged with liquid refrigerant.
- Open the high pressure hand valve fully.
 - Charge the system with specified amount of refrigerant, then close the high pressure hand valve.

HINT:

- A fully charged system is indicated by the sight glass being free of any bubbles.
- If the low pressure gauge does not show a reading, the system is clogged and must be repaired.



6. CHARGE PARTIALLY REFRIGERATION SYSTEM WITH REFRIGERANT (VAPOR)

HINT: This step is used to charge the system through the low pressure side with refrigerant in a vapor state.

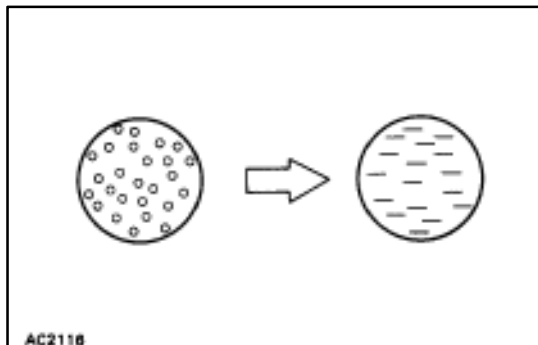
NOTICE: Do not open the high pressure hand valve when running the engine.

- Run the engine at ideling speed and operate the air conditioner.
- Open the low pressure hand valve.

NOTICE: Adjust the hand valve so that the low pressure gauge does not indicate over limited pressure of charging cylinder.

- Close the low pressure hand valve when the sight glass is free of any bubbles and stop the engine.

**NOTICE: Be careful not to overcharge the system with re-
frigerant as it may cause of troubles.**



7. REMOVE MANIFOLD GAUGE SET FROM SERVICE VALVES

See page [AC-15](#)

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