

Technical Service Information

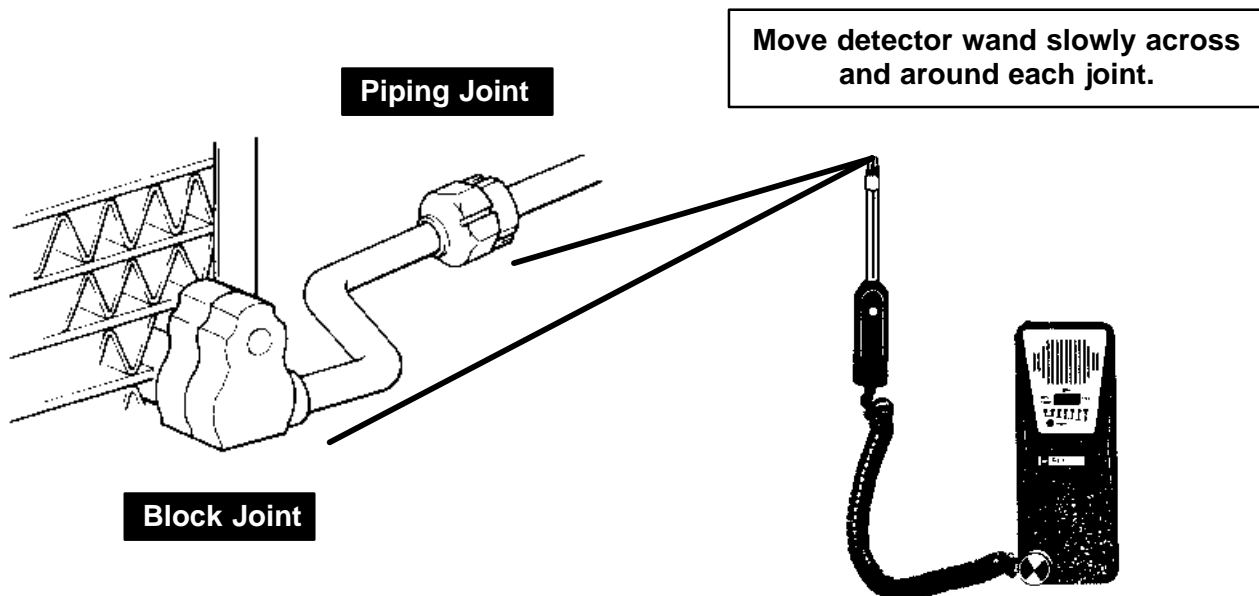
Title SERVICE HINTS FOR REFRIGERANT LEAK DETECTION

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Use of electronic leak detectors for checking A/C systems refrigerant leakage is the only method approved by TMS. This type of leak detector is sensitive not only to refrigerant, but also sensitive to numerous petrochemical substances (motor oil, gasoline, solvents, etc.) commonly found in a repair shop environment. Because this sensitivity could diminish the leak detector's capacity for accurate leak detection, some service hints have been provided to help increase the accuracy of your diagnosis.

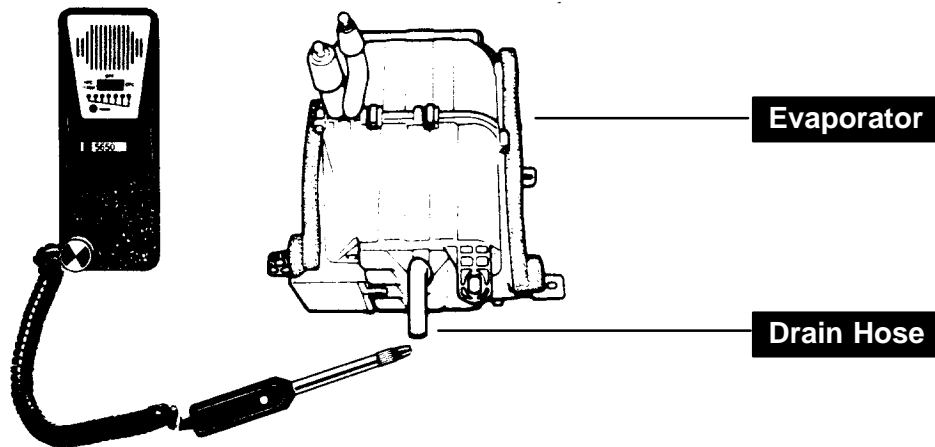
SERVICE HINTS:

1. **Visual Inspection:** Do a quick visual inspection under the hood for signs of refrigerant leakage. Check for areas of heavy oil leakage at block and piping joints. Many times these areas have accumulated road dust and dirt.
2. **Inspection with leak detector:** **NOTE:** Make sure the system is fully charged. Operate the system to increase refrigerant pressure. Shut the system off before inspecting with leak detector.
 - A. Checking for leakage at a joint: Wipe the oil/dirt accumulation off the joint with a clean rag. Do not use solvents to clean the joint. Refrigerant is heavier than air so start checking for leaks with the detector wand about 1/4 in. below the joint. Move the wand slowly across and around each joint (see illustration below).



- B.** Checking for leakage at the evaporator: The evaporator drain hose provides an excellent access point to check for refrigerant leakage from the evaporator. Be sure to raise the vehicle on a lift so that the evaporator is as far as possible from any petrochemical source that may be on the shop floor. When leak checking in this area, turn the system off, pinch off the evaporator drain hose, and wait 10 to 15 minutes to allow the refrigerant to accumulate in the evaporator case. When the system is ready to check, release the drain hose and hold the leak detector wand about 1/4 inch below the drain opening (see diagram).

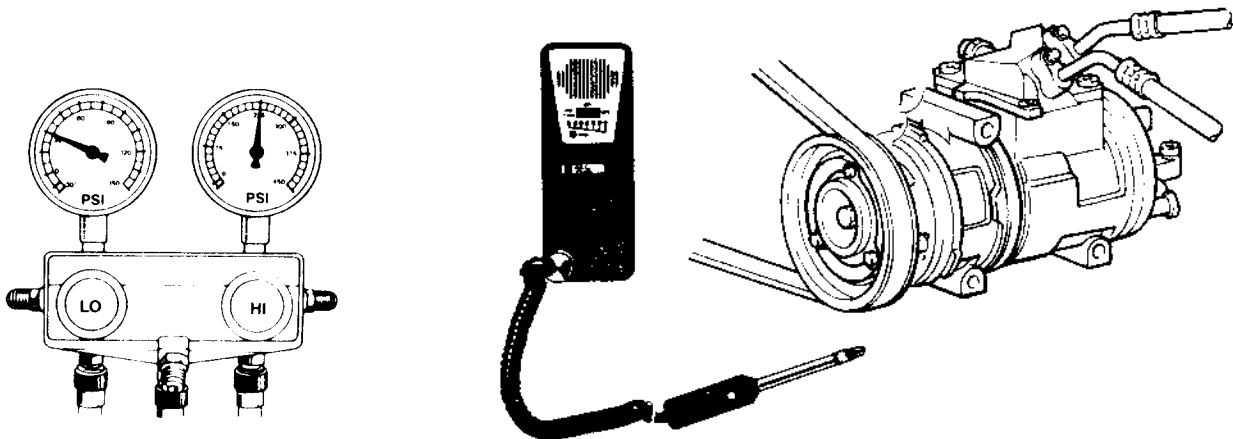
NOTE: Do not allow the leak detector tip to come in contact with water from the evaporator.



- C.** Checking for leakage at front compressor seal: Front compressor seal leaks are probably the most difficult leaks to detect accurately. Special diagnostic procedures must be followed for the best success. Make sure the system is fully charged. Operate the system with a pressure gauge installed and assure that the system has correct system pressures. **Shut off the engine.** Begin the leak check by placing the detector probe along the bottom half of the compressor clutch. Move the wand slowly across the bottom of the compressor clutch. Be careful not to expose the detector wand tip to any oil residue as this may cause a false leakage reading.

Verify correct system pressure.

Move detector wand slowly across the bottom half of the compressor clutch.



D. Checking for leakage at service valves or pressure switches:

Small accumulations of refrigerant gas under the service valve caps or pressure switch connectors is normal. When checking for leaks at these points, use the following procedures to assure the highest accuracy:

1. Remove the service valve cap or pressure switch connector.
2. Allow the service valve or pressure switch to remain uncapped for approximately 20 minutes. This will allow the air to circulate and carry away the accumulated refrigerant. (This is a good time to leak check other areas of the system).
3. Do not use compressed air to flush out the service valve or pressure switch cavity. Petroleum residue from inline oilers or compressor lubrication may cause false readings.