

COLD Natural Refrigerants



CLASS 2.1

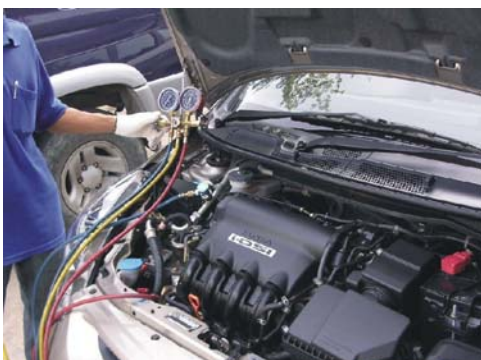


Guide for Charging Refrigerants systems with COLD Hydrocarbon Refrigerant

Step by Step Charging

STEP 1

- ✚ If system is charged with HFC-134a, CFC12, HCFC22 or other refrigerant, recover into a suitable container
- ✚ Check the system for leaks or defective components
- ✚ Replace or repair as necessary
- ✚ Determine that compressor has proper amount of lubricant per manufacturer's specifications
- ✚ COLD Hydrocarbon Refrigerant is completely compatible with the Mineral (MO), Alkyl benzene (AB), Semi-synthetic (AB/M), POLYOLESTER (POE), Poly alkyl glycol (PAG),
- ✚ No flushing or oil changes are required



STEP 2

- ✚ Pull a system vacuum per manufacturer's specifications



STEP 3

- ✚ Connect gauges and hoses, then with compressor off and can or cylinder INVERTED
- ✚ Fill COLD Hydrocarbon Refrigerant as a liquid form on low pressure side of condenser
- ✚ Adjust needle valve on tapping device to establish a flow rate (overturning needle valve will stop)
- ✚ After a minimum charge is achieved, start compressor and set system to high



STEP 4

- ✚ Purge air from charging hose each time a can or cylinder of product is added



NOTE:

- ✚ COLD12 Hydrocarbon Refrigerant is just ~50% the weight of CFC12
- ✚ COLD134 Hydrocarbon Refrigerant is just ~40-45% the weight of HFC134a
- ✚ COLD22 Hydrocarbon Refrigerant is just ~40-45% the weight of HCFC22
- ✚ If charging your system by weight, keep the weight differences of all CFC -12 substitutes in mind!
- ✚ **DO NOT OVERCHARGE!** Exceeding 50 psig on low side may damage compressor
- ✚ In some cases, clearing the sight glass overcharges the unit
- ✚ Any overcharge may cause loss of cooling efficiency

STEP 5

- ✚ After verifying that the pressures and temperatures are correct,
- ✚ Remove the charging hose and place the COLD Hydrocarbon Refrigerant tag,
- ✚ Which is supplied with each can or canister,
- ✚ On the air conditioning system's low pressure side access port



STEP 6



- ✚ **Remember,**
- ✚ COLD Hydrocarbon Refrigerant is flammable and should only be leak tested with an electronic leak detector or soap bubbles
- ✚ If an odor such as is found in natural gas or propane is detected, a leak is indicated
- ✚ Ventilate the area and after locating and repairing the leak, continue with the charging procedure.

STEP 7

- ✚ Please not top off a system containing HFC-134a or any other CFC-12 substitute with COLD Hydrocarbon Refrigerant
- ✚ Mixing the products reduces the performance of the system because COLD Hydrocarbon Refrigerant is more efficient refrigerants than HFC-134a or other CFC-12 substitutes
- ✚ Also, mixing the products will contaminate them, and any ozone-depleting refrigerant must be recovered in recycling equipment

STEP 8

Caution:



- ⚠ Contents of containers are under pressure and may burst if heated
- ⚠ Keep away from direct sunlight and other sources of heat
- ⚠ Do not expose to temperatures above 80°C
- ⚠ Do not puncture or incinerate container
- ⚠ Do not use near open flame
- ⚠ If product gets into eyes, flush with clear water
- ⚠ If swallowed, do not induce vomiting
- ⚠ Call a physician immediately

The three most likely causes for compressor to seize are:

1. Excessive Head Pressure:

In the case of excessive head pressure the three reasons for this are:

- ⚠ Blockage in system – Check Drier, T.X. Valve, Condenser (Internally)
- ⚠ Overcharge in the System – Nippon Denso are extremely susceptible to this
- ⚠ Overpressure in the System – Inadequate cooling system, clogged condenser fins (External), defective thermo fan or fan clutch, excessive moisture in system, a cocktail of refrigerants.

2. Lack of Oil:

In the case of lack of Oil the two reasons for this are:

- ⚠ System Blockage – Restrictive flow of oil back to the compressor (i.e. T.X. Valve, Receiver/Drier, Condenser, Freezing Evaporator)
- ⚠ System Leak – allowing the oil to escape from the system.

3. Lack of Refrigerant (Compressor Overheats):

Slow leaks allow the system to run with low liquid supply to T.X. Valve. The suction return gas to the compressor is not cold enough to cool the compressor parts internally. Shaft seals harden and leak, oil deteriorates and metal parts fail.