OPERATING INSTRUCTIONS
REFRIGERANT RECOVERY SYSTEM

SAFETY INFORMATION!
READ CAREFULLY BEFORE USING RECOVERY SYSTEM!

1. This equipment is designed to be used by qualified service personnel. The operator of this equipment must be familiar with air conditioning and refrigeration systems. Do not attempt to operate this equipment until all safety instructions and operating instructions are read and understood.
2. Always use eye protection (safety goggles) and hand protection (gloves) when working with refrigerants. Other types of personal protective equipment should also be used.
3. All hoses used for interconnecting system should have shut off valves (manual or automatic) on both ends. Treat all hoses and connections with caution. Hoses or connections will contain liquid refrigerant or gas under pressure. Connect and disconnect fittings with caution.
4. Do not pressure test system with air. Some mixtures of air and refrigerant can be combustible or explosive.
5. Recovery tank contains liquid refrigerant under high pressure. Never over fill recovery tank. Tanks should be filled to a maximum of 80% of capacity only. Use scale and connection to recover tank's float switch to make sure tank is not over filled. Recovery system with automatic shut down switch must be connected to recovery tank float switch for proper operation. Use only approved tanks for refrigerant recovery. An over filled tank can explode causing serious injury or death.
6. Do not breath refrigerant vapors and/or lubricant vapor or mist. Breathing high concentrations of these substances will cause severe health problems. Always use Recovery system in a well-ventilated area.
7. Do not use this Recovery System in the vicinity of spilled or open containers of flammable substances (gasoline, solvents, etc.).
8. If electrical extension cord is used, it must be 14 AWG or larger and 50 feet maximum length. If lower amperage capacity extensions are used an overheat condition and fire hazard could occur.
9. Make sure system is electrically connected to a properly grounded power source. Always disconnect system from power source when servicing system.
10. Some governmental agencies require licenses or certification to work with refrigerants and this recovery equipment. Use this system only if operator has proper license or certification.
11. This recovery system is not to be used with any type of flammable refrigerant or flammable gas.
12. The Recovery System includes a fine screen filter at the inlet port. Since many recovery operations involve transferring contaminated refrigerants, the recovery system has an inlet in-line filter-dryer installed at the inlet port. Filter should be changed often or whenever contamination prevents proper operation of recovery system.

DANGER! – EXPLOSION RISK!!! DO NOT RECOVER FLAMMABLE REFRIGERANTS

OPERATING GUIDE FOR LIQUID RECOVERY (Refer to fig.1)

NOTE:
To prevent moisture from entering filter/dryer, always keep hose and coupler assembled to inlet filter. Whenever hose is removed from inlet filter, install protective cap on filter/dryer inlet.

1. Connect yellow hose to recovery machine outlet. Shut-off valve end of hose is connected to recovery tank. If recovery machine shuts off due to full tank, close valve in yellow hose, shut off machine, replace and connect empty recovery tank to yellow hose and restart Recovery Machine. If Recovery Machine does not start refer to Steps 8 and 9.
2. Connect blue coupler to blue hose male end fitting. Connect blue hose female end fitting to filter male fitting on the machine.
3. Make sure on-off switch is off ("O" pushed in.) Connect system to grounded power connection.
4. Turn INLET (blue color) valve to CLOSE position. Turn center valve (yellow color) to RECOVER position.
5. Turn OUTLET (red color) valve to OPEN position.
6. Connect float switch cable from recovery machine to recovery tank.
   NOTE: Recovery tank must have a maximum capacity switch to prevent over filling of tank. Recovery system will not operate if float switch cable is not connected. Purge air and moisture from system by bleeding lines, using vacuum pump or purge function of recovery system.
7. Open the vapor valve on the recovery tank.
8. Turn center valve back to "Recover" position.
9. Turn on Recovery System (push power switch "I"). If Recovery System fails to start, see "Machine will not start" below.
10. Turn INLET valve on Recovery System to OPEN position slowly.
11. Observe operation of system. In rare instances "slugging" may be apparent (loud compressor noise or high vibration). If this condition is apparent turn inlet valve to LIQUID position. System can be run with this setting continuously. It is suggested that operator periodically turn inlet valve to OPEN position and check for proper operation of system. Best operation of the system is with inlet valve OPEN and automatic pressure regulating valve controlling flow conditions.
12. When the inlet pressure is below zero and the rate that it is decreasing has slowed significantly, the system is fully recovered. There may be some liquid refrigerant in the recovery machine's condenser which should be purged.
13. To purge the recovery machine, leave the machine running and turn the middle knob to PURGE, then turn the inlet knob to PURGE. The residual refrigerant in the recovery machine will be pumped out. When the inlet gauge is well below zero or the vacuum switch shuts the machine off, the purge is done. Close both the inlet and outlet valves and remove the recovery machine from the system.

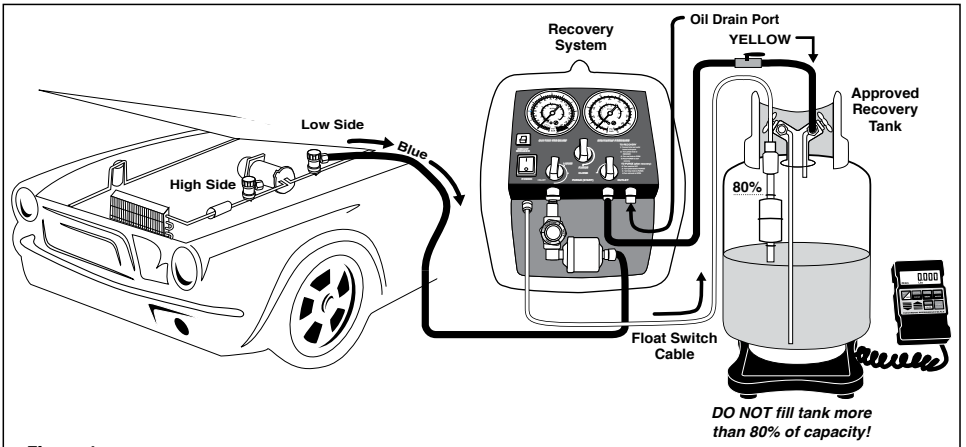

Figure 1

MACHINE WILL NOT START

There will be situations that the recovery machine will not immediately start when the power switch is turned on. This can happen if the vacuum switch turns the recovery machine off, the high-pressure switch turns the recovery machine off or if there is a very high pressure on the inlet or outlet.

To start the machine without venting the hoses, turn the inlet and outlet valves to OFF. Turn the center knob to PURGE then turn the inlet knob to PURGE. Wait 10 seconds or more for the pressure between the inlet and outlet to become closer to the same. If the circuit breaker has tripped, make sure the recovery machine is turned off and reset it. Then try restarting the recovery machine.

Be prepared to quickly open the outlet knob. If the pressure gets too high on the outlet, the high-pressure switch will trip, and the machine may not restart. If the machine does not start, repeat the process above.

If the machine does not start after repeating the restarting process above, the inlet and outlet pressures will need to be reduced. If the recovery machine will not start with both the inlet and outlet open to air, contact customer service.

TO DRAIN RECOVERED OIL

CAUTION! Do not cap the open bottle neck! The neck must remain open to vent pressure.

NOTE: The oil separator capacity is approximately 1.5 oz which can cover 8-10 normal recovery. However, some systems deposit more oil in the separator due to high pressure or excessive oil in the system. It is recommended to drain oil after each use of the recovery machine.

1. Check pressure on recovery machine inlet pressure gauge. Pressure must be below 10 PSI (.7 Bar), but above 2 PSI (.1 Bar).
2. Insert short yellow hose into the “plastic bottle with two openings” which is supplied. Carefully attach the short yellow hose to the oil drain fitting on the recovery machine. As hose is tightened on fitting, oil will flow into container. (Hose is equipped with a depressor which will open core valve in oil drain fitting).
3. When oil has drained completely, disconnect the hose from the system. Unscrew the cap/hose from the bottle and dispose of the oil into an environmentally approved container.

MAINTENANCE REQUIREMENTS

1. Replace filter if sight glass indicator is red/orange in color. The color change may be green/blue for dry condition when refrigerant is passing through and red/orange in color for wet condition.
2. Replace filter after recovering refrigerant from a known contaminated system.
3. Replace filter if excessive pressure drop is indicated. Difference of pressure gauge reading before and after filter.

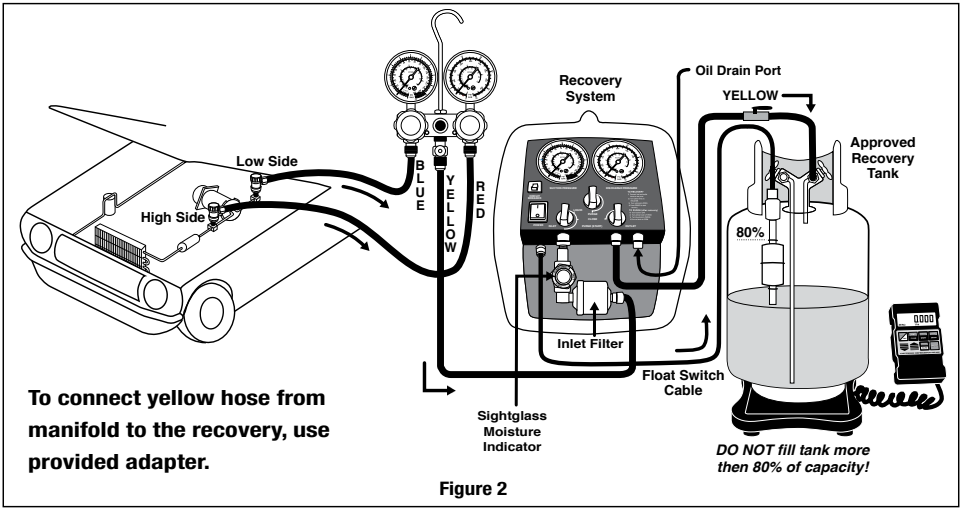

Figure 2

Connections for liquid/vapor recovery using manifold gauge set

⚠ **WARNING:** This product can expose you to chemicals including Di (2-ethylhexyl) phthalate, lead and lead compounds, which are known to the State of California to cause cancer and birth defects or other reproductive harm.